

Wisenet TMS Console

User Manual

VER 1.0



User Manual Guide

This document is for the operator of the **Wisenet TMS Console** program. Please read this user manual first to use the product correctly.

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

Target Audience

This manual is intended for operators who use the **Wisenet TMS Console** (hereinafter referred to as **TMS Console**) program.

- For details on how to set up this product, refer to the separate **Administrator Manual**.
- The **Administrator Manual** can be downloaded from the Hanhwa Techwin product homepage (<http://www.hanwha-security.com>).

How to Use the Product

Users of the product can perform the following:

- Search and play the vehicle's route and image stored in the server and network storage
- Monitor events from network devices or retrieve event logs

Before using the product, please make sure that it is the latest software version. Visit the Hanwha Techwin product homepage (<http://www.hanwha-security.com>) to check and download the latest software version.

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Contents

User Manual Guide	2
Target Audience	2
How to Use the Product	2
Copyrights Information	2

System Overview 6

Main Features.....	6
System Configuration	8

Getting Started 9

Running the Program	9
Signing into the Program.....	9
About Screen Configuration.....	11
Screen	11
About Menu Tab	13
Menu Description.....	13
Opening the Menu Page.....	13
Closing the Menu Page	14
Separating the Menu Page	14
Add-ons	15

Route Search 16

Opening the Menu Page	16
Moving Route Search.....	18
Route Search by Date and Time	18
Speed Chart	21
Using Map Tracking	23
Checking Events.....	24
Using Instant Viewer.....	25
Specific Area Search.....	26
Capturing a Route	28
Export GPS data	29

Video Search 30

Opening the Menu Page	30
Recorded Video Search.....	32
Video Search by Date and Time.....	32
About Timeline	34
Audio on/off.....	36
Changing the Video Screen Pattern.....	36
OSD show/hide	37
Event Video Search.....	38
Video Screen Control	39
Recorded Video Capture.....	39
Zoom in / out the recorded image.....	40
About Shortcut Menu	42
Recorded Video Export.....	43
Video Export.....	43

View Report..... 45

Opening the Menu Page45

Event Log Search47

GPS Event Search.....47

Device Event Search50

System Event Search52

Event Log Export55

Event Terminology56

Exporting External Storage Data..... 58

Before Getting Started58

Connecting to an External Device.....58

Installing Paragon software.....59

Opening the Menu Page61

Event Search and Export.....63

Configuring TMS Console Preferences..... 65

Opening the Menu Page65

Configuring General Settings66

Screen Setting68

Appendix 70

System Requirements.....70

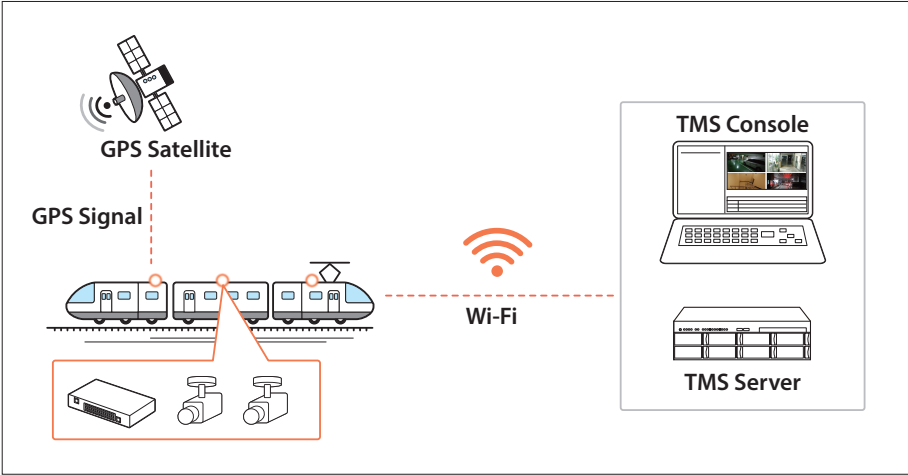
TMS Console.....70

Product Specifications.....

Service Port.....

System Overview

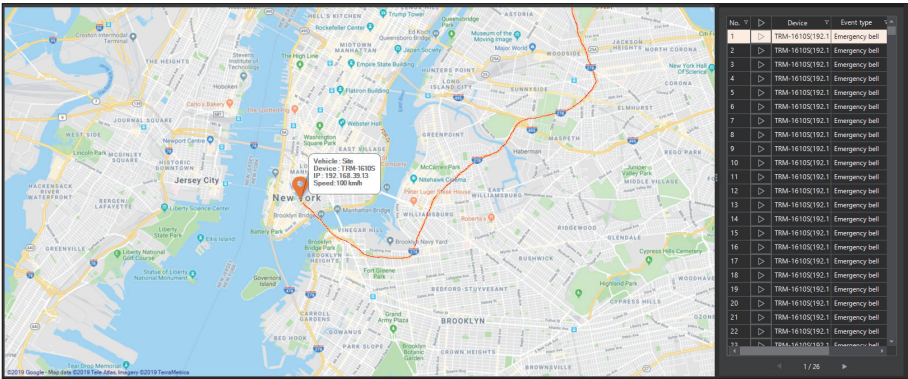
Wisenet TMS is a solution for monitoring the route of trains and buses, managing events that occur during operation, and archiving recorded images in the vehicle.



Main Features

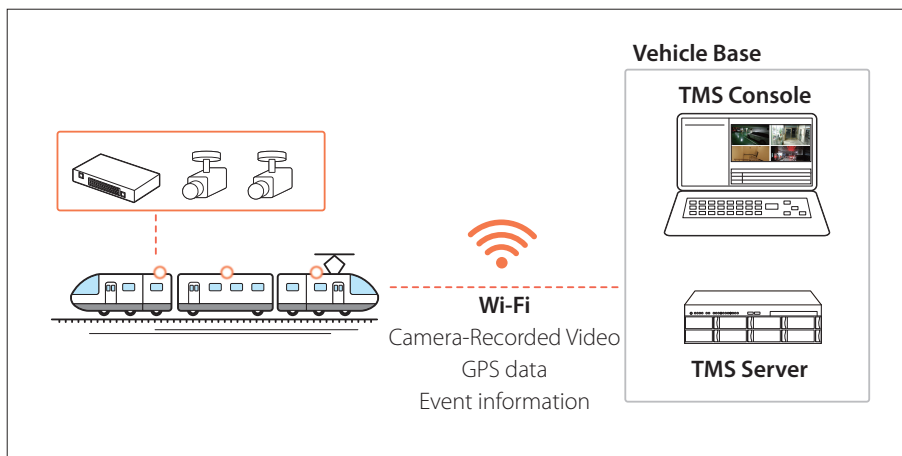
Vehicle Route Search

The navigation of the vehicle is displayed on the map using GPS information, recorded image, and event information archived from the mobile NVR.



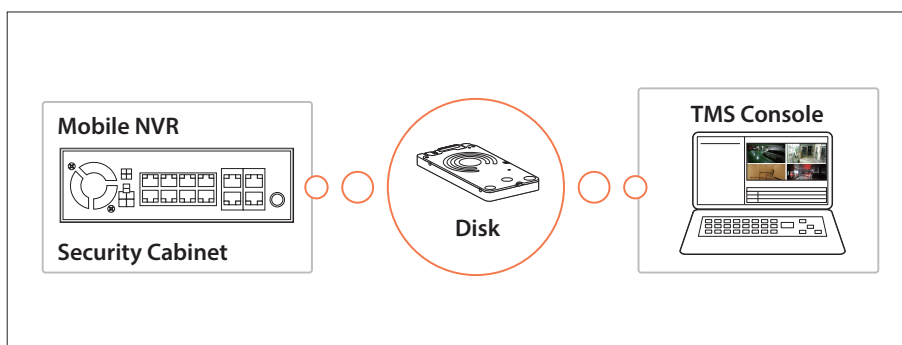
Archive

An automatic backup of GPS information and images stored in the mobile NVR uses Wi-Fi for the remote retrieval and archiving of data from NVR.



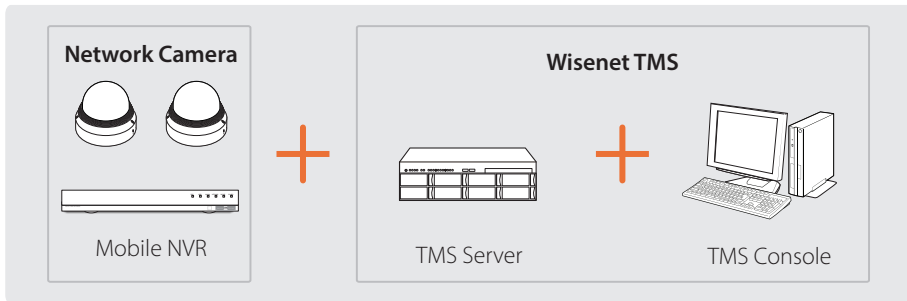
Export to External Storage

A manual backup of GPS information and images stored in the mobile NVR takes data directly from the mobile NVR's disk and backs it up.



System Configuration

Wisenet TMS (Transport Monitoring System) is configured as follows:



TMS Console

- You can search or play the videos recorded by the camera and a vehicle's driving route, which are archived in **TMS Server** on the map.
- You can check statistics on major events that have occurred while driving the vehicle and search a specific event to export the search result to a file.
- You can directly connect a disk mounted on the Mobile NVR to **TMS Server** and search and export a desired data.

TMS Server

- You can save and manage the event information occurring in the **TMS Server** system. When the Mobile NVR mounted on the vehicle is connected to Wi-Fi, the GPS information stored in the Mobile NVR, recorded camera videos, and event information are archived in **TMS Server**.
- You can cluster several **TMS Server** to configure one domain. In this case, even if you access a single **TMS Server**, you can manage in an integrated manner the device information recorded on another **TMS Server** that is clustered.
- You can back up or restore the system settings of **TMS Server**.

Getting Started

Learn how to run the **TMS Console** program and configure your screen.



Note

TMS Server must be running before you can start the **TMS Console** program.

Running the Program

To run the **TMS Console** program,

- Double-click the **TMS Console** program icon  on the desktop.
- Or, select  > **Wisenet** > **TMS Console**.

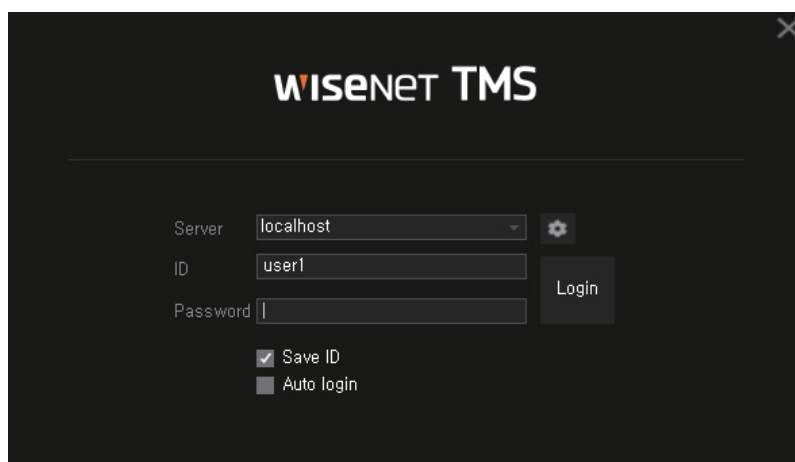
Signing into the Program

When you run the **TMS Console** program, the following login screen appears:



Note

- Before you can log in to the **TMS Console** program, however, all service statuses on **TMS Server** must be marked as **Started**.
- The service status of **TMS Server** can be checked in the **Service Status** tab of **TMS Service Manager**.



1. From the **Server** drop-down list, select the **TMS Server** to which you want to connect the **TMS Console** program.

**Note**

- If the server you want to connect to does not appear in the drop-down list, click the  button on the right of the drop-down list to select the server to connect to () , and then click **OK**.
- For more details, refer to the **Administrator Manual** or the product homepage (<http://www.hanwha-security.com>).

2. Enter your ID and password to sign in.

**Note**

- If you select **Save ID**, the **ID** entered on the login window appears the next time you connect.
- If you select **Auto login**, you will be automatically logged into the program the next time you connect.

3. Click the **Login** button.

**Note**

- If the login fails, check whether the service status of the server is marked as **Started**.
- If the login fails for more than 3 times, **Login restrictions** is set so that login is restricted for 30 seconds.
- The **Login restrictions** setting can be changed in **Configuration** under the menu.
Configuration > System > Maintenance > Domain > Login restrictions
- Change your **Password** periodically for security purposes.

About Screen Configuration

Learn about the screen configuration and features of **TMS Console**.



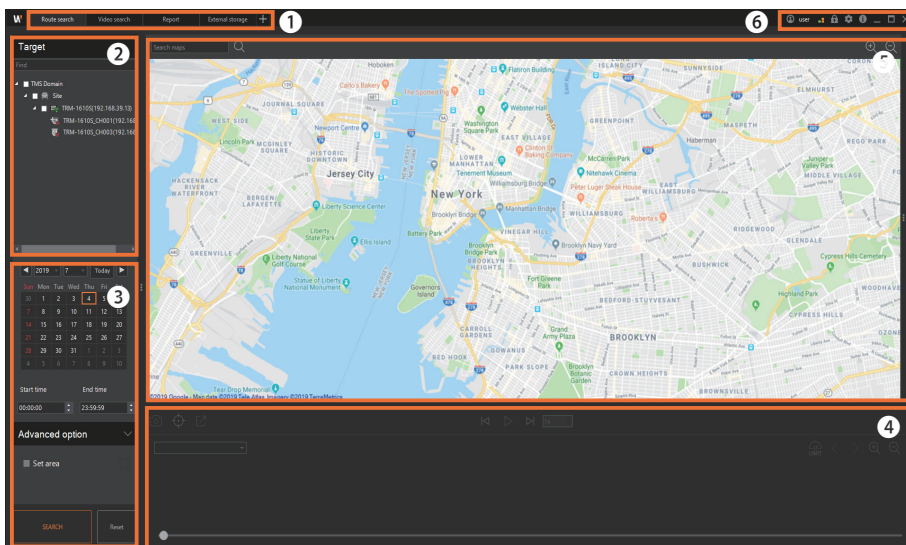
Note

- If you exit the program and restart it, you will see the menu opened last before exiting the program.
- You can change the startup options for the program in the path below.

TMS Console > Settings > Setup > Startup option

Screen

The screen of **TMS Console** is configured as follows:



Note

The screen of **TMS Console** may be configured differently depending on the menu selected by the user.

Number	Screen Configuration	Detailed Feature Explanation
❶	Menu tab	You can see all the menu tabs that are currently open.
❷	Device and site	You can see the device or site.
❸	Search option	You can search the saved path and image by the desired date and time. You can also search for specific areas by advanced options.
❹	Time line	The screen configuration and function differ depending on the selected menu. • Route search: Speed Chart and Track Bar • Video search: Time Line and Media Control Bar
❺	Search result screen	You can check the search results such as route, image, and event.
❻	Added features	You can use the add-ons provided by the program.

About Menu Tab

Menu Description



Note

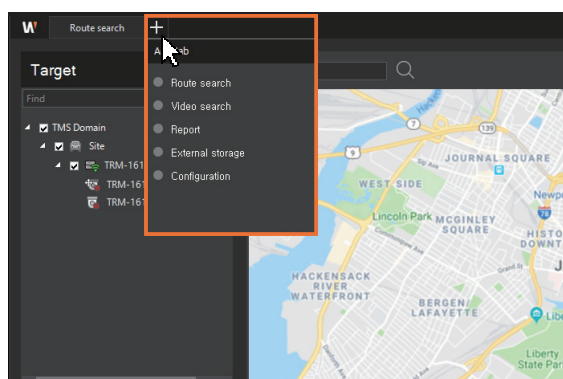
The menu of the **TMS Console** program consists of tabs.

- You can freely move between the menu tabs and select a desired menu item.
- You can also form a separate page to operate it like a separate program.
- You can insert a new page in the menu tab as well.

Route search	You can search for a route on a map or select a specific area to search for a route. You can check the recorded image at the time of the event through Instant viewer.
Video search	You can watch the video recorded by the camera and play the recorded video at the point of time when an event has occurred. You can also search recorded videos stored in the server and those of the Mobile NVR connected to Wi-Fi.
Report	You can search events such as Overspeed, Geofence, Emergency bell, and Impact detection and other events that have occurred on the device and the TMS Server system.
External storage	You can directly connect a disk mounted on the Mobile NVR to TMS Server and search or export the desired data
Configuration	You can configure and manage the TMS Server system.

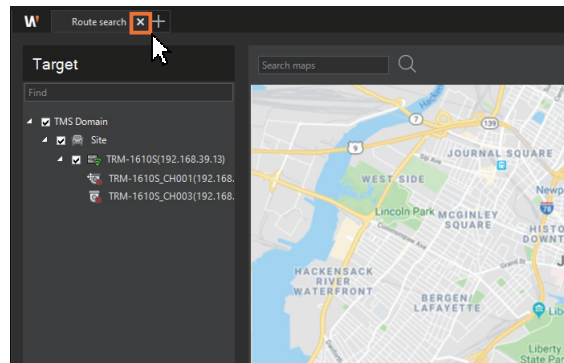
Opening the Menu Page

To open the menu page, click the upper left part  of the program and select the desired menu from the **Add tab** dialog box.



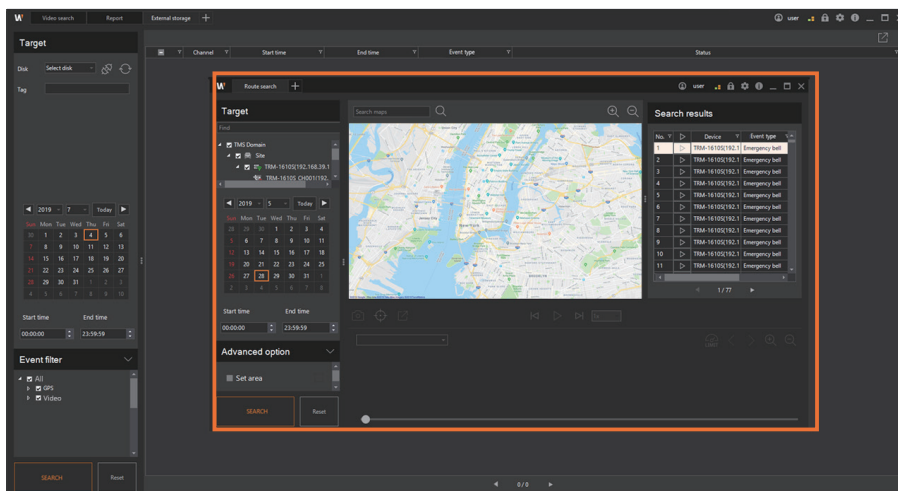
Closing the Menu Page

To close the menu page, click  by hovering over the menu tab.



Separating the Menu Page

To separate a menu page, drag and drop the menu tab.



Note

- You can freely move and insert separate menu pages between different menus.
- You can use separate menu pages as separate programs.

Add-ons



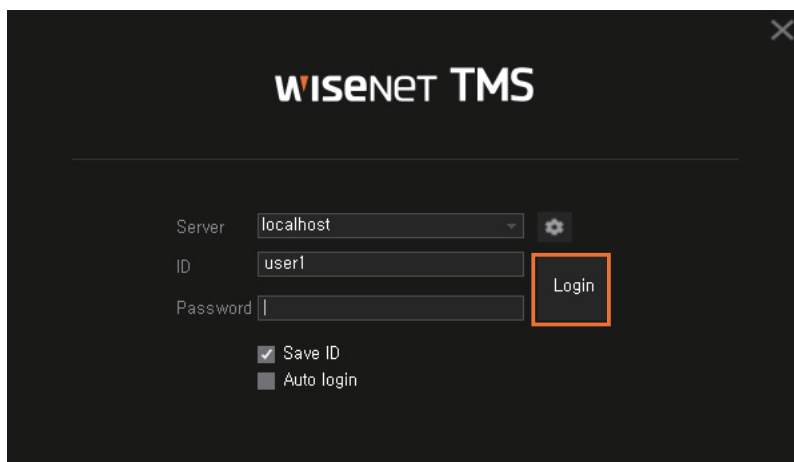
	Selecting Change password in the list box enables changing the password of the logged-in user.
	Selecting Logout from the list box will log you out.
	You can see the ID of the logged-in user.
	You can check the performance of the PC where TMS Console is installed. CPU usage: 8 % Memory usage: 63 % Network bandwidth: 0.02 Mbps • CPU usage: Displays the current CPU usage of the PC. • Memory usage: Displays the current memory usage of the PC. • Network bandwidth: Displays the amount of network I / O data of the current PC.
	You can set a screen lock.
	You can set the usage environment of TMS Console .
	You can view TMS Console information.
	You can minimize the TMS Console screen.
	You can maximize the TMS Console screen.
	You can exit TMS Console .

Route Search

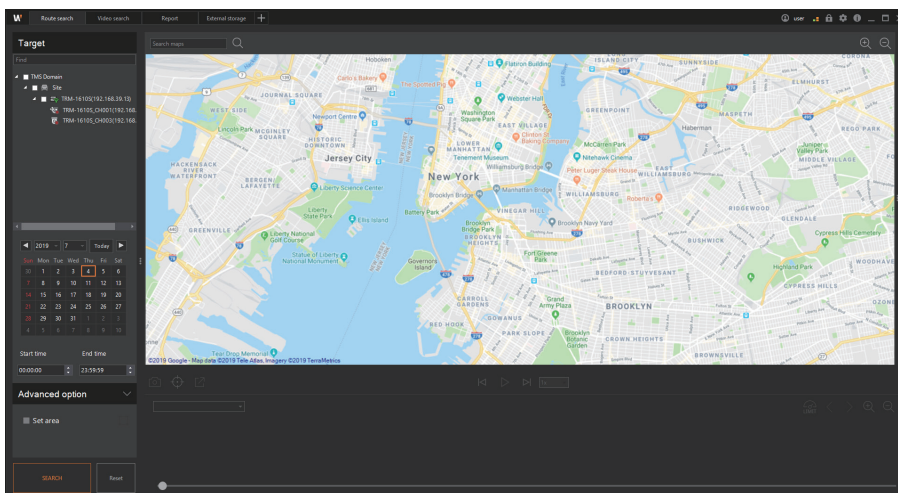
You can search the route of the vehicle stored in **TMS Server** by date and time and event. You can also play back and monitor the retrieved route. You can immediately check the events occurred as well.

Opening the Menu Page

1. Launch **TMS Console**. For more information, refer to [Running the Program](#).
2. When the Login dialog box appears, enter your ID and password and click the **Login** button.



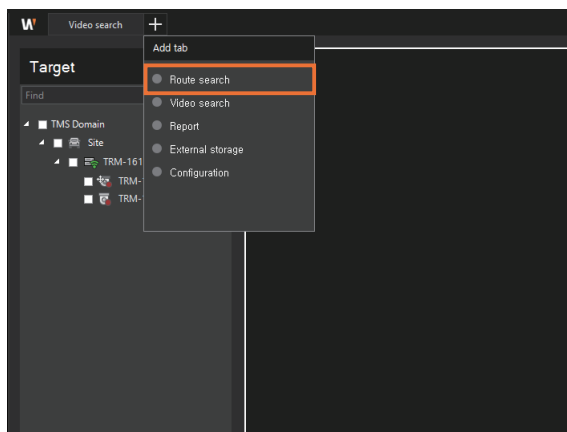
- In case of normal login, the following initial screen appears:



Note

The **TMS Console** screen may be configured differently depending on the menu selected by the user.

3. If you cannot see the **Route search** tab upon program startup, click the [+] button on the upper left, and then select **Route search** in the **Add tab** dialog box.

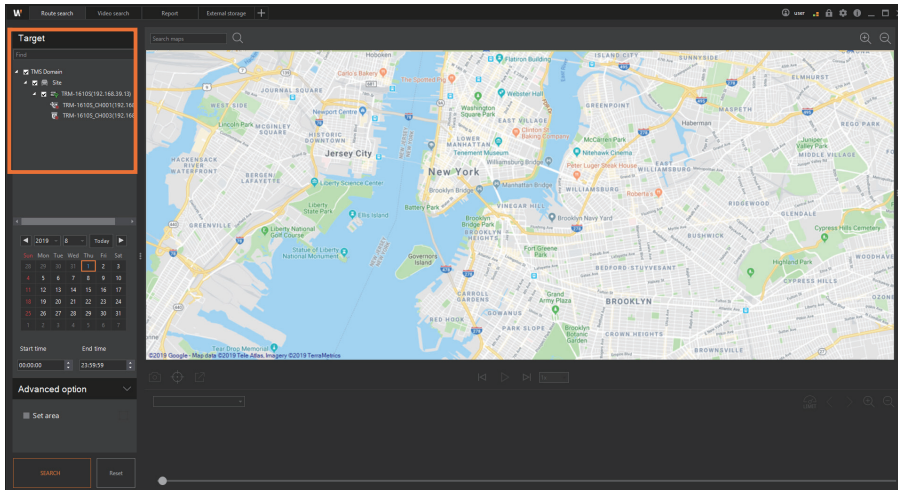


Moving Route Search

Route Search by Date and Time

You can retrieve the route path stored in **TMS Server** by date and time.

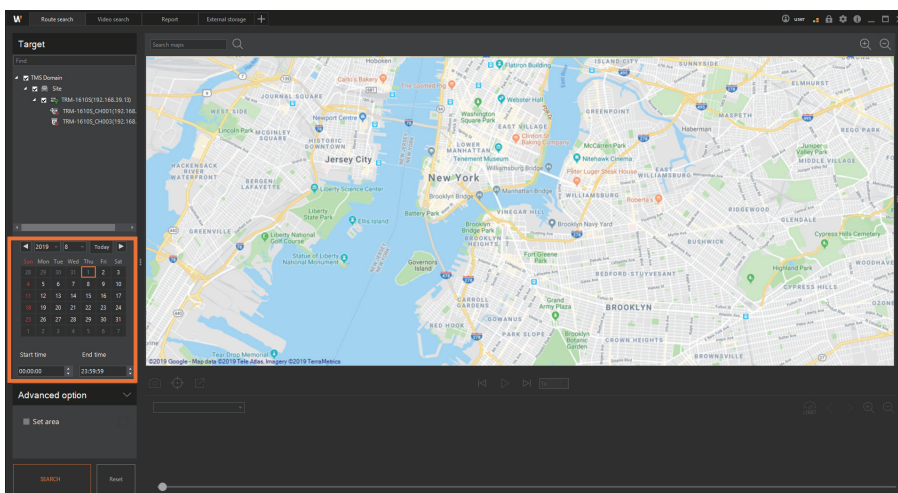
1. Select a device to search. Multiple devices can be selected and retrieved at once.



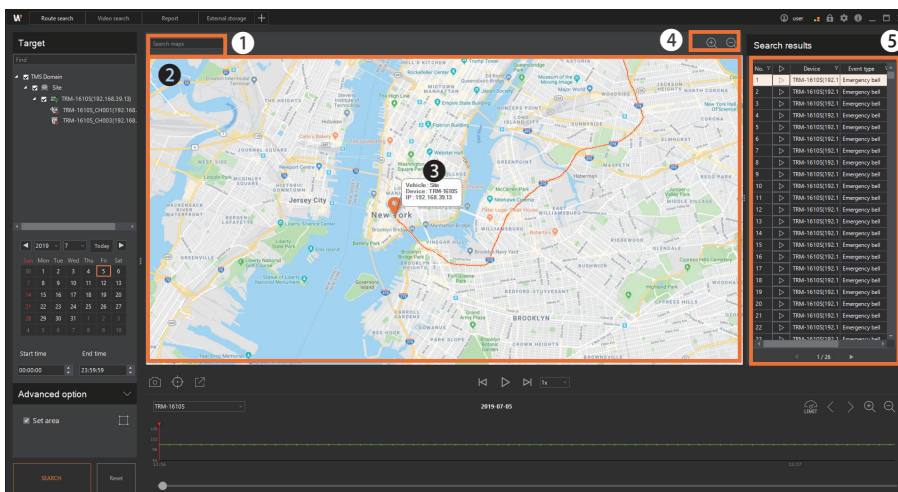
Note

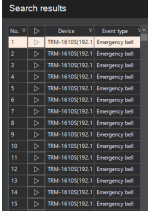
You can select a desired device directly by entering the search target directly on the search window.

2. Select the date and time to search.



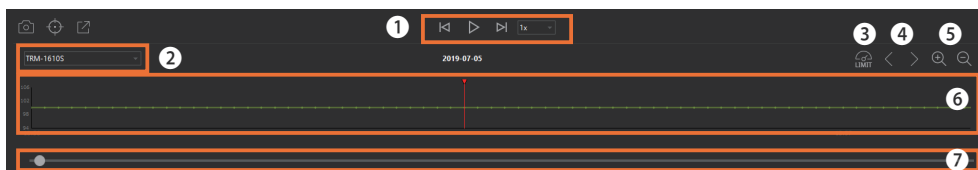
3. Click the **SEARCH** button. The saved route and the event that occurred are then displayed on the search results window.
- The search results list displays events for devices, cameras, alarm inputs, and alarm outputs.
 - A speed chart of the selected device is displayed below the search results window. You can capture the movement path of your device or run a map trek. You can also export the device's latitude, longitude, and speed information to a file.
 - If you search for multiple devices, you can select the device you want from the list of discovered devices.



Number	Screen Configuration	Detailed Feature Explanation
1		You can search for a location on the map by typing the name of the area.
2		The route of the vehicle is displayed on the map.
3		Click the vehicle shown on the map or put the cursor to it to view information about the vehicle.
4		You can zoom in and out of the map. You can also use the mouse wheel to zoom in and out of the map.
5		Displays a list of events that occurred during vehicle operation.

Speed Chart

The speed chart is displayed in 1 day (24 hours). When you move the position control bar to the left or right, the position of the vehicle at that point appears on the map. When you start playback, the route of the vehicle is played back, and you can search for the route while controlling the playback speed.



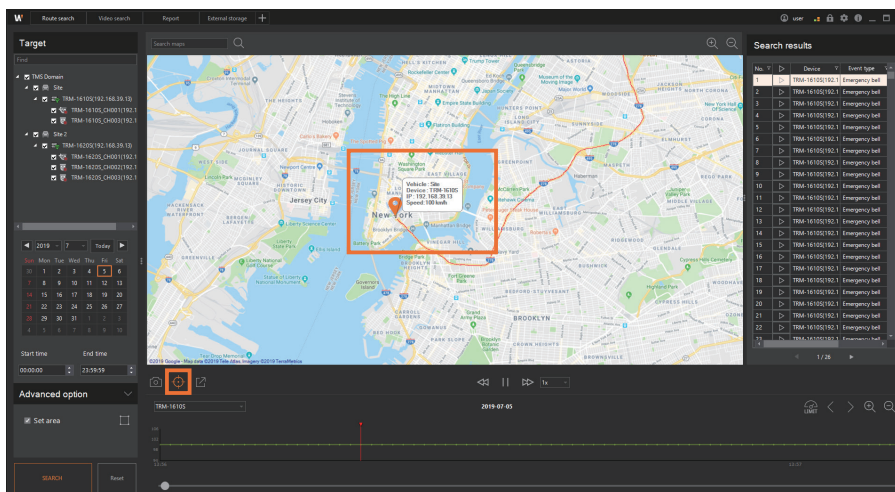
Number	Screen Configuration	Detailed Feature Explanation
1		You can move the saved route to the previous route location.
		You can play the saved route.
		You can move the saved route to the next location.
		You can play back the route in fast reverse direction. Playback speed can be set to -1x, -2x, -4x, -8x.
		You can pause playback.
		You can fast-forward the route in a straight direction. Play speed can be set to 1x, 2x, 4x, 8x.
		You can select the playback speed.

Number	Screen Configuration	Detailed Feature Explanation
2		You can select specific vehicles (devices) on the map. • If multiple devices are detected, you can select a desired device.
3		You can set the limit speed of the vehicle and check the speed change during operation. • The speed limit can be set as follows: – km / s: Up to 30 ~ 120 Km / s can be inputted
4		You can move the speed chart to the left or right.
5		You can change the time display unit of the speed chart. You can also use the mouse wheel to change the time display unit of the speed chart.
6		The speed limit line set on the speed chart is displayed.
7		As you move the time slider, the vehicle location at that point is displayed above the map.

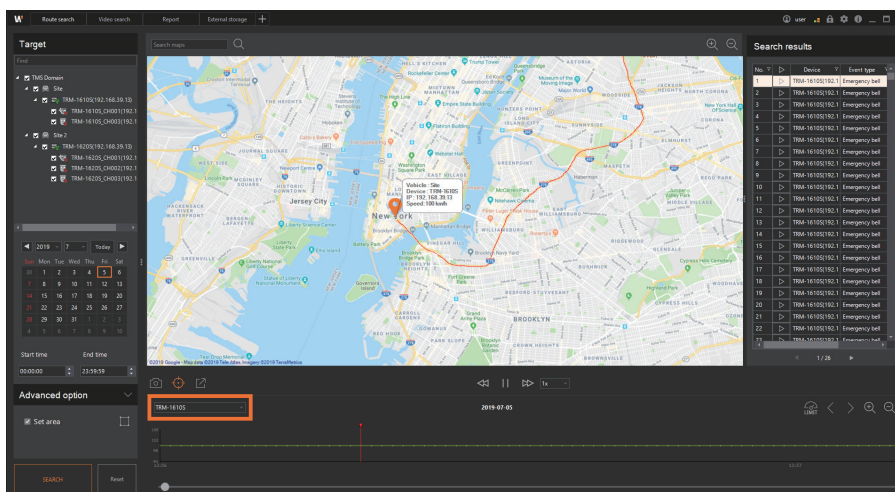
Using Map Tracking

You can search the route around the vehicle.

Click the  button. The vehicle is centered on the map screen, and you can trace the route as the map moves around the vehicle.



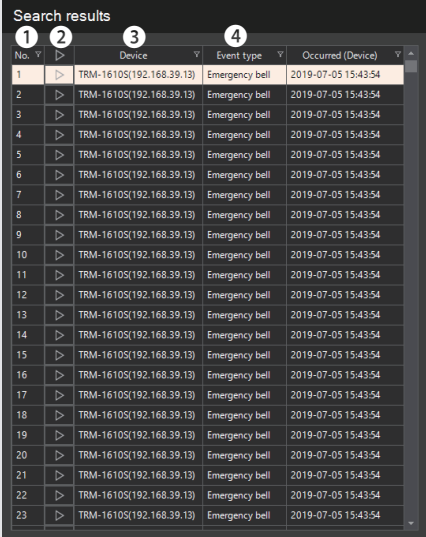
- If you have searched for multiple devices, select the desired device from the list of discovered devices and start tracking the map.



Checking Events

You can search the route of the vehicle by filtering it as an event.

Double-click the event you want to check in the search results list. The map is moved to the location at the time the event occurred.



No.	Device	Event type	Occurred (Device)
1	TRM-1610S(192.168.39.13)	Emergency bell	2019-07-05 15:43:54
2	TRM-1610S(192.168.39.13)	Emergency bell	2019-07-05 15:43:54
3	TRM-1610S(192.168.39.13)	Emergency bell	2019-07-05 15:43:54
4	TRM-1610S(192.168.39.13)	Emergency bell	2019-07-05 15:43:54
5	TRM-1610S(192.168.39.13)	Emergency bell	2019-07-05 15:43:54
6	TRM-1610S(192.168.39.13)	Emergency bell	2019-07-05 15:43:54
7	TRM-1610S(192.168.39.13)	Emergency bell	2019-07-05 15:43:54
8	TRM-1610S(192.168.39.13)	Emergency bell	2019-07-05 15:43:54
9	TRM-1610S(192.168.39.13)	Emergency bell	2019-07-05 15:43:54
10	TRM-1610S(192.168.39.13)	Emergency bell	2019-07-05 15:43:54
11	TRM-1610S(192.168.39.13)	Emergency bell	2019-07-05 15:43:54
12	TRM-1610S(192.168.39.13)	Emergency bell	2019-07-05 15:43:54
13	TRM-1610S(192.168.39.13)	Emergency bell	2019-07-05 15:43:54
14	TRM-1610S(192.168.39.13)	Emergency bell	2019-07-05 15:43:54
15	TRM-1610S(192.168.39.13)	Emergency bell	2019-07-05 15:43:54
16	TRM-1610S(192.168.39.13)	Emergency bell	2019-07-05 15:43:54
17	TRM-1610S(192.168.39.13)	Emergency bell	2019-07-05 15:43:54
18	TRM-1610S(192.168.39.13)	Emergency bell	2019-07-05 15:43:54
19	TRM-1610S(192.168.39.13)	Emergency bell	2019-07-05 15:43:54
20	TRM-1610S(192.168.39.13)	Emergency bell	2019-07-05 15:43:54
21	TRM-1610S(192.168.39.13)	Emergency bell	2019-07-05 15:43:54
22	TRM-1610S(192.168.39.13)	Emergency bell	2019-07-05 15:43:54
23	TRM-1610S(192.168.39.13)	Emergency bell	2019-07-05 15:43:54

Position	Screen Configuration	Detailed Feature Explanation
①		It can be played back if there is a recorded image in the event that occurred.
②	Device	You can determine the name of the device where the event occurred.
③	Event type	You can see the event type. See Event Terminology on Event Terminology .
④	Occurred (Device)	Displays the event occurrence time based on the system time of the device.



Note

By filtering the search results list by item, you can quickly search for the desired list.

Using Instant Viewer

If there is a recorded image in the search result list, you can check the image of the event.

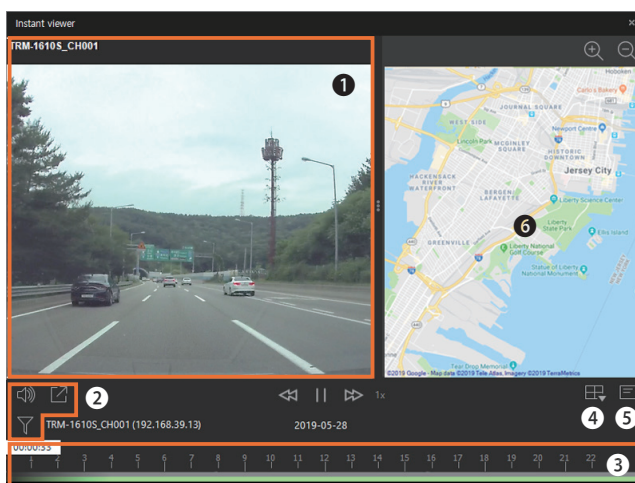
Click  in the search results list. Instant viewer runs, and the image at the time of the event and the GPS information of the vehicle are shown together.



Note

For the function of Instant viewer, refer to the page linked by the link below.

- [Video Screen Control](#)
- [About Timeline](#)

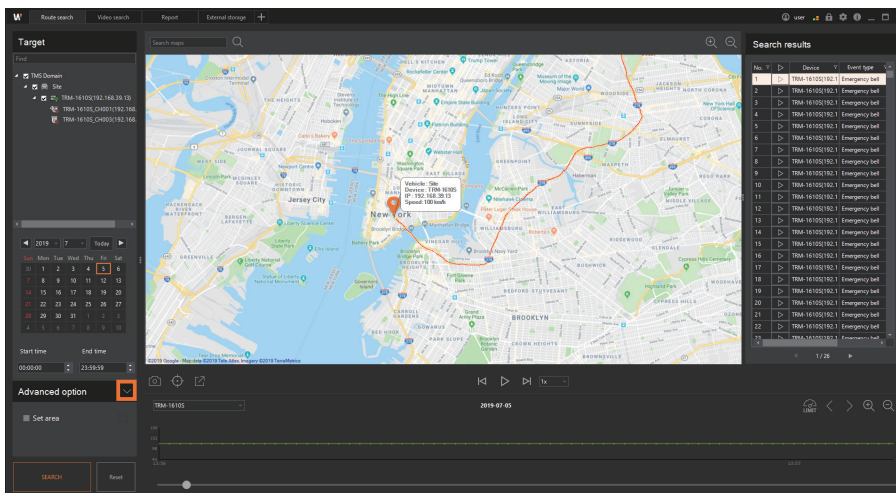


Position	Screen Configuration	Detailed Feature Explanation
①	Video screen	You can check the recorded image at the time of event occurrence. • You can change the position of the screen by clicking the image screen and dragging it to the screen at another location.
②	Video control option	• : You can turn the audio of the recorded image on and off. • : Recorded images can be exported to a file. • : You can filter the items of an image event.
③	Time line	The time line is displayed based on the selected image, and the image event is displayed.
④	Video screen pattern	You can set the image screen pattern.
⑤	OSD display	You can turn the OSD display on and off.
⑥	Vehicle location display	You can check the location of the vehicle at the time the event occurred. The location information of the vehicle is displayed in synchronization with the recorded image. You can zoom in or out the map.

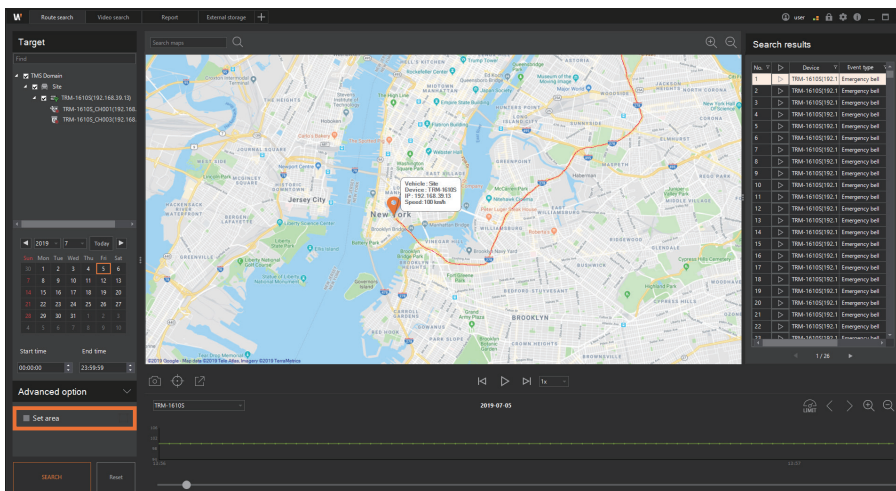
Specific Area Search

The Geofence function lets you search the route and event of a vehicle within a specified area.

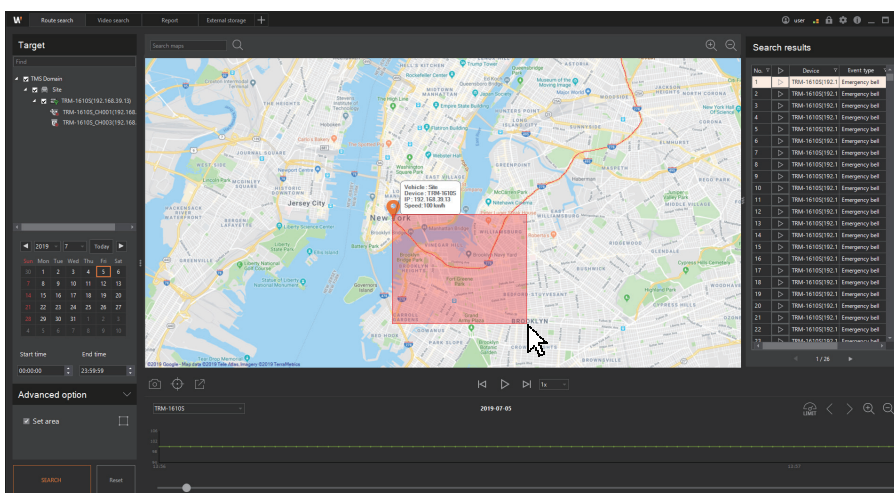
1. Select a device to search.
2. Select the date and time to search.
3. Click the **Advanced option**  button.



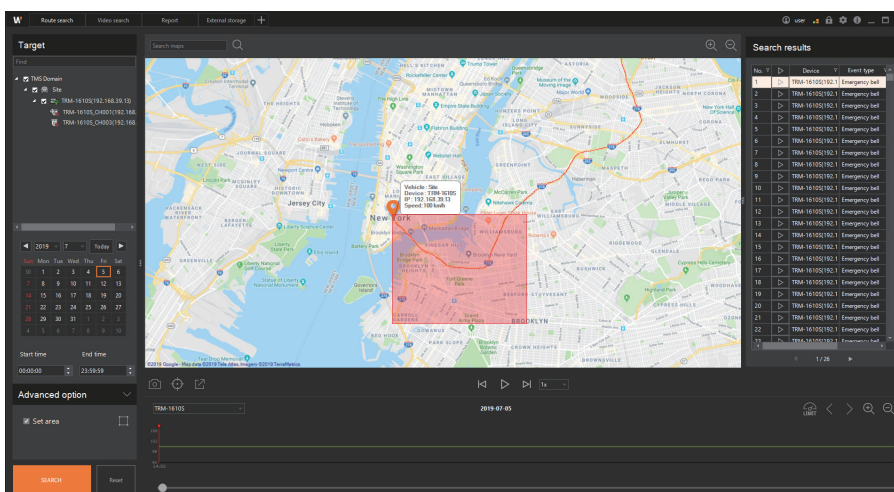
4. Click the checkbox of the **Set area**, followed by .



5. Drag the area you want to search on the map.



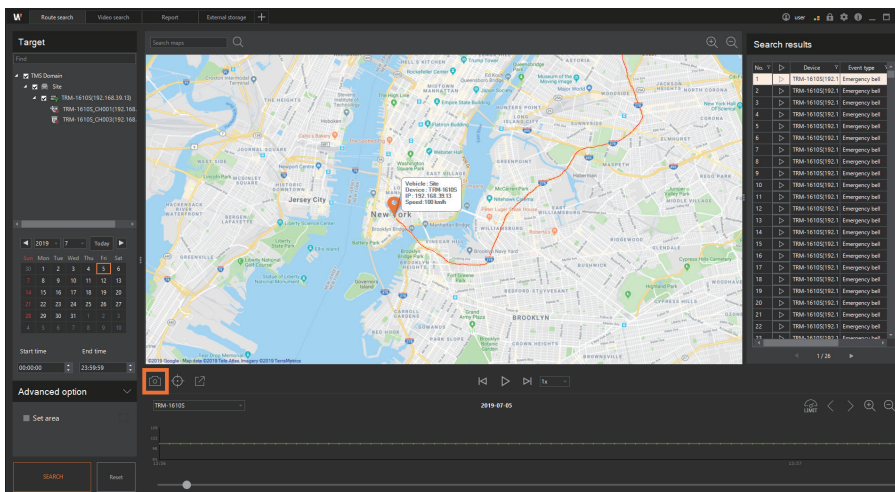
6. Click the **SEARCH** button. You can check the route and the event within the area set by the advanced option.



Capturing a Route

You can capture the route of the searched vehicle and save it as a jpg file.

1. Search the route of the vehicle with the desired search conditions.
2. Navigate to the location you want to capture and click the  button.



3. Click the OK button. The image is saved in the specified path.



Note

To change the save path of the captured image, see [Configuring TMS Console Preferences](#).

Export GPS data

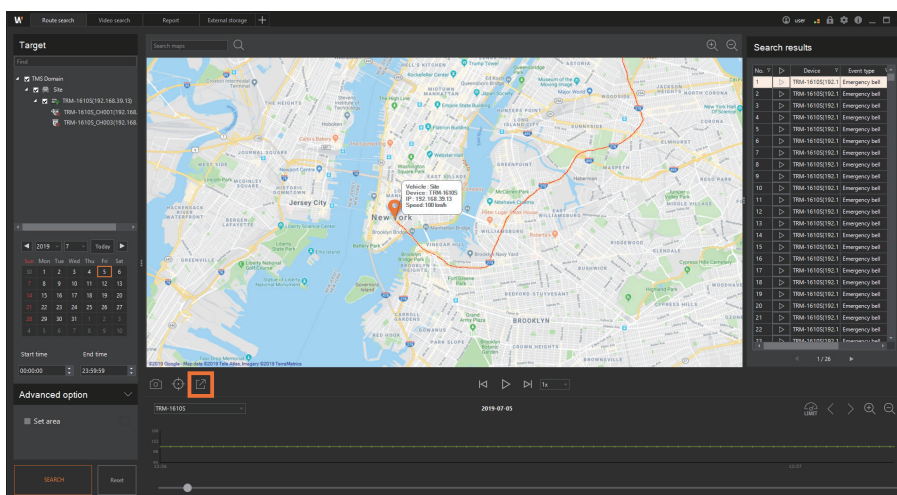
You can export to a file the latitude, longitude, and speed information for a device that is searching for a route.



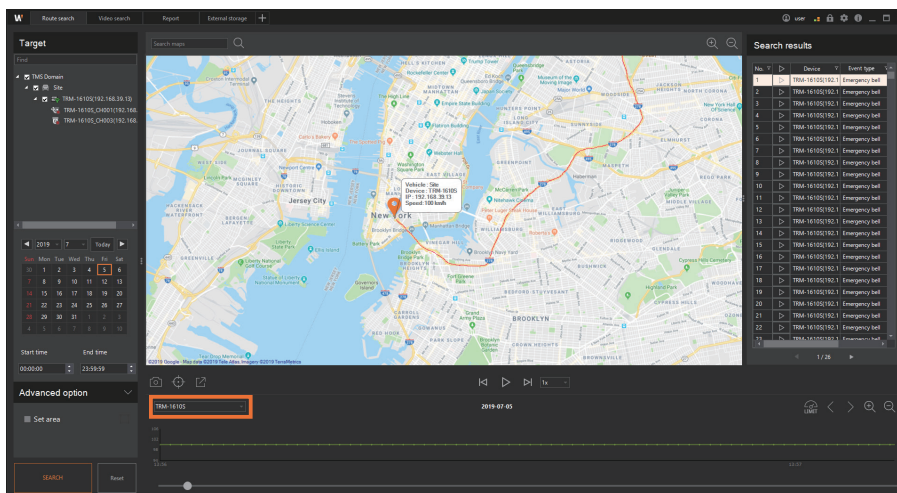
Note

GPS information is exported in CSV file format.

1. Search the route of the vehicle with the desired search conditions.
2. Click the  button.



- If you have searched for multiple devices, select the device you want from the list of discovered devices and run export.



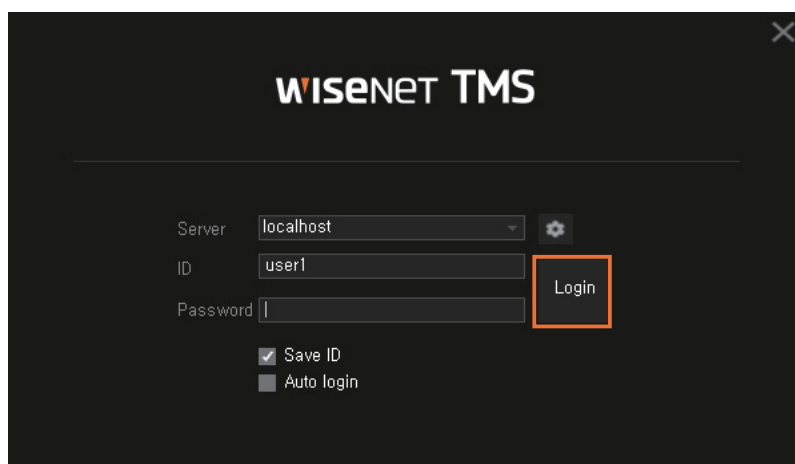
3. Select the save path of the export file.
4. Click the **Save** button. The GPS information file is then saved in the selected path.

Video Search

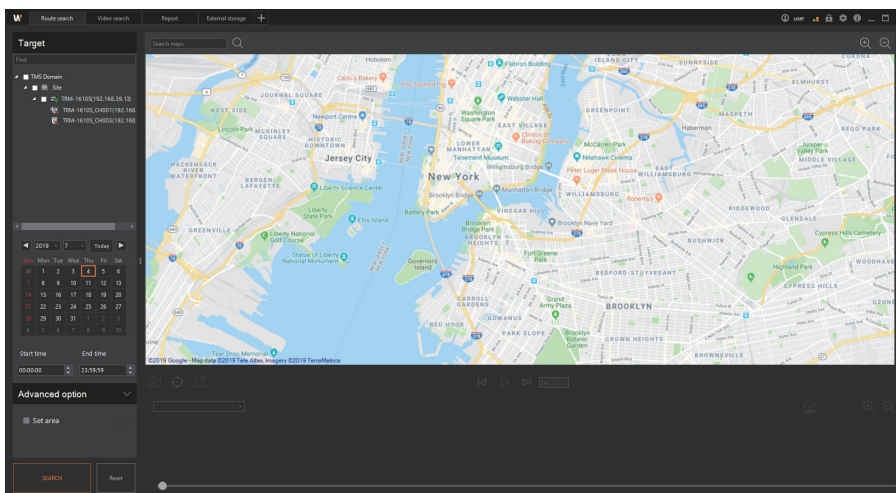
You can search and play back the recorded images stored in **TMS Server** and mobile NVR. You can search recorded images by date and time or event.

Opening the Menu Page

1. Launch **TMS Console**. For more information, refer to [Running the Program](#).
2. When the Login dialog box appears, enter your ID and password and click the **Login** button.



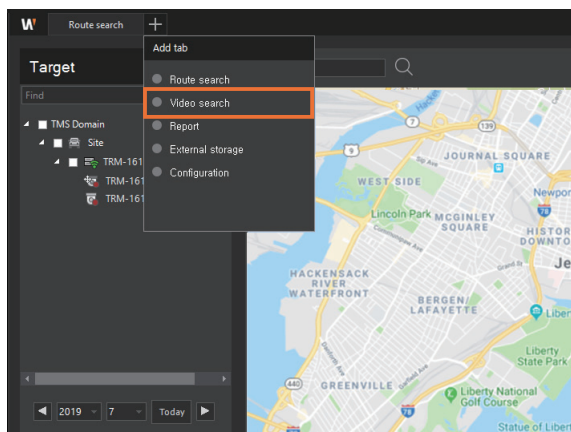
- In case of normal login, the following initial screen appears:



Note

The **TMS Console** screen may be configured differently depending on the menu selected by the user.

3. If you cannot check the **Video search** tab at the start of the program, click the [+] button on the upper left, and then select **Video search** in the **Add tab** dialog box.

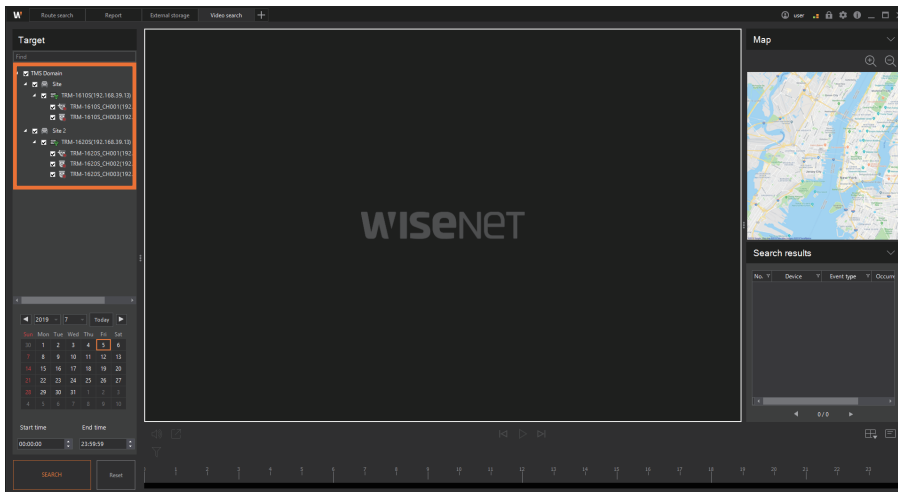


Recorded Video Search

Video Search by Date and Time

You can search images stored in **TMS Server** or mobile NVR by date and time.

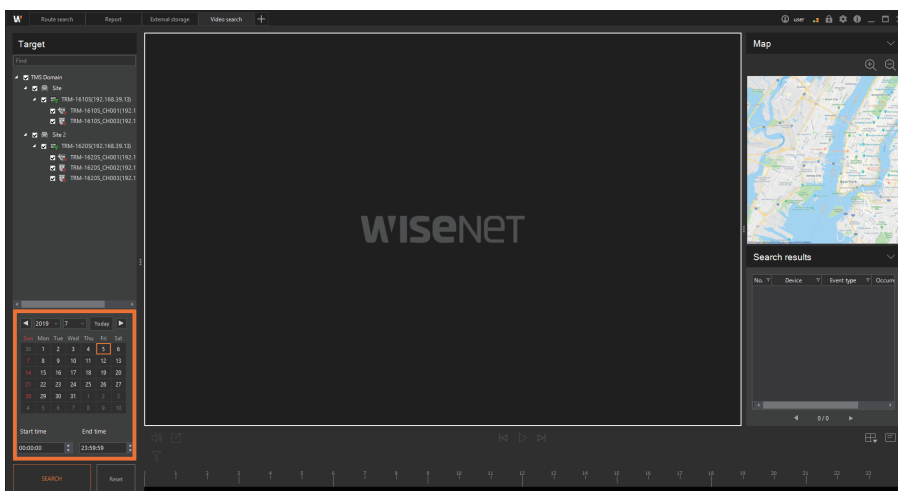
1. Select a device to search. Multiple devices can be selected and retrieved at once.



Note

- You can select a desired device directly by entering the search target directly on the search window.
- Videos stored in the mobile NVR can only be retrieved or played back when connected to Wi-Fi. When the mobile NVR is connected to Wi-Fi, the device will display .

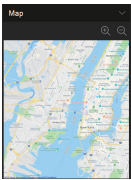
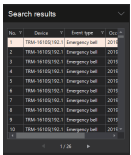
2. Select the date and time to search.



3. Click the **SEARCH** button. Recorded images, vehicle location information, and events appear on the search results window.

- The search results list displays events for devices, cameras, alarm inputs, and alarm outputs.
- By filtering the search results list by item, you can quickly search for the desired list.
- The time line of the camera selected on the image screen is displayed below the search result window. You can search the recorded image on the device as an event or export the image to a file. You can also capture specific scenes as images.



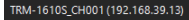
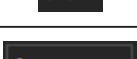
Number	Screen Configuration	Detailed Feature Explanation
1		You can check a recorded image. Double-clicking the image screen will display the image of that screen in full screen.
2		The GPS information of the car is displayed at the time the image is being shown. Click the vehicle shown on the map or put the cursor to it to view information about the vehicle.
3		Displays a list of events that occurred during vehicle operation.

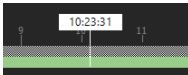
About Timeline

An interval bar appears on the time line. The interval bar is displayed only in the section where the recorded image exists.

The time line is displayed in 1-day (24-hour) increments. When you start playback, the search date and playback time are displayed, and you can search for images while controlling the playback speed.

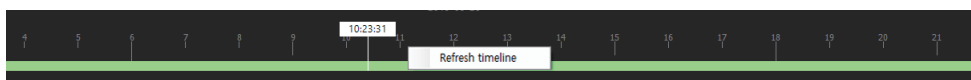


Number	Screen Configuration	Detailed Feature Explanation
1		You can search recorded images by filtering event items.
2		You can check the name of the selected camera on the image screen.
3		You can move the image to the previous frame.
		You can play the video.
		You can move the video to the next frame.
		You can fast-rewind the video. • Play speed can be set to -1x, -2x, -4x, -8x, -16x, -64x.
		Video play can be stopped.
		You can fast-forward the video • Play speed can be set to 1x, 2x, 4x, 8x, 16x, 64x.
		Displays the play speed.

Number	Screen Configuration	Detailed Feature Explanation
4		If there is a recorded image, the interval bar is displayed in the time line. The interval bar of the time line is displayed in color according to the event type of the recorded image. For more information, refer to Event Video Search.
5		Displays the recorded video time line of the device connected via Wi-Fi. Displays the recorded images that have not been archived. When clicked, the timeline and position of the archived images are changed on TMS Server, and the events that occurred are displayed in color.
6		Displays the time of the playing section. You can change the time by clicking and dragging the time tooltip in the time line or by double-clicking the tooltip.

■ Using the Shortcut Menu

Right-clicking the time line opens a shortcut menu.



Refresh timeline	Retrieves the recorded image stored in TMS Server or Mobile NVR and displays the update status on the time line.
------------------	---



Note

You can zoom in and out of the timeline by scrolling the mouse wheel over the timeline.

Audio on/off

You can turn on or off the audio recorded through the camera while playing the recorded video. When you click the  button, you can hear the audio. Clicking it once again will mute the audio.



Changing the Video Screen Pattern

You can change the split of the video screen.

Click the  button to select the desired screen pattern.



OSD show/hide

You can show or hide the OSD information on the image.

Click the  button to set the desired state.



Note

The information displayed on the picture differs depending on the OSD setting. For OSD setting, refer to [Configuring TMS Console Preferences](#).

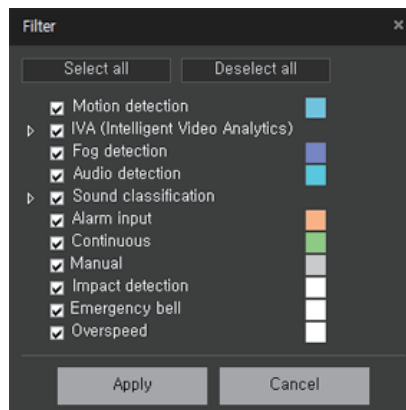
Event Video Search

Images stored in **TMS Server** or mobile NVR can be filtered by event.

1. Search for recorded images with the desired search conditions.
2. Click the  button.



3. Select an event to search.



4. Click the **Apply** button. The recorded video of the selected event is displayed on the timeline.



Note

Event video can be played back only when there is video recorded at the time of event occurrence.
For Event Terminology, see [Event Terminology](#).

Video Screen Control

You can control the video screen with various functions while searching recorded video.

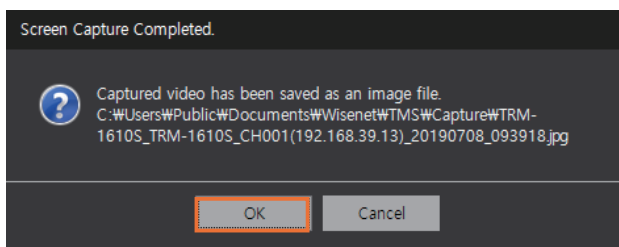
Recorded Video Capture

Recorded video can be captured and saved as an image file.

1. Search the recorded images with the desired search conditions.
2. Select the image to be captured.
3. Move to the scene you want to capture and click the  button on the video screen.



4. Click the OK button. The image is saved in the specified path.
 - If **Open details** is enabled in the **TMS Console** settings, the Capture dialog box appears. You can set the display path and the information displayed in the image and save the captured image as jpg or bmp.



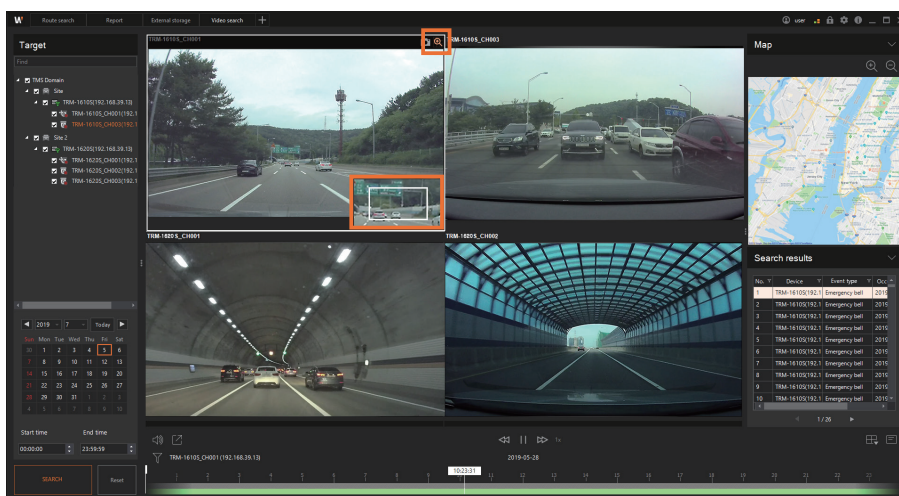
Note

To change the storage path of the captured image, see Setting the [TMS Console Preferences](#).

Zoom in / out the recorded image

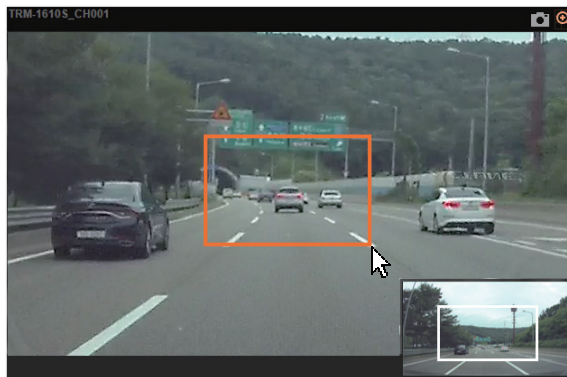
You can zoom in or out the screen with digital zoom.

1. Search the recorded images with the desired search conditions.
2. Select the image to enlarge.
3. Click the  button on the video screen. The image is enlarged, and a mini-map appears.
 - The mini-map shows the location of the enlarged area in the original image.
 - To change the location of the mini-map on the video screen, click the mini-map and drag it to the desired location.
 - Press the  button again to release the digital zoom.



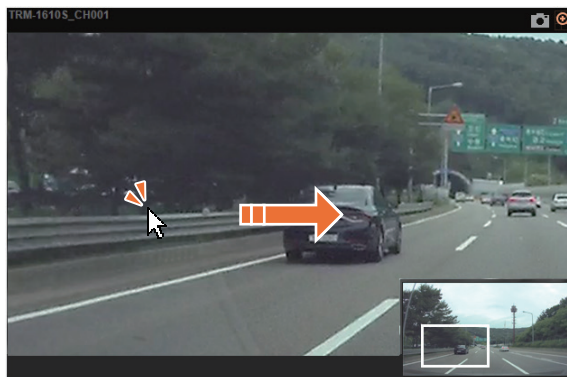
■ Zoom in and out an image

You can enlarge a specific area of the image by dragging it. You can also zoom in or out using the mouse wheel.



■ Move the position of the enlarged image

Clicking a specific area of the image moves the position of the image. Likewise, clicking inside the square border of the mini map and dragging it to the desired position will move the position of the image.



About Shortcut Menu

Right-clicking the image screen opens a shortcut menu.

Remove video	You can close the camera image of the selected screen.
Show OSD	The name of the camera can be displayed on the image.
Capture	You can capture the image of the selected screen and save it as an image file.
Print	You can print images of the selected screen.
Listen	You can listen to the recorded audio. Click the button to listen to the recorded audio. Clicking it once again will mute the audio.
Aspect ratio	You can enlarge or reduce the video screen while maintaining the aspect ratio of the video resolution of the camera and view the video in full screen.
Original size	You can view the image in the actual resolution size of the camera image.
Flip	You can view the image on the screen by flipping it upside down.
Camera properties	You can view the camera properties of the selected screen. In the Camera Properties dialog box, you can check the camera name, device model, video resolution, video and audio codec, and camera functions.

Recorded Video Export

The recorded images stored in **TMS Server** or mobile NVR can be exported to a file.



Note

- In the following cases, a new file will be created if you export the recorded video in AVI file format:
 - When the video resolution of the recorded video is changed
 - When the audio or video codec of the recorded video is changed
 - When the exported image file size is over 2GB
- When you export a recorded image in SEC file format, two files are created in the save path.
 - The SEC extension file is the exported video.
 - The EXE extension file is a viewer program.
- Exported video files can be played back in the following ways:
 - The SEC file can be checked in **BACKUP VIEWER**, which is a movie playback program for the SEC file only, when an EXE file of the same name is executed.
 - AVI files can be checked in normal video play programs.

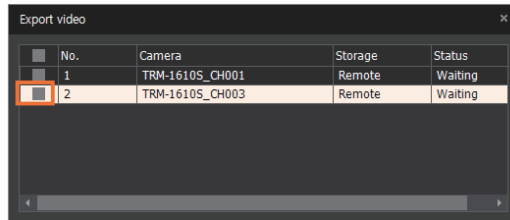
Video Export

You can export some segments of a recorded video to a file.

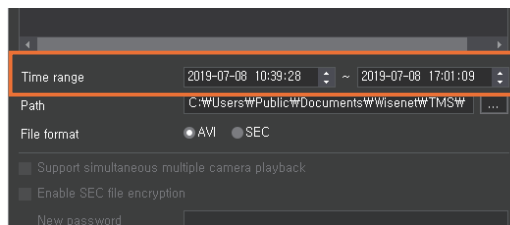
1. Search the recorded images with the desired search conditions.
2. Select the image to export.
3. Click the  button.



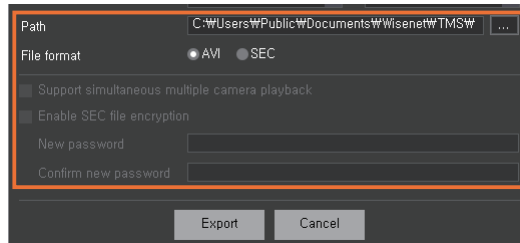
4. When the **Export video** dialog box appears, select one or more desired cameras. Multiple camera images can be exported at the same time.



5. Set the time range of the recorded video to be exported.



6. Set the path to save the export file.



7. Set the File format.

If you select SEC file, the following options are available:

- **Support simultaneous multiple camera playback:** After exporting multiple video files, you can play back recorded images from multiple cameras at the same time when playing back from the backup viewer.
- **Enable SEC file encryption:** When using the SEC file format, you can set a password for the export file.



Note

When playing back the exported file in **Backup Viewer**, you must enter the password to play it. Remember your password.

8. Click the **Export** button. Click the **Cancel** button to cancel the export.

View Report

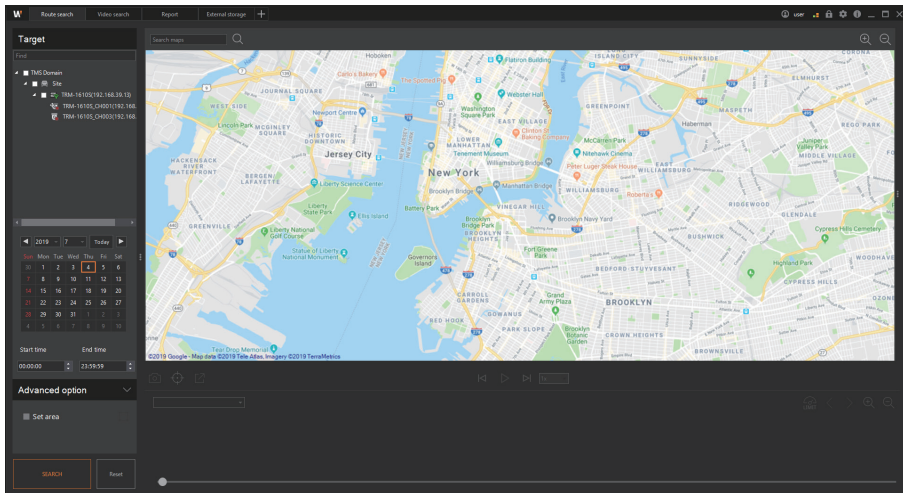
You can search the event log for GPS information, devices, and systems or export a list of detected events to a file.

Opening the Menu Page

1. Launch **TMS Console**. For more information, refer to [Running the Program](#).
2. When the Login dialog box appears, enter your ID and password and click the **Login** button.

A screenshot of the WiseNet TMS login dialog box. The dialog has a dark background with the 'wiseNET TMS' logo at the top. Below the logo, there are three input fields: 'Server' with a dropdown menu showing 'localhost', 'ID' with the text 'user1', and 'Password' which is empty. To the right of the 'Server' field is a gear icon. To the right of the 'ID' and 'Password' fields is a button labeled 'Login', which is highlighted with an orange border. Below the input fields are two checkboxes: 'Save ID' which is checked, and 'Auto login' which is unchecked. A close button (X) is in the top right corner of the dialog.

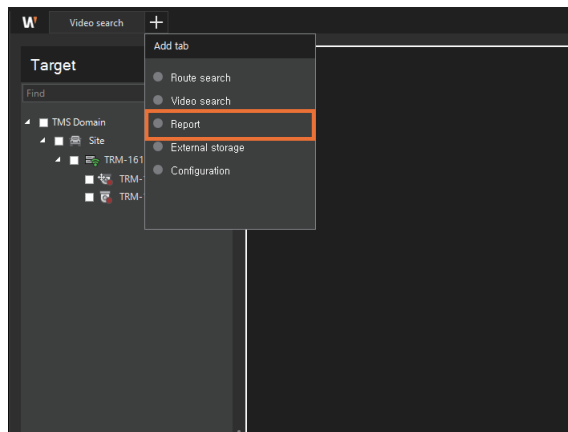
- In case of normal login, the following initial screen appears:



Note

The **TMS Console** screen may be configured differently depending on the menu selected by the user.

3. If you cannot see the **Report** tab at the start of the program, click the [+] button on the upper left and select the **Report** from the **Add tab** dialog.

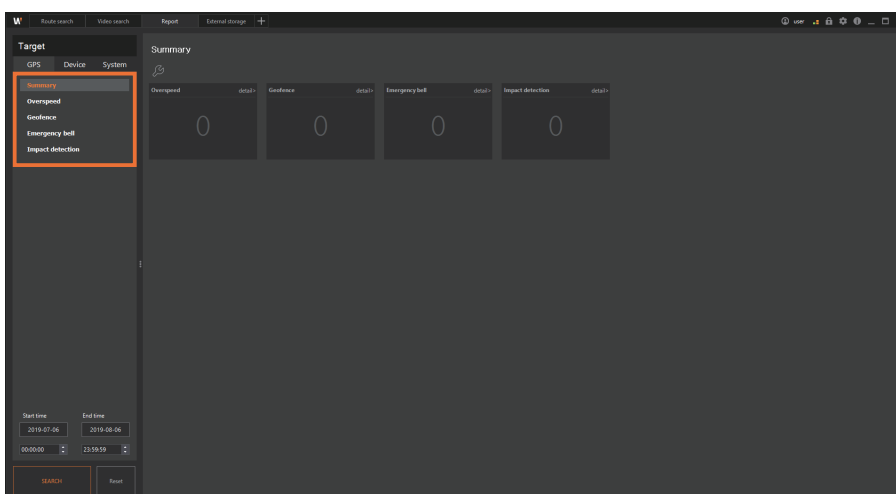


Event Log Search

GPS Event Search

You can search the event log generated from the GPS information base when you drive. You can summarize the events that occurred or view them in detail by event item.

1. In the **Report** menu page, click the **GPS** tab.
2. Click the desired item.



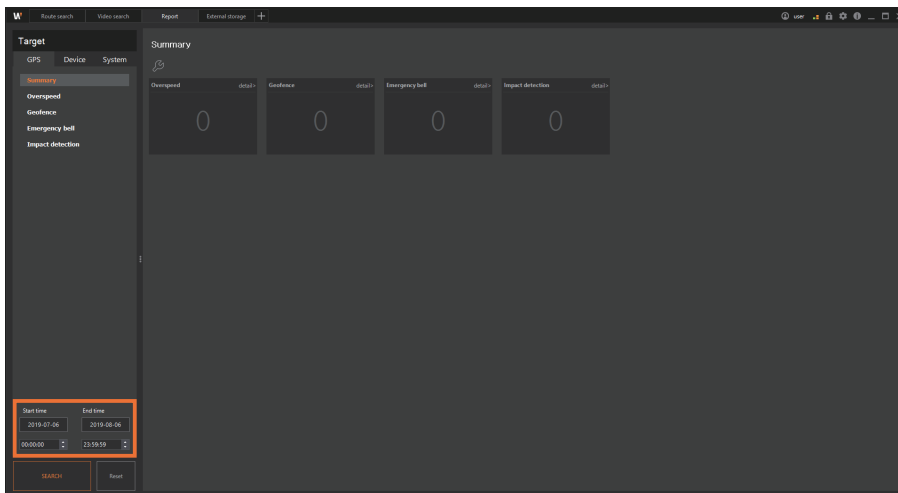
- **Summary:** You can see the number of events generated by each event item.
- **Overspeed, Geofence, Emergency bell, Impact detection:** You can search the log of the event.



Note

For Event Terminology, see [Event Terminology](#).

3. Set the search start time and end time.

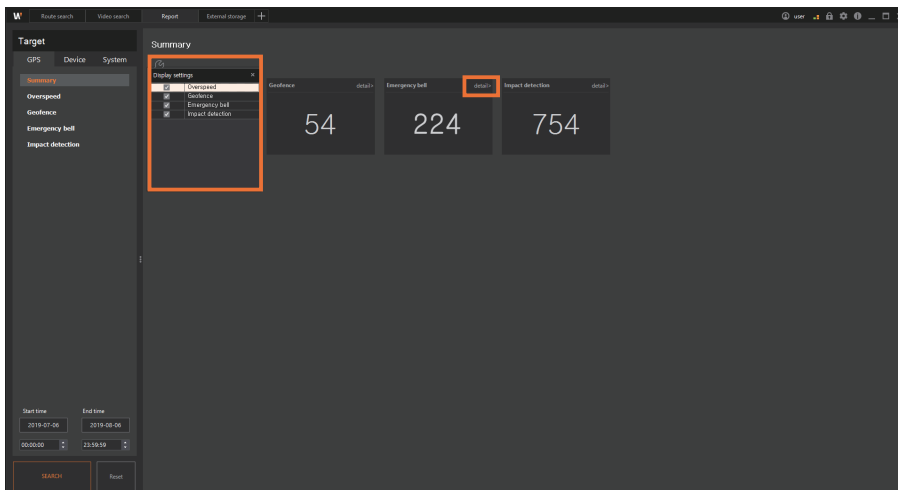


4. Click the **SEARCH** button. The search results then appear in the event list.

■ View Event Log Summary

The number of events that occurred during the search period is counted. Click **detail** to view the details of the event.

- You can set the event items to be displayed in the event list by clicking the  button above the event list.



■ **View Event Log Details**

You can view the details of the events that occurred during the search period.

- You can set the items to be displayed in the detailed list by clicking the  button above the event list.
- By filtering the event list by item, you can quickly search for the desired list.

[illegible]

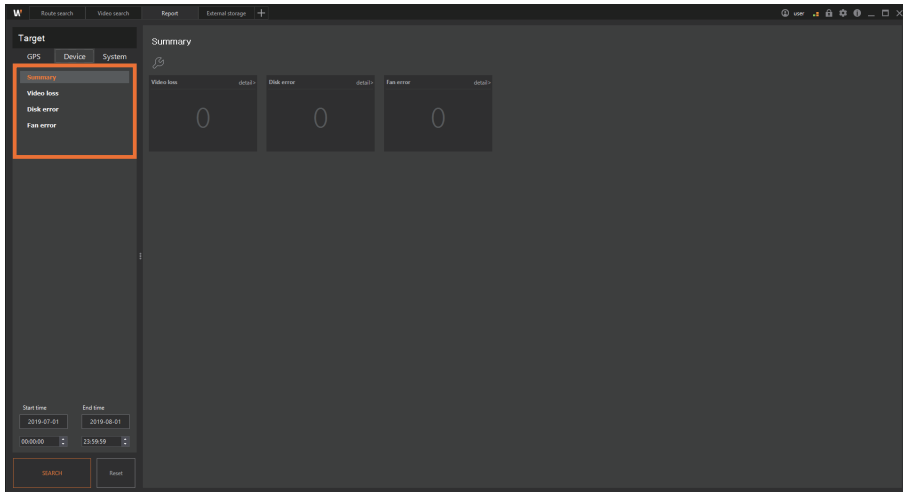
Note

The vehicle name in the event list displays the site name you set in Configuration Manager.

Device Event Search

You can retrieve the event log from the mobile NVR. You can also summarize the events that occurred or view them in detail by event item.

1. In the **Report** menu page, click the **Device** tab.
2. Click the desired item.



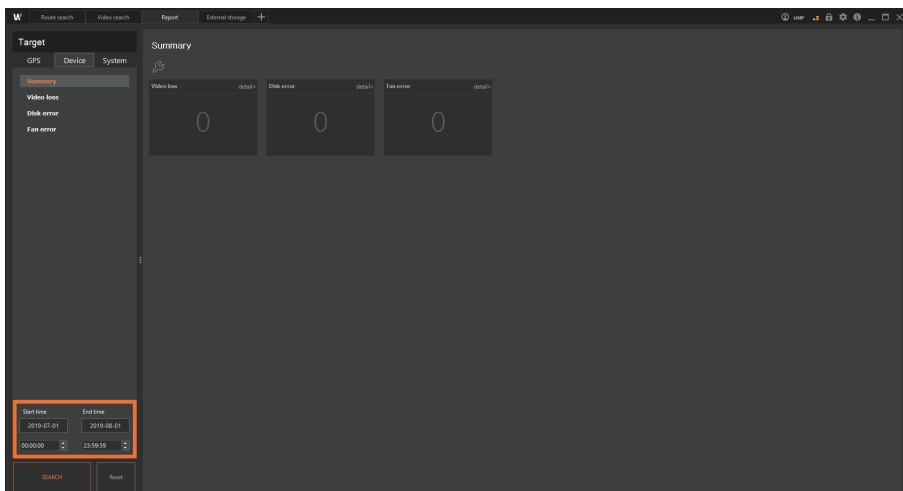
- **Summary:** You can see the number of events generated by each event item.
- **Video loss, Disk error, Fan error:** You can search the log of the event.



Note

For Event Terminology, see [Event Terminology](#).

3. Set the search start time and end time.

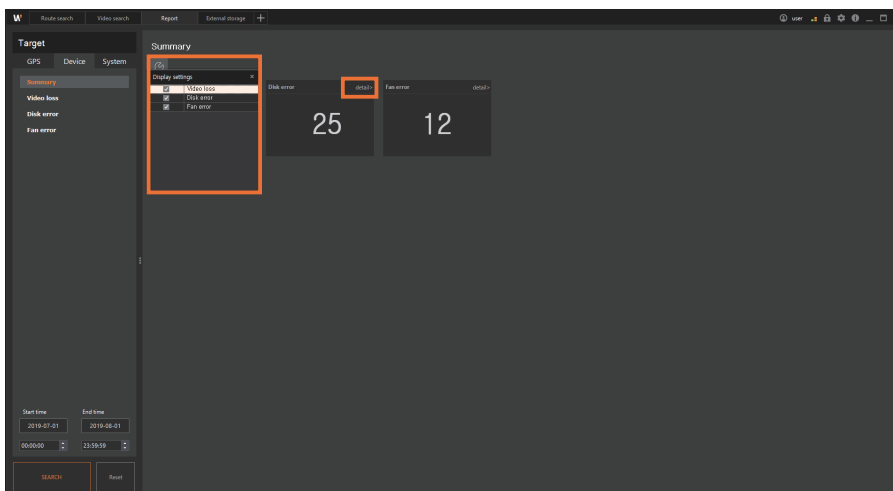


- Click the **SEARCH** button. The search results then appear in the event list.

■ View Event Log Summary

The number of events that occurred during the search period is counted. Click **detail** to view the details of the event.

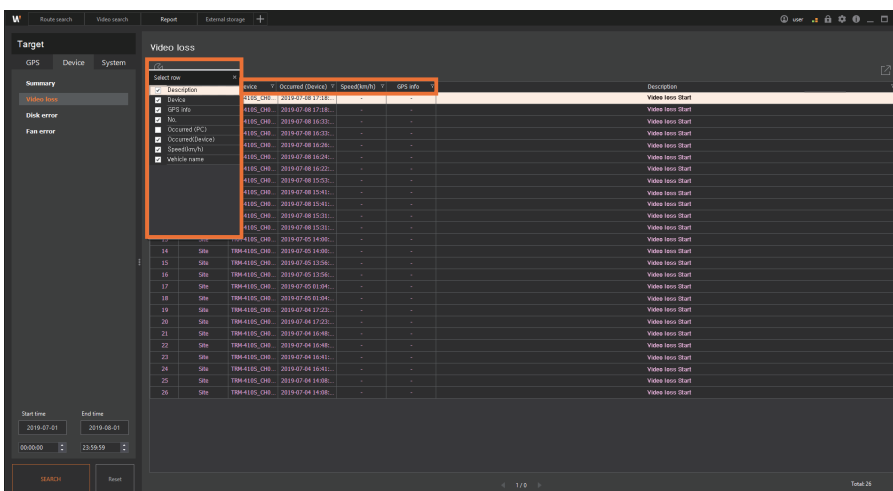
- You can set the event items to be displayed in the event list by clicking the  button above the event list.



■ View Event Log Details

You can view the details of the events that occurred during the search period.

- You can set the items to be displayed in the detailed list by clicking the  button above the event list.
- By filtering the event list by item, you can quickly search for the desired list.

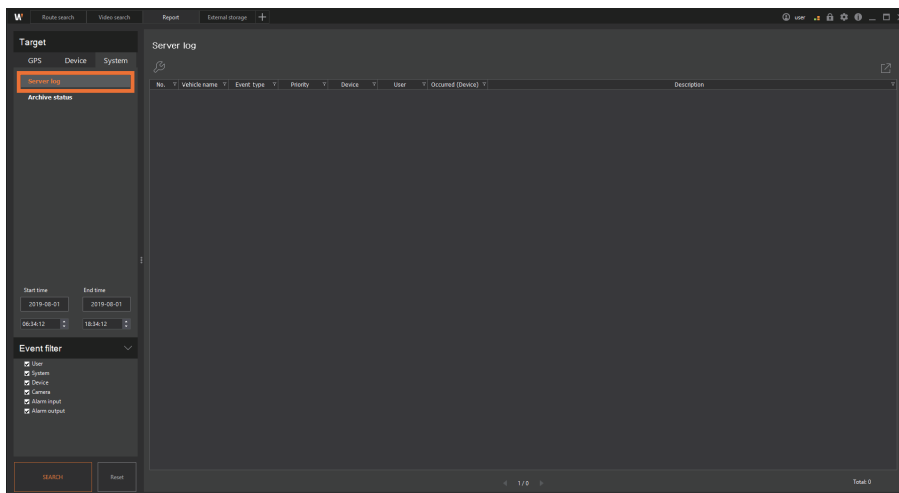


System Event Search

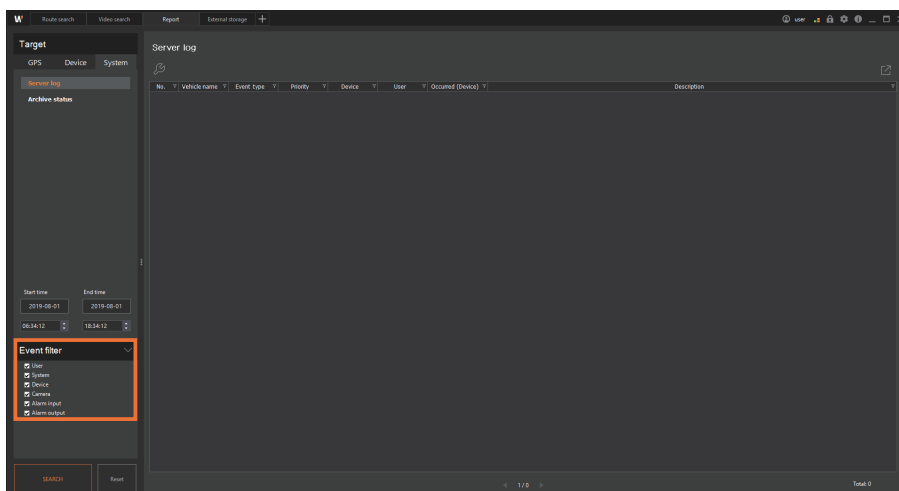
You can check the server log and the last archive log of the devices registered in TMS Server.

Server Log Check

1. In the **Report** menu page, click the **System** tab.
2. Click **Server log**.



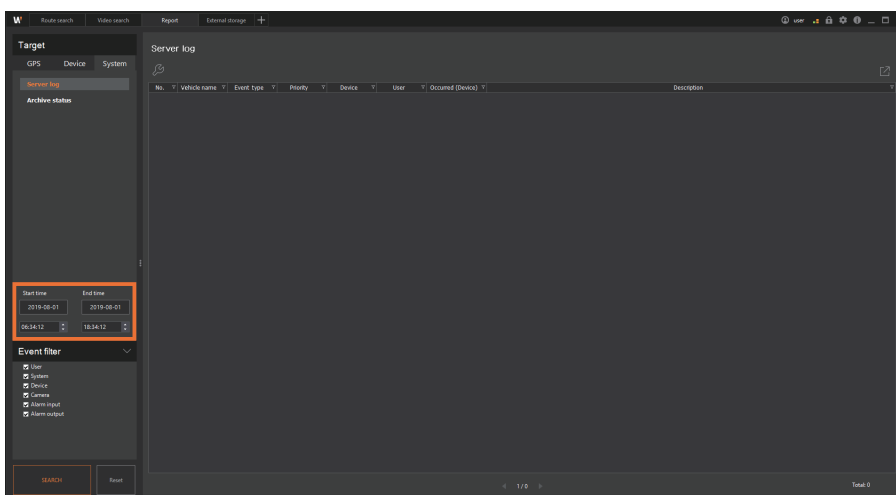
3. In **Event filter**, click the event item you want to search.



Note

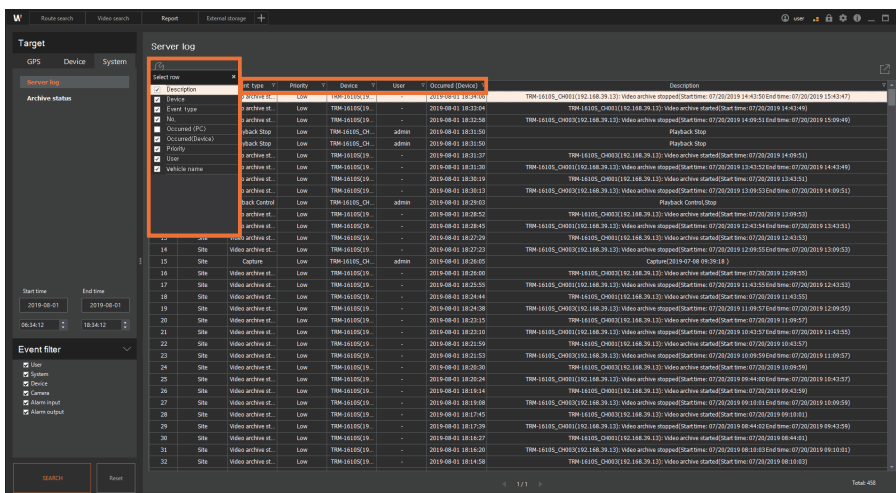
For Event Terminology, see [Event Terminology](#).

4. Set the search start time and end time.



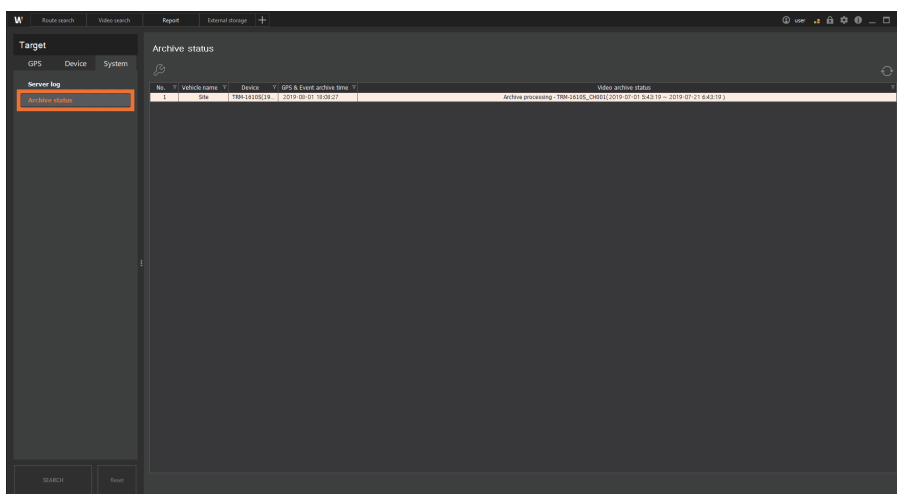
5. Click the **SEARCH** button. You can view the details of the events that occurred during the search period.

- You can set the items to be displayed in the detailed list by clicking the  button above the event list.
- By filtering the event list by item, you can quickly search for the desired list.

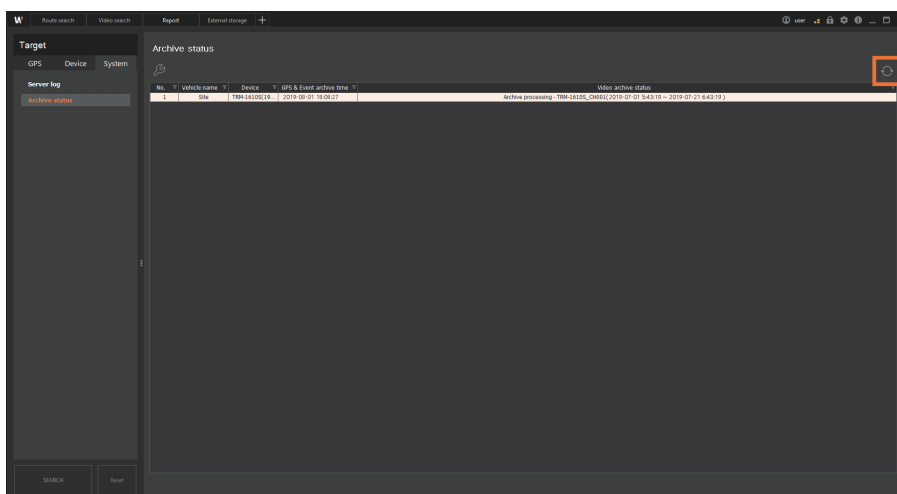


Latest Archive Log Check

1. In the **Report** menu page, click the **System** tab.
2. Click **Archive status**. The last archive log for each device registered with TMS Server then appears.



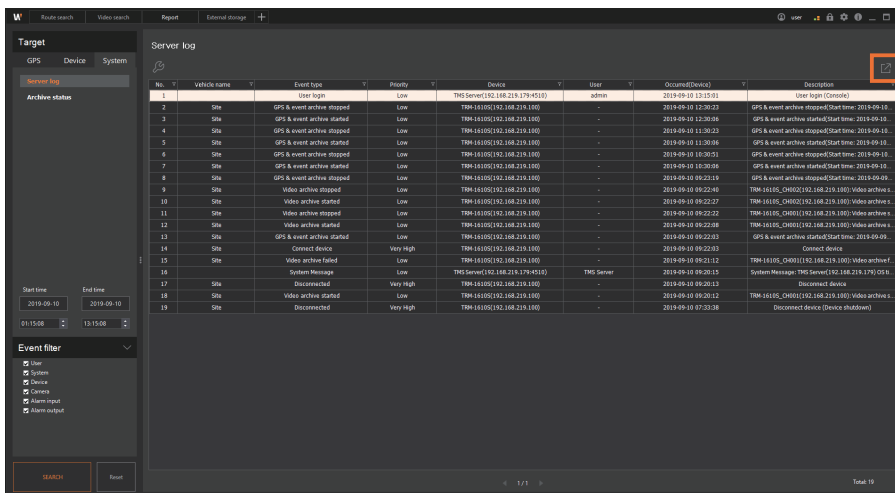
3. Click the  button to update the log list with the latest information.



Event Log Export

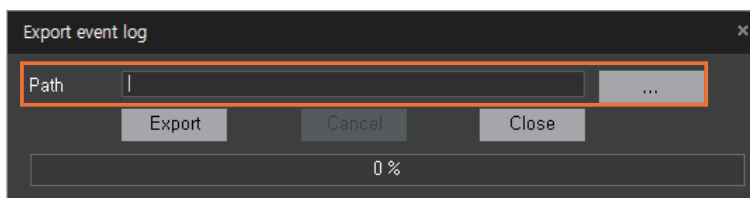
You can export the retrieved event results to a file.

1. In the **Report** menu page, search for the desired event log. For more information about event log search, see [Event Log Search](#).
2. Click the  button above the event list.



No.	Vehicle status	Event type	Priority	Device	User	Occurs@Device	Description
1	Site	User login	Low	TMS Server(192.168.219.179-010)	admin	2019-09-10 12:15:01	User login (Console)
2	Site	GPS & event archive stopped	Low	TMS-16105(192.168.219.100)	-	2019-09-10 12:20:23	GPS & event archive stopped(Start time: 2019-09-10 12:20:23)
3	Site	GPS & event archive started	Low	TMS-16105(192.168.219.100)	-	2019-09-10 12:20:06	GPS & event archive started(Start time: 2019-09-10 12:20:06)
4	Site	GPS & event archive stopped	Low	TMS-16105(192.168.219.100)	-	2019-09-10 11:30:23	GPS & event archive stopped(Start time: 2019-09-10 11:30:23)
5	Site	GPS & event archive started	Low	TMS-16105(192.168.219.100)	-	2019-09-10 11:30:06	GPS & event archive started(Start time: 2019-09-10 11:30:06)
6	Site	GPS & event archive stopped	Low	TMS-16105(192.168.219.100)	-	2019-09-10 10:30:51	GPS & event archive stopped(Start time: 2019-09-10 10:30:51)
7	Site	GPS & event archive started	Low	TMS-16105(192.168.219.100)	-	2019-09-10 10:30:06	GPS & event archive started(Start time: 2019-09-10 10:30:06)
8	Site	GPS & event archive stopped	Low	TMS-16105(192.168.219.100)	-	2019-09-10 09:22:19	GPS & event archive stopped(Start time: 2019-09-10 09:22:19)
9	Site	Video archive stopped	Low	TMS-16105(192.168.219.100)	-	2019-09-10 09:22:40	TMS-16105_CH002(192.168.219.100): Video archive s...
10	Site	Video archive started	Low	TMS-16105(192.168.219.100)	-	2019-09-10 09:22:27	TMS-16105_CH002(192.168.219.100): Video archive s...
11	Site	Video archive stopped	Low	TMS-16105(192.168.219.100)	-	2019-09-10 09:22:23	TMS-16105_CH001(192.168.219.100): Video archive s...
12	Site	Video archive started	Low	TMS-16105(192.168.219.100)	-	2019-09-10 09:22:08	TMS-16105_CH001(192.168.219.100): Video archive s...
13	Site	GPS & event archive started	Low	TMS-16105(192.168.219.100)	-	2019-09-10 09:22:03	GPS & event archive started(Start time: 2019-09-10 09:22:03)
14	Site	Connect device	Very High	TMS-16105(192.168.219.100)	-	2019-09-10 09:22:03	Connect device
15	Site	Video archive failed	Low	TMS-16105(192.168.219.100)	-	2019-09-10 09:21:12	TMS-16105_CH001(192.168.219.100): Video archiv...
16	Site	System Message	Low	TMS Server(192.168.219.179-010)	TMS Server	2019-09-10 09:20:15	System Message: TMS Server(192.168.219.179) OS h...
17	Site	Disconnected	Very High	TMS-16105(192.168.219.100)	-	2019-09-10 09:20:13	Disconnect device
18	Site	Video archive started	Low	TMS-16105(192.168.219.100)	-	2019-09-10 09:20:12	TMS-16105_CH001(192.168.219.100): Video archiv...
19	Site	Disconnected	Very High	TMS-16105(192.168.219.100)	-	2019-09-10 07:33:08	Disconnect device (Device shutdown)

3. When the **Export event log** dialog box appears, set the path to save the log file.



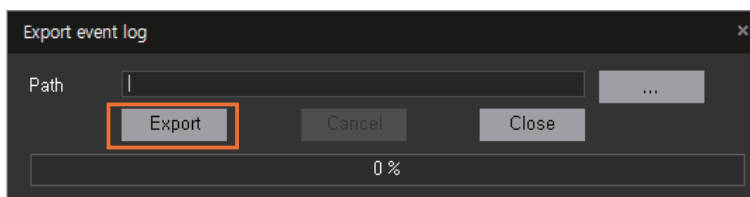
Export event log

Path

Export Cancel Close

0 %

4. Click the **Export** button. The log file supports CSV files only.



Export event log

Path

Export Cancel Close

0 %



Note

Archive status cannot be viewed as a file.

Event Terminology

Device	Input Event Name	Description
Storage	Device	Refers to all events that are not managed as a device event in the Event > Management menu. (E.g., Start recording on remote device, Stop recording on remote device, and Restart after device update)
	Connect device	An event occurs when the Mobile NVR is connected.
	Disconnected	An event occurs when the Mobile NVR is disconnected.
	Disk error	An event occurs when data cannot be read in the Storage of the Mobile NVR.
	Device shutdown	An event occurs when the Mobile NVR system is ended.
	Failed to connect	An event occurs when the Mobile NVR is not connected.
	Overspeed	An event occurs when the driving speed of the vehicle exceeds a set speed in the Mobile NVR.
	Geofence entered	An event occurs when a vehicle enters a set Geofence area.
	Geofence exited	An event occurs when a vehicle exits from a set Geofence area.
	Impact detection	An event occurs when impact or vibration is detected by the Mobile NVR.
	Emergency bell	An event occurs when the [EMERGENCY] button on the control box connected to the Mobile NVR is pressed.
	GPS & event archive started	An event occurs when GPS and event archiving is started.
	GPS & event archive stopped	An event occurs when GPS and event archiving is stopped or ended.
	GPS & event archive failed	An event occurs when GPS and event archiving fails.
	Video archive started	An event occurs when video archiving is started.
	Video archive stopped	An event occurs when video archiving is stopped or ended.
	Video archive failed	An event occurs when video archiving fails.
	System power error	An event occurs when the Mobile NVR system is not powered on.

Device	Input Event Name	Description
Camera	Motion detection	An event occurs when motion is detected in an area of interest set for the camera.
	Video loss	An event occurs when the Mobile NVR fails to receive a camera video.
	IVA (Intelligent Video Analytics)	An event occurs when an IVA is detected.
	Crossing	An event occurs when an object crossing a virtual line set for the camera is detected.
	Enter	An event occurs when a moving object enters a virtual area set for the camera from outside.
	Exit	An event occurs when a moving object exits from inside a virtual area set for the camera toward the outside.
	Appear/Disappear	An event occurs when an object that has not been in a virtual area set for the camera stays in the area for a certain period of time or longer, or an object that has been in the virtual area does not exist in the area for a certain period of time or longer.
	Tampering	An event occurs when the camera video is covered, or the position of the camera is changed.
	Auto tracking	An event occurs when a moving object in the camera video is automatically tracked.
	Face detection	An event occurs when a person's face is detected on the camera video.
	Audio detection	An event occurs when audio equal to or higher than the level set for the camera is detected.
	Defocus detection	An event occurs when the focus of the camera lens is detected as blurred.
	Intrusion	An event occurs when a moving object is detected in a virtual area set for the camera for a certain period of time.
	Loitering	An event occurs when a loitering object's motion is detected in a virtual area set for the camera for a certain period of time.
	Fog detection	An event occurs when fog is formed on the camera, or a video showing cloudy weather is detected.
	Scream	An event occurs when the camera detects a screaming or shouting person.
	Gunshot	An event occurs when the camera detects shots not fired continuously.
	Explosion	An event occurs when the camera detects an explosion.
	Crashing glass	An event occurs when the camera detects a sound of shattering glass.

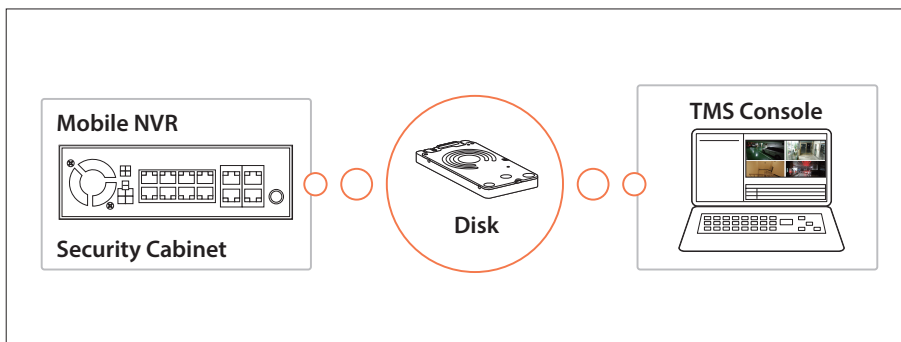
Exporting External Storage Data

You can connect the disk of the mobile NVR directly to **TMS Server**, search the event stored in the mobile NVR, and export the event image to a file.

Before Getting Started

Connecting to an External Device

After disconnecting the disk from the mobile NVR, connect the disk to the PC with **TMS Server** or **TMS Console** using the USB SATA adapter.



Installing Paragon software

Paragon software needs to be installed to enable the Export to External Storage function.



Note

- The software allows a hard disk that uses Linux file system to be read on Windows.
- TMS Appliance includes the installation of Paragon software and license activation. Aside from TMS Appliance, also install **TMS Console** in a separate PC, and use the Paragon software only when using this function.

Installing the software

Visit the website below to download and install the software. Then, buy a license for the software and activate it to use the software.

<https://paragon-software.com>



Note

"Linux File Systems for Windows by Paragon Software" provided by Paragon Software is recommended for the use of this function.

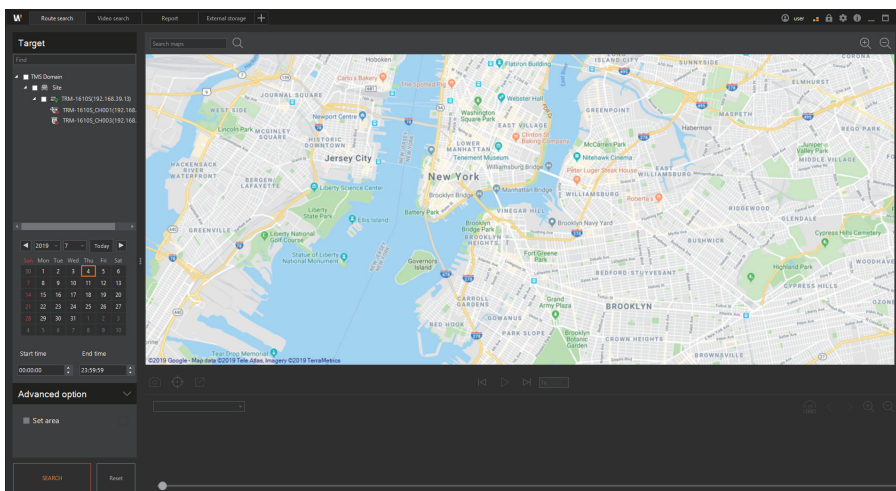
Opening the Menu Page

1. Launch **TMS Console**. For more information, refer to [Running the Program](#).
2. When the Login dialog box appears, enter your ID and password and click the **Login** button.



The image shows a dark-themed login dialog box for Wisenet TMS. At the top center is the "Wisenet TMS" logo. Below it is a horizontal line. The login form contains the following elements: a "Server" dropdown menu with "localhost" selected and a gear icon to its right; an "ID" text input field containing "user1"; a "Password" text input field which is currently empty; a "Login" button to the right of the ID and Password fields, which is highlighted with an orange border; and two checkboxes at the bottom: "Save ID" (checked) and "Auto login" (unchecked). A close button (X) is located in the top right corner of the dialog.

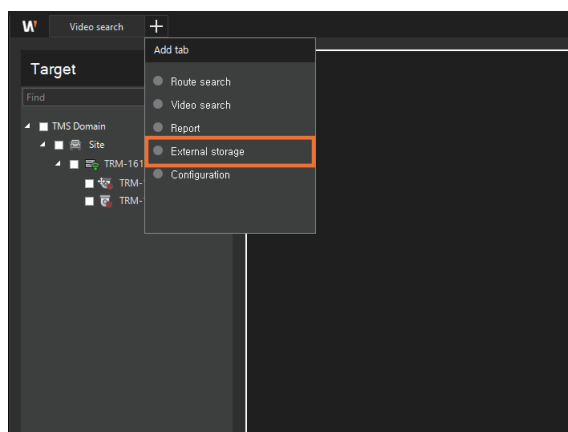
- In case of normal login, the following initial screen appears:



Note

The **TMS Console** screen may be configured differently depending on the menu selected by the user.

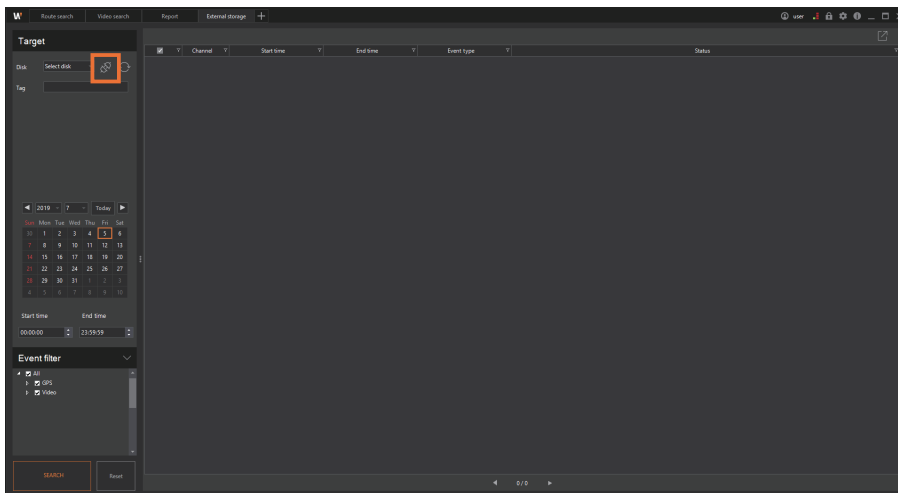
3. If you cannot check the **External storage** tab at the start of the program, click the [+] button on the upper left, and then select the **External storage** in the **Add tab** dialog box.



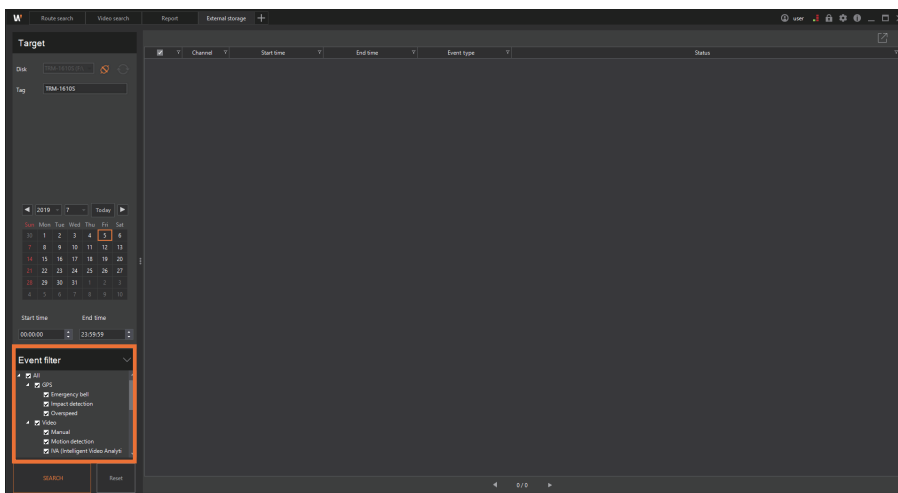
Event Search and Export

You can search for events stored in external storage devices and export the event images to a file.

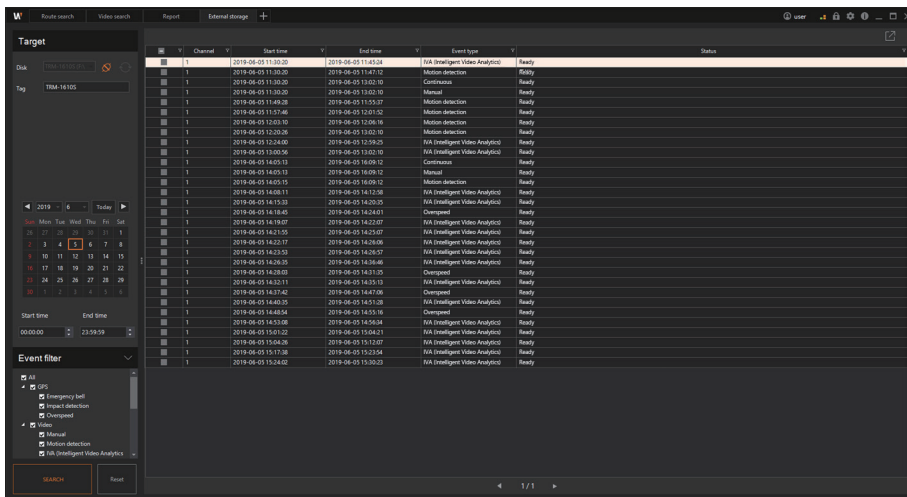
1. After selecting the disk to search, click the  button. The tag window displays the name of the disk.



2. Select the date and time to search.
3. In **Event filter**, select the event you want to search for.

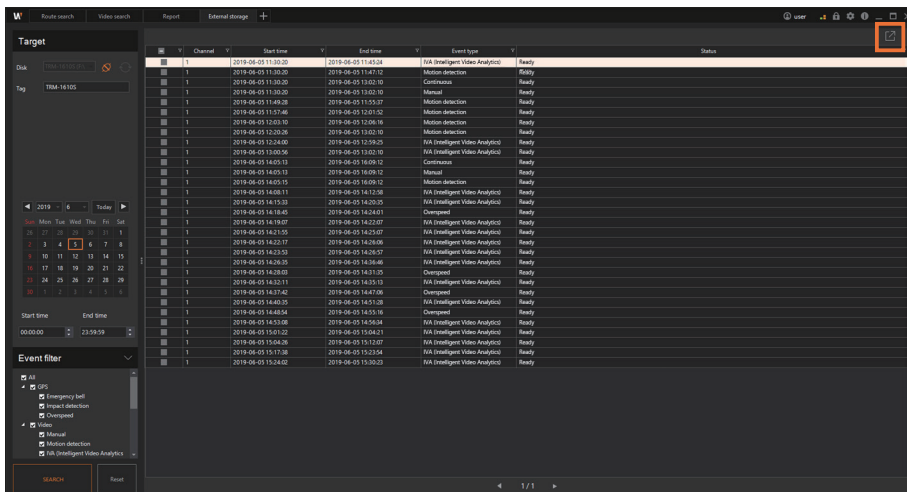


4. Click the **SEARCH** button. The search results then appear in the list.



5. Click the  button to export the search list to a file. Files exported from an external storage device are saved in SEC file format.

- Only the checked  list to the left of the search list will be exported. If you want to export the entire list that was searched, click the checkbox above the search results list to select the entire list.
- If you cancel the export, the exported data will be deleted.

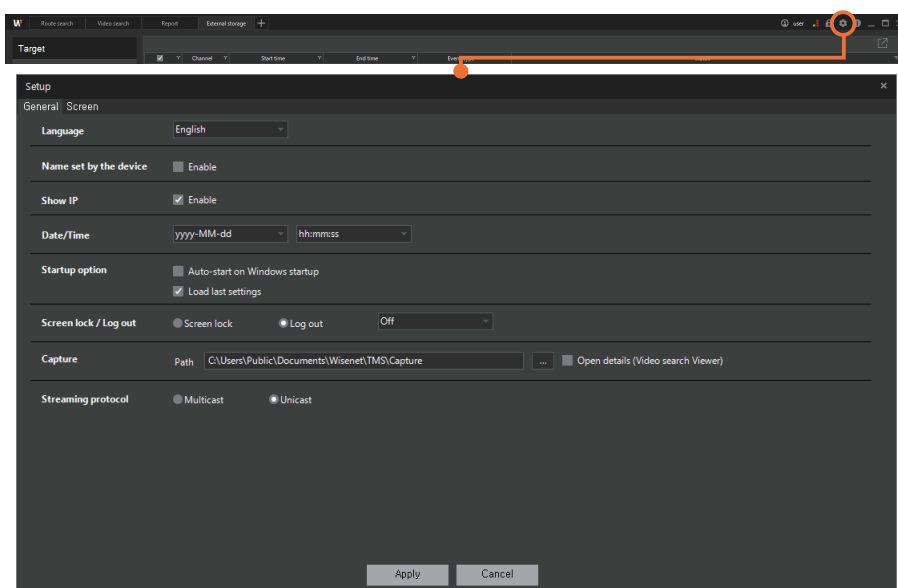


Configuring TMS Console Preferences

You can set the usage environment of **TMS Console**.

Opening the Menu Page

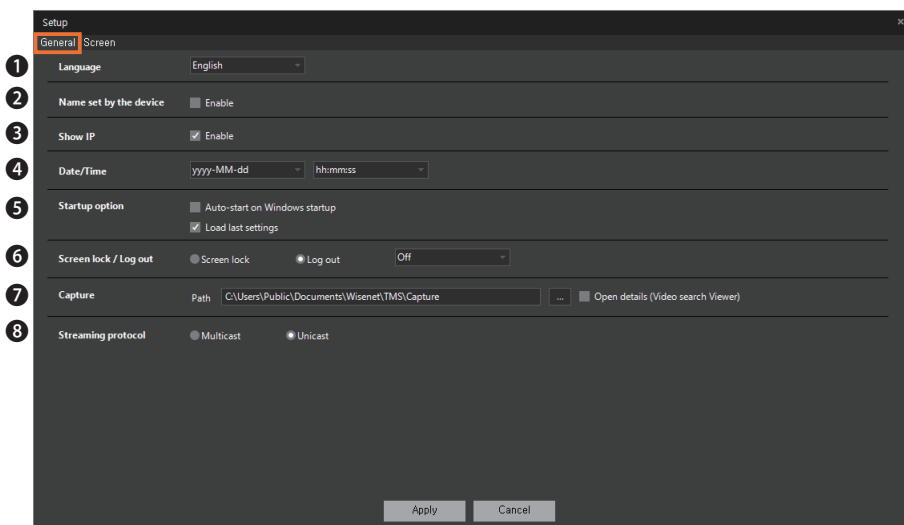
1. Launch **TMS Console**.
2. When the Login dialog box appears, enter your ID and password and click the **Login** button.
3. Click the  button on the upper right.



Configuring General Settings

You can set the general usage environment of **TMS Console** such as language, date and time, and capture path settings.

1. Open the **Setup** menu page.
2. Click the **General** tab on the upper left. You can set the following general items:



Number	Setting Items	Description
①	Language	You can set the language.
②	Name set by the device	The name set on the device is displayed in the device list and on the video screen. • If unchecked, the configuration manager displays the registered name. • Ex.: Camera 01, Alarm 01, ...
③	Show IP	You can have the device's IP information displayed in the device list.
④	Date/Time	You can set the date and time format displayed in OSD. • Date format: yyyy (year), MM (month), dd (days) • Time format: hh (hour), mm (minutes), ss (seconds)
⑤	Startup option	You can set the screen display method when starting a new program. • Auto-start on Windows startup: You can run the program automatically when starting Windows. • Load last settings: You can see the last used menu on the start screen.

Number	Setting Items	Description
6	Screen lock / Log out	• Screen lock: For security purposes, you can block the use of the program when there is no movement of the keyboard or mouse for a specified period of time. • Log out: For security purposes, you can automatically log out of TMS Console when there is no keyboard or mouse movement for a specified amount of time. • Set time: Click the drop-down list to set the time when you want to lock the screen or log out. The options that can be set are as follows: – Off: The screen lock or logout feature is disabled. – 5 min / 10 min / 15 min: The screen locks or logs out after the set time.
7	Capture	You can specify the path to capture the recorded image and save it as an image file. • Open details: If you click the Capture button, the Capture dialog box appears. You can set the display path and the information displayed on the image. Open details is available only in image search.
8	Streaming protocol	To send data from TMS Server to TMS Console, you can choose between multicast or unicast. To use multicast, select TMS Server as the multicast of camera profiles registered in the device under Configuration > Device > Registration.



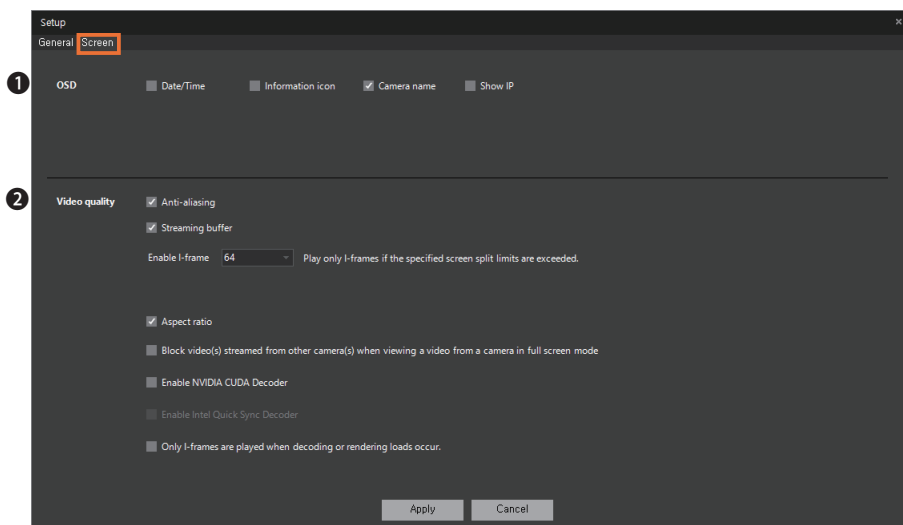
Note

- Unicast is a one-to-one communication method used when there is only one recipient of data.
- Multicast is a one-to-many communication method used when a party receiving data is a specific group of multiple addresses. When sending data to multiple network devices, you can do so at once without the inconvenience of having to send them individually.

Screen Setting

You can set the search environment such as OSD information and image quality.

1. Open the **Setup** menu page.
2. Click the upper left **Screen** tab. You can set the following screen-related items:



Number	Setting Items	Description
1	OSD	The date and time, camera name, event display, IVA rules, etc. are displayed on the video screen. • Date/Time: The date and time of the mobile NVR are displayed on the video screen. • Information icon: The recording status, PTZ support, etc. are shown under the image screen. • Camera name: The camera name is shown on the upper left of the video screen. The camera name set in TMS Server is displayed by default. To use the camera name set in the mobile NVR, select the Name set by the device. • Show IP: The IP information of the mobile NVR can be displayed.

Number	Setting Items	Description
②	Video quality	The following options can be set for the image quality and transmission method of recorded images: • Anti-aliasing: You can improve the aliasing phenomenon wherein the pixels look like a stairway when playing video in TMS Console. Using anti-aliasing will improve the quality of the image, but it can cause streaming to stop. • Streaming buffer: You can play back evenly when image delay occurs due to network and other usage environment. Using streaming buffers allows more uniform video playback but may cause delays in streaming. • Enable I-frame: To prevent overload of the system, I-frame (reference image) can be played back if the image is divided into more than the set number of channels. • Aspect ratio: You can enlarge or reduce the size of the image while maintaining the aspect ratio of the camera image resolution and view the image in full screen. • Block video(s) streamed from other camera(s) when viewing a video from a camera in full screen mode: It is a function of preventing network overload. It can suspend the reception of camera video of the remaining monitoring channel when viewing a specific channel in full screen during multi-channel monitoring. – Selecting this function can prevent overload of the network. If you switch 1 channel video to full screen and switch to multi-channel monitoring screen, however, receiving full video may take time. • Enable NVIDIA CUDA Decoder: If you have a hardware decoder (NVIDIA CUDA decoder) installed on your PC, you can use that decoder as a TMS video decoder. • Enable Intel Quick Sync Decoder: If a hardware decoder (Intel's Quick Sync Decoder) is installed separately on your PC, you can use that decoder as a TMS video decoder. • Only I-frames are played when decoding or rendering loads occur: If decoding and rendering performance deteriorates due to overloading of the system, you can set to play only I-frames.

Appendix

System Requirements

TMS Console

	Minimum specifications	Recommended specifications
CPU	Intel i5-4670@3.40 GHz	Intel i7-4770@3.40 GHz Xeon E3-1275 v5 (8M Cache 3.6 GHz)
VGA	Geforce GTX 740 (RAM 1 GB) 6th-Generation Intel Processor Graphics	- Geforce GTX 960 (RAM 2 GB) or above when using CUDA H/W Decoder - HD Graphics P530 or above when using Intel Quick Sync H/W Decoder
RAM	8 GB or above	16 GB or above
OS	Windows 7/8/8.1/10 (64-bit) * Only 64-bit operating systems are supported.	Windows 10 (64-bit) * Only 64-bit operating systems are supported.
HDD	After installing the operating system and TMS Console , 20 GB of free space is required.	

Product Specifications

System		
Device Management	Register up to 128 devices per server.	
	Operate up to 10,000 cameras for the Domain.	
Archive Bandwidth	Maximum of 520 Mbps	
Software Structure	Server/Client	Multiserver clustering, Max. of 28 servers
Client	Console Client	Support for simultaneous access by up to 35 units per server.
Support Device	Wisenet Mobile NVR	
Basic Components		
TMS Server	Server clustering	Server data sharing
	User management	Device connection permissions, function access authorization
	Central device settings	Automatic/Manual registration of the device and additional TMS Server
	Event settings	Set the 4-step importance level. Manage the color for each event.
TMS Console	Tab-based window	Route search, Video search, Report, External storage, Configuration manager
	Output channel	Max. of 64 channels for a single tab
	Decoding	Support for hardware accelerator (CUDA, Intel Quick Sync)
	Playback	Multichannel play
Languages Supported	Korean, English, Croatian, Czech, Danish, Dutch, Finnish, French, German, Greek, Hungarian, Italian, Norwegian, Polish, Portuguese, Romanian, Russian, Serbian, Spanish, Swedish, Taiwanese, Thai, Turkish	

Service Port

Refer to the list of ports used in Wisenet TMS.

Name	Port	Protocol
System Manager	9999, 61616, 9876 (PostgreSQL)	TCP for Web Service (9999)
		Active MQ (61616)
Media Server	4510-4517	TCP (4510, 4511)
		SSL (4512, 4513)
		RTSP (4515, 4516, 4517)



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