
Installation and User Manual, Camera and Monitor

Thank you for purchasing our product. Please read this User's Manual before installing or using the product.

Any Changes Subject to Change Without Notice.

Digital 9" Inch QUAD Monitor/DVR & GPS w/ 4Camera Inputs

Installation & User Manual

Part No. MT019



**Important - Please Read This Manual Before Installing
Do Not Open Camera Housing.**



**There Are No Parts That Can Be Serviced.
Opening Camera Housing Will Void Your Warranty.**

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1. Precautions

- **Storage and Keeping**

- 1) Do not expose the monitor to excessive heat or coldness. Storage temperature is -30~+80°C; Operating temperature is -20~+60°C; Humidity is Rh90%.
- 2) Never use this device near a bathtub, wash basin, kitchen, damp basement, swimming pool or similar places.
- 3) Never use this device in the environment with excessive moisture, dust or smoke.
- 4) Avoid dropping or striking.
- 5) Never use this device in enclosed spaces, areas with excessive vibration or subject to severe impacts.
- 6) Never puncture, scratch or use abrasive cleaning materials on this device.
- 7) Do not place cables where they may be pinched or stepped on.
- 8) Leave at least a 2" space between the monitor and walls, cabinets or other objects to allow adequate air circulation around the device.
- 9) The monitor is not designed to be waterproof.

- **Operating Precautions**

- 1) The device can be powered by DC power 10V - 32V (e.g. 12V or 24V ACC).
- 2) Make sure all cables are connected properly, and check the polarity, as improper cable connections may damage the monitor. Remove the power cable connections when you do not intend to use the device.



Warning!

1. High voltage is present within the monitor. The opening of the case should be by professionals.
2. Do not watch the video while driving unless you are monitoring the display.





Special Notice

Occasionally, a few highlights or dark spots may occur on the LCD screen. This is a very common phenomenon in active matrix display technology, and doesn't necessarily indicate any defects or faults.

Never try to repair this device by yourself. In case of any problems, please turn off the display at once and notify our company or the authorized dealer. The monitor is a complex device, and any disassembly or modification may lead to damage and void the warranty.

- **Maintenance**

- 1) Remove all the cable connections from the monitor before cleaning the device.
- 2) Use a mild household detergent and clean the unit with a slightly damp, soft cloth.
- 3) Never use strong solvents such as thinner or benzine, as they might damage the finish of the device.

	Caution	
	Risk of electric shock Do not open	
Caution: to reduce the risk of electric shock, Do not remove cover (or back). No user-serviceable parts inside. Refer servicing to qualified service personnel.		



This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute risk of electric shock to persons.



This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.



This symbol is intended to alert the user to disposing of electrical and electronic items in separate collection facilities for recovery and recycling.

CAUTION

You are cautioned that any changes or modifications not expressly approved in this manual could void your warranty and necessitate expensive repairs.

- **Declaration of conformity**

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:



la FCC (Comisión Federal de Comunicaciones). El funcionamiento está sujeto a dos condiciones:

- (1) This device may not cause harmful interference.
- (2) This device must accept any interference received, including interference that may cause undesired operation.



2. Features and Specifications







- 1) 9" HD quad-view monitor, and resolution is 1024 x 600.
- 2) Support 4 HD camera inputs and split-view display mode.
- 3) Multiple video formats available: 1080P30/1080P25/720P30/720P25/PAL/NTSC.
- 4) Many display modes available.
- 5) Each channel supports independent image adjustment for horizontal-mirror, vertical-mirror view display.
- 6) Support capacitive touch screen with gestures detection; iconic menu operation.
- 7) Support remote operation.
- 8) Five trigger wires, with trigger display image, delay and priority adjustable.
- 9) Adjustable parking lines available.
- 10) Support 60-level manual adjustment of the LCD backlight.
- 11) Multiple languages available(English, Russian, Chinese).
- 12) With 1.5W speaker.
- 13) Wide voltage input: 10 - 32V ; Support 12V or 24V automobile battery; with short circuit protection.
- 14) Supports up to 4 SD cards (max 512G per card) for recording, supports 4 channels of audio and video synchronous recording, and supports event triggered recording.
- 15) Supports WLAN, users can log into the web interface through a browser for preview and configurations.
- 16) Applicable to indoor / outdoor security systems, vehicle and ship surveillance.
- 17) Compliance with CE/FCC standards.



Special Notice

Accessory supply may vary due to features.

3. Accessories

 <p>U-Support Bracket</p>	 <p>Center Mount Bracket</p>
 <p>Sun Shield</p>	 <p>IR Remote Control</p>
 <p>Angle Adjustment Screws</p>	 <p>Power Cable</p>

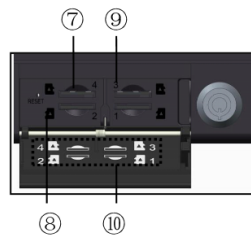


Special Notice

Accessory supply may be different for different application.

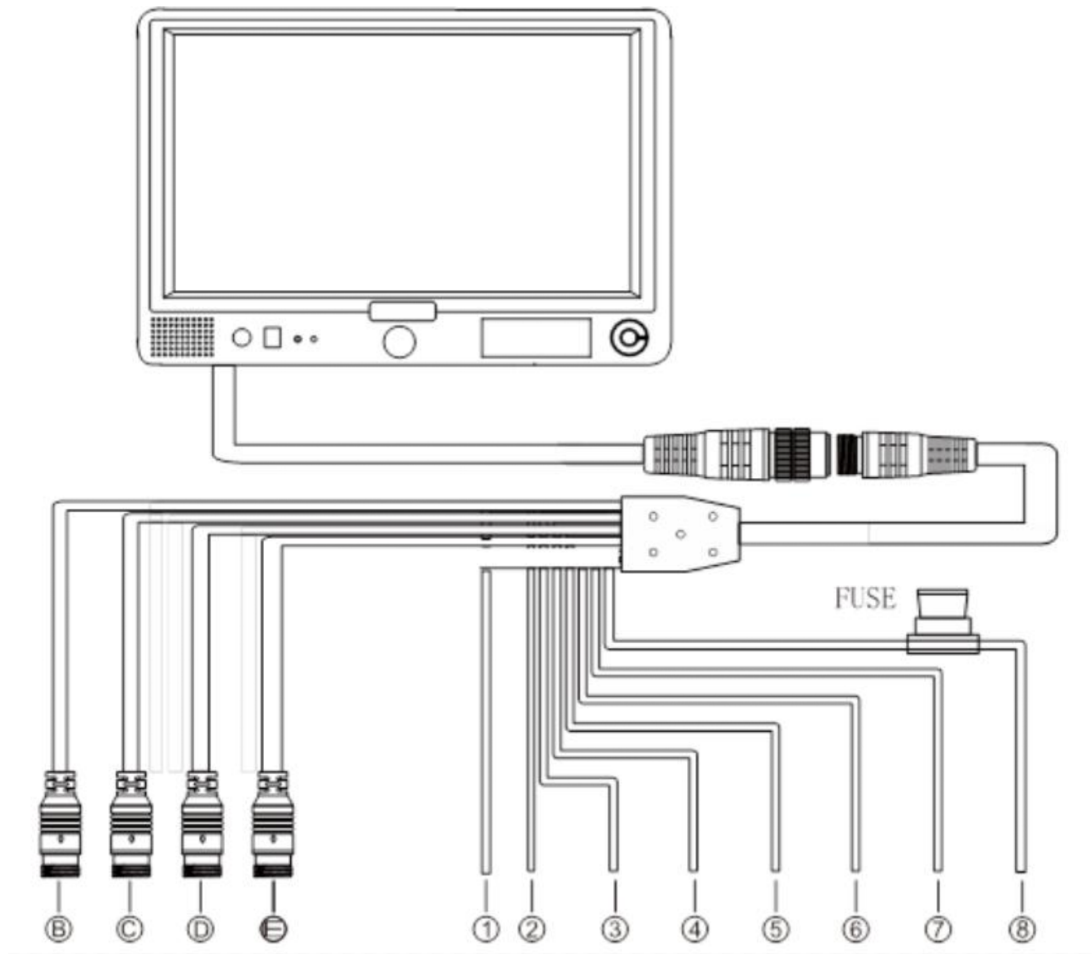
The MT019 power harness is designed so it is necessary that the ACC and VCC accessory and Bat+ wires are to be separated and not combined during installation.

4. Parts Identification



- | | |
|-----------------------|---------------------------------------------|
| ① Reserve | ⑥ Lock |
| ② Remote Receiver | ⑦ Micro SD Slot |
| ③ LDR | ⑧ Insert Direction |
| ④ Recording Indicator | ⑨ Slot Number |
| ⑤ Power Key | ⑩ Sketch of slots & micro SD card direction |

5. Connections



- (B) White 4P male for Camera 1.
- (C) Blue 4P male for Camera 2.
- (D) Green 4P male for Camera 3.
- (E) Brown 4P male for Camera 4.

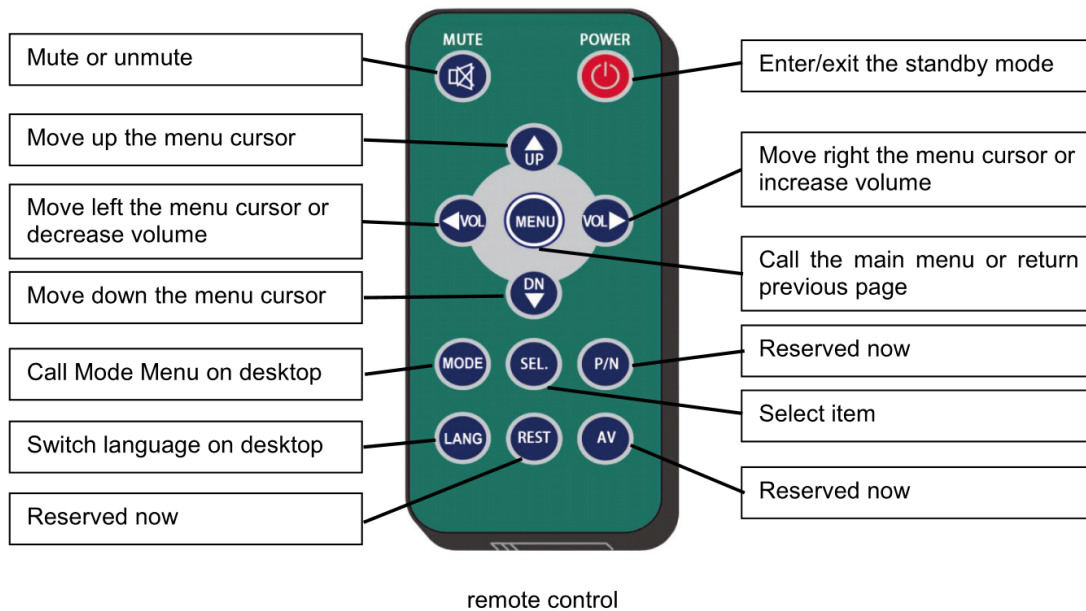
- (1) Single white wire to positive power wire of Camera 1.
- (2) Single blue wire to positive power wire of Camera 2.
- (3) Single green wire to positive power wire of Camera 3.
- (4) Single brown wire to positive power wire of Camera 4.
- (5) Single yellow wire to positive power wire of Camera Split.
- (6) Single orange wire to vehicle ACC.
- (7) Single black wire to GND.
- (8) Single red wire to power wire of DC: 10-32V.



IMPORTANT

The MT019 power harness is designed so it is necessary that the ACC and VCC accessory and Bat+ wires are to be separated and not combined during installation.

6. Menu Operation

6.1 IR Remote Control

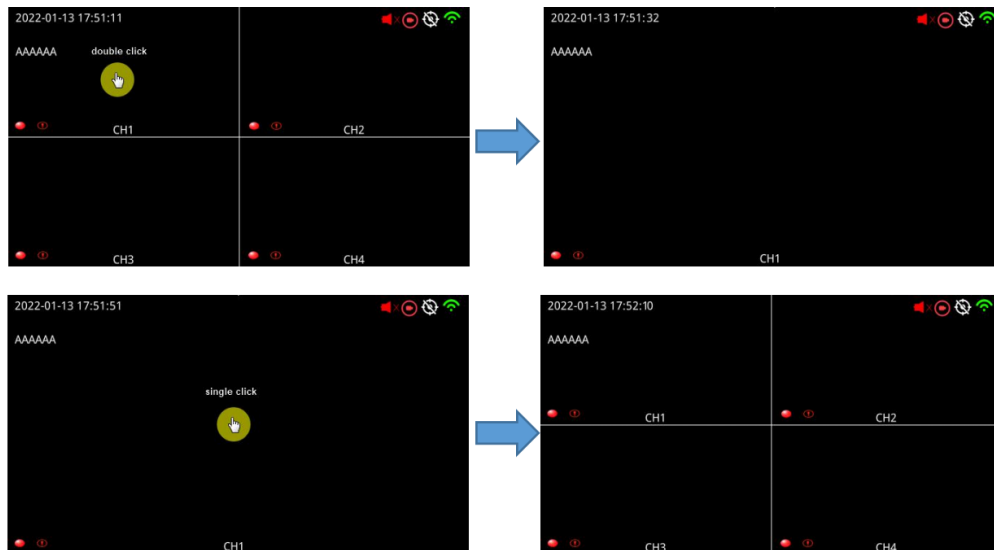


- **MUTE:**
Mute or unmute the monitor.
- **Power:**
Enter or exit the standby mode.
- **VOL  :**
Open the volume adjustment menu;
Move right the menu cursor.
- **VOL  :**
Open the volume adjustment menu;
Move left the menu cursor.
- **UP:**
Move up the menu cursor.
- **DOWN:**
Move down the menu cursor.
- **MENU:**
Call the main menu or return previous page.

- **MODE:**
Call Mode Menu on desktop.
- **LANG:**
Switch to different languages on desktop.
- **SEL.:**
Select item.

6.2 Touch Screen Function

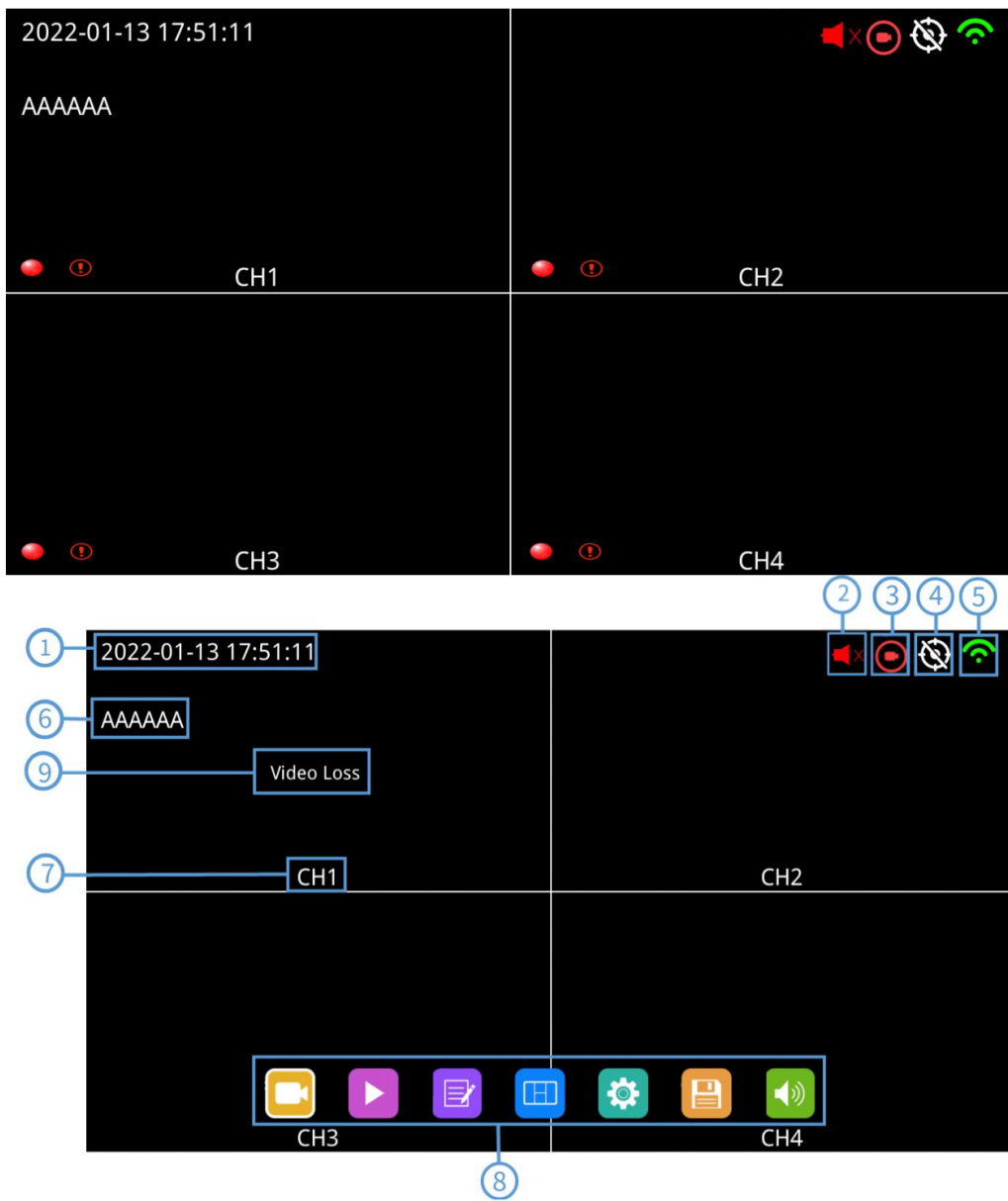
When the display shows a split mode and hides the menu, double clicking on one channel will switch to the single screen of that channel. Click again to return to the original split screen. Other menu operation please refer to the corresponding sections.



7. Menu

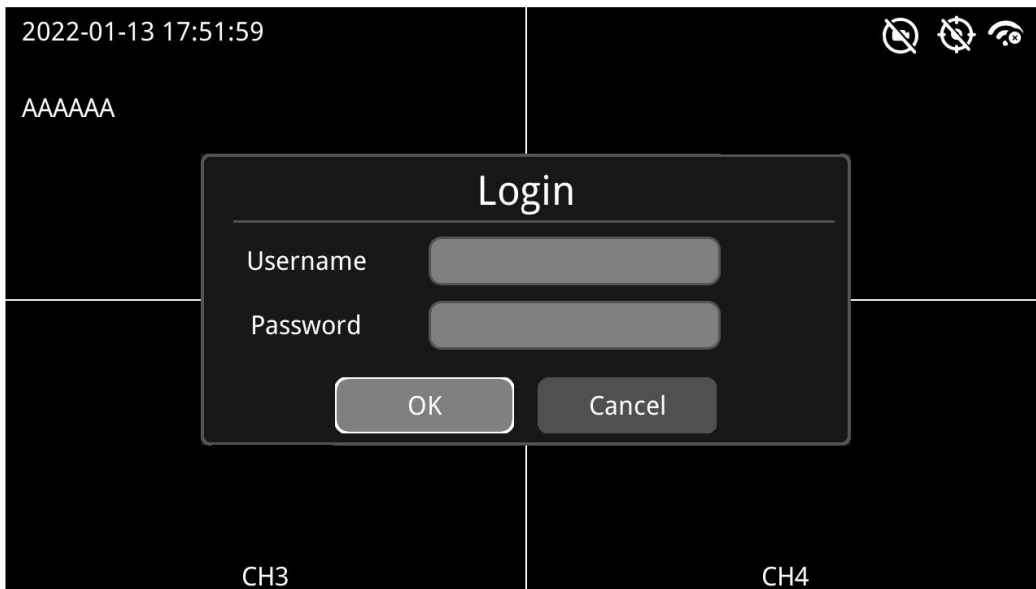
7.1 Menu Introduction

Before logging in, press the [MENU] button on the remote control or click on the bottom area of the touch screen, and the LCD screen will display the menu interface. To access the detail contents of the menu, we need to log in first. After logging in, you will have access to all configurations.



- ① System time
- ② Mute icon (appears when device is muted)
- ③ Record icon
- ④ GPS signal icon: flickering when connecting, long lit when connected
- ⑤ WLAN icon
- ⑥ License plate number
- ⑦ Channel name
- ⑧ Menu zone: Click to show the menu icon
- ⑨ Video loss warning

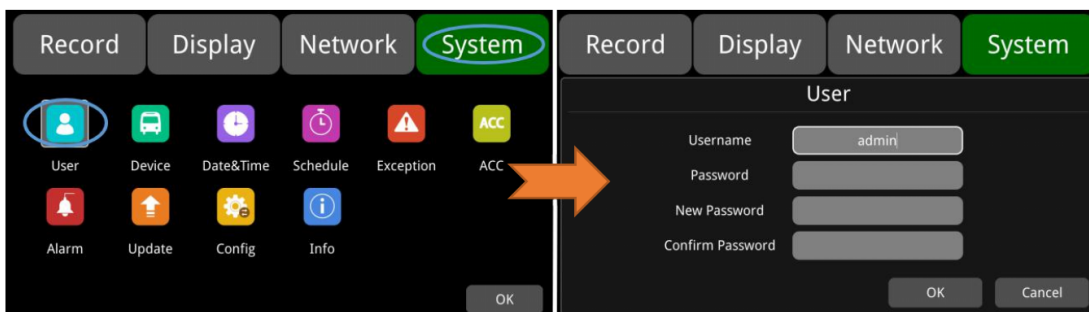
7.2 Menu Lock



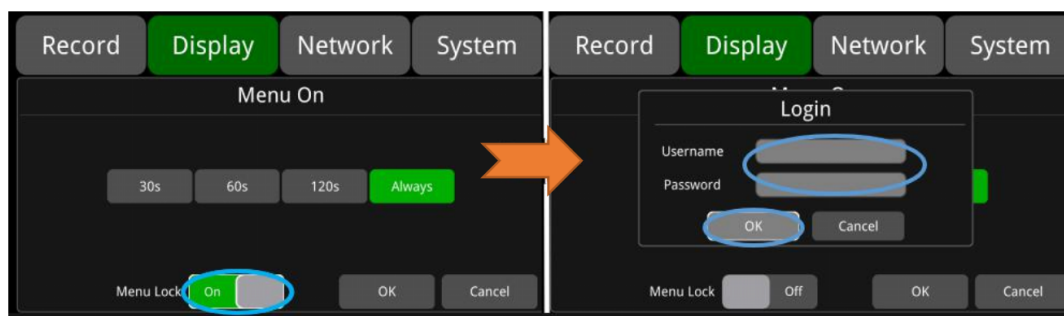
- Two types of menu access: administrator access and guest access
- User permission list

	Administrator	Guest
Username	admin	guest
Default password	123	321
Menu access	all	Only play menu, display mode menu and volume menu

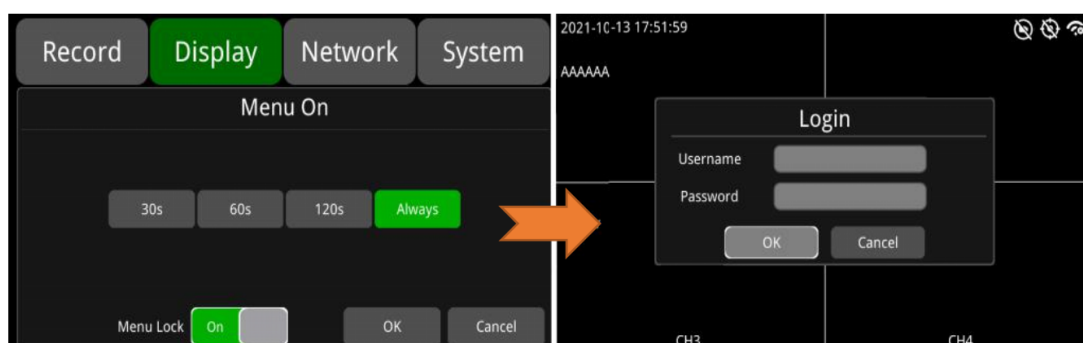
- Username cannot be changed, but the password can be changed. Guests do not have access to the settings menu, so password changing is not available. (For changing passwords, please refer to the following instructions)



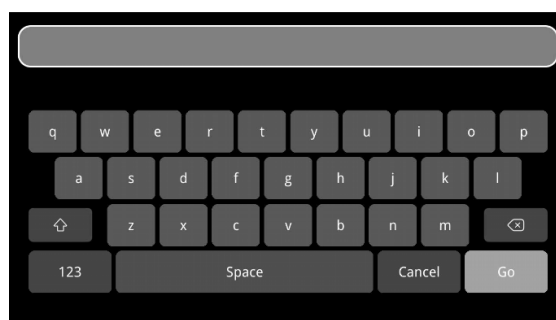
- Username admin and password are required to change the menu lock status. Below figure shows how to change the menu lock status from “on” to “off”.



- When the menu lock status is “on”, we need to enter the username admin and password to access the “Record”, “Play”, “Log”, “Settings”, “Disk” and other menus. Username guest and password will only allow access to the “Play” menu. “Layer switching” and “volume adjustment” are open without the need to input any information. When the menu lock status is “off”, no username and password are needed to enter all menu setting.



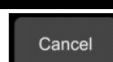
7.3 Keyboard Instruction



: Uppercase /lowercase Switch



: Exit after saving configuration



: Exit without saving configuration



: Delete input characters



: Switch to numbers

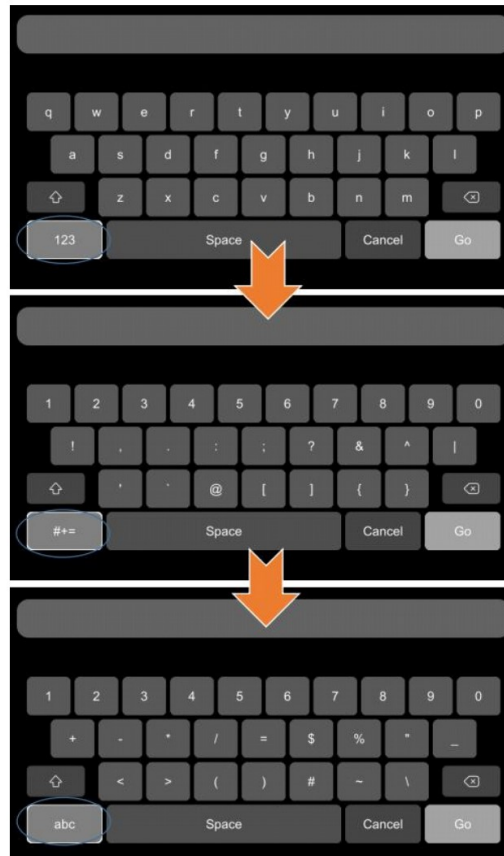


: Switch to English

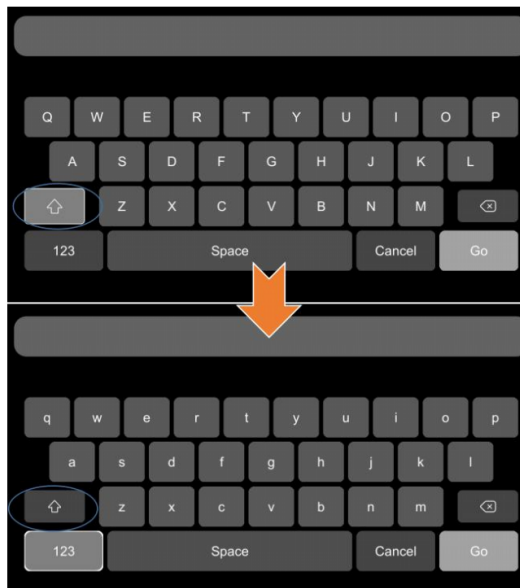


: Switch to special characters

Character Switching:



Uppercase /lowercase switch:



7.4 Manual Recording



Record button: Click this button, or select it and then press the SEL button to close or open the recording.

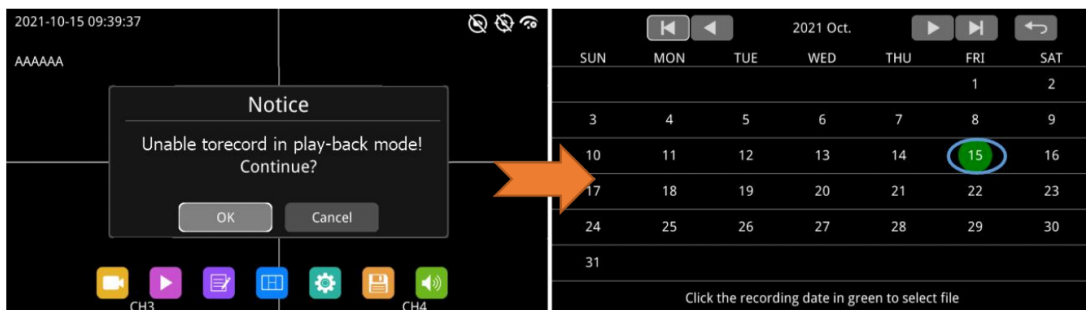
7.5 Video Playback

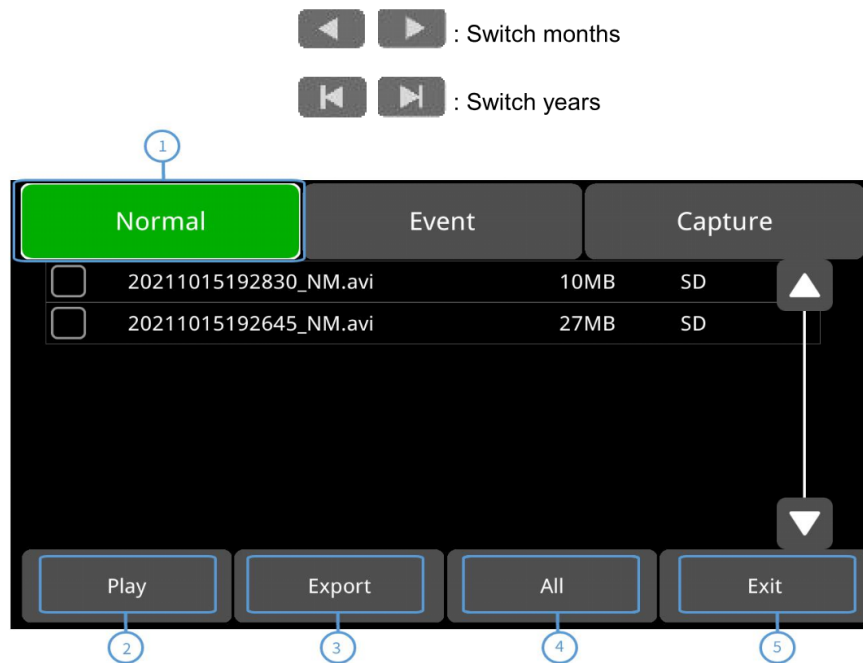


Video playback button: Click this button, or select it and press the SEL button. The system will enter the recording calendar. The prompt dialog box will display "Unable to record in play-back mode! Continue?". Press "OK" to proceed.

If the date in the calendar interface is marked green, it means that it has the recorded file saved that day. Press this icon to enter the video file list, select the video file you want to play, and then press the "Play" button. You can select one or several videos at the same time. Multiple videos can be played in sequence, and you can switch to the next or previous video. Specific operation is shown below.

● Calendar Interface



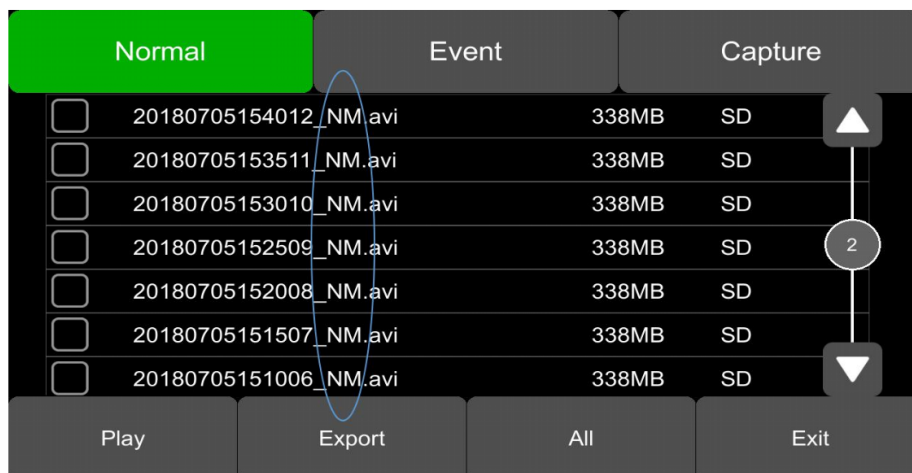


● Recording List Interface (1)

- ① Select the recording type button. Two recording types: normal and event. Capture is currently not supported
- ② Play: Play selected video file
- ③ Export: export the selected video file to USB (currently not supported)
- ④ All: select all files on that page
- ⑤ Exit: Exit

● Recording List Interface (2)

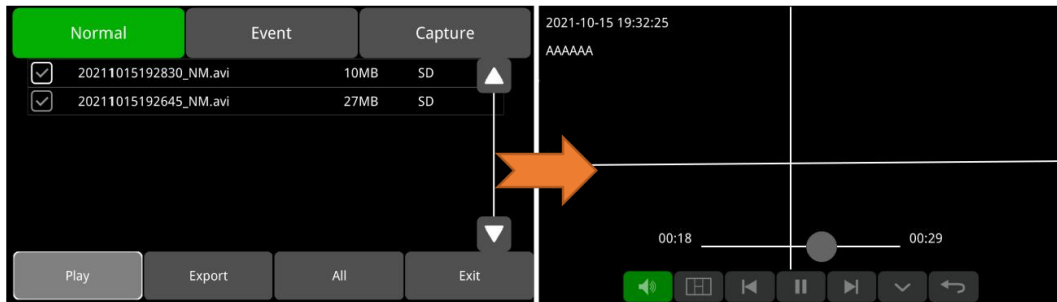
The file name contains abbreviation for the recording type, which can help identify the recording type.





Abbreviations for recording types are as follows:



NM	Normal recording /manual recording	T1	Timer recording
GS	G-Sensor alarm recording (simple mode)	SP	Overspeed alarm recording (speed source is GPS)
A1	Alarm 1 recording	A2	Alarm 2 recording
A3	Alarm 3 recording	A4	Alarm 4 recording
A5	Alarm 5 recording		


● Playback Interface





 : Volume adjust button

 : Click the video playback split mode button to switch the split screen to single screen or single screen to segmentation mode

  : Play the previous or the next video

 : Pause or resume playback

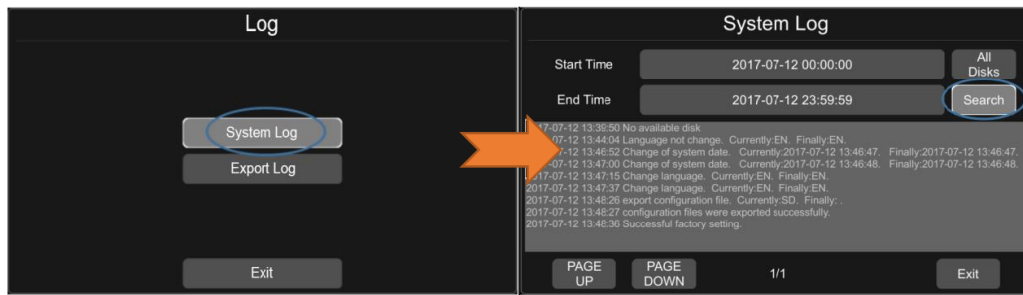
 : Click to hide or show the playback menu

 : Exit playback

7.6 Log



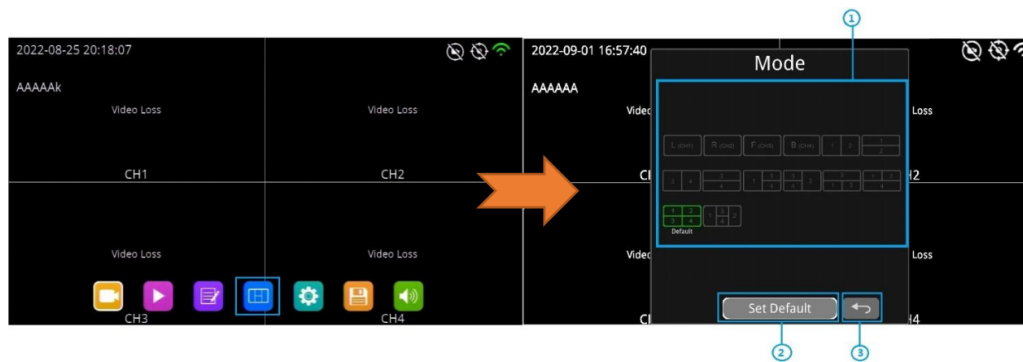
System log button: Click this button, or select it and press SEL to enter the log interface to query or export system logs.



7.7 Display Mode Switch



Display mode button: Click this button, or select it and press the SEL button to enter display mode switching interface.

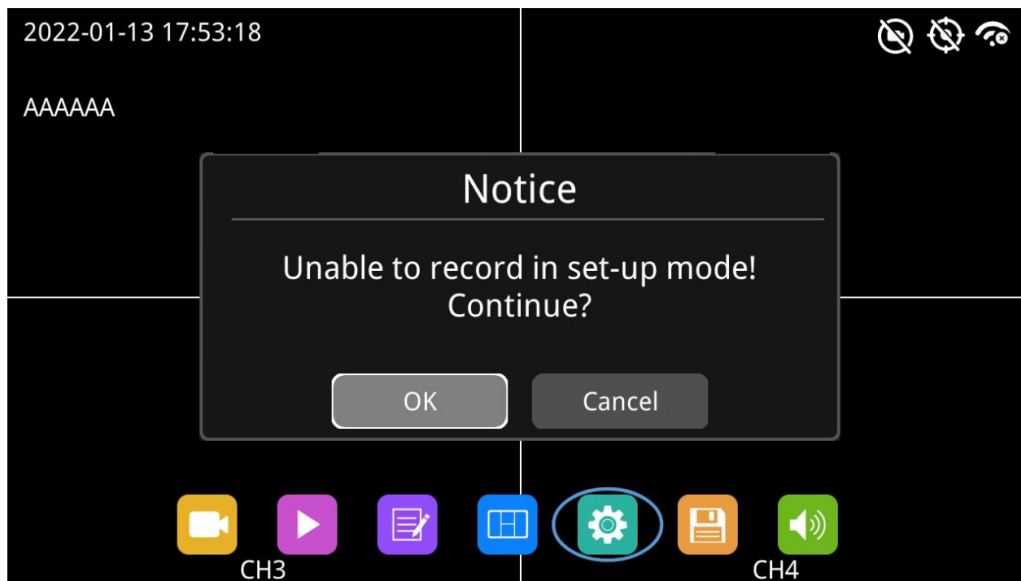


- ① Mode selecting
- ② Press this button to set the currently selected mode to the default mode
- ③ Click to exit

7.8 System Setting



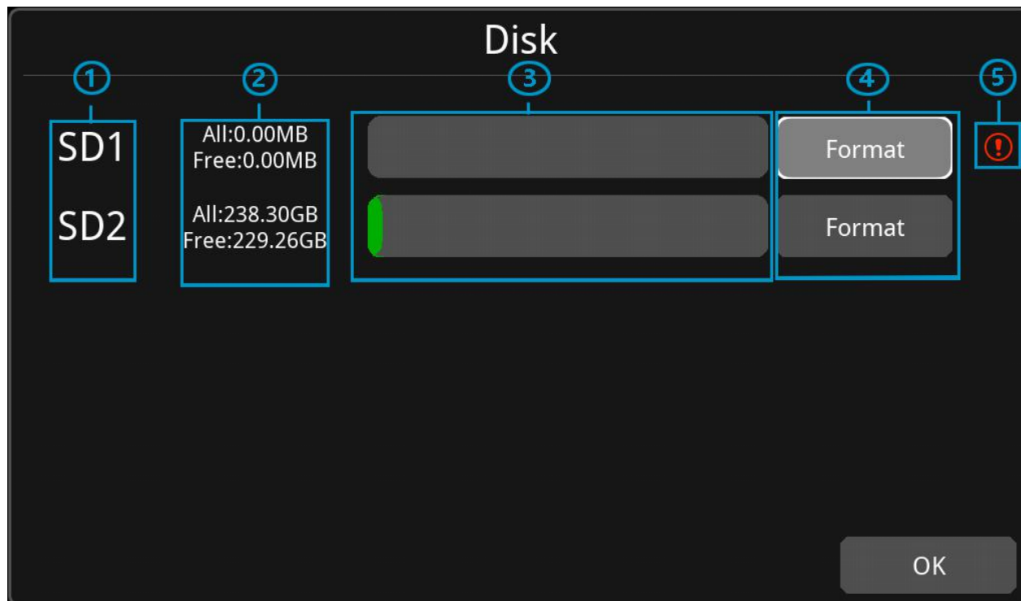
System settings button: Click this button, or select it and press the SEL button to enter the settings menu. The prompt dialog box will display “Unable to record in set-up mode! Continue?”. Press “OK” to enter.



7.9 Disk Management



Disk management button: Click this button, or select it and press the SEL button to view the status of the storage device.
If no storage device is inserted, a prompt of “No Disk Available” will appear.

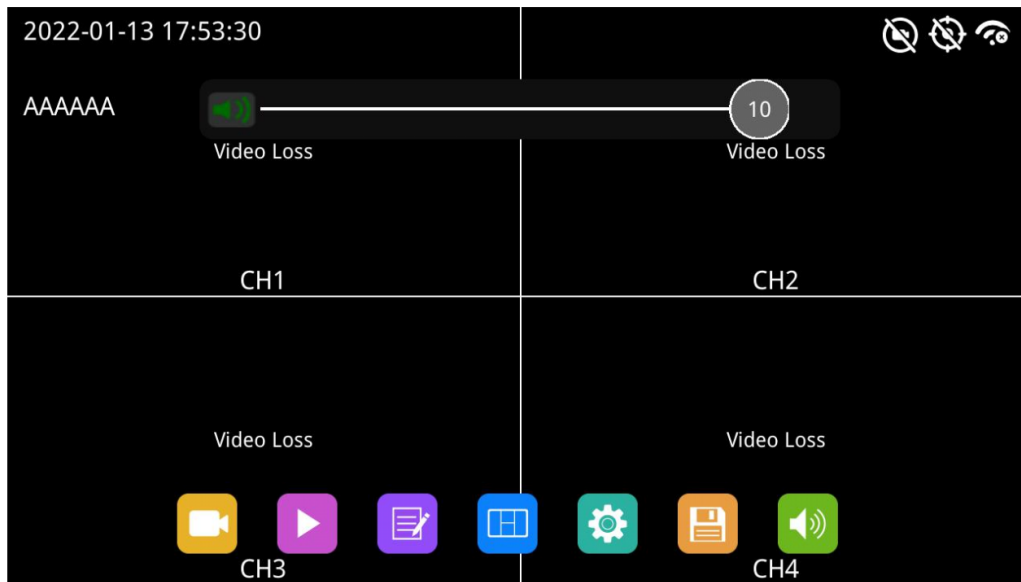


- ① Disk type
- ② Disk capacity
 - All: Total capacity of the storage device
 - Free: The rest available storage
 - If all displays 0.00MB, it means that the monitor cannot access such disks
- ③ Disk capacity bar
 - Green displays the size of all recording files in the “normal” list.
 - Yellow displays the size of all other files except for the above ones.
- ④ Press this button to format the SD card
 - The prompt dialog box will display “SD1 card data will be deleted! Continue?”. Press “OK” to start formatting the disk.
 - If the disk cannot be formatted, please check if it is damaged.
- ⑤ This indicates that the disk need to be formatted before use.
 - Normally, all new disks need to be formatted before use.

7.10 Volume



Volume Adjustment: On a scale of 0-10, default as 10.



Function	Min.	Max.	Default
Volume	0	10	10

8. Record Setting

Record	Display	Network	System
Power On Rec.	<input checked="" type="checkbox"/>	Event Duration	5s 10s 15s
Cyclic Rec.	<input checked="" type="checkbox"/>	File Length	5 min 10 min 15 min
Event Rec.	Setup	G-Force Sensitivity	Off Low High
Video Quality	Setup	File Type	AVI MSV
Record Channel	Setup	Record Audio	Setup
OK			

8.1 Power-on Recording

Power On Rec.	<input checked="" type="checkbox"/>
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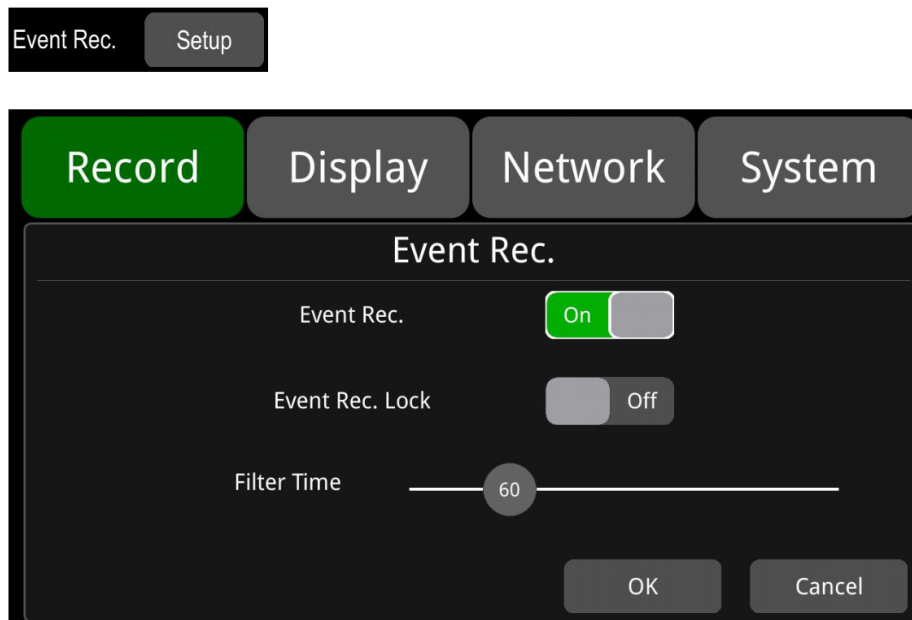
Power-on recording: If this option is set on, the system will start recording after powering on, and this function is set on by default.

8.2 Cyclic Recording

Cyclic Rec.	<input checked="" type="checkbox"/>
-------------	-------------------------------------

Cyclic recording: If cyclic recording is set on, the new video file will overwrite the previous video files when the disk is full. Otherwise, recording will stop when the disk is full. This function is on by default and will soon overwrite recording files.

8.3 Event Recording



Event recording: Types of event recording include acceleration sensor triggered alarms and 1-5 triggered alarms. If event recording is on and the alarm parameters are set, the event recording will be triggered when the above event occur. If event recording is off, even if the event occurs, it will not trigger event recording. This feature is set on by default.

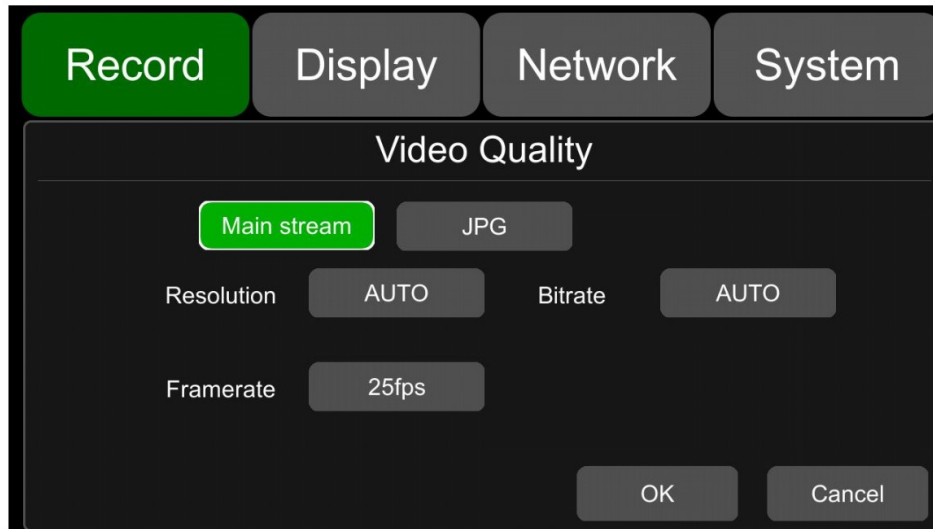
Event recording lock: When it is off, and when 20% of the disk storage is used by event recording, the new event recording will start overwriting the earliest recording file. When set on, recording overwrite will only cover normal recordings, not event recordings. Default setting is off.

Filter time: Time filtering. As shown in the figure above, if the same alarm is triggered continuously, an alarm message is generated every 60 seconds, and every 60 seconds will there be a detection to confirm whether new alarm recording is generated. The minimum filtering time is 1 second, maximum 300 seconds. Default value is 60 seconds.

8.4 Video Quality



Main stream is for video storage, while JPG is for WLAN streaming.



Default settings of Main stream and JPG are as follows:

	Main stream	JPG
Resolution	AUTO	none
Bitrate	AUTO	none
Framerate	25fps	Low

① Five resolution options available for main stream: 1080P, 720P, D1(PAL), D1(NTSC), AUTO.

The higher the resolution, the better the video quality, and the larger the video file. All factors should be considered during configuration.

In the "Resolution" option, "AUTO" is defined as follows:

	Main stream
AUTO	The monitor will identify camera format and record videos of that format

② There are 8 levels of bitrate available in the mainstream menu: 4Mbps, 2Mbps, 1Mbps, 512Kbps, 256Kbps, 128Kbps, 64Kbps, **AUTO**. The higher the bitrate, the clearer the image, and the larger the recording files. All factors should be considered during configuration.

In the “Bitrate” option, “AUTO” is defined as follows:

	Main stream
AUTO	If a 1080p camera is connected, the bitrate is 4Mbps. Likewise, 2Mbps for a 720p camera, 1Mbps for a d1 camera.

③ Framerate

There are 8 levels of framerate available in the mainstream menu: 30fps, 28fp, 25fps, 20fps, 15fps, 14fps, 10fps, 5fps. The higher the framerate, the smoother the image, and the larger the recording files. All factors should be considered during configuration.

SD capacity	Video Quality	File length
2TB	4 x 1080P / 4Mbps	≈298h
	4 x 720P / 2Mbps	≈596h
	4 x D1 / 1Mbps	≈1193h
	1 x 1080P / 4Mbps	≈2387h
	1 x 720P / 2Mbps	≈2400h
	1 x D1 / 1Mbps	≈4772h
512GB	4 x 1080P / 4Mbps	≈75h
	4 x 720P / 2Mbps	≈149h
	4 x D1 / 1Mbps	≈298h
	1 x 1080P / 4Mbps	≈298h
	1 x 720P / 2Mbps	≈596h
	1 x D1 / 1Mbps	≈1193h

④ JPG

Four options for JPG framerate: Excellent, High, Mid, Low. Definitions are as follows:

Excellent	The speed at which images are uploaded to a webpage is unlimited (the fastest), thus rendering the smoothest image effect
High	Upload speed: 1s for 1 image
Medium	Upload speed: 3s for 1 image
Low	Upload speed: 5s for 1 image

8.5 Recording Channel



Select the recording channel. The selected channel will be recording the normal videos.

8.6 Event Duration

Default settings are as below:



When event recording is on, its file length can be set as 5s, 10s and 15s.

8.7 File Length

The default recording file length for AVI format is 5 minutes:



The length of AVI format video files can be set as 5 min, 10 min, and 15 min.

File format	File length
AVI	5 min, 10 min, 15 min

8.8 G-force Sensitivity



- The default configuration is shown above.
- G-Sensor recording and the setting of sensitivity level: When the acceleration or gyroscope of the G-Sensor reaches the preset sensitivity value, G-Sensor recording will be triggered. For this kind of event recording, the pre-record time will be set as 15s and the post-event time is configured by Event Duration above.
- Total video file length equals to the pre-recording file length (default time 15s) plus the file length, configured in Event Duration.
- If G-Sensor triggered recording is off, event recording will not be triggered. G-Sensor sensitivity can be set to two levels, low / high. G-Sensor triggered recording is on when low / high is selected. G-Sensor triggered recording is off when OFF is selected.

8.9 File Type



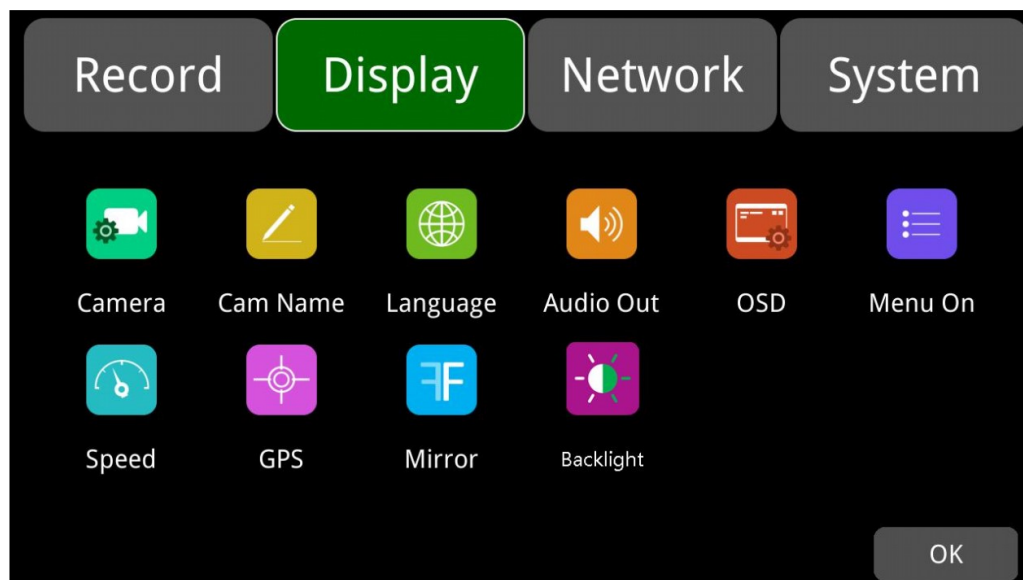
Set video format. Currently only AVI format is available.

8.10 Record Audio



Set the recording audio of the channel. When the recording channel is selected, the audio of the channel will be recorded in the recording file. If this channel is not selected, there is no audio in the recording of this channel.

9. Display

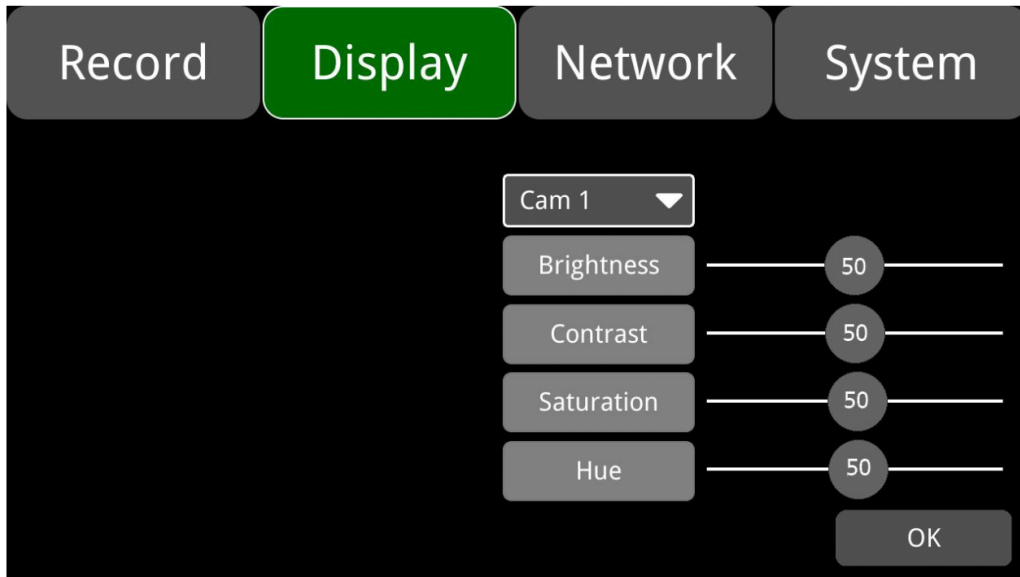


9.1 Camera Display Setting



Camera parameter setting for each corresponding channel includes brightness, contrast, saturation and hue. The default values of brightness, contrast, saturation and hue of all channels are shown in the figure below.

To change the value, drag the bar to left or right to decrease or increase.

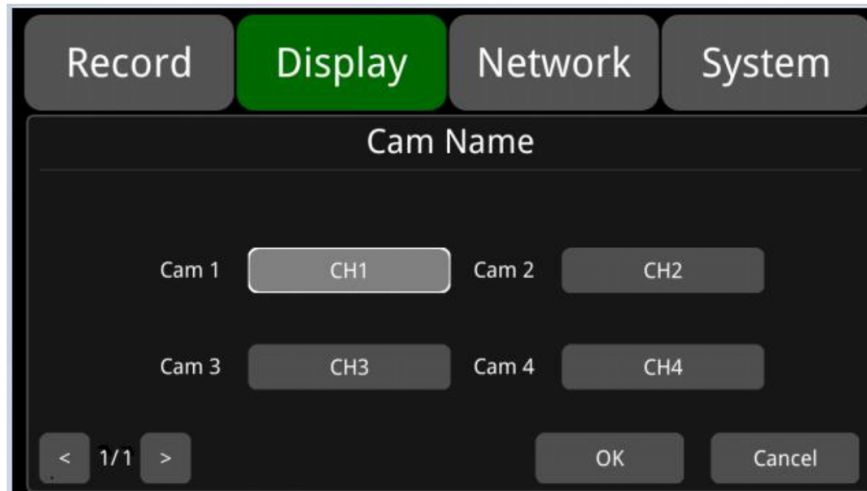


Camera Display	Min.	Max.	Default
Brightness	0	99	50
Contrast	0	99	50
Saturation	0	99	50
Hue	0	99	50

9.2 Camera Name Setting



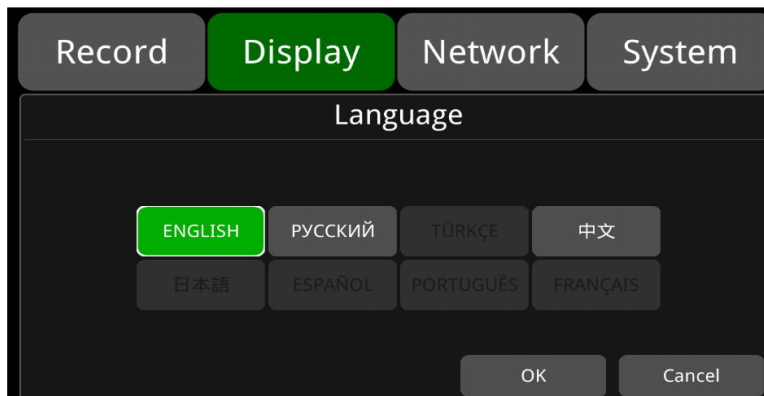
Camera Names are displayed at the bottom of each channel. Touch the "Display->Camera Name->Cam * " on the menu, a keyboard will pop up to input a new camera name. Maximum 8 characters can be entered and the camera name must NOT be blank. The default configuration is shown below.



9.3 System Language Setting



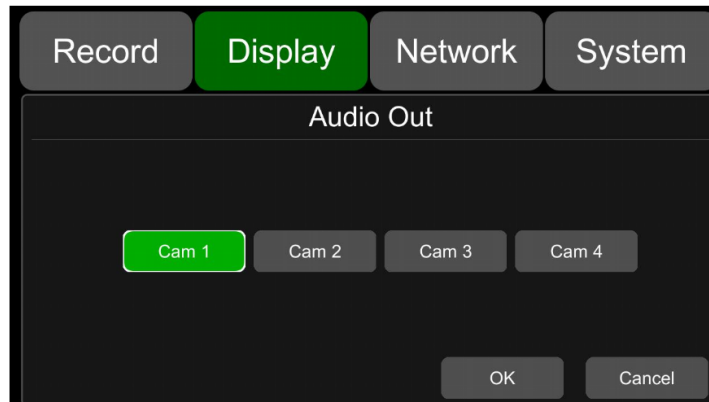
Menu languages: currently only English, Russian, Chinese are available. The default language is English.



9.4 Audio Out



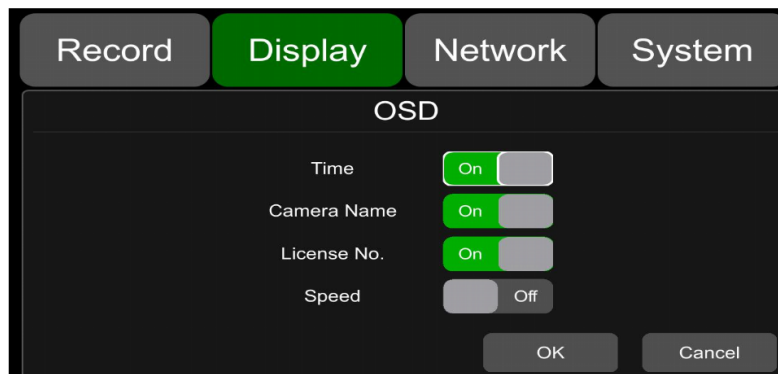
Audio out: Select the audio output channel in multi-display mode. The default configuration is shown below.



9.5 OSD Display



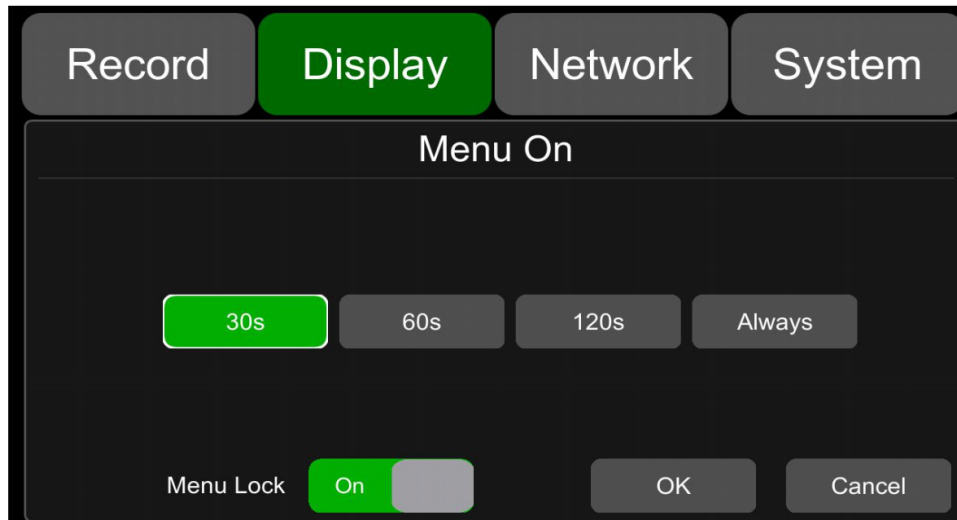
Time, Camera name, License number and Speed can be selected whether or not to be displayed. If selecting on, the information will be shown in the live and the playback video. The default configuration is shown below.



9.6 Menu on



Set the menu display duration. The default configuration is shown below.



Menu lock: Menu on duration can be set to 30s, 60s, 120s, and Always. When set to 30s, 60s, or 120s, that is, after opening the menu, if there is no operation in 30s, 60s, or 120s, the menu will be hidden. When it is set to always, the menu will always be open.

Please be noted that the recording will stop when menu is on. It is not suggested to set the duration to Always in order not to affect the recording.

Menu lock:

On: When it is On, permission is required to enter the menu

Off: When it is Off, no permission is required to enter the menu

Username “admin” and corresponding password are required if to change the status of the menu lock.

9.7 Speed



Speed setting: The overspeed info comes from GPS (Source). Speed unit is optional: Km/h or Mile/h; Overspeed threshold can be set by user. Duration is the overspeed alarm time. Speed means the current vehicle speed. If the Speed continues to exceed the Overspeed value for a time longer than Duration, the monitor will trigger an overspeed alarm recording.

The alarm switch is to set the over-speed alarm recording status. If it is ON, the overspeed alarm recording will be triggered when there is an overspeed event.

If it is OFF, the overspeed alarm recording will not be triggered.

The default configuration of each item is as follows.

Record
Display
Network
System

Speed

Source
GPS
Sensor

Unit
Km/h
Mile/h

Overspeed
120

Speed
GPS disconnect

Alarm
Off

Duration
0

OK
Cancel

Overspeed	Min.	Max.	Default
Km/h	0	200	120
Mile/h	0	125	75

9.8 GPS



GPS: When the GPS antenna is properly installed, the speed info will be recorded to the files. The menu provides GPS information including latitude, longitude, detectable satellites, and accessible satellites etc.

Record
Display
Network
System

GPS

Mode: connected
Used: 8
Visible: 13

Lat: 23.1224
Lon: 113.383
Alt: 29.2
Speed: 0.03
UTC: 2018-07-26 05:45:04

28 38 35 33 34 25 37 32 39
3 6 9 17 19 23 28 30 41 2 12 22 24

OK

Mode: GPS connection status

Used: the number of available satellites

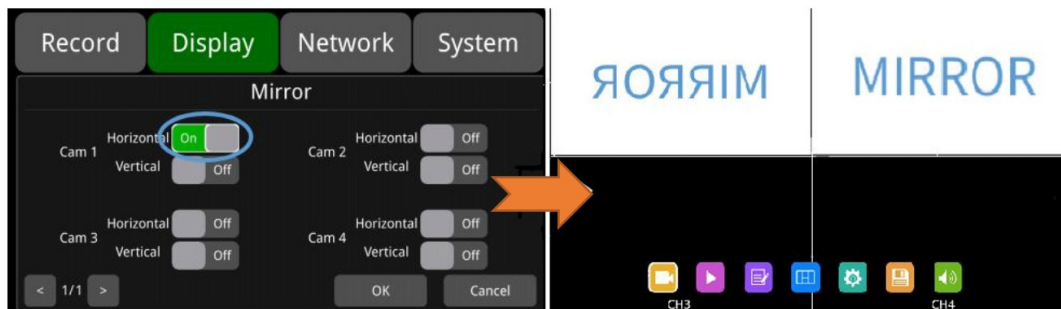
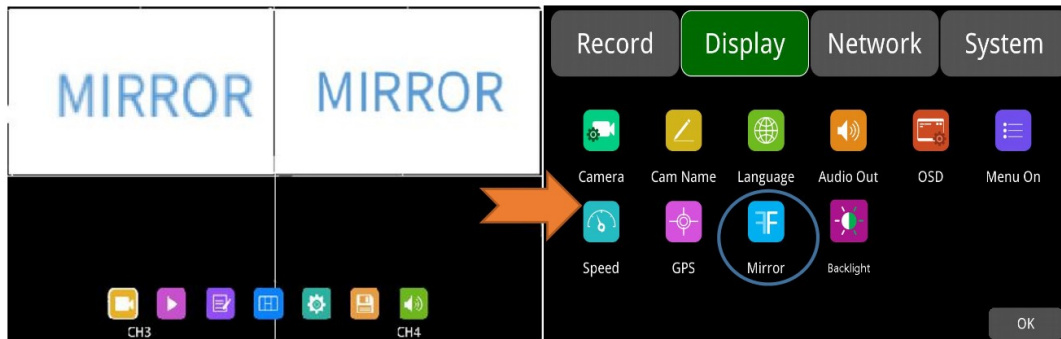
Visible: the number of searchable satellites

9.9 Mirror



Horizontal and vertical flips of all channels are turned off by default.

Horizontal: when it is set to ON, the corresponding recording channel will flip horizontally; when it is set to OFF, there will be no flip. Below are setting steps.



Vertical: when it is set to ON, the corresponding recording channel will flip vertically; when it is set to OFF, there will be no flip. Below are setting steps.

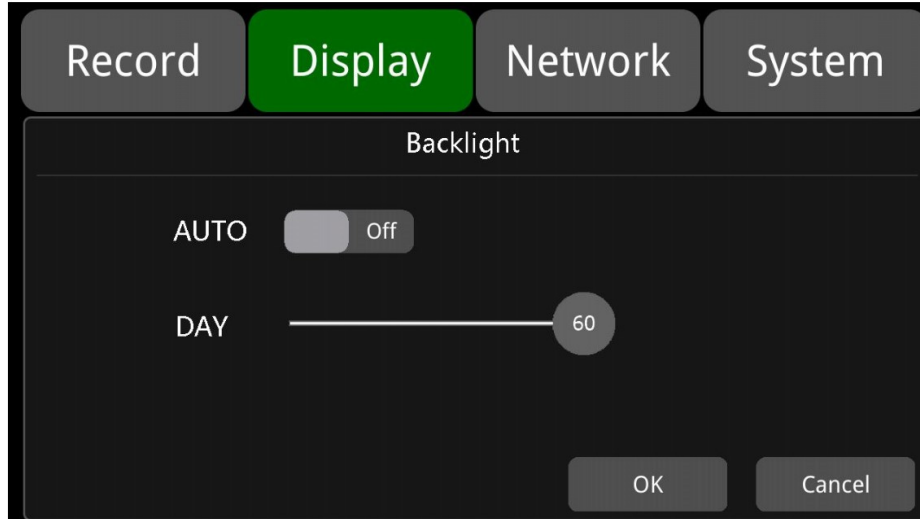


9.10 Backlight

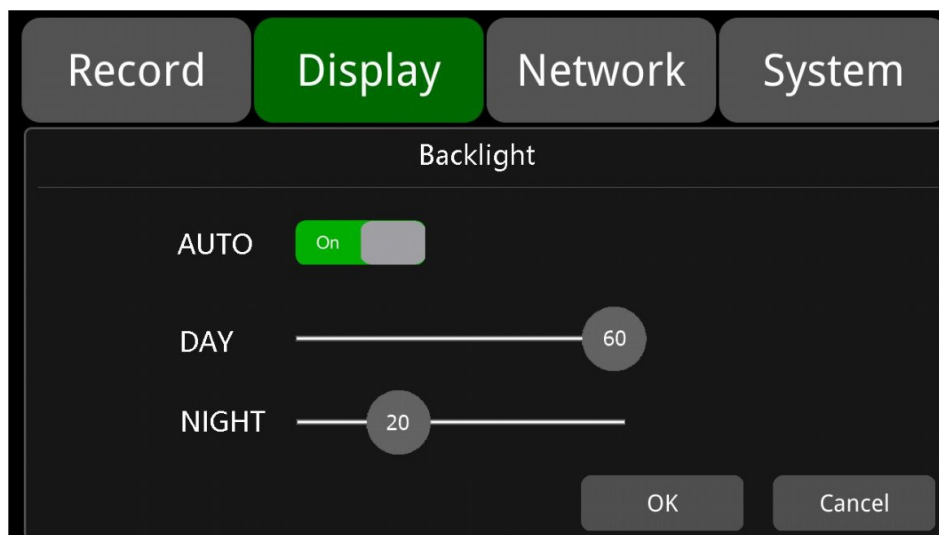


Backlight adjustment: Adjust monitor backlight brightness.

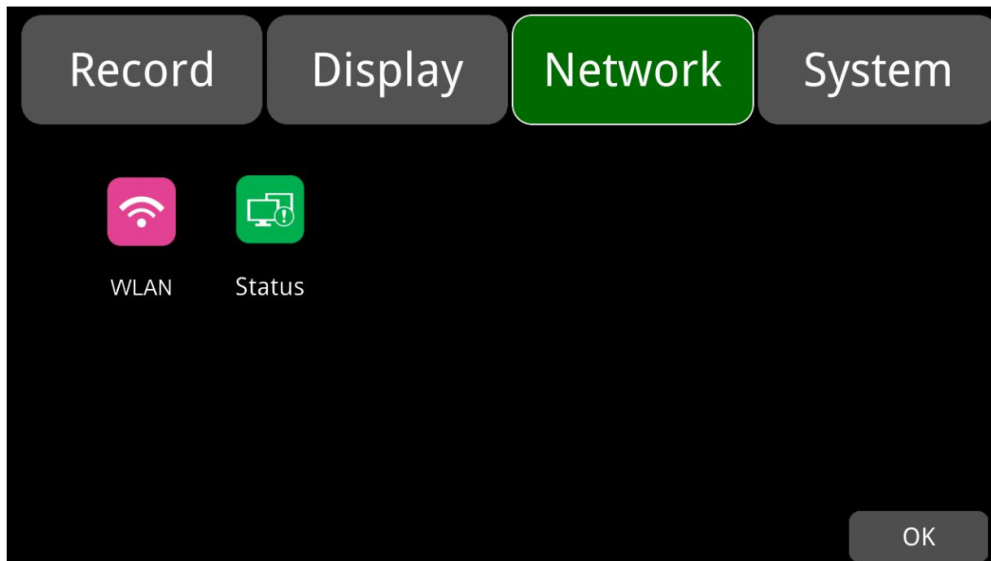
- When AUTO is set OFF, only DAY backlight can be adjusted.



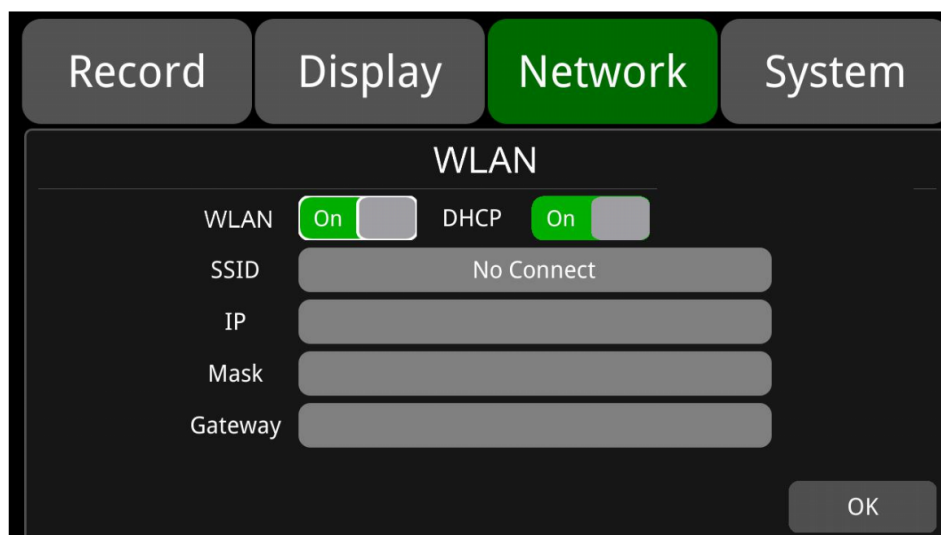
- When AUTO is set ON, both DAY and NIGHT backlight can be adjusted. The monitor will automatically adjust the backlight brightness based on the ambient light. When the environment is bright, the backlight of the monitor is set to DAY, and when it is dark, the backlight will be set to NIGHT.



10. Network



10.1 WLAN Network Setting



WLAN: ON/OFF status of WLAN

DHCP: Dynamic Host Configuration Protocol. Set On for dynamic IP and Off for static IP. Static IP requires input with IP address, mask and gateway.


SSID: Click to view the available WLAN networks. Click on WLAN network and input the correct password to connect to WLAN.

10.2 Network Status



Network status: Users can view information such as local wired network IP address, MAC address, WLAN network connection status, WLAN IP address, WLAN signal strength, etc.

In addition, users can verify whether the network connection is successful.

Record	Display	Network	System
LAN IP	192.168.31.111		
MAC	7e:97:15:d3:d3:1d		
WLAN	On		
RSSI			
IP	192.168.32.215		
Status	CONNECT SUCCESS		
<div>OK</div>			

LAN IP: Static IP or automatically obtained dynamic IP

MAC: Physical address

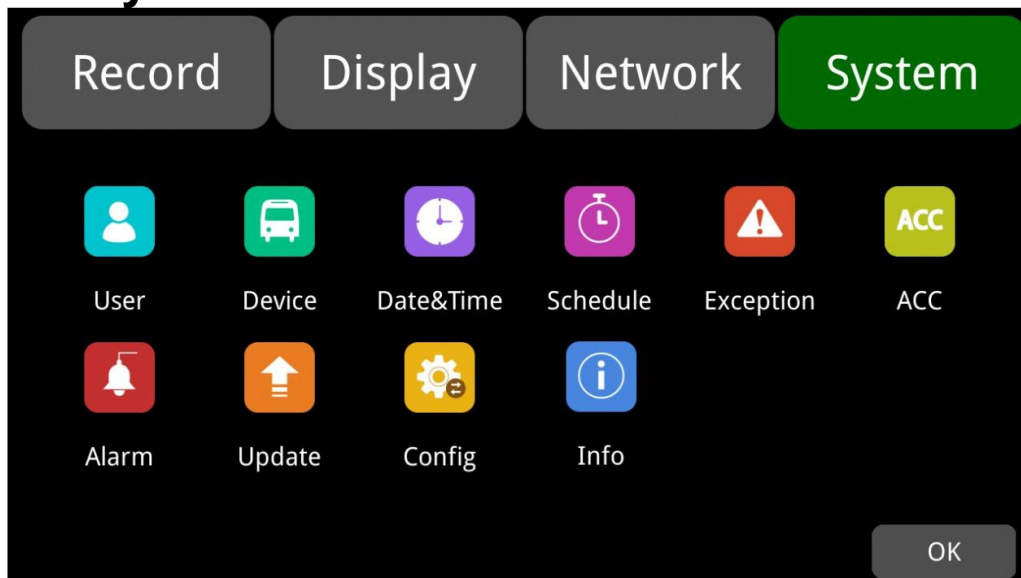
WLAN: WLAN ON/OFF status

WLAN RSSI: WLAN signal strength

WLAN IP: WLAN IP address

WLAN Status: WLAN connection status

11. System



11.1 Log in setting



Set user name and password for entering the menu. The initial password is 123.

The screenshot shows a 'User' settings dialog box. At the top, there is a title bar with the word 'User'. Below the title bar, there are four input fields arranged vertically. The first field is labeled 'Username' and contains the text 'admin'. The second field is labeled 'Password' and is empty. The third field is labeled 'New Password' and is empty. The fourth field is labeled 'Confirm Password' and is empty. At the bottom right of the dialog, there are two buttons: 'OK' and 'Cancel'.

11.2 License Plate Number



License No.: Input license plate number. Default setting is as below.

Record

Display

Network

System

Device

License No.

OK

Cancel

11.3 System Time



Format Setup: system time format setup.

Record

Display

Network

System

Dates&Time

Date	Year	Month	Day	1	2	3
	2018	06	21	4	5	6
Time	Hour	Minute	Second	7	8	9
	11	17	38	0	Del	
Format	Setup	Time Sync	Setup			
DST	Setup					

OK

Cancel

The screenshot shows the 'Format' configuration screen. At the top, there are four tabs: 'Record', 'Display', 'Network', and 'System' (highlighted in green). Below the tabs, the title 'Format' is centered. The settings are as follows:

- Time Zone:** A dropdown menu showing 'UTC'.
- Date Format:** Two buttons: 'YYYYMMDD' (highlighted in green) and 'MMDDYYYY'.
- 24 Hour:** A toggle switch set to 'On'.
- Hour:** A numeric input field with a slider, showing '8'.
- Minute:** A numeric input field with a slider, showing '0'.
- Buttons:** 'OK' and 'Cancel' at the bottom right.

Numbered callouts (1-5) point to the Time Zone, Date Format, 24 Hour, Hour, and Minute settings respectively.

"Format" default configuration are shown above.
Go to "System -> Date & Time -> Format -> Setup" page.

- ① **Time Zone:** Time zone setting.
- ② **Date Format:** Date format setting.
- ③ **24 Hour:** If it is ON, time will be displayed in 24-hour format. If OFF, 12-hour format.
- ④ & ⑤ **Hour & Minute:** Time zone setting is accurate to minute.

Hour & Minute	Min.	Max.	Default
Hour	-12	14	8
Minute	0	59	0

The screenshot shows the 'Time Sync' configuration screen. At the top, there are four tabs: 'Record', 'Display', 'Network', and 'System' (highlighted in green). Below the tabs, the title 'Time Sync' is centered. The settings are as follows:

- GPS:** A toggle switch set to 'On'.
- NTP:** A toggle switch set to 'On'.
- NTP Server:** A text input field containing 'time.windows.com'.
- Buttons:** 'OK' and 'Cancel' at the bottom right.

Numbered callouts (1-3) point to the GPS, NTP, and NTP Server settings respectively.

"Time Sync" default configuration is as shown above.

Time Sync Setup:

Go to “System -> Date &Time ->Time Sync->Setup” page.

- ① **GPS**: Set GPS to ON/OFF.
- ② **NTP**: Set NTP to ON/OFF.
- ③ **NTP Server**: Show the URL of the NTP Server.

Application scene	Usage
GPS: OFF and NTP: OFF	Set the time zone and daylight saving time (DST) first, then set the date and time
GPS: ON or NTP: ON	Time zone and daylight saving time (DST) must be set, no need to set date and time

Note: when “Time Sync” -> “GPS” or “Time Sync” -> “NTP” is ON, the time zone and daylight saving time must be set; if the time zone is not set, GPS and NTP will change the system time to the default East 8 zone time, which might cause incorrect device time.

“DST” default configuration as shown above.

Go to “System -> Date &Time -> DST-Setup” page.

- ① **Enable**: Set DST setting to ON/OFF.
- ② **Offset**: Adjust the offset after enabling DST.
- ③ **Mode**: Select the mode of DST (setup DST according to week or date).
- ④ **Start time**: Set start time of DST.
- ⑤ **End time**: Set end time of DST.

11.4 Scheduled Recording



	Enable	Start	End	Weekday
Schedule 1	<input type="checkbox"/> Off	00:00	01:40	Setup
Schedule 2	<input type="checkbox"/> Off	00:00	01:40	Setup
Schedule 3	<input type="checkbox"/> Off	00:00	01:40	Setup
Schedule 4	<input type="checkbox"/> Off	00:00	01:40	Setup

OK Cancel

The default configuration is shown above.

Enable: Set scheduled recording ON/OFF.

Start: Set start time of scheduled recording.

End: Set end time of scheduled recording.

Weekday: Set scheduled recording by weekdays. Select the weekdays to schedule recording.

Scheduled Recording:

- Support up to four appointed tasks. The recording duration is counted in minutes.
- Recording time can overlap.
- The start time of scheduled recording must be set ahead of the end time.

11.5 Exception

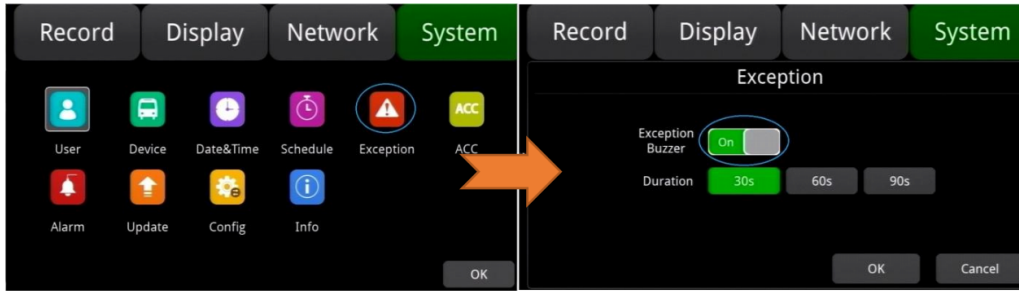


It can be set to examine the recording status of the monitor.

If the monitor does not generate normal recording videos, the buzzer will issue an alarm. For stopping the alarm, please check whether the monitor is recording.

Buzzer alarm function works as below.

- The buzzer will beep long, for all types of recordings except for the trigger ones.
- If the buzzer alarm is not required, users can enter the “System” -> “Exception” page and set the buzzer from “ON” to “OFF”. Please note that if the buzzer is set to OFF, it will not sound if there is no normal recording. But this function does not affect triggered event recording.

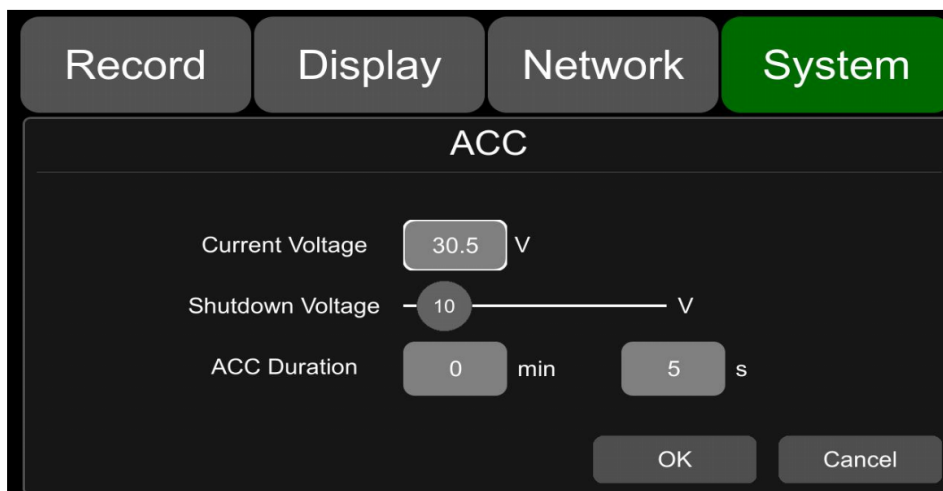


Different beep modes represent different working states, as shown below:

If the buzzer beeps intermittently, it indicates that the monitor is not recording.

- (1) Without SD card: one long beep+ two short beeps;
- (2) SD card file system bug: one long beep+ three short beeps;
- (3) When the SD card is normal, the recording file is full, and the recording overlay is not opened: two short beeps+ one short beep;
- (4) No camera input: two short beeps+ two short beeps;
- (5) When the SD card is normal but the monitor is not recording: two short beeps+ three short beeps.

11.6 ACC



The default configuration of “Shutdown Voltage” and “ACC Duration” is shown above.

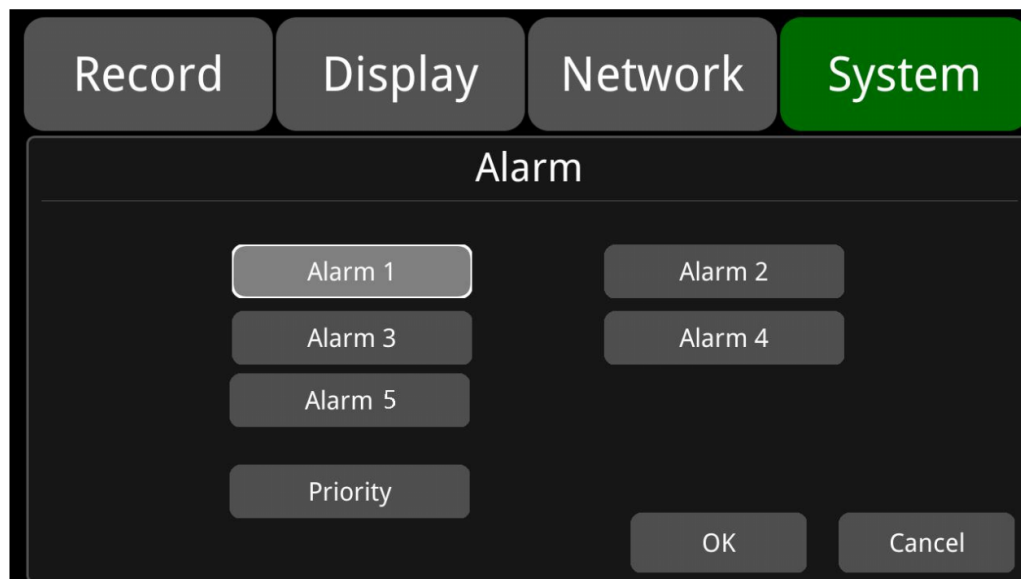
Current voltage: Working voltage of the monitor.

Shutdown voltage: When the current or voltage is lower than the shutdown voltage, the device will shut down automatically.

ACC Duration: The device will continue recording for some time after ACC is disconnected. ACC duration can be set to 5s to 60 min.

ACC	Min.	Max	Default
Shutdown Voltage(V)	9	24	10
ACC Duration(s)	5	3600	5

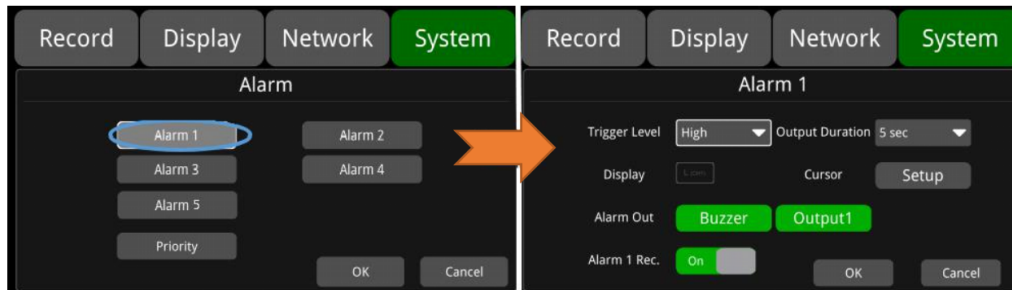
11.7 Alarm



Alarm 1~ Alarm 5: Customized alarm recording.

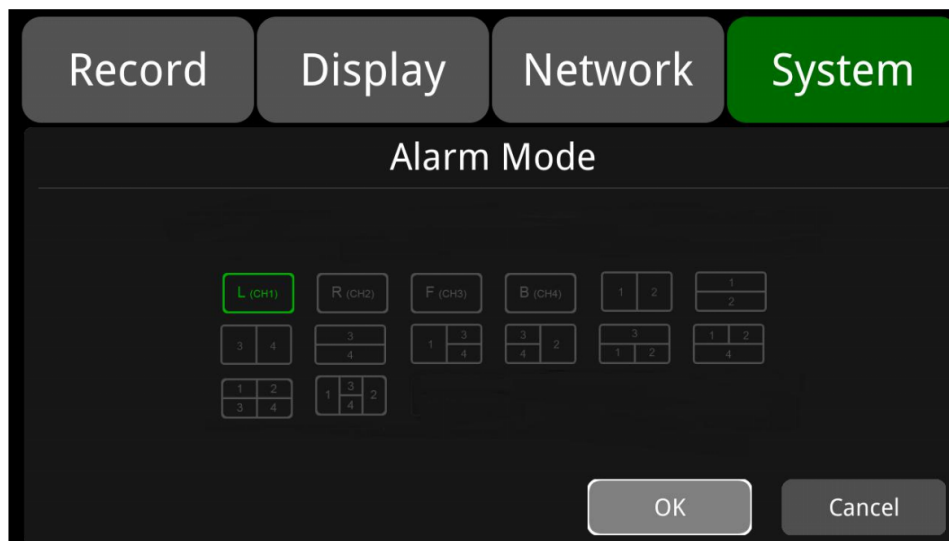
Priority: Set priorities for Alarm 1 to Alarm 5.

When different types of alarm are triggered at the same time, alarms with the highest priority will work first.

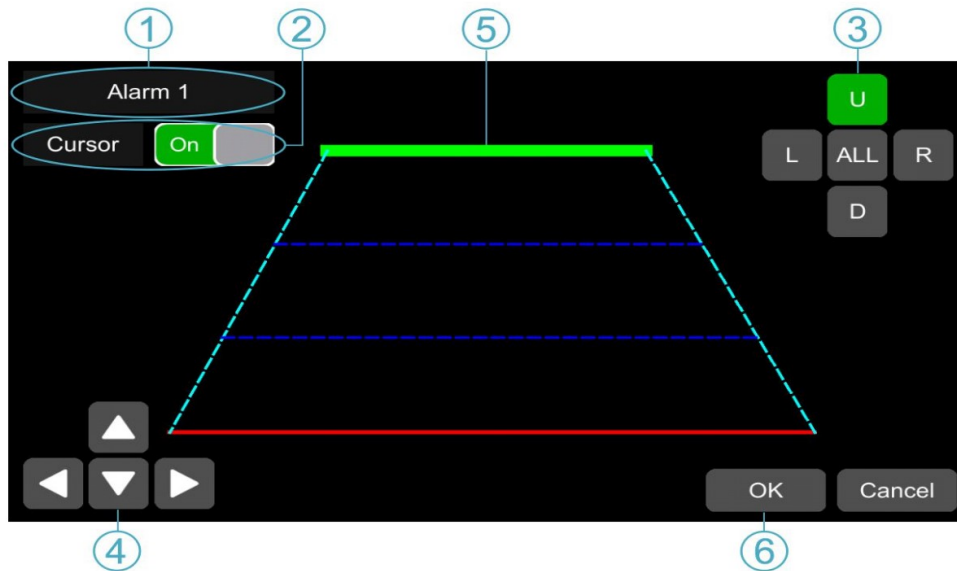


“Alarm 1” default configuration are shown above.

- **Trigger Level:** There are 3 options of Trigger Level. The options “Low” and “High” are for turning on alarm function. “Low” is generally used for debugging while “High” is set to enable alarm function for on-road use. “Off” is to disable trigger alarm function.
- **Output Duration:** “Display” “Cursor” “Alarm Out” effect duration. Output Duration time is optional: 0s, 5s, 10s, 30s, 60s, 5min, 10min, 30min, 60min, Always.
- **Alarm Out-Buzzer:** Switch ON or OFF of the Alarm Out-Buzzer. Alarm time is 5 seconds by default.
- **Alarm Out-Output1:** When it is set ON, then 12V level output would come from the alarm wire of Output 1.
- **Alarm 1 Rec.:** Alarm 1 event recording switch, the recording duration is set in [System] -> [Record] -> [Event Duration].
- **Display:** When the alarm is triggered, the selected split mode will be displayed; the available split modes are shown in the figure below.

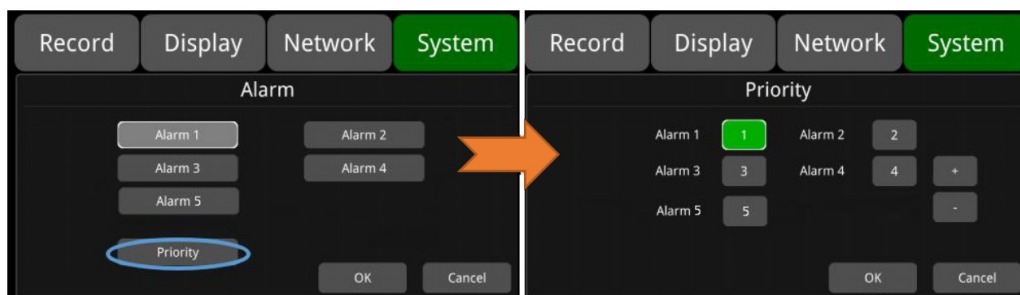


- **Cursor :** It is “OFF” by default. The picture below shows the “On” state.



- ① Alarm type.
- ② Touch to turn on/off the cursor.
- ③ Line selecting: Line U (up), Line D (down), Line L (left), Line R (right) and ALL. Green means being selected. Remote control operation is available.
- ④ Click the 4 directions (Up, Down, Left and Right) to adjust the shape of the cursor.
The movements only affect the selected lines.
- ⑤ Lines of cursor: The selected line will thicken for threefold. The two lines in the middle will not.
- ⑥ Touch “OK” to save the settings and exit. Cancel to exit without saving any settings.

● **Priority:** The default configuration is shown below.



: Touch to decrease trigger priority. The bigger the value, the lower the priority.



: Touch to increase trigger priority. The smaller the value, the higher the priority.

- Alarms with higher priority will be triggered first.
- 1 stands for the highest priority, and 5 the lowest.

- If two alarms A and B are triggered at the same time, and A's priority is higher than B's, then A will be recorded first. After A finishes the recording, if B is still being triggered, B will be recorded then. If B is no longer being triggered, it will not be recorded.
- If alarm B is triggered and recorded, and then alarm A, whose priority is higher than B is triggered, alarm B recording will not stop.

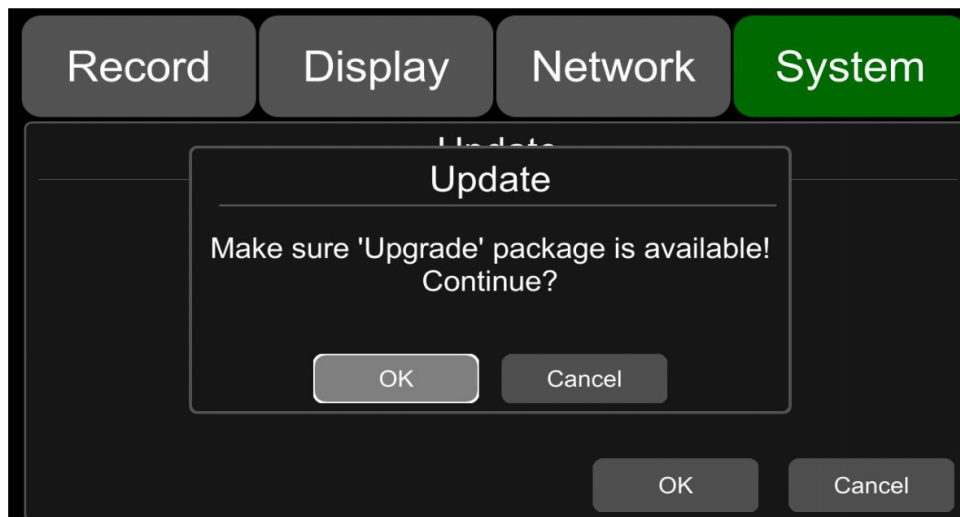
11.8 Update

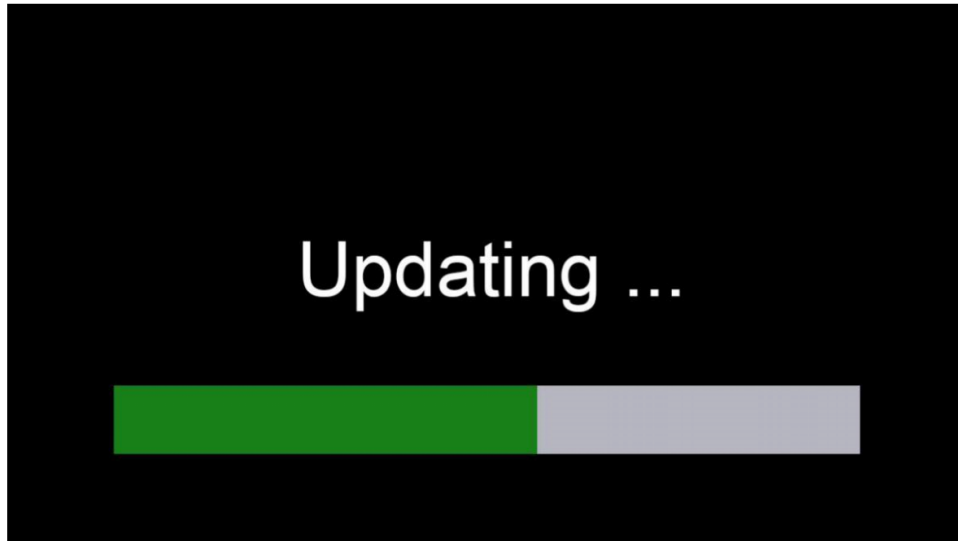


- For single device

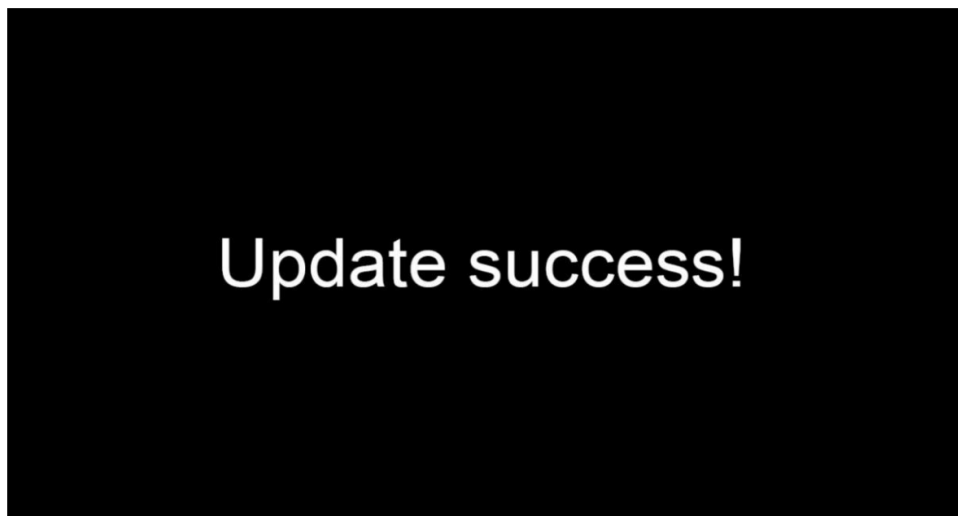
Step 1: Copy the files to the SD card/upgrade/package/local directory, insert the SD card into the monitor.

Step 2: Power off the monitor and reboot it, then it will upgrade automatically. Or go to Menu -> System -> Update -> Software, touch "OK" to confirm the update. Either way can proceed the upgrade process.





Step 3: When "Update success!" is shown on the display, the device will reboot automatically.



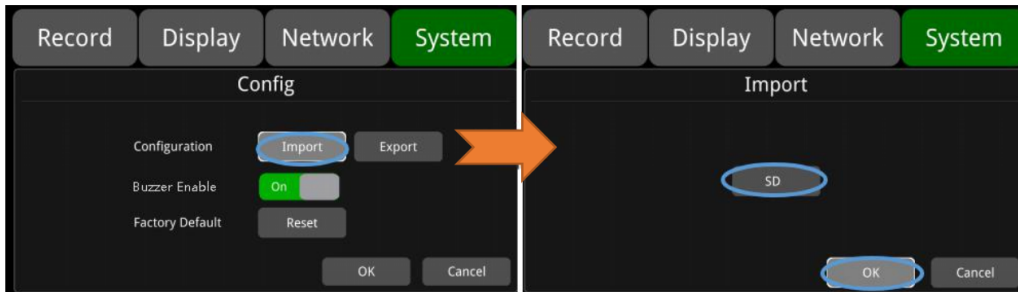
Step 4: After rebooting, please check if the version is the same as the one you copy into "upgrade" folder. Instruction: Menu -> System -> Info.

Note: After the upgrade is completed, the upgrade package in the SD card/upgrade/package/local directory will be renamed as "old_update_packet".

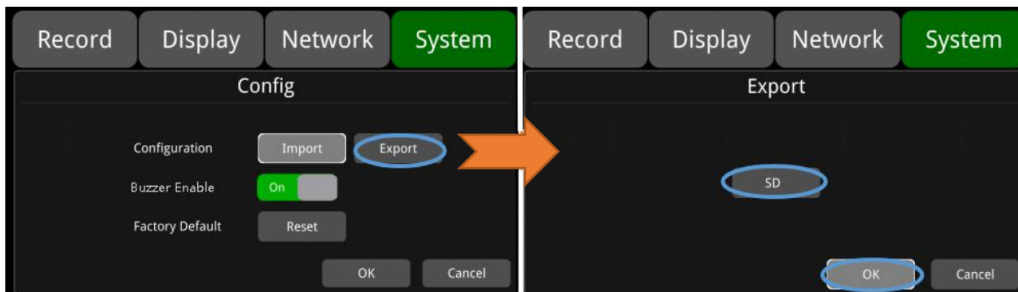
11.9 Configuration



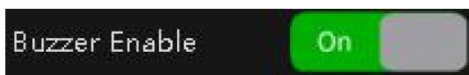
Configuration Import: Import the configuration information from the flash memory device and place the configuration file in the “sd/export_file/config” directory.



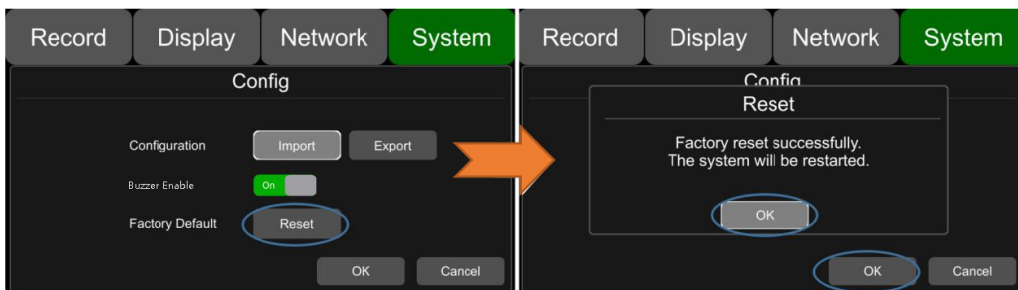
- **Configuration export:** Export configuration information to a flash device.



- **Buzzer Enable:** When turn On, buzzer will alarm when there is touch screen operation and the device is responding the remote control demand.



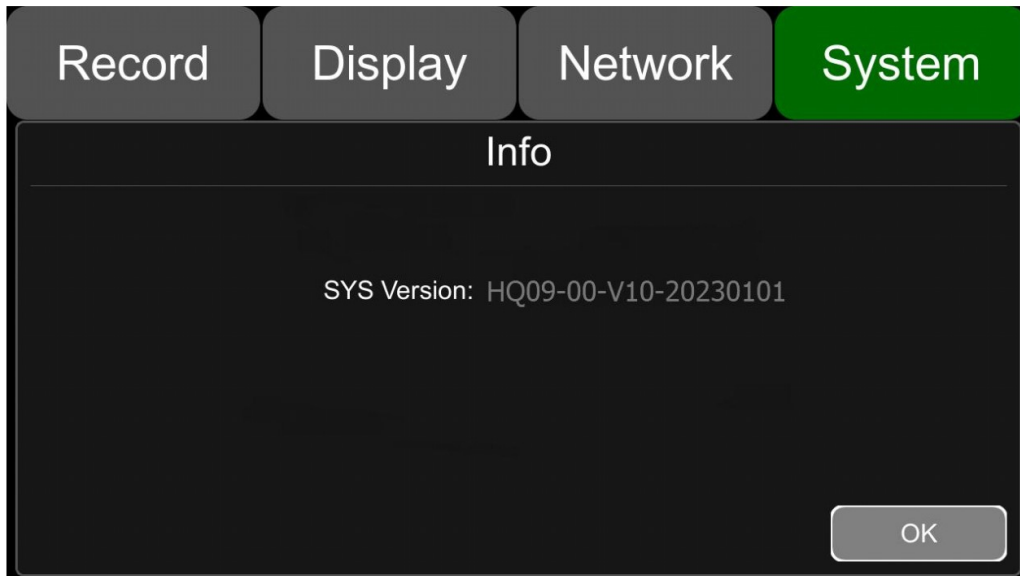
- **Factory Default:** Press “Reset” to restore factory settings.



11.10 System Information



System information: Soft version.



Appendix: Frequently Asked Questions and Answers

1) The system cannot be turn on?

Check the power connection. Please follow these steps to check the power connection:

- ① Check the power input: Whether the power cord is connected correctly, whether the ground wire is successfully connected, and whether the power cord fuse is intact.
- ② Check if the voltage of the ACC signal line is greater than 6V.

2) The monitor restarts repeatedly?

Please follow the following steps to check:

- ① Check if the power supply voltage of the monitor is insufficient. If it is lower than the starting voltage of the device, the device will start repeatedly.
- ② Restart the monitor to see if it can function properly this time.

3) Unable to recognize storage device?

- ① Check if the storage device itself is in good condition and ensure that it is installed successfully and in good contact.
- ② Restart the monitor to see if it can function properly this time.

4) Unable to recognize the camera?

- ① Ensure that the camera is intact and connected correctly.
- ② Rewiring the unrecognized camera and the device.
- ③ Restart the monitor to see if it can function properly this time.

5) GPS abnormal?

Check if the GPS antenna is installed correctly.