

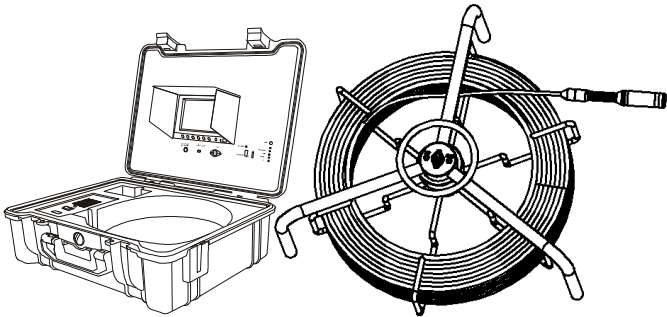
# PIPE & WALL VIDEO INSPECTION SYSTEM

## USER MANUAL

For

3588 series

### ASSEMBLING AND OPERATING INSTRUCTIONS



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**Read this manual carefully before operating this system**

## **WARNING**

- 1. NEVER USE THIS DEVICE IN AN ENVIRONMENT WITH EXPLOSIVE MATERIALS SUCH AS GAS, OIL, ETC.**
- Avoid using the device in extremely cold, hot or humid environment; otherwise it may damage the device. Do not drop or press hard on the device.
- Avoid using the parts / components from other manufacturers to this system, which may damage the equipment due to the un-compatibility.
- Warranty invalidation if the device is disassembled by users or if there are any physical damages.
- Always back up your data before connecting your USB stick / micro SD card to this system. The manufacturer is not responsible for any data damage or loss on your USB stick / micro SD card for any reason.
- Do not disconnect the unit while recording or playing. It may damage the unit and/or the USB stick / Micro SD card.
- Don't misuse the battery charger cable and power cord, otherwise the battery pack may be damaged or the system cannot work properly.
- The system's push cable made of fiberglass is very rigid and not flexible. It can not be bent sharply or pushed too hard; otherwise it will be broken.
- Waterproof Camera Head should **NOT** be used under the water of over 15FT.
- We reserve the right to make any change about our products without any notice in advance.

### **DISCLAIMER OF LIABILITY**

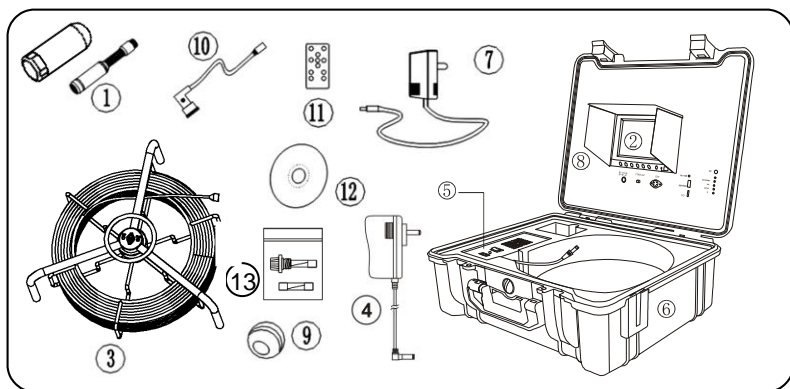
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## Assembly Drawing and Parts List

Part No.	Description
1	<input type="checkbox"/> 23MM CCD camera <input type="checkbox"/> 23MM CMOS camera <input type="checkbox"/> 23MM CMOS Camera with built-in 512hz transmitter <input type="checkbox"/> 40MM CCD camera self leveling image with built-in 512HZ transmitter *Above cameras may come with plastic or stainless steel housing
2	<input type="checkbox"/> 7" Monitor <input type="checkbox"/> 10" Monitor
3	<input type="checkbox"/> 3588A/3588B: 8mm diameter Cable & Reel (long)
4	Charger
5	Battery case
6	Big case <input type="checkbox"/> ABS case
7	DC 12V power supply
8	Sun shield
9	Eva ball protection
10	3m Video soft cable (short)
11	Remote control
12	Disc
13	Fuse bag



## Specifications

ITEM	DESCRIPTION
Power adapter	110VAC~240VAC 12VDC1200mA
Battery Case	LI-ION battery
Length of Cable	Diameter 8mm <input type="checkbox"/> 45m <input type="checkbox"/> 65m
Camera Light Source	<input type="checkbox"/> 12pcs <input type="checkbox"/> 18pcs built-in white LED
Camera Angle-of-View	60°or 90° (horizontal), 60°or 90° (vertical)
Camera Depth-of-View	200mm-400 mm (approximate)
Camera Image	Color, 0.3Mega pixel
Monitor Image	7"/ 10" TFT LCD color monitor
Monitor Picture Resolution	800*480/800*600 pixel
Monitor Input Voltage	12 Volts DC
System Operating Temperature	-28°C to 50°C

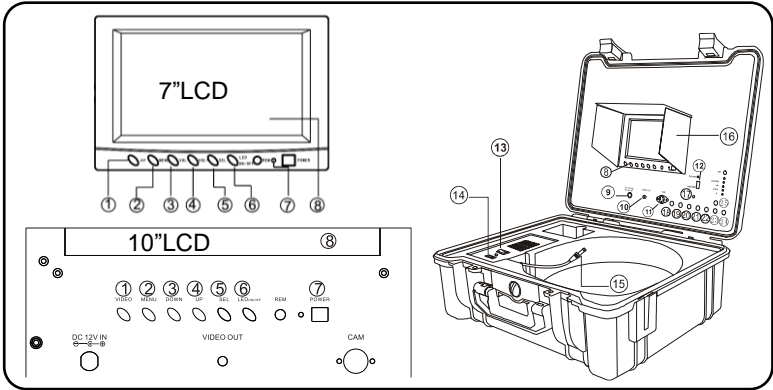
# User Manual

## **Application**

1. WATER SUPPLY SYSTEM
2. WASTE WATER SYSTEM
3. ELECTRICAL AIR CONDITIONER
4. CABLE DUCTING
5. DUCTED VACCUM SYSTEMS
6. PLUMBING
7. BUILDINGS

**WARNING:** NEVER USE THIS DEVICE IN AN ENVIRONMENT WITH EXPLOSIVE MATERIALS SUCH AS GAS, OIL, ETC.

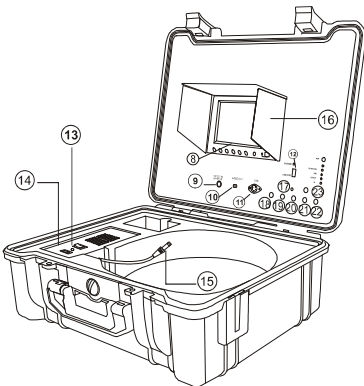
# Know Your Device



## RECORDING WITH DVR VIA USB PORT:

- |                                      |                           |
|--------------------------------------|---------------------------|
| 1. VIDEO SELECTOR BUTTON             | 13. POWER & CHARGE BUTTON |
| 2. MENU                              | 14. CHARGE PORT           |
| 3. DOWN (UP OR DOWN MIRROR IMAGE)    | 15. DC 12V OUTPUT CORD    |
| 4. UP (LEFT OR RIGHT MIRROR IMAGE)   | 16. SUNSHADE              |
| 5. MENU UP/DOWN SELECTOR/16:9 OR 4:3 | 17. MIC                   |
| 6. LED ON/OFF                        | 18. DVR ON/OFF            |
| 7. POWER BUTTON                      | 19. RECORD                |
| 8. FLAT SCREEN                       | 20. STOP/EXIT             |
| 9. DC 12V IN                         | 21. SETUP                 |
| 10. VIDEO OUT                        | 22. UP                    |
| 11. CAMERA PORT                      | 23. DOWN                  |
| 12. USB                              | 24. PLAY/ENT              |
|                                      | 25. MIC ON/OFF            |

## RECORDING VIA MICRO SD PORT:

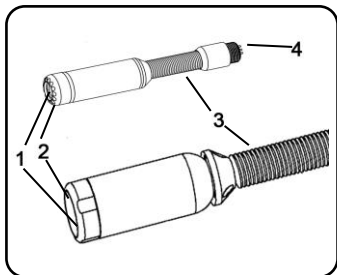


- |   |
|---|
| 8. FLAT SCREEN                            |
| 9. DC 12V IN                              |
| 10. VIDEO OUT                             |
| 11. CAMERA PORT                           |
| 12. MICRO SD PORT (ONLY FOR NEW VERSIONS) |
| 13. POWER & CHARGE BUTTON                 |
| 14. CHARGE PORT                           |
| 15. DC 12V OUTPUT CORD                    |
| 16. SUNSHADE                              |
| 17. MIC                                   |
| 18. RECORDING/SHOOTING                    |
| 19. ENTER                                 |
| 20. MENU/EXIT                             |
| 21. LEFT                                  |
| 22. RIGHT                                 |
| 23. MIC ON/OFF                            |

## Camera Head

1. 12 WHITE LEDS ( 18 for big camera)
2. LENS
3. SPRING
4. GOLD PINS

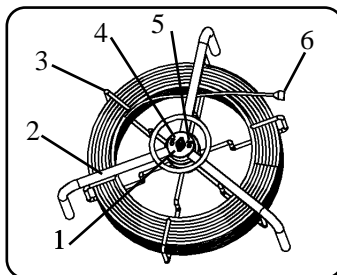
Built-in Transmitter: 512HZ



## Cable Reel

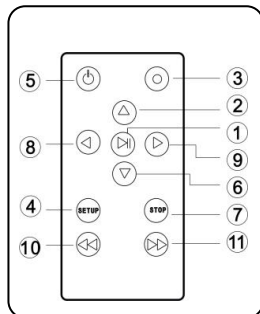
### **Cable with optoelectronic meter counter**

1. MALE PLUG (To monitor)
2. BODY FRAME
3. CABLE REEL
4. M/FT
5. RESET
6. CONNECTOR (To camera)



## Remote Control(operate DVR /Micro SD card recording)

- 1) Enter: Enter to view and play video Up: Go to up/previous item
- 2) UP: Select up/last item
- 3) REC: Start recording / snap shooting
- 4) Setup: System setup and recording features
- 5) POWER ON/OFF
- 6) Down: Select down/next item
- 7) Exit: Stop or exit from current menu
- 8) Left: Select Left item
- 9) Right: Select Right item
- 10) Rewind: Review video
- 11) Forward: forward video



## System Set-Up

1. **IMPORTANT: When you connect the Camera to the Monitor, the power must be off otherwise both units may be damaged.**
2. Screw the Camera to the Reel Cable (See Figure 1- A) and connect the Reel with the Monitor (See Figure 1-B).
3. Put the Fuse into the jack located at the side of the Battery Box.
4. Plug the Power Adapter Cord into the wall AC socket and the other end into the DC 12V-Input Jack on the Monitor (if a Wall Adapter comes with your device and see Figure 1-C); if you choose to use the charged battery, plug the power output cord of the battery to the DC 12V-Input Jack of the Monitor, then press the button on the Battery. The user can also charge the battery while using the device in the following way: plug the Charger to the wall AC socket and the other end to the jack on the Battery, and connect the power output cord of the battery to the DC 12V-Input Jack of the monitor, then press the battery's button.  
**Note : Don't misuse the power cord and battery charger cable , otherwise the system can not work properly, or the battery pack may be damaged.**
5. Press the **POWER** button on the front of the monitor. The lights will turn green.
6. Gently lower the Camera into a pipe duct, etc and reel out the cable until it is at the desired depth.
7. Press the **LED** button and adjust the brightness from the MENU.
8. Record the pictures if you need for the models featured with DVR (see **recording operation**).
9. By using a video cable you can transfer the picture to other larger Screen.
10. When you finish the job, carefully remove the Camera from the pipe duct, etc. Screw out the camera head and clean it with a clean, soft and dry cloth and then put the camera into the previous position.

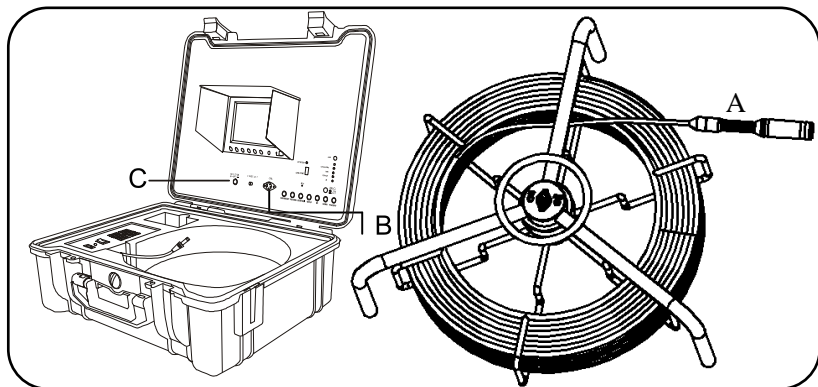



Figure 1





## System Menu Setting

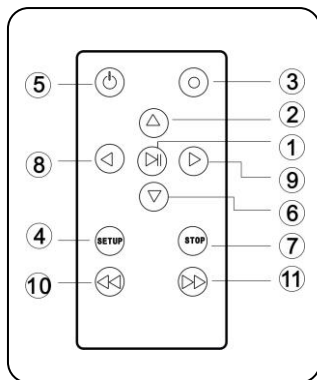
Clock setting: set date and time	
Time Format	Select: 24Hour - 12Hour
Year	Set year
Month	Set month
Day	Set day
Hour	Set hour
Minute	Set minutes
Second	Set seconds
Language Setting	Select: English - Chinese
System: showing software version, product version, free space and used space (when USB/micro SD is connected)	
Record setup: Storage device selection---USB stick or micro SD	
Play mode: No circle, one circle, list circle	
Master reset: press OK again to perform a master reset	
Firmware update: locate the directory where new firmware is stored	
Browse File: Showing all files on the current USB/ Micro SD medium.	
Remove USB/micro SD device(only when USB/Micro SD device is connected) Always use this option before safely removing the USB /micro SD device from the USB/micro SD port	

## Recording Operation

1. Set the Screen video button on video 2.
2. Take off the isolation sheet from the remote control battery.
3. Press the remote control button 5  to enter the recording system; you can see DVR system / micro SD card recorder **PLAY VIDEO** menu on the screen.
4. Insert your USB stick/removable hard disc into the **USB** Port, or micro SD card into micro SD card slot, you can see **USB stick / micro SD card connected** on the screen and the LED light indicator is on.

**Remark:** When you plug in the USB stick/micro SD card before starting the device, maybe the device can't find the USB stick/micro SD card. In this case, please remove them and try again.

5. Press remote control button 3  to start the recording and the RECORDING LED light is on. In recording, press the RECORDING button again, the DVR will take a photo and it is saved in the USB stick or micro SD card (The snap shooting function is only available for new versions).
6. Press remote control Button7  to stop recording.
7. Press remote control Button 1  to review recording.
8. If you need to manage your recording pictures, press remote control button 4 . You can also manage video files by selecting the **SETTING** on **PLAY VIDEO** manual on the screen.

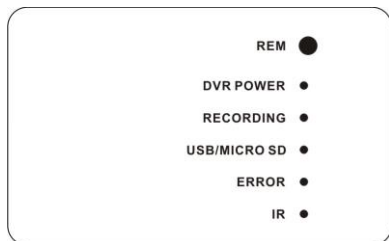


**NOTE:**

DVR system sometimes needs 10 - 20 seconds for reposition before it can work properly, please let it run about 20 seconds each time when you try to record.

USB flash disk and micro SD's maximum memory is 8G bit.

## LED indicators



- 1) REM : Remote receiving window
- 2) Power: It indicates that the system is on
- 3) Recording: It will blink during recording
- 4) USB/Micro SD: It indicates that USB/micro SD device is connected
- 5) Error: It indicates that the system or USB/micro SD device has error
- 6) IR: It blinks when the remote control is in use for **Recording Video**

The recorded video files will be found in a directory of USB/Micro SD devices. You can use the on-screen menu or press (REC) button to start recording. Press (■/EXIT) button to stop recording. During the recording, the screen will display recording time and time limit (up to 60 minutes).

### Recording time limit

Sometimes you may forget to stop the recording after it is initiated. This unit is featured with a recording time limit. The default time limit is 60 minutes. If recording time over 1 hour, the system will record with a new file

### Schedule recording

You can schedule a recording in advance. Simply enable the schedule recording in the SETUP and then the unit will ask user to setup timing. Recording schedule can be used once. You have to set up schedule again for next recording.

## **Recording via USB Stick/ Micro SD Card**

The unit can be used to record video and voice via USB stick / micro SD Card .The recorded video will be stored in the USB stick / micro SD card and can be played back on the screen or computer.

### **VIDEO Recording format**

The default video recording resolution is 640\*480. One-hour recording will take up storage of 500MB.

### **VOICE Recording**

**A microphone button located on the front panel allows the user to press the button on to record a voice while the video is recording.**

### **Video playing**

You can use on-screen menu to enter “play video” mode. The unit will display the recorded video and other compatible videos stored in USB stick / Micro SD card.

It will not list the non-compatible videos.

### **Select the video file.**

When you enter “play video” mode, the set will display all of the available video files on the screen.

You can use [▲] or [▼] button to select desired video and press [▶/ENT] button to play.

Press and hold [▲] or [▼] button to go to previous or next video.

Use [▶/ENT] button to start or pause the playing .Use [■/exit] button to stop or go back to previous menu.

The screen will display “loading, please wait ...” for a few seconds before playing videos.

### **Fast forwarding and rewinding**

You can use [▶] or [◀] button on the remote control to fast forwarding or rewinding (1x, 2x, 4x, or 8x, speed).Always press[▶/ENT] button to go back to normal playing.

## Compatible video format:

Divx3.11/Divx4/Divx5/MPEG1/MPEG2/MPEG4 (MPEG4 video file format: .avi, .m4v, .MPG, MPEG, .VOB)

**Note:** The video player of the device may not support some downloaded videos.

## Video Player Software Installation

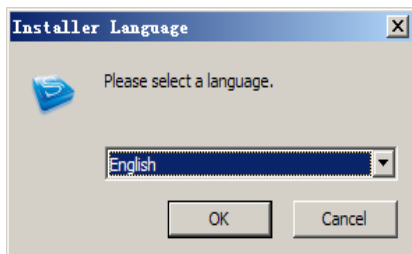
Generally, the recorded videos can be played on the computer purchased after the year 2006. If you can not open the recorded document on computer, there are two options:

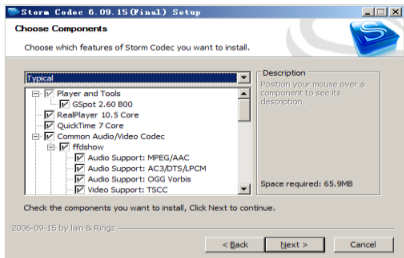
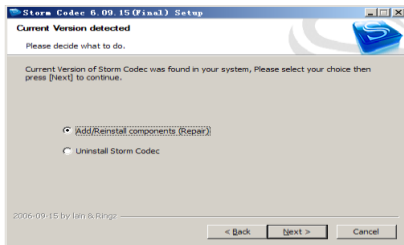
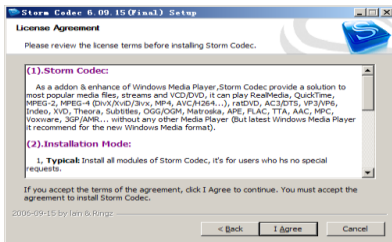
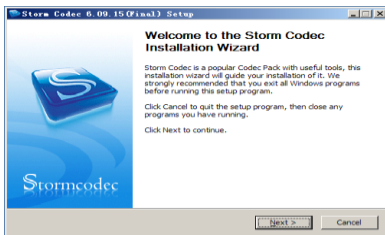
**Option 1:** Go to the website [www.kmplayer.en.softonic.com/download](http://www.kmplayer.en.softonic.com/download) and download the KMPlayer software for free.

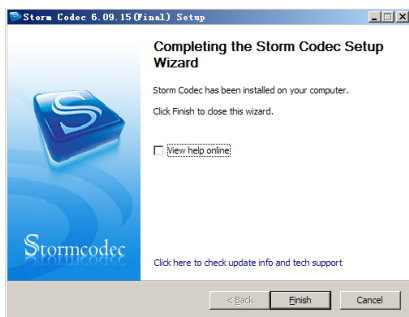
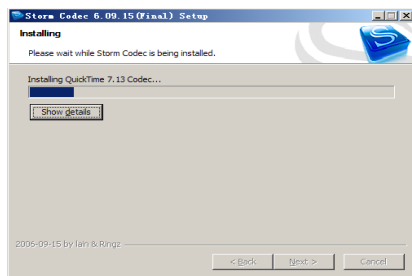
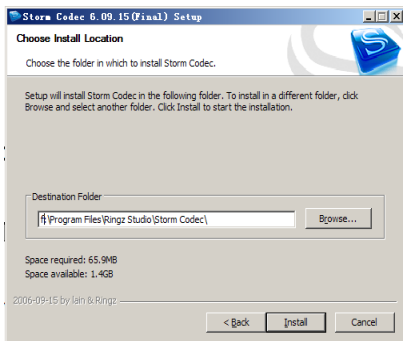
**Option 2:** Install the video player software on the DISC enclosed by putting it into CD-ROM of your computer according to the icon as follows:



stormcodec...







## Locating the Camera Head with Built-in Transmitter

The camera head with a 512HZ built in sonde transmitter can be located by a 512HZ locator / receiver. The locatable distance is about 15 FT in nonmetallic pipelines and 10FT IN CAST IRON PIPELINES. I

## Recharging the Battery

- 1) Plug the charger into the AC socket on the wall and insert the other end into the DC Jack on the battery box (See Figure2- A)
- 2) Press the button (See Figure2-B) while the battery box is turned off. The battery can be charged while the battery box is on and the device is being used. However, once the power in the battery runs completely out, it can only be recharged when the battery box is turned off.
- 3) The charge LED will be red during the process of charging and will turn green when charging is finished (normal charging time: 5 – 6 hours).

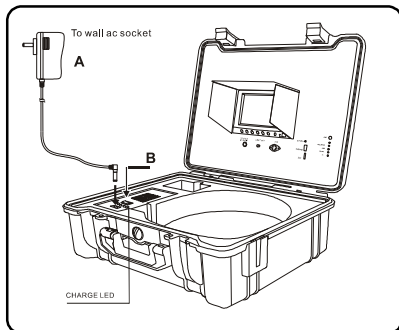


Figure 2

**IMPORTANT MESSAGE: Do not overcharge the battery! Overcharging can result in acid leaking from or damage to the battery.**

## Battery specifications:

1. TOTAL POWER 12W
2. LI-ION BATTERY 12VDC MAX.  $\cong$  40Wh
3. CHARGER 13.5V 800mA
4. CHARGE TIME 6 HOURS
5. WORKING TIME  $\geq$ 200 MINUTES
6. PROTECTIVE VOLTAGE 8.1 V
7. THE VOLTAGE BEFOR DISCHARGING 12.6V
8. LOAD CURRENT 1100mA(INPUT 12.2V HOUR)

## TROUBLE SHOOTING

Trouble	Reason / Solution
Blank Screen	1. Change the fuse
	2. Recharge the battery
	3. Check power line and connect it again.
No signal	1. Read the manual again and reconnect it.
	2. Check the camera head and screw down
	3. Clean the camera pins and the connection area on PCB Board into the hole
	4. Check the pins and find if they are in the same level
The camera has weak or no light	Press the "MENU" button, locate the LED brightness setting and then adjust the brightness.
No recording	1. Press the "Video" button and change to Video2
	2. Press POWER button and the monitor indicator light is green.
	3. Use another USB disk /micro SD and try again
Record abnormality	Shut off the unit and restart the unit in right steps
Flashing pictures	1. Deficiency of the battery power. Please recharge the battery
	2. Misuse of the charger cable and power cord: switch the cables
No Working of Battery Recharging	Misuse of the charger cable and power cord : to use the right charger cable.