

PIPE INSPECTION CAMERA SYSTEM



Please read the manual carefully before operating the system.

Please charge the battery before use.



MANUAL

Catalog



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Safety and Notice



Warning

To Avoid electrical shock put the item indoor when Charging














Warning

Use only input AC 100~240V output DC 12.6V charger.
machine can only use the original charger and lithium battery, reminding
the charging time is 5 hours. Please charge the battery before use!

1. Please check the appearance and functionality of the goods upon receipt. In the event of damaged or missing goods, please forward images to us within 3 working days, Otherwise, we will not be able to provide after-sales service
2. Working environment of camera system -10°C~50°C(14°F~122°F)≤95% RH; Storage environment: -20°C~70°C(-4°F~158°F) ≤95% RH.
3. The warranty becomes void if any physical damage is present by user or force majeure factors or if the system is disassembled or connect non-factory parts by the user
4. Do not disconnect the SD card while recording or playing as this may damage the system and/or the SD card
5. Remember to always back up the data on your SD card
6. Before using the SD card for the first time, it is recommended to use the check system to format the SD card.
7. Remember to slide the write protection tab to the unlocked position. Otherwise, all data on the SD card is protected and cannot be edited or formatted.
8. Use only the original accessories to avoid possible risks to health and property, and thus meet all related legal regulations.
9. Keep controller dry.
10. 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.
11. Make sure all accessories are connected before starting up.
12. Do not remove or install camera, keyboard, coil, SD card and other accessories when the machine is turned on. If replacement is required, please replace it in the power off state.

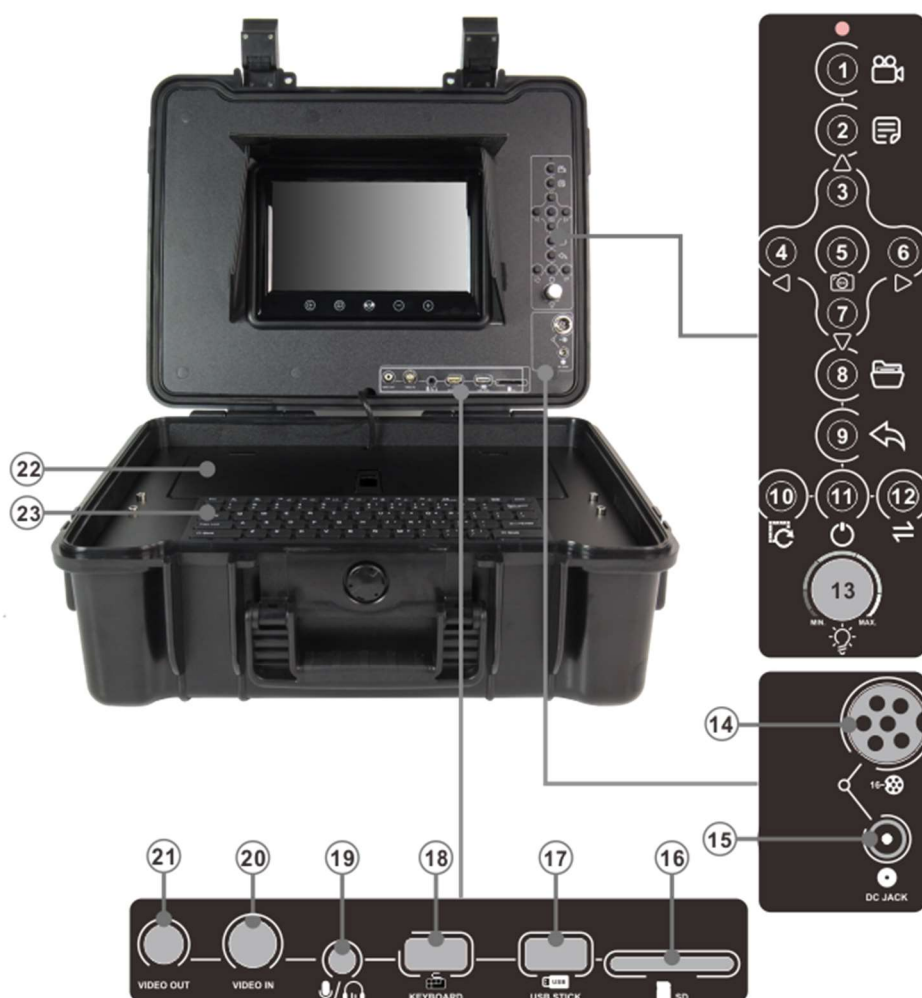
1 Parts list

Accessories

Item	Image	Description	Optional
Camera Head & Skids		<ul style="list-style-type: none"> • ø50*160MM Camera Head • ø110mm, 150mm, 220mm skid 	√
		<ul style="list-style-type: none"> • ø50mmX107mm(L) Camera Head • ø110mm, 150mm, 220mm skid 	
		<ul style="list-style-type: none"> • Universal skid • range: 140~330MM • weight : 1.24KG 	√
Control Box		<ul style="list-style-type: none"> • 9 inch digital Color • Monitoring & Video recording & text writing • Storage: 8G SD card & card reader (max 256G) • keyboard • 460(L)X370X180(H)mm ABS case • 11.1V 4400MAH battery & 12.6V/1A charger 	√
		<ul style="list-style-type: none"> • 15 inch digital Color • Monitoring & Video recording & text writing • Storage: 8G SD card & card reader (max 256G) • keyboard • 460(L)X370X180(H)mm ABS case • 11.1V 13200MAH battery & 12.6V/3A charger • 4400MAH/6600MAH optional 	
Cable Wheel		<ul style="list-style-type: none"> • Cable Wheel: 770(L)X371(W)X810(H) • Wire Material: Fiberglass rod • Wheel Material: Stainless steel • Cable Diameter: ø9.5mm • Cable Counter: Metric & imperial counter 	√
Transmitter		<ul style="list-style-type: none"> • Transmitter: built-in 512Hz • Effective distance: 4.5M 	√
Spring connector		<ul style="list-style-type: none"> • Spring 	√
Control Handle		<ul style="list-style-type: none"> • Size :32*83*166mm • Work current:20MA • power supply:DC 12V 	√
Microphone		<ul style="list-style-type: none"> • Frequency response: 20-20KHz • Sensitivity: -47dB±2dB • Output impedance: ≤2.2KΩ • Line Length:1m 	√

Connect line		<ul style="list-style-type: none"> • 3m connect line 	√
Test line		<ul style="list-style-type: none"> • test line 	√
SD card and card reader		<ul style="list-style-type: none"> • 8G SD card & card reader 	√
Screw Driver		<ul style="list-style-type: none"> • 2.5mm 	√
Waterproof Ring			√
Manual			√

Control Box



1	Record/stop recording	13	LED brightness controller
2	Menu	14	Camera cable socket
3	Up	15	12.6V DC Input
4	Left	16	SD Card Slot
5	Photo/OK	17	USB stick port
6	Right	18	Keyboard USB port
7	Down	19	Headphone/microphone jack
8	Quick playback	20	Video input
9	Back	21	Video output
10	Counter reset	22	ABS carry case
11	Power control	23	Keyboard
12	Meter/Feet switch	24	

Control Handle



1	Connector	7	Tilt-up
2	Pan-right	8	Pan-left
3	Tilt-down	9	Power lights
4	Speed	10	Auto
5	Near focus	11	Far focus
6	Light brightness down	12	Light brightness up

2 Quick Start Guide

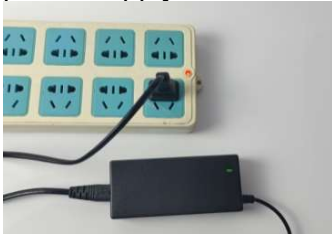
2.1 Charge the Battery

1. Get accessories from tool box



2. Charge the Battery

1. Connect the adapter to a power supply.



2. Connect the plug to the port of the control box.



3. The indicator will change from red to green when finished charging.



2.2 Connection

1. Open the ABS case and install sunshade.



2. Connect control handle.



3. Install camera, spring and transmitter.



4. Put cable into the clamp.



5. Rotate copper nut and tighten the black screw.



6. Loose the break.



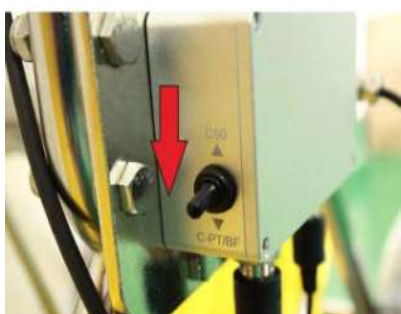
7. Connect one end of connect line.



8. Connect the other end of the connect line.



9. Switch to C-PT/BF



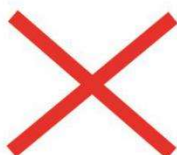
WARNING:

Check the waterproof ring between all connections.



Do not turn the camera rotating part by hand to avoid damaging the motor.

Pan tilt camera can't be used in severe blockage and sludge pipeline, otherwise the camera may be damaged. After use, please clean the sediment on the camera with water in time to avoid jamming.



2.3 Assemble skid

1. Install 110mm & 150mm & 220mm skids



4 PM3X10 screws



PM3X14 screws



PM3X16 screws

2. Install universal skid

Loose the ring in the middle of skid, put into camera and tighten three screws to fix.



2.4 Starting up

1. Insert SD Card

Insert SD card or card reader & SD card



2. Plug in microphone.



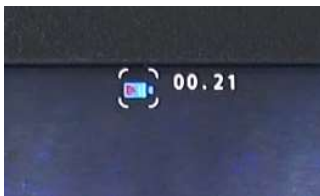
3. Starting up

Long press the power button for 3 seconds to turn on.



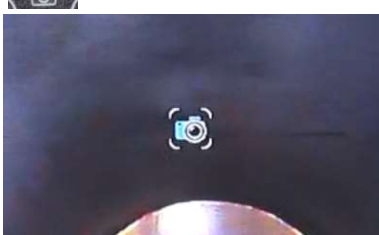
4. Record video

Press this button to record, press again to stop recording.















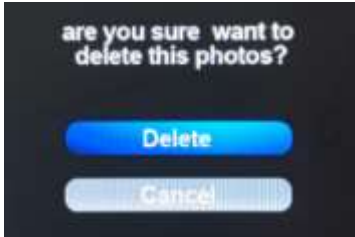

5. Take photo & playback




Press this button to take photo. Long press button to playback.



6. Audio and text record

Support to record audio by microphone and input text by keyboard when recording video

<p>7. Meter counter</p>  <p>Press  button to reset the counter. Press  button to switch meter/ feet.</p>	<p>8. Zoom in and out</p> <p>Press these two buttons to zoom in and zoom out image when recording.(max 8 levels)</p>  <p>When play video or photo, also use these two buttons to choose video or photo.</p>	<p>9. Adjust volume</p> <p>Press these two buttons to adjust volume when recording or play video.</p> 
<p>10.Adjust lights of camera</p> <p>Press these two buttons on control handle to adjust lights.</p> 	<p>11.Adjust pan tilt</p> <p>Adjust the joystick on control handle to control pan and tilt</p>  	<p>12.Adjust manual focus</p> <p>Press these two buttons on control handle to adjust focus of camera. (Only for 50mm manual focus camera)</p> 
<p>13.Play video</p> <p>Press these two buttons to play video.</p>  	<p>14.Delete video</p> <p>Press these two buttons to delete video.</p>  	<p>15.CVBS Video output</p> <p>Long press the menu button for 3 seconds switch to connect other RCA jack screen.</p> <p>operate in same way back to close video output</p> 

When play back video, press  button to pause the video, and press   buttons to fast forward and backward the video.

Warning: Do not insert two SD cards at the same time. Pay attention to the direction of the SD card.

3 Menu

Press  to enter menu. Press   choose the items. Press  enter submenu. Press  enter upper submenu until to homepage.

Play Video



Video settings



Play Photo



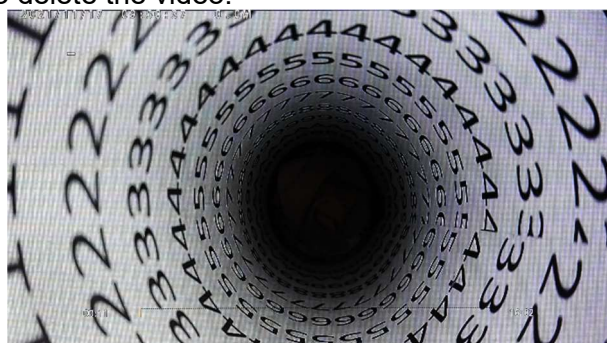
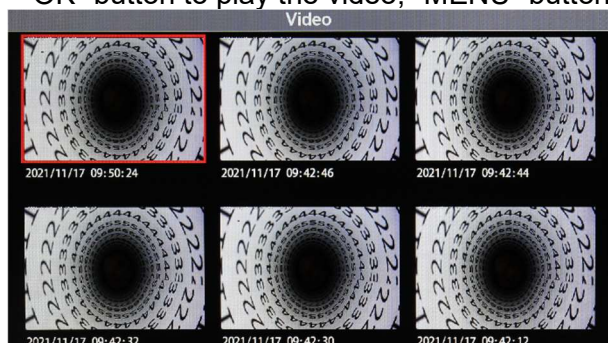
System settings



3.1 Play Video

The video folder can be opened in the menu, or it can be opened quickly by pressing "RECORDING DIRECTORY".

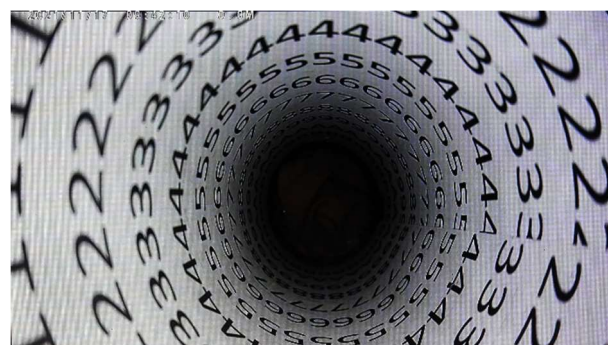
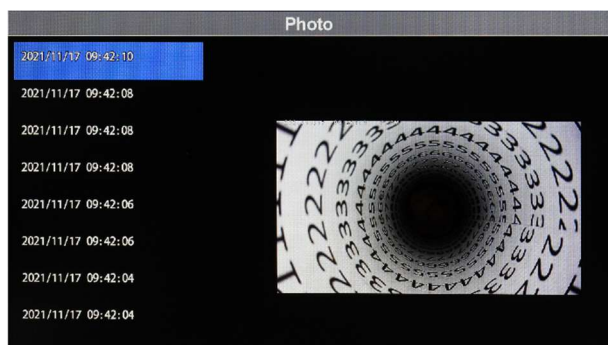
- "OK" button to play the video, "MENU" button to delete the video.



3.2 Play Photo

The photo folder can be opened in the menu, or you can press and hold the "OK" button for 3 seconds to quickly open it.

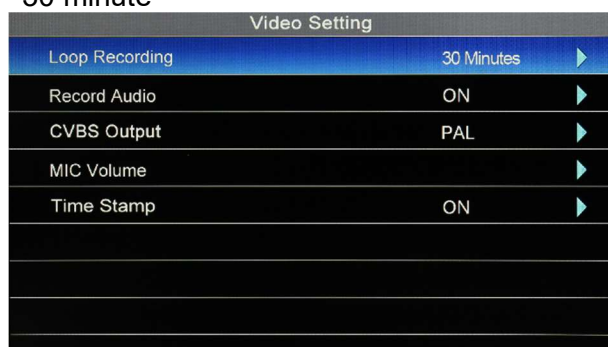
- "OK" button to play the video, "◀▶" backward/ Fast forward , "▲▼" adjust the volume , "MENU" button to delete the video.



3.3 Video settings

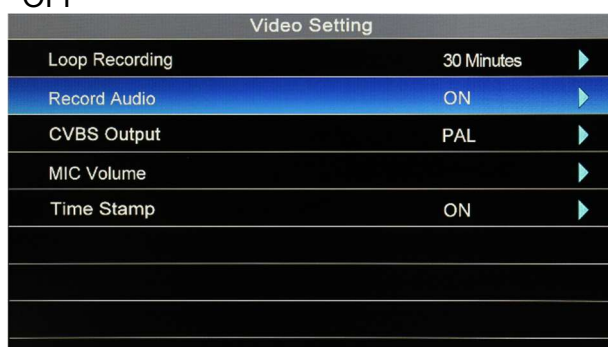
3.3.1 Set the length of time to record video

- 5 minute
- 15 minute
- 30 minute



3.3.2 Record Audio

- ON
- OFF



3.3.3 CVBS output

- NTSC
- PAL

Video Setting		
Loop Recording	30 Minutes	▶
Record Audio	ON	▶
CVBS Output	PAL	▶
MIC Volume		▶
Time Stamp	ON	▶

CVBS Output	
NTSC	
PAL	

3.3.4 Mic volume

- First press the OK key, press the left and right keys to adjust the volume

Video Setting		
Loop Recording	30 Minutes	▶
Record Audio	ON	▶
CVBS Output	PAL	▶
MIC Volume		▶
Time Stamp	ON	▶

Video Setting		
Loop Recording	30 Minutes	▶
Record Audio	ON	▶
CVBS Output	Record Audio	PAL ▶
MIC Volume		▶
Time Stamp		ON ▶

3.3.5 Time Stamp

- ON
- OFF

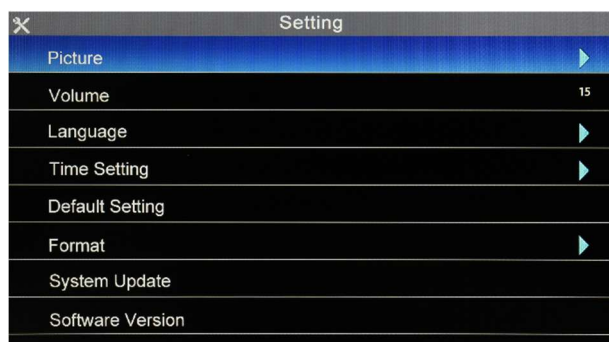
Video Setting		
Loop Recording	30 Minutes	▶
Record Audio	ON	▶
CVBS Output	PAL	▶
MIC Volume		▶
Time Stamp	ON	▶

Time Stamp	
Off	
ON	

3.4 System settings

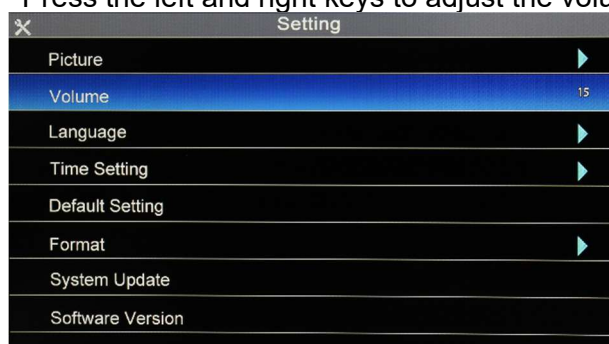
3.4.1 Picture

- Brightness
- Contrast
- Chroma
- Reset



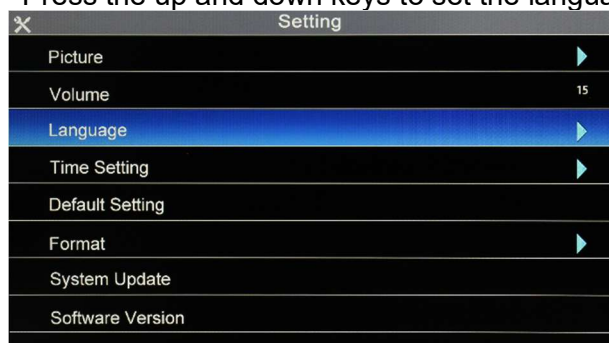
3.4.2 Volume

- Press the left and right keys to adjust the volume



3.4.3 Language

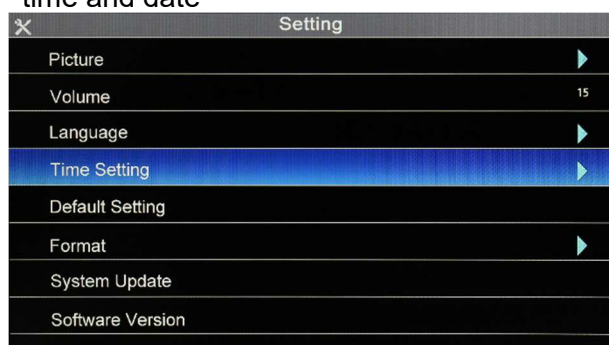
- Press the up and down keys to set the language



3.4.4 Time

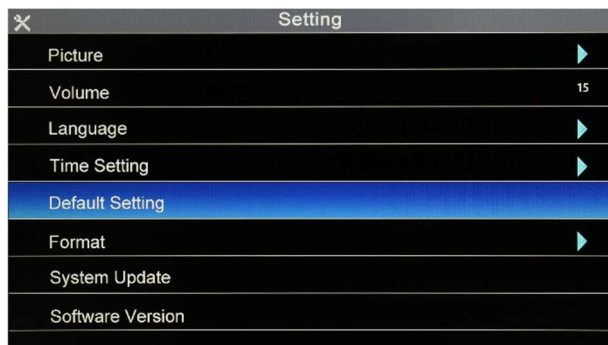
Date and time

Press the up and down keys to set the date and time, and press the left and right keys to select the time and date



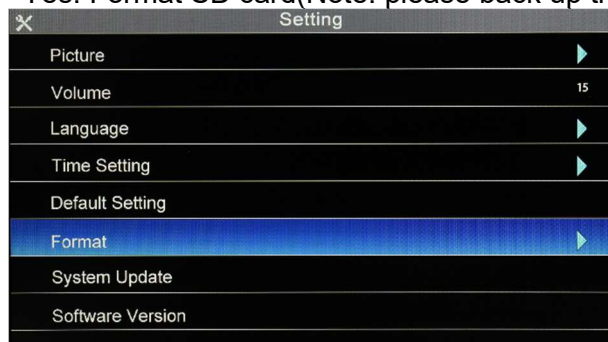
3.4.5 Default Setting

- No: Cancel
- Yes: Confirm



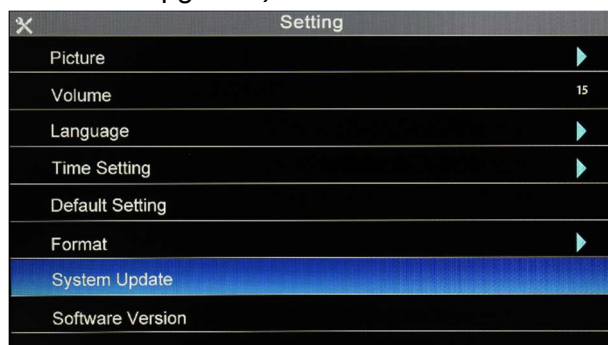
3.4.6 Format

- No: Cancel
- Yes: Format SD card (Note: please back up the data in the SD card before operation)



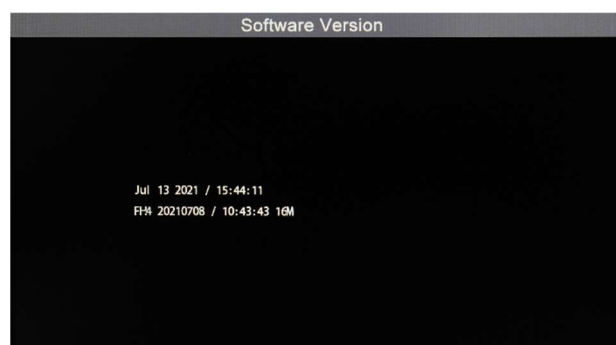
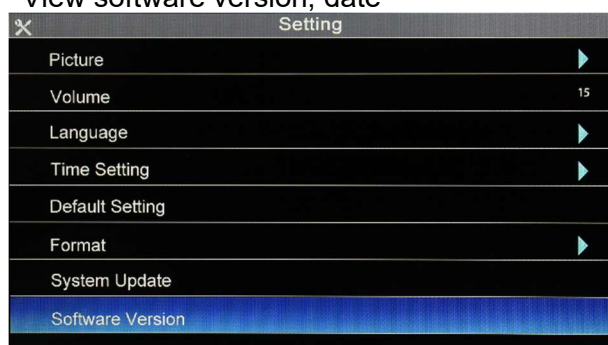
3.4.7 Firmware update

- No: Don't upgrade system
- Yes: Start to upgrade (Need to insert the SD card with the upgrade program, press the "OK" button to upgrade.)

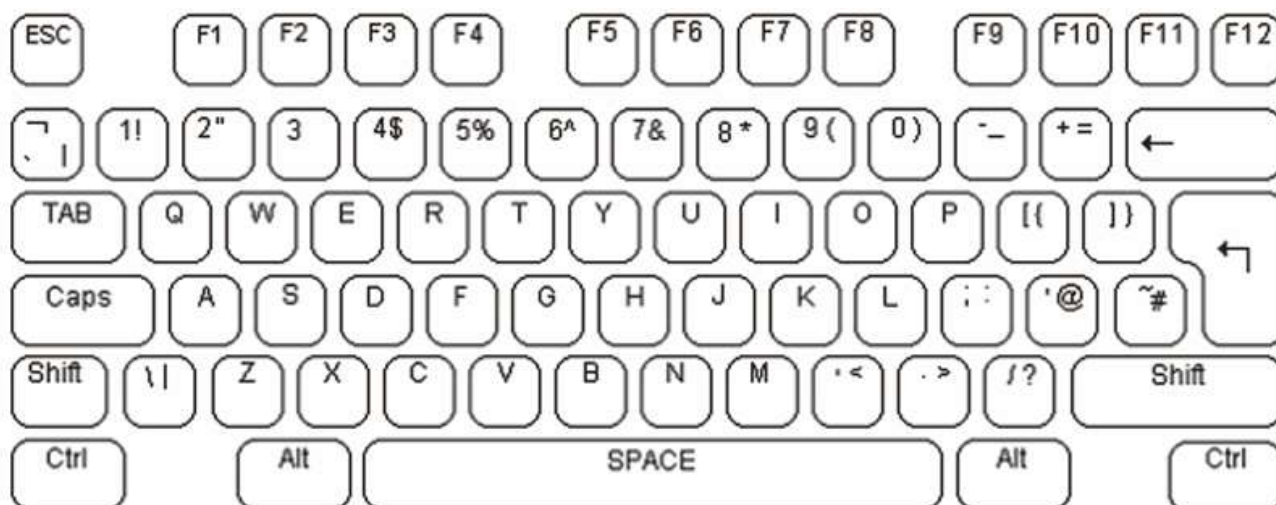


3.4.8 View software version

- View software version, date



4 Keyboard



1. The font and character size have been set and cannot be changed.
2. The basic operation of characters is to automatically push back, covering the input characters on the image.
3. The cursor flashing indicates the current position of the character to be input on the screen. The cursor position can be controlled by the direction key on the keyboard. The cursor will move from left to right, from top to bottom and back. After typing a character, the cursor flashes quickly at the position of the next character, and then disappears. Press F6 to switch between cursor flashing and cursor clearing.
4. Video character overlay input uses a standard American keyboard. The alphabetic characters in the QWERTY area and the numeric characters of the keypad can be directly input to the screen. Normally, lowercase letters are entered. When you press and hold the shift key or press caps lock, you can enter uppercase letters. When exiting uppercase input, press caps lock again. Use the backspace key to move the characters on the screen, which will quickly replace the characters to the left of the cursor with blank characters, and the cursor will move to the left. The delete key on the keyboard does not give any function. Press enter to move the cursor to the start of the next line.

F6	The switch cursor flashes
F9	Clear screen
↑↓←→	Move cursor position
CTRL+1~8	Quick jump page

5. The video text superimposing unit displays it in the current screen page. The text written to these pages will be saved in the local nonvolatile memory until it is overwritten. To move between screen pages, use the page up and page down keys. To quickly jump to page 1 ~ 8, press Ctrl + X (x stands for 1 ~ 8). Supports up to 64 page editing. To clear the screen page of the text, press F9.