Legal Information

User Manual
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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.
FCC compliance: This equipment 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 equipment 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 equipment 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:
• Reorient or relocate the receiving antenna.
• 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.
This equipment should be installed and operated with a minimum distance 20cm between the radiator and your body.

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.

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Symbol Conventions

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

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Danger]</td>
<td>Indicates a hazardous situation which, if not avoided, will or could result in death or serious injury.</td>
</tr>
<tr>
<td>![Caution]</td>
<td>Indicates a potentially hazardous situation which, if not avoided, could result in equipment damage, data loss, performance degradation, or unexpected results.</td>
</tr>
<tr>
<td>![Note]</td>
<td>Provides additional information to emphasize or supplement important points of the main text.</td>
</tr>
</tbody>
</table>
Contents

Chapter 1 Product Introduction ................................................................................................. 1
  1.1 Introduction ......................................................................................................................... 1
  1.2 Key Features ....................................................................................................................... 1

Chapter 2 Start Up Device ........................................................................................................... 2
  2.1 Activate the Device ................................................................................................................. 2
      2.1.1 Default Information ......................................................................................................... 2
      2.1.2 Activation ......................................................................................................................... 2
  2.2 Access Device via Web Browser .......................................................................................... 4

Chapter 3 Basic Operation .......................................................................................................... 5
  3.1 Configure Date & Time ......................................................................................................... 5
  3.2 IP Camera Adding ................................................................................................................. 5
      3.2.1 Activate IP Camera .......................................................................................................... 5
      3.2.2 Add IP Camera ............................................................................................................... 6
      3.2.3 Edit IP Camera ............................................................................................................... 6
  3.3 Recording ............................................................................................................................... 7
      3.3.1 Format Storage Media .................................................................................................... 7
      3.3.2 Configure Continuous Recording .................................................................................. 7
      3.3.3 Configure Event Triggered Recording .......................................................................... 8
      3.3.4 Disaster Storage ............................................................................................................ 8
  3.4 Playback ................................................................................................................................. 9
  3.5 Backup ................................................................................................................................... 9
      3.5.1 Back Up Videos ............................................................................................................. 9
      3.5.2 Back Up Clipped Videos .............................................................................................. 10
      3.5.3 Back Up Pictures ......................................................................................................... 10

Chapter 4 Network ..................................................................................................................... 11
  4.1 Network Connection ............................................................................................................ 11
4.1.1 Dial .............................................................................................................................. 11
4.1.2 Connect Wi-Fi .............................................................................................................. 11
4.1.3 Set Local Network ....................................................................................................... 12
4.1.4 Port Configuration ....................................................................................................... 12
4.1.5 DDNS Configuration .................................................................................................... 12
4.2 Platform Connection ........................................................................................................ 13
4.2.1 Connect to Mobile Surveillance Platform ................................................................. 13
4.2.2 Connect to Guarding Vision ....................................................................................... 14
4.3 Network Sharing ............................................................................................................... 15
4.3.1 Set Wi-Fi AP ............................................................................................................... 15
4.3.2 Set Network Share ..................................................................................................... 15

Chapter 5 Live View and Configuration ............................................................................. 16

5.1 Live View .............................................................................................................................. 16
5.1.1 Start/Stop Live View ................................................................................................. 16
5.1.2 Split Screen ............................................................................................................... 16
5.1.3 Select Live View Stream .......................................................................................... 16
5.1.4 Manual Capture ........................................................................................................ 16
5.1.5 Manual Recording .................................................................................................... 17
5.1.6 Start/Stop Two-Way Audio ....................................................................................... 17
5.1.7 Set Live View Volume .............................................................................................. 17
5.1.8 Full-Screen Live View .............................................................................................. 17
5.1.9 Channel-Zero ........................................................................................................... 18
5.2 PTZ Operation ................................................................................................................ 18
5.2.1 Configure PTZ ......................................................................................................... 18
5.2.2 PTZ Control Panel .................................................................................................... 18
5.3 Local Configuration ....................................................................................................... 19

Chapter 6 Mobile Device Features ....................................................................................... 20

6.1 Timed Shutdown .............................................................................................................. 20
<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.2</td>
<td>Delayed Shutdown</td>
<td>20</td>
</tr>
<tr>
<td>6.3</td>
<td>Configure Satellite Positioning</td>
<td>20</td>
</tr>
<tr>
<td>6.4</td>
<td>Configure G-Sensor Alarm</td>
<td>21</td>
</tr>
<tr>
<td>6.5</td>
<td>Configure Sensor-in</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td><strong>Chapter 7 Camera Management</strong></td>
<td><strong>23</strong></td>
</tr>
<tr>
<td>7.1</td>
<td>Configure Encoding Parameters</td>
<td>23</td>
</tr>
<tr>
<td>7.2</td>
<td>Image Settings</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td>7.2.1 Set Image Parameters</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td>7.2.2 Set Mirror Type</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td>7.2.3 Restore Default Parameters</td>
<td>23</td>
</tr>
<tr>
<td>7.3</td>
<td>Set OSD Parameters</td>
<td>24</td>
</tr>
<tr>
<td>7.4</td>
<td>Set Privacy Mask</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td><strong>Chapter 8 Driving Behavior Configuration</strong></td>
<td><strong>25</strong></td>
</tr>
<tr>
<td>8.1</td>
<td>Smart Device Driving Behavior Configuration</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>8.1.1 Configuration</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>8.1.2 Play Videos and Pictures</td>
<td>26</td>
</tr>
<tr>
<td>8.2</td>
<td>Other Device Driving Behavior Configuration</td>
<td>26</td>
</tr>
<tr>
<td></td>
<td>8.2.1 Connect Smart Terminal</td>
<td>26</td>
</tr>
<tr>
<td></td>
<td>8.2.2 Set Arming</td>
<td>27</td>
</tr>
<tr>
<td></td>
<td><strong>Chapter 9 Events and Alarms</strong></td>
<td><strong>28</strong></td>
</tr>
<tr>
<td>9.1</td>
<td>Configure Motion Detection Alarm</td>
<td>28</td>
</tr>
<tr>
<td>9.2</td>
<td>Configure Video Loss Alarm</td>
<td>28</td>
</tr>
<tr>
<td>9.3</td>
<td>Configure Video Tampering Alarm</td>
<td>28</td>
</tr>
<tr>
<td>9.4</td>
<td>Configure Alarm Input</td>
<td>29</td>
</tr>
<tr>
<td>9.5</td>
<td>Configure Alarm Output</td>
<td>29</td>
</tr>
<tr>
<td>9.6</td>
<td>Configure Exception Alarm</td>
<td>30</td>
</tr>
<tr>
<td>9.7</td>
<td>Configure Arming Schedule</td>
<td>30</td>
</tr>
<tr>
<td>9.8</td>
<td>Configure Linkage Actions</td>
<td>30</td>
</tr>
<tr>
<td>Section</td>
<td>Page</td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>------</td>
<td></td>
</tr>
<tr>
<td>9.8.1 Trigger Recording</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>9.8.2 Trigger Audible Warning</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>9.8.3 Full Screen Monitoring</td>
<td>31</td>
<td></td>
</tr>
<tr>
<td>9.8.4 Trigger Alarm Output</td>
<td>31</td>
<td></td>
</tr>
<tr>
<td><strong>Chapter 10 Security</strong></td>
<td>32</td>
<td></td>
</tr>
<tr>
<td>10.1 User Account Management</td>
<td>32</td>
<td></td>
</tr>
<tr>
<td>10.2 Set Security Question</td>
<td>32</td>
<td></td>
</tr>
<tr>
<td>10.3 Configure Whitelist</td>
<td>33</td>
<td></td>
</tr>
<tr>
<td>10.4 SSH Settings</td>
<td>33</td>
<td></td>
</tr>
<tr>
<td><strong>Chapter 11 Maintenance</strong></td>
<td>34</td>
<td></td>
</tr>
<tr>
<td>11.1 View System Information</td>
<td>34</td>
<td></td>
</tr>
<tr>
<td>11.2 Search Log File</td>
<td>34</td>
<td></td>
</tr>
<tr>
<td>11.3 Upgrade the System</td>
<td>34</td>
<td></td>
</tr>
<tr>
<td>11.4 Rebooting</td>
<td>34</td>
<td></td>
</tr>
<tr>
<td>11.5 Restore Default Settings</td>
<td>34</td>
<td></td>
</tr>
<tr>
<td>11.6 Export Configuration File</td>
<td>35</td>
<td></td>
</tr>
<tr>
<td>11.7 Import Configuration File</td>
<td>35</td>
<td></td>
</tr>
<tr>
<td>11.8 Configure DST Settings</td>
<td>35</td>
<td></td>
</tr>
<tr>
<td>11.9 Configure Local Output</td>
<td>36</td>
<td></td>
</tr>
<tr>
<td>11.10 Configure RS-232</td>
<td>36</td>
<td></td>
</tr>
<tr>
<td><strong>Chapter 12 Local Menu Operation</strong></td>
<td>37</td>
<td></td>
</tr>
<tr>
<td>12.1 IP Camera Adding</td>
<td>37</td>
<td></td>
</tr>
<tr>
<td>12.1.1 Activate IP Camera</td>
<td>37</td>
<td></td>
</tr>
<tr>
<td>12.1.2 Add IP Camera</td>
<td>37</td>
<td></td>
</tr>
<tr>
<td>12.1.3 Edit IP Camera</td>
<td>38</td>
<td></td>
</tr>
<tr>
<td>12.2 Recording</td>
<td>38</td>
<td></td>
</tr>
<tr>
<td>12.2.1 Format Storage Media</td>
<td>38</td>
<td></td>
</tr>
<tr>
<td>12.2.2 Configure Recording Schedule</td>
<td>38</td>
<td></td>
</tr>
</tbody>
</table>
12.3 Playback ................................................................. 39
12.4 Back up ................................................................. 39
Chapter 1 Product Introduction

Introduce the recorder and its key features.

1.1 Introduction

Adopting embedded Linux operating system, mobile video recorder (hereinafter referred to as the recorder) provides powerful monitoring functions. It can both work alone as a recorder and cooperate with other devices to build a comprehensive surveillance system. The recorder is widely applied to the surveillance projects of public transportation, school bus, etc.

1.2 Key Features

- User-friendly GUI providing easy and flexible operations.
- Pluggable 3G/4G module and built-in Wi-Fi module providing flexible data transmission solutions.
- Information collection interfaces collecting driving information such as left/right turn, braking, reversing, etc.
- Specialized aviation connectors ensuring signal stability.
- Ignition startup and delay (0 to 6h) shutdown.
- Battery protection avoids vehicle from running out of battery.
- Wide-range power input (+9 to +32 VDC).
- Power-off protection avoids key data from loss.
- Tensile aluminum chassis with no fan design well adaptable to working environment.
- Software-based firewall supported.
- GNSS (Global Navigation Satellite System) module precisely positioning the vehicle via the satellite and recording the location information in the stream.
Chapter 2 Start Up Device

2.1 Activate the Device

You can activate the recorder via the SADP software, the Web, the client software or the local menu.

⚠️ Caution

- If you want to activate the device via the SADP software, the Web or the iVMS-4200 client software, make sure that the device and your computer are in the same network segment.
- If you want to activate the recorder via the local menu, you must connect the device to an external monitor.

2.1.1 Default Information

The default setting of the recorder is as follows:

- Default IP: 192.168.1.64.
- Default user name: admin.

2.1.2 Activation

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

Activate via Local Menu

You can activate the recorder via the local menu when it's connected to an external monitor.

Steps

1. Enter the same password in Password and Confirm Password.

⚠️ Note

We highly recommend you to create a strong password of your own choosing (using a minimum of 8 characters, including at least three kinds of 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.

2. Click OK.
Activate via SADP

SADP software is used for detecting the online device, activating the device, and resetting the password. Get the SADP software from the supplied disk or the official website, and install the SADP according to the prompts. Follow the steps to activate the camera.

Before You Start
• Ensure your computer and the recorder are in the same network segment.
• Install the SADP software in your computer.

Steps
1. Run the SADP software.
2. Check the recorder status from the device list, and select the inactive recorder.

Note
We highly recommend you to create a strong password of your own choosing (using a minimum of 8 characters, including at least three kinds of 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.

3. Enter the same password in Password and Confirm Password.
4. Click Activate.

Activate via iVMS-4200

iVMS-4200 is versatile video management software for multiple kinds of devices. Get the client software from the supplied disk or the official website, and install the software according to the prompts. Follow the steps to activate the device.

Before You Start
• Ensure your computer and the recorder are in the same network segment.
• Install the software in your computer.

Steps
1. Run the software.
2. Go to Control Panel → Device Management.
3. Select inactive recorders.
4. Click Activate.

Note
We highly recommend you to create a strong password of your own choosing (using a minimum of 8 characters, including at least three kinds of 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.

5. Enter the same password in **Password** and **Confirm Password**.
6. Click **OK**.

### Activate via Web Browser

You can activate the device via a web browser.

**Before You Start**

Ensure your computer and the recorder are in the same network segment.

**Steps**

1. Open web browser, input the IP address of the device and then press Enter.

    **Note**

    We highly recommend you to create a strong password of your own choosing (using a minimum of 8 characters, including at least three kinds of 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.

2. Enter the same password in **Password** and **Confirm**.
3. Click **OK**.

### 2.2 Access Device via Web Browser

Get access to the recorder via web browser.

**Steps**

1. Open the web browser, enter the IP address of the recorder, and then press Enter.
2. Enter **User Name** and **Password** and click **Login**.
3. Install the plug-in before viewing the live video and managing the camera. Please follow the installation prompts to install the plug-in.

**What to do next**

Click **Logout** in top right corner to log out the recorder.
Chapter 3 Basic Operation

You can perform the basic operations once the recorder is connected to an IP camera.

**Note**
All the operations from Chapter 3 to Chapter 11 is done via web browser.

### 3.1 Configure Date & Time

Configure time zone and time synchronization mode.

**Steps**
2. Select `Time Zone` according to the recorder location.
3. Select time synchronization mode as `NTP` or `Manual Time Sync.`
   - If an NTP server is available, select `NTP` and enter NTP server information to synchronize NTP server time to your recorder.
   - Select `Manual Time Sync.` and set time to customize the recorder time.
   - Select `Manual Time Sync.` and check `Sync. with computer time` to synchronize the computer time to your recorder.
4. Click `Save`.

### 3.2 IP Camera Adding

The section is only available for the recorder that supports network camera.

#### 3.2.1 Activate IP Camera

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

**Steps**
1. Go to `Configuration → System → Camera Management`.
2. Select an inactivated IP camera.

**Note**
We highly recommend you to create a strong password of your own choosing (using a minimum of 8 characters, including at least three kinds of 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.

1. Click `Activation`. 
4. Enter the same password in **New Password** and **Confirm**.
5. Click **OK**.

### 3.2.2 Add IP Camera

You can add the activated IP cameras. Ensure the device and IP cameras are in the same network segment.

**Before You Start**

The record and the camera to add must be in the same network segment.

**Steps**

1. Go to **Configuration → System → Camera Management**
2. **Optional**: If the recorder and the camera are in different network segment, modify IP camera address.
   1) Check the IP camera and click **Modify**.
   2) Enter **IP Address** and **Password**.
   3) Click **OK**.
3. Select a camera and click **Add**.

**Note**

If the recorder password is the same with the camera's, click **Quick Add** to add the camera.

4. Enter IP camera information.
5. Click **OK**.

### 3.2.3 Edit IP Camera

You can visit, delete, and modify the added IP cameras.

**Before You Start**

If the recorder contains only one network card, you can visit IP camera via the recorder. If the recorder contains dual network card, you need to enable virtual host function before visiting IP camera via the recorder. Go to **Configuration → Network → Advanced Settings → Other** and check **Enable Virtual Host**.

**Steps**

1. Go to **Configuration → System → Camera Management**
2. **Optional**: Click address of IP camera to visit.
3. **Optional**: Check IP cameras and click **Delete** to delete added IP cameras.
3.3 Recording

To record the videos for connected cameras, you need to install a storage media and format it, and configure the recording schedule.

3.3.1 Format Storage Media

A newly installed storage media must be initialized before it can be used.

**Before You Start**
Install a storage media.

**Steps**
1. Go to Configuration → Storage → Storage Management .
2. Check the storage media and click Format.

**Result**
After format, the storage media status should be Normal.

3.3.2 Configure Continuous Recording

The recorder is configured with all-day continuous recording by default.

**Before You Start**
Install and format a storage media.

**Steps**
1. Go to Configuration → Storage → Schedule Settings .
2. Select Channel No.
3. Check Enable.
4. Select recording type as Continuous.
5. **Optional:** Click Advanced to configure Pre-record 和 Post-record.
   - **Pre-record**
     The time you set to start recording before the scheduled time or the event. For example, if an alarm triggers recording at 10:00, and the pre-record time is set as 5 seconds, the device starts to record at 9:59:55.
   - **Post-record**
     The time you set to stop recording after the scheduled time or the event. For example, if an alarm triggered recording ends at 11:00, and the post-record time is set as 5 seconds, the device records until 11:00:05.
6. Set recording schedule. For detailed steps, refer to Configure Arming Schedule .
7. **Optional:** Click Copy to to copy upper settings to other channel.
8. Click Save.
3.3.3 Configure Event Triggered Recording

Trigger recording when an event is triggered.

Before You Start
• Install and format the storage media.
• Configure event parameters. For details, refer to Events and Alarms.

Steps
1. Go to Configuration → Storage → Schedule Settings.
2. Select Channel No.
3. Check Enable.
4. Select recording type as Motion | Alarm, Alarm, Motion, or Motion & Alarm.
   - **Motion | Alarm**: Trigger recording when either motion detection or alarm input is detected.
   - **Alarm**: Trigger recording when alarm input is detected.
   - **Motion**: Trigger recording when either motion detection detected.
   - **Motion & Alarm**: Trigger recording when both motion detection and alarm input are detected.
5. Optional: Click Advanced to configure Pre-record and Post-record.
   - **Pre-record**: The time you set to start recording before the scheduled time or the event. For example, if an alarm triggers recording at 10:00, and the pre-record time is set as 5 seconds, the device starts to record at 9:59:55.
   - **Post-record**: The time you set to stop recording after the scheduled time or the event. For example, if an alarm triggered recording ends at 11:00, and the post-record time is set as 5 seconds, the device records until 11:00:05.
6. Set recording schedule. For detailed steps, refer to Configure Arming Schedule.
7. Optional: Click Copy to copy upper settings to other channel.
8. Click Save.

3.3.4 Disaster Storage

The function is only available for recorder supporting mobile fireproof storage box. The recorder will save videos in both HDD and mobile fireproof storage box to ensure data security.
Before You Start
- Connect a mobile fireproof storage box to your recorder.
- Configure the recording schedule.

Steps
1. Go to Configuration → Vehicle → Storage For Calamity.
2. Check Enable.
3. Check Redundant Channel. The recorder will save the videos of the selected channels in both HDD and mobile fireproof storage box.
4. Click Save.

3.4 Playback

Play videos saved in storage medias.

Steps
1. Go to Playback.
2. Click to select a channel in channel list.
3. Select playback type as Ordinary Search or Event Search.
   - To search all the videos, select Ordinary Search.
   - To search event videos, select Event Search.
4. Search search conditions.
5. Click Search.
6. Click to start playback.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pause.</td>
</tr>
<tr>
<td></td>
<td>Single frame playback.</td>
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<td></td>
<td>Fast forward.</td>
</tr>
<tr>
<td></td>
<td>Slow forward.</td>
</tr>
<tr>
<td></td>
<td>Stop all playbacks.</td>
</tr>
<tr>
<td></td>
<td>Capture. For picture saving path, refer to Configuration → Local → Save snapshots when playback to.</td>
</tr>
<tr>
<td></td>
<td>Turn on audio.</td>
</tr>
<tr>
<td></td>
<td>Full screen.</td>
</tr>
</tbody>
</table>

3.5 Backup

3.5.1 Back Up Videos

Download videos to a local path.

Steps
1. Go to Playback.
2. Click .
3. Search search conditions.
4. Click Search.
5. Check videos to download and click Download.
6. For the video saving path, refer to Configuration → Local → Save Downloaded Files to .

3.5.2 Back Up Clipped Videos

Clip videos and save them to a local path.

Steps
1. Go to Playback.
2. Start playback.
3. Click to start clipping.
4. Click to stop clipping.
5. For clipped video saving path, refer to Configuration → Local → Save clips to .

3.5.3 Back Up Pictures

Back up pictures to a local path.

Steps
1. Go to Picture.
2. Set search conditions.
3. Click Search.
4. Check pictures to download.
5. Click Download.
6. For picture saving path, refer to Configuration → Local → Picture and Clip Settings .
Chapter 4 Network

4.1 Network Connection

4.1.1 Dial

Set dialing parameters.

Before You Start
Install 3G/4G SIM card and connect 3G/4G antenna to your recorder.

Steps
1. Go to Configuration → Network → Basic Settings → 3G/4G.
2. Check Enable.
3. Click Dial Parameters.
4. Select Network Mode.
   - Automatic: The recorder will automatically switch to the strongest network.
   - Auto-Search and Auto-Switch: Network priority: 4G > 3G > 2G. The recorder will automatically connect the network of high priority.
   - 3G: The recorder only connects 3G network.
   - 4G: The recorder only connects 4G network.
5. Optional: To connect private network, enter Access Number, User Name, Password, and APN.
6. Click Save.
7. Optional: Click Wireless Dial-up Status to view dialing status.

4.1.2 Connect Wi-Fi

Configure Wi-Fi parameters.

Steps
1. Go to Configuration → Network → Basic Settings → TCP/IP.
2. Set WLAN parameters.
   1) Click Wlan 1.
   2) Optional: Check DHCP. Use SADP tool to obtain the recorder IP address when DHCP is enabled.
   3) Enter wireless network IPv4 Address, IPv4 SubnetMask, IPv4 Default Gateway, and DNS Server.
   4) Click Save.
3. Go to Configuration → Network → Advanced Settings → Wi-Fi.
   1) Check Enable Wi-Fi.
   2) Click Search to search available wireless networks.
   3) Select a wireless network in Wireless List.
4) Enter SSID.
5) Select Network Mode as Managed.
6) Select Security Mode and enter Wi-Fi key.

4. Click Save.
5. Optional: Go to Configuration → Network → Advanced Settings → Wi-Fi → Wi-Fi Status to view Wi-Fi status.

4.1.3 Set Local Network

Configure local network parameters.

Steps
1. Go to Configuration → Network → Basic Settings → TCP/IP.
2. Select LAN port.
   - Debug Interface: Used to debug the recorder.
   - Rear interface: Used to connect network cameras.
3. Enter network parameters: IPv4 Address, IPv4 Subnet Mask, and IPv4 Default Gateway.
4. Optional: To access the recorder via internet, configure DNS server.
5. Click Save.

4.1.4 Port Configuration

Go to Configuration → Network → Basic Settings → Port.

HTTP Port
  Used to access the recorder via web browser.

RTSP Port
  Used to get stream. HTTPS Port

HTTPS Port
  Used for secure communication over a network.

Server Port
  Used to access the recorder via client software.

4.1.5 DDNS Configuration

If your recorder external network is a dynamic IP address, you can use the Dynamic DNS (DDNS) for network access.

Before You Start
• Register your recorder on the DDNS server.
• Configure local network IP address, subnet mask, gateway, and DNS server.
• Create port mapping, default port: 80, 8000, and 554.
Steps
1. Go to Configuration → Network → Basic Settings → DDNS.
2. Select DDNS Type.
3. Enter server information.
4. Click Save.

What to do next
Open the web browser and enter the recorder domain name to visit it.

4.2 Platform Connection

4.2.1 Connect to Mobile Surveillance Platform
The device can be remotely accessed via mobile surveillance platform.

Before You Start
Create the device ID on mobile surveillance platform.

Steps
2. Check Enable.
4. Select Server Address Type, and enter Server Address, Server Port, and Device ID.
   - **Server Address**
     Enter the static IP address of mobile surveillance platform.
   - **Server Port**
     The default value is 7660.
   - **Device ID**
     The ID of the device registered on the mobile surveillance platform. If you leave it empty, device logs in to the platform with serial No.
5. Click OK.

Note
- You can download iVMS-5260M to your mobile phone by searching it in app store/google play or scan QR code below. If you use Android system, install googleplay application on your mobile phone before scanning the QR code.
4.2.2 Connect to Guarding Vision

The device can be remotely accessed via guarding vision platform.

**Before You Start**

- Connect your recorder to internet.
- Configure IP address, sub-netmask, gateway, and DNS server of LAN port.

**Steps**

1. Go to **Configuration → Network → Advanced Settings → Platform Access**.
2. Check **Enable**.
3. Select **Platform Access Mode** as **Guarding Vision**.

**Caution**

Valid security code range [6-12]. You can use a combination of numbers, lowercase, and uppercase.

4. Enter a customized **Security Code**. You need to enter the security code when adding the recorder in guarding vision.
5. Click **Save**.
6. Visit guarding vision platform.
   - For computer user: Visit [dev.guardingvision.com](https://dev.guardingvision.com).
   - For mobile phone user: Download **Guarding Vision** application in app store or google play.
7. Register an account.
8. Add the recorder by its serial number (a 9-bit character printed in device label) and security code.
4.3 Network Sharing

4.3.1 Set Wi-Fi AP

The recorder can work as a wireless router. Other devices can access network via the recorder.

Steps

⚠️ Caution
You can only turn on one function between Wi-Fi AP and Wi-Fi. Turning on one of them will turn off the other.

1. Go to Configuration → Network → Advanced Settings → Wi-Fi AP.
2. Check Enable Wi-Fi AP, Enable AP Broadcast, and Enable WLAN HotSpot.
3. Configure hotspot parameters.
   1) Enter SSID (hotspot name).
   2) Select Security Mode.
   3) Enter IP Address and Sub-net Mask.

ℹ️ Note
The IP address must be in a different network segment with TCP/IP address.

4. Check Enable DHCP and enter Start IP Address and End IP Address.
5. Click Save.

4.3.2 Set Network Share

Connect a peripheral device to your recorder with a network cable. The peripheral device can access internet after the recorder successfully dials to internet.

Steps

2. Check Enable Network Share.
3. Configure the network parameters for the peripheral device.
   1) Set its IP address in the same network segment with your recorder.
   2) Set its network gateway IP as the recorder IP address.
4. Click Save.

The peripheral device can access internet after the recorder successfully dials to internet.
Chapter 5 Live View and Configuration

5.1 Live View

5.1.1 Start/Stop Live View

Start/stop the live view of cameras.

Steps
1. Go to Live View.
2. Click to select window division and click to select a window to display the live view image.
3. Double click a camera in the camera list to display its live image in selected window. Or click to start the live view of all cameras.
4. Double click the camera again to stop its live view. Or click to stop the live view of all cameras.

5.1.2 Split Screen

Live view window division is selectable.

Window Division
Click to select live view window division.

Paging
Click to turn to previous/next window.

5.1.3 Select Live View Stream

The recorder supports main stream and sub-stream. Main stream is used for continuous recording and sub-stream is used for network transmission.

Click in camera list to select live view stream.

5.1.4 Manual Capture

Capture live view pictures and save them to your computer.

Steps
1. Go to Live View.
2. Start live view of a camera.
3. Click .
4. View captured pictures.
   - Enter the path popped up in the lower right corner.
   - Go to Configuration → Local → Picture and Clip Settings for the saving path of captured pictures.

5.1.5 Manual Recording

Record videos in live view and save them to your computer.

Steps
1. Go to Live View.
2. Start live view of a camera.
3. Click to start recording.
4. Click to stop recording.
5. Go to the set saving path to view recorded videos.
   - Enter the path popped up in the lower right corner.
   - Go to Configuration → Local → Record File Settings for picture saving path.

5.1.6 Start/Stop Two-Way Audio

You can have real-time two-way audio between your computer and the recorder.

Before You Start
Connect the audio input and output devices to the recorder and computer.

Steps
1. Start the live view of a camera.
2. Click .

Result
- At computer end, you can hear the audio from recorder.
- At recorder end, you can hear the audio from computer.

5.1.7 Set Live View Volume

Turn on audio and adjust audio volume.

Click to turn on audio.
Drag the slider to adjust volume.

5.1.8 Full-Screen Live View

Display the live view image in full screen.
Start the live view and click to display the live view image in full screen. Press Esc to exit from the full-screen mode.

5.1.9 Channel-Zero

Channel-zero, known as virtual channel, can show the videos from all channels of the recorder, reducing the bandwidth while simultaneously previewing from multi-channel.

Steps
1. Go to Configuration → Video/Audio → Channel-zero .
2. Check Enable Channel-zero Encoding.
4. Click Save.
5. Go to Live View.
6. Double click ZeroChannel 01 in the camera list to start live view of channel-zero.

5.2 PTZ Operation

Configure PTZ parameters and control PTZ.

5.2.1 Configure PTZ

Follow the steps to set PTZ parameters. The configuration of the PTZ parameters should be done before you control the PTZ camera.

Before You Start
Connect the RS-485 cables of the PTZ camera to EXT.DEV interface of the device.

Steps
1. Go to Configuration → System → System Settings → PTZ Config .
2. Select Channel No. of PTZ camera.
3. Configure the parameters of the PTZ camera. All the parameters should be exactly the same with those of the PTZ camera.
4. Click Save.

5.2.2 PTZ Control Panel

Go to Live View. Control PTZ camera via PTZ panel.

Note
PTZ control panel may vary with recorder model.
<table>
<thead>
<tr>
<th>Icon</th>
<th>Description</th>
<th>Icon</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>🖊️</td>
<td>Direction buttons.</td>
<td>🌀</td>
<td>Auto-scan button.</td>
</tr>
<tr>
<td>⬛</td>
<td>Zoom -.</td>
<td>⬛</td>
<td>Zoom +.</td>
</tr>
<tr>
<td>⚫</td>
<td>Focus +.</td>
<td>⚫</td>
<td>Focus -.</td>
</tr>
<tr>
<td>⚫</td>
<td>Iris +.</td>
<td>⚫</td>
<td>Iris -.</td>
</tr>
<tr>
<td>⏯</td>
<td>Turn on /off light.</td>
<td>🕳</td>
<td>Start/stop wiper.</td>
</tr>
</tbody>
</table>

### 5.3 Local Configuration

Local configuration refers to the parameters of live view image, videos and captured pictures.

**Stream Type**
- Select the default live stream type. Main stream and sub-stream are selectable.

**Play Performance**
- **Shortest Delay**: The recorder ensures real-time capacity in priority.
- **Auto**: Automatically adjust the live view stream to balance real-time capacity and fluency.

**Rules**
- Reserved.

**Image Size**
- Adjust the image aspect ratio.

**Auto Start Live View**
- **Enable**: Automatically turn on live view after logged in the recorder.
Chapter 6 Mobile Device Features

6.1 Timed Shutdown

The recorder will automatically start up/shut down according the schedule.

**Before You Start**
Wire power cord. For details, refer to quick start guide.

**Steps**
1. Go to Configuration → Vehicle → Start.
2. Select Auto Work Type as Auto Working.
3. Set the shutdown schedule. For detailed steps, refer to Configure Arming Schedule.
4. **Optional:** Check Low Power Protect and select Low Power Protect Limit. If the voltage of the recorder reaches the selected threshold, the recorder will shut down automatically.
5. Click Save.

6.2 Delayed Shutdown

You can set the shutdown delay time (Vehicle Ignition Startup and Shutdown) for the recorder.

**Before You Start**
Wire power cord. For details, refer to quick start guide.

**Steps**
1. Go to Configuration → Vehicle → Start.
2. Select Auto Work Type as Halt Delay.
3. Select Delay Time.
4. Click Save.
5. **Optional:** Check Low Power Protect and select Low Power Protect Limit. If the voltage of the recorder reaches the selected percentage, the recorder will shut down automatically.

6.3 Configure Satellite Positioning

The built-in GNSS module supports GPS (Global Positioning System), enabling device positioning and speed limit alarm.

**Before You Start**
Install the positioning antenna.

**Steps**
1. Go to Configuration → Vehicle → Position Settings.
2. Select Position Module.
Built-in
Obtain data from the satellite positioning module built in the recorder.

Intelligent Display Terminal
Obtain data from display terminal.

3. Select **Locating Module**.
4. **Optional:** Check **Enable of Satellite Timing** to synchronize recorder time with satellite time.
5. Configure speed limit.
   1) Select **Speed Units**.
   2) Enter **Speed Limit of Alarm**.
   If vehicle speed exceeds the set value, the recorder will alarm.
6. Check the channels you want the positioning information to be displayed.
   The positioning information will be displayed in the live view and playback mode of the selected channel.
7. Configure linkage actions.
   • If you want the speeding vehicle to trigger the speed alarm, check **Trigger Alarm Output**.
   • If you want the speeding vehicle to trigger the system to beep, check **Audible Warning**.
8. Click **Save**.

### 6.4 Configure G-Sensor Alarm

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

**Before You Start**
Connect a G-sensor to the recorder.

**Steps**
1. Go to **Configuration → Vehicle → G-Sensor**.
2. Select module according to actual situation.
   - **External:** The G-sensor is connected to the device through RS-232/RS-485 interface.
   - **Built-in:** The G-sensor is a built-in module of the device.
3. Set the limit value for acceleration alarm in X, Y and Z directions.

<table>
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<tr>
<th>Note</th>
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</table>

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

During driving, the recorder will alarm when acceleration of any direction exceeds the set value.

4. Set the linkage actions for acceleration alarm, including **Audible Warning** and **Alarm Output**.
5. Click **Save**.
6.5 Configure Sensor-in

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

Before You Start
Connect the recorder sensor-in interface and vehicle corresponding interface. For details, refer to quick user guide.

Steps
1. Go to Configuration → Vehicle → Sensor-In.
2. Select Trigger Level and Pop Channel according to actual situation.
   The the image of selected channel will be displayed in full screen when sensor-in is triggered.
3. Click Save.
Chapter 7 Camera Management

7.1 Configure Encoding Parameters

Configure encoding parameters to adjust live view image and video parameters.

Go to Configuration → Video/Audio → Video.

In good network situation, you can set high resolution and bitrate to improve image quality.

In bad network situation, you can set low resolution, bitrate, and frame rate to get fluent image.

7.2 Image Settings

7.2.1 Set Image Parameters

You can adjust image parameters including brightness, contrast, etc.

Steps
1. Go to Configuration → Image → Display Settings.
2. Select Channel No.
3. Select Scene according to actual situation.
4. Adjust image parameters as desired.

7.2.2 Set Mirror Type

You can enable mirror image and set mirror type to get suitable image.

Steps
1. Go to Configuration → Image → Display Settings.
2. Select Mirror Type as desired.

Note
The function varies with recorder model.

7.2.3 Restore Default Parameters

You can restore image parameters to defaults.

Go to Configuration → Image → Display Settings, select Channel No., and click Default.
7.3 Set OSD Parameters

Configure the camera name, OSD (On Screen Display) settings, etc.

Steps
1. Go to Configuration → Image → OSD Settings.
2. Select Channel No.
3. Enter Camera Name, select Time Format and Date Format.
4. Optional: Check Display Name, Display Date, and Display Week as your desire.
5. Set OSD Display Mode.
6. Optional: To display text on OSD, check one text overlay and enter text.
7. Drag the red frame on live view window to adjust OSD position.
8. Click Save.

Result
The check display contents will be overlaid on the live view image and videos.

7.4 Set Privacy Mask

The privacy mask can be used to protect personal privacy by concealing parts of the image from view or recording with a masked area.

Up to four privacy mask areas are supported for each channel.

Steps
1. Go to Configuration → Image → Privacy Mask.
2. Select Channel No.
3. Check Enable Privacy Mask.
4. Draw detection area.
   1) Click Draw Area.
   2) In preview area, drag to draw the detection area.
   3) Click Stop Drawing.
5. Click Save.

Result
The image of drawn area will be shield in the live view and videos.
Chapter 8 Driving Behavior Configuration

The function analyzing driver’s behavior, including smoking, fatigue driving, talking on phone, etc. The recorder will trigger warning when these behaviors are detected.

8.1 Smart Device Driving Behavior Configuration

Only the recorder with A in model name supports driving behavior detection function. One recorder supports analyzing one channel at a time.

8.1.1 Configuration

Calibrate Camera Position

Calibrate network camera position before enabling driving behavior detection.

Before You Start
Add the network camera in your recorder.

Steps
1. Go to Configuration → VCA → Driving Behaviors → IPC Position Calibration.
2. Select Channel No.
3. Adjust the network camera position to make the driver face image appear in the red frame and his chin is above the yellow line.

Configure Driving Behavior Analysis

Set the driving behavior analysis parameters according to actual situation to lower false detection rate.

Steps
1. Go to Configuration → VCA → Driving Behaviors → Driving Behaviors.
2. Select Camera No.
3. Check behaviors to analyze and configure their parameters.
   
   Alarm Time
   Device alarms when the corresponding driving behavior lasts for the set time.

   Confidence Interval
   Available for on-the-phone detection and smoking detection. The higher the value is, the lower the false detection rate. You are recommended to use the default value.
Stop Detections when Driving in Low-Speed

The feature is valid when GPS positioning succeeded. When the vehicle speed is lower than the set value, all the driving behavior analyses will stop.

Voice Alarm

When it is checked, device will send out voice alarm when a checked behavior is detected.

>Note

One recorder supports analyze driving behavior for one channel at a time. Enabling the driving behavior analysis will disable driving behavior analysis of other channels.

4. Click **Save**.

Result

When a concerned driving behavior is detected, the connected intercom will automatically send out audio broadcast.

8.1.2 Play Videos and Pictures

We take the example of playing videos to describe the steps.

**Steps**
1. Go to **Playback**.
2. Select a channel in channel list.
3. Click **Event Search**.
4. Select **Event Type** as **Driver Behavior**.
5. Set search conditions.
6. Click **Search**.
7. Select videos to play.

8.2 Other Device Driving Behavior Configuration

For the recorder supports network camera, when the recorder and a smart terminal connects the same network camera, and the smart terminal is added to the recorder, the recorder will receive driving behavior analysis from the smart terminal.

8.2.1 Connect Smart Terminal

**Before You Start**
Add the same network camera to both smart terminal and recorder.

**Steps**
1. Go to **Configuration → Vehicle → Smart Terminal Access**.
2. Check **Enable**.
3. Enter smart terminal information.
4. Click Save.

8.2.2 Set Arming

In the set arming period, the recorder will trigger specified linkage method when the concerned driving behavior is detected.

Steps
1. Go to Configuration → Event → Basic Event → Driving Behaviors .
2. Select Channel No. and Driving Behaviors . The channel should be network camera that connected to both the added smart terminal and the recorder.
3. Check Enable .
4. Configure arming schedule. For detailed steps, refer to Configure Arming Schedule .
5. Configure linkage method. For detailed steps, refer to Configure Linkage Actions .
6. Click Save .
Chapter 9 Events and Alarms

9.1 Configure Motion Detection Alarm

When motion detection alarm is configured, once a motion event is detected, the device starts to record and multiple linkage actions will be triggered.

Steps
1. Go to Configuration → Event → Basic Event → Motion Detection.
2. Select Channel No.
3. Draw detection area.
   1) Click Draw Area.
   2) In preview area, drag to draw the detection area.
   3) Click Stop Drawing.
4. Configure arming schedule. For detailed steps, refer to Configure Arming Schedule.
5. Configure linkage method. For detailed steps, refer to Configure Linkage Actions.
7. Click Save.

9.2 Configure Video Loss Alarm

When the recorder cannot receive video signal from the analog cameras, the video loss alarm will be triggered. Linkage actions, including audible warning and alarm output, can be set to respond.

Steps
1. Go to Configuration → Event → Basic Event → Video Loss.
2. Check Enable Video Loss Detection.
3. Configure arming schedule. For detailed steps, refer to Configure Arming Schedule.
4. Configure linkage method. For detailed steps, refer to Configure Linkage Actions.
5. Click Save.

9.3 Configure Video Tampering Alarm

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

Steps
1. Go to Configuration → Event → Basic Event → Video Tampering.
2. Select Channel No.
3. Draw detection area.
   1) Click Draw Area.
   2) In preview area, drag to draw the detection area.
3) Click **Stop Drawing**.
4. Configure arming schedule. For detailed steps, refer to *Configure Arming Schedule*.
5. Configure linkage method. For detailed steps, refer to *Configure Linkage Actions*.
6. Set **Sensitivity**.
7. Click **Save**.

### 9.4 Configure Alarm Input

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

**Before You Start**
Connect an alarm device to your recorder.

**Steps**
1. Go to **Configuration → Event → Basic Event → Alarm Input**.
2. Select **Alarm Input No.** and enter **Alarm Name**.
3. Select **Alarm Type** according to alarm device type.
4. Check **Enable Alarm Input Handling**.
5. Configure arming schedule. For detailed steps, refer to *Configure Arming Schedule*.
6. Configure linkage method. For detailed steps, refer to *Configure Linkage Actions*.
7. Optional: Click **Copy to** and select desired channels to copy the above settings to other alarm inputs.
8. Click **Save**.

### 9.5 Configure Alarm Output

Configure the arming schedule, alarm duration time and alarm name for alarm output.

**Before You Start**
Connect alarm output device to your recorder. For details, refer to installation guide.

**Steps**
1. Go to **Configuration → Event → Basic Event → Alarm Output**.
2. Select **Alarm Output No.** and enter **Alarm Name**.
3. Select **Delay** to set dwell time.
   - Alarm output will continue for the set time.
4. Configure arming schedule. For detailed steps, refer to *Configure Arming Schedule*.
5. Optional: Click **Manual Alarm** to trigger alarm manually. Click **Stop Alarm** to stop manual alarm.
6. Optional: Click **Copy to** and select desired channels to copy the above settings to other alarm outputs.
7. Click **Save**.
9.6 Configure Exception Alarm

Configure alarms which are triggered by exceptions to take necessary actions in time.

Steps
1. Go to Configuration → Event → Basic Event → Exception.
2. Select Exception Type.
3. Configure linkage method. For detailed steps, refer to Configure Linkage Actions.
4. Click Save.

9.7 Configure Arming Schedule

Steps
1. Drag in time line to draw a arming period.
2. Adjust the set arming period.
   - Click a period and adjust its length.
   - Click a period, enter start time and end time, and click Save.
   - Click Delete All to delete all periods.

   Note
   Up to 8 time periods can be set for each day and each of the time periods cannot be overlapped.

3. Optional: Click Copy to and select desired days to copy the above settings to other days.
4. Click Save.

9.8 Configure Linkage Actions

Check Linkage Method, select Settings, check the linkage actions needed, click Apply and OK.

   Note
   Linkage actions vary with event type.

9.8.1 Trigger Recording

To trigger recording when an event occurs, check Trigger Recording.

9.8.2 Trigger Audible Warning

To generate an audible warning when an event occurs, check Trigger Audible Warning.
9.8.3 Full Screen Monitoring

To display image from the arming channel in full screen, check Full Screen Monitoring.

9.8.4 Trigger Alarm Output

To trigger the alarm of alarm output device connected to the recorder, check Trigger Alarm Output.
Chapter 10 Security

10.1 User Account Management

You can add and delete users, and modify the password and permission of users.

Steps
1. Go to Configuration → System → User Management.
2. Click Add.
3. Edit new user parameters and click OK to create the user.

*i*Note

We highly recommend you to create a strong password of your own choosing (using a minimum of 8 characters, including at least three kinds of 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.

Delete      Select a user and click Delete to delete the user.
Modify      Select a user and click Modify to modify the user information.

10.2 Set Security Question

If you forgot admin password, you can reset password by answering security questions. Follow the steps to set security questions.

Before You Start
Your computer and recorder must be in the same network segment.

Steps
1. Go to Configuration → System → User Management.
2. Click Security Question.
3. Enter Admin Password.
4. Set security questions.
5. Click OK.

Result

If you forgot admin password, you can visit the recorder via computer in the same network segment with your recorder and click Forgot Password to reset password.
10.3 Configure Whitelist

Only the trusted IP addresses on the white list can access the device via the network.

Steps
2. Check Enable White List.
3. Click Add and enter desired IP Address.
   - Select an IP address and click Modify to edit the IP address.
   - Select an IP address and click Delete to delete the IP address.
4. Click Save.

10.4 SSH Settings

SSH is disabled by default for security reasons. This setting is reserved for professional maintenance personnel only.
Chapter 11 Maintenance

11.1 View System Information
You can view your recorder system information and edit recorder name and record number.
Go to Configuration → System → System Settings → Basic Information to view the recorder information. You can edit Device Name and Device No.

11.2 Search Log File
You can view and export logs saved in the recorder storage media.
Go to Configuration → System → Maintenance → Log to search or export logs.

11.3 Upgrade the System
You are recommended to upgrade the recorder with the help of professional technical support.

Before You Start
Save the upgrade file in computer.

Steps
1. Go to Configuration → System → Maintenance → Upgrade & Maintenance.
2. Click Browse and select upgrade file.
3. Click Upgrade and click OK in popup message box to start upgrading.

Caution
The upgrading process will be 1 to 10 minutes, please don't disconnect power to the recorder during the process. The recorder reboots automatically after upgrading.

11.4 Rebooting
Reboot your recorder via menu instead of disconnecting power from the recorder.
Go to Configuration → System → Maintenance → Upgrade & Maintenance. Click Reboot and click OK in popup message box to start rebooting.

11.5 Restore Default Settings
If your recorder is abnormal, you can restore recorder to defaults settings.
Go to Configuration → System → Maintenance → Upgrade & Maintenance.

**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.

**Default**

Restore all parameters to the factory default settings.

### 11.6 Export Configuration File

The configuration files of the recorder can be exported to your computer for backup.

**Steps**

1. Go to Configuration → System → Maintenance → Upgrade & Maintenance.
2. Click Device Parameters and select the configuration file saving path.

### 11.7 Import Configuration File

The configuration file of one device can be imported to multiple devices if they are to be configured with the same parameters.

**Steps**

⚠️ **Caution**

Only devices of the same model can share configuration file.

1. Go to Configuration → System → Maintenance → Upgrade & Maintenance.
2. Click Browse of Import Config. File and select configuration file.
3. Click Import and click OK in popup message box to start importing.

### 11.8 Configure DST Settings

Configure DST (Daylight Saving Time) settings for the system.

**Steps**

2. Check Enable DST.
3. Set Start Time and End Time for DST.
4. Select DST Bias.
5. Click Save.
11.9 Configure Local Output

You can configure local output and resolution remotely.

Go to Configuration → System → System Settings → Menu Output to configure Menu Output and Resolution.

**Note**
The function varies with model.

11.10 Configure RS-232

To debug recorder via serial port or connect serial device, you can configure RS-232 parameters.

**Before You Start**
Connect a serial device to your recorder RS-232 interface.

**Steps**
1. Go to Configuration → System → System Settings → Serial Config.
2. Select COM port the serial device connects to.
3. Edit Baudrate, Data Bit, Stop Bit, Parity, and Flow Control.
4. Select Usage.
   - **Console**
     Connect a computer to the recorder through the computer serial port. Recorder parameters can be configured by using software such as HyperTerminal. The serial port parameters must be the same as of the recorder when connecting with the computer serial port.
   - **Transparent Channel**
     Connect a serial device directly to the recorder. The serial device will be controlled remotely by the computer through the network and the protocol of the serial device. If alarm button is connected, select RS-232 usage as Transparent Channel.
5. Click Save.
Chapter 12 Local Menu Operation

Connect a display and a mouse to recorder, you can operate the recorder locally.

12.1 IP Camera Adding

The section is only available for the recorder that supports network camera.

12.1.1 Activate IP Camera

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

Before You Start
Connect the IP camera to IP camera interface in the recorder rear panel.

Steps
1. Go to Menu → Other Settings → IPC Settings.
2. Click Manual Management.
3. Select an inactivated IP camera.
4. Activate the selected IP camera.
   - Click Quick Active. The IP camera password will be set as the same with the device password.
   - Click Manual Active and enter the same password in New Password and Confirm.

Caution
We highly recommend you to create a strong password of your own choosing (using a minimum of 8 characters, including at least three kinds of 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.

12.1.2 Add IP Camera

Before You Start
The IP camera is active.

Steps
1. Select Menu → Other Settings → IPC Settings
2. Uncheck Auto Add and click Manage IP Camera.
3. Edit camera IP address.
   1) Select an IP camera and click Edit.
   2) Enter an IP address that is in the same network segment with the recorder.
4. Add the IP camera.
   1) Click **ManuAdd**.
   2) Select IP channel No. for the IP camera.
   3) Edit the required information.
   4) Click **OK**.

**12.1.3 Edit IP Camera**

You can edit or delete added IP cameras.

**Steps**
1. Go to **Menu → Other Settings → IPC Settings**.
2. **Optional**: You can change the parameters of the added IP cameras.
   1) Select an IP camera.
   2) Edit the parameters. If you change the IP address, you will connect to another IP camera.
   3) Click **OK**.
3. **Optional**: Select an IP camera, click **Delete** to delete the IP camera.

**12.2 Recording**

To record the videos for connected cameras, you need to install a storage media and format it, and configure the recording schedule.

**12.2.1 Format Storage Media**

A newly installed storage media must be formatted before it can be used.

**Before You Start**
Install storage media.

**Steps**
1. Go to **Menu → Storage**.
2. Check storage media to format.
3. Click **Format**.

   After format, the storage media **Status** should be **Normal**.

**12.2.2 Configure Recording Schedule**

All-day recording is on by default. Device will start and stop recording according to the configured recording schedule.

**Before You Start**
Install storage media and format it.
Steps
1. Go to Menu → Basic Settings → Record.
2. Select the camera to set recording schedule.
3. Click Set of Schedule.
4. Check Enable Schedule.
5. Select the day from the dropdown list for settings.
6. Configure all day schedule or custom schedule.
   - Check All Day to enable all-day recording, and then select the recording type from the drop-down list.
   - Uncheck All Day, customize the time period for recording, and select the recording type for each time period.

Note
Up to 8 time periods can be set for each day and each of the time periods cannot be overlapped.

7. Click OK.

12.3 Playback
You can search and play back the videos stored on the recorder.

Steps
1. Go to Menu → Video Search.
2. Select Search Mode.
   - General
     Normal videos.
   - Event
     Motion detection, alarm, motion | alarm, motion&alarm videos.
3. Select Camera, Video Type, Start Time, and End Time.
4. Click Search.
5. Select a video and click Play.

12.4 Back up
Back up the videos stored on the recorder.

Before You Start
Connect a USB storage device to your recorder.

Steps
1. Go to Menu → Video Search.
2. Select Search Mode.
General
   Normal videos.

Event
   Motion detection, alarm, motion|alarm, motion&alarm videos.

3. Select **Camera, Video Type Start Time, and End Time**
4. Click **Search**.
5. Select the videos and click **Export**.

**Note**
The number of USB interface varies with recorder model. If your recorder contains only one USB interface, you can back up videos via remote control or touchscreen.
See Far, Go Further