KEDACOM

User Manual for AIBOX

V1.1 (March, 2023)

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Declaration

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Notice for Internet Access

The customer should be responsible for the risks of accessing the camera to the Internet, including but not limited to possible cyber-attack, hacking attack, virus infection and etc. This company is not responsible for the product failures and information disclosure caused thereby, but will provide timely technical support for the cameras.

Announcement

To ensure the safety of device on internet, it is strongly recommended that you set a strong password composed of at least 2 kinds of the following, numbers, upper-case letters, lower-case letters or specific symbols with length of 8 to 16 characters.

Please modify the password periodically such as once every 3 months. If the device is used in highly risky environment, suggest modifying the password monthly or weekly.

Please keep your username and password safe.

EPD (Environmental Product Declaration)

Please follow the local laws and regulations about handling device packing materials, depleted batteries and waste devices, and support recycling actions.

Target Audience

Administrators and Operators of Video Surveillance Products

About

This manual is written to help user operation, and the screenshots and diagrams herein are for illustration and explanation purpose only, which may differ somehow with actual products. Therefore, please be subject to actual products.

Related Documents

Quick Start Guide, User Manual for vStation Pro, User Manual for NVR

Convention

Icon	Convention
	Notes and attention: necessary supplement for operation
BOLD	Menu, e.g. **Drag to Zoom**
>	Connector between menus of different levels, e.g. **Settings > Camera**

Contents

1. Product Brief

AIBOX is an intelligent algorithm box with powerful computing performance that is developed by this company independently. It can access to multiple front-ends simultaneously and perform various analyses on the video streams thereof, realizing basic functions of human and vehicle recognition. In actual applications, it can realize specific intelligent functions through different scenario configurations, e.g.: helmet detection, high parking and etc. Therefore, it is widely used in governments, sub districts, communities, places of interests, office buildings and supermarkets.

Note: The common functions of AIBOX can be referred to in *Appendix B: Function List*.

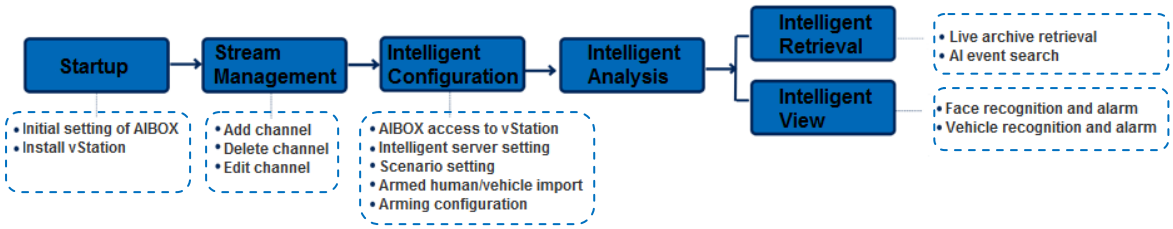
Picture 1-1 Front view of AIBOX

2. Instructions

Please finish installation and wiring of AIBOX according to the *Quick Start Guide*. Afterwards, refer to the following flow chart to realize intelligent surveillance.

Attention: The customer should be responsible for the risks of accessing the device to the Internet, including but not limited to possible cyber-attack, hacking attack, virus infection and etc. This company is not responsible for the product failures and information disclosure caused thereby, but will provide timely technical support.

The following is the flow chart to realize AIBOX intelligent surveillance, for your reference only.



Picture 2-1 Flow chart

Notes for flow chart:

- Startup: AIBOX configurations for normal use and vStation Pro installation.
- Stream Management: AIBOX adds, deletes and edits front-end devices.
- Intelligent Configuration: Configurations for AIBOX to access to vStation Pro.
- Intelligent Analysis: Configure areas of face/vehicle recognition on the images of front-end devices.
- Intelligent View: View intelligent info of the front-end devices.
- Intelligent Retrieval: Search intelligent capturing info of the front-end devices.

3. Start Up

3.1 Activate Device

When the device is first used, user should activate it and set the login password for normal use.

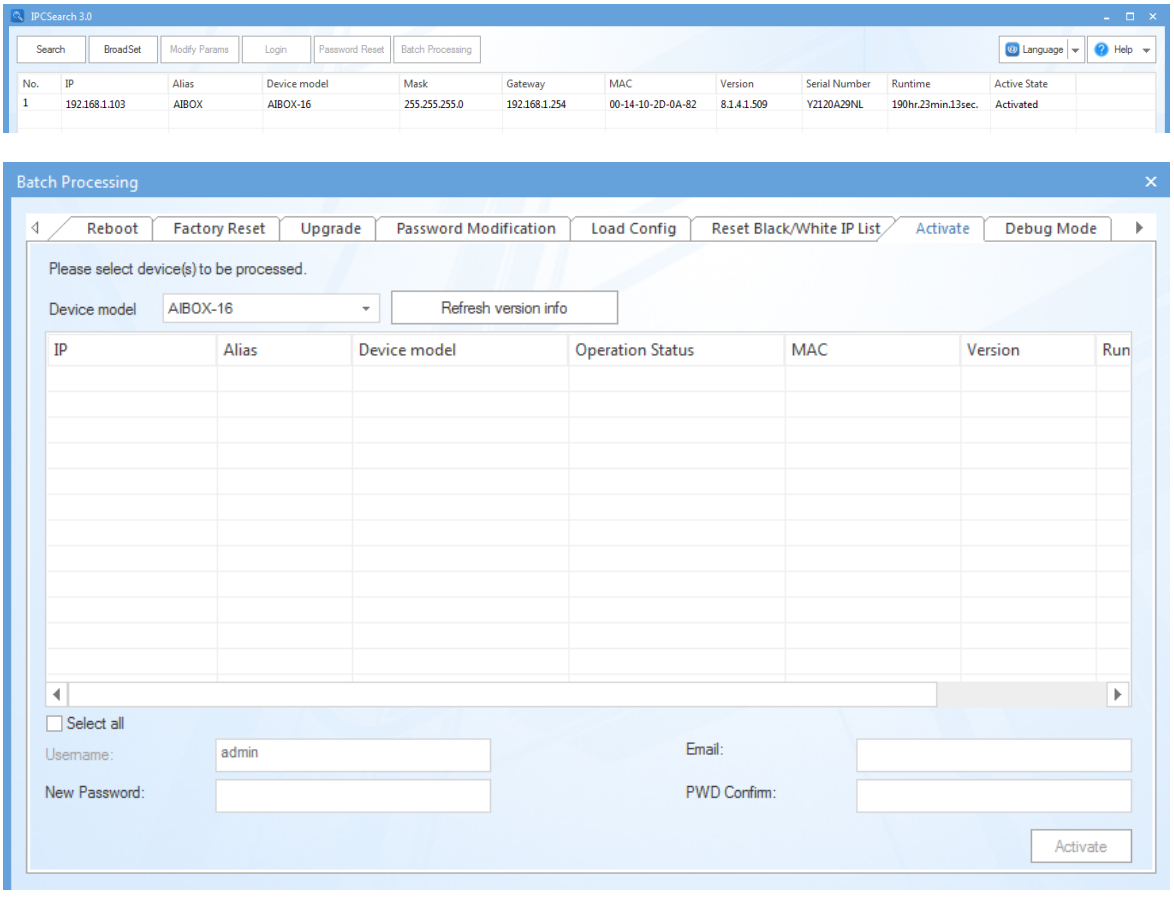
There are 2 methods to activate: though IPCSearch or through browser.

- Activate through IPCSearch

  a) Get IPCSearch from our website and install it according to the prompts.

  b) After finishing installation, open IPCsearch and the system will search the devices in LAN and display the list as shown below.

  c) Select the camera to be activated, right click and select “Activate”. On the popup interface, configure admin user password and email for claiming password. Click “Activate”.



Picture 3-1 IPCSearch

Note:

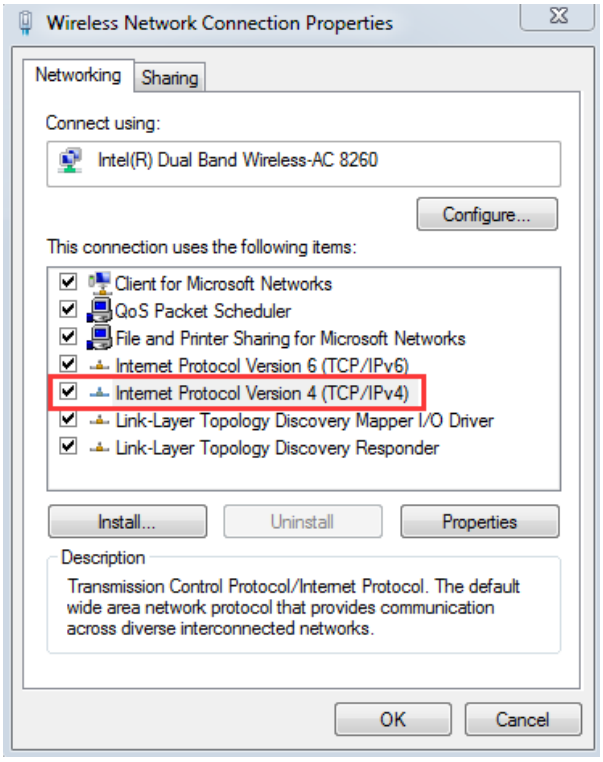
- Device type and alias are subject to the search result.
- When there are more than one non-activated devices, select the devices and click “Batch processing”. On the popup interface, set admin user’s password and the email address to claim password. Click “Activate” and wait for rebooting.

➢ Activate through browser

a) Open browser on PC, enter device IP address and press “Enter”. The default IP of LAN1 is 192.168.1.100, and that of LAN2 is 172.26.1.100;

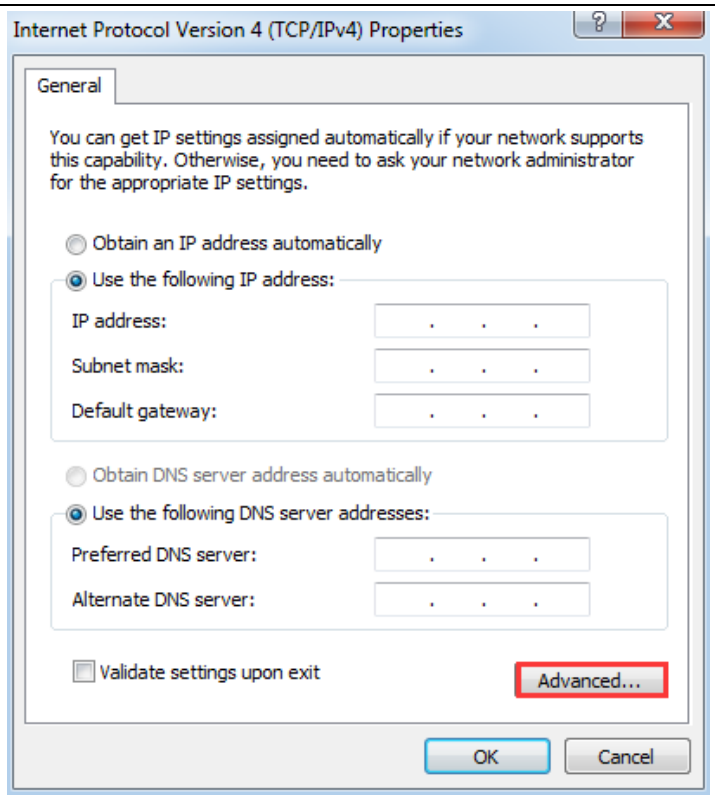
Note: If the device and the PC are in different network segments, add an IP address to PC in the same network segment as the device. The following operations are for your reference only.

1) Run “**Start Menu**” of PC, and go to **Control Panel > Network and Internet > View network status and tasks > Local Connection > Properties** to pop up the following window;



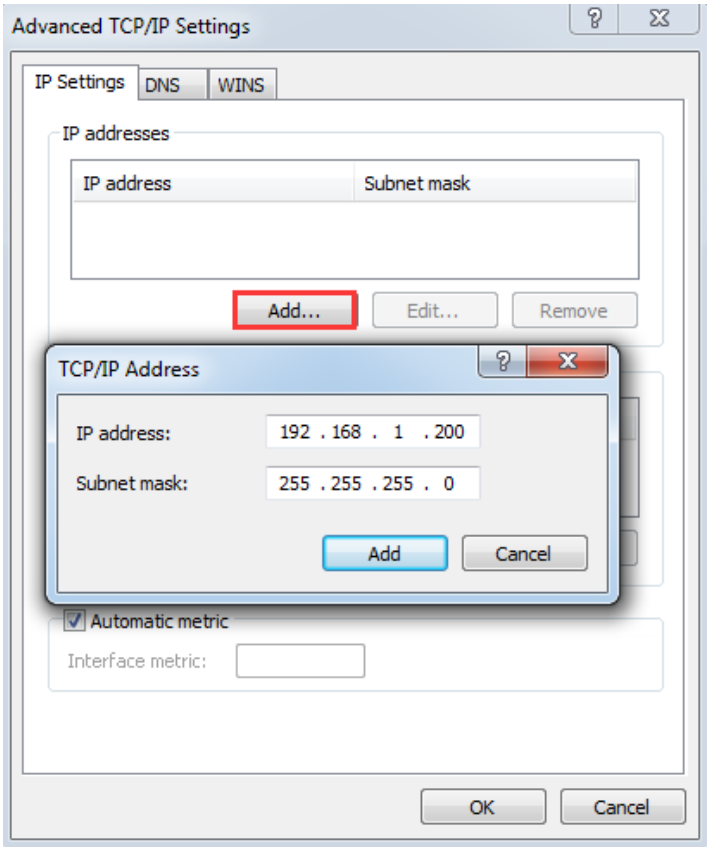
Picture 3-2 Local Connection Properties

2) Double-click “**Internet Protocol Version 4 (TCP/IPv4)”** to pop up the following window;



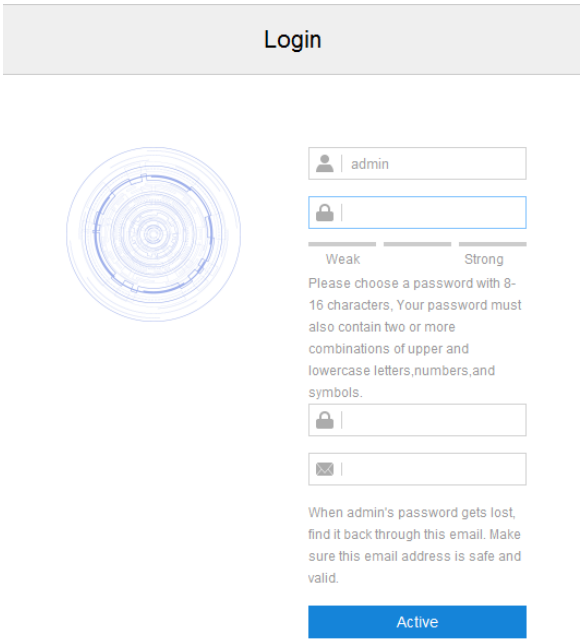
Picture 3-3 Internet Protocol Version 4 (TCP/IPv4) properties

3) Click "**Advanced**". On the popup window of "Advanced TCP/IP Settings", click "**Add**" and enter IP address and subnet mask as shown below. Click "Add" to add the IP address to PC in the same network segment as the device;



Picture 3-4 Advanced TCP/IP settings

b) Input device IP address in browser and enter the web client as shown below:



Picture 3-5 Activate through browser

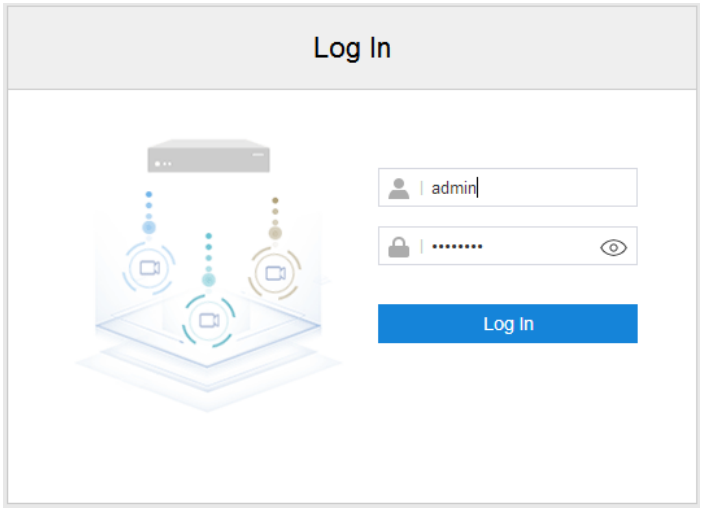
c) Configure admin user password and email for claiming password. Click “Activate”.

Note:

- To ensure the safety of device on internet, it is strongly recommended that you set a strong password composed of at least 2 kinds of the following, numbers, upper-case letters, lower-case letters or specific symbols with length of 8 to 16 characters.
- Please modify the password periodically such as once every 3 months. If the device is used in highly risky environment, suggest modifying the password monthly or weekly.
- Please keep your username and password safe.

3.2 Login

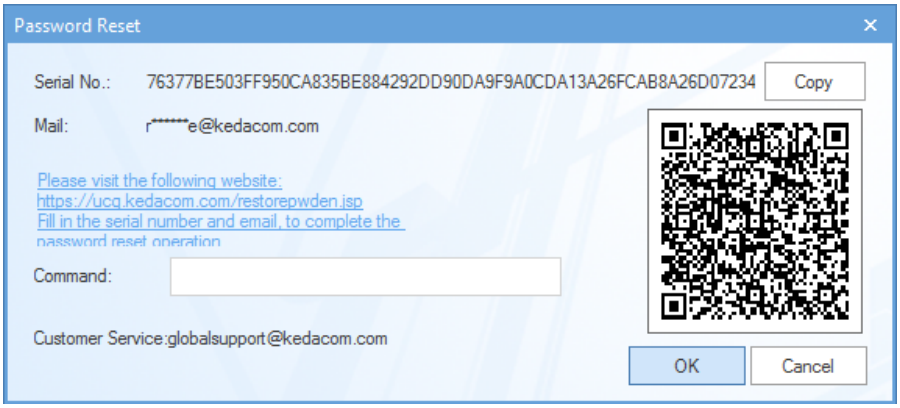
After activating the device, it will reboot. After reboot, enter device IP address in the browser to enter the login interface of web client. Enter username “admin” and the set password to enter the client.



Picture 3-6 Login

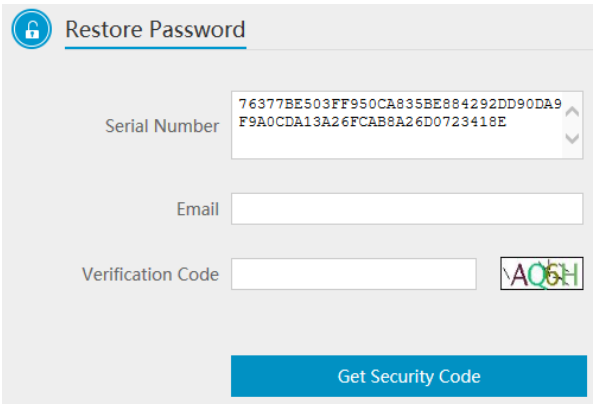
Note: If user enters a wrong username or password for 6 times, the device IP will be locked up for 10 minutes, during which user cannot login to this device. If user forgets the password, reset the password.

1) Open IPCSearch and select the device whose password needs to be reset. Click “Password Reset“ and a window will pop up, as shown below:



Picture 3-7 Password Reset

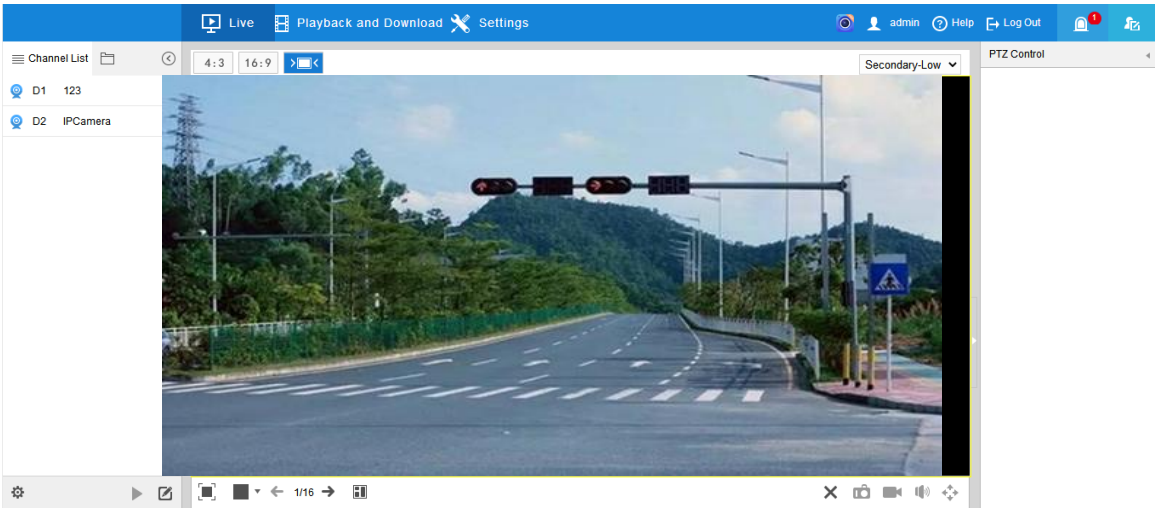
2) Click the password reset link or scan the QR code in the above picture with a mobile device and fill in the “Serial Number” and “Email” address in the following picture. Click “Get Security Code”;



Picture 3-8 Password Reset

3) Login to the email address to get a security code and fill in “Command” blank in Picture 3-7 and click “OK”. Please remember the new password on the popup window and click “OK”. The device will reboot.

3.3 Main Interface



Picture 3-9 Main interface of web client

- Basic functions
  - Live: preview live video of and adjust parameters of front-end devices;
  - Playback and Download: search, playback and download video records or images by time or conditions;
  - Settings: configure device functions and system parameters.
- Buttons
  - Logout: log out of current user safely.
  - Help: view the help file of the device.
  - : open or download vClient Pro.
  - : view system status. If there is red number at the top right corner, there is system alarm info and user can view.
  - : click the icon to view log list. It supports filters if necessary.

3.4 Initial Setting of AIBOX

3.4.1 Modify Network Parameters

There are 2 LANs on AIBOX supporting access to two different network segments. User can modify LAN parameters according to the network segment at site. It supports modifying through web client or IPCSearch.

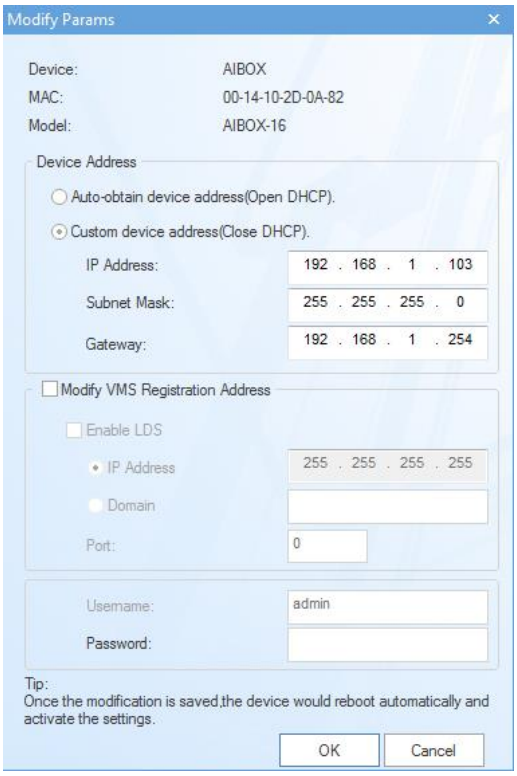
Note: There are different default IP addresses of the two LANs. The default address of LAN 1 is 192.168.1.100/24 and that of LAN 2 is 172.26.1.100/24.

- Modify network parameters through IPCSearch

After activating the device, user can quickly modify basic network parameters through IPCSearch, including IP address, subnet mask, gateway and etc.

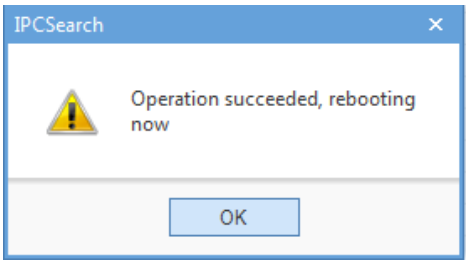
1) Open IPCSearch and the system will search the devices in LAN automatically and display the results on the list;

2) Select a device to be configured, click “Modify Params” or right click the mouse. Modify parameters and fill the password set during activation.



Picture 3-10 Modify Parameter

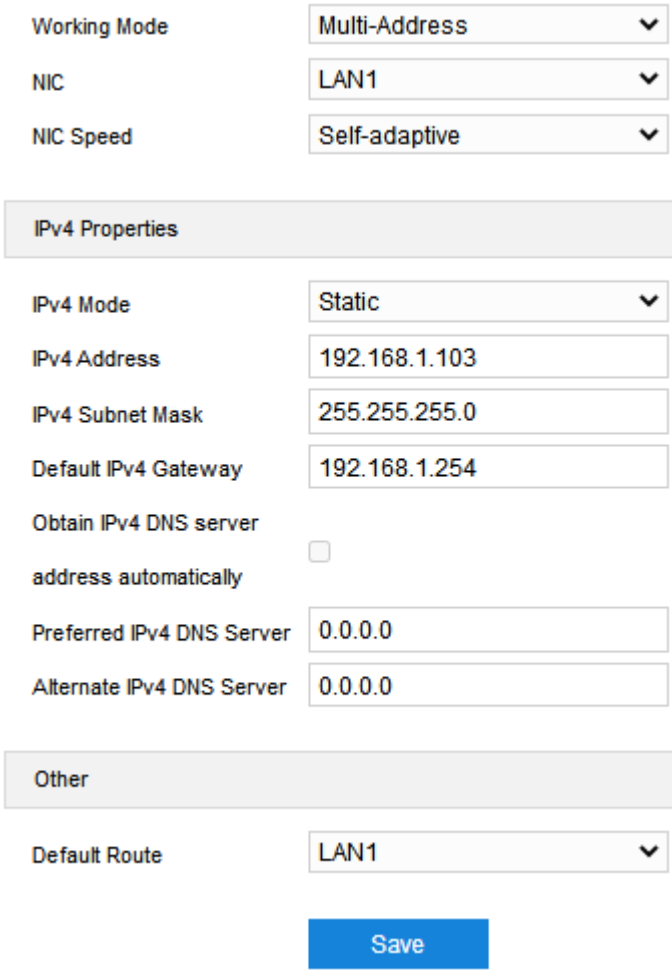
3) Click “OK” and in the popup window click “OK”. Wait for rebooting.



Picture 3-11 Reboot device

- Modify network parameters through web client

Log into AIBOX web client, go to **Settings > Network > IP and Port > Ethernet**, and configure parameters such as IP address, subnet mask, default gateway and etc.



Picture 3-12 Ethernet

- Working Mode: Multi-address.

Note: Multi-address means the parameters of different NICs are independent and they can work simultaneously. User can configure that of LAN1 and LAN2 respectively.

- NIC: Select corresponding LAN port according to actual requests.

Note: Under multi-address mode, select different LAN ports and configure IPv4 parameters respectively.

- NIC Speed: Select NIC speed by requirements, options including self-adaptive, forcible 100M and forcible 1000M. The default is self-adaptive.
- IPv4 Properties
  - IPv4 Mode: Select the way to obtain IP address by requirement. When selecting “DHCP”, the device will obtain IP address automatically; when selecting “Static”, user shall configure IP address, subnet mask and default gateway manually;
  - Obtain IPv4 DNS Server Address Automatically: Select this option if necessary. If selected, the camera will obtain the configuration parameters of DNS server from the gateway automatically; otherwise, user should configure DNS server parameters manually.

After finishing, click “Save”.

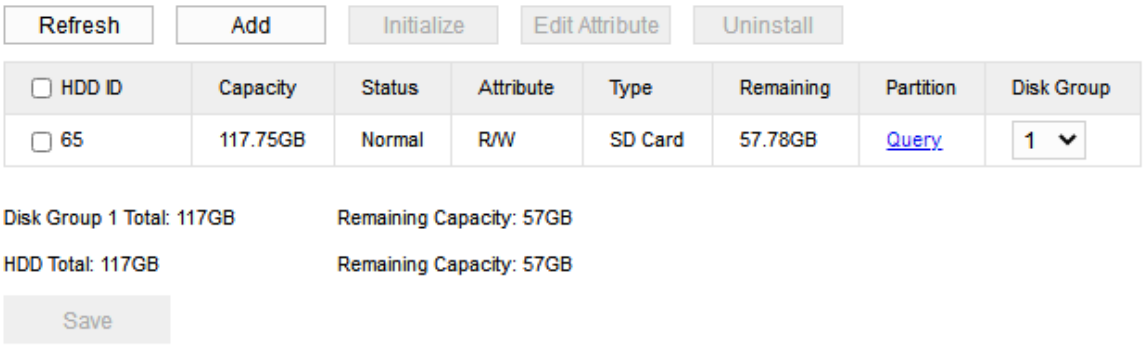
- Default Route: Select default route according to actual request and the valid route is subject to the selected LAN port.

After finishing, click “Save”.

3.4.2 Initialization of Storage Card

Note: When using the device for the first time, please initialize the TF card.

Log into AIBOX web client, go to **Settings > Storage > Basic,** select storage card and click “Initialize” to format the card.



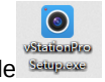
Picture 3-13 Storage management

3.5 Install vStation Pro

vStation Pro is a new Windows-Desk management software for AIBOX, which has powerful functions, simple and easy-to-use.

Note: Please consult the CS personnel of this company for downloading vStation Pro.

The installation and configuration steps of vStation Pro are as follows:

1) Download vStation Pro installation file 

and complete according to the prompts;

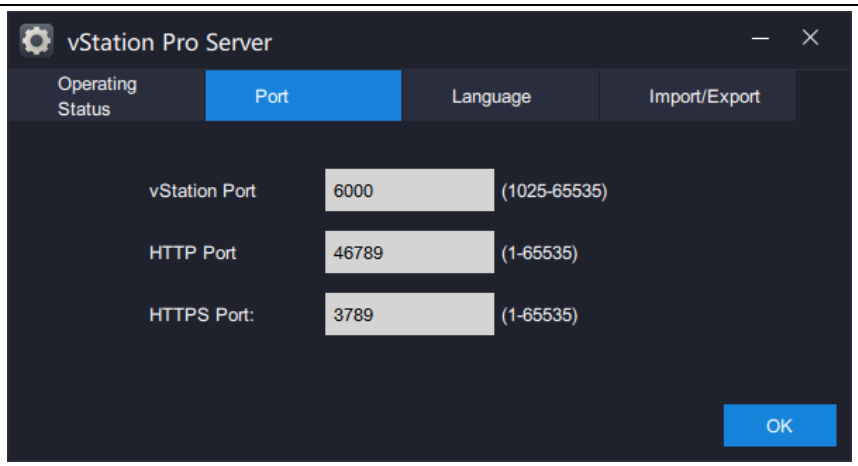
Note: After finishing, by default vSttion Pro server 

and client 

are also installed. According to actual requests at site, install vStation server and client on different PCs.

2) Run vStation Pro server 

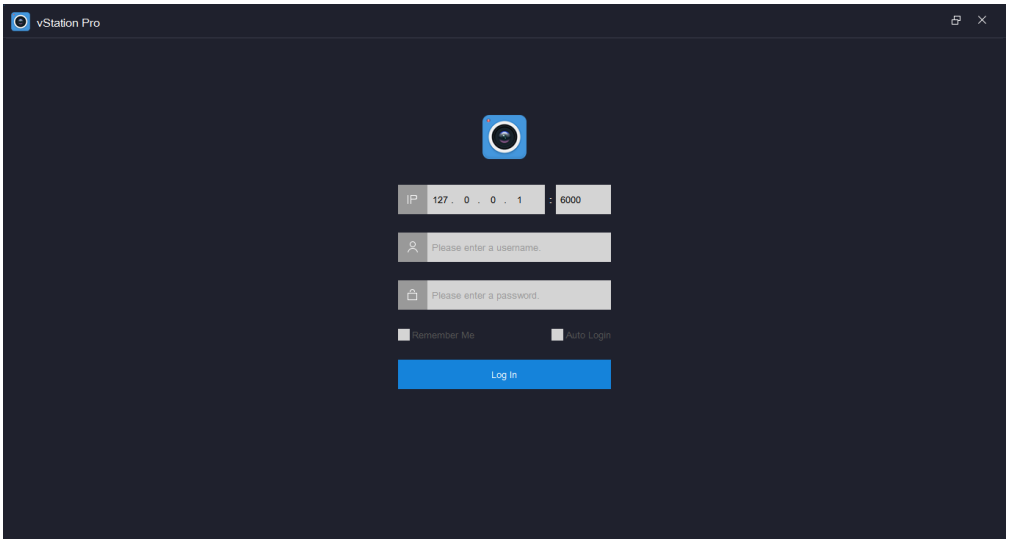
and configure port;



Picture 3-14 Port setting

3) Run vStation Pro client 

, enter server IP address, port, username and password.



Picture 3-15 Log into client

Note: The IP is the PC IP running the server. If the server and the client are on the same PC, fill the default IP 127.0.0.1. The port is the server port configured on server port interface. Username and password are those set during installing vStation Pro server.

4. Stream Management

Log into AIBOX web client, and go to **Settings > Channel > Channel** to add, delete and edit channels so as to manage front-end devices.

4.1 Add Channel

Note: The supported number of channels to be added depends on AIBOX model, usually 4-channel or 16-channel.

User can add channels by searching or custom adding.

4.1.1 Search

Search the non-added front-end devices in the same network segment.

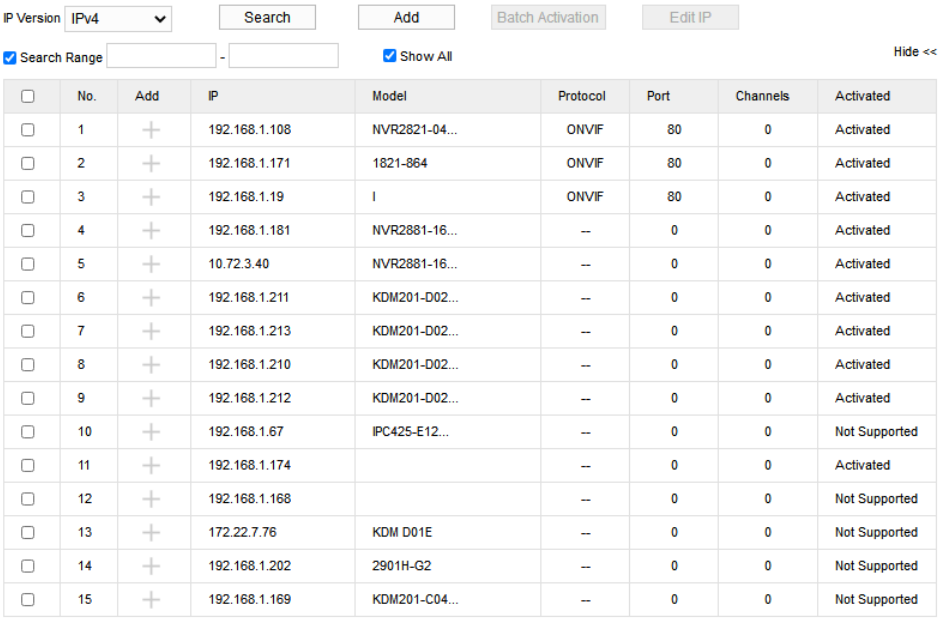
Operation steps are as follows:

1) Go to **Settings > Channel > Channel > Search**;

2) Select IP version, optionally select “Search Range” and enter IP address range, and click “Search” to display the expected devices, as shown below;

Note:

- Click “More” above the list to show “Search Range”. Currently, only IPv4 version supports IP address search. When selecting “Show All”, it will search all the devices in current LAN and show their IP, model and etc.
- Currently, it supports searching ONVIF devices only.



	No.	Add	IP	Model	Protocol	Port	Channels	Activated
☐	1	+	192.168.1.108	NVR2821-04...	ONVIF	80	0	Activated
☐	2	+	192.168.1.171	1821-864	ONVIF	80	0	Activated
☐	3	+	192.168.1.19	I	ONVIF	80	0	Activated
☐	4	+	192.168.1.181	NVR2881-16...	--	0	0	Activated
☐	5	+	10.72.3.40	NVR2881-16...	--	0	0	Activated
☐	6	+	192.168.1.211	KDM201-D02...	--	0	0	Activated
☐	7	+	192.168.1.213	KDM201-D02...	--	0	0	Activated
☐	8	+	192.168.1.210	KDM201-D02...	--	0	0	Activated
☐	9	+	192.168.1.212	KDM201-D02...	--	0	0	Activated
☐	10	+	192.168.1.67	IPC425-E12...	--	0	0	Not Supported
☐	11	+	192.168.1.174		--	0	0	Activated
☐	12	+	192.168.1.168		--	0	0	Not Supported
☐	13	+	172.22.7.76	KDM D01E	--	0	0	Not Supported
☐	14	+	192.168.1.202	2901H-G2	--	0	0	Not Supported
☐	15	+	192.168.1.169	KDM201-C04...	--	0	0	Not Supported

Picture 4-1 Search and add device

3) Select devices to be added (single-choice or multiple-choice) and click “Add”. On the popup window, select protocol type and fill authorized username and password. Click “OK” to finish.

Note: When adding single device, user can click the icon + behind the device on the list to add device.

4.1.2 Custom Add

User can add specific front-end device by IP address or stream address.

According to the selected protocol type when adding IP channel, there are ONVIF protocol device, RTSP protocol device and SIP protocol device. Usually, the majority is ONVIF protocol.

Note: Usually, the suggested option is ONVIF protocol.

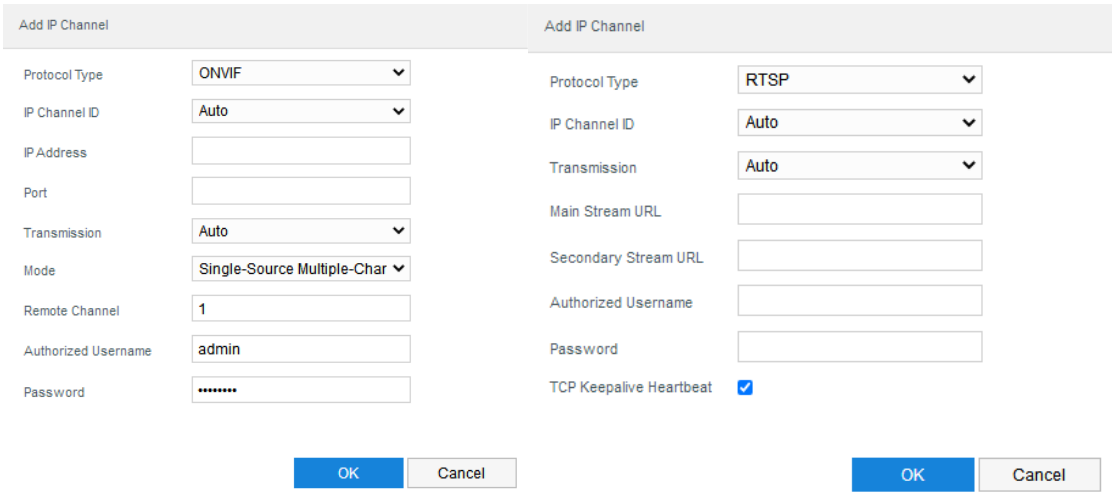
- Add devices of ONVIF or RTSP protocol

  a) Go to **Settings > Channel > Channel > IP Channel;**

  b) Click “Add” to pop up the window of “Add IP Channel”;

  c) Select “ONVIF” or “RTSP” as protocol type;

Note: Select ONVIF or RTSP protocol respectively and fill the corresponding parameters according to actual conditions, as shown below. If adding RTSP protocol device, please contact camera manufacturer to obtain its URL, and “TCP Keep-alive Heartbeat” is selected by default.



Picture 4-2 Add ONVIF (left) and RTSP (right) device

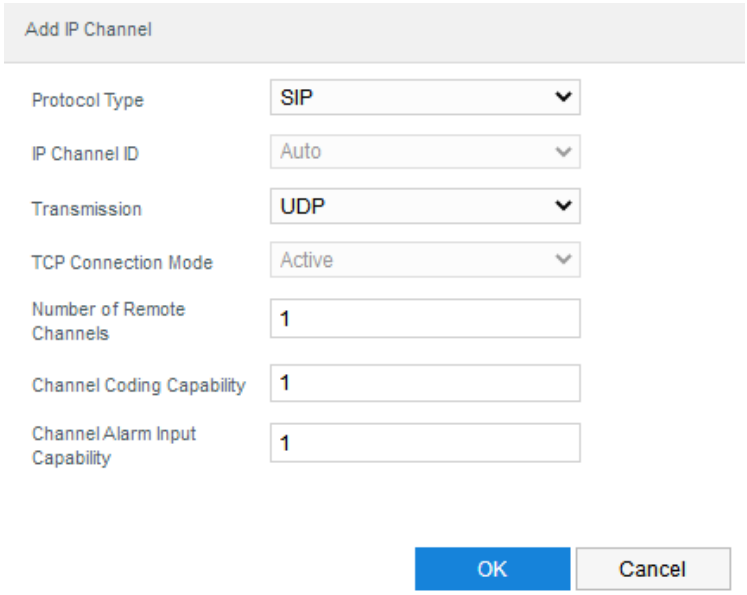
  d) After finishing, click “OK” to add.

- Add devices of SIP protocol

  a) Go to **Settings > Channel > Channel > IP Channel;**

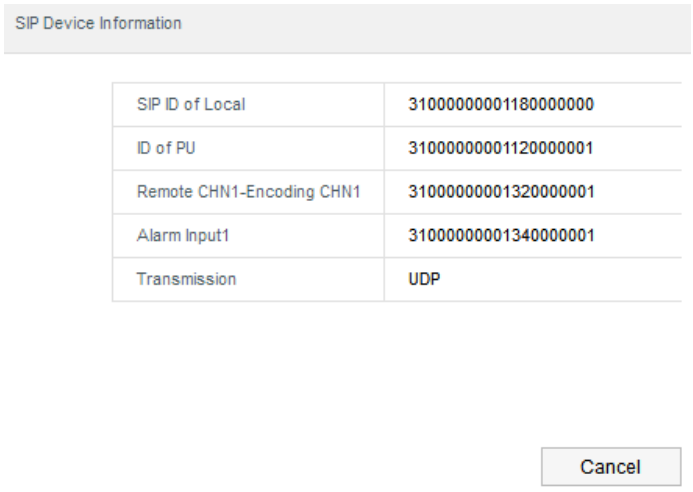
  b) Click “Add” to pop up the window of “Add IP Channel”;

  c) Select “SIP” as protocol type, and select “TCP” or “UDP” as transmission protocol by request, and fill relative parameters according to actual conditions;



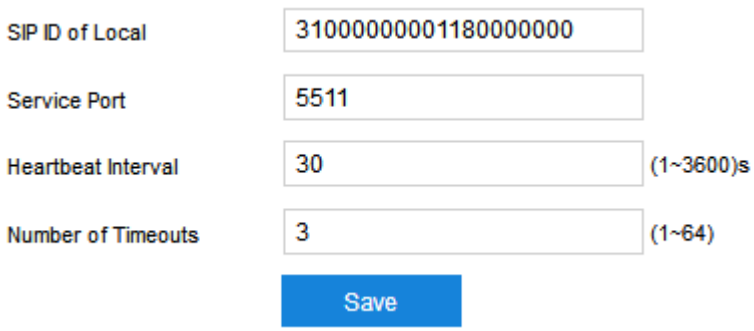
Picture 4-3 Add SIP protocol device

d) Click “OK” to pop up the window of “SIP Device Information”, as shown below;



Picture 4-4 SIP device information

e) Go to **Settings > Network > Downward Protocol > SIP**, and record service port, heartbeat interval and number of timeouts, as shown below;



Picture 4-5 Access protocol of front-end

f) Go to the platform access interface of the front-end client, select platform and enable, fill the SIP ID in last step into platform ID, and finish relative parameters.

Attention: After adding IP channel successfully, the IP channel list will show the status and IP address of all channels. If the status shows “authentication failed”, user should obtain the correct password from front-end and re-edit to trigger re-connection of device; as for the channel added by SIP protocol, its initial status is “Not Registered” and the relative info can be viewed after the front-end device is registered successfully.

4.2 Delete Channel

As there is maximum limit of accessed front-end channels, usually it’s recommended that idle or invalid channels should be deleted so as to avoid waste of channel resources.

Steps are as follows:

1) Go to **Settings > Channel > Channel > IP Channel**;

2) Select the channel(s) to be deleted on the channel list;

3) Click “Delete” to finish.

Note: After deleting channel devices, the channel names remain.

4.3 Edit Channel

If the network parameters of the front-end channel change, it’s unnecessary to add the front-end channel again, but edit the front-end channel info only.

Operation steps are as follows:

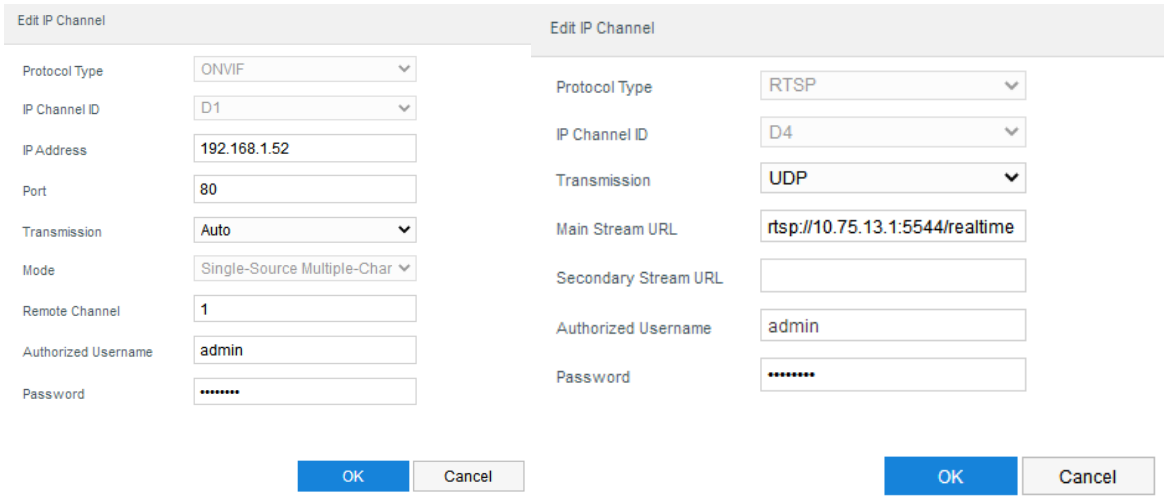
1) Go to **Settings > Channel > Channel > IP Channel**;

2) Select the channel(s) to be edited on the channel list;

3) Click the icon behind corresponding channel to pop up the window of “Edit IP Channel”;

4) Edit IP address, port, transmission and other info on the window, and then click “OK”.

Note: For channels added through SIP, click “Edit” only to view channel info, but unable to edit.



Picture 4-6 Edit IP channel

5. Analysis

Analysis is to configure the intelligent detection area of front-end channel, in which the device supports face and vehicle recognition.

Operation steps are as follows:

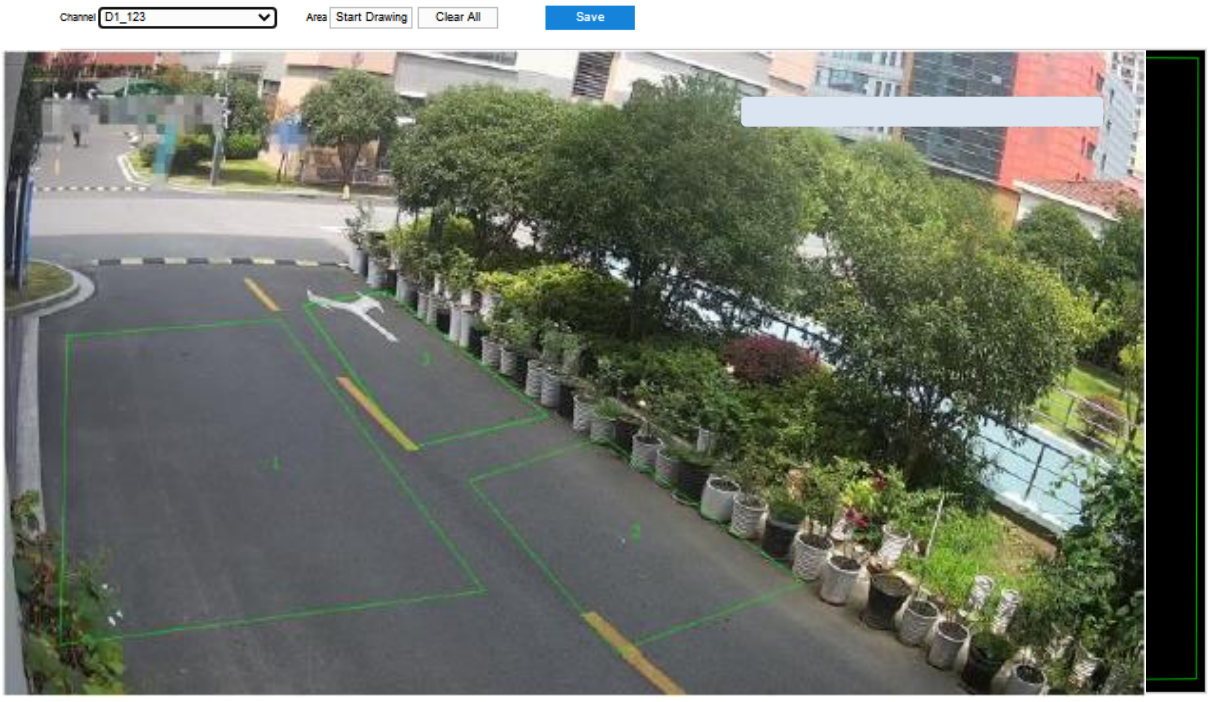
1) Log into AIBOX web client, and go to **Settings > Analysis > Area**;

2) Select front-end channel;

3) Click “Start Drawing”, move the mouse to a starting point and left-click to drag the mouse to another point, and repeat drawing to finish configuring intelligent detection area. After finishing, click “Stop Drawing”;

Note:

- Each front-end device supports maximum 6 intelligent detection areas.
- If the intelligent detection area is not configured, the whole area is the intelligent analysis area by default.
- To re-configure the area, click “Clear All”.



Picture 5-1 Intelligent analysis

4) Click “Save” to save intelligent detection area setting.

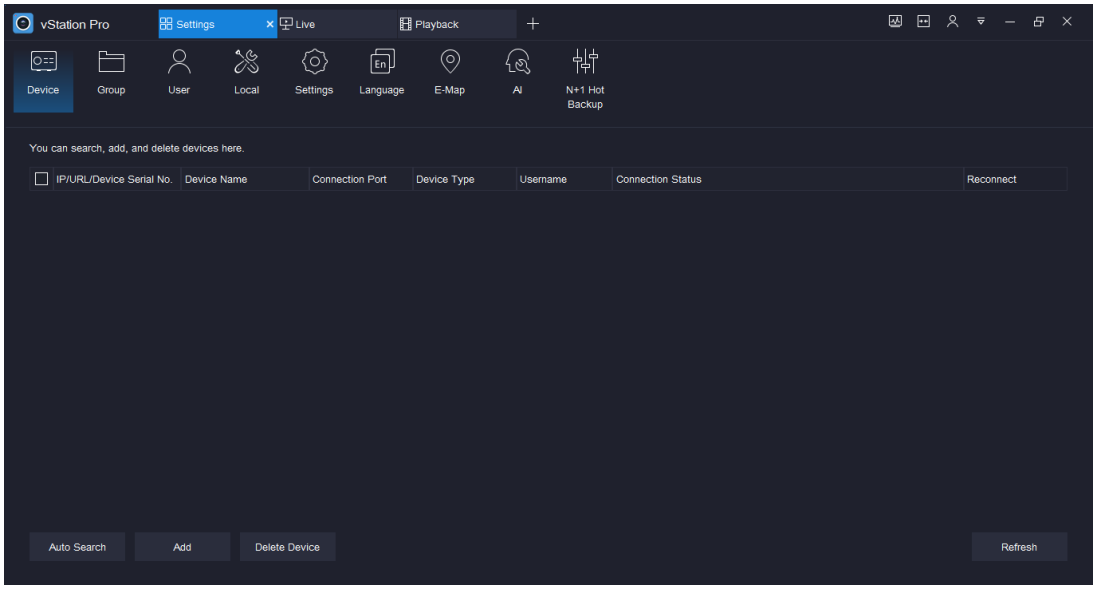
6. Intelligent Setting

This chapter introduces operations on client of vStation Pro.

6.1 AIBOX Accesses to vStation Pro

Note: vStation Pro supports access to only one AIBOX by default. To access multiple sets, please contact the CS personnel of this company.

Log into the client of vStation Pro, go to **Settings > Device**, and add AIBOX through search or manual add.

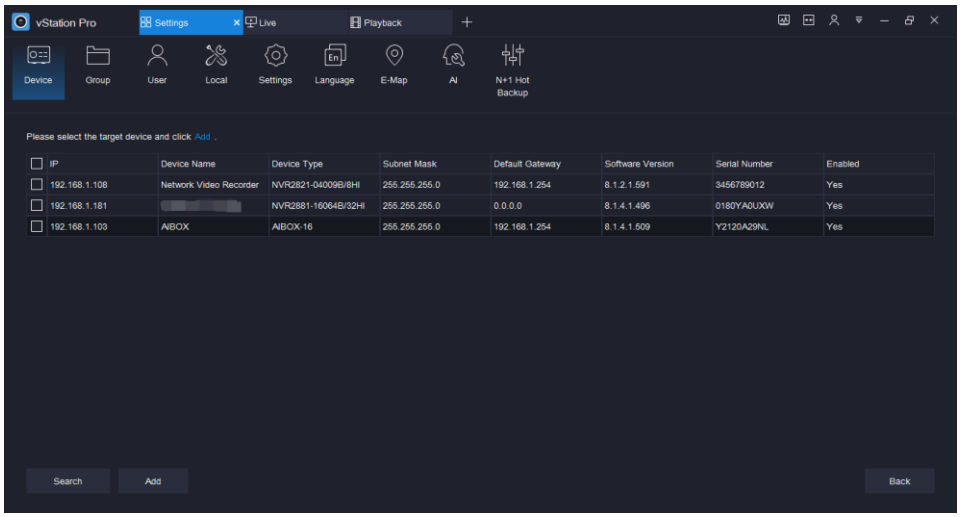


Picture 6-1 Device

6.1.1 Search

Detailed operation steps are as follows:

1) Go to “**Device**” interface, and click “Auto Search” at bottom left corner (only search devices in the same LAN) to enter the following interface;

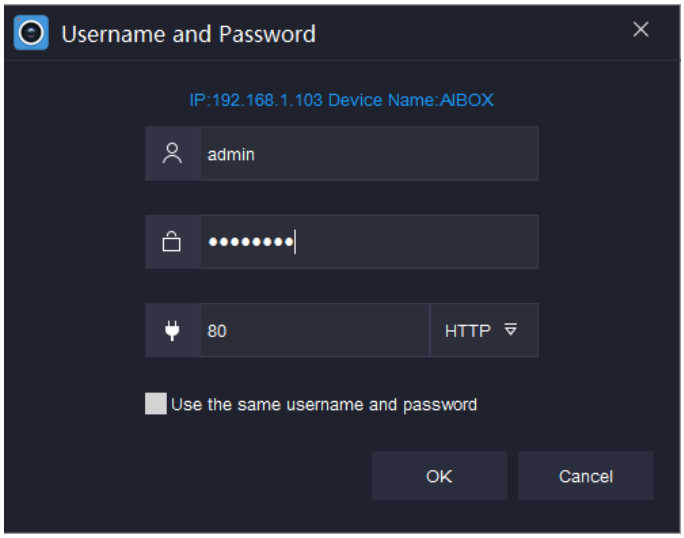


Picture 6-2 Search to add

2) Select the AIBOX on the list to be added, and click “Add”. On the popup window, fill username, password and port, and click “OK”;

Note:

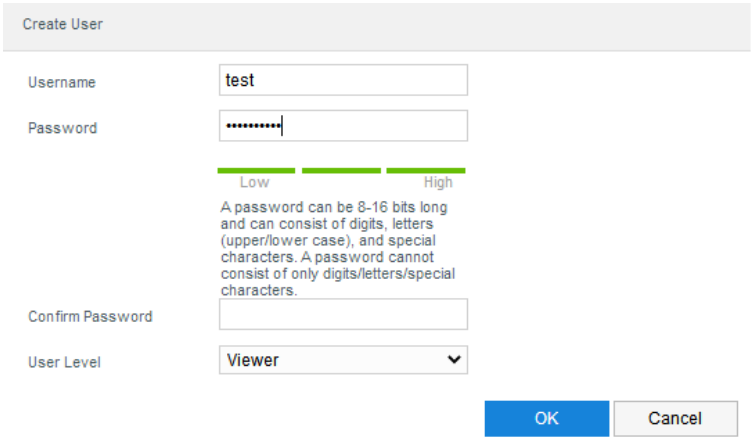
- If vStation Pro does not enable access to multiple AIBOXes, when there is one accessed, it will prompt “AIBOX number has reached the upper limit.
- If vStation Pro has enabled access to multiple AIBOXes, select “Use the same username and password” to add devices by the same username, password and port;
- The default port number is 80.



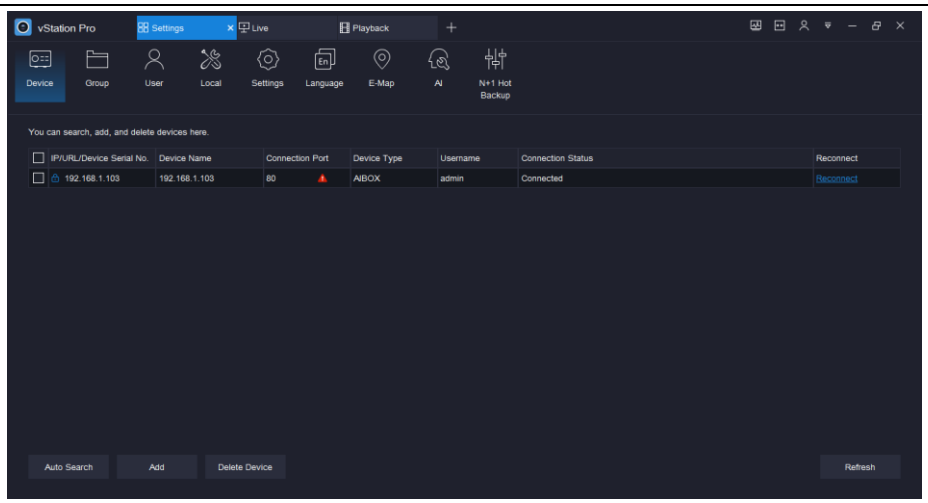
Picture 6-3 Add username and password

3) The added AIBOX can be viewed from the list. If the connection status shows “Connected”, it means the device has connected successfully. Click “Reconnect” to reconnect the device.

Note: Username and password are those to log into AIBOX web client. Please refer to chapter 10 Web Client Functions (Go to **Settings > System > User Safety > User Information**).



Picture 6-4 Create test user on AIBOX web client



Picture 6-5 Add username

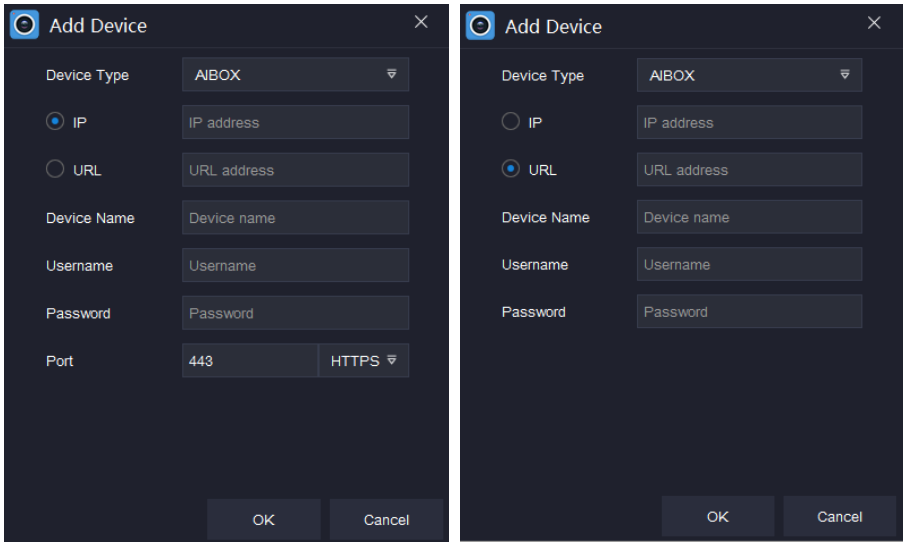
6.1.2 Add

Detailed operation steps are as follows:

1) On the “Device” interface, click “Add” at bottom left corner to pop up the window of “Add Device”;

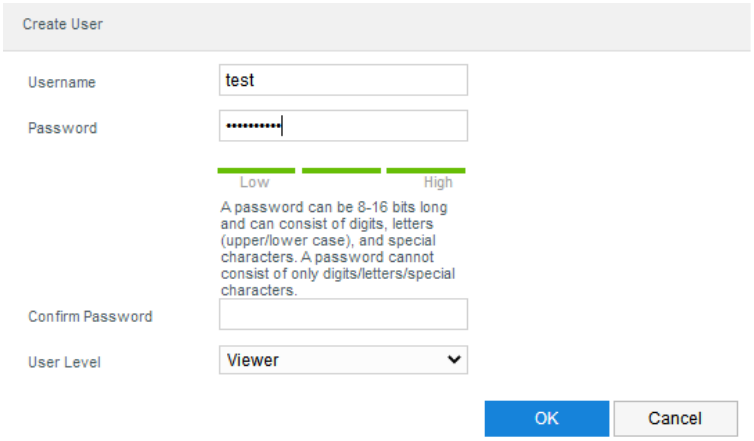
2) On the popup window, add AIBOX device through IP address or URL address;

- IP address: Enter IP address, device name, username and password manually.
- URL address: Enter URL address, device name, username and password manually.

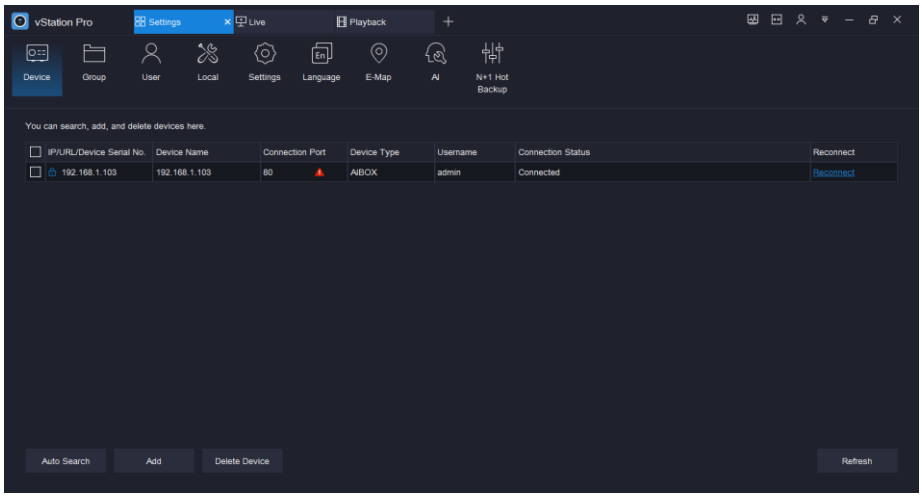


Picture 6-6 Add device manually

Note: Username and password are those to log into AIBOX web client. Please refer to chapter *10 Web Client Functions* (Go to **Settings > System > User Safety > User Information**).



Picture 6-7 Create test user on AIBOX web client



Picture 6-8 Add username

3) The added AIBOX can be viewed from the list. If the connection status shows “Connected”, it means the device has connected successfully.

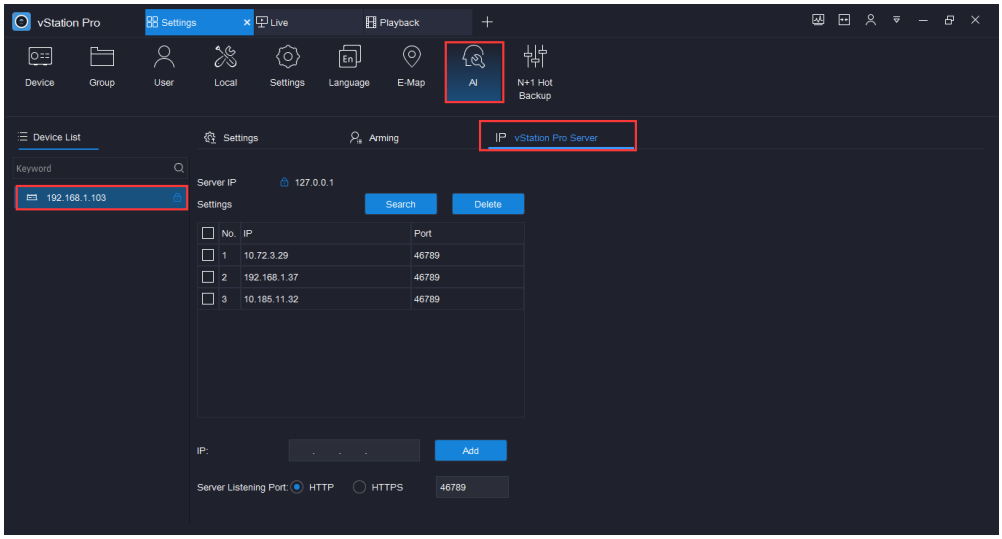
6.2 Intelligent Server Setting

Intelligent server setting means configuring listening IP, which enables AIBOX to push pictures to vStation Pro server.

Operation steps are as follows:

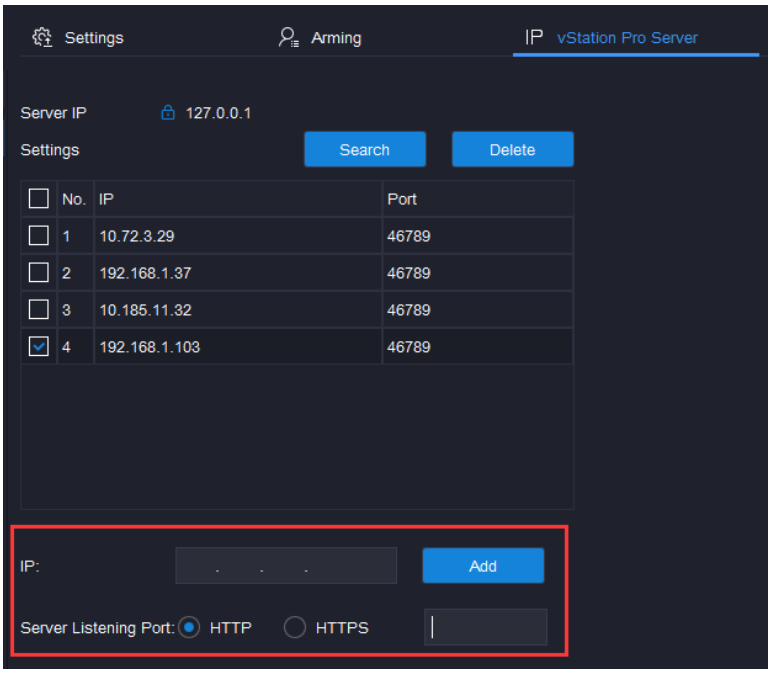
1) Go to **Settings > AI > IP vStation Pro Server**;

2) Select AIBOX from the device list;



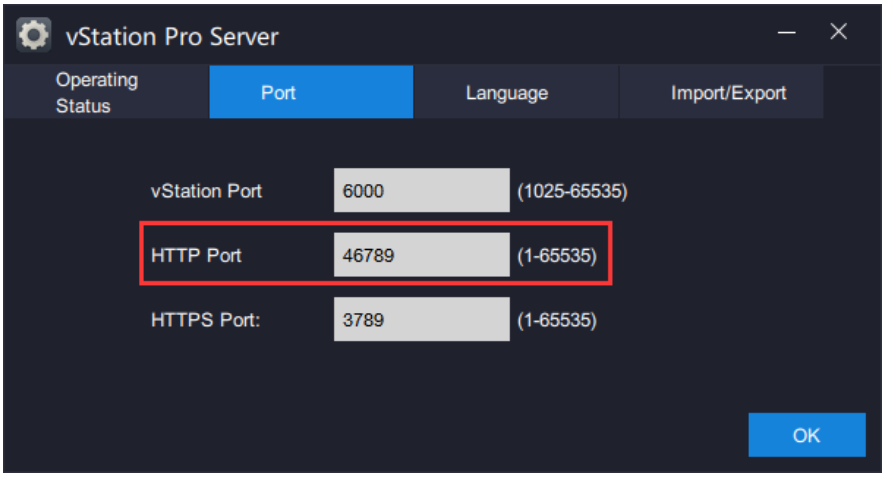
Picture 6-9 IP vStation Pro server

3) Enter IP address and server HTTP(HTTPS) listening port and click “Add”. It will prompt “Operation succeeded” when added successfully, as shown below.



Picture 6-10 IP vStation Pro server

Note: The IP address is that of the PC which runs vStation Pro server. Configured IP cannot be re-configured, otherwise it will prompt “The IP address already exists.” The port number is the HTTP(S) service port configured during vStation Pro server port setting.



Picture 6-11 HTTP service port

6.3 Scenario

Go to **Settings > AI > Settings**, and configure intelligent functions supported by AIBOX under different scenarios.

Note:

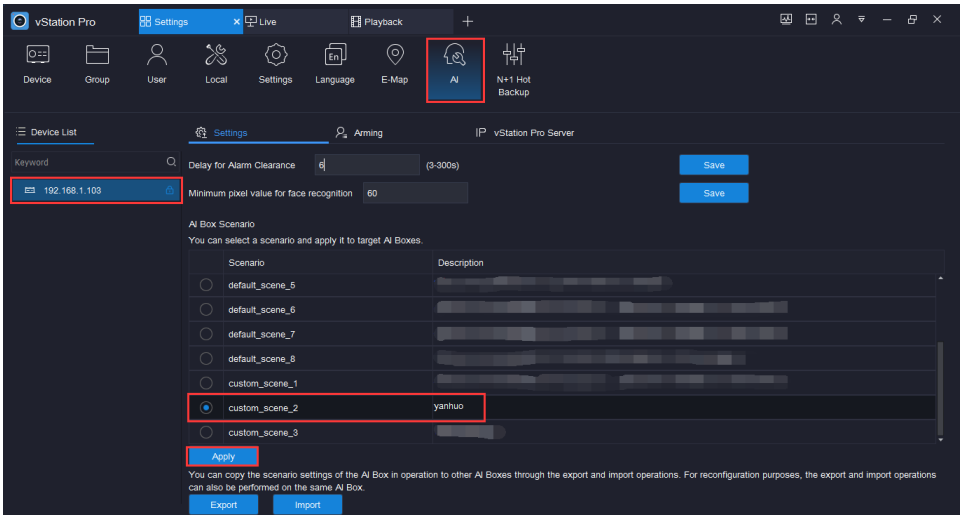
- The supported scenarios of different versions of AIBOXes are different.
- Scenarios can be configured either on vStation Pro client or on the web client of AIBOX.

6.3.1 Scenario Application

Operation steps are as follows:

1) Select AIBOX from device list;

2) Select scenario according to actual request and apply.



Picture 6-12 Scenario selection

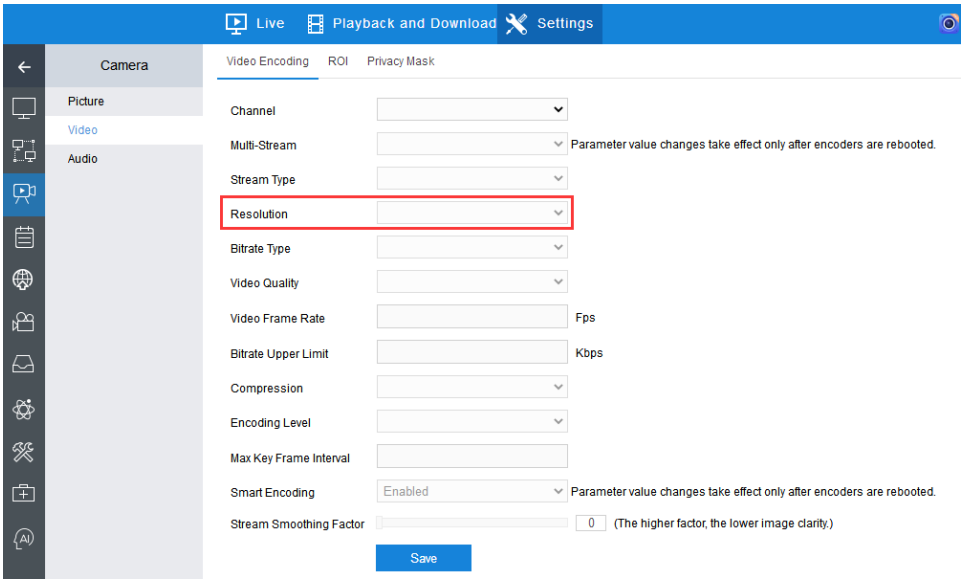
Note:

- Scenario names started with “default” are system default scenarios, and their functions can be viewed from the description.

- Scenario names started with “custom” are customized scenarios of users, and their importing can be referred in chapter *6.3.2 Scenario Import/Export*.
- Scenario settings take effect upon rebooting the device.

Attention: User should edit device resolution according to the selected scenario, i.e. go to the web client of the device and edit its resolution.

e.g.: If the scenario only supports 8-channel 1080P analysis, user should log into the web client of the device, and go to Camera > Video > Video Encoding to edit resolution as 1920*1080.



Picture 6-13 Edit resolution

6.3.2 Scenario Import/Export

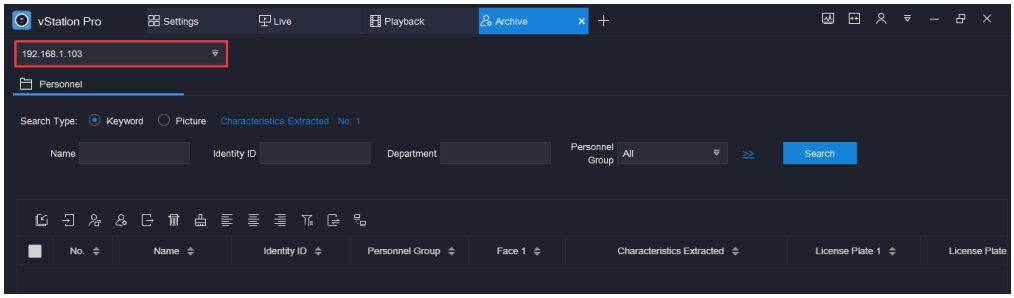
- Scenario Export: On “Settings” interface, select system default or user custom scenario, and click “Export” to export the scenario and save it locally in the format of “.ini”.
- Scenario Import: User can open the exported scenario file, update parameters as custom scenario and save. Click “Import” and select the updated “.ini” file. After importing, it will display on the scenario list started with “custom”.

6.4 Personnel/Vehicle Import

It supports face comparison, personnel attribute, vehicle attribute alarm and other intelligent functions. It requires personnel and vehicle archives on the AIBOX.

Operation steps are as follows:

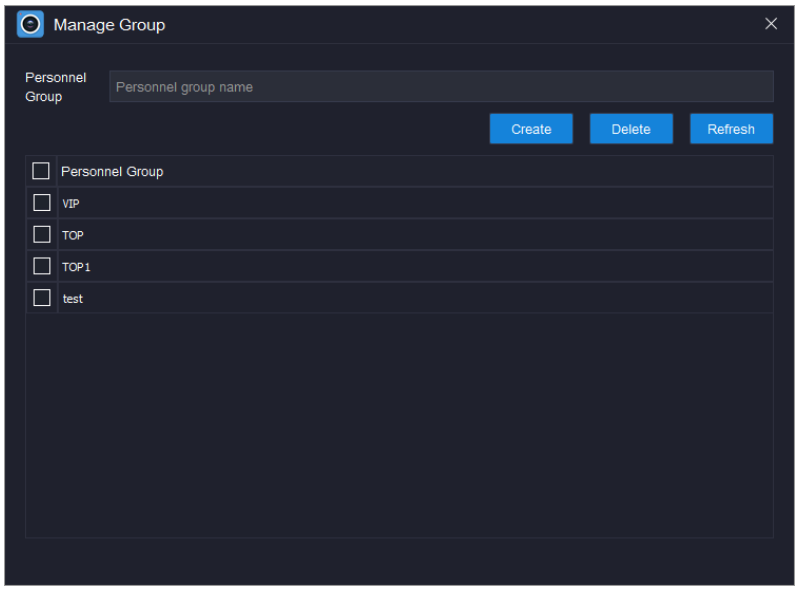
1) Go to **Archive > Personnel**, and select the AIBOX;



Picture 6-14 Personnel and group

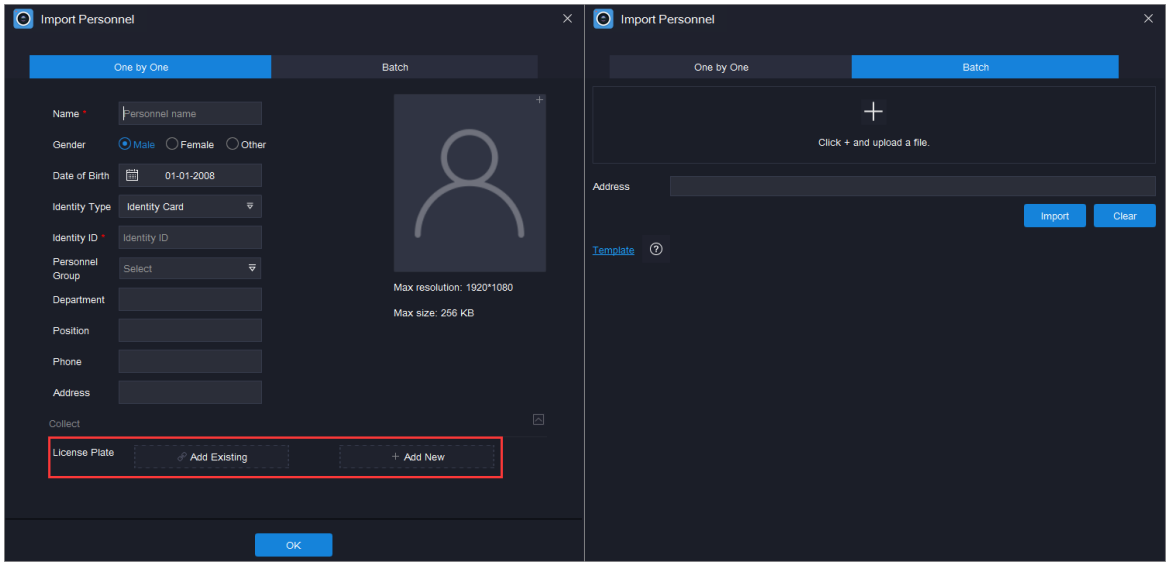
2) Click  to create group;

Note: Before importing personnel, it usually requires creation of new group to facilitate personnel management. If there is already one, skip this step.



Picture 6-15 Manage group

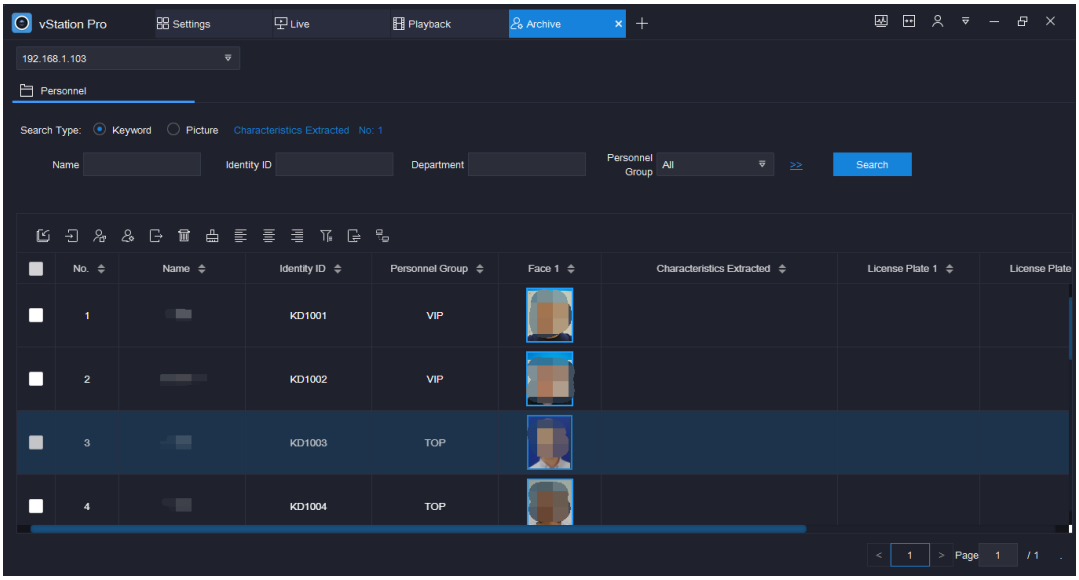
3) Click  to add personnel, and fill information about personnel and vehicle according to actual conditions, as shown below;



Picture 6-16 Add personnel and vehicle (Left: single import, Right: batch import)

Note:

- Export personnel info through and save as file. For repeated use of data, user can import personnell archive in batch.
- Vehicle info cannot be added independently, but should be added by binding with personnel.
- After adding personnel and vehicle info, user can search all added personnel info in AIBOX.



Picture 6-17 Search personnel info

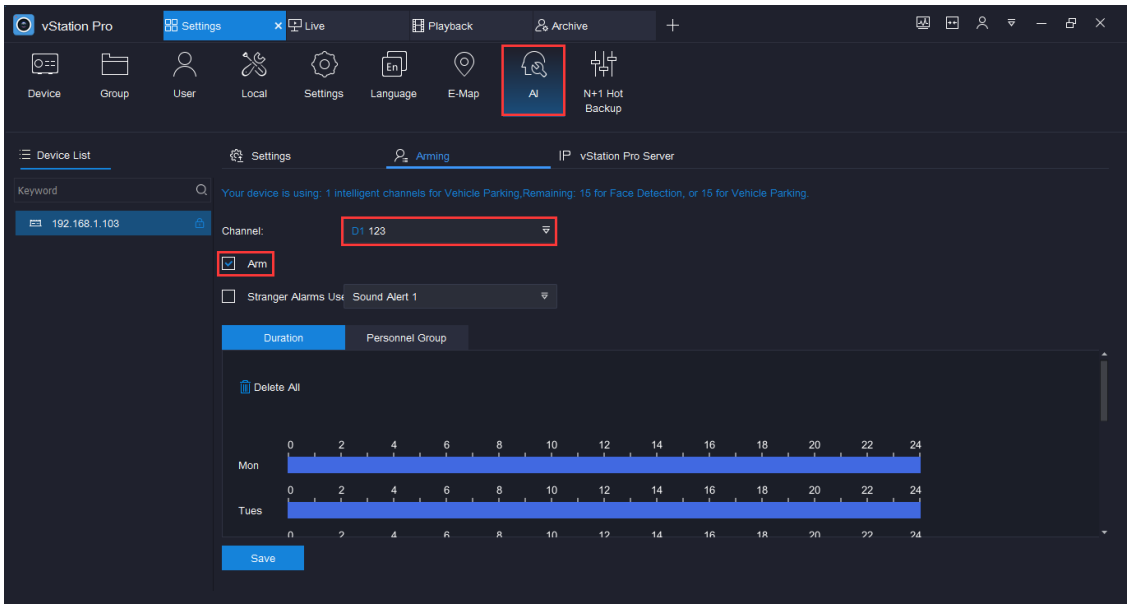
6.5 Arming

Arming is to configure arming duration and face comparison of the front-end channels.

1) Go to **Settings > AI > Arming**;

2) Select AIBOX from the device list and select the front-end channel already added to AIBOX and enable;

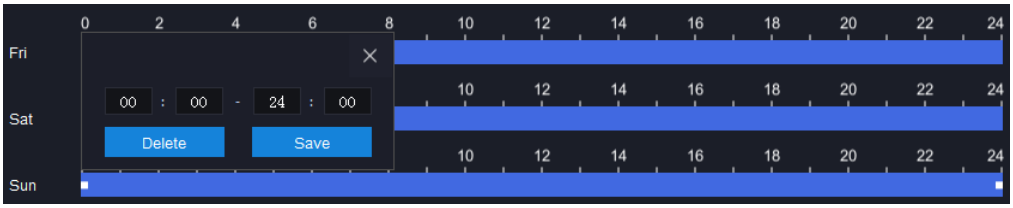
Note: Above the channel list displays “Your device is using: 1 intelligent channel(s) for Vehicle Parking, Remaining: 15 for Face Detection, or 15 for Vehicle Parking.” The scenario mainly depends on the scenario setting of the AIBOX. If there are only 16 channels of face detection channels, when one channel has enabled arming, the remaining will be 15 channels. Please refer to chapter *6.3 Scenario* for AIBOX scenario setting.



Picture 6-18 Enable arming

3) Configure arming durations according to actual requests;

a) Click the long blue bar, enter time nodes, and click “Save” to finish; click “Delete” to delete the duration;

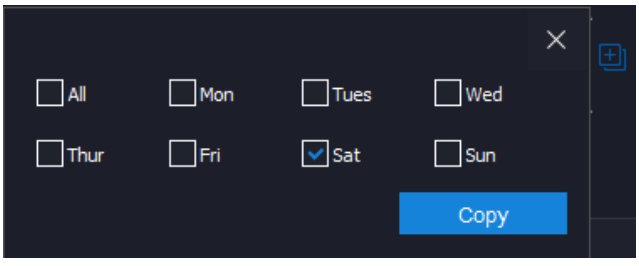


Picture 6-19 Select time nodes for duration

b) Click the icon  behind the bar to pop up copy window;

Picture 6-20 Copy durations

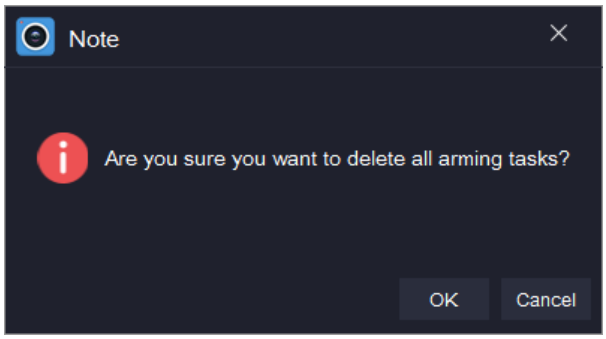
c) Select the dates requiring copies of durations, and click “Copy”;



Picture 6-21 Copy dates

d) Click “Save”.

Note: Click “**Delete All**” to pop up the following window. Click “**OK**” to delete all durations.



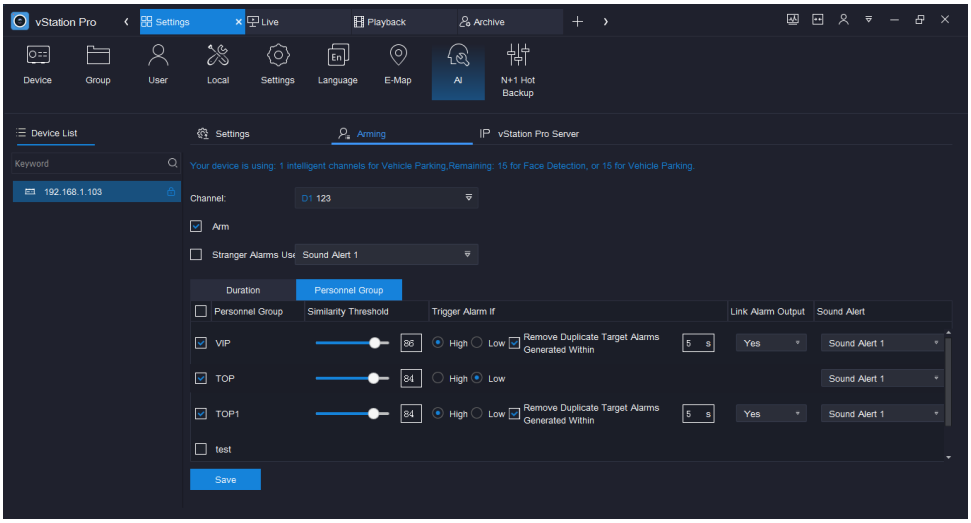
Picture 6-22 Delete durations

4) Click “Personnel Group” and select personnel groups for comparison;

a) Select personnel groups for comparison and set the similarity threshold by dragging the slide bar or entering the value directly, whose range is 0 ~ 100;

Note: Please refer to chapter *6.4 Personnel/Vehicle Import* for creation of personnel group.

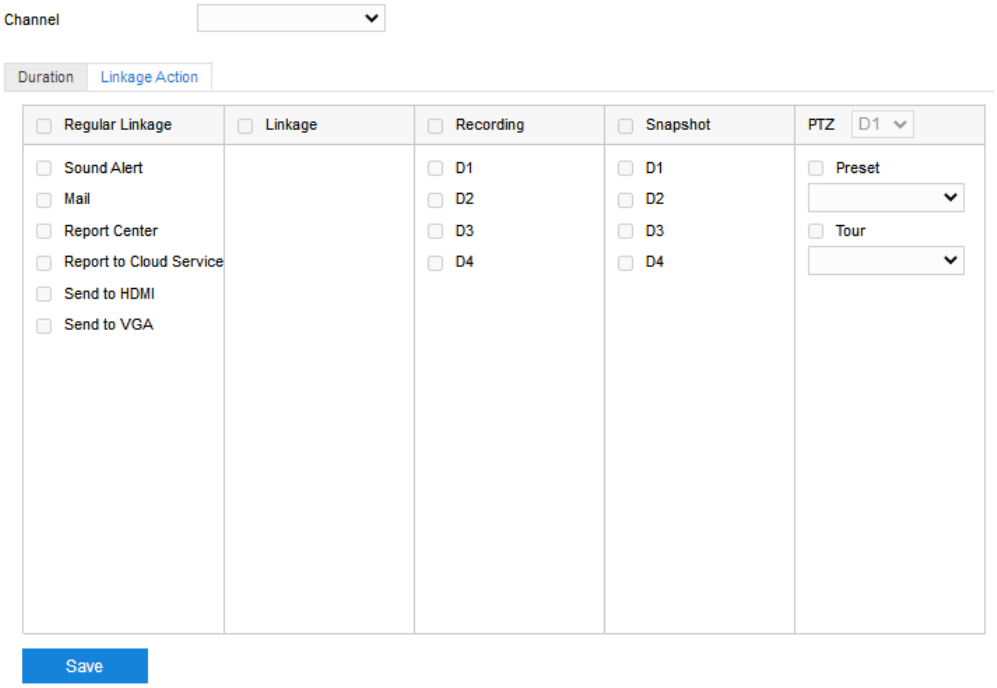
b) Select comparison mode. If selecting “High”, set time for removing duplicate target alarms. Configure link alarm output and select sound alert, as shown below.



Picture 6-23 Personnel group

Note:

- Comparison mode (high or low) is for each personnel group.
- When selecting “Yes” for link alarm output, once an alarm is triggered, the AIBOX will be linked to the “Blacklist/Whitelist” interface of the AIBOX to trigger linkage mode. (Log into the web client of AIBOX and go to Settings > Event > Basic Intelligent Feature > Blacklist/Whitelist)



Picture 6-24 Blacklist/Whitelist

- When selecting “Sound Alert”, once an alarm is triggered, vStation Pro will send alert sound, i.e. from local PC.

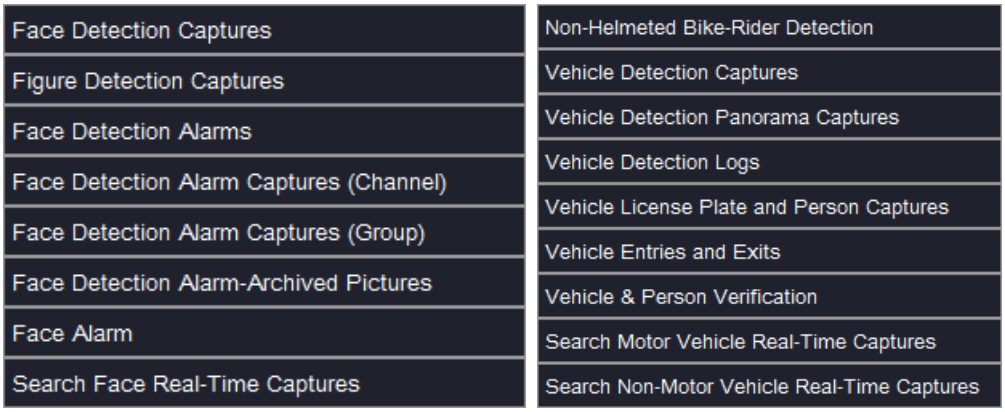
5) Click “Save” to finish.

7. Intelligent View

Operations in this chapter should be performed on vStation Pro client.

On "**Live**" interface, move the mouse to an idle window, click the icon at the top left corner to pop up a window and select the following intelligent information by request.

Attention: Before intelligent view, user should finish intelligent configurations first; otherwise the intelligent information will be unavailable. Please refer to chapter *6 Intelligent Setting* for details.



Picture 7-1 Intelligent information

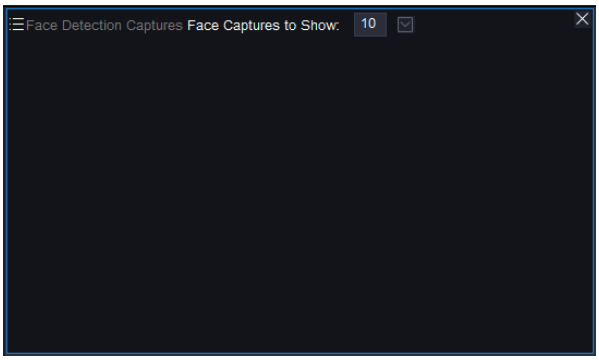
7.1 Face Detection and Alarm Captures

7.1.1 Face Detection Captures

Face detection captures are the real-time snapshots of human faces captured by front-end device. If the face is in the personnel archive, the snapshot will show the name of the person.

The snapshot shows information of capture time, gender of the person and etc. Double-click the face photo to enter picture typing-in interface and import the person to the personnel archive quickly.

Note: Click the icon to set the number of face snapshots shown in the window.

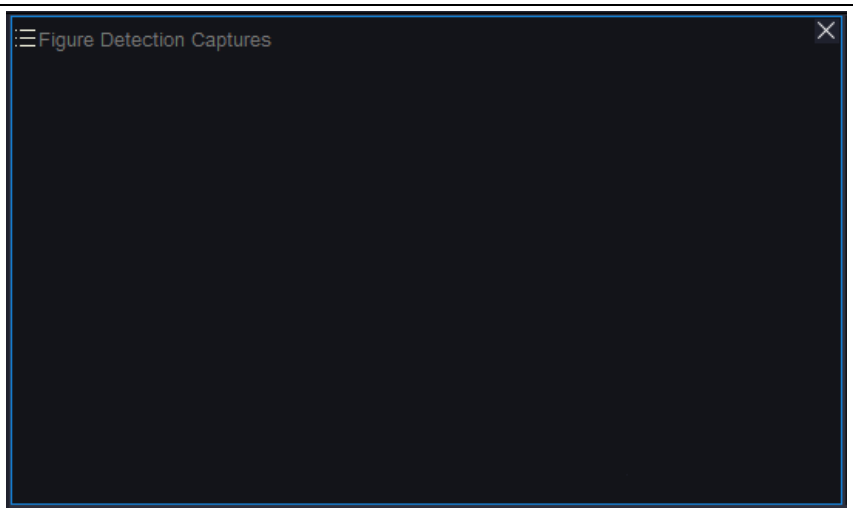


Picture 7-2 Face detection captures

7.1.2 Figure Detection Captures

Figure detection captures are the snapshots of human figures captured by front-end device.

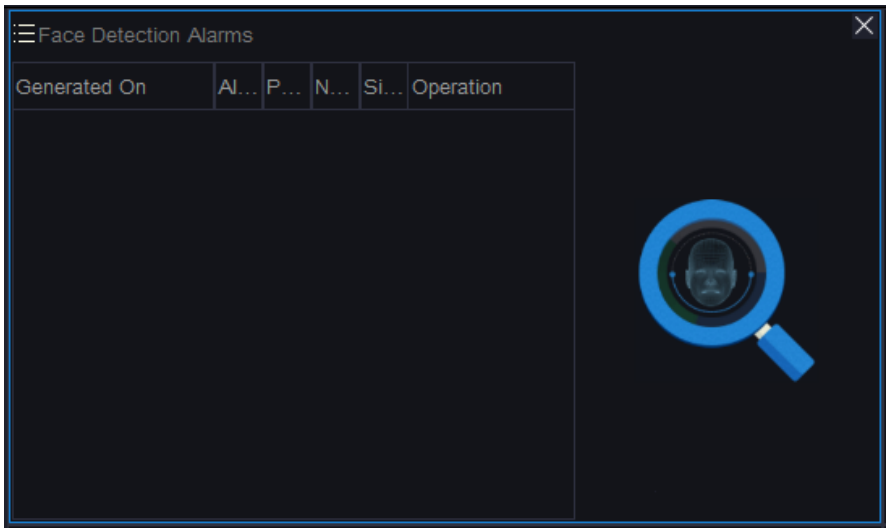
The snapshot shows information of capture time, capture channel and etc.



Picture 7-3 Figure detection captures

7.1.3 Face Detection Alarm

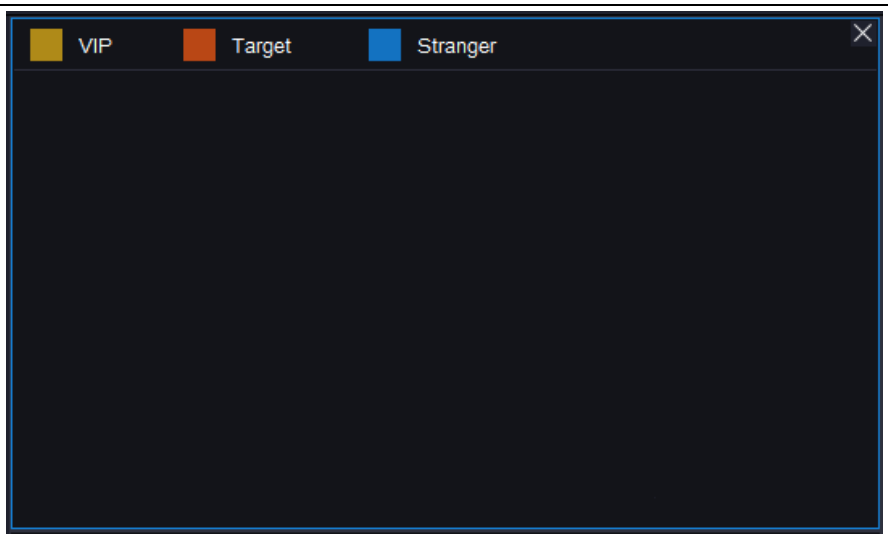
Face detection alarm shows the captured face by front-end device. Click “Playback” to playback the capture video. If the person is in the personnel archive, click “Details” to show the detailed information of the person.



Picture 7-4 Face detection alarm

7.1.4 Face Detection Alarm Captures (Channel)

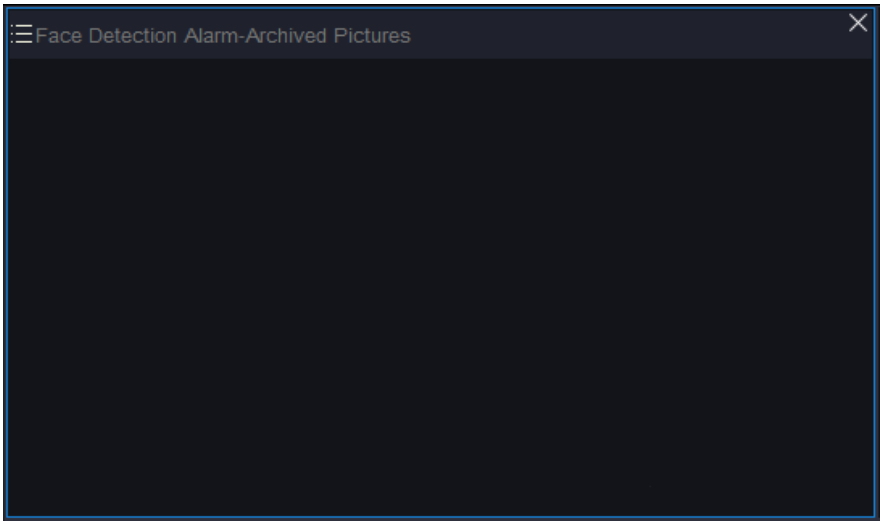
Face detection alarm captures are the captured face snapshots by the front-end device, and the yellow represent VIPs, the orange targets and the blue strangers. If the captured face is target, the snapshot will show the name of the person. Double-click to view the detailed information of the person.



Picture 7-5 Face detection alarm captures

7.1.5 Face Detection Alarm- Archived Pictures

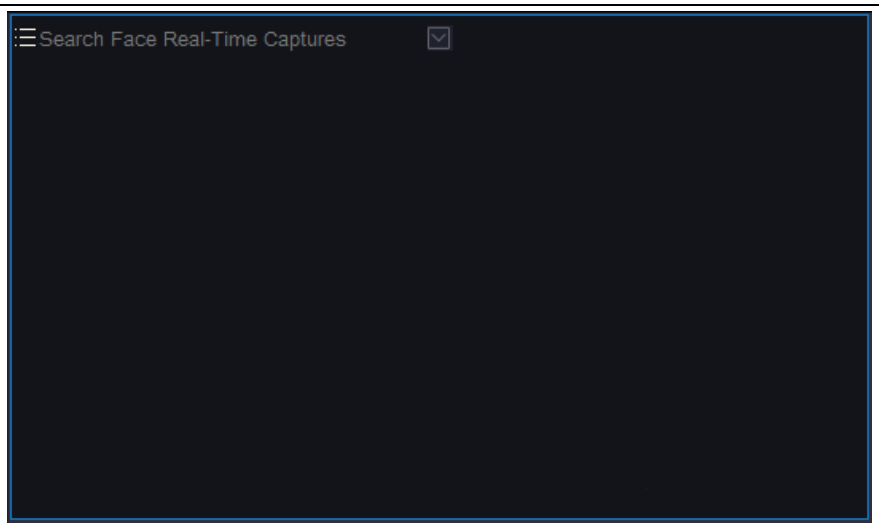
It shows the captured faces by front-end device. If the person is in the personnel archive, it displays the archived picture of the person. If the person is not in the personnel archive, it displays the snapshot of the person and the name is “Stranger”.



Picture 7-6 Face detection alarm- archived pictures

7.1.6 Search Real-time Captures

It shows the real-time snapshots of person, motor vehicle and non-motor vehicle captured by front-end device. The recent snapshot displays the details of latest snapshot, and the parameters differ according to the natures of the snapshots such as person, motor vehicle and non-motor vehicle.



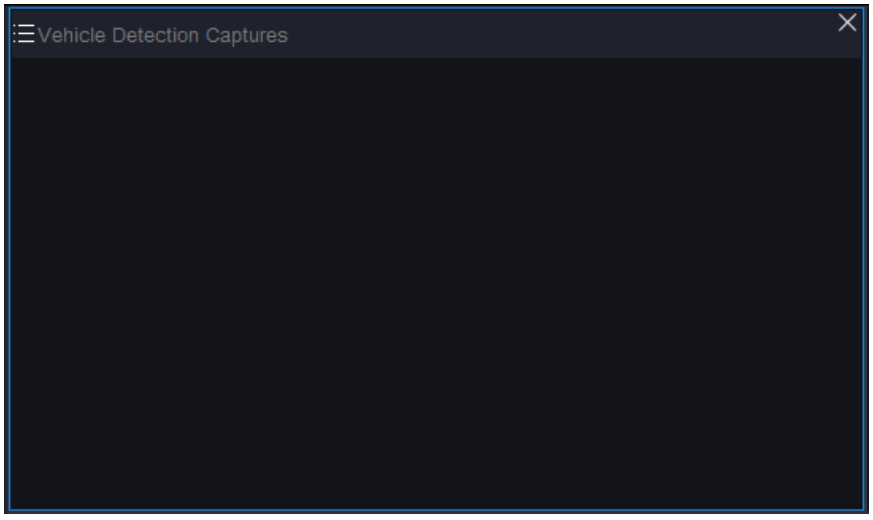
Picture 7-7 Real-time captures

Note: Click the vehicle or the person to show the detailed information of the vehicle or person.

7.2 Vehicle Detection and Alarm Captures

7.2.1 Vehicle Detection Captures

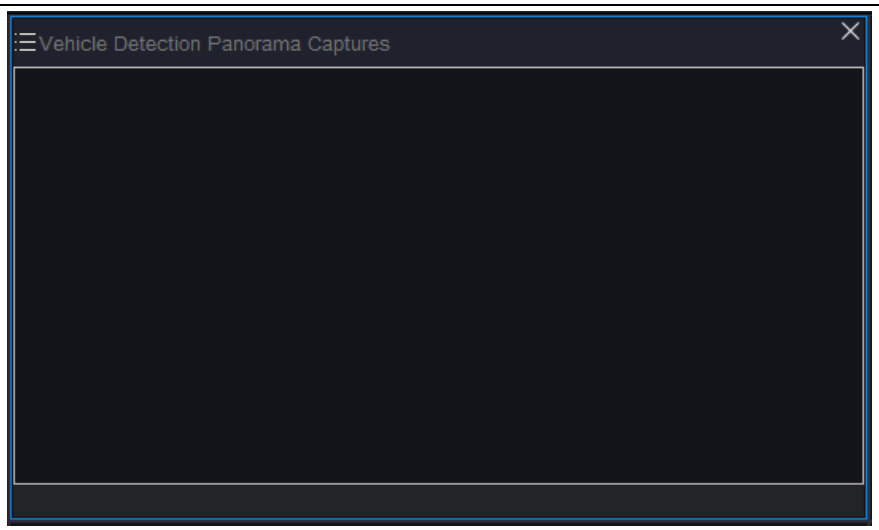
It shows real-time pictures of the vehicle captured by front-end device, including capture channel and capture time.



Picture 7-8 Real-time vehicle information

7.2.2 Vehicle Detection Panorama Captures

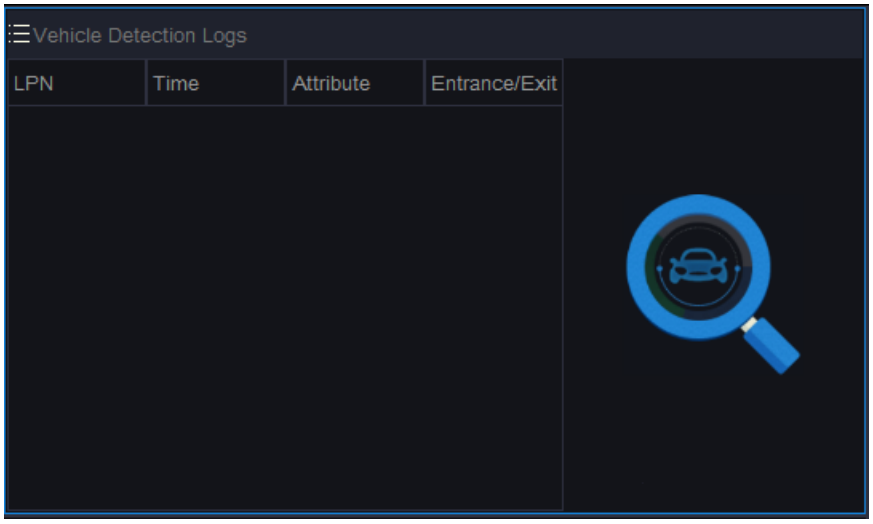
It shows the panorama picture of vehicle captured by front-end device, including capture channel and time.



Picture 7-9 Vehicle detection panorama captures

7.2.3 Vehicle Detection Logs

It shows vehicle information captured by front-end device, including capture time, entrance/exit and license plate number. Select an item and the right will show the snapshot of the vehicle.



Picture 7-10 Vehicle detection logs

8. Face/Vehicle Capture

Operations in this chapter should be performed on vStation Pro client.

Face/Vehicle capture is to search the live archives of and search the AI events of all human faces, personnel and vehicles captured by all front-end channels of AIBOX.

8.1 Live Archive Search

Live archive search is to search the snapshots of human faces, personnel and vehicles, including searching by keyword and searching by picture. The searched snapshots can be imported to personnel archive directly.

This chapter mainly introduces the operation steps of searching by keyword and by picture.

8.1.1 Search by Keyword

It is to search snapshots by personnel or vehicle attributes.

Operation steps are as follows:

1) Select the AIBOX from the device list;

2) Select “Search by Keyword”;

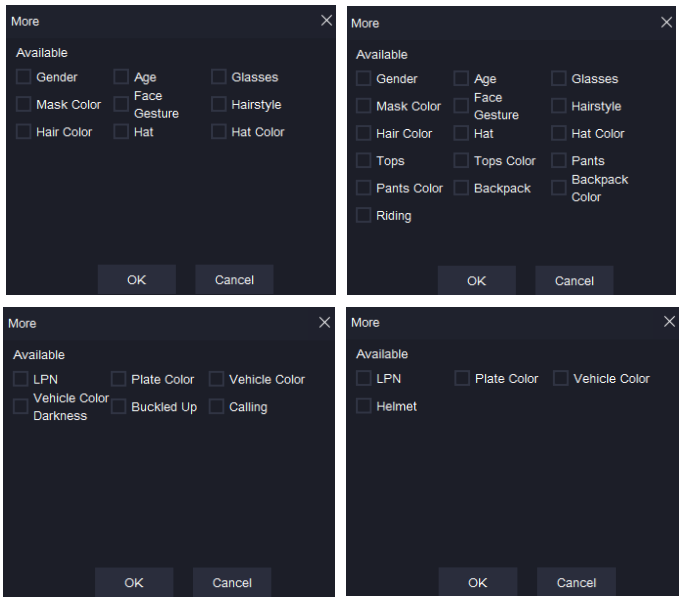
3) According to search requests, select the live archive from the dropdown list, including face, personnel, motor vehicle and non-motor vehicle;

4) According to search device requests, select channel from the dropdown list (the default is “All”);

Note: The dropdown list shows all front-end channels of the AIBOX.

5) Configure start time and end time;

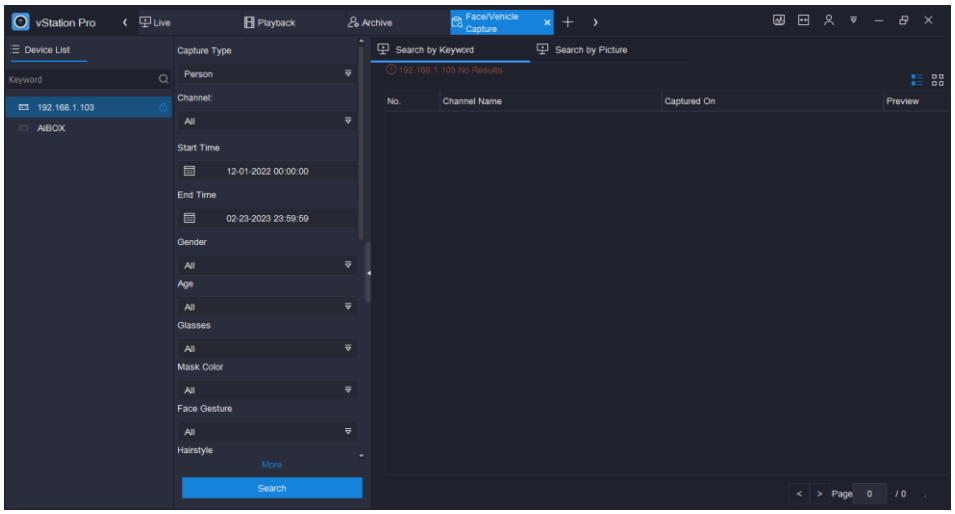
6) Click “More” to pop up more filters. According to actual searching conditions, the filters for face, personnel, motor-vehicle and non-motor vehicle are different;



Picture 8-1 Filters

7) Click “Search” and the result will display on the list, as shown below.

Note: means to display the search result by list, and means to display the search result by diagram.



Picture 8-2 Search result by keyword

8.1.2 Search by Picture

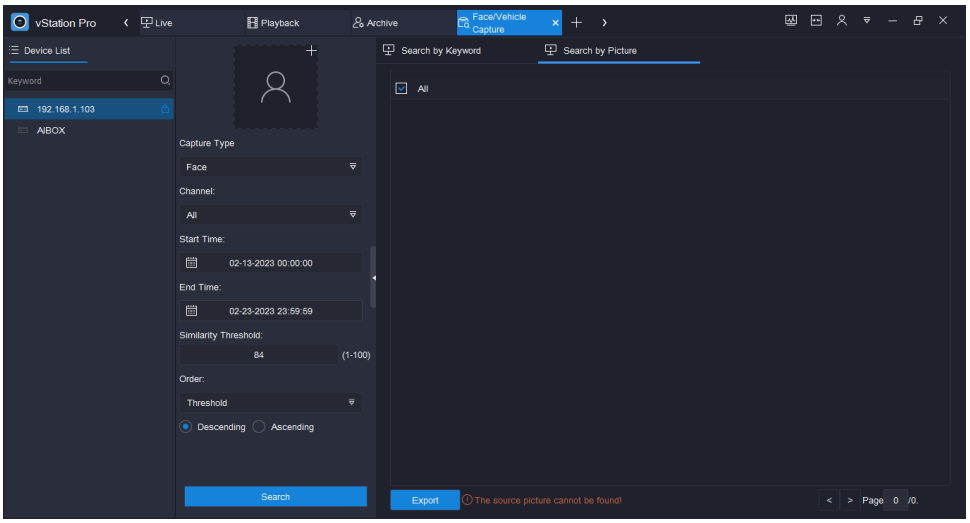
It is to compare the local face picture with the face snapshot and search by their similarity.

Operation steps are as follows:

1) Select the AIBOX from the device list;
2) Select “Search by Picture”;
3) Click to select local picture;
4) According to search device requests, select channel from the dropdown list (the default is “All”), and configure similarity threshold, duration and order mode;

Note: The capture type is “Face” by default.

5) Select a device from the device list;
6) Click “Search” and the result will display on the list, as shown below.



Picture 8-3 Search by picture

8.2 AI Event Search

AI event search mainly compares face snapshots with the pictures in or out of the personnel archive and display the comparison result. User can preview the pictures, playback the videos and etc.

This chapter mainly introduces the search steps. Operation steps are as follows:

1) Select the AIBOX from the device list;

2) Configure start time and end time;

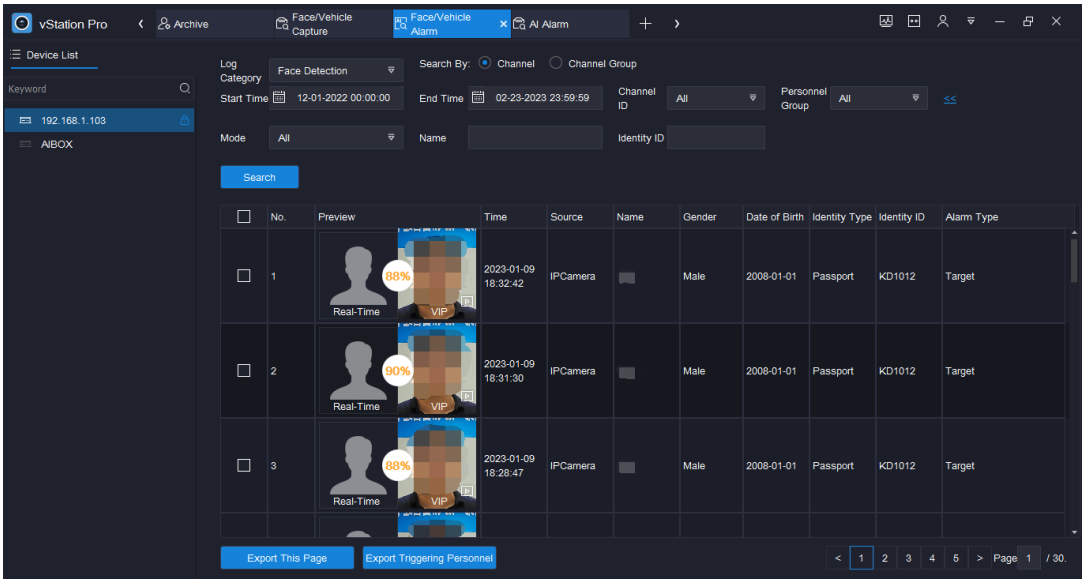
3) The default log category is “Face Detection”;

4) Select personnel group;

5) Click  to select comparison mode (Target, Stranger, default “All”), and select channel ID;

6) Enter name and identity ID if necessary;

7) Click “**Search**” to display the search result. The list displays personal info such as name, gender and identity ID under specific comparison mode.



Picture 8-4 AI event search

9. Storage

AIBOX supports storage of all front-end channels' data. Currently, the methods include TF card, accessing to NVR and accessing to VIID.

9.1 TF Card Storage

Note: TF card is a kind of flash memory card, and user can buy one if necessary (suggested memory: TF card over 128G)

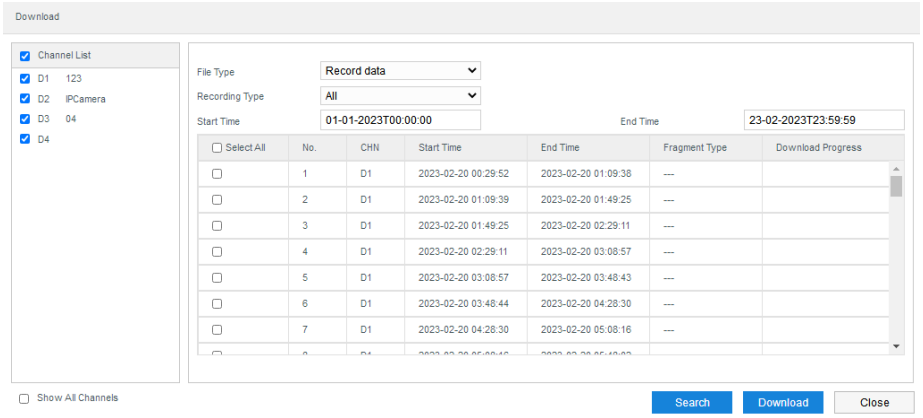
9.1.1 Data Storage

After installing TF card according to quick start guide for AIBOX, user should firstly initialize the TF card, and then contact professional personnel of this company to change AIBOX storage mode into TF card mode. In this way, AIBOX will save the linkage snapshots and recordings of all front-end channels to the TF card.

9.1.2 Data View

- Linkage data: including all linkage snapshots and linkage recordings of all channels.

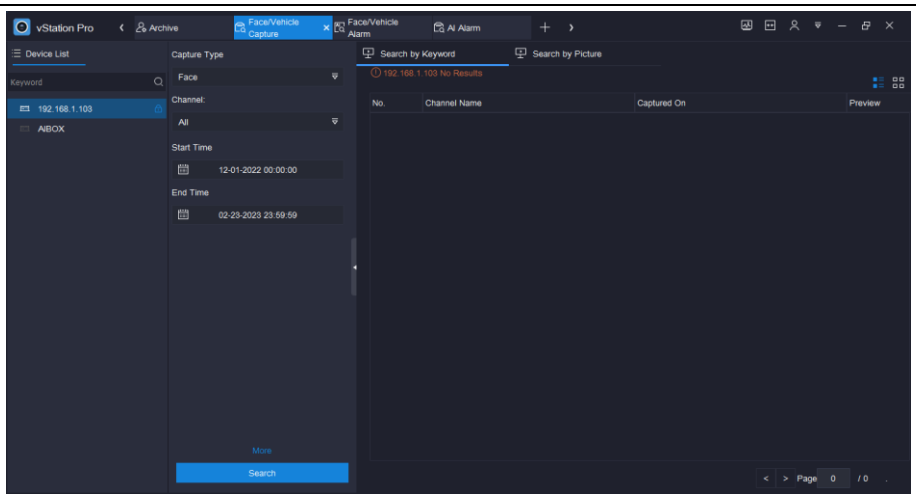
  Log into the web client of AIBOX, and go to "**Playback and Download**". Click on the tool bar to open the download interface, and download recordings or snapshots of different channels to local PC.



Picture 9-1 Linkage data

- Intelligent data: Data that AIBOX recognizes faces or vehicles of all front-end channels and captures intelligently.

  Log into vStation Pro client, go to "**Face/Vehicle Capture**", and search intelligent snapshots by request. Please refer to chapter *8.1 Live Archive Search* for details.



Picture 9-2 Intelligent data

9.2 NVR Storage

When the data size is too big, usually TF card cannot satisfy user request. Therefore, it's suggested that user access to NVR and upload front-end data to NVR to solve data storage issue.

This chapter mainly introduces configurations to save AIBOX front-end data to NVR.

Note: There are many models of NVRs of this company, and this chapter will take NVR2881-16032B (intelligent NVR) as example to illustrate, also as a reference for other models.

9.2.1 Access to NVR

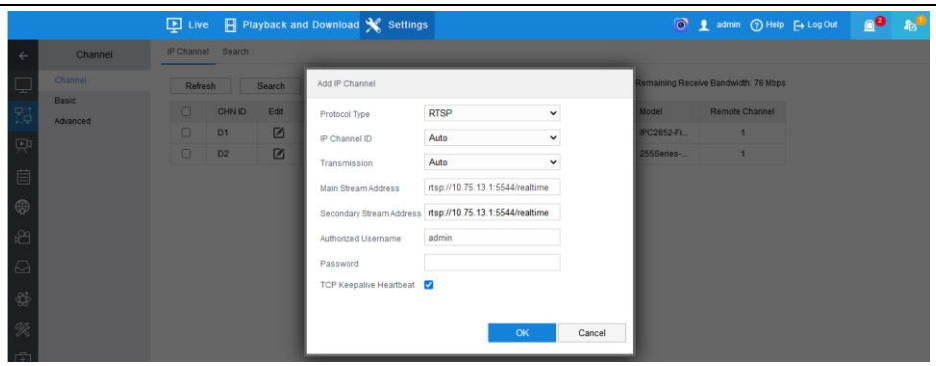
To access to NVR, user should log into NVR client and AIBOX client to perform relative configurations.

Configuration steps are as follows:

1) Add channel: Log into NVR web client, go to **Settings > Channel > Channel**, add channel and select RTSP mode. Both the main and secondary stream addresses are AIBOX stream address, and authorized username and password are those of the AIBOX;

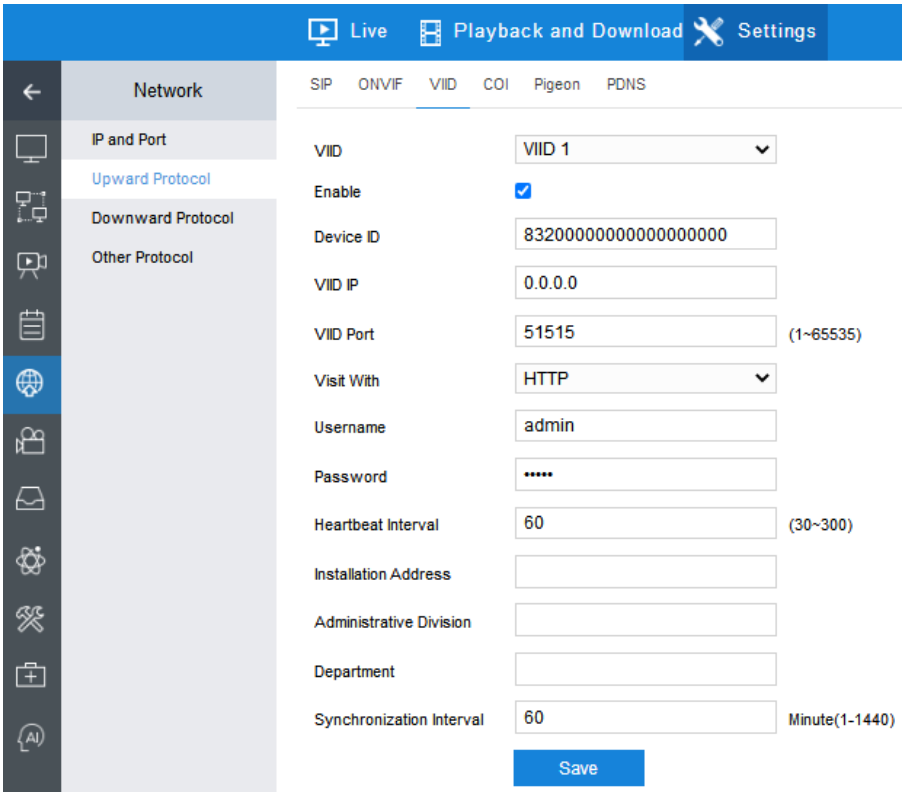
Note:

- Rule for main stream address is "rtsp://IP/realtime?chnid=N;vid=0;aid=0", and that for secondary stream address is "rtsp://IP/realtime?chnid=N;vid=1;aid=1". The IP is AIBOX IP address, N being the channel of N+1 of AIBOX (e.g. n=0, channel 1 of AIBOX), vid=0 and aid=0 being the main stream, and vid=1 and aid=1 being the secondary stream.
- Usually AIBOX only applies main stream address.



Picture 9-3 Add channel

2) AIBOX configures VIID upload: Log into AIBOX web client, go to **Settings > Network > Upward Protocol > VIID** to enable VIID and fill the parameters. Please refer to the following picture for the filling of some parameters while the remaining applies the default;

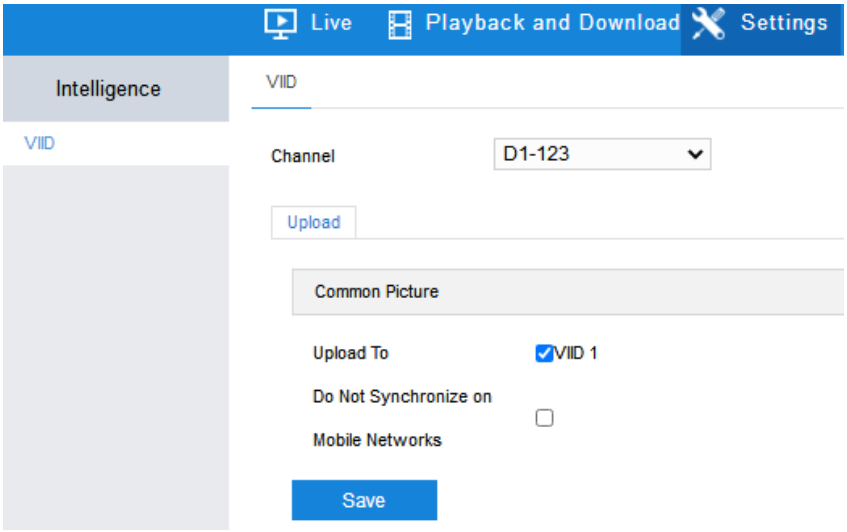


Picture 9-4 VIID configuration

Parameter	Note	Parameter	Note
Device ID	Enter a 20-bit ID such as “83200000000000000000”	VIID Port	51515
VIID IP	NVR IP address	Username/Password	NVR username and password

3) AIBOX configures channel upload: Log into AIBOX web client, go to **Settings > Intelligence > VIID** to select the channel to upload to NVR and select “Upload to VIID”;

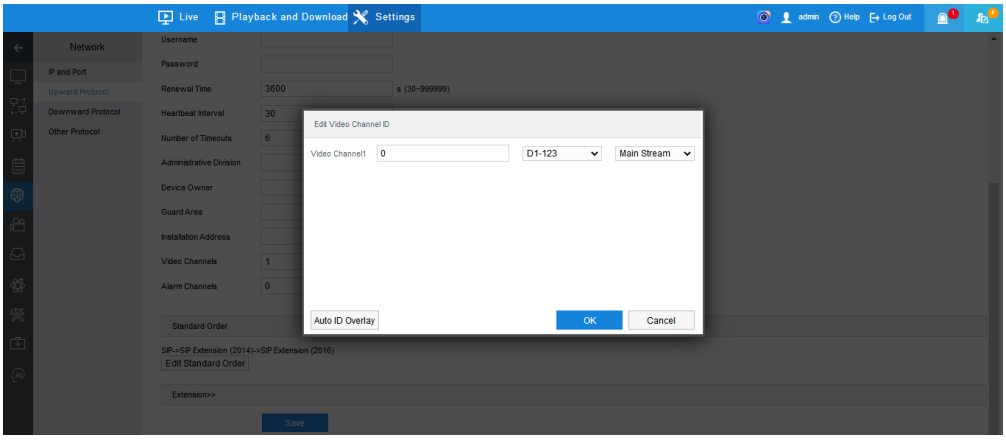
Note: To upload multiple front-end channels to NVR, user should select channel respectively and select “Upload to VIID” one by one.



Picture 9-5 VIID

4) AIBOX channel configures VIID ID: Log into the web client of AIBOX, go to **Settings > Network > Upward Protocol > SIP**, and click “Edit” behind video channels to configure VIID upload ID of each channel;

Note: The ID of video channel 1 should be the same as the device ID filled in step 2, and other channels select auto overlapping, as shown below.



Picture 9-6 Edit video channel ID

5) NVR channel configures VIID ID: Log into NVR web client, go to **Settings > Network > Upward Protocol > SIP**, and click “Edit” behind video channels to configure VIID upload ID of each channel;

Note:

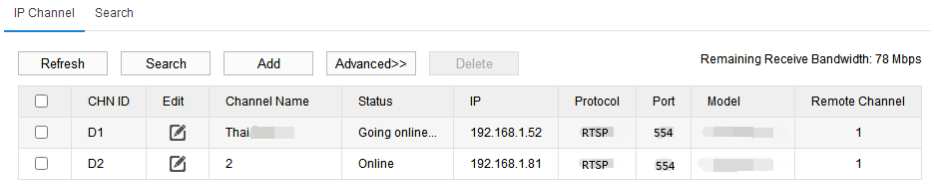
- The video channel ID on NVR should be the same as that on AIBOX. If there is former video channel on the NVR already, user only needs to fill the video channel ID as that on the AIBOX manually. The video channel 21 ID is 83400000000000000005, the same as the video channel 6 ID on AIBOX.

- It's unnecessary to keep the same order of video channels on the AIBOX as that on the NVR, only keep their ID the same.

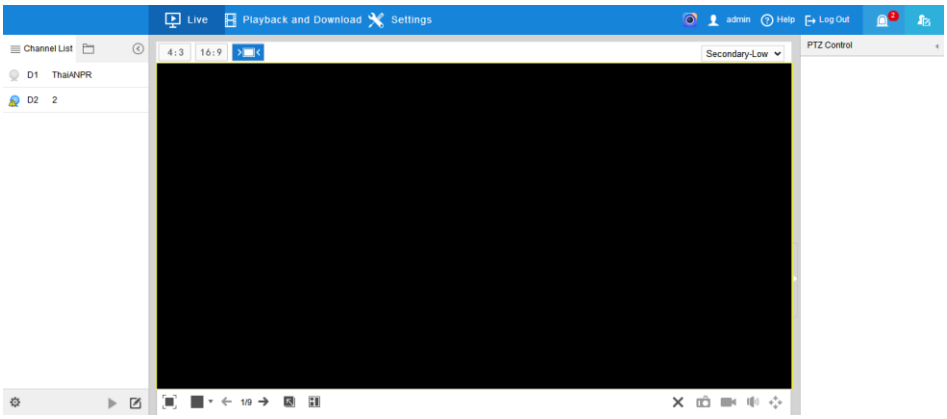
9.2.2 Data View

After accessing to NVR, log into NVR client and go to **Settings > Channel > Channel > IP Channel** to view the video channels of the AIBOX accessed through RTSP protocol, as shown in picture 9-7. Go to "Live" interface to view the real-time images of all channels, as shown in picture 9-8.

On NVR client, front-end channels accessed by video channels can trigger linked capturing or linked recording.



Picture 9-7 Channel list

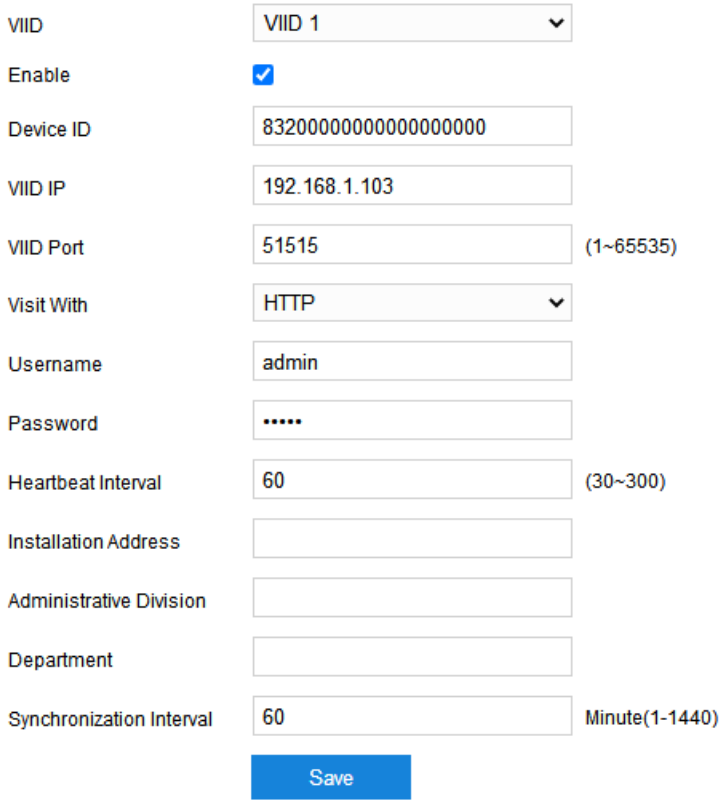


Picture 9-8 Live view

9.3 VIID Storage

VIID is a big data management and analysis platform. It supports big data storage and efficient search, and supports integration of information resources and data of faces, personnel and vehicles.

Log into AIBOX client, go to **Settings > Network > Upward Protocol >VIID**, fill parameters of accessing to VIID platform to finish platform registration.



Picture 9-11 Access to VIID

After AIBOX accessing to VIID, it will upload the intelligent snapshots of all front-end channels to VIID platform, and then retrieve and analyze the snapshots through the platform.

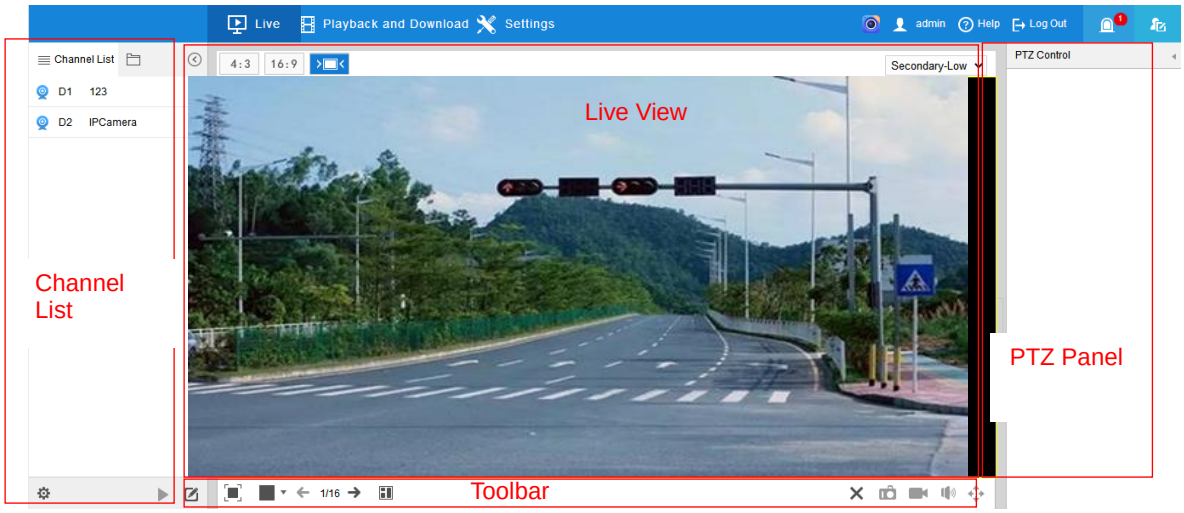
Note: AIBOX can only upload intelligent snapshots to VIID. To store other video data, please apply other storage methods.

10. Web Functions

This chapter introduces the basic functions of AIBOX web client.

10.1 Live View

Click “Live” to enter the preview interface.



Picture 10-1 Live interface

10.1.1 Channel List

User can view added front-end devices. Double-click the selected channel to view the video of the channel on the live view window.

- Icons on channel list

Icon	Function	Icon	Function
	Channel list		Quick setting interface
	Channel group	/	View/Pause
/	Hide/Show channel list/group		Edit current channel name

- Channel status

Icon	Status	Icon	Status
	Online		Viewing
	Offline/Unregistered		Video recording or alarming
	Alarming		Viewing or video recording
	Video recording		Viewing or alarming or video recording

10.1.2 Live View Window

- Aspect Ratio

Icon	Function
4:3	means the live view window displays image in standard screen ratio 4:3
16:9	means the live view window displays image in wide screen ratio of 16:9
	makes the image window adaptive to your PC resolution

➢ Stream Selection

Note: The stream information of different channels is different in live view window. Please be subject to actual interface.

Menu	Function
Main-Low delay	Display HD image. It has low delay in decoding live images. Configure in **Settings > Camera > Video > Video Encoding.**
Main-Low consumption	Display HD image. It costs less resource in decoding live images. Configure in **Settings > Camera > Video > Video Encoding.**
Secondary-Low delay	Display SD image. It has low delay in decoding live images. Configure in **Settings > Camera > Video > Video Encoding.**
Secondary-Low consumption	Display SD image. It costs less resource in decoding live images. Configure in **Settings > Camera > Video > Video Encoding.**
Third-Low delay	Display third-stream image. It has low delay in decoding live images. Configure in **Settings > Camera > Video > Video Encoding.**
Third-Low consumption	Display third-stream image. It costs less resource in decoding live images. Configure in **Settings > Camera > Video > Video Encoding.**

Note: Go to **Settings > Camera > Video > Video Encoding** to select “Triple”, and then it will show the option of third stream.

10.1.3 Viewing Toolbar

User can control the play window through the toolbar. Functions of icons on the toolbar are as follows.

Icon	Function
	Full screen, click this button to display in full screen. Press Esc to exit full screen.
	Select screen layout.
/	Switch pages, click to switch to previous/next page.
	Stop, click this button to stop live view.
	Local snapshot, click to capture current image. The save path of snapshot can be configured in the client.
	Local recording, click to start video recording and click again to stop video recording.
	Volume, local audio decoding volume. Click the icon and drag the slide bar 50 to adjust volume. The value for mute is 0.

	PTZ, click the icon to enable zooming. Left click and drag toward lower right to draw an area. The PTZ lens will rotate toward this position and this area will cover the whole screen; left click and drag toward upper left to draw an area to recover the image; double-click a point in the image to center this point.

10.1.4 PTZ Control

Click the icon on the right to show PTZ control panel; click again to hide.

Note: When viewing different front-end channels, the options on the PTZ control panel are different. Please be subject to actual interface.

10.1.4.1 PTZ control Panel

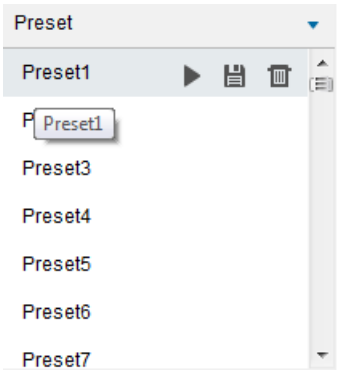
Click PTZ Control to show the PTZ control panel.

Picture 10-2 PTZ Control

Icon	Function
	The 8 direction buttons control the pan and tilt rotation of the PTZ. Click them to adjust the direction of image; Click and the camera will patrol in pan; click again to stop.
	Step length adjustment button, the step length means the rotation speed of the image on each click of the direction button. Drag the slide bar to adjust. The larger the step length is, the faster the image will rotate.
	Zoom in/Zoom out buttons, to adjust the camera's field of view. Field of view is the surveillance scope of the camera. The larger the field of view is, the broader the scope will be.
	Focus near/Focus far/Auto focus buttons, to adjust the sharpness of focused object.
	Aperture +/Aperture -/Auto iris buttons, to adjust the size of aperture.
/	Light on/off button, click to enable IR light detection. When the light condition turns dark, enable the IR light for lighting. Click to disable IR light, and even the light condition turns dark, the fill light will not be on.
/	*Enable/Disable wiper. Click to enable wiper to clean the glass dome and click to disable. The wiper will stop automatically after 10 brushes. Click it to enable it again if necessary.

10.1.4.2 Preset

Click Preset to show the following interface：



Picture 10-3 Preset

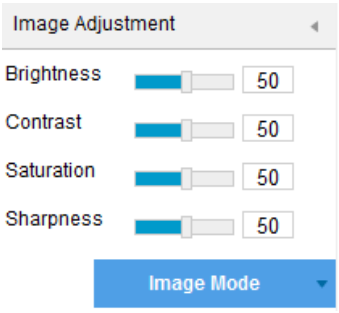
Set: Select a position and adjust lens direction and field of view to the requirements. Then select a preset from the list and click to save the preset.

Load: Click to load a preset and the camera will rotate to the preset and display the image according to the set parameters.

Delete: Click to delete a preset.

10.1.4.3 Image Adjustment

Click Image Adjustment to show the following interface. Drag the slide bars to adjust the brightness, contrast, saturation and sharpness of live image, or configure the values behind the slide bars.



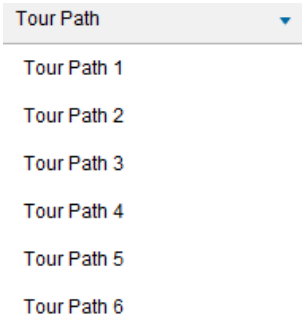
Picture 10-4 Image adjustment

- Brightness: Adjust current image brightness by actual request. The higher the value is, the brighter the image will be.
- Contrast: Adjust current image contrast by actual request. The higher the value is, the clearer contrast between the dark and the bright part of the image there will be.
- Saturation: Adjust current image saturation by actual request. The higher the value is, the fresher the image will be.
- Sharpness: Adjust current image sharpness by actual request. The higher the value is, the more distinct the objects on the image will look.
- Image Mode: Load pre-set image modes according to actual request.

10.1.4.4 Tour Path

Click Tour Path to show the control panel of tour path. Select a tour path and click ▶ to start touring in this tour path. Click ■ to stop touring in current tour path.

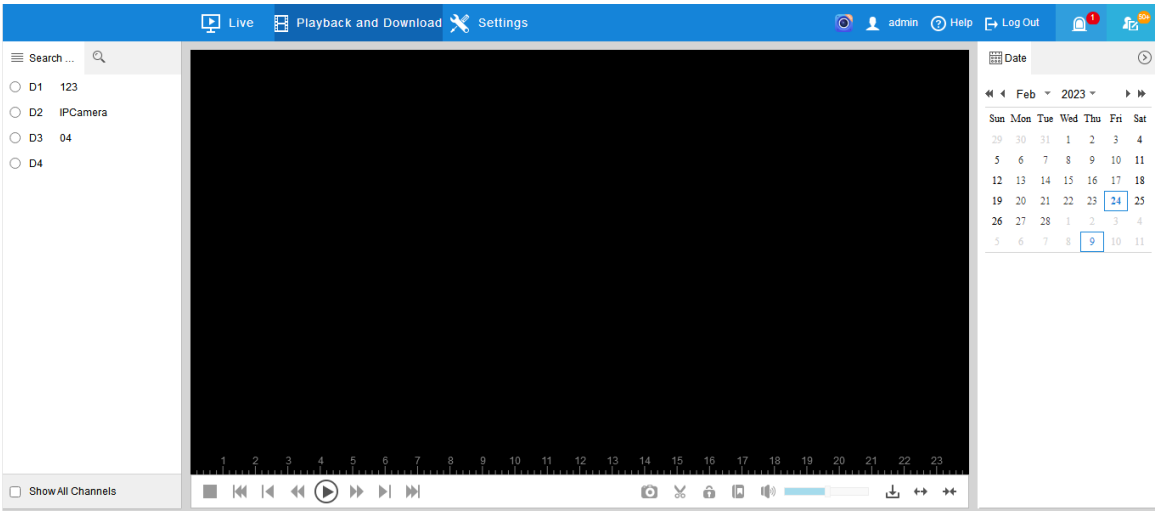
Note: The tour paths can be set on device client. Go to **Settings > Camera > PTZ > Guard Tour** and configure.



Picture 10-5 Tour path

10.2 Playback and Download

Click “Playback and Download” to enter the interface and perform operations to video recordings on the SD card such as searching, viewing, downloading and clipping. The interface of “Playback and Download” is like the following.



Picture 10-6 Playback and download

10.2.1 Search and Playback

There are two methods to playback and download video recordings, by time and by criteria. Operation steps are as follows:

➢ Search by time

1) Click ☰ on the left;

2) Select a channel from the list;

Note: By default, the channel list display channels with front-end device only. To view videos on the deleted devices, select “Show All Channels” at the bottom.

3) Select a date with a blue triangle from the calendar, and the window will display the video on the timeline with highlight; click the "Play" button to playback the video;

4) During the playback, user can clip, accelerate and download the video recording though buttons on the toolbar.

➢ Search by criteria

■ Event Search

User can search and playback the video recordings in certain period of time by event type. Operation steps are as follows:

a) Click  to enter the interface of “Search Criteria”. Select “Event” from the dropdown list and select event type;

b) Select event type from the dropdown list, including motion detection, alarm input and intelligent feature;

c) Select a channel(s) from the channel list, single or multiple;

Note: By default, the channel list display channels with front-end device only. To view videos on the deleted devices, select “Show All Channels” at the bottom.

d) Set the “Start Time” and “End Time” of search duration. Click “Search” and the related videos will display on the list;

e) Select the video to be played and click the “Play” button to playback the video. During the playback, user can clip, accelerate and download the video recording though buttons on the toolbar;

■ Locked Record Search

User can lock the video during playback so as to protect important videos and prevent them from being overwritten or removed. Please refer to the table of toolbar buttons for detailed operations.

For the locked videos, user can search by setting start time and end time, and perform operations such as playback and unlocking. Operation steps are as follows:

a) Click  to enter the interface of “Search Criteria”. Select “Locked Record” from the dropdown list;

b) Select a channel(s) from the channel list, single or multiple;

Note: By default, the channel list display channels with front-end device only. To view videos on the deleted devices, select “Show All Channels” at the bottom.

c) Configure start time and end time, and click “Search” to display the related videos on the list;

d) Select the video to be played and click the “Play” button to playback the video. During the playback, user can clip, accelerate and download the video recording though buttons on the toolbar;

Note: Select the video to be unlocked from the result list, and click “Unlock” to unlock the video.

- Tag Search

During playing back, user can set tags on the video for remembering key points of the video. Please refer to the table of toolbar buttons for detailed operations.

For videos added with tags, user can search them by tag keyword or time, and perform other operations such as playing back, editing tag name and deleting tags. Operation steps are as follows:

a) Click  to enter the interface of “Search Criteria”. Select “Tag” from the dropdown list;

b) Select a channel(s) from the channel list, single or multiple;

Note: By default, the channel list display channels with front-end device only. To view videos on the deleted devices, select “Show All Channels” at the bottom.

c) Configure start time and end time, and click “Search” to display the related videos on the list;

d) Select the video to be played and click the “Play” button to playback the video. During the playback, user can clip, accelerate and download the video recording though buttons on the toolbar;

Note: Select video tag from the result list, and click “Edit” to edit tag name and click “Delete” to delete the tag.

10.2.2 Toolbar

Toolbar buttons on the playback interface are explained in the following table:

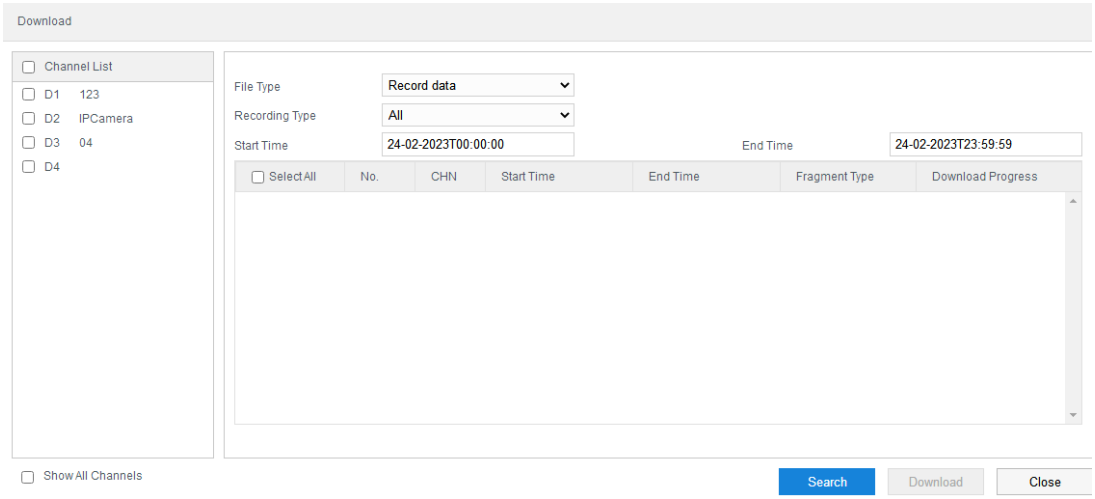
Icon	Function
	Stop, click it to stop playing the video.
	Previous event, click to play the video of previous event and user can click continuously. Only event playback and locked record playback support this function.
	Next event, click to play the video of next event and user can click continuously. Only event playback and locked record playback support this function.
	Skip backward, click it and the video will skip backward by 30s, support continuous clicks.
	Skip forward, click it and the video will skip forward by 30s, support continuous clicks.
	Decelerating playback, click it to decelerate the playback speed, one click to

	decelerate by one time. It supports deceleration speed by 1/2x, 1/4x, 1/8x and 1/16x. When it comes to 1/16x, click to recover to normal speed.
	Accelerating playback, click it to accelerate the playback speed, each click to accelerate by one time. It supports acceleration speed by 2x, 4x, 8x, 16x, 32x and 64x. When it comes to 64x, click to recover to normal speed.
/	Play/Pause, click it to playback the video and click again to pause.
	Snapshot, click the icon to capture current playback image. The save path for playback snapshots is the same as the default path of the browser.
	Recording the playback video, click this icon to start recording of current video and click again to stop. The save path for recorded playback videos is the same as the default path of the browser.
	Lock, click the icon to start locking video, and when the time progress bar reaches a proper position (by playing or by manual dragging), click again to stop locking. Click “OK” on the popup window to lock the video in the duration, and the locked video will not be overwritten. By default, it locks all current playing channels. User can click “Advanced” to select channels to be locked.
	Tag, click the icon and set tag name on the popup window, and click “OK” to add tag.
	Volume, drag the slide bar to adjust volume.
	Download, click the icon to pop up the download interface. Please refer to chapter *10.2.3 Download* for details.
/	Scale up/Scale down, adjust the scale base on the timeline. Click the icons to scale up or scale down the timeline. The scale bases on the timeline include 5 min/10 min/30 min/1 hour/2 hrs. Scaling up or down the timeline will not affect the playback time of current video.

10.2.3 Download

During video playback, user can click the download button to pop up the following interface.

Attention: After clicking “Download”, if there is no tray software (tray.exe) installed, it will prompt “Unable to download, please confirm if tray.exe has been installed and started”. Click “Install and start” to install the tray software according to the prompts.



Picture 10-7 Download

Download steps are as follows:

1) Select channel(s) to download, i.e. the channel list on the left;

2) Select file type (record or picture), and recording type (motion detection, alarm input or intelligent feature);

3) Configure start time and end time;

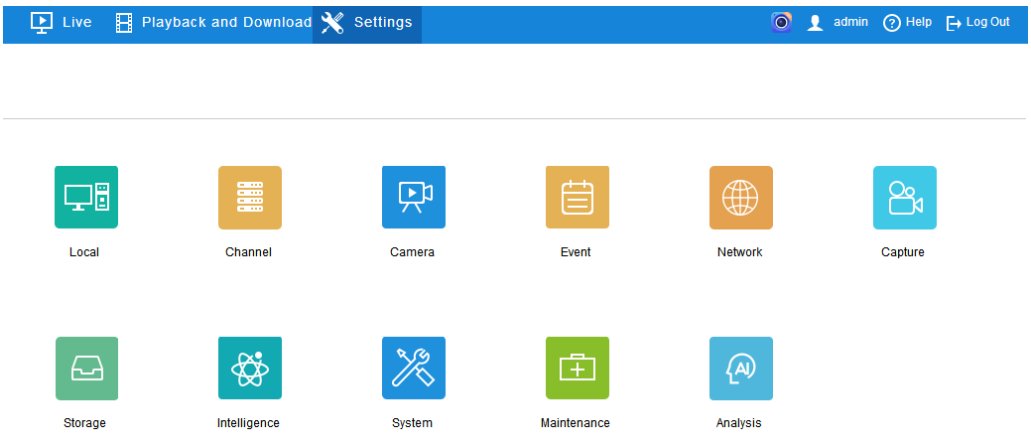
4) Click “Search” to display data list, and select partial or all data to download;

5) When the download progress shows “Downloaded”, the download is successful. After downloading, the data save path shows under the data list. User can find the downloaded video or pictures according to the path.

10.3 Settings

The settings include local, channel, camera and etc. This manual mainly introduces intelligent management and intelligent analysis.

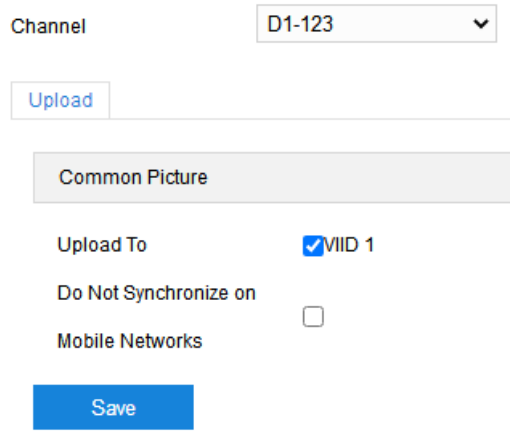
Attention: Click “Help” to get help file and view detailed operations.



Picture 10-8 Settings

10.3.1 Intelligence

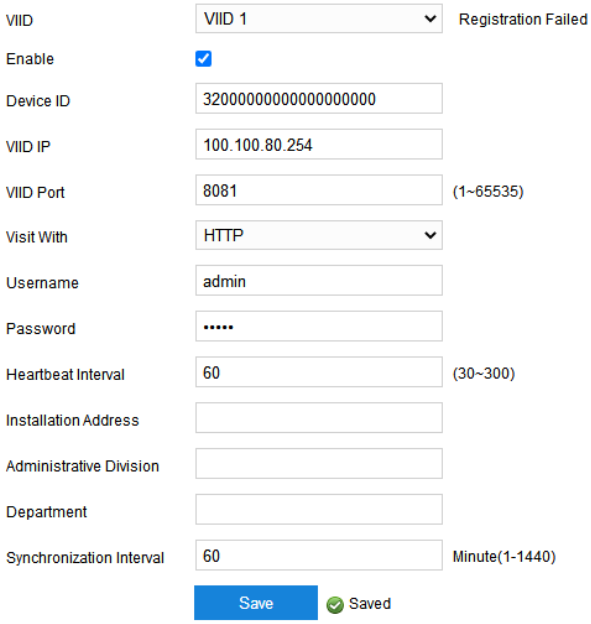
Go to **Settings > Intelligence** to configure VIID big data, i.e. upload snapshots captured by front-end devices to specific VIID platform.



Picture 10-9 Intelligence

- Upload to: Select VIID by request, i.e. upload snapshots to the VIID.

Note: Before selecting specific VIID, go to **Settings > Network > Upward Protocol > VIID** to confirm the VIID has been enabled.



Picture 10-10 VIID

- Do Not Synchronize on Mobile Networks: This device does not support currently.

10.3.2 Intelligent Analysis

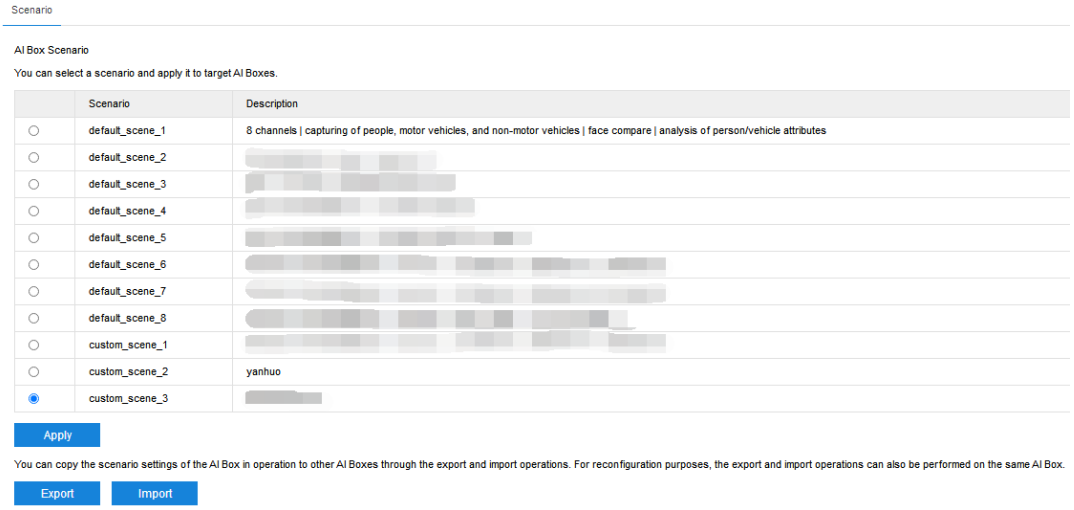
Note: The analysis interfaces of different custom scenarios of the AIBOX are different. Please be subject to the actual interface. This chapter introduces the factory default one.

10.3.2.1 Area Setting

Go to **Settings > Analysis > Area** to configure intelligent detection area for the front-end device. Please refer to chapter *5 Analysis* for details.

10.3.2.2 Scenario Setting

Go to **Settings > Analysis > Scenario** to select applicable scenario for AIBOX according to actual request. Meanwhile, it supports import and export of different scenarios. Please refer to chapter *6.3 Scenario* for details.



Picture 10-11 Scenario setting

11. Custom Scenario

This chapter introduces the applications of AIBOX under scenarios of helmet detection and high mounted AI parking. The custom functions of AIBOX under different scenarios are different. Please be subject to actual device.

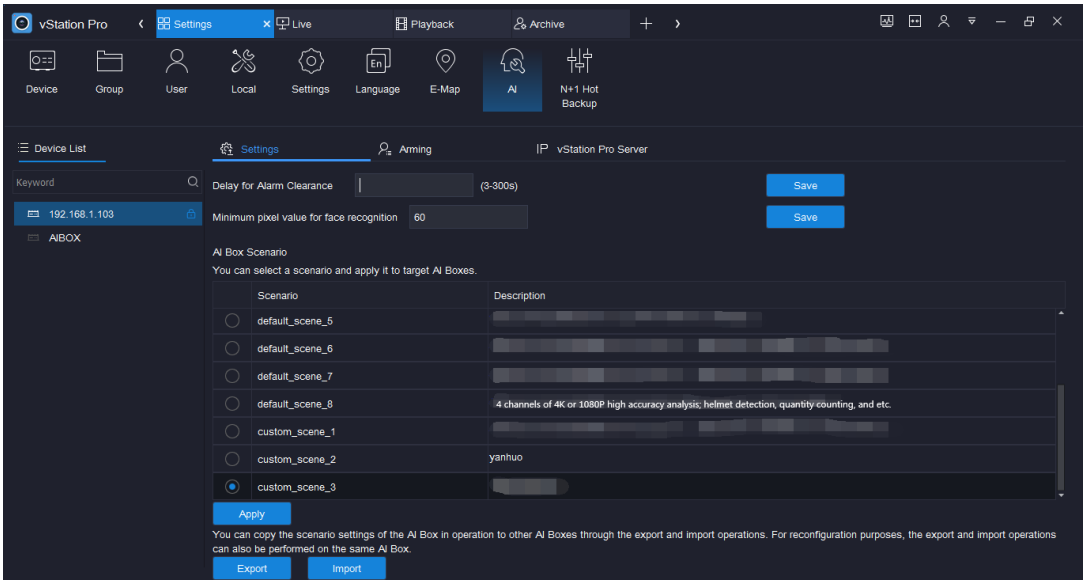
11.1 Helmet Detection

Helmet detection means the AIBOX calculates the helmet wearing of non-motor vehicle drivers on non-motor vehicle lane.

Note: it supports detection of single or multiple channels.

Operation steps are as follows:

1) Scenario setting: Go to vStation Pro client that has accessed AIBOX and set the AIBOX scenario as “default_scene_8”. Please refer to chapter *6.3.1 Scenario Application*.



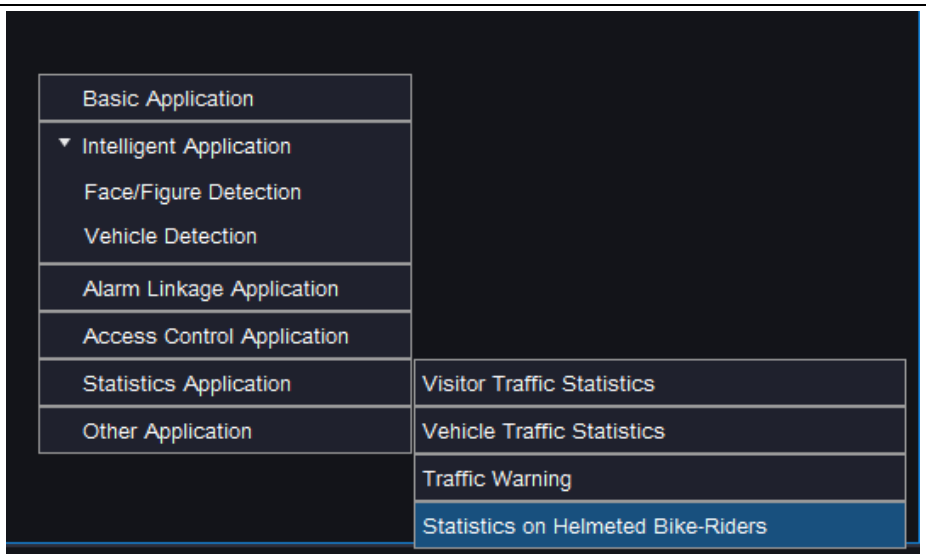
Picture 11-1 Scenario setting

2) Access to NVR: Save the intelligent snapshots captured by AIBOX to NVR and analyze captures through NVR. Please refer to chapter *9.2.1 Access to NVR* for details.

Note: NVR should install nginx service according to the helmet detection scenario. Please contact professional personnel of this company to install the service.

3) Statistics: Log into vStation Pro client and go to Live interface. Move the mouse to an idle window and click  on the top left corner to select “Statistics on Helmeted Bike-Riders”. Fill the correct device IP address and port, and click “Search”.

Note: Device IP and port are those of the NVR in step 2.



Picture 11-2 Statistics on helmeted bike-riders

11.2 High Mounted AI Parking

High mounted AI parking is custom function of this company, i.e. count the vehicle data in the parking areas of the front-end device through AIBOX. To realize this function, user should perform AIBOX environment setting, firmware upgrade and scenario setting according to this chapter.

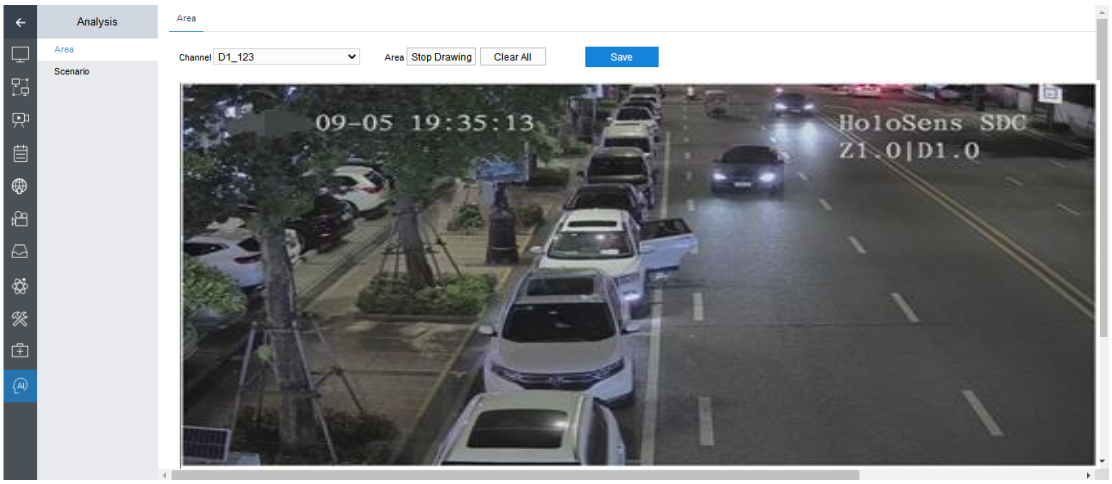
11.2.1 AIBOX Environment Setting

AIBOX environment setting includes parking area setting and parameters configuration, protocol parameters configuration and etc.

11.2.1.1 Parking Area Setting and Parameter Setting

Step 1: Area drawing

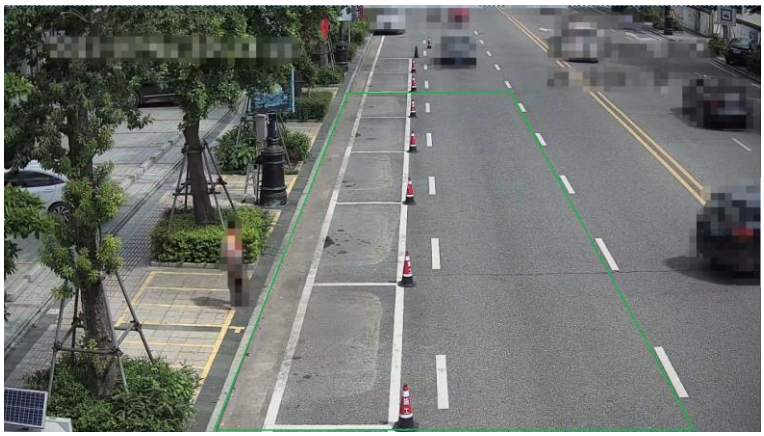
1) Log into the web client of AIBOX, and go to **Settings > Analysis > Area**;



Picture 11-3 Area setting

2) Click “Start Drawing” behind detection area, move the mouse to a starting point on the image, click and drag to another point to form a line, and repeat the operation to form an intelligent analysis area. After drawing, click “Stop Drawing” to finish;

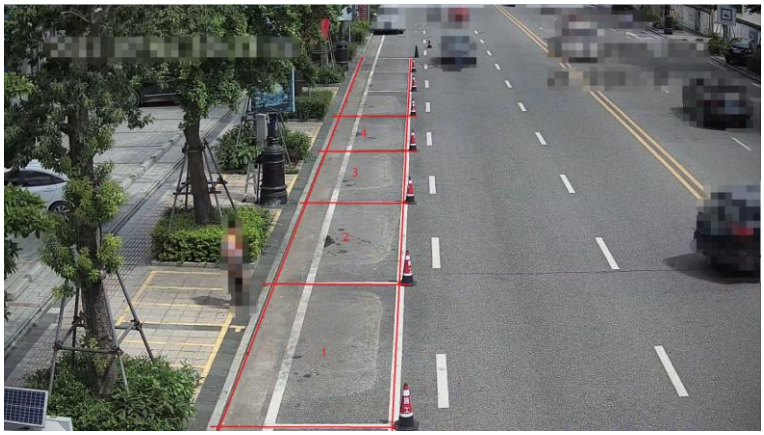
Note: The detection area is a quadrilateral covering the vehicle parking area and the ambient 1-2 lanes of the same direction; meanwhile, try to reduce the interference of vehicles on the opposite lanes as much as possible, as shown below.



Picture 11-4 Drawing area (1)

3) Click “Start Drawing” behind parking detection, and draw the parking detection area along the actual parking area;

Note: Drawing method: draw two lines along the white parking lines on the image from top to bottom (the line inside can be drawn close to the pedestrian way), and then draw multiple horizontal lines along the horizontal white lines.



Picture 11-5 Drawing area (2)

4) Click “Save” to finish area drawing.

Step 2: Parameter setting

1) Configure vehicle posture, vehicle distance and etc.;

Note:

- Vehicle posture: it means vehicle head or tail that is captured by the camera; vehicle distance: it means the distance between the camera and the first vehicle to be recognized (close position when the distance in within 30m, remote position when it’s over 30m).
- For remote position, suggest setting 3 parking spots.

♦ Configure parameters according to actual conditions.

2) Configure parking spot mapping according to the actual conditions; click “Add” and select actual parking spot ID and virtual parking spot ID on the popup window; click “OK”;

3) After finishing, the right of the main interface will show the binding relationship of the parking spots;

4) If there’s any fault in setting, select the item to be deleted and click “Delete”;

5) Click “Save” to finish.

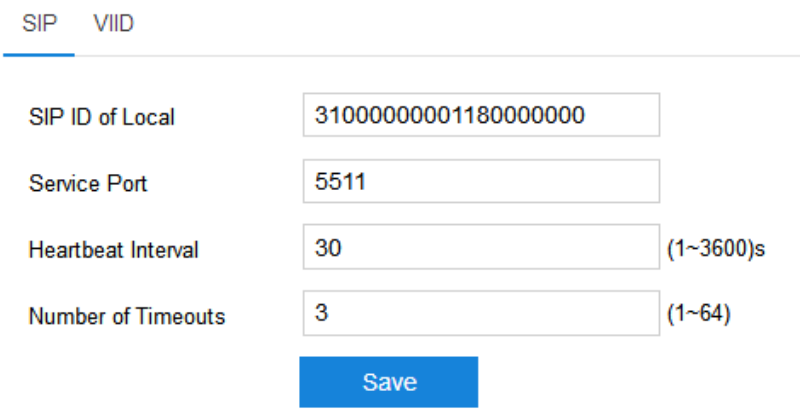
11.2.1.2 Protocol Parameter Setting

Attention: AIBOX protocol parameters can be set in the machine room and then deploy the device to the front-end.

Step 1: VAM parameter setting

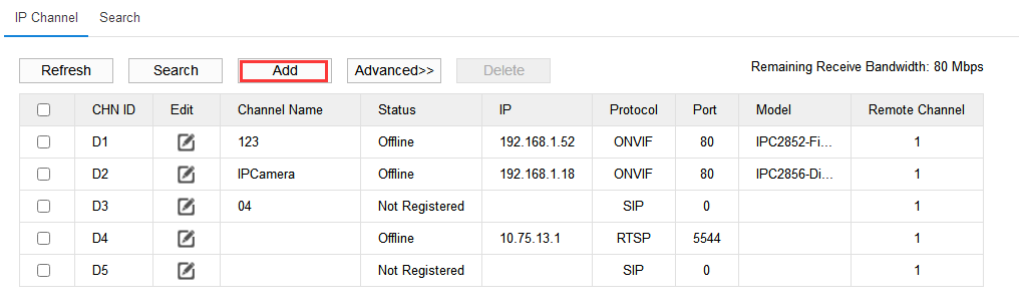
1) Log into VAM web, and go to **Settings > Network > Downward Protocol > SIP** to view the SIP ID of local and service port;

Note: SIP ID and service port will be used when configuring AIBOX parameters.



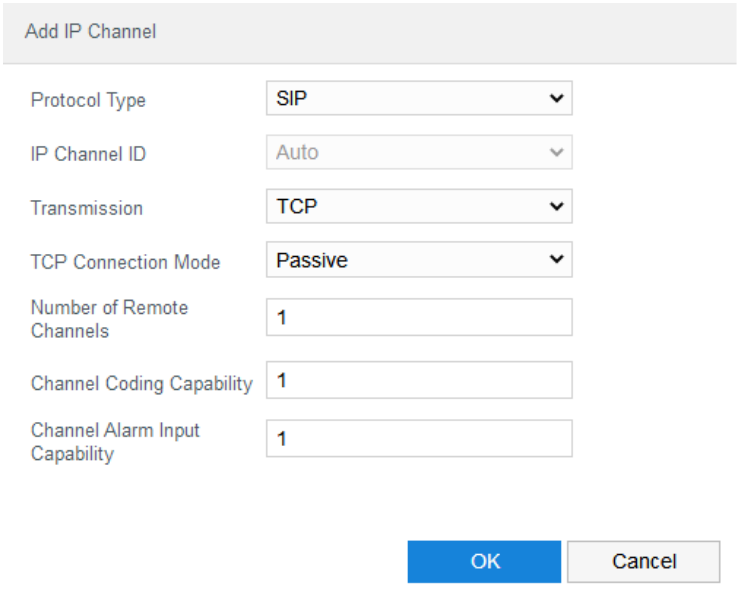
Picture 11-6 SIP

2) Go to **Settings > Channel > Channel**, and click “Add” to pop up the IP channel window;



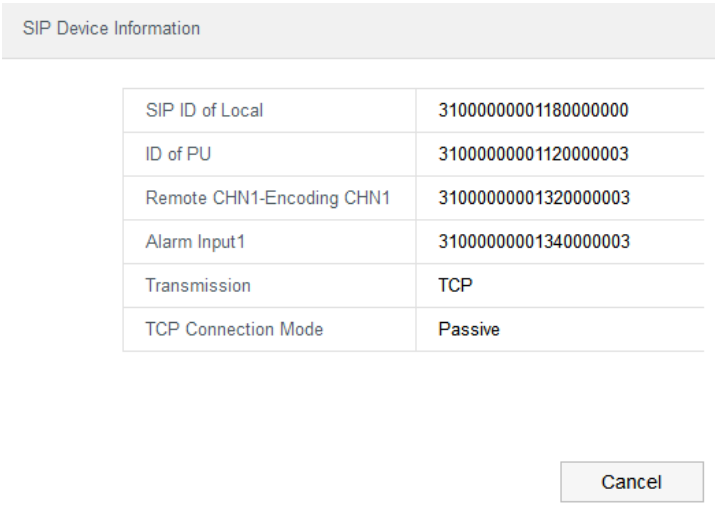
Picture 11-7 Custom add

3) On the popup window, select “SIP” as protocol type, “TCP” as transmission protocol, and configure number of remote channels, channel coding capability and channel alarm input capability according to actual requests;



Picture 11-8 Add IP channel

4) Click “OK” to pop up the window of SIP device info.

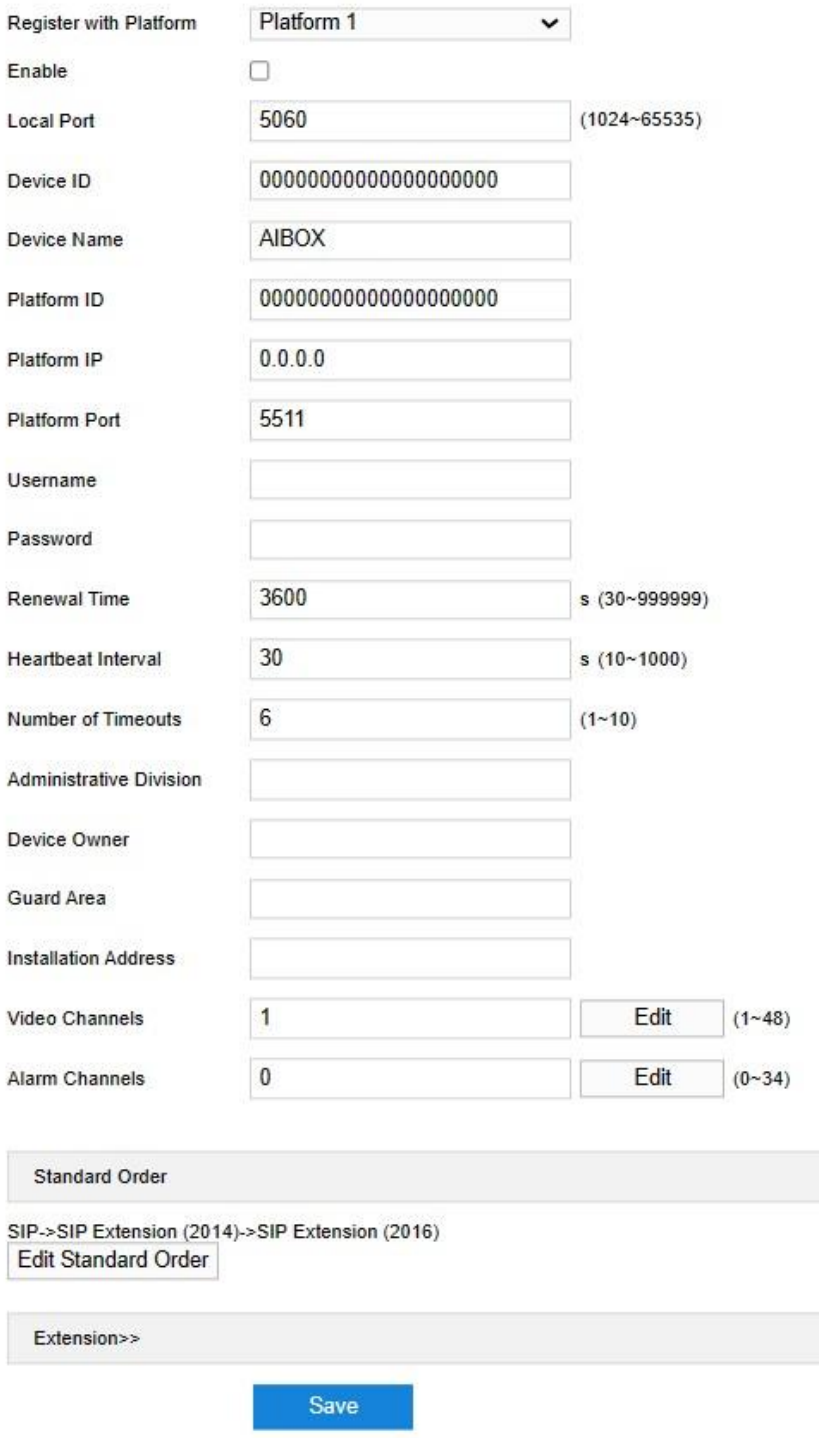


Picture 11-9 SIP device info

Note: Save the information that will be used during AIBOX parameter setting.

Step 2: AIBOX parameter setting

1) Log into AIBOX web client, and go to **Settings > Network > Upward Protocol > SIP**;

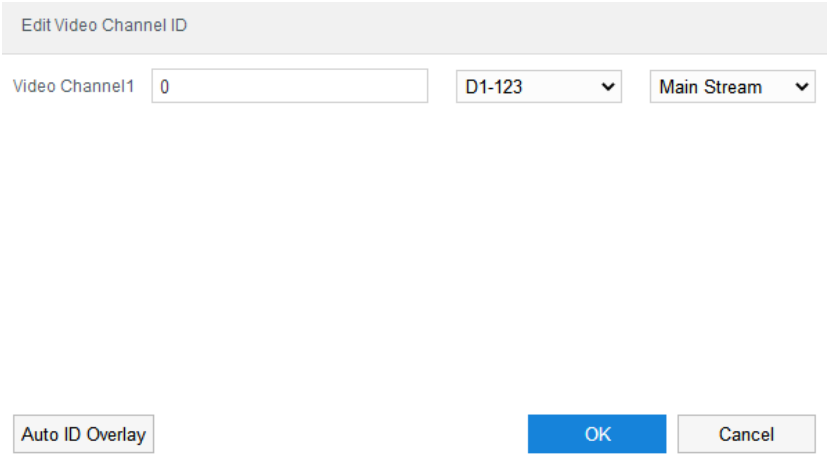


Picture 11-10 SIP

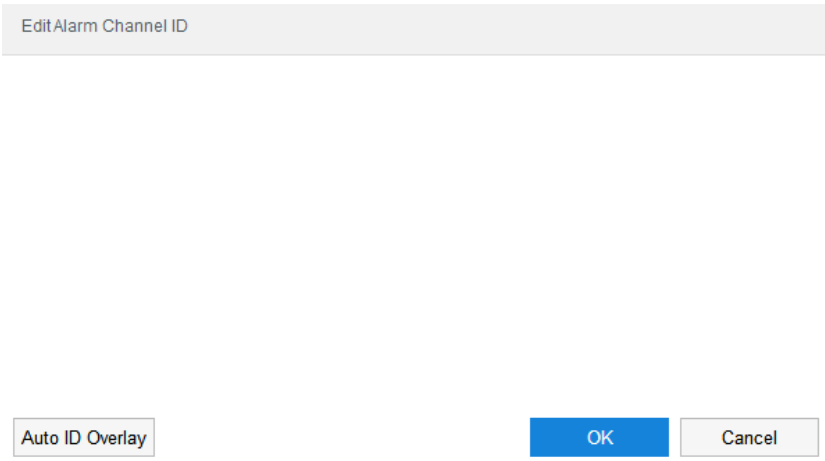
2) Select “Enable” and fill the parameters;

Parameter	**Note**
Device ID	Fill “ID of PU” on VAM SIP interface (as picture 11-9 shows)
Platform ID	Fill “SIP ID of Local” on VAM SIP interface (as picture 11-9 shows), or go to VAM web client to view in **Settings > Network > Downward Protocol > SIP**

Platform Port	Log into VAM web client, and go to **Settings > Network > Downward Protocol > SIP** to view service port, by default 5511
Username/Password	Fill the username and password of VAM web
Video Channels/Alarm Channels	Keep the same as those of VAM SIP device information
Edit (Video Channels)	Click “Edit” to pop up a window. Fill VAM SIP device information “Remote channel 1-encoding channel 1” in “Video Channel 1”. If there are more, fill by sequence thereof and bind with the channels.
Edit (Alarm Channels)	Click “Edit” to pop up a window. Fill VAM SIP device information “Alarm Input 1” in “Alarm Channel 1”. If there are more, fill by sequence thereof and bind with the channels.
Other parameters	Remain



Picture 11-11 Edit video channel ID



Picture 11-12 Edit alarm channel ID

3) Click “Save” to validate setting.

11.2.2 AIBOX Firmware Upgrade

To upgrade AIBOX firmware, please contact personnel of this company for the latest upgrade packet.

Upgrade steps are as follows:

1) Log into AIBOX web client, and go to Settings > Maintenance > Device Maintenance;

2) Click “Browse” behind upgrade;

3) Select local “.pkg” upgrade packet;

4) Await device upgrading.

Note: During the upgrading, please do not disconnect the network or reboot the device.

11.2.3 AIBOX High Mounted AI Parking

High mounted AI parking is a custom scenario, and this company will provide scenario file according to the actual conditions.

Log into vStation Pro client, go to **Settings > AI > Settings** to import the scenario file of this company and finish the scenario setting of high mounted AI parking. Please refer to chapter *6.3.2 Scenario Import/Export* for details.

11.2.4 Data Statistics

After finishing AIBOX environment setting, firmware upgrade and scenario setting, log into AIBOX web client, and go to **Settings > Analysis > Intelligent Search** to view parking data statistics.