

PIPE INSPECTION CAMERA SYSTEM



Read these instructions completely before operating this system.

Please charge the battery first before use.



MANUAL

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Warning



Warning

To Avoid electrical shock put the item indoor when Charging



Warning

Use only input 110~240V AC output DC 12.6V, 1000mA charger. machine can only use the original charger and lithium battery, reminding the charging time is 5 hours. Please charge the battery before use!



Warning

Item contains battery, dispose according local legal requirements properly



Warning

Please check the appearance and functionality of the goods after receive it. Any damage or loss of goods, please take pictures and contact us within 3 work days, or else take the consequences by self.

Read this manual carefully before operating this system

Avoid using the device in extreme humidity or temperatures as this may cause damage to the device

Do not drop or press on the system as this may cause damage to the device

The warranty becomes void if any physical damage is present or if the system is disassembled by the user

Do not disconnect the SD card while recording or playing as this may damage the system and/or the SD card

Remember to always back up the data on your SD card

Safety and Notice

For your safety

1. Do not attempt to insert, use, or charge a battery not designed for this inspection system.
2. Use the power supply only on even surfaces, without any cover. Open air and circulation around the product must be available. The maximum ambient temperature is 50 °C.
3. Risk of explosion may occur if an incorrect battery type is inserted or used. Dispose of used batteries according to their instructions.

4. Keep the inspection system and its accessories out of the reach of babies, toddlers, and children. In particular, small parts such as memory cards and battery could be easily dismantled and swallowed.
5. Use only the original accessories to avoid possible risks to health and property, and thus meet all related legal regulations.
6. When using the LED lights, do not use too close to human or animal eyes (particularly for babies, toddlers, and children) to avoid injury.
7. In very rare occasions, Li-ion Batteries such as the one provided with this inspection system could explode if a conductive material such as jewelry, keys or beaded chains touch exposed terminals. The material may complete an electrical circuit and become quite hot. Exercise care in handling any batteries, particularly when placing it inside your pocket, purse, or other container with metal objects. In such an event, this could result in property damage, injury or burns. Do not dispose of batteries in fire as they may explode.

Warranty

1. Warranty is void if damage or system failure occurred due to outside factors such as collision, fire, flood, dirt, sewage, earthquake, and other force majeure events as well as incorrect usage of electricity or use of non-original accessories.
2. It is the sole responsibility of the user if problems (such as data loss and system failure) occurred due to non-factory installed software, parts, and/or non-original accessories.

Taking care of your inspection system

1. Always keep the inspection system in the pouch provided or other suitable cases for increased protection against splashes, dust, and collision.
2. The only way of replacing the battery and the memory card is to open the Battery / Memory cover. Use care when opening this cover to avoid damage the inspection system.
3. Dispose of unwanted batteries and inspection systems as permitted by the laws in your country.
4. Water may cause a fire or electric shock. Therefore, store your battery in a dry place.
5. If your control component becomes wet, wipe it with a dry cloth as soon as possible.
6. Do not drop, knock, or shake the inspection system. Inappropriate behavior when using the camera system may damage the internal electronic circuit board or deform the lens shape.
7. Do not use harsh chemicals, cleaning solvents, or strong detergents to clean the inspection system.
8. To avoid unclear images, be sure to clean the inspection system lens before taking pictures or recording videos. Use a lens brush or soft cloth to clean the lens.
9. To avoid the loss of video and photos on the memory card, you should make a backup copy to a computer or optical disc as soon as possible. Memory cards should not be considered as a long term storage device.
10. Before initial use of a memory card, it is recommended to use the inspection system to format the card first.
11. Remember to slide the write-protect tab (if available) to the unlock position. Otherwise, all data (if any) on the memory card is protected and the card cannot be edited or formatted.

Operating environment

1. The camera system operating temperature is between -10°C ~ 50°C (14°F ~ 122°F). It is normal for the operating time to be shortened when the temperature is low.
2. The capacity of your inspection system battery will reduce each time it is charged/emptied.
3. Storage at too high or low temperatures will also result in a gradual capacity loss. As a result, the operating time of your inspection system may be considerably reduced.
4. It is normal for the camera system to become warm during operation, because the inspection system casing can conduct heat

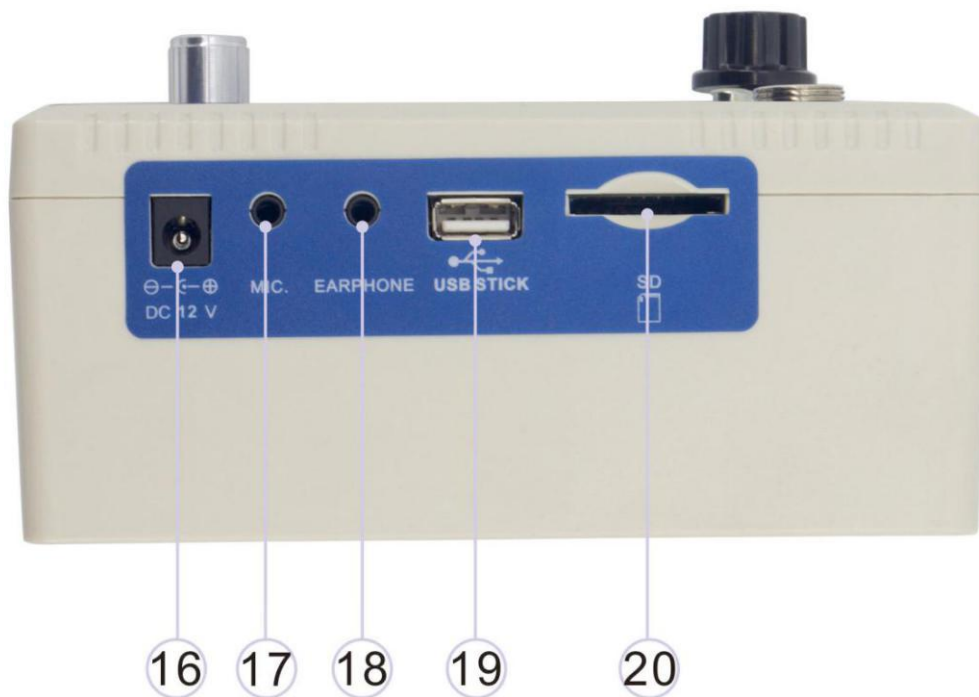
1.Parts list

1.1 Accessories

Item	Image	Description
Camera Head &SKID		Camera size: $\varnothing 23\text{mm} \times 144\text{mm}$ Sensor size: 1/3 inch View angle: 90° Camera work current: 100MA ; Camera power supply: DC 12V Camera light: 12PCS white LEDS Leds adjustable Total Pixels: PAL: 720X1280 Camera glass material: sapphire glass Camera shell material: stainless steel Waterproof: IP68 Weight : 0.13KG
		S23-40 S23-80 size: $\varnothing 40\text{mm} \varnothing 80\text{mm}$ Material: PC
Control Box		DVR : power supply: 12V work current: 200MA Storage medium: SD card (max 256G) Digital clock and digital calendar Battery level display DVR Total Pixels: 720X1280 Picture snap and movie record Record video can take pictures, you can pause Movie format: AVI Microphone Audio record. Stereo earphone output. Weight : 0.588KG
Cable Wheel		Cable size: $\varnothing 330 \times 110$ Wire material: fiberglass rod Fiberglass length: 20m (max 40m) Fiberglass diameter: $\varnothing 5\text{mm}$ -4 cores Fiberglass color: blue (Standard) Shell : (black) Weight : 1.82KG

CHARGER		Input:AC100-240V~50/60Hz Output:DC 12.6V/1000MA DC plug diameter:2.1mm
MONITOR		Monitor size:7inch TFT color monitor Monitor Total Pixels:800x480 Monitor power supply:DC 12V Osd language: English Battery level display Up,down,left,right adjustable 16:9&4:3 model Sunshade include
Microphone		Frequency respose:20-20KHz Sensitivity:-47DB±2DB Output impedance: ≤2.2KΩ Line Length:1m
LI-ION BATTERY		battery(18650) 12.6V 4400MAH li-ion Total Power:14W Charge time:5hours Protective voltage:9.3V Work time: ≥ 420minutes Weight : 0.36KG
Cable connection		Size:Φ5*1500mm GX16-6 Elbow air head
Suitcase		<ul style="list-style-type: none"> • 520(L)X435X200(H)mm • Engineering Plastics
SD card and card reader		
Screw Driver		
Waterproof Ring		
Manual		

1.2 Control Box



1	Video output	11	Menu back
2	Camera signal cable connector	12	Battery level indicator
3	Recorded directory	13	Record/stop recording
4	Record/stop recording	14	Menu left
5	Image snap/Menu UP	15	LED brightness adjuster
6	Menu right	16	Charge jack
7	Menu down	17	Microphone jack
8	Power control	18	Earphone jack
9	DVR indicator	19	USB stick jack
10	Menu	20	SD card slot

Operation order:

- Press ▲ to switch on "USB STICK",  shows up.
- Press ▲ again to switch off "USB STICK",  disappears.

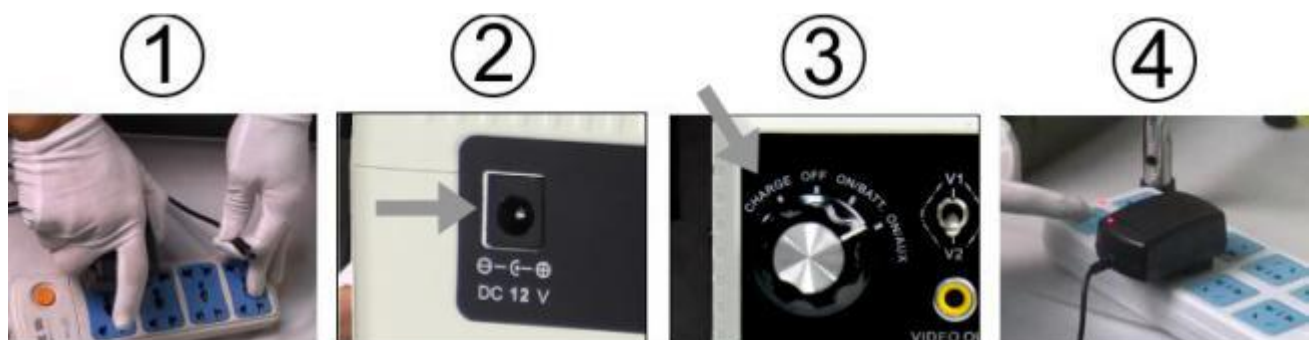
Attention:

- Turn off the unit before pull out the "USB STICK".
- Do not use "USB STICK" and "SD card" together

2.Quick Start Guide

2.1 Charging the Battery

1. Connect the charger to the socket, the indicator of charger will turn into green.
2. Connect the plug to the jack of control box.
3. Turn the switch knob to "CHARGE" position.
4. The indicator of charger will turn into red. When the Li-ion battery is full of power, the indicator of charger will turn into green.



2.2 Starting up

1. Open the suitcase and spread the sunshade
2. Connect the camera to the cable wheel
3. Connect one end to the control box

①



②



③



4. Connect the other end of connection wire to the cable wheel

5. Turn the switch knob to “ON/BATT” position , After turning on, wait about 20 seconds for the system to boot up. Do not press at this time any buttons

④



⑤



2.3 Checking waterproof ring & Assembling SKID

2.3.0 Check waterproof rubber ring on the bottom of camera head

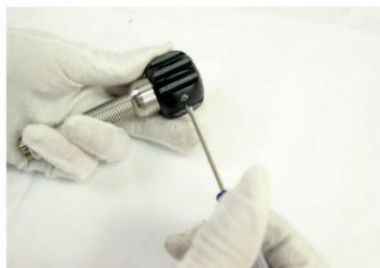
2.3.1 40mm SKID and 23mm camera head

1. Set the SKID in the camera head
2. Fasten the SKID with a screwdriver by tightening its screws.
3. The SKID assemble completed

①



②



③



2.3.2 80mm SKID and 23mm camera head

1. Set the SKID in the camera head
2. Fasten the SKID with a screw rod by tightening its screws.
3. The SKID assemble completed

①



②



③



3. Recording and Menu

3.1 Inserting SD Card & Assembling microphone

1. Insert the SD card to the slot, then press it slightly. Make sure the SD card connecting finger contact nicely, then press it slightly and pull out the SD card

①



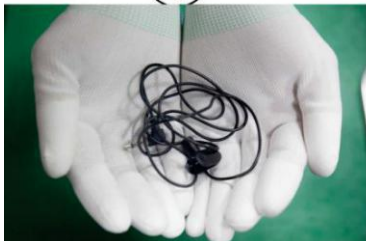
②



③



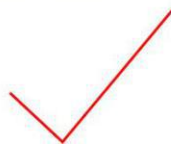
①



②



2. **Warning:** Pay attention to the direction of the SD card and plug it in reverse will damage the SD card



3.2 Recording video

1. Press the " " button to record the video
2. Press the "OK" button to pause , press the "OK" button again to resume recording



①



②



3. Press " " button again to finish recording
4. Record video can take pictures



③



④



3.3 Recording photo

Press the "Up" button to take the picture

①



②



3.4 Playback Video

1&2. Press the "List" button

3. Press the "OK" button to enter the "Video Files"

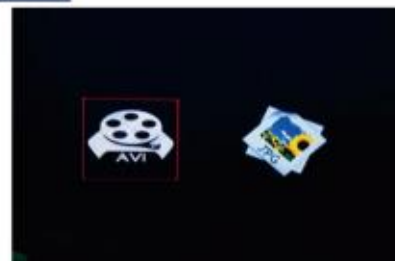
①



②



③



4. Check the video directory

5. Check out the video

④



⑤



6. Press "OK" button to play the video
7. Press "OK" button to pause the video

⑥



⑦



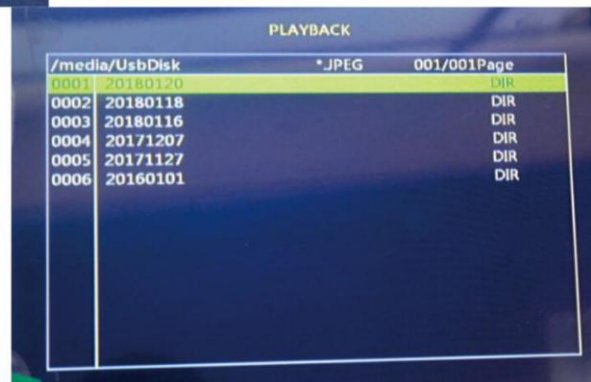
3.5 Playback Photo

1. Select "JPG" picture to enter
2. View the "JPG" image directory

①



②



3. Select the picture to view
4. Press "OK" button to view the picture

3



4

PLAYBACK

	/media/UsbDisk/20180120	*JPEG	001/001Page
0001	20180120_104653.jpeg	1280 X 720	141.0KB
0002	20180120_104639.jpeg	1280 X 720	133.0KB
0003	20180120_104624.jpeg	1280 X 720	132.0KB
0004	20180120_104618.jpeg	1280 X 720	136.0KB
0005	20180120_104617.jpeg	1280 X 720	137.0KB
0006	20180120_104530.jpeg	1280 X 720	132.0KB
0007	20180120_104528.jpeg	1280 X 720	133.0KB
0008	20180120_104523.jpeg	1280 X 720	133.0KB
0009	20180120_104259.jpeg	1280 X 720	141.0KB
0010	20180120_104256.jpeg	1280 X 720	136.0KB
0011	20180120_104232.jpeg	1280 X 720	131.0KB



3.6 Menu

Press "menu" key enter into main menu.



multimedia



time setting

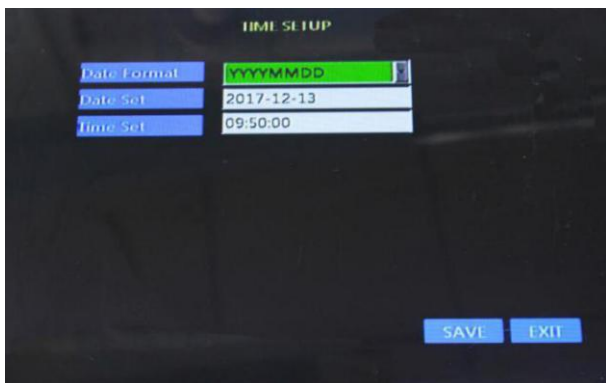


System Upgrade



Storage

3.7 time setting



- Time format setting
- Year, month and day settings
- time setting

3.8 System Upgrade

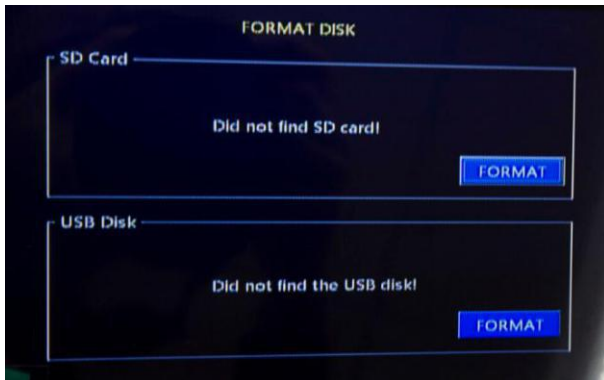


Firmware Update

No: The system will not update the firmware

Yes: The system will update the firmware

3.9 Storage



Memory information

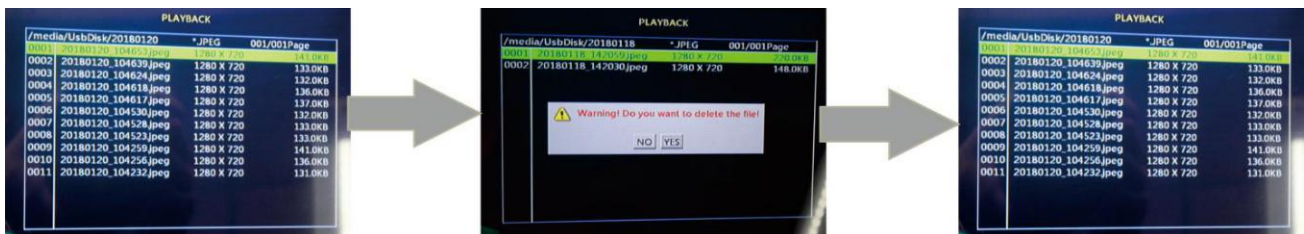
- SD card capacity display
- U disk capacity display



Format

- No: The system will not format the SD card
- Yes: The system will format the SD card.(caution: PLS backup the data of the SD card before operating)

3.10 Delete Files

Please make sure the files you really want to delete, the files won't be found after deleting.



- Press “” key to find the files
- Press “” to choose the file you want to delete, one and all.
- Press “OK” to delete it

4.Troubleshooting Guide

Common Faults & Repair

If the system fails, please refer to the troubleshooting guide.

Video without sound

- Didn't connect microphone or there are faults in microphone
- Didn't connect earphone or there are faults in earphone
- Control box DVR abnormal

Able to input, but no image

- 1.5M connect wire disconnects
- There are faults in camera installation or Camera damage
- When press F2, the image has already switch to no-image type mode, press F3 return to type mode
- Control box PCB board abnormal

Time display error

- Control Box DVR board abnormal

no image

- Control Box DVR abnormal
If 1.5m connect wire connect between cable wheel and control box
- Does camera head screw tightly
- The aviation jack of control box that connected to monitor looses
- There are faults in monitor
- There are faults in control box DVR

Battery is unable to be charged

- Charger didn't insert correctly or there are faults in AC plug
- Please don't use non-original charger
- There are faults in charger
- Li-ion battery damage

The power of battery run out quickly

- Use the full power battery
- The capability of battery is low

SD card can't work

- Didn't insert SD card correctly
- The write protection switch of SD card is open
- SD card is full, please replace SD card or transfer the files to free the space
- DVR SD card slot damage

Turn on but no power

- Battery disconnects
- Fuse didn't install or Fuse broke down
- There are faults in control box DVR

Display normally, Camera LED can't light

- Camera didn't install correctly
- There are faults in camera head
- There are faults in cable wheel
- There are faults in Control box PCB board

Monitor can't display

- Didn't turn on monitor
- Monitor disconnects
- There are faults in monitor
- There are faults in control box