- 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

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

About digital multimeter

- 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.

About Visual fault locator:

- To avoid serious eye injury, never look directly into the optical outputs of fiber optic network equipment
- Always replace protective dust cap on the detector port when the instrument is not being used.

2.Introduction

2．1 General

The CCTV tester with 7 inch HD LCD display, supporting VGA & HDMI input from DVR/ NVR, easily and conveniently to test and set the DVR/ NVR. As an essential tool for HD-SDI camera testing, it has 1 Channel SDI video input and 1 channel SDI video output. Meanwhile the tester can be used for input and output the BNC video, PTZ control, DC12V /2A power output,Audio test, Color generator, RS485 Data analysis, UTP Cable testing, Video snapshot , Video record and playback, Image magnification etc. It can also be used for IP camera / PoE switch or other network device's installing or troubleshooting by offering IP address search, PING testing, PoE voltage testing, PoE port flickering and link monitoring.

Besides, it is also a magic tools to find out the correct cable from the clutter cabling system and diagnose the location of the cable's short circuit and break-point. This advanced tester is developed for the On-Site installation and maintenance of cctv security systems and network systems. Its easy operation and portability makes it simple for a cctv technician or installer to install and maintain CCTV systems, improving work efficiency by reducing time in the field.

2.2 Features

- ✤ More than 9 languages optional (English, Portuguese, German, French, Spanish, Italian, Russian etc)
- ✤ 7inch HD LCD screen display, 800(RGB)x600
- ✤ HD SDI digital camera image input and output (*optional)
- ✤ VGA, HDMI signal input, easily and conveniently to test and set the DVR/ NVR.
- ✤ DC12V 2A power output for camera
- ✤ USB 5V 2A power out for mobile phone and other devices
- ✤ LED Lamp, easy to operate at night
- ✤ Micro SD card moveable
- ✤ User-defined shortcut keys（F1 and F2）

- ✤ LCD screen brightness/contrast/color Saturation adjustable
- ✤ Automatically adapts and displays the video format of NTSC/PAL
- ✤ Optical Power Meter, it can measure the optical power value (*optional)
- ✤ Digital multimeter, it is used for the voltage current, Resistance, Diode, Capacitance measurement (*optional)。
- ✤ 10xzoom, video image can be magnified to view the details, easy to use
- ✤ Video record and playback ,Snapshot and save the current image as JPG file in the SD card
- ✤ PING testing：test IP camera or other network devices' ethernet port whether work normally, and the IP address whether right
- ✤ Video signal PEAK level, SYNC level, COLOR BURST chroma level measurement。
- ✤ Cable scan, send the specific signal, easily to find correct cable quickly from the clutter cabling system.
- ✤ IP address scan, quickly search the IP address for the connected IP camera and other network devices
- ✤ POE voltage measurement，test the PoE switch's voltage to IP cameras, wireless AP device and other PD devices
- ✤ Device Port flicker，easy to find the connected PoE switch port by sending special signals, the connected PoE port will flicker at special frequency.
- ✤ Link monitor; check the setting IP address whether occupied.
- ✤ TDR cable tester, diagnose the location of the BNC and network cable's short circuit and break-point (*Optional)
- ✤ PTZ address scan, search up the ID of PTZ camera.
- ✤ Network cable and Telephone cable testing, display the sequence of connection and the NO of the LAN cable
- ✤ Support RS232/RS485/RS422, Rate 600 ～ 115200bps adjustable
- ✤ Multi-protocol. Supports more than thirty PTZ protocols. Such as PELCO-P, PELCO-D, SAMSUNG
- ✤ 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

❖ Audio input test, test the audio signal from pickup devices

❖ Visual fault locator , to test fiber's bending and breakage (*optional)

❖ Lithium Ion Polymer Battery .The device employs advanced power control and protection circuit. The device is high power-efficient, energy saving and environmental protection. It can last 17 hours for normal use after charging for 7 -8 hours

Note:With "* " sign means function optional

2.3 Function

2.3.1 Video signal testing

The HD-SDI camera tester, features with built-in 7 inch HD LCD screen , full-view display, 800（RGB）x600 resolution , easily and directly displays the camera image in top quality.

Supports PAL/NTSC, LCD screen brightness/Contrast/Color Saturation adjustable. It is suitable for the outdoor installing and maintenance.

2.3.2 HD SDI camera image input and output(*optional)

1 channel SDI input and 1 channel SDI output, 7 inch HD LCD screen , 800 （RGB） x 600 resolution, supports HD camera in 1080P （25,30,50,60 frames） and 720P （25,30,50,60frames. Very convenient and useful to install and troubleshoot the HD-SDI cameras.

2.3.3 VGA、HDMI input

1 channel VGA and HDMI signal input, used as a monitor or television, to receive the signals from DVR/NVR , helping the engineers to debug and set DVR./NVR easily and conveniently

2.3.4 Video signal level test

Test video signal strength attenuation, longer video signal cable will cause the image to be dim, and reduce the image dynamic range, video signal is too strong, it will cause the virtual shadow, and reduce the sharpness of the image.

It also can real-display the video level value, if out of range, notices will be display in the screen.

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 2Aoutput power

Power the camera with DC12V (2A) power output from the tester. It is helpful for demo and testing when the power supply is not available.

2.3.8 Audio testing

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

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 controller

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   Data monitor

Display the Control protocol code from Multifunction keyboard or DVR by RS485 /RS232 interface, test

2.3.12   PTZ address scanning

Search up the ID of PTZ camera. Help the engineer search the speed dome address quickly.

2.3.13 Image magnification（10xZoom）

Set image 10x zoom, can view and display the details by 1x、2x、3x、4x、5x、6x - 10X zoom in the monitor and tester.

2.3.14 Video snapshot

Capture the video image and save the current video frames as JPEG file.

2.3.15Video record

Record and save the current video in the SD card.

2.3.16 Video playback

Video image and record files are saved in the SD card. Storage file directory can be created according to the date.

2.3.17 Cable scan (optional function refer to the last page)

Send the specific signal, easy to find the correct cable from the clutter cabling system.

2.3.18 Port flicker

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 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.

2.3.20 Link monitor

To 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.

2.3.21 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.

2.3.22 POE tester

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.

2.3.23 Digital multimeter (optional function refer to the last page)

CCTV Tester built in highly stable and reliable 33/4 digit (6600) digital multimeter. 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.

2.3.24 Visualfault locator(optional function refer to the last page)

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

2.3.25 Optical Power Meter (optional function refer to the last page)

The New tester adopts the most advanced handheld instrument specific integrated chip, achieve ultra-low power operation, with the 7 inch 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.

2.3.26 LED lamp

It is useful for the Engineer to install and maintain security system at night. LED On/Off pressing

button, easy operation.

2.3.27 F1、F2 User-defined shortcut keys

The user-defined shortcut key is designed for improving the efficiency for the engineer, anytime press,

easy to operate.

2.3.28 Video level meter

Video signal PEAK level, SYNC level, COLOR BURST chroma level measurement.

The HD-SDI tester has adopted the high-speed sampling from hardware and processing technology,

enable it to achieve more accurate measurements in the video signal PEAK, SYNC level,

COLOR BURST chroma level

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

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

If the level is too low, it will cause the image to dim and reduce dynamic range, but if the level is

too high, it will lead to virtual shadow and reduce the definition of the image.

SYNC level: by testing the amplitude of the video sync pulse to verify if the video level is correct and

the coaxial cable connectivity is good.

For PAL format, the SYNC level is   280m± 35mV

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

If the level is too low, it will cause the image to fracture or scroll, but if the level is too high, it will lead

to reduce the image's color levels and dynamic range.

 COLOR BURST chroma level: by testing the color burst level to estimate whether the coaxial cable is

the best to transmit the details and color.

For PAL format, the Chroma standard level is 280mV

For NTSC format, the Chroma standard level is 40 IRE

If the Chroma level is low or too low, the color will not bright, and some details on the iamge will lost

or get dark or white when the monitor receives the iamge.

If the Chroma level is too high, there will be spots on the image. If this occurs, it cannot get the clear

image with all the details.

If the coaxial cable is too long, it will reduce the chroma level

2.3.29 TDR break-point and short-circuit measurement

New function: TDR cable testing, accurately measure BNC cable, network cable, control cable

break-point (cable length) and short-circuits location. It improves working efficiency.

2.3.30 USB 5V 2A power output(power bank)

Standard USB output interface, applies to most USB data cable, current 2 A output,Can charge for

mobile phones and other digital devices anytime or standby power.

2.4 Accessories

1). CCTV tester

2). Power Supply   DC12V 2A

3). Cable test box or wire tracker

4). Lithium Ion Polymer Battery（7.4V DC 6500mAh ）

5). BNC cable

6). RS485 cable

7) SC, ST connector (Only for the optical power meter models)

8) Multi-meter test leads one pair of red and black (only for the Multi-meter models)

9). Power cable

10). Audio cable

11). TDR alligator clamp (only for TDR models)

12). Safety cord

13). Tool bag

14). Manual

15). SD card (4G)

2.5 Front Panel
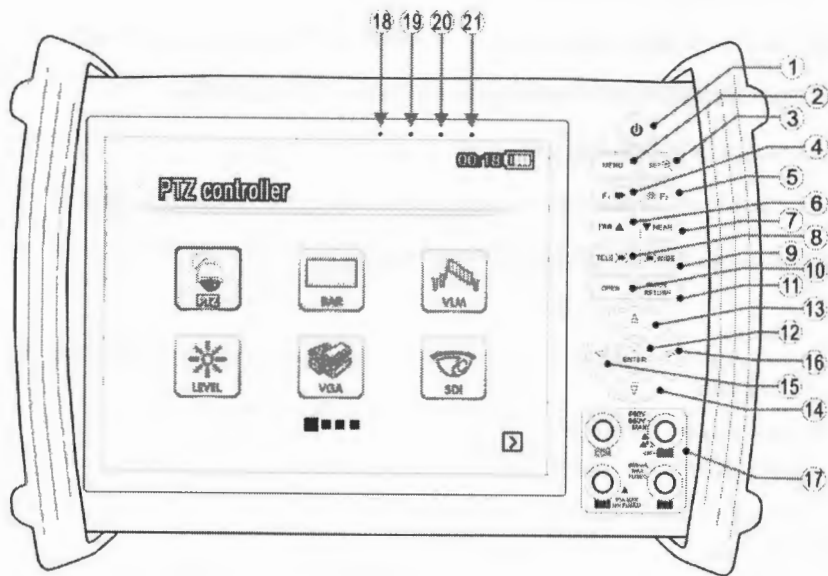
1	⏻	Press more than 2 seconds, turn on or off the device, short press to turn on or off the menu display
2	MENU	Menu key
3	SET⊕	Set key, press it to enter sub-menu to set the parameters of functions. 10xzoom the image display.
4	F1 📹	Video record / F1 User-defined shortcut key
5	📷 F2	Snapshot（capture video image）/ F2 User-defined shortcut key
6	▼NEAR	Near focus: Focus the image nearby
7	FAR ▲	Far focus: Focus the image faraway
8	⟩■⟨WIDE	WIDE: zoom out the image
9	TELE⟩■⟨	TELE: zoom in the image
10	OPEN	open or enlarge the aperture
11	CLOSE RETURN	Return/Close: Return or cancel while setting parameters of the menu, close or decrease the aperture
12	ENTER	Confirm/Open, LED Lamp switch key
13	△	Upward: Select the item which will be set or add the value of the parameter. Tilt the PTZ upward
14	▽	Downward: Select the item which will be set or reduce the value of the parameter. Tilt the PTZ downward
15	◁	Leftward: Enter the sub-menu or select the parameter whose value will be changed. Reduce the value of the parameter. Pan the PTZ left
16	▷	Rightward，Enter the sub-menu or select the parameter whose value will be changed. Add the value of the parameter. Pan the PTZ right
17		Voltage, current, resistance and capacitance measuring, continuity testing, diode testing
18		The charge indicator: it lights red while the battery is being charged. As the charging is complete, the indicator turns off automatically
19		The data-transmission indicator: it lights red while the data is being

	transmitted
20	The data-reception indicator: it lights red while the data is being received
21	The power indicator: it lights green while the tester is powered on

HDMI Top interface

SDI Top interface

Bottom interface

22	HDMI input interface/SDI video input interface
23	RS232 interface: RS232 communication for the PTZ / SDI video output interface
24	RS485 Interface: RS485/RS232 communication for the PTZ
25	TDR cable break point and short circuit test interface / RS485 Interface, RS485 communication for the PTZ

26	Visual Fault Locator Interface / TDR cable break point and short circuit test interface
27	Fiber test interface,test input signal value
28	Video input (BNC input interface): Inputs the video
29	Video output (BNC output interface): Outputs the video /cable scan signal output interface.
30	Audio input interface
31	LED lamp
32	Meter reset button .
33	Network cable interface test / cable scan
34	Ethernet power supply input interface
35	Ethernet power supply output/Network testing interface
36	Moveable MicroSD card
37	USB interface, only for data transmission
38	Charge interface
39	VGA IN interface
40	Output DC12V2A power, for provisional DC test supply
41	USB 5V 2A power output，as a power bank, not used for data transmission

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 ⏻ key continuously can power on or off the tester.

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

the charge indicator turns off automatically when the charging is completed.

Notic: Press the RESET key at the left of the instrument to restore the default settings when the instrument works abnormally.

Multimeter: the red and black multimeter pen must insert the corresponding port.

Black lead   Red lead
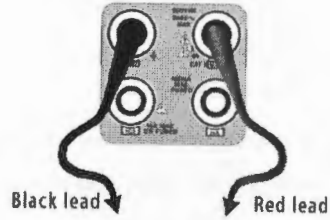
3.2. Instrument connection

VIDEO OUT   DATA A+
DATA B-   VIDEO IN

---
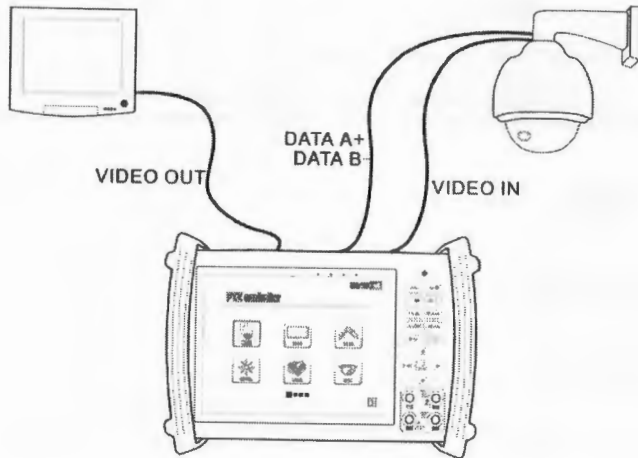
(1).   The camera or dome video output is connected to CCTV Tester VIDEO IN, the image display on the tester .

(2).   CCTV Tester "VIDEO OUT" (when HD SDI out,connect SDI 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 RS232 cable to RS232 interface of the tester.

3.3 OSD Menu

■   Press the key (⏻) to turn on.

■   Press the key again (⏻) to turn off, also can set time off

■   Enter the menu ,choose one function to enter , short press the key (MENU) ,Close the menu bar at the top of the screen, full screen display, press it again, turn it on

■   Press the key (⏻) to enter the menu, Continuously pressquickly (MENU) switch to the desired function menu . Anytime, press this key to enter the menu.

■   In various functional mode, press the key (SET⊕) Set the various parameter values

■   When turn it on, press the key (MENU) to enter the function menu, continuously press the key (◁) (▷) (△▽) , select different function, and press the key (ENTER) to enter.

■   Press the key (MENU) switch the menu, the square ■ ▪ ▪ , different square means different interface.

■   Press the key (◁) (▷) (△▽) select the different function icon, then press the key (ENTER) to enter

First page menu   Second page menu   Third page menu

Fourth page menu

3.3.1 PTZ controller

Display the input video images. Press the key [SET⊕] to enter the menus and set Parameter. 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.

Display the input image; press the key (⏻) closed the top menu, display full screen image

Enter PTZ controller, if no video input, the screen display "No video".
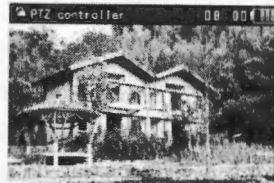
(1).PTZ controller parameter setting

In the "PTZ CONTROLLER "mode（as shown above ）, press the key (MENU) to enter the parameter setting .

press the key ◁△▷ ◁▽▷ , move the yellow cursor to select

Press the key ◁ or ▷ , change the parameter values. Then press the key [SET⊕] to save and return.

If no change, Press the key [CLOSE RETURN] to return setting, and then press the key [SET⊕] return the PTZ controller function.

A. Protocol

Use the up and down arrow keys to move the yellow cursor to the "protocol", set corresponding Protocol, support more than thirty PTZ protocols. Such as Pelco-D、Samsung、Yaan、LiLin、

CSR600、Panasonic、Sony-EVI etc.

B. Port

Move the yellow cursor to "port" Select the communication port for the PTZ camera controlling (RS232/422/485)

C. Baud

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

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 preset position (Set PS)

Move the yellow cursor to "SET PS "，set and savepreset position number(1~128),Press the key ◁ ▷ to accelerate the value changing, then press the key (ENTER) to save, Press [CLOSE RETURN]

H.   Call the preset position (Go ps)

Move the yellow cursor to "Set PS", then Setup preset position (1~128),

Press key ◁ or ▷ to accelerate the value changing.

Press the key (ENTER) to complete preset position setting or press return key [CLOSE RETURN]

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

Press the key ◁ ▷ ◁△▷ to control the PTZ direction of rotation

Press the key (OPEN) or [CLOSE RETURN] 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

(2) Set and go PS

Set PS

P/T/Z the camera to desired position.

Press the key [SET⊕] to enter the PTZ controller submenu. Press the key ◁△▷◁▽▷ Move the

yellow cursor to "Set PS", Press the key ◁ ▷ to select the preset position number.

Press enter key (ENTER) to complete preset position setting or preset return the key [CLOSE RETURN] to give up set

position setting.

Go PS:

In "PTZ Controller" mode, Press the key [SET⊕] to t enter PTZ controller submenu. Press the key ◁ ▷

Move the yellow cursor to "GO ps" , to select the preset position number. Then press the enter key (ENTER)

to complete preset position setting or preset [CLOSE RETURN] key to give up preset position setting.

Camera moves to the preset position immediately, Lens zoom, focus and iris is automatically changed

to the preset parameters, preset the camera image displayed on the monitor.

Tips: Preset position setting is saved in the domes. (Preset position can be set depending on the dome)

(3) Menu of dome

Different dome camera factory control system be used different preset position, pls refer to the dome

camera manual. The provided dome camera enter the the menu by calling preset position 64,this

example is for reference only.

a. Press the key [SET⊕] to enter PTZ controller submenu

b.Press the key ◁ ▷ select preset position 64

c. Press the key (ENTER) Enter the main menu of the PTZ camera
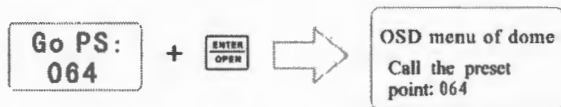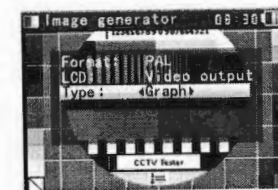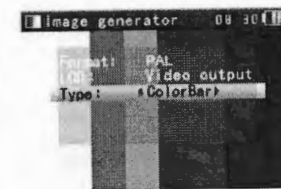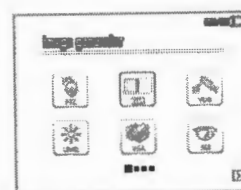

OSD Menu of Dome (For Reference only)
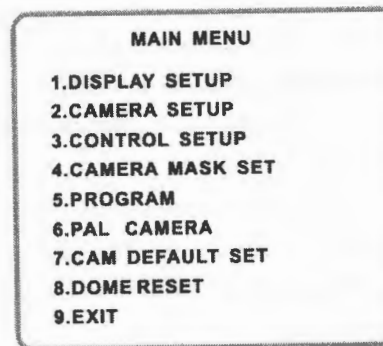
After calling the dome camera menu, Users can select different function through the arrow keys, the

dome camera menu operation refer to the manual.

3.3.2 Color-bargenerator

Press the key (MENU) enter the menu

Press the key ◁ ▷ to select the bar [BAR], and then press the key (ENTER) to enter

Test theColor- bargenerator; support global PAL / NTSC standard color bar of different output formats

Press the key ◁△▷ or ◁▽▷ move the cursor to "Format"、 "LCD display select"、 "Type ".select

"Format", the tester send the color bars from the "Video out" port .Press the key ◁ or ▷ to switching

the video output formats. when select"LCD", press the key ◁ or ▷ switching the display content.

Press the (⏻) to turn off the menu, sending or receiving image to display full screen; Press it again;

display the Color– bargenerator menu.

In the " color bar generator" mode, output different standard color bar and received by "Video IN "

port，Display the video input and output .

This feature is available for test monitoring transmission channels, such as optical video transmitter and receiver, video cables, etc. the "Video out" port connect the sending port of the optical video transmitter, the "Video in " port connect the receiving port

Image receiving：connect the Video OUT port to the Video in port, Video generator send the color bars, to choose the direction key changethe display selectfor the "Video input", The screen is in the image receiving state, if cannot receive the image ,the screen display "NO VIDEO ", if received , display the sending and receiving consistent color bar.

Application：

A . When maintain the dome camera, send the image to the monitoring center, If the monitoring center can receive the image, it means that the Video transmission channel normal, in addition, the monitor center can judge the image quality through the received color bar.

B .Test the optical video transmitter and Video cable, sending and receiving color bar by itself, check the transmission equipment or cable whether normal.

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

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

3.3.3 Video level meter

Press ⟨◁⟩ ⟨▷⟩ to choose menu (ENTER), and press 📶 VLM to enter
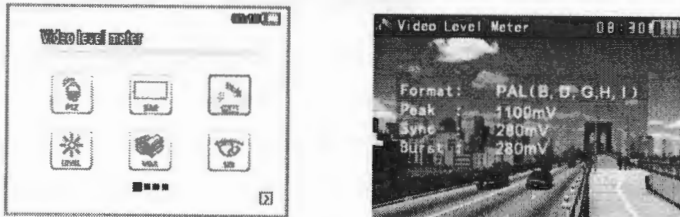
The HD-SDI tester has adopted the high-speed sampling from hardware and processing technology, enable it to achieve more accurate measurements in the video signal PEAK, SYNC level,

COLOR BURST chroma level. While the tester receive the video signal, it will automatically measure the video signal PEAK level, the SYNC level and COLOR BURST level(chroma level). While in PAL format, the unit will be mV, While in NTSC format, it will be IRE.
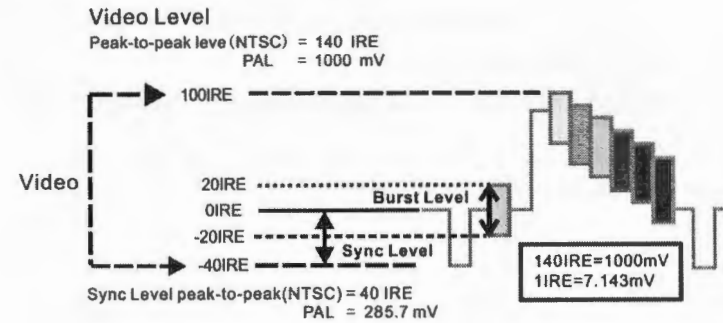
NTSC	Video signal level	140±15IRE
	Chroma level(COLOR BURST)	40±5IRE
	SYNC signal level	40±5IRE
PAL	Video signal level	1000±200mV
	chroma level(COLOR BURST level)	280±35mV
	SYNC signal level	280±35mV

Video signal PEAK level: For PAL format , the video signal level is **1000±200mV**，

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

If the level is too low, it will cause the image to dim and reduce dynamic range, but if the level is too high, it will lead to virtual shadow and reduce the definition of the image .

SYNC level: by testing the amplitude of the video sync pulse to verify if the video level is correct and the coaxial cable connectivity is good.

For PAL format, the SYNC level is **280±35mV**

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

If the level is too low, it will cause the image to fracture or scroll, but if the level is too high, it will lead to reduce the image's color levels and dynamic range.

COLOR BURST chroma level: by testing the color burst level to estimate whether the coaxial cable is

the best to transmit the details and color.

For PAL format, the Chroma standard level is 280mV

For NTSC format, the Chroma standard level is 40 IRE

If the Chroma level is low or too low, the color will not bright, and some details on the iamge will lost

or get dark or white when the monitor receives the iamge.

If the Chroma level is too high, there will be spots on the image. If this occurs, it cannot get the clear

image with all the details.

If the coaxial cable is too long, it will reduce the chroma level

3.3.4 Video setting

Press ◁ ▷ to the menu LEVEL , press ENTER to enter.
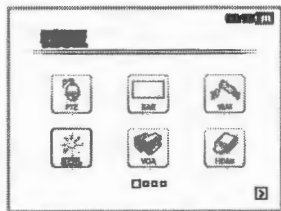
1) LCD brightness, contrast, color saturation can be adjusted.

2)The CCTV tester auto displays the format (PAL/NTSC) of video input, and analysis the input videosignal level.

3) The Video Level should be within the indicated range. Levels that are too low will result in a dim picture with reduced dynamic range. A Video Level that is too high will result in washed out pictures with decreased.

4) Depending on the type of camera connected to the CCTV tester, the Video "Format"will

automatically change between NTSC and PAL, and the Video Level will automatically change between

IRE (Institute of Radio Engineers) and mV. NTSC signals measured in IRE units, PAL signals

measured in mV.

3.3.5 HD SDI Video input and output(*optional)

press MENU to switch SDI interface, Press the ◁ ▷ key to select "SDI", press the key ENTER

to enter SDI,support720P、1080PSDI camera image input, and SDI camera output to the monitoring

center via SDI out port .

if no SDI signal input, display "No video input"
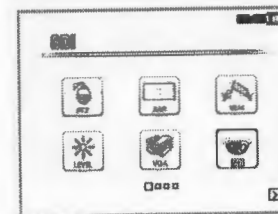
Press the key ⏻ to close menu bar, image display on the full screen. Press the key MENU to quit

If receive SDI signal, but this signal is not compatible with the tester, display "unsupported format".

3.3.6 VGA signal input

Press the key MENU to switch VGA interface, press the key ◁ ▷ to select"VGA" , press the

key ENTER to enter VGA .

If no VGA signal input, display "No video input"

Enter VGA interface, Auto identify input signal resolution. If fail to auto-identify, press the key [SET🔍] , Select the accordant resolution with VGA output, press the key (MENU) to quit

Press the key (⏻) to close the menu bar on the top of the tester, to get full screen display . Press the key (ENTER) to quit
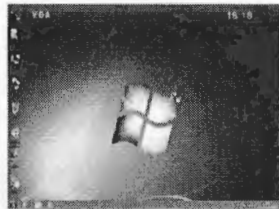
Application :

When Installation or debugging DVR and NVR, the tester with VGA input port, can be used as a monitor. Convenience for engineers to install and set up DVR /NVR.

3.3.7 HDMI signal input

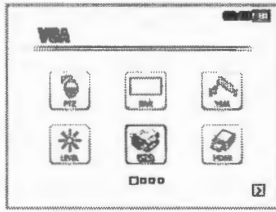Press the key (MENU) , switch to HDMI interface, press the key (◁ ▷) to select "HDMI" 🖵 , press the key (ENTER) to enter "HDMI"

If no HDMI signal input, display"No video input",If receive HDMI signal, but this signal is not compatible with the tester, display "unsupported format".
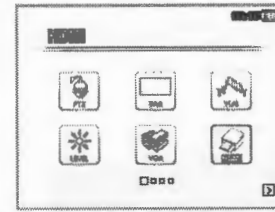
When received HDMI signal, the top of the tester screen, display HDMI resolution and Frames per second.
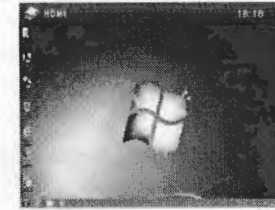
Press the key ⏻ , close the top menu bar, full screen display, and Press the key (MENU) to quit .

Application

The instrument is used as a mini digital TV to receive the video signal from DVR/NVR. It is very convenient for engineers to install and set up DVR/NVR.

3.3.8 PTZ address search

Press (◁ ▷) to select 🔔 SEARCH , press (ENTER) to enter.

⚠ **Note:** Please isolate the PTZ camera with other PTZ cameras before searching up. Otherwise all the PTZ cameras in the same system will pan at the same time.

Press (◁)(▷) to select ⚙, and then press (ENTER) to enter (as follow picture).   Select to "Address search", press (◁)(▷) to select ON or OFF, then Press (ENTER) to save.   The PTZ address search function 🔍SEARCH displays in the main menu.
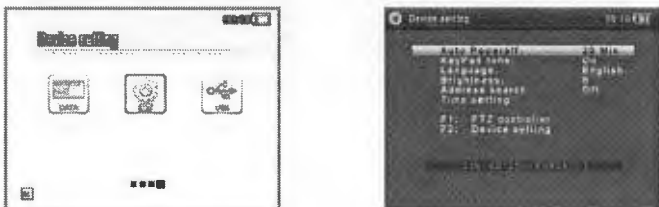
(Note: This function need to reset after each time turn off.)

Press (SET🔍) set: protocol, communication port, communication rate, make them the same as PTZ camera.

Press (FAR ▲) key, the tester will search up the ID quickly and continuously. When the ID is searched, the PTZ camera will pan right. At this time, please press to (✕WIDE) stop searching up.

Press the key (✕WIDE) manual single-step decreasing button, the tester will search up the ID step by step. When the ID is searched, the PTZ camera will stop panning.

Press (▼NEAR) key, the tester will search up the ID quickly and continuously. When the ID is searched, the PTZ camera will pan left. At this time, please press (TELE✕) to stop searching up. Press (TELE✕) manual single-step incremental button, the tester will search up the ID step by step. When the ID is searched, the PTZ camera will stop panning.

Manual search address: Press (FAR ▲) or (▼NEAR) to search the address gradually, the image will flash when the address found.   Press the direction control button (◁)(▷)(⌃⌄) to adjust Speed Dome Camera. Press button (MENU) to quit

3.3.9 10x zoom image display and Video out

While video input, press (SET🔍) to 10x zoom, and press the (TELE✕) to zoom in the image, press (✕WIDE) to zoom out the image. Press (◁)(▷)(⌃⌄) to see the details. Press (CLOSE RETURN) to quit.

Set image 10x zoom, can view and display the partial details by 1x、2x、3x、4x、5x、6x -10X zoom in on the tester. Meanwhile the zoom in image can be transmitted to monitoring center by the tester's video out interface.

NOTE: This feature is only for analog camera's video. SDI and HDMI digital camera's video cannot be zoom in on the tester.

3.3.10 Photograph

While video in, Press the key (📷 F₁) to save the current video frame in the SD card as JPEG file. Set storage file according to the date, it's convenient to check .the tester automatically checks whether have SD card when photograph. If no SD card, prompt "no SD Card".

NOTE: This feature is only for analog camera's video. SDI and HDMI digital camera's video cannot be zoom in on the tester.

3.3.11 Video record

While video in, press (F₁ 🎥) several seconds, the icon is flicking on the top left, means the video record is under working and saving the video in the SD card as AVI format. Press (F₁ 🎥) the flicker icons disappears and stop working. Set storage file according to the date, it's convenient to check.

NOTE: This feature is only for analog camera's video. SDI and HDMI digital camera's video cannot be zoom in on the tester.

3.3.12 Record playback

Press ⟨◁⟩ ⟨▷⟩ to select , press (ENTER) to enter, the latest photograph or video record file display on the screen.
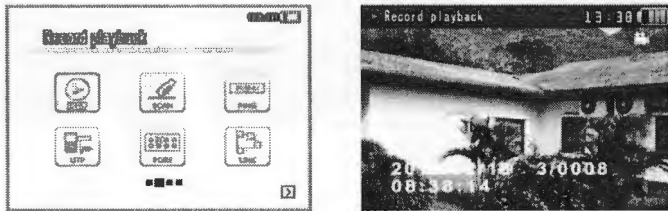
As the above picture, the photograph file with the icon [⚙ F,] the video record file with the icon [F, ▀] on the top right corner. Press (ENTER) to start and stop video playback and, press [CLOSE RETURN] to quit. See the above image, the 3/0008 in the image means total 8 screenshot and video file, and the current file is the third.

press (⏻) to quit the latest storage image,

Press ⟨◁⟩ ⟨▷⟩ to choose the files.

Then press (ENTER) to shown all the storage files, press ⟨△⟩ ⟨▽⟩ choose the files. Press (ENTER)

to enter the files, press ⟨◁⟩ ⟨▷⟩ to choose the image.

3.3.13 Cable Scan (optional)

Connect the cable to the UTP port or the CABLE SCAN (VIDEO OUT) port on the top.

Press ⟨◁⟩ ⟨▷⟩ to select , then press (ENTER) to enter, press ⟨◁⟩ ⟨▷⟩ ⟨△⟩ ⟨▽⟩ to choose the 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 is very convenient and helpful to find out the correct cable quickly from the tanglesome and clutter cabling system when installing or maintaining the cctv security system or cabling system.. 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).
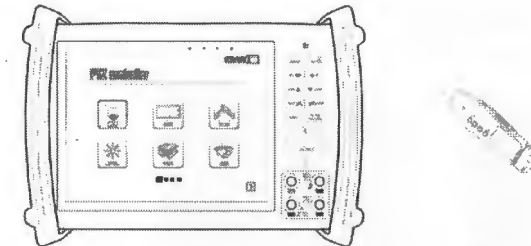
⚠️**Note**: The battery of the wire tracer must according to corresponding positive pole + and negative pole-, or damage the tester.

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

3.3.14 PING Test

Connect the cable to the LAN port, press [ ] to select [PING], and then press [ENTER] to enter. Press [ ] [ ] to adjust the IP address, Packet Size, Time out, TTL, Count [PING] [▲] [▼] to [ENTER] the parameter.
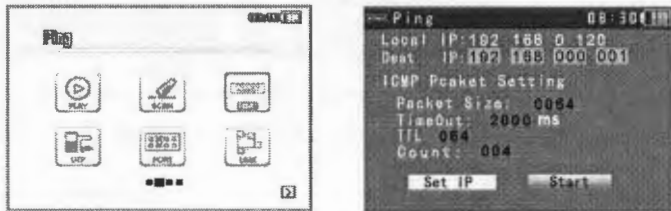
If IP camera or other ethernet equipment is not connected to the tester, "connect fail " display on the screen. The sending and receiving packet amount is 0, the success rate is 0%. Press [ENTER] to restart the Ping testing after the IP equipment is well connected.If the IP address is correct, the sending and receiving packet amount will be consistent; the success rate will be 100%.

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 start the PING testing.

3.3.15 Cable tester

Press [◄] [►] to menu [UTP], press [ENTER] to enter.
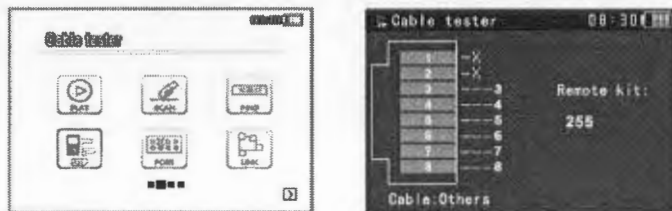
Test LAN cable or telephone cable.

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 will be displayed, as well as the serial number of the cable tester kit.

Note: if No cable tester box, it can be used with the wire tracker


3.3.16Port flicker

Press [◄] [►] to select [PORT], and then press [ENTER] to enter. Press [PORT] to start, the tester send the signal, to make the connected PoE port flicker at special frequency. Press [ENTER] to stop, and press [CLOSE RETURN] to quit.

If the tester and PoE port are not well connected, there won't be any change on the PoE port.

Application:

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.

3.3.17 Link monitor

Press (◁) (▷) to select [LINK], and then press (ENTER) to enter.

Add the IP address, make sure the network segment and the setting IP address are consistent, choose "start", and press (ENTER) to link monitor. 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.

3.3.18 IP address scan

Connect the cable to the LAN port, press (◁) (▷) to select [SEARCH] press (ENTER) to enter. Press (ENTER) to "SetIP", press (◁) (▷) to set the local IP address, the network segment and the network devices must be consistent. After setting, move the cursor to "Start", press (ENTER) to scan the IP camera or other network equipment address.

3.3.19 PoE tester

Press (◁) (▷) to select [VOL], and then press (ENTER) to enter. 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 pin connection status show on the screen.
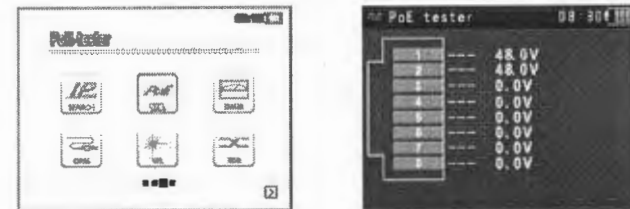
⚠ **Note: the Poe power supply equipment(PoE Switch, PSE power supply equipment) must be connected to the PSE IN port, the powered device such as IP camera or wireless AP must be connected to the LAN port, then it measure the voltage correctly.**

PIS do not connect PoE power supply port to the UTP/SCAN port; otherwise will damage the tester.

3.3.20 Digital Multi-meter（optional）

To press (◁) (▷) to select [DMM], press (ENTER) to enter

1) Function Button:

▼NEAR : Auto range   ✕WIDE : Data hold   CLOSE RETURN : Relative measuring

◁ ▷ : Function select   △ ▽ : Manual rang

2) SYMBOLS:

U: DC Voltage Measuring $\tilde{U}$: AC Voltage Measuring

A: DC Current Measuring $\tilde{A}$: AC Current Measuring

Ω: Resistance Measuring   ))): Continuity Testing

✦: Diode 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.

OPERATING INSTRUCTION

DC Voltage Measuring

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

b. Press ◁ ▷ to select U, enter the DC voltage measurement.

c.Auto range by press ▼NEAR key and manual range by press △ ▽

d.Manual range: 0.000V → 6.600V range

            00.00V → 66.00V range

            000.0V → 660.0V range

Black lead   Red lead
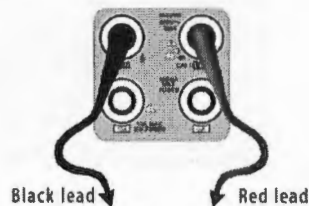
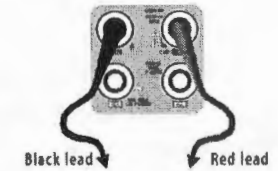000.0mV → 660.0mV range

AC Voltage Measuring

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

b. Press ◁ ▷ to select $\tilde{U}$ enter the AC voltage measurement. Auto rangeby press key ▼NEAR

and manual range by press △ ▽

     Manual range: 0.000V → 6.600V range

                 00.00V → 66.00V range

                 000.0V → 660.0V range

                 000.0mV → 660.0mV range

Black lead   Red lead

DC Current Measuring (only manual range)

⚠ WARNING!

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

a. Connect the black test lead to the "COM " jack and the red test lead to the"mA"jack for a maximum

   of 660mA current. For a maximum of 10A, move the red lead to the 10A jack.

b. Press ◁ ▷ selectA, enter the DC current measurement. Manual range by press △ ▽   only

   manual range supply.

     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）

Black lead   Red lead

c. Connect test leads in series with the load under measurement.

d. You can get reading from LCD.

⚠ 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.
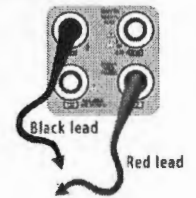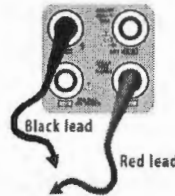
AC Current Measuring (Only Manual range)

⚠️ **WARNING!**

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

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. Press ⟨◁|▷⟩ to select $\tilde{A}$, enter the AC current measurement. Manual range by press ⟨△⟩⟨▽⟩ only manual range supply.

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）

Black lead
Red lead

c. Connect test leads in series with the load under measurement.

d. You can get reading from LCD.

⚠️ **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.

Resistance Measuring

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

b. Press ⟨◁|▷⟩ to select Ω, enter the Ω measurement. Auto range by press ⟨▼NEAR⟩, and manual range by press ⟨△⟩ ⟨▽⟩

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

000.0Ω   → 660Ω   range

0.000 KΩ   → 6.600KΩ range

00.00 KΩ   → 66.00KΩ range

000.0 KΩ   → 660.0KΩ range

0.000 MΩ   → 6.600MΩ range

00.00 MΩ   → 66.00MΩ range

Black lead
Red lead
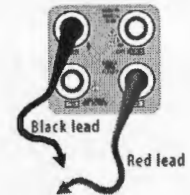
c. Connect test leads across the resistance under measurement.

d. You can get reading from LCD.

NOTE:

When only the figure "OL" is displayed, it indicates over range situation and the higher range has to be selected.

Continuity Testing

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

b. Press   to select))) , enter the continuity test.

c. Connect ⟨◁|e|▷⟩ leads across two point of the circuit under testing.

d. If continuity exists (i.e., resistance less than about 30Ω), built-in buzzer will sound.
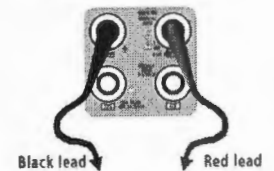
Black lead
Red lead

e. You can get reading from LCD.

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. Press ⟨◁⟩ ⟨▷⟩ to select ⊶ , enter the diode testing.

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

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

E .Tested diode, forward voltage low 30mv, there is sound indication ,then can finish the testing quickly without view the screen.

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

Capacitance Measuring

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

b. Press ⟨◁⟩ ⟨▷⟩ to select ⊣⊢ , enter the capacitance measurement. Auto range by press ▼NEAR key, and manual range by press △ ▽

Black lead   Red lead
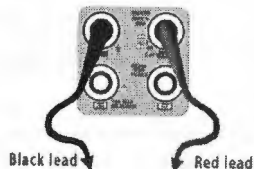
Manual range:	0.000nF	→	6.600nF	range
	00.00nF	→	66.00nF	range
	000.0nF	→	660.0nF	range
	0.000uF	→	6.600μF	range
	00.00uF	→	66.00μF	range
	000.0uF	→	660.0μF	range
	0.000mF	→	6.600mF	range
	00.00mF	→	66.00mF	range

⚠**Note:**

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

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

c.   While testing the capacitance of a capacitor to 660uF, the Max time will be 6.6 seconds, if the capacitor is leaked or damaged, the data can't be read. The tester will be normal after disconnecting the capacitor.

Manual range and Auto range

Press the key ⟨▽⟩ to change the value, press the ▼NEAR to Auto measurement

Data hold

Press the key ⟩█⟨WIDE to hold the data, the value is green. Press it again to quit.

Relative value measurement

Press the key CLOSE/RETURN 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 the 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.

3.3.21 Optical Power Meter（optional）

Press (MENU) twice or press ◁ ▷ and △ ▽ , select [OPM] press (ENTER) to enter.

(1) Function:

(WIDE) : Data hold   (CLOSE RETURN) : Relative measuring

◁ ▷ : Wavelength select   △ ▽ : mW/dBm units select

(2) Instruction:

A. Press MODE key to select "Optical power meter"

B. Absolute power value measurement

   1) Set the wavelength via ◁ ▷ key, the default wavelength is 1310nm.

   2) Input the optical fiber to be measured, the power value is displayed in LCD.

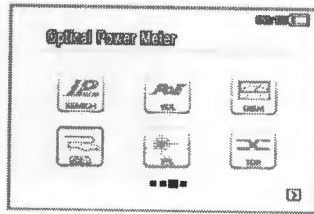   3) Linear and nonlinear value of the current optical-fiber power can be displayed by pressing △ ▽

   key to change the unit to be mW or dBm.

⚠️ **Note:** Pls keep the fiber connector and the dust cap be clean, and clean the detector with the

    special alcohol.

Data hold

While testing, press (WIDE) to data hold, the data will not change.
It's convenient to read. Press (WIDE) again to quit.

Relative power value (optical link loss) measurement

1) Set the wavelength for measurement.

2) Measure the first optical fiber, pressing the key (CLOSE RETURN)
under any display unit, then the current fiber power value is
stored as the base reference value.

3) Input another optical fiber to be measured, the relative power
value is displayed. The optical power meter displays the
end-end loss of the fiber under test; the unit of loss value must be
dB.

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

3.3.22 Visual Fault Locator* （optional）

Press ◁ ▷ to select [VFL] , then press (ENTER) to enter.

Insert the fiber to the device's "VFL" interface, default output power is 10mW and the wavelength is

650nm. Press △ ▽ to adjust pulse mode and stable model
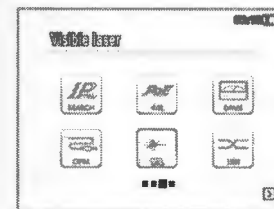
3.3.23TDR Tester（optional）

⚠ **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.

Press ◁ ▷ to select [TDR] , press (ENTER) to enter.
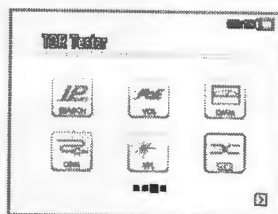
Built-in BNC, network cable, RVV control cable, Telephone line can test. 12 groups user-defined cable can be set.

Press (SET⊕) to line type interface, press △ ▽ to choose the line type, press (ENTER) to save and start testing.

Press ◁ ▷ toadjust the speed, if select the user-defined cable type, adjust the speed after the calibration.

User-defined calibration：Choose the cable 100 meters to 200 meters (more than 50 meters) press (SET⊕) to set the user-defined calibration. Press △ ▽ to select user 1 to calibrate, 12 groups user-defined can be set.
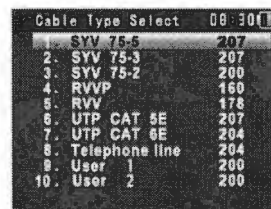
Press ◁ ▷ to "Adjust", press (ENTER) to cable type, press ◁ ▷ to choose the cable style, press △ ▽ to "Speed" and press ◁ ▷ to adjust. While display length is the same as the actual length, pressto save. It can be used for the same cable after the calibration.

Application：

The disconnection and short circuit display in the tester, it is more convenient and efficient to repair the faulty cable.

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

3.3.24 Data monitor

Press ◁ ▷ to select [DATA] , press (ENTER) to enter.
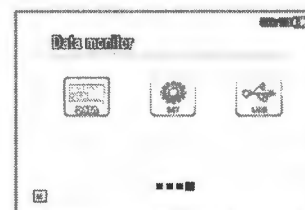
Press △ ▽ to choose the baud rate of RS485/RS232; it must be the same as the DVR or the Control keyboard.

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:---

Press (CLOSE RETURN) to empty while the tester receives the code.

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.

3.3.23 Device setting

Press to menu, press to enter.
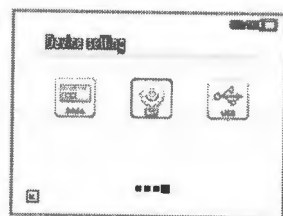
Press or to choose the item, press to adjust, press to save, press to quit.

Auto power off: Setting the time of auto shut-down.(Disable,5,10,...,60)

Disable: Disable the "Auto power off" function. 5 means the CCTV will power off after 5 minutes when there is no any operation.

Keypad tone: Open or close the beep of pressing keypad.

Language: More than 9 languages optional((English, German, French, Spanish , Russian, etc)

Brightness: Setting the brightness of OSD menu and background. (0~7)

Address search: off / on Open or close the PTZ address search Menu.

Time setting: press to enter, set the time and date.

**F1 user-defined keyboard shortcuts**: Users can set the function as you like, press to select, press to save. The default value is " PTZ controller".

F2 user-defined shortcut key is the same setting of the F1 shortcuts keys. The default is "Device setting".

3.3.25 USB

All the photograph files or video record can be uploaded to computer, it's convenient to check.
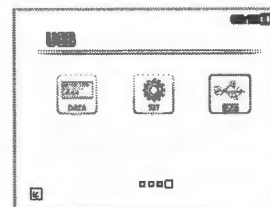
3.4 DC12V 2A power output

Power the camera with DC12V (2A) power output from the tester. It is helpful for demo and testing where there is no power supply available.
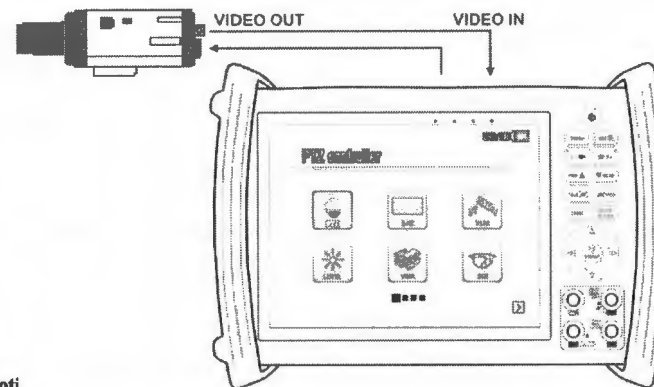
⚠ **Noti...**

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 the tester is full charged or more than 3 bars, otherwise it can only offer a very

short time for the power output..

3.5 USB 5V 2A power output

DC5V 2A power output, connect cable to the tester's DC5V 2A OUT port, Provides emergency charging for mobile phones.

Charge
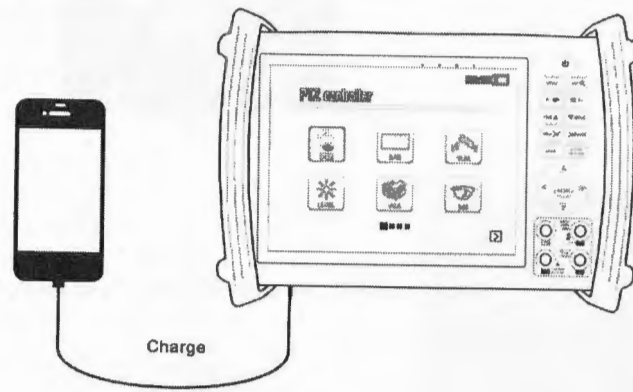
3.6 Audio input test

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

AUDIO IN
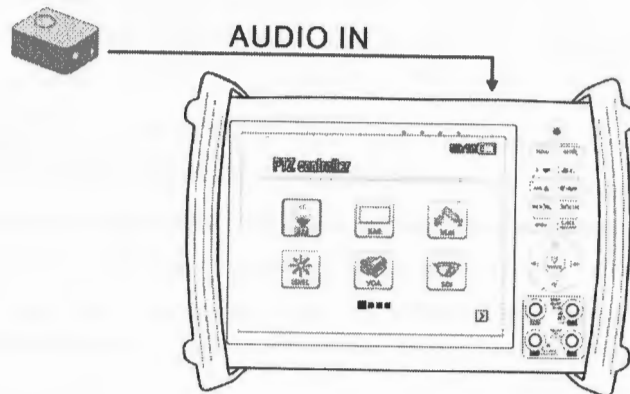
3.7 LED lamp

With the LED lamp can work in the evening or in the dark.

Turn on the tester, press (ENTER) for several seconds, and the LED lamp turn on, press (ENTER), and turn it off.

4. Specifications

4.1 General Specifications

Model	HD-SDI tester
SDI digital Video Signal *(optional)	
SDI IN/OUT	1 channel SDI Input & 1 channel SDI Output. support 720p 60fps / 1080p 60fps
HDMI digital Video Signal *(optional)	
Digital Signal in	1 channel HDMI input, support 720p 60fps / 1080p 60fps.
Video Test	
Signal mode	NTSC/PAL (Auto adapt)
Video Output Mode	1.0 Vp-p
Display	7inch TFT-LCD, 800(RGB)×600 resolution
LCD adjustment	Brightness, Contrast, Saturation adjustable
Video IN/OUT	1 channel BNC Input & 1 channel BNC Output
VGA input display	
VGA Input	Receive VGA signals from DVR、NVR
Video Level test	
Level test	Video signals measured in IRE or mV
Video Level meter (optional)*	
Video Level meter	Video signal PEAK level, SYNC level, COLOR BURST chroma level

	measurement
DC12V 2A power output	
DC12V power output	Output DC12V/2A power for camera
5V power output	
Power output	Output 5V power for mobile phone,used as power bank
Audio input test	
Audio input test	test the pickup and other audio equipments on the front-end
PTZ controller	
Communication	Support RS232 and RS485
PTZ Protocol	Compatible with more than 30 protocols such as PELCO-D/P, Samsung, Panasonic, Lilin, Yaan, etc.
Baud Rate	600, 1200, 2400, 4800, 9600, 19200,57600,115200bps
Video Signal Generation	
Color bar generator	Output one channel PAL/NTSC color bar video signal for testing monitor or video cable.(red, green ,blue, white and black color)
UTP Cable tester	
UTP cable test	Test UTP cable connection status and display in the screen. Read the number of the test box.
RS485 /232data analysis	
Data Monitor	Captures and analyzes the command data from controlling device
10x Zoom Image	
Image 10x zoom	10x zoom image display and video out
Photograph、Video record, Record playback	
Photograph	snapshot and save the current image as JPG file
Video record	Video record and storage the file
Record playback	To view the storage file in the SD card
Port flicker	
Port flicker	Find the connected POE port quickly.
IP scan、Link monitor、PING test	
IP scan	Find out the connected IP camera or the other network equipment IP

	address quickly.
Link monitor	Check the IP address whether is occupied
PING testing	Test IP camera or Ethernet port of the other network equipment whether work normally, and check the IP address
Cable scan	
Cable scan	Through the audio signal to find out the correct cable quickly from the tanglesome and clutter cabling system when installing or maintaining the cctv security system or cabling system
PoE test	
PoE test	Display the power supply voltage and cable connection states
Digital Millimeter *(optional)	
AC/DC Voltage	0-660V auto/manual range, the min resolution is 0.1mV
AC/DC current	660.0uA , 6.600mA, 66.00mA , 660.0mA, 10.00A
Resistance	660.0Ω, 6.600kΩ, 66.00kΩ, 660.0kΩ, 6.600MΩ, 66.00MΩ
Capacitance	6.6nf~66000uF, the min resolution is 1pf
Diode	0~2V forward voltage, the min resolution is 1mV
Data hold	Hold and display the measured value
Relative measurement	Display the relative power value
Continuity testing	Built-in buzzer will sound, if resistance is lower than 30Ω
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
Sensitivity(nW)	0.001nW
Connector type	FC/PC
Data hold	Hold and display the measured value
Relative	Display the relative power value

measurement	
Visual fault locator *(optional)	
Visual fault locator	Test fiber's bending and breakage (SM and MM fiber)
TDR Test *(optional)	
TDR Test	breakpoint and short circuit measurement (BNC cable, telephone cable)
POWER	
Power Adapter	DC 12V（2A）
Battery	Built-in 7.4V Lithium polymer battery, 6500mAh
Rechargeable	After charging 6-8 hour, working time lasts 17 hours
Low Consumption	Energy saving technology, the battery icon real-time display
Parameter	
Operation setting	OSD menu，more than 9 languages optional (English, Portuguese, German, French, Spanish, Italian, Russian etc)
Auto off	5-60 (mins)
Keytone	On/Off
General	
WorkingTemperature	-10℃～+50℃
Working Humidity	30%～ 90%
Dimension/Weight	256mm x 173mm x 50mm / 1.2kg

Note: * Optional

4.2 Multimeter specifications:

Counts：-6600～+6600

Conversion rate: 3 times/s

Current modes for clamp meter with ZERO function

Isolation: the Multimeter connector must be isolated with the other connector.

DC Voltage

Range	Accuracy	Resolution

660.0mV (Manual range)	± （0.3%+4)	0.1mV
6.600V		1mV
66.00V		10mV
660.0V	± （1.5%+4)	100mV

AC Voltage

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

DC Current

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

AC Current

Range	Accuracy	Resolution
6.600mA		1uA
66.00mA	± （1%+5)	10uA
660.0mA		100uA
10.00A		10mA

Resistance :

Range	Accuracy	Resolution
660.0Ω	±（0.8%+5）	0.1Ω
6.600KΩ	±（0.8%+2）	1Ω
66.00KΩ		10Ω
660.0KΩ		100Ω
6.600MΩ		1KΩ
66.00MΩ	±（1.2%+5）	10KΩ

ⁿ)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	±（5%+20）	1pF
66.00nF	±（3.5%+8）	10pF
660.0nF		100pF
6.600uF		1nF
66.00uF		10nF
660.0uF	±（5%+8）	100nF
6.600mF		1uF
66.00mF		10uF

4.3 Optical power meter specifications

Measure Range(dBm)	-70~+10dBm
Wavelength(nm)	850nm、1300nm、1310nm、1490nm、1550nm、1625nm
Detector	InGaAs
Uncertainly	<±3%dB(-10dBm，22℃) <±5%dB(full range，22℃)
Display Resolution	Linear：0.1% ; Nonlinear：0.01dBm
Operating Temperature(℃)	-10~+50
Storage Temperature (℃)	-20~+70
Connector type	FC/PC

4.4 Visual fault locator specifications

Laser type	LD
Light source wavelength	650nm
Single-mode output power	5mW (10mW, 20mW)
Control mode	CW/1Hz/2Hz
Measurement distance	5KM (10-20KM)
Connector type	FC/PC
Operating Temperature(℃)	−10℃～+50℃
Storage Temperature (℃)	−20℃～+70℃

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

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