Mobile Recorder

User Manual

DR-M216P

WARNING

RISK OF ELECTRIC SHOCK
DO NOT OPEN

WARNING: TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED
SERVICE PERSONNEL.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

COMPLIANCE NOTICE OF FCC:

THIS EQUIPMENT HAS BEEN TESTED AND FOUND TO COMPLY WITH THE LIMITS FOR A CLASS A DIGITAL DEVICE, PURSUANT TO PART 15 OF THE FCC RULES. THESE LIMITS ARE DESIGNED TO PROVIDE REASONABLE PROTECTION AGAINST HARMFUL INTERFERENCE WHEN THE EQUIPMENT IS OPERATED IN A COMMERCIAL ENVIRONMENT. THIS EQUIPMENT GENERATES, USES, AND CAN RADIATE RADIO FREQUENCY ENERGY AND IF NOT INSTALLED AND USED IN ACCORDANCE WITH THE INSTRUCTION MANUAL, MAY CAUSE HARMFUL INTERFERENCE TO RADIO COMMUNICATIONS. OPERATION OF THIS EQUIPMENT IN A RESIDENTIAL AREA IS LIKELY TO CAUSE HARMFUL INTERFERENCE, IN WHICH CASE USERS WILL BE REQUIRED TO CORRECT THE INTERFERENCE AT THEIR OWN EXPENSE.

WARNING: CHANGES OR MODIFICATIONS NOT EXPRESSLY APPROVED BY THE PARTY RESPONSIBLE FOR COMPLIANCE COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.

THIS CLASS OF DIGITAL APPARATUS MEETS ALL REQUIREMENTS OF THE CANADIAN INTERFERENCE-CAUSING EQUIPMENT REGULATIONS.

The information in this manual is believed to be accurate as of the date of publication. We are not responsible for any problems resulting from the use thereof. The information contained herein is subject to change without notice. Revisions or new editions to this publication may be issued to incorporate such changes.

The software included in this product contains some Open Sources. You may obtain the corresponding source code which we have to distribute according to the license policy. Go to System Setup - About page for more information. This product includes software developed by the University of California, Berkeley and its contributors, and software developed by the OpenSSL Project for use in the OpenSSL Toolkit (http://www.openssl.org/). Also, this product includes cryptographic software written by Eric Young (eay@cryptsoft.com), and software written by Tim Hudson (tjh@cryptsoft.com).

Covered by one or more claims of the patents listed at patentlist.accessadvance.com.

Important Safeguards

1. Read Instructions
All the safety and operating instructions should be read before the appliance is operated.

2. Retain Instructions
The safety and operating instructions should be retained for future reference.

3. Cleaning
Unplug this equipment from the power source before cleaning it. Do not use liquid aerosol cleaners. Use a damp soft cloth for cleaning.

4. Attachments
Never add any attachments and/or equipment without the approval of the manufacturer as such additions may result in the risk of fire, electric shock or other personal injury.

5. Power Sources
This equipment should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power, please consult your equipment dealer or local power company.

6. Power Cords
Operator or installer must remove power and other connections before handling the equipment.

7. Lightning
For added protection for this equipment during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the power source and disconnect the antenna or cable system. This will prevent damage to the equipment due to lightning and power-line surges.

8. Objects and Liquids
Never push objects of any kind through openings of this equipment as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind on the equipment.

9. Servicing
Do not attempt to service this equipment yourself. Refer all servicing to qualified service personnel.

10. Damage requiring Service
Unplug this equipment from the power source and refer servicing to qualified service personnel under the following conditions:

A. When the power cabling has been damaged.
B. If liquid is spilled, or objects have fallen into the equipment.
C. If the electronic components have been exposed to rain or water.
D. If the equipment does not operate normally by following the operating instructions, adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and may require extensive work by a qualified technician to restore the equipment to its normal operation.
E. If the equipment has been dropped or damaged.
F. When the equipment exhibits a distinct change in performance — this indicates a need for service.

11. Replacement Parts
When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer. Unauthorized substitutions may result in fire, electric shock or other hazards.

12. Safety Check
Upon completion of any service or repairs to this equipment, ask the service technician to perform safety checks to determine that the equipment is in proper operating condition.

13. Field Installation
This installation should be made by a qualified service person and should conform to all local codes.

14. Elevated Operating Ambient Temperature
If installed in an enclosed space, the operating ambient temperature of the environment may be greater than room ambient. Therefore, consideration should be given to installing the equipment in an environment compatible with the maximum rated ambient temperature.

15. Reduced Air Flow
Installation of the equipment should be such that the amount of airflow required for safe operation of the equipment is not compromised.

16. Mechanical Loading
Mounting of the equipment in the rack should be such that a hazardous condition is not caused by uneven mechanical loading.

17. Circuit Overloading
Consideration should be given to connection of the equipment to supply circuit and the effect that overloading of circuits might have on over current protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.

18. Reliable Grounding
Reliable grounding of equipment should be maintained.

19. Water/Moisture
Avoid installing in areas where water or moisture may accumulate (with the exception of exterior-mounted cameras as resistance to exterior moisture is part of its intended use).

WEEE (*Waste Electrical & Electronic Equipment*)

Correct Disposal of This Product
(Applicable in the European Union and other European countries with separate collection systems)

This marking shown on the product or its literature, indicates that it should not be disposed with other household wastes at the end of its working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate this from other types of wastes and recycle it responsibly to promote the sustainable reuse of material resources.

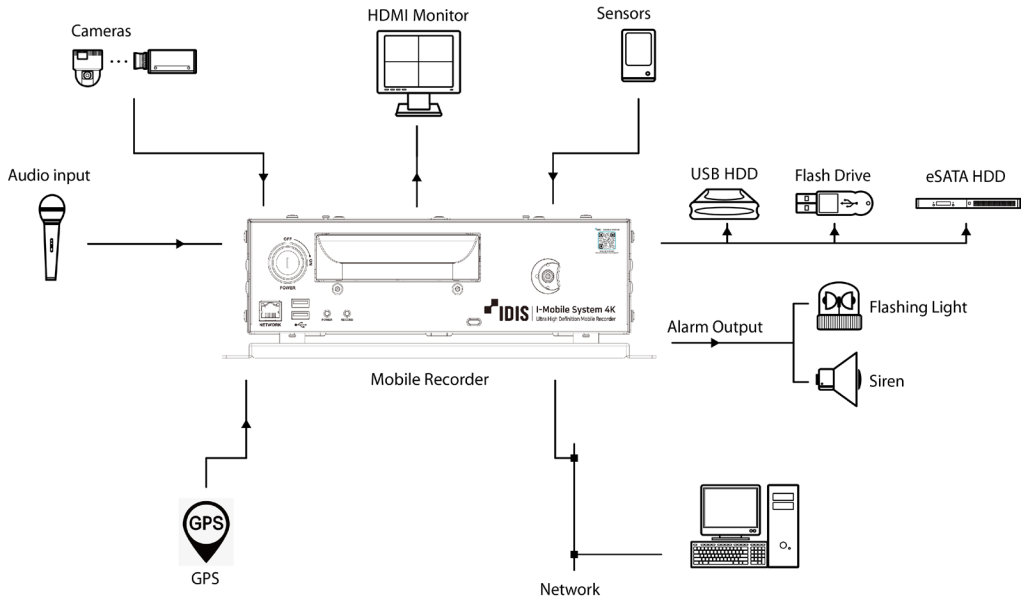
Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take this item for environmentally safe recycling.

Business users should contact their supplier and check the terms and conditions of the purchase contract. This product should not be mixed with other commercial wastes for disposal.

Table of Contents

Chapter 1 — Introduction

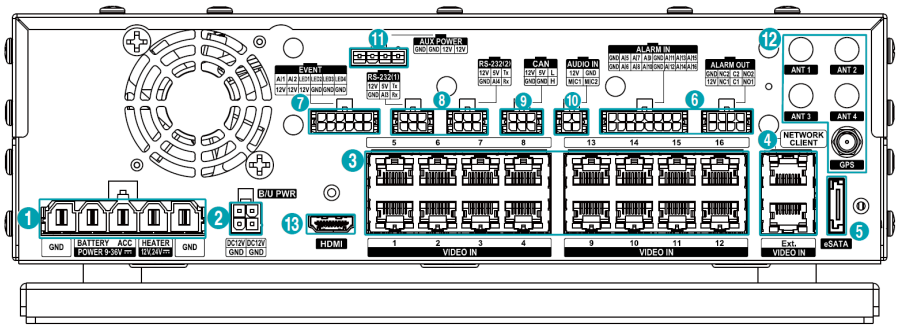
The IDIS® I-Mobile System 4K Ultra High Definition Mobile Recorder is designed for mobile applications and operates using 9 to 36 volts DC, which ensures compatibility with the typical 12 VDC and 24 VDC power systems found on vehicles. The Recorder provides viewing and recording capabilities for up to 16 cameras.



< Typical High Definition Mobile Recorder installation >

Chapter 2 — Installation

Rear Panel Connectors

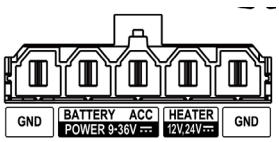


① Power Port	② Super Cap Port	③ Video In Ports	④ Network Ports
⑤ eSATA Port	⑥ Alarm Ports	⑦ Event Port	⑧ RS232 Ports
⑨ CAN Port	⑩ Audio In Port	⑪ AUX Power Port	⑫ WiFi/GPS Ports
⑬ HDMI Port			

Once all necessary connections have been made, attach the rear panel cover to the Recorder. This will prevent tampering by unauthorized persons.

WARNING: IT IS IMPORTANT THAT INSTALLATION BRACKETS AND CABLES DO NOT INTERFERE WITH ANY OF THE VEHICLE'S CONTROLS AND ALSO DO NOT BLOCK THE DRIVER'S VIEW OR REACH. FAILING TO HEED THESE WARNINGS COULD CAUSE AN ACCIDENT CAUSING SERIOUS INJURY OR DEATH.

Power Connection



Connect the power connector to the Recorder.

CAUTION: Make sure the power supply meets the requirement (9 ~ 36VDC, 36A) during operation.

The Recorder operates on a wide range of vehicles. It accepts power inputs ranging from 9 to 36 VDC. This allows it to operate on both 12 and 24 volt systems. The power connector has five pins.

- BATTERY: The BATTERY pin must be connected to fuses that are connected directly to the positive (+) battery power terminal. (Refer to *Chapter 3 — Operation and Configuration, System Setup* for details).
- ACC: The ACC pin must be connected to a fuse that is connected to the positive (+) power terminal that is turned on when the ignition switch is in an active or on position. When this signal turns off the recorder will continue to record video during the ignition off timeout. (Refer to *Chapter 3 — Operation and Configuration, System Setup* for details).
- HEATER: Connect the heater power connector to the Recorder. If the temperature inside the Recorder or the removable drive assembly is 32°F (0°C) or lower, the built-in heater will operate to increase the temperature until the temperature reaches 44.6°F (7°C). The Recorder will then boot up. After boot-up, the temperature sensor inside the Recorder continues monitoring the temperature to ensure the temperature remains adequate for operation.

CAUTION: When the heater power supply does not meet the requirement (9A@12VDC or 4.5A@24VDC) during operation, the Recorder and heater might be damaged. The maximum voltage limit of the heater is 30V.

WARNING: DO NOT TOUCH THE BOTTOM OR TOP OF THE REMOVABLE DRIVE WHEN REMOVING IT AFTER THE HEATER HAS BEEN OPERATING IN LOW TEMPERATURES. DURING OPERATION OF THE HEATER, THE TEMPERATURE OF THE DRIVE MAY INCREASE CAUSING INJURY.

- GND: The GND (Ground) pin should be connected directly to ground (-). Although it is possible to connect only one of the two pins, it is recommended to use two wires to create a more stable current path.

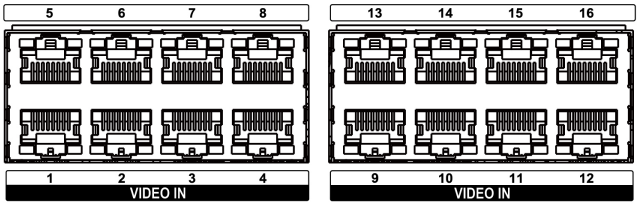
B/U PWR Connection

The B/U PWR connecter provides an input for a power loss data protection (PLDP) unit. The PLDP is charged to 12V in normal operating conditions. In the event of a power loss, the PLDP ensures the completion of the hard disk operation and the proper shutdown of the system. The PLDP is wired to J2 connector.

Connection

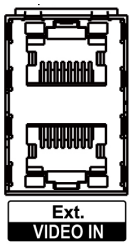
DC12V	VDC Output
GND	Chassis Ground

Video Connection



Connect network cameras to the Recorder using RJ-45 cable (Cat5e, or Cat6).

Network Connection

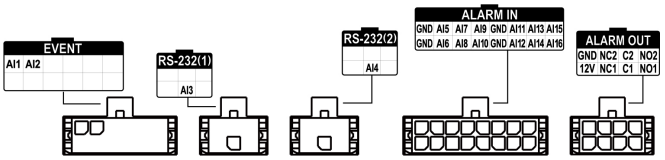


The Recorder can be networked using the 1000Mb Ethernet connector. Connect a Cat5e cable with an RJ-45 jack to the Recorder connector (on the upper side of two Ethernet connectors). The Recorder can be networked with a computer for remote monitoring, searching, configuration and software upgrades.

eSATA Connection

An eSATA port is provided to connect external storage devices for recording video.

Alarm Connection



AI 1 to 16 (Alarm-In): Use external devices to signal events to the Recorder. Mechanical or electrical switches can be wired to the AI (Alarm-In) and GND (Ground) connectors. The voltage range is from 0V to 50V. When the electrical switch is wired, the threshold voltage for NC (Normally Closed) is below 2.5V and for NO (Normally Open) is above 2.6V, and it should be stable at least 0.5 seconds to be detected.

GND (Ground): Connect the ground side of the Alarm input and/or alarm output to the GND connector.

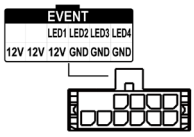
NOTE: All the connectors marked GND are common.

NC 1 to 2 /NO 1 to 2 (Relay Alarm Outputs): The Recorder can activate external devices such as buzzers or lights. Connect the device to the C (Common) and NC (Normally Closed) or C and NO (Normally Open) connectors. NC/NO is a relay output which sinks 0.5A@125VAC and 1A@30VDC. See *Chapter 3 – Configuration* for configuring alarm output.

Connection

AI (1 to 16)	Alarm Inputs 1 to 16
GND	Chassis Ground
NC (1 to 2)	Relay Alarm Outputs 1 to 2
NO (1 to 2)	Relay Alarm Outputs 1 to 2
C (1 to 2)	Relay Common 1 to 2
12V	VDC Output

Event Connection



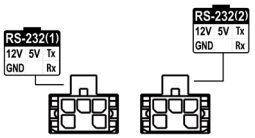
The Recorder can activate external LED devices. Heartbeat (LED 1), recording status (LED 2), alarm status (LED 3, LED 4) outputs are provided (50mA@12VDC).

- LED 1: The heartbeat LED blinks at a constant rate as long as the Recorder is operating and stops blinking if the Recorder stops operating.
- LED 2: The recording status LED blinks when the Recorder is recording on the hard disk drive.
- LED 3: The alarm status LED1 is lit when a configured alarm output is activated.
- LED 4: The alarm status LED2 is lit when a configured alarm output is activated.

Connection

LED 1	Heartbeat LED
LED 2	Recording Status LED
LED 3	Alarm Status LED1
LED 4	Alarm Status LED2
12V	VDC Output
GND	Chassis Ground

RS232 Connection



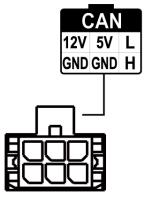
Two RS232 ports are provided to connect external devices such as GPS.

Connection

Master Unit				Slave Unit
Rx	→	To	→	TX
Tx	→	To	→	RX
GND	→	To	→	GND

Rx	Receive Data
Tx	Transmit Data
GND	Chassis Ground
12V	VDC Output
5V	VDC Output

CAN Connection



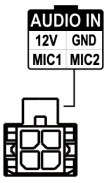
The Recorder can be controlled remotely by an external device such as the GPS or control system using CAN half-duplex serial communications signals.

Connection

Master Unit				Slave Unit
L	→	To	→	L
H	→	To	→	H
GND	→	To	→	GND

L	CAN_L Data
H	CAN_H Data
GND	Chassis Ground
12V	VDC Output
5V	VDC Output

Audio Connection



In addition to having audio channels with each camera connection, the recorder has two sources of external audio. Connect the audio sources (microphone) to MIC 1 and MIC 2 as needed.

Connection

MIC	Microphone Input
12V	VDC Output
GND	Chassis Ground

NOTE: The user is responsible to determine if local laws and regulations permit audio recording.

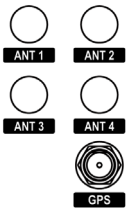
AUX Power Connection

The Recorder has a 12 VDC output connector which provides power to external devices up to 2A.

Connection

12V	VDC Output
GND	Chassis Ground

WiFi/GPS Connection

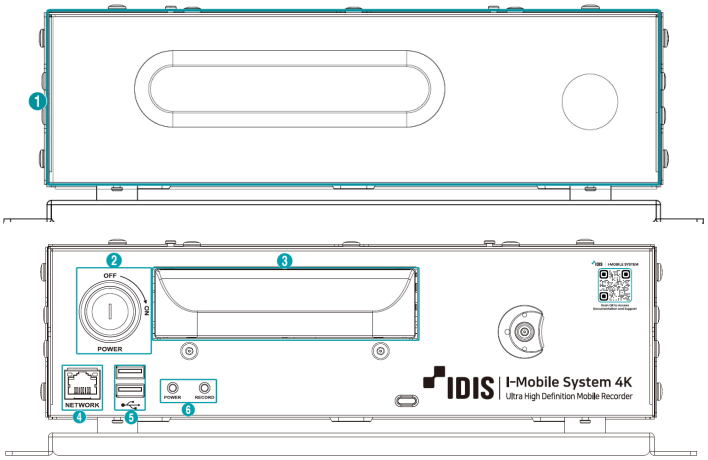


Each connector is provided to connect WiFi and GPS antennas. The GPS antenna will be connected to the Recorder in order to work with the Recorder internal GPS module.

HDMI Port

Connect a monitor to the HDMI port.

Front Panel Controls



① Front Cover	② Power Switch	③ Drive Assembly	④ Network Port
⑤ USB Port	⑥ LED		

Front Cover (sold separately)

Insert the front cover key into the keyhole and rotate it clockwise. Place the cover over the front of the recorder. Align the slots with the pins on the recorder and slide the front cover to the right. Rotate the key counterclockwise to lock it into place.

Power Switch

The unit can be turned on or off with the key provided with the unit.

Drive Assembly

A removable hard disk or solid-state drive is mounted in the Drive Assembly. The drive can be removed to view the video on the personal computer or utilized in another Recorder. The Power Switch must be in the Off position to remove the drive after the POWER LED on the recorder turns off.

Network Port

The Recorder can be networked using the 1000Mb Ethernet connector. Connect a Cat5e cable with an RJ-45 jack to the Recorder connector.

USB Port

A USB port is provided for updating firmware, configurations and retrieving video files.

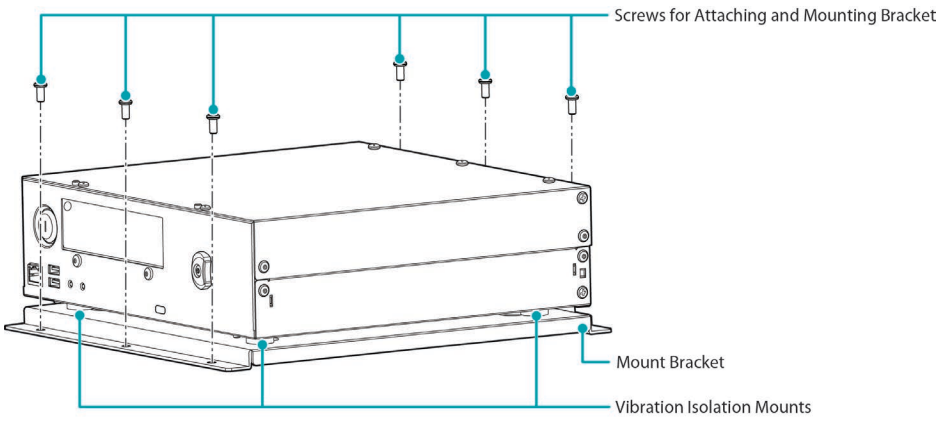
LED

POWER: The POWER LED is lit when the unit is On.

RECORD: The RECORD LED blinks when the Recorder is recording video on the drive.

Mounting the Recorder

WARNING: IT IS IMPORTANT THAT THE RECORDER IS MOUNTED IN A LOCATION WHERE IT CANNOT BREAK LOOSE AND CAUSE INJURY IN THE EVENT OF AN ACCIDENT.



CAUTION: The rubber collars of the vibration isolation mounts are between the Recorder and the bracket as shown in the illustrations above. Attaching the bracket in any other manner can cause the isolation mounts to fail.

Chapter 3 — Operation and Configuration

NOTE: The Recorder should be completely installed before proceeding. Refer to *Chapter 2 — Installation*.

Turning on the Power

The Recorder can be turned on by inserting the key in the On/Off switch and rotating it clockwise. The switch can be in the On position and the key removed. This way the Recorder will power up when the ACC pin on the Power Connector – J1 is enabled. The Recorder is operational in approximately 60 seconds. The Recorder will take an additional 30 seconds to become operational if the "Use 30 seconds Delayed Start" feature is enabled (Path: System menu > Power Management). The Power LED on the front panel will illuminate and this action signifies the Recorder has been turned on properly.

NOTE: The Recorder will not power up in the following conditions:

- **If the temperature is 32°F (0°C) or lower. Refer to *Chapter 2 — Installation* for details.**
- **If the battery power voltage is out of the range set during *System Menu > Power Management*.**
- **If there is 2.5V or more voltage difference between the accessory and battery power.**
- **If the Recorder turns off due to an emergency shutdown or shutoff and the battery power voltage does not remain within the specified range for longer than the specified time (Path: *System Menu > Power Management*). Refer to *Turning off the Power* for details about the emergency shutdown or shutoff.**

NOTE: If the 30 seconds Delayed Start feature is enabled and you turn on the vehicle ignition and then turn on the recorder using the HDD key, the recorder will have a delayed boot for 30 seconds.

WARNING: DO NOT TOUCH THE BOTTOM OR TOP OF THE REMOVABLE DRIVE WHEN REMOVING IT AFTER THE HEATER HAS BEEN OPERATING IN LOW TEMPERATURES. DURING OPERATION OF THE HEATER, THE TEMPERATURE OF THE DRIVE TRAY MAY INCREASE, CAUSING INJURY.

Turning off the Power

The Recorder can be turned off by rotating the key counter-clockwise to the Off position. The Recorder powers off in a maximum of 20 seconds when the key is turned to the Off position.

The Recorder can also be turned off by inactivating the ACC pin on the Power Connector – J1. When using the ACC pin, the Recorder will shut off after the ignition off timeout if the ignition off timeout feature is set to On *(Path: System Menu > Power Management)*.

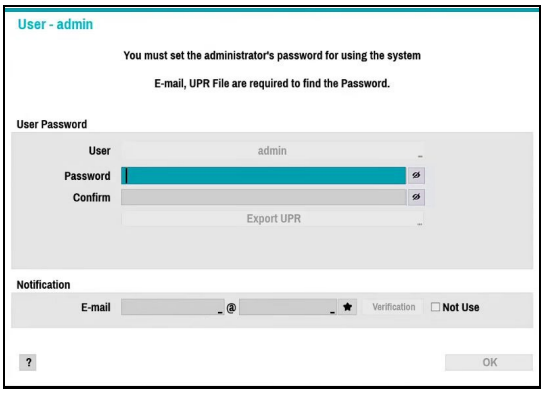
NOTE: The Recorder will automatically turn off to prevent the system from being damaged in the following conditions:

- **The battery power voltage registers between 7V to 9V or 36V to 38V for 10 seconds**
- **The battery power voltage is lower than 7V or higher than 38V for one second**
- **There is a 2.5V or more difference between the accessory input and battery power input on the J1 power connector**

Getting Started

Setting Password

1. The users must first run the system and then be required to set the password for the admin user account.
2. Follow the password setup instructions that appear when you click the ? button at the bottom left of the screen. Click the eye icon (⌀ or 👁)next to the password input field to show or hide the password.



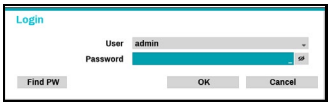
NOTE:

- **It does not allow a user to run the system without a password.**
- **Click the question mark button on the bottom left corner and refer to the instruction on setting up a password.**
- **An email address and UPR files are required to find the password. Otherwise, you may not be able to find your password when you enter the incorrect information.**

Login

Configuring the Recorder's settings and accessing its watching and other functions require an authorized user login.

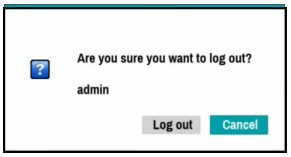
Bring up the Live menu and click on (Login) using the mouse.



Select a user, enter the password, and then select OK.

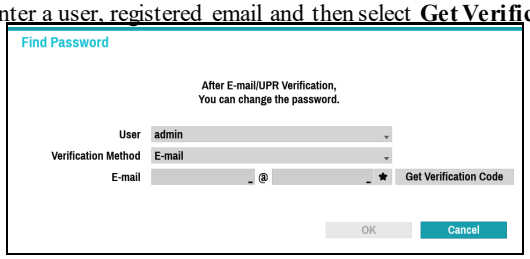
- There is no default password for the admin account. Select admin and then OK without entering a password to log in.
- Leaving the admin account unassigned with a password poses a security risk. Please assign a password at your earliest convenience. A warning message will continue to be displayed until a password is assigned.
- Click the eye icon (⌀) to the right of the password field to show the password.

To log out, bring up the Live menu and click on (Log out) using the mouse.

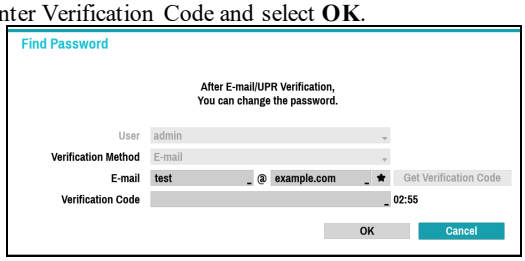


Find Password

1. Enter a user, registered email and then select **Get Verification Code**.

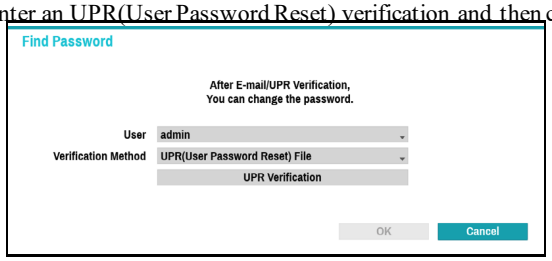


2. Enter Verification Code and select **OK**.

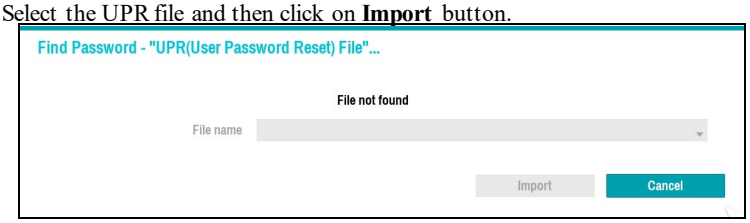


- Select the question mark button at the bottom left corner of the screen to refer to the password settings instructions.
- The password must be entered only with the virtual keyboard.

3. Enter an UPR(User Password Reset) verification and then click on **UPR Verification** button.

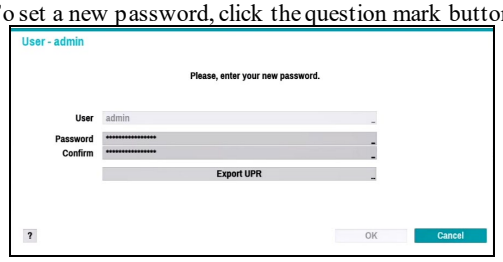


4. Select the UPR file and then click on **Import** button.



- To use UPR function, the UPR file must be saved in advance. For more information on saving the UPR file, refer to User page.
- You can reset the password using an encrypted UPR (User Password Reset; filename extension * .upr) file.
- It can be used as USB flash driver on local pc, but not remotely.
- Only files exported from the same device are available.
- If you lose the UPR file and change the password of the NVR, the UPR file may not be used.

5. To set a new password, click the question mark button in the lower left corner and follow the instructions.



Live Mode

Live Menu

NOTE: Placing the mouse pointer near the top portion of the screen displays the Live menu.

① Login/Logout	② Layout	③ Previous Group, Next Group	④ Display
⑤ Freeze	⑥ Alarm	⑦ Panic Recording	⑧ Sequence
⑨ Status	⑩ Select Camera	⑪ Setup	

① Login/Logout

Log into and out from accounts. If in the logged in state, the account ID is shown. If in the logged out state, the login icon is shown.

② Layout

Used to change the screen layout to single screen, Blank, 1x2, 2x1, 1x3, 2x2, 1+5, 1+7, 3x3, 4x4, 2x1, 2x3, or 1p12.

③ Previous/Next Group

Loads the previous/next screen group.

④ Display

OSD (On Screen Display): Enables/disables the OSD feature.
Full: Displays the video in full screen mode.
Aspect Ratio: Select whether to enable the original aspect ratio of video transmitted from the camera.

⑤ Freeze

Freezes the screen. Select Freeze again to unfreeze.

⑥ Alarm

Pressing this button while the alarm has been activated resets all recorder outputs, including the built-in buzzer.

⑦ Panic Recording

Activates/deactivates Panic Recording.

⑧ Sequence

Initiates Sequence in the same manner as pressing the SEQUENCE button while in Live mode. To exit, select Sequence once more or press the SEQUENCE button on the remote control. The icon is displayed on the upper right part of the screen while Sequence is in progress.

- Full Sequence

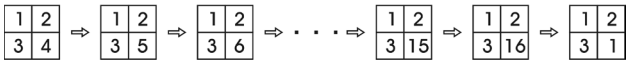
Displays all channels in sequence while in Live mode (single and split screen settings). In order to use the Full Sequence feature, Full Sequence (Display Setup – Main Monitor > Sequence) must first be enabled.

e.g.) Full Sequence in 2x2 split screen mode

- Cameo Sequence

In Cameo Sequence mode, only the bottom right screen in a split screen setup changes sequence. In order to use the Cameo Sequence feature, Cameo Sequence (Display Setup - Main Monitor > Sequence) must first be enabled.

e.g.) Cameo Sequence in 2x2 split screen mode



NOTE: If using the Full Sequence setting, page numbers appear on the system status area on the upper right part of the screen, next to the Sequence icon.

NOTE: Pages are skipped under the following circumstances:
- **If all cameras included in the page are deactivated.**
- **If there are no video signals.**
- **If the page contains "covert" cameras.**
- **If the user does not have permission to view feeds from the cameras.**

⑨ Status
Displays the status window for NVR's system and device.

⑩ Select Camera
Displays the selected camera in a single screen format.

⑪ Setup
Used to access the Setup menu.

Zoom

Right-click on the mouse to select a channel you wish to zoom in on while in live mode or time-lapse mode. When a zoom frame appears on the selected channel, right-click on the mouse to zoom in. Use the arrow buttons to position the frame. When Zoom is activated, icon is on the status bar located on the upper right corner of the system.

In Full Screen mode, activating Zoom automatically selects the current channel.
To restore the channel to normal size, right-click on the mouse again.

Event Monitoring

When an event occurs, the Recorder automatically changes to the camera screen linking event monitoring and shows the icon on the system status area on the upper right portion of the screen. To use the Event Monitoring feature, navigate to Display Setup > Main Monitor and enable Event Monitoring. Event Monitoring remains in effect throughout the entire Linked Time. After that, the Recorder will return to the previous screen if a new event does not take place. Pressing the Layout or a Camera button before the end of the Linked Time reverts the system to Live mode.

Covert Camera

Use this feature to assign Covert Camera View permissions.
Navigate to Camera Setup > General and designate cameras as Covert 1 or Covert 2.

- **Covert 1:** Hides images from the camera in Live mode but does indicate the camera's title and status via icons.
- **Covert 2:** The camera is indicated as being inactive. Images from the camera are not shown. Camera title and status icons are not shown.

NOTE: Users that have a Covert Camera View are able to view both images from and status icons for all Covert 1 and Covert 2 cameras.

Context Menu Access

While in Live mode, right-click on the mouse to access the Context menu.
- **PTZ:** Access PTZ controls.

- **Multi Stream:** Select the stream.
  - **Dynamic Stream:** This function allows all streams supported by the camera to be converted to suit the system situation.
  - **Stream1 Setup exclusion:** This function operates the same as the **Dynamic Stream**, but excludes **Stream1**.
- **Dewarping(Camera):** Enable/disable camera side dewarping function.
- **Zoom:** Zoom in.
- **Audio:** Enable/disable audio. (This function supports only in single screen.)
- **Color Control:** Select a channel to display its Color Control window. Adjust the selected camera's brightness, contrast, saturation, and hue settings.
- **Self Adjust Video Mode:** Select a channel to display its Self Adjust Video Mode window. Select from Natural, Vivid and Noise Reduction video modes. Select Custom to adjust Sharpness, Contrast, Colors and Brightness. These settings can be applied for each Daytime and Nighttime setup.
- **Information:** Select a network channel to display information about the selected channel's device.
- **Edit Group:** Rearrange the split screen layout.
- **Login/Logout:** Log into the account or log out of the account.

Edit Group

Edit Group lets you customize split screen pages in both Live and Search modes.

1. While displaying a split screen page, select the Edit Group option from the context menu. A yellow border is drawn around the page. Use the arrow buttons on the front panel or the mouse to select a different page.
2. Press a Camera button or select a camera after pressing the Menu button. Selected camera is then loaded on to the selected page. Repeat to assign other channels to the page.
3. Press the Menu button and then select Exit Group Edit to exit.

NOTE: Edit Group will terminate automatically after 15 seconds of inactivity.

Video Recording

Video recording will only take place if all the connections are made correctly as per information contained in Chapter 3 of this operation manual.
For more information on video recording settings, refer to the Record Setup of this chapter.

Panic Recording

Select Live or Search menu's Panic Recording icon to commence panic recording on all registered cameras.

To stop Panic Recording, select the Panic Recording icon again. If the Panic Recording Duration option under Record Setup > General has been configured, Panic Recording will automatically terminate after the specified duration of time has elapsed. For more information, refer to the Record Setup of this chapter.

NOTE:
- **Panic Recording takes place irrespective of any recording schedule set up by the user.**
- **Panic Recording video profile from Record Setup – General applies to all Panic Recording videos.**

CAUTION: Panic Recording will not take place if recording mode is not set to Recycle and the HDD has reached 100% of its capacity.

Audio Recording

If the Record Audio option under Record Setup > Audio has been enabled the camera will record audio along with video. For more information, refer to the Audio and Record Setup of this chapter.

CAUTION: Check your local laws and regulations on making audio recordings.

PTZ Control

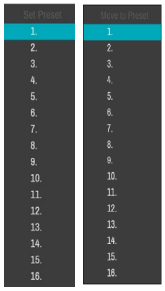
While in Live mode, right-click on the mouse and select PTZ from the context menu.

Select the camera you wish to control. The Ⓟ icon will begin to flash on the selected camera's OSD window. Drag the mouse to move the direction and wheel the mouse to zoom in/out.

NOTE:

- **Logging in with an account that has PTZ Control Authority is necessary in order to control PTZ cameras.**
- **A message will prompt if there is no PTZ camera displayed on the Live screen.**
- **Zoom in/out and shift focus using the PTZ Control (ZOOM, FOCUS) buttons on the remote control.**
- **To exit PTZ mode, press the PTZ button again.**

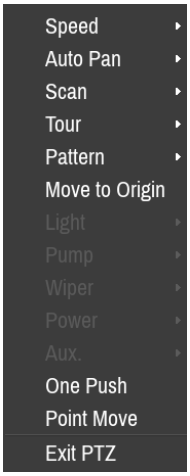
Setting Up a PTZ Preset



While in PTZ mode, select the icon to display the Set Preset window and assign the current position as a desired preset number.

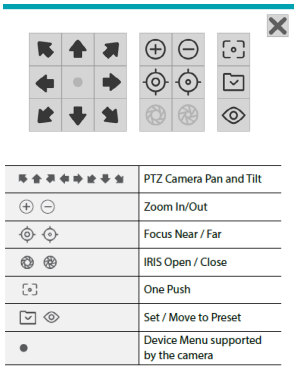
While in PTZ mode, select the icon to display the Move to Preset window.
Select a preset number to move the current PTZ camera to the selected preset's position.

Advanced Settings



In PTZ mode, selecting a camera and then right-clicking on the mouse loads the Advanced PTZ screen as shown below. This menu lists Speed, Auto Pan, and other advanced PTZ camera control options available for the camera. Also selecting Point Move button moves PTZ camera to the point that the user clicks. Options that are not available for the selected PTZ camera remain inactive.

NOTE: You can use the mouse to control PTZ cameras. Left click on the mouse and drag to move the camera in the desired direction and use the mouse wheel to zoom in/out.



	PTZ Camera Pan and Tilt
	Zoom In/Out
	Focus Near / Far
	IRIS Open / Close
	One Push
	Set / Move to Preset
	Device Menu supported by the camera

While in PTZ mode, place the mouse pointer close to the bottom edge of the screen to display the PTZ Tools window.

NOTE:
- **The exact PTZ protocol supported by the camera must be specified in order to use the NVR's PTZ controls.**
- **Drag and drop to reposition the PTZ Tools window.**
- **Select the X icon to hide the PTZ Tools window.**

Dewarping Control (Camera)

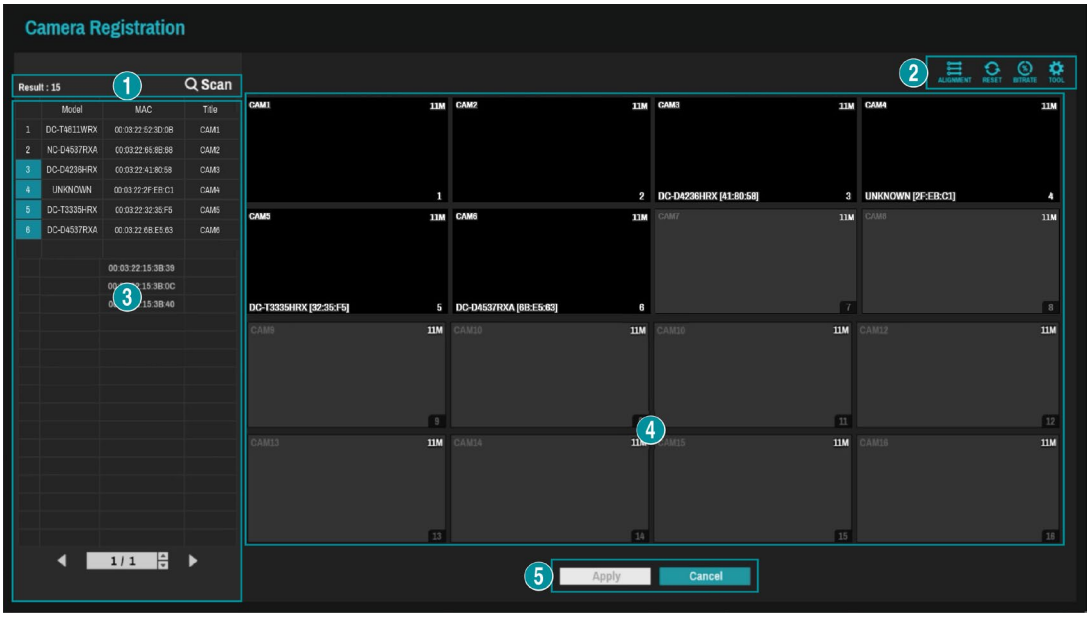
While in Live mode, right-click on the mouse and select Dewarping(camera) from the context menu.

The icon will begin to flash on the selected camera's OSD window. You can change the direction by dragging on the mouse. In order to select the type and mode of View Mode, Video (Camera - Advanced Setup) must first be enabled.

NOTE:
- **This feature is supported only with Fisheye camera connected on the DirectIP protocol.**
- **Original mode does not support dewarping control feature.**
- **Configuring this feature requires an authorized user login.**

Camera Registration

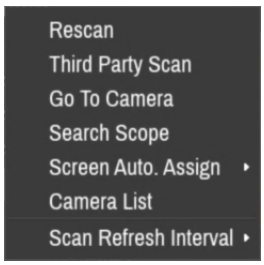
Once **Network Setup Wizard** is complete, live mode screen appears. While in live mode, right-click on the mouse and select **Camera Registration** to run the Camera Registration mode. It allows you to scan for the cameras connected to the DVR.



① Camera Scan Button	② Camera View Menus
③ Camera List Area	④ Video Display Area
⑤ Apply/Cancel Buttons	

NOTE: You can also register cameras on the remote program. For more information on the remote camera registration, refer to Registration on this manual.

Camera Scan Button



You can scan and search and register cameras that were not detected automatically or third party cameras. Pressing the **Scan** button displays the following sub-menu.

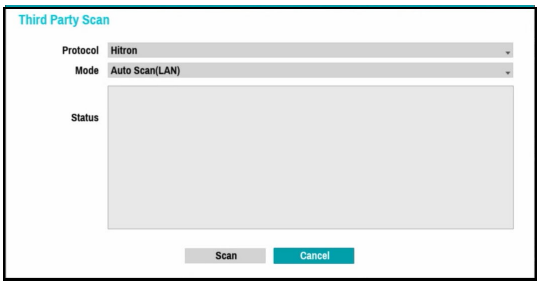
Rescan

Scans for DirectIP[T] camera that were not scanned automatically.

Third Party Scan

Used to manually scan for third-party cameras that cannot be recognized by the auto scan feature.

NOTE: Some functions may not be supported for the third-party cameras depending on their protocol and model. The device to be registered must have different IP addresses. Otherwise, the connection may fail.



Click **Protocol** to select the protocol used by the camera (or video encoder) you wish to search for.

NOTE: Some functions may not be supported for the third-party cameras depending on their protocol and model.

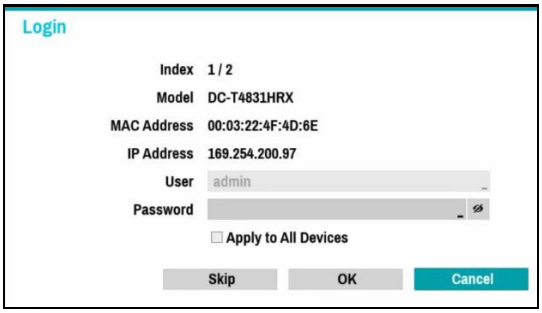
Click **Mode** to select the scan mode. Selecting **Auto Scan(LAN)** lists cameras in a LAN environment. If **Auto Scan(LAN)** fails to recognize a camera, try using **IP Address Scan** instead.

Select IP Address Scan to enter the IP address of a camera. The NVR scans for the camera matching the specified address. If you enter IP address' range, the NVR scans for cameras falling under the specified address' range. By specifying an IP address, you can also specify which port to use with the Remote Admin feature. It is recommended that the camera not be networked via DHCP (Dynamic Host Configuration Protocol). If the camera is networked via DHCP, connection to the camera may not be made properly depending on changes in the external network environment.

1. Select **Scan** to commence scanning.

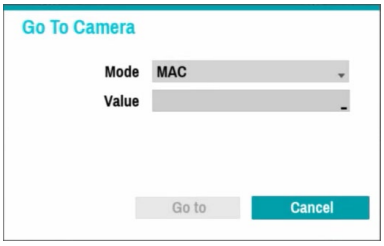
NOTE: Only cameras that are connected to the NVR via VIDEO IN ports can be scanned and registered.

2. Select a camera from the scan list and then select **Add Camera**. The device login window will appear.
3. Enter a User ID and a Password for the selected camera.



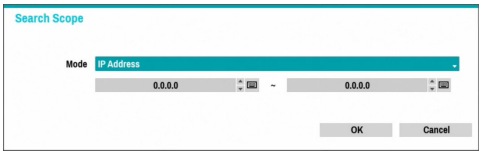
Go To Camera

Moves the focus automatically to the camera using the MAC address and model of camera in the camera list.



Search Scope

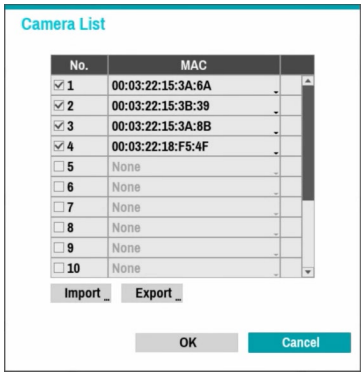
Filters the cameras in the camera list depending on the search scope such as specified IP address range.



Screen Auto. Assign

Assigns the detected cameras on the video display area.

Camera List



By using the camera information file, .csv, the user can register the cameras easily.
Selecting **Export** exports the list of camera information on USB as a .csv file. Selecting **Import** imports a camera information file, .csv file. The user can edit a csv file directly.

NOTE:

- **A column indicates camera number, B column the camera MAC address, C column the Video In port of the video encoder in the .csv file. C column indicates only for video encoders. If camera information displays as follows: 5,00:11:22:18:30:20,3, 5 = CAM 5, 5,00:11:22:18:30:20 = MAC address, 3 means video encoder.**
- **Before using this feature, the cameras must be scanned first. If the cameras to be registered do not exist in the list, the camera cannot be registered.**
- **This feature is not supported for the third-party cameras.**

Scan Refresh Interval

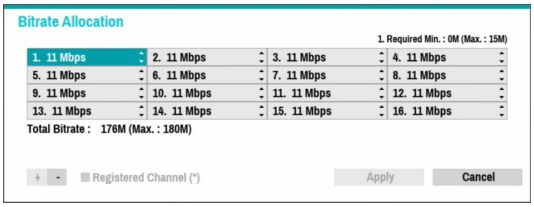
Configures the refresh interval to scan the camera. If the interval is short, camera scan results are refreshed more frequently. However, if the interval is long, it is advantageous to scan cameras on a wide network.

Camera View Buttons

- **ALIGNMENT button:** Realigns camera screens displayed on the video display area in the order of Video In port connections.
- **RESET button:** Refreshes the video display area and the camera list.

NOTE: Selecting RESET clears all scanned devices from the list.

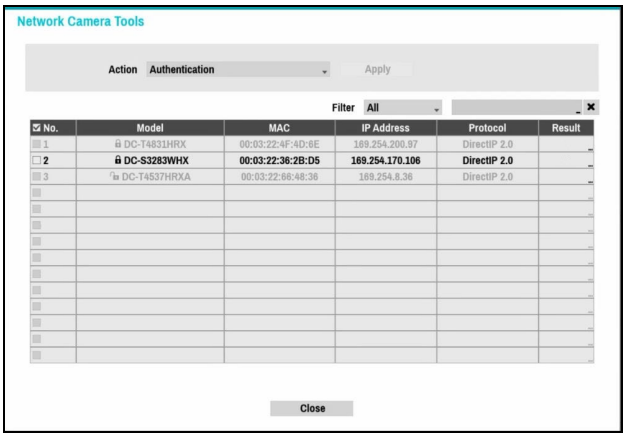
- **Bitrate button:** Displays the following window to change the bitrate allocation for each channel.



When registering the camera, you can set the stream as much as the performance (bitrate) assigned to the channel. If high performance (bitrate) is not allocated, Quailty, IPS and Resolution can be low. If a channel has a camera already registered, bitrates may not be lower than current stream settings. You can change the bitrate by pressing the + - button at the bottom left. Only the bitrate of the registered camera can be changed by checking the registered channel (*).

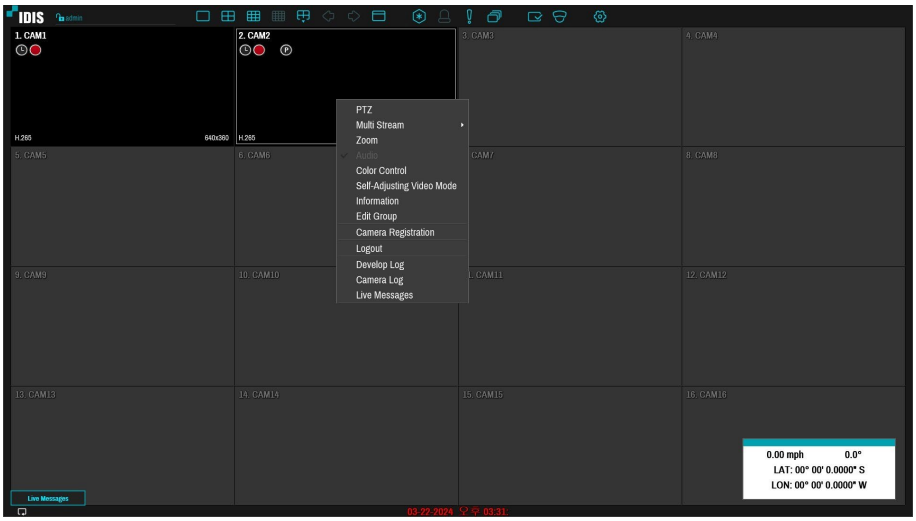
- **Tool button:** Displays network camera tool window to run a camera-related actions. There are Authentication, Screen Assignment and Camera Protocol Change for actions.

1. Select an **Action** to execute.
2. Select a camera from the list and press the **Apply** button.

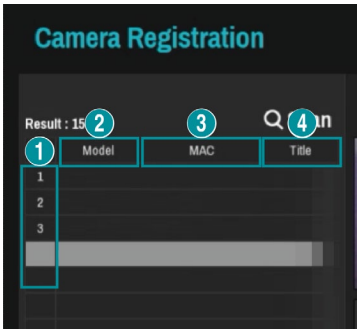


Camera Registration Mode

While in Live mode, right-click and select **Camera Registration**.



Camera List Area



① **Screen Position/Registration Status:** Identifies the camera's position in the video display area. A blue background indicates a camera that is available for registration. A gray background indicates an already registered camera. Other registered cameras are shown in black background.

② **Model:** Indicates the camera's model.

③ **MAC:** Displays the 12 digits of the camera's MAC address.

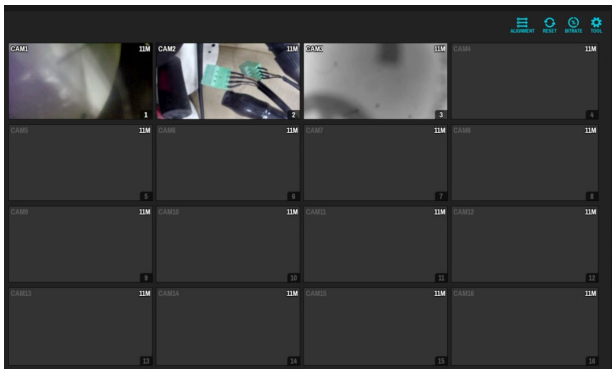
④ **Title:** Indicates the camera's name. Changing a camera's name in the video display area updates the camera list as well.

Following options can be accessed by right-clicking on a camera list entry:

- **Add/Remove Camera:** Adds or removes the selected camera. The Add Camera option is inactive if the camera has already been added to the screen.
- **Authentication:** Enter the necessary camera login info.
- **Multi-Selection Mode On/Off:** Adds or removes cameras simultaneously by selecting multiple cameras from the list.

Video Display Area

Left-click on the video display area to toggle between split screen and single screen modes.
Drag the camera screens around to rearrange them.



Camera Screen

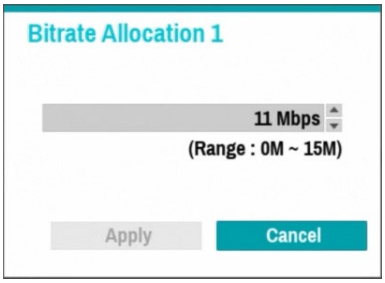
① **Camera Title:** Indicates the camera's title. Left-click on the title to edit the camera's title.

② **MAC Address:** Camera's model and MAC address are shown if the camera has not been registered to the NVR.

③ **Screen Position/Registration Info:** Flashes in orange if the camera has not been registered to the NVR.

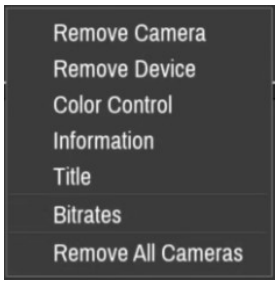
NOTE: Information is not indicated on the bottom of the screen for cameras already registered to the NVR, and the *Screen Position/Registration Info* icon is shown with a black background.
***Screen Position/Registration Info* icon for cameras registered to another NVR is shown with a steady orange background on top of a gray screen.**

④ **Bitrate Allocation:** Indicates the performance (bitrate) allocated to the channel. Left-click on the upper right corner of the screen to change the bitrate.



Camera Menu

Right-click on the video display area to bring up the camera menu.

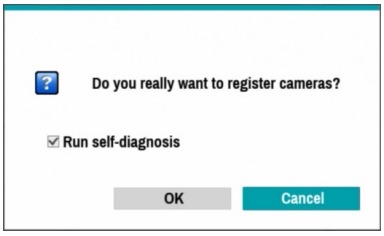


- Remove Camera – Removes the registered camera.
- Remove Device – Removes the registered encoder.
- Color Control – Adjusts the camera's color settings.
- Information – Displays the camera's basic information.
- Title – Edits the camera's title.
- Bitrates – Changes the bitrate allocated to the channel.
- Remove All Cameras – Removes all registered cameras.

NOTE: You can drag&drop to add or remove cameras.

Apply/Cancel Buttons

While in Camera Registration mode, select **Apply** to register all changes. When selecting **Apply**, the following message will be displayed. You can activate or deactivate Self-diagnosis.

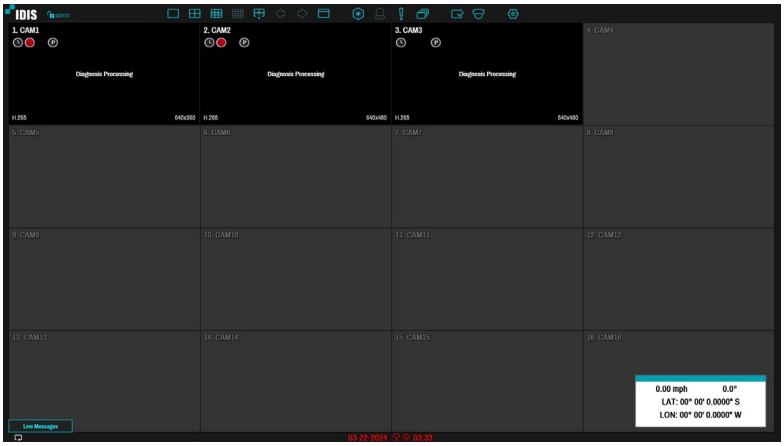


Select **Cancel** to exit Camera Registration mode without applying the changes.

NOTE: It is not possible to register a camera that has already been registered to a different NVR.

Diagnosis Process

When the camera is registered to the NVR, **Self-diagnosis** runs automatically for the new registered and changed cameras. If **Self-diagnosis** is processing, **Diagnosis Processing** message will be displayed.



If **Self-diagnosis** has failed, **Diagnosis Requirement** message will be displayed. In this case, you can run **Self-diagnosis** manually.

Initial Unit Setup

Before using the Recorder for the first time, establish the initial settings. Install the IDIS Center Software Program on a PC and connect to the Recorder remotely.

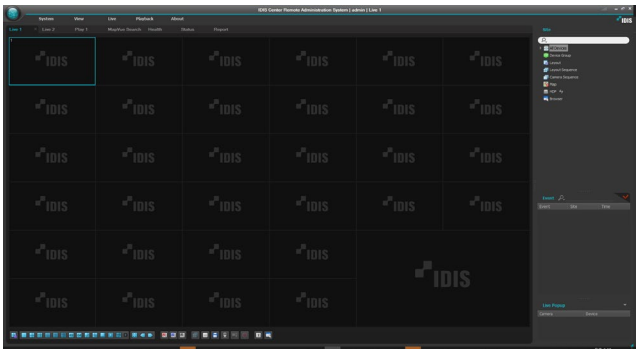
The IDIS Center program is provided with the product for remote operation. The Recorder can be accessed, configured and managed by using IDIS Center. The recording system is connected remotely via network connection.

- IDIS Center Program: Allows set up of the Recorder, to monitor video of the Recorder and play back video recorded on the system.

NOTE: Refer to the IDIS Center Software manual for instructions on how to install the program and connect the Recorder remotely.

The following description is for setting up the Recorder using the IDIS Center program.

1. Run the IDIS Center program, and log in
2. Enter a User and password
3. Enter the password when logging in the admin user

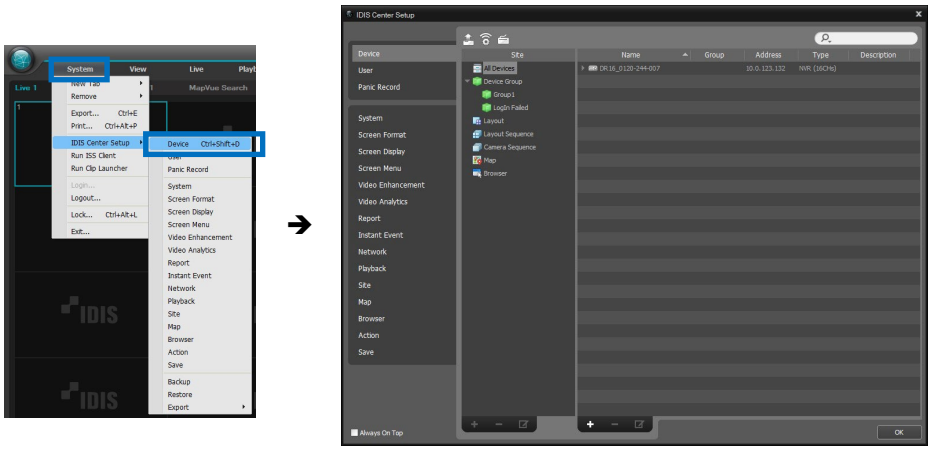


4. In order to register a Recorder, enter System > IDIS Center setup > Device

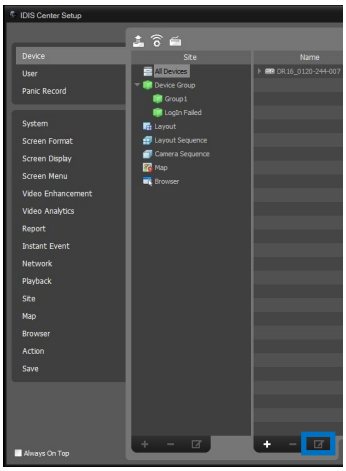
5. Use the plus sign (+) to add a device
6. Once the Recorder is registered on the IDIS Center program, select IDIS Center Setup from the System menu, and then select Device

NOTE: Refer to the IDIS Center Software manual for instructions on how to register the Recorder on the IDIS Center system.

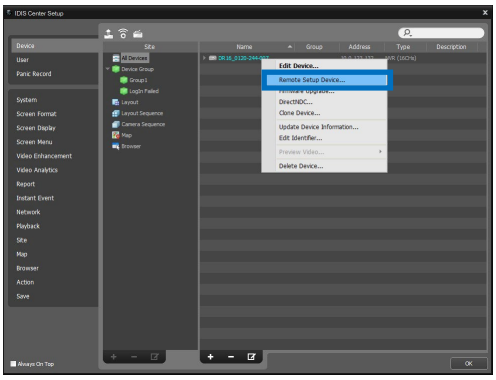
Monitoring video of the Recorder system and playing back video recorded on the Recorder will also be supported using IDIS Center. Refer to the IDIS Center manual for details.



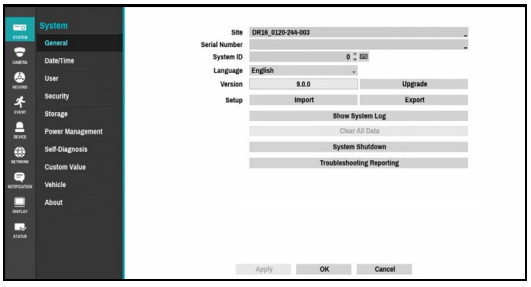
Select a device group in the **Site** panel and then select a device (registered Recorder) in the **Site List** panel.



OR

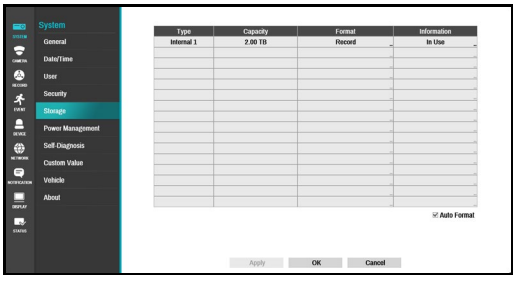


Change the recorder's settings remotely by selecting the button at the bottom of the Site List panel, or click your right mouse button on the Remote Setup Device.



While setting up the Recorder, there will be many opportunities to enter names and titles. When making these entries, use a keyboard connected to a PC running IDIS Center.

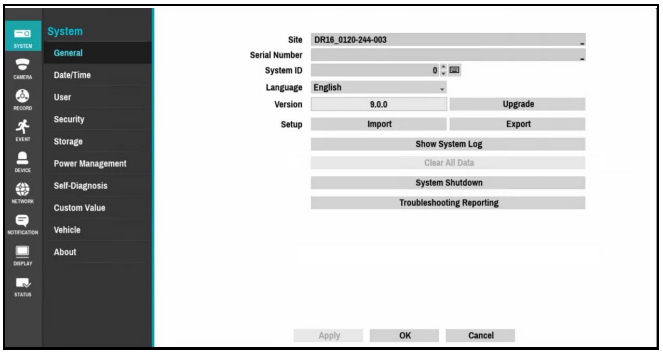
Throughout certain screens, you will notice a **Default** button located on the left bottom corner. Selecting **Default** provides the opportunity to reset the current screen to default settings. Select **Apply** or **OK** to apply the changes and exit the screen in any setup. Select **Cancel** to exit the screen and no changes are saved.



Menu Use

Information contained in this section (Menu Use) applies to all other instructions found throughout this chapter. Login with an ID that has permission to access the Setup Menu in order to access and make changes to the **Setup Menu**.

1. Select **Live** menu and click **Setup**



2. Click the option to input or change
3. Change the setting and then select **Apply** or **OK** to save the change

NOTE: To apply default settings, select the Default button located on the left bottom corner of the setup window.

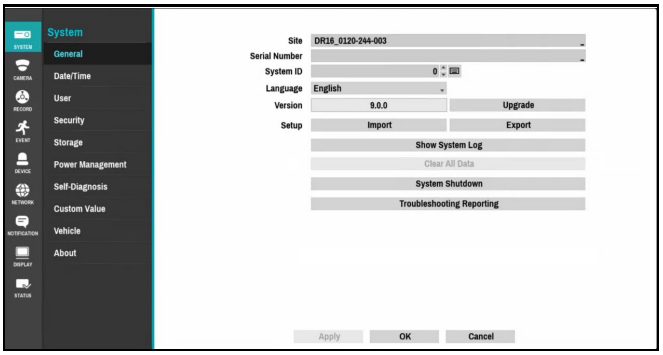
Text Input via Virtual Keyboard

Click on the key using the mouse.

System Setup

General

PATH: System menu > General



1. Select the box beside **Site** and enter a Site Name.
2. Select the box beside **Serial Number** and enter the system serial number.
3. Select the box beside **Language** and a drop-down menu displays the available languages. Select the desired language

Click **Upgrade** and select the USB Port. Selecting the USB port displays the USB search window. Select an upgrade package and upgrade the system. Once the upgrade is completed, the Recorder will reboot automatically.

Setup: Imports existing settings or exports current Recorder settings.

- **Import:** Decide whether to import network settings as well. If you do not wish to change the current network settings, **do not** select Include Network Setup.

NOTE: Selecting Setup Import does not change the settings below.
- **Site and Serial Number settings**
- **Time-related settings (Date/Time, Time Zone, and Use Daylight Saving Time)**
- **Camera-related Advanced Settings**
- **Camera-related Stream settings**
  (Only if the resolution is different from the camera in exporting)

- **Export:** Exports the current system settings to a storage device connected to the system's USB port. Designate a File Name for the export file.

CAUTION: For USB flash memory devices, the Recorder supports the FAT32 file format only.

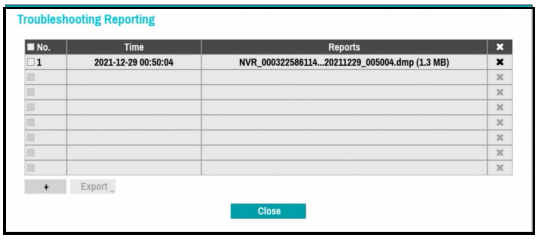
Select **Show System Log** to display a searchable list of 50,000 most recent system log entries. For more information on types of system log entries, refer to the System Log Notices under the Appendix of this manual. The icon appears next to log entries originating from a remote source. To export the system log, select Export at the bottom of the screen and then designate a file name.

In order to display the system_log.txt file, you must use the correct character encoding settings and use a fixed-width font.

Selecting **Clear All Data** will clear all video data from the hard drive. A dialog box is provided to confirm or cancel this operation. Clear All Data will not clear the **System Log**.

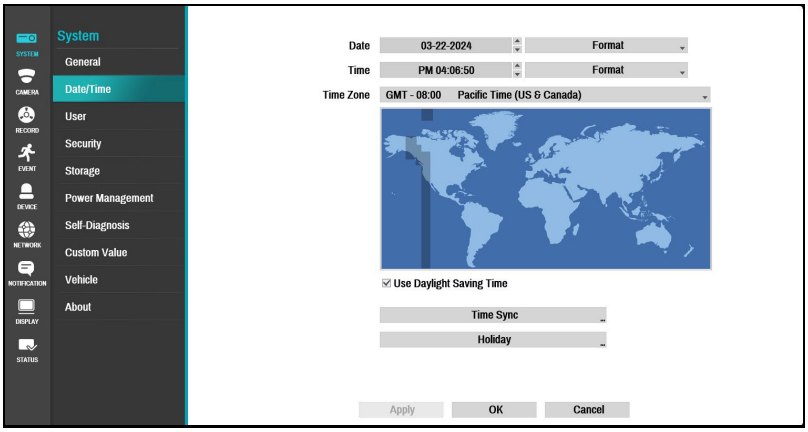
Selecting **System Shutdown** shuts down the system. When prompted, select System Shutdown.

Selecting **Troubleshooting Reporting** generates reports for troubleshooting when there is a problem with NVR system.



Date/Time

PATH: System menu > Date/Time



1. Select the first box beside Date and the month, day, and year sections of the date will highlight
2. Use the Up and Down arrows to change the number
3. Select the Format box beside Date and select from the three available date formats to save selected format
4. Select the first box beside Time and the individual sections of the time will highlight
5. Use the Up and Down arrows to change the number
6. Select the Format box beside Time and select from the three available time formats to save selected format

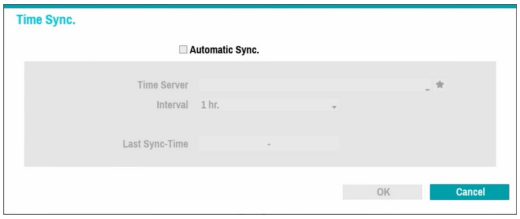
NOTE: The clock will not start running until the Apply button is selected.

Select the box beside Time Zone and select time zone from the list.

NOTE: The Time Zone can also be selected on the map below by pressing the Left and Right buttons or scrolling the mouse wheel up and down.

Selecting **Use Daylight Saving Time** toggles between On and Off.

Selecting the **Time Sync** box; time can be synchronized between the Recorder and standard time servers that are available in most time zones and countries, or between the Recorder and another Recorder.



Selecting the box beside **Automatic Sync** toggles between On and Off.

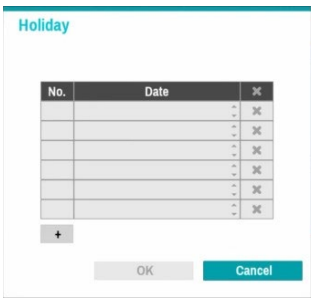
Select the box beside **Time Server** and enter the IP address or domain name of the time server. Or, select ★ and then a time server from the time server list.

NOTE: Use the domain name instead of IP address if the domain name is set up the DNS Server.

Select the box beside **Interval** and set the time interval for synchronization from 30 minutes to 1 day.

Last Sync-Time displays the last time the Recorder was synchronized with the time server.

Select the **Holiday** box to set up holidays.



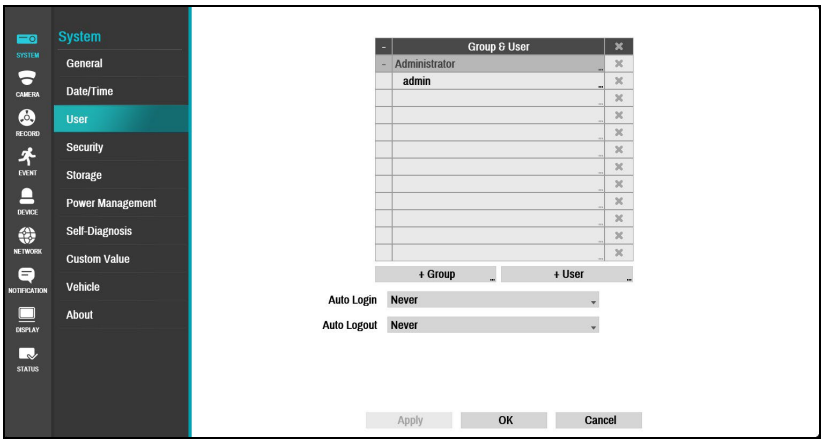
Set up holidays by selecting **+**. The current date appears.

Select the month and day and change them by using the Up and Down arrows. Dates can be deleted by selecting the ☒ beside the date.

NOTE: Holidays that do not fall on the same date each year should be updated once the current year's holiday has passed.

User

PATH: System menu > User



The **User** screen displays the authorized groups and users which can be added, deleted and modified. When adding a group, authority levels can be assigned. The +/- column is used to collapse and expand user groups. If there is a + or – in this column, it indicates the item is a **Group Name**. If there is a – in front of the Group Name, it indicates that the group has been "expanded" and all of the User Names within that group are displayed below the Group Name. If there is a + in front of the Group Name, it indicates that the group has been "collapsed" and all of the User Names within that group are hidden.

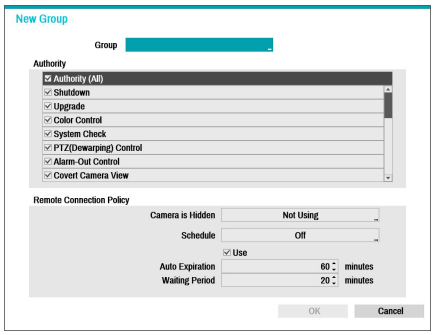
Selecting a **Group Name** allows changing the authority levels assigned to the group.

CAUTION: Write down the new password and save it in a secure place. If the password is forgotten, the unit must be reset using the *Factory Reset Switch* and all data settings will be lost.

Selecting a **User Name** allows adding or changing the password assigned to that user. The group to which the user is assigned can also be changed.

The ☒ column can be used to delete a **User Name** or an entire **Group**. If the ☒ is grayed out, that Group or User cannot be deleted. Select the ☒, a confirmation to delete the User or Group is displayed. To delete the User currently logged into the Recorder on a local system or a PC running IDIS Center, log the user out of the system first and then delete the user.

To add a **Group**, select the **+ Group** box and enter the Group Name. Up to 15 characters including spaces are allowed in the Group Name. Enter the name and assign authority levels to the group.



Selecting the **Authority** box will toggle between all authority levels being turned On and Off. Selecting the individual authority level boxes will toggle between that authority level being turned On and Off. The authority levels that can be turned On and Off are:

- Shutdown – The user can shut down the hardware.
- Upgrade – The user can upgrade the software.
- Color Control – The user can control brightness, contrast, hue and saturation for cameras.
- System Check – The user can view the remote system status or check the remote system status as a batch process.
- PTZ (Dewarping) Control – The user can control PTZ and Dewarping cameras.
- Alarm-Out Control – The user can reset the Recorder's outputs during an alarm by selecting the alarm-out control button on the IDIS Center program.
- Covert Camera View – The user can view video from cameras set as Covert while in the Live Monitoring or Search mode.
- Audio (Live) – The user can the camera audio on remote program and locals (NVR).
- Factory Reset (NVR) – The user can reset the NVR to all its initial factory settings.
- Search – The user can access the Search mode.
- Clip-Copy – The user can copy video clips.
- Setup – The user without Setup authority cannot establish any system settings excluding system shutdown and logout.
- Camera Setup – The user can configure camera settings.
- PTZ Setup – The user can configure PTZ settings.
- System Time Change – The user can change the system date and time.
- Data Clear / Protection – The user can clear data stored in the system or protect data from being deleted.
- Data Clear – The user can clear all video data or format disks.
- Alarm-Out Setup – The user can establish all Alarm-Out settings.
- Covert Camera Setup – The user can establish all Covert Camera settings.
- Record Setup – The user can establish all Record settings.
- Setup Import – The user can import saved Recorder settings.
- Setup Export – The user can export the current Recorder settings.
- Power Management – The user can establish the Power Management settings.
- DirectNDC Setup – The user can establish all DirectNDC settings.

To add a User, select the **+ User** box and enter the User Name. Enter the name and assign the User to a Group and password. The password can be up to 16 digits including characters, special characters and numbers. The password must be confirmed.

Configure **Auto Login** and **Auto Logout** settings.

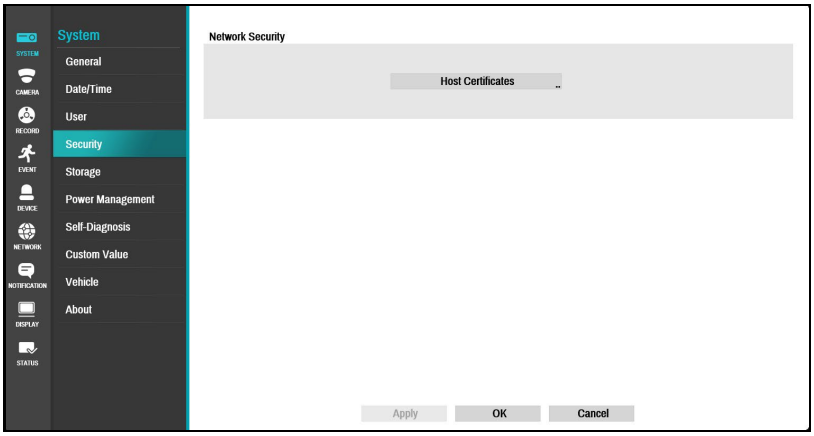
When the system starts up, it will automatically log into the account designated under Auto Login.

The system will automatically log out of the account if the duration of inactivity specified under Auto Logout.

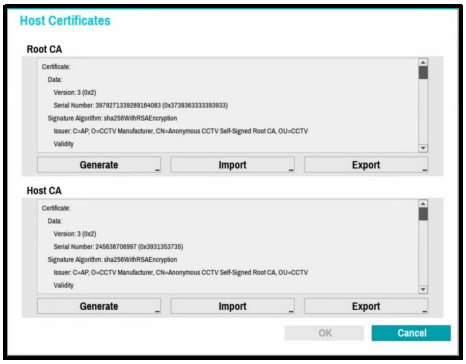
If you wish to use RTSP connection and HTTP API function, set the password. For security, it is recommended that you set a different password for RTSP, HTTP and User.

Security

PATH: System menu > Security

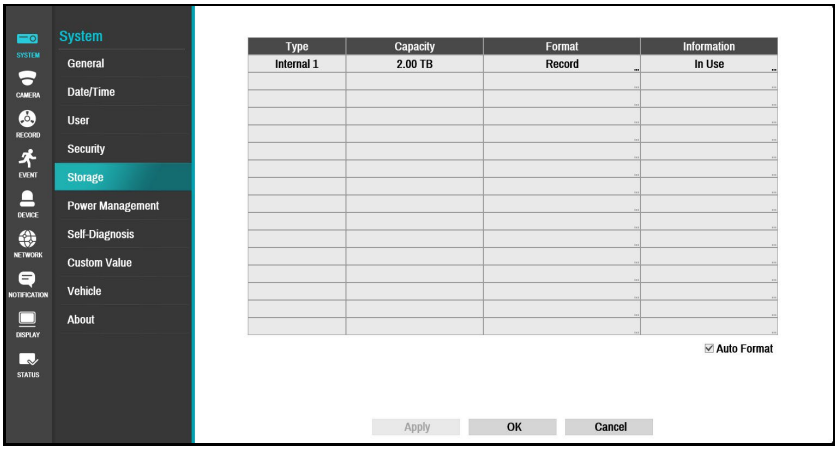


Network Security is the certificate management menu for network security access. It supports checking the product certificate information, creating the new certificate, exporting and importing certificates.



Storage

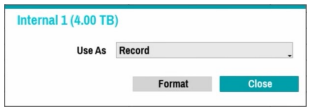
PATH: System menu > Storage



The information in the **Type** column describes the storage device.

The capacity of the storage device is displayed in the **Capacity** column.

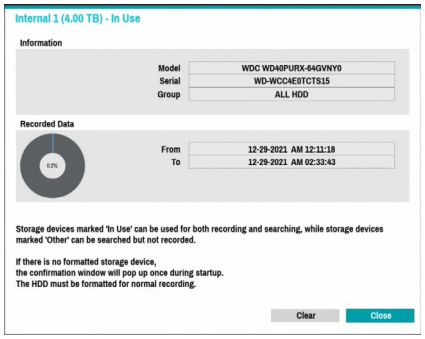
The **Format** column displays whether the device is used for recording (**Record**) or not (**Not Using**). Not formatted indicates the device is not formatted.



Select the box in the Format column for the desired storage device to format the device for recording. When selecting Not Using from Use As and selecting the Format button, the device is not used for recording.

The **Information** column displays whether the device is being used or not. **Other** indicates the device has been used for another Recorder.

Select the box in the **Information** column for the desired storage device to check the time information about recorded data.



Information displays the model name and serial number of the selected device.

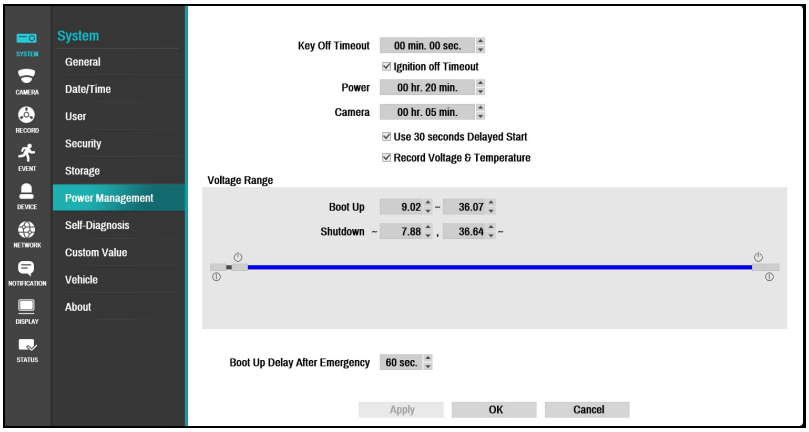
Recorded Data displays the time information about recorded data of the device.

Selecting **Auto Format** toggles between On and Off. When set to On, the internal hard disk drive will be formatted automatically when the system boots if the internal hard disk drive is not formatted or used for another Recorder.

NOTE: CIFS HDD is not auto formatted.

Power Management

PATH: System menu > Power Management



Selecting **Key off Timeout** adjusts time until the shutdown when the Key on the front is turned to Off. HDD Hot Plug can be performed by increasing the shutdown time.

NOTE: Set the time to 2 min. and turn the Key to Off. When the Record LED is turned to On, remove the HDD. If the HDD is removed, the LED blinks for 3 seconds. When a new HDD is connected, the LED blinks for 3 seconds. Then turn the Key to On again to continue recording without the shutdown.

Selecting **Ignition off Timeout** toggles On and Off. When set to On, the Recorder will delay to shut down the system or camera after the ignition switch is turned off. Set the delay time for Power to delay shutdown of the system or for Camera to delay shutdown of the camera by using the Up and Down arrows.

Selecting **Use 30 seconds Delayed Start** toggles On and Off. When set to On, the Recorder will delay to start the system for 30 seconds after the ignition switch is turned on. This works only when the accessory power is applied while the power On/Off switch is left in the On position.

CAUTION: *Use 30 seconds Delayed Start* will not work if you turn on the ignition switch first and then power On/Off switch while the power On/Off switch is the Off position.

Selecting **Record Voltage & Temperature** toggles On and Off. When set to On, the Recorder saves its power voltage and temperature information on the hard disk drive every second. V indicates a power voltage and T indicates a temperature in the saved information.

Selecting the box beside **Boot Up** and changing the number by using the Up and Down arrows allows you to change the range of the battery power voltage for powering up the Recorder. When the battery power voltage is out of the **Boot Up** voltage range, the Recorder will not power up.

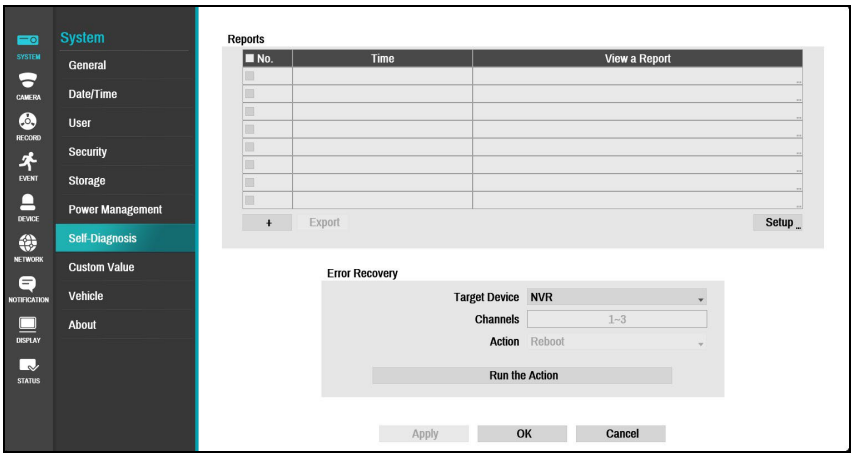
Selecting the box beside **Shutdown** and changing the number by using the Up and Down arrows allows changing the range of the battery power voltage for the emergency shutdown. When the battery power voltage is lower or higher than the Shutdown voltage and it lasts for 10 seconds, the Recorder will automatically shut down. Refer to **Turning off the Power** for details about the emergency shutdown.

The first white bars from the left and right end in the slide bar indicate the Shutdown voltages, and the second white bars from the left and right end in the slide bar indicate the Boot Up voltages. The black bar in the slide bar indicates the current battery power voltage. The interval between the Shutdown and Boot Up voltage bars each in the left and right of the current battery power voltage cannot be less than 1V.

Selecting the box beside **Boot Up Delay After Emergency** and changing the number by using the Up and Down arrows changes the Boot Up Delay time. The Recorder will not turn on after the emergency shutdown if the battery power voltage does not keep the range within the Boot Up voltages. If the battery power voltage is in the boot voltage range, the recorder turns on after the time set in Boot Up Delay After Emergency.

Self-Diagnosis

PATH: System menu > Self-Diagnosis



NOTE: This feature is also supported when connected to the NVR from a remote program.

Select the **No.** box to select which report to export.

The **Time** column displays when you started the self-diagnosis.

The **View a Report** column briefly displays whether the report is "Good" or "Bad".

Click the **+** icon at the bottom left corner of the screen to run the self-diagnosis.

Select **Export…** to save the reports to a storage device, such as the USB port, by converting them to HTML format. You can export more than one report at a time by selecting multiple reports.

Select **Auto Generating Interval** to set the interval to automatically generate self-diagnosis report.

NOTE: The reports are stored in up to 24 files. If you have configured Auto Generating Interval as one-day period, only the reports from the last 24 hours can be viewed.

If the NVR is turned off, the reports will automatically turn off.

The reports are organized by recent date and time.

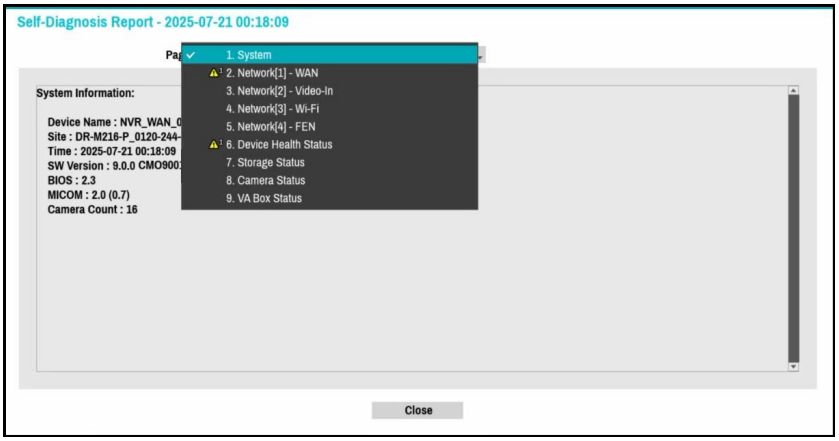
Click the box beside **Target Device** to select which device to run the failover.

Click the box beside **Channels** to select the camera channel if a camera is set to the target device.

Click the box beside **Action** to select the type of action to run the failover.

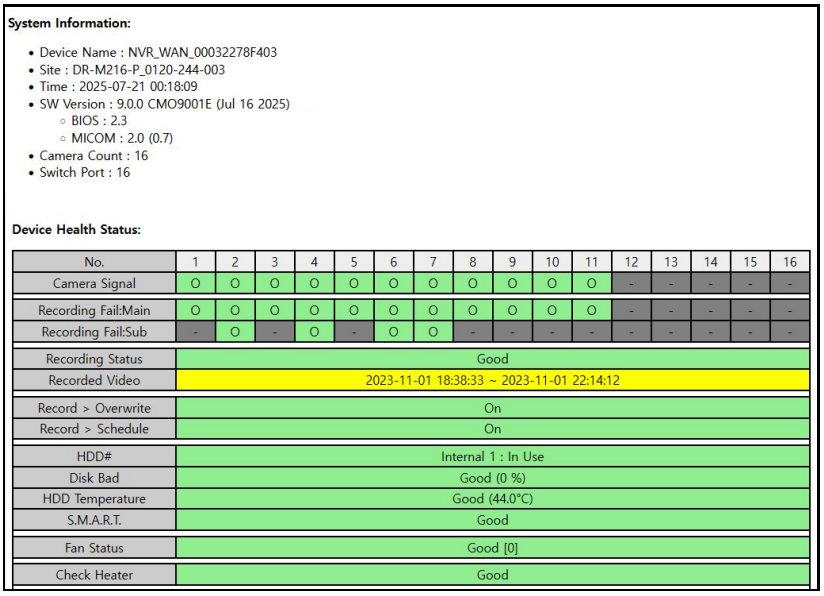
Click the **Run the Failover…** button when a failure is detected on the target device to resolve the problem.

NOTE: Once Run the Failover has been made to the camera, the camera will reboot automatically.



Selecting System, Network, Device Health Status, Storage Status or Camera Status displays the brief results of the self-diagnosis for the target device.

NOTE: The NVR self-diagnostic report can only be viewed in text form.



System Information:

- Device Name : NVR_WAN_00032278F403
- Site : DR-M216-P_0120-244-003
- Time : 2025-07-21 00:18:09
- SW Version : 9.0.0 CMO9001E (Jul 16 2025)
  - BIOS : 2.3
  - MICOM : 2.0 (0.7)
- Camera Count : 16
- Switch Port : 16

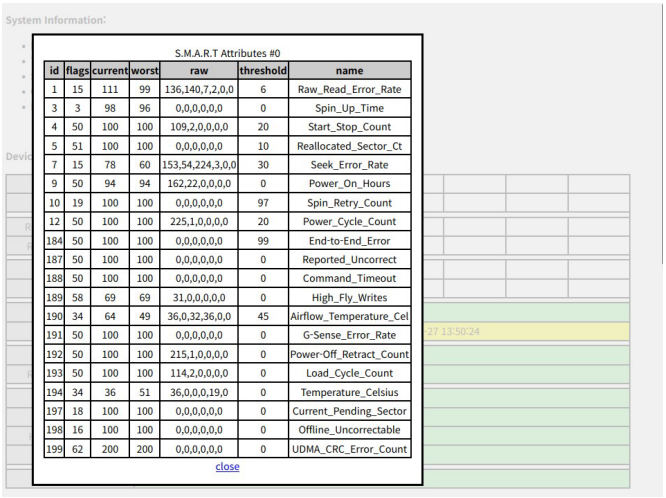
Device Health Status:

No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Camera Signal	O	O	O	O	O	O	O	O	O	O	O	-	-	-	-	-
Recording Fail:Main	O	O	O	O	O	O	O	O	O	O	O	-	-	-	-	-
Recording Fail:Sub	-	O	-	O	-	O	O	-	-	-	-	-	-	-	-	-

Recording Status	Good
Recorded Video	2023-11-01 18:38:33 ~ 2023-11-01 22:14:12
Record > Overwrite	On
Record > Schedule	On
HDD#	Internal 1 : In Use
Disk Bad	Good (0 %)
HDD Temperature	Good (44.0°C)
S.M.A.R.T.	Good
Fan Status	Good [0]
Check Heater	Good

This feature is also supported when connected to the NVR from a remote program.

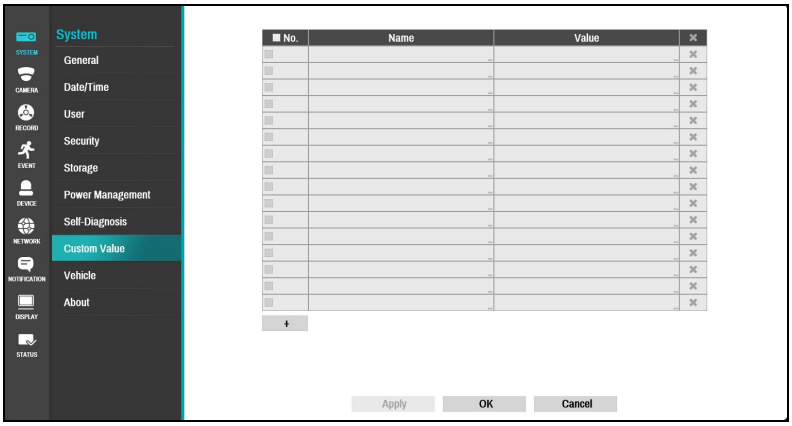
Clicking the **Export** button at the bottom of the list allows you to view the reports on a PC web browser. Scanning the self-diagnostic report on a remote program allows you to view the reports in HTML format as shown above.



Clicking on the S.M.A.R.T status (e.g., 'Good') allows you to view detailed S.M.A.R.T attribute information.

Custom Value

PATH: System menu > Custom Value

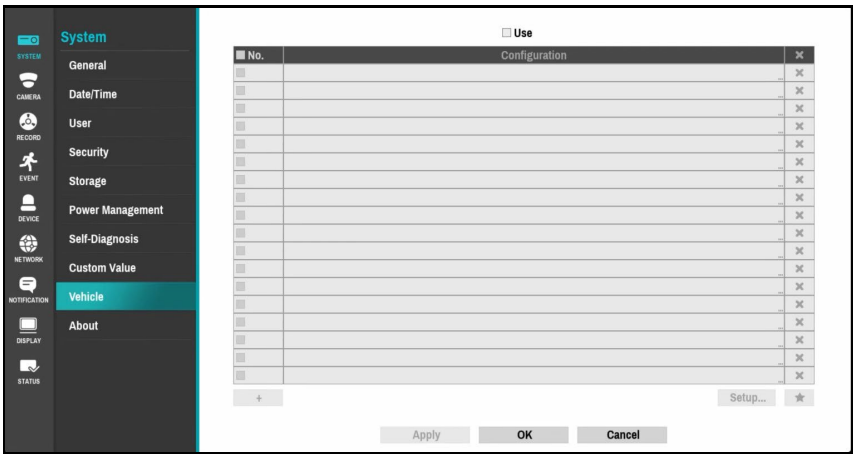


Select the box under the **Name** column to set the name of system properties to be included in a JSON file on HTTP notifications.

Select the box under the **Value** column to set the value of system properties to be included in a JSON file on HTTP notifications.

Vehicle

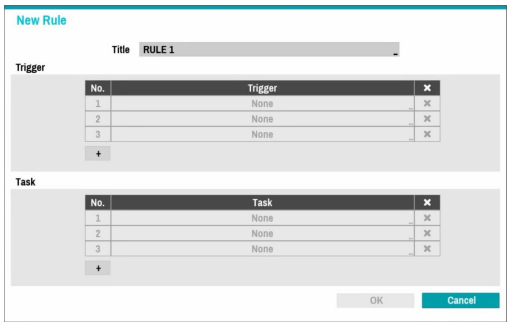
PATH: System menu > Vehicle



When the Vehicle Function is enabled, it communicates with the CAN device connected to the CAN port using the J1939 protocol. It triggers network alarm-in event based on pre-configured Triggers and Tasks or stores J1939 messages in NMEA format.

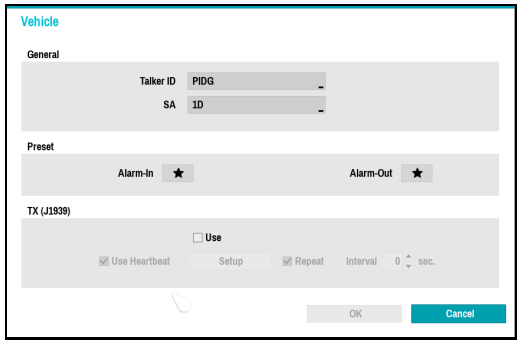
You can toggle the Vehicle function by checking the Use button.

Click the + icon at the bottom of the list to set up a rule.



You can add Triggers or Tasks by clicking the + icon below each section. Press the Setup button at the bottom to configure the Vehicle-related settings.

- Title: Set the title of each rule.
- Trigger: Set conditions. If a Local Alarm-In event occurs or a J1939 message arrives and meets the Trigger conditions, the Tasks will be executed as configured.
- Task: When a Local Alarm-In event that meets the Trigger occurs, or a J1939 message arrives, it can trigger a Network Alarm-In event or save the data in NMEA format.

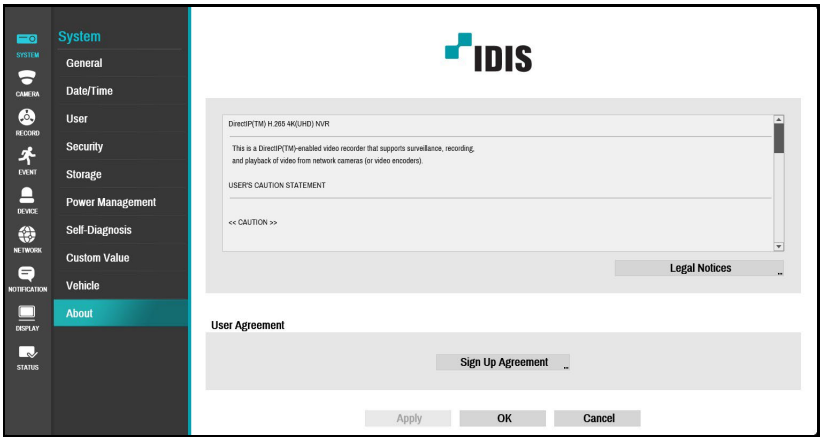


This function is a setting to change Alarm-In and Alarm-Out events to easy settings to use in vehicles. The TX (J1939) configuration parameters can be easily modified as needed.

- Talker ID: Set the Talker ID for NMEA data when saving NMEA data.
- SA: Set the source address.
- Alarm-IN ★: Configure Alarm-In events.
- Alarm-Out ★: Configure Alarm-Out settings.
- Use Hearbeat: Generate CAN communication messages in accordance with the J1939 protocol for transmission.

About

PATH: System menu > About

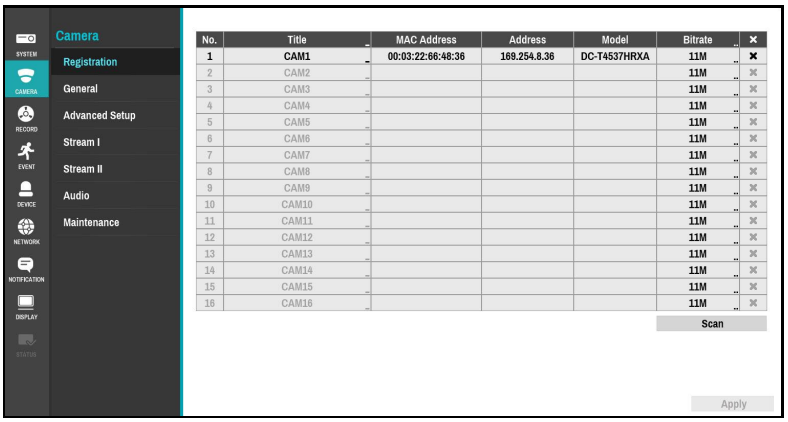


User agreement: User agreement for the use of the FEN service. If you agree, we collect device information such as IP address, port and router information to the FEN server.

Camera Setup

Registration

PATH: Camera menu > Registration



You can register cameras at remote locales. By selecting a number from the list, you can move the camera up or down the list using the mouse wheel to reorder its position. The remaining cameras will move down the list automatically.

Select the box under the **Title** column to edit the camera's name.

The **MAC Address** column displays the camera's MAC address registered to the NVR.

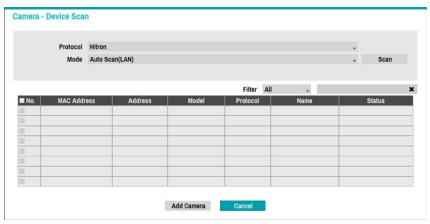
The **Address** column displays the camera's IP address registered to the NVR.

The **Model** column indicates the camera's model.

Select the box under the **Bitrate** column to change the bitrate allocated to the channel.

Select **Scan** to scan and register the device connected to the NVR.

NOTE: This feature is supported only when connected to the NVR from a remote program.



Select the **Protocol** you wish to search for that was used by the camera (or encoder).

NOTE:

- **Even if the network device uses a protocol supported by the NVR, the device itself may not be visible for scanning and registration by the NVR. For more information about supported network devices and models, contact your retailer.**
- **The supported scan modes may vary depending on protocol selected.**

Select the scan mode from **Mode**. **Auto Scan(LAN)** lists any cameras in a LAN environment. If Auto Scan(LAN) fails to recognize the camera, try using IP Address scan instead. Enter the IP address of a camera to use the **IP Address** mode. The NVR scans for the camera that matches the specified address. If you enter an IP address range, the NVR scans for cameras falling under the specified address range. By specifying an IP address, you can also specify which port to use with the Remote Admin feature. It is recommended that you do not network the camera via DHCP (Dynamic Host Configuration Protocol). If the camera is networked via DHCP, the camera may not be connected properly depending on changes in the external network environment.

Select the box beside **Filter** and enter a keyword in the MAC address / Address / Model / Name / Status fields for the selected camera. This allows the user to scan this camera easily.

NOTE: When configuring a port, the device may fail to scan if the port selected for the NVR and the port selected for the camera differ. In this case, you must register the camera to change its IP address.
The device to be registered must have different IP addresses. Otherwise, the connection may fail.

Select the box under the column **No.** to select the registered camera number and click the **Add Camera** button to register the camera.

The **MAC Address** displays the scanned camera's MAC address.

The **Address** displays the scanned camera's IP address.

The **Model** indicates the camera model.

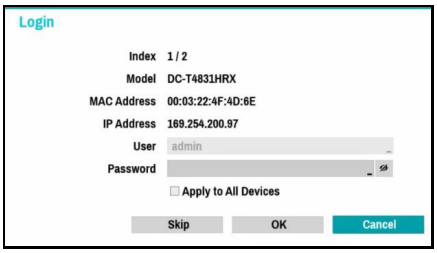
The **Protocol** indicates the scanned camera's protocol.

The **Name** displays the scanned camera's IP name.

Under the **Status** column, **Registered** indicates the camera is registered to the NVR and **Not registered** indicates the camera is not registered to the NVR.

If the password is set or you want to register third-party cameras, registering a device requires an authorized user login.

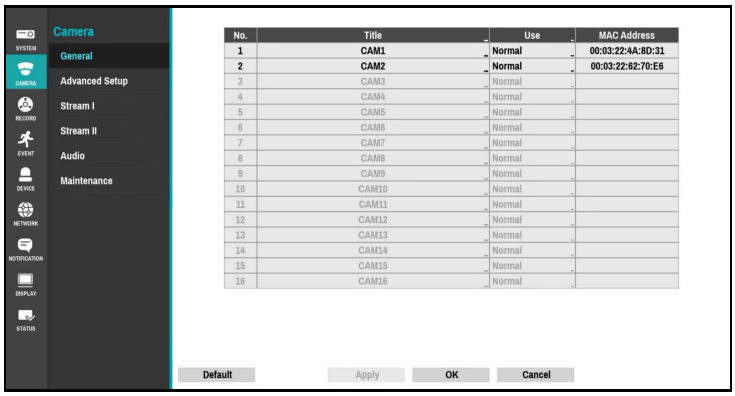
1. Select the desired device from the list and click the **Add Camera** button, then the login window will appear.
2. Select a user, enter the password, and then select **OK**.



NOTE: By selecting *Apply to All Devices*, you can apply the same authentication information to all of the network devices in the list.
When you select multiple network devices from the list and click the *Add camera* button, a window for the network device will appear. Select *Skip* to skip the authentication settings for the current network device and to display the Authentication window of the next network device.

General

PATH: Camera menu > General



Select the box under the **Title** column to edit the camera's name.

Turn the camera number On or Off by checking the box in the No. column. Select the title to rename the camera. The **Use** column determines which cameras will be displayed in IDIS Center by selecting **Normal**, **Covert 1** or **Covert 2** from a drop-down list. The **MAC Address** column displays the MAC address of each camera.

NOTE: When selecting the *Covert 1*, the Recorder displays the camera title and status icons on the covert video. When selecting the *Covert 2*, the Recorder displays only camera title on the covert video.

A user who does not have *Covert Camera View* authority cannot view video from cameras set to *Covert 1* or *Covert 2* in both the live monitoring and playback modes.

Advanced Setup

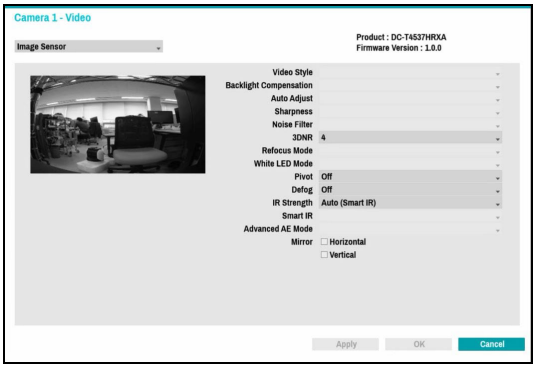
PATH: Camera menu > Advanced Setup

Configure the camera's security and other advanced camera settings.

Select the box under **Video** changes the video settings such as image sensor, white balance and exposure.

NOTE: Refer to the network camera manual for more detailed instructions on setting up the Video.

Image Sensor

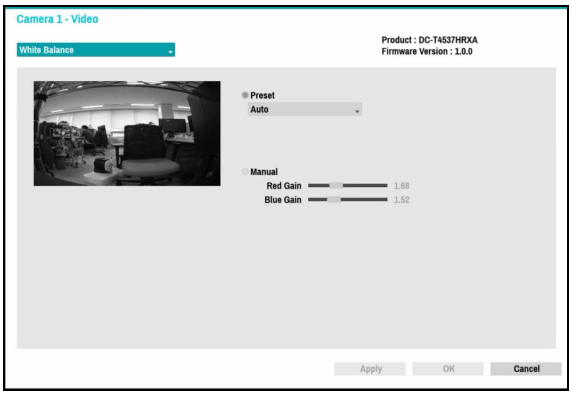


- Video Style: Select between TV Color and PC Color.
- Backlight Compensation: Set whether to enable or disable the backlight compensation.
- Auto Adjust: Select Auto to assess the lighting conditions and adjust the setting automatically. Select Manual to adjust the setting manually.
- Sharpness: Set the sharpness of images.
- Noise Filter: Set the degree of the noise filtration.
- 3DNR: Set whether to enable or disable the 3DNR (3D Noise Reduction).

- Refocus Mode: When the refocus mode is On, the focus of the camera is readjusted when changing daytime to nighttime or nighttime to daytime.
  - DN Mode Shift: When image of the camera is switched to daytime or nighttime, the focus of the camera will be adjusted.
  - IR Adaptive Shift: Readjust the focus of the camera when IR is detected by the camera.
- White LED Mode: When the white LED mode is On, white LED lighting is enabled when motion is detected by the PIR sensor. When the white LED mode is set to Auto, the system enables or disables the white LED mode automatically.
- Pivot: Set the direction of the pivot, and turn the image by 90 degrees in the clockwise or counterclockwise direction.

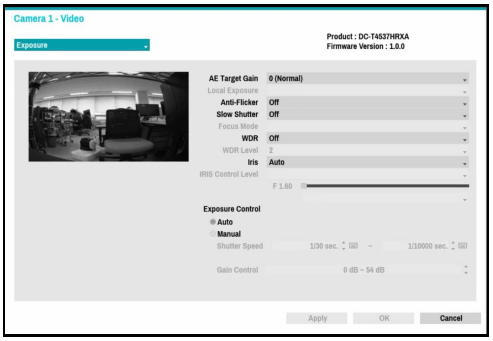
NOTE:
- **If vertical resolution is less than 320, this feature is not supported.**
- **This feature is particularly effective when monitoring hallways, passages and other confined spaces.**

- Defog: Set the defog option to adjust an image with a fog.
- IR Strength: Select On for the camera to adjust the brightness level automatically (recommended setting). When Off, set the brightness of the IR LED from 0 to 100%.
- Smart IR: Help solve the problem of infrared LEDs whiting out images, such as people's faces, when they are too close to the IR LEDs of a night vision camera. In this case, the image is adjusted through AE control.
- Advanced AE Mode: Select desired setup mode between Normal and Number-Identification. In Number-Identification mode, when a certain area of images is too bright due to backlight under low lighting conditions and it causes the other area to be too dark, this function provides the other area of images brightly and clearly by blocking the backlight in the certain area. Dark parking lot entrances and gas station entrances at night, for example (Local Exposure compensates for the bright light coming from incoming vehicle headlights and makes it possible to see the license plate). When setting to the Number-Identification mode, some option settings will be adjusted automatically, and you cannot change them as long as the Setup Mode is not changed.
- Switching Level: Controls the changing time of daytime/nighttime mode, depending on the Switching Level from 1 to 10. The higher the value is, day/nighttime mode is changed under high-lighting conditions. Also, the lower the value is, day/nighttime mode is changed under low-lighting conditions.
- Mirror: Check the Horizontal or Vertical box to flip images horizontally or vertically.



White Balance

- Preset: Select the preset white balance value based on the conditions.
- Manual: Select to adjust the white balance manually. Adjust the Red and Blue gain.



Exposure

- AE Target Gain: Set the target gain for the exposure compensation.
- Local Exposure: Set the local exposure.
- Anti-Flicker: Set to the same frequency as the lighting when the AC power is used for the lighting such as a fluorescent lights.
- Slow Shutter: Set the slow shutter mode.
- Focus mode: Select the focus mode.
  - WDR: Set the WDR option. When the very dark and very bright areas exist simultaneously on the screen, WDR allows you to recognize the both areas.
  - IRIS: Select the lens IRIS type. If a manual IRIS lens is mounted on the camera, select Manual. If a DC-type auto IRIS lens is mounted, select DC IRIS. Also, if a P-type auto IRIS lens is mounted, select P IRIS.
- Exposure Control: Adjusts the shutter speed and gain. This option is available only when **Anti-Flicker** and **Slow Shutter** are both set to **Off**.
  - Auto: The system will assess the lighting conditions and adjust the shutter speed and gain automatically.
  - Manual: Use the slider to select the desired shutter speed and gain. Select the most suitable minimum and maximum shutter speeds and gains for the lighting conditions in the area where the camera is located. (1/30 to 1/8000)

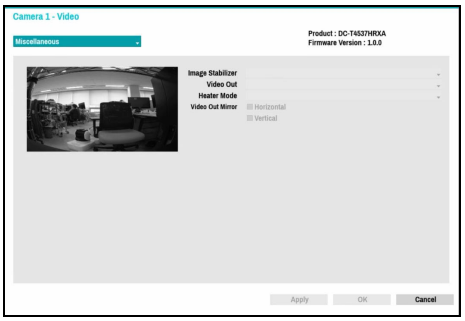
Day & Night

- Black & White Mode: Displays the images in grayscale for greater clarity in low-lighting conditions.
  - On/Off: Enable/disable Black & White Mode.
  - Auto: Allow the system to enable/disable Black & White Mode automatically.
  - Schedule: Set up the Black & White Mode schedule. Black & White Mode is disabled for all days and times that are designated as Daytime in the schedule and is enabled at all other times.
- IR Mode: Blocks out the infrared spectrum. You can ensure clear images at all times by blocking out the infrared spectrum in high-lighting conditions and allowing the infrared spectrum to pass through in low-lighting conditions.
  - Daytime Mode/Nighttime Mode: Enable/disable IR Mode.
  - Auto: Allow the system to enable/disable IR Mode automatically.
  - Schedule: Set up the IR Mode schedule. IR Mode is disabled for all days and times that are designated as Daytime in the schedule and is enabled at all other times.

NOTE: Some camera models may not support the *Schedule* function.

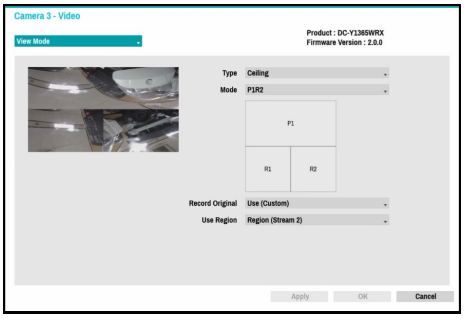
- Switching Mode: Changes the switching mode of daytime and nighttime. In normal mode, daytime/ nighttime is switched through the amount of light received by the ambient light sensor. In advanced mode, it is switched through the amount of light and the analysis of the camera video.

- Switching Level: Controls the changing time of daytime/nighttime mode, depending on the Switching Level. The higher the value is, day/nighttime mode is changed under high-lighting conditions. Also the lower the value is, day/nighttime mode is changed under low-lighting conditions.



Miscellaneous

- Image Stabilizer: Reduces blurring caused by camera shake that results from external conditions such as the wind.
- Video Out: Select NTSC or PAL as the method of camera analog video output.
- Heater Mode: Reduces Set whether to use the heater. If On, the heater will operate if the camera's temperature is lower than the heater operating temperature. If Off, the heater will not operate regardless of temperature.
- Video Out Mirror: If the video output is CVBS, the screen can be inverted.



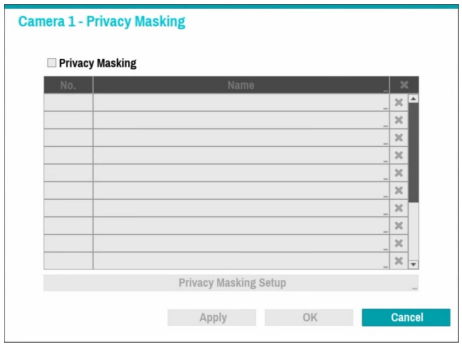
View Mode

- Type: Select the camera view.
- Mode: Select between Original, O1R7 and R4.
- Record Original: Use When Mode is selected as a format other than Original, the original Fisheye video is output as stream 3.
- Use Region: When selecting a mode that includes a panorama format such as P1R2 or R4, the system will be configured to output only the panorama video through stream 2. (P1R2 mode: P1 video, R4 mode: R1)

NOTE: This feature is supported only for some fisheye cameras.

NOTE: Select *Apply* after setting up a camera to see images from the selected camera in a preview window. Selecting *Apply* or *OK* displays a popup screen that indicates whether the camera has been set up successfully or not.

Select the box under **Privacy Masking** allows privacy masking configuration for the camera.

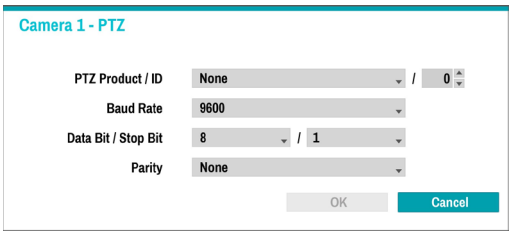


Selecting Privacy Masking toggles On and Off. Select the Name box and enter the name of the registered privacy masking areas. Up to 15 characters are allowed, including spaces. The ☒ box deletes a privacy masking area.

Once the Privacy Masking is set to On, set up the privacy masking areas by selecting the Privacy Masking Setup. The Privacy Masking Area screen displays.

NOTE: Up to 16 different areas can be registered.

Select the box under **PTZ** and if using a CAN-compliant camera, configure it for use in PTZ mode.



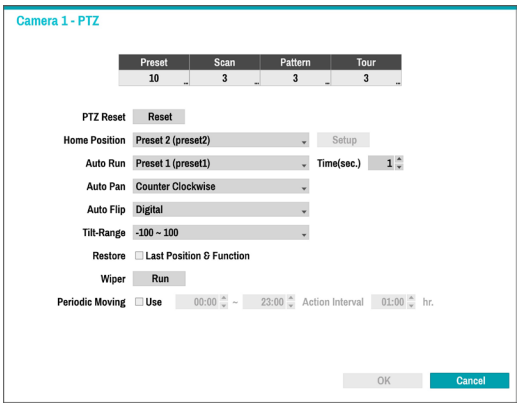
- PTZ Product: Choose to select the model of installed PTZ device.
- ID: Choose to assign an ID to each PTZ device.

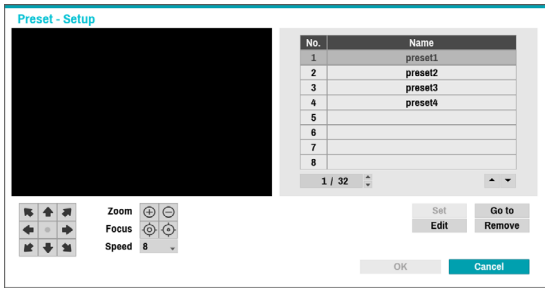
Choose to set up Baud Rate, Data Bit, Stop Bit and Parity of the connected device.

NOTE: Refer to the PTZ device manufacturer's instructions for the proper settings.

NOTE: Types of configuration options shown vary depending on the PTZ functions supported by the camera.

NOTE: Numbers shown below Preset, Scan, Pattern, and Tour indicate the numbers of configured functions.



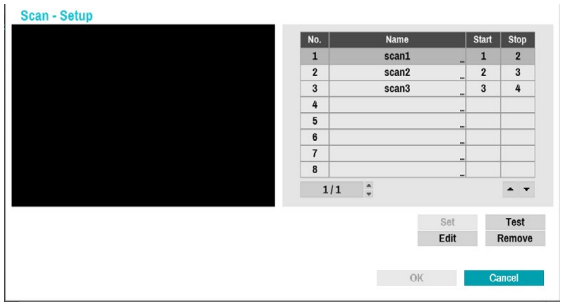


Preset

Use the buttons below to choose a preset position.

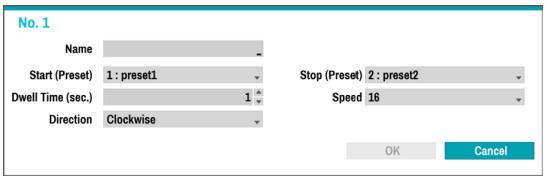
- Directional Buttons ( ): Used to tilt and pan the camera.
- Zoom ( ): Zoom in and out.
- Focus ( ): Adjust camera focus far or near.
- Speed: Specify the camera's panning and tilting speed.

- Set: Choose a preset number and then enter a name. This saves the current preset under the specified preset number and name.
- Go to: Select a preset from the list and then click Go to to move the camera to the selected preset position.
- Edit: Used to change the selected preset's name.
- Remove: Used to remove the selected preset.

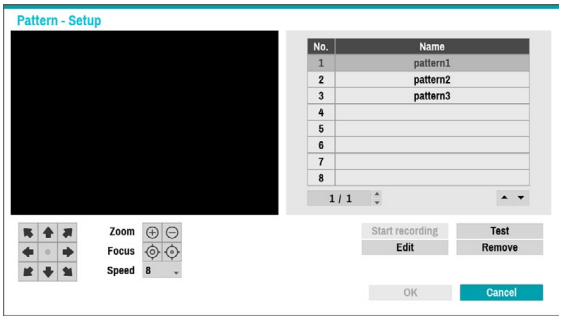


Scan

Used to set up a profile for moving the camera between two points. At least two presets must be available in order to use the scan feature.



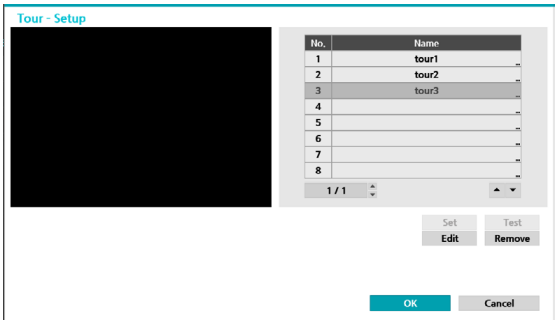
- Set: Used to set up a scan profile.
  - Name: Enter a name for the scan profile.
  - Start/Stop: Specify which presets to use as start and stop points.
  - Dwell Time (sec.): Specify how long the camera will dwell at start and stop positions.
  - Speed/Direction: Specify scanning speed and direction.
- Test: Select a scan profile and then click Test to test it.
- Edit: Used to edit the selected scan profile.
- Remove: Used to remove the selected scan profile.



Pattern

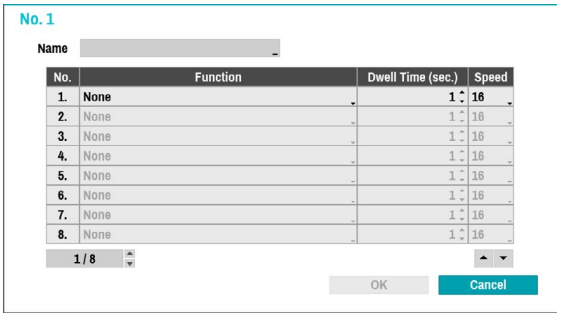
Used to set up a pattern profile for the camera to follow along.

- Start recording: Select a pattern number, enter a name for the pattern, and then click OK to save the pattern. Move the camera using directional, zoom, and focus buttons and then click Stop recording to save the pattern profile. You can record up to two minutes of movement.
  - Directional Buttons ( ): Used to tilt and pan the camera.
  - Zoom ( ): Zoom in and out.
  - Focus ( ): Adjust camera focus far or near.
  - Speed: Specify the camera's panning and tilting speed.
- Test: Select a scan profile and then click Test to test it.
- Edit: Used to edit the selected scan profile.
- Remove: Used to remove the selected pattern profile.



Tour

Used to set up a tour profile of multiple functions in a designated sequence.



- Set: Used to set up a tour profile.
  - Name: Enter a name for the tour profile.
  - Function: Indicates the order of the function in the tour sequence.
  - Dwell Time (sec.): Specify how long to perform the selected function for.
  - Speed: Specify the preset speed.
- Test: Select a tour profile and then click Test to test it.
- Edit: Used to edit the selected tour profile.
- Remove: Used to remove the selected tour profile.

NOTE: Select Apply after setting up a preset, scan, pattern, or tour profile to see images from the concerned camera on the left side of the screen. Selecting Apply or OK displays a popup screen that indicates whether the profile has been set up successfully.

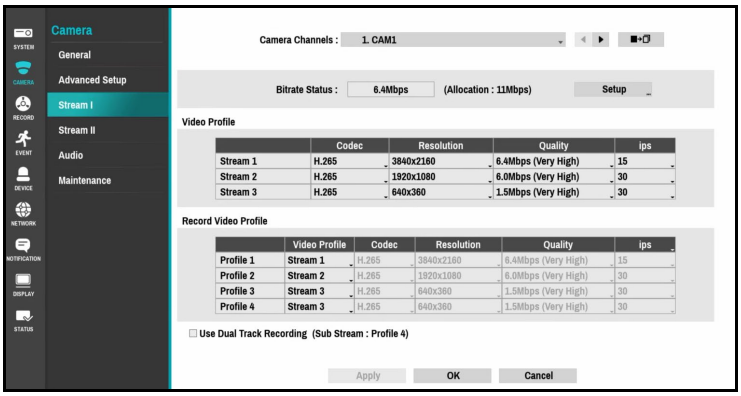
- PTZ Reset: Reboots the camera's panning / tilting and zoom settings.
- Home Position: Specify the camera's home position.
  - Default: Uses the factory-default position as the camera's home position.
  - Custom: Uses the user-defined position as the home position.
  - Select Set to change the home position.
- Auto Run: Specify which action to take if the camera has not been controlled for the specified duration of time.
- Auto Pan: Specify the camera's panning direction. When Auto Pan is selected from a remote program, the camera pans in the direction selected here.
- Auto Flip: Automatically flips the image when the camera tilts past 90° to prevent the objects from appearing upside down.
  - Digital: Flips the image left to right or top to bottom.
  - Mechanical: Automatically pans or tilts the camera.
  - Off: Disables Auto Flip.
- Tilt-Range: Specify the camera's tilting range.
- Restore: Specify whether to restore the camera to its last position or function. Enabling this option restores the camera to its last position or function after being restarted.
- Wiper: Operate the wipers connected to the camera (stop after three round trips).
- Periodic Moving: Operate the PTZ camera at each operation cycle for the specified schedule period.

Select the box under **Reset** to reset the port or cameras.

- Factory Reset: Control the PoE Switch's port. This option is available when connecting to Video In PoE port or using a DirectIP PoE Switch (optional). Select PoE Reset to reboot the camera. It is not supported by video encoders.
- Soft Reset: Reboots the camera.
- Factory Reset: Resets the NVR to all its initial factory settings. It is supported by DirectIP™ cameras only.

Stream I

PATH: Camera menu > Stream I



Configure the camera's live and recording resolution, codec, picture quality, transfer speed, and ips speed settings.

Select the box beside **Camera Channel** and select the camera number to configure a unique video profile. Click ◄ / ► buttons to change the camera channel. Selecting the ■+□ box applies the video profile settings of the camera selected under Camera Channel to the selected camera.

Bitrate Status displays the highest value of stream. Click the **Setup** button to change the allocation for each channel.

Under the **Video Profile** settings, you can check the current Live video picture quality and edit remote video profile settings, and under the **Record Video Profile settings**, you can set up four recording quality profiles.

Select the box under **Codec** to select between H.264 and H.265.

Select the box under **Resolution** and select a resolution supported by the camera. Maximum available resolution is chosen automatically based on the selected video profile.

Select the box under **Quality** and select from Very High, High, Standard, or Manual. Assign different Quality settings to different cameras.

Select the box under **ips** (images per second) and select between 1 and 30. Maximum ips available is determined automatically based on the selected video profile.

Select **Use Dual Track Recording** to set to record with the video profile value (main stream) set in the schedule and record with the profile 4 value (sub stream) at the same time.

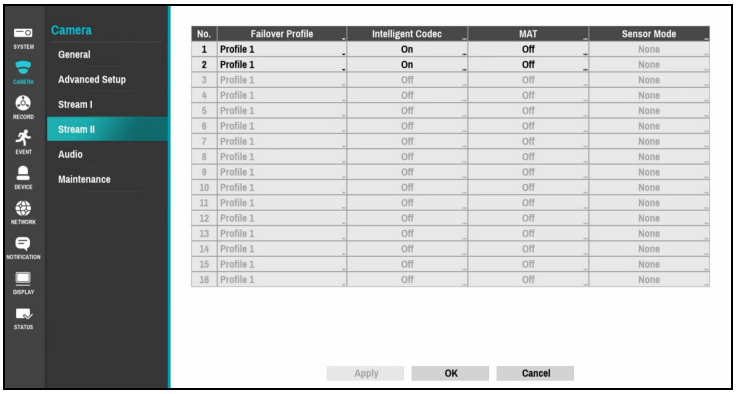
NOTE: It displays as below when recording on a network video recorder.

- **If the screen layout is less then 3x3, video profile (main stream) is displayed and if it is larger than 3x3, profile 4 (sub stream) is displayed.**
- **If the channel is larger than 3x3 size on the screen layout such as 1+7 and 1+12, the video profile (main stream) is displayed first but otherwise, the profile 4 (sub stream) is displayed first.**

This function is supported only for cameras supporting dual recording function.

Stream II

PATH: Camera menu > Stream II



Configure the camera's failover profile, intelligent codec and MAT settings.

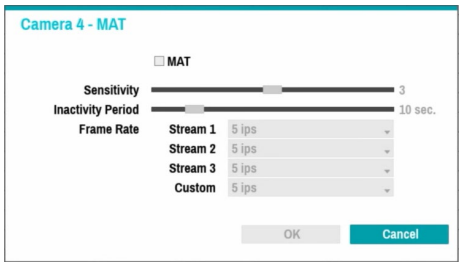
Select the box under **Failover Profile** and select a video profile for the smart failover recording.

Select the box under **Intelligent Codec** and toggle on the intelligent codec to lower bitrate.

NOTE: Some camera models may not support the Intelligent Codec function.
When using the intelligent codec function, the start of some functions, such as clip copy or clip attachment can be changed to an earlier point than the selected point.

Select the box under **MAT** and select the MAP setup option to use the MAT (Motion Adaptive Transmission) function during video transmission and recording.

NOTE: When the MAT (Motion Adaptive Transmission) function is active, the associated VA device may not work properly.
It is recommended that you do not use the MAT function of the associated camera to increase the accuracy of the image analysis.
Some camera models may not support the MAT function.



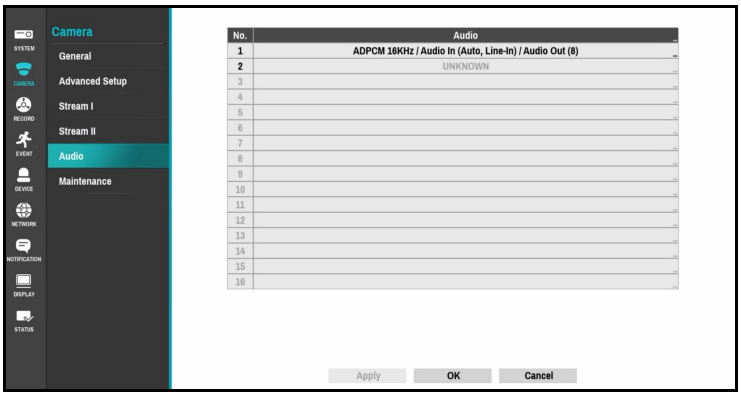
MAT function reduces bandwidth overload and saves storage capacity by reducing the frame rate of the video during periods of inactivity. The user can select the period of sustained inactivity which triggers this function by adjusting **Inactivity Period**.

- Sensitivity: Set the motion detection sensitivity. Higher values will result in more sensitive motion detection.
- Inactivity Period: Set the inactivity period. If motion is not detected for the duration of time specified, video is transmitted and recorded using the frame rate designated below until movement is detected again.

Select the box under **Sensor Mode** and set the camera resolution to 16:9 or 4:3. Depending on the mode you have set, the resolution that can be set in the stream section changes.

Audio

PATH: Camera menu > Audio



Selecting the box under **Audio** allows configuration of audio settings for each channel.

Select the box beside **Audio Codec** and select the audio codec between G.711 u-Law, G.711 a-Law, G.722, ADPCM 16KHz, G.726, and OPUS 16KHz.

Select the box beside **Associated Audio In** to associate the selected audio channel with the camera. It is supported by video encoders only.

Select **Audio In** to enable or disable audio for that camera.

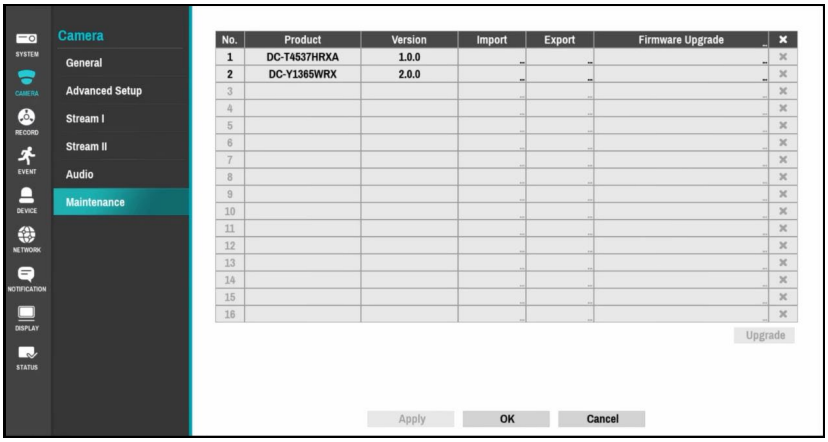
Select the box beside **Device** and select an audio input source (microphone, line-in or HDMI) and then adjust the volume. Select the box beside **Auto Detection** and to detect the audio input and automatically select the audio-in device. Select the box beside **Volume Control** and select how to control the volume. Selecting **Manual** allows you to adjust the volume manually by using the slider. Selecting **Auto** sets the Recorder to adjust the volume automatically depending on the surrounding circumstances. Select the box beside **Noise Filter** to reduce the environmental noise and enhance the voice. If you turn on the noise filter, the sound may be distorted. It is recommended not to use this function in a loud place because it may degrade performance.

Select **Audio Out** to adjust the volume.

NOTE: Cameras do not feature built-in audio amplifier units and therefore require the user to purchase a speaker system with a built-in amplifier separately.

Maintenance

PATH: Camera menu > Maintenance



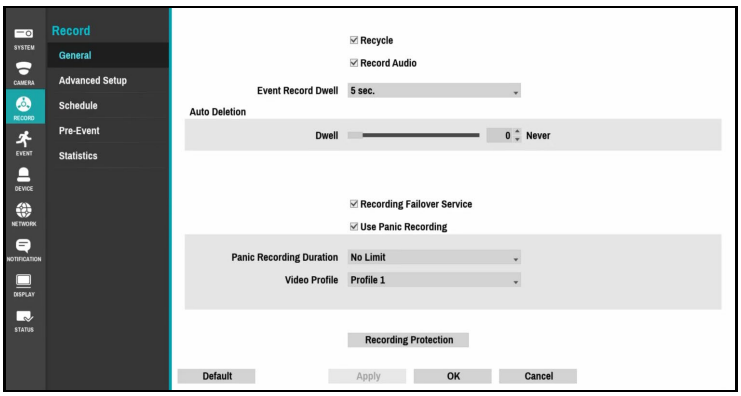
Selecting the USB port displays USB search window. Select the corresponding upgrade package from the storage device connected to the NVR's USB port. After selecting an upgrade package, select **Apply** to upgrade the camera. Camera settings can be imported or exported.

NOTE: If an upgrade attempt fails, an upgrade failure message will be displayed.
The camera will reboot after the upgrade and then reconnect automatically.

Record Setup

General

PATH: Record menu > General



Selecting **Overwrite** toggles between On and Off. In the Overwrite mode, the Recorder records over the oldest video data (on a first-in, first-out basis) once all available storage space has been used. When Overwrite is turned off, the Recorder stops recording once all available storage space has been used.

Selecting **Record Audio** toggles between On and Off. Selecting this option allows the camera to record audio along with video.

Highlight the **Event Record Dwell** box and set the length of time you would like to record for the associated event. You can set the dwell from 5 seconds to 30 minutes.

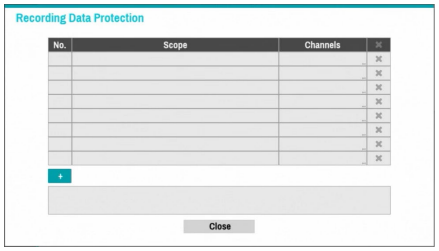
Select the slide bar beside **Auto Deletion**, and adjust the length of time recorded data will be kept from 1 to 999 days. The Recorder automatically deletes video recorded earlier than the user-defined period under three conditions: at midnight, whenever the system reboots or whenever the user changes the Auto Deletion settings. Selecting Never will disable the Auto Deletion function.

Select the **Recording Failover Service** to record the videos stored on the camera SD memory card on the NVR when a network failure is restored.

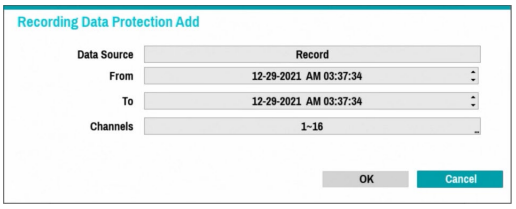
NOTE: Data from the camera SD memory card cannot be recorded on the NVR if the recording failover service function is not selected.

The Recorder can do panic record. Selecting **Use Panic Recording** toggles between On and Off. When Use Panic Recording is turned on, the Recorder will start panic recording when panic recording is initiated on a remote program. Setting the Panic Recording Duration time terminates panic recording automatically. Select between 5 mins and 1 hr. Select No Limit to disable auto-termination. Select a recording profile value for panic recording from Panic Recording Duration.

Select the **Recording Protection** box to protect a specific period of data.



Select the + to add a schedule item. To delete a storage protection schedule, check the ☒.

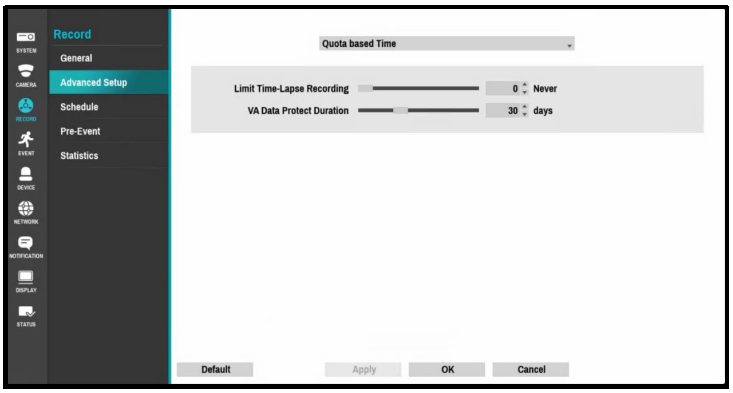


Select the number to change and use the Up and Down arrows to increase or decrease.

Advanced Setup

PATH: Record menu > Advanced Setup

Quota Based Time

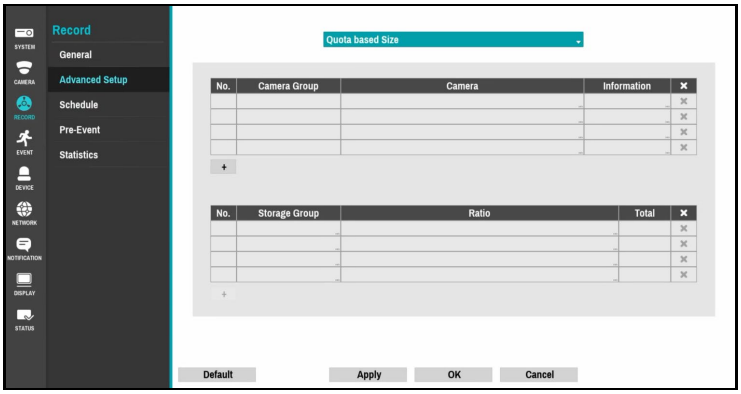


Configure **Limit Time-Lapse Recording setting** to store event recording data for a longer period of time. To not use this function, select Never. It is activated when data has been stored for longer than as configured because the recording disk has sufficient capacity and saves new data by overwriting Time-Lapse Recording data that are older than as specified under the Recycle mode.

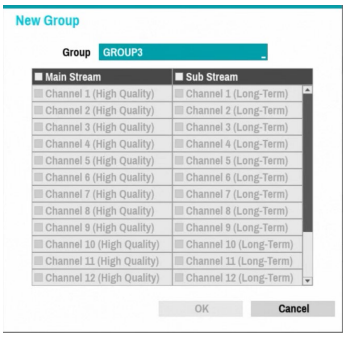
NOTE: If the recording stored on the disk is shorter than the duration specified under *Limit Time-Lapse Recording*, the older data of Event Recording or Time Recording is deleted first.
The system's recording time may change depending on recording quality, resolution, motion, and other configuration made by the user. The duration specified under *Limit Time-Lapse Recording* may not be guaranteed in certain situations.

Configure **VA DATA Protect Duration** setting to select the data protection period. Select between 1 day and 90 days.

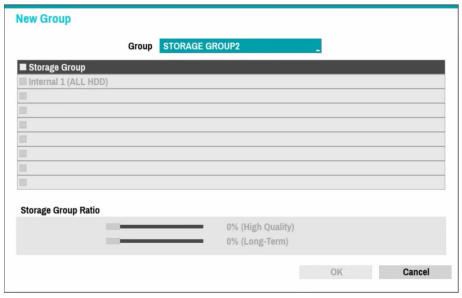
Quota Based Size



Cameras and disks are grouped to enable recording according to the set ratio.



Click the + icon at the bottom left corner of the Camera Group list table to group the cameras by specifying the camera numbers.

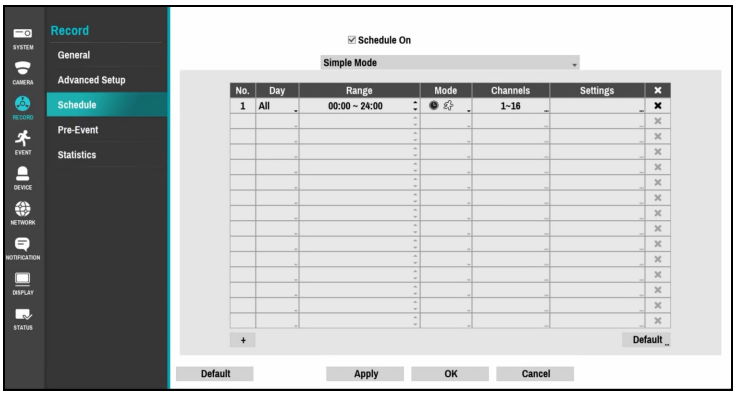


Click the + icon at the bottom left corner of the Storage Group list table to create a separate storage group by setting the recording storage space of each camera group.

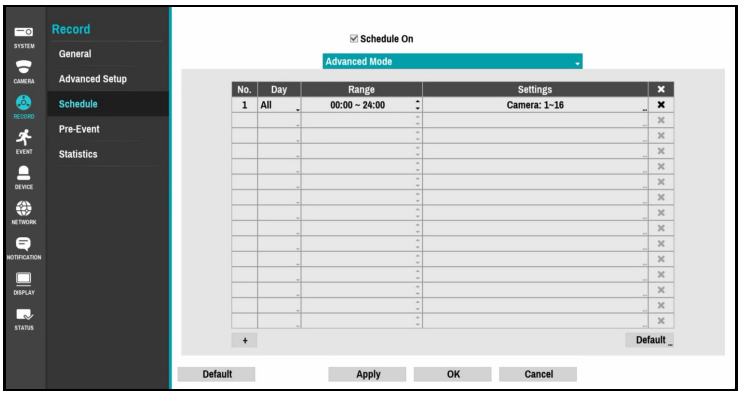
Schedule

PATH: Record menu > Schedule

Simple Mode



Advanced Mode



Selecting **Schedule On** toggles between On and Off. In the Schedule On mode, the Recorder records video based on the schedule established in the Schedule screen. Turning Schedule recording Off suspends schedule recording regardless of the schedule and displays the icon on the upper left corner of each camera screen. Pressing the Panic Record button displays the icon and starts panic recording.

Select record Schedule mode between **Simple Mode** or **Advanced Mode**. **Advanced Mode** allows you to configure a unique recording schedule for each event.

NOTE: Changing the recording schedule mode suspends all active event-linked actions.
Select [+] to add a schedule item. Select *Day* to specify the *Day* setting or select *All*. Select *Scope* to specify the time frame.

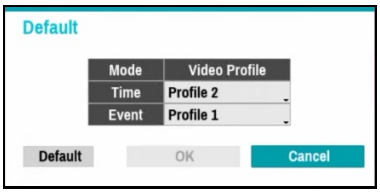
Simple Mode Options

Select the box under the **Mode** heading to change the recording mode that will be used. Choose from: No Record, Time, Event, and Time & Event. When the Recorder is in the No Record mode, it will not record during the preset day and time range. Use the No Record mode to disable recording during certain times. When the Recorder is in the Event mode, the Recorder will record when any event occurs.

No Record	Unless the **Panic Record** button is pressed, no recording will take place during the scheduled time frames on the scheduled days.
Time	The icon appears on the upper left corner of the screen. The icon appears at scheduled times to indicate recording is in progress.
Event	The icon appears on the upper left corner of the screen. The icon appears when the specified event occurs to indicate recording is in progress. **NOTE: If Pre-Event is enabled, the and icons appear when recording is not in progress, or the and icons appear when an event occurs and recording is in progress.**
Time & Event	The icon appears on the upper left corner of the screen and recording commences as per the video profile selected for time under **Setup**. When an event occurs, the icon changes into icon and recording commences as per the video profile selected for events under **Setup**.

Select the box under the **Channels** heading to select which cameras will be recorded. High Quality and Long-Term settings are selected as separate channels. In order to record both streams add both High Quality and Long-Term channels to the schedule.

Select the box under the **Settings** heading to configure default recording profile values for Time-Lapse and Event Recording modes.



If a camera supporting the Dual Track Recording function (Main and Sub stream) is in use, the following icon will be displayed.

- Recording both mainstream and substream
- Recording one of the mainstream and substream
- Failed to record both mainstream and substream

Advanced Mode Options

Select to configure event types and video profiles.
The event-specific and time recording icons are as follows:

- Time-Lapse (Time)
- Alarm-In
- Motion Detection
- Loitering
- Mask Rule Violation
- Object Detection
- Face Detection
- Network Alarm
- Recording Fail
- Tripzone
- VA Loss
- Social Distancing Violation
- Line Crossing
- Exceed Vehicle Count
- Tampering
- Text-In
- Video Loss
- Exceed Occupancy Limit
- Queue Congestion
- Intrusion
- Crowd Detection

Select **Video Profile** to configure the profile to use for recording.

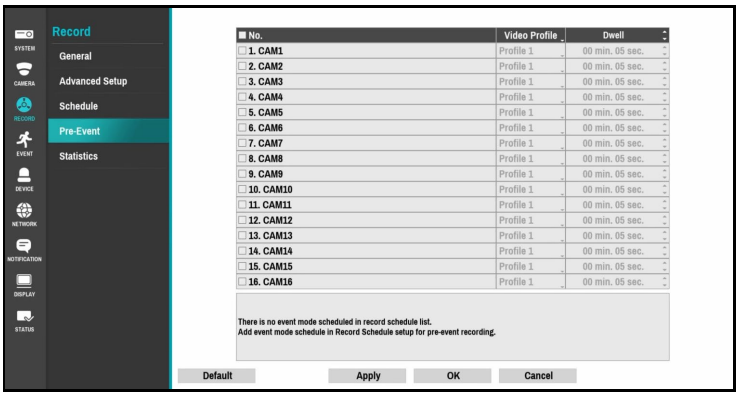
Select **Dwell** to specify for how long to record after a corresponding event occurs.

NOTE: Upper-tier schedule's settings apply to channels yet to be configured.
If multiple events take place on a specific channel and different *Video Profile* and *Dwell Time* settings apply, highest settings apply to all event-linked recordings.

Select the box under the ✖ heading to delete the recording settings. Please confirm to delete the settings.

Pre-Event

PATH: Record menu > Pre-Event



When the Recorder is in the Event Record mode it is possible to have it record images before the event occurs. The Pre-Event screen allows you to define how to handle pre-event recording. If you do not have Event set up in the Record Schedule, a message will display alerting you to this fact.

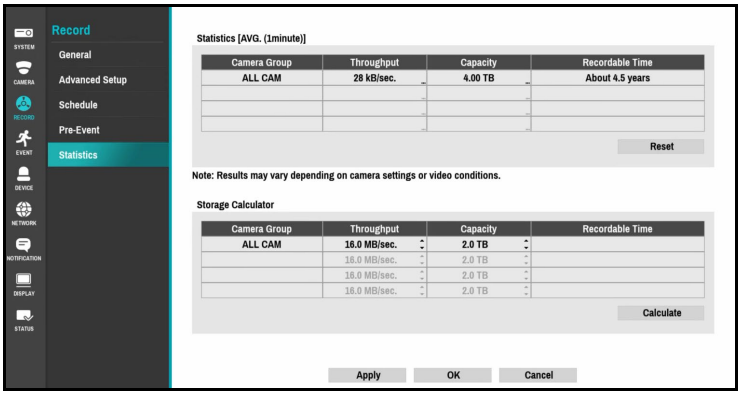
You can turn individual cameras On or Off for pre-event recording.

You can set the amount of time to record prior to the event by adjusting the **Dwell**.

NOTE: When the Recorder is in the Time or Time & Event mode, it ignores the pre-event settings and follows the time settings.

Statistics

PATH: Record menu > Statistics

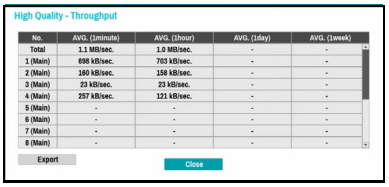


Statistics displays the throughput and recordable time that is being recorded depending on the camera and storage capacity by each group set in the DVR.

Statistics

Camera Group indicates the name of the camera group.

Throughput indicates the throughput of all cameras in the camera group. It is based on the longest accumulated time unit. Clicking the **…** icon under **Throughput** displays the throughput that accumulates data by camera group, showing data throughput in terms of average duration.



Capacity indicates the sum of all storage capacity in the camera group. Click the **…** icon under **Capacity** to calculate the capacity and throughput by each group and display the remaining time for recording.

Recordable Time calculates the throughput and capacity of the camera group and displays the recordable time.

Select **Reset** to initialize all accumulated throughput data used by statistics.

NOTE: Results may vary depending on camera settings or video conditions.

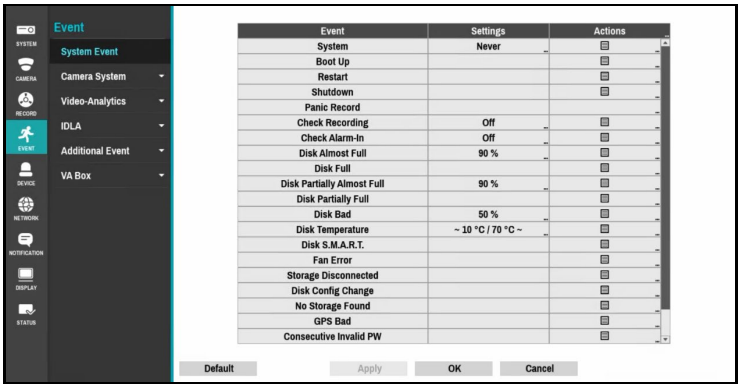
Storage Calculator

Check recordable time by setting the throughput and capacity by each camera group. Click the **Calculate** button to calculate the capacity and throughput by camera group of storage calculator and display the recordable time.

Event Setup

System Event

PATH: Event menu > System Event

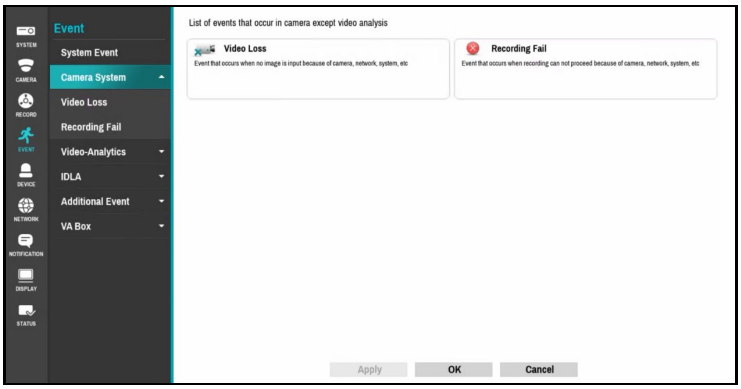


Select the box under the **Settings** to configure conditions which the system should monitor.

Select the box under the **Actions** to configure alarm-out (NVR alarm-out channel, NVR beep, camera alarm-out channel) and notification (email, LAN1~5, push, HTTP, alert window) settings.

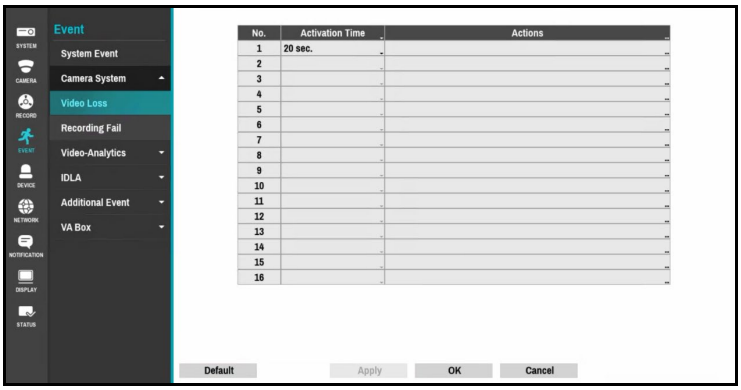
Camera System

PATH: Event menu > Camera System



Video Loss

PATH: Event menu > Camera System > Video Loss



Select the box under the **Activation Time** to specify how long video loss has to last in order for it to be considered as an event. When the video loss is not detected for the specified duration of time, it will not be considered as an event.

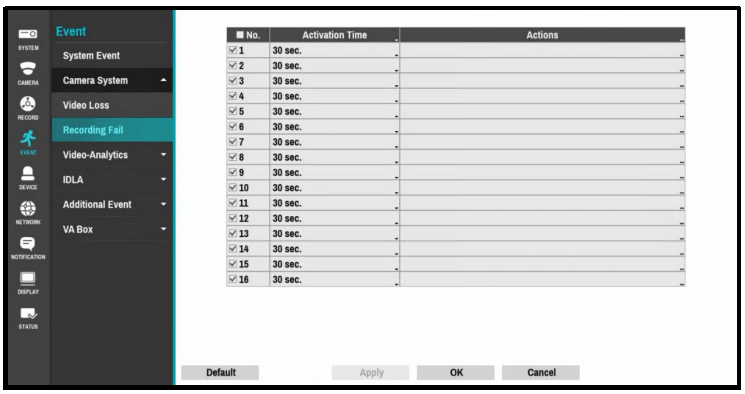
Select the box under the **Actions** to specify which actions to take when a Video Loss event occurs.

- Record: Specify which cameras to begin linked recording on when an event occurs. If the schedule is set to **Event** or **Time & Event** mode, the selected cameras will begin linked recording when an event occurs.
- Alarm-Out: Designate event-triggered alarm-out channels (each for the NVR and camera) and beeps.
- Notify: Configure to be notified of events by Mail, LAN1~5, Push, HTTP, FTP, and/or Alert Window.
- PTZ: Moves the PTZ camera to a specific preset position when an event occurs.
- Event Monitoring: Selects the cameras to monitor when an event occurs.

NOTE: In order to use the Callback feature, the NVR must be registered on the remote program.

Recording Fail

PATH: Event menu > Camera System > Recording Fail



Select the box under the **Activation Time** to specify how long recording fail has to last in order for it to be considered as an event. When the recording fail is not detected for the specified duration of time, it will not be considered as an event.

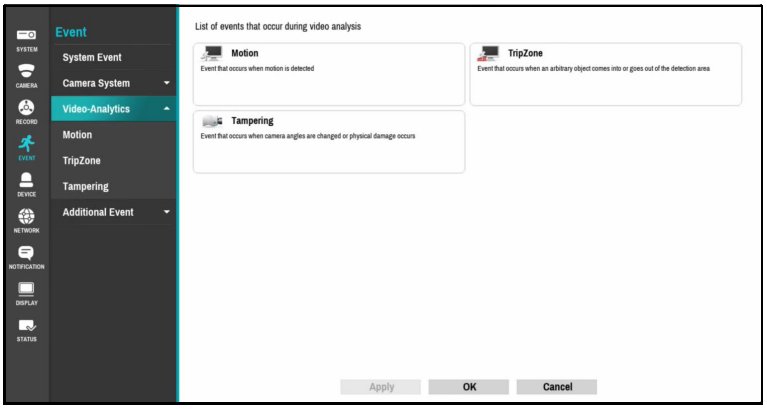
Select the box under the **Actions** to specify which actions to take when a Recording Fail event occurs.

- Record: Specify which cameras to begin linked recording on when an event occurs. If the schedule is set to **Event** or **Time & Event** mode, the selected cameras will begin linked recording when an event occurs.
- Alarm-Out: Designate event-triggered alarm-out channels (each for the NVR and camera) and beeps.
- Notify: Configure to be notified of events by Mail, LAN1~5, Push, HTTP, FTP, and/or Alert Window.
- PTZ: Moves the PTZ camera to a specific preset position when an event occurs.
- Event Monitoring: Selects the cameras to monitor when an event occurs.

NOTE: In order to use the Callback feature, the NVR must be registered on the remote program.

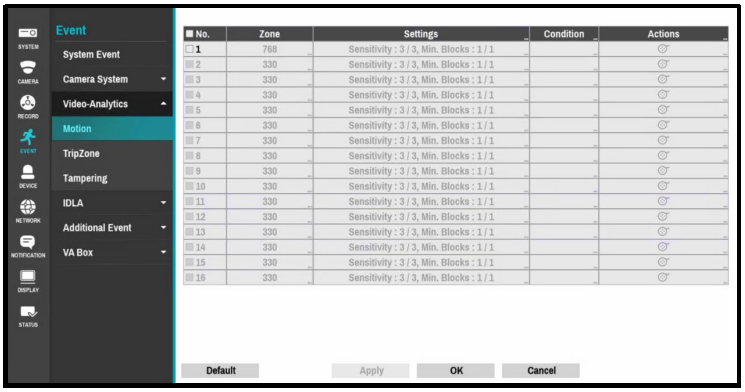
Video Analytics

PATH: Event menu > Video Analytics



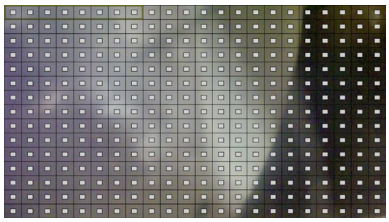
Motion

PATH: Event menu > Video Analytics > Motion

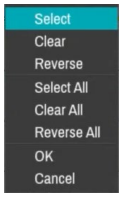


Select the box under **No.** to choose which cameras to apply Motion Detection to.

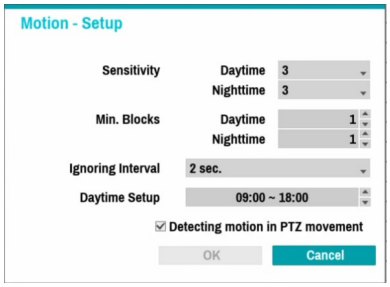
Select the box under **Zone** to define the motion detection block.



Use the remote control's arrow buttons to move the block selection window up, down, left and right. The selection window consists of 8 blocks per row. Select/deselect individual blocks using the Camera buttons. You can use the mouse to drag the zone and then select, clear, or reverse the selection.
From the zone selection screen, press the ↵ button on the remote control or right-click on the mouse to open up the Zone Setup menu.



Select – Activates highlighted blocks to detect motion.
Clear – Deactivates highlighted blocks so that they will not detect motion.
Reverse – Activates inactive highlighted blocks and deactivates active highlighted blocks.
Select All – Activates all blocks to detect motion.
Clear All – Deactivates all blocks so that they will not detect motion.
Reverse All – Activates inactive blocks and deactivates active blocks.
OK – Accepts changes and closes Zone setup.
Cancel – Exits Zone setup without saving changes.



- Sensitivity: Set daytime and nighttime sensitivity settings between 1 (Low) ~ 5 (High).
- Min. Blocks: Motion needs to be detected in more than the specified number of blocks in order to trigger a Motion Detection event. You may select a value between 1 and the number of blocks selected under Zone for each daytime and nighttime.
- Ignoring Interval: The system does not produce event log entries or remote notifications for motion detected within a certain period of time after the motion of the camera channels is detected. Set the value between 1 sec. ~ 5 sec. or choose Never.

  NOTE: Ignoring interval does not affect motion detection recording.
- Daytime Setup: Specify when daytime starts and ends. Adjust the time frame in 15-minute increments. Times outside the specified range will be assumed as nighttime by the system.
- Detecting motion in PTZ movement: It can be set to detect events during PTZ operation.

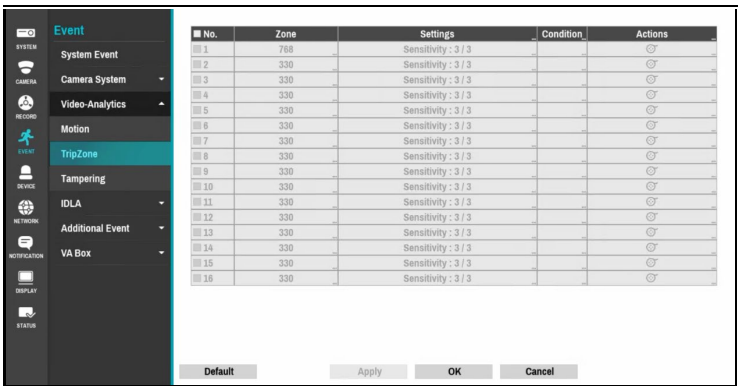
Select the box under the **Actions** to specify which actions to take when a motion detection event occurs.

- Record: Specify which cameras to begin linked recording on when an event occurs. If the schedule is set to **Event** or **Time & Event** mode, the selected cameras will begin linked recording when an event occurs.
- Alarm-Out: Designate event-triggered alarm-out channels (each for the NVR and camera) and beeps.
- Notify: Configure to be notified of events by Mail, LAN1~5, Push, HTTP, FTP, and/or Alert Window.
- PTZ: Moves the PTZ camera to a specific preset position when an event occurs.
- Event Monitoring: Selects the cameras to monitor when an event occurs.

NOTE: In order to use the Callback feature, the NVR must be registered on the remote program.

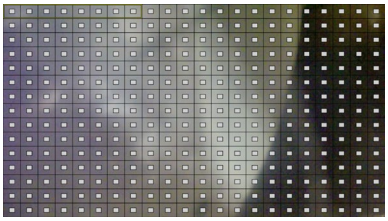
TripZone

PATH: Event menu > Video Analytics > Tripzone

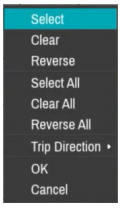


Select the box under **No.** to choose which cameras to apply Tripzone to.

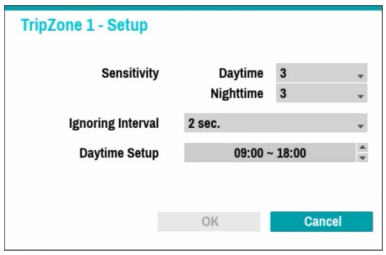
Select the box under **Zone** to define the motion detection block.



Use the remote control's arrow buttons to move the block selection window up, down, left and right. The selection window consists of 8 blocks per row. Select/deselect individual blocks using the Camera buttons. You can use the mouse to drag the zone and then select, clear, or reverse the selection.
From the zone selection screen, press the ↵ button on the remote control or right-click on the mouse to open up the Zone Setup menu.



Select – Activates highlighted blocks to detect motion.
Clear – Deactivates highlighted blocks so that they will not detect motion.
Reverse – Activates inactive highlighted blocks and deactivates active highlighted blocks.
Select All – Activates all blocks to detect motion.
Clear All – Deactivates all blocks so that they will not detect motion.
Reverse All – Activates inactive blocks and deactivates active blocks.
Trip Direction – Define in which direction the motion has to occur in order for it to be considered an event. Select In for movements from outside the selection area in, or Out for movements from inside the selection area out.
OK – Accepts changes and closes Zone setup.
Cancel – Exits Zone setup without saving changes.



- Sensitivity: Set daytime and nighttime sensitivity settings between 1 (Low) ~ 5 (High).
- Min. Blocks: Motion needs to be detected in more than the specified number of blocks in order to trigger a Motion Detection event. You may select a value between 1 and the number of blocks selected under Zone for each daytime and nighttime.
- Ignoring Interval: The system does not produce event log entries or remote notifications for motion detected within a certain period of time after the motion of the camera channels is detected. Set the value between 1 sec. ~ 5 sec. or choose Never.

  NOTE: Ignoring interval does not affect motion detection recording.
- Daytime Setup: Specify when daytime starts and ends. Adjust the time frame in 15-minute increments. Times outside the specified range will be assumed as nighttime by the system.

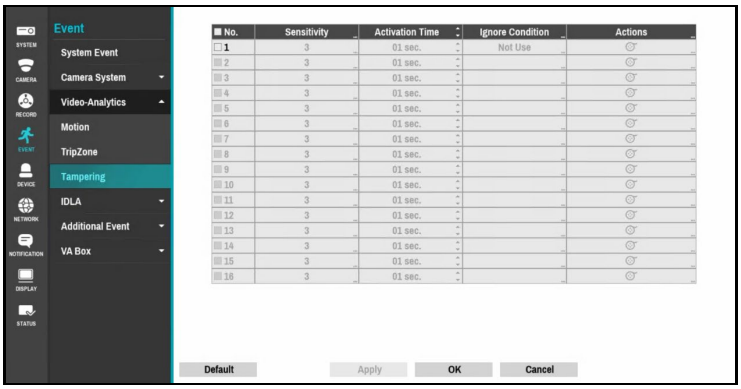
Select the box under the **Actions** to specify which actions to take when a Tripzone detection event occurs.

- Record: Specify which cameras to begin linked recording on when an event occurs. If the schedule is set to **Event** or **Time & Event** mode, the selected cameras will begin linked recording when an event occurs.
- Alarm-Out: Designate event-triggered alarm-out channels (each for the NVR and camera) and beeps.
- Notify: Configure to be notified of events by Mail, LAN1~5, Push, HTTP, FTP, and/or Alert Window.
- PTZ: Moves the PTZ camera to a specific preset position when an event occurs.
- Event Monitoring: Selects the cameras to monitor when an event occurs.

NOTE: In order to use the Callback feature, the NVR must be registered on the remote program.

Tampering

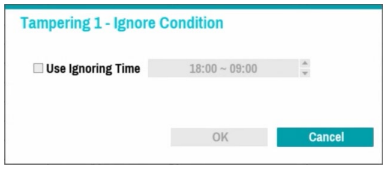
PATH: Event menu > Video Analytics > Tampering



Video tampering detection can be turned On or Off for each camera.

Selecting the box under the **Sensitivity** heading allows adjustment of the Recorder's sensitivity to tampering. There are five settings with 1 being the least sensitive and 5 being the most sensitive.

Selecting the box under the **Activation Time** heading allows setting the duration before the Recorder reports a tampering. The Recorder will not detect a tampering of less than the Activation Time set.



Selecting **Ignore Condition** toggles between On and Off. When set to On, the Recorder ignores tapering events occurring during the preset period. Selecting Time Setup allows set up of the event ignoring time.

NOTE: The record action for tampering events is not affected by the Tampering Ignoring function.

Select the box under the **Actions** to specify which actions to take when a Tampering detection event occurs.

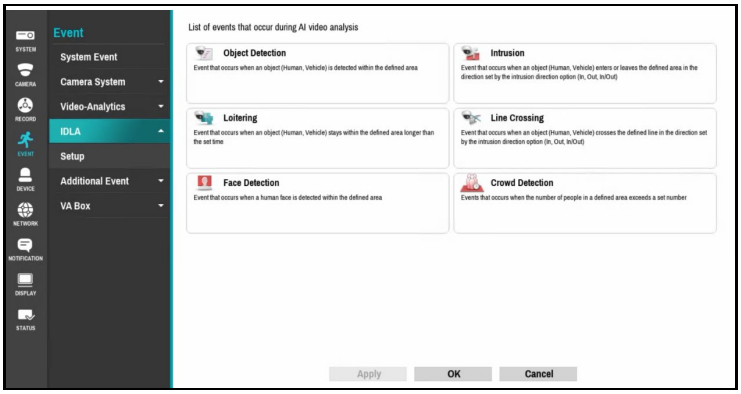
- Record: Specify which cameras to begin linked recording on when an event occurs. If the schedule is set to **Event** or **Time & Event** mode, the selected cameras will begin linked recording when an event occurs.
- Alarm-Out: Designate event-triggered alarm-out channels (each for the NVR and camera) and beeps.
- Notify: Configure to be notified of events by Mail, LAN1~5, Push, HTTP, FTP, and/or Alert Window.
- PTZ: Moves the PTZ camera to a specific preset position when an event occurs.
- Event Monitoring: Selects the cameras to monitor when an event occurs.

NOTE: In order to use the Callback feature, the NVR must be registered on the remote program.

IDLA

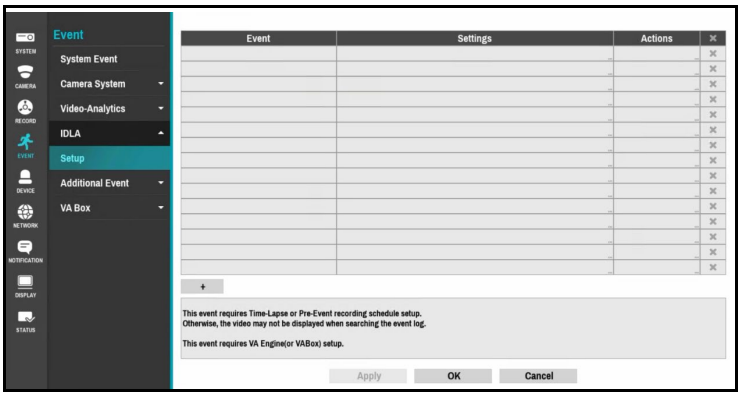
PATH: Event menu > IDLA

This lists the events that take place during AI video analysis.



IDLA_Setup

PATH: Event menu > IDLA > Setup



IDLA events can be added via the IDLA settings. However, the event must be enabled in the camera's video analytics engine.

Select the box under the **Event** column to display the types of events that have been added.

Select the box under the **Settings** column to configure conditions for ignoring events, enable PTZ AI tracking, and define tracking zones.

Select the box under the **Actions** to specify which actions to take when an event occurs.

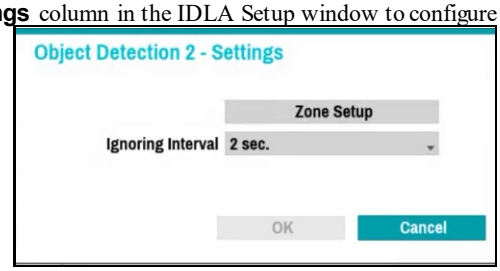
- Record: Specify which cameras to begin linked recording on when an event occurs. If the schedule is set to **Event** or **Time & Event** mode, the selected cameras will begin linked recording when an event occurs.
- Alarm-Out: Designate event-triggered alarm-out channels (each for the NVR and camera) and beeps.
- Notify: Configure to be notified of events by Mail, LAN1~5, Push, HTTP, FTP, and/or Alert Window.
- PTZ: Moves the PTZ camera to a specific preset position when an event occurs.
- Event Monitoring: Selects the cameras to monitor when an event occurs.

NOTE: In order to use the Callback feature, the NVR must be registered on the remote program.

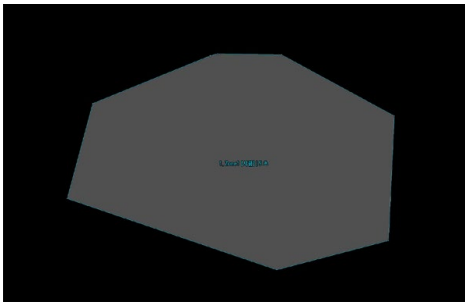
Object Detection

Select the + button at the bottom left of the IDLA Setup window to add an object detection event.

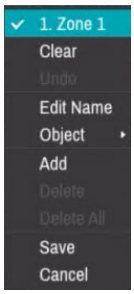
Select the box under the **Settings** column in the IDLA Setup window to configure the object detection event.



Selecting Zone Setup allows you to set a detection zone in polygonal shape.



You can set a zone using the mouse. The zone is displayed transparently. Drag and drop the vertices to modify the zone.
Right-click on the Zone Setup screen to open the Object Detection menu.



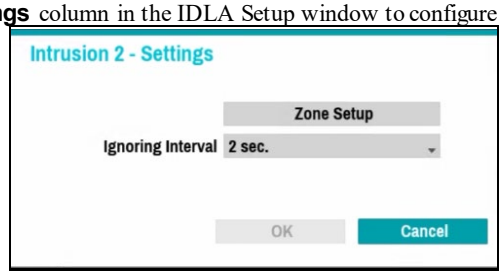
Zone Title: Select the zone to change the settings. When selecting the zone, a check mark appears to the left.
Clear: Clear the selected zone.
Undo: Remove the last point of a line.
Edit Name: Change the name of the zone.
Object: Select an object to detect.
Add: Add a zone.
Delete: Delete the selected zone.
Delete All: Delete all zones.
Save: Save the changes and exit the menu.
Cancel : Exit the setup screen without saving the changes.

- Ignoring Interval: The system does not produce event log entries or issue remote notifications regarding event for the specified time after the initial event w as detected. Set the value betw een 1sec and 5 secs or choose Never. Ignore Condition does not affect Object Detection recording.

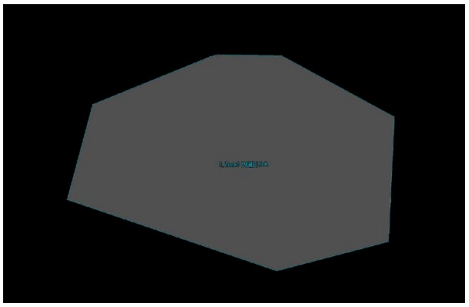
Intrusion

Select the + button at the bottom left of the IDLA Setup window to add an intrusion event.

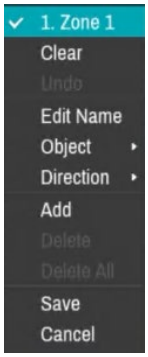
Select the box under the **Settings** column in the IDLA Setup window to configure the intrusion detection event.



Selecting Zone Setup allows you to set a detection zone in polygonal shape.



You can set a zone using the mouse. The zone is displayed transparently. Drag and drop the vertices to modify the zone.
Right-click on the Zone Setup screen to open the Intrusion menu.



Zone Title: Select the zone to change the settings. When selecting the zone, a check mark appears to the left.
Clear: Clear the selected zone.
Undo: Remove the last point of a line.
Edit Name: Change the name of the zone.
Object: Select an object to detect.
Direction: Select the direction of the object to detect.
Add: Add a zone.
Delete: Delete the selected zone.
Delete All: Delete all zones.
Save: Save the changes and exit the menu.
Cancel : Exit the setup screen without saving the changes.

- Ignoring Interval: The system does not produce event log entries or issue remote notifications regarding event for the specified time after the initial event w as detected. Set the value betw een 1sec and 5 secs or choose Never. Ignore Condition does not affect Object Detection recording.

Loitering

Select the + button at the bottom left of the IDLA Setup window to add a loitering event.

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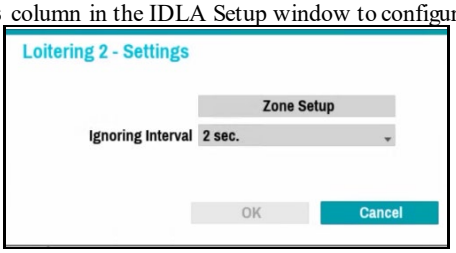
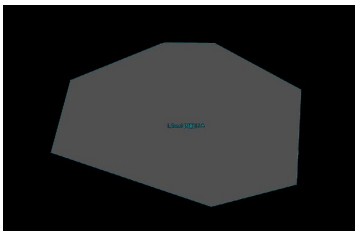
Select the box under the **Settings** column in the IDLA Setup window to configure the loitering event.

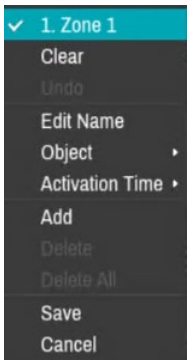


Selecting Zone Setup allows you to set a detection zone in polygonal shape.



You can set a zone using the mouse. The zone is displayed transparently. Drag and drop the vertices to modify the zone.

Right-click on the Zone Setup screen to open the Intrusion menu.



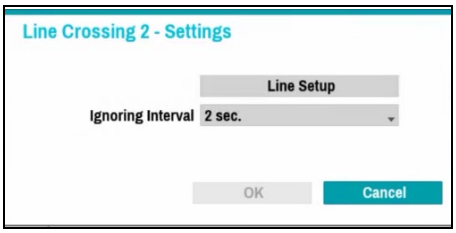
Zone Title: Select the zone to change the settings. When selecting the zone, a check mark appears to the left.
Clear: Clear the selected zone.
Undo: Remove the last point of a line.
Edit Name: Change the name of the zone.
Object: Select an object to detect.
Activation Time: Set the time when the function is activated.
Add: Add a zone.
Delete: Delete the selected zone.
Delete All: Delete all zones.
Save: Save the changes and exit the menu.
Cancel : Exit the setup screen without saving the changes.

- Ignoring Interval: The system does not produce event log entries or issue remote notifications regarding event for the specified time after the initial event was detected. Set the value between 1sec and 5 secs or choose Never. Ignore Condition does not affect Object Detection recording.

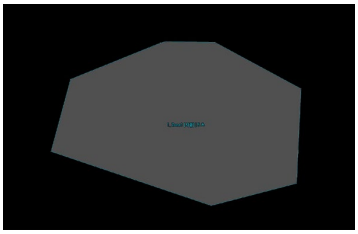
Line Crossing

Select the + button at the bottom left of the IDLA Setup window to add a line crossing event.

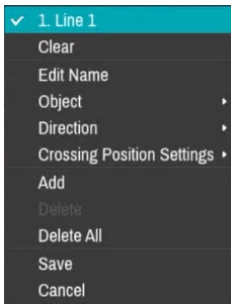
Select the box under the **Settings** column in the IDLA Setup window to configure the line crossing event.



Selecting Line Setup allows you to set a detection zone in polygonal shape.



You can set a line using the mouse. The line is displayed transparently. Right-click on the Line Setup screen to open the Line Crossing menu.



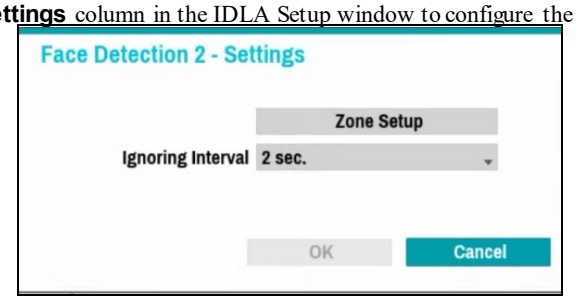
Line Title: Select the line to change the settings. When selecting the line, a check mark appears to the left.
Clear: Clear the selected line.
Edit Name: Change the name of the line.
Object: Select an object to detect.
Direction: Select the direction of the obejct to detect.
Crossing Position Settings: Set the crossing position of the object.
Add: Add a line.
Delete: Delete the selected line.
Delete All: Delete all lines.
Save: Save the changes and exit the menu.
Cancel : Exit the setup screen without saving the changes.

- Ignoring Interval: The system does not produce event log entries or issue remote notifications regarding event for the specified time after the initial event w as detected. Set the value betw een 1sec and 5 secs or choose Never. Ignore Condition does not affect Object Detection recording.

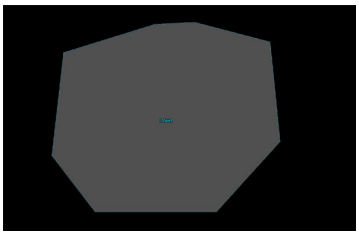
Face Detection

Select the + button at the bottom left of the IDLA Setup window to add a face detection event.

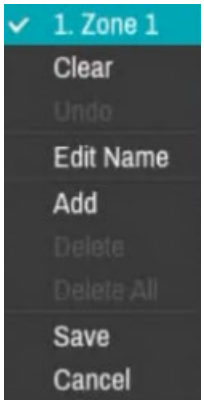
Select the box under the **Settings** column in the IDLA Setup window to configure the face detection event.



Selecting Zone Setup allows you to set a detection zone in polygonal shape.



You can set a zone using the mouse. The zone is displayed transparently. Drag and drop the vertices to modify the zone.
Right-click on the Zone Setup screen to open the Face Detection menu.



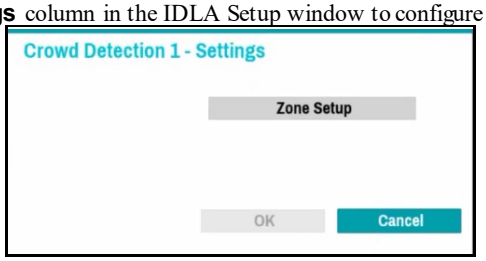
Zone Title: Select the zone to change the settings. When selecting the zone, a check mark appears to the left.
Clear: Clear the selected zone.
Undo: Remove the last point of a line.
Edit Name: Change the name of the zone.
Add: Add a zone.
Delete: Delete the selected zone.
Delete All: Delete all zones.
Save: Save the changes and exit the menu.
Cancel : Exit the setup screen without saving the changes.

- Ignoring Interval: The system does not produce event log entries or issue remote notifications regarding event for the specified time after the initial event w as detected. Set the value betw een 1sec and 5 secs or choose Never. Ignore Condition does not affect Object Detection recording.

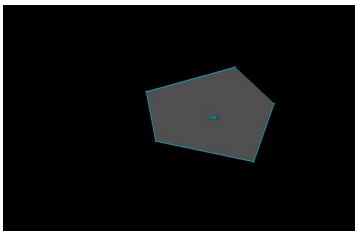
Crowd Detection

Select the + button at the bottom left of the IDLA Setup window to add a crowd detection event.

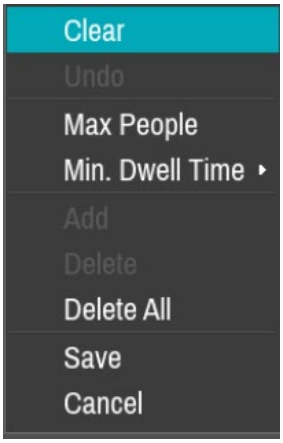
Select the box under the **Settings** column in the IDLA Setup window to configure the crowd detection event.



Selecting Zone Setup allows you to set a detection zone in polygonal shape.



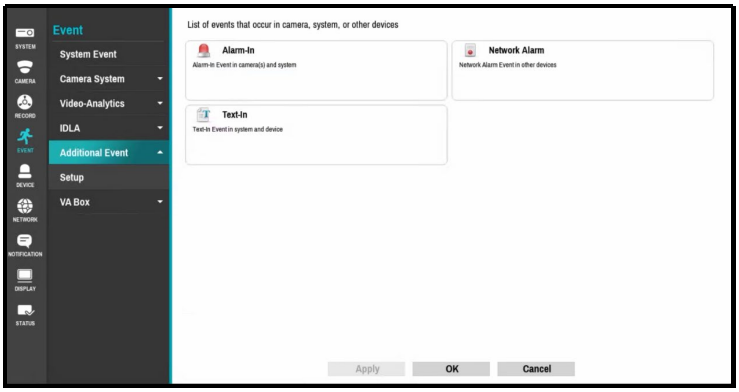
You can set a zone using the mouse. The zone is displayed transparently. Drag and drop the vertices to modify the zone.
Right-click on the Zone Setup screen to open the Crowd Detection menu.



Clear: Clear the selected zone.
Undo: Remove the last point of a line.
Max People: Sets the maximum number of people allowed within the area. An event is triggered if this number is exceeded.
Min. Dwell Time: Sets the minimum amount of time people must stay in the area to be detected as a crowd.
Add: Add a zone.
Delete: Delete the selected zone.
Delete All: Delete all zones.
Save: Save the changes and exit the menu.
Cancel : Exit the setup screen without saving the changes.

Additional Event

PATH: Event menu > Additional Event



Additional Event Setup

PATH: Event Menu > Additional Event > Setup

Select the box under the **Event** column to display the types of added events.

Select the box under the **Settings** column to display the event configuration window.

Select the box under the **Condition** column to configure whether an action will be performed when a specific event occurs, based on the status of other events.

Select the box under the **Actions** to specify which actions to take when an event occurs.

- Record: Specify which cameras to begin linked recording on when an event occurs. If the schedule is set to **Event** or **Time & Event** mode, the selected cameras will begin linked recording when an event occurs.
- Alarm-Out: Designate event-triggered alarm-out channels (each for the NVR and camera) and beeps.
- Notify: Configure to be notified of events by Mail, LAN1~5, Push, HTTP, FTP, and/or Alert Window.
- PTZ: Moves the PTZ camera to a specific preset position when an event occurs.
- Event Monitoring: Selects the cameras to monitor when an event occurs.

NOTE: In order to use the Callback feature, the NVR must be registered on the remote program.

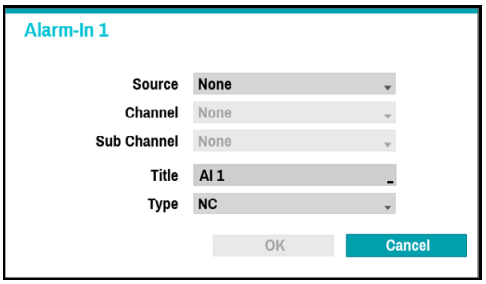
Select Panic Record to specify which alarm-in channels to use. Panic Record commences when the corresponding alarm-in occurs and terminates when the alarm-in is deactivated.

Alarm-In

Clicking the + button at the bottom left of the Additional Event_Setup window opens the following window.

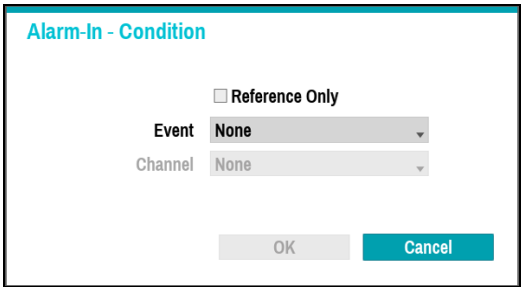
Event: Select the Alarm-In event.
Channel: Select the event channel to add.
Accept All: Select all channels.

Select the box under the **Settings** column in the Additional Setup window to configure the alarm-in event.



Source: Specify the device to use for the alarm-in event.
Channel: Set the channel of the source you set.
Sub Channel: Set the sub channel of the source you set.
Title: Use the virtual keyboard to enter titles.
Type: Change the alarm-in type. Each input can be set as NO (normally open) or NC (normally closed).

Select the box under the **Settings** column in the Additional Setup window to configure the alarm-in event. When a specific event occurs, you can set the condition that determines whether to operate motion according to the status of other events.

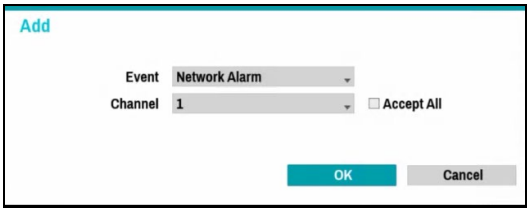


Reference Only: Set the event to be the subject of a reference.
Event: Set the reference event.
Channel: Set the reference channel.

NOTE: Alarm -in channel 3 can be set as NO (normally open), NC (normally closed) or Internal Acceleration.

Network Alarm

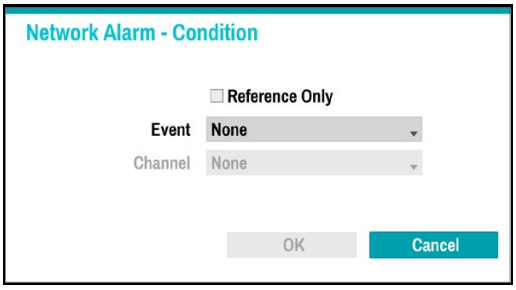
Clicking the + button at the bottom left of the Additional Event_Setup window opens the following window.\



Event: Select the Network Alarm event.
Channel: Select the event channel to add.
Accept All: Select all channels.

In the Setup window of the Additional Event, select the box under the Settings column to set the title of the network alarm event.

In the Setup window of the Additional Event, select the box under the Condition column to configure the network alarm event. When a specific event occurs, you can set the condition that determines whether to operate motion according to the status of other events.

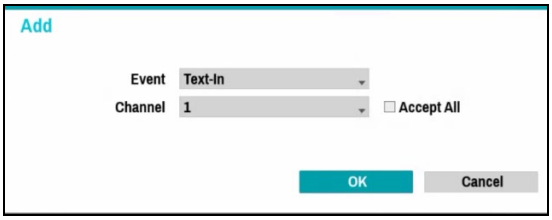


Reference Only: Set the event to be the subject of a reference.
Event: Set the reference event.
Channel: Set the reference channel.

Text-In

The Recorder can be set to react to text input from devices such as accelerometer or other onboard systems. This screen allows configuration of the Recorder for each text-in device.

Clicking the + button at the bottom left of the Additional Event_Setup window opens the following window.



Event: Select the Network Alarm event.
Channel: Select the event channel to add.
Accept All: Select all channels.

NOTE: The system performance might be affected when a large quantity of text inputs are detected from several channels at the same time.

In the Setup window of the Additional Event, select the box under the Settings column to configure the text-in event.

Select the box beside Title and enter a name for the text-in device.

Select the box beside Source and select from None, RS232 (1~2), CAN, USB-Serial (1~8) and LAN (1~16).

Port indicates text-in device connected in the Connector tab.

NOTE: If the Source is set to None, no changes to the screen are possible.

NOTE: When using a USB to serial text-in device, do NOT remove the USB cable from the port while the system is running.

NOTE: Text-in data might be lost when the text-in buffer is filled by simultaneous text-in data from all 16 LAN channels.

Select the box beside Transaction Start and enter the Transaction Start string. Refer to the device manufacturer's documentation for the text string that the device first sends when a transaction starts.

Select Any Character to toggle between On and Off.

NOTE: If *Any Character* is turned On, text in the *Transaction Start* box cannot be entered.

Select the box beside Transaction End and enter the Transaction End string. Refer to the device manufacturer's documentation for the text string that the device sends when a transaction ends.

Select the more line(s) box, and select the number of additional lines of text to record. Choose from 0 to 10.

Select the box beside Line Delimiter and enter the character(s) the device uses to indicate the end of a line. Special characters can be entered using ^ and a capital letter; e.g., ^J for NL (New Line), ^M for CR (Carriage Return). Refer to the device manufacturer's documentation for line delimiter character(s).

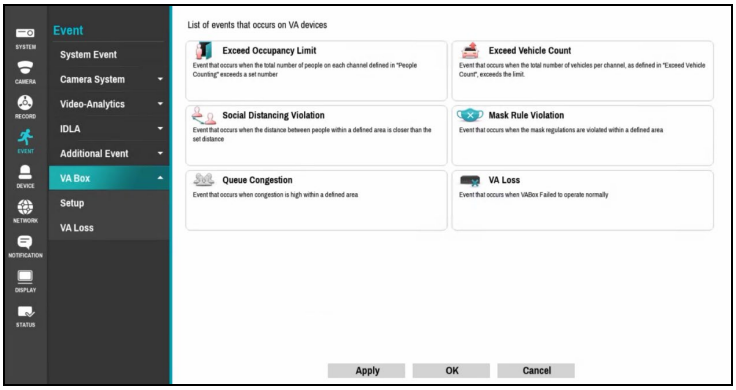
Select the box beside Ignore String and enter any strings of text to be ignored. Refer to the device manufacturer's documentation for text strings that the device sends during transactions that need to be ignored.

Select the Case Sensitive box to toggle between On and Off. Refer to the device manufacturer's documentation to determine if the text strings are Case Sensitive. If the device distinguishes between upper and lower case letters, make certain the Case Sensitive box is turned On.

Select the box beside Time Out, and set the length of time to wait for a new text string. The Recorder will consider a transaction complete if no new text strings are entered between the last text input and the dwell time out. Adjust the Time Out dwell from 5 seconds to 15 minutes.

VA Box

PATH: Event menu > VA Box



VA BOX_Setup

PATH: Event Menu > VA Box > Setup

You can add a specific event through this setup; however, the event must be enabled in the VA BOX setup under the Device tab.

Select the box under the Event column to display the types of additional events.

Select the box under the Settings column to configure the event

Select the box under **Actions** to specify which actions to take when an event occurs.

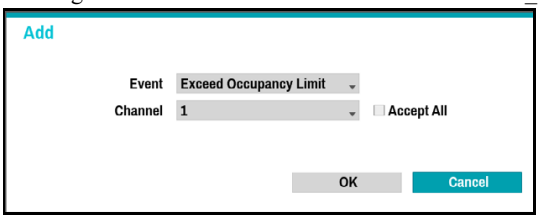
- Record: Specify which cameras to begin linked recording on when an event occurs. If the schedule is set to **Event** or **Time & Event** mode, the selected cameras will begin linked recording when an event occurs.
- Alarm-Out: Designate event-triggered alarm-out channels (each for the NVR and camera) and beeps.
- Notify: Configure to be notified of events by Mail, LAN1~5, Push, HTTP, FTP, and/or Alert Window.
- PTZ: Moves the PTZ camera to a specific preset position when an event occurs.
- Event Monitoring: Selects the cameras to monitor when an event occurs.

NOTE: In order to use the Callback feature, the NVR must be registered on the remote program.

Exceed Occupancy Limit

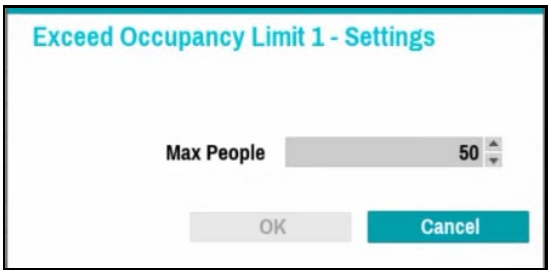
Event occurs when the In/Out coefficient is detected and the coefficient of the relevant VA Box channel is added in real time to exceed the specified conditions.

Clicking the + button at the bottom left of the VA Box_Setup window opens the following window.



Event: Select the Exceed Occupancy Limit event.
Channel: Select the event channel to add.
Accept All: Select all channels.

In the VA BOX_Setup window, select the box under the Settings column to configure the Exceed Occupancy Limit event.



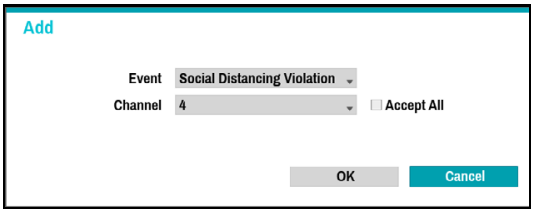
Max People : An event occurs when a person in the area in excess of the number of people set by a person.

NOTE: To use the Exceed Occupancy Limit function, set DV-1304's People Counting with Main on the channel.

Social Distancing Violation

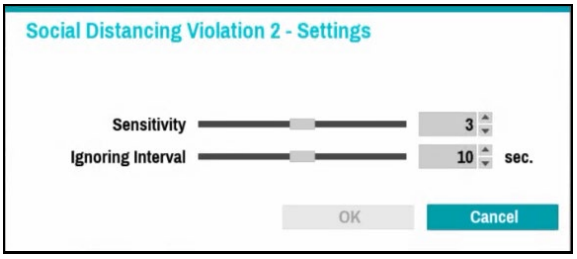
Event occurs when the distance is less than the interval that is set by estimating the distance between people by human detection.

Clicking the + button at the bottom left of the VA Box_Setup window opens the following window.



Event: Select the Social Distancing Violation event.
Channel: Select the event channel to add.
Accept All: Select all channels.

In the VA BOX_Setup window, select the box under the Settings column to configure the Social Distancing Violation event.



Sensitivity : The higher the sensitivity value, the greater the probability of being detected as an event, if the distance between people is equal to the step relative value of the distance between people.

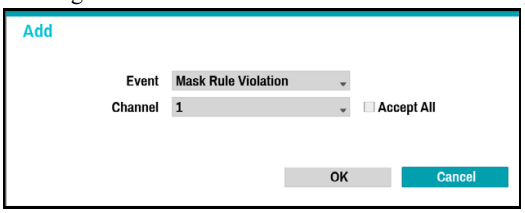
Ignoring Interval : Event log and remote notification are not performed for Social Distancing Violation events detected within a certain period of time after the event was detected.

NOTE: To use the Social Distancing Violation, the Social Distancing Violation must be set on that channel.

Mask Rule Violation

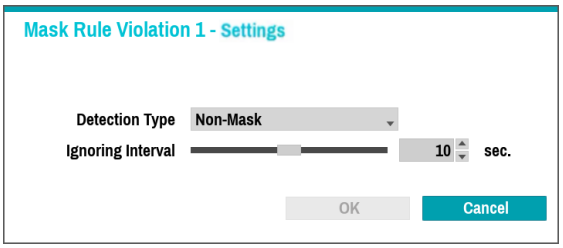
The camera detects a face, and events are triggered according to the Mask Rule Violation settings.

Clicking the + button at the bottom left of the VA Box_Setup window opens the following window.



Event: Select the Mask Rule Violation event.
Channel: Select the event channel to add.
Accept All: Select all channels.

In the VA BOX_Setup window, select the box under the Settings column to configure the Mask Rule Violation event. This allows you to set rules for detecting whether a person is wearing a mask, and to trigger an event when a violation is detected.



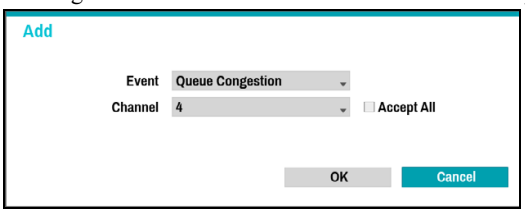
Detection Type : Set the rule type (e.g., Mask or Non-Mask)
Ignoring Interval : Event log and remote notification are not performed for mask rule violation events detected within a certain period of time after the event was detected.

NOTE: To use the mask rule violation, the mask rule violation must be set on that channel.

Queue Congestion

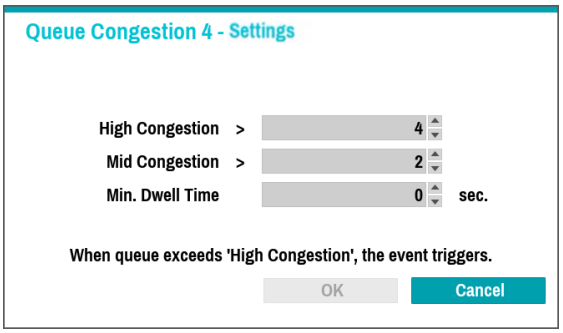
The camera detects queue congestion, and events are triggered according to the Queue Congestion settings.

Clicking the + button at the bottom left of the VA Box_Setup window opens the following window.



Event: Select the Queue Congestion event.
Channel: Select the event channel to add.
Accept All: Select all channels.

In the VA BOX_Setup window, select the box under the Settings column to configure the Queue Congestion event. Set the congestion level to trigger alerts based on real-time queue detection.



High Congestion: Set a high congestion level for each selected area. You can check the information analyzed based on values that exceed the set level in the remote program.

Mid Congestion: Set a mid congestion level for each selected area. You can check the information analyzed based on values that exceed the set level in the remote program.

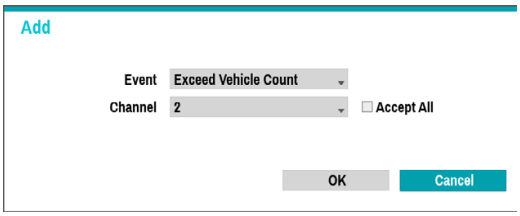
Min. Dwell Time: Sets the minimum dwell time required for an event to occur in a designated area. An event will only be triggered when both the specified number of people and the minimum dwell time are met. Brief stops or transient movements will not be considered in the event-triggering conditions.

NOTE: The event occurs only when the High Congestion function is enabled.

Exceed Vehicle Count

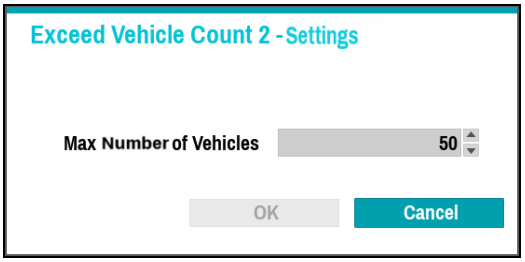
The system detects vehicles and counts their In/Out numbers. An event is triggered when the total count, calculated in real time by summing the counts from the related VA BOX channels, exceeds the defined threshold.

Clicking the + button at the bottom left of the VA Box_Setup window opens the following window.



Event: Select the Exceed Vehicle Count event.
Channel: Select the event channel to add.
Accept All: Select all channels.

In the VA BOX_Setup window, select the box under the Settings column to configure the Exceed Vehicle Count event.

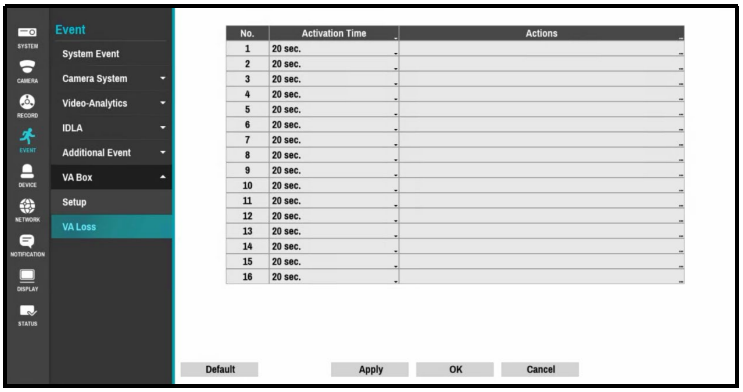


Max Number of Vehicles: An event is triggered when the number of vehicles in the area exceeds the configured limit.

NOTE: To use the Exceed Vehicle Count function, set DV-1304's Exceed Vehicle Count to Main on the channel.

VA BOX_VA Loss

PATH: Event Menu > VA Box > VA Loss



Select the box under the Activation Time column to specify how long the VA loss must last for it to be considered an event. If the VA loss does not persist for the specified duration, it will not be considered an event.

Select the box under **Actions** to specify which actions to take when an event occurs.

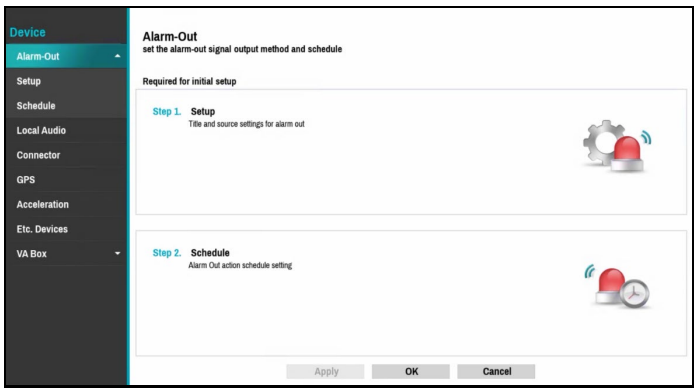
- Record: Specify which cameras to begin linked recording on when an event occurs. If the schedule is set to **Event** or **Time & Event** mode, the selected cameras will begin linked recording when an event occurs.
- Alarm-Out: Designate event-triggered alarm-out channels (each for the NVR and camera) and beeps.
- Notify: Configure to be notified of events by Mail, LAN1~5, Push, HTTP, FTP, and/or Alert Window.
- PTZ: Moves the PTZ camera to a specific preset position when an event occurs.
- Event Monitoring: Selects the cameras to monitor when an event occurs.

NOTE: In order to use the Callback feature, the NVR must be registered on the remote program.

Device Setup

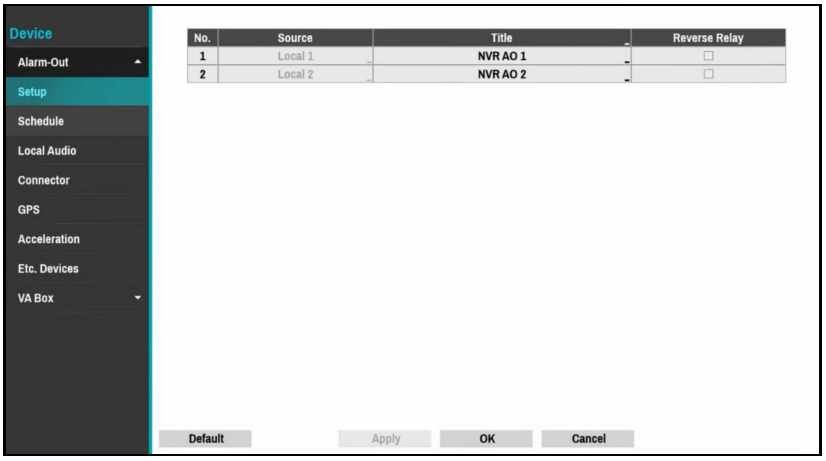
Alarm-Out

PATH: Device menu > Alarm-Out



Setup

PATH: Device menu > Setup



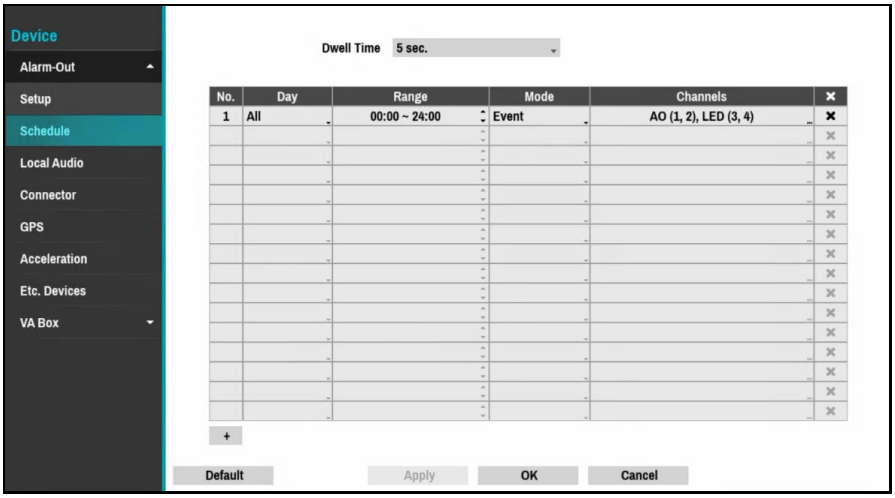
Select the box under the **Source** column to specify the device to use for Alarm-In event.

Each alarm output can be given its own title by selecting the box under the **Title** heading. Enter the title of each alarm output.

Select the box under the **Reverse Relay** column to reverse the alarm-out type of the device set at the source.

Schedule

PATH: Device menu > Schedule



Click the + icon at the bottom left corner of the screen to add a schedule. You can apply different schedules for different Days of the week. To delete schedules, check the ☒.

Selecting the box beside Dwell Time allows setting the dwell time of the alarm output. Dwell times range from 5 seconds to 15 minutes.

Select the box under the **Title** column to designate a name for the alarm-out.

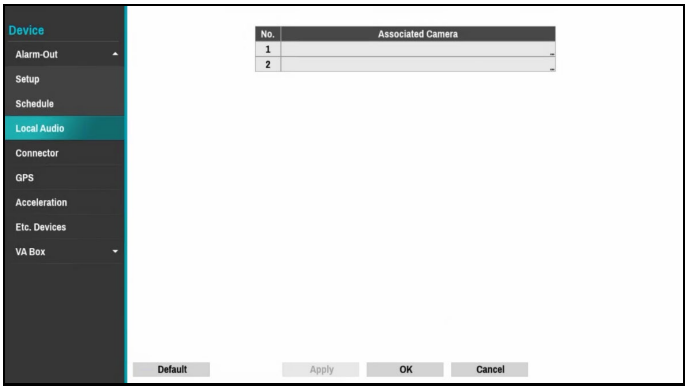
Select the box under the **Range** column to change the schedule time frame.

Select the box under the **Mode** column to set the Alarm-out mode.
- Event: Generates an alarm-out when an event occurs.
- On: Alarm-out is always on.
- Off: Alarm-out is always off.

Select the box under the **Channels** column to configure alarm-out port and beep settings.

Local Audio

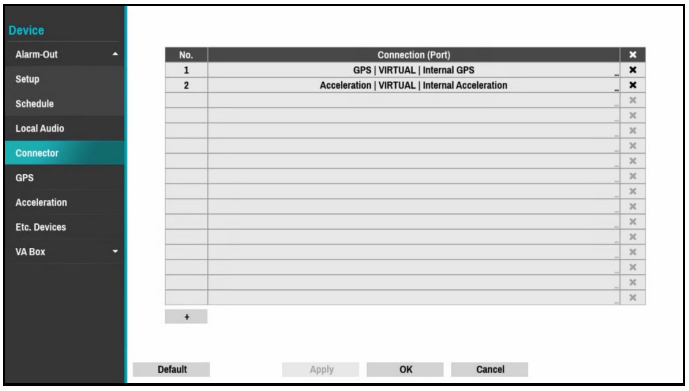
PATH: Device menu > Local Audio



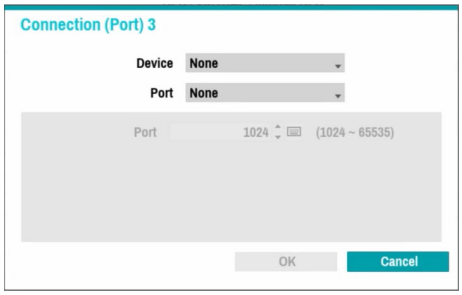
Local audio can be recorded. Select associated cameras to play.

Connector

PATH: Device menu > Connector



Click the + icon at the bottom left corner of the screen to add a connection device.



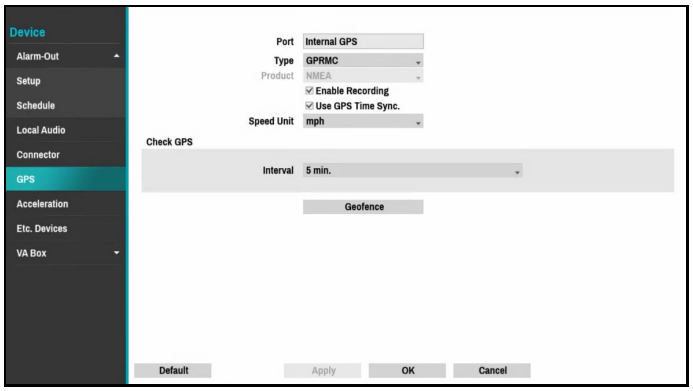
- Device: Select a connection device supported by the recorder.
- Port: Select the ports supported by the selected device. Depending on the port, you can set the port speed, data, stop, parity value or LAN port.

NOTE: If the same LAN port is being used, a warning message window will appear: "Same Port Number".

NOTE: If you set the device to internal GPS, internal GPS data is transmitted to the selected port.

GPS

PATH: Device menu > GPS



The port indicates the remote control device connected in the previous Connector tab. Select the box beside **Type**. Internal GPS data type can be selected from **GPRMC** and **GNRMC**.

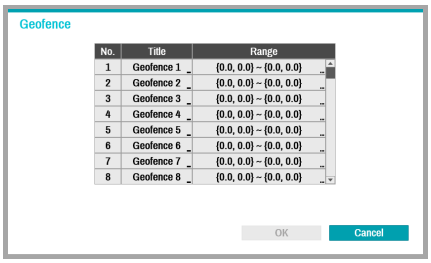
Select the box beside **Product** and select from NMEA and TAIP.

Selecting **Enable Recording** toggles On and Off. When set to On, the Recorder will record the GPS information.

Selecting **Use GPS Time Sync** toggles On and Off. When set to On, the Recorder will synchronize the time to the GPS satellite every hour.

Select the box beside **Check GPS - Interval** to define GPS loss detection time. The Recorder will log and notify GPS loss if the GPS receiver does not receive any GPS data during the set interval.

Select **Geofence…** to configure the geofence settings.



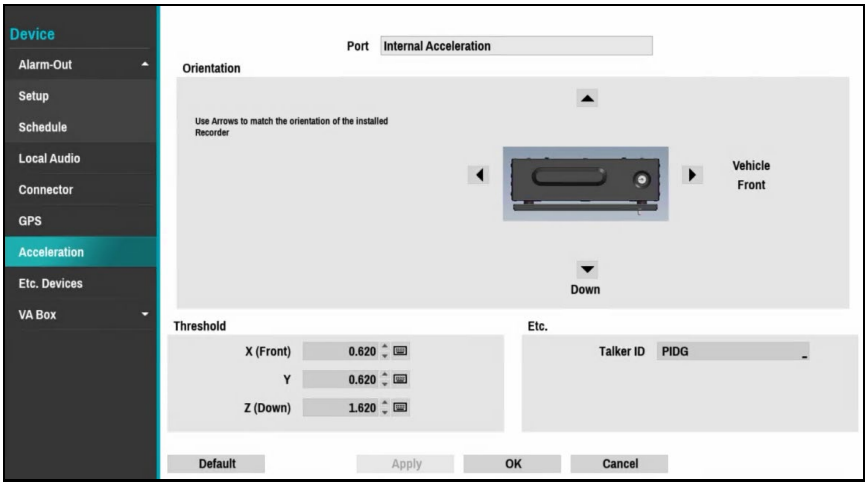
Enter the title under the Title box.

Select the square range between Top Left Lat. & Long. and Bottom Right Lat. & Long. under the Range box.

NOTE: This feature can be used from Record > Control and Network > Wi-Fi > Mode.

Acceleration

PATH: Device menu > Acceleration



The port indicates the remote control device connected in the previous Connector tab.

Configure the orientation of the installed Recorder.

Configure the **Threshold** for X, Y, and Z of an acceleration sensor which is built in the Recorder. When the X, Y, and Z exceeds the defined threshold, the Recorder will trigger an event.

Select **Alarm-in No**. to react when the acceleration event occurs.

Title and **Action** can be set in Alarm-in page.

NOTE: For the Notify action to work, the Recorder should be registered in the IDIS Center.

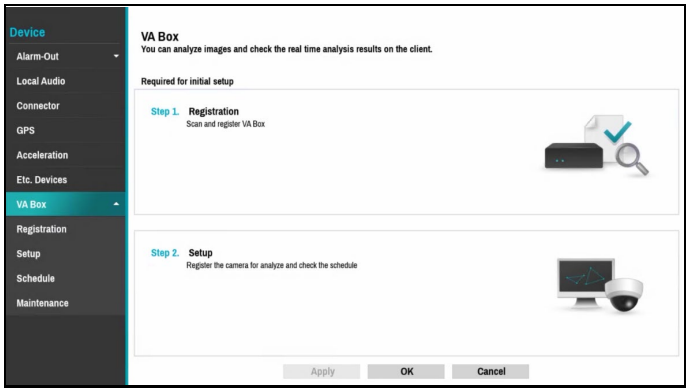
UPS

PATH: Device menu > Etc. Devices

- Port: Indicates the ups device connected in the previous Connectors tab.
- UPS Product: Select ups products.
- Network Alarm: A network alarm event is triggered when a UPS fault occurs.

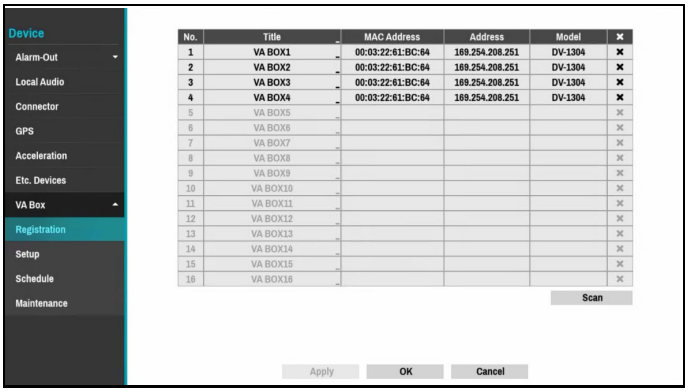
VA Box

PATH: Device menu > VA Box



By analyzing camera images, you can check real-time analysis results from a client program such as the IDIS Center.
NOTE: VA Box can only analyze the video from the camera using H.264 and H.265.

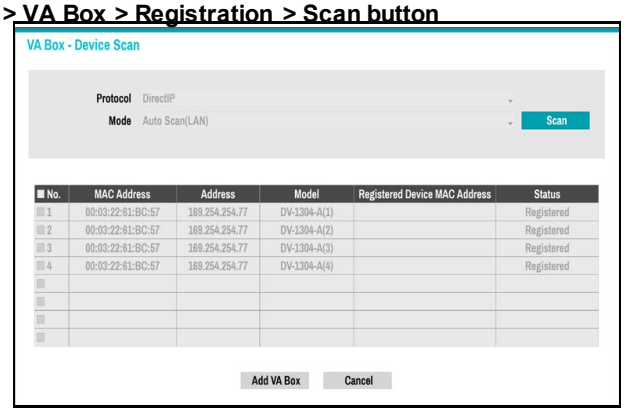
VA Box_Registration



- Title: Edit the VA Box's name.
- MAC Address: Displays the VA Box's MAC address registered to the NVR.
- Address: Displays the VA Box's IP address registered to the NVR.
- Model: Indicates the VA Box's model.
- Scan: Select to scan and register the device connected to the NVR.

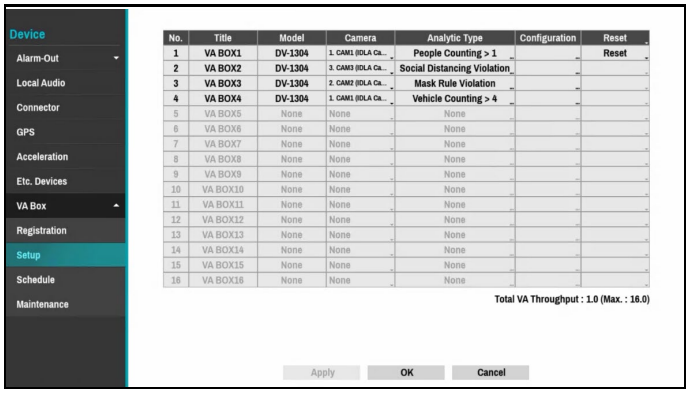
Device_Scan

PATH: Device menu > VA Box > Registration > Scan button



- No.: Select the number of the registered VA Box and click the Add Box button to register the camera.
- MAC Address: Displays the scanned device's MAC address.
- Address: Displays the scanned device's IP address.
- Model: Indicates the device model.
- Registered Device MAC Address: Displays the MAC address of the NVR to have registered VA Box.
- Status: "Registered" indicates the VA Box is registered to the NVR and "Not registered" indicates the VA Box is not registered to the NVR.

VA Box_Setup

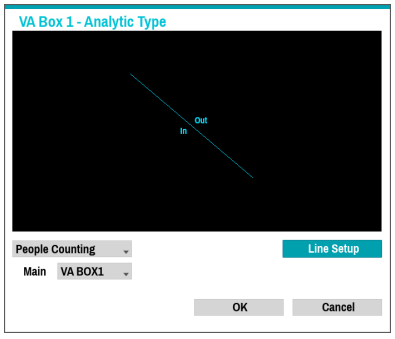


- Title: Displays the name of a VA Box.
- Model: Indicates the VA Box's model. The video analytics may not be supported depending on the model.
- Camera: Select the camera to analyze the video. Only one camera can be set for each VA Box channel.
- Reset: Resets the port or VA Box.
  - PoE Reset: Control the PoE Switch's port. This option is available when connecting to Video In/PoE port or using a DirectIP PoE Switch (optional). Select PoE Reset to reboot VA Box.
  - Soft Reset: Reboots VA Box. Use a client program such as IDIS Center to check the analysis results.
- Analytic Type:
  - DV-1304 : Select one among People Counting, Vehicle Counting, HeatMap, Social Distancing Violation, Mask Rule Violation and Queue Monitoring.
  - DV-1304-A : Select one among Object Detection, Intrusion, Loitering, Line Crossing, Face Detection and Crowd Detection.

<Types of Video Analytics >

People Counting

Count the number of people passing through the line on the live screen.

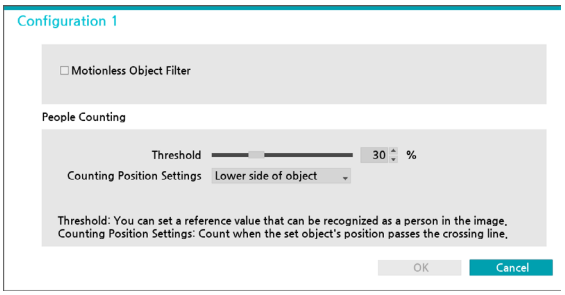


Right-click on the Line Setup screen to bring up the People Counting Menu.

- Main : Aggregate the total number of people by sending the counts to the desired channel. A channel designated as Main can use the Exceed Occupancy Limit event.
- Boundary: Set a virtual border to count the floating population.

  NOTE: Depending on the location of the boundary, the number of people may be incorrectly calculated.

- Save : Save the changes and exit the menu.
- Cancel: Exit the setup screen without saving the changes.

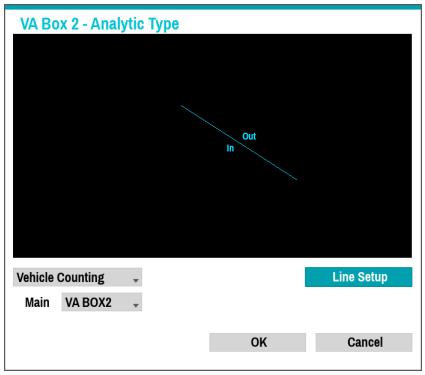


Click the box under the **Configuration** column to set the environment of People Counting. You can select People Counting as the video analysis type, and then select Settings.

- **Motionless Object Filter** : Detect a specific fixed object in an indoor space. However, it is recommended to use this setting only in environments with minimal movement, and it is not recommended when People Counting events are enabled.
- **Threshold :** Set the reference value that can be recognized as a person in the image.
- **Counting position setting:** Set the position of the reference point of a person to count the number of people passing through the boundary.

Vehicle Counting

Count the number of vehicles passing through the line on the live screen.

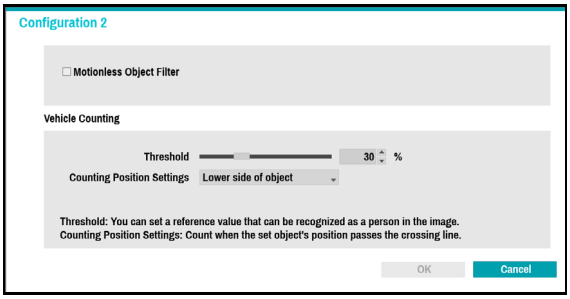


Right-click on the Line Setup screen to bring up the Vehicle Counting menu.

- Main : Aggregate the total number of vehicles by sending the counts to the desired channel. A channel designated as Main can use the Vehicle Counting event.
- Boundary:Set a virtual border to count the number of passing vehicles.

NOTE: Depending on the location of the boundary, the number of passing vehicles may be incorrectly calculated.

- Save : Save the changes and exit the menu.
- Cancel: Exit the setup screen without saving the changes.



Click the box under the **Configuration** column to set the environment of Vehicle Counting. Select Vehicle Counting as the video analysis type, and then select Settings.

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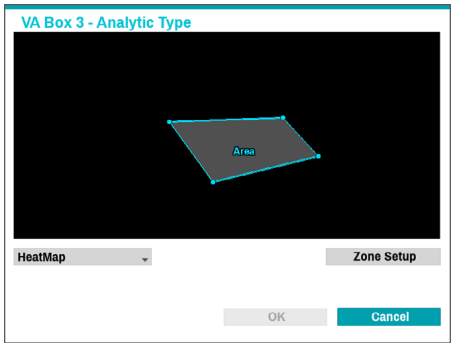
- **Motionless Object Filter** : Detect a specific fixed object in an indoor space. However, it is recommended to use this setting only in environments with minimal movement, and it is not recommended when Vehicle Counting events are enabled.
- **Threshold :** Set the reference value that can be recognized as a vehicle in the image.
- **Counting Position Setting :** Set the position of the reference point of a vehicle to count the number of vehicles passing through the boundary.

HeatMap

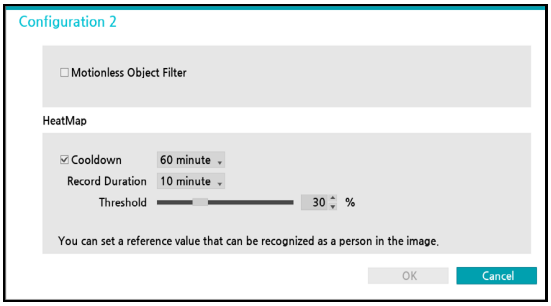
Analyze the movement frequency in the zone of the live screen. Use the left mouse button to define the zone. Drag and drop the vertex to modify a previously set zone or click on the left mouse button to reset the zone.



Right-click on the Zone Setup screen to bring up the HeatMap menu.

- Undo : Return to the previously set zone.
- Save: Save the changes and exit the menu.
- Cancel : Exit the setup screen without saving the changes.

NOTE: Lines cannot cross when setting the zone.

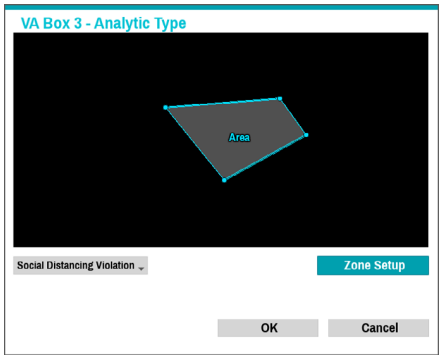


Click the box under the **Configuration** column to set the environment of HeatMap. Select HeatMap as the video analysis type, and then select Settings.

- **Motionless Object Filter** : Detect a specific fixed object in an indoor space. However, it is recommended to use this setting only in environments with minimal movement, and it is not recommended when Loitering events are enabled.
- **Cooldown :** Indicate on the screen the HeatMap information recorded before Cooldown.
- **Record Duration** : Set the recording interval to save the HeatMap data.
- **Threshold :** Set the reference value that can be recognized as a person in the image.

Social Distancing Violation

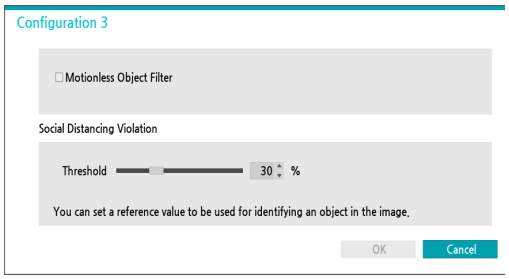
Violation event occurs when the distance between detected people in the set area of the image is estimated and analyzed, and the distance is less than the set interval. Use the left mouse button to define the zone. Drag and drop the vertex to modify a previously set zone, or click the left mouse button to reset the zone.



Right-click on the Zone Setup screen to bring up the Social Distancing Violation menu.

- Undo : Return to the previously set zone.
- Save: Save the changes and exit the menu.
- Cancel : Exit the setup screen without saving the changes.

NOTE: Lines cannot cross when setting the zone.

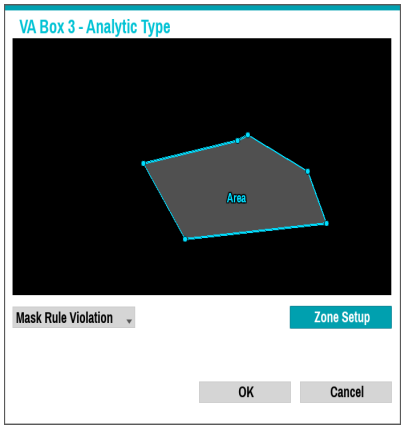


Click the box under the **Configuration** column to set the environment of Social Distancing Violation. Select Social Distancing Violation as the video analysis type, and then select Settings.

- Motionless Object Filter : Detect a specific fixed object in an indoor space. However, it is recommended to use this setting only in environments with minimal movement, and it is not recommended when Social Distancing Violation events are enabled.
- Threshold : Set the reference value that can be recognized as a person in the image.

Mask Rule Violation

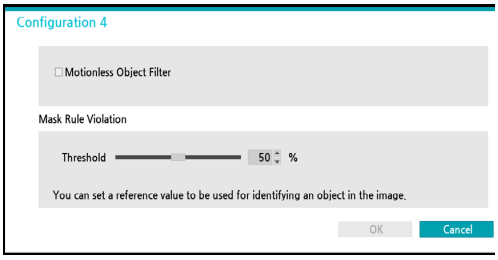
The camera detects the face, and events occur according to the mask-wearing rule set on the face. Use the left mouse button to define the zone. Drag and drop the vertex to modify a previously set zone, or click the left mouse button to reset the zone.



Right-click on the Zone Setup screen to bring up the Mask Rule Violation menu.

- Undo : Return to the previously set zone.
- Save: Save the changes and exit the menu.
- Cancel : Exit the setup screen without saving the changes.

NOTE: Lines cannot cross when setting the zone.

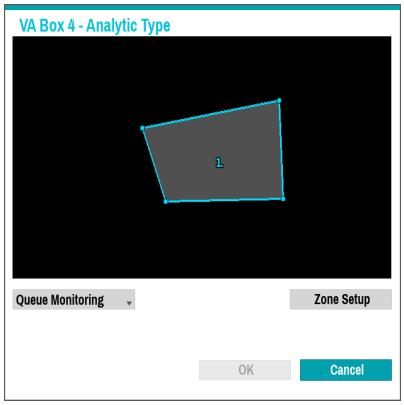


Click the box under the **Configuration** column to set the environment of Mask Rule Violation. Select Mask Rule Violation as the video analysis type, and then select Settings.

- Motionless Object Filter : Detect a specific fixed object in an indoor space. However, it is recommended to use this setting only in environments with minimal movement, and it is not recommended when Mask Rule Violation events are enabled.
- Threshold : Set the reference value that can be recognized as a person in the image.

Queue Monitoring

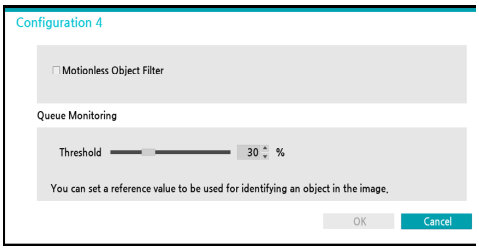
Congestion for each zone is determined by monitoring people in the queue within the zone on the live screen.
Use the left mouse button to define the zone. Drag and drop the vertex to modify a previously set zone, or click the left mouse button to reset the zone.



Right-click on the Zone Setup screen to bring up the Queue Monitoring menu.

- Delete : Delete the zone selected in the image.
- Undo : Return to the previously set zone.
- Edit name: Set the name of the zone.
- Save : Save the changes and exit the menu.
- Cancel : Exit the setup screen without saving the changes.

NOTE: Lines cannot cross when setting the zone.

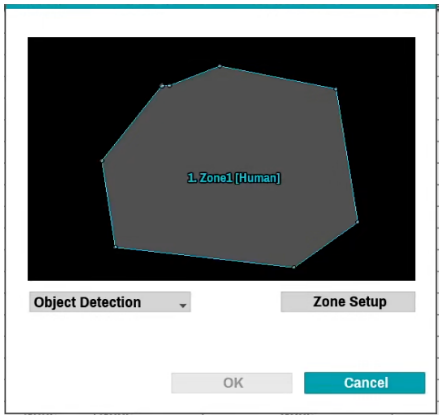


Click the box under the Configuration column to set the environment of Queue Monitoring Violation. Select Queue Monitoring as the video analysis type, and then select Settings.

- Motionless Object Filter : Detect a specific fixed object in an indoor space. However, it is recommended to use this setting only in environments with minimal movement, and it is not recommended when Queue Monitoring events are enabled.
- Threshold : Set the reference value that can be recognized as a person in the image.

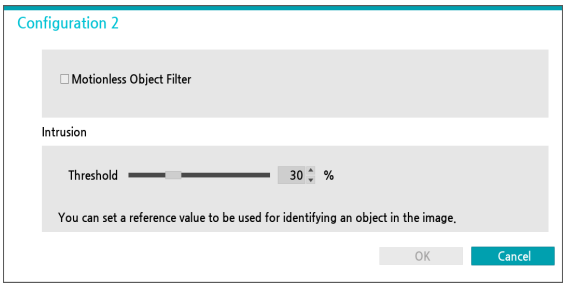
Object Detection

Object Detection technology detects an object (human, vehicle) in the zone set by the user.
Drag and drop the vertex to modify a previously set zone or click on the left mouse button to reset the zone



Right-click on the Zone Setup screen to bring up the Object Detection menu.

NOTE: Lines cannot cross when setting the zone.

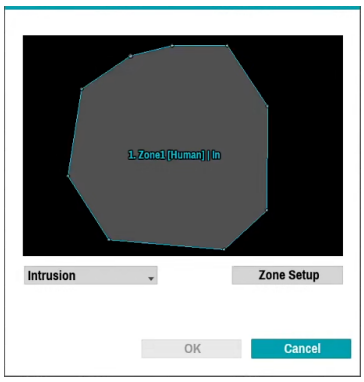


Click the box under the Configuration column to set the environment of Object Detection. Select Object Detection as the video analysis type, and then select Settings.

- Motionless Object Filter : Detect a specific fixed object in an indoor space. However, it is recommended to use this setting only in environments with minimal movement, and it is not recommended when Loitering events are enabled.
- Threshold : Set the reference value that can be recognized as an object in the image.

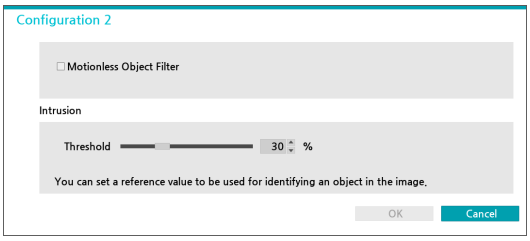
Intrusion

Set direction options (In, Out, In/Out) to detect an object (human, vehicle) entering or leaving the zone.
Drag and drop the vertex to modify a previously set zone or click on the left mouse button to reset the zone.



Right-click on the Zone Setup screen to bring up the Intrusion menu.

NOTE: Lines cannot cross when setting the zone.

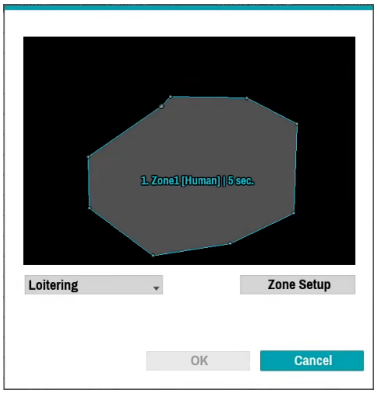


Click the box under the Configuration column to set the environment of Intrusion. Select Intrusion as the video analysis type, and then select Settings.

- Motionless Object Filter : Detect a specific fixed object in an indoor space. However, it is recommended to use this setting only in environments with minimal movement, and it is not recommended when Intrusion events are enabled.
- Threshold : Set the reference value that can be recognized as an object in the image.

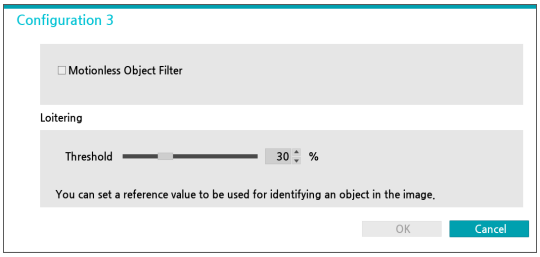
Loitering

Loitering detection technology detects an object (human, vehicle) that stays longer than the set time.
Drag and drop the vertex to modify a previously set zone or click on the left mouse button to reset the zone.



Right-click on the Zone Setup screen to bring up the Loitering menu.

NOTE: Lines cannot cross when setting the zone.

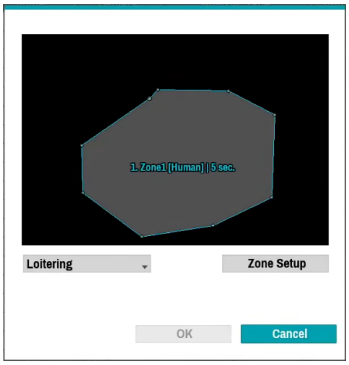


Click the box under the Configuration column to set the environment of Loitering. Select Loitering as the video analysis type, and then select Settings.

- Motionless Object Filter : Detect a specific fixed object in an indoor space. However, it is recommended to use this setting only in environments with minimal movement, and it is not recommended when Loitering events are enabled.
- Threshold : Set the reference value that can be recognized as an object in the image.

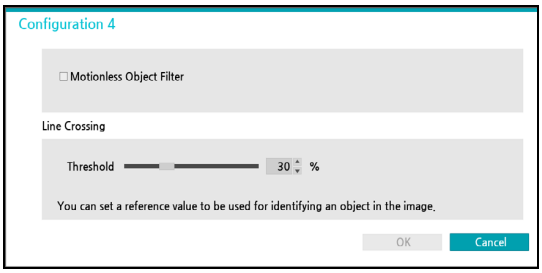
Line Crossing

Set direction options (In, Out, In/Out) to detect an object (human or vehicle) that crosses a pre-defined line.
Click the left mouse button to reset the line



Right-click on the Zone Setup screen to bring up the Line Crossing menu.

NOTE: Lines cannot cross when setting the zone.

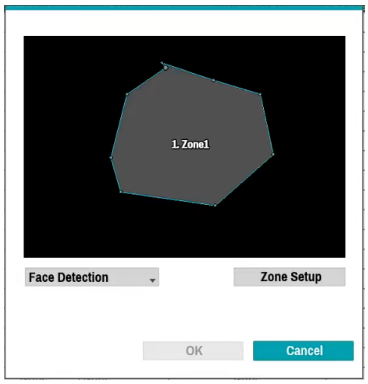


Click the box under the Configuration column to set the environment of Line Crossing. Select Line Crossing as the video analysis type, and then select Settings.

- Motionless Object Filter : Detect a specific fixed object in an indoor space. However, it is recommended to use this setting only in environments with minimal movement, and it is not recommended when Line Crossing events are enabled.
- Threshold : Set the reference value that can be recognized as an object in the image.

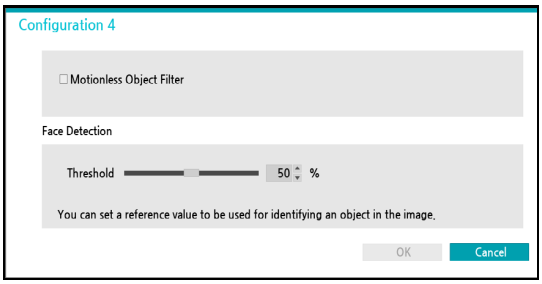
Face Detection

Face detection technology analyzes faces in an image. Drag and drop the vertex to modify a previously set zone, or click the left mouse button to reset the zone



Right-click on the Zone Setup screen to bring up the Face Detection menu.

NOTE: Lines cannot cross when setting the zone.

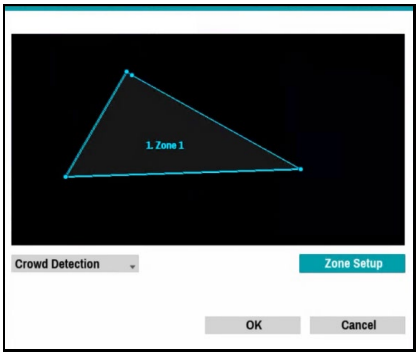


Click the box under the Configuration column to set the environment of Face Detection. Select Face Detection as the video analysis type, and then select Settings.

- Motionless Object Filter : Detect a specific fixed object in an indoor space. However, it is recommended to use this setting only in environments with minimal movement, and it is not recommended when Face Detection events are enabled.
- Threshold : Set the reference value that can be recognized as a person in the image.

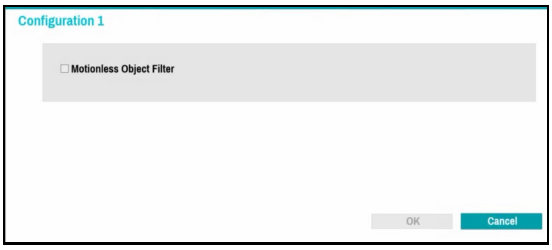
Crowd Detection

Detects crowding within the defined area of the video.
Drag and drop a vertex to modify an existing zone, or click the left mouse button to reset the zone.



Right-click on the Zone Setup screen to bring up the Crowd Detection menu.

NOTE: Lines cannot cross when setting the zone.

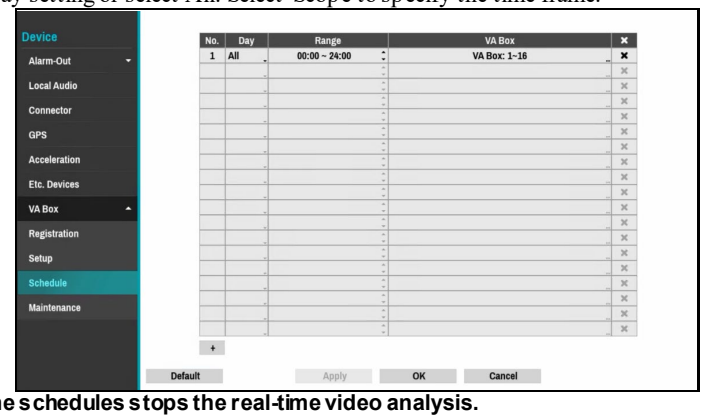


Click the box under the Configuration column to set the environment of Crowd Detection. Select Crowd Detection as the video analysis type, and then select Settings.

- Motionless Object Filter : Detect a specific fixed object in an indoor space. However, it is recommended to use this setting only in environments with minimal movement, and it is not recommended when Crowd Detection events are enabled.

VA Box_Schedule

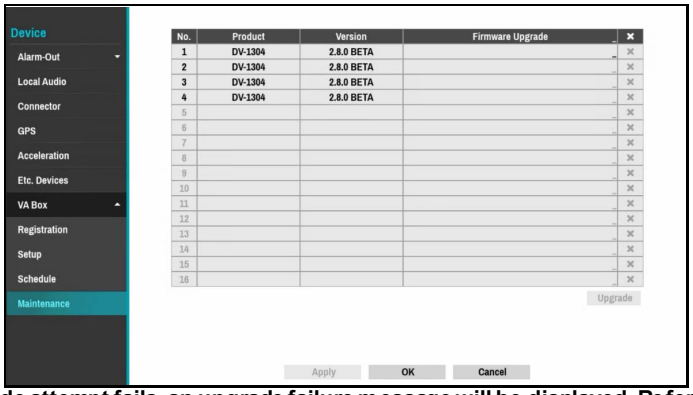
Configure the schedule of the VA Box. Select the + button on the bottom left of the screen to add a schedule. Select Day to specify the Day setting or select All. Select Scope to specify the time frame.



NOTE: Deleting the schedules stops the real-time video analysis.

VA Box_Maintenance

When using NetFS, select Firmware Upgrade. You can select USB storage or NetFS. If not using NetFS, you can select USB storage only. Select USB storage to display USB search window and then select the corresponding upgrade package from the storage device connected to the NVR's USB port. After selecting an upgrade package, select Apply to upgrade the VA Box.



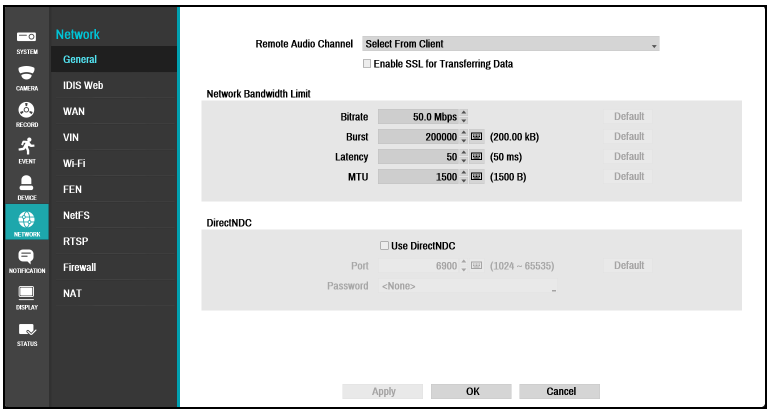
NOTE: if an upgrade attempt fails, an upgrade failure message will be displayed. Refer to Error Code Types for more details

The VA Box will reboot after the upgrade and then reconnect automatically.

Network Setup

General

PATH: Network menu > General



The Recorder supports two-way audio communication between a local system and a PC running IDIS Center. Selecting the box beside **Remote Audio Channel** selects the audio channel that sends audio to the remote site. Selecting **Select From Client** will send audio of the channel selected from IDIS Center.

NOTE: Depending on network conditions, audio might be interrupted or out of synchronization during transmission.

Select **Enable SSL for Transferring Data** to toggle between On and Off. When it is On, the security of data except video and audio transmitted for remote monitoring or remote recording can be enhanced by using the SSL (Secure Sockets Layer) authentication. When using the SSL function, the Recorder cannot be connected with a remote program which does not support the SSL function.

CAUTION:
- **The remote connection will be disconnected temporarily after changing the SSL settings.**
- **If using the SSL feature, it will not be possible to connect to the NVR from a remote program or a network keyboard that does not support SSL.**

NOTE: This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit (http://www.openssl.org/).

Select **Network Bandwidth Limit** to configure the network bandwidth sent to the remote locale.
- Bitrate: Set the size of the bandwidth.
- Burst: Set the burst-byte or buffer byte size.
- Latency: Set the latency.
- MTU: Set the maximum transmission unit (MTU).

NOTE: If you configured Network Bandwidth Limit, the live video may not display smoothly in a remote program.

Select **Use DirectNDC** (Direct Network Display Control) button to toggle between On and Off. You can change the settings if Use DirectNDC is enabled. DirectNDC service allows you to access the NVR and control it remotely using a PC or mobile devices via Ethernet.
- Port: Configure the port number of the DirectNDC server.
- Password: Configure the Password to connect to the NVR from a remote locale.

NOTE: Up to three users at a time can access a NVR remotely via DirectNDC service.

IDIS Web

PATH: Network menu > IDIS Web

Select **Use IDIS Web Service** to toggle between On and Off. When on, IDIS Web server is enabled.

Select the box beside **IDIS Web Port** and set a port number between 1024 and 65535 by using the Up and Down arrow. The port number can also be entered using the virtual keyboard.

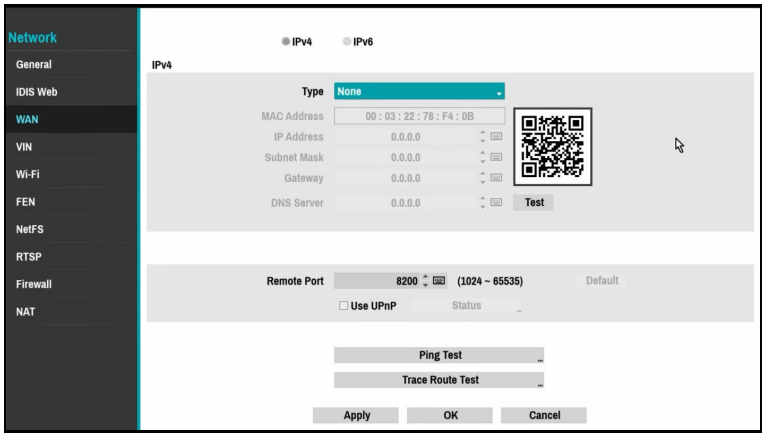
Select **Expose HTTP server's banner** to toggle between On and Off. When on, Expose server information in HTTP headers.

Select **Use** to toggle between On and Off. When connecting to IDIS Web Service, the way of HTTPS communication is enabled.

WAN

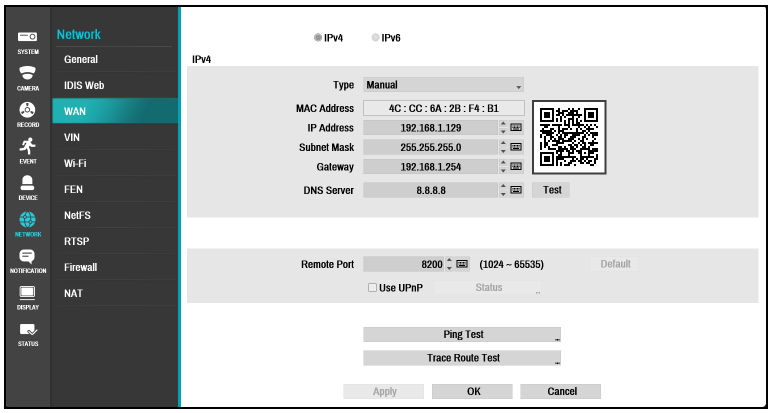
Designate the IP address type as **IPv4_None, IPv4_ IPv4_Manual, IPv4_DHCP, IPv6_None** or **IPv6_Linklocal.**

PATH: Network menu > WAN > Ipv4 > None



Select **None** and then save to disable IPv4 mode.

PATH: Network menu > WAN > Ipv4 > Manual



Set Type to **Manual**.

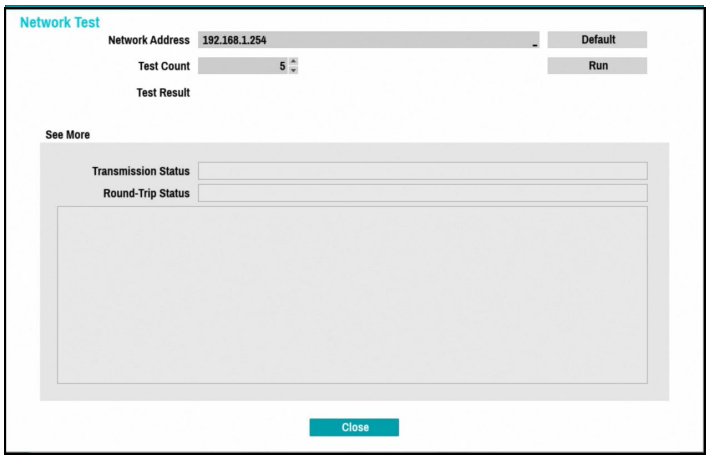
NOTE: ***Manual*** **lets you configure related settings manually. Configure *IP Address*, *Gateway*, and *Subnet Mask* settings manually using the remote control's arrow buttons or the virtual keyboard.**

When registering NVR with the IDIS mobile application, you can easily enter the IP address using the QR code.

Select the box beside **DNS Server** and set the IP address of the DNS server by using the Up and Down arrow. Select the keyboard symbol ⌨ to change the settings.

Select the box beside **Remote Port** and set the port number by using the Up and Down arrow. Select the keyboard symbol ⌨ to change the settings. Choose a value between 1024 and 65535. The port number can also be entered using the virtual keyboard.

Select **Ping Test** to test the current WAN settings you made.



1. Enter the IP address of the DVR.
2. Adjust the frequency of the ping test.
3. Select **Run** to do the test. The test result is displayed.
4. Select **Close** to exit.

NOTE: If using a firewall, select Change Port to change the port number to one that is permitted by the firewall.

Changing the port temporarily severs the DVR's remote connection.

CAUTION: Remote point IP and port settings on the remote program must also be changed in order for it to connect to the NVR.

Use UPnP: To use the **UPnP** (Universal Plug and Play) feature, select **Use UPnP**. If using an IP router (or NAT), UPnP service allows the device to automatically forward the port to the DVR.

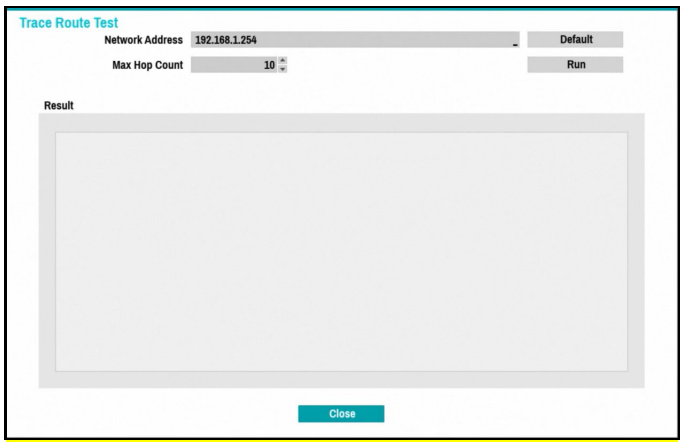
NOTE: This port is used to access a port that has a private IP address.

In order to use the UPnP service, the IP router (or NAT) must support UPnP port forwarding and have the relevant options enabled.

Port number cannot be changed with Use UPnP selected.

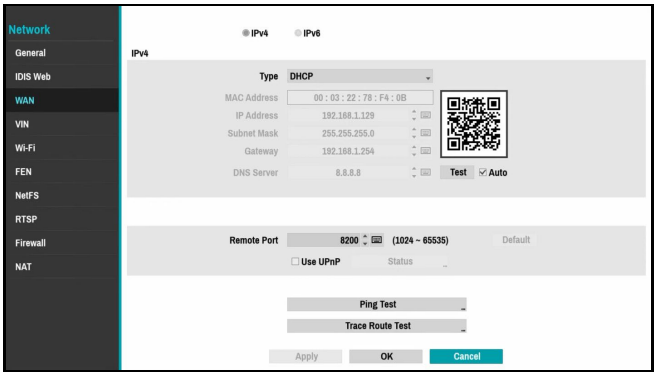
Select the **Status** box to display the port numbers forwarded from the by the IP router (or NAT) to the NVR via UPnP service..

Select **Trace Route Test.** The DVR tries to trace a network path to its destination.



1. Set the network address of the destination.
2. Set the maximum number of hops.
3. Select **Run** to do the test. The test result is displayed.
4. Select **Close** to exit.

PATH: Network menu > WAN > IPv4 > DHCP



Select DHCP and then Save to retrieve IP address and other network settings automatically from the DHCP server. Once the network settings have been retrieved, the NVR's current IP address is displayed in the IP Address field.

NOTE: **It may not be possible to retrieve the IP address if there is no DHCP server. If this is the case, contact your network administrator.**

With DHCP, the NVR's IP address might change with each startup.

When registering NVR with the IDIS mobile application, you can easily enter the IP address using the QR code.

CAUTION: **There is a limit to the number of users allowed to connect remotely at the same time. Contact the service center for more information.**

PATH: Network menu > WAN > IPv6 > None

Select **None** and then **save** to disable IPv6 mode.

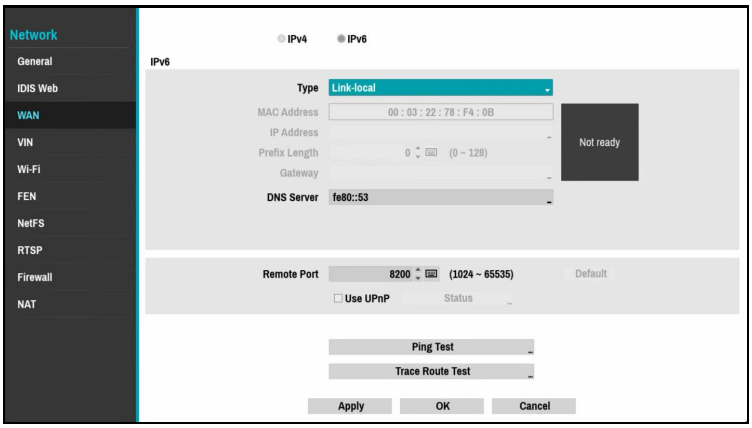
PATH: Network menu > WAN > Ipv6 > Manual

Set Type to **Manual**.

NOTE: ***Manual*** **lets you configure related settings manually. Configure** ***IP Address***, ***Gateway***, **and** ***Subnet Mask*** **settings manually using the remote control's arrow buttons or the virtual keyboard.**

When registering NVR with the IDIS mobile application, you can easily enter the IP address using the QR code.

PATH: Network menu > WAN > Ipv6 > Link-local



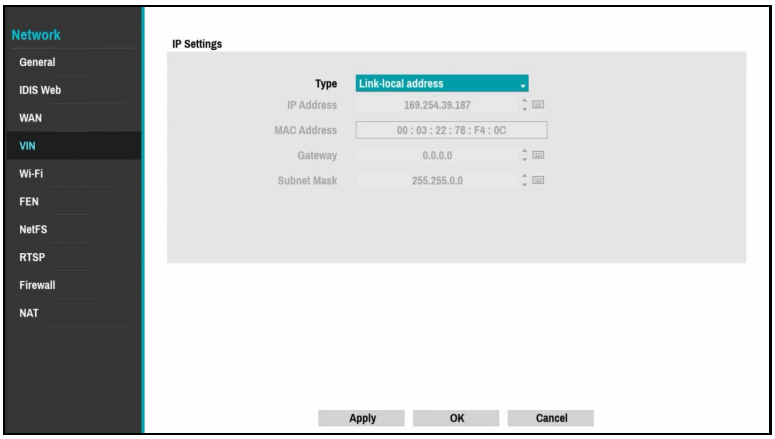
Set Type to **Link-local**. Configure the Link-local address. It is used by nodes when communicating with neighboring nodes on the same link.

VIN

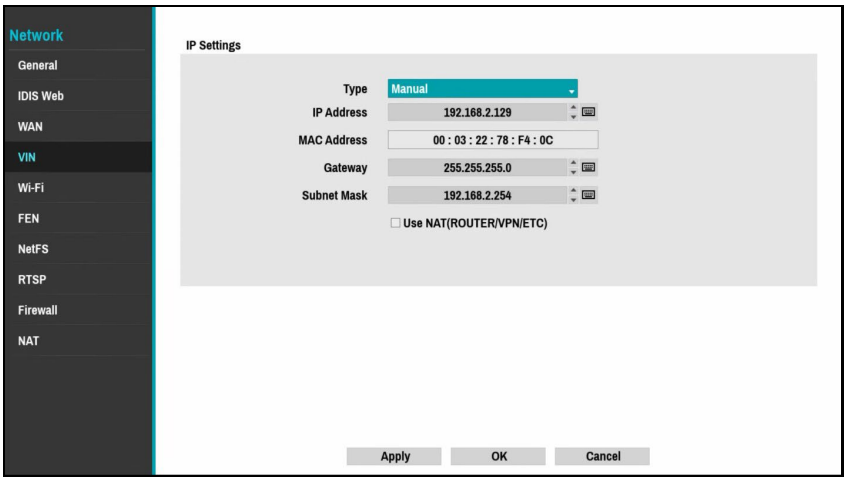
PATH: Network menu > VIN

If the camera is networked but not scanned, use this setup. This setup allows you to change the network setting of the NVR's VIDEO IN port which is camera's network environment. Check the camera's network setting first before you use this setup.

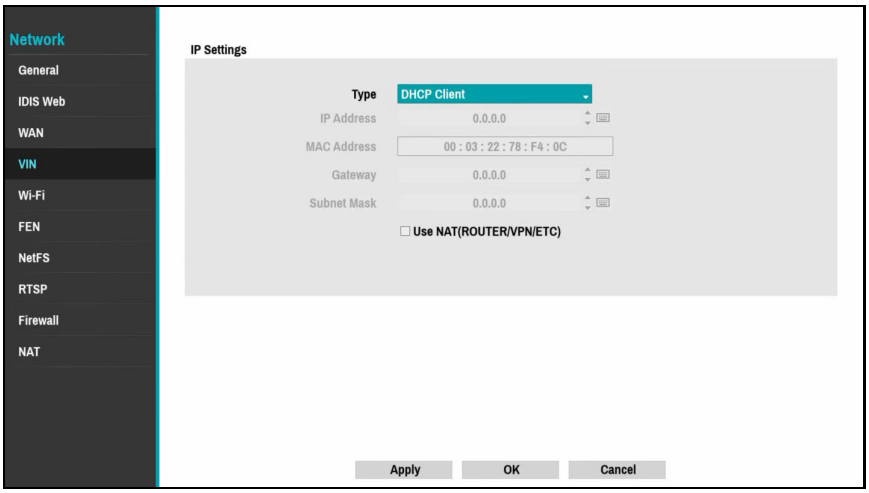
NOTE: Check the camera's network setting first before you use this setup
Make sure that this setting does not conflict with the WAN setting.



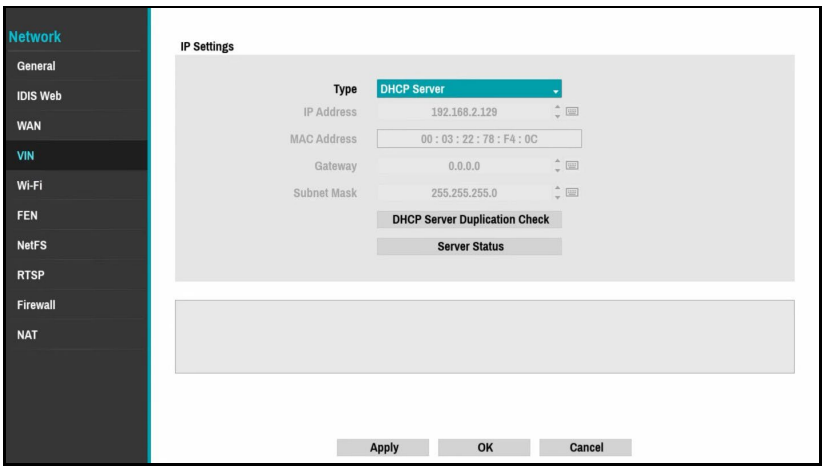
Selecting **Link-local address** indicates the default IP address of VIDEO IN port.



Select **Manual** to enter the IP address and other network settings manually.



Select **DHCP Client** to retrieve an IP address and other network settings automatically from a DHCP server.



Select **DHCP Server** to make the NVR run as a DHCP server. Check if there is another DHCP server on the same network. If there is no DHCP server, this option is enabled. The NVR allocates an IP address automatically in the range of **10.10.0.128** to **10.10.254.254** by using DHCP to the camera connected to the NVR's VIDEO IN port.

Select **Server Status** to show client's MAC address, IP address, and expiration period.

NOTE: When several NVRs exist in the same network, only one of NVRs has to be run as a DHCP server. If several DHCP servers are running, the redundant IP may be allocated to the camera.

Wi-Fi

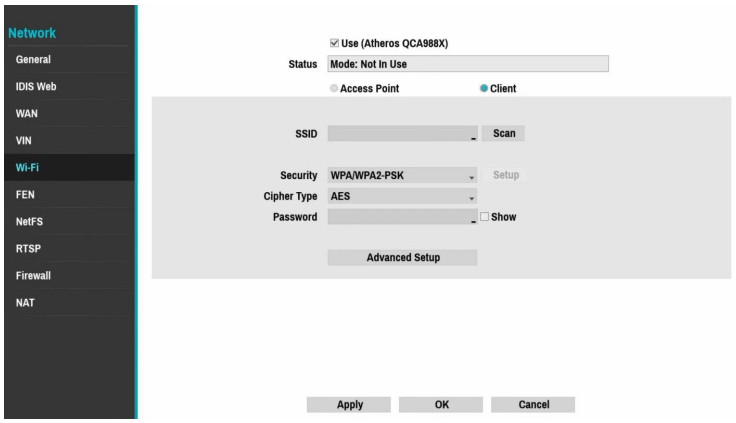
PATH: Network menu > Wi-Fi

If the Wi-Fi Module is not connected, the entire entry is disabled.

Select Use to use the Wi-Fi function. The connected Wi-Fi module information is displayed beside.

- Access Point Setup
  - Frequency: Choose 2.4GHz or 5GHz.
  - SSID: Choose SSID to be displayed.
  - Hide: Check to hide when searching.
  - Security/Cipher: Choose the encryption method.
  - Setup: Set the RADIUS server connection information.
  - Password: Set the password.
  - Advanced Setup: Set the network.

NOTE: Initially, it operates in Access Point mode. When it is set to Geofence, it operates in Client mode.



• Client Setup
  – SSID: Select SSID for the AP (Access Point) connection.
  – Security/Cipher Type: Choose the encryption method for the AP connection.
  – Setup: Set the RADIUS server connection information.
  – Password: Set the password for the AP connection.
  – Advanced Setup: Set the network.

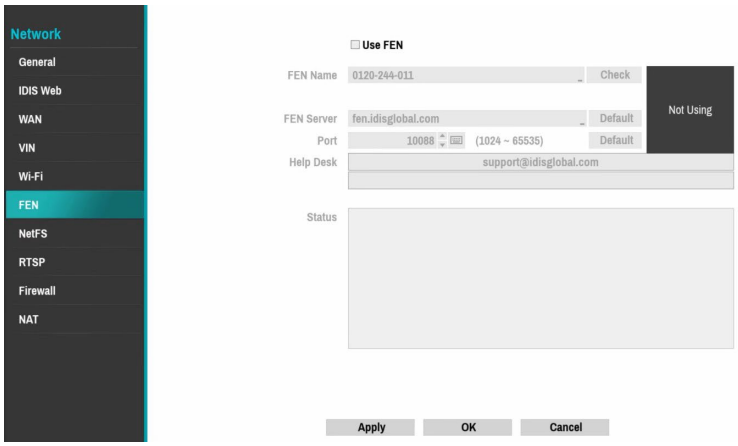
Click Scan to search and display the list of available access points. Select one from the list, then SSID, Security and Cipher are automatically determined.

• Status: Displays the current operation mode and connection status.

NOTE: Initially, it operates in Access Point mode. When it is set to Geofence, it operates in Client mode.

FEN

PATH: Network menu > FEN



Select Use FEN to toggle between On and Off.

NOTE: FEN is the technology that automatically sets up Recorder to work seamlessly for remote viewing via the network internet connection. For FEN to work, naming the Recorder will be required.

Select the box beside FEN Server enter the IP address or domain name of the FEN server.

NOTE: Obtain the IP Address or domain name of the FEN Server from the network administrator.
Use the domain name instead of IP address if already set up the DNS Server.

Select the box beside Port and set the port number of the FEN server using the Up and Down arrow buttons to increase or decrease the numbers. Select the keyboard symbol to change the settings. The factory default port setting is 10088.

Select the box beside FEN Name and enter the Recorder name to be registered on the FEN server.

Select the Check box to check whether or not the name entered can be used.

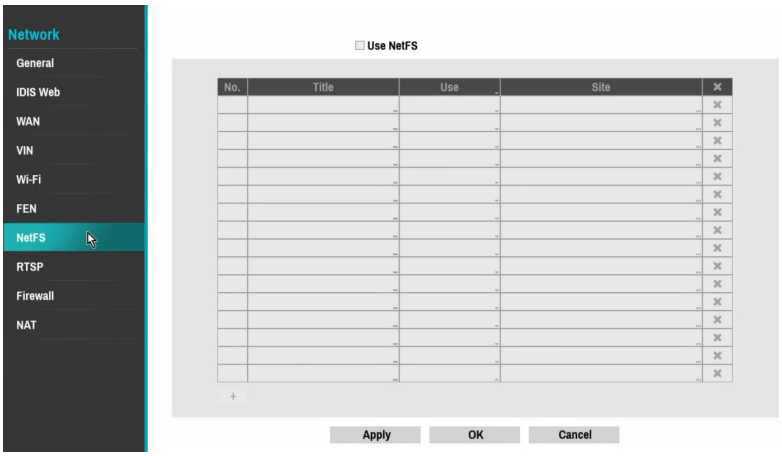
NetFS

PATH: Network menu > NetFS

It allows you to register NetFS sites for the following functions:

- Upload or download of files for upgrade, import/export of a setup file, or log export on an FTP site or from an FTP site. Related settings are as follows:
  (Setup) in the live monitoring mode > System menu > General tab > Upgrade, Import, Export, or System Log – Self-Diagnosis Export setting,
  (Setup) in the live monitoring mode > System menu > Self-Diagnosis Export setting

NOTE: *FileZilla* and *smallFtp* servers are currently supported.
This feature is supported only in the passive mode of an FTP site.



Highlight Use NetFS to toggle between On and Off. Click the + icon at the bottom of the list to add up to 16 FTP sites.

The Title box displays the NetFS site name. Use the virtual keyboard to enter the name.

The Use box allows you to select the usage of the NetFS function.

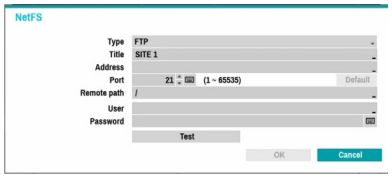
- N/A – It disables the NetFS function.
- ALL – It enables all NetFS functions.
- Upgrade – It allows you to use the upgrade file uploaded on the NetFS site.
- Setup – It allows you to import or export a setup file uploaded on the NetFS site.
- System Log – It allows you to save system log on the NetFS site.

The Site box displays the NetFS site information.

The ✖ box allows you to delete a NetFS site.

NOTE: When you delete an FTP site in the *NetFS* setup screen on the *Network* menu, the FTP site in the *FTP* setup screen on the *Notification* menu will be deleted, too.

When you change the usage to other than *ALL*, an FTP notification function will be disabled.

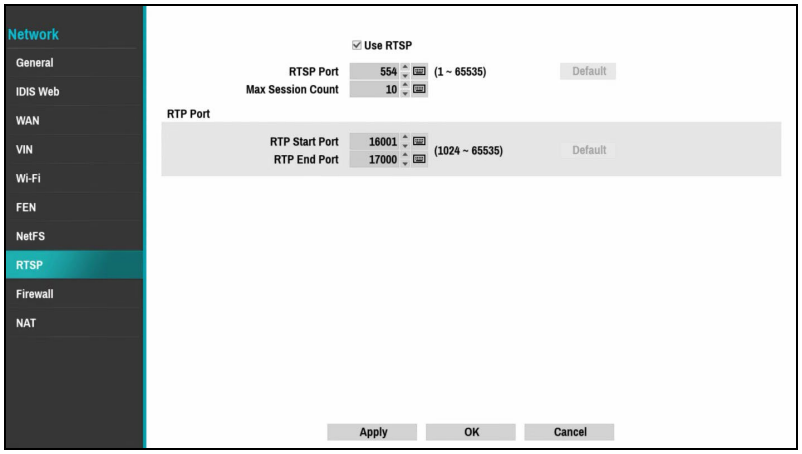


Enter information about the NetFS site using the virtual keyboard and then click the Test button to test the current NetFS site.

- Type: Select the NetFS type.
- Title: Enter the NetFS site name using the virtual keyboard.
- Address: Enter the NetFS address using the virtual keyboard.
- Port: Configure the port to connect to the NetFS site.
- Remote path: Enter a folder path to the NetFS site using the virtual keyboard.
- User / Password: Enter the user and password to access the NetFS site using the virtual keyboard.
- Test: Test the current NetFS site settings you have entered.

RTSP

PATH: Network menu > RTSP



Select Use RTSP (Real-Time Streaming Protocol) to toggle between On and Off. You will be able to change the settings if Enable RTSP is enabled.

Select the box beside RTSP Port. Set the port number of the RTSP server obtained from your system administrator.

Select the box beside RTP Start Port. Set the start port number of the RTP server obtained from your system administrator.

Select the box beside RTP End Port. Set the end port number of the RTP server obtained from your system administrator.

NOTE: **When using NAT (Network Address Translation) or firewall services, opening all UDP ports allows you to access a Recorder using iOS and Android devices.**

You can access a remote Recorder and monitor live video images using media players, such as VLC Player, supporting RTSP service. Start the media player on your local PC and enter "rtsp://ID:Password@IP address:RTSP port number/trackID='channel number'", or start Internet Explorer on your mobile devices and enter "http://IP address:Webguard port number/".

Some media players might play video properly depending on network conditions.

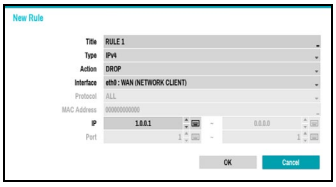
RTSP service might not be supported, depending on the type of media player.

Firewall

PATH: Network menu > Firewall

Setting up a customized firewall rule set, it allows or denies access such as specific MAC address, IP address and receiving network port of the NVR.

Select **Use Firewall** to activate firewall function. Click the + icon at the bottom of the list to set up a firewall rule.

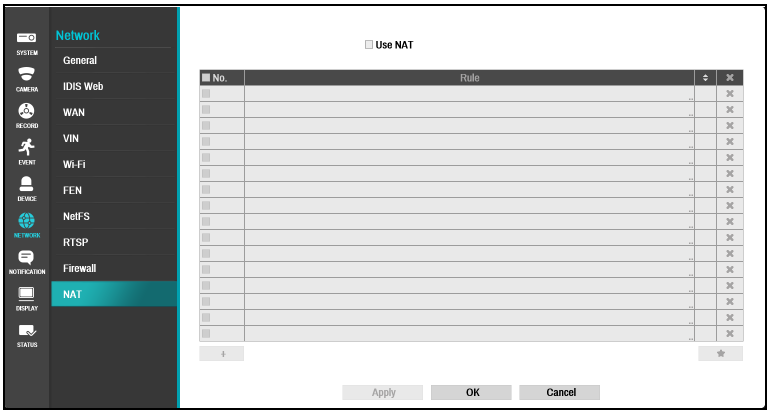


- Title: Edit the name of the rule.
- Type: Set the IP address, the MAC address or the network port.
- Action: Select which actions to apply this firewall rule to.
  - Drop: Discard the packet that matches all the specified conditions.
  - Reject: Deny the packet that matches all the specified conditions and send back an ACK packet telling it that the "packet was dropped" to the sender.
  - Accept: Allow the packet that matches all the specified conditions.

- Interface: Specify the ethernet interface. It refers to a WAN (Network Client) or VIN (Video-In)..
- IP: If the type of the rule is set to IPv4 or within the IPv4 scope, enter the sending IP address.
- Port: If the type of the rule is set to port or within the port scope, enter the receiving network port number of NVR.

NAT

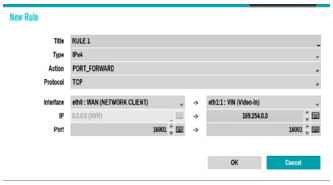
PATH: Network menu > NAT



NAT function is to connect to the camera which is internal VIN network from the physically divided WAN network PC (WebSetup / IDIS Web / IDIS Center program / RTSP).

To connect to the camera WebSetup / IDIS Web / IDIS Center program / RTSP function, you need to configure the NAT rule to forward ports from NVR port number to the camera port number.

Select **Use NAT** to activate NAT function. Click the + icon at the bottom of the list to set up a NAT rule.



- Title: Edit the name of the rule.
- Type: Set the IP address, the MAC address or the network port.
- Action: Select which actions to apply this NAT rule to.
  - Port_FORWARD: Allow the access by combining an external TCP/UDP port with an internal port
- Protocol: Set the network protocol to apply the rule to.
- Interface: Specify the ethernet interface. It refers to a WAN (Network Client) or VIN (Video-In)..
- IP: If the type of the rule is set to IPv4 or within the IPv4 scope, enter the sending IP address.
- Port: If the type of the rule is set to port or within the port scope, enter the receiving network port number of NVR.

NOTE: It is not possible to set an interface from VIN to WAN direction.

Notification Setup

Schedule

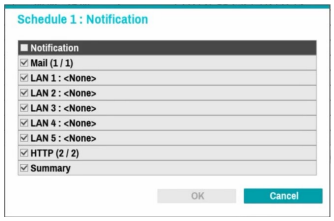
PATH: Notification menu > Schedule

Select the + to add a schedule. Selecting the boxes under the Column heading allows editing the information in those boxes.

The Day box allows selection of the days that the notification schedule will be active. The choices are: Sun, Mon, Tue, Wed, Thu, Fri, Sat, M~F, Hol and All.

The Range box allows setting the time that the notification schedule will be active in 15-minute increments from 00:00 to 24:00.

Select the desired box under the Notify heading, and the Schedule Notify menu appears.



Toggle the entire list On and Off by selecting Notification. Toggle the individual items On and Off by selecting that item. Select OK to accept the changes.

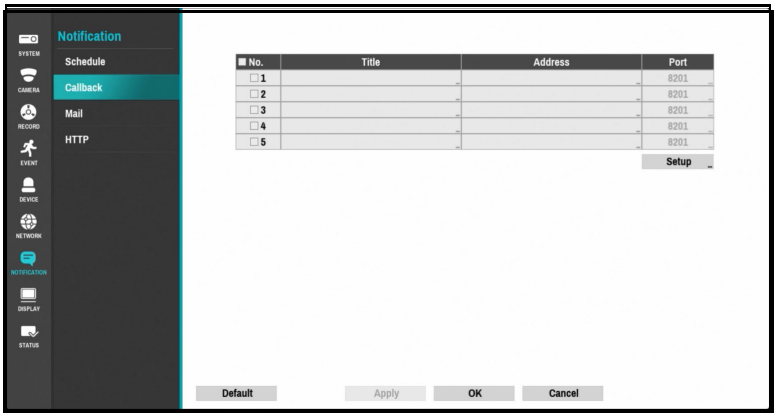
NOTE: For the Notify action, the notify item selected should be enabled in the Notification setup screen and the Recorder should be registered in the IDIS Center.

NOTE: The Notify action for system events made in the System - Monitoring setup screen on the System menu is not affected by the Notification Schedule settings.

Highlight the box beside Summary Email Interval and select the interval for the Recorder to send a summary email. The Recorder sends an email containing a summary of events detected during the preset interval.

Callback

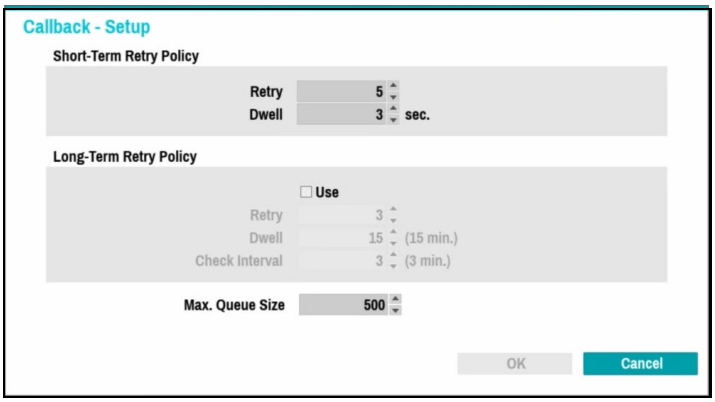
PATH: Notification menu > Callback



Select the title to set the name of Action.

Enter the IP address of the receiving server and set Retry to between 1 and 10 in case of connection failure.

Select the Setup... button at the lower right corner of the screen to configure Callback Retry Policy.



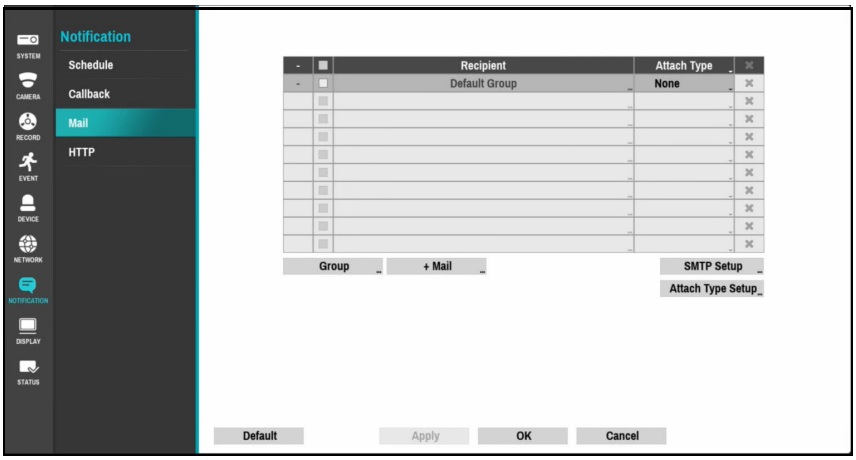
- Short-Term Retry Policy: Configure short-term policy to retry a callback event.
  - Retry: Number of times to retry a callback event.
  - Dwell: Wait time (in seconds) between retry attempts.
- Long-Term Retry Policy
  - Use: Configure long-term policy to retry a callback event.
  - Retry: Number of times to retry a callback event.
  - Dwell: Wait time (in minutes) between retry attempts.
  - Check Interval: Interval time (in minutes) to check failover.

NOTE: In a general wired network communication environment, not a wireless (mobile) / satellite communication environment where communications failures are frequent, long-term retry policies (LTRPs) are not required, except for particular cases.

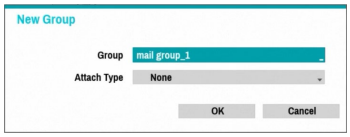
- Max. Queue Size: Determine the maximum number that can be processing events. You can limit from 300 to 1000 queues.

Mail

PATH: Notification menu > Mail



Select the Group to add a recipient group and select the image file format attached to an email.

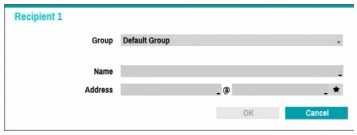


A virtual keyboard appears allowing you to enter the Group name. You can select between CBF and MP4. When selecting CBF, the NVR will attach an event detected video clip to an email. When selecting MP4, the NVR will attach the event detected image file (MP4 format) to an email.

NOTE: Be careful when interconnecting with 3rd-party solutions and systems, since email notification is a Best-effort service, not a Guarantee service.

NOTE: Email notification does not guarantee real-time due to SMTP protocol.

Select the + Mail to add a mail recipient.

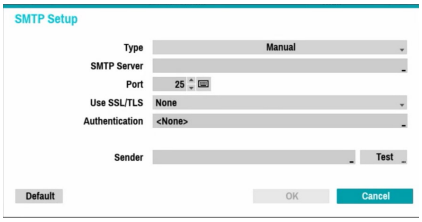


Select the group name and then assign the Group to Recipient. Enter the recipient's e-mail address and mail server provider. Select the ★ icon to select the mail server provider from a list of registered SMTP mail server providers.

NOTE: The e-mail address must include the "@" character to be a valid address.

Select the Attach Type to attach event recordings to outgoing mails to an account that belongs to that group.
Select the ✕ icon to remove the account and added group.

Select the SMTP Setup… box, and the SMTP Setup screen appears.



Select the box beside Type and select between Manual and listed SMTP mail server providers.

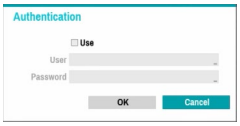
Select the box beside SMTP Server, enter the IP address or domain name of the SMTP server.

NOTE: If you have configured the DNS Server setting under Network - WAN, you can enter the STMP server's domain name instead of its IP address in the SMTP Server field.

NOTE: Address entered under Sender must be in the correct email format and include the @ symbol.

Select the box beside Port and enter the SMTP Server port number by using the Up and Down arrows. The default port number is 25.

Select Use SSL/TLS to toggle between On and Off. When On, the Recorder can send an email via an SMTP server requiring SSL (Secure Sockets Layer) authentication.

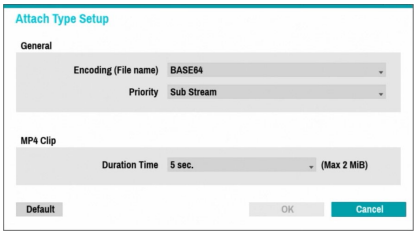


Select the box beside Authentication and an Authentication screen appears. Select Use to toggle between On and Off. Select the box beside User/Password and enter the user ID and password.

Select OK to apply and exit.

NOTE: This product contains content developed by OpenSSL Project for use in Open SSL Toolkit (http://www.openssl.org/).

Select the Attach Type Setup… box, and the Attach Type Setup screen appears.



Select the box beside Encoding (File name) and set the encoding for the name of the attached files to BASE64 or PLAIN-TEXT.

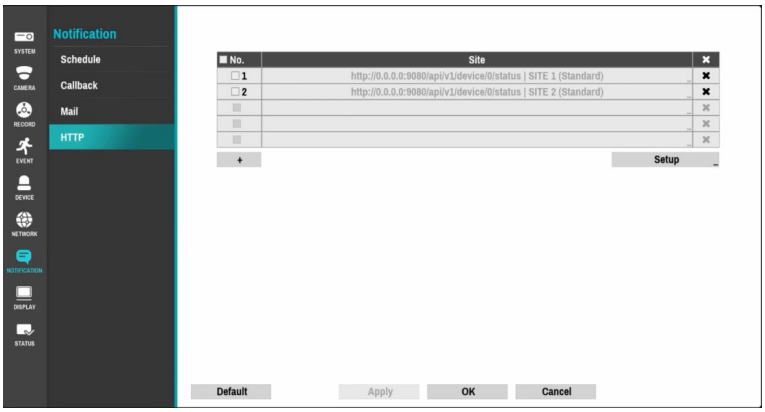
Select the box beside Priority, Set the stream video for email and FTP attached files to Main Stream or Sub Stream.

When sending an e-mail, event recordings will be attached and you can set the time to record MP4 clips.

NOTE: Event recordings are attached only for the event that the camera generates.

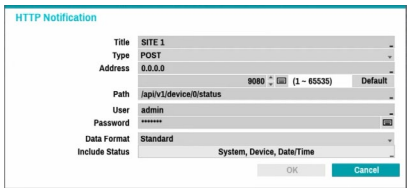
HTTP

PATH: Notification menu > HTTP



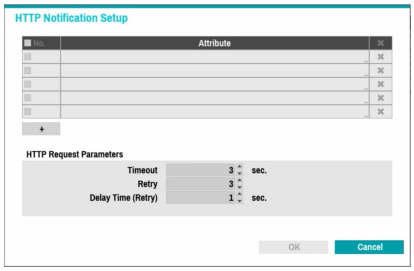
Notify or forward the events on remote HTTP servers. The event and NVR information are sent to HTTP servers in a JSON format.

Select the + icon, and the HTTP Notification information screen appears.



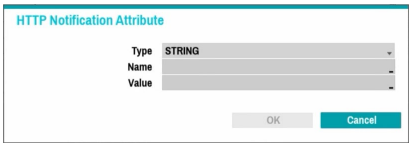
- Title: Enter the name of the HTTP site.
- Type: Select the request method of an HTTP message.
- Address: Enter the address of HTTP notifications.
- Path: Enter the path of HTTP server address.
- User / Password: Enter the user and password to access the HTTP site.
- Data Format: Set the data format of transmitted messages.
- Include Status: Select some options for status to include in an HTTP notifications.

Select the Setup… box, and the HTTP Notification Setup screen appears.



An attribute and parameters must be included when sending the http requests. When the following window appears, click the + button to set the HTTP attributes such as the type, name and value.

- HTTP Request Parameters: Set a specific response to an HTTP request.
  - **Timeout**: Set the maximum time allowed for connection.
  - **Retry**: Set the number of times to reconnect when a connection fails.
  - **Delay Time (Retry)**: Configure the time interval between each retry attempt (initial delay between retry attempts)

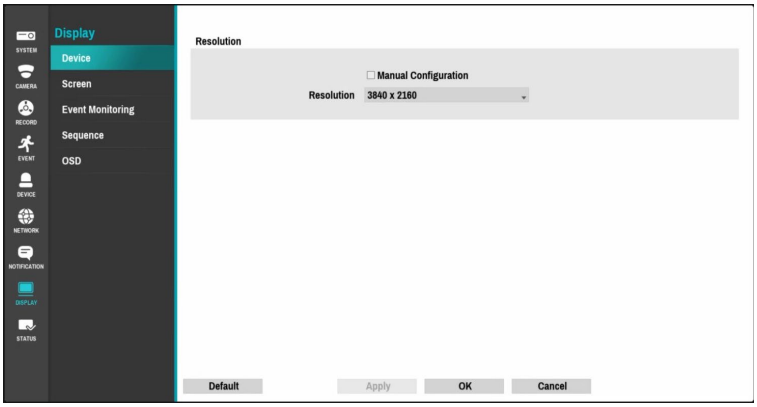


- Type: Select the corresponding type such as BOOL, INT32, FLOAT32 and STRING.
- Name: Enter the name of HTTP notification attribute.
- Value: Enter the value of HTTP notification attribute.

Display Setup

Device

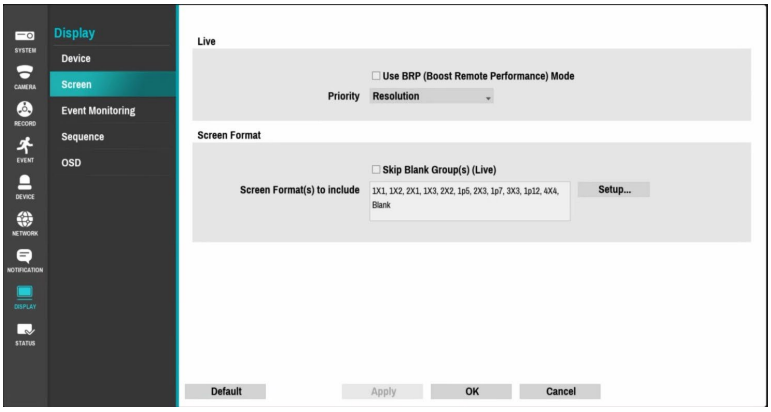
PATH: Display menu > Device



- Manual Configuration: Set the resolution manually regardless of the resolution supported by the monitor.
- Resolution: Select from 3840 x 2160, 1920 x 1200, 1920 x 1080, 1680 x 1050 and 1600 x 1200.

Screen

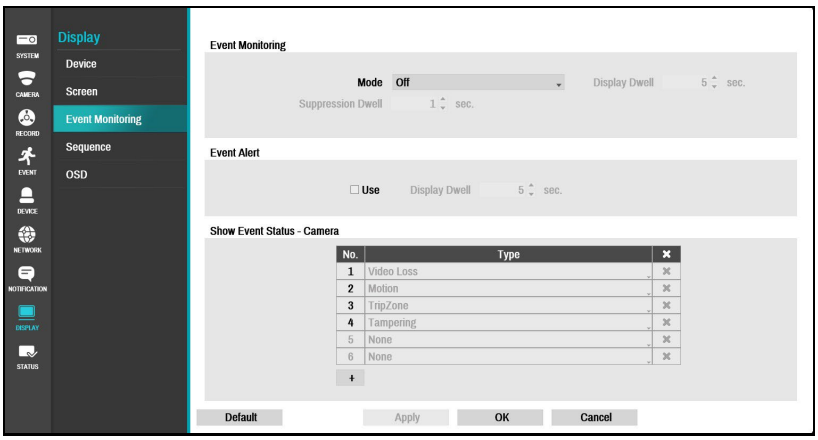
PATH: Display menu > Screen



- Use BRP(Boost Remote Performance) mode : With BRP mode on, the camera full screen does not display in live mode and the network bandwidth can limit to 100Mbps.
- Priority : Select the camera's live stream priority, either resolution or frame rate.
- Skip Blank Groups(s) (Live) : Skip the unregistered blank channel groups on the live screen.
- Screen Format(s) to include: Click the Setup...button to select the screen format to be displayed on the live and search mode.

Event Monitoring

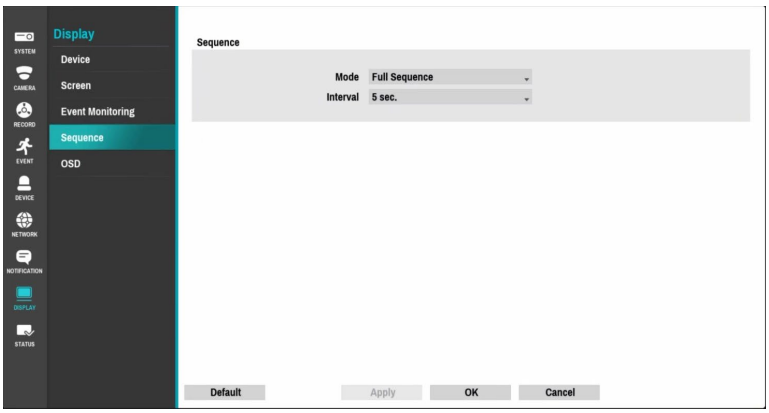
PATH: Display menu > Event Monitoring



- Mode: Set the Mode for Event Monitoring. Select 1x1 layout to display the event monitoring in a single screen sequentially. Select Auto mode to set the event monitoring format automatically
- Display Dwell: Set the amount of time that the event monitoring is output.
- Suppression Dwell: When a new event monitoring occurs, set the waiting time until the existing monitoring ends. When the time is set to 0, new event monitoring is immediately. When a value of 1 or more, event monitoring operates after waiting for the specified time.
- Event Alert: With Event Alert selected, the red line appears on the top of the camera screen linking event monitoring when an event occurs.
- Show Event Status – Camera: Add camera events displayed on the Status > Camera page.

Sequence

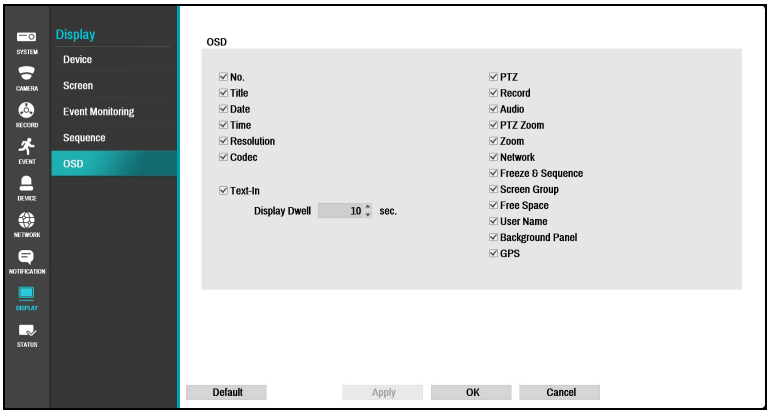
PATH: Display menu > Sequence



- Mode: Select Full Sequence or Cameo Sequence.
- Interval: Select between 3 secs and 2 mins.

OSD

PATH: Display menu > OSD



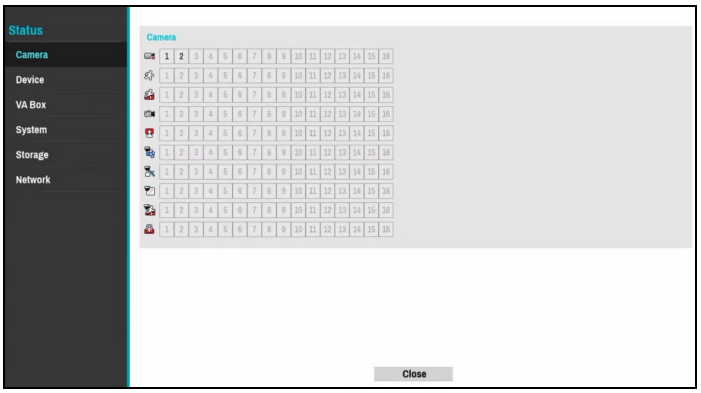
Set the OSD (On Screen Display) options. The selected information is displayed on the bottom of the screen.

- No.: Display the camera number on the upper left corner of the camera screen.
- Title: Display the camera name on the upper left corner of the camera screen.
- Date and Time: Display the date and time.
- PTZ: Displays the Ⓟ icon on PTZ cameras.
- Record: Display recording and schedule icons.
- Audio: Display the icon on channels generating audio.
- Text-In: Display strings received from text-in devices.
- Display Dwell: Specify how long to display the text-in string. Text-in strings are shown on the single screen only.
- PTZ Zoom: Displays the zoom magnification (e.g. x2, x3, etc.)
- Zoom: Display a zoomed in state.
- Network: Display the icon when the unit is connected to a network via Ethernet.
- Freeze & Sequence: Display freeze and sequence icons.
- Screen Group: Display the current screen's group.
- Free Space: Display whether or not the DVR is in the recycle mode, and displays the available storage space when not in the recycle mode.
- User Name: Display the current user logged in.
- Background Panel: Display background panel at the bottom of the screen in black.
- GPS: Display GPS information on the right side of the screen.

Status Setup

Camera

PATH: Status menu > Camera

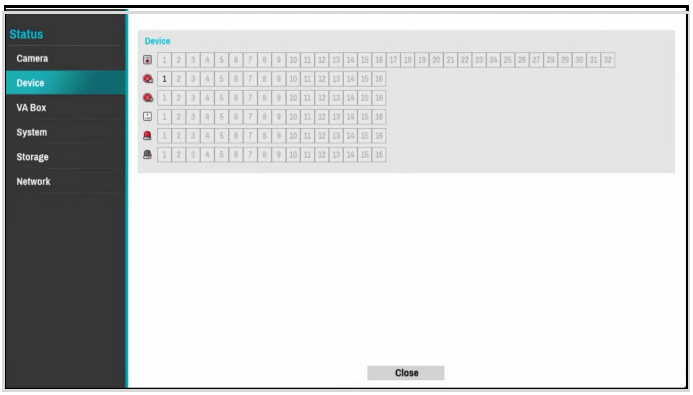


This screen displays an overview of camera events. When an event occurs, the corresponding channel flashes for 5 seconds.

Motion Detection	Trip-Zone	Tampering
Video Loss	Face Detection	Loitering
Line Crossing	Object Detection	Intrusion
Crowd Detection		

Device

PATH: Status menu > Device



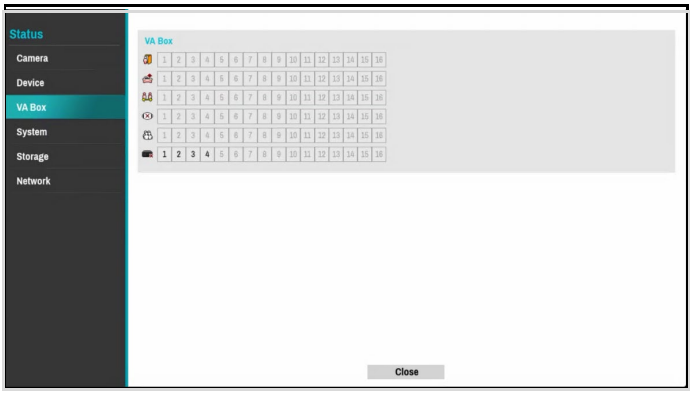
This screen displays an overview of device events. When an event occurs, the corresponding channel flashes for 5 seconds.

Recording Fail of Main Stream	Recording Fail of Sub Stream	Text-In
Alarm-In	Check Alarm-In	Network Alarm

NOTE: The two events are supported by some products only.

VA Box

PATH: Status menu > VA Box



This screen displays an overview of VA Box events. When an event occurs, the corresponding channel flashes for 5 seconds.

Exceed Occupancy Limit

Social Distancing Violation

Mask Rule Violation

VA Loss

Queue Congestion

Exceed Vehicle Count

System

PATH: Status menu > System

This screen displays an overview of system events. When an event occurs, the corresponding channel flashes for 5 seconds.

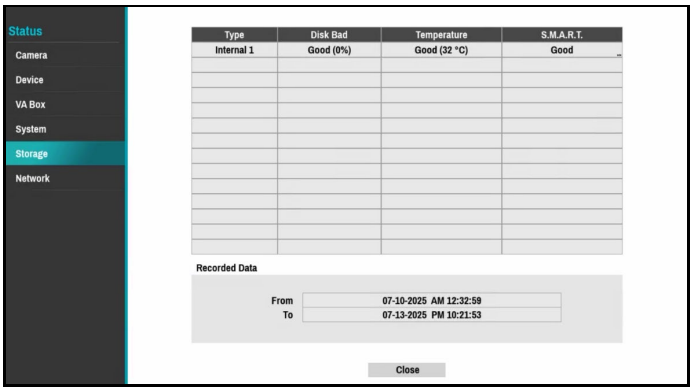
- Panic Record: Displays event status based on current Panic Record status.
- Check Recording: Displays event status based on System Monitoring settings. For more information, refer to the Motion menu under Video Analytics.
- Disk Almost Full/Disk Full: If the storage device is not in Recycle status, event status is displayed when the amount of disk space specified under System Monitoring is reached and when the disk becomes 100% full. For more information, refer to the Motion menu under Video Analytics.
- Disk Partially Almost Full / Disk Partially Full: If the storage device is not in Recycle status, event status is

displayed when a disk in one of multiple quota groups reaches a specified capacity or disk usage reaches a specified capacity under System - Monitoring.

- Disk Config Change: It will be highlighted when the NVR reboots after the hard disk drive has been replaced.
- No Storage Found: It will be highlighted when no recordable storage device has been found.
- Fan Error: Event is indicated when the cooling fan cannot reach a certain RPM or fails for longer than 50 seconds.
- GPS Bad: It will be highlighted when invalid GPS data comes in.
- Geofence: It will be highlighted when entering the set geofence area.
- Check Heater: It will be highlighted when an issue related to the heater occurs.

Storage

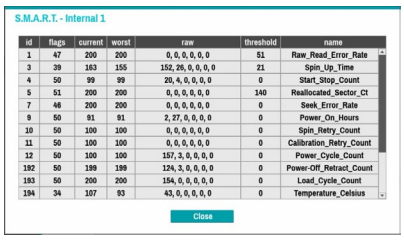
PATH: Status menu > Storage



Select Monitoring from the System menu under Setup to configure Disk Bad and Disk Temperature settings.

Disk Bad	Not Formatted	A disk that has never been used before.
	Good	• Disk performing normally. • If the HDD is partially damaged, indicates the bad sector percentage.
	Error	• If the HDD's bad sector ratio is higher than as designated by the user. • Generates a system event.
Temperature	N/A	Unable to detect the disk's temperature.
	Good	Operating within normal temperature range.
	Bad	• Disk temperature higher than as designated by the user. • Generates a system event.
S.M.A.R.T.	N/A	A disk that does not support S.M.A.R.T.
	Good	A disk with normal S.M.A.R.T. status.
	Bad	A disk with abnormal S.M.A.R.T. status. Possibility of damage within 24 hours.

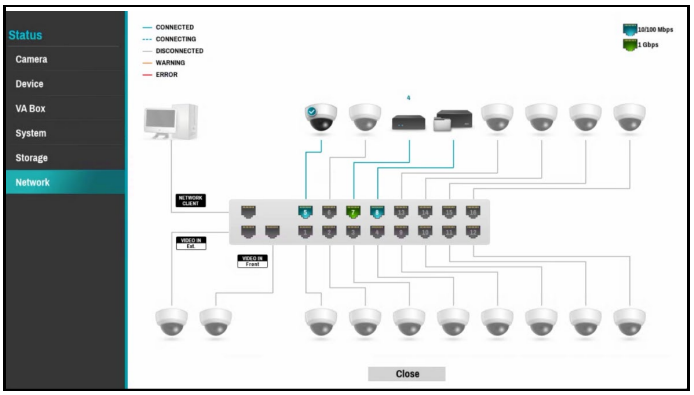
NOTE: Check each disk's data storage time information under Recording Data.



Click on the S.M.A.R.T section to view the S.M.A.R.T information.

Network

PATH: Status menu > Network



This screen provides a complete overview of the network status.

Information shown include camera connection status, LAN port link status, number of connected clients, and network connection info.

Camera Connection	indicates the camera is connected. indicates the camera is not connected. Clicking the image displays satus information of the device connected to the NVR.
Network Switch	indicates a network switch is connected to the LAN port and shows how many cameras are connected. Clicking the image displays status information of the device connected to the NVR.
Video Encoder	indicates a video encoder is connected to the LAN port and shows how many cameras are connected. Clicking the image displays status information of the device connected to the NVR.
LAN Port Link	indicates a camera or a network swich is connected. indicates neither is connected.
LAN Port Speed	indicates 10/100Mbps and indicates 1Gbps.
Total Bitrate	The Max Bitrate that can be registered at maximum and the total bitrate of the currently registered cameras are shown.
Number of Connected Clients	Indicates whether there are clients connected to the NVR via an external network and how many clients are connected. indicates at least one client is connected. indicates no client is connected.
Network Connection Info	Indicates network connection statuses (connected, connecting, disconnected, warning, and connection error) using following lines: CONNECTED CONNECTING DISCONNECTED WARNING ERROR

Appendix

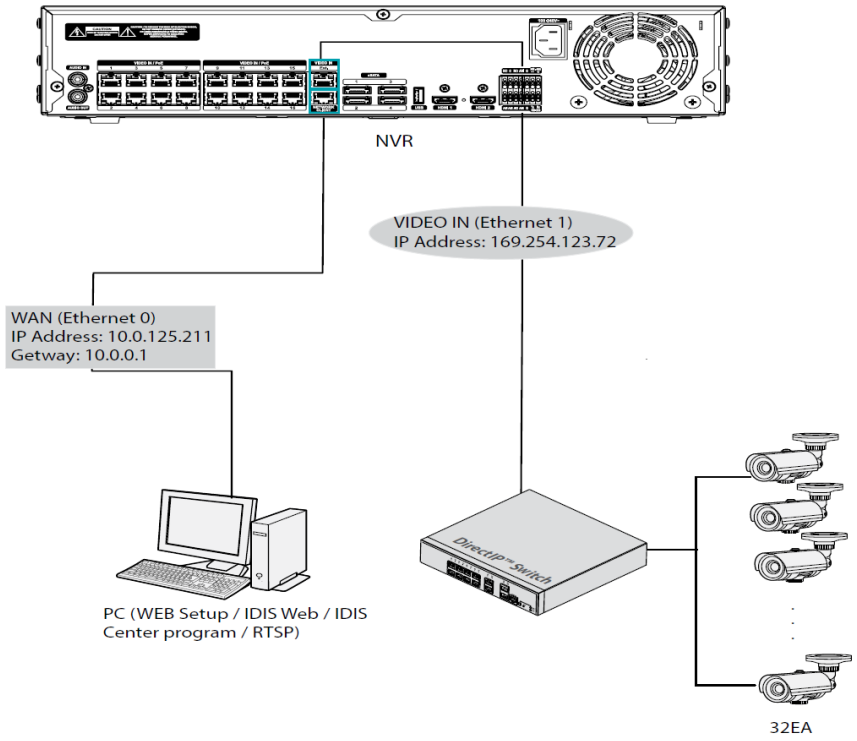
NAT Function Example

NAT function is to connect to the camera which is internal VIN network from the physically divided WAN network PC(WebSetup / IDIS Web / IDIS Center program / RTSP).

To connect to the camera WebSetup / IDIS Web / IDIS Center program / RTSP function, you need to configure the NAT rule to forward ports from NVR port number to the camera port number.

NAT Configuration Guide

NOTE: Images shown are for illustration purposes only and may not match the product.

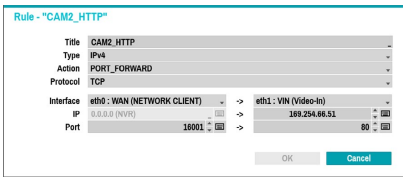


NOTE: To use NAT function, the camera gateway address must be set to the VIN network IP address of the NVR.
For more information on the IP address of the camera and port number, refer to the WebSetup page of the camera manual. Also, check the IP address of the camera in the NVR or default port number on the camera manual.

Camera WebSetup Connection

Access the WebSetup of the camera which is internal VIN network from the PC.

Port Forward through 2 routers "NVR Port Number and HTTP Port Number of the Camera"

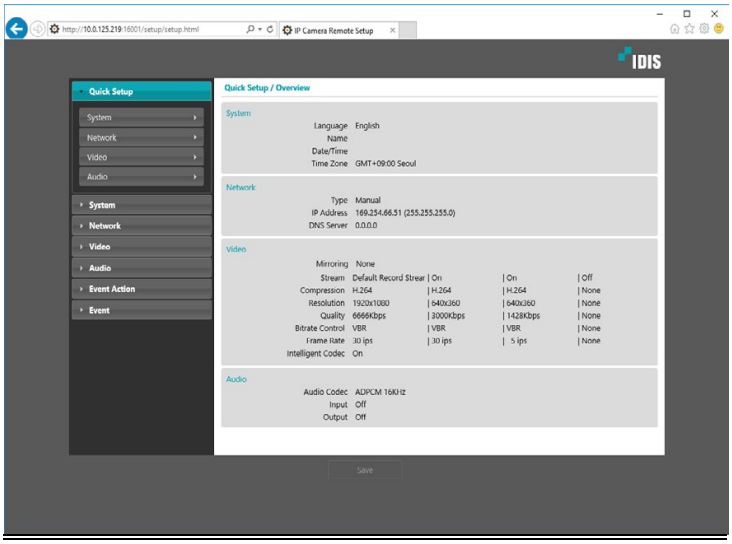


Eth 0: WAN Port : 16001
Eth 1: VIN IP : IP address of the camera
Eth 1: VIN Port : HTTP port number of the camera

Approach

You can access the WebSetup page through the following address.: http://NVR IP address:HTTP Port Number of the Camera/setup/setup.html

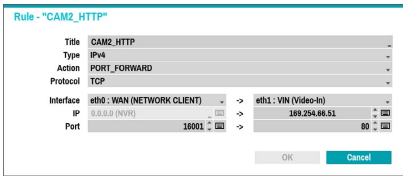
Enter the HTTP port number of the camera 16001 to have port forwarded.



IDIS Web Connection through IDIS Camera

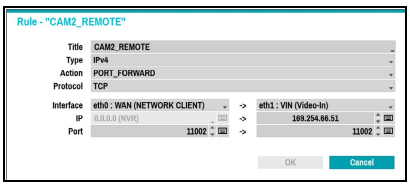
Access the IDIS Web of the camera which is internal VIN network from the PC.

Port Forward through 2 routers "NVR Port Number and HTTP Port Number of the Camera"



Eth 0: WAN Port : 16001
Eth 1: VIN IP : IP address of the camera
Eth 1: VIN Port : HTTP port number of the camera

Port Forward through 2 routers "NVR Port Number and Remote Port Number of the Camera"



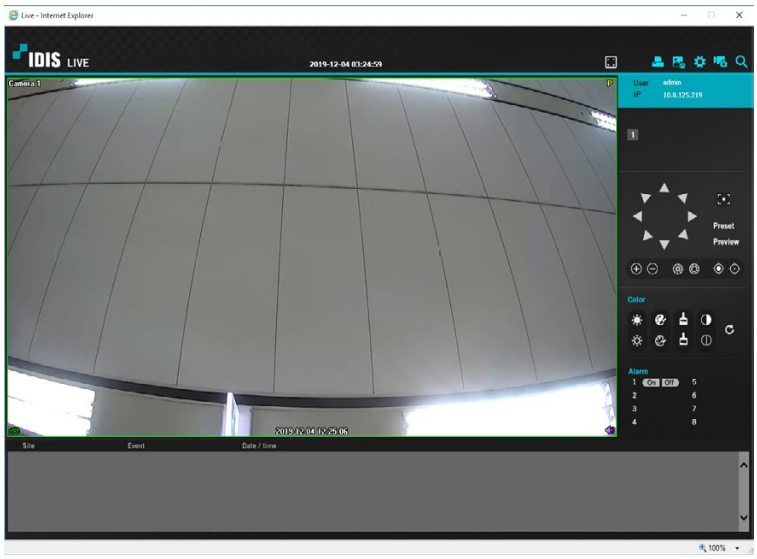
Eth 0: WAN Port : 11002
Eth 1: VIN IP : The IP address of the camera
Eth 1: VIN Port : Remote port number of the camera

NOTE: Eth0 port number and the remote port number of the camera must be same.

Approach

You can monitor live videos through the following address.: http://NVR IP Address:HTTP Port Number of the Camera

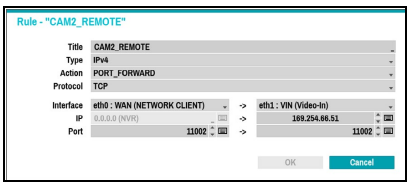
Enter the HTTP port number of the camera 16001 to have port forwarded.



IDIS Center Program Connection through IDIS Camera

Connect to view the video of the camera which is internal VIN network from the clients such as the IDIS Center program.

Port Forward through 2 routers "NVR Port Number and Remote Port Number of the Camera"



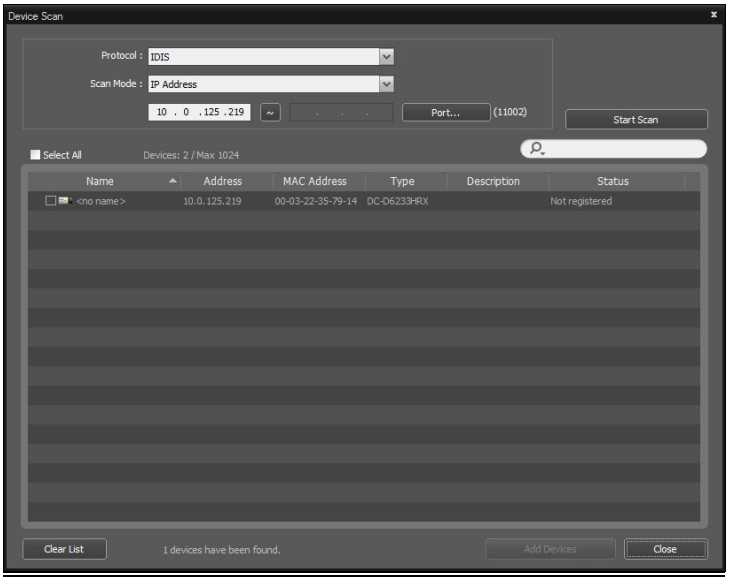
Eth 0: WAN Port : 11002
Eth 1: VIN IP : The IP address of the camera
Eth 1: VIN Port : Remote port number of the camera

NOTE: Eth0 port number and the remote port number of the camera must be same.

Approach

You can monitoring live videos by using the IDIS Center program.

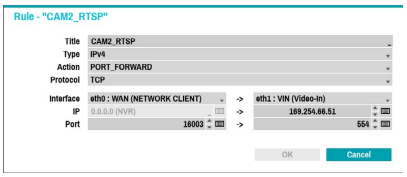
Enter the remote port number of the camera 11002 to have port forwarded.



RTSP Connection through IDIS Camera

Connect the video of the camera which is internal VIN network by using the RTSP player from the PC.

Port Forward through 2 routers "NVR Port Number and RTSP Port Number of the Camera



Eth 0: WAN Port : 16003
Eth 1: VIN IP : IP address of the camera
Eth 1: VIN Port : Remote port number of the camera

Approach

Access RTSP function using media players, such as VLC Player. You can monitor live video images through the following address.: rtsp://NVR IP Address: RTSP Port Number of the Camera/trackID=channel number

Enter the RTSP port number of the camera 16003 to have port forwarded.

Troubleshooting

Problem	Possible Solution
No Power	• Check power cable connections. • Confirm that there is power at the connection terminals.
No Live Video	• Check camera video cable and connections. • Confirm that the camera has power. • Check camera lens settings.
The Recorder has stopped recording	If hard disk drive is full, delete video or set the Recorder to the Overwrite Mode. If there is a hard disk error, swap the hard disk.
While upgrading the system, the Recorder keeps rebooting and the upgrade fails.	If the current system version is higher than the upgrade package file version, reset the Recorder first using the Factory Reset. When using the Factory Reset, saved settings are lost.

System Log Notices

Boot Up	Schedule On	Clip-Copy Duration of Video:
Shutdown	Schedule Off	Clip-Copy Camera:
Restart	No Storage Found	Callback Fail
Upgrade	Storage Wrong Format	Factory Reset
Upgrade Fail	Storage Formatted	ACC: On
Power Failure	Clear All Data	ACC: Off
Time Change	Clear Disk	Key: On
Time Zone Change	Format Disk	Key: Off
Time Sync	Disk Full	Heater On: Local
Time Sync Fail	Disk Config Change	Heater On: Boot Up
Disk Bad	Disk 'No.' : 'serial number'	Shutdown: Low Voltage
Login	Disk 'No.' : Removed	Shutdown: High Voltage
Logout	Auto Deletion	Shutdown: Low Temperature
Setup Begin	Search Begin	Shutdown: ACC
Setup End	Search End	Recover from Power Failure: Low Voltage
Remote Setup Change	Clip-Copy Begin	Recover from Power Failure: High Voltage
Remote Setup Fail	Clip-Copy End	Camera Upgrade Begin
Setup Imported	Clip-Copy Cancel	Camera Upgrade End
Setup Import Failure	Clip-Copy Fail	Camera Upgrade Failure
Setup Exported	Clip-Copy User:	Camera Upgrade User:
Setup Export Failure	Clip-Copy From:	Camera Upgrade Camera:
Setup Export Cancel	Clip-Copy To:	

Error Code Notices

System Upgrade Related		Clip Copy Related	
No.	Description	No.	Description
0	Unknown error.	0	Unknown error.
1	File version error.	1	Device error.
2	Operating system version error.	2	Mounting failed.
3	Software version error.	3	No media.
4	Kernel version error.	4	Invalid media.
100	Upgrade device mounting failed.	5	File already existed.
101	Package is not found.	6	Not enough space.
102	Extracting package failed.	7	Creating temporary file failed.
103	LILO failed.	8	Opening disk failed.
104	Rebooting failed.	9	Formatting disk failed.
105	Invalid package.	10	Database has been changed.
300	Remote connection failed.	11	Appending failed.
301	Remote network error.	12	Bad sector.
302	Remote upgrade is not authorized.	13	No executable file.
303	Saving remote package failed.	14	Opening executable file failed.
304	Remote upgrade is cancelled by the user.	15	Writing executable file failed.
400	USB device mounting failed.	16	Creating image failed.
401	Reading upgrade package on the USB device failed.	17	Burning failed.
402	Copying upgrade package on the USB device failed.	18	Burning is out of time.
403	USB device is not connected.	19	Connecting device failed.
404	USB device is being used.	20	Device is busy.
405	Unsupported file system.	21	Unsupported file system.
500	System is busy clip copying.	22	Verify failed.

Specifications

VIDEO	
Video Input	Ethernet: 16 network cameras
Video Resolution	3840x2160, 1920x1200, 1920x1080, 1680x1050, 1600x1200
Record Speed (images per second)	Dual Stream: 480ips @ 4K + 480ips @ nHD
INPUTS/OUTPUTS	
Alarm Input	Programmable as NC or NO, Threshold: <= 2.4V ⎓ for NC and >= 2.8V ⎓ for NO, 0~50V ⎓
Alarm Output	2 relay output, programmable as NC or NO, 1A@125V ~, 1A@30V ⎓
LED Output	Event connector (Heartbeat, Recording and Alarm Status), 50mA@12V ⎓
Network Connectivity	10/100/1000 Mbps Ethernet (RJ-45)
Audio Input	2 Line In
Text Input	Accelerometer and other customized text data
GPS Input	GPS Interface
CAN I/O	1 CAN FD
STORAGE	
Primary Storage	SATA hard disk drive (Removable)
External Storage	eSATA hard disk drive
GENERAL	
Dimensions (W x H x D)	11.22" x 3.95" x 12.6" (285mm x 100.37mm x 320.2mm)
Unit Weight	11.05lbs. (5.01kg)
Operating Temperature	32°F to 122°F (0°C to 50°C) -22°F to 122°F (-30°C to 50°C) with heater
Operating Humidity	0% to 90%
Power	9 to 36 V ⎓
Heater Power	12V ⎓, 9A / 24V ⎓, 4.5A
Power Consumption	Max. 36A
Heater Power Consumption	Max. 110W
Approvals	CE, FCC, MIL-STD-810G (Shock&Vibration only)

Specifications are subject to change without notice.