

HIKVISION



**DS-MI9605-GA Series Mobile Enforcement System
User Manual**

Quick Start Guide

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This Manual is applicable to Mobile Enforcement System.

The Manual includes instructions for using and managing the product. Pictures, charts, images and all other information hereinafter are for description and explanation only. The information contained in the Manual is subject to change, without notice, due to firmware updates or other reasons. Please find the latest version in the company website (<http://overseas.hikvision.com/en/>).

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FCC Information

Please take attention that changes or modification not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note: This product has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This product generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this product does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.


FCC Conditions


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

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

This equipment complies with FCC/IC RSS-102 radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

EU Conformity Statement

 This product and - if applicable - the supplied accessories too are marked with "CE" and comply therefore with the applicable harmonized European standards listed under the EMC Directive 2004/108/EC, the RoHS Directive 2011/65/EU, the R&TTE Directive 1999/5/EC.

 2012/19/EU (WEEE directive): Products marked with this symbol cannot be disposed of as unsorted municipal waste in the European Union. For proper recycling, return this product to your local supplier upon the purchase of equivalent new equipment, or dispose of it at designated collection points. For more information see: www.recyclethis.info



2006/66/EC (battery directive): This product contains a battery that cannot be disposed of as unsorted municipal waste in the European Union. See the product documentation for specific battery information. The battery is marked with this symbol, which may include lettering to indicate cadmium (Cd), lead (Pb), or mercury (Hg). For proper recycling, return the battery to your supplier or to a designated collection point. For more information see: www.recyclethis.info

Industry Canada ICES-003 Compliance

This device meets the CAN ICES-3 (B)/NMB-3(B) standards requirements.

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions:

- (1) this device may not cause interference, and
- (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radioexempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

- (1) l'appareil ne doit pas produire de brouillage, et
- (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.




Conformément à la réglementation d'Industrie Canada, le présent émetteur radio peut fonctionner avec une antenne d'un type et d'un gain maximal (ou inférieur) approuvé pour l'émetteur par Industrie Canada. Dans le but de réduire les risques de brouillage radioélectrique à l'intention des autres utilisateurs, il faut choisir le type d'antenne et son gain de sorte que la puissance isotrope rayonnée équivalente (p.i.r.e.) ne dépasse pas l'intensité nécessaire à l'établissement d'une communication satisfaisante.

Applicable Models

This manual is applicable to DS-MI9605-GA.

Symbol Conventions

The symbols that may be found in this document are defined as follows.

Symbol	Description
 NOTE	Provides additional information to emphasize or supplement important points of the main text.
 WARNING	Indicates a potentially hazardous situation, which if not avoided, could result in equipment damage, data loss, performance degradation, or unexpected results.
 DANGER	Indicates a hazard with a high level of risk, which if not avoided, will result in death or serious injury.

Safety Instructions

- Proper configuration of all passwords and other security settings is the responsibility of the installer and/or end-user.
- In the use of the product, you must be in strict compliance with the electrical safety regulations of the nation and region. Please refer to technical specifications for detailed information.
- Input voltage should meet both the SELV (Safety Extra Low Voltage) and the Limited Power Source with 100~240 VAC or 12 VDC according to the IEC60950-1 standard. Please refer to technical specifications for detailed information.
- Do not connect several devices to one power adapter as adapter overload may cause over-heating or a fire hazard.
- Please make sure that the plug is firmly connected to the power socket.
- If smoke, odor or noise rise from the device, turn off the power at once and unplug the power cable, and then please contact the service center.

Preventive and Cautionary Tips

Before connecting and operating your device, please be advised of the following tips:

- Ensure unit is installed in a well-ventilated, dust-free environment.
- Unit is designed for indoor use only.
- Keep all liquids away from the device.
- Ensure environmental conditions meet factory specifications.
- Ensure unit is properly secured to a rack or shelf. Major shocks or jolts to the unit as a result of dropping it may cause damage to the sensitive electronics within the unit.
- Use the device in conjunction with an UPS if possible.
- Power down the unit before connecting and disconnecting accessories and peripherals.
- A factory recommended HDD should be used for this device.
- Improper use or replacement of the battery may result in hazard of explosion. Replace with the same or equivalent type only. Dispose of used batteries according to the instructions provided by the battery manufacturer.

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Chapter 1 Introduction

1.1 Overview

DS-MI9605-GA series mobile enforcement system, hereinafter referred to as system or device, as a self-developed product adopts multiple key technology, including local video storage, 3G dialing, wireless network transmission, satellite positioning, remote control, and light supplement, make it perfectly meet the demand of all-day enforcement.

Owing to these functions, the DS-MI9605-GA series mobile enforcement system is widely applied to the police vans, special vehicles, emergency scenes, etc., providing a complete solution for the traffic law enforcement, security protection, emergency commanding and other surveillance projects.

1.2 Main Features

- 1-ch 1080p positioning system lite and 4-ch network camera.
- H.265 video compression for main stream and sub-stream.
- 1-ch VGA video output with resolution of 1280 × 800.
- Pluggable dummy HDD supporting two 2.5-inch HDDs/SSDs.
- Dummy HDD adopts HDD/SSD vibration damping technology.
- IR and white light illumination help to capture high quality images in dim light environment.
- Load name overlay feature records the geographical information of video evidence.
- Operate menu and control positioning system lite via single and multi-touch features.
- Wireless cluster intercom function.
- Power-off protection prevents key data from loss.
- Dummy HDD provides smart temperature-control module and USB data export interface.
- Built-in GPS (Global Positioning System) module precisely positioning the vehicle via the satellite and recording the location information in the video stream.
- Device adopts the aviation plug design to ensure signal stability.
- Wide-range power input.
- Aluminum die-cast chassis with no-fan design well adaptable to working environment.

Chapter 2 Assembly Parts Introduction

2.1 Package List

Unpack and check the package contents carefully. The following assembly parts are supplied:

Table 2-1 Assembly Parts of Enforcement System

Name	Quantity	Description
Mobile Enforcement System	1	Central processing unit, with a built-in GPS module and wireless network transmission module. Encoding data for storage or transmission.
Network HD IR Positioning System Lite	1	Record and capture the traffic violation scene.
Manual Controller	1	Control mobile enforcement system.
LCD Monitor	1	Display local image, including live view, playback, and menu operation.

2.2 Panel Description

2.2.1 Front Panel

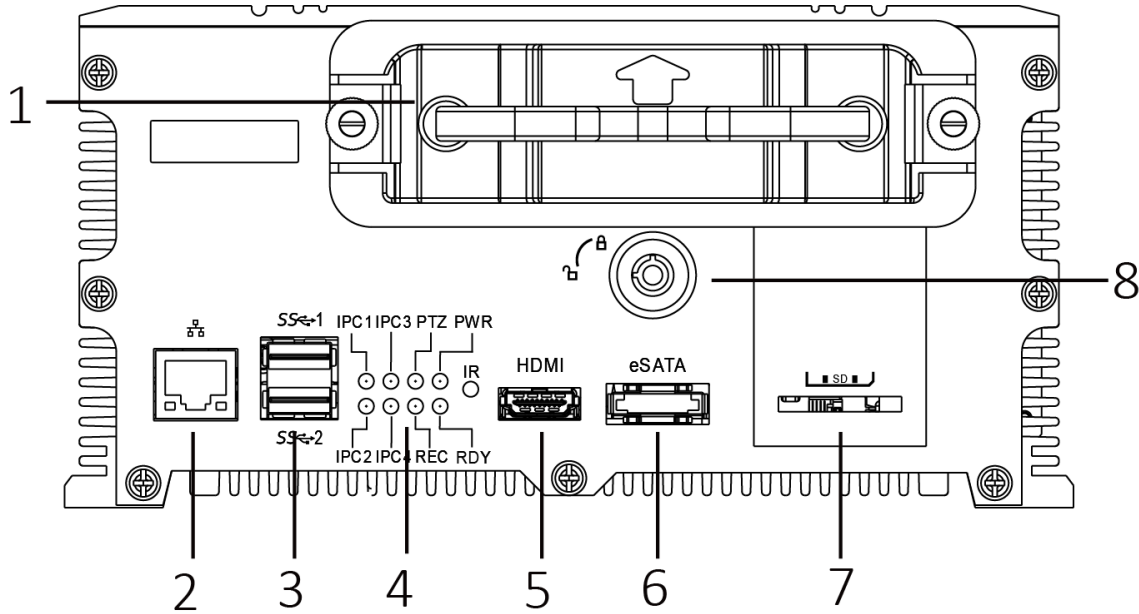


Figure 2-1 Front Panel

Table 2-2 Description of Front Panel

No.	Name	Description
1	Dummy HDD	Third-generation dummy HDD with vibration-damping technology
2	LAN	1 × 10M/100M/1000M RJ45 network interface
3	USB	2 × Type-A USB 3.0 interface
4	Indicator	PWR (Power indicator) <ul style="list-style-type: none"> ● Solid green: Device is powered on ● Solid red: Device is standby
		RDY (Ready indicator) Solid green: Device starts up normally
		PTZ (PTZ indicator) Solid green: Positioning system lite is connected
		REC (Recording indicator) Solid green: Device is recording normally.
		IPC 1 to 4 (IPC indicator): Solid green: IP camera is connected.

		Unlit: No camera is connected.
5	HDMI	HDMI interface
6	eSATA	eSATA interface (reserved)
7	SD	SD card slot
8	Panel lock	Lock/unlock dummy HDD and SD card slot

2.2.2 Rear Panel

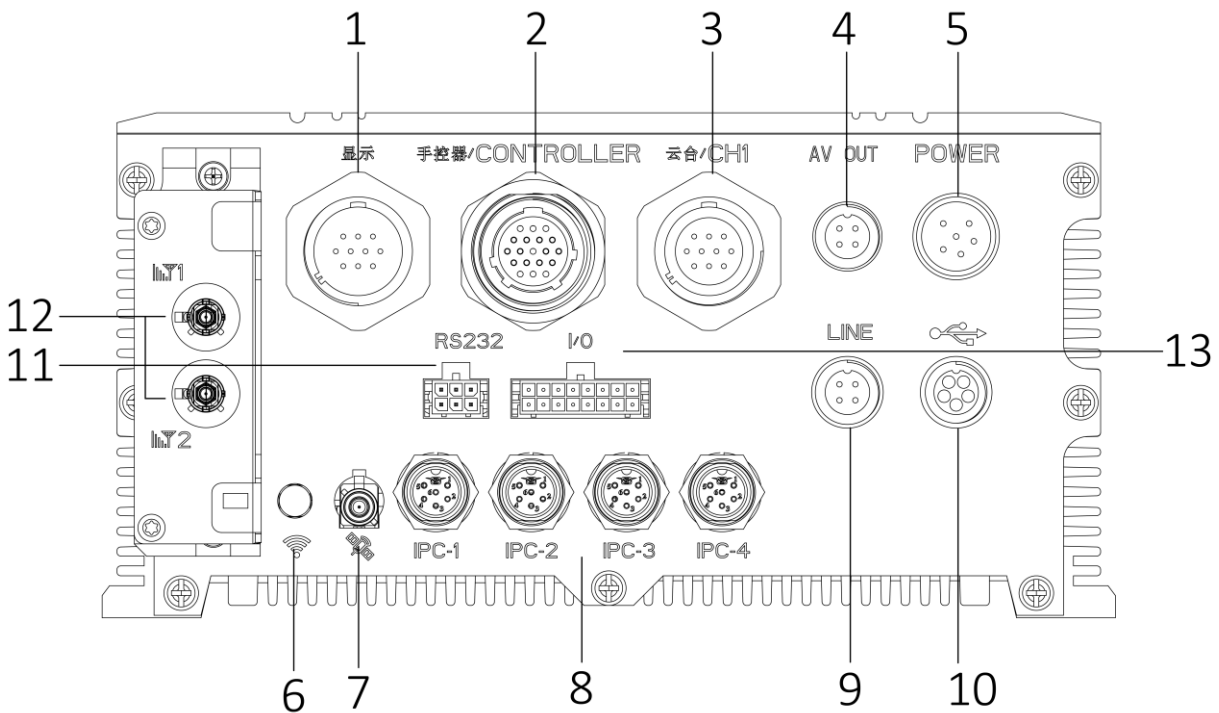


Figure 2-2 Front Panel of Enforcement Host

Table 2-3 Description of Rear Panel

No.	Name	Description
1	Display	LCD Interface
2	Controller	Manual controller interface
3	CH1	Positioning system lite interface
4	AV OUT	Analog video output
5	POWER	Power supply of 6-pin aviation plug
6	Wi-Fi	Wi-Fi antenna interface
7	GPS	GPS antenna interface

8	IPC 1 to 4	Audio and video input of channel 1 to 4
9	LINE	Two-way audio interface
10	USB	USB 3.0 of 5-pin aviation plug
11	RS-232	RS-232 interface
12	ANT antenna	3G dialing antenna interface
13	I/O	I/O Interface, including: <ul style="list-style-type: none"> • Alarm input, triggered by high/low level • vehicle information input • Relay signal alarm output

















2.3 Manual Controller Introduction


The image of standard manual controller is shown below:



Figure 2-3 Manual Controller View

Table 2-4 Buttons Description

No	Name	Description
1	Switch Lock	Power on/off.
2		<ul style="list-style-type: none"> Start/stop manual recording. Light is red when recording.
		<ul style="list-style-type: none"> Enter/exit playback. Light is green when in playback interface.
3		<ul style="list-style-type: none"> Adjust Shutter speed of Positioning System Lite. Unlit: Shutter speed is 1/100s. Solid green: Shutter speed is 1/300s. Flashing in slow frequency: Shutter speed is 1/600s. Flashing in high frequency: Shutter speed is 1/1000s.
		<ul style="list-style-type: none"> Enable/disable supplement light. Light is orange when enabled, light off when disabled.
		In live view mode, switch to Positioning System Lite. In playback search result interface, select a single file.
		Switch the function of  and  .
		<ul style="list-style-type: none"> Focus on near view when the indicator of  is on. Increase brightness when the indicator of  is off.
		<ul style="list-style-type: none"> Focus on far view when the indicator of  is on. Decrease brightness when the indicator of  is off.
4		<ul style="list-style-type: none"> Numeric buttons (0~9). Character buttons (a to z, A to Z). Menu selection function. Presets setting and calling function.
5		<p>Save settings and exit from current menu.</p> <p>Light is on when in menu interface.</p>

No	Name	Description
6		In playback search result interface, press it to select all files.
7	OK	Works as the OK button: <ul style="list-style-type: none">● Manual capture.● Start/stop traffic violation recording.
8	Joystick	<ul style="list-style-type: none">● Steer Positioning System Lite to desired view.● Zoom in/out for Positioning System Lite.● Menu operation and edit parameters.

Chapter 3 Installation

3.1 Install HDD

Before You Start:

Prepare the tools and components for installation:

- One factory recommended 2.5-inch HDD.
- Antistatic gloves
- Key to dummy HDD (delivered with device)
- Cross screwdriver
- Screws (delivered with device)

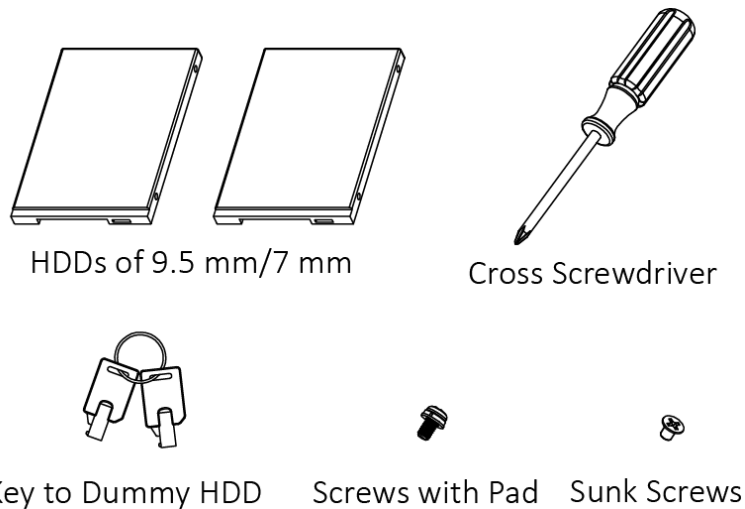


Figure 3-1 Tools

Purpose:

Perform the following steps to install the HDD on the device.

Step 1 Insert the key and unlock dummy HDD.

Step 2 Unfasten the two screws of dummy HDD and pull dummy HDD out of device.

Step 3 Use cross screwdriver to loosen the two screws and remove them, and then take the dummy HDD apart.

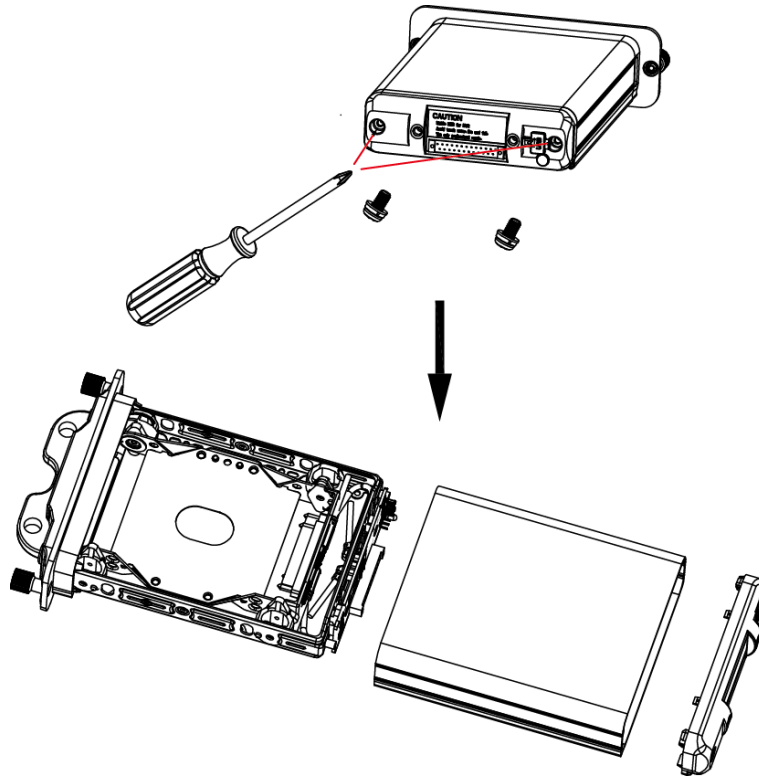


Figure 3-2 Take Apart Dummy HDD

Step 4 Place HDD into the dummy HDD, with the PCB facing down.

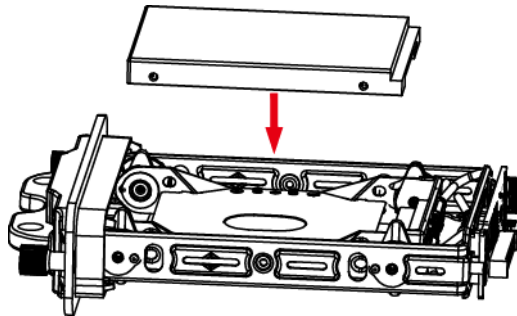


Figure 3-3 Place HDD

Step 5 Push the HDD along the direction shown in Figure 3-4 to connect HDD with socket of dummy HDD.

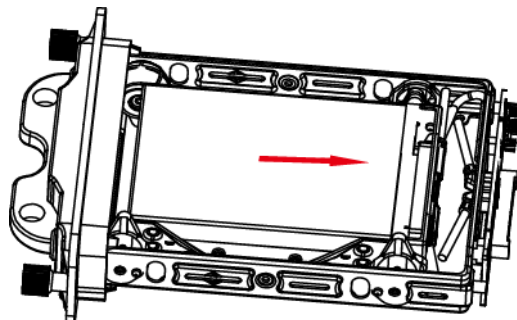


Figure 3-4 Push HDD

Step 6 Use four sunk screws to fix HDD with dummy HDD.

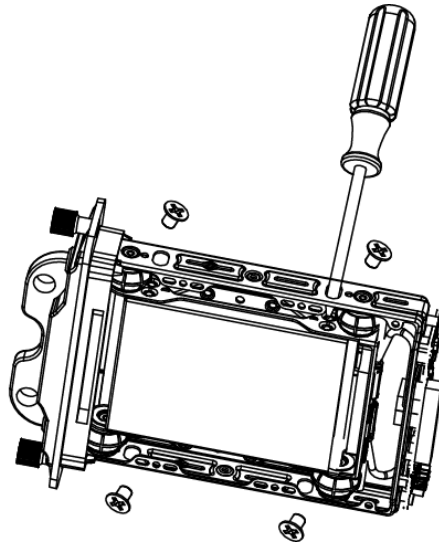


Figure 3-5 Fix HDD

Step 7 Reassemble the dummy HDD.

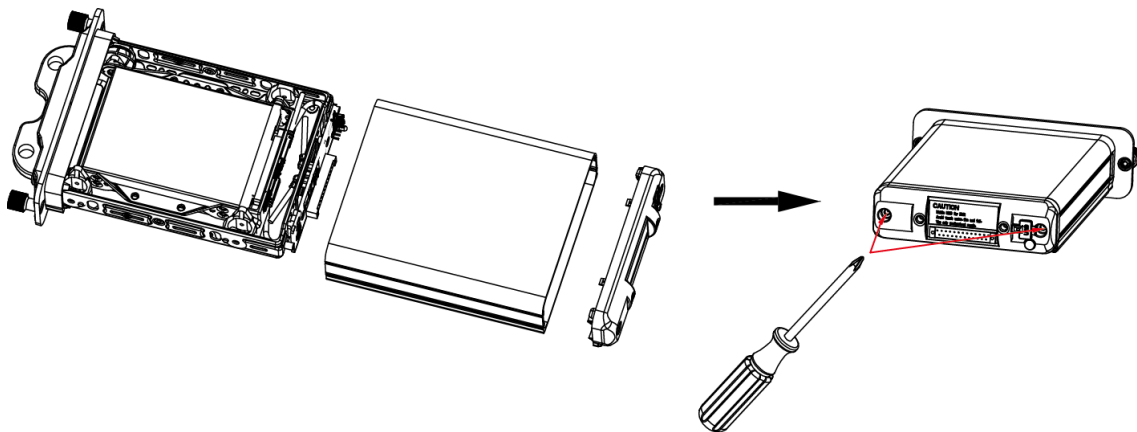


Figure 3-6 Reassemble Dummy HDD

Step 8 Plug the dummy HDD back to the device and then tighten the screws clockwise.

Step 9 Turn the key clockwise to lock dummy HDD.

3.2 Install SIM Card

Purpose:

Pluggable 3G wireless communication module is designed for the device and you should install the SIM card to realize the wireless communication function.

Before You Start

Prepare the tools and components for installation:

- SIM card

- Wrench

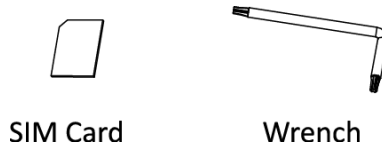


Figure 3-7 Tools

Step 2 Use wrench to unfasten and remove the two screws fixing the 3G .

Step 3 Pull out the 3G and Wi Fi module .

Step 4 Press the yellow button on the 3G slot and then pull the SIM card tray out.

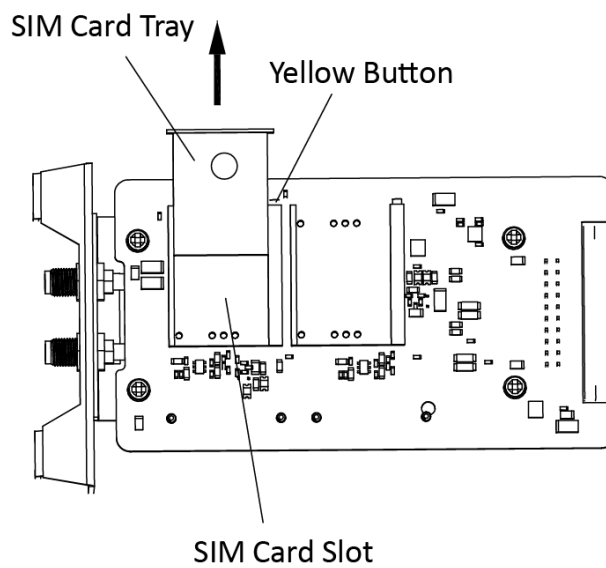


Figure 3-8 Pull out SIM Card Tray

Step 5 Place the SIM card on SIM card tray.

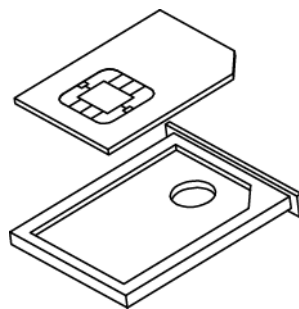


Figure 3-9 Place SIM card on SIM Card Tray

Step 6 Insert the SIM card tray back to SIM card slot.

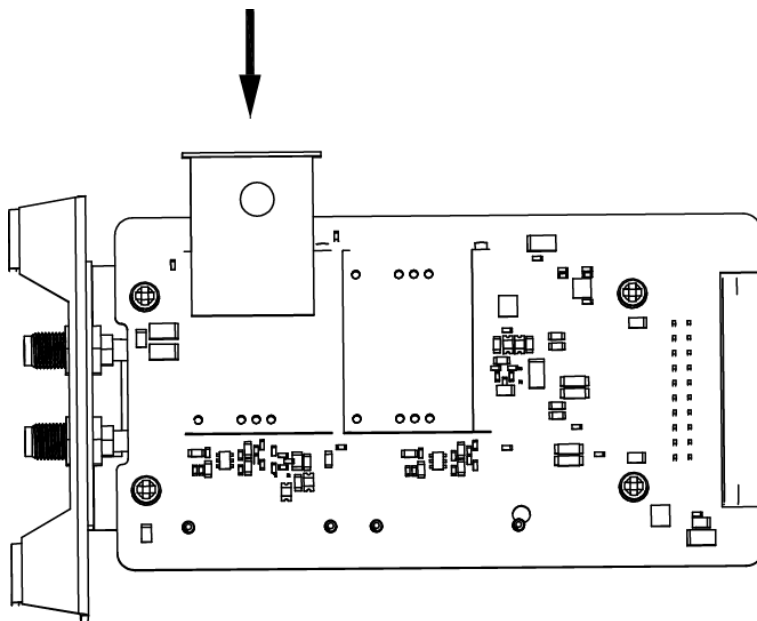


Figure 3-10 Insert SIM Card Tray back to SIM Card Slot

Step 7 Install the 3G module back to the device and tighten the set screw.


Chapter 4 Menu Operation

Purpose:

This section introduces manual controller operation, which is often used, to help you improve operation efficiency.

- Move the joystick of manual controller upward, downward, leftward and rightward are respectively briefed as press Up, press Down, press Left, and press Right.
- The button on the top of the joystick is briefed as OK.
- A select box, briefed as *cursor* will pop up after you enter the system. Press Up, Down, Left or Right, and you can select the menu item as desired with the cursor.
- The system provides two input methods, including English and Digital. Select the item with the cursor and press OK to enter the editing status. Press Up to switch the input method, and input the parameters with the numeric buttons. Press Down to delete the input characters. Press OK to confirm the settings after completing the inputs.
- Numeric buttons can be used as shortcuts in menu operation. Details are described in Chapter 4 Menu Operation.


4.1 Enter Main Menu

Step 1 Hold  till you hear a single beep sound and the button turns red.

4.2 Enter Sub-Menu

Step 1 Enter main menu interface.

Step 2 Double click the numeric button that representing a sub-menu.

For example, double click  to enter enforce settings interface.

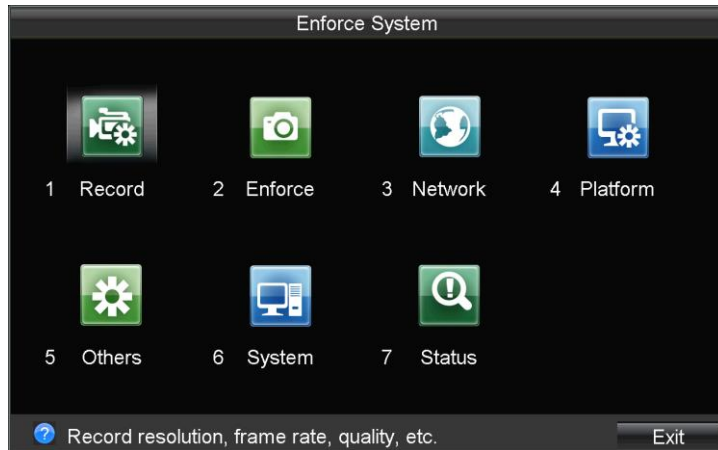


Figure 4-1 Main Menu Interface

4.3 Edit Parameters

Step 1 Enter a parameter settings interface.

Step 2 Double click the numeric button that representing an item to edit the item.

For example, double click  to edit Display Date.

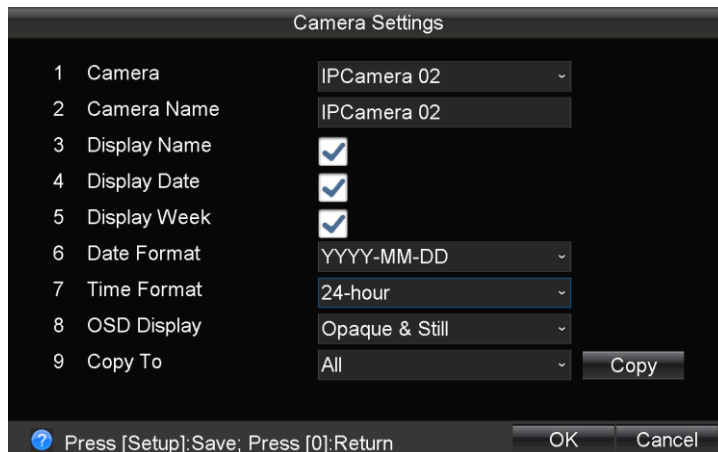


Figure 4-2 Edit Parameters

4.4 Exit Menu

Step 1 Press  or  button to exit.

4.5 Positioning Cursor on an Item

- Move joystick to positioning cursor on an Item.
- Press the numeric button that representing an item to positioning cursor on an Item.

4.6 Check a Checkbox

Step 1 Positioning the cursor on a checkbox.

Step 2 Press **OK** to check the checkbox.

4.7 Edit Dropdown List

Step 1 Positioning the cursor on a dropdown list.

Step 2 Press **OK** to pop up dropdown list.

Step 3 Press **Up/Down** to select an option.

Step 4 Press **OK** to confirm.

4.8 Edit a Text field

Step 1 Positioning the cursor on the text field.



Step 2 Press **OK** to pop up input method.

Step 3 Input contents.

- Press **Up** to switch input method.
- Press **Down** to delete input content.
- Press **Left/Right** to move cursor between characters.

Step 4 Press **OK** to exit from editing status.

4.9 Save/Cancel Settings

- Press  to save settings.
- Press  to exit without saving.

Chapter 5 Start Up Device

5.1 Startup

Before you start:

- Install an HDD into the enforcement host, tighten the bolt, and lock the dummy HDD.
- Connect the cables correctly.

Step 1 Insert the key into the lock of manual controller, and turn it to **ON** status.

5.2 Set Admin Password

Purpose:

For the first-time access, you need to activate the device by setting an admin password. No operation is allowed before activation.

Step 1 Input the same password in the text field of **New Password** and **Confirm**.

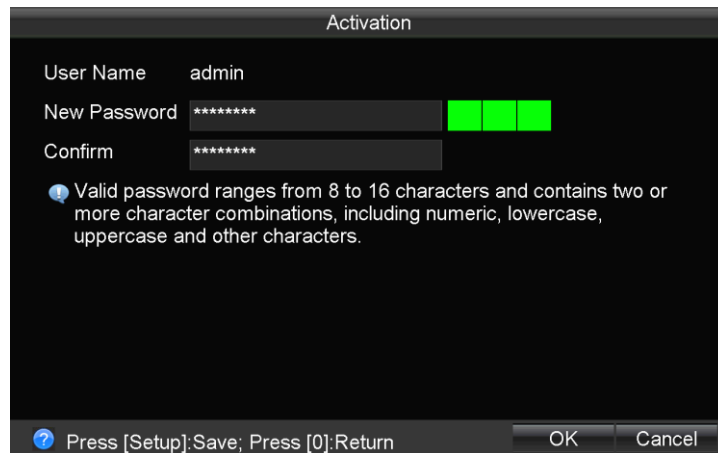


Figure 5-1 Settings Admin Password



WARNING

STRONG PASSWORD RECOMMENDED– We highly recommend you create a strong password of your own choosing (using a minimum of 8 characters, including upper case letters, lower case letters, numbers, and special characters) in order to increase the security of your product. And we recommend you reset your password regularly, especially in the high security system, resetting the password monthly or weekly can better protect your product.

Step 2 Click **OK** to save the password and activate the device.

Chapter 6 Network

6.1 Local Network Settings

Step 1 Go to **Menu > Network > Local**.



Figure 6-1 Local Network Interface

Step 2 Input the **Device IP**, **Subnet Mask** and **Default Gateway** in the corresponding text fields.

Static IP: The network segment of IP cameras to add must be the same with the network segment of static IP.

6.2 Dialing Settings

Before you start:

Install a SIM card onto the enforcement host.

Step 1 Go to **Menu > Network > Dialing**.

Step 2 Check **Enable Dialing**.

Step 3 Select **Network Mode** as **Auto-Search and Auto-Switch, 3G**.

- **Auto-Search and Auto-Switch:** search the 3G signal to dial.
- **3G:** Enforce dialing via 3G signal.

Step 4 Click **>>>** of **More Settings**.

 **NOTE**

The **numeric icon** after **>>>** is reserved.

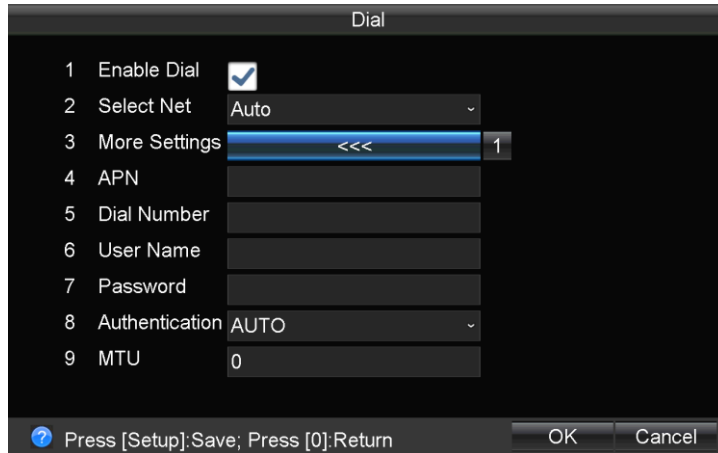


Figure 6-2 3G Network Interface

Step 5 Configure 3G network parameters including **APN, Dialing Number, User Name**, etc.

- **APN:** access point name of operator.
- **Dialing No.:** the number of dial.
- **User Name:** user name of dial.
- **Password:** password of dial.
- **Authentication:** authentication type.
- **MTU:** maximum transmission unit.

Step 6 Save the settings.

 **NOTE**

Please contact the local operator and consult the network parameters of the VPDN.

6.3 Firewall Settings

Purpose:

The device provides software-based firewall to protect the device against the threats from the public network. A white list can be set, and only the trusted IP addresses on the white list can access the device via the network.

 **NOTE**

- 192.0.0.xxx is set as the default trusted IP addresses.
- The IP address of the platform server to add the device is set as the trusted IP address.
- Up to 16 IP addresses can be added on the white list.

Step 1 Go to **Menu > Other > Firewall**.

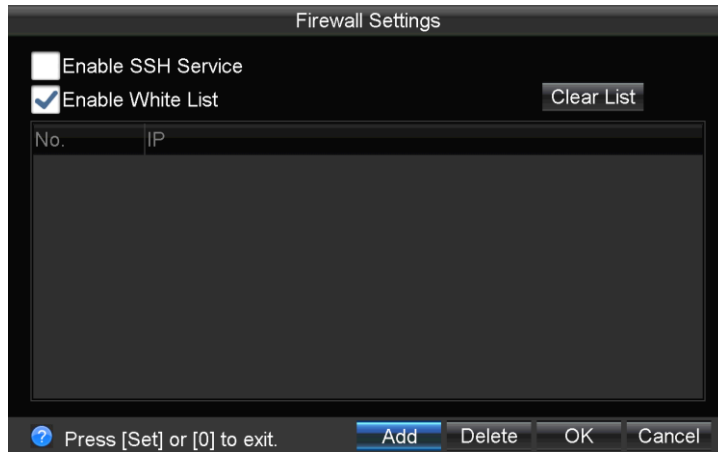


Figure 6-3 Firewall Settings

Step 2 Optionally, select **Enable SSH Service**, thus to effectively prevent information leakage during remote management.

Step 3 Click **Add** to enter the Add IP Address dialog box.

Step 4 Input the trusted IP address, and click **OK**.

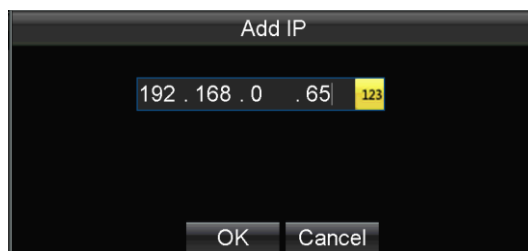


Figure 6-4 Add IP Address

Step 5 The trusted IP address will be added on the white list.

 **NOTE**

The configured whitelist will be cleared after you reboot the device.

Chapter 7 IP Camera

Purpose:


Add IP cameras to the device. You can get the live view, record the video, and set the parameters of the connected IP camera.

7.1 Activate IP Camera

Purpose:

Before adding an IP camera, activate it by setting a password for it.

Step 1 Go to **Menu > Other > IPC**.

Step 2 Uncheck Add Automatically and click .

Step 3 Select an inactivated IP camera.

Step 4 Activate the selected IP camera.

- **Option 1:** Quick Activation

Click **Quick Active**. The IP camera password will be set as the same with the device password.

- **Option 2:** Manual Activation

- 1) Click **Manu Active**.
- 2) Enter New Password and enter the same password in Confirm.



STRONG PASSWORD RECOMMENDED – We highly recommend you create a strong password of your own choosing (Using a minimum of 8 characters, including at least three of the following categories: upper case letters, lower case letters, numbers, and special characters.) in order to increase the security of your product. And we recommend you reset your password regularly, especially in the high security system, resetting the password monthly or weekly can better protect your product.

Step 5 Click **OK**.

7.2 Automatically Add IP Camera

Before you start:

- Activate the IP camera to configure.
- IP camera password must be the same as the one of device.

- The network segment of IP camera must be 192.168.2.XXX.

Step 1 Go to **Menu > Other > IPC**.

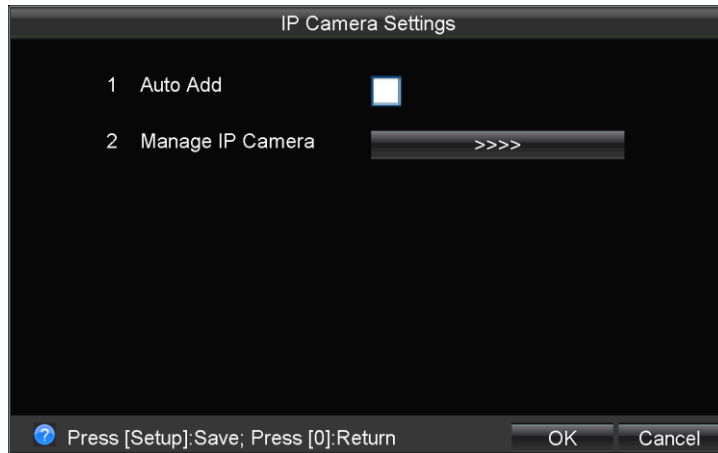


Figure 7-1 IP Camera Settings

Step 2 Check **Auto Add**.

Step 3 Save the settings.

Step 4 Connect an activated IP camera to IP camera interface in rear panel. The device will automatically add the IP camera.

7.3 Manually Add IP Cameras

Purpose:

You can manually add the online IP cameras. Ensure the network communication between the device and IP camera is well.

7.3.1 Quick Add

Purpose:

The online IP cameras in the same network segment with the device will be displayed on a list. If the IP camera on the list has the same password with the device, you can quickly add it.

Before you start:

Make sure the IP camera password is the same with the device.

Step 1 Go to **Menu > Other > IPC**.


Step 2 Uncheck Add Automatically and click .

Step 3 Select an online IP camera.

Step 4 Click **Quickly Add**.

7.3.2 Manual Add

Step 1 Go to **Menu > Other > IPC**.

Step 2 Uncheck Add Automatically and click .

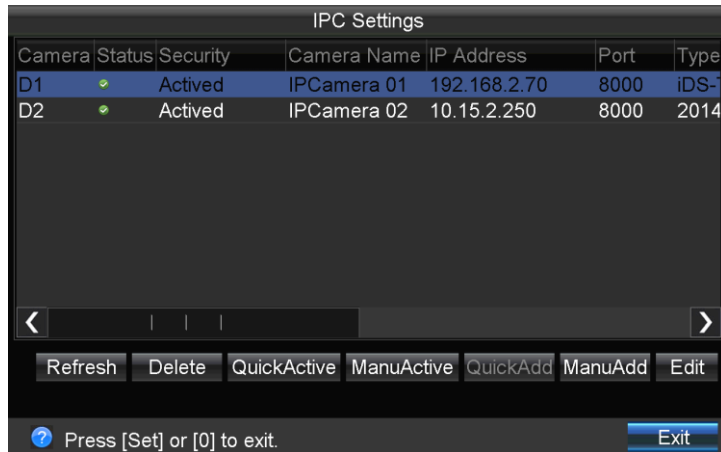


Figure 7-2 IPC Settings

Step 3 Click **Manually Add**.

Step 4 Select the IP channel No. for the IP camera.

Step 5 Edit the required information, including the **IP address, Protocol, Port No., User Name, and Password**.

Step 6 Click **OK**.

7.4 Edit IP Camera

7.4.1 Edit Added IP Camera

Purpose:

You can edit the information added IP camera. If the IP address is changed, the connected IP camera will change. If other information changed is not consistent with the added IP camera, it will disconnect.

Step 1 Go to **Menu > Other > IPC**.

Step 2 Uncheck Add Automatically and click .

Step 3 Select an added IP camera and click **Edit**.

Step 4 Edit the parameters.

Step 5 Enter **Password**. The password must be correct.


Step 6 Click **OK**.

7.4.2 Edit Un-Added IP Camera

Purpose:

You can modify the IP address and port of online and un-added IP camera.

Step 1 Go to **Menu > Other > IPC**.

Step 2 Uncheck Add Automatically and click .

Step 3 Select an un-added IP camera and click **Edit**.


Step 4 Edit the **IP Address** or **Port**.

Step 5 Enter **Password**. The password must be correct.

Step 6 Click **OK**.

7.5 Delete IP Cameras

Step 1 Go to **Menu > Other > IPC**.

Step 2 Uncheck Add Automatically and click .

Step 3 Select an IP camera and click **Delete**.

Step 4 Click **Yes** on the pop-up dialog box.

Chapter 8 Camera Management

8.1 OSD Settings

Purpose:

You can configure the camera name, OSD (On Screen Display) settings, etc.

Step 1 Go to **Menu > Other > OSD**.

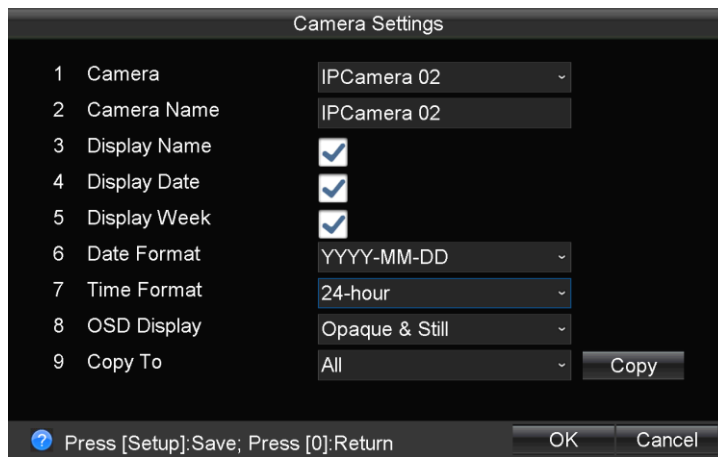


Figure 8-1 Camera Settings

Step 2 Select **Camera** to edit.

Step 3 Edit camera parameters.

Step 4 Optionally, copy the settings to the other cameras.

- 1) Select camera to copy to.
- 2) Click **Copy** to confirm.

Step 5 Save the settings.

8.2 Road Name Overlay

Purpose:

You can overlay the road name, stored in USB device, to the camera. Thus the road name will be displayed in camera view.

Before you start:

Connect the USB device, where road name file is saved, to the enforcement host.

 **NOTE**

Contact technical support for how to make road name file.

Step 1 Go to **Menu > Enforce > Road Name**.

Step 2 Select the **USB Device**.

Step 3 Optionally, check **Import GPS** to import GPS information contained in road name file.

 **NOTE**

The device can compare the real-time GPS with the imported GPS, the difference of them will be shown in **GPS Accuracy**. Thus to select a road name whose GPS is closest to real-time GPS.

Step 4 Click **Confirm** to import road name file.

Step 5 Select the road name from the dropdown list of **Select Road Name**.

Step 6 Save the settings. The road name will be overlaid on the live view.

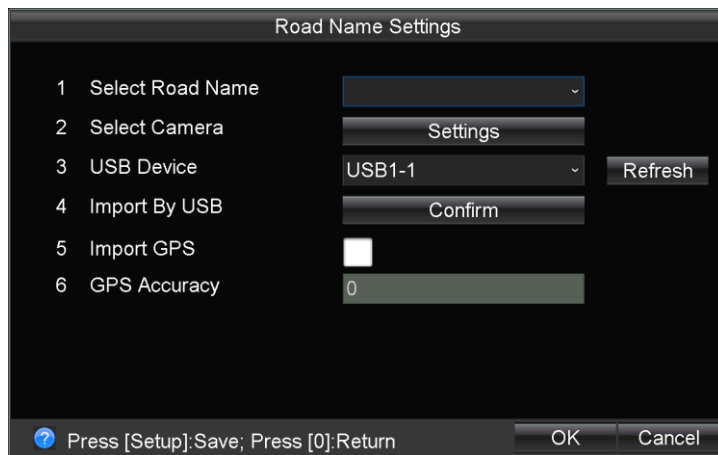


Figure 8-2 Road Name Settings

Chapter 9 Live View

9.1 PTZ Control Settings

Purpose:

If the camera is covered with dust or water, you can enable wiper or PTZ heating to remove it.

Step 1 Go to **Menu > Enforce > PTZ**.

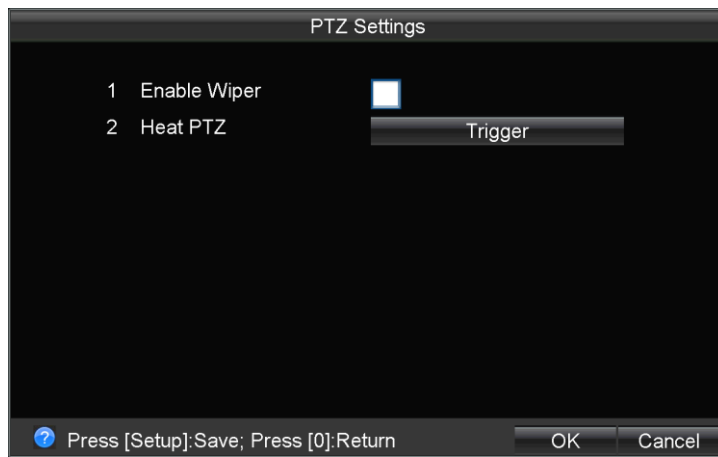


Figure 9-1 Enforce System PTZ Interface

Step 2 Configure PTZ features.

- **Enable Wiper:** Once it is checked, the wiper will keep running till you uncheck it.
- **Heat PTZ:** to remove water spray on PTZ, Click **Trig** to trigger PTZ Heating function. It will work for 8 hours.

Step 3 Save the settings.

9.2 PTZ Operations

The Positioning System Lite can track the target and record the event if needed.

9.2.1 PTZ Parameters

Camera View and Zoom

Purpose:

In the live view mode, you can steer the connected speed dome to the desired view by controlling joystick.

Step 1 Press **Up/Down/Left/Right** to steer camera to corresponding direction.

The more you tilt the joystick, the faster the PTZ moves.

Step 2 Rotate the joystick clockwise to zoom in. Rotate the joystick anticlockwise to zoom out.

The PTZ speed slows down while zooming in. Conversely, the PTZ speeds up while zooming out.


Shutter

Purpose:

The vehicle speed and driving environment cause effect on the video quality. Image tail and unstable focus may occur when the target moves fast. You can adjust the shutter speed of the camera to lower these negative effects.

NOTE

- It is recommended to set the shutter speed to high level in the daytime of fine weather days.
- When the image quality is acceptable, it is recommended to set the shutter speed as high as possible.

Step 1 Press  to switch shutter to auto, low, medium, or high speed.

NOTE

The indicator status of  represents different shutter speed.



- **Unlit:** Auto. Device adjusts shutter automatically.
- **Solid green:** Low speed. It is applicable to dark environment or situation in which the vehicle speed is under 20km/h.
- **Blinking with green light and low frequency:** Medium speed. It is applicable to normal environment or situation in which the vehicle speed is between 20km/h to 60km/h.
- **Blinking with green light and high frequency:** High speed. It is applicable to bright environment or situation in which the vehicle speed is over 60km/h.


Focus

Purpose:

In default situation, enforcement host will automatically adjust focus. If necessary, you can adjust the focus manually.

Step 1 Press  till the indicator goes out, thus to enable manually focus.



Step 2 Press  to focus on far view. Or press  to focus on near view.



Step 3 Press  to enable auto focus.

Iris

Purpose:

In live view mode, you can lighten/darken camera by enlarging or lessening iris.


Step 1 Press-and-hold  button till you hear a single beep sound. And the indicator turns blinking green. Or press  button. And the indicator turns solid orange.


Step 2 Press  to enlarge iris. Or press  to lessen iris.

Day/Night Switch

Purpose:

In night or dark environment, you can turn on supplement light of mobile PTZ to ensure the quality of camera view.

Step 1 Press  button on manual controller and the indicator turns orange. Thus supplement light is enabled.

Step 2 Press  button again and the indicator turns off. Thus supplement light is disabled.

Wiper

Purpose:

If the PTZ lens is covered with dust or raindrops, which influence camera view, you can use wiper to remove it.

- Steps for manual controller:

Step 1 In the live view mode, press  to enable wiper. Then the wiper will run for one round.

- Steps for monitor:

Step 2 Go to **Menu > Enforce > PTZ.**

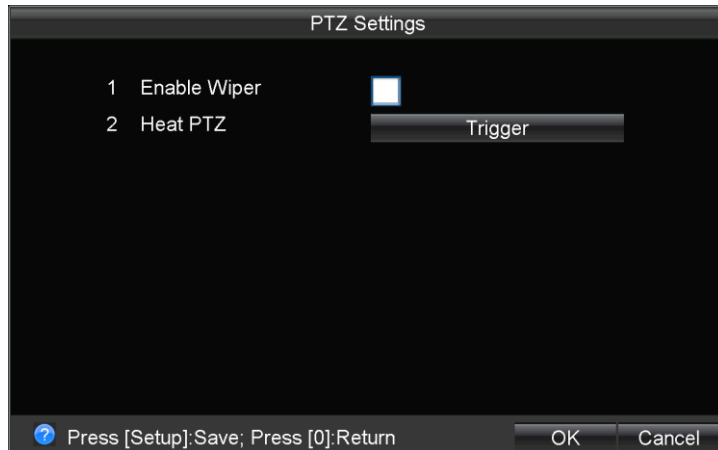


Figure 9-2 PTZ Settings Interface

Step 3 Check **Enable Wiper**.

Step 4 Save the settings. The wiper will keep running till you can uncheck it.

 **NOTE**

To extend life of wiper, it is not recommended to keep it running for a long time.

9.2.2 Preset Settings

Purpose:

A preset is a predefined image position which contains information of pan, tilt, focus and other parameters. You can set, call, modify, or calibrate a preset.

Configuring a Preset

 **NOTE**

There is no preset by default and up to 9 presets can be set.

Setting a Preset

Before you start:

Steer the camera to the desired view.

Step 1 In the live view mode, press-and-hold the numeric button (1 to 9) for about 4 seconds until the host gives a single beep sound.

Calling a Preset

Step 1 Press the numeric button and then the camera will move to the corresponding predefined position.

Editing a Preset

Step 1 Repeat the steps in *Section Setting a Preset* for a certain preset, the previous position will be covered by the new one.

Calibrating a Preset

Due to the intense vibration during vehicle travelling or the influence of other outside forces, the preset of the Positioning System Lite may be out of alignment. It is recommended to give a regular calibration to the presets of the camera.

Two types of methods are provided to calibrate the preset:

- Power on the system again.
- Rotate the Positioning System Lite at least one circle.

Chapter 10 HDD Management

Purpose:

You can set the recording overwrite mode, view the status, free space and total capacity of the storage device, and format the storage device.

Before you start:

Install at least a HDD on the enforcement host for data storage.

10.1.1 Format HDD

Step 1 Go to **Menu > System > Hard Disk**.

Step 2 Enter password in the text field to get authorization and click **OK**.

Step 3 Select a **Storage Device** to format.

Step 4 Click **Format**.

Step 5 In popup message box, click **OK** to confirm the operation.



Figure 10-1 HDD Management

 **NOTE**

About 512M space of the storage device is reserved for the captured pictures. After formatting, the free space (for recording) will be less than the total capacity.

10.1.2 Set Overwrite Mode

Step 1 Go to **Menu > System > Hard Disk**.

Step 2 Enter password in the text field to get authorization and click **OK**.

Step 3 Select **Overwrite** as **Yes** or **No**.

- **Yes:** The history videos will be overwritten when HDD is full.
- **No:** The recording will stop when HDD is full. If the HDD full alarm is enabled, the system will send out linkage alarm action when the HDD is full.

Step 4 Save the settings.

10.1.3 View S.M.A.R.T Information

Step 1 Go to **Menu > System > Hard Disk**.

Step 2 Enter password in the text field to get authorization and click **OK**.

Step 3 Select a **Storage Device** to format.

Step 4 Click **View** of **S.M.A.R.T Info**.

Chapter 11 Recording and Capture

11.1 Record Parameters

Purpose:

You can configure record parameters, which directly influence the quality of record image. Generally, it is recommended to use the default settings.

Step 1 Go to **Menu > Record**.

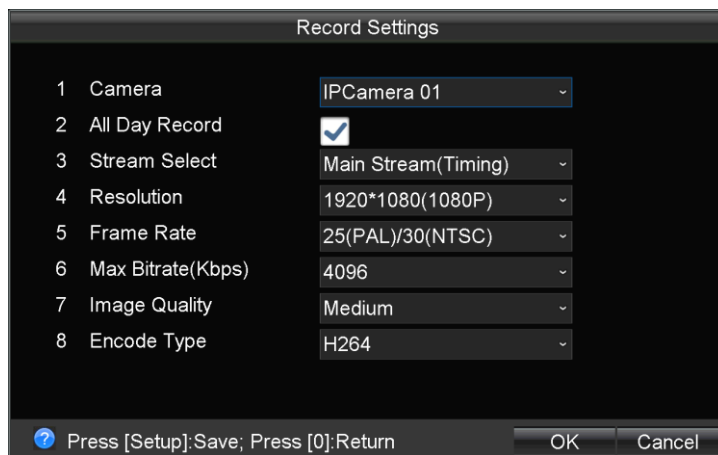


Figure 11-1 Record Settings Interface

Step 2 Set record parameters.

- 3) Select a camera in **Camera** dropdown list.
 - **Stream Select:**
 - **Main Stream (Normal):** Used in encoding for normal record.
 - **Main Stream (Event):** Used in encoding for traffic violation recording.
 - **Sub-Stream (Net):** Used in encoding for network transmission.
 - **Max Bitrate:** If it is set as **Custom**, the max. bitrate is 16 Mbps.

Step 3 Save the settings.

11.2 All-Day Recording

Step 1 Go to **Menu > Record**.

Step 2 Select camera to configure.

Step 3 Check **All-Day Record** to continuously record videos the whole day.

Step 4 Save the settings.

11.3 Manual Recording

Step 1 Enter live view mode.

Step 2 Hold the **Record** button for 2 seconds to start manual recording and the indicator turns red.

Step 3 Hold the **Record** button for 2 seconds to stop manual recording and the indicator turns off.



NOTE

All-day recording stops when manual recording starts. All-day recording resumes when manual recording stops.

11.4 Manual Capture

Step 1 Go to **Menu > Enforce > Capture**.

Step 2 Select **Channel** as needed and check **Enable Capture**.

Step 3 Save the settings.

Step 4 Enter live view mode.

Step 5 Press OK to capture one picture.

Chapter 12 Traffic Violation Operations

12.1 Traffic Violation Recording

Purpose:

You can record traffic violation videos. The function is only available for positioning system lite (channel 1).

12.1.1 Set Traffic Violation

Step 1 Go to **Menu > Enforce > Enforce**.

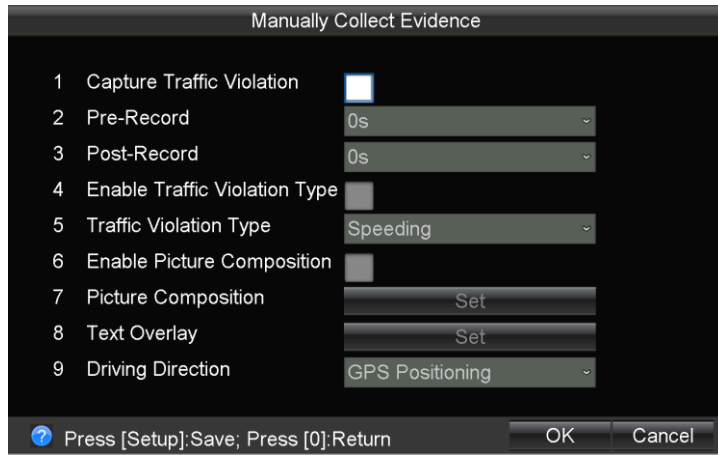


Figure 12-1 Enforcement Settings

Step 2 Check **Capture Traffic Violation**.

Step 3 Check **Enable Traffic Violation Type** and select **Traffic Violation Type**. When you recording the video of a traffic violation, it will be marked as the configured traffic violation type. Or you need to select traffic violation type after recording.

Step 4 Select **Pre-Record** and **Post-Record**.

- **Pre-Record:** The time you set to record before the recording starts. 0s, 5s, and 10s are available.
- **Post-Record:** The time you set to record after the recording stops. 0s, 5s, and 10s are available.

Step 5 Save the settings.

12.1.2 Start Traffic Violation Recording

For Manual Controller User

Step 1 Enter live view mode.

Step 2 Hold the **Record** button for 2 seconds to start manual recording.

Step 3 Hold the **OK** button for 2 seconds to start traffic violation recording.

Step 4 If **Enable Picture Composition** is unchecked and **Enable Traffic Violation Type** is checked, select traffic, hold the **OK** button for 2 seconds to stop traffic violation recording.

If both **Enable Picture Composition** and **Enable Traffic Violation Type** are unchecked, select traffic, hold the **OK** button for 2 seconds to stop traffic violation recording and select traffic violation type.

If **Enable Picture Composition** is checked, press **OK** to capture till the captured picture number reaches the Number of Pictures set in 12.3.1 Picture Composition Parameters.

For Touchscreen User

Step 1 Enter live view mode.

Step 2 Tap **Record** to start manual recording.

Step 3 Tap **Mark** to start traffic violation recording.

Step 4 If **Enable Picture Composition** is unchecked and **Enable Traffic Violation Type** is checked, select traffic, tap **Exit** to stop traffic violation recording.

If both **Enable Picture Composition** and **Enable Traffic Violation Type** are unchecked, select traffic, tap **Exit** to stop traffic violation recording and select traffic violation type.

If **Enable Picture Composition** is checked, tap **Exit** to capture till the captured picture number reaches the Number of Pictures set in 10.8.1 Picture Composition Parameters.

12.2 Traffic Violation Capture

Purpose:

During traffic violation recording, you can capture the picture of traffic violation scene. The function is only available for positioning system lite (channel 1).

12.2.1 Set Traffic Violation Capture Parameters

Purpose:

You can capture traffic violation.

Step 1 Go to **Menu > Enforce > Capture**.

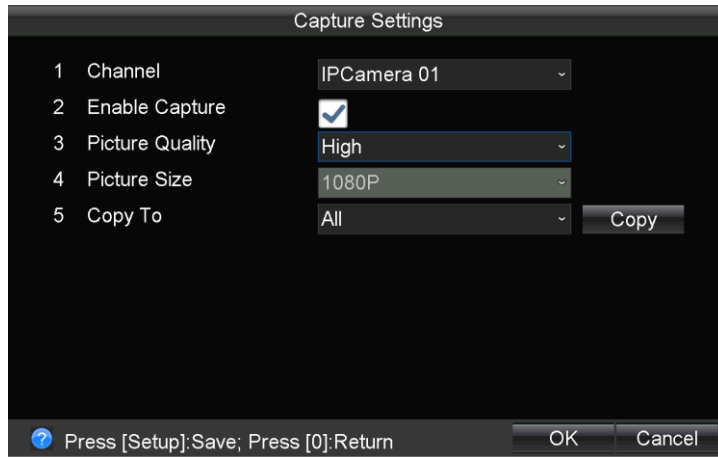


Figure 12-2 Capture Settings

Step 2 Select channel to configure.

Step 3 Check **Enable Capture**.

Step 4 Select **Picture Quality**.

Step 5 Save the settings.

12.2.2 Capture Traffic Violation Pictures

For Manual Controller User

Step 1 During traffic violation recording, press OK to capture one picture.

For Manual Controller User

Step 1 During traffic violation recording, tap **Capture** to capture one picture.

12.3 Picture Comparison

Purpose:

You can generate traffic violation pictures into one composition pictures. The function is only available for positioning system lite (channel 1).

12.3.1 Picture Composition Parameters

Step 1 Go to **Menu > Enforce > Enforce**.

Step 2 Check **Enable Picture Composition**.

Step 3 Click **Set of Picture Composition**.



Figure 12-3 Picture Composition Settings

Step 4 Configure composition picture options.

Step 5 Click **Set** of **Text Overlay**.

Step 6 Select the information to overlay on composition picture.

Step 7 Save the settings.

12.3.2 Start Picture Composition

Step 1 Enter live view mode.

Step 2 Start traffic violation recording.

Step 3 Press OK to capture.

Device will exit traffic violation till the captured picture number reaches the Number of Pictures set in 12.3.1 Picture Composition Parameters.

You can search the composited pictures in playback menu.

Chapter 13 Playback

Purpose:

The videos and captured pictures can be played back.

Step 1 In live view, press **Play** button on the manual controller to enter playback interface.

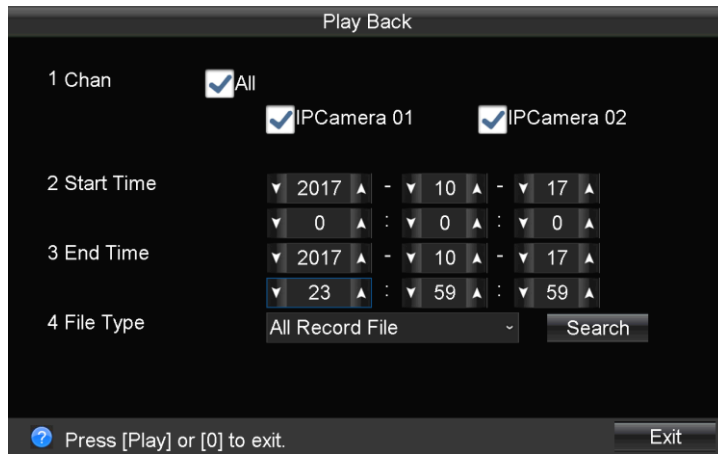


Figure 13-1 Search Files Interface

Step 2 Select the camera to search.

Step 3 Specify the **Start Time** and **End Time**.

Step 4 Select **File Type**.

- **Tag Record File:** Traffic violation videos.
- **Picture File:** Manual captured pictures and traffic violation pictures.

Step 5 Click **Search**.

No.	CH.	Start Time	End Time	Size(MB)	Info	Play
1	D1	10-17-2017 10:22:42	10:24:08	41.33		▶
2	D1	10-17-2017 10:24:08	10:32:53	252.52		▶
3	D1	10-17-2017 10:32:53	10:41:40	252.64		▶
4	D1	10-17-2017 10:41:40	10:50:26	252.49		▶
5	D1	10-17-2017 10:50:26	10:59:12	252.54		▶
6	D1	10-17-2017 10:59:12	11:07:58	252.61		▶
7	D1	10-17-2017 11:07:58	11:16:44	252.39		▶
8	D1	10-17-2017 11:16:44	11:25:29	252.49		▶
9	D1	10-17-2017 11:25:29	11:34:15	252.51		▶
10	D1	10-17-2017 11:34:15	11:43:02	252.59		▶
11	D1	10-17-2017 11:43:02	11:51:48	252.60		▶

Figure 13-2 Search Results

Step 6 Select the file to play and press **OK**.



The playback toolbar is only available for touchscreen.

Chapter 14 Platform

Purpose:

You can connect the device to the Ehome platform for central management.

Before you start:

Register the device ID on Ehome platform.

Step 1 Go to **Menu > Platform**.

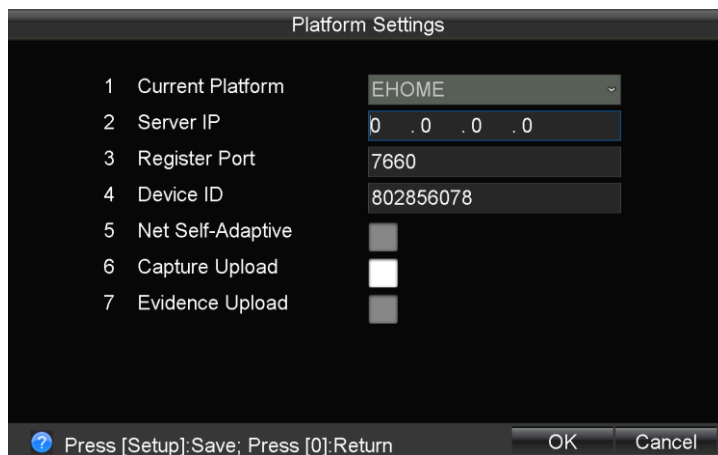


Figure 14-1 Platform Settings

Step 2 Input the **Server IP**, **Registration Port**, and **Device ID** in the corresponding text fields.

 **NOTE**

Registration port of Ehome platform is 7660 by default.

Step 3 Optionally, check **Net Self-Adaptive**, **Capture Upload**, and **Evidence Upload**.

- **Net Self-Adaptive:** Automatically optimize network transmission parameters according to network status.
- **Capture Upload:** Automatically upload captured pictures to platform.
- **Evidence Upload:** Reserved.

Step 4 Save the parameters.

Chapter 15 Backup


Purpose:


You can export the videos or pictures stored on the system to the backup device such as a USB flash disk.

Before you start:

Connect a backup device to the device.

Step 1 Search the record files or pictures. For details, see Chapter 13 Step 1 to Step 5.

Step 2 Press  to check files to export.

You can also hold  until sends out a beep sound to select all videos.

Step 3 Click **Export**.

Chapter 16 Events and Alarms

16.1 Exception Settings

Purpose:

Exception settings refer to the handling action of various exceptions.

Step 1 Go to **Menu > Other > Exception**.



Figure 16-1 Exception

Step 2 Select **Exception Type**.

- **HDD Full:** the HDD is full.
- **HDD Error:** writing HDD error, unformatted HDD, etc.
- **Network Disconnected:** disconnected network cable.
- **IP Conflicted:** duplicated IP address.
- **Illegal Login:** incorrect password.
- **Abnormal Recording:** no space for saving record files.

Step 3 Configure linkage method, including **Audible Warning** and **Trigger Alarm Output**.

- **Audio Warning:** Device will give audible warning when the selected exception occurs.
- **Trigger Alarm Out:** Device triggers the selected alarm output when the selected exception occurs.

16.2 Alarm Input Settings

Purpose:

You can set handling method of an external alarm.

Step 1 Go to **Menu > Other > Alarm**.

Step 2 Set **Alarm Type** as **Alarm In**.

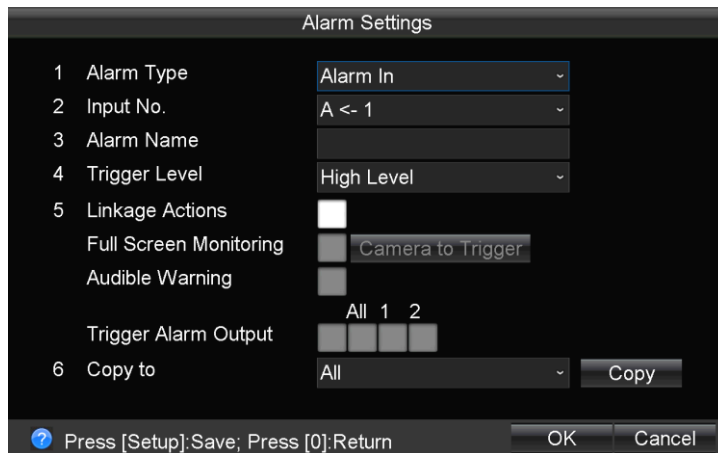


Figure 16-2 Alarm Settings

Step 3 Select alarm input need to configure from the dropdown list of **Input No.** Up to 4 alarm inputs are provided.

Step 4 Input **Alarm Name** in the text field.

Step 5 Set **Trigger Level** as **High Level** or **Low Level** from dropdown list.

Alarm is triggered by level, the DC range of Low Level is from 0V to 5V and the DC range of High Level is from 6V to 36V. To avoid misinformation caused by voltage fluctuation, DC ranges from 5V to 6V will not be processed.

Step 6 Configure linkage actions.

- 1) Check **Linkage Actions**.
- 2) Select **Full Screen Monitoring, Audible Warning, or Trigger Alarm Output**.
 - **Full Screen Monitoring:** When the alarm input is triggered, the monitor will display the image of selected trigger channel in full screen.
 - **Audible Warning:** Device will send out audible warning when the alarm input is triggered.
 - **Trigger Alarm Output:** Device will trigger the selected alarm output when the alarm in is triggered.

Step 7 Save the settings.

16.3 Alarm Output Settings

Step 1 Go to **Menu > Other > Alarm**.

Step 2 Set **Alarm Type** as **Alarm Out**.

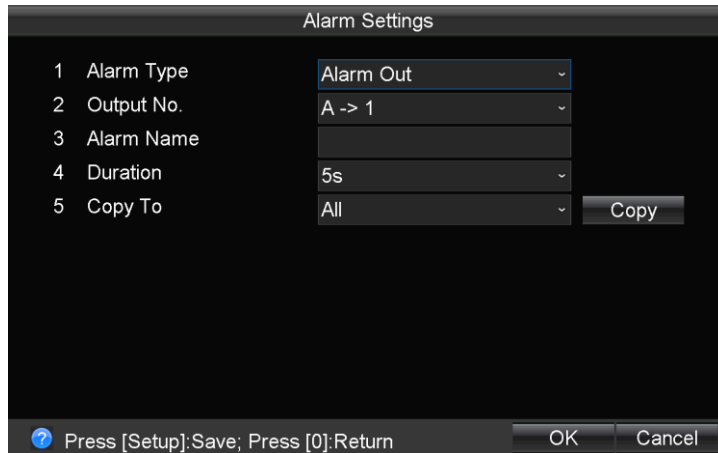


Figure 16-3 Alarm Settings

Step 3 Select alarm output to configure.

Step 4 Input **Alarm Name**.

Step 5 Select **Duration**.

- **Duration:** The duration of the alarm output. If manually clear is selected, you can only clear it by going to **Menu > Status > Alarm Status** and clicking Clear.

Step 6 Save the settings.

16.4 Speeding Alarm

Purpose:

GPS (Global Positioning System) are applied in device positioning and speed limit alarm.

Step 1 Go to **Menu > Other > GPS**.



Figure 16-4 GPS Settings

Step 2 Select **GPS Speed** unit.

Step 3 Input the **Speed Limit**.

Step 4 Check linkage actions. The actions will be triggered when speeding.

- **Audible Warning:** Device will give audible warning when speeding.
- **Trigger Alarm Output:** Trigger alarm out when speeding.

Step 5 Save the settings.

Chapter 17 User Account Management

Purpose:

You can modify admin password.

Step 1 Go to **Menu > System > Password**.

Step 2 Input the **Current Password**.

Step 3 Input **New Password** and input the same password in **Confirm** text field.

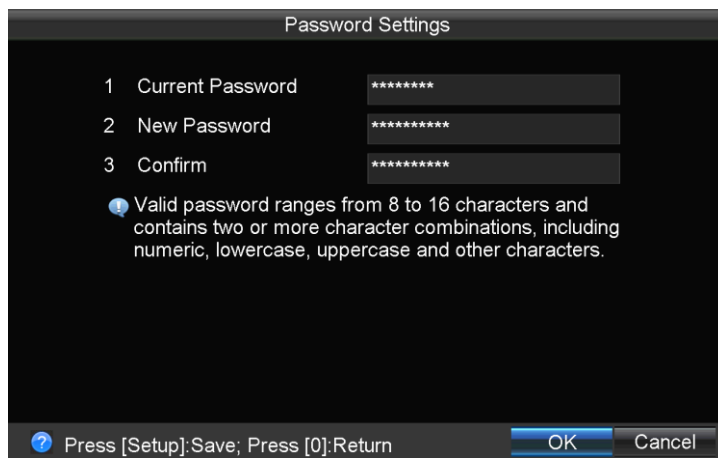


Figure 17-1 Password Settings Interface

Step 4 Save the settings.

Chapter 18 General System Configuration

18.1 Touchscreen Settings

Purpose:

You can operate device via the connected touchscreen.

Step 1 Go to **Menu > Enforce > Touchscreen**.

Step 2 Set touchscreen parameters.

Step 3 Save the settings.



Do not connect mouse when using touchscreen.

18.2 GPS Settings

Purpose:

GPS (Global Positioning System) are applied in device positioning and speed limit alarm.

Step 1 Go to **Menu > Other > GPS**.



Figure 18-1 GPS Settings

Step 2 Configure GPS parameters.

- **GPS Time Sync:** Synchronize device time with GPS time.
- **Time Zone:** Time Zone should be configured to zone where the host enforcement locates.
- **Display OSD on:** GPS positioning information will be overlaid on the selected camera in live view mode.

Step 3 **Upload Interval(s)**: GPS positioning information will be uploaded to platform regularly.
Invalid range: [1, 999].

18.3 Configure Basic Display Settings

Purpose:

You can set the system time, enable the password, etc.

Step 1 Go to **Menu > Other > Display**.



NOTE

The system language is set as English by default, and is not editable.

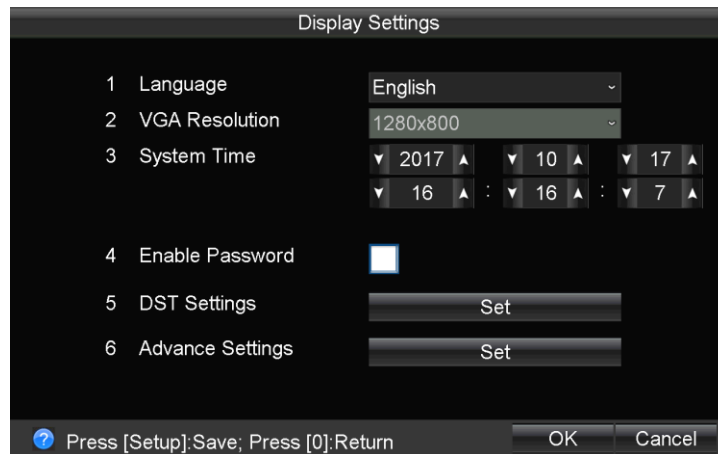


Figure 18-2 Display Settings

Step 2 Configure **System Time** and **Enable Password**.

- Check **Enable Password** to enable password authentication before operations.

Step 3 Save the settings.

18.4 Configure DST Settings

Step 1 Go to **Menu > Other > Display**.

Step 2 Click **Set** of **DST Settings** (Daylight Saving Time).

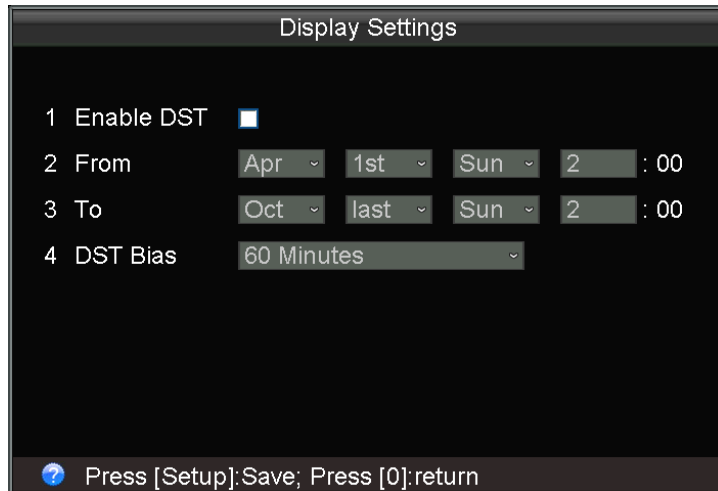


Figure 18-3 DST Settings

Step 3 Check **Enable DST**.

Step 4 Set DST start time and end time.

Step 5 Select DST Bias.

Step 6 Save the settings.

18.5 Configure Advanced Display Settings

Step 1 Go to **Menu > Other > Display**.

Step 2 Click **Set of Advance Settings** to configure advanced settings.

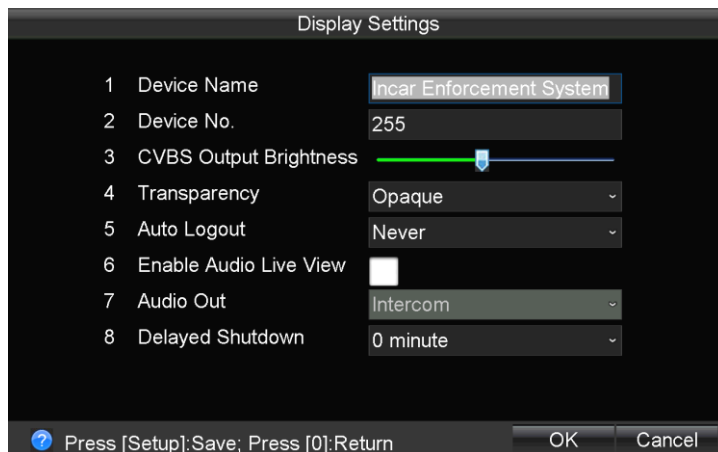


Figure 18-4 Advanced Display Settings

Step 3 Configure advanced display parameters.

- **Device Name:** Input the system name as desired in the text field.
- **Device No.:** Edit the device No. for remote control. The device No. ranges from 1 to 255. The default device No. is 255.

- **CVBS Output Brightness:** Adjust the brightness of CVBS output.
- **Transparency:** The transparency proportion of the menu displayed on the live view interface. You can set it as 1:1, 3:1, 1:3 or Non Transparent.



NOTE

- The smaller the proportion value is, the more transparent the menu is.
- When the Not Transparent is selected, only the menu is displayed on the interface.
- **Auto Logout:** if no operations are done during the selected time, the device will logout. It is set as Never by default, means the device will never logout and the time is not editable.
- **Enable Audio Live View:** Enable audio output in live view mode.
- **Delayed Shutdown:** Set the shutdown delay time for the device.

Step 4 Save the settings.

Chapter 19 Maintenance

19.1 View Status

Step 1 Go to **Menu > Status** to view the status of recording, dialing, platform, GPS, alarm, and Wi-Fi.

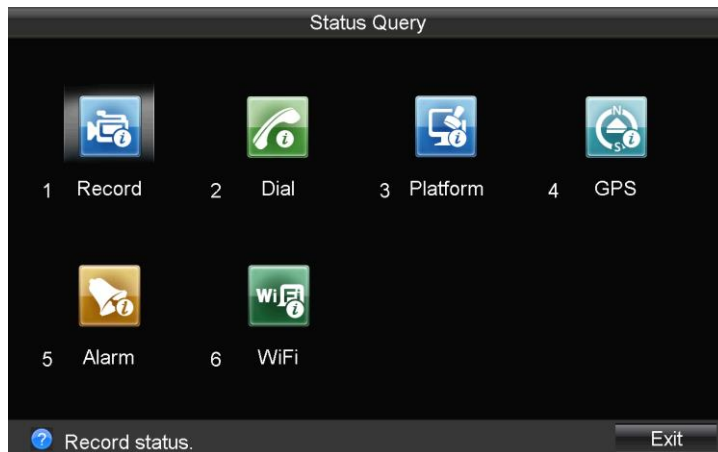


Figure 19-1 Status Query Interface

19.2 System Information

Step 1 Go to **Menu > System > Information** to view system information, including device model, serial No., firmware version, etc.

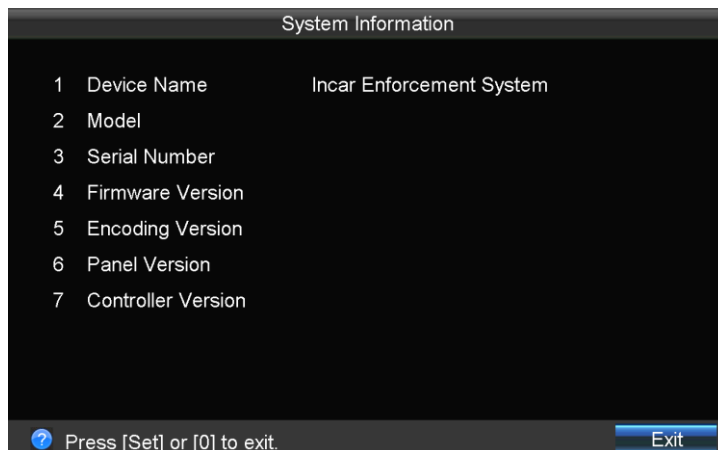


Figure 19-2 System Information

19.3 Log Management

Purpose:

You can search and export log files of the system.

19.3.1 Search Log

Step 1 Go to **Menu > System > Log**.

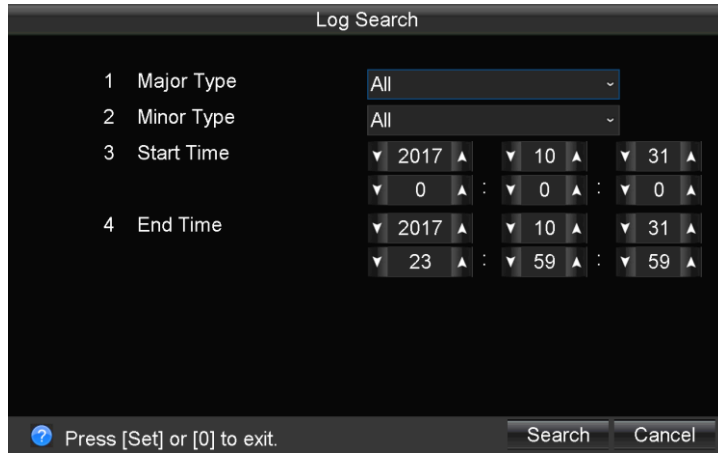


Figure 19-3 Log Search

Step 2 Select **Major Type**.

Step 3 Select **Minor Type**.

Step 4 Specify **Start Time** and **End Time**.

Step 5 Click **Search**. The logs matching the search conditions will be displayed on a list.

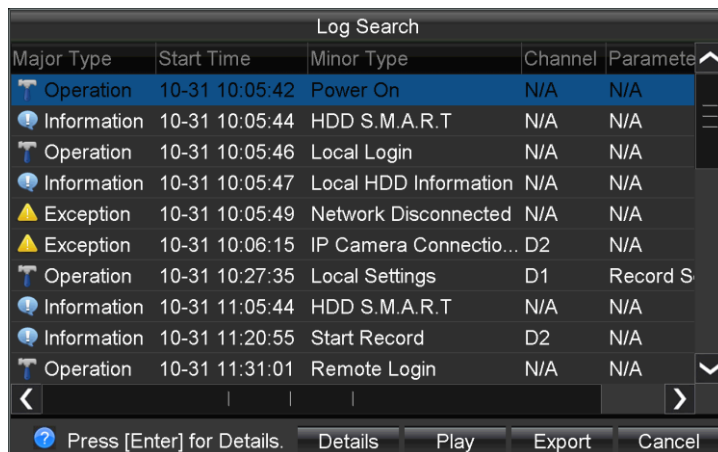


Figure 19-4 Log Search

19.3.2 Export Log

Before you start:

Connect the USB device to the enforcement host,

Step 1 Go to **Menu > System > Log**.

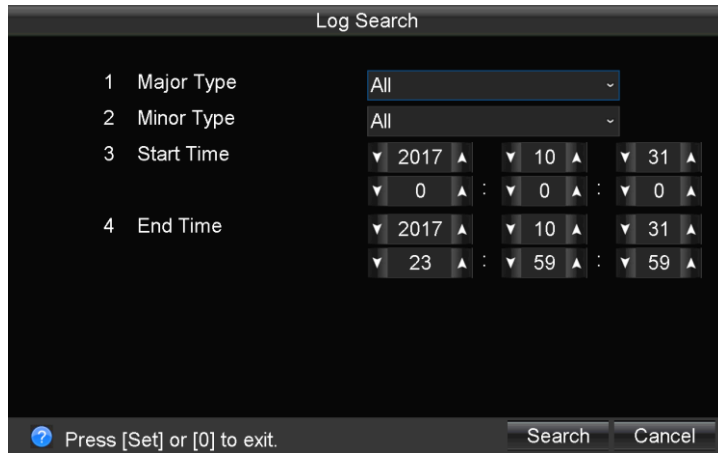


Figure 19-5 Log Search Interface

Step 2 Search log files. For details, refer to 19.3.1 Search Log.

Step 3 Click **Export** to export the log files to the USB device.

19.4 Upgrade System

Purpose:

You can upgrade the system by the local USB storage device or by the remote FTP server.

NOTE

It is recommended to restore the default settings of the system after the upgrading process is complete.

19.4.1 Upgrade by USB device

Before you start:

Connect the USB device on which the upgrade firmware is stored to device.

NOTE

The upgrade firmware of the system should be stored in the root directory of the USB device.

Step 1 Go to **Menu > System > Upgrade**.

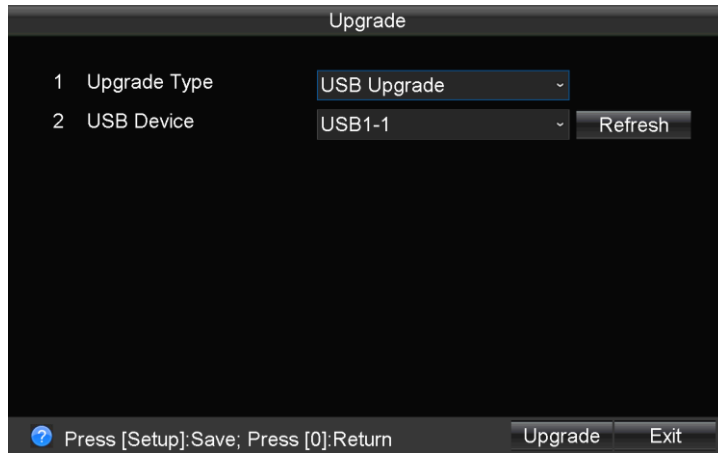


Figure 19-6 System Upgrade

Step 2 Input the current password in the text field to get authorization and click **OK**.

Step 3 Select **Upgrade Type** as **USB Upgrade**.

Step 4 Click **Upgrade** to start upgrading.

Step 5 Reboot the device to activate the new settings.

19.4.2 Upgrade by FTP

Before you start:

Configure PC (running FTP server) and device to the same Local Area Network. Run the 3rd-party TFTP software on the PC and copy the firmware into the root directory of TFTP.

Step 1 Go to **Menu > System > Upgrade**.

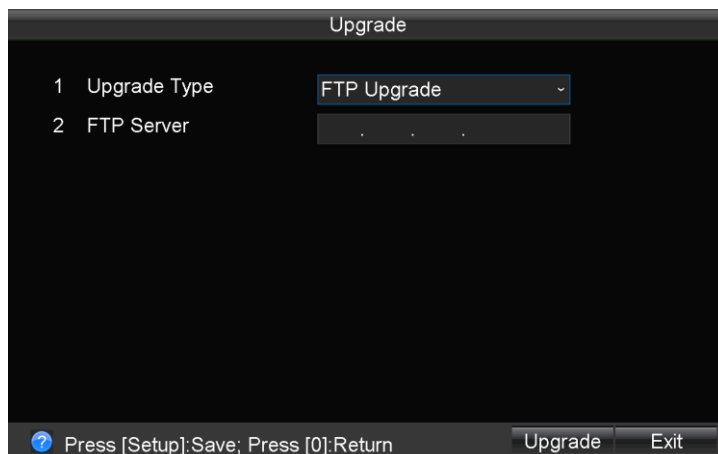


Figure 19-7 System Upgrade

Step 2 Input the current password in the text field to get authorization and click **OK**.

Step 3 Select **Upgrade type** as **FTP Upgrade**.

Step 4 Input the IP address of **FTP server** in the text field.

Step 5 Click **Upgrade** to start upgrading.

Step 6 Reboot the device to activate the new settings.

19.5 Restore Default Settings

Purpose:

You can restore the system to factory configuration.

Step 1 Go to **Menu > System > Default**.

Step 2 Input password in the text field to get authorization and click **OK**.

Step 3 Select the restoring type from the following two options.

- **Simply Restore:** Restore all parameters, except the network (including IP address, subnet mask, gateway, MTU, NIC working mode, default route, server port, etc.) and user account parameters, to the factory default settings.
- **Restore All:** Restore all parameters to the factory default settings.

Step 4 Click **OK** to reboot the system and restore to default settings.

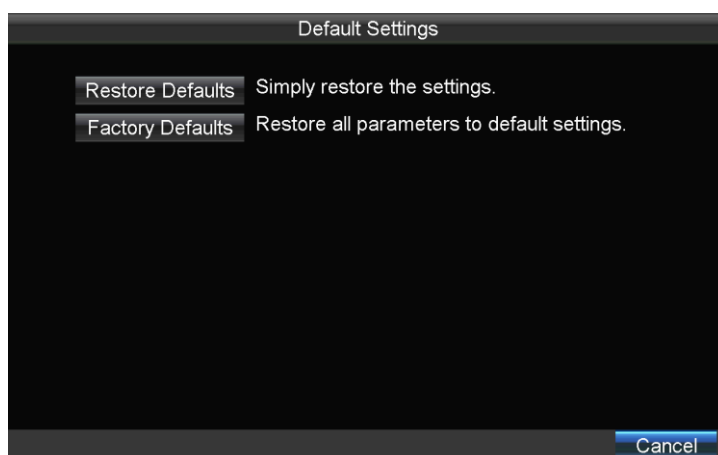


Figure 19-8 Default Settings

19.6 Import/Export Configuration Files

Purpose:

The configuration files of the system can be exported to local USB device for backup; and the configuration files stored on the USB device can be imported to multiple systems if they are to be configured with the same settings.

Before you start:

Connect a USB device to the enforcement host.

Step 1 Go to **Menu > System > Config File**.

Step 2 Input the current password in the text field to get authorization and click **OK**.

Step 3 Select the USB device from the dropdown list.

Step 4 Click **Import** to import the configuration files from the selected USB device to the system, and then reboot the system to activate the new settings;

Click **Export** to export the configuration files from the system to the selected USB device, and then confirm the message box after the exporting process is complete.

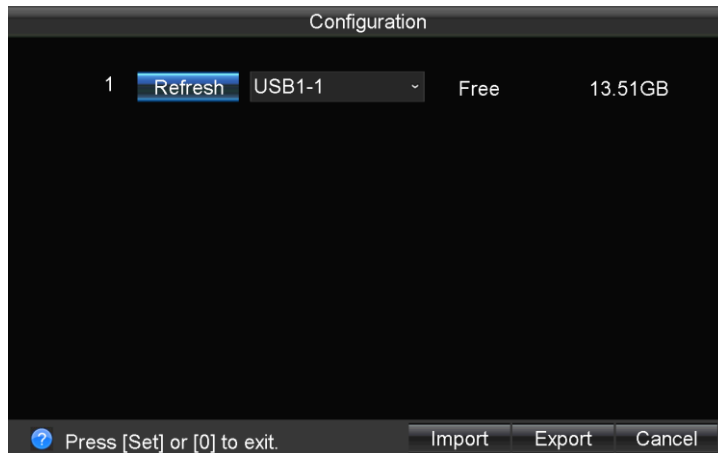


Figure 19-9 Configuration Interface

19.7 RS-232 Serial Port Settings

Purpose:

RS-232 serial port can be used in two working modes: transparent channel (for serial device connection) and console (for device debugging). You can configure the RS-232 serial port parameters if needed.

NOTE

It is recommended not to modify the RS-232 parameters when the serial port is used in the console working mode.

Step 1 Go to **Menu > Other > Serial**.

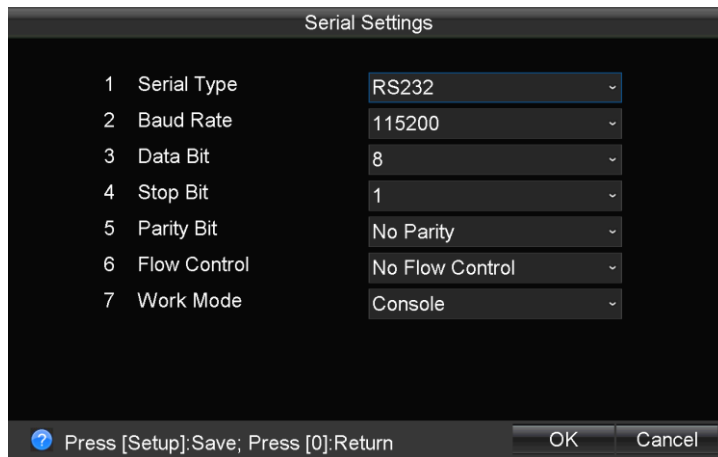


Figure 19-10 Serial Port Settings

Step 2 Configure the RS-232 parameters including the **Baud Rate, Data Bit, Stop Bit, Parity Bit, Flow Control** and **Work Mode**.

Step 3 Save the settings.

Chapter 20 Shutdown

20.1 Boot Settings

Purpose:

You can set the shutdown delay time (Vehicle Ignition Startup and Shutdown) or specify the startup/shutdown time (Timing On/Off) for the device.

20.1.1 Shutdown Delay

Purpose:

You can set the shutdown delay time for the device.

Step 1 Go to **Menu > Other > Boot Set.**

Step 2 Select **Auto Work Type** as **Shutdown Delay.**

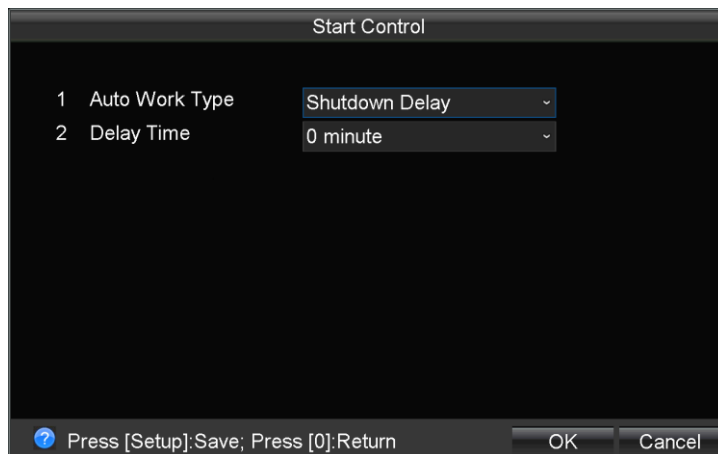


Figure 20-1 Shutdown Delay

Step 3 Select **Delay Time** for device shutdown. The delay time ranges from 0 min to 6 hours.

Step 4 Save the new settings.

20.1.2 Timing On/Off

Purpose:

Set the scheduled startup/shutdown. The device will automatically start up/shut down according the schedule.

Step 1 Go to **Menu > Other > Auto Working.**

Step 2 Select **Auto Work Type** as **Auto Working.**

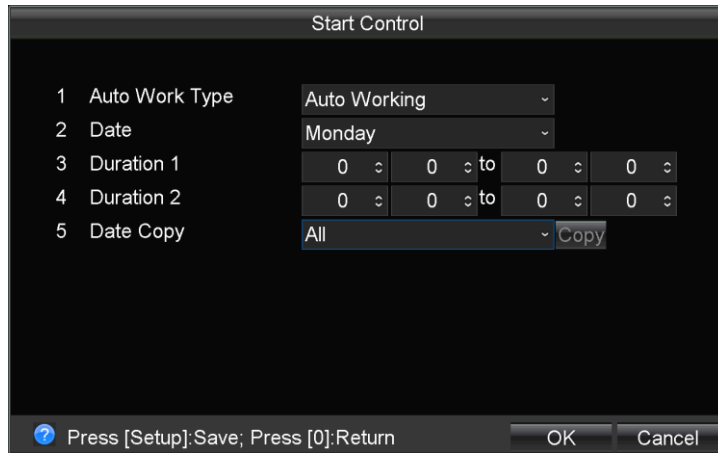


Figure 20-2 Auto Working

Step 3 Select the **Date** on which to start up/shut down the device automatically.

Step 4 Specify the **Duration** for the device to start up and shut down.

Step 5 Optionally, copy the settings to other days in the week.

Step 6 Save the new settings.

 **NOTE**

Two periods can be configured for each day and cannot be overlapped with each other.

20.2 Manual Shutdown

Step 1 Stop the recording and playback process, and exit from the system settings interface.

Step 2 Turn the switch lock to **OFF** status.

It takes about 10 seconds to complete the shutdown process.

Chapter 21 Appendix

21.1 HDD Storage Chart

The following chart shows an estimation of storage space used based on recording at one channel for an hour at a fixed bitrate.

Bitrate	Storage Used
512Kbps	225M
1.0M	450M
1.5M	675M
2.0M	900M
2.5M	1125M
3.0M	1350M



NOTE

Please note that supplied values for storage space used is just for reference. Storage space used is estimated by formulas and may have some deviation from actual value.

21.2 Troubleshooting

- **The new device sends out an audible warning after startup.**

Possible Reasons:

- a) No storage device (HDD or SD card) is installed on the enforcement host.
- b) The installed storage device has not been formatted.
- c) The storage device does not work.

Solutions:

- a) Install the storage device on the enforcement host or disable the HDD Error alarm on the Exception Settings interface.
- b) Format the storage device.
- c) Replace the broken storage device with a new one.

- **The enforcement host does not respond or restarts repeatedly in the startup process.**

Possible Reason:

- a) The power supply does not support the system to start up.



The operating voltage of the system ranges from +6VDC to +36VDC. However, the input voltage and power should be at least 8V and 40W for the system startup.

Solution:

- a) Make sure the power supply meets the actual needs of the system.

- **There is no recording while the system is working properly.**

Possible Reasons:

- a) No storage device is (HDD or SD card) installed on the enforcement host.
- b) The recording function is not enabled.

Solutions:

- a) Install the storage device on the enforcement host.
- b) Hold-and-press the **REC** button for about 3 seconds to enable the manual recording; Or check the checkbox of **All-day Record** on the Record Settings interface to enable the all-day recording.

- **3G dialing failure.**

Possible Reasons:

- a) The 3G dialing function is not enabled.
- b) The 3G VPDN (Virtual Private Dialup Network) parameters, including APN, dialing number, user name, password and authentication type, are not configured.
- c) The 3G antenna is not connected properly.
- d) The SIM card number owes a fee or the 3G service is not opened.

Solutions:

- a) Check the checkbox of **Enable 3G** on the 3G Network Settings interface to enable the 3G dialing function.
- b) Configure the parameters, including APN, dialing number, user name, password and authentication type, if 3G VPDN is adopted.
- c) Keep the master and slave antennas upright in a distance of at least 20cm if both of them are installed.
- d) Top up the SIM card No. or open the 3G service.

- **The device is connected to the 3G network, while it cannot be connected to the platform.**

Possible Reasons:

- a) The input platform parameters, including the server IP address, device ID and so on, are not correct.
- b) The platform server does not work properly.

Solutions:

- a) Make sure the input platform parameters are correct.
- b) Make sure the database service and other components of the server are working properly.

- **The locating information of the system cannot be obtained.**

Possible Reasons:

- a) The GNSS module is not inserted into the enforcement host.
- b) The GNSS module is abnormal.
- c) There is no satellite positioning signal.

Solutions:

- a) Insert the GNSS module into the enforcement host.
- b) Make sure the GNSS module works properly.
- c) Make sure the GNSS antenna is installed and locate the antenna outdoor or in places with good signal.

- **There is no backup device for the record files exporting.**

Possible Reasons:

- a) No backup device is installed.
- b) The backup device is incompatible with the system.
- c) The backup device suffers from virus or the format is not correct.
- d) The backup device breaks down.

Solutions:

- a) Insert the backup device, such as a USB flash drive, on the enforcement host.
- b) Replace the backup device with another one which is compatible with the system.
- c) Format the backup device and try again.
- d) Replace the backup device with a proper-functioning one.

- **Manually capturing failed.**

Possible Reasons:

- a) The manual capture function is not enabled.

b) The storage device does not work properly.

Solutions:

- a) Check the checkbox of Enable Capture on the Enforcement Settings interface to enable the manual capture function.
- b) Make sure the status of the storage device is displayed as Normal on the Storage Management interface.

● **The installed HDD (Hard Disk Drive) cannot be recognized.**

Possible Reasons:

- a) The device has been connected to the computer before system startup. In this situation, the HDD will be recognized by the computer instead of the device.
- b) The HDD does not work properly.

Solutions:

- a) Disconnect the device from the computer before system startup.
- b) Replace the HDD with a new one.

21.3 Recommended Sub-stream for 3G Network Transmission

The following chart gives a description of recommended bitrate based on the frame rate and image resolution for sub-stream.

Resolution \ Frame Rate	8 frames	12 frames	16 frames	22 frames	25 frames
CIF	99 kbps	138 kbps	184 Kbps	253 kbps	286 kbps
4CIF	329 kbps	461 kbps	614 kbps	845 kbps	949 kbps
720p	789 kbps	1106 kbps	1475 kbps	2028 kbps	2279 kbps



NOTE

It is recommended to set the picture quality as medium and set the bitrate type as variable.

