

**PIPE & CHIMNEY  
VIDEO INSPECTION SYSTEM  
USER MANUAL**

**For  
3688C SERIES  
ASSEMBLING AND OPERATING INSTRUCTIONS**



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**Read instructions carefully before operating this system**

# WARNING

1. **NEVER USE THIS DEVICE IN AN ENVIRONMENT WITH EXPLOSIVE MATERIALS SUCH AS GAS, OIL, ETC.**
2. 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.
3. Avoid using the parts / components from other manufacturers to this system, which may damage the equipment due to the un-compatibility.
4. Warranty invalidation if the device is disassembled by users or if there are any physical damages.
5. 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.
6. Do not disconnect the unit while recording or playing. It may damage the unit and/or the USB stick / Micro SD card.
7. Don't misuse the battery charger cable and power cord, otherwise the battery pack may be damaged or the system cannot work properly.
8. We reserve the right to make any change about our products without any notice in advance.
9. After use, the cable reel must be put back into the case in the right position; otherwise, LCD monitor may be broken by the part on the reel when you close the case.

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# CONTENTS

Assembly Drawing and Parts List.....	4
Specifications.....	5
User Manual.....	6
Application.....	6
Know your Device.....	7
Control Box.....	7
Display Part.....	9
Pan-Tilt CAMERA.....	10
CABLE REEL.....	10
Remote Control (For Operating DVR only).....	12
System Set-Up.....	13
System Menu Setting.....	14
Recording Operation.....	14
LED Indicators.....	16
Recording Time Limit.....	16
Schedule Recording.....	16
Recording via USB Stick/ Micro SD Card.....	17
Video Playing.....	17
Select the Video File.....	17
Fast Forwarding and Rewinding.....	18
Compatible Video Format.....	18
Video Player Software Installation.....	18
Locating the Camera Head with Built- in Transmitter.....	21
Recharging the Battery.....	21
Trouble Shooting.....	23

# Assembly Drawing and Parts List

Part No.	Description
1	Pan-Tilt CAMERA
2	Disc
3	Remote control
4	Protection cover
5	1.5m Video soft cable (short)
6	POWER ADAPTER&BATTERY CHARGER
7	<input type="checkbox"/> 30m(100FT) <input type="checkbox"/> 40m(130FT) <input type="checkbox"/> 60m(198FT) Cable with reel (long)
8	<input type="checkbox"/> 7" Monitor <input type="checkbox"/> 10" Monitor



# Specifications

ITEM	DESCRIPTION
Power adapter	110VAC~240VAC 13.5V DC 1700mA
Battery Case	LI-ION battery
Length of Cable	<input type="checkbox"/> 20m <input type="checkbox"/> 30m <input type="checkbox"/> 40m <input type="checkbox"/> 60m
Camera Light Source	18pcs built-in white LED
Camera Angle-of-View	Rotation angle:180° , Detection range:-90° ~+90°
Camera Rotation Angle	360°
Camera Effective Pixels	976(H)x496(V)
Monitor Image	10" TFT LCD color monitor
Monitor Picture Resolution	800 * 600 pixel
DVR Format	MP4
Storage Device	USB &TF(8G~64G)
DVR Pixels	640*480
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

## Control Box



### ①.Camera Input

CAM1: common camera (four core interface)

CAM2: 360°rotation camera (five core interface)

### ②.360°Rotation Camera Button

LEFT: control camera rotate to the left

RIGHT: control camera rotate to the right

UP: control camera rotate to the upward

DOWN: control camera rotate to the downward

RESET: camera reset

### ③.LED+: increase the brightness

LED-: decrease the brightness

### ④.POCUS+: adjust the lens focal length+

POCUS-: adjust the lens focal length -

### ⑤.DVR Control Button

⑥.BATTERY: battery indicator

Discharge Indicator status: as the battery keeps discharging, the green indicator lights will be out one by one; when the green light turns into flashing red lights, it means the battery volume is insufficient. Please recharge the battery.

Charging indicator status: with the increase of battery charging, the green lights will be lighted up one by one; when the flashing green light turns into the bright green, the battery is fully recharged.

⑦.USB& TF pin

When use U disk &TF card as a storage device , please insert the right port

⑧.LED Indicator

REM: Remote control receiving window

DVR: DVR Indicator system work

REC: Video work lamp

USB: when users insert a new USB&TF card , this indicator shining.

ERR: Indicator system or USB device error.

IR: the remote control work lamp

⑧.MIC on/off: MIC switch。 When need the tape at the process of video , press the switch , indicator lights up , work in MIC recording condition; After the end of the video , you must press the switch again , otherwise there is no audio signal output。

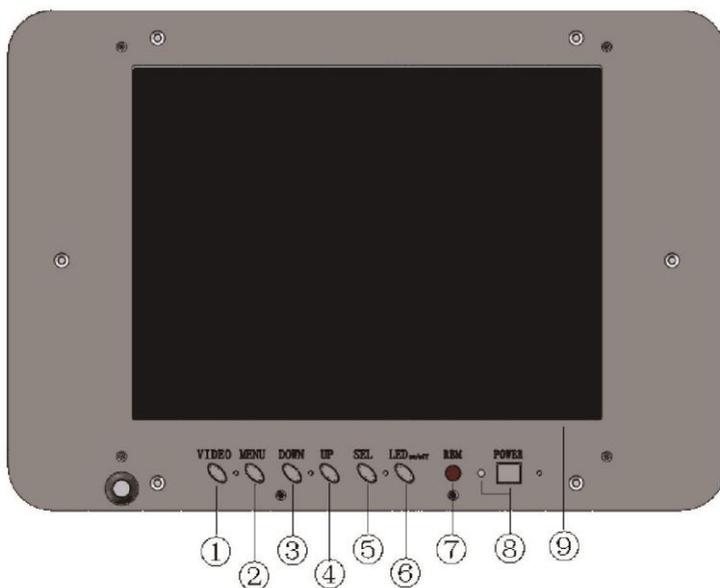
⑨.The power adapter input。 Can be used as the machine power supply or charging the battery ;

⑩.POWER: power switch

## ⑪. Keyboard input

Using the keyboard to input character (English letters、Numbers and symbols) ,this is a new equipment which can input characters superposing on the real-time monitoring images ,showing three characters below the display line。

## DISPLAY PART



①、VIDEO

③、DOWN

⑤、SEL

⑦、REM

⑨、10"LED

②、MENU

④、UP

⑥、LED ON/OFF

⑧、POWER

## Pan-Tilt CAMERA



### I. Work Environment:

1. Temperature:  $-28^{\circ}\text{C} \sim +50^{\circ}\text{C}$
2. Humidity: 90%RH (non-condensation)

### II. Storage Environment:

1. Temperature:  $-20^{\circ}\text{C} \sim +60^{\circ}\text{C}$
2. Humidity: 90%RH(non-condensation)

### III. Main Specifications:

1. Camera Size:  $\Phi 59\text{mm} \times 135\text{mm}$
2. Camera Sheating Material: Aluminium Alloy
3. Power input: DC 12~18V 8W (maximum)
4. Camera Element :
  - 1) Imaging sensor : 1/3 inch CMOS
  - 2) Effective pixels : 976 (H) x 496(V)
  - 3) Horizontal resolution : 900 TVL

- 4) Low-light: 0.01LUX/F1.2
- 5) Camera Light Source: 18pcs
- 6) Camera Rotation Angle: 180°
- 7) Camera : 360°
- 8) Angle of light cup: 45°
5. Waterproof level: IP68

## **CABLE REEL**



### **Main Specifications:**

- 1) Cable reel size: H410\*W245\*320MM
- 2) Transmission cable:  $\Phi$ 7.0mm twisted-pair cable
- 3) Winding length:  $\leq$ 80M
- 4) Take-up and pay-off: manual operation
- 5) Coil lock: manual operation

**Remote Control**(Only for 3688C to operate DVR /Micro SD card recording)

- 1) Enter: Enter to view and play video
- 2) Up: Go to up/previous item
- 3) REC: Start recording / snap shooting ( only available for new versions )
- 4) Setup: System setup and recording features
- 5) Enter: System in
- 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 to 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.
5. Press the **POWER** button on the front of the monitor.
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. 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.

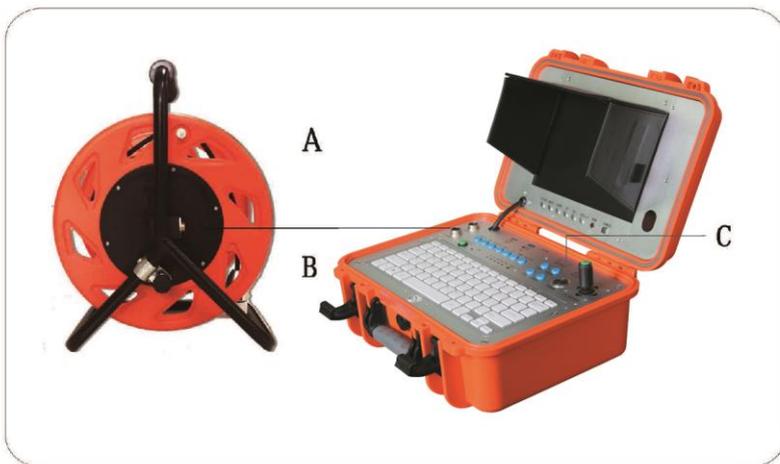


Figure 1

## 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 manual 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.

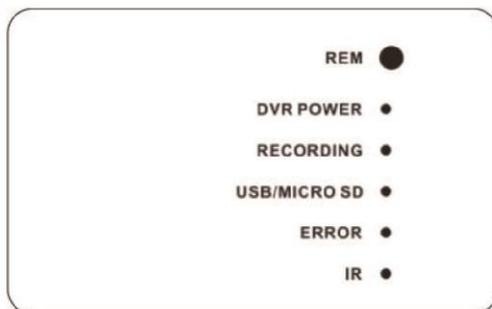


**NOTE:**

DVR system sometimes need 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 max 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.

## **VIDEO Recording format**

The default video recording resolution is 640\*480. One-hour recording will take up storage of 500MB. User may select 320\*240 to save storage space.

## **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 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.

## How to use the text writer?

With the signal overlay technology, the text writer is a device that can display the input characters from the keyboard (only supporting English input). Keyboard input function is basically the same as the computer keyboard operation.



### I.Keyboard Functions

1. It supports the display of 3 lines \* 26 characters.
2. The keyboard has a 0-9 number input with symbol switching through the Shift + "key".
3. 26 English letters input and case switching with Caps Lock.
4. F1 is the character clear key. When you press F1, all the characters are cleared and the cursor returns to the original position.
5. Move the cursor through the four arrow keys of the keyboard to enter the character at the position where you want.
6. Keys:
  - 1) See Appendix 1 for other punctuations, Appendix 2 for function keys.
  - 2) Keys without functions: Esc, F2, F3, F4, F5, F6, F7, F8, F10, Num Lock, PrtScSysRq, Tab, Ctrl, Fn, Alt

### II. How to Operate

1. To start the device, press the VIDEO button below the monitor to enter the VIDEO2 channel.
2. After DVR is empowered, press the DVR ON / OFF button to turn off the DVR and then the screen will enter the preview state. At this time, there is the

flashing cursor "I" in the lower left corner on the screen.  
 and then press the F1 key to clear. At this point the flashing cursor "I" will automatically display in the normal position.

3. After the normal display of the cursor, press the DVR ON / OFF button on the control panel to turn on the DVR. You can now record videos, take snapshot or input the text on the screen.

#### Appendix 1: Punctuations

,	.	(	)	?
:	:	'	/	@
-	<	>		

#### Appendix 2: Function Keys

F1	Character clear reset
F9	Cursor reset
Caps Lock	Case Switching
Four arrow keys	Up, Down, Left and Right Movement
Backspace, Delete	To delete
Enter	Enter Key
Shift+"Key"	Input the symbol on the corresponding key
space key	Space bar

# Video Player Software Installation

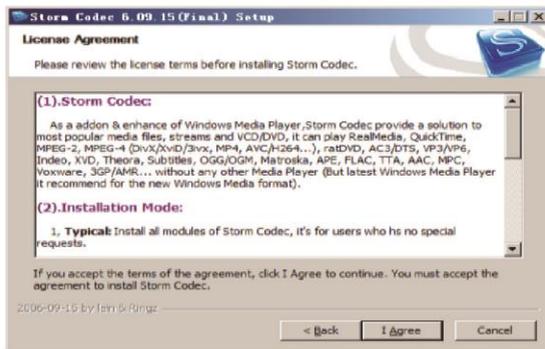
Generally, the recorded videos can be played on the computer purchased after the year 2006. If you can not open the recorded document on computer, there are two options:

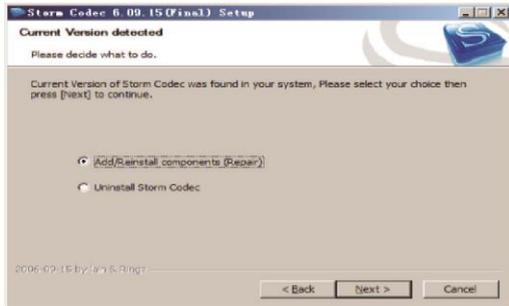
**Option 1:** Go to the website [www.kmplayer.en.softonic.com/download](http://www.kmplayer.en.softonic.com/download) and download the KMPlayer software for free.

**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...







## 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 charged 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  $\leq 15W$
2. LI-ION BATTERY 12VDC MAX.  $\leq 70Wh$
3. POWER ADAPTER 13.5V 1700mA
4. CHARGE TIME 6 HOURS
5. WORKING TIME  $\geq 360$  MINUTES
6. PROTECTIVE VOLTAGE 8.1V
7. THE VOLTAGE BEFOR DISCHARGING 12.6V
8. LOAD CURRENT 1200mA(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 LED+ to 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