Hanwha Vision

ANPR

User Manual

VER 2.13

CE

About the User Manual

This document is a user manual for ANPR operator of the **SSM Console Client** program.
Before using this product, please read this document carefully so you can use the product properly.

- This document explains how to use the product based on its defaults and default screens.
- The content in this document is subject to change depending on the product software updates and company policies and to partial changes without prior notification to users.

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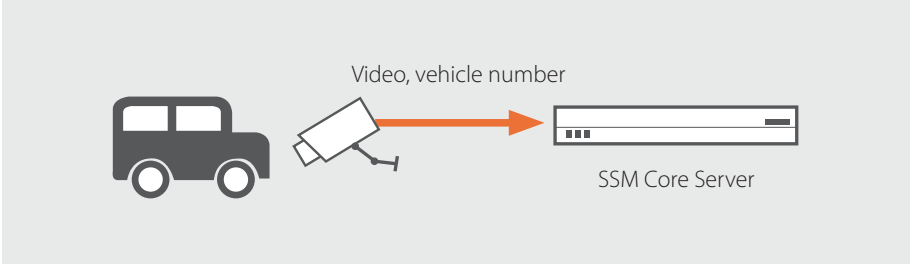
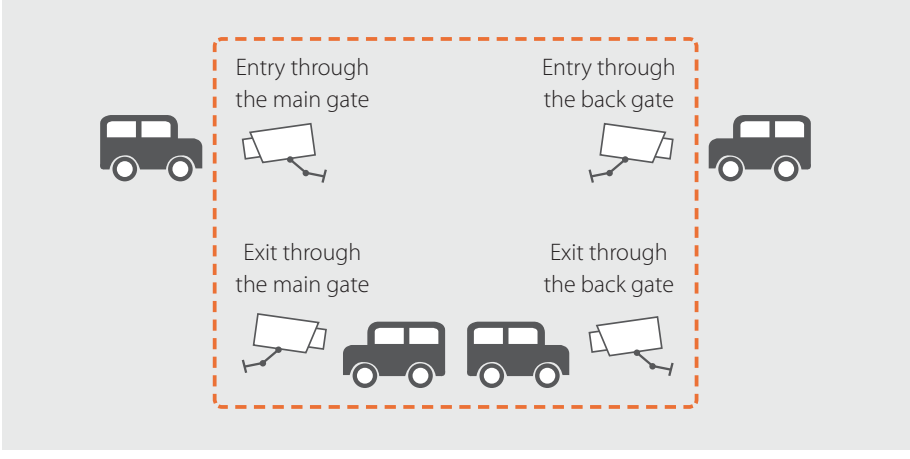
Exploring ANPR

Automatic Number Plate Recognition (ANPR) is a function that automatically recognizes a vehicle license plate with an ANPR camera to control the entry/exit of vehicles, and manage entry/exit history.

The basic configuration of the ANPR system is as shown below:



The system can be configured and managed as shown below:



Configure the system

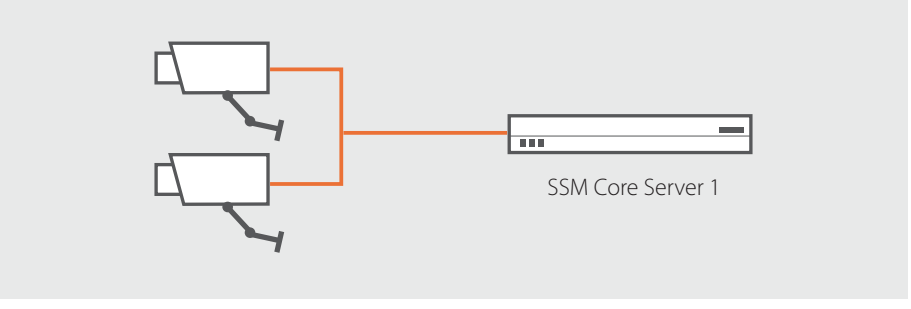
ANPR system can be configured with one or more SSM Core Servers, or with a clustered group of SSM Core Servers.

Please check the following before setting ANPR:

- Among all the ANPR cameras registered in the SSM Core Server, identify the ones that monitor the entry and exit of vehicles.
- Check the following ANPR features available for use in the website:
  - Registration of ANPR camera only in ANPR-licensed servers
  - Real-time monitoring of vehicle numbers, vehicle number search, and video play
  - Linking with boom barrier for opening
  - Search of unregistered vehicles (available only when both entry and exit cameras have been installed)
- Check the number of SSM Core Servers in this website, whether each server uses a clustering feature, and check the system configuration.

Configuring with one SSM Core Server

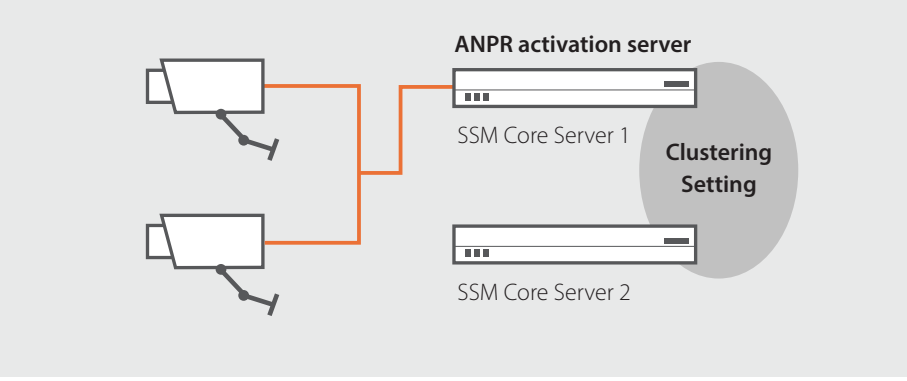
Use one SSM Core Server for ANPR system configuration.



- Enable and set the ANPR features in SSM Core Server 1.

Configuring with clustering of multiple SSM Core Servers

If multiple SSM Core Servers are installed when configuring the ANPR system, set it by clustering them.



- Configure SSM Core Server 1 as an ANPR-licensed server to enable the ANPR feature, and register the ANPR camera.

Authenticating the license

The license can be authenticated in the **Configuration** menu under **SSM Console Client**. It can be authenticated either online or offline.

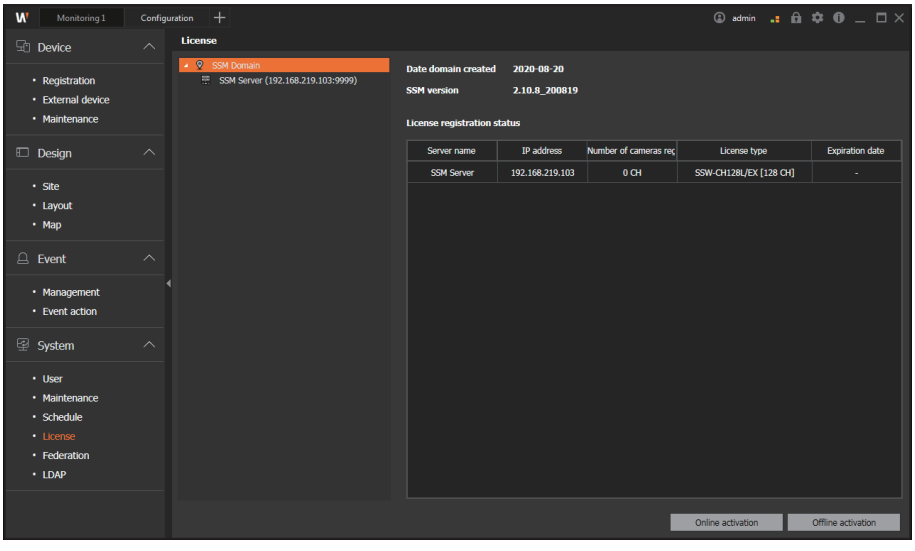
What is an ANPR license?

If an ANPR license is registered in an **SSM Core Server**, all the cameras registered as ANPR camera type in the server can receive ANPR events. When clustering, the cameras that have been registered in the servers with no activated ANPR licenses cannot receive ANPR events.

Authenticating the license online

In an environment where you have Internet access, your license can be authenticated online. You can simply authenticate it by entering its **product key**.

1. Run the **SSM Console Client** program.
2. Open **Configuration** menu page.
3. Once you see the **Configuration** menu page, click **System** > **License** from the list of menu on the left.
4. Click the **Online activation** button under **License** page.

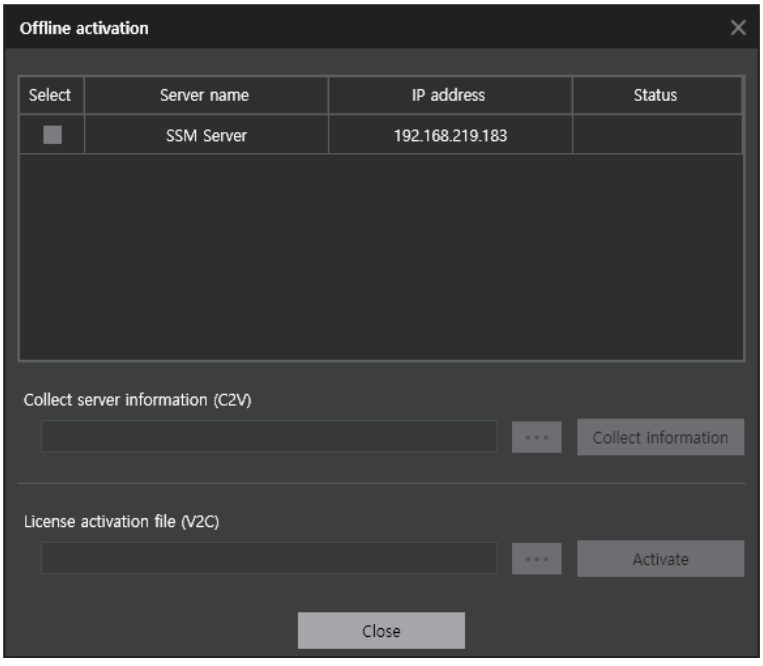


5. In the **Online authentication** dialog box, select the server for which you want to authenticate the license.
6. Enter the product key in the **Product key** column, and then click the **Activate** button.

Authenticating the license offline

You can manually authenticate the license in an environment where you have no Internet access. Collect the information about the **SSM Core Server** for which you want to authenticate the license. You can then activate it by manually downloading the license file from the webpage of the server.

1. Run the **SSM Console Client** program.
2. Open **Configuration** menu page.
3. Once you see the **Configuration** menu page, click **System** > **License** from the list of menu on the left.
4. Click the **Offline activation** button under the **License** page.

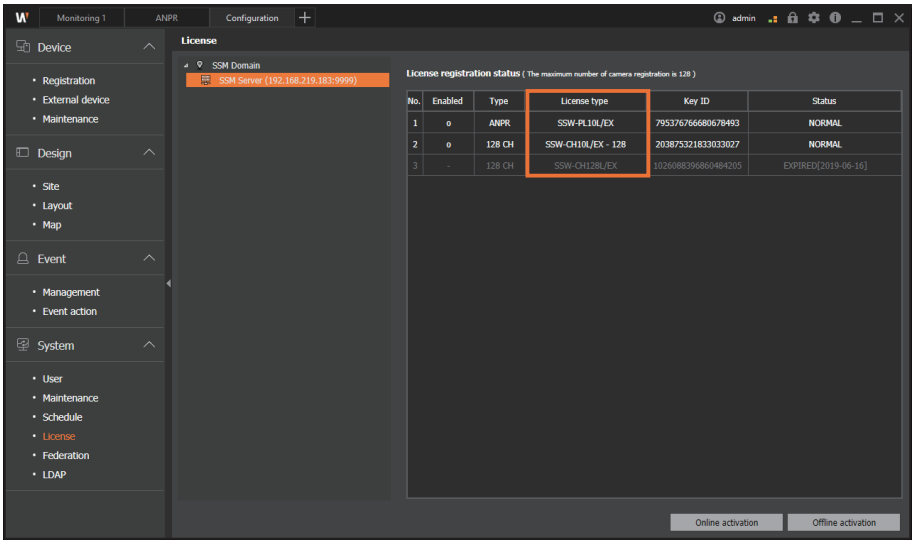


5. In the **Offline activation** dialog box, select the **SSM Core Server** for which you want to authenticate the license.
6. Click the **Collect information** button. A server information file (C2V) will be created in the file path you specified.
7. Access the webpage of the license server from a PC with the Internet access.
   License server address: https://ems.HanwhaVision.com/ems/customerLogin.html
8. Click the **Login** button after entering the product key.
9. Click the **Register Later** button in the top right, and click **Offline Activation** button.

10. Upload the server information file (C2V) in the **Generate license** dialog box, and click the **Generate** button. Download the license file (V2C) that has been generated.
11. Go to **SSM Console Client** > **Configuration** > **System** > **License** and click the **Offline activation** button.
12. Set the downloaded license file (V2C) in **License activation file (V2C)** under the **Offline activation** dialog box.
13. Click the **Activate** button.

Checking the license

You can check the license information registered per server.



Setting ANPR

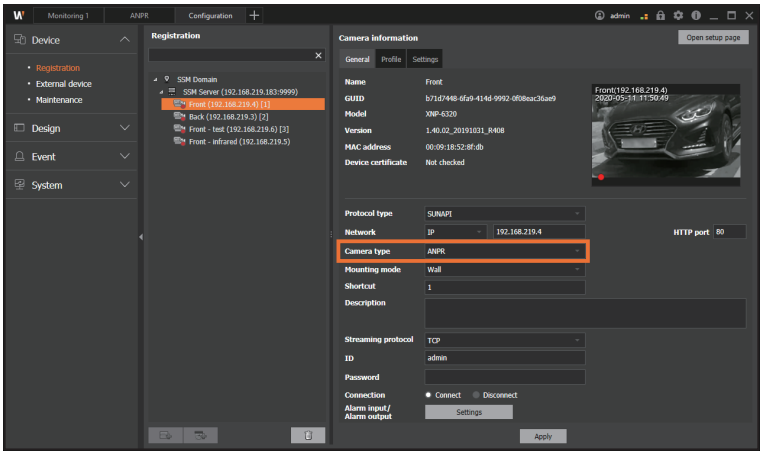
You can recognize the vehicle numbers through the Automatic Number Plate Recognition (ANPR) system, and monitor the entry and exit of vehicles by linking ANPR with boom barriers.

You can set up ANPR via **SSM Console Client** program.

Setting the camera type

To enable the ANPR feature, camera must be registered using SUNAPI protocol, and **Camera type** must be set to **ANPR**.

1. Run the **SSM Console Client** program.
2. Click the + button at the top of the program, and select **Configuration** in the **Add tab** dialog box.
3. Select **Device** > **Registration** in the menu list.
4. Select an ANPR camera from the device list.
   Select **ANPR** for **Camera type**.

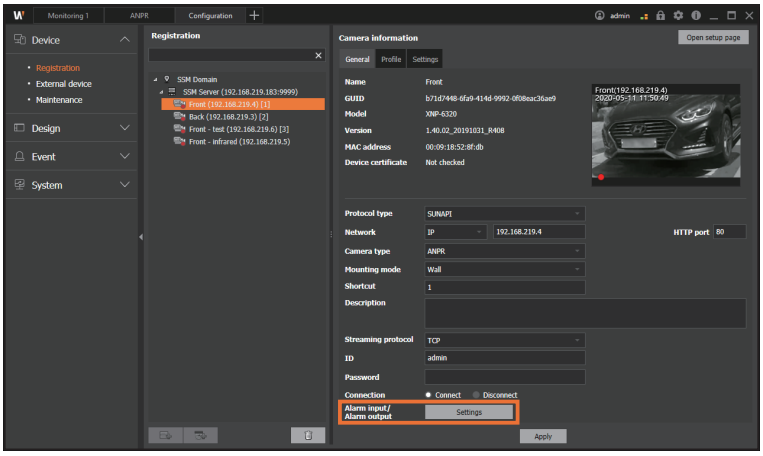


5. Click the **Apply** button.

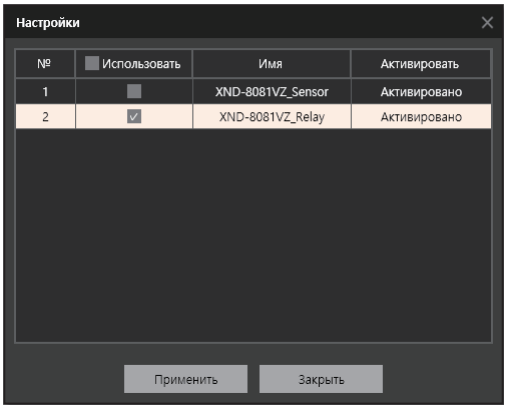
Setting alarm input/output

By connecting with the alarm output port of ANPR camera, you can control the boom barrier.

1. Run the **SSM Console Client** program.
2. Click the + button at the top of the program, and select **Configuration** in the **Add tab** dialog box.
3. Select **Device** > **Registration** in the menu list.
4. Select a camera to control the boom barrier from the device list.
   Click the **Settings** button under **Alarm input/Alarm output**.



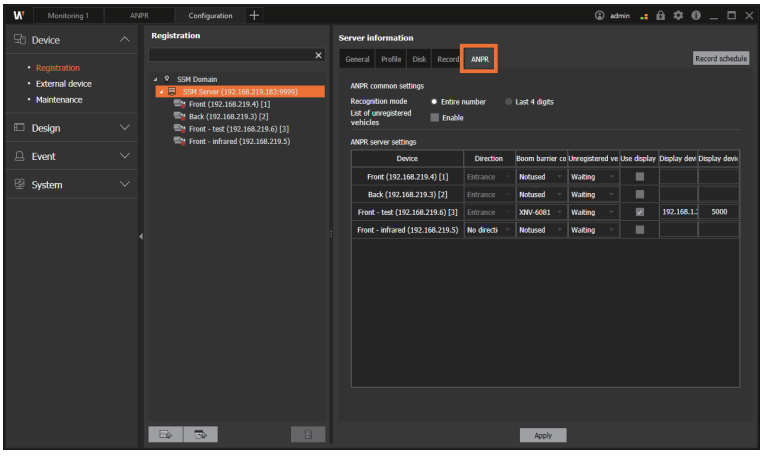
5. Select an output you want.



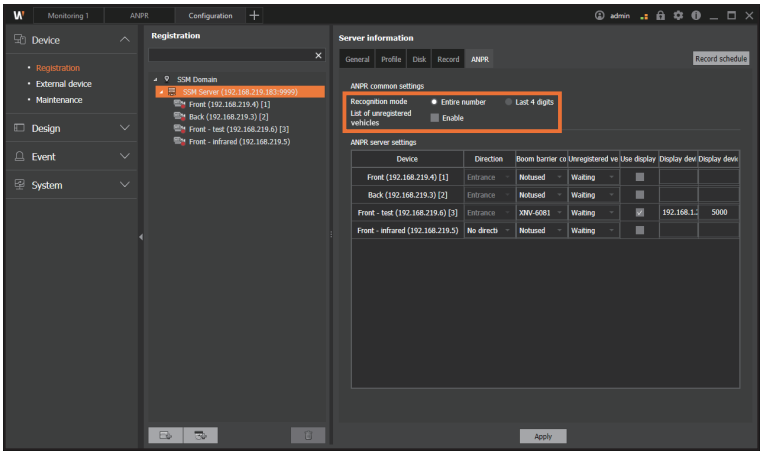
6. Click the **Apply** button.

Setting the ANPR features

1. In the device tree, select the **SSM Core Server** of your choice.
2. Click the **ANPR** tab on the **Server information** page.

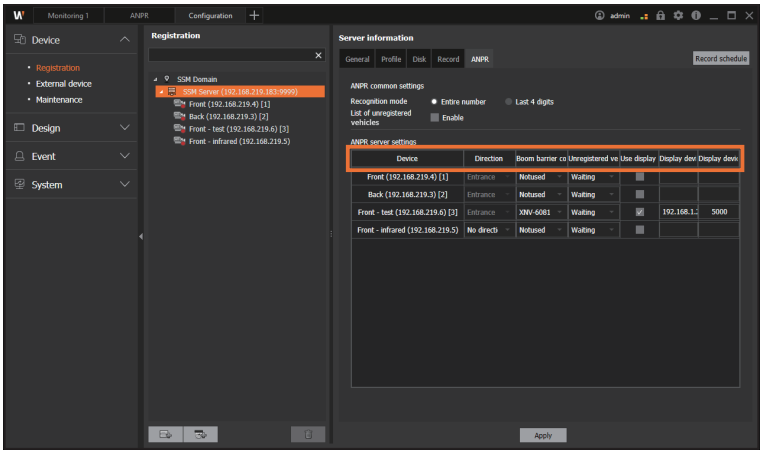


3. Set the common ANPR fields to be applied across the entire server.



- **Recognition mode**: Sets the range of vehicle number recognition.
  When only the **Last 4 digits** are selected, an unregistered vehicle of which the last 4 digits on the license plate is identical to that of a registered vehicle will be recognized as a registered vehicle.
- **List of unregistered vehicles**: Sets whether to use the list of vehicle numbers for unregistered vehicles or not.

4. Change the device-specific settings in the **ANPR Server settings**. Only ANPR type cameras can be found in the list of devices.



- **Device**: Displays the camera name.
- **Direction**: This is automatically set if you have entered a **Shortcut** number in the Camera Setup page.
- **Boom barrier control**: Sets whether to use the boom barrier control by selecting the camera alarm output or not.
  You can select from relays of all cameras set to ANPR.
  See Setting alarm input/output for more detailed information.
- **Unregistered vehicles**: You can set whether the boom barrier will open automatically or not as unregistered vehicles approach. To set the fields for unregistered vehicles, first enable the camera alarm output under **Boom barrier control**.
  - **Waiting**: The boom barrier does not open automatically if unregistered vehicles approach, and **OPEN** button can be used to open it.
  - **Pass**: The boom barrier automatically opens for all vehicles entering and exiting.
- **Use display device**: Sets whether to link the display device or not.
- **Display device IP**: You can enter the IP information after a display device is linked.
- **Display device port**: You can enter the port information once a display device is linked.

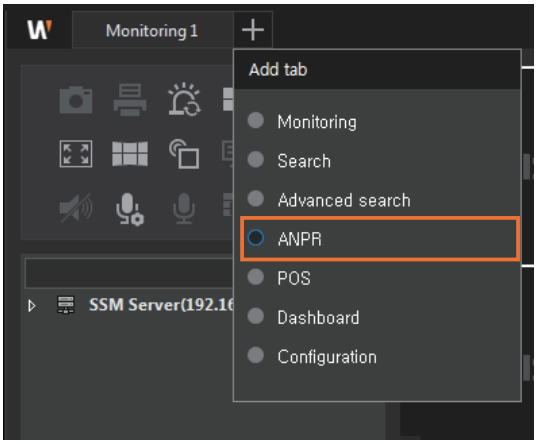
5. Click the **Apply** button.

Using the ANPR features

By linking with ANPR cameras, you can check the entry and exit of vehicles in real time and control the boom barrier. You can also search or play event logs, or export an event list you played or searched to a file.

Opening the ANPR menu page

Click the + button at the top left of the program and select **ANPR** in the **Add tab** dialog box.

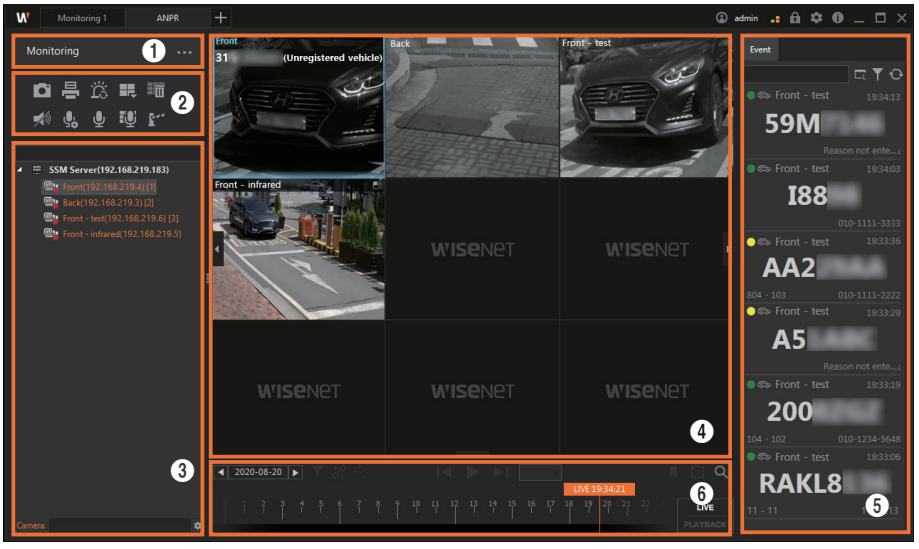


Monitoring ANPR live videos

You can monitor ANPR camera videos that have been registered with the **SSM Core Server**. You can also check the entry/exit events of vehicles in real time, and control the boom barrier.

ANPR menu screen layout

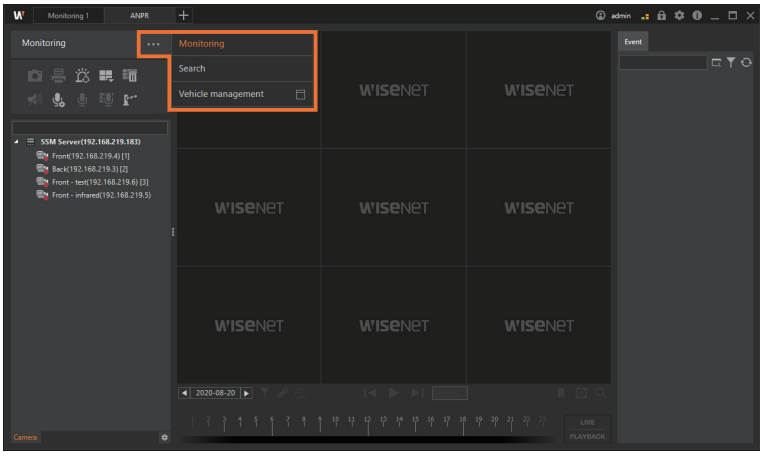
The layout of ANPR menu screen is shown below:



Number	Screen layout	Detailed description
❶	Menu display	• You can check the name of the menu you selected. • You can select the ANPR menu by clicking the ••• button.
❷	Feature button	• You can control the camera video and audio, and split the video screen. • You can control the boom barrier.
❸	Device tree	You can view the list of registered ANPR cameras.
❹	Video window	You can check the live video of the selected camera, or play the event video.
❺	Event list	• You can check, delete, or search the list of real-time events in the device. • When new events occur, the list will be updated accordingly. • : You can check the live or event image when instant viewer is enabled. The setup mode is maintained even if **SSM Console Client** program is restarted.
❻	Timeline	You can check the section with a video, and set the time range to search.

Monitoring real-time events

1. Open the **ANPR** menu page.
2. Select **Monitoring** after clicking the ••• button.



3. Double-click the camera you want in the camera tree under the **Camera** tab. You can also select it in the **Camera** tab, and drag and drop it over the tile in the video window.
   - You can check the real-time video of the camera you selected.
   - In the camera tree, only cameras with ANPR features enabled will be displayed.

Using the open/close boom barrier feature

If an event of an unregistered vehicle occurs, **OPEN** button will be displayed in the video window. You can manually open the boom barrier by pressing the **OPEN** button. Check "Note" below to see how to set the **OPEN** button.

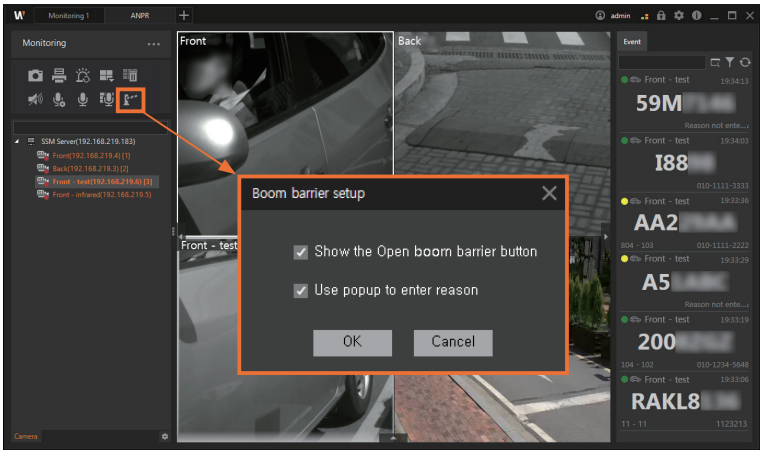
- If you do not click the **OPEN** button in the video window within 10 seconds, it will disappear.

NOTE

- If you want to control the boom barrier, you have to set the alarm output of the camera that is linked to the boom barrier.
  See Setting alarm input/output for more detailed information.
- You can manually open the boom barrier only if you set **Unregistered vehicles** to **Waiting** in the ANPR Server settings under the Configuration menu. See Setting the ANPR features for more detailed information.

Setting the boom barrier

If you want to display the Open boom barrier button and the Reason field for opening, click the button at the top left of the screen and set the boom barrier the way you want.



- The changes will only be applied to **SSM Console Client** of which boom barrier setting has been changed.
- If you uncheck the **Show the Open boom barrier button** box to deselect it, **OPEN** button will not be displayed in **SSM Console Client** even if **Unregistered vehicles** has been set to **Waiting**.
- If you check the **Use popup to enter reason** box to select it, the Reason popup will be displayed when you click the **OPEN** button.

■ **Setting up the boom barrier temporary open/close**

You can temporarily set the boom barrier to open automatically when any vehicles enter and exit.

If you click the **Boom barrier temporary open/close setup** button, the boom barrier will open or close automatically when unregistered vehicles approach.

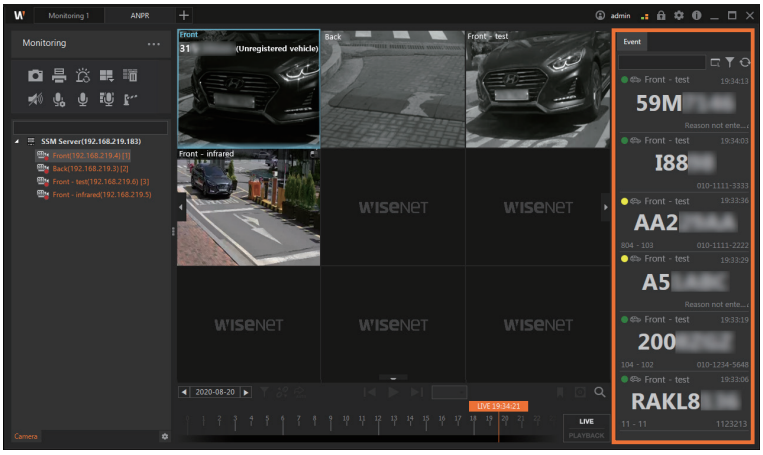
- (Activate boom barrier temporary open/close): The boom barrier will open automatically when unregistered vehicles approach.
- (Deactivate boom barrier temporary open/close): The boom barrier will not open automatically when unregistered vehicles approach.

NOTE

You can set the boom barrier to open automatically for unregistered vehicles or temporary vehicles that are expired.
Set the **Unregistered vehicles** in the ANPR Server settings under Configuration menu to **Pass**.
See Setting the ANPR features for more detailed information.

Viewing real-time events

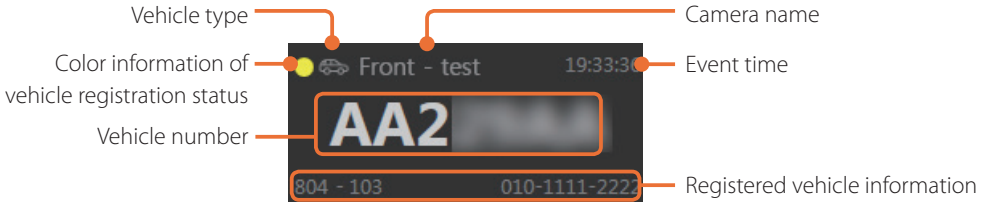
1. Open the **ANPR** menu page.
2. Select **Monitoring** after clicking the ••• button.
3. Double-click the camera you want in the camera tree under the **Camera** tab.
   You can also select it in the **Camera** tab, and drag and drop it over the tile in the video window.
4. Check ANPR events in real time in the video window of the camera you select.
   - If a real-time ANPR event occurs, the event information will be displayed in the video window and the Real-time events window.

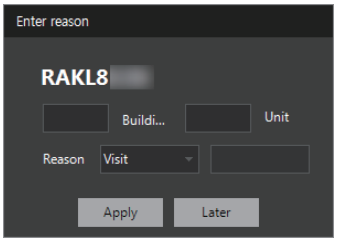


Previewing the event information

If an events occurs, you can preview the event information in the Real-time events window.

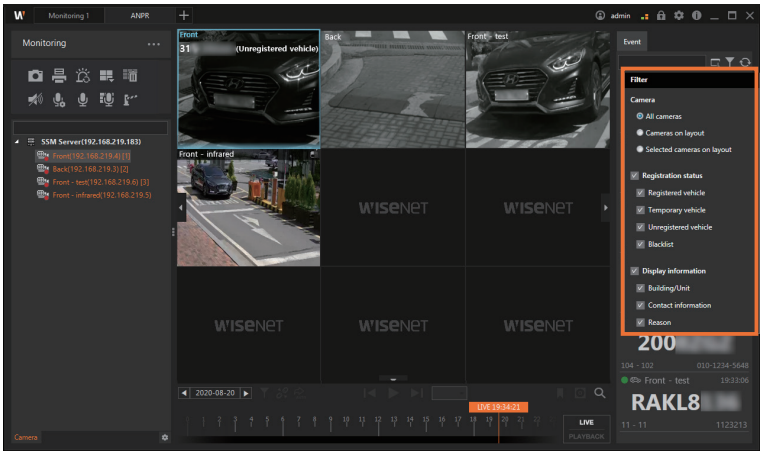
If you want to check the detailed information about the event, double-click it to run **Instant viewer**.



Screen layout	Detailed description
Color information of vehicle registration status	Displays a vehicle's status of registration. • : Registered vehicles • : Unregistered vehicles • : Temporarily registered vehicles • : Blacklisted vehicles
Vehicle type	Displays the type of a vehicle. • : Taxi • : Delivery truck • : All other vehicles
Event time	Displays the event time.
Vehicle number	Displays a vehicle number.
Registered vehicle information	Displays registered information such as building/unit number and contact information, if any. • Displays **Reason not entered** if no vehicle information has been registered. If necessary, you can add information about a vehicle by clicking **Reason not entered**. • You can select a **Reason** from the dropdown list or manually type in the reason. 

Searching real-time events

1. Open the **ANPR** menu page.
2. Select **Monitoring** after clicking the ••• button.
3. Double-click the camera you want in the camera tree under the **Camera** tab. You can also select it in the **Camera** tab, and drag and drop it over the tile in the video window.
4. Click the ▼ button in the Real-time events window, and select the search conditions you want.



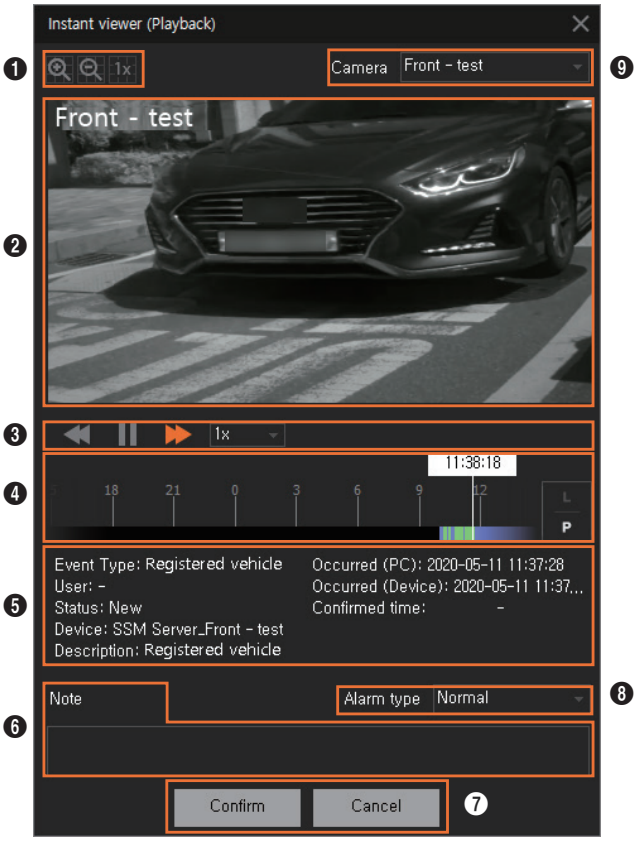
- If you want to reset the event list, click the ↻ button.

NOTE

The ANPR event list displays up to 3,000 events.

Using the instant viewer

Once the instant viewer starts to run, a video at the time of the occurrence of the event—the entry and exit of a vehicle—will be played. In the instant viewer, you can check the camera name, event type/time, and other details about the event.



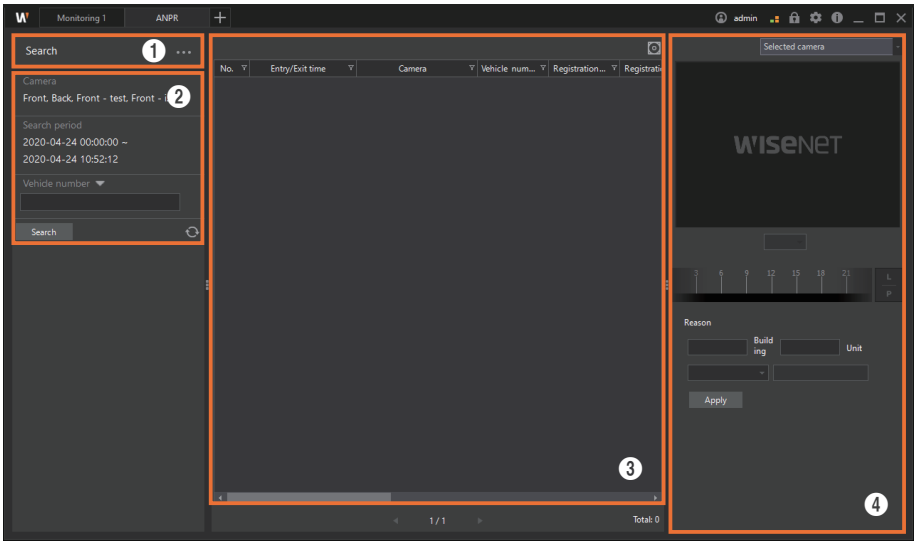
Position	Screen layout	Detailed description
❶	Digital zoom	You can expand or reduce a video displayed in a via digital zoom.
❷	Video tile	You can play the video at the time of the occurrence of the event—the entry and exit of a vehicle, or check the real-time video of the camera.
❸	Control playback speed	When you play a recorded video, you can control its playback speed. • See **SSM Console Client User Manual** for more detailed information.
❹	Timeline	You can control the timeline when a video that shows the occurrence of events—the entry and exit of vehicles—is played. • See **SSM Console Client User Manual** for more detailed information.
❺	Event details	You can check event details.
❻	Confirm event	You can check events, and change their status.
❼	Confirm/Cancel	You can check the situation of an event you are monitoring, and exit. If you click the **OK** button, the status of the event will change to "Confirmed".
❽	Alarm type	You can select the **Alarm type** after checking the event.
❾	Camera name	You can check the name of a camera that shows the occurrence of events—the entry and exit of vehicles.

Searching ANPR

You can search entry/exit history of vehicles by entering their vehicle numbers or status of registration.

Exploring search screen layout

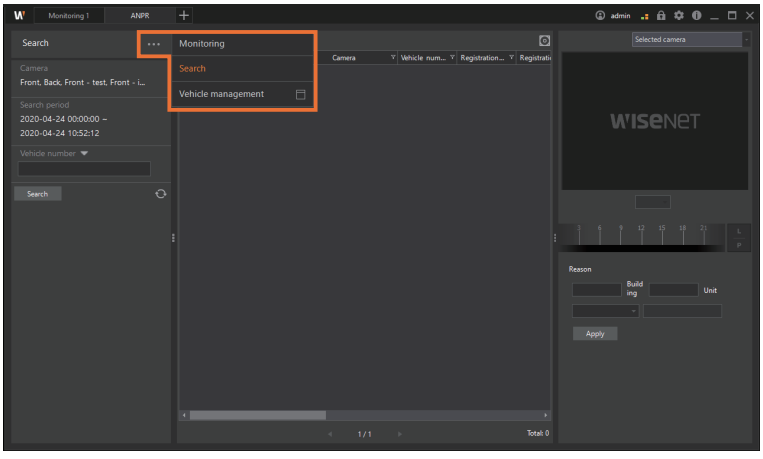
ANPR search screen consists of the following:



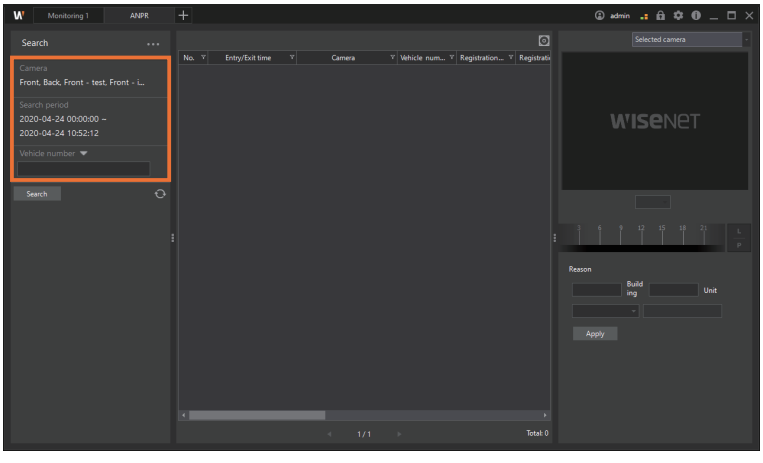
Number	Screen layout	Detailed description
❶	Menu display	• You can check the name of the menu you selected. • You can select the ANPR menu by clicking the ••• button.
❷	Search options	You can set search conditions, such ANPR camera, date, event type, etc. • : You can clear the search conditions you selected, and set them again.
❸	Search results	You can check the search results. • : You can export event logs you searched to a file. • You can change the order of columns. The setting value is maintained even when the **SSM Console Client** program is restarted.
❹	Event details	You can check the details of selected events or manage their status.

Searching events

1. Open the **ANPR** menu page.
2. Click the ••• button and select **Search**.

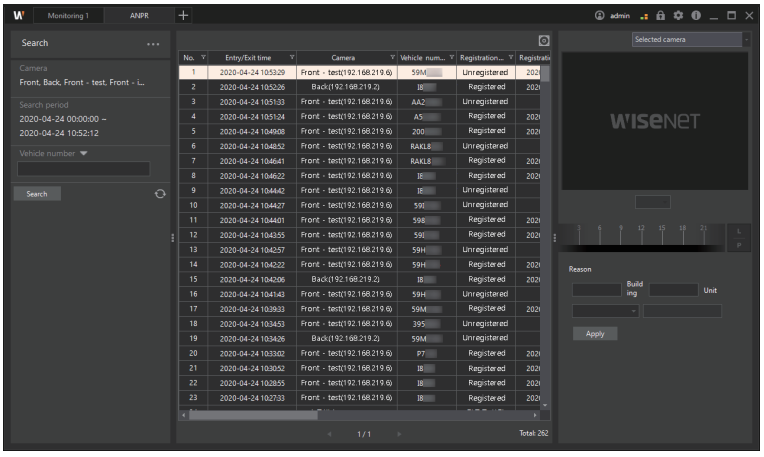


3. Set the camera, date, time range, and advanced search options for your search.



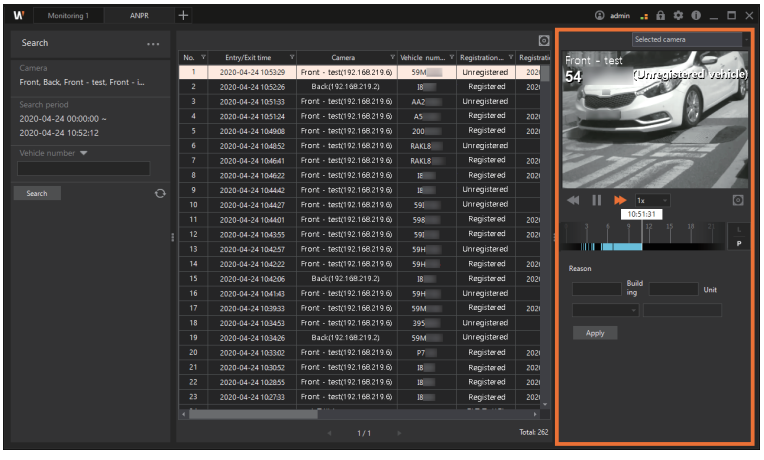
- Click the ↻ button to clear the search conditions you selected, and set them again.

4. Click the **Search** button. The search result will be displayed in the event list.



- Click the button to export the list of events you searched to a file.
- If you click the event list once, a static video image will be displayed in the event details.

5. If you double-click an event from the list of events to check it, a video at the time of its occurrence—the entry and exit of vehicle—will be played.



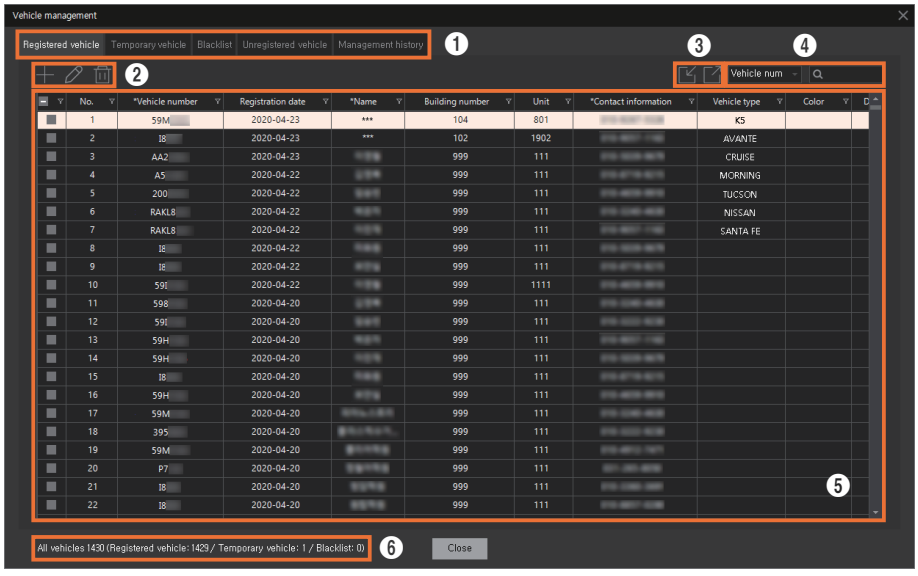
- When playing an event video, you can play the video from another camera at the time of the event occurrence simultaneously.
  Select a layout you want from the dropdown list of **Selected camera**, and then double-click the event to play from the event list.
- You can change or add the building/unit number and the reason in the event details.
  Enter the information and then click the **Apply** button.

Managing ANPR vehicles

You can register or delete vehicles. You can edit the registered vehicle information, and check the management history per vehicle.
You can also add unregistered vehicles to the desired vehicle type list.

Exploring vehicle management screen layout

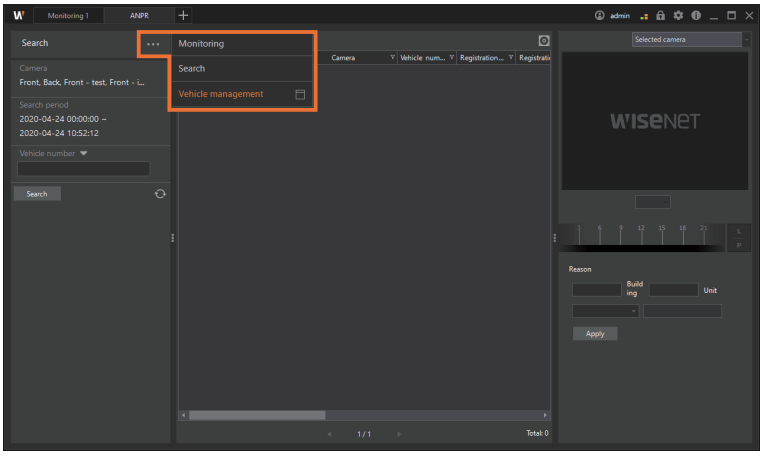
The layout of the ANPR vehicle management screen is shown below:



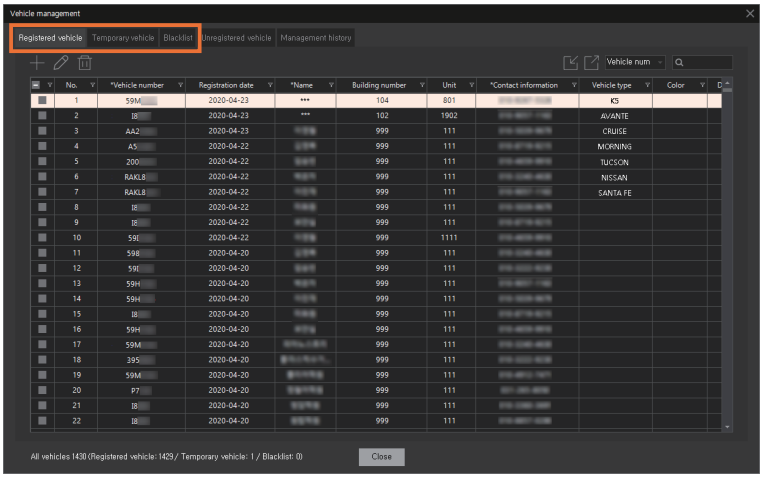
Number	Screen layout	Detailed description
❶	Menu tab	You can select the vehicle management menu
❷	Vehicle list management	You can register, edit, or delete vehicle information.
❸	File management	You can register a vehicle list file, or export the list of vehicles you manage to a file. • : You can only register a CSV file that was generated in the Microsoft Office Excel 2013 version or later. Enter the same details as the ones you entered for the list of vehicles, and save them as a CSV file. • : You can export the desired vehicle type list to a file.
❹	Search options	You can search a vehicle by **Vehicle umber/Name/Building number/Unit/ Contact information**.
❺	Vehicle list	You can check the list of vehicles and the management history per vehicle based on the menu tab you selected.
❻	Status of vehicle registration	You can check the total number of vehicles that have been registered.

Registering a vehicle

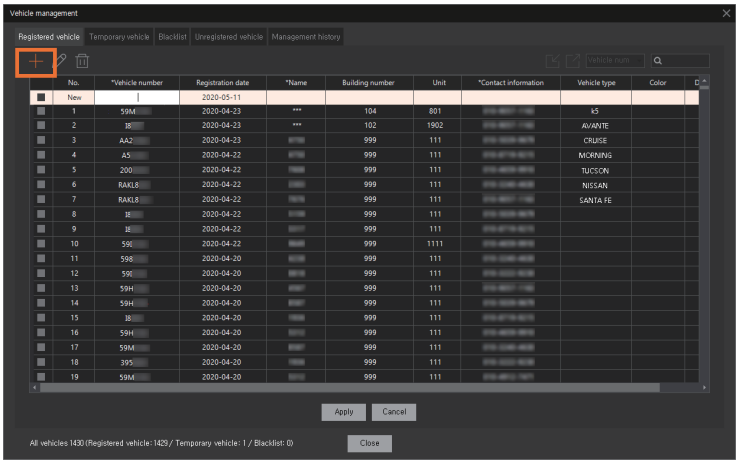
1. Open the **ANPR** menu page.
2. Click the ••• button and select **Vehicle management**.



3. Select the tab that corresponds to your vehicle type among **Registered vehicle**, **Temporary vehicle**, and **Blacklist**.



4. Select the + button and enter the vehicle information.



- The fields marked with * are required. You must enter them.

5. Click the **Apply** button.

NOTE

You cannot duplicate the same vehicle information to multiple vehicle types.

Batch registering vehicles

If you import vehicle data you want to register from an Excel file, you can batch register the whole data to Registered vehicle, Temporary vehicle, and Blacklist all at once.

NOTE

- You can only register commas-separated (,) or space-separated CSV files.
- We recommend the use of Microsoft Excel 2013 or a higher version.
- If you import vehicle information from an Excel file, all the vehicle information that was previously registered will be deleted. If you want to back it up before batch registering a new one, you should export the previous one to an Excel file. Click the button in the top right of the vehicle management screen to export it to an Excel file.

■ Importing vehicle information from an external system

To import vehicle information from an external system, you have to enter the information in the following format:

- You have to accurately enter the vehicle type as "Registered vehicle", "Temporary vehicle" or "Blacklist" in the classification item to register them successfully.

  – Example: Registered vehicle list

Classification	Vehicle number	Registration date	Name	Building number	Unit	Contact information	Vehicle type	Color	Description
Registered vehicle	RAKL8136	2020-04-28	***	101	301	***-****-****	K5	White	
Registered vehicle	2008ZGZ	2020-04-28	***	101	801	***-****-****	K3	Black	

  – Example: Temporary vehicle list

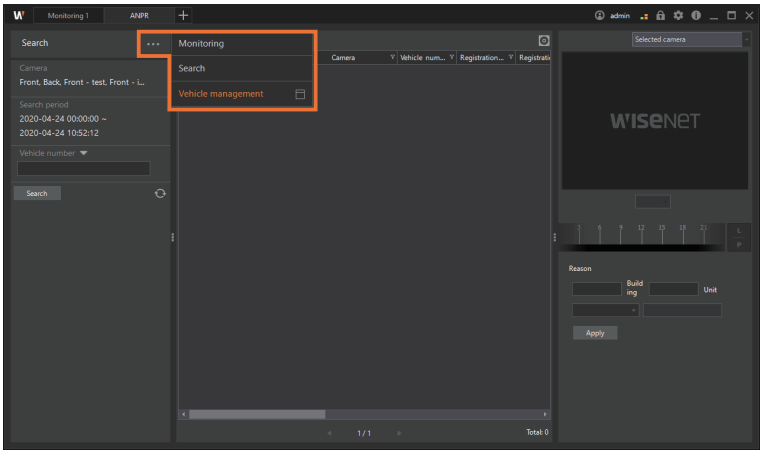
Classification	Vehicle number	Registration date	Expiration date	Name	Building number	Unit	Contact information	Vehicle type	Color	Description
Temporary vehicle	RAKL8136	2020-04-28	2020-04-29	***	101	301	***-****-****	K5	White	Visit
Temporary vehicle	2008ZGZ	2020-04-28	2020-04-29	***	101	801	***-****-****	K3	Black	Visit

  – Example: Blacklisted vehicle list

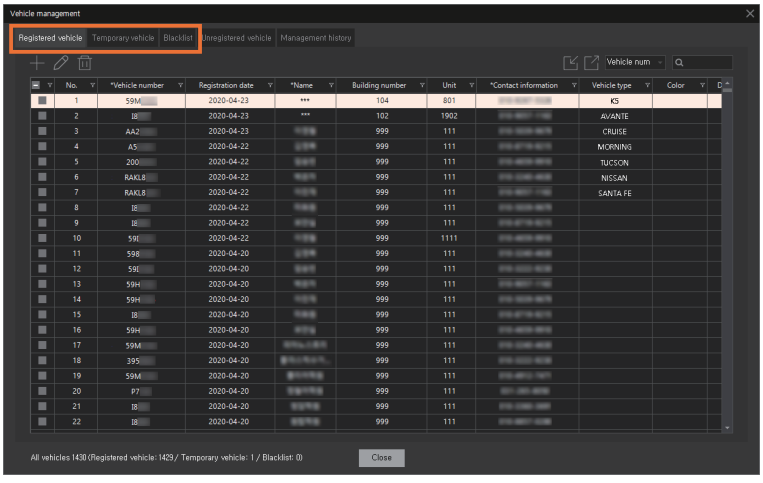
Classification	Vehicle number	Registration date	Description
Blacklist	RAKL8136	2020-04-28	Unauthorized vehicle
Blacklist	2008ZGZ	2020-04-28	Overlong stay

■ Importing a list of vehicles

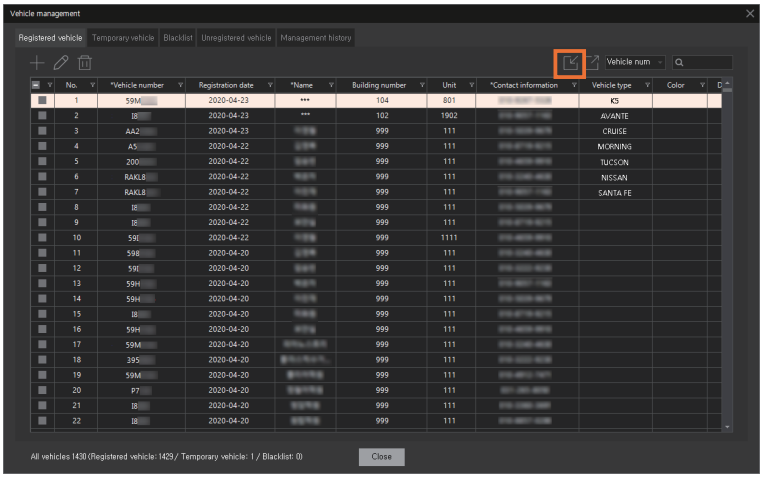
1. Open the **ANPR** menu page.
2. Click the ••• button and select **Vehicle management**.



3. Select the tab that corresponds to your vehicle type among **Registered vehicle**, **Temporary vehicle**, and **Blacklist**.



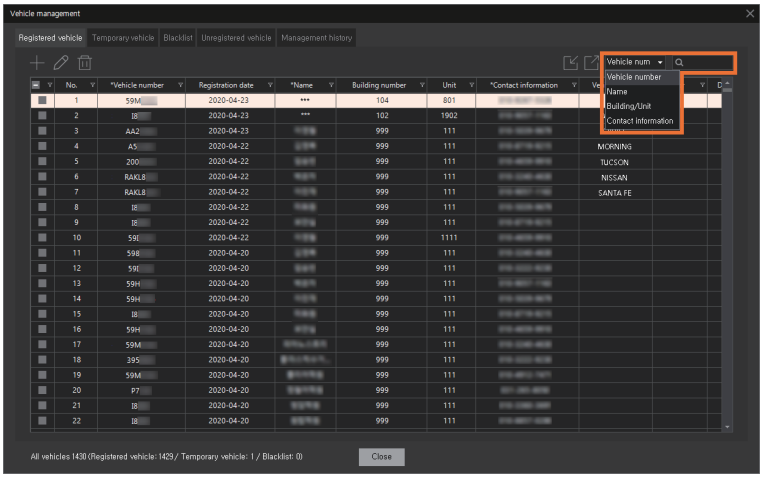
4. Click the button in the top right of the screen.



5. Select the file you want to upload, and then click the **Open** button.
6. After the file is imported, click the **Apply** button.

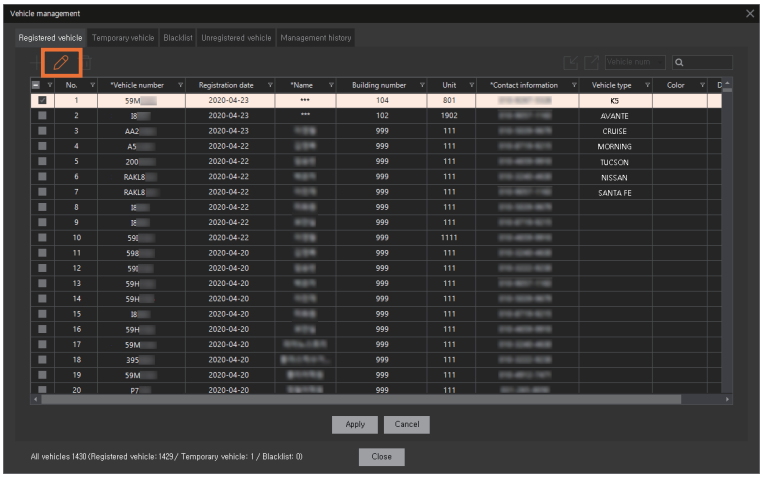
Searching vehicles

1. Open the **ANPR** menu page.
2. Click the ••• button and select **Vehicle management**.
3. Select the tab that corresponds to your vehicle type among **Registered vehicle**, **Temporary vehicle**, and **Blacklist**.
4. Select the search options you want, and enter the information. You can see the search result.



Editing vehicles

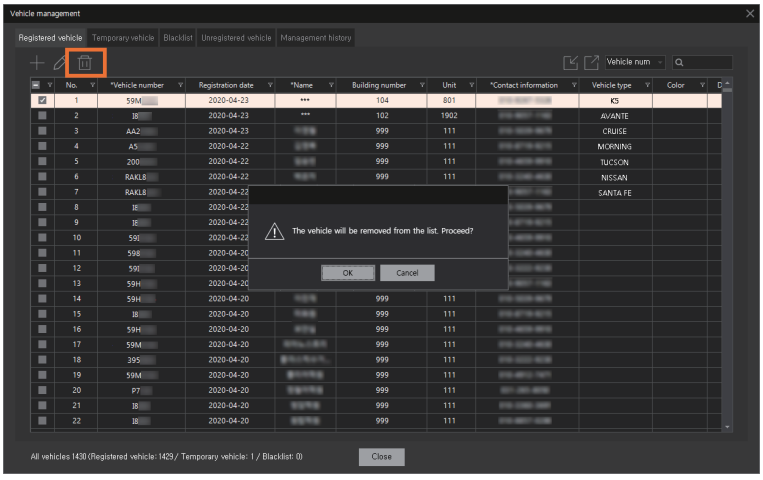
1. Open the **ANPR** menu page.
2. Click the ••• button and select **Vehicle management**.
3. Select the tab that corresponds to your vehicle type among **Registered vehicle**, **Temporary vehicle**, and **Blacklist**.
4. Select the vehicle, the information of which you want to modify, and click the button.



5. Modify the vehicle information.
   - **No./Vehicle number/Registration date** cannot be modified. If you want to modify a vehicle number, delete the vehicle first and then register it again.
6. Click the **Apply** button.

Deleting vehicles

1. Open the **ANPR** menu page.
2. Click the ••• button and select **Vehicle management**.
3. Select the tab that corresponds to your vehicle type among **Registered vehicle**, **Temporary vehicle**, and **Blacklist**.
4. Select the vehicle you want to delete, and click the 🗑 button.



5. Click **OK** in the delete confirmation screen.

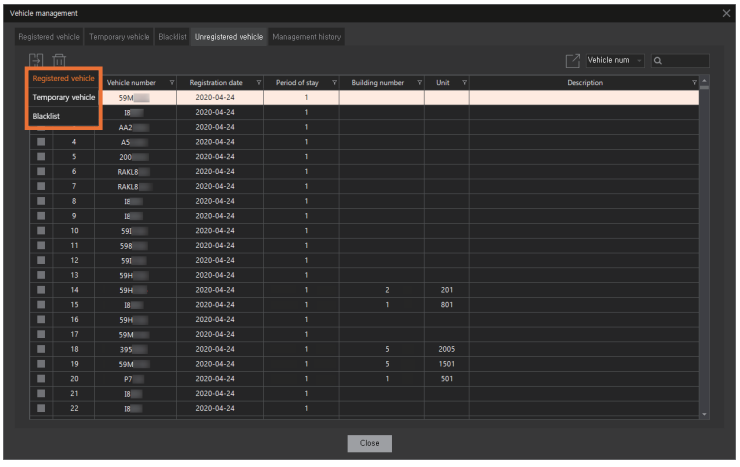
Managing unregistered vehicles

Vehicles will be marked as unregistered in the list of unregistered vehicles if they haven't exited since entering, or if the period of validity of temporary vehicles has expired after they entered. You can register those unregistered vehicles, or manage them as temporary or blacklisted vehicles.

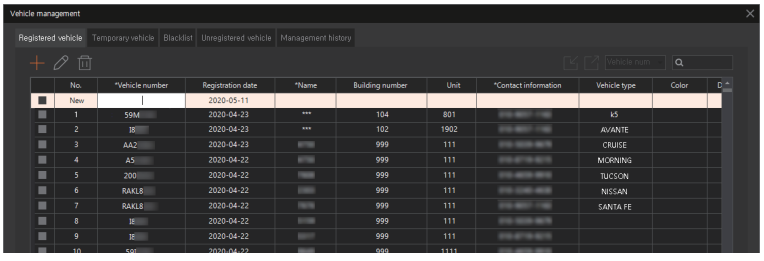
NOTE

- If you want to use the list of unregistered vehicles, Set **List of unregistered vehicles** field under ANPR setup to **Enable**. See Setting the ANPR features for more detailed information.
- The expired ones among temporary vehicles will be displayed both in the list of temporary vehicles and unregistered vehicles.

1. Open the **ANPR** menu page.
2. Click the ••• button and select **Vehicle management**.
3. Select the **Unregistered vehicle** tab.
4. Select the vehicle you want, and click the button.
5. Select the type of vehicle you want to register among **Registered vehicle**, **Temporary vehicle**, and **Blacklist**.



6. Select the tab for the vehicle you chose, and enter the information.

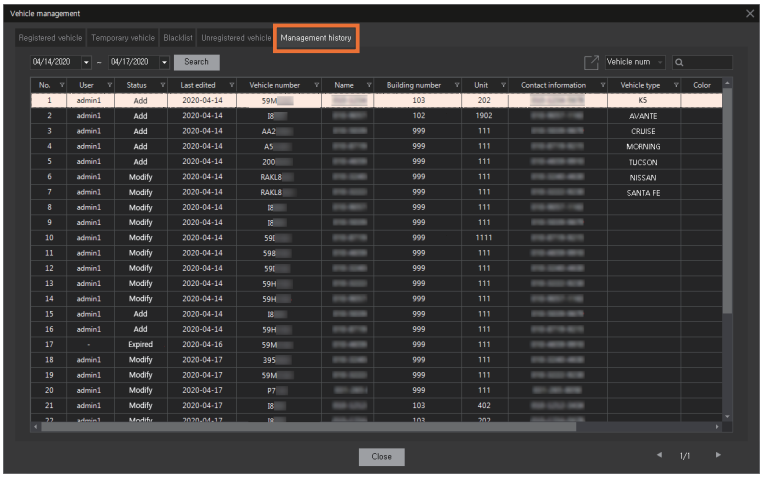


7. Click the **Apply** button.

Check the vehicle management history

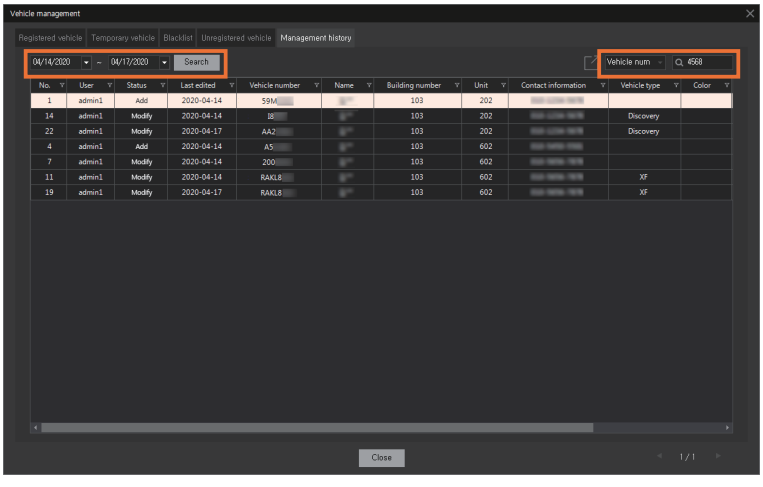
You can register or delete vehicles, and check the edited management history of vehicle information. Also, you can check the history of expired temporary vehicles.

1. Open the **ANPR** menu page.
2. Click the ••• button and select **Vehicle management**.
3. Select the **Management history** tab.



- The history of changes for the next 24 hours from the time you searched will be displayed.

4. Select the period or the search options you want, and enter the information. You can see the search result.



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