

Pipe Inspection System

User's Manual



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Please read this manual carefully before operating the system

. Introduction

Congratulating on your purchase of our CCTV INSPECTION CAMERA, the most advanced zooming pipe camera in the market.

Pipe Inspection is mainly used for industrial containers and pipe inspection, with zoom video, optional laser ranging, wireless transmission and other specialized functions. Apply to large-scale tanks, municipal drains inspection, tunnels, and ... situations whererecord keeping is required.

It uses static barotropy for protection and can be used in where there is risk of exposure elements.

The device is rated for up to 10M (10 meters) of immersion.

The device is equipped with powerful lights and portable power supply for operator's ease of operation.

The length of telescopic rod is 4X1.5M, with option to 12M (12 meters).

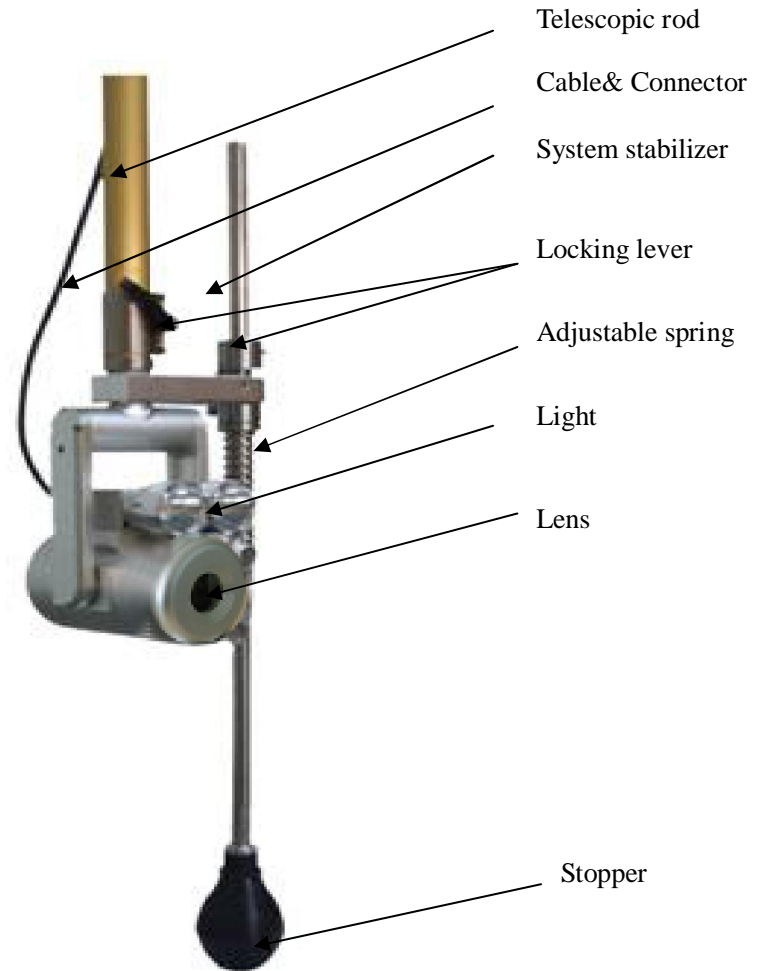
Tips: Take care when handling the telescope rod and watch out for overhead objects such as trees and electrical wires.



Warning
It is prohibited to carry the LCD display monitor into highly explosive environment.

.Unpack, Check and Operate

1. Zoom 26X Camera



Picture 1

High Definition



540TVL

420TVL

Picture 2

Detection distance

Clarity to 60meters, observation distance is up to 100 meters, 30°×2 LED light.

Tilting

The angle is adjustable.

Brightness

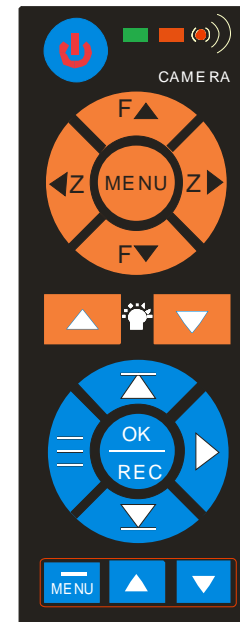
The brightness of LED is up to 300cd / m².

2. Display Controller








Front view of the display controller



Picture 3



Picture 4

-  Power: ON/OFF Alarm: ON/OFF; Press "Reset", if cannot turn off.
-  Operation indicator of LCD
-  Alarm: Low pressure. Shut off automatically when below 9.8V
-  Control the brightness of the two lights.
-  Focus
-  Zoom
-  Multifunctional menu



Switch between recording video and taking photo.



Enter into the main menu by pressing the button for a few seconds.



Record Video, Take photo, Enter

Side view of the controller



- Socket: connect the controller and the camera
- DC12V input
- Reset button: Press the button when required.
- USB interface: connect to PC; upload the video.
- Video output
- SD card socket

Picture 5

Starting the system:

1. Inspect wiring for correct connection and condition.
2. Turn on system by pressing power on button. The system will do auto-check (diagnostic).

Pressure test: for low pressure alarm < 4.5PSI; High pressure alarm > 12.5PSI




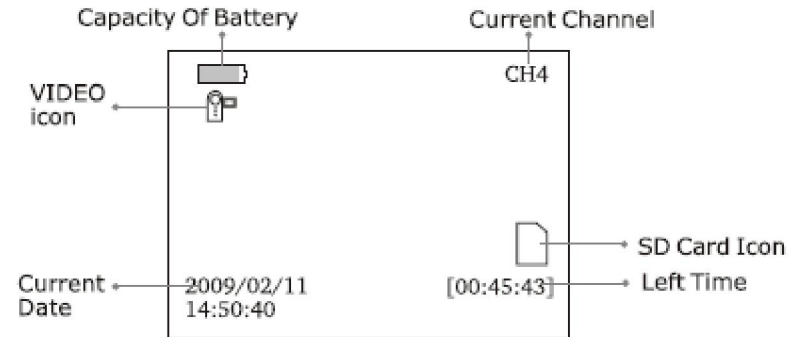
Caution!


System does operate, but water may ingress and cause damage.

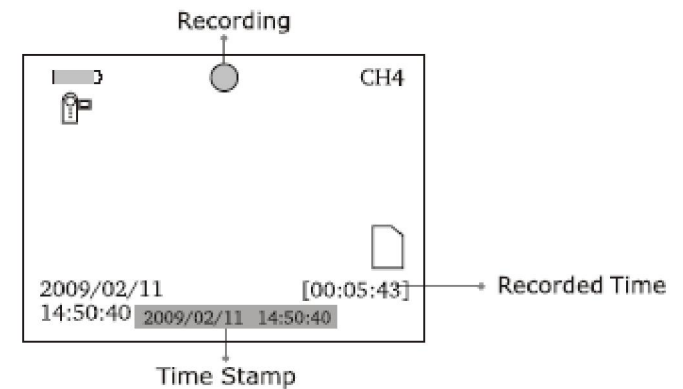
Video & Record

. Video

- Press  to enter VIDEO status as follow:




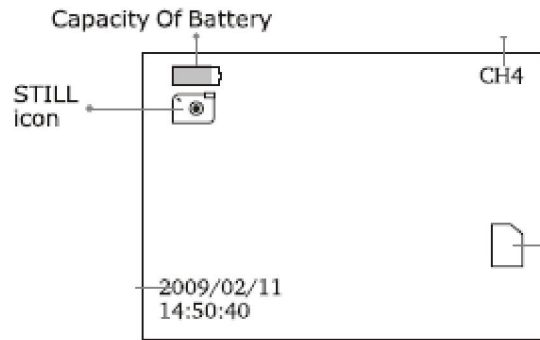
- Press  to record or stop record as follow:



- The Video will be automatically saved as a file every 30 minutes.
SD card is full when the SD card icon change to "F"


. Take Photos

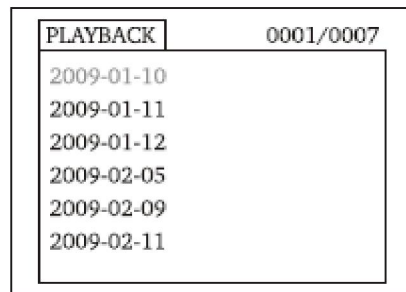
- Press  button to switch to photo taking status as follow:






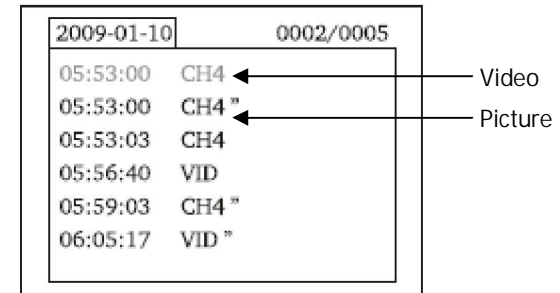
- Press  to take photo.

. Play 、 delete Video/Picture


- Press  to enter into the following interface:

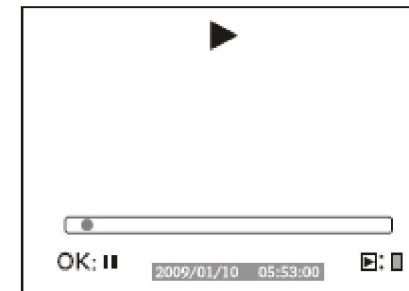


- Press  or  to select folder, then press  to playback:



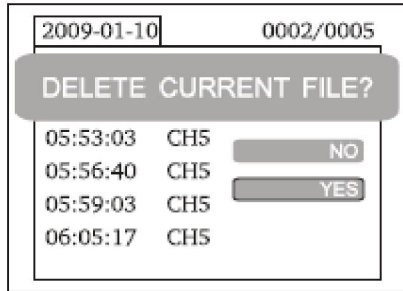
- Press  or  to play or delete the file.




- Select the file, and then press  to play the video or the picture; press again to stop/exit.



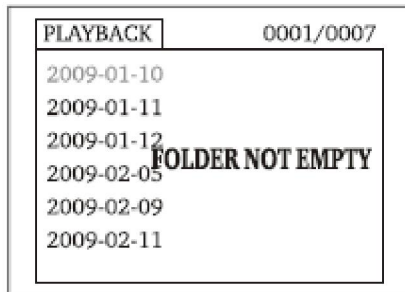
- Press  or  to forward or backward.

- Select the file, and then press  for 2 seconds to enter into the following interface:



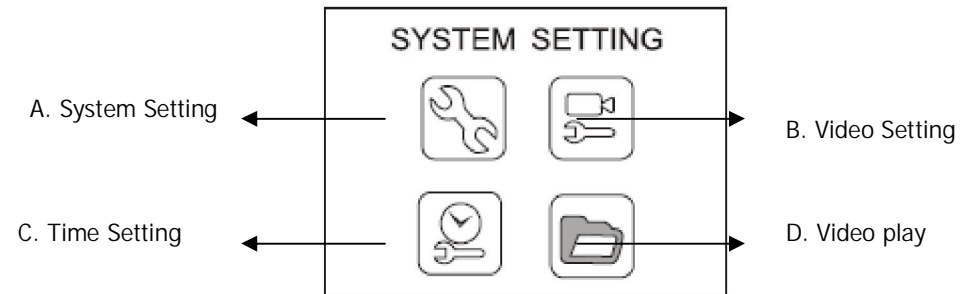
- Press  or  for selection and press  for required action.

- Delete folder is the same as delete the file, but make sure the folder is empty, a reminder "FOLDER NOT EMPTY" will appear.



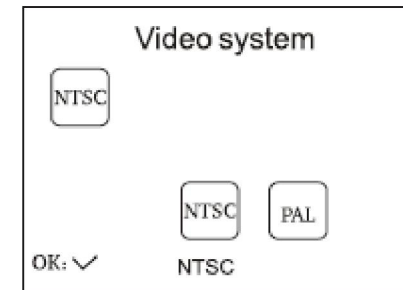
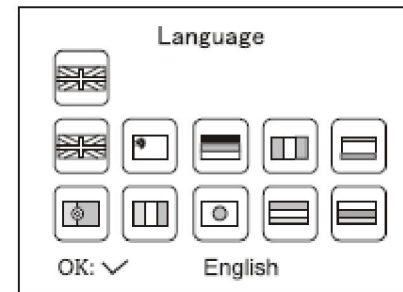
. Setting Mode

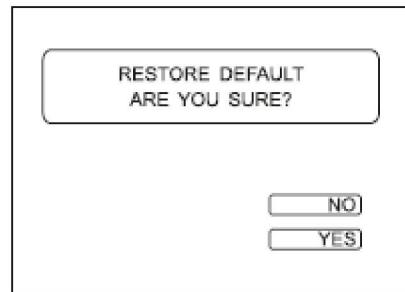
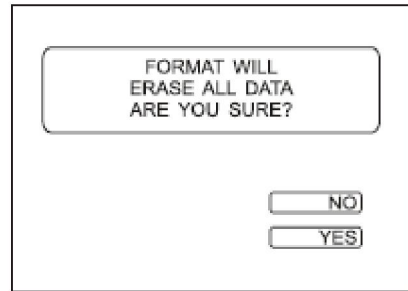
- In the real-time monitoring status, press  for 1-2 seconds to enter into the setting interface:



A System Setting

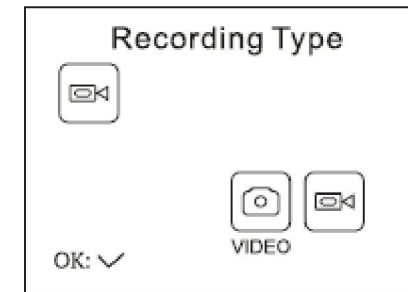
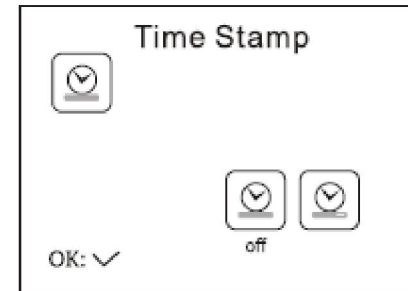
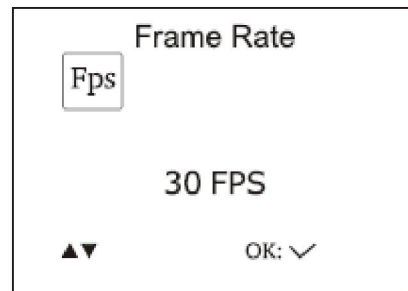
System setting has four sub-menus: language setting, Video System Setting, Erase all data, Restore default.



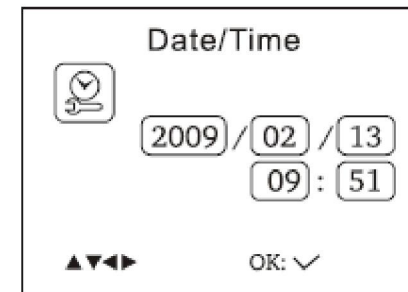


B. Video Setting

Video System Setting include frame rate, time stamp and recording type.



C. Time Setting



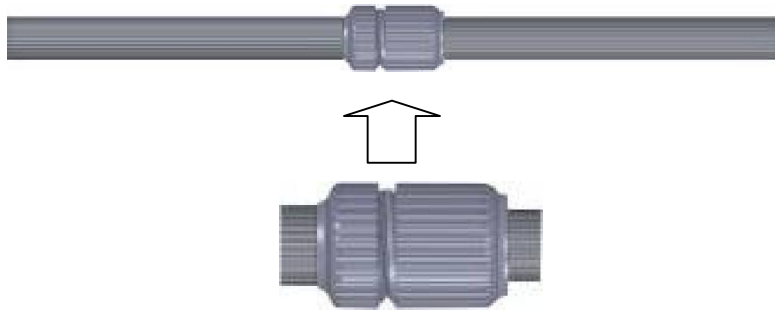
D. Video play

Video play include play/delete the video/photo.

3. Telescopic Rod

Telescopic rod: 1.5m × 4

Twist 60 ° for locking or releasing.



Picture 6 Telescopic rod

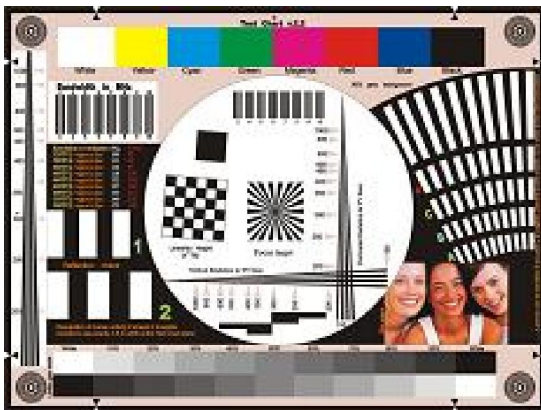
4. Performance Parameter

Safety protection

- IP68
- EXpzIIT6

Video System

- CCD Type: 1/4 Ex-view HAD CCD
- Horizontal Resolution: 540 TVL



Picture 7

Standard color of picture

- Focus: Auto / Manual / Macro
- Optical system: 3.9 ~ 90mm

Lighting Systems

- LED: 2×10W×30°
- Dimmer control

Storage System

- Video format: MPEG4 / MJPEG
- Picture format: MJPEG
- Memory card: 4G
- USB output

Display Systems

- 5.6 inch high-brightness TFT monitor
- Brightness: 300cd/m²
- Resolution: 640×480

Power supply

- Portable power: 12V 13000mah
- Standby (LED off): 12 hours
- In operation (LED on): 4 hours
- Power: 60W

Telescopic rod

6 meters (optional to 12 meters)

Pressure system

1. Remove air inlet
 2. Connect air hose
 3. Pump in air or nitrogen as required.
 - Normal pressure: 4.5-12.5PSI
 - Alarm (high pressure) : >12.5PSI
 - Alarm (low pressure) : <4.5PSI
- IP68
EXpzIIT6

5. To start

a. Fixed the telescopic rod

Fix the telescopic rod and the probe. Adjust the length as required.

b. Connection

Connect the cable between the controller and the camera.

c. Self-inspection

Connect the system and turn on the controller. It enters into diagnostic. It includes:

Brightness of the light: increase in intensity.

Alarm: 3 times

Pressure testing: Alarm: < 4.5PSI

d. Field operation

Check system before daily use.

Check if the conditions of the pipe meet the safety requirements.

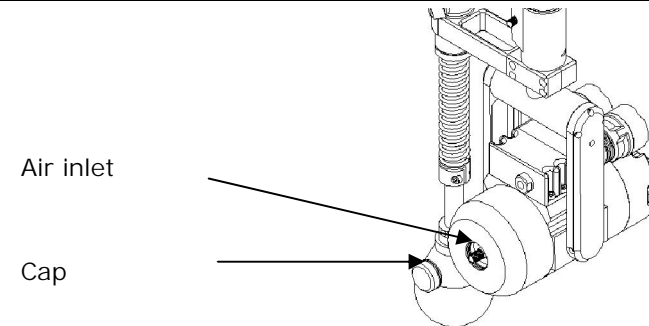
Check if there are dangerous objects or overhead obstacles.

6. User's guide**I Pump with dry air**

The compressed-air is supplied through provided adaptor.

Fill it with compressed-air till almost 4.5-12.5PSI

(Oxygen content less than 1%).



Picture 8 Inflation inlet

**Warning**

- In potentially explosive environment, we recommend gas of nitrogen.
- Pressurize fresh air in normal situation.
- Keep in pressurized state for storage.

I Adjust the position of the camera**Adjusting the angle**

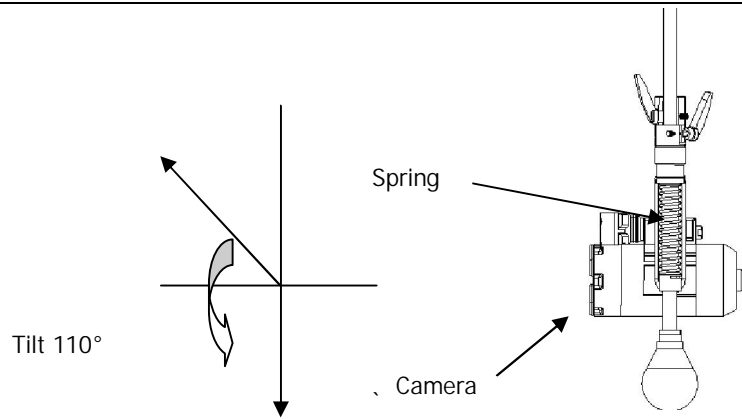
The tilt angle of the camera can be adjusted manually.

Adjust the position of the camera

Adjust the position of the camera by the spring.

**Tip**

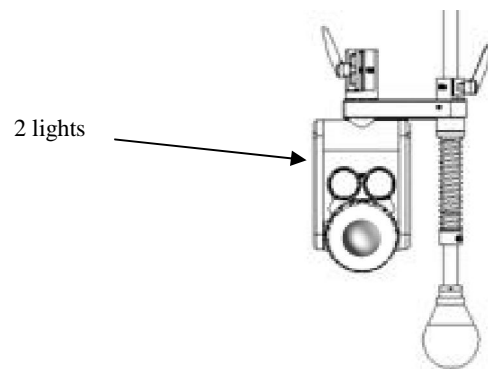
For extended storage, applied a lubricant to all moving parts.



Picture 9

I Adjust the brightness of the light

Adjust the brightness of the light by press .



Picture 10

. Optional Enhancements

1. Headset viewer(Picture 11);
2. Laser ranging 0-60m, Accuracy±2mm(Picture 12);

3. Wireless transmission(Picture 13);
4. GPRS image transmission(Picture 14);
5. Pipeline management software(Picture 15)



Picture 11



Picture 12



Picture 13



Picture 14



Picture 15

. Care, Maintenance and Troubleshooting

- I Please use damp soft cloth to remove oil and dirt. Always dry the camera after cleaning, and replace into the packing case.
- I Keep all instruments packed into the packing case in the dry air whenever not in

use.

- I Operate the instruments within temperature of -20 to 50
- I Use direct-current 12V 5A or 12V 150W battery. Please recharge battery when the battery indicator turns red, the indicator will turn green when the battery is fully charged, then switch off the power. Keep battery active with periodic charging.
- I In any faulty situations, check connections and if fault persists, call hotline or check with nearest agents.

. Packing List

Product	Quantity	Product	Quantity
Camera	1	LED Lights	2
Controller	1	Battery case	1
Stabilizer with probe	1	Charger	1
SD Card 4G	1	Battery (12V/13AH)	1
Leather belt	1	Cable	1
Packing case of the camera	1	Telescopic rod	1.5mX4
User's Manual	1	Packing case of the telescopic rod	1

. Warranty

- 1、 The limited warranty for SD-1000 extends for the first twelve (12) months beginning on the date of purchase of the product.
- 2、 The limited warranty extends only to the original consumer purchaser.
- 3、 No charge will be made to the consumer for either parts or labor in repairing or replacing the product. The external housing and cosmetic parts shall be free of defects at the time of shipment and, therefore, shall not be covered under these

limited warranty terms.

- 4、 Repaired product will be warranted for the balance of the original period or ninety (90) days from the date of repair, whichever is longer.
- 5、 Transportation, delivery and handling charges incurred in the transport of the product will be borne by the consumer.
- 6、 The consumer shall have no coverage or benefits under this limited warranty if any of the following conditions are applicable:
 - a、 The product has been subject to: abnormal use, abnormal condition, improper storage, unauthorized modifications, unauthorized connections, unauthorized repair including but not limited to use of unauthorized spare in repairs, misuse, neglect, abuse, accident, alteration, improper installation, Acts of Gods, maladjustment of customer controls.
 - b、 Not notified of the alleged defect or malfunction of the product during the applicable limited warranty period.
- 7、 Manufacturer or agents of SD-1000 shall not be liable for incidental or consequential damages or a loss of anticipated benefits or profits, work stoppage or loss arising out of the use or inability to use the product.
- 8、 All warranty information, product features and specifications are subject to change without notice.