# Vision Tools – IP Utility

User Manual

Manual Version: V1.22

Thank you for purchasing our product. If there are any questions, or requests, please do not hesitate to contact the dealer.

## Notice

- The contents of this document are subject to change without prior notice.
- Best effort has been made to verify the integrity and correctness of the contents in this document, but no statement, information, or recommendation in this manual shall constitute formal guarantee of any kind, express or implied.
- The product appearance shown in this manual is for reference only and may be different from the actual appearance of your device.
- The illustrations in this manual are for reference only and may vary depending on version or model.
- This manual is a guide for multiple product models and so it is not intended for any specific product.
- Due to uncertainties such as physical environment, discrepancy may exist between the actual values and reference values provided in this manual. The ultimate right to interpretation resides in our company.
- Use of this document and the subsequent results shall be entirely on the user's own responsibility.

## Conventions

The following conventions apply in this manual:

- Vision Tools is referred to as the software for short.
- Devices that the software manages, such as IP camera (IPC) and network video recorder (NVR), are referred to as device.

| Convention | Description |
|---|---|
| **Boldface font** | Commands, keywords, parameters and GUI elements such as window, tab, dialog box, menu, button, etc. |
| *Italic font* | Variables for which you supply values. |
| > | Separate a series of menu items, for example, **Device Management** > **Add Device**. |

| Symbol | Description |
|---|---|
| **WARNING!** | Contains important safety instructions and indicates situations that could cause bodily injury. |
| **CAUTION!** | Means reader be careful and improper operations may cause damage or malfunction to product. |
| **NOTE!** | Means useful or supplemental information about the use of product. |

# Contents

# 1 Introduction

This software is a tool used to manage and configure devices on a local area network (LAN) including IPC and NVR. Major functions include:

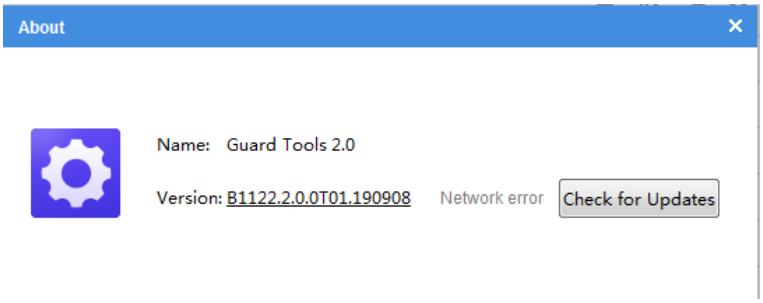
| | Function |
|---|---|
| Device Configuration | Configure the device name, system time, DST, network, DNS, and port of an IPC or NVR. Besides, Change Device Password and Change Device IP Address are also included. |
| Channel Configuration | Configure channel settings including image, encoding, OSD, audio and motion detection. |
| Upgrade Device | • Local Upgrade: Upgrade device(s) using an upgrade file on your computer.<br>• Online Upgrade: Check the device firmware version, download upgrade files and upgrade the device with Internet connection. |
| Maintenance | Includes Configuration Import/Export, Export Diagnosis Info, Restart Device, and Restore Default Settings. |
| NVR Channel Management | Includes adding NVR channel and deleting NVR channel. |
| Calculation | Calculate recording time allowed or disks needed. |

Before you start, make sure the computer on which this software runs and the devices to manage are connected by network.

# 2 Upgrade

Check for updates, download and install the latest version.

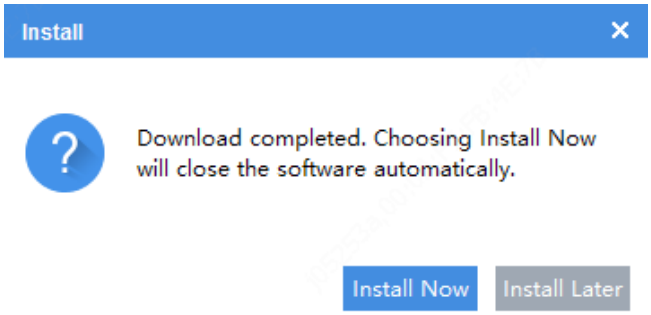
1. Double-click the shortcut icon to start the software, then click  in the upper right corner to open the drop-down list.
2. Click **About Vision Tools 2.0** to view the version number and update information.




3. Click the version number to view the current version info. Click **Check for Updates**. If updates are available, you can click to view details and download the new version.

4. You can choose to install immediately or later when the new version is downloaded. Clicking in the upper right corner will cancel the installation.

- **Install Now:** Close the software and start installation immediately.
- **Install Later**: The installation will start after the user closes the software.

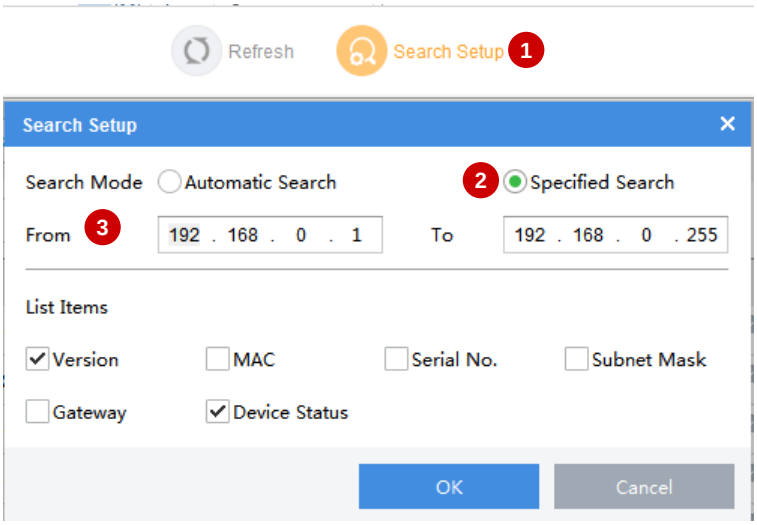



# 3 Functions

## Preparation

### Search Devices

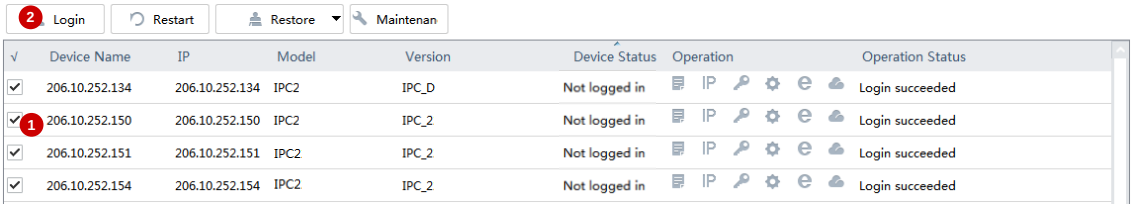
The software automatically searches for devices on the LAN where the PC resides and lists the discovered. To search a specified network, follow the steps as shown below:



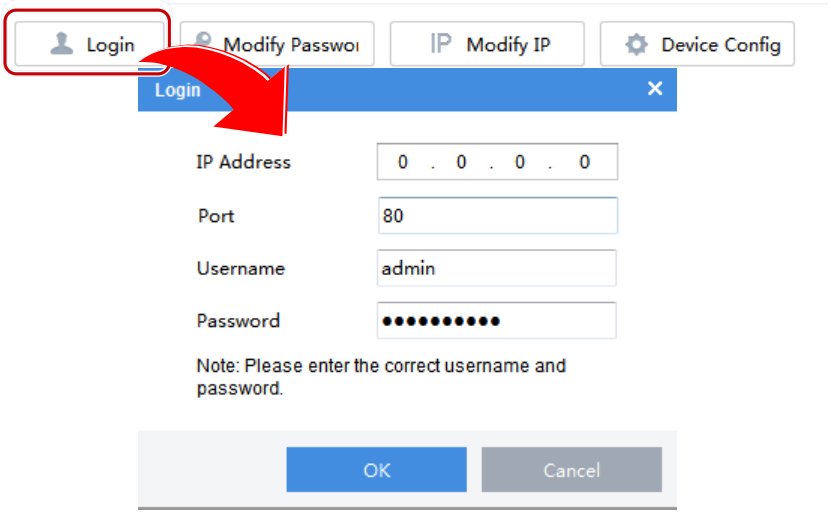

## Log in to Devices

You need to log in to a device before you can manage, configure, upgrade, maintain or restart a device. Choose the following methods to log in to your device:

- Log in to device in the list: Select the device(s) in the list and then click the **Login** button on the top.




- Log in to device not in the list: Click **Login**, and then enter the IP, port, username and password of the device you want to log in to.



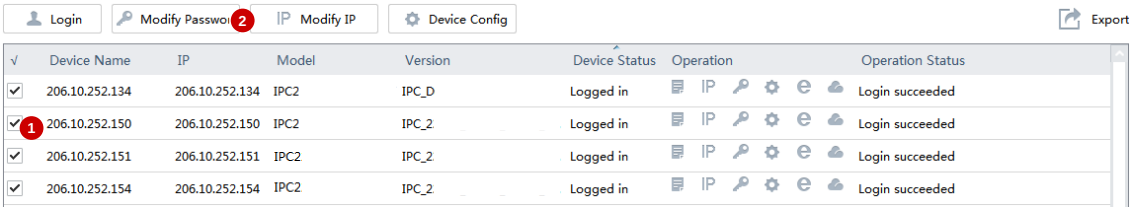

# Management and Configuration

## Change Device Password

The default password is only intended for the first login. For security, please change the password when logged in. You can only change the admin's password.

1. Click **Device Cfg.** on the main menu.
2. Choose the following methods to change device password:

- For a single device: Click in the **Operation** column.
- For multiple devices: Select the devices, and then click **Modify Password** on the top toolbar.

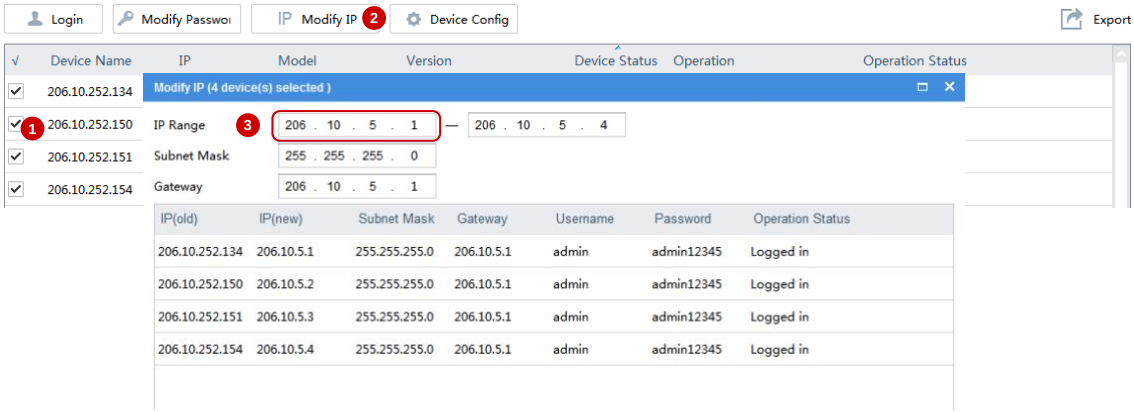



## Change Device IP Address

1. Click **Device Cfg.** on the main menu.
2. Choose the following methods to change device IP:

- For a single device: Click IP in the **Operation** column.
- For multiple devices: Select the devices, and then click **Modify IP** on the top toolbar. Set the start IP in the **IP Range** box, and the software will automatically fill in other parameters according to

the number of devices. Please make sure the username and password are correct.




## Configure Device

Configure the device name, system time, DST, network, DNS, and port of an IPC or NVR.

1. Click **Device Cfg.** on the main menu.

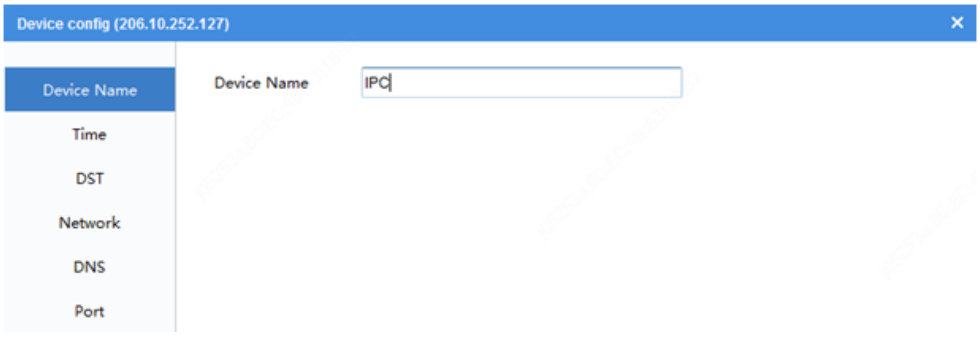
2. Click ⚙ in the **Operation** column.

**NOTE!**

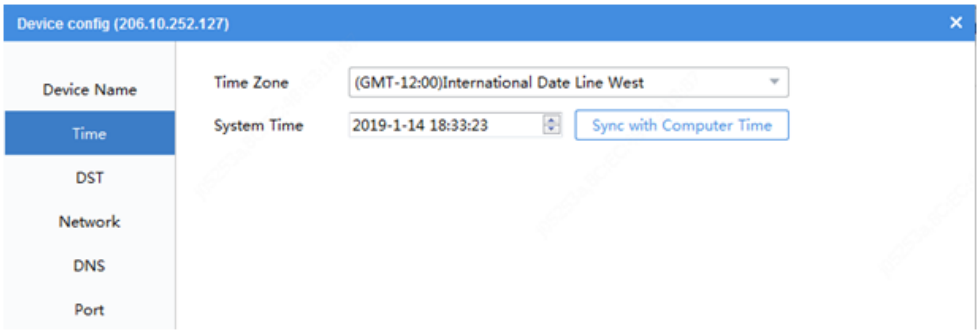
You may select multiple devices to batch configure device system time, DST, DNS, and port. Device name and network settings cannot be configured in batches.

3. Configure device name, system time, DST, network, DNS, and port as needed.

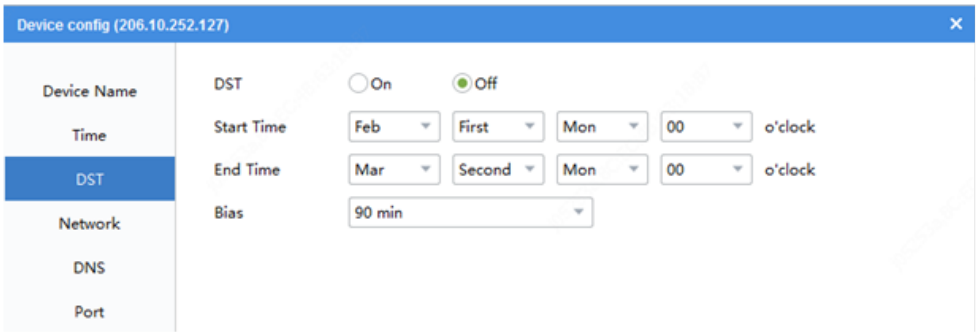
- Configure device name.



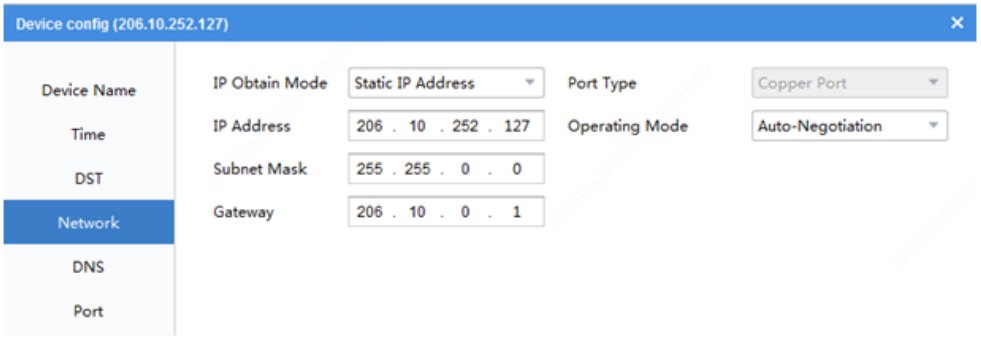

- Configure the time. Clicking the **Sync with Computer Time** button will sync your computer's system time to the device.



- Configure Daylight Saving Time (DST).




- Configure network settings.




- Configure the DNS.


- Configure ports.


## Configure Channel

Configure channel settings including image, encoding, OSD, audio and motion detection. The parameters displayed may vary with device model.

1. Click **Channel Cfg.** on the main menu.

2. Click ⚙ in the **Operation** column.

**NOTE!**

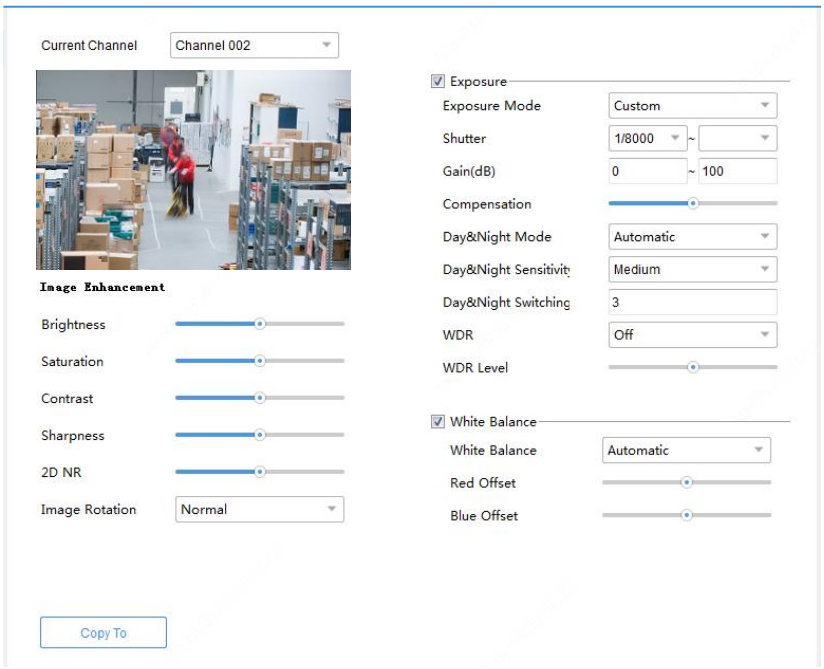
You may select multiple IPCs of the same model and then click **Channel Config** on the top toolbar. NVR cannot be configured in batches.

3. Configure image, encoding, OSD, audio and motion detection as needed.

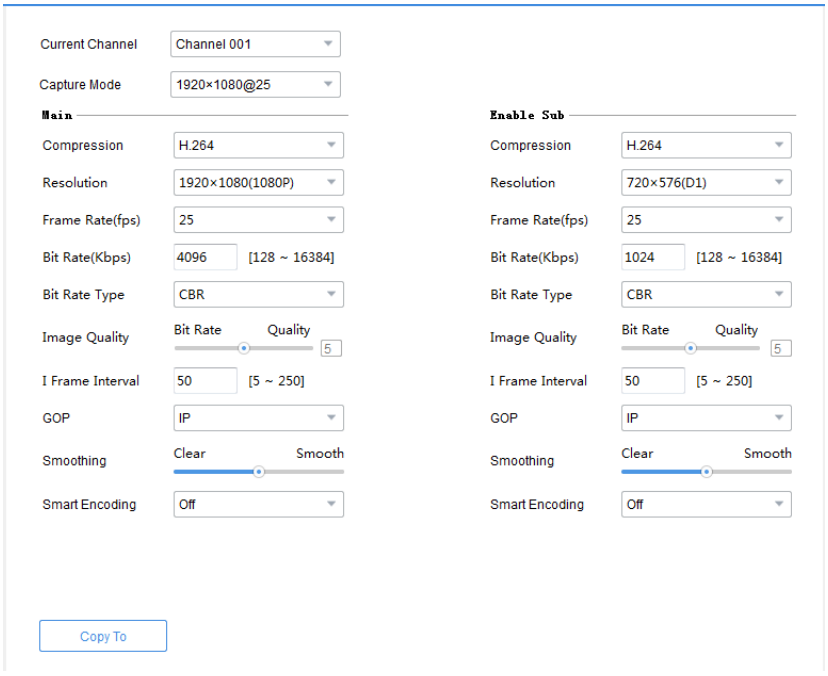
- Configure image settings, including image enhancement, exposure, smart illumination, and white balance.

**NOTE!**

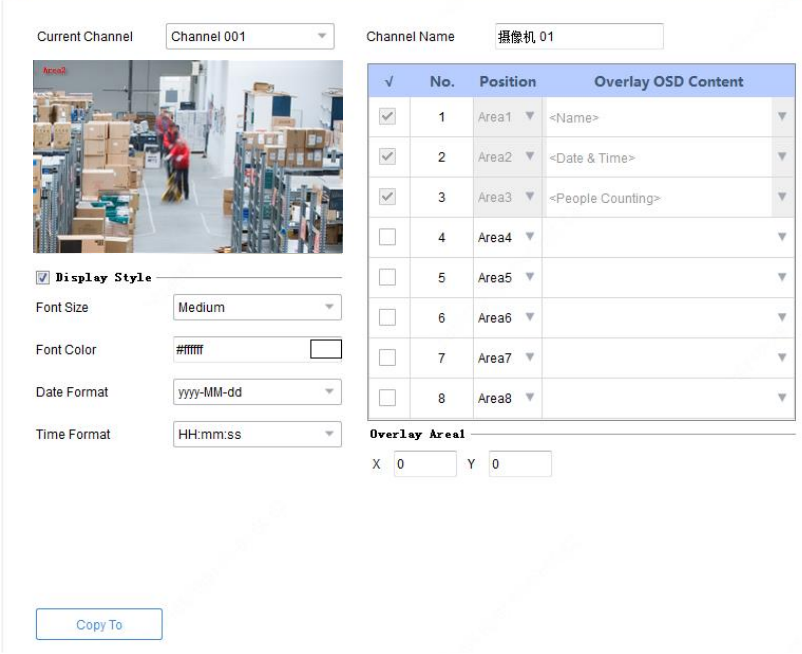
- A double-click on the image will display it in full screen; another double-click will restore the image.
- You may copy image, encoding, OSD and motion detection configurations of an NVR channel and apply them to other channel(s) of the same NVR. See Copy NVR Channel Configurations for details.
- Clicking **Restore Default** will restore all the default image settings. After restoration, click **Get Parameters** to obtain the default settings.




- Configure encoding parameters.




- Configure OSD.

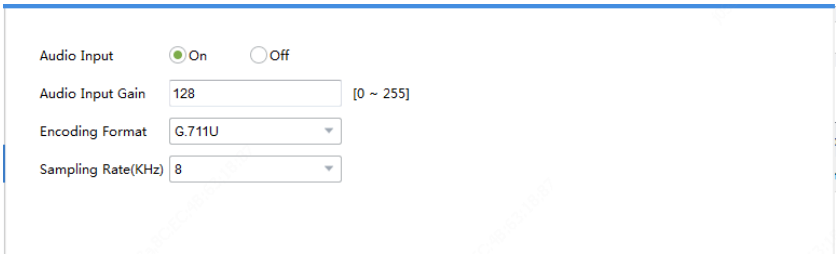



**NOTE!**

You can export and import OSD configurations of IPC channel(s). See Export and Import OSD Configurations of an IPC for details.

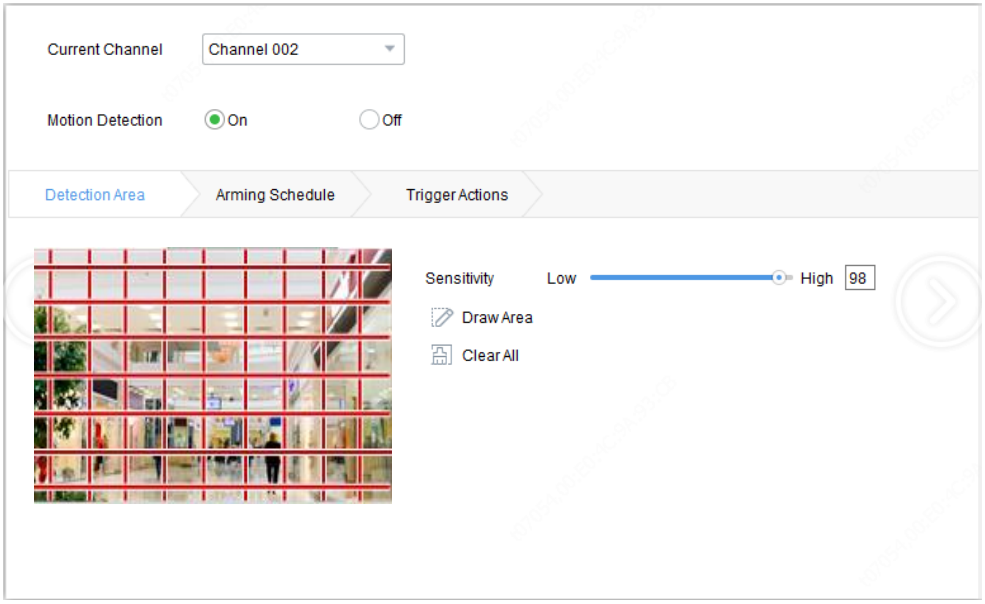
- Configure audio.

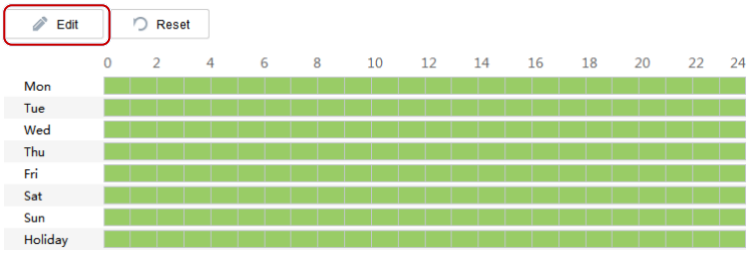
Currently this function is not available for NVR channels.




- Configure motion detection.

Motion detection detects object motion in the detection area during the set period. The motion detection settings may vary with device. The following takes NVR channel as an example:




| Item | Description |
|---|---|
| Detection Area | Click **Draw Area** to draw detection area in the left live view window. |
| Sensitivity | The higher the value, the easier a moving object will be detected. |
| Arming Schedule | Set the start and end time during which motion detection takes effect.<br>  <br>• Click or drag on the green area to set arming periods.<br>• Click **Edit** to enter time periods manually. After you complete the settings for a day, you may copy the settings to other days. |
| Trigger Actions | Set the actions to trigger after a motion detection alarm occurs. |



## View Device Info

View device information, including device name, model, IP, port, serial number, version info, etc.

1. Click **Device Cfg.** or **Channel Cfg.** or **Maintenance** on the main menu.
2. Click in the **Operation** column.

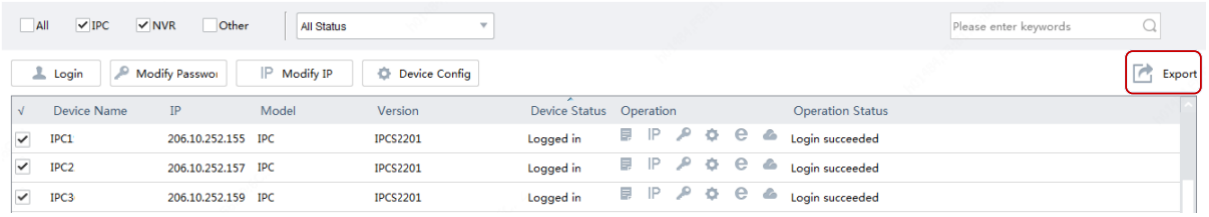
**NOTE!**

Device info is also displayed for devices not logged in, but subnet mask and gateway will not be displayed.

## Export Device Info

Export information including name, IP, model, version, MAC address and serial number of device(s) to a CSV file.

1. Click **Device Cfg.** or **Channel Cfg.** on the main menu.
2. Select the device(s) in the list, and then click the **Export** button in the upper right corner.




## Export Diagnosis Info

Diagnosis information includes logs and system configurations. You can export diagnosis info of device(s) to PC.

1. Click **Maintenance** on the main menu.
2. Click in the **Operation** column.
3. Select the destination folder, and then click **Export**.

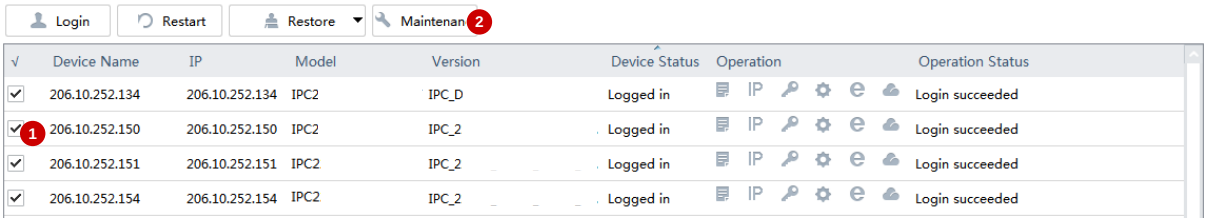

## Configuration Import/Export

Configuration import allows you to import a configuration file from your computer to a device and change the current settings of the device.

Configuration export allows you to export current configurations of the device and save them as a file for backup.

1. Click **Maintenance** on the main menu.
2. Choose the following methods as needed:

- For a single device: Click in the **Operation** column.
- For multiple devices: Select the devices, and then click **Maintenance** on the top toolbar.



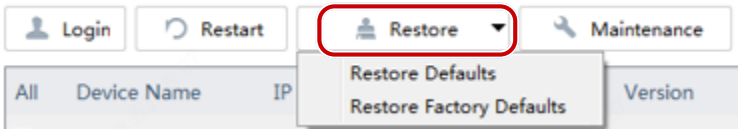

## Restore Default Settings

Restoring default settings includes restore defaults and restore factory defaults.

Restore defaults: Restore factory default settings except network, user and time settings.

Restore factory defaults: Restore all factory default settings.

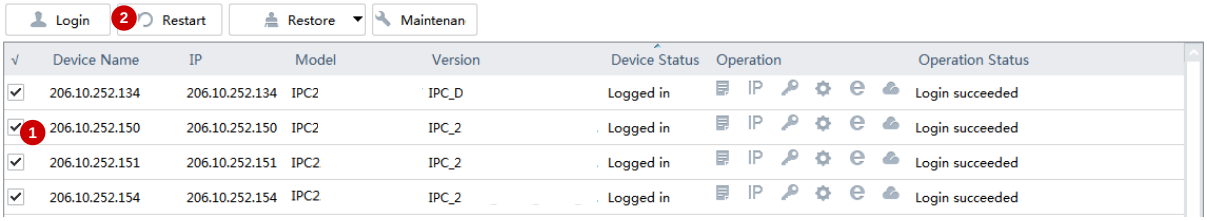
1. Click **Maintenance** on the main menu.
2. Select the device(s).
3. Click **Restore** on the top toolbar and then choose **Restore Defaults** or **Restore Factory Defaults**.




## Restart Device

1. Click **Maintenance** on the main menu.
2. Choose the following methods as needed:

- For a single device: Click in the **Operation** column.
- For multiple devices: Select the devices, and then click **Restart** on the top toolbar.




## Log in to the Web of a Device

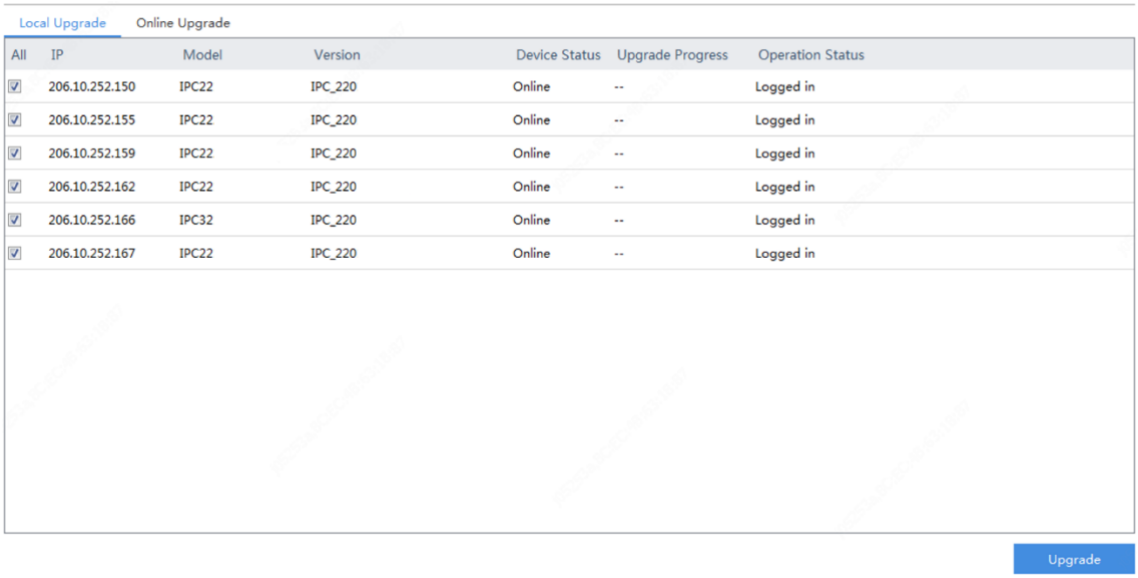
1. Click **Device Cfg.** or **Channel Cfg.** on the main menu.
2. Click in the **Operation** column.

## Upgrade Device

Device upgrade includes local upgrade and online upgrade. Upgrade progress is displayed in real time during the upgrade.

Local upgrade: Upgrade device(s) using an upgrade file on your computer.

Online upgrade: With Internet connection, online upgrade will check the device firmware version, download upgrade files and upgrade the device. You need to log in first.

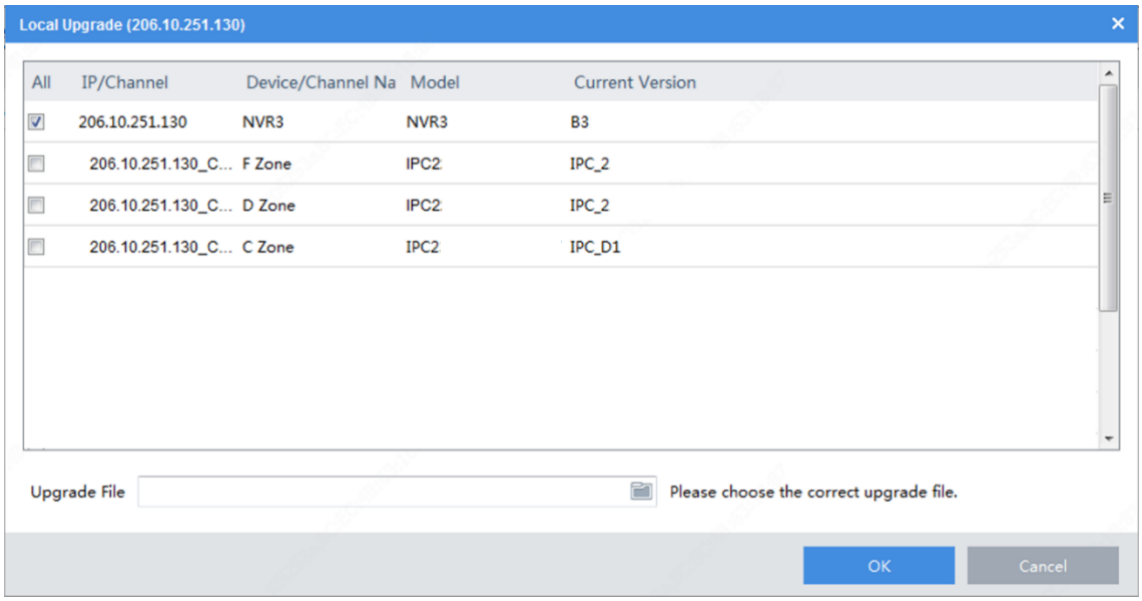



**NOTE!**

- The upgrade version must be correct for the device. Otherwise, exceptions may occur.
- For an IPC, the upgrade package (ZIP file) must contain the complete upgrade files.
- For an NVR, the upgrade file is in .BIN format.
- You can upgrade NVR channels in batches.
- Please maintain a proper power supply during upgrade. The device will restart after the upgrade is completed.

### Upgrade a device using a local upgrade version file

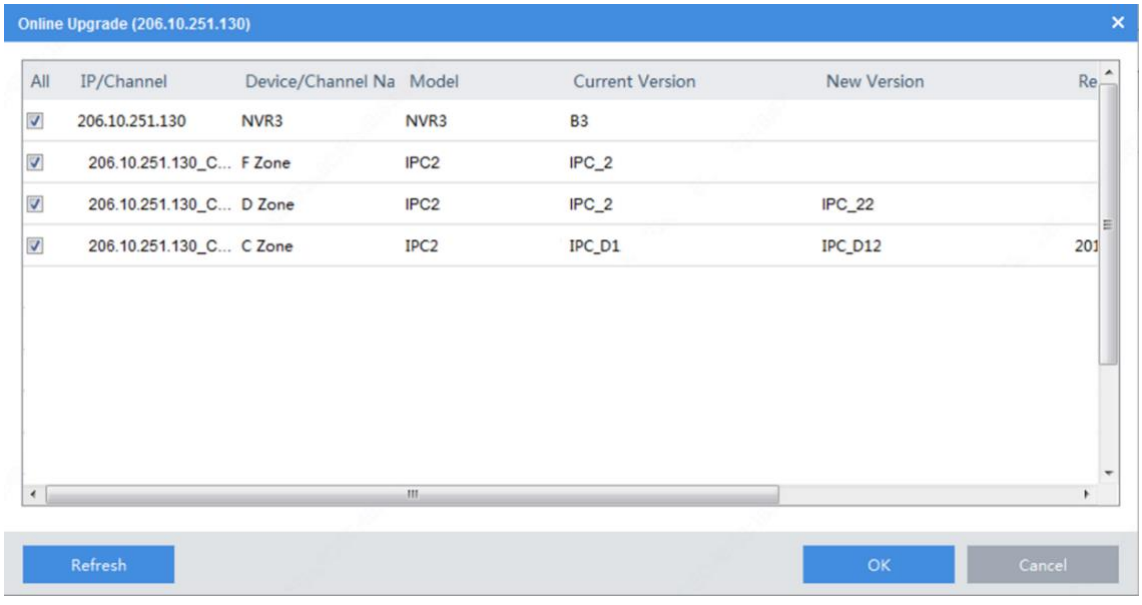
1. Click **Upgrade** on the main menu.
2. Under **Local Upgrade**, select the device(s) and then click **Upgrade**. A dialog box is displayed (take NVR as an example).




3. Select the upgrade version file. Click **OK**.

### Online Upgrade

1. Click **Upgrade** on the main menu.
2. Under **Online Upgrade**, select the device(s) and then click **Upgrade**.

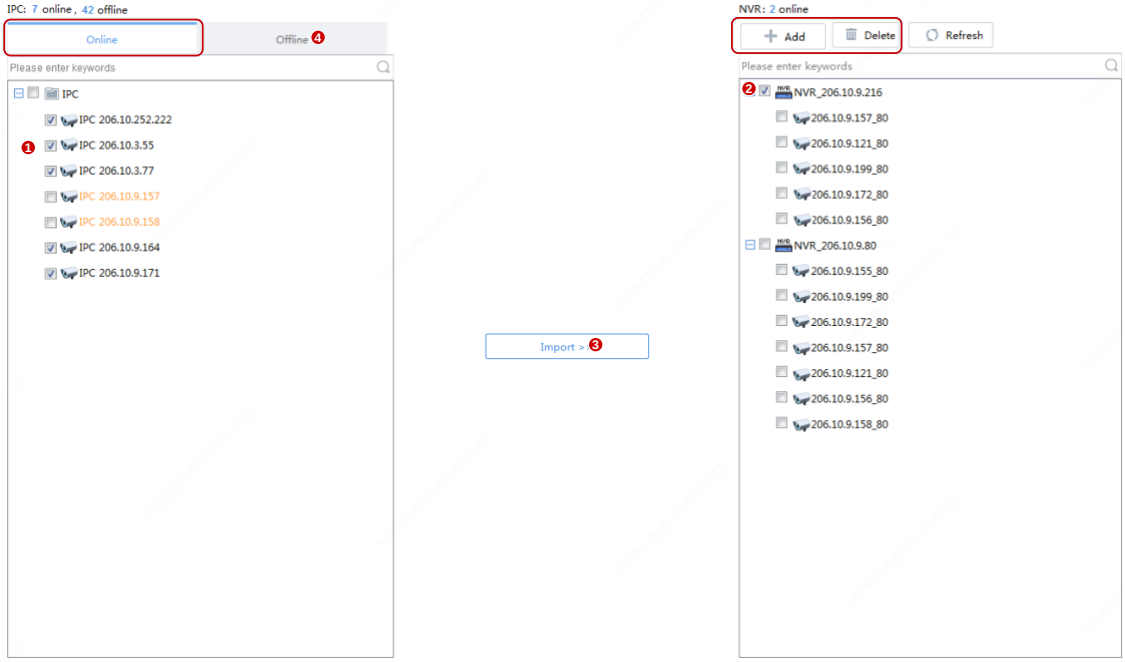



3. Click **Refresh** to check for available upgrades.
4. Click **OK**.

## NVR Channel Management

NVR channel management includes adding NVR channel and deleting NVR channel.

1. Click **NVR** on the main menu.
2. On the **Online** tab, select the IPC(s) to import, select the target NVR, and then click **Import**.




**NOTE!**

- In the IPC list, orange means the IPC has been added to an NVR.
- In the NVR list, blue means the newly added channel.
- To add an offline IPC, click the **Offline** tab (4 in the figure). The IPC's username and password are required.

**NOTE!**

- Use the **Add** button on the top if the IPC you want to add is not in the IPC list.
- To delete an IPC from the NVR list, place the mouse cursor on the IPC and click . To delete multiple IPCs in batches, select the IPCs and then click **Delete** on the top.

## Cloud Service

Enable or disable the cloud service and the **Add Without Signup** feature on the device; delete a cloud device from the current cloud account.

1. Log in to the device.
2. Click **Device Cfg.** or **Maintenance** on the main menu.
3. Click in the **Operation** column. A dialog box is displayed.


4. Enable or disable the cloud service (P2P) as needed. When the cloud service is enabled, you can use the APP to scan the QR code below to add the device.

Note: Please click **Refresh** to update device status after you enable or disable the cloud service.

5. Enable or disable the **Add Without Signup** feature, which, when enabled, allows you to add the device by scanning the QR code using the APP without signing up for a cloud account.

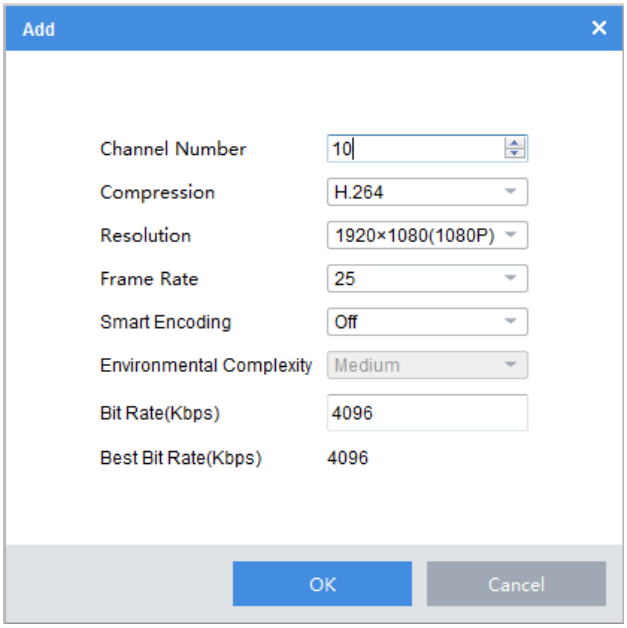
Note: The **Add Without Signup** feature requires the cloud service be enabled on the device and a strong password be set on the device.

6. For a cloud device, you can remove it from the current cloud account by clicking **Delete**.

## Calculation

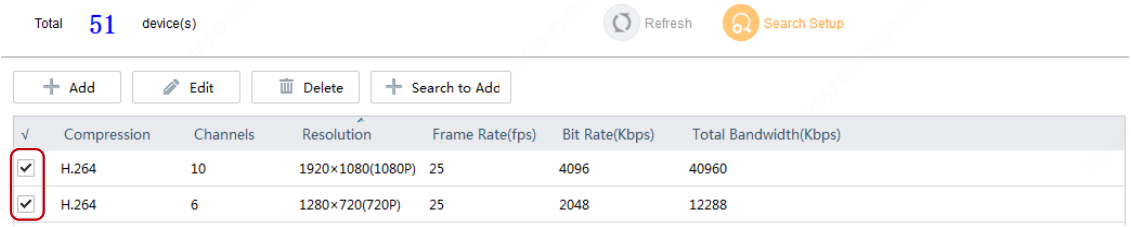
Calculate recording time allowed or disks needed.

1. Click **Calculation** on the main menu.
2. Click **Add** on the top toolbar.




Note: You may also click **Search to Add** and select discovered devices for space calculation based on their actual video settings.

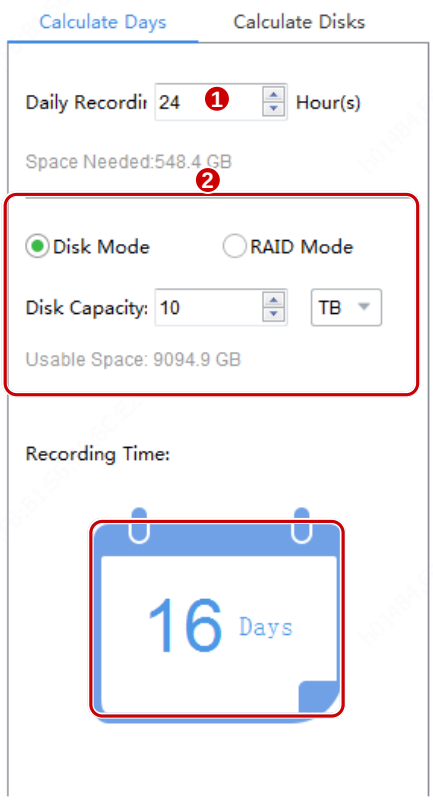
3. Complete the settings. Click **OK**.
4. Repeat the above steps as needed.




5. Select devices in the device list.

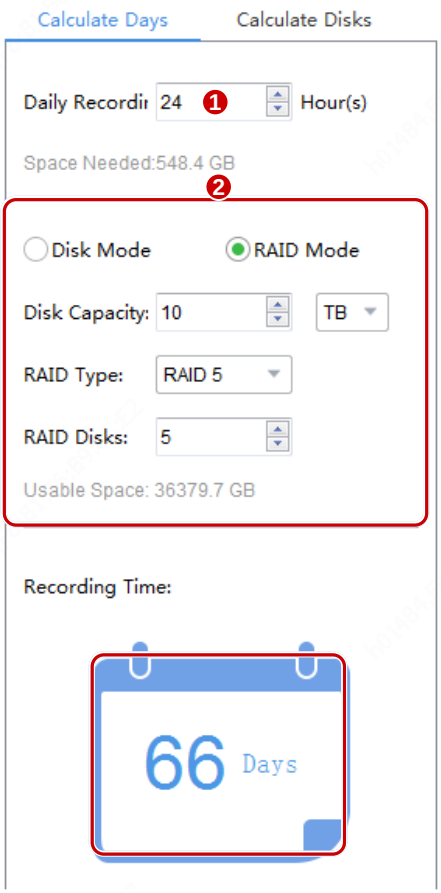
## Calculate days in disk mode

Calculate how many days recordings can be saved based on the daily recording time (hours) and disk capacity available.



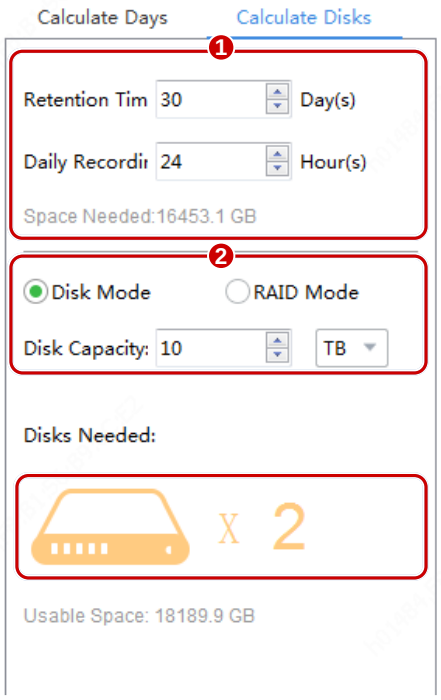

### Calculate days in RAID mode

Calculate how many days recordings can be saved based on the daily recording time (hours), configured RAID type (0/1/5/6), RAID disk capacity, and the number of disks available.



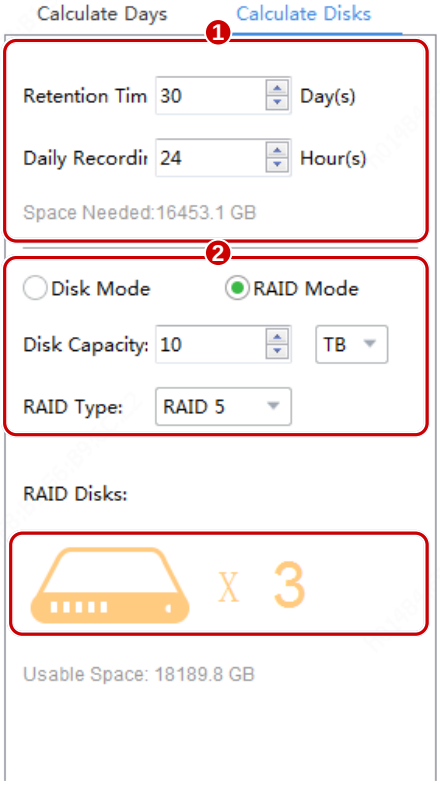

## Calculate disks in disk mode

Calculate how many disks are needed based on the daily recording time (hours), recording retention period (days), and disk capacity available.



### Calculate disks in RAID mode

Calculate how many RAID disks are needed based on the daily recording period (hours), recording retention period (days), RAID disk capacity available, and configured RAID type.




# Tips for Usage

## Select Devices

Select a device by selecting the check box in the first column of the list.

To select multiple devices:

- Select devices one by one.
- Click **All** to select all.
- Click to select devices while holding down <**Ctrl**>.
- Click to select devices while holding down <**Shift**>.
- Drag the mouse while holding down the left button.

## Filter Device List

Filter the list by entering a keyword contained in the IP, model, version, and name of the desired devices.

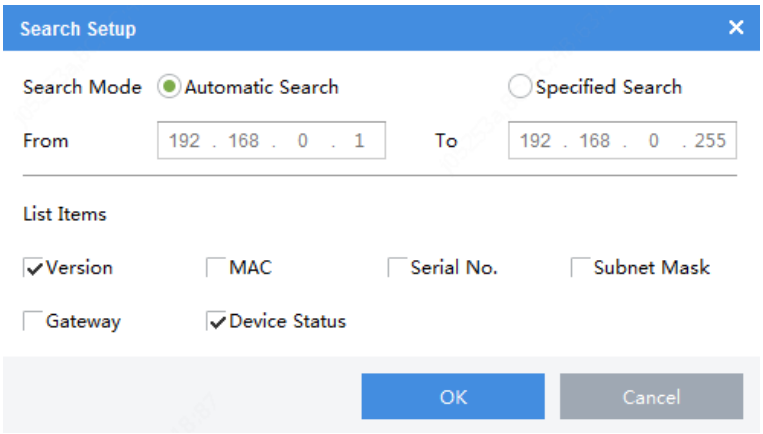
Click to clear entered keywords.

## Sort Device List

In the device list, click a column title, for example, device name, IP, or status, to sort the listed devices in ascending or descending order.

## Customize Device List

Click **Search Setup** on the top, then select titles to display on the device list.




## Copy NVR Channel Configurations

You can copy image, encoding, OSD and motion detection configurations of an NVR channel to other channels of the NVR.

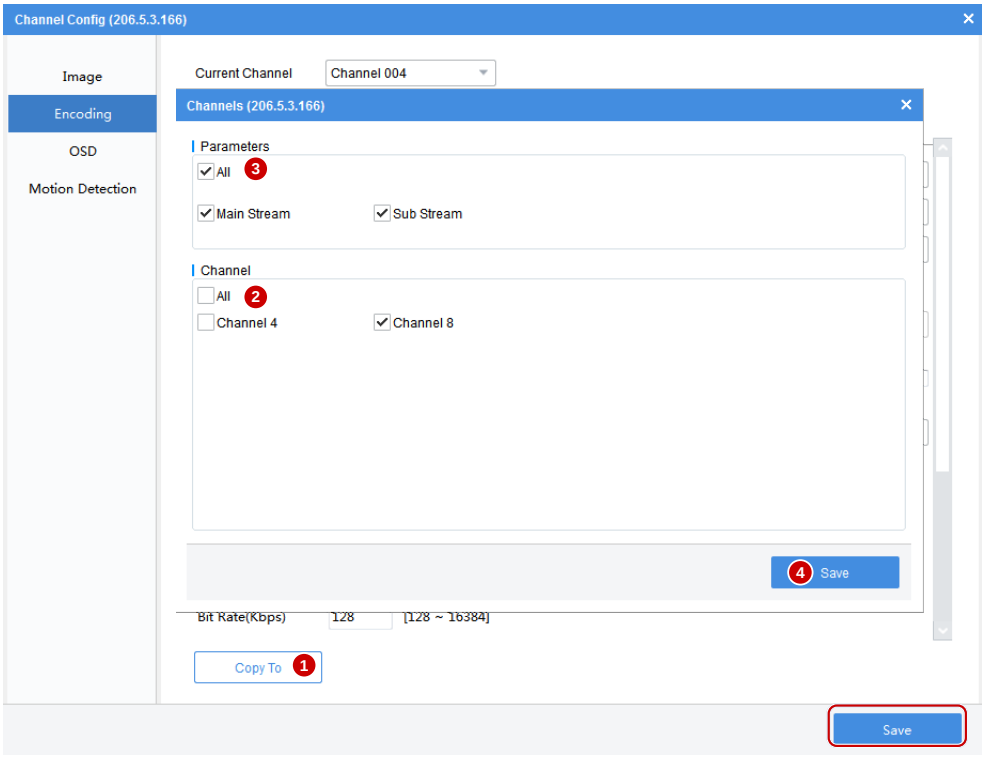
**NOTE!**

This feature only supports NVR channels that are connected via private protocol.

- Image parameters: Include settings of image enhancement, exposure, smart illumination and white balance.
- Encoding parameters: Depending on the stream type that the device supports, you can choose to copy encoding parameters of the main and/or sub streams.
- OSD parameters: OSD style.
- Motion detection parameters: Detection area, arming schedule.

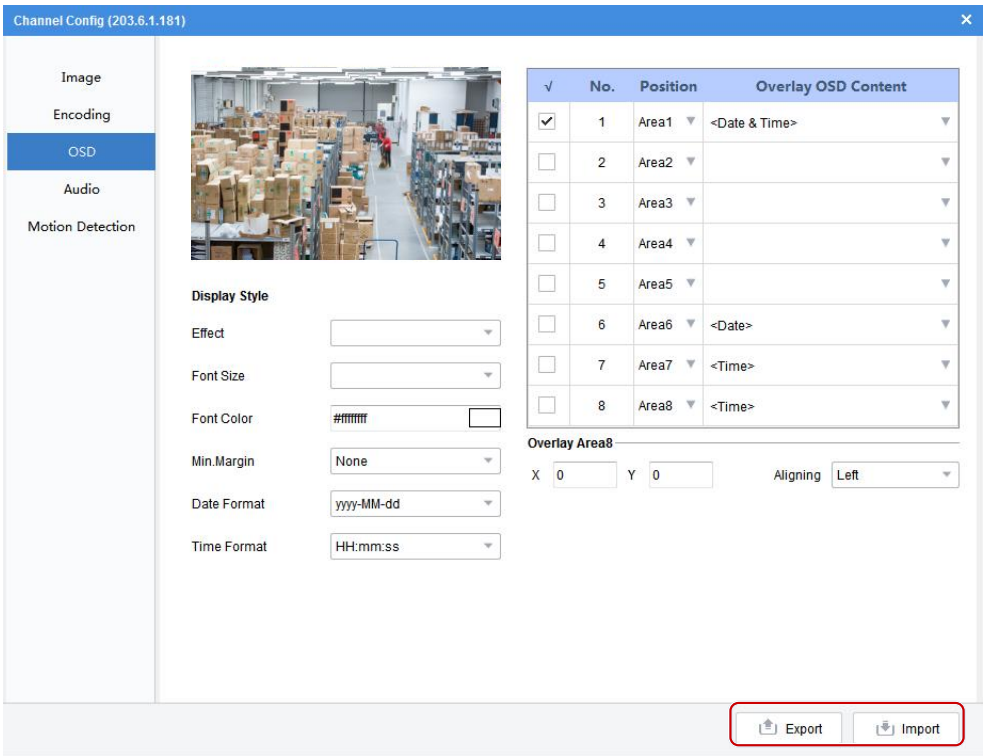
The following describes how to copy encoding configurations. Copying image, OSD and motion detection configurations are similar.

First, complete the configuration of the channel to copy from (e.g., Channel 001) and save the settings. And then follow the steps as illustrated:




## Export and Import OSD Configurations of an IPC

You can export OSD configurations of an IPC to a CSV file for backup, and apply the same configurations to other IPCs by importing the CSV file. The OSD configurations include effect, font size, font color, minimum margin, date & time format, OSD area settings, types and OSD contents.



**NOTE!**

When importing a CSV file, make sure the IP addresses and serial numbers in the file match that of the target IPCs; otherwise, import will fail.