

**NOYafa**<sup>®</sup>

*Your excellent helper in cable test!*

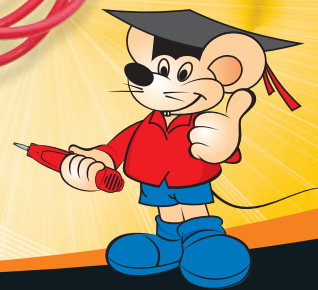
# USER'S MANUAL

CCTV Tester 3G/HD SDI  
NF-701/NF-703/NF-705



*Your excellent helper in cable test!*

**SHENZHEN NOYafa ELECTRONIC CO.,LTD**



REV1.0

# CONTENTS

<b>1 Safety Information</b>	-01
<b>2 Brief Introduction</b>	-02
2.1 Features	-02
2.2 CCTV tester Kits	-02
2.3 Front Panel	-03
2.4 Side View	-04
2.5 General Specification	-05
<b>3 Operation</b>	-08
3.1 Power on/off	-08
3.2 Main menu introduction	-08
3.3 Set-up of System	-08
3.4 Video Signal and C bud Test	-09
3.5 Ethernet cable testing	-12
3.6 Video Signal generator function	-12
3.7 RS485 Signal control testing	-13
3.8 function for digital multimeter	-14
3.9 HD /3G -SD IV ideo Signal and C bud Terrace Testing	-16
3.10 Power Supply for Camera	-18
3.11 Audio Testing	-18
3.12 LED Electric Torch lighting	-18
<b>4 Warranty</b>	-19
4.1 Warranty items	-19
4.2 Warranty exception	-19
4.3 Complemented items	-19

# I. Safety matters

## 1.1 Safety Notice:

Read this manual carefully before you set it.

Please check the power supply accessories and roots before you connect the power, and check the relative accessories carefully.

Meet the work conditions as follows:

- Temperature: 20 ~ 65
- Humidity: 0% ~ 90%
- Voltage: CD 2V 2A

Don't set the tester where the humidity is high. Once the tester is plugged in, power off immediately, and disconnect the cables.

To prevent the functional decline, the term should not be prolonged.

The exposed part of the tester should not be touched by the user.

During transportation, it is highly recommended to avoid the violent collision and vibration of the tester, and avoid damaging the components and causing failure.

Don't leave the tester alone while charging and discharging. If the battery is found severely hot, the tester should be powered off from the electric power source. The test should not be charged or discharged.

The tester should not be used in the environment with the harmful gas.

Do not disassemble the instrument inside and do not repair it by yourself. If the disassembly is necessary, please contact 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 slippery things.

Don't set the tester on a clean and dry cloth as suggested. If the instrument is not used for a long time, the battery should be removed, and the instrument should be stored in a cool, dry place. The battery should be charged regularly.

## 1.2 Notice of Digital Multimeter :

Do not exceed the specified cable resistance here, or it will be damaged.

For your safety and to prevent electronic shock, when setting the voltage & 4A.

After the accurate measurement, the user should insert the test probe.

Allowed to insert the test probe before the measurement.

Allowed to test the voltage, resistance, diode and continuity.

Allowed to test the resistance, diode and continuity measurement function.

Take up the test probe and leave the test point to change the test.

Back to the main mode, select different measurement functions, and the corresponding values are displayed on the screen. Press the test probe, and the test mode gain or take the accurate measurement.

# II. CCTV tester's Introduction

## 2.1 Overview:

The CCTV tester is developed for the site installation and maintenance of video monitoring system. It is capable of displaying video, controlling PTZ, generating images, capturing data of SR85 and setting AN. It is easy to operate, and is suitable for the technician of installation and maintain CCTV system, improving work efficiency and saving labor cost.

## 2.2 Features:

3.5 FT-LCD 60 (H) x 240 (V) resolution.

3 kinds of language: Chinese, English and Spanish are selected.

Video detecting, video signals measured in RE or VM

DC12V AI power output for camera.

Audio input testing.

Digital multimeter, voltage, current, resistance and capacitance are tested, continuity testing, impedance testing.

PTZ control. Left/tilts the PTZ nut, zooms in/out, adjusts the focus, picture and sets and sets the reset position.

PTZ continuing rotate test.

Video displaying. Automatically adapts and displays the video format of NTSC/PAL.

LCD Brightness/Contrast/Color saturation is adjustable.

Video generating, has PAL/NTSC multi-system color and video generator (even-system switchable, part transmit/receive even-system colorful images).

Data analyst. Captures and analyzes SR85 controlling data to help the technician find out the problem.

Cable testing. It is powerful in setting AN, measuring the connecting status, displaying the sequence of connection and the ON. For the AN.

Multi-interface and multi-baud rate. Support RS232 RS485 and RS422 interface; baud rate ranging from 50, 000 to 9200bps.

Multi-protocol. Supports more than twenty PTZ protocols. For example, PELCO-P, PELCO-D, AMSSING etc.

PTZ address scanning, search the DI for PTZ camera.

Lithium polymer battery (3.7V 3000mAh). The device employs advanced power control and protection circuit. It has a high power-efficient, energy saving and environmental protection. It can last 210 hours of normal use for charging or discharge.

## 2.3 Function details

### 1. The video signal testing function (NF – 705 including simulation standard definition video CVBS, HD / 3 g – SDI HD video)

The built-in 3.5 inch TFT LCD screen, intuitive and convenient showed that the quality of the camera video equipment such as all machine images can be measured, edit the analog video signal, support TSC/PAL image signal. Also can directly test the HD/3g-SDI HD video signals, support 27 2p, 5, 20, 50, 60; 1080 2p, 5, 20, 50, 60; 1080 50i, 06 frame rate, etc.

### 2. The video signal attenuation analysis function

Test whether video signal intensity attenuation is too high or not. Set video signal cable's not long use today, video signal attenuation can cause image noise, reduce image dynamic range; if video signal too strong, will cause the virtual shadow, lower image quality. This item can capture and analyze synchronization level signal test and analysis of synchronization video signal attenuation amplitude, help to analyze video cable quality construction personnel. Beyond the normal range, the tester screen will have corresponding hints.

### 3. Cloud control function

Users can use this product RS485 interface to control cloud from top to bottom read with sound, change intensity /+ minus/ pressure control, preset settings and address code etc. Mainly is the RS485 communication interface control; Support of RS485 protocol includes: Pelco D, Pelco P, Samsung, Panasonic, etc. In addition, it can support more than 20K kind of agreements, can also coordinate customer demand and increase agreement; Support the baud rate include 2400, 4800, 6000, 9600.

### 4. The camera power supply function

This product is specially setup for the camera power supply DC12V/1A power supply output port, provide temporary for the camera. The power supply mainly used in some cameras live demonstration and test the same time, or for some need to install the camera fields, because there is no power supply port or the implementation of the scene, use the temporary power supply of camera, the test is able to the power supply output.

### 5. Video color bar signal

This product can produce high standard color bar signal such as white, blue, purple, green, yellow, black, red, green color standard video signal, TSC/PAL video signals, video signals optional. Video output to the external display device or help test channel in and the working state of the display devices can be in good condition soon.

### 6. Ethernet cable testing

Cooperate with other network cable test equipment, which can realize visualized wiring and wiring sequence, detection of cable connection correctly or not, resistance, open circuit and other wrong, etc.

### 7. RS485 protocol testing

This product can control testing equipment output of RS485 signals, edit the detailed data for RS485 signal directly shown on the screen, easy to get the capture and analysis to the signal data.

### 8. High precision digital multimeter functions (NF – 703, NF – 703)

Built-in high-performance, low power consumption, 3 1/2 counting 4000 automatic range digital multimeter, clear reading, single test method. Can be used to measure the AC voltage, DC voltage and resistance, on-off testing, wide high measurement range and high accuracy that more convenient construction personnel for efficient analysis and testing of the circuit.

### 9. The audio test

Built-in amplifier circuit, magnetic peaker with 1, built-in and connect microphones and other audio signal test.

## 2.4 Packing Accessories

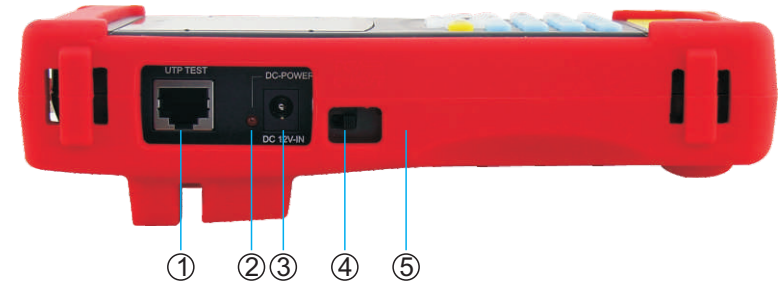
Include :	Quantity
CCTV main tester	1 pcs
Lithium Ion polymer battery	1 pcs
DC12V 2A Power Supply	1 pcs
LAN Cable Tester	1 pcs
BNC Cable	1 pcs
Audio Cable	1 pcs
RS485 data cable	1 pcs
Gel-cover (Without for NF-701)	1 pcs
Pendent Rope	1 pcs
Camera Power cable	1 pcs
Meter Probe	1 set
User Manual	1 set
Pack	1 set

## 2.5 Front indicator diagram



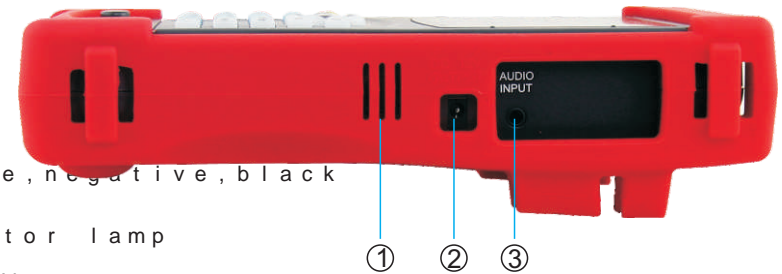
1. RS485 Signal Indicator 1L3a.mMultimeter's slot of G line, negative, black
2. 3.5 inch, TFT Color Screen, 960x240 pixels (NF-703, NF-705)
3. Direction key control: Up/Down/Left/Right arrow keys
4. Menu
5. 0-9 number keys, shortcut
6. The host S/N code display
7. RE: Loss test of video signal
8. Aperture on: Open the aperture of video test
9. Focus Camera: distant lens
10. Aperture off: stop down lens
11. Focus Camera: close to lens
12. LED lighting lamp: ON/OFF
13. PTZ control code
14. Call pre-set
15. Set-up
16. Delete
17. Call pre-set
18. Call pre-set
19. Call pre-set
20. Call pre-set
21. Call pre-set
22. Multimeter's live wire terminal (NF-703, NF-705)

## 2.6 Left side indicator diagram



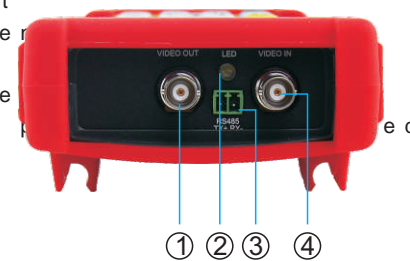
1. RJ45 port
2. External power CD2V working port
3. CD2V power loss Positive (in) and negative (in-out)
4. Power switch
5. Audio port

## 2.7 Right side indicator diagram



1. Audio output
2. CD2V output
3. Audio input

## 2.8 Top side indicator diagram



1. DVB-S video signal input (NC BNC)
2. Analog video signal output, (NB BNC)
3. Infrared LED lighting
4. RS485 port

## 2.9 Technical parameters

MODEL	NF-701/NF-703/NF-705
<b>Video Test</b>	
Signal mode	NTSC/PAL Auto adapt
Display	3.5 inch digital FT-LCD 960 X0 Resolution
LCD adjustment	Brightness, contrast, saturation adjustable
Video IN/OUT	1 channel NB input & halfnet output
Video Output mode	1.0 pV/p
<b>Video Level test</b>	
Level test	Video signals measured in RE mode
<b>PTZ controller</b>	
Communication	RS232, RS22 simplex and RS485
PTZ protocol	Compatible with more than 02 protocols such as PELCO-D/P, Arisung, Arisonic, Ilib, Ayn, tce
Baud rate	150,300,600,1200,2400,4800,9600,19200bps
<b>Video Signal Generation</b>	
Color aberration	Output one channel A/NTSC color bar video signal for testing monitor resolution.
<b>Digital multimeter</b>	
Multimeter	Voltage, current, resistance and capacitance measuring, continuity testing, mode testing.
<b>UTP CABLE TEST</b>	
UTP cable test	Test T8 cable connection status and display on the screen. Read the number for test ok.
<b>DC12V 1A power output</b>	
DC12V power output	Output DC12V1A power for camera
<b>Audio input test</b>	
Audio input test	test the pickup and other audio equipments on
<b>RS485 data analyst</b>	
Data monitor	Captures and analyzes the command data for controlling device
<b>POWER</b>	
Power adapter	DC5V, A2
Battery	Built-in 3.7V lithium polymer battery 3000mAh

## 三. Operation Instruction

### 3.1 Power supply

- Turn "ON" to open the external power supply.
- Do not touch the battery yourself to avoid any damage.
- Do not charge more than 4 hours for the battery to take use and work normally.
- If the unit is powered, stop charging power to continue work.
- Only one press to choose the amount to show the power display to make the screen.

### 3.2 Main menu introduction

- 7 menu;
- keys number or corresponding menu;
- AS mode can be deleted;

1 Set-up of system
2 Video & Cloud Terrace Test
3 Ethernet cable Test
4 Video Signal Generator
5 RS485 Signal control
6 Digital Multimeter
7 HD/3G-SDI Video & Cloud Test
S/N:NF7050140306

### 3.3 Set-up of system

Press [1], enter the system of set-up, see the following illustration:

Protocol	PELCO D
Form of communication	485
Baud Rate	2400/4800/ 9600/19200
Operating Speed	0-16
Stand-by time	002
Audio Test	On/off
Language	Chinese/English/ Spanish

- Press [Set-up] to enter the function section.
- Press "▲" or "▼" (PTZ Up/Down) to page setup.
- Press "◀" or "▶" (PTZ Left/Right) to adjust parameter settings which are working now.
- Press [Delete] to set the menu.
- Only press [MENU] to set system no. menu, add or delete menu.

### 3.4 Video Signal and Cloud Test

In the main menu mode, Press **[2]** to enter into Video Signal and Cloud Test.

#### 1. Analog video signal test

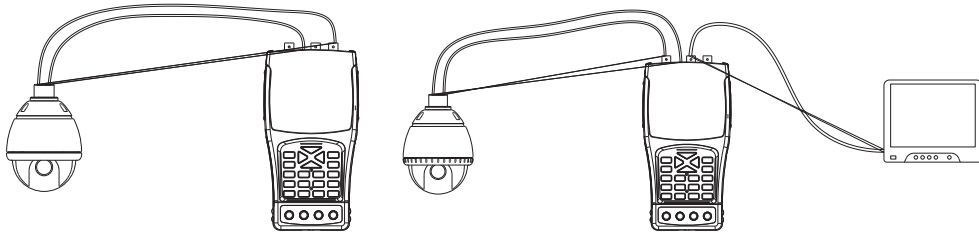


Image 1

Image 2

- 1) Connect camera's video output pole to the host's video input pole, the image can be displayed clearly on the CID screen under the video and audio test (Image 1)
- 2) After first time it displays the PTZ control address on the left, and the second displays video form: "PAL or NTSC, NULL" means no signal (Image 4).
- 3) To connect camera's video output pole to the host's video input pole, and connect the host's video output pole to monitor's video input pole in the meantime, the video detected by camera will be displayed on screen. (Image 2).

#### 2. PTZ Cloud Terrace Control Test

Before connecting:

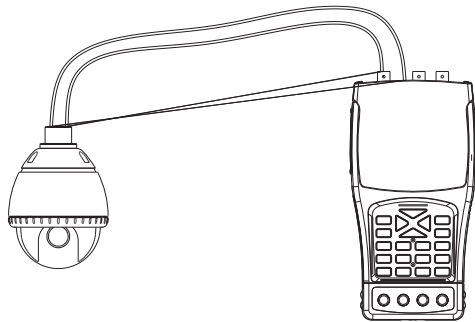


Image 3

■ To connect the device to PTZ camera (Image 3).

■ The sub-menu for video and audio trace test is set as the following illustration.

PTZ Address	←	Address : 001		Camera form
001-255		Video Form: NULL	→	PAL/NTSC/NULL

Image 4

(1)

A. PTZ address code set-up

- 1) Press **[Address]** key firstly and input controlled number of PTZ address to modify the address;
- 2) Press **[Set-up]** key or base, or press **[Delete]** to cancel
- 3) Press **[MENU]** key of the PTZ control function menu;
- 4) Only once press **[MENU]** back to main menu.

B. PTZ Cloud Control

When connect PTZ to the device correctly, the camera image will be displayed on screen. When through system set-up menu correctly to test the communicating protocol, and for the absolute rate choose the relative PTZ address, it is allowed to select fixed PTZ control menu through personal set, then set are as follows to control PTZ as follows.

- 1) Press **▲** or **▼** key, PTZ Up/Down.
- 2) Press **◀** or **▶** key, PTZ Left/Right.
- 3) Press **[Focus on]** or **[Focus off]** to open closed picture, adjust picture parameters;
- 4) Press **[Focus in]** or **[Focus out]** to manually adjust focus parameters.
- 5) Press **[Zoom in]** or **[Zoom out]** to manually adjust camera's zoom parameters.

C. Re-set

- 1) Under the video and audio trace control, press **[Re-set]** and input your needed number to adjust the signal, press **[Set]** key to confirm or press **[Delete]** key to give up setting. It is available to set parameters in the following steps.
- 2) Under the video and audio trace control, press **[Call re-set]** and input the needed number, press **[Set]** key to confirm or press **[Delete]** key to give up setting. It is available to set parameters in the following steps.

### 3. Analysis of Video Signal Loss

Under the video network test control interface, the video signal connecting and being displayed on the screen. Press [1] to enter the parameter of video signal, it includes:

- 1) **Minimum pp**: difference value between maximum value and minimum value of video signal validity, the target for the value is, the higher the screen display is.
- 2) **Average pp**: indicates video signal strength difference between the maximum and minimum values for the average.
- 3) **Synchronizing level**: indicates the synchronizing level of video signal strength, it is used to test coaxial cable's resistance. For example, for camera's synchronizing level is 3V (generated by connecting CCTV tester and camera) after transmitting in a certain distance synchronizing level Escalates to 21V (generated by CCTV tester), in this case, it means that video signal validity decayed of 0% and so you require the resistance for coaxial cable.
- 4) If there is no video signal access, it will indicate "NULL".

### 4. Screen setting

At the video network test control interface, press [set] key to enter the screen setting.

Contrast	←	Contrast	128	→	Contrast Value
Brightness	←	Brightness	128	→	Brightness Value
Color Saturation	←	Color Saturation	128	→	Color Saturation Value

Figure 5

- 1) Press "▲" or "▼" key" (FZ UP/DOWN) to edit;
- 2) Press "←" or "→" key" (FZ LEFT/RIGHT) to adjust.
- 3) Press [Delete] key to cancel.
- 4) Only press [MENU] key to cancel system and back to main menu.

### 3.5 Ethernet cable testing

1. The figure shows, connecting CCTV tester to the network cable tester.
2. In the main menu display, press number [3] to enter the network cable testing;
3. Press [set] key to start testing, connecting the test sequence will display on the screen;
4. If the test is available of users to judge the network cable connecting situation according to the test results displayed on the screen.
5. Only press [MENU] key to stop the test and back to main menu;

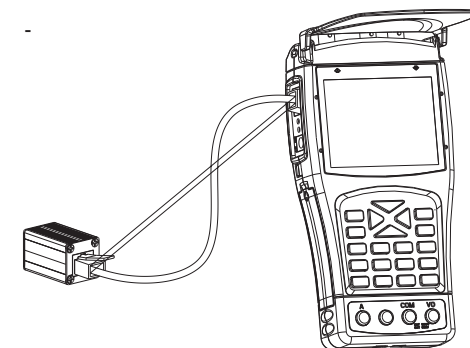


Figure 6

		Ethernet cable connecting test			
CCTV tester port network line order	←	1 - - - - - 3	→	Arranging sequence in tester	
		2 - - - - - 6			
		3 - - - - - 1			
		4 - - - - - x	→	"x" means open circuit	
		5 - - - - - x	→	If the connecting 2 cables result show "x", there are 2 situations:	
		6 - - - - - 2		1 .Both of lines in open circuit.	
		7 - - - - - 7		2 .Both of lines in short circuit.	
		8 - - - - - 8			

Figure 7

### 3.6 Video Signal generator function

In the figure, connecting video output of CCTV tester to the display device.

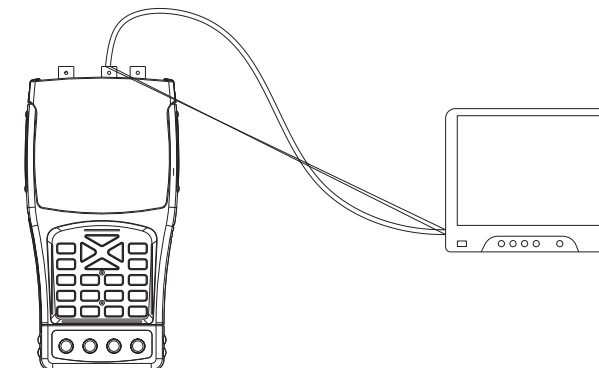


Figure 8



1. In main menu, press number [ 4 ] switch to mode for generator for analog video signal:

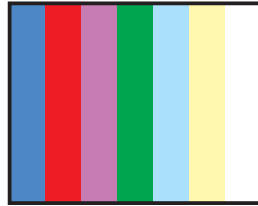


Image 9

2. Press [ Set ], enter to video signal selection.

Video Signal Option	←	Video Color Bar	→	8 Signal Options
Video Form Option	←	Form PAL	→	PAL/NTSC Options
Mode of Video Signal Output	←	Output On	→	Input / Output

- 1) Press ▲ or ▼ key (FKZ UP/DOWN) to select.
- 2) Press ◀ or ▶ key (FKZ LEFT/RIGHT) to adjust.
- 3) Video signal pattern: Color bar: White, Blue, Purple, Green, Yellow, Black, Red.
- 4) Video form option: AP, NTSC.
- 5) Video signal output: ON/OFF/O.
- 6) Press [ Delete ] key to set.
- 7) Only press [ MENU ] key to set video color bar back to main menu.

### 3.7 RS485 Signal control testing

1. Connecting CCTV tester to TIZ device, like image 10.

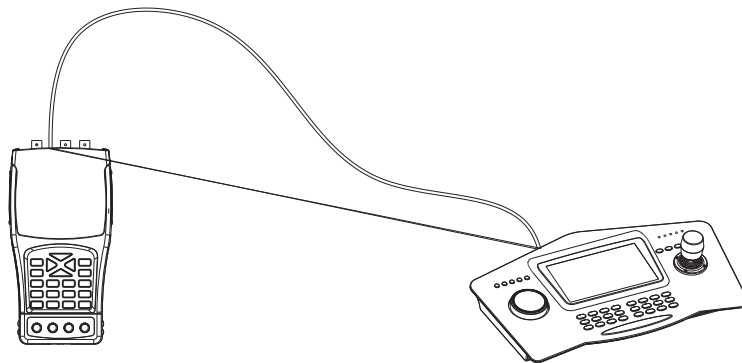


Image 10

2. Press [ 4 ] for RS485 protocol testing in system information menu.

Form of communication	485	→	RS485 Control Form : 485
Baud Rate	2400	→	Chose associated baud rate

3. Under main menu display, press number [ 5 ] switch to signal control menu.

Rs485 Signal Control Supervisory

Image 11

4. When manipulate TIZ control device to send RS485 signal hex hexadecimal communicating data signals are displayed on screen, and engineers can analyze signal which send and receive whether is right or as needed.

RS485 Signal Control Supervisory  
 A0 00 01 00 00 00 AF 0F  
 A0 00 00 00 00 00 AF 0E  
 A0 00 00 01 00 00 AF 0F  
 A0 00 01 00 00 00 AF 4F  
 A0 00 00 00 00 00 AF EF  
 A0 00 00 00 00 00 AF 2F

Image 12

5. Only press [ MENU ] key to set the mode for signal control supervisory, back to main menu.

### 3.8 Function of Digital Multimeter(NF-703, NF-705)

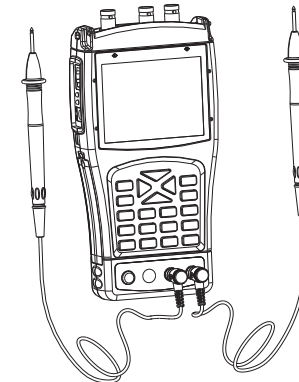
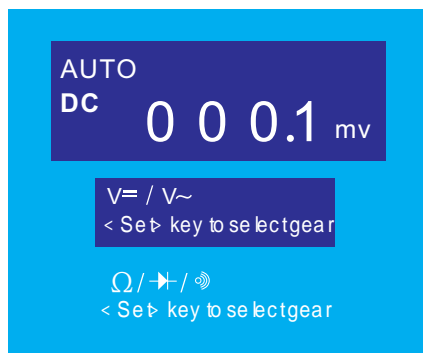
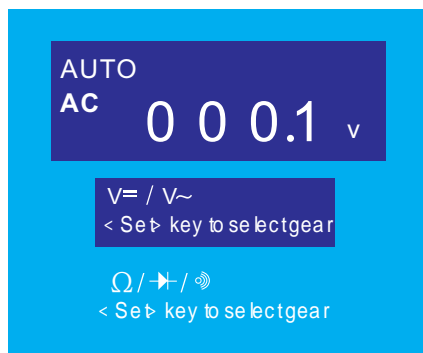


Image 13

1. Connecting probe fourtimeter o tCCTV eſter.
2. n larin emu, reſſ umber [ 6 ],witch ntō urtimeter unſtion emu:
  - 1). reſſ "▲" "▾" eſy kRTZ RJDOWN) to eſDC vltage C vltage ro eſiſtance/diode neoff eſaſurement.
  - 2). reſſ [ Set ] o o thoſe nd wſch ntō CD vltage C vltage.
  - 3). reſſ [ Set ] key o thoſe nd wſch ntō eſiſtance/diode neoff eſaſurement.
  - 4). n digital urtimeter orde, onſy reſſ [ MENU ] key o tetum abk o t arin emu.
  - 5). vltking odes ntō. iſplayed no FT cſeen.



Mode foCD vltage eſting  
(page 4)



Mode foCA vltage eſting  
(page 5)



Mode foEſiſtance eſting  
(page 6)



Mode foide eſting  
(page 7)



Mode focontinuity eſting  
(page 8)

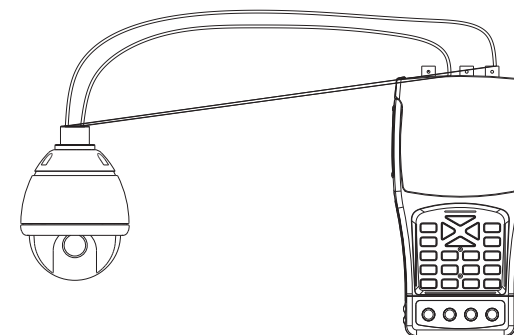
Notice :

- 1).The eſaſured vltage ad't xceed arge.
- 2). eſore kōose het eſaſuring egr,Pls od't ut het ppe nohet eſaſuring lape ,uſtm hoſe het egr hen tart o t pdate.
- 3). n laſe forrer iſplayed no cſeen hen ou heck pueſting nſōmation, pleaſe onſy reſſ MENU], ſe urtimeter orde oſſ ſao t eſet t, ind reſſ umber [ 6 ] eſter gain ntō urtimeter orde o teſt t pſpecific egr.

### 3.9 HD/3G-SDI Video Signal and Cloud Terrace Testing ( NF-705 )

When oy pen het eſice, reſſ umber [ 7d ] nter ntō orde foDHBG-SDI ideo nd loud terrace eſting.

1. DHBG-SDI analog video ſignal eſting.



(page 9)

To oonect het ideo utput oſp o the DH3G-SDI nput oſp, mages ad l e biſplayed nohet LCD cſeen leary t het orde foDHBG-SDI ideo nd loud terrace eſting.

2. Tſ loud eſtrace eſting.

- 1).Follow māge ,oconnecting het eſice o t Tſ camera.
- 2).Submenu foDHBG-SDI ideo nd loud terrace eſting ſaellow.

PTZ address	←	address : 001		Video Form
		video: HD/3G-SDI	→	HD/3G-SDI

Image 02

### 3. PTZ address code setting

- 1) Press **[Address]** key and input number according to specific PTZ address to modify PTZ address.
- 2) Press **[Set]** key or press **[Delete]** key to save.
- 3) Press **[MENU]** key to hide PTZ control function.
- 4) Press **[MENU]** Key to return back to main menu.

### 4. PTZ Loud ETrace Control.

When connect PTZ to the device correctly, the camera may be displayed no screen. When through system set-up menu correctly to test the communicating protocol, not for the absolute choose the relative PTZ address, this allowed to detect if the PTZ control menu or other personal set, then see as follow the steps to control PTZ as follow.

- 1) Press **▲** or **▼** key (PTZ UP/DOWN) to choose.
- 2) Press **◀** or **▶** key (PTZ LEFT/RIGHT) to choose.
- 3) Press **[Aperture]** and/or **[Aperture fb]** to open robust aperture and adjust aperture parameters.
- 4) Press **[Focus Distant]** or **[Focus Close]** to manually adjust focus parameters.
- 5) Press **[Zoom Large]** or **[Zoom Minor]** to manually adjust camera's zoom parameters.

### 5. Re-set

- 1) Under the video and PTZ loud ETrace control, press **[re-set]** and input your needed number to adjust the signal, press **[Set]** key to confirm or press **[Delete]** key to give up setting. It is available to test many times if you follow these steps.
- 2) At the video and PTZ loud ETrace control, press **[Call re-set]** and input the needed number, press **[Set]** key to confirm or press **[Delete]** key to give up setting. It is available to test many times if you follow these steps.

### 6. Parameter Settings Screen Function.

At the video and PTZ loud ETrace control, press **[Set]** key to enter into parameter Settings screen function.

Contrast	←	Contrast 128	→	Contrast Value
Brightness	←	Brightness 128	→	Brightness Value
Color Saturation	←	Color Saturation 128	→	Color Saturation Value

Image 12

- 1) Press **▲** or **▼** key (PTZ UP/DOWN) to choose to test;
- 2) Press **◀** or **▶** key (PTZ LEFT/RIGHT) to adjust.
- 3) Press **[Delete]** key to save.
- 4) Only press **[MENU]** key to return system and back to main menu.

## 3.10 Power Supply for Camera (DC12V)

In image, connecting camera power input cable and CCTV camera's power output cable by power cable:

It takes different in the power supply towards different device models. The camera power current has 1000mA is not more than 0.1 hours. The maximum current for power supply towards CCTV camera is 1000mA, please make sure for appropriate camera.

Notice: CCTV camera power output DC12V, please do not use inappropriate camera.

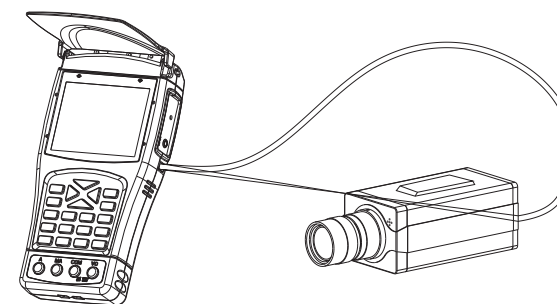


Image 22

## 3.11 Audio Testing

It is requested to turn on the "Audio" on the first step of audio testing, and connect audio signal to launch audio system.

## 3.12 LED Torch lighting Function

## 四. Warranty

### 4.1 Warranty time

Since the delivery of:

- 1) exchanging service within 7 days from the receiving date, responsible of the freight charge (battery exchanging service within 90 days from the receiving date).
- 2) repairing service within 2 years, change accessories and repair of free, customers should responsible of the freight charge (repairing service do't include battery).
- 3) We provide whole life repairing service of our products with proper charge, Customers should responsible of the freight charge.

### 4.2 Warranty exception

We provide repairing service with proper charge, customers responsible of the freight charge.

- 1) damage caused by base, unreasonable use, mistreatment, neglect.
- 2) damage caused by modification or repair on unauthorized by our company, working in hostile environments or natural disaster.
- 3) damage caused by improper or nonproperly sealed packaging, or other devices work in the same systems.

### 4.3 supplement

- 1) our company is not responsible of the insurance and the relative risk capital loss: the product and the serial number are not insured of particular users and some special purpose of use.
- 2) if the products returning of exchanging are damaged, modified or accessories, we will charge the proper amount.
- 3) if the components are no longer replaced using the warranty-limited period, company will make a decision to replace similar products to charge.
- 4) do't offer exchanging service of special design products by customers.

## Diagram of series products



NF-306



NF-868



NF-8208



NF-801B



NF-806R



NF-816



NF-468L



NF-3468



NF8108-M



NF-388



NF-903



NF-906A