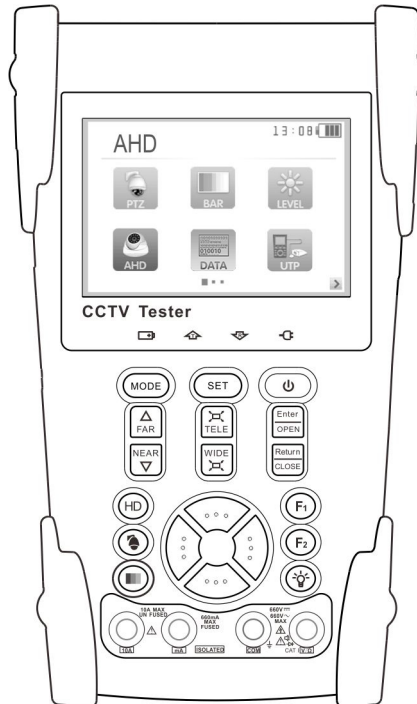# HD Coaxial Tester Manual

V2.10

Thank you for purchasing the HD CCTV security tester. Please read the manual before using the HD coaxial tester and use properly.

For using the HD coaxial 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 HD coaxial tester, or damages occurred on the product, please contact our technical department.

Content

1、Safety information

Notice

■ 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.

2. Introduction

2.1 General

The new HD coaxial tester with SDI test, AHD test, HD-CVI test, HD-TVI test is developed for the On-
Site installation and maintenance of HD coaxial camera and analog camera. The unit has many useful
functions, such as display both HD coaxial and CVBS analog video, PTZ control, DC12V/1A output
power, audio test, color bar generator, RS 485 data searching, cable testing and LED lamp, etc. In
additional, the tester offers the user some optional functions, such as TDR cable testing to test the
cable's open circuit (breakpoint) and short circuit, cable tracer to find the connected cable from a
bundle of cables with an audio tone, video level meter to perform NTSC and PAL video amplitude
signal measurements for PEAK to PEAK, SYNC level and COLOR BURST chroma level, digital
multimer, optical power meter and visual fault locator. The new tester designed with easy operation
and portability makes it simple for a cctv technician or installer to install and maintain CCTV systems,
greatly improving working efficiency by reducing time in the field.

2.2 Features

➢ Select your desired language: English, Chinese, Italian or Polish etc

➢ 3.5"TFT-LCD screen display , 480(RGB)x320 resolution

➢ LED Lamp, easy to operate at night

➢ User-defined shortcut keys（F1 and F2）

➢ LCD screen brightness/contrast/color saturation adjustable

➢ Automatically adapts and displays the video format of NTSC/PAL

➢ Enhanced color bar generator, new added gray-scale image test. PAL/NTSC multi-system
color bar video generator (Eight-system switchable, transmit/receive eight-system
colorful images).

➢ HD CVI camera image display, coaxial PTZ control and call up the camera OSD menu.
(Optional)

➢ HD TVI camera image display, coaxial PTZ control and call up the camera OSD menu
(Optional)

➢ AHD camera image display, coaxial PTZ control and call up the camera OSD menu
(Optional)

➢ SDI camera image display **(Optional)**

➢ TDR cable test, test cable's open circuit (breakpoint) and short circuit location.

➢ 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 RS485, Rate 600 ～ 115200bps adjustable

➢ Supports more than thirty PTZ protocols. Such as PELCO-P, PELCO-D, SAMSUNG, etc

➢ PTZ protocol analysis, control protocol command displays to check RS485 transmission
Whether is normal, easy to find the fault device

➢ PTZ control. Pan/tilts the P/T unit, zooms in/out the lens, adjusts the focus, aperture and
sets and the preset position

➢ DC12V 1A power output for camera

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

➢ Visual fault locator, to test fiber's bending and breakage **(Optional)**   *

➢ Optical power meter, test fiber loss and value **(Optional)**   *

➢ Digital multimeter **(Optional)** *

➢ Cable tracer, by sending the audio signal, enables the blue cable tracer tester to find the connected cable from messy cables. **(Optional)**   *

➢ Lithium Ion Polymer Battery. Remaining battery charge indicator, Lithium Ion Polymer battery can last 11 hours for normal use after charging for 4 -5 hours.

2.3 Function

2.3.1 Video signal test

The new HD coaxial tester with 3.5 inch LCD-TFT, 480（RGB）x320 resolution, allows the user to view the image from sufficient angle. Support PAL/NTSC, LCD screen brightness/ contrast/ color saturation adjustable. Suitable for outdoor installation and maintenance work

2.3.2 Video level meter (Optional) *

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

Video signal PEAK to PEAK level:

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

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

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

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

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

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

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

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

For NTSC format, the chroma standard level is 40 IRE

For PAL format, the chroma standard level is 280mV

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

2.3.3 PTZ controller

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

2.3.4 Enhanced Color bar generator

The new added gray-scale image test, allows the tester to test the monitor. The tester sends out color bars via its BNC output to the monitor. This is used to test for a problem in the cable going from the camera back to the monitoring area

2.3.5 DC12V 1A output power

Power the camera with DC12V (1A) power output from the tester. It is helpful for demo and testing when the power supply is not available.

2.3.6 Audio testing

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

2.3.7 Cable tester

Test LAN cable or telephone cable.

Connect LAN cable or telephone cable with the HD coaxial 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.

2.3.8 PTZ controller

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

Screen displays 16 hexadecimal codes such as

PELCO-P：A0 00（Add） xx xxxxxx AF xx

PELCO-D：FF 01（Add）xx xxxxxxxx

2.3.9 PTZ address scanning

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

2.3.10 CVI camera test (Optional) *

HD CVI video surveillance testing, support 720p 25,30,50,60fps / 1080p 25,30fps. When CVI signal input , the tester will display HD CVI camera image ,coaxial PTZ control and call up the camera OSD menu.

2.3.11 TVI camera test (Optional) *

HD TVI video surveillance testing, support 720p 25, 30, 50,60fps/ 1080p 25,30fps**.** When TVI signal input, the tester will display HD TVI camera image, coaxial PTZ control and call up the camera OSD menu.

2.3.12 AHD camera test (Optional) *

AHD video surveillance testing, support AHD 2.0 version, 720p 25,30fps/ 1080p 25,30fps. When AHD signal input , the tester will display the AHD camera image, coaxial PTZ control and call up the camera OSD menu.

2.3.13 SDI camera test (Optional) *

SDI video surveillance testing, support 720p 25,30fps/ 1080p 50,60fps. When SDI signal input , the tester will display the SDI camera image, PTZ control .

2.3.14 Cable tracer (Optional) *

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

2.3.15 Digital multimeter (Optional) *

HD coaxial 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.

2.3.16 Optical Power Meter (Optional) *

The New tester adopts the most advanced handheld instrument specific integrated chip, achieve ultra-low power operation, with the 3.5 TFT-LCD high-definition screen display, five wavelength calibration points 1625nm, 1550nm, 1490nm, 1310nm, 1300nm, 850nm.Linear or nonlinear optical power display, it can measure the optical power value, and also be used for Relative measurement of optical fiber link loss. It is necessary tool for fibre-optic communication, cable television system and security system maintenance.

2.3.17 TDR open circuit (breakpoint) and short circuit measurement (Optional) *

TDR cable testing, accurately measures BNC cable, network cable, control cable's open circuit (breakpoint) and short circuit location. It greatly improves working efficiency.

2.3.18 Visual fault locator (Optional) *

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

2.3.19 LED lamp

It is useful for the engineer to install and maintain security system at night. LED On/Off pressing button, easy to operate .

2.3.20 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.

2.4 Accessories

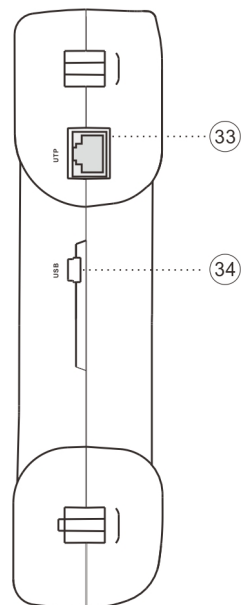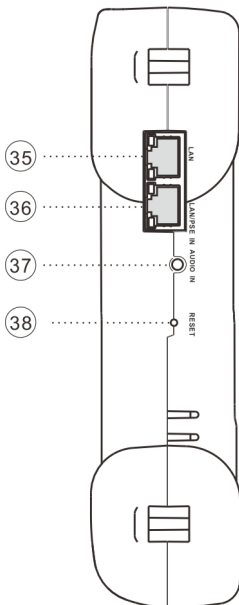1). HD coaxial tester

2). Adapter DC5V 1.5A（with USB cable）

3). No.255 cable tester or blue cable tracer

4). Lithium Ion Polymer Battery（3.7V DC 3000mAh ）

5). BNC cable

6). RS485 cable

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

8) Multimeter test leads one pair of red and black (only for the Multimeter models)

9). Power cable

10). Audio cable

11). TDR alligator clamp (only for TDR models)
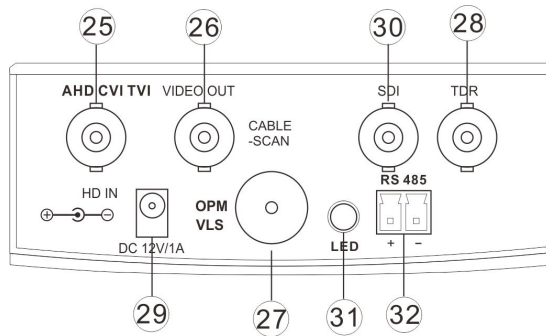
12). Safety cord

13). Tool bag

14). Instruction Manual

2.5 Front Panel

AHD

13:08

PTZ   BAR   LEVEL

AHD   DATA   UTP

CCTV Tester

MODE   SET   ⏻

FAR   TELE   Enter/OPEN

NEAR   WIDE   Return/CLOSE

F1

F2
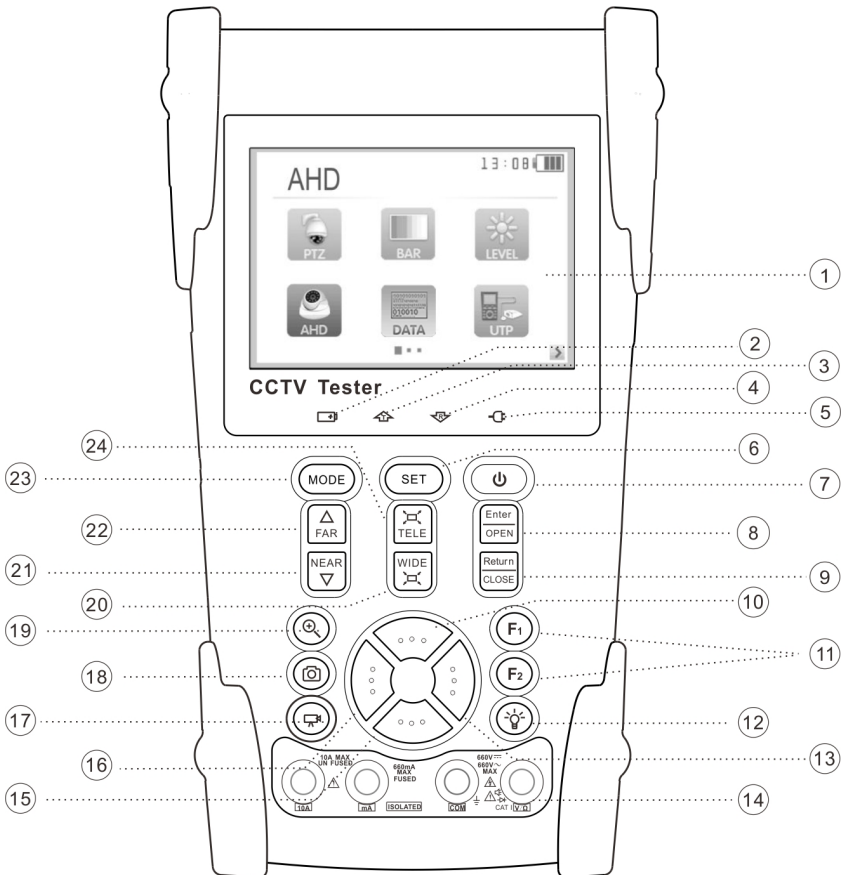
1		OSD menu
2		The charge indicator: it lights red while the battery is being charged. As the charging is complete, the indicator turns off automatically
3		The data-transmission indicator: it lights red while the data is being transmitted
4		The data-reception indicator: it lights red while the data is being received
5		The power indicator: it lights green while the tester is powered on
6	SET	Set key, press it to enter sub-menu to set the parameters of functions
7	⏻	Press more than 2 seconds, turn on or off the device ,short press to turn on or off the menu display
8	Enter OPEN	Confirm/Open : Confirm the setting of parameters; open or enlarge the aperture
9	Return CLOSE	Return/Close : Return or cancel while setting parameters of the menu, close or decrease the aperture
10		Upward: Select the item which will be set or add the value of the parameter. Tilt the PTZ upward
11	F₁ F₂	User-defined key（User setting function, the default is "PTZ controller"）
12		LED Lamp
13		Rightward, Enter the sub-menu or select the parameter whose value will be changed. Add the value of the parameter. Pan the PTZ right
14	DMM	Digital multimeter: voltage, current, resistance and capacitance measuring, continuity

		testing, diode testing **(Optional)** *
15	⬭	Downward: Select the item which will be set or reduce the value of the parameter. Tilt the PTZ downward
16	⬭	Leftward: Enter the sub-menu or select the parameter whose value will be changed. Reduce the value of the parameter. Pan the PTZ left
17	◼	Color bar generator shortcut key
18	📷	PTZ control shortcut key
19	HD	AHD,CVI or TVI shortcut key **(Optional)** *
20	WIDE	WIDE: zoom out the image
21	NEAR ▽	Near focus: Focus the image nearby
22	△ FAR	Far focus: Focus the image faraway
23	MODE	Menu key
24	TELE	TELE: zoom in the image

25	Analog / HD TVI/CVI/AHD signal input (BNC interface) **(Optional)** *
26	Video output (BNC output interface): Outputs the video / Cable tracer **(Optional)** *
27	Optical power meter interface **(Optional)** */ Visual fault locator interface **(Optional)** *

28	TDR cable open circuit and short circuit test **(Optional)** *
29	Output DC12V1A power, for provisional DC test supply
30	SDI test interface (BNC interface) **(Optional)** *
31	LED lamp
32	RS485Interface: RS485 communication for the PTZ
33	Network cable /Telephone cable interface test
34	USB charge interface
35	No function
36	No function
37	Audio input: test the pickup and other audio equipments on the front-end
38	Reset the default settings of parameters

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 (⏻) continuously can power on or off the tester.

**Notice：Please use the original adaptor and connected cable of the device**

At the first time of use, the batteries should be completely exhausted and then recharged for 4 or

5 hours.

The Charge Indicator ▭+◻ lights red when charging the battery, the charge indicator turns off

automatically when the 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 8
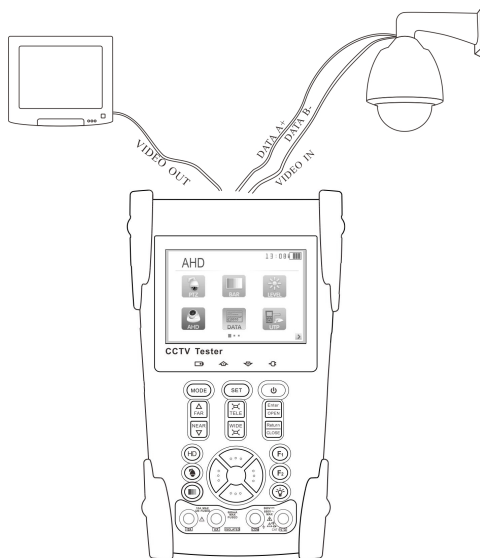
hours will not damage the battery.

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.
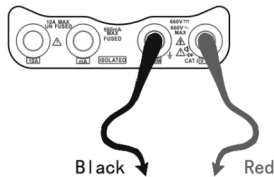
3.2 Instrument connection

14

1. The camera or dome video output is connected to HD coaxial tester VIDEO IN,the image display on the tester .

2. HD coaxial 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).

3.3 OSD Menu

■ Press the key ⏻ urn on.

■ Press the key again ⏻ urn off, also can set time off

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

■ Press the key ⏻ nter the menu, continuously press quickly switches to the desired function menu. Anytime, press this key to enter the menu.

■ In various functional mode, press the key SET the various parameter values

■ When turn it on, press the key MODE enter the function menu, continuously press the key , select t function, and press the key to enter.

■ Press the key MODE witch the menu, the square square means different interface

■ Press the key select the different function icon, then press the key to
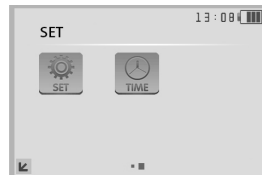
First page menu   Second page menu

3.3.1 PTZ controller

Display the input video image. Press the key (SET)enter the menu 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 (⏻)lose the top menu,

display image full screen.

Enter PTZ controller, if no video input, the screen display "No

video".

PTZ controller parameter setting

In the "PTZ CONTROLLER "mode（as photo shown above）, press the key (MODE)enter the parameter

setting .

press the key ⟨⋯⟩⟨⋯⟩ the yellow cursor to select

Press the key ⟨⋮⟩r , ⟨⋮⟩ange the parameter values. Then press the key   to (SET)nd

return.

If abandon the setting, press the key [Return CLOSE]cancel, and then press the key   f(SET)n the PTZ

controller interface.

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

(RS485)

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)
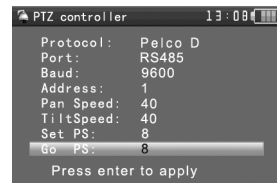
Move the yellow cursor to "SET PS", set and save preset position number (1~128), Press the key

To accelerate the value changing, then press the key Enter OPEN save, Press the Return CLOSE t.

H. Call the preset position (Go ps)

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

Press key [ ] r t [ ] ccelerate the value changing.

Press the key Enter OPEN complete preset position setting or press return key to t Return CLOSE.

Call some special preset number, can call the dome camera menu

Check and set the protocols, address, interface and baud, must be the same as the dome camera, then

can test and control.

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

◆ Press the key control the PTZ direction of rotation

◆ Press the key Enter OPEN t Return CLOSE ch on or turn off the aperture.

◆ Press the key △ FAR , a NEAR ▽ the focus manually

◆ Press the key ⋈ TELE , r WIDE ⋈ ally adjust the zoom

1) Set and go PS

Set PS

A. P/T/Z the camera to desired position.

B. Press the key (SET)nter the PTZ controller submenu. Press the key ⟨···⟩⟨···⟩ yellow cursor to "Set PS", Press the key ⟨:·:⟩ to select th ⟨:·:⟩ t position number.

Press enter key [Enter OPEN] complete preset position setting or preset return the key to [Return CLOSE] up set position setting.

Go PS:

Call the preset position. (1~128) The PTZ camera will go to the desired preset position.

In "PTZ Controller" mode, Press the key (SET) 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

to complete preset position setting or preset 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)

2) Menu of dome

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

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

is for reference only

a. Press the key (SET)nter PTZ controller submenu

b.Press the key ⟨:·:⟩,⟨:·:⟩ ect preset position 64

c. Press the key [Enter OPEN]ter the main menu of the PTZ camera

```
┌──────────────┐
│  Go PS:      │         ┌─────────┐         ┌──────────────────────┐
│   064        │    +    │  ENTER  │  ⟹      │ OSD menu of dome     │
│              │         │  OPEN   │         │ Call the preset      │
└──────────────┘         └─────────┘         │ point: 064           │
                                             └──────────────────────┘
```

```
        ┌────────────────────────────┐
        │      MAIN MENU             │
        │                            │
        │   1.DISPLAY SETUP          │
        │   2.CAMERA SETUP           │
        │   3.CONTROL SETUP          │
**OSD Menu of Dome**    │   4.CAMERA MASK SET        │      (For
        │   5.PROGRAM                │
        │   6.PAL  CAMERA            │
        │   7.CAM DEFAULT SET        │
        │   8.DOME RESET             │
        │   9.EXIT                   │
        └────────────────────────────┘
```
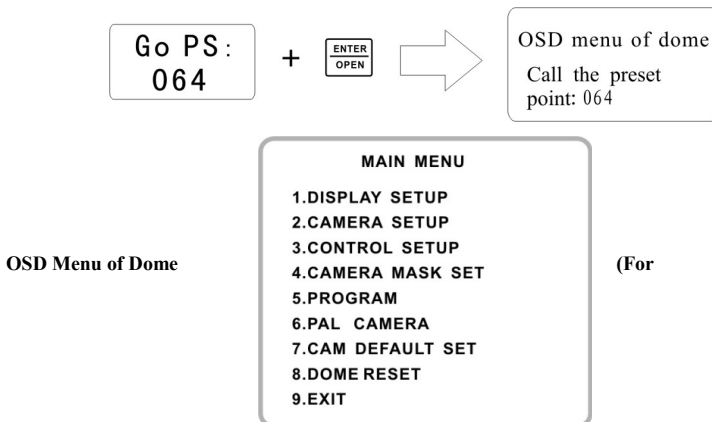
Reference only)

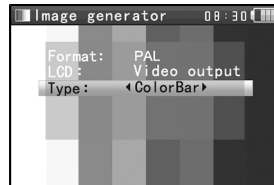After calling the dome camera menu, Users can select different function through the arrow keys, the dome camera menu operation refer to the manual.

3.3.2 Color bar generator

Press the key (MODE) nter the tester's main menu

Press the key select the bar , en press the key to ente Enter OPEN

The tester's color bar generator; supports both PAL / NTSC format's standard color bar output

Press the key , the cursor to "Format"、"LCD display select"、"Type ". Select "Format", the tester sends the color bars from the "Video out" port. Press the key or to switch the video output formats. When select "LCD display select", press the key or to switch the display content.

Short press the rn off the menu, sending or receiving image is display full screen；short press it again; display the color bar generator menu.

In the " color bar generator" mode, both PAL / NTSC format's color bars image can be output by the tester's "Video OUT "and received by the tester's "Video IN " port to display the video input and output .

This feature is used for testing the monitoring transmission channels, such as optical video transmitter and receiver, video cables, etc. The tester's "Video OUT " port connects to the sending port of the optical video transmitter , the "Video IN " port connects to the receiving port of the optical video transmitter .

Image receiving：connect the Video OUT port to the Video In port, Video generator sends the color bars. Under "Display options", press the direction keys to choose "Video input" , the screen is at the status of receiving image, if cannot receive the image ,the screen displays "NO VIDEO ", if received , the displayed color bars is the same as the sending color bars .

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 gray scale test bar, to debug monitor

3.3.3 Video level meter (Optional) *

Press [ ] [ ] choose menu , [VLM] press [Enter OPEN] to enter

Use hardware high frequency sampling and processing technology, perform NTSC and PAL video amplitude signal measurements for PEAK to PEAK , SYNC level, and COLOR BURST chroma level . While the tester receives the video signal, it will automatically measure the Video signal PEAK to PEAK 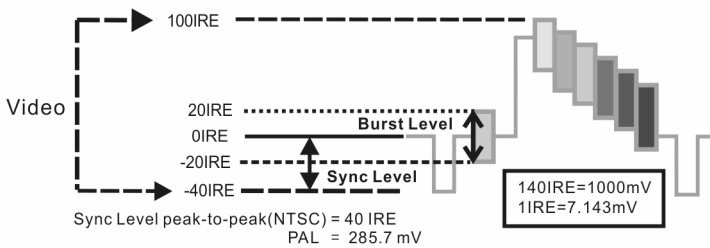level, SYNC level, and COLOR BURST chroma level. While in PAL format, the unit will be mV, While in NTSC format, it will be IRE.

NTSC	PEAK to PEAK level	140±15IRE	
	COLOR BURST chroma level	40±5IRE	
	SYNC signal level	40±5IRE	
PAL	PEAK to PEAK level	1000±200mV	
	COLOR BURST chroma level	280±35mV	
	SYNC signal level	280±35mV	

Video signal PEAK to PEAK level:

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

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

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

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

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

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

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

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

For NTSC format, the Chroma standard level is 40 IRE

For PAL format, the Chroma standard level is 280mV

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

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

3.3.4 Video setting

Press [ ] the menu , [LEVEL] to enter [Enter OPEN]

> LCD brightness, contrast, color saturation can be adjusted.

> The HD coaxial tester auto displays the format (PAL/NTSC) of video input, and analysis the input video signal level.

> If the coaxial cable is too long, it will reduce the video signal level. If the level is too low, the image will not be as deep and its dynamic range will be reduced. If the level is too high, the image will get washed out. Realtime displays video singal level. There will be prompts appear on screen if the level out of range.

Depending on the type of camera connected to the HD coaxial tester, the Video "Format " will automatically switch between NTSC and PAL, and the Video Level will automatically switch between IRE (Institute of Radio Engineers) and mV. NTSC signals measured in IRE units, PAL signals measured in mV.

3.3.5 PTZ address search

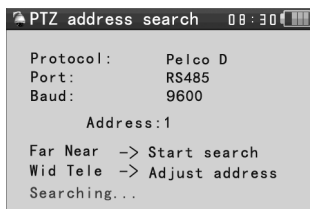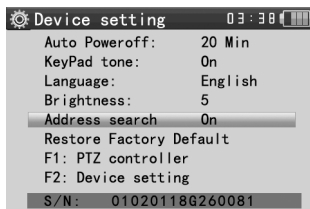Press [ ] select , [SEARCH] to enter [Enter OPEN]
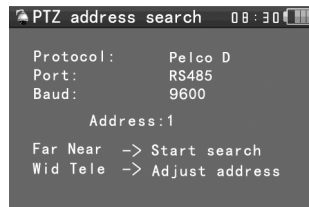
Note：Please isolate the PTZ camera with other PTZ cameras before searching up. Otherwise all the PTZ cameras in the same system will pan at the same time.

Press [ ] [ ] select , [ ] then press to enter [Enter OPEN] (follow picture). Select "Address search", press to select ON or [ ] OFF, then Press [Enter OPEN] to save. The PTZ address search function displays on the main menu. [SEARCH]

```
⚙ Device setting        03:38 ▣▒
   Auto Poweroff:    20 Min
   KeyPad tone:      On
   Language:         English
   Brightness:       5
   Address search    On
   Restore Factory Default
   F1: PTZ controller
   F2: Device setting
   S/N:   01020118G260081
```

```
📷 PTZ address search    08:30 ▣▒

   Protocol:     Pelco D
   Port:         RS485
   Baud:         9600
        Address:1

   Far Near  -> Start search
   Wid Tele  -> Adjust address
   Searching...
```

（Note：When the tester is turned off, the Address search is default OFF）

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

Press [△ FAR] button, 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] 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 ▽] button, 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 to [TELE] searching up. Press [TELE] manually 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 [TELE] to [WIDE] search the address gradually, the image will flash when the address found. Press the direction control button to adjust Dome Camera. Press button to quit. (MODE)

[变倍- 🔍]
[🔍 变倍+]

3.3.6 CVI camera test (Optional) *

Connect CVI camera to the HD coaxial tester's "Video In" interface.

Press ___ key to enter the tester's main menu, then press ___ key to select CVI ___, press ___ key to enter CVI test.

No video signal input !
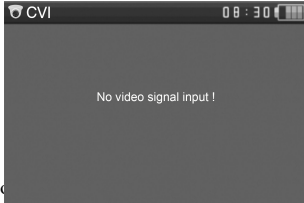
PTZ co___

Press ___ key to open menu, then press ___ key to switch the control between coaxial control and RS485 control. When select coaxitron, use a BNC cable to connect the HD coaxial tester and the CVI camera, the tester can directly perform PTZ control.

CVI	08:30
Port:	UTC
Coaxitron:	PTZ

CVI	08:30
Port:	RS485/RS232
Protocols:	Pelco D
Baud Rate:	9600
Address:	1
Horizontal Speed:	40
Vertical Speed:	40
Set Position:	8
Call Position:	8

PTZ control instructions, please refer to "3.3.1 PTZ control"

Call OSD menu

"Port": select coaxial control (UTC), Press ___ ___ to select "Coaxitron", press ___ key to enter camera menu setting. Press ___ ___ key to select "Address" and set the address code of the calling dome ___ SET ___ then press the key ___ to call dome camera OSD menu.

CVI	08:30
Port:	UTC
Coaxitron:	MENU
Address:	1

CVI	08:30
Port:	UTC
Coaxitron:	PTZ
Address:	1
Horizontal Speed:	40
Vertical Speed:	40
Set Position:	8
Call Position:	8

3.3.7 TVI camera test (Optional) *

Connect TVI camera to the HD coaxial tester's "Video In" interface.

Press   key to enter the tester's main menu, then press   ke   lect "TVI"   , press   y to

enter TVI test.
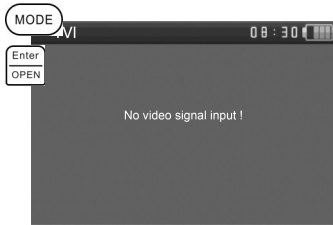
PTZ control and calling dome camera OSD menu operation instructions, please refer to 3.3.6 CVI

camera test.

3.3.8 AHD camera test (Optional) *

Connect AHD camera to the HD coaxial tester's "Video In" interface.

Press   key to enter the tester's main menu, then press   ke   lect "AHD"   , Press   y to

enter AHD test.

PTZ control

PTZ control instructions, please refer to 3.3.6 CVI camera test.

"Port": select coaxial control (UTC), Press   key to select "Coaxitron", press

key to enter camera menu setting. Press Enter/OPEN call dome camera OSD menu.

3.3.9 SDI camera test (Optional) *

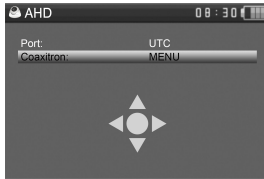Connect SDI camera to the HD coaxial tester's "Video In" interface.

Press ⬛ key to enter the tester's main menu, then press ⬛ ke⬛ ⬛lect "SDI" , Pres⬛ ⬛y to enter SDI test.
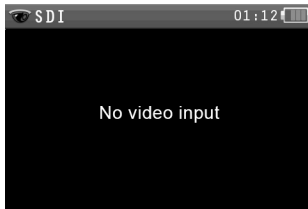
PTZ control

PTZ control instructions, please refer to 3.3.1 PTZ controller
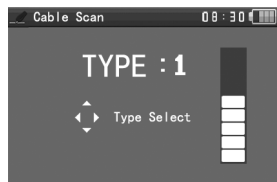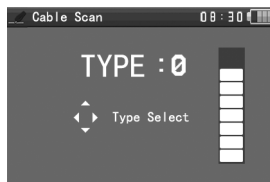
.

3.3.10 Cable Tracer（Optional）*

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

Press ⬛t⬛ ⬛lect ⬛, ⬛⬛en press ⬛ to ent⬛⬛esses ⬛ to choos⬛⬛dio type.

Turn on the blue cable tracer, use its copper pointer to touch all the cables in the bundle. User is searching at the other end. The cable that gives off the loudest tone is the cable connected to the tester. . Four Audio types can choose. The blue cable tracer has LED lamp. This is convenient for working in dark or at night. Press the button (+ -) to adjust the volume.

Note: Install two AAA batteries in the blue cable tracer.

Application

It's convenient for people to find out the other end of the cable in security maintenance and network engineering. While searching BNC cable, connect one of the alligator clips to the BNC cable's copper core or copper net, connect the other alligator clip to the earth wire.
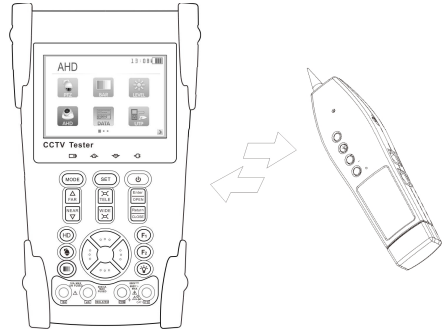
Note：The battery of the cable tracer must according to corresponding positive pole + and

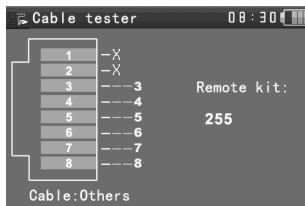negative pole -, otherwise will damage the tester.

Note：While the cable tracer is receiving the audio signal from the tester, it may be induced into

adjacent or crossing cables; however, the cable that makes the loudest noise is the one

that's connected to the tester.

3.3.11 Cable tester

Press [ ] menu , [UTP] to ente[Enter OPEN]

Test LAN cable or telephone cable.

Connect LAN cable or telephone cable with the HD coaxial 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: The number of the cable tester is 255. If perfer to HD coaxial tester with cable tracer (optional), the package will includes blue cable tracer instead of cable tester.

3.3

Press ⸚ select , [DMM] to enter [Enter/OPEN]
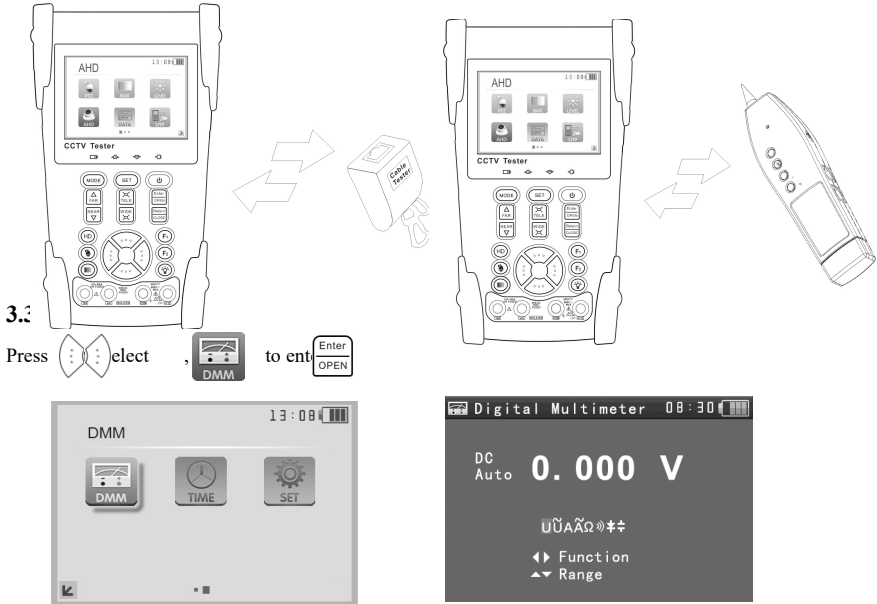
1) **Function Button：**

[NEAR ▽]： Auto range [WIDE]Data hold ：[Return/CLOSE]ative measuring

⸚ ： Function select ⟨...⟩ ⟨...⟩nual range

2) **SYMBOLS：**

U：DC Voltage Measuring　　　　U~：AC Voltage Measuring

A：DC Current Measuring　　　　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.

3) OPERATING INSTRUCTION

A.   DC Voltage Measuring

> **WARNING!**
> You can't input the voltage which more than 660V DC, it's possible to show higher voltage, but it may destroy the inner circuit.
> Pay attention not to get an electric shock when measuring high voltage.

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

b. Press ⋮ ⋮ select U, enter the DC voltage measurement.

c.Auto range by press [NEAR ▽] and manual range by press ⟨···⟩⟨···⟩

d.Manual range： 0.000V → 6.600V range

00.00V → 66.00V range

000.0V → 660.0V range

000.0mV → 660.0mV range

B. AC Voltage Measuring

> **WARNING!**
> You can't input the voltage which more than 660V AC, it's possible to show higher voltage, but it may destroy the inner circuit.
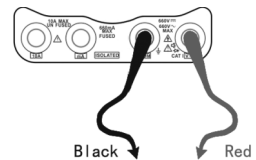> Pay attention not to get an electric shock when measuring high voltage.

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

b. Press ⟨⟩⟨⟩ select U ~ , enter the AC voltage measurement. Auto range by press key
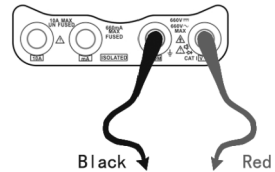
⟦NEAR ▽⟧ and manual range by press ⟨···⟩⟨···⟩

Manual range： 0.000V → 6.600V range

00.00V → 66.00V range

000.0V → 660.0V range

000.0mV → 660.0mV range

C. DC Current Measuring(only manual range)

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

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

b. Press ⟨⟩⟨⟩ select **A,** enter the DC current measurement. Manual ⟨···⟩⟨···⟩
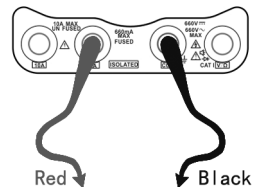
range by press   , only manual range supply.

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）

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.
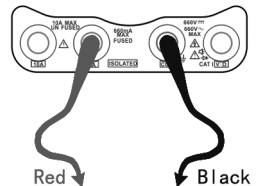
D. AC Current Measuring (Only Manual range)

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

---

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

b. Press ⟨⟩⟨⟩ select A~ , enter the AC current measurement. Manual range by press   only

　manual range s⟨···⟩⟨···⟩

　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）

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.

E. Resistance Measuring

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

---

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

b. Press ⟨:⟩⟨:⟩ elect Ω, enter the Ω measurement. Auto range by press   ke⟨NEAR▽⟩d manual range by

　　　　　⟨···⟩⟨···⟩

press   .

Manual range：(Connect the red lead to black leads, will display the measure range)
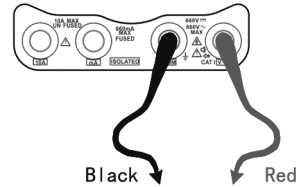
000.0Ω → 660Ω range

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

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.

F. Continuity Testing

WARNING!
When testing the circuit continuity, be sure that the power of the circuit has been shut down and all
capacitors have been discharged fully.
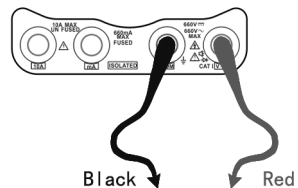
a. Connect the black test lead to the "COM" jack and the red test lead to the "V/Ω" jack.

b. Press   elect   , en   r the continuity test.

c. Connect test leads across two point of the circuit under

   testing.

d. If continuity exists (i.e., resistance less than about 50Ω),

   built-in buzzer will sound.

e. You can get reading from LCD.

G. Diode Testing

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

   anode "+")

b. Press ⟨⋮⟩⟨⋮⟩ elect , en▬ 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.

H. Capacitance Measuring

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

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

b. Press ⟨⋮⟩⟨⋮⟩ elect , en▬ the capacitance measurement.

Auto range by press [NEAR ▽] y, and manual range by press ⟨•••⟩ ⟨•••⟩

    Manual range：0.000nF → 6.600nF range

         00.00nF → 66.00nF range

         000.0nF → 660.0nF range

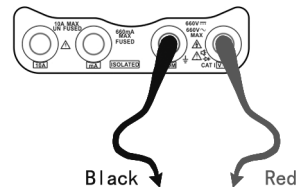   0.000uF → 6.600μF range

         00.00uF → 66.00μF range

         000.0uF → 660.0μF range

         0.000mF → 6.600mF range

     00.00mF → 66.00mF range

c. Before connect test leads across two sides of the capacitor under measurement, be sure that the

capacitor has been discharged fully.

d. You can get reading from LCD.

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 <⋯> change the value, press the NEAR ▽

to Auto measurement
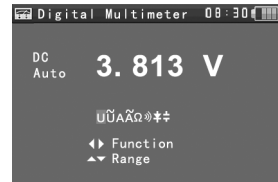
Data hold

Press the key WIDE hold the data, the value is green.

Press it again to quit.
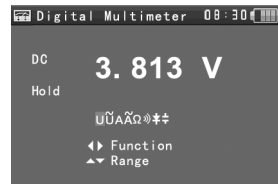
Relative value measurement

Press the key Return/CLOSE 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

1   **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.
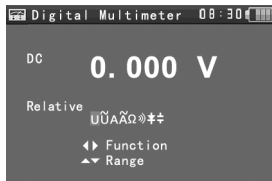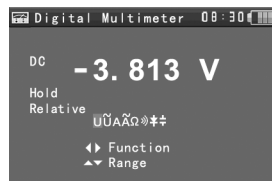
➤ **mA current fuse range ：250V 1A**

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

3.3.13 Optical Power Meter（optional）*

Press (MODE) ce or press   a ⟨ ⟩ , se⟨⟩⟨⟩ss   to [OPM]   [Enter OPEN]
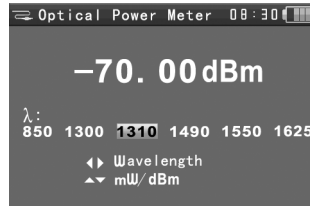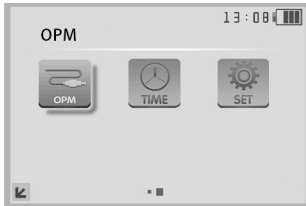
1   **Function：**

[WIDE] Data hold   ： [Return CLOSE] tive measuring

⟨ ⟩ ： Wavelength select   ⟨⟩⟨⟩ Bm units select

（**2**）**Instruction：**

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

B. Absolute power value measurement

1) Set the wavelength via ⟨ ⟩ ey, the default wavelength is
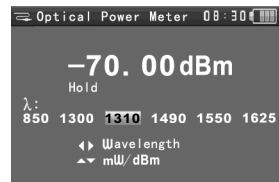
1310nm.

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

⟨⋯⟩⟨⋯⟩ change the unit to be mW or dBm.

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

with the special alcohol.

Data hold

While testing, press [WIDE] data hold, the data will not change. It's

convenient to read. Press ag [WIDE] o quit.

Relative power value (optical link loss) measurement

1) Set the wavelength for measurement.

2) Measure the first optical fiber, pressing the key [Return CLOSE]
   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.
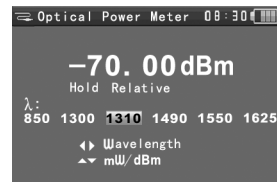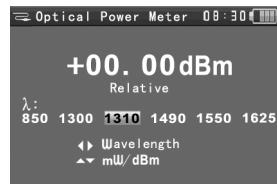
3.3.14 Visual Fault Locator（optional）*

Press ⟨ ⋮ ⟩⟨ ⋮ ⟩ elect , t ess to ente [Enter OPEN]

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

650nm. Press ⟨⋯⟩⟨⋯⟩ ust pulse mode and stable model
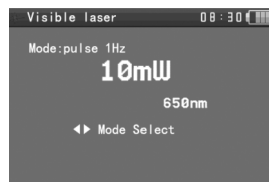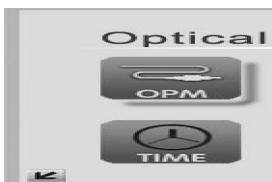
Warn: The emitting red laser source is highly strong and harmful to damage the eyes. Avoid the eyes direct contact or staring at the emitting red laser source.

3.3.15 TDR Tester（optional）*

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

Connect one end of Alligator clip cable to the TDR port, the other end of the Alligator clip cable to the tested cable, the tester and the tested cable must connect well before testing, otherwise it will influence the accuracy.

Press ⬡⬡ select   , press TDR to enter Enter/OPEN

Built-in BNC, network cable, RVV control cable, Telephone line for testing.

Users can defines 12 group cables for testing.

Press SET able type interface, press ⬡c⬡ the bulit-in cable type or user-defined cables,

press   to save and start t[...]g.

If select the cable from bulit-in cable type , press [...] adjust the cable wave speed, if select the user-defined cable type, the cable's wave speed can only be adjusted after the calibration.

User-defined calibration： **Choose one cable with the length over 50 meter (suggest use the cable, length between 100 to 200 meter). Press SET enter the user-defined calibration. Press** [...] **select User 1 for calibration, total 12 groups user-defined can be set.**

Cable Type Select	08:30		TDR Tester	08:30
1. SYV 75-5	207			
2. SYV 75-3	207		Break: 100 m	
3. SYV 75-2	200			
4. RVVP	160		Name : User 1	
5. RVV	178		Type : BNC	
6. UTP CAT 5E	207		Speed: 200 ◀▶ Adjust	
7. UTP CAT 6E	204			
8. Telephone line	204		Start Calibration	
9. User 1	200		Press Enter to start	
10. User 2	200			

Move the cursor to "Calibration", press Enter/OPEN When the cursor is on cable Type, press [...] ose the cable type. Move the cursor to Speed, press   to adju[...]va[...]speed. When the displayed length is the same as the cable's actual length. , press   to save. Enter/OPEN calibration data can be used for the same cable's testing next time.

Application：

TDR test is the use of pulse reflection method, to transmit pulse signal for tested cable, when cable is open circuit or short circuit, reflected pulse is generated, the tester receives and deals with the reflected wave, measurement results displayed on the screen. TDR can test cable open circuit and short circuit, help engineer quickly find the cable's problem location. It is more convenient and efficient to repair the faulty cable.

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

3.3.16 Data monitor

Press [...] t[...]elect , [...] DATA to ente[...] Enter/OPEN
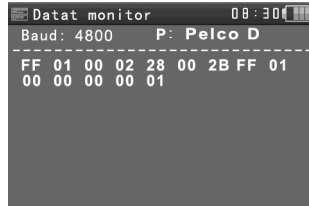
Press ⟨···⟩⟨···⟩ ose the baud rate of RS485; it must be the same as the DVR or the Control keyboard.

The DVR or Control keyboard sends 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 [Return CLOSE] 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.

3.3.17 Time setting

Press ⟨:⟩⟨:⟩ henu , [TIME] to enter [Enter OPEN]
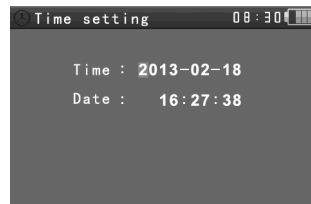
Note：Press ⟨···⟩ et the parameter of the time, press to s[Enter OPEN] Users need to set the time

first.

3.3.18 Device setting

Press ⟨⟩ menu , press SET to enter Enter/OPEN
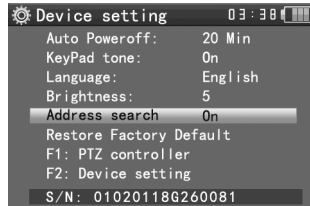
Press ⟨…⟩ to choose the item, press to adjust, press to save, press Enter/OPEN to quit. Return/CLOSE

Auto power off: Setting the time of auto shut-down.(Auto poweroff in 5,10,…,60 minutes)

For example, set "Auto Poweroff: 20 Min" as photo showed, if the user has no operation on the tester, the tester will auto power off in 20 minutes

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

Language: Select your desired language: English, Chinese, etc

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

PTZ address search: Select off / on to open or close the PTZ address search Menu.

Restore default data: restore the device's default data.

F1 user-defined shortcut key : You can set the function as you like, press ⟨⟩ select, press to enter. Enter/OPEN The default is " PTZ controller".

F2 user-defined shortcut key : You can set the function as you like, press ⟨⟩ select, press to enter. Enter/OPEN The default is "Device setting".

3.4 DC12V 1A power output

Power the camera with DC12V (1A) power output from the tester. It is helpful for demo and testing where there is no power supply available.
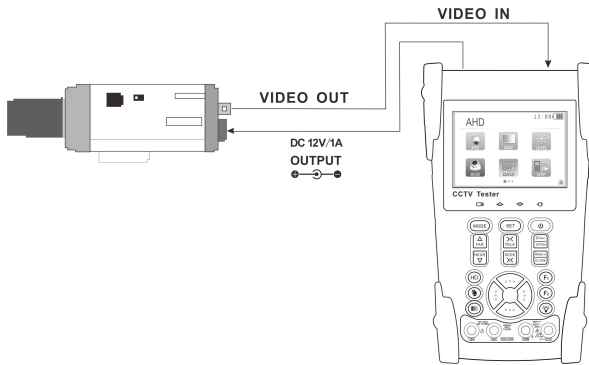
⚠Notice

a. Don't input any power into the "DC12/1A OUTPUT" port of the HD coaxial tester to avoid destroy.

b. Don't output this DC12V/1A power to the power input port of the HD coaxial tester to avoid destroy.

c. When the power of the camera needs is higher than 1A, the HD coaxial tester will enter protection mode. Under this condition, disconnect all the connections of the HD coaxial tester and then use power adaptor to resume the HD coaxial tester.

d. For longer time of power output, make sure the tester is full charged or the battery capacity indicator shows more than 3 bars.

3.5 Audio input test

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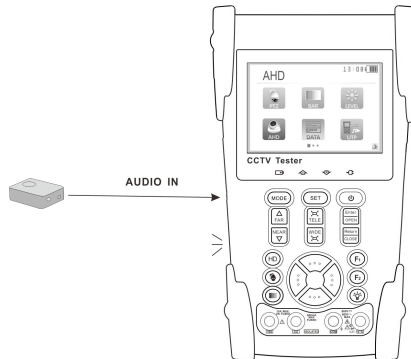
3.6 LED lamp

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

Turn on the tester, press 🔆 or several seconds, the LED lamp will turn on, press again 🔆 to shut off the lamp.

4、Specifications

4.1 General Specifications

Model	HD coaxial tester 【*】 Functions are optional
Video Test	
Signal mode	NTSC/PAL (Auto adapt)
Display	3.5 inch HVGA TFT-LCD, 480（RGB）x 320 resolution
LCD adjustment	Brightness, Contrast, Saturation adjustable
Video IN/OUT	1 channel BNC Input & 1 channel BNC Output
Video Output Mode	1.0 Vp-p
Video Signal Test	
Video signal test	Video signals measured in IRE or mV
Video Level Meter (Optional) *	

Video Level meter	Perform NTSC and PAL video amplitude signal measurements for PEAK to PEAK, SYNC level and COLOR BURST chroma level
PTZ Controller	
Communication	Support 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	Support both PAL / NTSC format's standard color bar output (Red, Green, Blue, White, Black, Grey) and testing image output
UTP Cable Tester	
UTP cable test	Display UTP cable connection status , cable type and the sequence of wires as well as read the number of the test box.
DC12V 1A Power Output	
DC12V power output	Output DC12V1A power for camera
Audio Input Test	
Audio input test	1 channel audio signal input, support audio recording
RS485 data analysis	
Data Monitor	Captures and analyzes the command data from controlling device
CVI Test（Optional）*	
CVI video signal test	1 channel CVI input（BNC interface）, support 720p 25 / 30 / 50 / 60fps, 1080p 25 / 30fps, coxial PTZ controller, call camera OSD menu control
TVI Test（Optional）*	
TVI video signal test	1 channel TVI input（BNC interface）, support 720p 25 / 30 / 50 / 60fps, 1080p 25 / 30fps, coxial PTZ controller, call camera OSD menu control
AHD Test（Optional）*	
AHD video signal test	1 channel AHD input (BNC interface）, support AHD 2.0 version, 720p 25 /

	30fps, 1080p 25 / 30fps, coxial PTZ controller, call camera OSD menu control
SDI Test（Optional）*	
SDI video signal test	1 channel SDI input (BNC interface）, support 720p 50 / 60fps, 1080p 50 / 60fps, PTZ controller
Cable Tracer (Optional) *	
Cable tracer	Cable identification by use of an audio signal. This function enables the blue cable tracer to find the connected cable from a bundle of cables with an audio tone.
Digital Multimeter (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 50 Ω
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 measurement	Display the relative power value
Visual Fault Locator (Optional) *	
Visual fault locator	Test fiber's bending and breakage (SM and MM fiber)
TDR Tester (Optional) *	
TDR Tester	(BNC cable, network cable, telephone cable, etc) cable's open circuit (breakpoint) and short circuit measurement
POWER	
Power Adapter	DC 5V（1.5A）
Battery	Built-in 3.7V Lithium polymer battery ,3000mAh
Rechargeable	After charging 3-4 hour, working time lasts 11 hours
Low Consumption	Energy saving , battery capacity indicator
Parameter	
Operation setting	OSD menu, select your desired language: English, Chinese, etc
Auto off	5-60 (mins)
Keytone	On/Off
General	
Working Temperature	-10℃ ～+50℃
Working Humidity	30%～ 90%
Dimension/Weight	194mm x 112mm x 48mm / 540g

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
660mV (Manual range)	±（0.3%+4）	0.1mV
6.600V		1mV
66.00V		10mV
660.0V		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		100mV

DC Current

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

AC Current

Range	Accuracy	Resolution
6.600mA	±（0.5%+3）	1uA
66.00mA		10uA
660.0mA		100uA
10.00A	±（1%+5）	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
66MΩ	±（1.2%+5）	10KΩ

») Continuity

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

Diode

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

Capacitance

Range	Accuracy	Resolution
6.600nF	±（0.5%+20）	1pF
66.00nF	±（3.5%+8）	10pF
660.0nF		100pF
6.600μF		1nF

66.00μF		10nF
660.0μF		100nF
6.600mF	±（5%+8）	1μF
66.00mF		10μF

4.3 Optical power meter specifications

Measure Range(dBm)	-70～+10dBm
Wavelength(nm)	850nm、1300nm、1310nm、1490nm、1550nm、1625nm
Detector	InGaAs
Uncertainly	＜±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

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

CE