Mobile Digital Video Recorder

User Manual

UD.6L0204D1072A01

Thank you for purchasing our product. If there is any question or request, please do not hesitate to contact the dealer.

This manual is applicable to DS-5504HMI series Mobile Digital Video Recorder.

This manual may contain several technically incorrect places or printing errors, and the content is subject to change without notice. The updates will be added into the new version of this manual.

We will readily improve or update the products or procedures described in the manual.

The figures shown in this manual are for reference only. The appearance and interface of the device are subject to the actual model.

Safety Instructions

- Read, keep and follow these instructions.
- Professional automobile assembly manufacturers or automakers are required for the system installation. And place the device at a well-ventilated position inside the automobile.
- Please make yourself be familiar with the power connection before installation.
- Use the factory recommended HDD for this device.
- Install antennas of wireless networks and satellite positioning in place with good signal and away from lightning, avoiding the coverage or shielding of other objects. Keep the master and slave antennas upright in a distance of at least 20cm if both of them are installed.
- The system is made of sophisticated electronics and do not disassemble the device by yourself.
- Contact the qualified technician from Hikvision or authorized dealer if there is any question or request.

Product Key Features

General

- User-friendly GUI providing easy and flexible operations
- Each channel supporting up to WD1 resolution with high-efficient and flexible H.264 encoding technology
- VGA output supported
- One pluggable 2.5-inch HDD/SSD and one SD/SDHC card are connectable
- Hard disk box with fan and USB interface supporting intelligent temperature control and data export
- Built-in 3G (WCDMA), WI-FI and 2G (optional) modules providing flexible data transmission solutions
- Power-off protection avoiding key data from loss
- Backup recording on SD/SDHC card ensures the completeness of video files; Event triggered recording can be stored on the SD/SDHC card and HDD simultaneously to protect the key data.
- Built-in GNSS (Global Navigation Satellite System) module precisely positioning the vehicle via the satellite and recording the location information in the stream
- Information collection interfaces collecting driving information such as left/right turn, braking, backing up, etc.
- Multiple extension interfaces supporting display terminal of alarm and status, external G-sensor, etc.
- Specialized aviation connectors ensuring signal stability
- Ignition startup, Delay (0~6h) shutdown and 24-hour scheduled startup/shutdown
- Wide-range power input (+8VDC ~+36 VDC)
- Tensile aluminum chassis well adaptable to working environment
- Software-based firewall supported

Local Monitoring

- 1/4-division live view and adjustable display sequence of screens
- Shielding designated live view channel
- Motion detection, tamper-proof, video exception alarm and video loss alarm
- Privacy mask.

HDD Management

- One 2.5-inch SATA disks supported
- S.M.A.R.T. function
- File format compatible with Windows system; eliminating file fragments by disk space pre-allocation technology

Record and Playback

- Cycle recording and non-cycle recording supported
- Three types of compression parameters including main stream (normal), main stream (event) and sub-stream
- Multiple recording types: normal, alarm, motion, motion | alarm, motion & alarm.
- Up to 8 time periods configurable for different recording types
- Pre-record and post-record for motion or alarm triggered recording
- Search and play back record files by camera No., recording type, start/end time, etc.
- Supporting pause, fast forward, slow forward, skip forward, skip backward and mute when playback

Backup

- Export video data by USB device
- Export video data by pluggable HDD
- Management and maintenance of backup devices.

Alarm and Exception

- Management of alarm input/output.
- Management of video loss alarm, motion detection alarm, video tampering alarm
- Configurable arming schedule of alarm input/output
- Alarm for video loss, motion detection, video tampering, video signal exception, video input/output standard mismatch, illegal login, network disconnected, IP confliction, HDD error, and HDD full
- Multiple alarm linkage actions including full screen monitoring, audible warning and alarm output. Motion detection and alarm can trigger recording and full screen monitoring. Exception can trigger audible warning and alarm output.
- Automatic restore when system is abnormal.
- Supporting alarm and status display terminal

Other Local Functions

- Two-level user management; admin user is allowed to configure the parameters and create many operators
- Supporting record and search the logs of operation, alarm, exceptions and information
- Upgrade system via USB, network or RS-232 interface
- Import/export of device configuration file.

Network Functions

- 1 self-adaptive 10M/100M network interface
- WCDMA supported
- Wi-Fi supported
- Remote configuration and operation by iVMS platform
- TCP/IP, DHCP, DNS, NTP, and SADP supported
- Remote search, playback, download of record files
- Remote parameters setup; remote import/export of device parameters
- Remote viewing of the device status, system logs and alarm status
- Remote HDD formatting, program upgrading and system restart
- RS-232, RS-485 transparent channel transmission

Development Scalability

- SDK for Windows and Linux system
- Development support and training for application system

- The Wi-Fi function is only supported by the "/WI" devices.
- The 3G dialing function is only supported by the "/GW" devices.
- The 2G network function is only supported by the "/GG" devices.

TABLE OF CONTENTS

Chapter 1 Introduction

1.1 Front Panel

The front panel of DS-5504HMI series and DS-5504HMI/BNC series are displayed below:

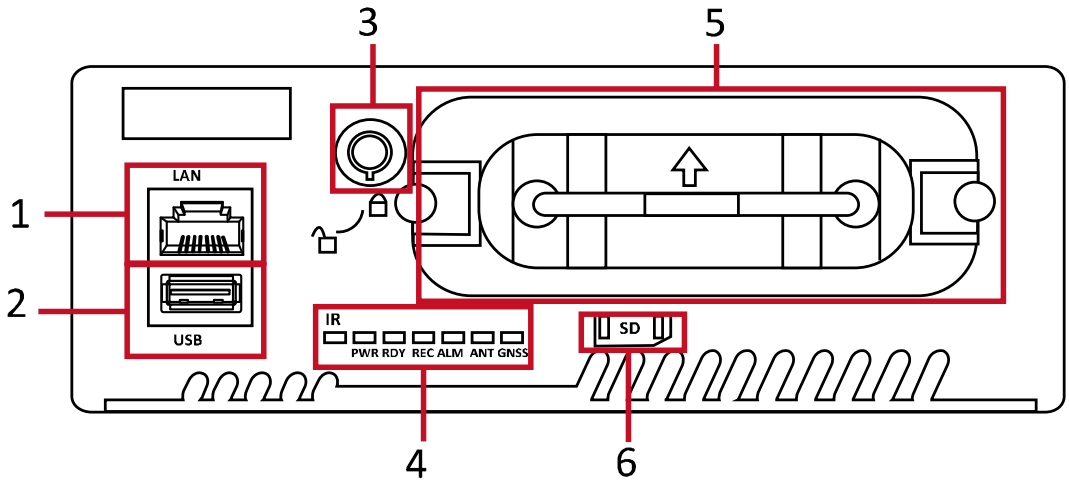


Figure 1. 1 Front Panel

Table 1. 1 Description of Front Panel

Index	Name	Description
1	**LAN**	10M/100M self-adaptive Ethernet interface
2	**USB**	USB interface
3	**Hard disk lock**	Lock/Unlock the hard disk box; Power on the mobile DVR after the hard disk box is locked.
4	**Indicators**	**IR: IR Receiver** Receive IR signal from remote control.
		PWR: Power indicator Light in green after device startup; light in red when device standby.
		RDY: Ready indicator Light in green after device starts up properly.
		REC: Record indicator Light in green during recording process.
		ALM: Alarm indicator Light in red when alarm occurs.
		ANT: 3G dialing indicator Light in steady green during dialing process; flash in green after dialing succeeded; The light is out when the dialing module is abnormal.
		GNSS: GNSS indicator Light in steady green during positioning process; flash in green after positioning succeeded; The

		light is out when the positioning module is abnormal.
5	**Hard disk box**	Insert one 2.5-inch SATA HDD/SSD for data storage;
6	**SD card slot**	Insert one SD card for data storage.

NOTE

The USB interface on the front panel only supports the USB backup function.

1.2 Rear Panel

The rear panels of DS-5504HMI series and DS-5504HMI/BNC series are displayed below:

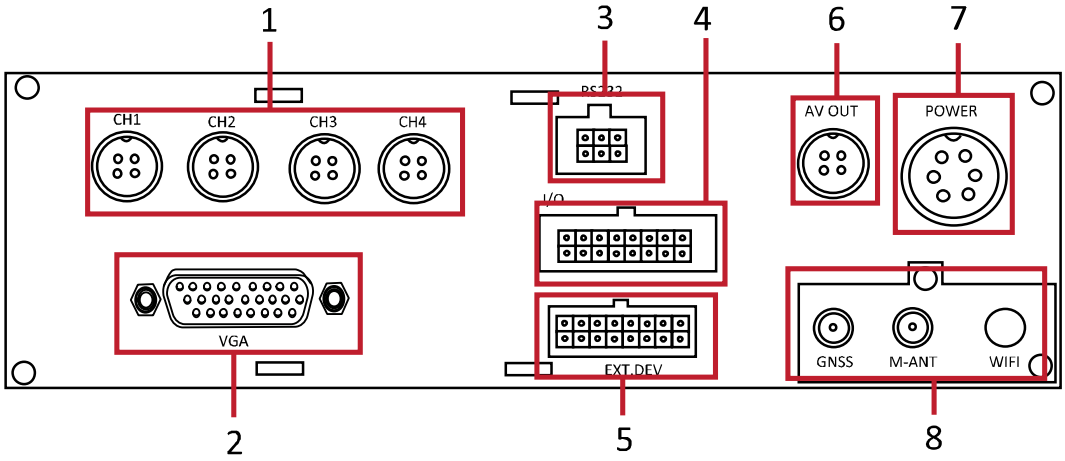


Figure 1. 2 Rear Panel-DS-5504HMI series

Table 1. 2 Description of Rear Panel-DS-5504HMI series

Index	Name	Description
1	**CH1~CH4**	4-pin aviation plug, audio & video input of channel 1~4, providing 12V power supply
2	**VGA**	VGA interface
3	**RS232**	RS-232 interface
4	**I/O**	7-ch high / low level signal trigger including 3-ch alarm inputs, 4-ch sensor in; 1-ch pulse signal input
5	**EXT.DEV**	RS-422 communication interface, two-way audio, video output signal, RS-485 and power supply
6	**AV OUT**	4-pin aviation plug for audio & video output
7	**POWER**	6-pin aviation plug for power supply and start control
8	**Pluggable Module**	3G module, Wi-Fi module (optional), 2G module (optional), GPS module

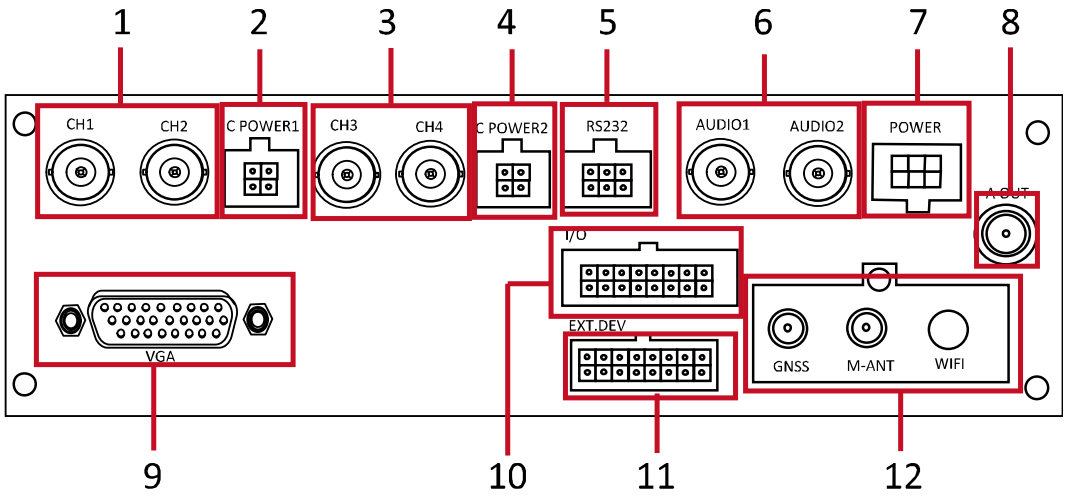


Figure 1. 3 Rear Panel-DS-5504HMI/BNC series

Table 1. 3 Description of Rear Panel-DS-5504HMI/BNC series

Index	Name	Description
1	**CH1~CH2**	BNC interface; video input of channel 1~2
2	**C POWER1**	Provide power supply for connected camera
3	**CH3~CH4**	BNC interface; video input of channel 3~4
4	**C POWER2**	Provide power supply for connected camera
5	**RS232**	RS-232 interface
6	**AUDIO1** **AUDIO2**	Audio input of channel 1~2 (no audio input supported for channel 3~4)
7	**POWER**	Provide power supply
8	**AV OUT**	BNC interface for video output
9	**VGA**	VGA interface
10	**I/O**	7-ch high / low level signal trigger including 3-ch alarm inputs, 4-ch sensor in; 1-ch pulse signal input
11	**EXT.DEV**	RS-422 communication interface, two-way audio, video output signal, RS-485 and power supply
12	**Pluggable Module**	3G module, Wi-Fi module (optional), 2G module (optional), GPS module

1.3 IR Remote Control Operations

The device may also be controlled with the included IR remote control, shown in Figure 1.4.

NOTE

Batteries (2×AAA) must be installed before operation.

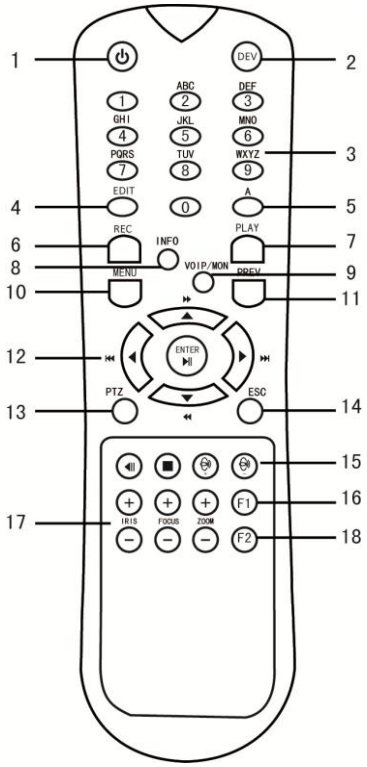


Figure 1. 4 Remote Control

Table 1. 4 Description of the IR Remote Control Buttons

No.	Name	Description
1	**Power**	Reserved
2	**DEV**	Input device number.
3	**Number keys**	1. Input number, symbol, and character. 2. Switch to the corresponding channel in Live View mode.
4	**Edit**	1. Enter the edit status, and then delete the character in the front of the cursor. 2. It can also be used to *tick* checkbox. 3. In Playback mode, it can be used to generate video clips for backup.
5	**A**	Switch between input methods (Number, English, symbol) when in the edit status.
6	**REC**	Reserved
7	**PLAY**	Enter video search interface.
8	**INFO**	Reserved
9	**VOIP/MON**	Reserved
10	**MENU**	Enter Main menu interface.
11	**PREV**	Switch between single screen and multi-screen mode.

12	DIRECTION Buttons	Up, Down, Left, Right 1. The DIRECTION buttons are used to navigate between different fields and items in menus. 2. In the playback interface, they are used for fast forward, slow forward, rewind. 3. In Live View mode, these buttons can be used to switch channel(s).
	ENTER	1. The ENTER button is used to confirm selection in any of the menu modes. 2. It can also be used to *tick* checkbox. 3. In Playback mode, it can be used to play or pause the video. 4. In Auto-switch mode, it can be used to stop /start auto switch.
13	PTZ	Reserved
14	ESC	Back to the previous menu.
15	RESERVED	Reserved for future use.
16	F1	In video search interface, it can be used to select all record files.
17	PTZ Control Buttons	Buttons to adjust the iris, focus and zoom of a PTZ camera.
18	F2	Reserved

Remote Control Troubleshooting:

NOTE

Make sure you have installed batteries properly in the remote control. And you have to aim the remote control at the IR receiver in the front panel.

If there is no response after you press any button on the remote, follow the procedure below to troubleshoot.

Steps:

1. Go to Menu > Settings > General > More Settings by operating the mouse.
2. Check and remember device ID#. The default ID# is 255. This ID# is valid for all the IR remote controls.
3. Press the DEV key on the remote control.
4. Enter the device ID# in step 2.
5. Press the ENTER button on the remote.

If the Status indicator on the front panel turns blue, the remote control is operating properly. If the Status indicator does not turn blue and there is still no response from the remote, please check the following:

NOTE

When the device ID# is 255, the Status indicator is off when device is controlled by an IR remote control.

1. Batteries are installed correctly and the polarities of the batteries are not reversed.
2. Batteries are fresh and not out of charge.
3. IR receiver is not obstructed.

If the remote still can't function properly, please change a remote and try again, or contact the device provider.

1.4 Starting Up and Shutting Down the Device

Two working modes are available for the mobile DVR. The connection of power cables and control interfaces varies from

the device working mode.

- Vehicle ignition startup and time-delay shutdown

The mobile DVR starts up when the vehicle ignites and shuts down according to the pre-defined delay time after the vehicle is off. The startup and shutdown of the device depend on the vehicle ignition signal.

- Timing on/off

The mobile DVR starts up or shuts down automatically according to the pre-defined time and the device works separately from the running status of the vehicle.

1.4.1 Vehicle Ignition Startup and Time-delay Shutdown

The vehicle ignition startup and time-delay shutdown are realized by the vehicle ignition switch, which includes positive pole ignition switch (providing high level signal when the switch closes) and negative pole ignition switch (providing low level signal when the switch closes). The wire connection of the device varies from different vehicle ignition switch.

For detailed time settings of time-delay shutdown, see Chapter 6.1

NOTE

- Please contact the vehicle manufacturer for the connection information of starting switch.
- The vehicle ignition switch, also called car key, controls the startup and shutdown of the vehicle. Most of the cars adopts positive pole ignition switch currently.

Positive pole ignition switch

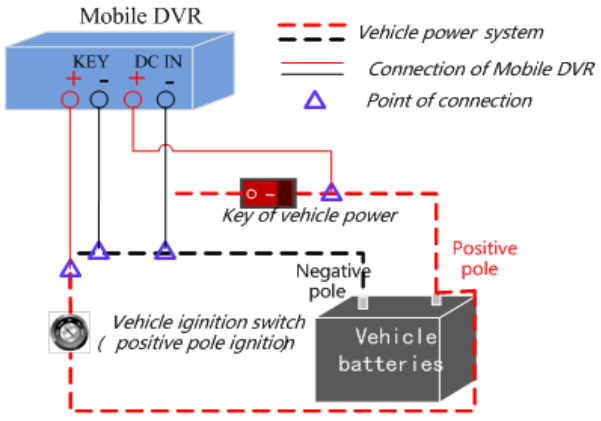


Figure 1. 5 Connection of Positive Pole Ignition Switch

Ignition switch is connected to the positive pole of DC+12/24V of vehicle batteries. Please make sure that the connection is correct, and then perform the following steps:

Steps:

1. Connect the “DC IN +” of mobile DVR to the positive pole of vehicle batteries, jumping over the switch of normal vehicle power.
2. Connect the “DC IN -” and “KEY -” of mobile DVR to the negative pole of vehicle batteries.
3. Connect the “KEY +” of mobile DVR to the vehicle ignition switch.

NOTE

The normal vehicle power refers to the main power of the vehicle power supply system. After the vehicle is off, the normal vehicle power still provides direct-current source for the other devices inside and generally a main switch is used to turn on/off it.

Negative pole ignition switch

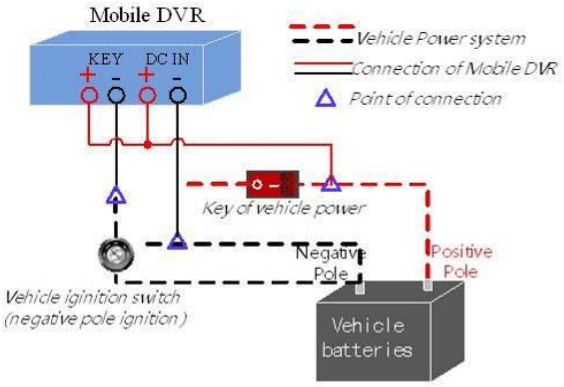


Figure 1. 6 Connection of Negative Pole Ignition Switch

Ignition switch is connected to the negative pole of DC+12/24V of vehicle batteries. Please make sure that the connection is correct, and then perform the following steps:

Steps:

1. Connect the “DC IN +” and “KEY +” of mobile DVR to the positive pole of vehicle batteries, jumping over the switch of normal vehicle power.
2. Connect the “DC IN -” to the negative pole of vehicle batteries.
3. Connect the “KEY -” of mobile DVR to the vehicle ignition switch.

1.4.2 Timing On/Off

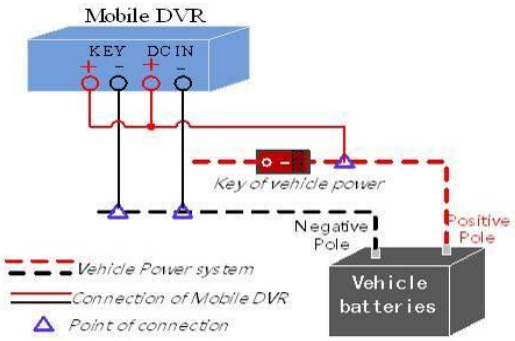


Figure 1. 7 Timing On/Off

Steps:

1. Connect the “DC IN +” and “KEY +” of mobile DVR to the positive pole of vehicle batteries.
2. Connect the “DC IN -” and “KEY -” of mobile DVR to the negative pole of vehicle batteries.

For detailed time settings of time-delay shutdown, see Chapter 6.1

1.5 Alarm Input / Output Connection

1.5.1 Alarm Input Connection

DS-5504HMI series mobile DVR adopts the high/low-level electrical signals triggering (high level: 6~36 VDC; low level: 0~5 VDC) to realize alarm input. And in order to avoid error report caused by voltage fluctuation, no alarm will be triggered by voltage ranging of 5~ 6VDC.

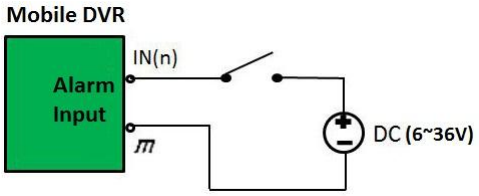


Figure 1. 8 Alarm Input Connection

1.5.2 Alarm Output Connection

The alarm output interfaces B1 and C1 of the mobile DVR is closed normally if no alarm occurs. When an alarm output is triggered, the corresponding A1 and C1 interfaces will be connected. Thus, the active alarm device is required for the system.

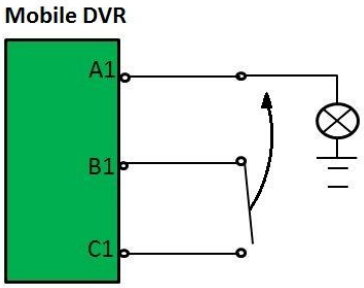


Figure 1. 9 Alarm Output Connection

1.6 Hard Disk / SD Card Installation

NOTE

- Use the factory recommended 2.5-inch hard disk.
- Initialize the HDD for recording after the installation. Otherwise, the system will give an audible warning for HDD error. For details, see *Chapter 3.1.1*.

Perform the following steps to install the HDD / SD card on the mobile DVR.

Step 1:

Prepare the tools and components for installation: 2.5-inch SATA HDD, antistatic gloves, key to hard disk lock, cross screwdriver, conventional screws and bunk screw KM3X5B.

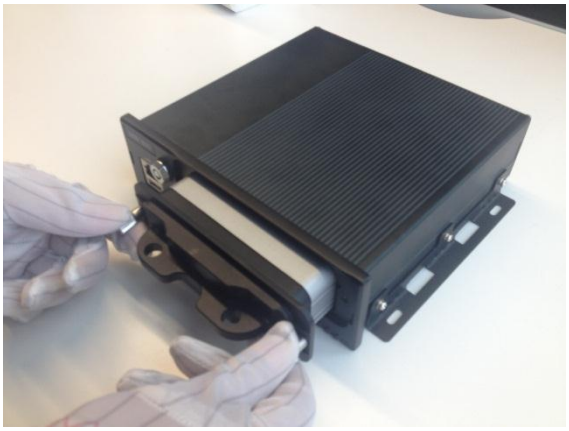
Put on the antistatic gloves before the installation.

Step 2:

Insert the key and turn in counterclockwise to open the hard disk lock, unfasten the screws counterclockwise and pull out the hard disk box.

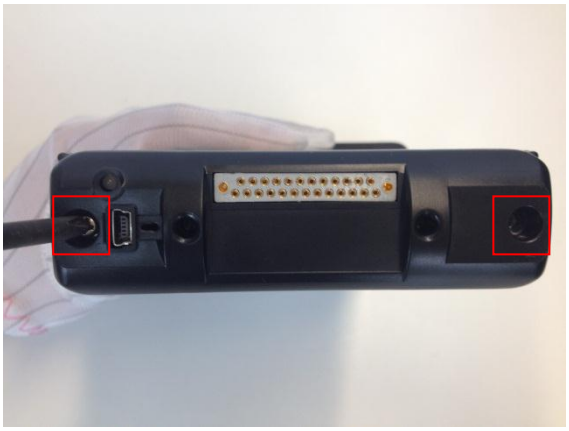
NOTE

The hard disk lock is locked when the keyhole stands upward and is open when the keyhole stands leftward.



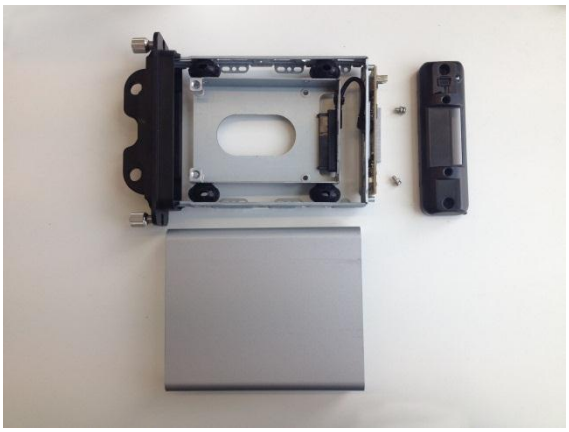
Step 3:

Loosen and remove the two set screws marked in the figure with the screwdriver, and then take the hard disk box apart.



Step 4:

The assembly parts of the hard disk box are shown in the figure.

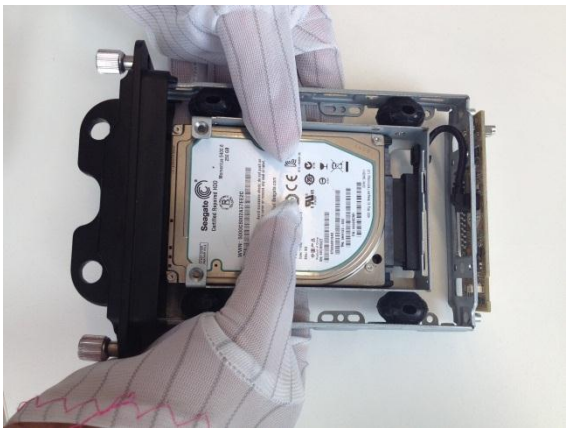


Step 5:

Place the HDD into the hard disk box, with the PCB facing downward.

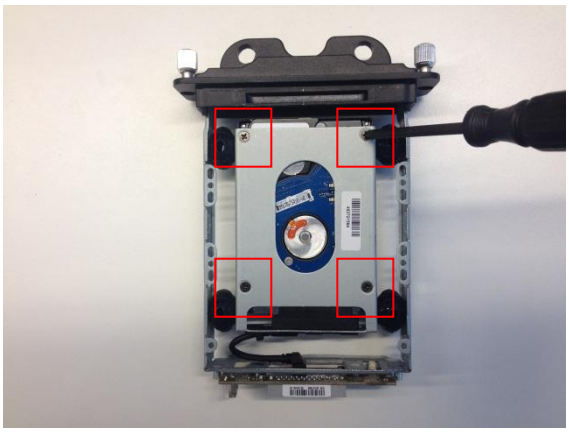
Step 6:

After the HDD is fully placed into the bracket, reverse the hard disk box and flat the HDD. And then tightly insert the HDD into the disk socket at the bottom.



Step 7:

Tighten the four sunk screws marked in the figure to fix the HDD.

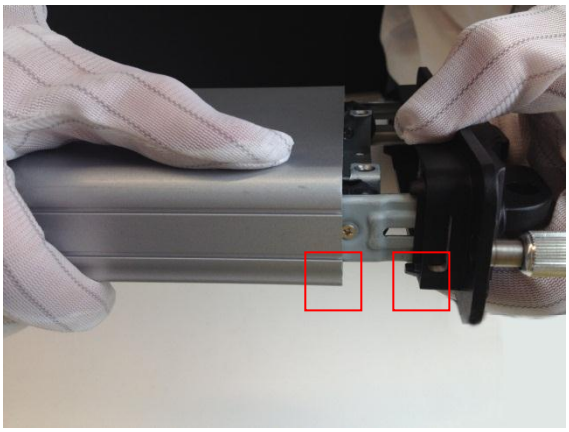


Step 8:

The installed HDD is shown as the figure.

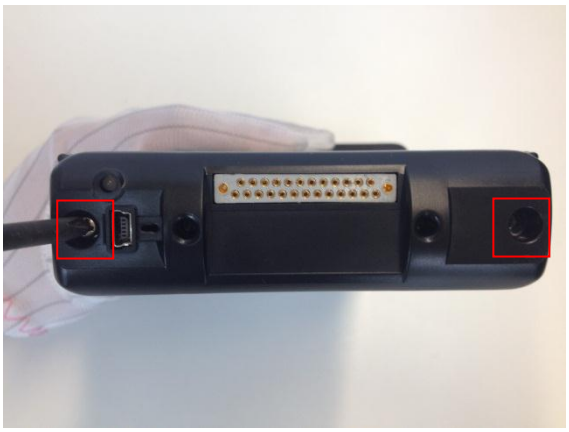
Step 9:

Align the two sharp corners marked in the figure, and then assemble the whole hard disk box.



Step 10:

Tighten the two set screws of the hard disk box, as shown in the figure.



Step 11:

To install the SD card, insert the SD card into the SD card slot on the front panel, with the golden contact facing downward and the gap standing rightward. Release the card when you hear the tick sound.

Step 12:

Insert the hard disk box back to the mobile DVR, and then tighten the screws clockwise.

1.7 SIM Card Installation

Pluggable 3G / 2G wireless communication module is designed for the mobile DVR and you should install the SIM card to realize the wireless communication function.

Perform the following steps to install the SIM card on the mobile DVR:

Step 1:

Put on the antistatic gloves before the installation.

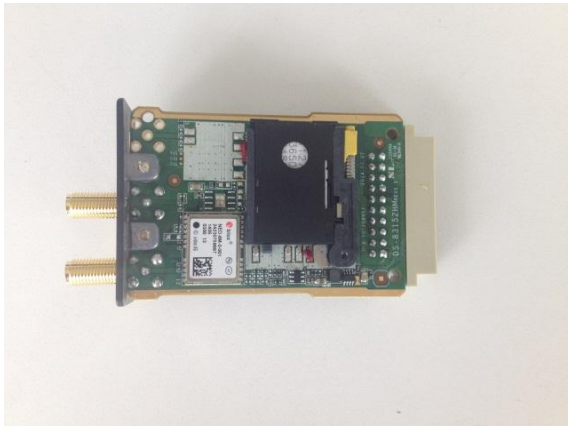
Use the screwdriver to loosen and remove the two set screws on the rear panel of the mobile DVR.

Step 2:

Pull the 3G / 2G wireless communication module out of the mobile DVR.

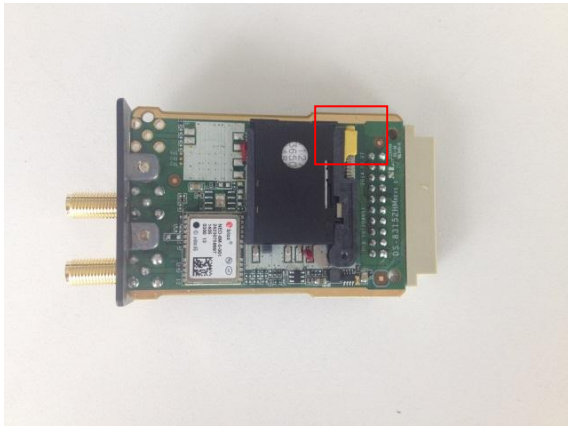
Step 3:

The separate 3G / 2G module is shown as the figure.



Step 4:

Press the yellow button on the 3G / 2G module, to pop up the corresponding SIM card socket. And then remove the SIM card socket.



Step 5:

Place the SIM card into the SIM card socket correctly, as shown in the figure.

Step 6:

Place the SIM card socket installed with the SIM card back to the 3G / 2G module.

Step 7:

Install the 3G module component back to the mobile DVR, and tighten the two set screws.

Step 8:

Connect the antenna to the device after the SIM card installation is complete.

Chapter 2 Basic Operations

2.1 Main Page

You can operate the mobile DVR via the remote control.

- **Enter the main page:** Press the **MENU** button, and you will enter the main page of system.
- **Operations on the main page:** Move the cursor via the direction buttons to select the menu item, and click the **Enter** button to enter the interface of the sub-menu.
- **Exit from main page:** Press the **ESC** button.

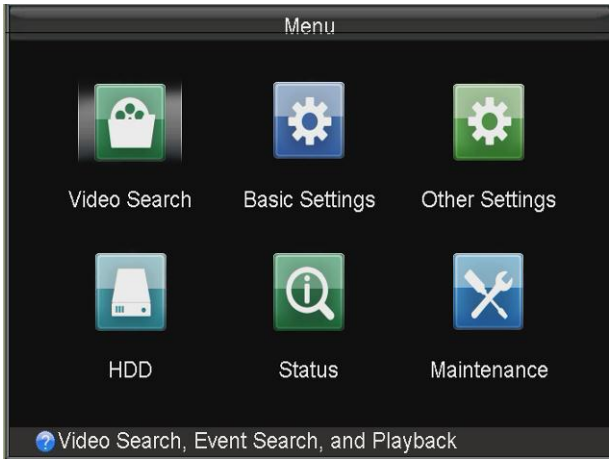


Figure 2. 1 Main Page

2.2 User Management

The user name and password of the device are *admin* and *12345* by default. The admin user has all the operation permissions of the device.

Steps:

1. Enter the User Management interface.
   Menu>Other Settings>User

Figure 2. 2 User Management

2. Click the **Add** button to enter the Add User interface.

Figure 2. 3 Add User

3. Input the information of the new user, including user name, password and confirm password.
4. Select the user level from the drop-down list.

   Operator: The operator has permissions of Preview, Playback, Backup, Log Search and Parameters Settings.

   Guest: The Guest has permission of Preview, Playback, Backup and Log Search.
5. Click the **OK** button to save the settings and go back to the User Management interface.
6. You can click the **Delete** button to delete the selected user and click the **Modify** button to modify the user information.

2.3 Display Settings

Purpose:

You can set the system time, select the CVBS output standard, enable the password, configure the DST settings, etc.

Steps:

1. Enter the Display Settings interface.

   Menu>Other Settings>Display

   NOTE

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

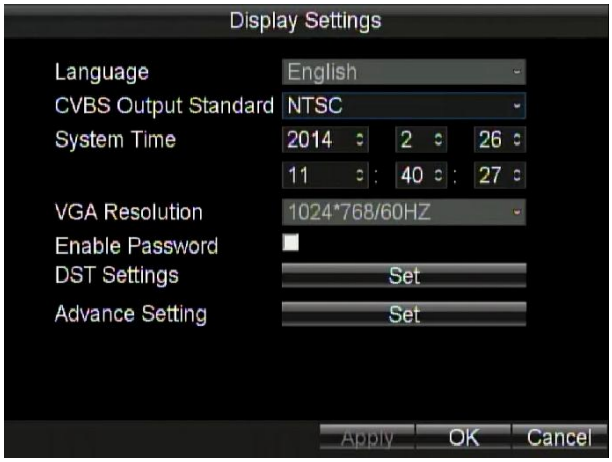


Figure 2. 4 Display Settings

2. Select the CVBS output standard to NTSC or PAL according to the actual video input standard.
3. Set the system time. You can click the **DIRECTION** keys on the remote control to positioning the cursor (**Left**/**Right**) and adjust the date or time (**Up**/**Down)**.
4. Select the VGA resolution from the drop-down list.

   NOTE

   The VGA resolution is only configurable when the Mobile DVR is connected to a VGA monitor. And you can set it as 1024*768/60Hz, 1280*720/60Hz, 1280*1024/60Hz, 1600*1200/60Hz or 1920*1080/60Hz.
5. Check the checkbox of **Enable Password** enable the password authentication before operations.
6. Click the **Set** button of DST Settings, and you can configure the DST (Daylight Saving Time) for the system.

   Perform the following steps to configure the DST settings.

   1) Check the checkbox of **Enable DST**.
   2) Set the start time and end time for the DST period.
   3) Select the DST bias from the drop-down list.
   4) Click **Apply** to save the settings and click **OK** to exit.

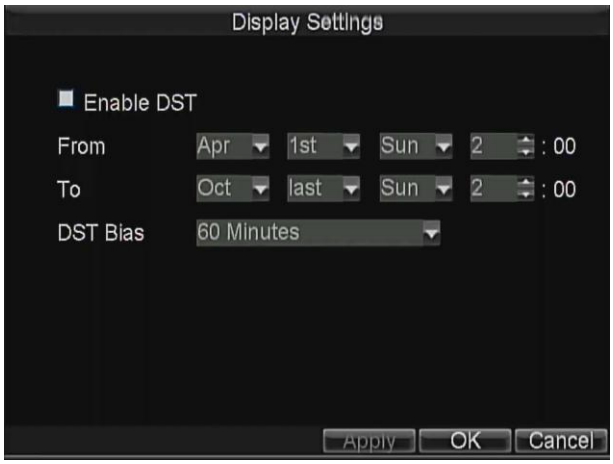


Figure 2. 5 DST Settings

7. Click the **Set** button of Advance Settings, and you can configure the advanced parameters for display.
   - **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.

It is recommended not to modify the **Device No.**. Otherwise, you need to input the Device No. on the remote control every time you use it.

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

- 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.

- **Operation Timeout:** If no operations are done during the selected time, the live view interface will be displayed automatically.

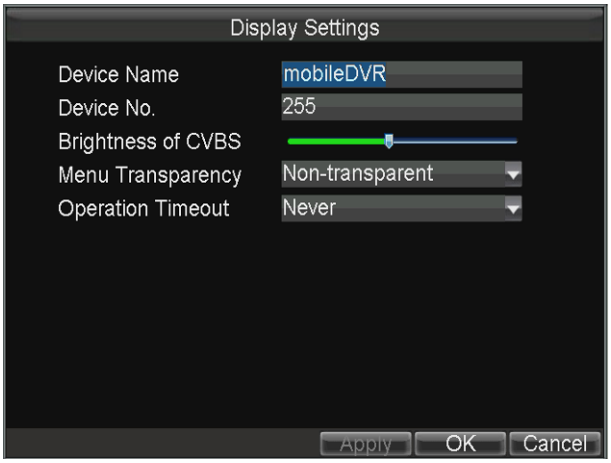


Figure 2. 6 Advanced Settings

8. Click **Apply** to save the settings and click **OK** to exit.

2.4 Camera Settings

Purpose:

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

The settings of OSD, standing for On Screen Display, include the display of camera name, date and week and the corresponding position information.

Steps:

1. Enter the Camera Settings interface.
   Menu>Other Settings>Camera

Figure 2. 7 Camera Settings

2. Select the camera from the drop-down list.
3. Input the camera name as desired in the text field.
4. Check the checkboxes to display the camera name, date or week on the live view interface of selected camera.
5. Select the date format and time format according to the actual needs, and then select the OSD property.
6. Click the **OSD Position** button and use the **F2** key and **Direction** keys on remote control to adjust the OSD position.
7. Click the **Set** button of More Setting, and you can configure the video parameters, mask area, motion detection, etc.

Figure 2. 8 More Setting

- **Image Settings**

  Perform the following steps to adjust the video parameters, including Brightness, Contrast, Saturation and Hue.

  1) Click the **Set** button of Image Settings to enter the Image Settings interface.
  2) Select the parameter item, press **Enter** key on the remote control, and use the **Direction** keys to adjust the value of the selected item.
  3) You can click **Default** to restore the default video parameters.
  4) Click **OK** to save the new settings.

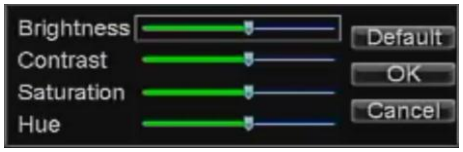


Figure 2. 9 Image Settings Interface

- **Mask**

  The privacy mask can be set to prevent some certain spots in the surveillance area from being viewed or recorded.

  Perform the following steps to set a privacy mask:

  1) Check the checkbox of **Mask** to enable the privacy mask function.
  2) Click the **Area Settings** button to set the mask area on the live view interface.
  3) Press the **Edit** key on the remote control and a red block appears on the screen.
  4) Press the **Direction** keys on the remote control to adjust the position of the red block.
  5) Press the **Enter** key on the remote control to save the position of the red block.
  6) Press the **Direction** keys on the remote control to adjust the size of the block.
  7) Press the **Enter** key on the remote control to save the size of the block.
  8) You can press the **A** key on the remote control to clear all the mask areas.

  - Up to 4 mask areas can be configured for each channel.
  - The mask area information of one channel cannot be copied to another one.
  - You cannot view the image of the mask area either from the live view interface or record files.
  - The screen is divided into 22*18 blocks in PAL format and 22*15 blocks in NTSC format.

- **Tamper-proof Detection**

  A tampering alarm is triggered when the camera is covered and the monitoring area cannot be viewed. Linkage actions including audible warning, alarm output, etc., can be set to handle it. For details, see Chapter 7.2.3.

- **Motion Detection**

  A motion detection alarm is triggered when the client software detects motion within its defined area.

  Linkage actions including audible warning, alarm output, etc., can be set to handle it. For details, see Chapter 3.2.

- **Video Loss Detection**

  When the device cannot receive video signal from the front-end devices, the video loss alarm will be triggered. Linkage actions including audible warning, alarm output, etc., can be set to handle it. For details, see Chapter 7.2.4.

8. Optionally, you can select the camera and click **Copy** to copy the current settings to the selected camera.
9. Click **Apply** to save the new settings and click **OK** to exit.

2.5 Preview Settings

Purpose:

You can configure the dwell time of live view window, set the camera order, enable/disable the audio preview, etc.

Steps:

1. Enter the Preview Settings interface.

   Menu>Other Settings>Preview

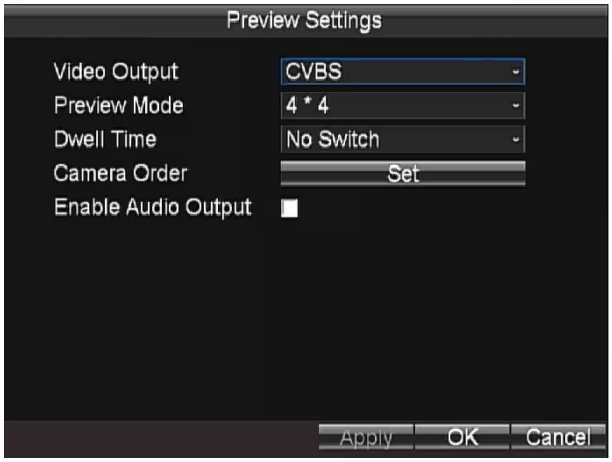


Figure 2. 10 Preview Settings

2. Select the video output from the drop-down list according to the actual needs.
3. Select the preview mode, dwell time for live view, and then enable/disable the audio output.
   - **Preview Mode:** select the window division mode for live view.
   - **Dwell Time:** the switch interval of the live view screen. The screen will be switched to the next one after the selected dwell time.
   - **Enable Audio Output:** Enables/disables audio output for the selected video output.
4. Click the **Set** button to set the camera order.

   Perform the following steps to set the camera order for display:

   1) Press **Direction** keys on the remote control to select the display window.
   2) Press **Enter** key on the remote control to enter the edit mode.
   3) Press **Direction** keys on the remote control to select the camera for display.

   NOTE

   The character "X" means no camera will be displayed on the selected window.

   4) Press **Enter** key on the remote control to confirm the settings.
   5) Click **OK** to save the new settings and exit.

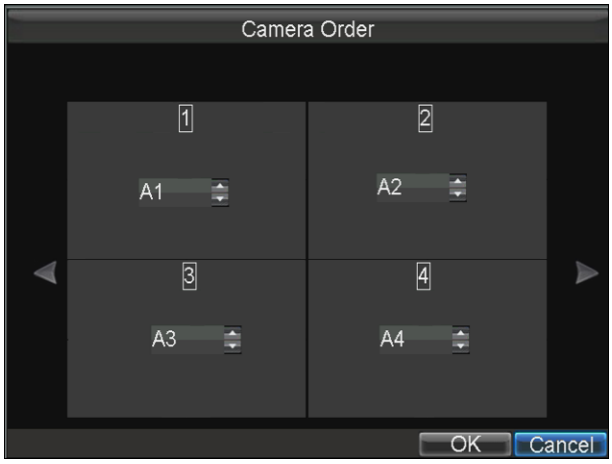


Figure 2. 11 Camera Order

5. Click the **Apply** button to save the new settings and click **OK** to exit.

Chapter 3 Record Settings

3.1 Configuring Encoding Parameters

3.1.1 Initializing the HDD

Before you start:

Install one HDD on the mobile DVR for video data storage.

Steps:

1. Enter the HDD Management interface.
   Menu>HDD

Figure 3. 1 HDD Management

2. Select the hard disk from the drop-down list. You can view the status, free space and capacity of the HDD.
3. Set the overwrite mode to **Yes** or **No** to enable or disable the disk overwriting function for the selected HDD.
4. Click the **View** button, and you can view the S.M.A.R.T. information of the HDD.

- If the hard disk is installed correctly and formatted, the status is displayed as normal or sleeping.
- The disk overwriting function is enabled by default. If the disk overwriting function is disabled, the recording will stop when the hard disk is full.

3.1.2 Configuring Record Settings

Purpose:

You can configure the transmission stream type, the resolution, frame rate, etc.

Steps:

1. Enter the Record Settings interface.
   Menu>Basic Settings>Record

Figure 3. 2 Record Settings

2. Select the camera from the drop-down list.
3. Configure the following settings:
   - **Encoding Parameters**

     Main Stream (Normal): used for schedule recording;

     Main Stream (Event): used for event recording;

     Sub Stream: used for network transmission.
   - **Stream Type**

     Video and Video & Audio are selectable.
   - **Resolution**

     Select the resolution for the selected camera and stream type. WD1, 4CIF, 2CIF and CIF are selectable.
   - **Bitrate Type**

     Variable and Constant are selectable.

     The video quality is configurable when you select Variable to the bitrate type; and the video quality is set as Medium by default and cannot be edited when you select Constant to the bitrate type.
   - **Video Quality**

     If you select Variable to the bitrate type, you can set the video quality as Highest, Higher, Medium, Low, Lower and Lowest.
   - **Frame Rate**

     Frame rate refers to the frequency of the image frame after compression. With other parameters constant, reduce the video frame rate, and you can lower the maximum bitrate to some extent.
   - **Max. Bitrate(Kbps)**

     Select the fixed value provided by the system or customize the maximum bitrate as desired.
4. Click the **Set** button of Schedule to enter the record schedule interface.
   1) Check the check box of **Enable Schedule** to enable the record schedule settings.
   2) Select the day from the drop-down list for settings.
   3) Check the checkbox of **All Day** to enable all-day recording, and then select the recording type from the drop-down list.

      You can also uncheck the checkbox of **All Day**, customize the time period for recording, and select the recording type for each time period.
   4) Click **OK** to save the new settings and exit.

You can view the recording status on the Record Status interface (Menu>Status>Record).

- 5 recording types are selectable: Normal, Motion Detection, Alarm, Motion | Alarm and Motion & Alarm.
- Up to 8 time periods can be set for each day and each of the time periods cannot be overlapped.

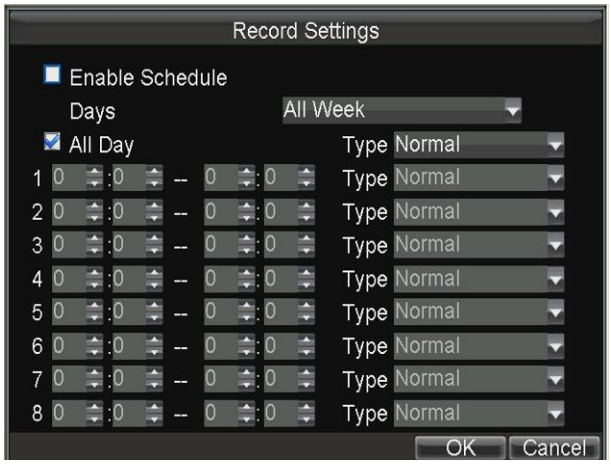


Figure 3. 3 Record Schedule Settings

5. Click the **Set** button of More Settings to configure the pre-record and post-record time.
   - **Pre-record:** Normally used for the event (motion or alarm) triggered record, when you want to record before the event happens. For example, when an alarm occurs at 10:00, if the pre-record time is set as 5 seconds, the camera records the alarm at 9:59:55.
   - **Post-record:** After the event finished, the video can also be recorded for a certain time. For example, when an alarm ends at 11:00, if the post-record time is set as 5 seconds, the camera records till 11:00:05.
6. Optionally, you can select the camera and click **Copy** to copy the current settings to the selected camera.
7. Click **Apply** to save the settings and click **OK** to exit.

3.2 Configuring Motion Detection Record

Purpose:

In the motion detection record, once a motion event occurs, the device starts to record and multiple linkage actions will be triggered.

Steps:

1. Enter the Advanced Camera Settings interface.
   Menu>Other Settings>Camera>Set (More Setting)

Figure 3. 4 Motion Detection Settings

2. Check the checkbox of **Motion Detection** to enable the motion detection function.
3. Click the **Area Settings** button to set the area for motion detection.

   Perform the following steps to set a specified area for motion detection:

   1) Press the **Edit** key on the remote control and a red block appears on the screen.
   2) Press the **Direction** keys on the remote control to adjust the position of the red block.
   3) Press the **Enter** key on the remote control to save the position of the red block.
   4) Press the **Direction** keys on the remote control to adjust the size of the block.
   5) Press the **Enter** key on the remote control to save the size of the block.
   6) Press the **Menu** key on the remote control to set the detection sensitivity. You can set the level as 1~6 or off. Click **OK** to save the settings.
   7) You can press the **A** key on the remote control to clear all the mask areas.
   8) Press the **Enter** key on the remote control to save the settings and then press **Esc** key to exit.
4. Click the **Handle** button of Motion Detection, and you can set the arming schedule and alarm linkage actions.

   Perform the following steps to set the arming schedule and alarm triggered linkage actions:

   1) Select the day from the drop-down list, and set the arming schedule for the alarm linkage actions.
   2) Optionally, you can copy the current settings to other days in the week.
   3) Check the checkboxes to enable the corresponding linkage actions.

      ➢ **Pop-up Image on Monitor**

      When an alarm is triggered, the local monitor displays the video image from the alarming channel configured for full screen monitoring.

      ➢ **Audio Warning**:

      Trigger an audible *beep* when an alarm is detected.

      ➢ **Trigger Alarm Output**:

      Trigger an alarm output when an alarm is detected. For details of alarm output settings, see Chapter 7.2.2.

   4) Click the **Set** button of Triggered Camera to select the channel to be triggered.
   5) Click **Apply** to save the new settings and click **OK** to exit.

Figure 3. 5 Linkage Actions of Motion Detection

5. Click **Apply** to save the new settings and click **OK** to exit.
6. Enter the Record Settings interface, and select Motion as the record type to set the arming schedule of motion detection record.
   Menu>Basic Settings>Schedule>Set (More Setting)

3.3 Configuring Alarm Triggered Record

Purpose:

Follow the procedure to configure alarm triggered recording.

Steps:

1. Enter the Alarm Input settings interface.
   Menu>Other Settings>AlarmIn

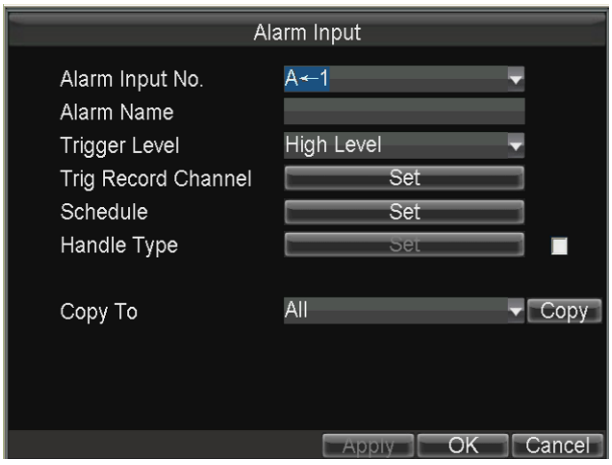


Figure 3. 6 Alarm Input Settings

2. Click the **Set** button of **Trig Record Channel** to select the alarm triggered recording channel(s). For other alarm input settings, see *Chapter 7.2.1*.
3. Click the **Apply** button to save the settings and click **OK** to exit.

After configuring alarm input, enter the Record Settings interface to set alarm triggered record. Please see *Chapter 3.1.2* for record settings (set the **Type** to alarm, motion | alarm or motion & alarm).

3.4 Searching Record Files

Purpose:

You can search and play back the record files stored on the device.

Steps:

1. Enter the Video Search interface.

   Menu>Video Search

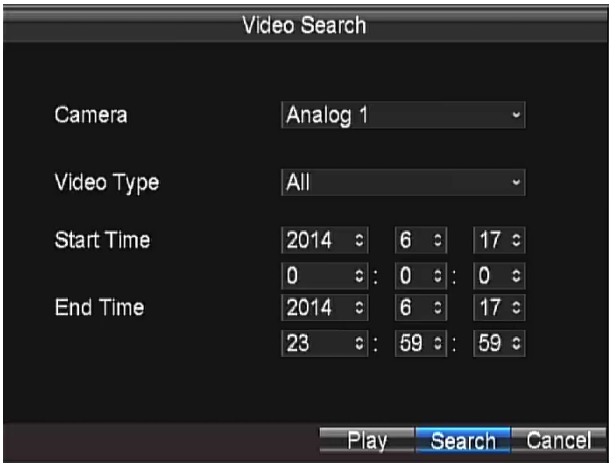


Figure 3. 7 Video Search Interface

2. Select the camera and video type from the drop-down list, and then specify the start time and end time for search.
3. Click the **Play** button, and you can play back the searched record files directly.

   - When more than 4000 record files are found, the top 4000 items have the priority to be played back.
   - Press the **Up** / **Down** keys on the remote control to adjust the playback speed.

4. Click the **Search** button, and the record files will be displayed on a list.

   Select the record file, click the **Play** button, and you can play back the selected record file.

   Select the record files, click the **Export** button, and you can export the record files for backup.

   - Press **Up** / **Down** keys on the remote control to positioning the cursor on the list.
   - Press **Left / Right** keys on the remote control to select the **Play**, **Export** or **Cancel** buttons.
   - Press **Edit** key on the remote control to select the record file.

Figure 3. 8 Search Result Interface

Chapter 4 Wireless Network Settings

4.1 3G Dialing Settings

Before you start:

Install a 3G SIM card on the mobile DVR.

Steps:

1. Enter the 3G Dialing Settings interface.
   Menu>Basic Settings>Dial

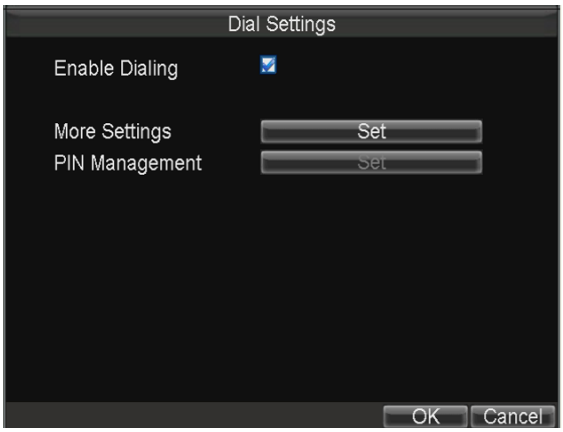


Figure 4. 1 3G Dialing Settings

2. Check the checkbox of **Enable Dialing** to enable the 3G dialing function of the device.
3. To configure the 3G VPDN (Virtual Private Dialup Network) settings, you can click the **Set** button of More Settings, input the access point name (APN), dialing number, username and password, select the authentication type, and then click **OK** to save the settings.

NOTE

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

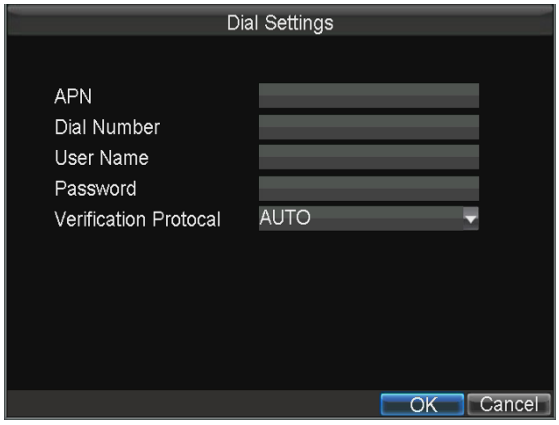


Figure 4. 2 Private Network Settings

4. Click **OK** and reboot the device to activate the new settings.

   You can view the dialing status on the Dialing Status interface (Menu>Status>Dial).

NOTE

The PIN management function is reserved.

4.2 Wi-Fi Settings

Purpose:

You can connect the device to the Wi-Fi networks and transmit the data via the Wi-Fi.

Steps:

1. Enter the Wi-Fi Settings interface.

   Menu>Basic Settings>WiFi

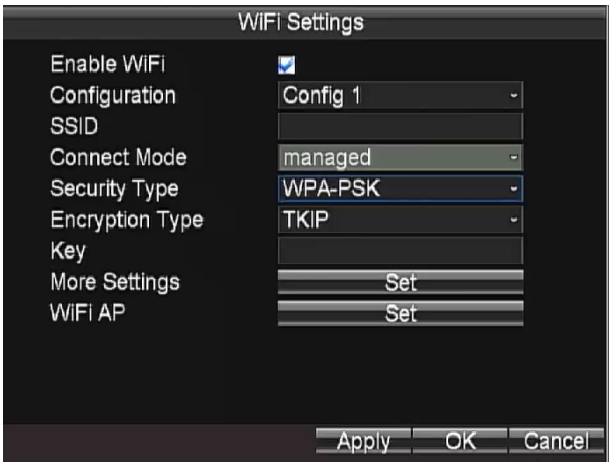


Figure 4. 3 Wi-Fi Settings

2. Check the checkbox of **Enable WiFi** to enable the Wi-Fi settings.
3. Select the configuration file, and set the network SSID (Service Set Identifier), security type, encryption type and key.

NOTE

5 configuration files are available and only one SSID can be set for each file.

4. Click the **Set** button of More Settings, and you can set the IP address and DNS server for Wi-Fi network.

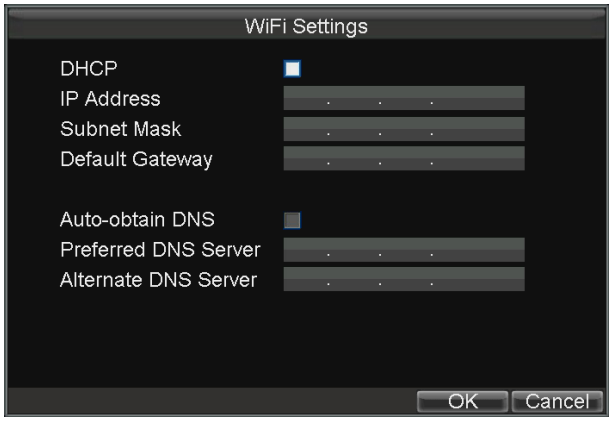


Figure 4. 4 IP & DNS Settings for Wi-Fi

Check the checkbox of **DHCP** and **Auto-obtain DNS** to obtain IP address and DNS server for Wi-Fi network automatically.

5. Click the **Set** button of WiFi AP, and you can configure the settings of Wi-Fi access point.

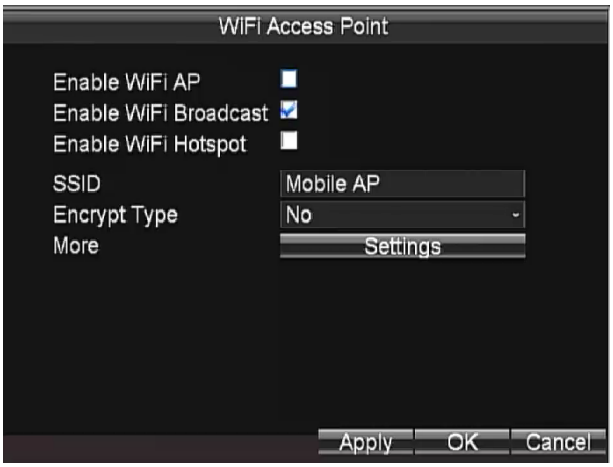


Figure 4. 5 Wi-Fi Access Point Settings

6. Click **Apply** to save the new settings and click **OK** to exit.

You can view the Wi-Fi status on the Wi-Fi Status interface (Menu>Status>WiFi). Click the **Query** button to search the available access points of Wi-Fi network, including SSID, Security Type and Signal Strength.

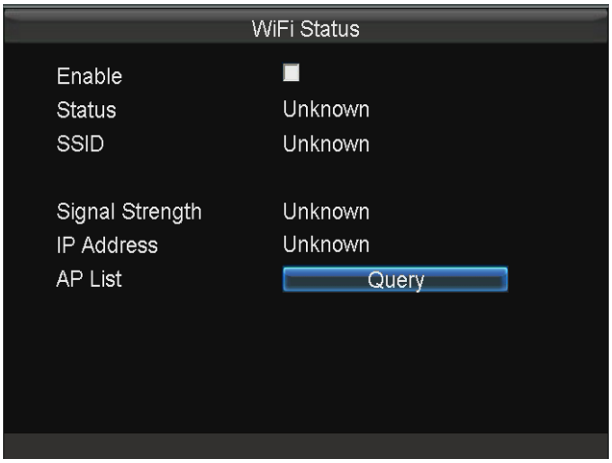


Figure 4. 6 Wi-Fi Status Interface

Chapter 5 Platform Settings

The Mobile DVR can be remotely accessed via 2 platforms: iVMS platform and Push Mode platform. Make sure the parameters configured are valid for the platform you select for login.

5.1 Accessing by iVMS Platform

Before you start:

Create the device ID of mobile DVR on the iVMS platform.

Steps:

1. Enter the Platform Settings interface.
   Menu>Basic Settings>Platform
2. Select Platform iVMS as the current platform from the drop-down list.

Figure 5. 1 iVMS Platform Settings

3. Configure the following parameters:
   - **Server IP**: Input the static IP address of iVMS server.
   - **Port No.**: The default value is 7660.
   - **Device Register ID**: The ID of the Mobile DVR registered on the iVMS platform.
4. Click **OK** and reboot the device to activate the new settings.
   You can view the platform status on the Platform Status interface (Menu>Status>Plat).

5.2 Accessing by Push Mode Platform

Push mode platform is applicable to the equipment integration. Only SDK and development support are provided.

Enter the Platform Settings interface (Menu>Basic Settings>Platform), and select 3G_SDK as the platform type.

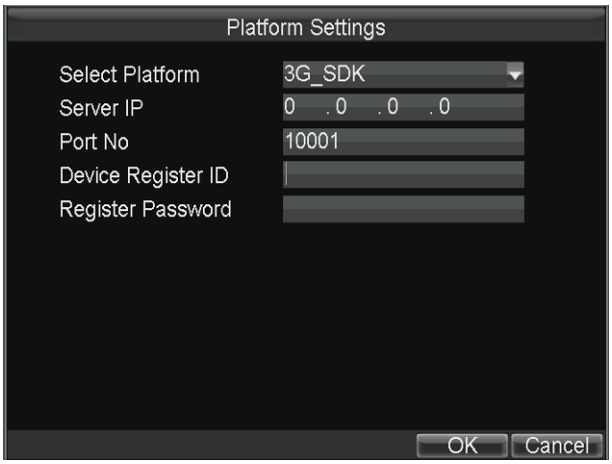


Figure 5. 2 Push Mode Platform

Chapter 6 Mobile Specified Functions

6.1 Configuring Startup and Shutdown

Purpose:

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

- **For Vehicle Ignition Startup and Shutdown**

Steps:

1. Enter the Start Control interface.
   Menu>Basic Settings>Start
2. Select Halt Delay as the auto work type from the drop-down list.
3. Select the delay time for device shutdown. The delay time ranges from 0 min to 6 hours.
4. Optionally, check the checkbox of **Voltage Protect** and then select the voltage limit percent. Once the voltage of the device reaches the selected threshold, the device will shut down automatically.
5. Click **OK** to save the new settings and exit.

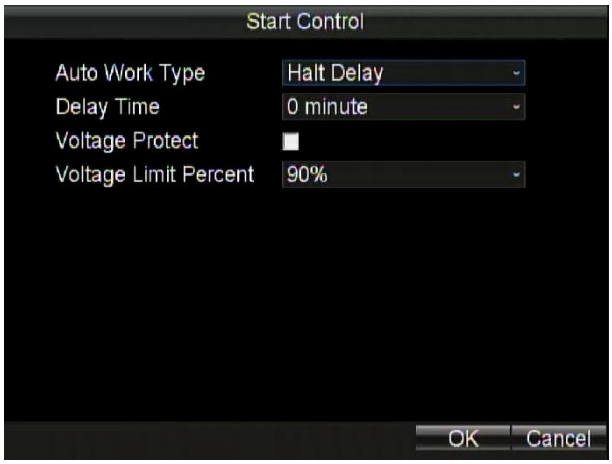


Figure 6. 1 Start Control-Halt Delay

- **For Timing On / Off**

Steps:

1. Enter the Start Control interface.
   Menu>Basic Settings>Start
2. Select Auto Working as the auto work type from the drop-down list.
3. Select the day on which you want to start up / shut down the device automatically.
4. Specify the time segment for the device to start up and shut down.
5. Optionally, you can copy the settings to other days in the week.
6. Click **OK** to save the new settings and exit.

NOTE

Two periods can be configured for each day. And the time periods can't be overlapped each other.

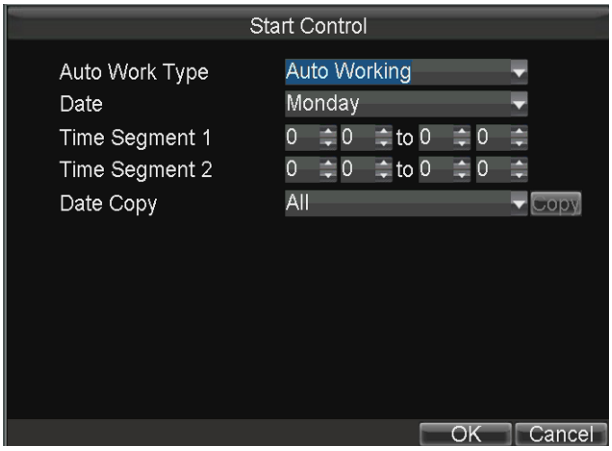


Figure 6. 2 Start Control-Auto Working

6.2 Configuring Satellite Positioning

Purpose:

The built-in GNSS module supports both GPS (Global Positioning System) and BDS (BeiDou Navigation Satellite System, reserved), contributing to the device positioning and speed limit alarm.

Steps:

1. Enter the Satellite Positioning Settings interface.
   Menu>Basic Settings>Position

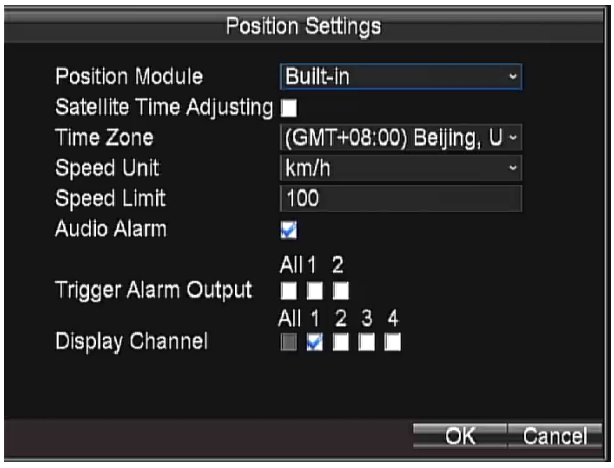


Figure 6. 3 Satellite Positioning Settings

2. Select the mode of the Position Module. 3 modes of positioning module are selectable.
   - **RS232**: Obtain data from the satellite positioning module connected through RS232 interface.
   - **RS485**: Obtain data from the satellite positioning module connected through RS485 interface.
   - **Built-in**: Obtain data from the satellite positioning module built in the mobile DVR.
3. Check the checkbox of **Satellite Time Adjusting** and then select the time zone in which the device locates.
4. Select the speed unit and input the speed limit value.
5. Set the linkage actions for speeding alarm, including audible warning and alarm output. For details of alarm output

settings, see *Chapter 7.2.2*.

6. Check the checkboxes of display channels, and then the device positioning information will be displayed on the selected channels.

The number of the display channels varies from the device models.

7. Click **OK** to save the new settings and exit.

You can view the device positioning status on the Positioning Status interface (Menu>Status>Position).

6.3 Configuring G-Sensor Alarm

Purpose:

G-Sensor detects and records the acceleration speed information in 3-axial (X, Y, Z) directions.

Before you start:

Connect an external sensor to the device for obtaining and providing the acceleration speed in 3-axial directions.

Steps:

1. Enter the G-Sensor Settings interface.

Menu>Basic Settings>G-Sensor

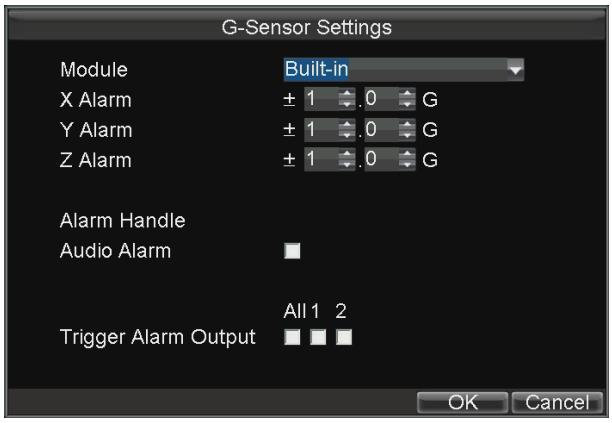


Figure 6. 4 G-Sensor Settings

2. Select the mode of G-sensor Module. 2 modes of G-sensor module are selectable.
   - **RS232**: The G-sensor is connected to the mobile DVR through RS232 interface.
   - **Built-in:** The G-sensor is built in the mobile DVR
3. Set the limit value for acceleration alarm in X, Y and Z directions.

X, Y and Z represent the direction of acceleration and the unit of alarm value is G (G=9.8 m/s^2).

4. Set the linkage actions for acceleration alarm, including audible warning and alarm output. For details of alarm output settings, see *Chapter 7.2.2*.
5. Click **OK** to save the new settings and exit.

You can view the G-sensor status on the G-sensor Status interface (Menu>Status>G-sensor).

6.4 Configuring Sensor-In

Purpose:

Sensor-In detects and records the driving information of the vehicle, including pedal braking, turning left/right, reversing, etc.

Steps:

1. Enter the Sensor-In Settings interface.
   Menu>Basic Settings>Sensor-In

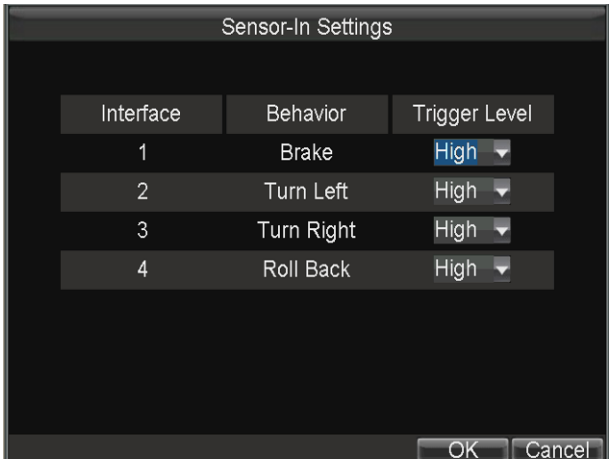


Figure 6. 5 Sensor-In Settings

2. Sensor-In is triggered by high or low level and you can set the parameters according to the vehicle.

Chapter 7 Other Functions

7.1 Local Network Settings

Steps:

1. Enter the Local Network Settings interface.
   Menu>Basic Settings>Network

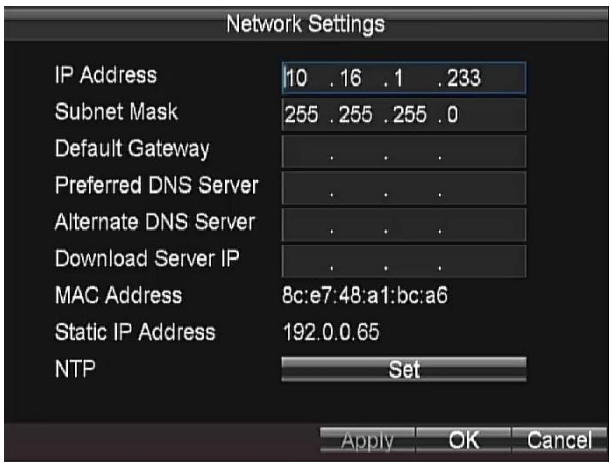


Figure 7. 1 Local Network Settings

2. Input the device IP address, subnet mask, default gateway, DNS server address and download server IP in the corresponding text fields.

   NOTE

   - The IP address of the device should be unique in the network and the default value is 192.0.0.64.
   - The download server IP should be set when you upload the record files to the designate server.

3. Click the **Set** button of NTP, and you can configure the NTP (Network Time Protocol) settings for the device.
   Perform the following steps to configure the NTP settings:
   1) Check the checkbox of **NTP** to enable the NTP settings.
   2) Input the interval of time synchronization.
   3) Input the IP address of NTP server.
   4) Click **OK** to save the new settings and exit.

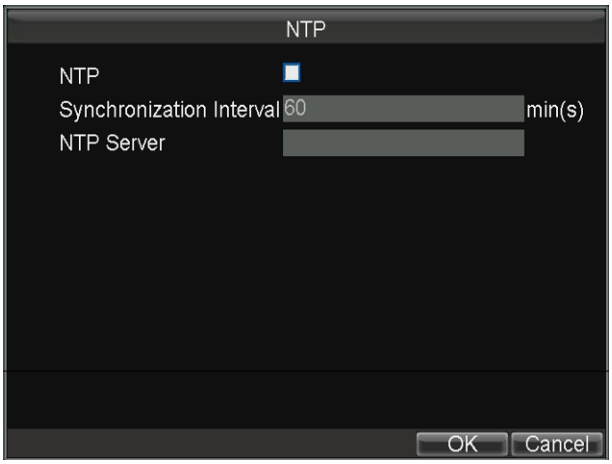


Figure 7. 2 NTP Settings

4. Click **Apply** to save the new settings and click **OK** to exit.

7.2 Alarm Settings

7.2.1 Configuring Alarm Input

Purpose:

Configure the settings for alarm input, including trigger level, arming schedule, alarm linkage actions, etc.

Steps:

1. Enter the Alarm Input Settings interface.

   Menu>Other Settings>AlarmIn

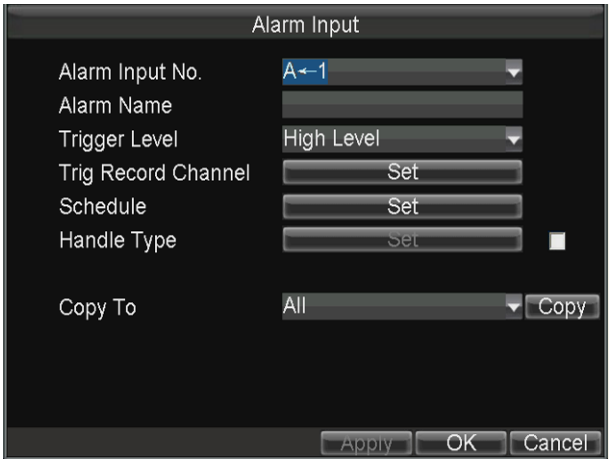


Figure 7. 3 Alarm Input Settings

2. Select the alarm input No., input the alarm name as desired in the text field, and then set the trigger level of the alarm input according to the actual needs.

   NOTE

   - 3 alarm inputs, which are triggered by high/low level (high level: 6~36 VDC; low level: 0~5 VDC), are selectable.

- In order to avoid error report caused by voltage fluctuation, no alarm will be triggered by voltage ranging from 5VDC to 6VDC.

3. Click the **Set** button of Trig Record Channel to select the alarm triggered recording channel(s). The selected channel(s) will start to record when a connected alarm input occurs.
4. Click the **Set** button of Schedule to set the arming schedule for alarm inputs. Up to 8 time periods can be set within each day. Optionally, you can click **Copy** to copy the current settings to other days in the week.

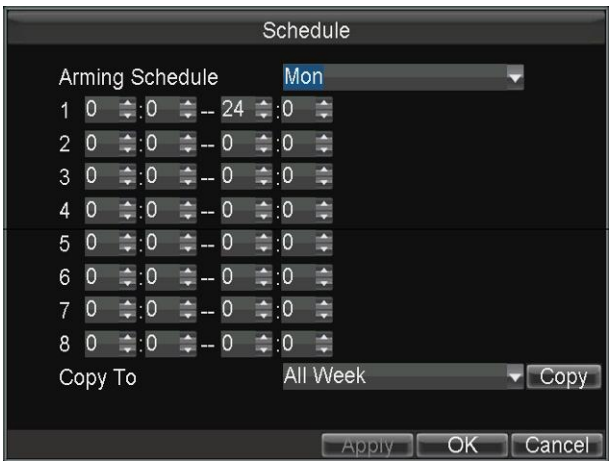


Figure 7. 4 Arming Schedule

5. Check the checkbox of **Handle Type** and click the corresponding **Set** button, and you can configure the alarm linkage actions, including Pop-up Image on Monitor, Audio Warning and Trigger Alarm Output.

➢ **Pop-up Image on Monitor**

When an alarm is triggered, the local monitor displays the video image from the alarming channel configured for full screen monitoring.

➢ **Audio Warning**:

Trigger an audible *beep* when an alarm input is detected.

➢ **Trigger Alarm Output**:

Trigger an alarm output when an alarm when an alarm input is detected.

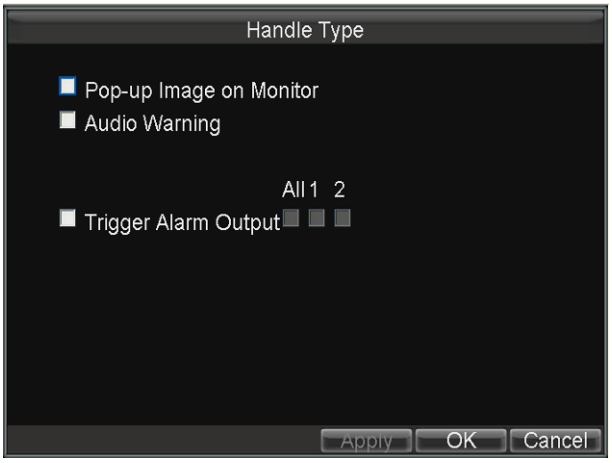


Figure 7. 5 Alarm Linkage Action

6. Click **Apply** to save the new settings and click **OK** to exit.

7.2.2 Configuring Alarm Output

Purpose:

You can configure the arming schedule, alarm duration time, alarm name for alarm output.

Steps:

1. Enter the Alarm Output Settings interface.

   Menu>Other Settings>AlarmOut

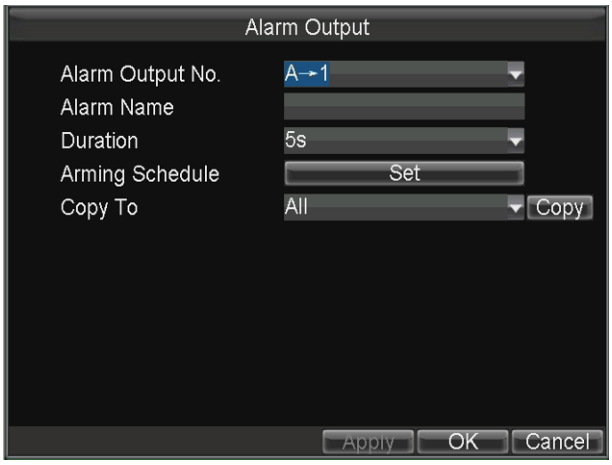


Figure 7. 6 Alarm Output Settings

2. Select the alarm output No., input the alarm name as desired in the text field, and then set the alarm duration time.

   NOTE

   Two alarm outputs are available: A1 & B1 & C1 and A2 & B2 & C2.

3. Click the **Set** button of Schedule to set the arming schedule for alarm outputs. Up to 8 time periods can be set within each day. Optionally, you can click **Copy** to copy the current settings to other days in the week.

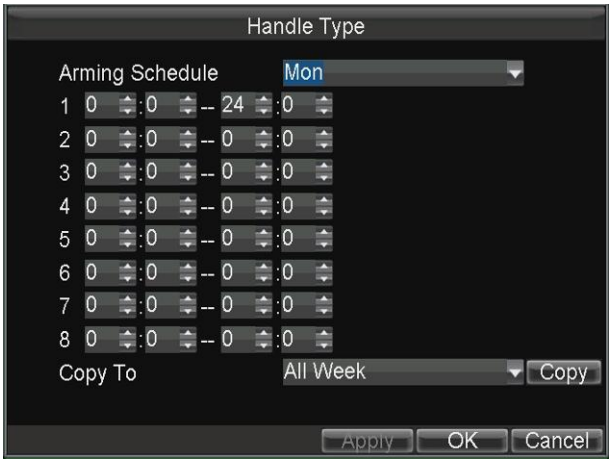


Figure 7. 7 Arming Schedule Settings

4. Click **Apply** to save the new settings and click **OK** to exit.

7.2.3 Configuring Video Tampering Alarm

Purpose:

A tampering alarm is triggered when the camera is covered and the monitoring area cannot be viewed. Linkage actions including audible warning, alarm output, etc., can be set to handle it.

Steps:

1. Enter the Advanced Camera Settings interface.
   Menu>Other Settings>Camera>Set (More Setting)

Figure 7. 8 Tamper-Proof Settings

2. Check the checkbox of Tamper-proof to enable the tamper-proof function.
3. Click the **Area Settings** button to set the area for video tampering detection.

   NOTE

   The video tampering alarm can be triggered only when the view of the camera is fully covered. The regional video tampering alarm function is reserved.

   Perform the following steps to set a specified area for video tampering detection:

   1) Press the **Edit** key on the remote control and a red block appears on the screen.
   2) Press the **Direction** keys on the remote control to adjust the position of the red block.
   3) Press the **Enter** key on the remote control to save the position of the red block.
   4) Press the **Direction** keys on the remote control to adjust the size of the block.
   5) Press the **Enter** key on the remote control to save the size of the block.
   6) Press the **Menu** key on the remote control to set the detection sensitivity. You can set the level as Low, Medium or High. Click **OK** to save the settings.
   7) You can press the **A** key on the remote control to clear all the mask areas.
   8) Press the **Enter** key on the remote control to save the settings and then press **Esc** key to exit.
4. Click the **Handle** button of Tamper-proof, and you can set the arming schedule and alarm linkage actions for video tampering alarm.

   Perform the following steps to set the arming schedule and alarm triggered linkage actions:

   1) Select the day from the drop-down list, and set the arming schedule for the alarm linkage actions.
   2) Optionally, you can copy the current settings to other days in the week.
   3) Check the checkboxes to enable the corresponding linkage actions.
      - **Pop-up Image on Monitor**

When an alarm is triggered, the local monitor displays the video image from the alarming channel configured for full screen monitoring.

- **Audio Warning**:

Trigger an audible *beep* when an alarm is detected.

- **Trigger Alarm Output**:

Trigger an alarm output when an alarm is detected.

4) Click **Apply** to save the new settings and click **OK** to exit.

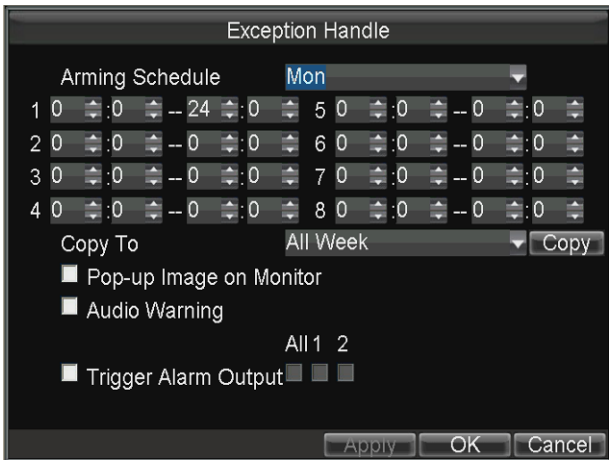


Figure 7. 9 Linkage Action of Tamper-proof

5. Click **Apply** to save the new settings and click **OK** to exit.

7.2.4 Configuring Video Loss Alarm

Purpose:

When the device cannot receive video signal from the front-end devices, the video loss alarm will be triggered. Linkage actions including audible warning, alarm output, etc., can be set to handle it.

Steps:

1. Enter the Advanced Camera Settings interface.

   Menu>Other Settings>Camera>Set (More Setting)

Figure 7. 10 Video Loss Settings

2. Check the checkbox of **Video Loss Detection** to enable the video loss detection settings.
3. Click the **Handle** button of Video Loss Detection, and you can set the arming schedule and alarm linkage actions for video loss alarm. For details of arming schedule settings and linkage action settings, see step 4 in Chapter 7.2.3.

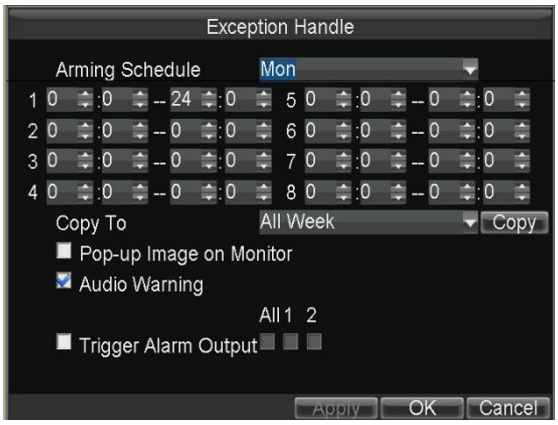


Figure 7. 11 Linkage Action of Video Loss

4. Click **Apply** to save the new settings and click **OK** to exit.

7.2.5 Handling Exceptions

Purpose:

Exception Settings refer to the handling methods of various exceptions, e.g.

- **HDD Full:** The HDD is full.
- **HDD Error:** Writing HDD error, unformatted HDD, etc.
- **Network Disconnected:** Network cable is disconnected.
- **IP Conflicted:** Duplicated IP address.
- **Illegal Login:** Incorrect user id or password.
- **Video Output Standard Mismatch:** I/O video standards do not match.
- **Abnormal Recording:** No space for saving recorded files.

Steps:

1. Enter the Exception interface.
   Menu>Other Settings>Exception

Figure 7. 12 Exception

2. Select the Exception Type and set the alarm linkage actions, including audible warning and alarm output.
3. Click **Apply** to save the new settings and click **OK** to exit.

7.2.6 Configuring Alarm Terminal

Steps:

1. Enter the Alarm Terminal interface.
   Menu>Other Settings>Alarm Terminal

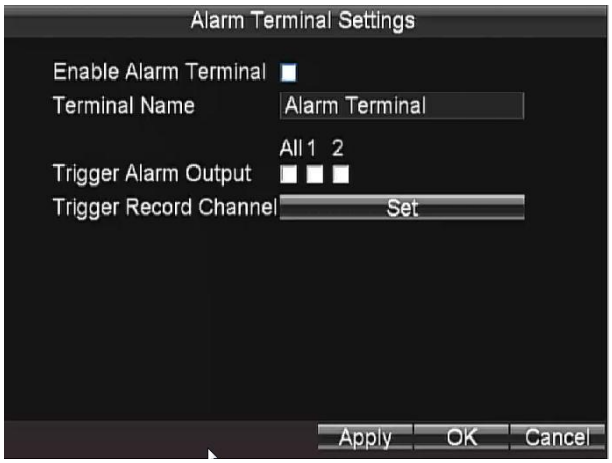


Figure 7. 13 Alarm Terminal

2. Check the checkbox of **Enable Alarm Terminal** to enable the alarm terminal settings.
3. Edit the terminal name if needed.
4. Select the alarm output and then select the alarm triggered recording channel(s).
5. Click **Apply** to save the new settings and click **OK** to exit.

NOTE

- The alarm terminal function requires for the cooperation of status display terminal DS-1530HMI. For details, see the user manual of DS-1530HMI.
- The RS-232 serial port should be used in the way of transparent channel and the baud rate should be set as 9600.

7.3 Firewall Settings

Purpose:

The mobile DVR 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 are 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.

Steps:

1. Enter the Firewall Settings interface.

Menu>Other Settings>Firewall

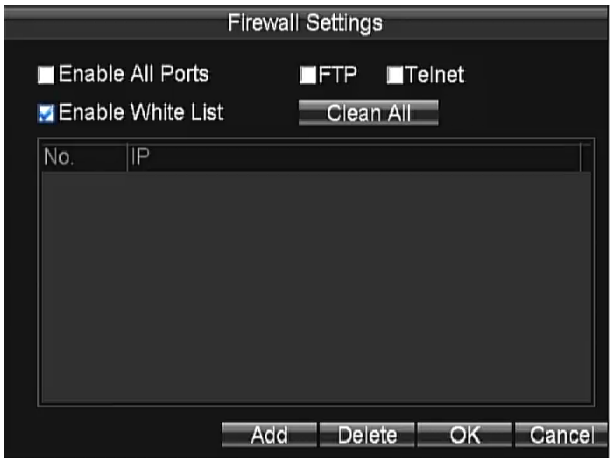


Figure 7. 14 Firewall Settings

2. (Optional) Check the checkbox to enable the FTP port or Telnet port of the device if required.

NOTE

The FTP port and Telnet port are disabled for all the IP addresses by default.

3. Click the **Add** button to enter the Add IP Address dialog box, input the trusted IP address, and click **OK**.

Figure 7. 15 Add IP Address

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

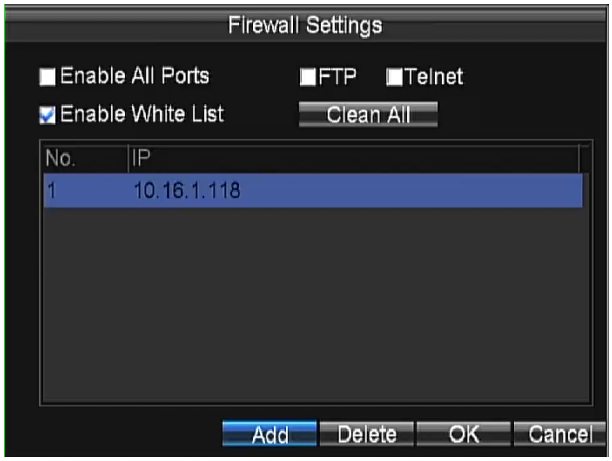


Figure 7. 16 White List Settings

NOTE

The configured white list will be cleared after you reboot the device.

5. To delete the trusted IP address, you can select it on the white list and then click the **Delete** button.
   You can also click the **Clean All** button to clear all the trusted IP address on the white list.

7.4 Serial Port Settings

Purpose:

Two types of serial ports are provided: RS-232 and RS-485.

The RS-232 port can be used in two ways:

- **Console**: Connect a PC to the DVR through the PC serial port. DVR parameters can be configured by using software such as HyperTerminal. The serial port parameters must be the same as of the device when connecting with the PC serial port.
- **Transparent Channel**: Connect a serial device directly to the device. The serial device will be controlled remotely by the PC through the network and the protocol of the serial device.

The RS-485 port can be used for transparent channel only.

Steps:

1. Enter the Serial Port Settings interface to configure the parameters.
   Menu>Basic Settings>SerialPort

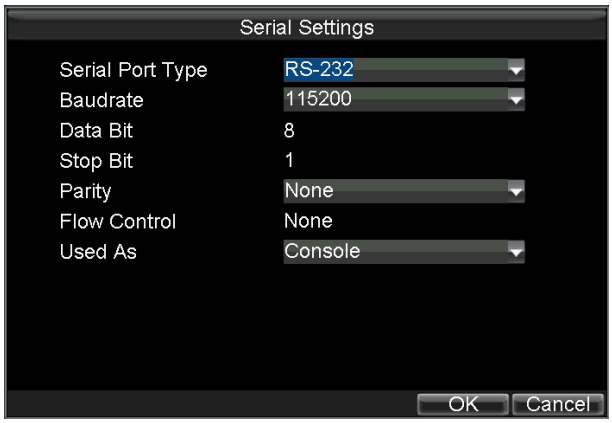


Figure 7. 17 Serial Port Settings Interface

2. Select serial port type and configure the parameters, including baud rate, parity and usage.
3. Click **OK** to save the settings and exit.

Chapter 8 Device Maintenance

8.1 Checking Status

The status of recording, 3G, platform, satellite positioning, G-Sensor, alarm and WiFi can be checked in the Status interface (Menu>Status).

Figure 8. 1 Status Interface

8.2 Management and Maintenance

8.2.1 Upgrading the System

Purpose:

The mobile DVR can be upgraded by local USB device or remote FTP server.

- **Upgrading by local USB flash disk**

Before you start:

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

NOTE

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

Steps:

1. Enter the Upgrade interface and select USB Upgrade as the upgrade type.

   Menu>Maintenance>Upgrade

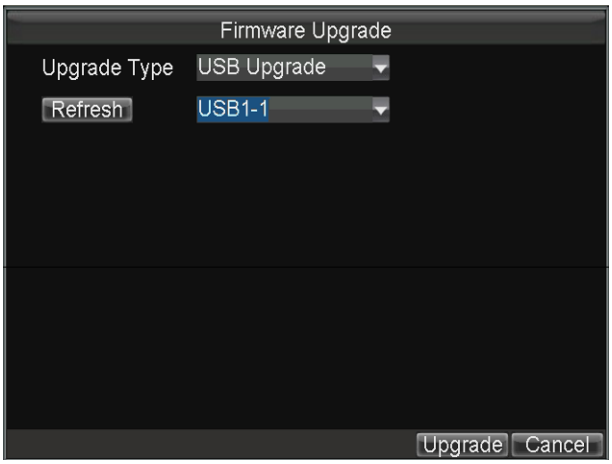


Figure 8. 2 Upgrade Interface

2. Click **Refresh** to refresh the latest information of the connected USB device.
3. Click **Upgrade** to start upgrading and reboot the device to activate the new settings.

➢ **Upgrading by remote FTP server**

Before you start:

Ensure the network connection of the PC (running FTP server) and the DVR is valid and correct. Run the FTP server on the PC and copy the firmware into the corresponding directory of your PC.

NOTE

Refer to the user manual of the FTP server to set the FTP server on your PC and put the firmware file into the directory as required.

Steps:

1. Enter the Upgrade interface and select FTP Upgrade as the upgrade type.
   Menu>Maintenance>Upgrade

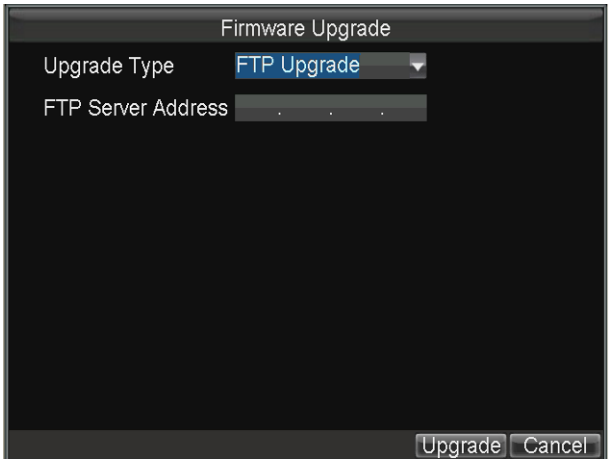


Figure 8. 3 Upgrade Interface

2. Input the IP address of FTP server in the text field.
3. Click **Upgrade** to start upgrading and reboot the device to activate the new settings.

8.2.2 Searching & Exporting Log files

Purpose:

The operation, alarm, exception and information of the device can be stored in log files, which can be viewed and exported at any time.

Steps:

1. Enter the Log Search interface.
   Menu>Maintenance>Log Search

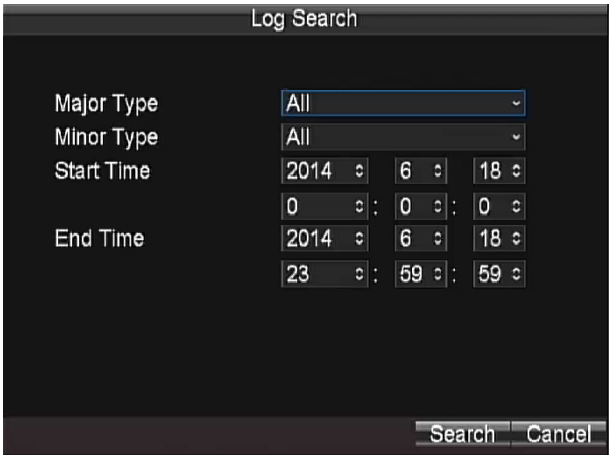


Figure 8. 4 Log Search Interface

2. Select the major type of the logs from the drop-down list, including Alarm, Exception, Operation and Information. You can also select All as the major type to search all the logs.
3. Select the minor type of the logs under the selected major type.
4. Specify the start time and end time for the log search.

   NOTE

   - Press **Left / Right** keys on the remote control to positioning the cursor.
   - Press **Up** / **Down** keys on the remote control to adjust the date and time.
5. Click the **Search** button. The logs matching the search conditions will be displayed on a list.

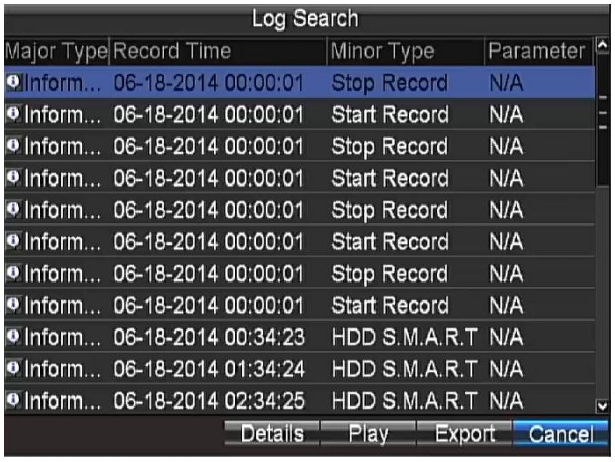


Figure 8. 5 Log Search Results

6. Select the log item, and then click **Details** to view the detailed information of the selected log.

7. Select the log item, and then click **Play** to play the related record files (If there is any record file related).
8. Connect the USB device to the mobile DVR, and then click **Export** to export the log file to the USB device for backup.

NOTE

- Press **Up** / **Down** keys on the remote control to positioning the cursor on the list.
- Press **Left / Right** keys on the remote control to select the **Play**, **Export** or **Cancel** buttons.
- Press **Enter** key on the remote control to select the log file.

8.2.3 Restoring Default Settings

Steps:

1. Enter the Default interface.

   Menu>Maintenance>Default

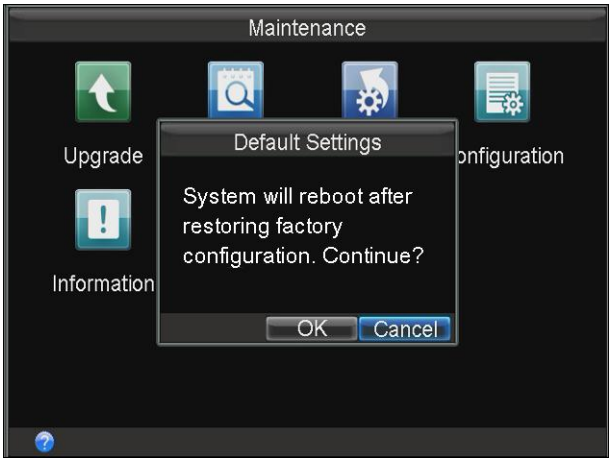


Figure 8. 6 Restore Default Settings

2. Click the **OK** button to start restoring default settings.

NOTE

The platform and network settings do not change after you restore the device default settings.

8.2.4 Importing/Exporting Configuration Files

Purpose:

The configuration files of the mobile DVR can be exported to local device for backup; and the configuration files of one device can be imported to multiple devices if they are to be configured with the same parameters.

Before you start:

Connect a USB device to the mobile DVR.

Steps:

1. Enter the Import/Export Configuration Files interface.

   Menu>Maintenance>Configuration

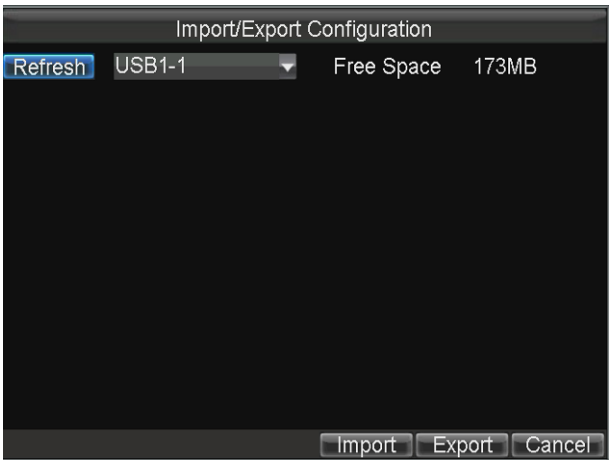


Figure 8. 7 Import/Export Configuration Files

2. Click the **Export** button to export configuration files to the USB device.
3. To import the configuration file, connect a USB device on which the configuration file is stored to the mobile DVR, and then click the **Import** button. Reboot the device to activate the new settings after the importing process is complete.

NOTE

The configuration file should be stored on the root directory of the USB device.

8.2.5 Viewing System Information

Steps:

1. Enter the System Information interface.
   Menu>Maintenance>Information

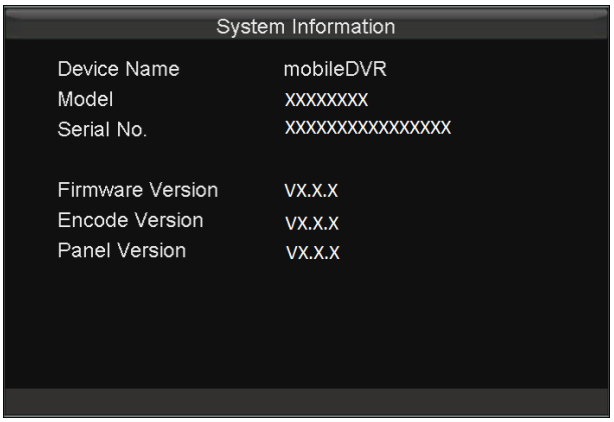


Figure 8. 8 System Information

2. You can view the device name, model, serial No. , firmware version, encoding version and panel version.

8.2.6 Backup Device

Purpose:

You can view the status and the free space/capacity of the connected USB or eSATA backup device. And you can also format

the backup device if needed.

Steps:

1. Enter the Backup Device interface.
   Menu>Maintenance>Storage

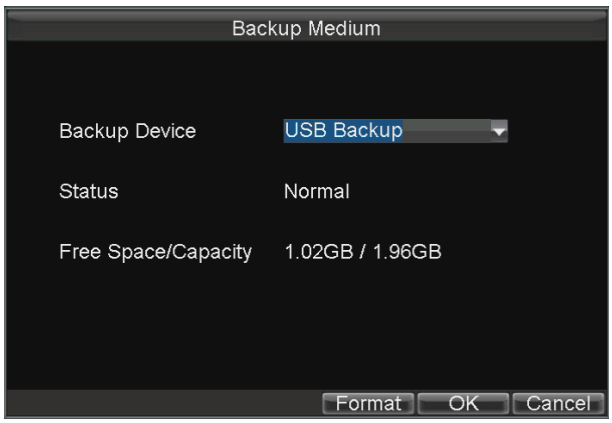


Figure 8. 9 Backup Device Interface

2. Select the backup device from the drop-down list, and you can view the status and the free space/capacity of the backup device.
3. Click **Format**, and you can format the selected USB or eSATA device.

8.2.7 Rebooting DVR

You can go to the Reboot interface (Menu>Maintenance>Reboot) to reboot the DVR.

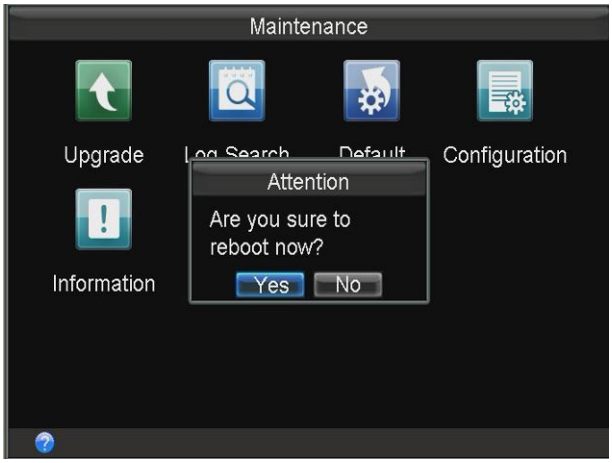


Figure 8. 10 Reboot Interface

Chapter 9 Appendix

9.1 Glossary

- **3G:** 3G refers to the 3rd-generation telecommunication technology which is the high speed transmission of the cell data. The 3G service can transmit sound and other data simultaneously and the bitrate is up to hundreds kbps.
- **DHCP:** DHCP is the acronym of Dynamic Host Configuration Protocol, and it is one of the TCP/IP protocol stacks, it is used to assign the dynamic IP address to the host on the network.
- **Dual Stream:** Dual stream is a technology used to record high resolution video locally while transmitting a lower resolution stream over the network.
- **GNSS:** A satellite navigation system is a system of satellites that provide autonomous geo-spatial positioning with global coverage. It allows small electronic receivers to determine their location (longitude, latitude, and altitude) to high precision (within a few meters) using time signals transmitted along a line of sight by radio from satellites. The signals also allow the electronic receivers to calculate the current local time to high precision, which allows time synchronization. A satellite navigation system with global coverage may be termed GNSS (Global Navigation Satellite System).
- **GPS:** GPS (Global Positioning System) is a space-based global navigation satellite system that provides location and time information in all weather and anywhere on or near the earth, where there is an unobstructed line of sight to 4 or more GPS satellite.
- **G-Sensor:** G-sensor (Gravity-sensor) can sense the change of the accelerated force, such as the shaking, free falling and lifting. And those changes of the accelerated force can be sensed by the G-sensor in a means of electrical signals, and then link certain action according to the changes of the electrical signals. When applied in the hard disk protection, G-Sensor can check the current status of the hard disk in case of the affection of the R/W function by the sudden change of the accelerated force.
- **NTP:** NTP is Network Time Protocol, and it is a protocol used to synchronize the computer time.
- **Sensor-In:** Sensor-In is a built-in module on the mobile DVR used to record the movement information of the vehicle, such as the braking, left-turning and right0turning and so on. The information can be used for analysis of an accident.
- **Transparent Channel:** Transparent channel is a mechanism which analyzes the IP datagram and sends it by the serial interface. It extends the control distance of the serial devices and for the user, only the point to point transmission is seen and the actual transmission is ignored.
- **VPDN:** Virtual Private Dial-up Network is a network that uses primarily public telecommunication infrastructure, such as the internet, to provide remote office or travelling users' access to a central organization network, such as the ISP private network, financial network and so on.
- **WiFi:** Wi-Fi is a mechanism of the wireless connecting electronic devices. A device enabled with WI-FI such as PC, video game console, can connect to the internet via a wireless network access point.

9.2 FAQ

- **Why does my DVR make a beeping sound after booting?**

The possible reasons for the warning beep on the device are as follows:

a) There is no HDD installed in the device.

b) The HDD is not initialized.

c) HDD error

To cancel the beeping sound and use the device without HDD, enter the Exception Settings interface. For detailed information, see *Chapter 7.2.5 Handling Exceptions*.

- **DVR fails to start up after connecting the power.**

Possible reasons:

a) Incorrect voltage input (6 ~ 36 VDC) and power consumption (≥ 50W).

b) The HDD lock is not closed.

c) The power connections are incorrect and please refer to *Chapter 1.3*.

d) The motherboard or power functions abnormally. In case of hardware failure, please contact the supplier of the product.

- **Fail to connect 3G.**

Possible reasons for 3G connection failure are as follows:

a) Dialing is not enabled.

b) APN, dial number, user name and password should be set for 3G VPDN private network.

c) No 3G antenna connected. When both the master/slave antennas are connected, locate them vertically with above 20cm distance from each other.

d) SIM card is out of service or 3G service is not opened.

- **Fail to connect to Wi-Fi.**

Please check the following settings:

a) The SSID, encryption type or password are entered incorrectly.

b) AP (access point) or router works abnormally.

c) No Wi-Fi antenna connected or the antenna is not vertically located.

- **The DVR cannot be accessed via platform (iVMS) after successful connection to 3G or Wi-Fi.**

Possible reasons:

a) The parameters (e.g., server IP, device registered ID, etc.) of the platform are configured incorrectly.

b) The platform works abnormally.

- **Fail to obtain satellite positioning information.**

Possible reasons:

a) The satellite positioning antenna is not placed outdoor.

b) There is no satellite positioning module (built-in or external) available for the DVR.

c) The **Position Module** are configured incorrectly (please see *Chapter 6.2*).

- **Why does the device seem unresponsive when operating with the IR remote control?**

Please read *Chapter 1.3*, and check:

a) The batteries are installed correctly, making sure that the polarities of the batteries are not reversed.

b) The batteries are fresh and are not out of power.

c) The remote sensor is not covered or blocked by other object.

d) There are no fluorescent lamps in use nearby.

- **No backup device is detected when exporting recorded files?**

Possible reasons:

a) There is no backup device connected with the DVR.

b) The DVR and your backup device are not compatible.

c) Initialize the backup device before using.

d) The backup device is damaged.

0305001041010


First Choice for Security Professionals