

**SAMSUNG TECHWIN**

# **NETWORK VIDEO RECORDER**

User Manual

SRN-470D/1670D



**SAMSUNG**

**CE**

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# Network Video Recorder


## User Manual

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- ❖ **Design and specifications are subject to change without prior notice.**
- ❖ **The initial administrator ID is “admin” and the password should be set when logging in for the first time.**  
Set password for your wireless network if you use the product with a wireless router. Being not protected with password or using the default wireless router password may expose your video data to potential threat.  
Please change your password every three months to safely protect personal information and to prevent the damage of the information theft.  
Please, take note that it's a user's responsibility for the security and any other problems caused by mismanaging a password.



## IMPORTANT SAFETY INSTRUCTIONS

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Read these operating instructions carefully before using the unit.

Follow all the safety instructions listed below.

Keep these operating instructions handy for future reference.

- 1) Read these instructions.
- 2) Keep these instructions.
- 3) Heed all warnings.
- 4) Follow all instructions.
- 5) Do not use this apparatus near water.
- 6) Clean only with dry cloth.
- 7) Do not block any ventilation openings, Install in accordance with the manufacturer's instructions.
- 8) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- 9) Do not defeat the safety purpose of the polarized or grounding- type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. if the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- 10) Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- 11) Only use attachments/accessories specified by the manufacturer.
- 12) Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/ apparatus combination to avoid injury from tip-over.
- 13) Unplug this apparatus during lightning storms or when unused for long periods of time.
- 14) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.



## Standards Approvals

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- 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 the user will be required to correct the interference at his own expense.

# overview

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## BEFORE START

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This manual provides operational information necessary for using the product and contains a description about each component part and its function as well as menu or network settings.

You have to keep in mind the following notices :

- SAMSUNG retains the copyright on this manual.
- This manual cannot be copied without SAMSUNG's prior written approval.
- We are not liable for any or all losses to the product incurred by your use of non-standard product or violation of instructions mentioned in this manual.
- Prior to opening the case, please consult a qualified technician first. Whenever this is needed power must be removed from the unit.
- Before adding a hard disk drive or external storage (USB memory, USB HDD, etc), check if it is compliant with this product. For the compatibility list, contact the retailer.

## Warning

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### Battery

It is essential that when changing the battery in the unit, the replacement battery must be of the same type otherwise there may be a possibility of an explosion.

The following are the specifications of the battery you are using now.

- Normal voltage : 3V
- Normal capacity : 170mAh
- Continuous standard load : 0.2mA
- Operating temperature : -20°C ~ +85°C  
(-4°F ~ +185°F)

#### CALIFORNIA USA ONLY

This Perchlorate warning applies only to primary CR (Manganese Dioxide) Lithium coin cells in the product sold or distributed ONLY in California USA.  
"Perchlorate Material - special handling may apply,  
See [www.dtsc.ca.gov/hazardouswaste/perchlorate](http://www.dtsc.ca.gov/hazardouswaste/perchlorate)."

### Caution

- Connect the power cord into a grounded outlet.
- The Mains plug is used as a disconnect device and shall stay readily operable at any time.
- Batteries shall not be exposed to excessive heat such as sunshine, fire or the like.
- Risk of Explosion if Battery is replaced by an Incorrect Type. Dispose of Used Batteries According to the Instructions.

### System Shutdown

Turning off the power while the product is in operation, or undertaking improper actions may cause damage or malfunction to the hard drive or the product.

To safely cut off power, press the front Power button on the product to display the confirmation message.

Click <OK> and then unplug the power cable.

You may want to install a UPS system for safe operation in order to prevent damage caused by an unexpected power stoppage. (Any questions concerning UPS, consult your UPS retailer.)



- If powered off abnormally, restarting may take more time for restoring data from hard disk drive for proper operation.

## Operating Temperature

The guaranteed operating temperature range of this product is 0°C ~ 40°C (32°F ~ 104°F).

This product may not work properly if you run right after a long period of storage at a temperature below the guaranteed one.

Prior to using a device that has been stored for a long period in low temperatures, allow the product to stand at room temperature for a period.

Especially for the built-in HDD in the product, its guaranteed temperature range is 5°C ~ 55°C (41°F ~ 131°F).

Likewise, the hard drive may not work at a temperature below the guaranteed one.

## Ethernet Port

This equipment is in door use and all the communication wirings are limited to inside of the building.

## Security Precautions

The initial administrator ID is “**admin**” and the password should be set when logging in for the first time.

Set password for your wireless network if you use the product with a wireless router. Being not protected with password or using the default wireless router password may expose your video data to potential threat.

Please change your password every three months to safely protect personal information and to prevent the damage of the information theft.

Please, take note that it's a user's responsibility for the security and any other problems caused by mismanaging a password.

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# overview

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## FEATURES

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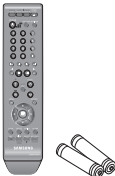


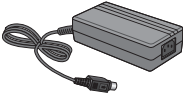
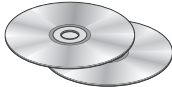
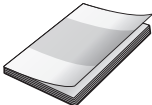
The product records video and audio from network cameras to a hard disk, and enables playback from the hard disk. It also provides remote monitoring environment for video and audio over the network using a remote computer.

- User-friendly UI
- VGA, 4CIF, record in a max of 2048x1536 (3M pixel) supported
- Record and play video
- Record and play audio
- Supports ONVIF standard and RTP / RTSP protocols
- Play high-definition video using the HDMI cable
- Display the HDD operation status by HDD SMART
- HDD overwrite enabled
- Mass-storage HDD supported using eSATA
- Backup using USB 2.0 protocols and external HDD
- Backup using the internal CD/DVD writer
- Simultaneous play of 4 channels
- Various Search Modes (Search by Time, Event and Backup)
- Various Recording Modes (Normal, Event, Scheduled Recording)
- Alarm Input / Output
- Remote Monitoring function by Windows Network Viewer
- Live monitoring of the network camera

## Package Contents

Please unwrap the product, and place the product on a flat place or in the place to be installed.  
Please check the following contents are included in addition to the main unit.

### SRN-470D

		
NVR	Remote Control / Remote Control Battery (AAA)	Mouse
		
Power Cable	Adaptor	Network Viewer Software / User Manual CD
		
User Manual or Quick Manual		

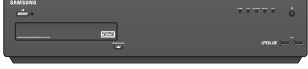



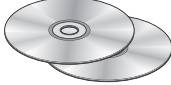
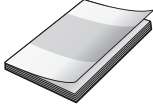
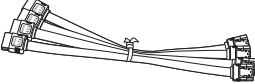


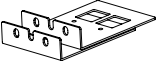
-  For a model with no built-in HDD, one SATA cable and 4 screws for fixing the HDD will be added by default.

### Power Adaptor

- Input : AC100~240V, 50/60Hz, 1.2A
- Output : DC12V - 4 A

# overview

## SRN-1670D

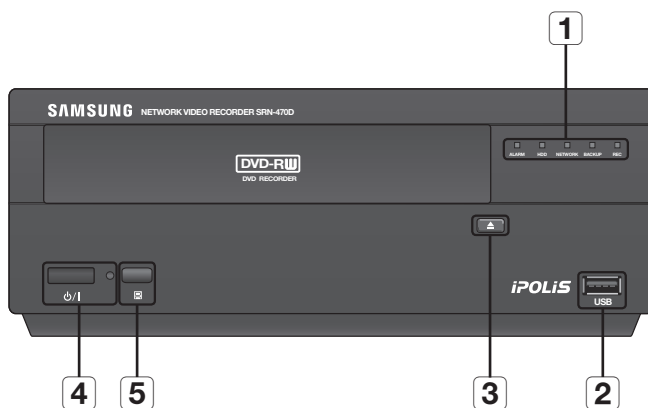
		
NVR	Remote Control / Remote Control Battery (AAA)	Mouse
		
Power Cable	Network Viewer Software / User Manual CD	User Manual or Quick Manual
		
SATA Cable	HDD Fixing Screw	Bracket Fixing Screw
		
Bracket Rack		



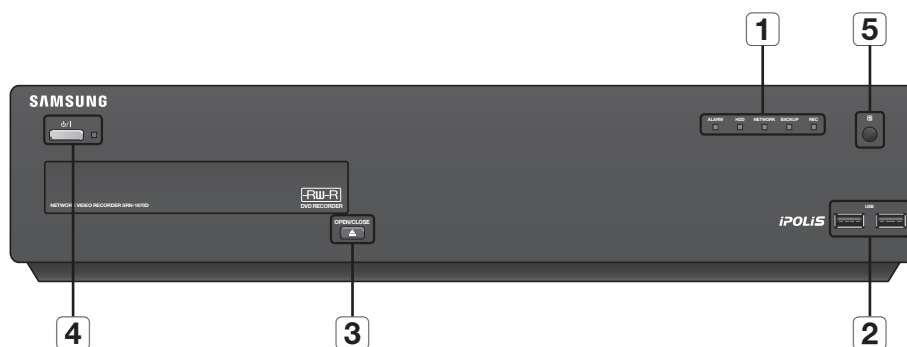
- For a model with no built-in HDD, one SATA cable and 3 screws for fixing the HDD will be added by default.

## PART NAMES AND FUNCTIONS (FRONT)

SRN-470D



SRN-1670D

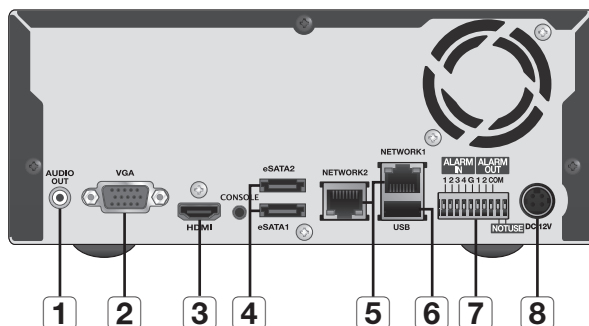


Part Names	Functions
<b>1</b> LED Indicator	<b>ALARM</b> : Lights on when an event occurs.
	<b>HDD</b> : Displays the normal access to HDD. LED turns on when accessing the hard disk.
	<b>NETWORK</b> : Displays both network connection and data transfer status.
	<b>BACKUP</b> : Displays when Backup is in progress.
	<b>REC</b> : Lights on when recording is in progress.
<b>2</b> USB	Connects the USB devices.
<b>3</b> OPEN/CLOSE	Used to open and close the DVD-RW disc tray.
<b>4</b> Power	<b>Power LED</b> : Displays the power ON/OFF status. <b>Power Button</b> : Used to turn the ON/OFF.
<b>5</b> Remote Reception System	Receive the signal from the remote control.

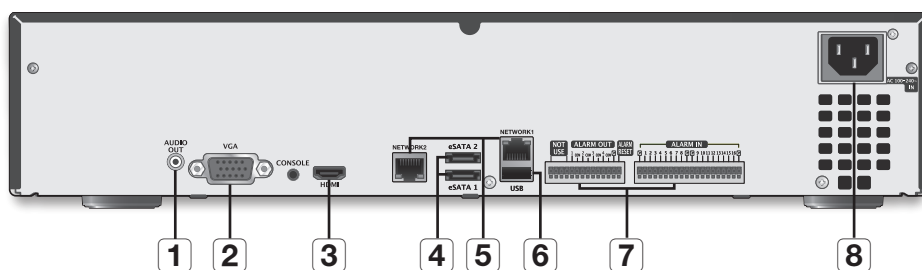
# overview

## PART NAMES AND FUNCTIONS (REAR)

### SRN-470D



### SRN-1670D

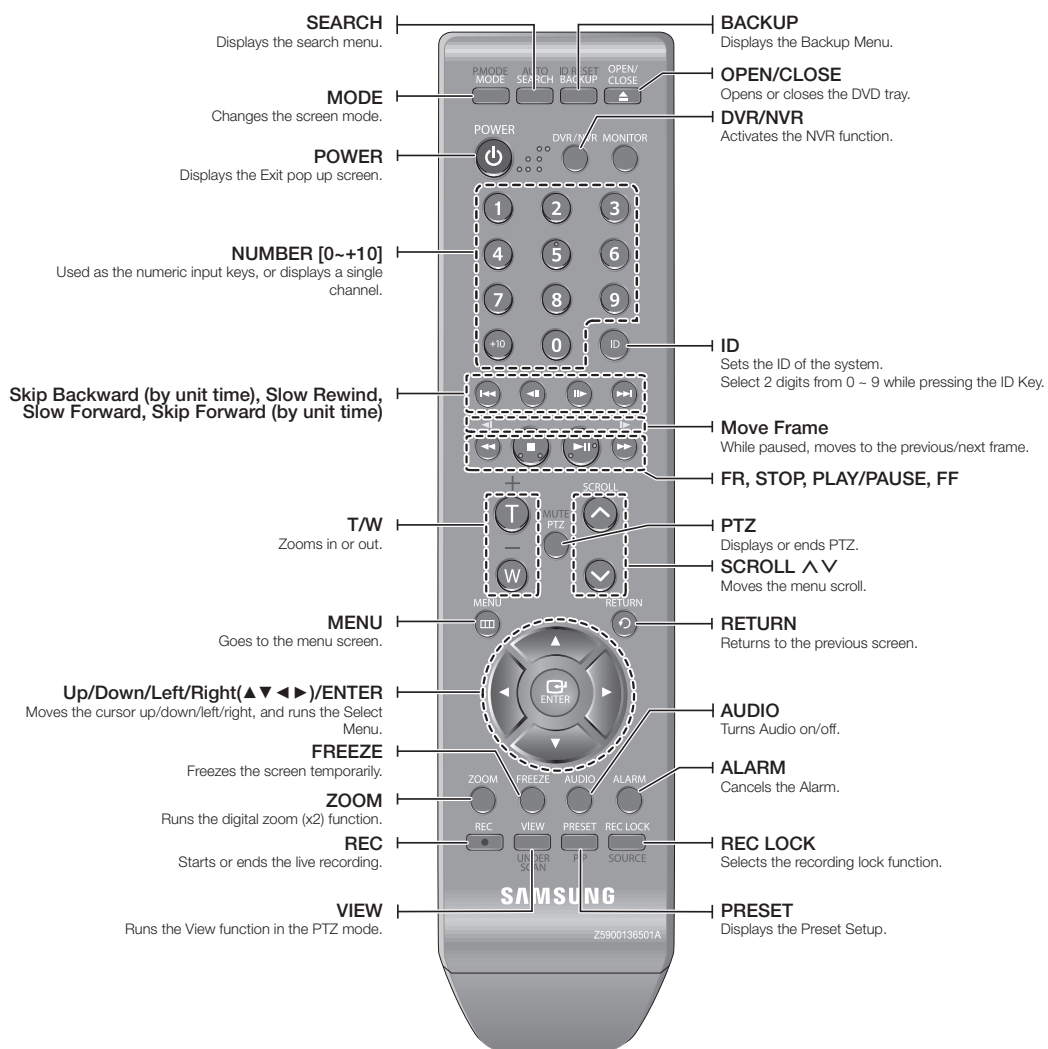


Part Names		Functions
1	AUDIO OUT	Audio Signal Output Port (RCA jack).
2	VGA	VGA Video Signal Output Port.
3	HDMI	HDMI connector port.
4	eSATA 1/2	Ports used for external storage device connections.
5	NETWORK 1/2	NETWORK connector port.
6	USB	USB connector port.
7	ALARM	<ul style="list-style-type: none"> <li>- ALARM IN : Alarm input ports. SRN-470D : 1~4 CH SRN-1670D : 1~16 CH</li> <li>- ALARM RESET : Alarm Reset port                             <ul style="list-style-type: none"> <li>▪ This is applicable only to SRN-1670D.</li> </ul> </li> <li>- ALARM OUT : Alarm output ports. SRN-470D : 1~2 CH SRN-1670D : 1~4 CH</li> </ul>
8	Power	Power connection port.

 [CONSOLE] is designed for the service repair purpose only.



# REMOTE CONTROL



## Using the numeric buttons

CHANNEL 10	Press the [+10] button first, then press the 0 button again within 3 seconds.
CHANNEL 11-16	Press the [+10] button first, then press any number between 1 to 6 within 3 seconds.

## Changing the Remote Control ID

1. Press the [ID] button of the remote control and check the ID displayed on the NVR screen. The factory default ID of the remote control is 00.
2. Press desired 2-digit code while holding the [ID] button of the remote control.
3. Once entered, press the [ID] button of the remote control to verify your input.



- When changing remote control ID to 08: Press [0] and [8] in sequence while holding the [ID] button of the remote control. Remote control's ID and NVR's ID should be matched for proper operation. Refer to "Remote Devices". (Page 63)

# installation

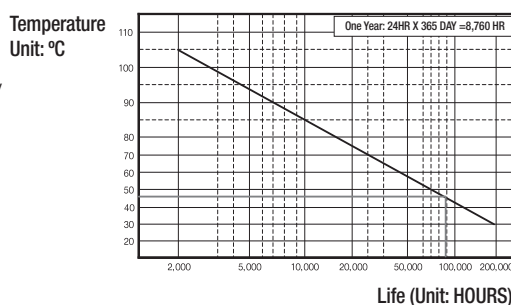
Please take note of the followings before using this product.

- Do not use the product outdoor.
- Do not spill water or liquid in the connection part of the product.
- Do not impose the system to excessive shock or force.
- Do not pull out the power plug forcefully.
- Do not disassemble the product on your own.
- Do not exceed the rated input/output range.
- Use a certified power cord only.
- For the product with an input ground, use a grounded power plug.

## CHECKING THE INSTALLATION ENVIRONMENT

This product is a top-notch security device that is equipped with a high-capacity HDD and other key circuit boards.

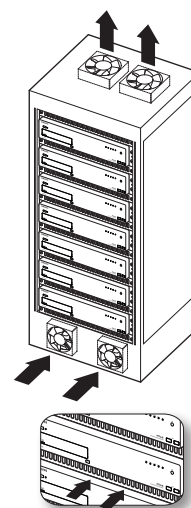
Note that an excessive internal temperature of the product may cause a system failure or a shortened product life (see the right figure). Keep in mind the following instructions before installing the product.



[Figure 1]

When mounting the product on a rack, comply with the following instructions.

1. Please ensure that the rack inside is not sealed.
2. Please ensure the air is circulated through the inlet/outlet as shown in the picture.
3. If you pile up the products or other rack-mount devices as shown in figure 2, secure room for ventilation or install a vent.
4. For natural air convection, place the inlet at the bottom of the rack and the outlet on top.
5. It is strongly recommended that a fan motor is installed at the inlet and the outlet for air circulation. (Please fit a filter at the inlet to screen dust or foreign substances.)
6. Please maintain the temperature inside the rack or surrounding areas between 0°C ~ 40°C (32°F ~ 104°F) as shown in the figure 1.



[Figure 2]

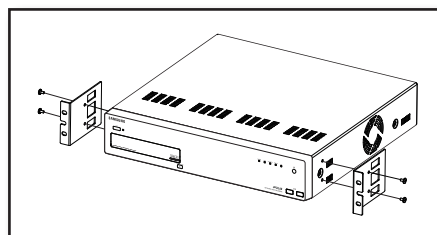
Rack Mount Instructions - The following or similar rack-mount instructions are included with the installation instructions :

- A) Elevated Operating Ambient - If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consideration should be given to installing the equipment in an environment compatible with the maximum ambient temperature (T<sub>ma</sub>) specified by the manufacturer.
- B) Reduced Air Flow - Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised.
- C) Mechanical Loading - Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.
- D) Circuit Overloading - Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on overcurrent protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.
- E) Reliable Earthing - Reliable earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (e.g. use of power strips).

## RACK INSTALLATION

Install the Bracket-Rack as shown in the figure, and then fasten the screws on both sides (2 screws on each side).

- Fix the screws not to be loosened by vibrations.



## HDD ADDITION

Make sure to unplug the power cord from the wall outlet to prevent possible electric shock, injury or product damage. Please consult your provider for further information on HDD installation since improper installation or settings may damage the product.

- Number of HDDs supported : SRN-470D : Up to 1  
SRN-1670D : Up to 5 HDDs supported
- Make sure to unplug the power cord from the wall outlet before proceeding with the installation.
- HDD-equipped model is installed with one HDD when shipped.



### ▪ Cautions for data loss (HDD care)

Please pay attention so that the data inside the HDD is not damaged. Before adding a HDD, please check the compatibility with this product. HDD is vulnerable to malfunction due to its sensitive nature especially against shock when operating. Please ensure that the HDD is free from such shock. We are not liable for any damage to the HDD incurred by user's carelessness or miss use.

### ▪ Cases might cause damage to HDD or recorded data

To minimize the risk of data loss from a damaged HDD, please backup data as often as possible. If exposed to shock when disassembling or installing, data stored in the hard disk may be damaged. A sudden power failure or turning off the product while in HDD operation may damage the hard disk drive. HDD or files stored inside may be damaged if the main body is moved or impacted during the HDD operation.

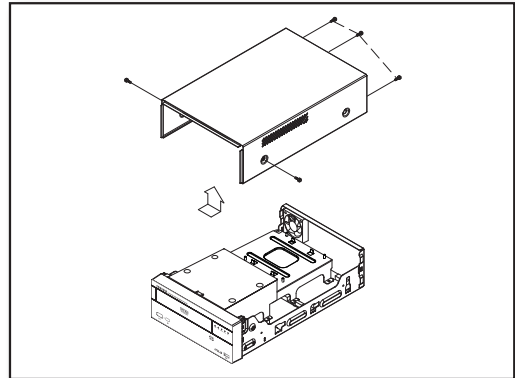
## Cautions when installing a HDD

1. When adding a HDD, ensure that the cable does not get caught or the insulation does not come off.
2. Pay attention so as not to lose the disassembly screws or accessories.
  - If the screws or accessories are not put together correctly, the product may breakdown or not operate properly.
3. Please check the HDD compatibility before adding a HDD.
  - Please contact your nearest dealer to obtain the list of compatible devices.

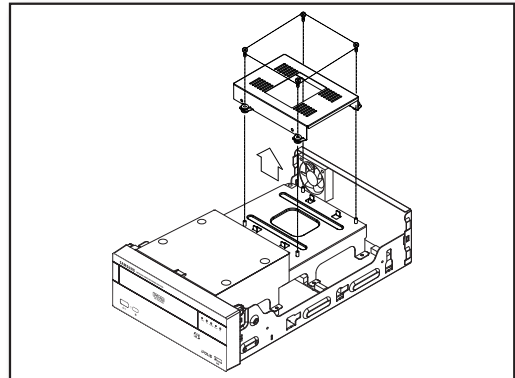
# installation

## If installing HDD to SRN-470D

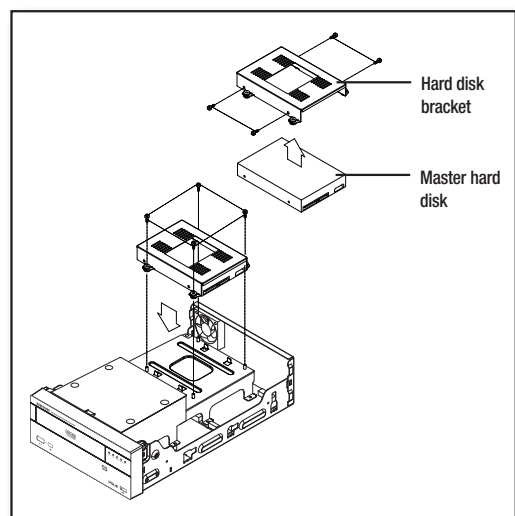
1. First, loosen the screws on both sides and remove the cover.



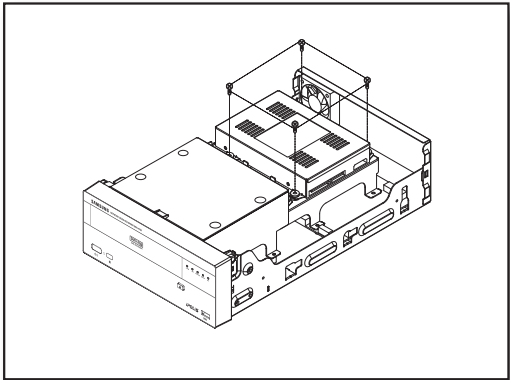
2. Loosen the left and right screws on the lower hard disk bracket to remove it.



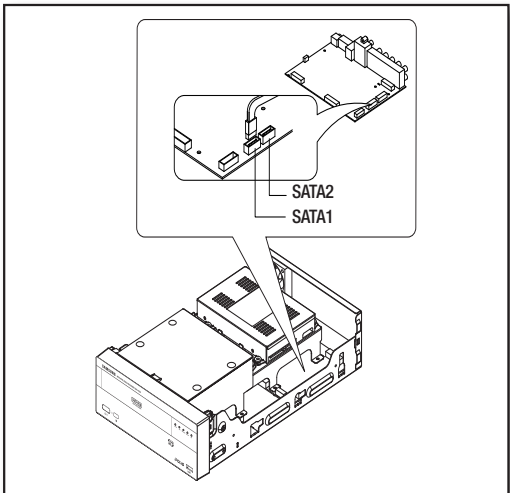
3. Insert the additional hard disk into the bracket and fix it using the provided screws.



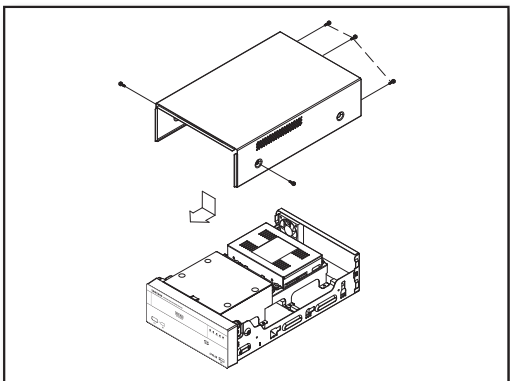
- 4. Insert the bracket where the additional hard disk is inserted into the lower bracket and fix it using the provided screws.



- 5. When done, connect the power cable and connect the signal cable (SATA cable) to the connector for the main board.



- 6. Check if the connectors are properly connected and there is no problem with wiring, and close the cover and fix it with screws.

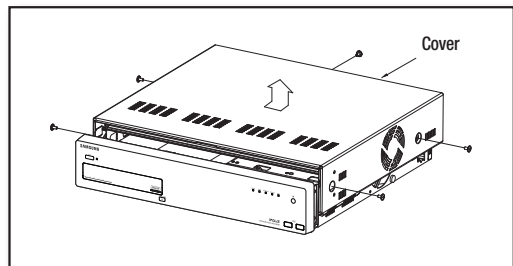




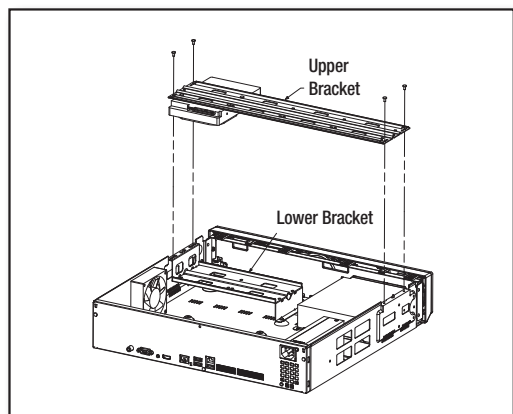
# installation

## If installing HDDs to SRN-1670D

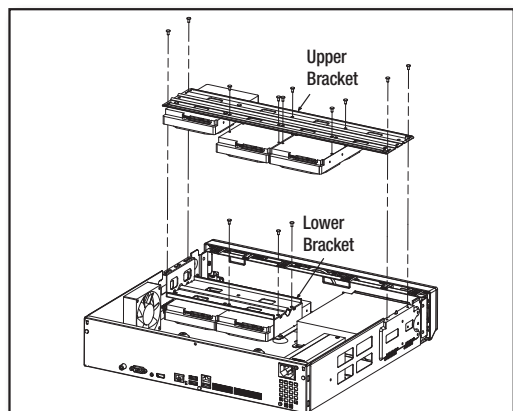
1. First, loosen the screws on both sides and remove the cover.



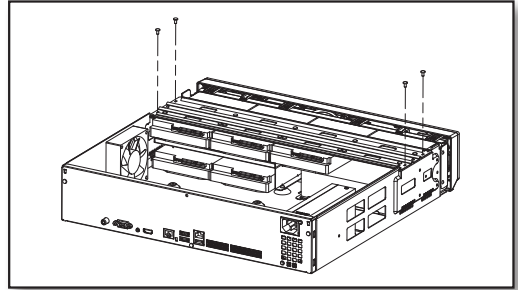
2. Loosen the screws (x4) in the left/right and upper sides and remove the upper brackets.



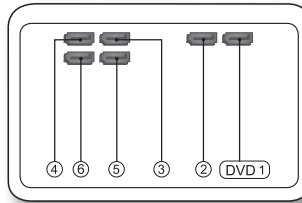
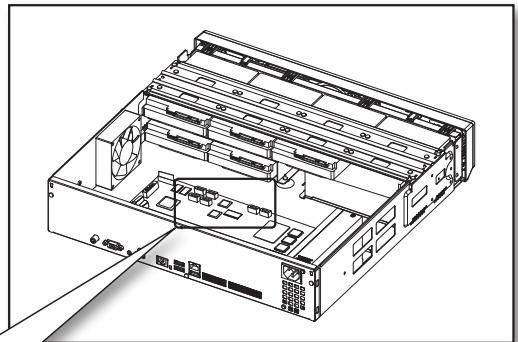
3. Install HDDs (x2) on the lower bracket and fix them with screws.
4. Install HDDs (x3) on the upper bracket and fix them with screws.



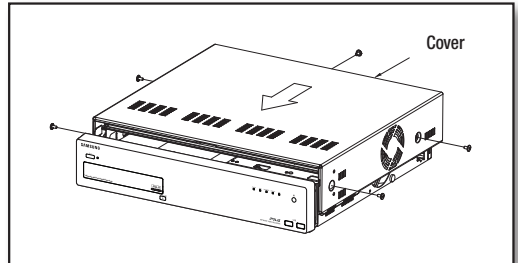
5. When the installation of additional HDDs is done, insert the lower and upper brackets into the NVR and fix them with the provided screws.



6. When adding a HDD is completed, plug the power cable and connect the SATA cable (for transferring the HDD signal) to the connector (DVD1) ~ ⑥ of the main board.
  - Note that the order the HDD data cable is connected will not affect the operation. The only consideration is the length of each cable.



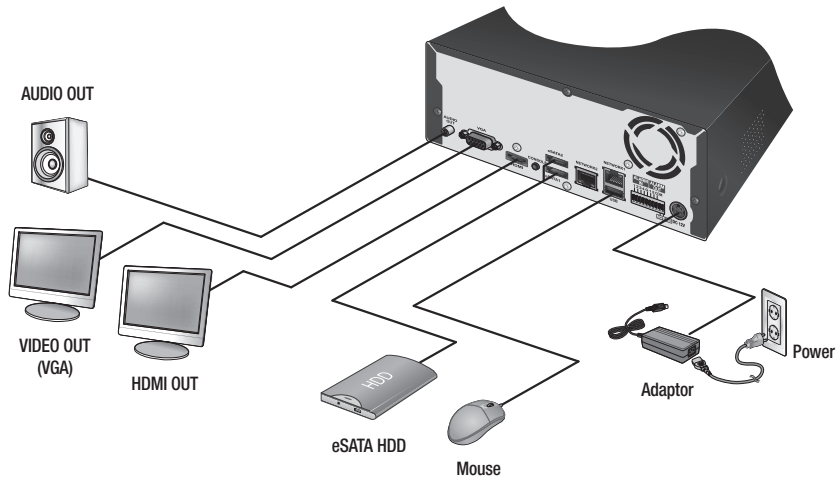
7. Check if the connectors are properly connected and there is no problem with wiring, and close the cover and fix it with screws.



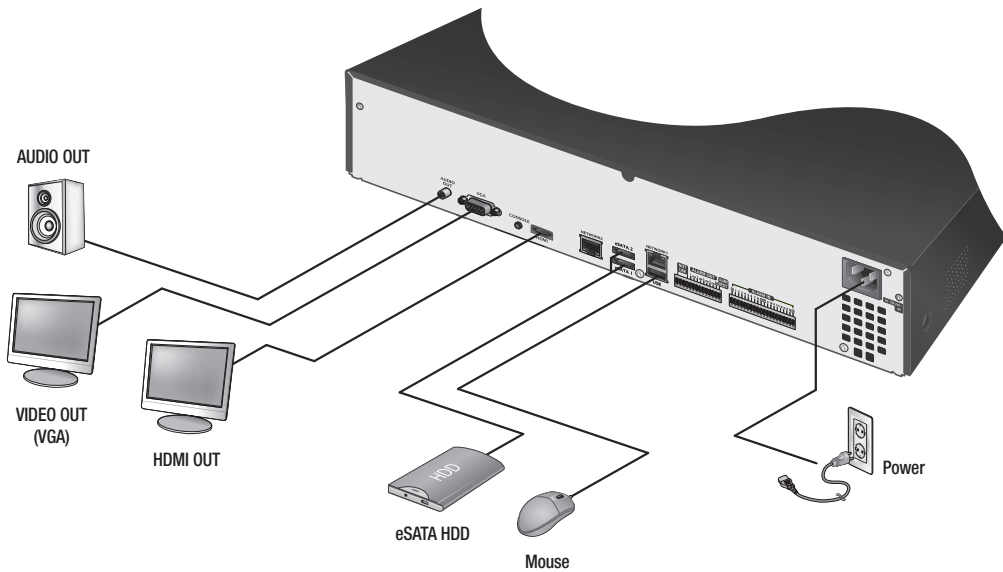
# connecting with other device

## CONNECTING TO AN EXTERNAL DEVICE

### SRN-470D



### SRN-1670D



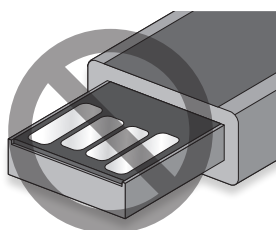
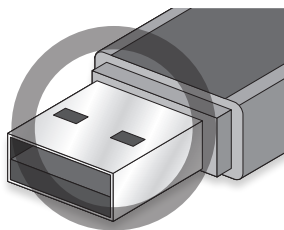
- ! Unrated or improper power source may cause damage to the system. Ensure that you use only the rated power source before pressing the POWER button.

## CONNECTING THE USB

1. By factory default, a USB port is provided for external connection.
2. You can connect a USB HDD, USB CD/DVD player, USB memory or mouse to the USB port.
3. If a USB HDD is connected to the system, recognition and settings are available in "**Menu Setup > Device > Storage Device**". (Page 61)
4. The product supports hot plugging function that enables connecting/disconnecting USB devices while in operating the system.



- If you use the USB device for Backup purposes, format it with FAT32 on PC if it is not formatted on the NVR.
- Some USB devices may fail to function properly due to compatibility issue, please check the device before using.
- Only USB storage devices that comply with the standards (having a metal cover) are guaranteed for data transfer.
- In case if the USB device's electric contacts have been worn out, data transfer between the devices may not properly function.



## CONNECTING EXTERNAL eSATA HDD

1. Two external eSATA ports are provided on the rear panel by factory default.
2. If connected to the system, the external eSATA HDD can be recognized and configured in "**Menu Setup > Device > Storage Device**".



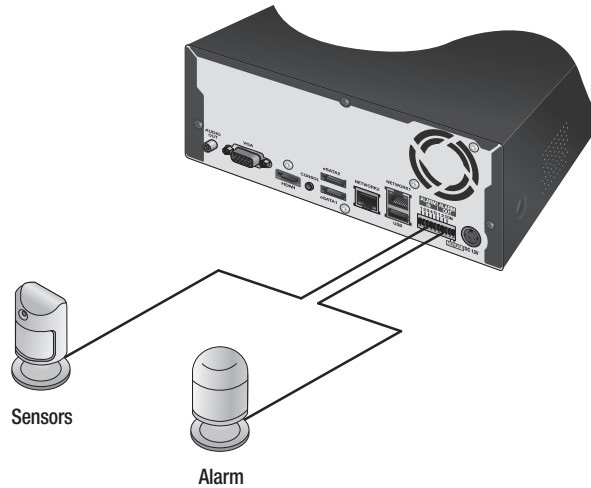
- Only one eSATA HDD can be connected to an external eSATA port.
- Use a cable shorter than 1 m for the external eSATA HDD connections.
- The power for an external eSATA storage will be supplied separately.
- Unexpected disconnection to a device in use which is connected via eSATA may restart the system. Check whether the device is in use before disconnecting it.

# connecting with other device

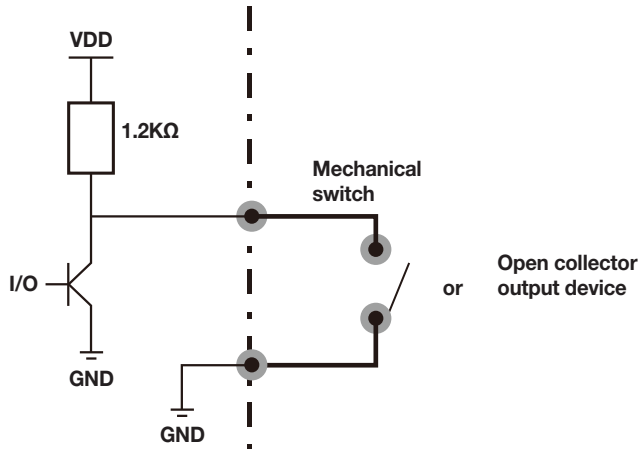
## CONNECTING THE ALARM INPUT/OUTPUT

The Alarm In/Out port at the back is composed of the following.

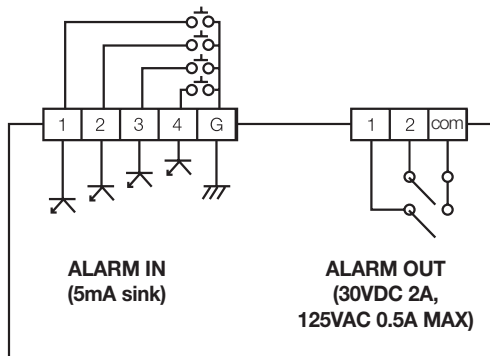
SRN-470D



- ALARM IN 1 ~ 4 : Alarm Input Port

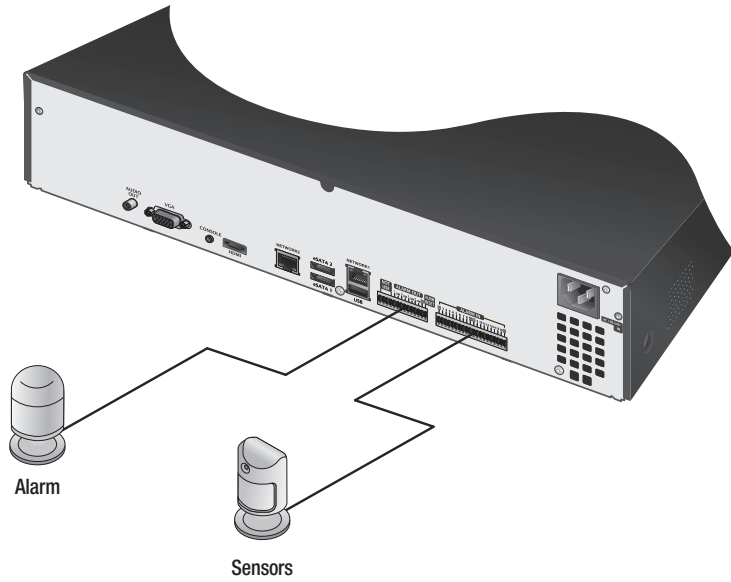


- ALARM OUT 1 ~ 2 : Alarm Output Port

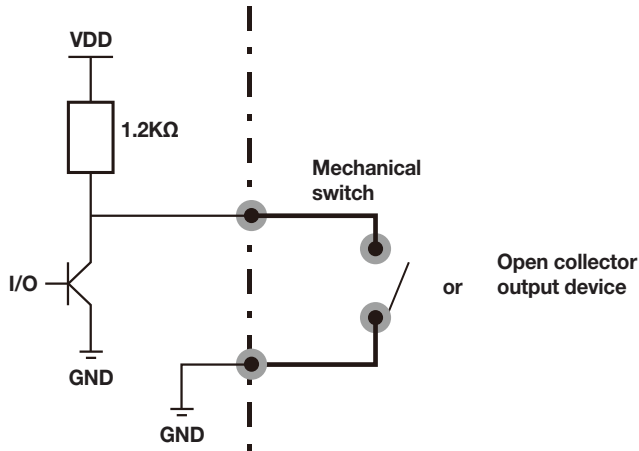




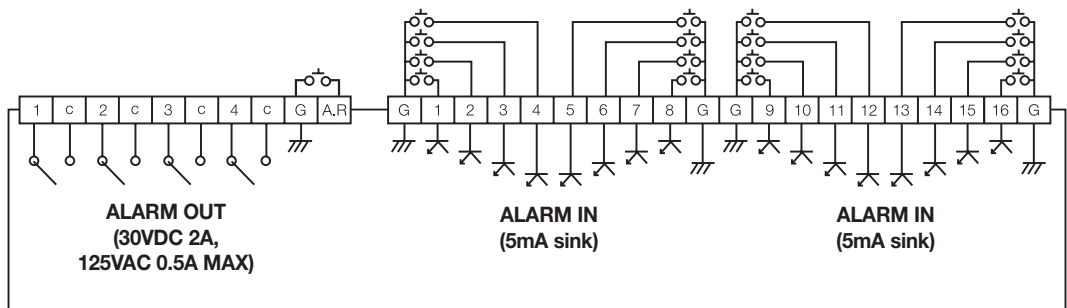
# SRN-1670D



- ALARM IN 1 ~ 16 : Alarm Input Port



- ALARM RESET : On receiving an Alarm Reset signal, the system cancels the current Alarm Input and resumes sensing.
- ALARM OUT 1 ~ 4 : Alarm Output Port



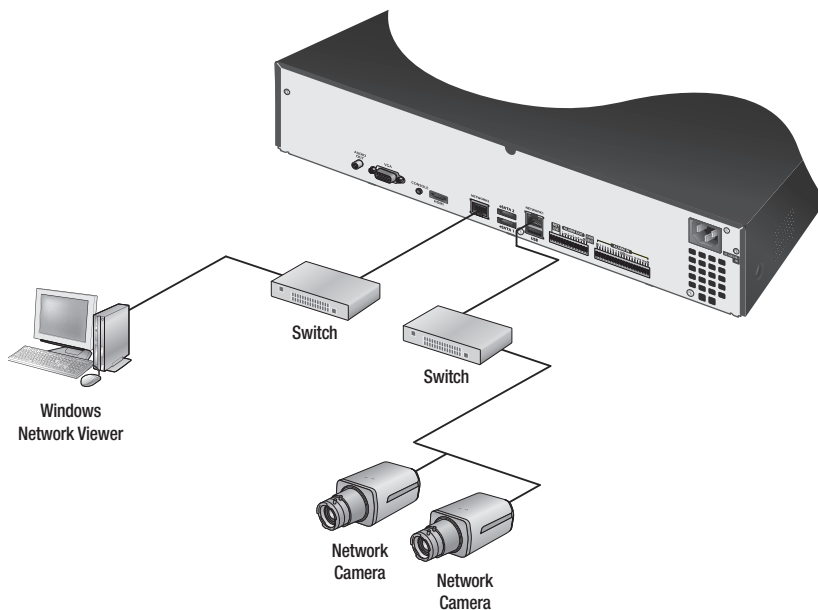
# connecting with other device

## CONNECTING THE NETWORK

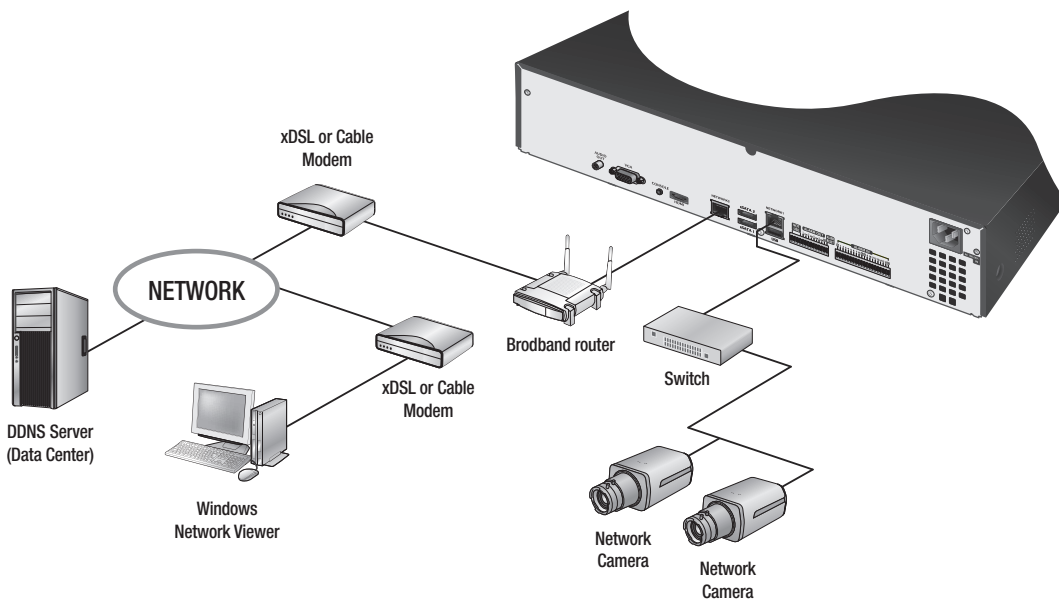


▪ For more information about network connection, refer to "Network Configuration". (Page 74)

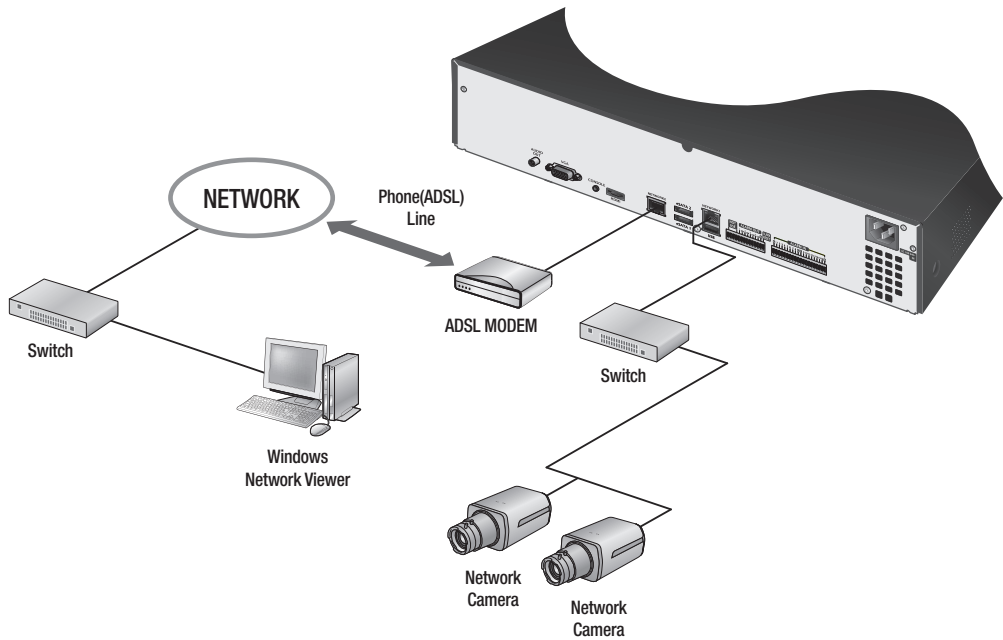
### Network connection via Ethernet (10/100/1000BaseT)



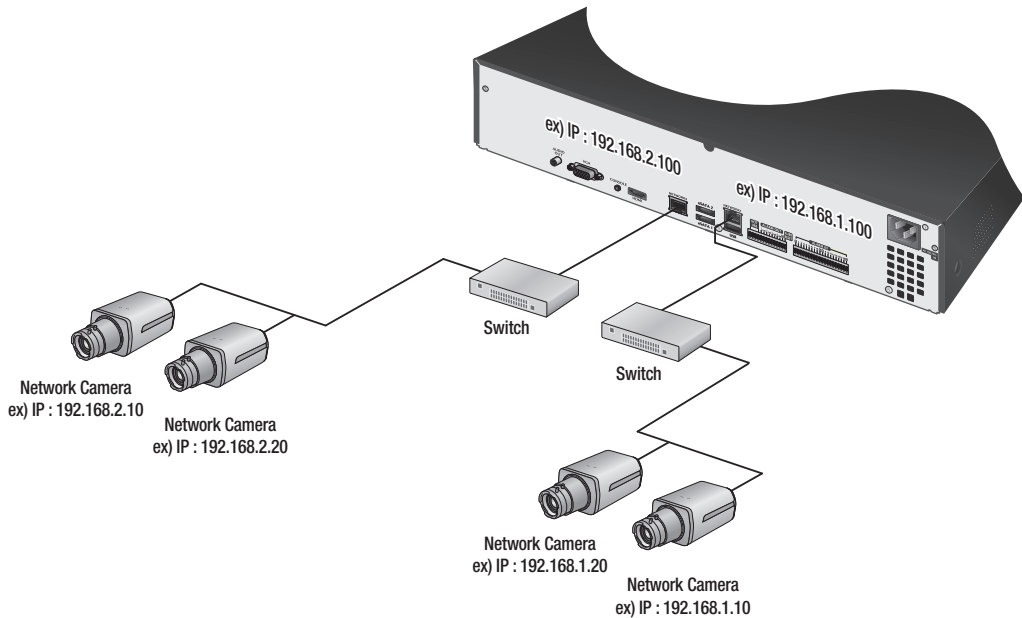
### Network connection via router



## Connecting to Internet through ADSL



## Connecting the network camera



- You can connect the camera or network viewer to either [NETWORK1] or [NETWORK2] to your preference.

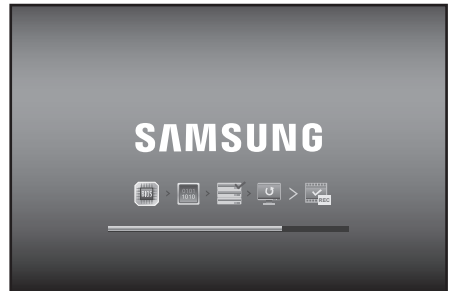
## GETTING STARTED

### Starting the system

1. Connect the power cable of the NVR to the wall outlet.
2. Press the Power button on the front panel.



3. You will see the initialization screen.  
The initialization process will last about 2 minute.  
If a new HDD is installed, the initialization process may take longer.



4. The live screen appears with a beep.



### Shutting Down the System

1. Press [POWER] on the remote control, or select <Shutdown> from the Live screen menu.
2. The "Shutdown" confirmation window appears.
3. Use the direction buttons on the remote control to move to <OK> and press [ENTER] or just click <OK>. The system will shut down.



- Only the user with the "shutdown" permission can shut down the system.

- For the permission management, refer to "Permission Management > Setting Permissions". (Page 48)



## Login

If you want to access a specific NVR menu or restricted menu, you must obtain the applicable permissions to do so.

1. In Live mode, right-click any area, or press **[MENU]** on the remote control.  
You will see the context menu on the screen as shown.



2. Select **<Login>**.  
The login dialog appears.

- The Login dialog will appear if you press any of the login-related menu buttons on the remote control.



- The initial administrator ID is "**admin**" and the password should be set when logging in for the first time.
- ID allows alphanumeric characters only.
- Password allows only alphanumeric letters and special characters other than **<\>** and **<">**.
- Set password for your wireless network if you use the product with a wireless router. Being not protected with password or using the default wireless router password may expose your video data to potential threat.
- Please change your password every three months to safely protect personal information and to prevent the damage of the information theft.  
Please, take note that it's a user's responsibility for the security and any other problems caused by mismanaging a password.



- For the restricted permission, refer to "**Permission Management > Setting Permissions**". (Page 48)

## Locking All Buttons

You may choose to lock the entire buttons on the remote control or front panel to restrict access to the menus, or unlock the entire buttons.

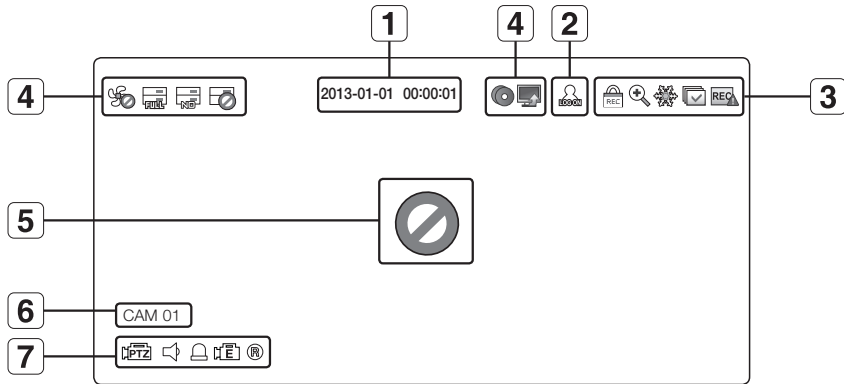
1. In Live mode, press buttons in the order of **[STOP (■)] → [FREEZE] → [STOP (■)] → [FREEZE] → [MENU]**.  
All buttons will be locked.
2. In the lock condition, press any button to display a dialog where you are prompted to enter the password for unlocking the buttons.  
The button lock will be released if you enter the admin password.






















## LIVE SCREEN CONFIGURATION

### Icons on the Live Screen





You can check the status or operation of the NVR with the icons on the live screen.



Name		Description
1	Current Date, Time	Displays the current time and date.
2	Login Information	When you are logged in, the "LOG ON" icon will be displayed.
3	Screen Mode	 Displayed if the zoom function is activated.
		 Displayed if you press the Pause button.
		 Displayed in Auto Sequence mode where all channels are switched at the specific time interval.
		 This icon is displayed if a user with restricted access to the Record button tries to make manual recording <ul style="list-style-type: none"> <li>Only the user with the applicable permission can release (stop) the recording.</li> </ul>
		 This is displayed if some channels will be recorded only on key frames because the entire recording data size is over 64 Mbps. (Page 67)
4	System Operation	 Displayed if there is a problem with the cooling fan.
		 Displayed if the HDD is full and the NVR has an insufficient space to record.
		 Displayed if no HDD is installed or the existing HDD should be replaced.
		 Displayed if the HDD needs a technical examination.
		 Displayed if a new firmware is found from the network.
		 Displayed if backup is in progressing in Live mode.

Name		Description	
5	Video Input Status		Displayed if no input is entered in the condition that the camera is set to <ON>.
			Displayed if no permission to live view is granted.
			If the camera is set to <OFF> or <Covert2>, nothing will be displayed on the screen. If the camera is set to <Covert1>, the video will be displayed but the OSD menus will not be displayed.
			SRN-1670D : In 16/9-split Live mode, if the camera video is created in a high definition, no video will be displayed but this icon. SRN-470D : If the resolution of a camera video exceeds 1600x1200, the channel of the video source will be shown as HD. <ul style="list-style-type: none"> <li>For a proper video playback, the connected camera should support a low resolution profile as well. For this, you should add a low resolution profile, which you can perform in the setup page of the connected camera.</li> </ul>
6	Camera Title / Channel	Display the camera title and channel number.	
7	Camera Operation		This icon is displayed for a channel that a PTZ-featuring camera is connected to.
			Displays AUDIO ON/MUTE. Not displayed in video mode if deactivated.
			If the sensor is set to <ON>, the input signal will be displayed on the screen of the connected channel.
			Set the camera event to <ON>, and a camera event will be displayed when occurred.
			Displays the current record mode from Record/Event/Schedule.

## Error Information

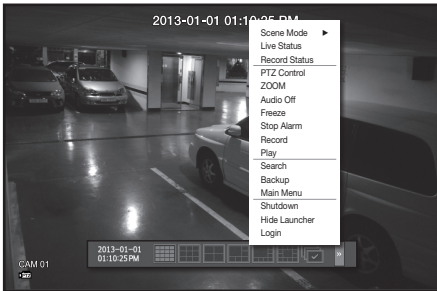
- If the internal HDD is not connected, the "NO HDD"() message will appear; if there occurs a problem, you will see the "HDD FAIL"() message in the top left corner. In this case, make sure you contact the service center for assistance as this may cause a failure of recording, playback or backup.
  - If the cooling fan does not work properly or has a problem, the <Fan Information> window will appear and the fan error icon () will be displayed on the top left corner.  
In this case, check to see if the internal fan works.  
As a fan error can shorten the product life, make sure you contact the service center for assistance.
-  ■ If you see the fan error icon or NO HDD, HDD FAIL icons on the screen, contact the service center for more details.

## Live Screen Menu

Besides the function buttons on the remote control, right-click any area in the Live screen, or press **[MENU]** on the remote control to display the context menu where you can access a desired menu item.

The context menu differs depending on the state of Log in/out, split mode, and NVR operation status.

- 
 Depending on the user permissions, you may have limited access to menu items of Live View, Backup, Stop Recording, Search, PTZ, Remote Alarm Output, and Exit.



< Single Mode Menu >

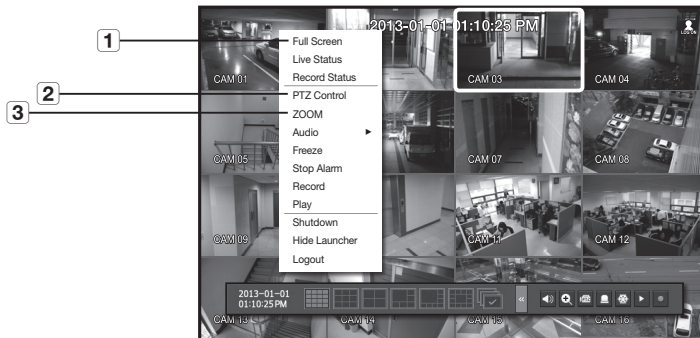


< Split Mode Menu >

## Single Mode Menu

The single mode menu is available only in Single Mode.

The context sensitive menu for the One Channel mode, in Split mode is different from that of the Single mode.



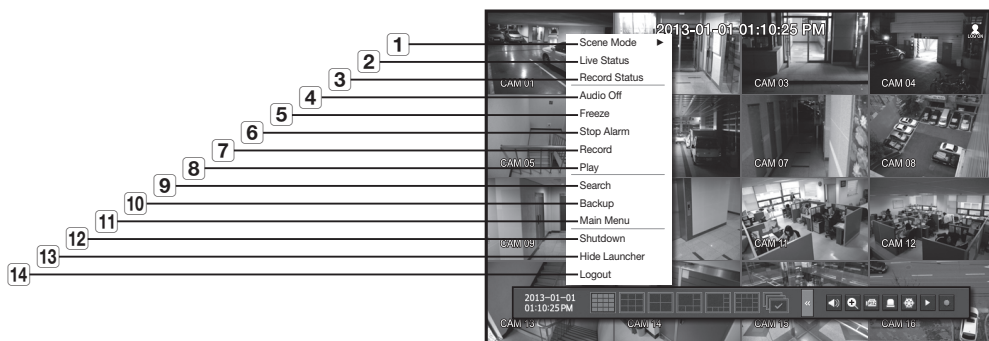
Menu		Description
<b>1</b>	<b>Full Screen</b>	Select and click a desired channel in Split mode to switch to the full screen of the selected channel.
<b>2</b>	<b>PTZ Control</b>	Accesses the PTZ Control menu. The PTZ menu will be active on the Live screen after you select a single channel. (Page 40)
<b>3</b>	<b>ZOOM</b>	You can enlarge the selected screen. (Page 37)



## Split Mode Menu

In Live split mode, right-click to display this context menu as shown.

The context sensitive menu in split mode differs, depending on the login/logout status.



Menu	Description
<b>1</b> Screen Mode	Select a screen mode for the Live screen. Refer to " <b>Live screen mode</b> ". (Page 33)
<b>2</b> Live Status	Shows the live status of connected camera to each channel. Refer to " <b>Live Status</b> ". (Page 36)
<b>3</b> Record Status	Shows the record status of each channel. Refer to " <b>Record Status</b> ". (Page 36)
<b>4</b> Audio On/Off	Turns ON/MUTE the sound of the selected channel. Refer to " <b>Audio ON/OFF</b> ". (Page 38)
<b>5</b> Freeze	Stop playing the video temporarily. Refer to " <b>Freeze</b> ". (Page 38)
<b>6</b> Stop Alarm	Stop the alarm output, deactivate the event icon and release the auto sequencing. Refer to " <b>Event Monitoring</b> ". (Page 39)
<b>7</b> Record/Stop	Starts/stops the standard recording.
<b>8</b> Play	Refer to " <b>Search &amp; Play &gt; Play</b> ". (Page 88)
<b>9</b> Search	Refer to " <b>Search &amp; Play &gt; Search</b> ". (Page 85)
<b>10</b> Backup	Refer to " <b>Menu Setup &gt; Backup</b> ". (Page 72)
<b>11</b> Main Menu	Access the main menu. Refer to Menu Setup. (Page 43)
<b>12</b> Shutdown	The system shutdown dialog will appear.
<b>13</b> Show/Hide Launcher	Shows or hides the launcher. Refer to " <b>View the Launcher Menu</b> ". (Page 32)
<b>14</b> Login/Logout	You can log in or out.

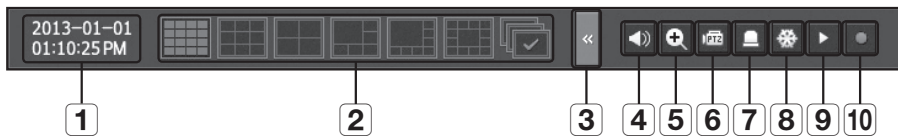
## View the Launcher Menu

The Launcher menu appears on the bottom of the live screen.

1. Select **<Show Launcher>** in the context menu of the Live screen.
2. Move the cursor to the bottom and click a desired item in the Launcher menu.




- If no input is entered for 10 seconds, the menu will disappear.
- The Launcher menu can be accessed only by using the mouse.
- SRN-470D supports only: Single mode, 4-split mode, and Auto Sequence.



Menu	Description
1 Date/Time	Displays the current time and date. The indication of AM/PM is displayed if you set 12 hours for the time format in "System > Date/Time/Language > Time". (Page 43)
2 Screen Mode	Displays a list of split modes available in a bar type. The current screen mode will be displayed grey.
3 Menu Expansion Button	Click to display the hidden menu to the right.
4 Audio	Turns ON/OFF the sound of the selected channel.
5 Zoom	Enlarges the selected area. This is available only in Single Live mode.
6 PTZ	If the network camera connected to the selected channel supports the PTZ operations, this will run the PTZ control launcher. This is active only in Live single mode.
7 Alarm	Stops the alarm if it's activated.
8 Freeze	Freezes the Live screen temporarily.
9 Play	Enters Play mode if a file to play exist, and if not, enters Search mode.
10 Record	Start/End recording the Live screen.

## LIVE SCREEN MODE

You can play up to 16 live video channels in single, 6-split, or auto sequence mode.

- 
  - SRN-470D supports only: Single mode, 4-split mode, and Auto Sequence.
  - NVR Live will request the closest camera profile to each channel size.  
Take an example of the 16-split screen mode on the 1280x1024 monitor. Each channel size will be 320x256. If the profile of the connected camera supports three resolutions of 1920x1080, 1280x1024 and 720x480, the NVR will request the closest profile to 720x480.

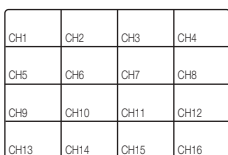
### Video resolution available

To change the split mode, select a split mode in the launcher menu, or select one in the context menu of the Live screen.

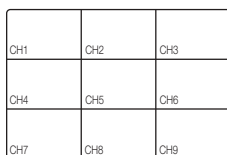
Press the **[MODE]** button on the remote control to switch the screen mode in the order suggested in the launcher menu.

NVR will show the possible resolutions in each available split mode.

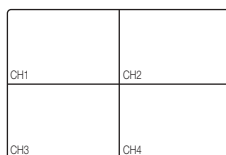
#### SRN-1670D



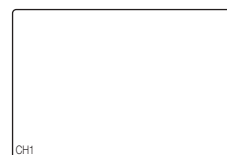
**16-split mode**  
960x600



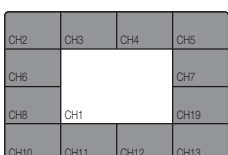
**9-split mode**  
1280x1024



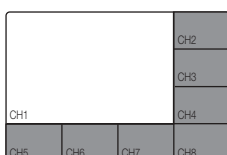
**4-split mode**  
2048x1536



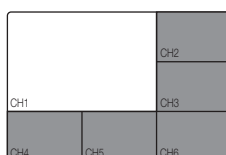
**Single mode**  
2048x1536



**13-split mode**  
 : 2048x1536  
 : 960x600



**8-split mode**  
 : 2048x1536  
 : 1280x1224

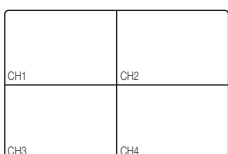


**6-split mode**  
 : 2048x1536  
 : 1920x1080

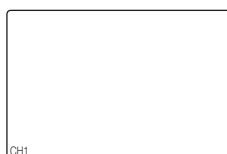


**Auto Sequence**

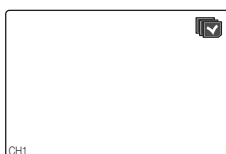
#### SRN-470D




**4-split mode**  
1600x1200



**1-split mode**  
2048x1536



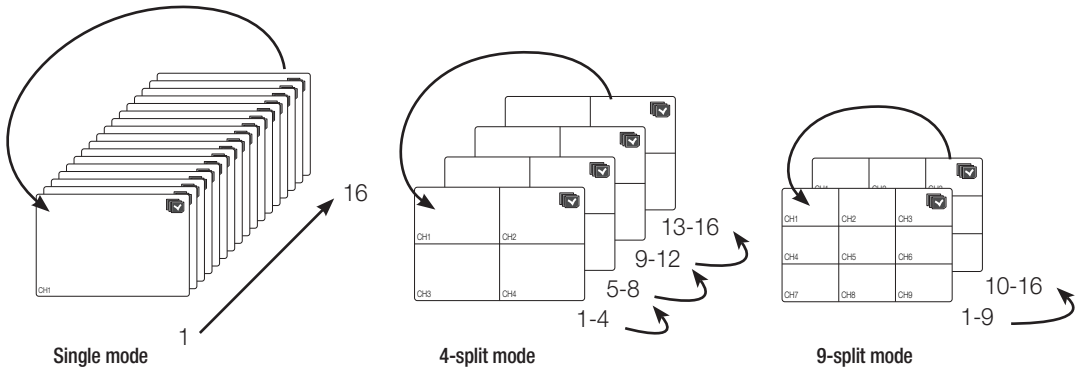
**Auto Sequence**


- 
  - If any one of the videos exceeds the allowable resolution, the **HD** mark will appear on the screen.
  - NVR can play multi-channel videos properly only if the videos in proper resolutions are saved in advance.

## Switching the split mode

You can also play 16 Live channels in the sequence of: Single, 4-split and 9-split mode.

### Auto Sequence

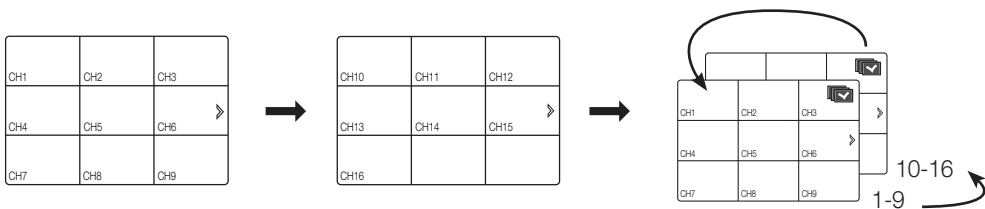


- 
  - In Single mode, If you have set <Dwell Time> in "Setting the Device > Camera", Auto Sequence will be conducted at the set interval. (Page 60)
  - In a split mode, If you have set <Multi CH SEQ Time> in "Setting the Device > Monitor", Auto Sequence will be conducted at the set interval. (Page 64)
  - When you switch the channel, the video may be delayed depending on the network condition.

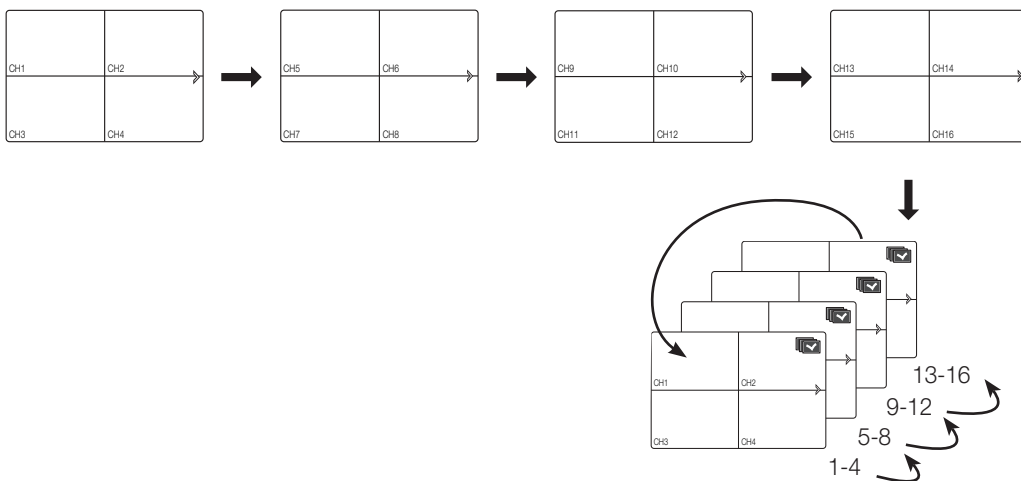
### Manual Switching

Press the left/right button on the remote control, or click the arrow <◀/▶> key to move to the next split mode.

- If pressing the right [▶] button in 9-split mode :  
9-split (CH 1~9) mode → 9-split (CH 10~16) mode → Auto Sequence



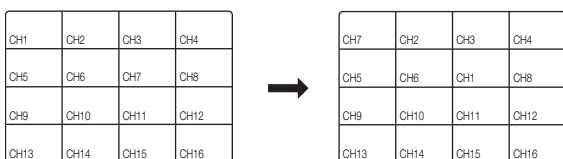
- If pressing the right [▶] button in 4-split mode :  
 Channel (CH 1~4) → Channel (CH 5~8) → Channel (CH 9~12) → Channel (CH 13~16) → Auto Sequence



## Channel Setting

You can display the channel in a desired area of a split screen.

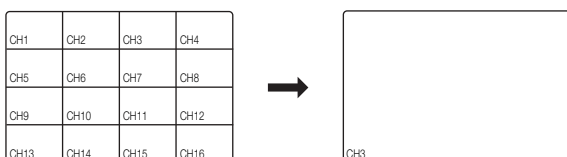
1. Place the cursor over the camera name of each channel to display the <▼> key to the right on the screen.
2. Click a camera name to display a channel list where you can select a different channel.
3. Select a desired channel and click it.  
 The current channel will be switched to the selected one.  
 Use the cursor to select a channel to move, and drag and drop it to a desired channel; this can also change the channel position.
  - Ex : if switching CH 1 to CH 7



## Switching to Single Mode

When in split mode, select and double-click a desired channel to switch to its Single mode.  
 Press the number corresponding to a desired channel on the remote control to switch to its Single mode.  
 Refer to "**Remote Control > Using the numeric buttons**". (Page 13)

- Ex : If double-clicking CH 3 or pressing the number "3" on the remote control.



## Live Status

Select <Live Status> from the live screen menu to display status and transfer information of connected camera to each channel.

CH	Model	Status	IP	Codec	Resolution	Send Rate	Quality
1	SNV-5010	Connected	192.168.0.107	MPEG	320X240	3fps	10
2	--	--	--	--	--	--	--
3	--	--	--	--	--	--	--
4	--	--	--	--	--	--	--
5	--	--	--	--	--	--	--
6	--	--	--	--	--	--	--
7	--	--	--	--	--	--	--
8	--	--	--	--	--	--	--
9	--	--	--	--	--	--	--
10	--	--	--	--	--	--	--

## Record Status

Select <Record Status> from the live screen menu to display camera profile, input/recording frame rates, input/limit/recording bps of each channel.

CH	Profile	record type	Frame (fps)		Data (bps)			Input/Limit	
			Input	Record	Limit	Input	Record		
1	Profile2	Normal	FULL	14.3	14.3	4.0M	3.8M	3.8M	95.0%
2	MOBILE	Normal	FULL	3.0	3.0	4.0M	0.2M	0.2M	5.0%
3	--	--	--	--	--	4.0M	--	--	0.0%
4	--	--	--	--	--	4.0M	--	--	0.0%
5	--	--	--	--	--	4.0M	--	--	0.0%
6	--	--	--	--	--	4.0M	--	--	0.0%
7	--	--	--	--	--	4.0M	--	--	0.0%
8	--	--	--	--	--	4.0M	--	--	0.0%

- Total Bitrate (Record/Max) : Record bitrate shows the amount of actual data recording while Total bitrate shows the maximum data transfer allowed by the NVR.
- Profile : Shows the video profile configured to each channel.
- Frame (fps) : Show the input/record frames per second for each channel.
- Data (bps)
  - Limit / Input / Record : Shows the amount of limit/input/recording data for each channel.
  - Input / Limit : Shows the data ratio of actual data transferred from the camera and allowed maximum defined by user.
- Current : Shows the recording status information of currently transferred data.
- MAX : Shows recording information of the most biggest recording data out of configured standard and event recordings.
- : Reloads the recording information.
- Setup Warnings : Change your setting regarding the limited recording popup alert.
- Record Setup : The menu screen will switch to the record setting screen.



- The warning message on the list's bottom means the NVR replaced the selected recording profile with other available profile, since the selected one does not produce video data which prohibits screen saving. If the screen displays video, it automatically resets to the selected profile and its name turns to yellow in the list.
- If Key Frame recording exceeds the allowed data amount specified by limit bitrate, a popup alert and icon appear on the screen.  
The limited recording alert popup does not repeat after displaying once unless camera or recording settings are changed; it may appear again if settings were changed to notify such status.  
If you want to set the alert popup not to appear, change your setting of <Setup Warnings> not to display a message popup. For further information on bitrate limit of recording data, refer to "Record Setting". (Page 67)

# ZOOM

This is activated only in Live Single mode.

If you zoom in the screen in Single mode, the selected channel will be enlarged in the original size; if zooming in again, the selected area will be enlarged as twice as the original size.

1. Select **<ZOOM>** in the context menu of the Live screen.

You can also press the **[ZOOM]** button on the remote control or click **<🔍>** in the launcher menu.

The channel will be enlarged in the original size with display of the zoom icon on the center of the screen.



- The original video will be enlarged only if the original size is larger than the monitor resolution.

2. Use the direction buttons (**▲▼◀▶**) on the remote control or use the drag-and-drop method to specify the area that you want to enlarge.

3. Press **[ENTER]** or double-click to enlarge the selected area twice.

- You can use the drag-and-drop method on the enlarged screen, or use the direction buttons (**▲▼◀▶**) on the remote control to move the enlarged area.

4. Right-click to display the context menu and select **<Zoom Out>**.

Press the **[ZOOM]** button on the remote control or click **<🔍>** in the launcher menu to release the zoom mode.



- In zoom mode, you cannot freeze the video.



<Normal>



<Original size>



<Enlarged twice>

## AUDIO ON/OFF


---

You can turn the sound on/off corresponding to the channel in Live mode.

### AUDIO ON/OFF in Single mode

Click the sound icon () on the screen or press **[AUDIO]** on the remote control to turn on/off the sound.




- If you have configured the audio output settings properly but the audio or voice is not output, check if the connected network camera supports the sound signal and if you have configured the sound settings as appropriate. The sound icon can be displayed if the sound signal fails to output from noise.
- Only the channel where <AUDIO> is set to <ON> in "**Setting the Device > Camera**" displays the audio icon () in Live mode that you can use to turn the sound on/off.

## FREEZE

---

This is available only in Live mode, this pauses playing the Live image temporarily.

1. Press the **[FREEZE]** button on the remote control, or click <  > in the launcher menu. The playback of the image is stopped temporarily.
2. Press the **[FREEZE]** button again, or click <  >. This will release the freeze.



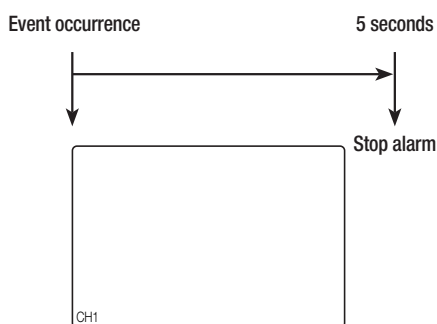
- In freeze mode, you cannot zoom in the video.



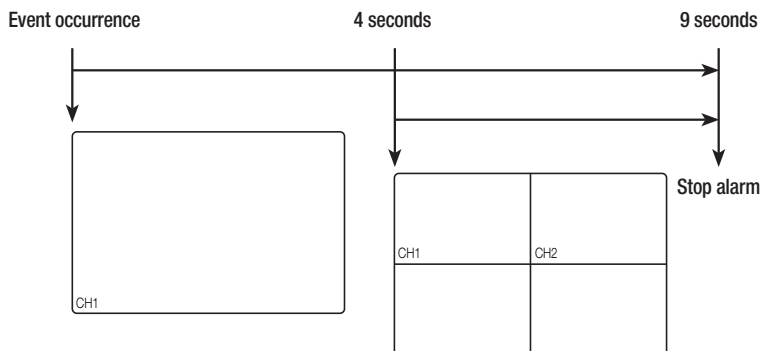
## EVENT MONITORING

This will display the channel in sync with a specific event (Sensor/Motion/Video Loss) if it occurs. In "**Monitor > Event Display**", set the event monitoring to ON/OFF and specify the event display time. (Page 64)

- If multiple events occur simultaneously, the screen will switch to a split mode.
  - 2~4 events : 4-split mode
  - 5~9 events : 9-split mode
  - 10~16 events : 16-split mode
- If the second event occurs within the set time of <Event Display>, the first event will last until the second one is terminated.
  - Ex : If you set <Event Display> to 5 seconds, and only one event occurs in CH 1.



- Ex : If you set <Event Display> to 5 seconds, and the second event occurs in CH 2 within the set time after the first event occurred in CH 1.



- Press the **[ALARM]** button to reset the alarm settings and to release the event mode.
- If an alarm is output with the pre-event and post-event times specified together with the event recording settings, the event recording will perform according to the specified recording type (pre event or post event).



- In case of continuous events such as motion detection, switching to another split mode display may not immediate if concatenating events follow, even when you stopped alarm of the event.
- The video may be delayed depending on the network condition.
- The event output can be delayed as the transfer of the alarm event from the network camera takes time.

## PTZ CONTROL

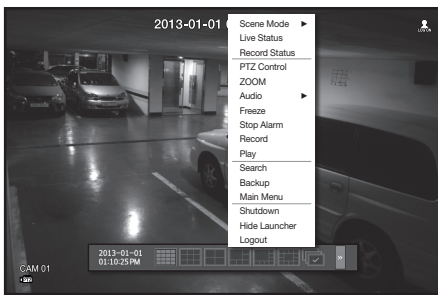
With this NVR, you can configure the settings of a PTZ camera as well as commercial cameras in the market to your preference.

### PTZ device

This is active only if a channel that a PTZ camera is connected to is selected.

### Getting started with PTZ operations

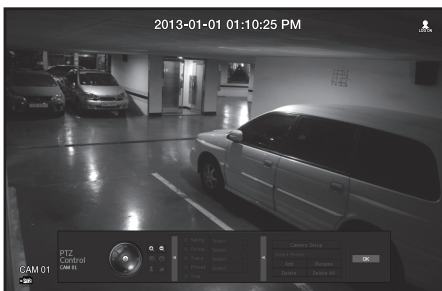
The PTZ camera will be activated only if the channel of the PTZ camera is selected, which can be performed in the following way:



- Using remote control buttons : Press the **[PTZ]** button on the remote control.
  - Using the launcher menu : Click **<PTZ>** from the launcher menu of the Live screen.
  - Using the Live screen menu : Select **<PTZ Control>** in the context menu of the Live screen.
  - Using the icons on the Live screen : Simply click the **<PTZ>** icon on the Live screen.
- This is available only if a PTZ camera is connected and the **<PTZ>** icon is displayed on the screen.
  - Even if the connected network camera does not support the PTZ operations, you can configure the PTZ control settings (if possible) by installing the PTZ driver (physical device).
  - This is available only with Samsung Techwin-manufactured PTZ network camera.

## Using the PTZ camera

You can use a single PTZ camera to perform the Pan, Tilt and Zoom operations to monitor multiple places, and configure the custom settings of the presets in a desired mode.



### 1. Open the <PTZ Control> menu.

The <PTZ> icon in the left bottom of the screen will turn yellow, indicating that the system accesses "PTZ Control" mode. You will see the "PTZ Control" launcher menu.



- The PTZ working (active) mark can be active even if the PTZ operation is not available in normal mode. So ensure that you have completed the PTZ settings before proceeding.

### 2. Use the PTZ wheel in the launcher menu to adjust the monitoring area, or use the direction buttons (▲▼◀▶).


- PTZ Wheel : Click a near area from the center to move the camera lens slowly; clicking a far area will move it fast.
    - If clicking and holding the mouse in the left will turn the camera counterclockwise; if clicking and holding the mouse in the right will move the camera lens clockwise.
  - Zoom : Activate the Zoom operation of the PTZ camera.
  - Iris : Adjust the amount of light incoming to the camera.
  - Focus : You can adjust the focus manually.
  - Swing : Swing is a monitoring function that moves between two preset points and enables you to trace the motion.
  - Group : The group function enables you to group various presets before calling them in sequence.
  - Trace : Tracking remembers the trace of movements that you instructed and reproduces it for your reference.
    - Some cameras may differ in the menu title and operation with regard to Swing, Group and Trace.
- ! ▪ Even if the network camera supports the PTZ operations by default, the PTZ control can be enabled only if the applicable menu is active in the launcher menu.

## Preset

Preset is a specific position remembered by the PTZ camera. You can use the Preset function to define up to 127 presets for a single PTZ camera.




### To add a preset

1. Check the preset checkbox.
  2. Select **<Add>**.
    - The virtual keyboard will appear on the screen. Use it to provide the preset name.
      - Refer to "**Using Virtual Keyboard**". (Page 45)
    - Rename : You can change the preset settings to your preference.
    - Delete : Delete a selected preset.
    - Delete All : Delete all the existing preset settings.
-  ▪ You can add up to 127 presets, which is the max count supported by the NVR.
- If you replace a camera that saves your preset settings with a different one, you must configure the preset settings again.
3. Select **<OK>**.
    - The preset setting will be saved in the provided name.

### To change or delete a registered preset



1. Check the preset checkbox and select a preset to change or delete.
  2. Press **<Rename>** or **<Delete>** as needed.
    - Delete All : Delete all the existing preset settings.
-  ▪ If you delete the entire presets, the default presets specified in the network camera can be deleted accordingly.
3. Provide a new name and press **<OK>**.

# menu setup

You can setup the system properties, devices, and options for recording, event, backup and network.

## SYSTEM SETUP

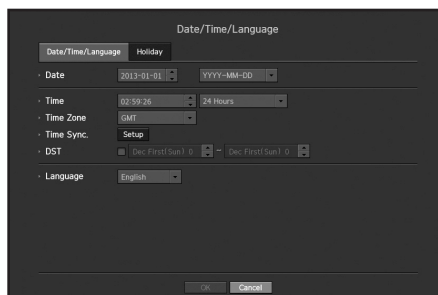
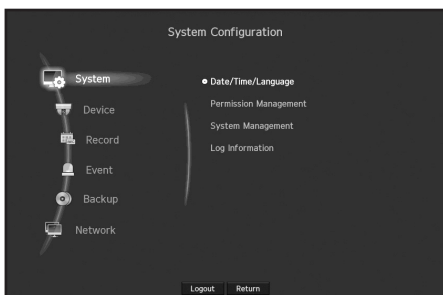
You can setup Date/Time/Language, Permission, System Properties and Log.

### Date/Time/Language

#### Setting the Date/Time/Language

You can check and setup the current Date/Time and time related properties, as well as the language used for the interface on the screen.

[MENU] ⇨ <System Configuration> ⇨ ▶ ⇨ <Date/Time/Language> ⇨ [ENTER] ⇨ ▲▼◀▶ ⇨ [ENTER]



- Date : Sets the date and its format that will appear on the screen.
- Time : Sets the time and its format that will appear on the screen.
- Time Zone : Sets the time zone of your area based on the Greenwich Mean Time (GMT).
  - GMT (Greenwich Mean Time) is standard World Time and the basis of world time zone.
- Time Sync. : Specify the use of synchronization with the time server.  
Click the [Setup] button to display time synchronization setup screen.  
If you select to use the <Time Server>, the current time will be synchronized on a regular basis by the server defined as <Time Server>.  
If this is the case, you cannot change the time setting manually.
  - Synchronization : Specify the use of synchronization with the time server.
  - Time Server : Enter an IP or URL address of the time server.
  - Last Sync Time : Displays the most recent synchronization time from the selected time server.
  - Activate as Server : Set to <Use> to allow the NVR to act as a Time Server for other NVRs.
- DST : Set up Daylight Saving Time with its period to make the time earlier than the GMT of its time zone by 1 hour during the set period.
- Language : Select your language. Sets the language for the interface.  
English, French, German, Spanish, Italian, Chinese, Russian, Korean, Polish, Japanese, Dutch, Portuguese, Turkish, Czech, Danish, Swedish, Thai, Romanian, Serbian, Croatian, Hungarian and Greek are available.



- You can also use numeric buttons on the remote control to enter values for Date, Time and other numeric fields.

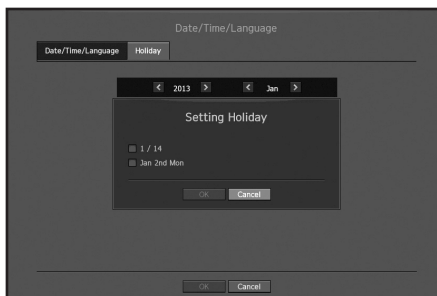
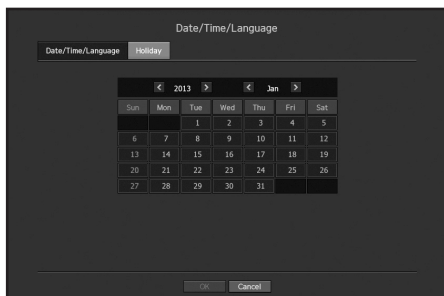
# menu setup

## Setting Holiday

You can set specific dates to Holidays according to your preferences.

Holidays are applied to <Recording Schedule> and <Alarm Out Schedule> too.

[MENU] ⇒ <System Configuration> ⇒ ► ⇒ <Date/Time/Language> ⇒ [ENTER] ⇒ ◀▶ ⇒ <Holiday>  
⇒ ▲▼◀▶ ⇒ [ENTER]



- Ex : Select January 14th and check on <1/14> only to make every January 14th a holiday. Check both on <1/14> and <Jan 2nd Mon> to make every January 14th and 2nd Monday of January holidays.

## To use the calendar

Using the mouse may help make setup easier.



1. Select year and month.  
Select the <◀ ▶> key on both ends of year and month and press [ENTER] button to move back/forward to the previous/next month or year.
2. Use direction buttons to select a date and press [ENTER] button.
  - A date is marked in gray if there exist data for search for system log, event log, time search and event search.

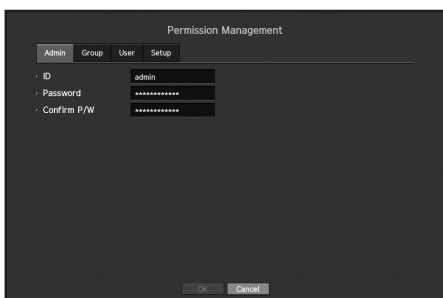
## Permission Management

You can set permissions of each user over the NVR's specific function and settings.

### Setting the Administrator

You can set and change Administrator's ID and password.  
The administrator can use and set all menu items and functions.

[MENU] ⇒ <System Configuration> ⇒ ▶ ▼ ⇒ <Permission Management> ⇒ [ENTER] ⇒ <Admin> ⇒ ▲▼◀▶ ⇒ [ENTER]



- ID : Change the admin ID.
- Password : Provide a new password.



- The initial administrator ID is "admin" and the password should be set when logging in for the first time.
- Please change your password every three months to safely protect personal information and to prevent the damage of the information theft.  
Please, take note that it's a user's responsibility for the security and any other problems caused by mismanaging a password.

### Using Virtual Keyboard



1. For alphanumeric inputs, the virtual keyboard window appears.
2. Use direction buttons (▲▼◀▶) to move to a desired character, and press the [ENTER] button.
3. In the upper text input box of the virtual keyboard, there displays a list of candidate words containing the selected character.
4. Select a word from the list, or use the keyboard to enter the whole word.
  - If there are many of candidate words, use <◀ ▶> buttons to move between them forward and backward.
5. Select <OK>.
 

Entered word is applied.

  - For upper case letters, use <Caps Lock> button.
  - For special characters, use <Shift> button.
  - Using the virtual keyboard is the same to a normal keyboard use in your region.
  - ID allows alphanumeric characters only.
  - For the password, use alphabets and special characters excluding <\> and <">.
  - You can use number buttons on the remote control.

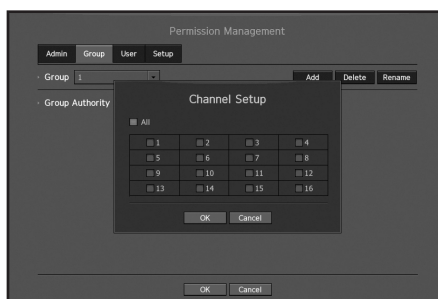
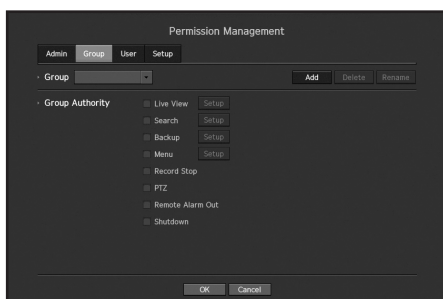


# menu setup

## Setting the Group

You can create user groups and setup permissions for those user groups.  
You can register a user for each group in <User>.

[MENU] ⇒ <System Configuration> ⇒ ►▼ ⇒ <Permission Management> ⇒ [ENTER] ⇒ ◀▶ ⇒ <Group> ⇒ ▲▼◀▶ ⇒ [ENTER]



- Add, Delete, Rename : You can add, delete, rename a group or modify the permissions given to the group. The virtual keyboard appears when <Add> or <Rename> was selected. You can add up to 10 groups.
  - Add : Provide a name for the group that you want to add. When you first start the NVR, the admin is the only user account so any other button than Add will be deactivated.
  - Delete : Deletes a user group that is already registered. Selecting Delete will delete all user accounts belonging to that group.
  - Rename : Renames a group that is already registered. Select <Rename> to display the virtual keyboard.
    - For entering a group name, refer to "Using Virtual Keyboard". (Page 45)
- Group Authority : Sets permissions to access menu items of each group. Users of a group can access checked functions.

### To set the group authority

You can set the permissions of the group users to access the menu according to the channel.

1. Select a menu to which the group permission is assigned.

The menu where the group permission is assigned will be displayed in the Live menu when a group user logs in.

  - Live View : You can set the permission to access the Live screen according to the channel.
  - Search : You can set the permission to access the Search menu according to the channel.
  - Backup : You can set the permission to access the Backup menu according to the channel.
  - Menu : You can set menus accessible with a specific permission. Group users can access the permitted menus only. Select a menu to display the Menu Permission screen.
  - Record Stop, PTZ, Remote Alarm Out, Shutdown : Select an item so that the item will be added to the permissions.
2. Select <OK>.

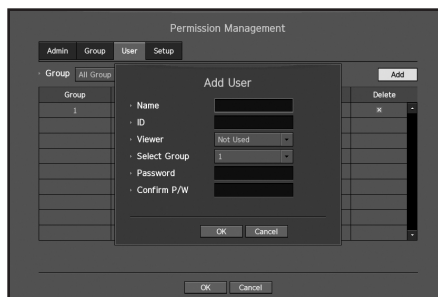
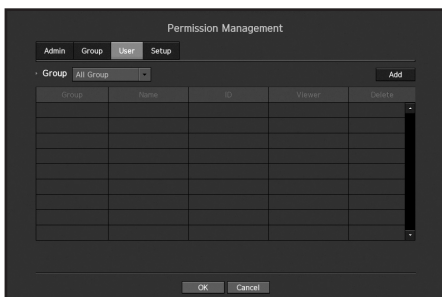
Select and assign a group user so that the user can access the specified menu.



## Setting the users

You can add a user and edit information of a registered user.

[MENU] ⇒ <System Configuration> ⇒ ▶ ▼ ⇒ <Permission Management> ⇒ [ENTER] ⇒ ◀ ▶ ⇒ <User> ⇒ ▲ ▼ ◀ ▶ ⇒ [ENTER]



### To register a user

1. Select a user group.  
You must first register a group where the user will belong to so that user can be registered. Register a group in the <Group> item.
2. Provide the user name, ID and password, and specify the use of the viewer.  
If you set <Viewer> to On, you will be granted permission to use both web viewer and network viewer.
3. Click <OK>.  
Information of the registered users will be listed.

### To edit or delete the user information

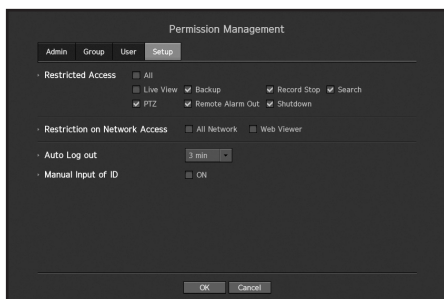
1. Select any item of the user information in the list.
2. Provide new information and click <OK>.
3. To delete an item, select an item and press the Delete button.
4. When the Delete confirmation dialog appears, click <OK>.

# menu setup

## Setting Permissions

You can set restricted access for all general users.  
Items with restrictions will require logging in for use.

[MENU] ⇒ <System Configuration> ⇒ ▶ ▼ ⇒ <Permission Management> ⇒ [ENTER] ⇒ ◀ ▶ ⇒ <Setup> ⇒ ▲ ▼ ◀ ▶ ⇒ [ENTER]

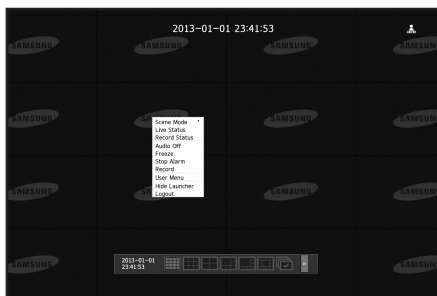


- **Restricted Access :** All menu items allowed for a user can be set with restricted access.
  - Checked (  ) : Restricted
  - Not checked (  ) : Accessible
    - If it is not checked (  ) in <Restricted Access>, any user can access the item no matter what the <Group Authority> setting.
    - If it is checked (  ) in <Restricted Access>, a user can access the item only if the user has permission in <Group Authority> setting.
- **Restriction on Network Access :** Restricts remote access from a <Restricted Access> network.
  - All Network : Restricts all access instances via Network Viewer and Web Viewer.
  - Web Viewer : Restricts access via the Web Viewer.
- **Auto Log out :** A user will be automatically logged out if there is no operation on NVR for over set period of time.
- **Manual Input of ID :** Prompts you to enter the user ID manually for the login process.
  - Checked (  ) : Provide the user ID manually. Encloses the registered user IDs with the [\*] symbols.

## If the user has restricted access

If a new group is restricted to access the entire menus, the users belonging to the group can access only the basic menus and can change only their respective password.

If all permissions are restricted, you will see only some menu items accessible in the Live screen menu.



## To change the user password

If you log in with the user account of a group with restricted access, you just can change your own password.



1. Provide the login information.
2. Select <User Menu>. The Permission Management screen appears.
3. Select <Permission Management>. The Password dialog shall appear.
4. Provide a new password.
5. Select <OK>. The old password will be changed to a new one.

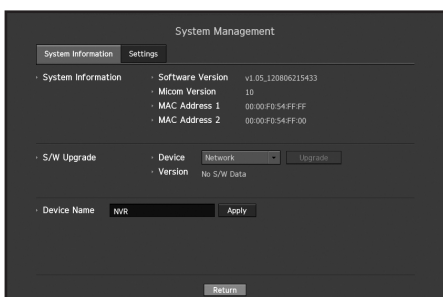
## System Management

You can check the system version, update to a newer version, as well as data backup and initialization.

### Checking the System Information

You can check the current software version and MAC address before proceeding with the upgrade.

[MENU] ⇒ <System Configuration> ⇒ ▶ ▼ ⇒ <System Management> ⇒ [ENTER]



- System Information : Shows the current system's information. The values can not be changed by a user.
- Micom Version : Micom program's version that operates the remote control.
- S/W Upgrade : Updates the NVR's software up to date.
- Device Name : Displayed if the network viewer is connected to NVR.

# menu setup

## To upgrade the current software version

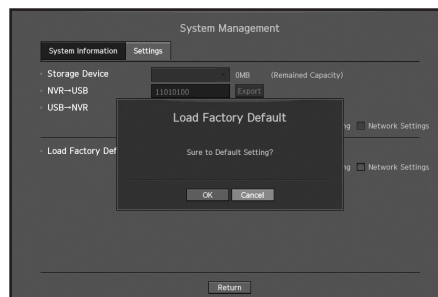
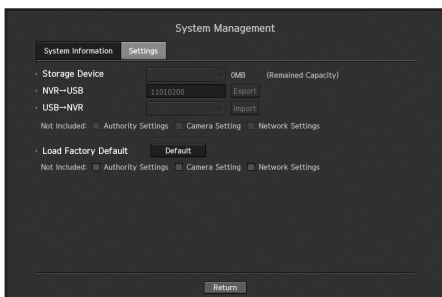


1. Connect a device storing the software to be updated.
  - It may take about 10 seconds to recognize the device.
  - Upgradeable devices include USB memory, CD/DVD and network device.
  - To update the network, the current NVR should have been connected to the network. Upgrade via the proxy server may not be enabled due to the restricted access.
2. Select <System Management> from <System> window.
3. Select <System Information>.
4. When the recognized device appears, select <Upgrade>.
  - The <Upgrade> button will be activated only if the current <Software Version> of the <System Information> is same to or older than that of <S/W Upgrade>.
5. Press <OK> in the "System Upgrade" window.
  - While updating, it shows the progress.
6. When the updating is done, it automatically restarts. Do not turn the power off until it finishes restarting.
  - If "Upgrade Failed" appears, retry from the step 4. When you experience continued failure, consult the service center for assistance.

## Settings

You can copy and import the NVR settings by using a storage media.

[MENU] ⇨ <System Configuration> ⇨ ▶ ▼ ⇨ <System Management> ⇨ ▼ ▶ ⇨ <Settings> ⇨ ▲ ▼ ◀ ▶ ⇨ [ENTER]



- Storage Device : Shows the connected storage device.
- Export : Exports NVR settings to the connected storage device.
- Import : Imports NVR settings from the storage device and applies to the NVR.
  - Check the checkbox of an item(s) that you want to import.
  - Only the other items than the selected one will be applied to the NVR.
- Load Factory Default : Restore the factory default settings of NVR.  
Check the checkbox of an item(s) that you want to reset. Then, only the other items than the selected one will return to the factory default.  
If <Default> is selected, a confirmation dialog for "Load Factory Default" prompts. Press <OK> to initialize the system to the factory default.

# menu setup

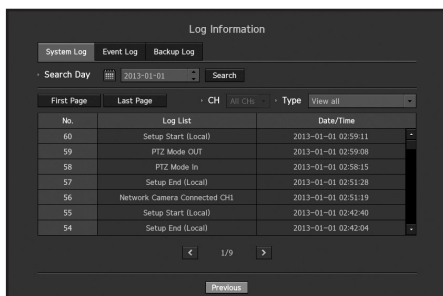
## Log Information

You can browse logs on the system and events.

### Checking the system log

System Log shows log and timestamp on every system start up, system shutdown, and changes on system settings.

[MENU] ⇒ <System Configuration> ⇒ ▶ ▼ ⇒ <Log Information> ⇒ [ENTER] ⇒ <System Log> ⇒  
▲ ▼ ◀ ▶



The screenshot shows the 'Log Information' menu with a table of logs. The table has columns for 'No.', 'Log List', and 'Date/Time'. The logs listed are:

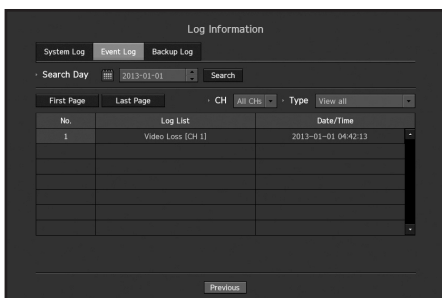
No.	Log List	Date/Time
60	Setup Start (Local)	2013-01-01 02:59:11
59	PTZ Mode OUT	2013-01-01 02:59:08
58	PTZ Mode In	2013-01-01 02:58:15
57	Setup End (Local)	2013-01-01 02:51:28
56	Network Camera Connected CH1	2013-01-01 02:51:19
55	Setup Start (Local)	2013-01-01 02:42:40
54	Setup End (Local)	2013-01-01 02:42:04

- Search Day : Click the Calendar icon to display the calendar window, or use the direction buttons to specify the search period of the system log.
  - For using the calendar, refer to "To use the calendar". (Page 44)
- Search : Specify the date and press this button to display the search result in the log list.
- Type : When there are too many logs, you can display logs of the desired format by selecting the type.

## Checking the event log

You can search recorded events including alarms, camera events and video loss. It also shows the log and its timestamp.

[MENU] ⇒ <System Configuration> ⇒ ► ▼ ⇒ <Log Information> ⇒ [ENTER] ⇒ ▼ ► ⇒ <Event Log> ⇒ ▲ ▼ ◀ ▶

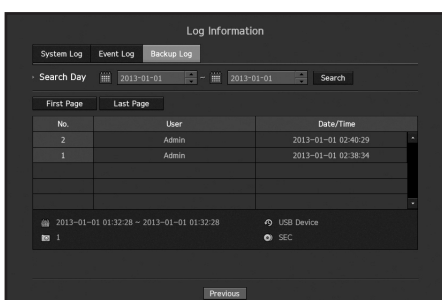


- Search Day : Click the Calendar icon to display the calendar window, or use the direction buttons to specify the search period of the system log.
  - For using the calendar, refer to "To use the calendar". (Page 44)
- Search : Specify the date and press this button to display the search result in the log list.
- Type : When there are too many logs, you can display logs of the desired format by selecting the type.

## Checking the backup log

You can find out who backed up and the details (backup time, channel, device to use, file format, etc.).

[MENU] ⇒ <System Configuration> ⇒ ► ▼ ⇒ <Log Information> ⇒ [ENTER] ⇒ ▼ ► ⇒ <Backup Log> ⇒ ▲ ▼ ◀ ▶



- Search Day : Click the Calendar icon to display the calendar window, or use the direction buttons to specify the search period of the system log.
  - For using the calendar, refer to "To use the calendar". (Page 44)
- Search : Specify the date and press this button to display the search result in the log list.

# menu setup

## SETTING THE DEVICE

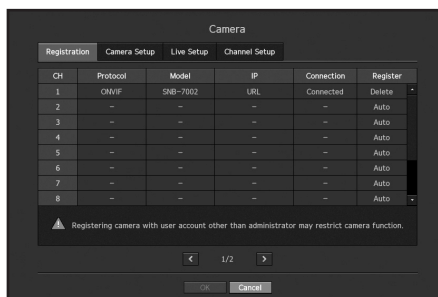
You can setup Camera, Storage Device, Remote Device and Monitor.

### Camera

#### To register a camera

You can register a network camera for each channel and make connection between.

[MENU] ⇒ ▲▼ ⇒ <Device> ⇒ ▶ ⇒ <Camera> ⇒ [ENTER] ⇒ ▲▼◀▶ ⇒ [ENTER]

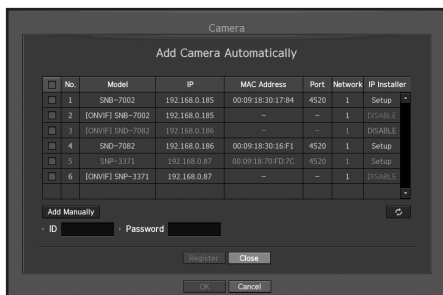


- Protocol : Show the protocol information of a registered network camera.
- Model : Show the camera model name.
- IP : Display the IP address of a network camera.
- Connection : Display the connection status.
- Register : This is the default registration button for a network camera. It will be displayed <Auto> before registration, and will be changed to <Delete> after registration.



- If the NVR has been initialized, it may not connect to cameras. Configure the network settings first and add cameras. For more information on network settings, refer to "Network Configuration". (Page 74)

#### To auto-search for and register a network camera



1. Select <Auto> in the <Register> item and press [ENTER].
2. The "Add Camera Automatically" window appears and NVR starts searching for connected network cameras.
  - An already registered camera will be marked in blue in the list.



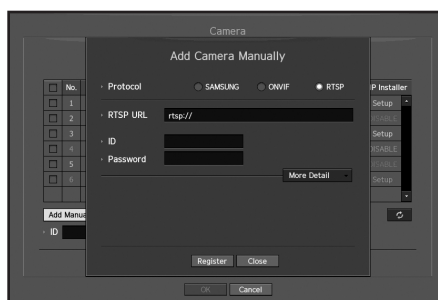
3. Check the checkbox next to a network camera that you want to connect to.
  - You can select all of the network cameras in the list and provide <ID> and <Password> all at once.



- Registering camera with user account other than admin may restrict camera function.

4. Provide the <ID> and <Password> for the selected network camera.
5. Press <Register> to register the selected camera.

### To manually search for and register a network camera



1. Press <Add Manually> in the bottom left corner of the "Add Camera Automatically" window.
2. The Manual Search window appears.
3. Select a protocol.
  - The input items may differ depending on the selected protocol.
  - SAMSUNG : Comply with the internal network protocols adopted by Samsung Techwin.
  - ONVIF : Means the camera supports ONVIF protocols. When connecting a camera that its name cannot be found from the list, select <ONVIF>.



- Time difference between the ONVIF camera and NVR exceeds more than 2 minutes, the camera cannot be connected. In this case, synchronize the ONVIF camera's time to the NVR or set times of both camera and NVR to a same NTP server (if in the same time zone), or make the NVR an NTP server.

- RTSP : Comply with RFC 2326, one of "Real Time Streaming Protocol (RTSP)" for real-time streaming.
4. If you select the <SAMSUNG> protocol, check options as necessary.
    - Model : Select a camera model.
      - Samsung Network Camera/Encoder : Means the camera/encoder supports Samsung Techwin's SVNIP protocol. When connecting a camera that does not appear in the camera list, select Samsung Network Camera/Encoder.
        - However, you must select the correct model name of the camera, if it's in the list. Some of obsolete camera models may not be supported.

# menu setup

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- Address type : Select an address type of the camera.
  - Address type can be different depending on connected product model.
  - Static : Used to provide the IP address of the camera manually.
  - iPOLiS DDNS : This is available only if the camera is registered with the iPOLiS DDNS(www.samsungipolis.com) server. Provide the registered domain for DDNS ID.
    - Ex) http://www.samsungipolis.com/snb5000 → provide "snb5000" for iPOLiS DDNS
  - MAC (Samsung) : Available if the camera supports the MAC Address-based DDNS.
  - URL : Used for URL address input.



- Refer to the user manual of the connected camera and check the DDNS specification that is supported by the camera.

- IP : Provide the IP address of the camera.
- Device Port : Provide the device port of the camera.
- HTTP Port : Provide the HTTP port of the camera.
- ID : Provide the ID of the camera that you want to register.
- Password : Enter the password of the camera to be registered.

5. Select <ONVIF> or <RTSP> for the protocol and enter your input for each field appears.

- Target Service Address / RTSP URL : Enter the camera's RTSP access address that supports ONVIF or RTSP. For more information about the RTSP address, refer to the manual of each applicable network camera.
- ID : Enter the ID for accessing via ONVIF/RTSP protocol.
- Password : Enter the password for accessing via ONVIF/RTSP protocol.
- Mode : Select a mode that is supported by the network camera in RTSP connection mode.
  - TCP : The connection type with the network camera will switch to "RTP over TCP".
  - UDP : The connection type with the network camera will switch to "RTP over UDP".
  - HTTP : The connection type with the network camera will switch to "RTP over TCP (HTTP)".



- For <ONVIF> or <RTSP> connection, up to 5 cameras of 2M or 3M resolution can be supported.

### If you want to check the error details of camera registration

If you failed to register a camera, the reason for the failure will be displayed.

- **Connection failed due to unknown error.** : This message appears if the camera has failed to be registered due to unknown connection status.
- **Connected successfully.** : This message appears if the camera is connected successfully.
- **Incorrect model information. Provide the correct model information.** : This message appears if the model information provided for registering the camera is incorrect.
- **Authentication has failed** : This message appears if the ID or password provided for registering the camera is incorrect.
- **Connection has failed due to excessive concurrent users.** : This message appears if the concurrent user count exceeds the upper limit.
- **Connection has failed due to incorrect HTTP port information.** : This message appears if the HTTP port number of the camera is invalid.
- **Connection has failed. Unknown connection status.** : This message appears if the camera has failed to be connected due to a unknown error.
- **User Model Modification** : When registering a new camera, it is named according to the device's default if user set the model to <Samsung Network Camera/Encoder>. In case if automatic registration fails, user can change the model name of camera to be registered.

### To edit camera profile

When a camera is added for the first time, it is added as the default profile of H.264, MPEG4 and MJPEG in order temporarily.

To change its profile, refer to "**Setting the network camera's recording profile**" (Page 68) or "**Live Transfer Setting**" (Page 79).



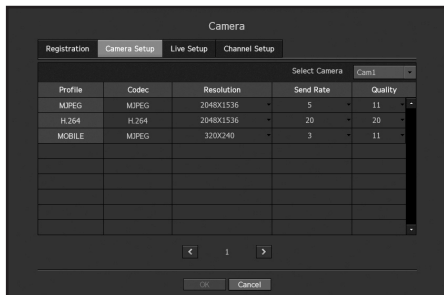
- In case of NVR, if you set 3 different profiles for live, recording and network profile, one camera will produce video streams accordingly, having different stream formats. Especially, note that the live profile may vary depending on the used screen split mode.
- For cameras, if applied with one profile only, the produced frame rate is fixed as the profile specifies; if applied with multiple profiles, produced video stream's frame rate is not guaranteed. For example, if applied with 2 profiles of 30fps, the camera may transmit streams at 20fps.


# menu setup

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## Camera Setting

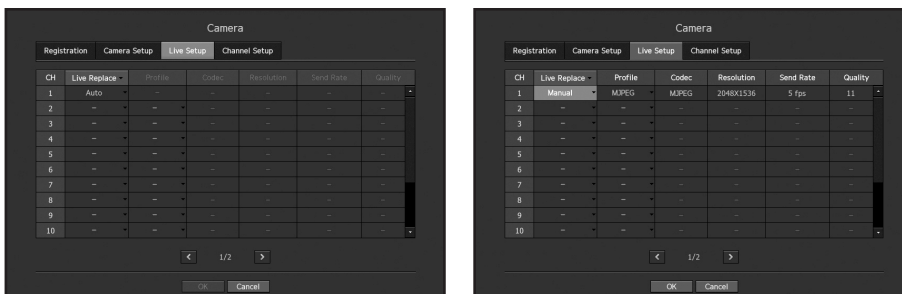
You can change the video settings of a registered network camera for each channel.



- Select Camera : Select the camera channel to change the video transmission settings.
  - Profile : Show a video profile for the connected camera.
  - Codec : Show the codec information for the selected profile.
  - Resolution : You can change the resolution of the selected profile.
  - Send Rate : You can change the baud rate of the selected profile.
  - Quality : You can change the video quality of the selected profile.
-  ■ If you change the settings of a specific profile for each model, the effective range of the baud rate may be changed accordingly.  
Ex) if you set the baud rate of the first profile to 30fps, the send rate of the second profile will be changed to 15fps.
- Menu items except Codec, Resolution, Transfer Rate, and Transfer Quality can be configured in the network camera's settings menu.
  - If you change the current profile settings, you may encounter an interrupted playback on the recording or live screen for a certain time.
  - Changes made in Camera Setup page are applied immediately, while changes made through the camera's web page may require up to 3 minutes.

## Live Setting

You can change the live transfer settings of the network camera.



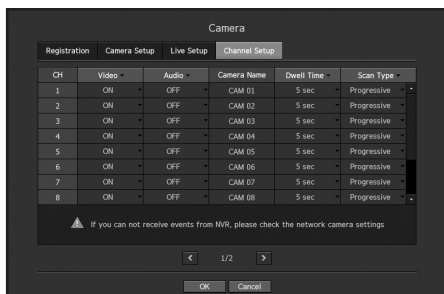
- Live Replace : You can select the live profile setup mode.  
If you select <Manual>, the profile setup items are enabled, and you can change settings manually.
  - Auto : For live monitoring, the profile which is approximate to the output resolution of each channel must be selected automatically.  
e.g., Camera profile : Three profiles (1280x720, 800x600 and 640x480) are supported.  
If the resolution of the output screen is 1920x1080:  
1280x720 is selected automatically if the channel resolution of the single channel is 1920x1080.  
640x480 is selected automatically if the channel resolution of 16-split channel is 480x270.
  - Manual : Live monitoring is performed with the profile selected by the user from the registered camera profiles.
  - Record : Live monitoring is performed with the profile set for recording.
- Profile : You can select the video profile of the connected camera setting.
- Codec : Show the codec of the selected recording profile.
- Resolution : Show the resolution of the selected profile.
- Send Rate : Show the frame rate of the selected profile.
- Quality : Show the quality of transfer video of the selected profile.

# menu setup

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## Channel Setting

You can configure the video settings for each channel.



- Video
  - <ON/OFF> : You can turn ON/OFF the selected channel's camera.
  - <Covert1> : Shows information other than the video of the selected channel.  
For privacy protection, it does not display the video while the recording continues.
  - <Covert2> : Shows nothing but an empty screen while the recording continues.
- If the channel is set to <Covert1> or <Covert2> mode, the channel's sound is not hearable.  
However, the channel's sound is recorded if its Audio setting is set to <ON>, even the sound is not heard in Live mode.
- Audio
  - If set to <ON>, you can turn the audio of the channel ON/OFF on the Live screen.
  - If set to <OFF>, the channel's audio is off on the Live screen and not recorded.
- Camera Name : Provide a camera Name.
  - You can enter up to 15 characters including space.
- Dwell Time : You can specify the dwell time for each channel.
- Scan Type : Select either Interlace or Progressive as necessary.
  - Video quality may degrade if set to Interlaced for a progressive network camera.
  - Set to Progressive for progressive network cameras, and set to Interlaced for interlaced network cameras.

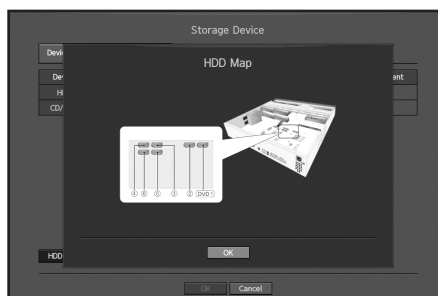
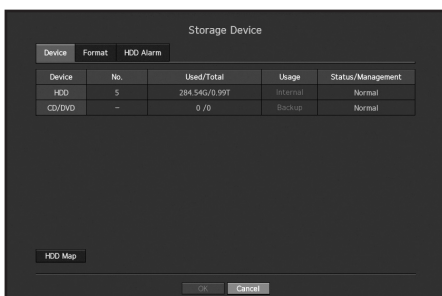
## Storage Device

You can check information on storage devices.

### Confirming Devices

You can check storage devices and their free space, usage as well as status. Devices available are HDD, and USB devices (Memory, HDD, CD/DVD).

[MENU] ⇒ ▲▼ ⇒ <Device> ⇒ ► ⇒ <Storage Device> ⇒ <Device>



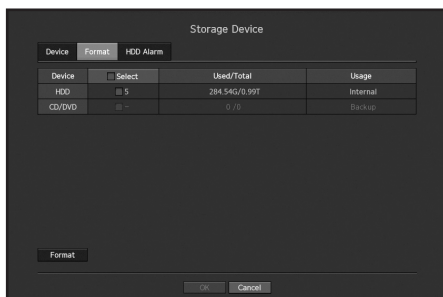
- No. : Shows the assigned number of the internal HDD.
  - To see the detailed positioning of the HDD according to the number, refer to <HDD Map>.
- Used/Total : Shows the used/total capacity of the storage device.
- Usage : Sets the storage device's usage.
  - Use both USB memory and HDD for backup purpose only.
  - The eSATA HDD can be used for either extended storage or backup purpose.
- ! ▪ If an eSATA HDD device is used for extended storage or backup purposes, disconnecting eSATA device may restart the system.  
For backup use, the device can be disconnected if it's not in use.
- Status/Management : Display the status of the storage device.
- HDD Map : Shows the internal HDD's locations according to assigned numbers.
  - Refer to this for servicing or additional HDD installation.

# menu setup

## Formatting

You can format a storage device.

[MENU] → ▼ → <Device> → ►▼ → <Storage Device> → [ENTER] → ▲▼◀▶ → [ENTER] → ▲▼◀▶ → <Format> → ▲▼◀▶ → [ENTER]



- Select : Check the checkbox of the device that you want to format.
- Format : Select a device and press this to display the format confirmation dialog. Press <OK> to start formatting the selected storage device.

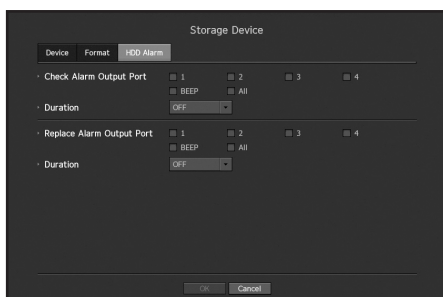


- Note that formatting the device will delete all of the existing recording data.
- Do never remove the device to format until formatting is completed.
- A HDD with greater than 2TB cannot be formatted for backup purpose.

## HDD Alarm Setting

You can set alarm settings for HDD defects such as Check Alarm Output Port, Replace Alarm Output Port, and its duration.

[MENU] → ▼ → <Device> → ►▼ → <Storage Device> → [ENTER] → ▲▼◀▶ → <HDD Alarm> → ▲▼◀▶ → [ENTER]



- Alarm
  - Alarm signal will output through the alarm out port on the rear side when selected <1>, <2>, <3>, and <4>.
    - SRN-470D supports only alarms : <1> and <2>.
  - If <BEEP> was selected, a beep will sound.
  - If <All> was selected, both beep sound and alarm signal through rear side ports will output.

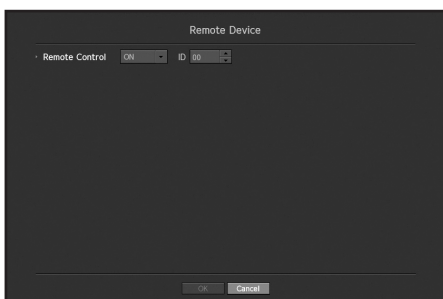


- Check Alarm Output Port : If HDD generates check alarm, the alarm signal will output to the specified alarm output port.
- Replace Alarm Output Port : If HDD generates replace alarm, the alarm signal will output to the specified alarm output port.
- Duration : Sets the alarm duration for the alarm signal and beep sound.
  - Check Alarm, Replace Alarm signals will output through the selected alarm out ports (1, 2, 3, and 4).
    - SRN-470D supports only alarms : <1> and <2>.
  - If <BEEP> was selected, a beep will sound.
  - If <All> was selected, both beep sound and alarm signal through rear side ports will output.
- <Check> status means that the HDD is operating but it has problems that require technical examination. (🔧) appears on the Live screen.
  - <Replace> status means that the HDD has defect and requires immediate replacement. (🔧) appears on the Live screen.

## Remote Devices

You can specify the ID of a remote control that will operate in sync with NVR.

[MENU] ⇒ ▼ ⇒ <Device> ⇒ ▶▼ ⇒ <Remote Devices> ⇒ [ENTER] ⇒ ▲▼◀▶ ⇒ [ENTER]



- Remote Control : Specify the use of the remote control.
- ID : Select an ID number to synchronize with the remote control.  
If it does not match with the remote control ID, the remote control will not operate at all.
- For changing the remote control's ID, refer to "**Changing the Remote Control ID**". (Page 13)

# menu setup

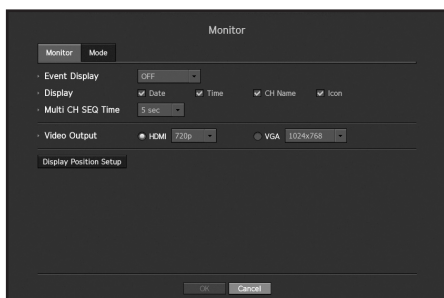
## Monitor


You can set the information displayed on the monitor as well as the output system.

### Monitor settings

You can configure the monitor output-related settings including the displayed information, dwell time and output system.

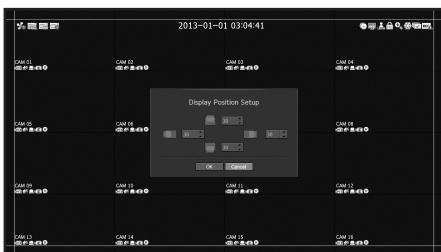
[MENU] → ▼ → <Device> → ► ▼ → <Monitor> → [ENTER] → ▲ ▼ ◀ ▶ → [ENTER]



- Event Display : Sets the dwell time of the event channel display on the monitor when an event occurs. If selected <Continuous>, it displays the channel until you press [ALARM] button to release it.
  - Display : Displays only checked items on the monitor screen.
  - Multi CH SEQ Time : Sets the interval between automatic display switching in 4-split and 9-split mode of the Live screen.
  - Video Output : Select a video output type from <VGA> and <HDMI>. If your selection of <VGA> or <HDMI> does not match with the monitor setting, the video may not be output. Move to [STOP (■)] → [ZOOM] → [STOP (■)] → [ZOOM] and press [MENU] to display the default resolution dialog where you can change the resolution as you want.
    - If the changed resolution is not supported by the monitor, the video may not be displayed properly. If this is the case, the screen will restore the default resolution after a certain time. Then, you can change it to a different resolution.
-  ▪ Specify the event display time and dwell time in consideration of the video delay depending on the network environment.

## To adjust the display position

Some monitors may not display information (camera name, icon, time information, etc.) about the NVR, depending on the condition. Then, you can change the display position of the data.

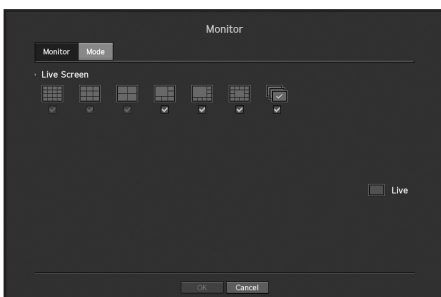


1. From the monitor setup menu, select <Display Position Setup>.
2. Use the four direction buttons or number buttons on the remote controls to adjust the display position.
3. Press <OK>.

## Setting the Screen Mode

You can configure the Live screen and Split Screens.

[MENU] ⇒ ▼ ⇒ <Device> ⇒ ► ▼ ⇒ <Monitor> ⇒ [ENTER] ⇒ ▲▼◀▶ ⇒ <Mode> ⇒ ▲▼◀▶ ⇒ [ENTER]



- Live Screen : Select split modes for the Live screen.
  - You can switch the split mode only with SRN-1670D. The default settings include 16-split, 9-split and 4-split modes, which cannot be changed.

# menu setup

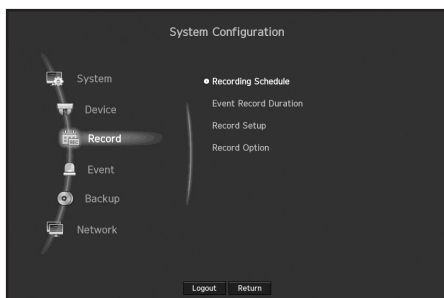
## SETTING THE RECORDING

You can setup scheduled recording, event recording and other recording related settings.

### Recording Schedule

Make your reservation on a date and time to schedule the recording on specified time.

[MENU] ⇒ ▼ ⇒ <Record> ⇒ ► ⇒ <Recording Schedule> ⇒ [ENTER] ⇒ ▲▼◀▶ ⇒ [ENTER]



- All : The entire time range (Monday through Sunday including holidays, AM 0~ PM 23) will be reserved with the same recording schedule
- Apply to All CH : If selected <Apply to All CH>, "Apply to All CH" window appears. Press <OK> to apply the setup to all channels.



- Event recording and scheduled recording starts about 3 seconds prior to the event/schedule for guaranteed recording.

### Record setting by the color

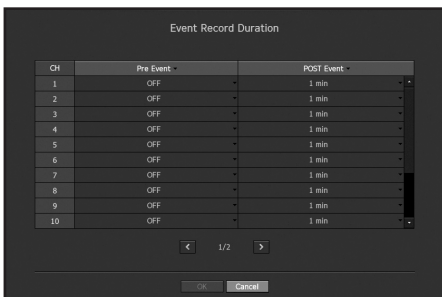
Color	Function	Description
No Color	No Recording	No schedule / event recording
Green	Continuous	Scheduled recording only
Orange	Event	Event recording only
White	Both(Cont&Evt)	Both scheduled / event recordings

Each press of a selected cell will cycle through <No Recording>-<Continuous>-<Event>-<Both(Cont&Evt)>.

## Event Record Duration

You can set the beginning and ending point of a recording on an event.

[MENU] ⇒ ▼ ⇒ <Record> ⇒ ► ▼ ⇒ <Event Record Duration> ⇒ [ENTER] ⇒ ▲ ▼ ◀ ▶ ⇒ [ENTER]



- Pre Event : The recording of an event will start at a pre-determined time prior to the actual occurrence of the event. If it is set to 5 seconds, the recording begins from 5 seconds before the event.
- POST Event : The recording will continue for a pre-determined time after the actual end of an event. If it is set to 5 seconds, the recording ends in 5 seconds after an event.



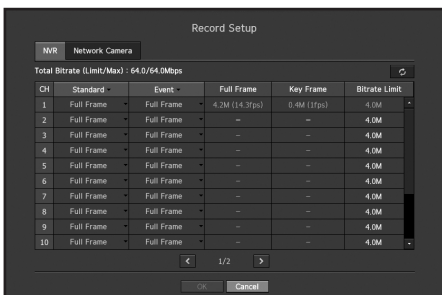
- If the video resolution is larger than 4CIF, recording may not proceed as much as the pre-event recording time. The greater the video data size is, the maximum pre-event recording time will be reduced in inverse proportion.

## Record Setting

You can set resolution, IPS, and quality of recordings by channel, and by recording type of standard / event.

You can check frame rates and data transfer amount of Full Frame and Key Frame recordings for each channel, and set the transfer limit for recordings.

[MENU] ⇒ ▼ ⇒ <Record> ⇒ ► ▼ ⇒ <Record Setup> ⇒ [ENTER] ⇒ ▲ ▼ ◀ ▶ ⇒ [ENTER]



- Standard, Event : Configures Standard recording and Event recording.
  - Full Frame : Records all frames fed by the camera.
  - Key Frame : Records only key frames fed by the camera. Actual recording rate may differ from camera settings. In general, 1 to 2 frames per second are recorded.
  - OFF : No recording is made.

# menu setup

- Full Frame : Shows the amount of received data for full frame recording.
- Key Frame : Shows the amount of received data for key frame recording.
- Bitrate Limit : Set the amount of data allowed for input for each channel.



- If a channel's data transfer exceeds defined allowed limit, then it may affect to other channels, and may force switching to <Key Frame> recording even when the channel is configured to <Full Frame> recording mode. For Key Frame recording channels, the icon for limited recording appears on the live screen's top side. Press the [ALARM] button to make icon of limited recording disappear. If the transferred data exceeds the limit again, it will reappear.
- If the entire size of recording data exceeds 64 Mbps, the product will make recording only on key frames <Key Frame> even if you have set <Full Frame> as this may affect other operations. If you intend to record only key frames, the limited record icon will be displayed on the top of the Live screen.
- If you press [ALARM], the limited record icon will disappear. However, if the whole data size is over 64 Mbps again later, the icon will be displayed back again.
- If a channel name is displayed in yellow, the camera profile of the channel is replaced with one other than assigned due to problem. Check the channel information to see the applied profile to the channel listed in yellow. Refer to notes on "Record status" (Page 36)

## Setting the network camera's recording profile

You can configure the video profile settings for instructing the network camera (connected to each channel) to make recording.

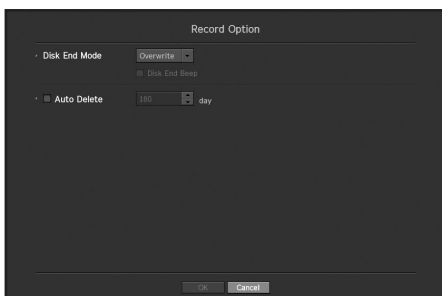



- You can configure the settings only for the profiles that are supported by the camera.
  - If the profiles used for recording and network are different, camera's video feed may not comply with the frame rate as specified in the camera.
- Profile : Select a record profile for the connected camera.
  - Codec : Show the codec information for the selected record profile.
  - Resolution : Display the resolution for the selected record profile.
  - Send Rate : Display the baud rate for the selected record profile.
  - Quality : Display the video quality for the selected record profile.

## Record Option

You can set the recording to stop or overwrite when the HDD is full.

[MENU] ⇒ ▼ ⇒ <Record> ⇒ ▶ ▼ ⇒ <Record Option> ⇒ [ENTER] ⇒ ▲ ▼ ◀ ▶ ⇒ [ENTER]



- Disk End Mode : Select a HDD repetitive recording type.
    - Overwrite : If the HDD is full, this will overwrite the existing data and keep recording.
    - Stop : If the HDD is full, this will stop recording automatically.
  - Disk End Beep : If you select <Stop> for the disk end mode, this button will be active. Specify the use of beep when the HDD recording ends.  
If you check it, the beep will sound on the disk full and the recording stops.
  - Auto Delete : If you check this option, the period list box is active. Specify the deletion period to delete any earlier data than the specified date. However, you can search for data from the current time to the selected date.
-  ■ If you press <OK> when you have completed your settings, all the existing data earlier than the specified period will be deleted automatically. So it is recommend to backup the previous data if necessary for later use.

# menu setup

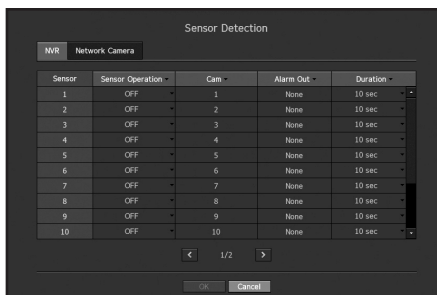
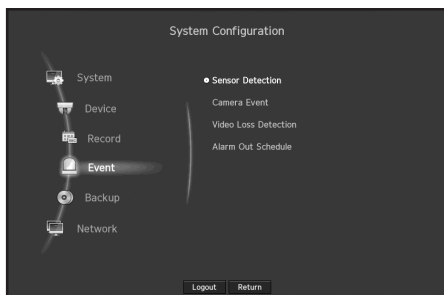
## SETTING THE EVENT

You can make the setup for record in case of sensor detection, camera event or video loss detection.

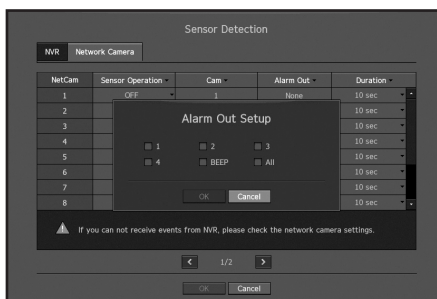
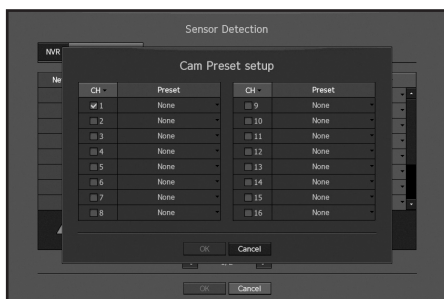
### Sensor Detection

You can set the sensor's operating condition and connected camera, as well as alarm output and its duration.

[MENU] ⇒ ▼ ⇒ <Event> ⇒ ►▼ ⇒ <Sensor Detection> ⇒ [ENTER] ⇒ ▲▼◀▶ ⇒ [ENTER]



- Sensor Operation : Sets the operation mode of sensors.
  - You can set whether to use the sensor or not in the <Network Camera> tab.
  - <N.O (Normal Open)> : Sensor is opened. If the sensor is closed, it generates alarm.
  - <N.C (Normal Close)> : Sensor is closed. If the sensor is open, it generates alarm.



- Cam : Select a channel to be connected to the sensor. If selected camera, "Cam Preset setup" window appears. Select a channel and setup the preset.
  - Preset setup can be done in PTZ mode.
- Alarm out : Sets the alarm output method.
  - For further information on alarm output, refer to "HDD Alarm > Alarm". (Page 62)
  - SRN-470D supports only alarms <1> and <2>.
- Duration : Sets the duration of alarm signal and alarm sound.

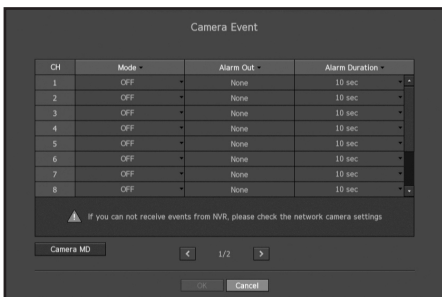
- If you select <Network Camera> tab, you can configure the sensor operation settings of the network camera connected to each channel.
- If the connected network camera that has configured the alarm in/out settings triggers an alarm, NVR will perform the alarm out.



## Camera Event

You can set whether to react to camera events (motion detection, video analysis, audio events) and alarm output / time.

[MENU] ⇒ ▼ ⇒ <Event> ⇒ ► ⇒ <Camera Event> ⇒ [ENTER] ⇒ ▲▼◀▶ ⇒ [ENTER]



- Mode : Select whether to react to camera events or not.
- Alarm Out : Sets the alarm output method.
  - For further information on alarm output, refer to "HDD Alarm > Alarm". (Page 62)
- Alarm Duration : Sets the duration of alarm signal and alarm sound.
- Camera MD : You can set motion detection for the camera connected.
  - Motion Detection : Select the motion detection mode for the camera connected to each channel.

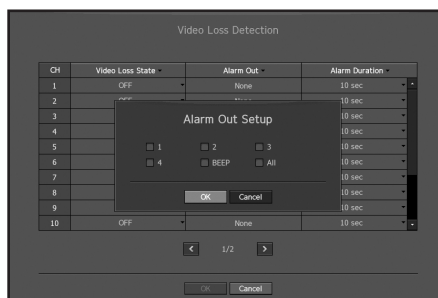
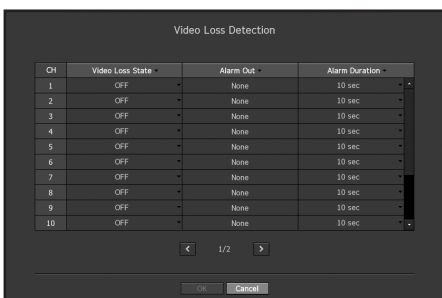


- The NVR generates alarm output only when the connected network camera is configured to detect events and an actual event is detected.

## Video Loss Detection

You can set the camera so that the camera can trigger the alarm if it is disconnected or the video is lost due to unstable network connection.

[MENU] ⇒ ▼ ⇒ <Event> ⇒ ► ⇒ <Video Loss Detection> ⇒ [ENTER] ⇒ ▲▼◀▶ ⇒ [ENTER]



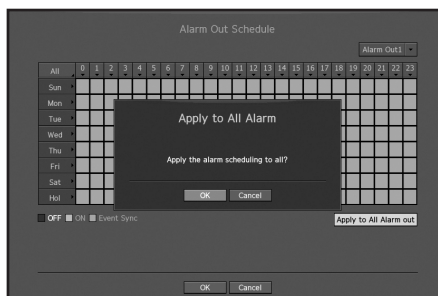
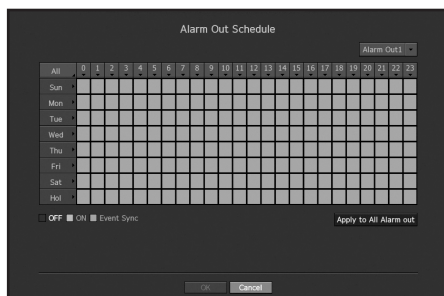
- Video Loss State : Specify the use of video loss detection.
- Alarm Out : Select an alarm output method.
  - For further information on alarm output, refer to "HDD Alarm > Alarm". (Page 62)
- Alarm Duration : Specify the duration of the alarm output with the beep.


# menu setup

## Alarm Out Schedule

You can set the conditions and operating hours for scheduled alarms.

[MENU] ⇒ ▼ ⇒ <Event> ⇒ ► ⇒ <Alarm Out Schedule> ⇒ [ENTER] ⇒ ▲▼◀▶ ⇒ [ENTER]



- Alarm Out : Sets the alarm output method.
  - For further information on alarm output, refer to "HDD Alarm > Alarm". (Page 62)
  - <ON> : Marked in green, and always generates alarm on scheduled time.
  - <OFF> : Marked in black, no alarm is generated even if an event occurs.
  - <Event Sync> : Marked in orange, generates alarm only when an event occurs.
- Apply to All Alarm out : Applies the configured schedule to all alarms.
  -  When the alarm is generated on the scheduled time, you can stop the alarm by canceling the schedule.

## BACKUP

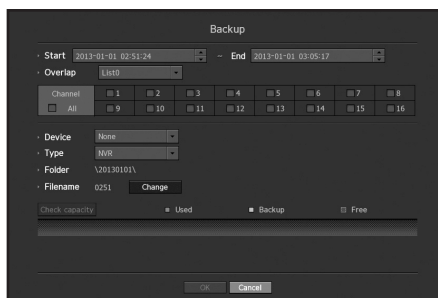
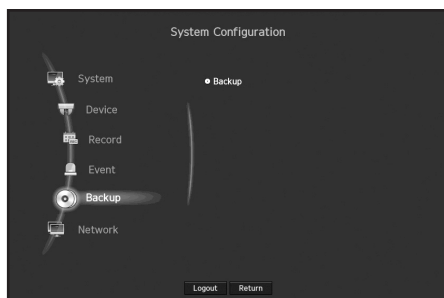
You can check the backup device and set the backup schedule by channel or by time.

This product (NVR) supports only : USB memory, DVD, and external HDD supporting USB/eSATA protocols. (Page 126)

### Backup

You can back up a desired portion of the recording data stored in the HDD to an external device.

[MENU] ⇒ ▼ ⇒ <Backup> ⇒ [ENTER] ⇒ ▲▼◀▶ ⇒ [ENTER]



- Start/End : Sets the <Start> and <End> time for the backup.
- Overlap : Shows a list of overlapping data on a same time according to the number of data. It appears when one channel has multiple data on a certain time point due to changing of time or time zone settings, etc.
  - Refer to time and time zone of "**Date/Time/Language**". (Page 43)
- Channel : Sets the channel to backup. You can select multiple channels.
- Device : Select a backup device from the recognized devices.
- Type : Sets the backup data format.
  - NVR : Saved data can be played back only by the NVR.
  - SEC : Saves data in the Samsung's proprietary format with built-in viewer, which supports immediate playback on a PC.
- Filename : You can rename a backup file by providing up to 4 characters.
  - Refer to "**Using Virtual Keyboard**". (Page 45)
- Check capacity : Shows the size of the selected backup data, used and available capacity of the selected backup device. When backing up, insufficient storage alert indicates up to 2 times of its currently available storage size if the backup data size exceeds more than 2 times of available storage space, to avoid excessive disc/backup size checkup.



- If no available device is recognized for backup, <OK> button is not activated.
- The application may slow down during the backup.
- You can switch to the menu screen during the backup in operation, but playback of data is not available.
- When a CD/DVD or memory device is used for backup, it is not available to use the full capacity of the media since the system consumes a part of its capacity.
- If a CD or DVD media causes errors, the disc tray opens and closes a several times, and eventually backup process will fail. In this case, replace the CD/DVD media and try again.
- Do never remove the backup device until backup is completed.



- Pressing the <Stop> during the backup will return to the previous menu, while the backup progresses.

# menu setup

## NETWORK CONFIGURATION

It provides networked monitoring of Live screen from a remote place, and supports mail forwarding function with events. You can configure the network environment which enables such functions.

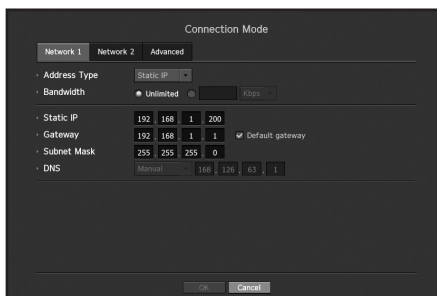
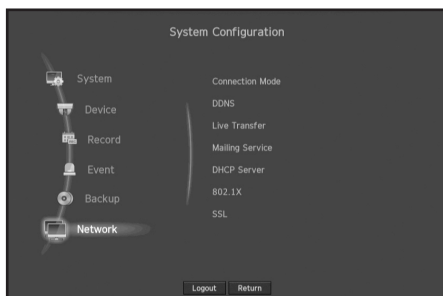
### Connection Mode

You can set the network connection route and protocol.

### Network 1/Network 2 connection settings

Sets the protocol and environment of the network.

[MENU] ⇒ ▼ ⇒ <Network> ⇒ ► ⇒ <Connection Mode> ⇒ [ENTER] ⇒ ▲▼◀▶ ⇒ <Network 1> / <Network 2> ⇒ ▲▼◀▶ ⇒ [ENTER]



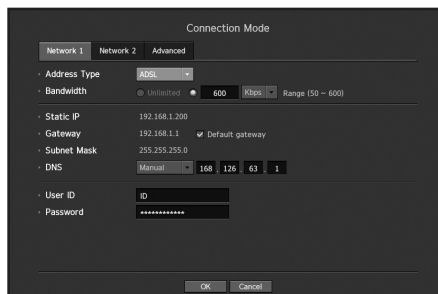
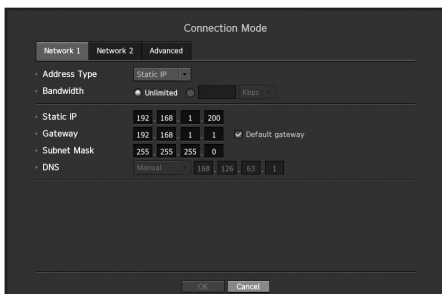
- Address Type : Sets the network connection mode.
- Bandwidth : Specify the upper limit of uploading data.  
You must check the connection mode before providing the maximum value as appropriate to the connection mode.
  - <Static IP>, <Dynamic IP> : Select "Unlimited" or enter the bandwidth manually.
  - For <ADSL> : The "unlimited" value will be inactive. Provide a possible bandwidth.
- Static IP, Gateway, Subnet Mask, and DNS
  - For <Static IP> : You can directly input IP address, Gateway, Subnet Mask and DNS.
  - For <Dynamic IP> : IP address, Gateway, and Subnet Mask are set automatically.
  - For <ADSL> : IP address, Gateway, and Subnet Mask are set automatically.
- User ID, Password : In case you selected ADSL, provide the "User ID" and its "Password".



- DNS server for <Dynamic IP> and <ADSL> can be set by user only if you selected <Manual>.

## Connecting and Setting the Network

Networking may differ from the connection method, check your environment before setting the connection mode.



### When no router is used

- **Static IP mode**

- Internet connection : Static IP ADSL, leased line, and LAN environments allows connection between the NVR and remote user.
- NVR Network Settings : Set the <Connection Mode> in <Connection> menu of the connected NVR to <Static IP>.
  - Consult your network manager for IP, Gateway and Subnet Mask.

- **Dynamic IP (DHCP) mode**

- Internet connection : Connect the NVR directly to a cable modem, DHCP ADSL modem or FTTH network.
- NVR Network Settings : Set the <Connection Mode> in <Connection> menu of the connected NVR to <Dynamic IP>.

- **ADSL (PPPoE: ID and password certification)**

- Internet connection : An ADSL modem is directly connected to the NVR, where the ADSL connection requires user ID and password.
- NVR Network Settings : Set the <Connection Mode> in <Connection> menu of the connected NVR to <ADSL>.
  - ADSL <User ID> and <Password> should be the same to the ADSL user information.  
If you don't know the ID and password, consult your ADSL service provider.

# menu setup

---

## When a router is used



- To avoid IP address conflict with the NVR's static IP, check followings :

### • Setting the NVR with a static IP

- Internet connection : You can connect the NVR to a router which is connected to an ADSL/Cable modem or a router in a Local Area Network (LAN) environment.

### • Setting the NVR Network

1. Set the <Connection Mode> in <Connection> menu of the connected NVR to <Static IP>.
2. Check whether the set IP address is in the static IP range provided by the Broadband Router.  
IP, Gateway, and Subnet Mask : Consult your network manager.
  - Check whether the set IP address is in the static IP range provided by the Broadband Router.



- If a DHCP server is configured with starting address (192.168.0.100) and end address (192.168.0.200), you should set the IP address out of the configured DHCP range (192.168.0.2 ~ 192.168.0.99 and 192.168.0.201 ~ 192.168.0.254).

3. Check the Gateway address and subnet mask are equal to those set in the Broadband Router.

### • Setting the DHCP IP Address of the Broadband Router

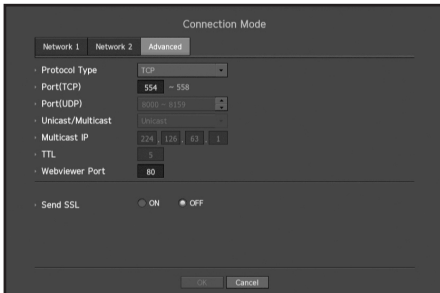
1. To access the Broadband Router's configurations, open a web browser on the local PC that is connected to the Broadband Router and enter the router's address (ex : http://192.168.1.1).
2. At this stage, make the local PC's windows network configurations to the below example :  
Ex) IP : 192.168.1.2  
Subnet Mask : 255.255.255.0  
Gateway : 192.168.1.1
  - Once connected to the Broadband Router, it prompts with password. While entering nothing to the User Name field, enter "admin" into the password field and press <OK> to access the router configurations.
  - Access the router's DHCP configuration menu and set its DHCP server activation, and provide the start and end address.  
Set the start address (192.168.0.100) and end address (192.168.0.200).



- Above steps may differ from the router devices depending on the manufacturer.

## Advanced Setting

[MENU] ⇒ ▼ ⇒ <Network> ⇒ ► ⇒ <Connection Mode> ⇒ [ENTER] ⇒ ▲▼◀▶ ⇒ <Advanced> ⇒ ▲▼◀▶ ⇒ [ENTER]



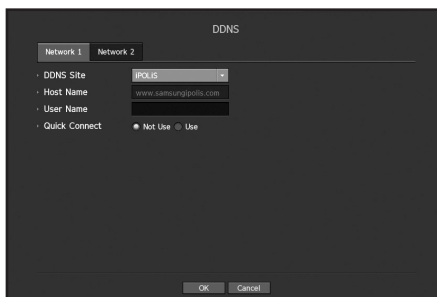
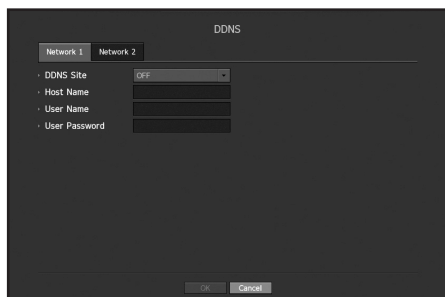
- Protocol Type : Select the protocol type between TCP and UDP.
  - If you select UDP, the items of Port(UDP) and Unicast/Multicast will be active.
  - If set it to TCP, the Port(TCP) item will be active.
- Port (TCP) : Enter the connectable port number. Initially, <554> is set.
  - TCP : It has better stability and lower speed when compared to UDP, and recommended for internet environments.
- Port (UDP) : Initially, <8000~8159> is set. It increases / decreases by 160.
  - UDP : It has less stability and faster speed when compared to TCP, and recommended for local area network (LAN) environments.
- Unicast/Multicast : Select one between Unicast and Multicast.  
If selected Multicast, Multicast IP and TTL are activated.
  - Unicast : Transfers data (UDP, TCP) individually to each connecting client.
  - Multicast : Multiple client can receive the data (only in UDP) without putting additional traffic load to the network.
- Multicast IP : User can directly input.
- TTL : Select from 0 ~ 255. Initial value for the TTL is set to <5>.
- Webviewer Port : Enter the port number for the Web Viewer. Initially, it is set to <80>.
- Send SSL : Select this option to send SSL.

# menu setup

## DDNS

You can set the DDNS site for a remote user's network connection.

[MENU] ⇨ ▼ ⇨ <Network> ⇨ ▶ ▼ ⇨ <DDNS> ⇨ [ENTER] ⇨ ▲ ▼ ◀ ▶ ⇨ [ENTER]



- DDNS Site : Specify the use of DDNS and select a site that you registered.
- Host Name : Provide the host name that you registered with the DDNS site.
- User Name : Provide the user ID that you registered with the DDNS Site.
- User Password : Provide the password that you registered with the DDNS site.



Refer to "Using Virtual Keyboard". (Page 45)

▪ If you select <OFF>, the input box will be inactive.

▪ If you select <iPOLiS>, the host name input box will be inactive. The user name input box will be active.

- Quick Connect : Appears if the <iPOLiS> is selected for a <DDNS Site>.  
To use the function, set to <Use> after connecting the NVR to a UPnP router.



▪ If canceled during Quick Connect configuration, it automatically switches to <Not Use> and saved.

### To check Quick Connect status

A progress bar and its message appears for a Quick Connect.

- **Quick Connect Success** : Message for a successful connection.
- **Invalid Network Configuration** : Message appears if the network configuration is not valid. Check the configuration.
- **Please enable UPnP function of the router** : Message appears if the router requires UPnP function enabled.
- **Failed to find the router** : Message appears if the router is not found. Check the router's configurations.
- **Please restart the router** : Message appears if the router should be restarted.



## DDNS Setting

DDNS is a short form of Dynamic Domain Naming System.

DNS (Domain Name System) is a service that routes a domain name consisting of user friendly characters (ex : www.google.com) to an IP address consisting of numbers (64.233.189.104).

DDNS (Dynamic DNS) is a service that registers a domain name and the floating IP address with the DDNS server so that the domain name can be routed to the IP address even if the IP is changed in a dynamic IP system.

- **Setting DDNS in the NVR**

Set **<Protocol Type>** in the **<Protocol>** menu of the connected NVR to the following :

Ex) Protocol Type : TCP

Port (TCP) : 554, 555, 556, 557, 558

DDNS Site : iPOLiS

- **DDNS Settings of the Router**

Select the corresponding menu for the network transfer protocol of the router.

- **Setting up UPnP of Router**

Refer to the router's documentation to enable the UPnP function of the router.



- If you make a DDNS connection via hub(router), and you use HTTPS, you need to forward to port 443.

## Live Transfer Setting

You can configure the profile to transfer the live video of each channel via the network.

CH	Profile	Codec	Resolution	Send Rate	Quality
1	Profile2	H.264	1920X1080	30fps	10
2	Profile2	H.264	704X480	30fps	10
3	--	--	--	--	--
4	--	--	--	--	--
5	--	--	--	--	--
6	--	--	--	--	--
7	--	--	--	--	--
8	--	--	--	--	--
9	--	--	--	--	--
10	--	--	--	--	--

- Profile : Select a network profile for the connected camera.
- Codec : Show the codec information for the selected network profile.
- Resolution : Display the resolution for the selected network profile.
- Send Rate : Display the baud rate for the selected network profile.
- Quality : Display the video quality for the selected network profile.



- If the profiles used for network and recording are different, camera's video feed may not comply with the frame rate as specified in the camera.

# menu setup

## Mailing Service

You can send an e-mail to a NVR-registered user at a specific time interval, or if an event occurs.



- If the camera is set to <OFF> or the channel's event is Video Loss, a notification is sent to the designated email address only in text.

## SMTP Setting

Sets the SMTP mail server.

[MENU] ⇨ ▼ ⇨ <Network> ⇨ ▶ ▼ ⇨ <Mailing Service> ⇨ [ENTER] ⇨ <SMTP> ⇨ ▲▼◀▶ ⇨ [ENTER]

Mailing Service

SMTP Event Group Recipient

ServerType SMTP mail Server

Server

Port 25

Use Authentication

User

Password

Secure Transfer Never

Sender ex. user@example.net

TEST

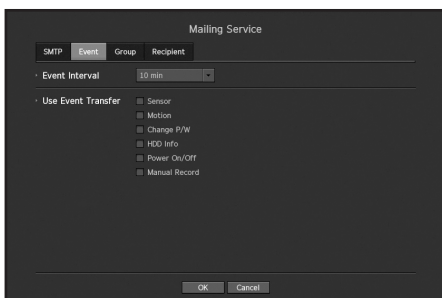
OK Cancel

- ServerType : Displays the connected server type.
- Server : Enter a server to connect to.
- Port : Sets the communication port.
- Use Authentication : Check this if the SMTP server uses user authentication. The account input box will be activated.
- User : Enter a user to use authentication when connecting to the SMTP server.
- Password : Enter the password of the SMTP server user.
- Secure Transfer : Select one from <Never> and <TLS (if available)>.
- Sender : Use the virtual keyboard to enter the sender's e-mail address.
  - Refer to "Using Virtual Keyboard". (Page 45)
- TEST : Conducts the test on the server settings.

## Event Setting

You can set the interval and type of the event that will be sent to the user.

[MENU] ⇒ ▼ ⇒ <Network> ⇒ ►▼ ⇒ <Mailing Service> ⇒ [ENTER] ⇒ ▲▼◀▶ ⇒ <Event> ⇒ ▲▼◀▶ ⇒ [ENTER]

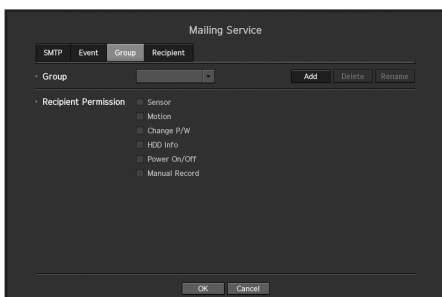


- Event Interval : Set the event interval.
  - If a series of events occurs, the e-mail will be sent at the specified interval, not on each event.
- Use Event Transfer : Select an event type to send if an event occurs.  
If the selected event occurs, the e-mail will be sent to the group that has the recipient authority.

## Group Setting

You can set the group to whom the e-mail is sent, and specify the permission for each group. Apart from the NVR user group, you can add email recipients from the <Recipient> item.

[MENU] ⇒ ▼ ⇒ <Network> ⇒ ►▼ ⇒ <Mailing Service> ⇒ [ENTER] ⇒ ▲▼◀▶ ⇒ <Group> ⇒ ▲▼◀▶ ⇒ [ENTER]



- Group : Specify the recipient group who receives the email event notification.
  - Add : Select <Add> and use the virtual keyboard to add a group.
    - Refer to "Using Virtual Keyboard". (Page 45)
  - Delete : Deletes the selected group.
  - Rename : You can reset the recipient permission of an existing group.
- Recipient Permission : Set the permission of the recipient group.

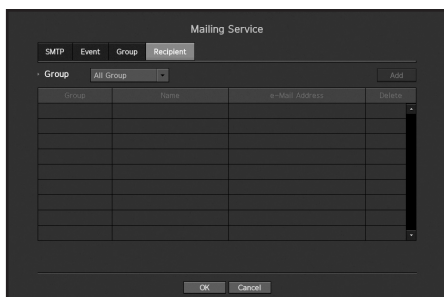
# menu setup

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## Recipient Setting

You can add/remove a recipient(s) to/from the specified group and edit the group if necessary.

[MENU] → ▼ → <Network> → ►▼ → <Mailing Service> → [ENTER] → ▲▼◀▶ → <Recipient> → ▲▼◀▶ → [ENTER]



- Select a recipient group who receives the email notification.  
The group list will be displayed only if you added at least one group to the <Group> item.
  - Add : You can select a recipient name, e-mail address or group.  
You should have created a group in the <Group> menu item before you can add a user to the group.
    - For inputting the recipient name and email address, refer to "Using Virtual Keyboard". (Page 45)

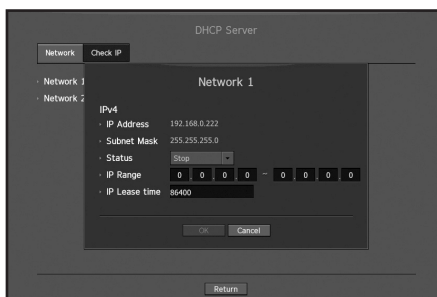
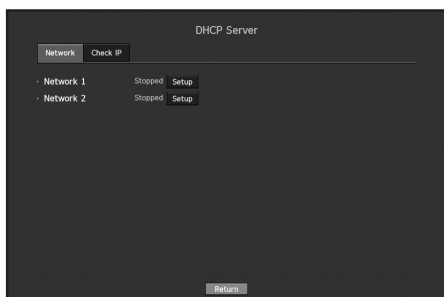
## DHCP Server

---

You can set the internal DHCP server and assign an IP address to the network camera.

## Network Setting

[MENU] → ▼ → <Network> → ►▼ → <DHCP Server> → [ENTER] → ▲▼◀▶ → <Network> → ▲▼◀▶ → [ENTER]



- Network 1/2 : Select <Setup>, and you can set the IP range operated by the server and time.

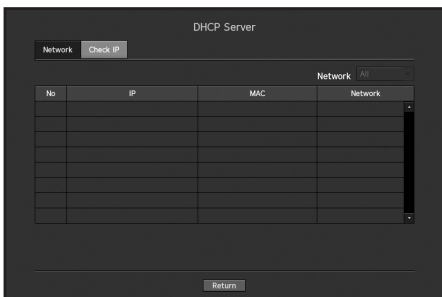
### To set the DHCP server

1. On the DHCP Server Setup window, click <Setup>.
2. Select <Run> in the <Status> field.
3. Enter the starting IP and end IP in the <IP Range> field.
4. Fill in the <IP Lease Time> field.
5. Click <OK>.
  - The IP range entered is set as the DHCP server address of the network.

### Check IP

You can check the IP and Mac currently used through the DHCP server, and the connected network port.

```
[MENU] ⇒ ▼ ⇒ <Network> ⇒ ► ▼ ⇒ <DHCP Server> ⇒ [ENTER] ⇒ ▲ ▼ ◀ ► ⇒ <Check IP> ⇒ ▲ ▼ ◀ ► ⇒ [ENTER]
```



- Network : Select the network port to check the information on IP and others.

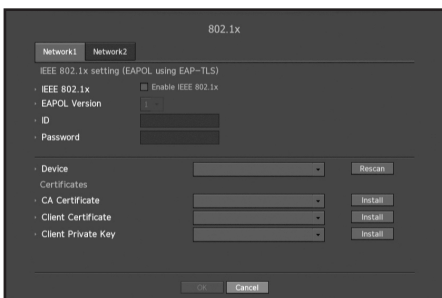
### 802.1x

When connecting to a network, you can select whether to use the 802.1x protocol and install a corresponding certificate.

802.1x is a certificate system for the server and the client. It can guarantee robust performance against hacking into the Tx/Rx network data, virus or information leaks.


By using this system, you can block access from a client who is not certified and only allow communication to certified users and thus increase the level of security.

```
[MENU] ⇒ ▼ ⇒ <Network> ⇒ ► ▼ ⇒ <802.1x> ⇒ [ENTER] ⇒ ▲ ▼ ◀ ► ⇒ [ENTER]
```



# menu setup

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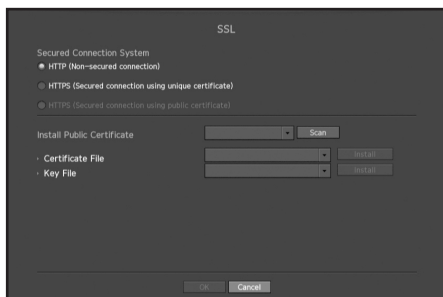
- EAPOL Version : Select the EAPOL version to be used as protocol.
    - Some switch hubs will not operate if you set them to version <2>. Select version <1>.
  - ID : Enter the ID provided by the RADIUS server administrator.
    - If the entered ID does not match the ID of the client's certificate, it won't be processed properly.
  - Password : Enter the password provided by the RADIUS server administrator.
    - If the password you entered does not match that of the client's private key, it won't be processed properly.
  - Certificates : Search for a device. Click on <Rescan> to search for a device again.
  - CA Certificate : Select this only if your public certificate includes the public key.
  - Client Certificate : Select if the public certificate includes a client's authentication key.
  - Client Private Key : Select it if the public certificate contains the client private key.
-  ▪ For successful implementation of the 802.1x operating environment, the administrator must use the RADIUS server. In addition, the switch hub connected to the server must be a device that supports 802.1x.
- If the time setting of the RADIUS server, the switch hub and an NVR device do not match, communication between them can fail.
  - If a password is assigned to the client's private key, the server administrator should confirm the ID and password. The ID and password allow up to 30 characters each. (But it only supports letters, numbers and special characters (" ", "\_", ". " 3 types) only. Accessing non password-protected files is allowed without entering a password.
  - The 802.1x protocol adopted by the NVR is EAP-TLS.
  - You need to install all three certificates to use 802.1x.

## SSL

---

You can select a security connection system or install public certificates.

[MENU] ⇒ ▼ ⇒ <Network> ⇒ ► ▼ ⇒ <SSL> ⇒ [ENTER] ⇒ ▲ ▼ ◀ ▶ ⇒ [ENTER]



- Secured Connection System : You can select a type of security connection system.
  - HTTP (Non-secured connection)
  - HTTPS (Secured connection using unique certificate)
  - HTTPS (Secured connection using public certificate)
- Install Public Certificate : You can scan and register public certificates to be installed. If you want to use a certificate, you need to install a certificate file along with and an encryption file.
  - The <HTTPS (Secured connection using public certificate)> menu can be selected only if there is a registered public certificate.



- If you make a DDNS connection via hub/router), and you use HTTPS, you need to forward to port 443.

# search & play

## SEARCH

You can perform the search for recorded data by the time or by the search criteria such as an event. You can access the <Search> menu directly in Live mode.



1. In Live mode, right-click any area, or press [MENU] on the remote control. The Live menu appears.
2. Select <Search>. Or press the [SEARCH] button on the remote control.
3. The Search menu should appear.
4. The search can be restricted by the Auto Delete function. Refer to "**Setting the Recording > Record Option**". (Page 69)

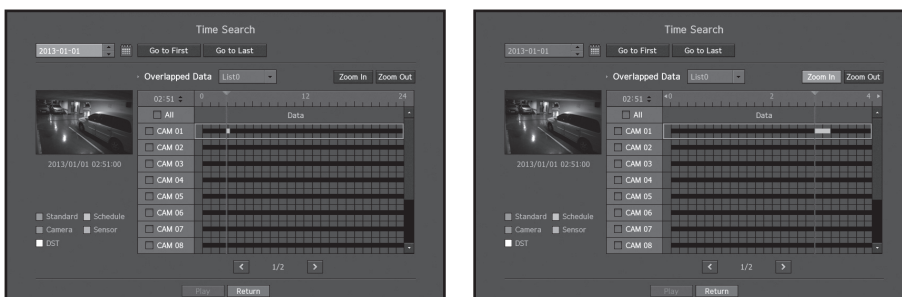


- Overlapped data : It only appears if there exists overlapped data on a certain time, produced due to the change of NVR's time setup. The latest data comes first, from <List0>. It does not appear in <Backup Search>.
- The search time is based on the time specified by NVR.

## Time Search

You can search for recorded data of a desired time.


As the time to display may be different depending on the time zone and the DST standard time, the time of data recorded in the same time can be displayed differently depending on time zone and DST settings.



1. Select <Time Search> in the <Search> menu.
2. Use the number buttons or direction buttons (▲▼◀▶) to specify the search period (date).
  - For using the calendar, refer to "**To use the calendar**". (Page 44)

# search & play

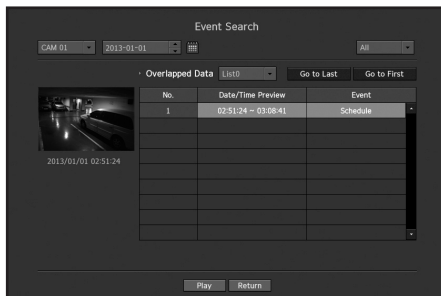
---

- The record data on the specific date will be listed.  
The display bar is different according to the data type. So check the data type for the color in the left pane.
-  If DST (Daylight Saving Time) is configured, overlapping multiple recordings may be produced for a certain moment of time. Such a time section is distinguished with yellow color to mark DST section.
- Use direction buttons (▲▼◀▶) to set the search criteria and press the [ENTER] button.
  - Go to First : Move to the earliest recording date.
  - Go to Last : Move to the latest recording date.
  - Time : Enter a time to perform the search or use the up/down button <◆> to select one.
  - Zoom In : The map enlarges in detail.  
It will switch in the sequence of 24 hours - 16 hours - 8 hours - 4 hours.
  - Zoom Out : The map will switch in the reverse order of the detailed mode above.  
It will switch in the sequence of 4 hours - 8 hours - 16 hours - 24 hours.
  - Preview : Click <Channel> and select (click, drag) a time in <Duration> to display a still image for the portion.
    - If the selected channel does not contain any recorded data, it will be marked black.
- Select a data item and click <Play>.  
The screen switches to the data playback mode.

## Event Search

---

You can search for events by the channel and play them.

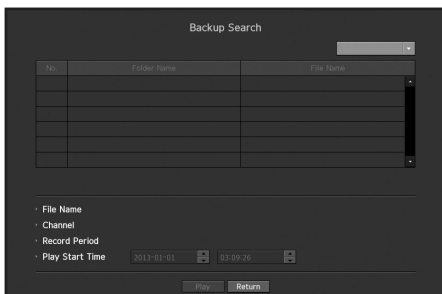


- Select <Event Search> in the <Search> menu.
- Use direction buttons (▲▼◀▶) to set the search criteria and press the [ENTER] button.
  - According to the selected menu, the search will be applied differently for: Entire/Standard Recording/Scheduled/Sensor/Motion Recording/Other events.
- Date/Time Preview : If you select a data item in the list, the still image of the selected data will be displayed in the left preview pane.
- Event : Displays the type of the event that occurred.
- Select a data item and click <Play>.  
The screen switches to the event data playback mode.



## Backup Search

Searches for backup data in the connected backup device. Only data in the format of NVR is included in the search. Refer to <Type> in "**Backup > Backup**". (Page 73)



1. Select <Backup Search> in the <Search> menu.
2. Use direction buttons (▲▼◀▶) to set the search criteria and press the [ENTER] button.
  - Channel : Displays the recorded channel.
  - Record Period : Displays the record period.
  - Play Start Time : Select a time that you start playing.
3. Select a data item and click <Play>.
  - The screen switches to the backup data playback mode.

# search & play

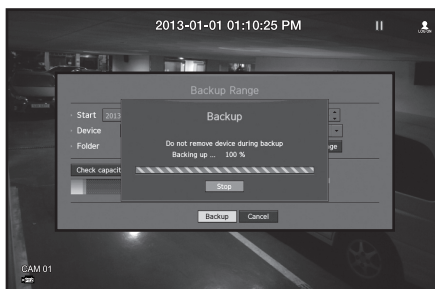
## PLAYBACK

### Play

You can play data stored in the HDD and backup a desired portion of the data.

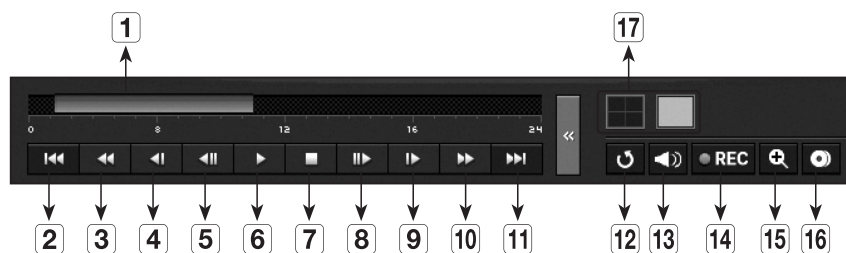


1. Select **<Play>** in the context menu of the Live screen, click **<▶>** in the launcher menu, or press **[▶]** on the remote control.
2. Use the up/down button (**▲▼**) to select a menu.
  - If this is the first time you try to play, you will start with the data search window.  
For data search, refer to "**Search**". (Page 85)
3. Select a data item and click **<Play>** in the Search menu.  
The selected data is played and the play launcher appears on the screen.
  - If there is an existing data, **<Play>** will start immediately without performing the search.



- Playback Information : Displays the date and time of the current data in the top corner.
  - Backup : Click **<⏮>** to set the current time to the start time of backup; you can specify a backup area using the mouse (yellow triangle).  
Click **<⏭>** again to set the current time to the end time of the backup and the "**Backup Range**" window appears.
    - Type : Supports formats of NVR and SEC.  
Refer to a list of formats in "**Backup > Type**". (Page 73)
    - Device : Select a backup device.
    - Check Capacity : Enables you to check the capacity of the selected storage device.
4. To return to the Live screen during the playback, click **<■>** in the launcher menu or press **[■]** on the remote control.

## Using the Playback Button

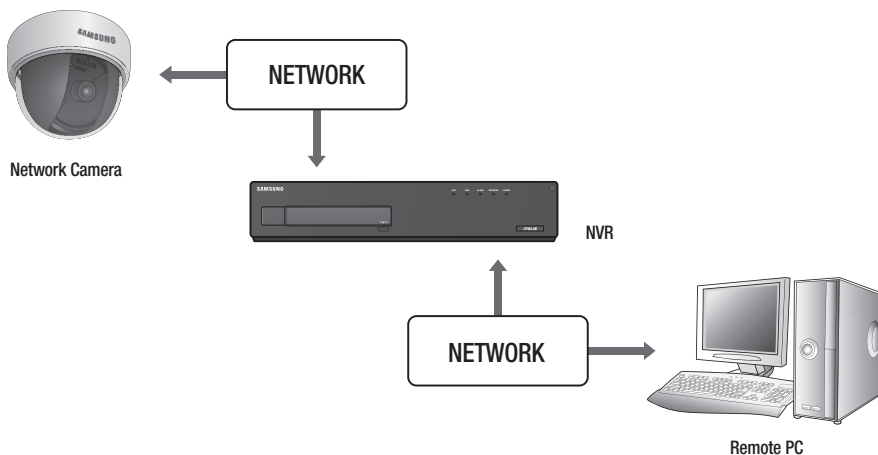


Name	Description
<b>1</b> Play Timeline	Indicates the current playback point, and can be used to move.
<b>2</b> Skip Backward	Moves backward by unit time.
<b>3</b> Backward Fast Play	Used for quick backward search while in Play.
<b>4</b> Backward Slow Play	Used for backward frame-by-frame search while in PAUSE.
<b>5</b> Step Backward	Moves backward by one frame at a time.
<b>6</b> Pause	Stops playing the current video temporarily.
<b>7</b> Stop	Stops playback and moves to the live screen.
<b>8</b> Step Forward	Moves forward by one frame at a time.
<b>9</b> Forward Slow Play	In a split mode, the real time playback may not be supported, depending on the record quality, resolution and number of channels. And some frame rates may be supported.
<b>10</b> Forward Fast Play	Used for quick forward playback.
<b>11</b> Skip Forward	Moves forward by unit time.
<b>12</b> Return	Return to the search setup screen.
<b>13</b> Audio	Sets Audio ON/OFF.
<b>14</b> REC	Records all channels in Live mode.
<b>15</b> ZOOM	This is available in Single mode, which will enlarge the video from a selected channel. To cancel the zooming, simply double-click the enlarged image or select <Close Zoom> in the Live screen menu.
<b>16</b> Partial Backup	Begins backup of the selected section of the video being played, with the specified starting/ending point.
<b>17</b> Mode Switch	Click a desired playback mode or press [MODE] to switch the screen mode in sequence.

# starting web viewer

## WHAT IS WEB VIEWER?

WebViewer is a software program with which the operator can access a remote NVR (Network Video Recorder) for real-time monitoring, PTZ control (if configured) or search.



## Product Features

- Remote connection using the browser
- PTZ camera control enabled
- Supports 1, 4, 9, 16 camera viewing formats (maximum of 16 cameras in the list).
- Saving function in JPEG/BMP image format for printing and storage.
- Record video in AVI format-compatible with popular media players. (The integrated codec is needed)

## System Requirements

The following lists the minimum suggested hardware and operating system requirements needed to run the Web Viewer.

Item	Minimum	Recommended
CPU	Intel Core 2 Quad 2.5GHz or higher	Intel i7 or more
RAM	3GB or more	3GB or more
HDD	200GB or more	200GB or more
VGA Memory	512MB or more	1GB or more
Display Resolution	1280 x 1024 or higher	
OS	Windows XP Professional, Windows Vista Home Basic/Premium/Ultimate, Windows 7, Windows 8 DirectX 9.0c (Uses Direct3D Acceleration) Internet Explorer 7, 8, 9, 10 (Internet Explorer x86 in Windows 7, 8 64-bit environment)	
Network	10/100/1000 Ethernet NIC	

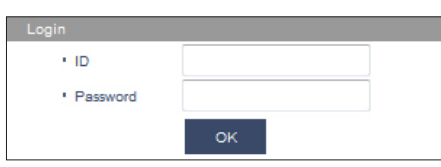
## CONNECTING WEB VIEWER

1. Open your web browser and type the IP address or URL of NVR into the URL address box.



- ✍️ ▪️ “192.168.1.200” is set to IP by default.
- ️ You must have specified the IP address in “**Network > Connection Mode**”.
- ️ The URL connection will be enabled only when the DDNS connection settings have been completed. For more information, refer to “**Network Configuration > DDNS**”. (Page 78)

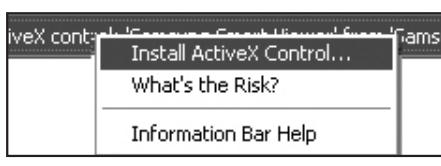
2. A user with the admin permissions should provide the admin ID and password. A registered user should provide the user ID and password.



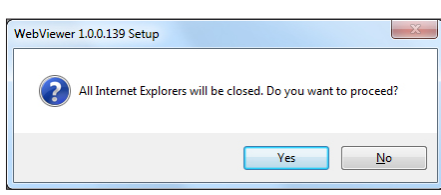
- ! ▪️ The initial administrator ID is “**admin**” and the password should be set when logging in for the first time. (Initial password of the Admin user is set to “**4321**”.)
- ️ Set password for your wireless network if you use the product with a wireless router. Being not protected with password or using the default wireless router password may expose your video data to potential threat.
- ️ Please change your password every three months to safely protect personal information and to prevent the damage of the information theft. Please, take note that it’s a user’s responsibility for the security and any other problems caused by mismanaging a password.

- ✍️ ▪️ It allow s up to 10 simultaneous access including the Admin and general users.
- ️ It does not allow multiple login of the Admin user.
- ️ Password of the Admin and general users can be changed in <Permission Management> menu of the NVR.
- ️ Normal users should have set <Webviewer> under <Restriction on Network Access> to Use before connecting to the Web Viewer. (Page 48)
- ️ All settings are applied by the NVR’s settings.

3. Click <Install ActiveX Control...>.



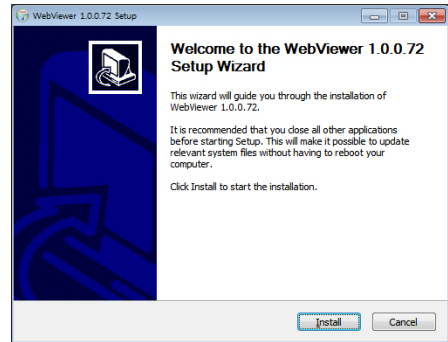
4. When the installation confirm message appear, click [Yes] button.



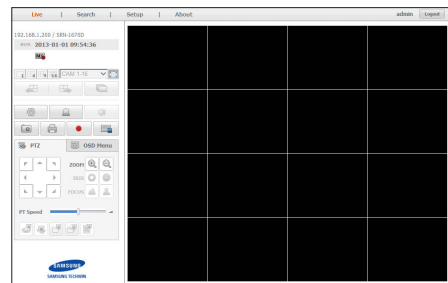
# starting web viewer

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5. When a program installation wizard window appears, press the **[Install]** button to install the program.
  - The version of the program installed may vary depending on the update version.



6. Open the Web Viewer after installing software, and log in again.  
Live Viewer's main screen appears when you log in successfully after installing the program.



## LIVE VIEWER

You can check the video from camera registered in the NVR connected from a remote PC. Also, you can adjust the camera and check the network transfer status.

### Live Viewer Screen



Menu	Description
<b>1</b> Menu Selection	Switches into corresponding menu screen by clicking each menu.
<b>2</b> Address, Name, Time	Displays the IP, model name, time, etc. of connected NVR.
<b>3</b> System Status Indicator	Displays icons to display the screen or system status.
<b>4</b> Split Mode Selection	Selects the type of split screen and specify the channel displayed in Display Pane.
<b>5</b> Change Channel	Switches into previous/next channel or perform Auto Sequence. Click Auto Sequence button to display the Time Interval Selection menu.
<b>6</b> Pause	Temporarily stops the videos in all the channels or deactivates the Pause function in suspending status.
<b>6</b> Stop Alarm	Deactivates an alarm when it occurs.
<b>6</b> Sound	Sets the sound connected to each channel to ON/OFF.

# live viewer

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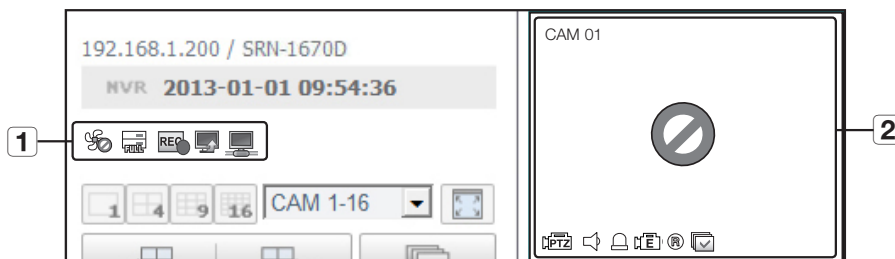
	Menu	Description
7	<b>Capture</b>	Saves current video for selected channel in designated path.
	<b>Print</b>	Prints current video image for selected channel through designated printer.
	<b>Save as AVI</b>	Records the live video in AVI file format in designated path, and then stops recording. Recording status icon is displayed on screen during recording.
	<b>Manual NVR Record</b>	Manually activates and deactivates NVR recording.
8	<b>PTZ</b>	Controls connect PTZ camera(s).
	<b>OSD menu</b>	Goes to the relevant menu screen of a camera, which supports OSD menu and changes the menu.
9	<b>Display Pane</b>	Displays the video of camera connected to NVR.
10	<b>Logout</b>	Performs logout process.
11	<b>ID</b>	Displays the connected user ID.



# LIVE SCREEN CONFIGURATION







## System Status

You can check the status or operation of the NVR with the icons on the live screen.



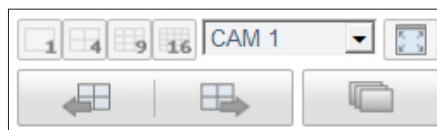
Item		Description		
1	System Operation		Displayed if there is a problem with the cooling fan.	
		HDD		Displayed if the HDD needs a technical examination.
				Displayed if no HDD is installed or the existing HDD should be replaced.
				Displayed if the HDD is full and the NVR has an insufficient space to record.
		Record		Appears when it is being recorded.
				This is displayed if some channels will be recorded only on key frames because the entire recording data size is over 64Mbps. (Page 67)
			Displayed if a new firmware is found from the network.	
	Appears when recording is limited due to network overload.			
2	Video Input Status		Displayed if you press the Pause button.	
			Displayed if no input is entered in the condition that the camera is set to <ON>.	
			Displayed if no permission to live view is granted.	
			If your camera is turned <OFF> or in <Covert> mode, nothing is displayed on screen.	

# live viewer

Item		Description
2	Video Input Status	<b>Camera Title / Channel</b> Display the camera title and channel number.
		 This icon is displayed for a channel that a PTZ-featuring camera is connected to.
		 Displays AUDIO ON/MUTE. Not displayed in video mode if deactivated.
		 If the sensor is set to <ON>, the input signal will be displayed on the screen of the connected channel.
		 Set the camera event detection to <ON>, and a camera event will be displayed when occurred.
		 Displays the current record mode from Record/Event/Schedule.
		 Displayed in Auto Sequence mode where all channels are switched at the specific time interval.

## Changing Split Mode

When clicking the Split Mode selection button, the screen is changed into the selected split mode.



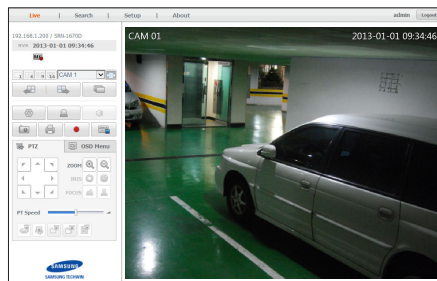
### To switch to Single screen mode

Click <  >.

The monitor screen switches to the single screen of specified camera among displayed channels.

It is also changed into Single screen if double-clicking your desired camera channel.

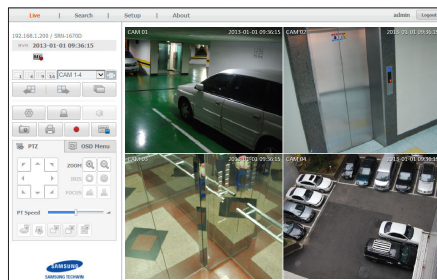
You can go to the previous/next channel by clicking the Previous/Next button.



### To switch to QUAD screen mode

Click <  >.

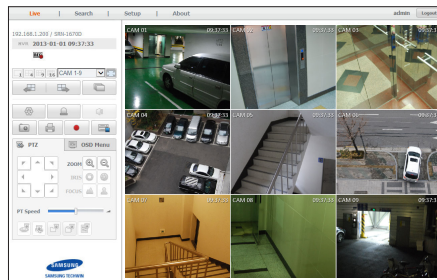
The screen mode switches to 4-split screen mode which displays the channel group including currently specified camera.



### To switch to 9-split screen mode

Click <  >.

The screen mode switches to 9-split screen mode which displays the channel group including currently specified camera.

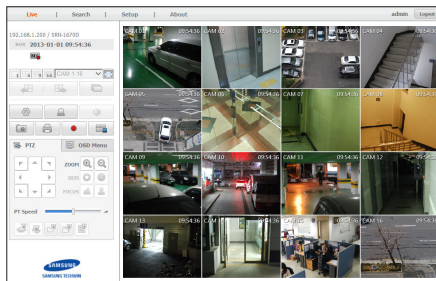


# live viewer

## To switch to 16-split screen mode

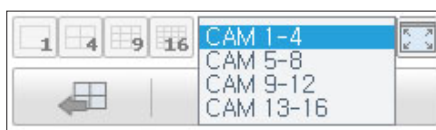
Click <  >.

The screen mode switches to 16-split screen mode which displays the channel group including currently specified camera.



## To go to your desired channel screen

Press the Previous/Next button to switch to the previous/next channel group. Or click the channel selection bar next to Split Mode buttons to select a desired channel in the drop-down channel list.

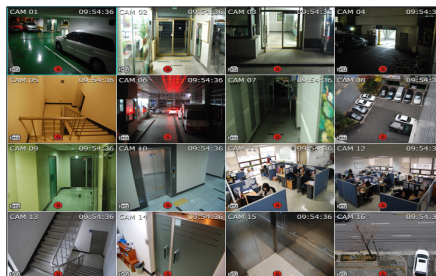


## To switch to full screen mode

Click <  >.

Current split screen appears in full screen.



Press the **[ESC]** key to exit the full screen mode.




## Switching the split mode

You can play 16 live videos in sequence in Single, 4-split or 9-split Screen mode.

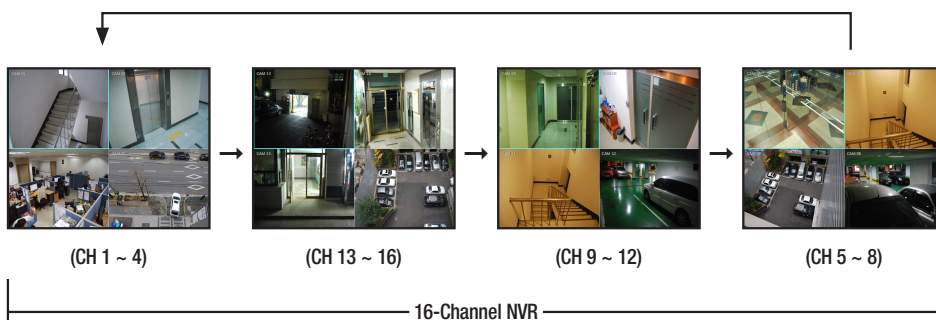
### To switch to previous/next channel

Click <  > or <  > button.

You can go to the previous/next screen image of connected device in current split mode.

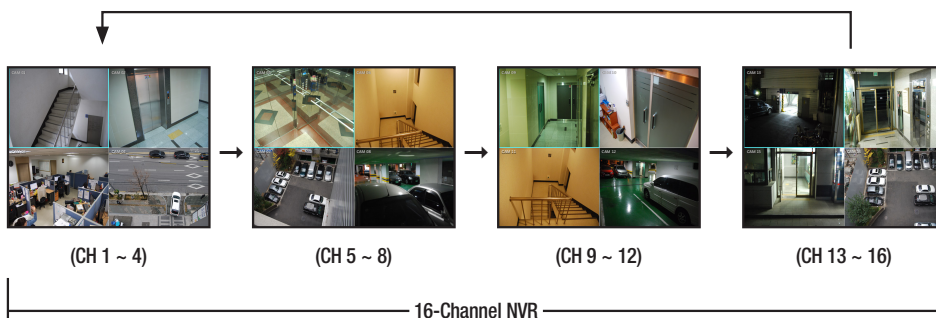
- Previous : Switches to the previous screen in reverse order.
- Next : Switches to the next screen in order.
- If you press the <  > button in 4-split mode:

Order of reversed switching in 4-split mode : CH 1~4 → CH 13~16 → CH 7~12 → CH 5~8 channel groups.




- If you press the <  > button in 4-split mode:

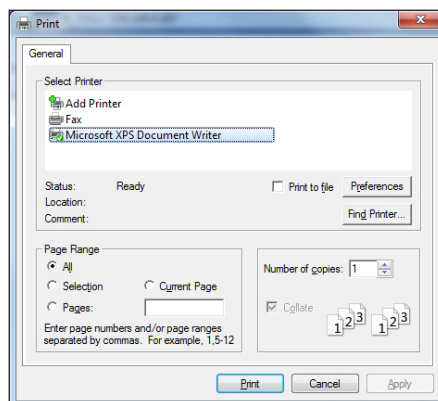
Order of forward switching in 4-split mode : CH 1~4 → CH 5~8 → CH 9~12 → CH 13~16 channel groups.






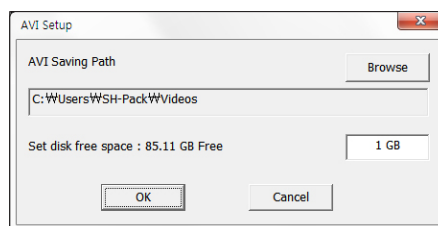
## To print a screen

1. Click <  > button.
2. Print current camera's video image with the printer connected to the PC operating the Web Viewer.




## To save as AVI

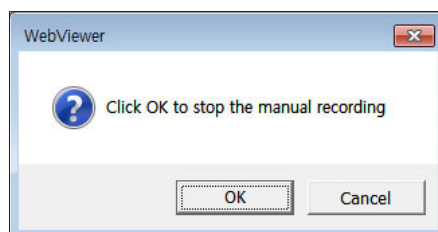
1. Click <  > button.  
When "AVI Setup" window appears, select the record saving path and capacity.
2. Select a desired path, enter the maximum recording capacity, and then click [OK] button.
  - Save current channel's video as .avi file. For playing a video clip, you can use the free video player to play the video. (ex: GOM Player, KM Player, etc.)
  - After saving an AVI file, install the CODEC when playing it in Windows Media Player.
  - However, the video may not be played properly, depending on the CODEC compliance of the player. At least 1GB of free space is required for recording.



- ! While recording current data in Web Viewer, you cannot select Split Mode buttons, switch to the previous/next screen, or activate Auto Sequence function.
- If the viewer is running without the administrator's permission in Windows Vista / 7, you may not change a folder when saving a video as AVI file.

## To stop manual recording

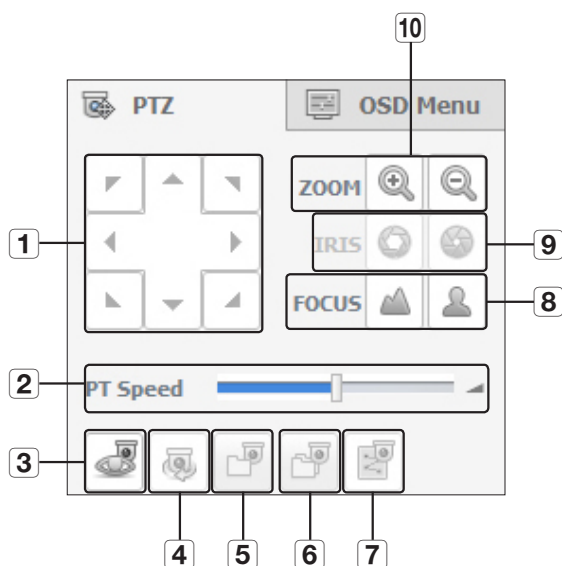
1. Click <  > button.  
A dialog box pops up, asking you if you wish to stop recording manually.
2. Click [OK] if you wish to stop recording.  
Recording in NVR is stopped.



## CONTROLLING A CONNECTED NETWORK CAMERA

### Controlling PTZ

If PTZ camera is connected, the  icon appears on screen. When selecting corresponding camera channel, the PTZ tab is provided to allow you to control the PTZ.




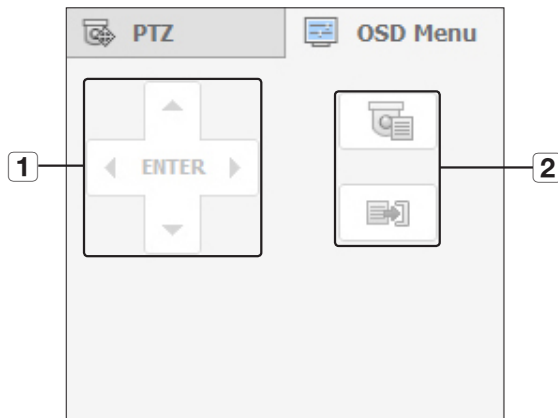
Item	Description
<b>1</b> Direction Adjustment	Adjusts the direction of a camera.
<b>2</b> PT Speed	Adjusts the PAN, TILT reaction speed.
<b>3</b> Preset	Sets the preset position for camera framing and moves to designated preset position when selecting a desired preset.
<b>4</b> Swing	Moves between the preset start point and end point.
<b>5</b> Group	Moves in the path specified by combining the preset, pattern and auto pan.
<b>6</b> Tour	Moves in the path specified by combining multiple groups.
<b>7</b> Trace	Moves camera's framing in the predefined path.
<b>8</b> FOCUS	Adjusts the focus of the camera.
<b>9</b> IRIS	Adjusts image's brightness by controlling the camera's iris.
<b>10</b> ZOOM	Zooms in/out the image by controlling camera's zoom.





## Controlling OSD Menu

If connected network camera supports the OSD menu, press the <  > to enter camera's menu screen to change its settings.



Item		Description
1	Direction Adjustment	You can go to a desired menu.
	ENTER	Selects a desired item.
2	Camera Menu / Exit	You can use / stop camera's OSD menu settings.



- For more information about camera's OSD menu, refer to corresponding user manual of each camera.

# search viewer

## SEARCH VIEWER

You can search and play the video record saved in NVR by accessing NVR remotely.

### Search Viewer Screen







Item	Description
1	<b>Menu Selection</b> Switches to the corresponding menu screen by clicking each menu.
2	<b>Address, Name, Time</b> Displays the IP, model name, time, etc. of connected NVR.
3	<b>Sound</b> Sets the sound connected to each channel to ON/OFF.
4	<b>Split Mode Selection</b> Selects the type of split screen and selects the channel displayed in Display Pane.
5	<b>Capture</b> Saves current video for selected channel in designated path.
	<b>Print</b> Prints current video image for selected channel through designated printer.
	<b>Save as AVI</b> Records and saves currently playing video image as AVI file in designated path and then stops.
	<b>NVR Record</b> Activates and deactivates an NVR recording.
6	<b>Calendar</b> Displays the video-recorded date in blue and today in red. Click the date in blue color to display the recorded video information in timeline.

# search viewer

Item	Description
<b>7</b> <b>Overlapping Data</b>	Displays and zooms in/out recorded video data. If overlapping data found, this function selects one of them to play.
<b>8</b> <b>Play Control</b>	Adjusts current video's playback speed and played time position.
<b>9</b> <b>Recording Color</b>	Displays the corresponding color depending on recorded data type if you place your mouse cursor on that area.
<b>10</b> <b>Display Pane</b>	Plays corresponding data on the screen if you select a search result.
<b>11</b> <b>Logout</b>	Performs logout process.
<b>12</b> <b>ID</b>	Displays the connected user ID.

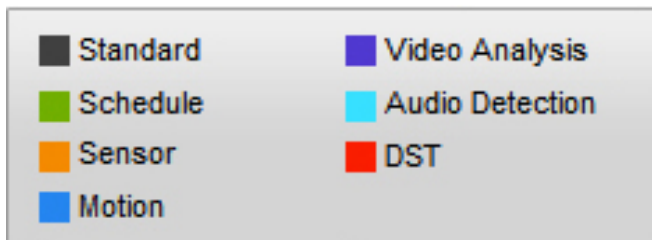
## To search by date

You can select the search date by using calendar.

1. Click <  > or <  > to select the year to search.
2. Click <  > or <  > to select the month to search.  
The date including data appears in blue and today appears in red.
3. Click the date to search in calendar.  
The first image of searched video data on the date is displayed on screen and the data is displayed in the timeline.
4. To search video data on today, click <Today>.  
Today's date is selected.

## Color indications depending on current recording status

Displays the corresponding color according to the recorded data type.



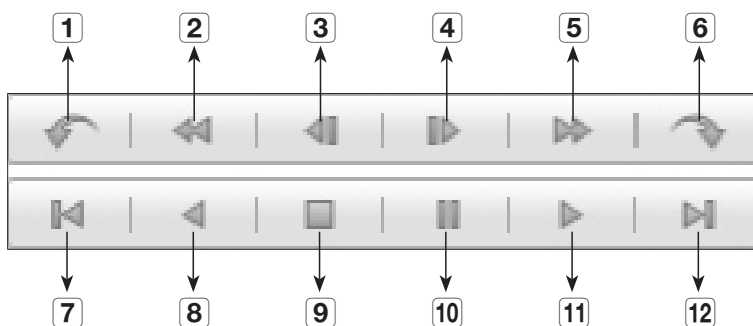
-  If 2 or more kinds of recording type are mixed for the same timeline, only the recording type with higher priority is displayed. (Priority: Audio Detection > Video Analysis > Motion > Sensor > Schedule > Standard)

## To adjust timeline

If searched data are overlapping, you can select a desired data, move its playback time point, and zoom in/out the timeline.

1. Select the number of data to search if data is overlapping.  
It appears only when data are overlapped and assigns <0> to the most recent data.
2. Click your desired time point to play on the timeline.  
The playback start point is moved.
3. Click <+> / <-> to zoom in/out the zoom factor to display time.
4. To show the previous/next timeline in zoomed-in status, click <◀> or <▶> to go to the left or right.

## Names and Functions of Play Buttons



Item	Description
1	<b>Jump Backward 10min</b> Moves backward by 10 minutes from the current playing point.
2	<b>Fast Backward</b> Plays in reverse at doubled speed. The playback speed is doubled up to x64 speed.
3	<b>Step Backward</b> Moves backward by 1 second from current playing point.
4	<b>Step Forward</b> Moves forward by 1 second from current playing point.
5	<b>Fast Forward</b> Plays at doubled speed. The playback speed is doubled up to x64 speed.
6	<b>Jump Forward 10min</b> Moves forward by 10 minutes from the current playing point.
7	<b>Go to First</b> Moves to the recording start point on the corresponding timeline.
8	<b>Reverse Play</b> Plays in reverse.

# search viewer

---

Item		Description
<b>9</b>	<b>Stop</b>	Stops playing. When resuming playback, it is played from the recording start point.
<b>10</b>	<b>Pause</b>	Pauses playing. When resuming playback, it is played from the stopped point.
<b>11</b>	<b>Play</b>	Plays normally.
<b>12</b>	<b>Go to Last</b>	Moves to the recording end point on the corresponding timeline.

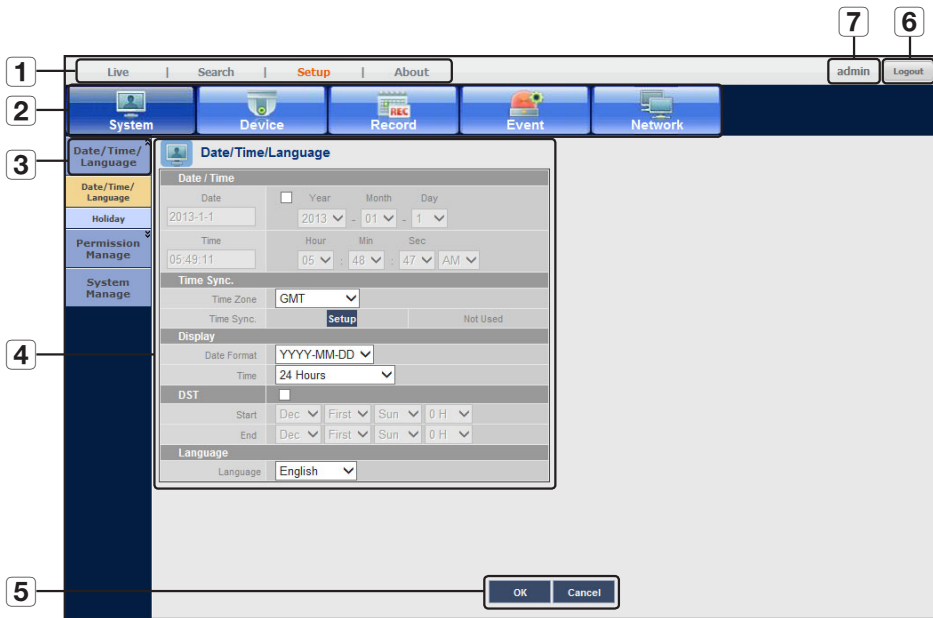
# setup viewer

## SETUP VIEWER

You can configure the NVR settings remotely on the network.

To configure the NVR settings, click <Setup>.

### Settings Screen



Item	Description	
1	Menu Selection	Click each menu to switch into corresponding menu screen.
2	Parent Menu	Configure the settings or select a parent item to change the existing settings.
3	Sub-Menu	Among the sub-menus of selected parent menu, select a desired item to set.
4	Detailed Menu	Click desired item's input field to change and enter a desired value.
5	OK	Apply the modified settings.
	Cancel	Return to the previous settings without saving changes.
6	Logout	Perform logout process.
7	ID	Display the connected user ID.

# setup viewer

## System

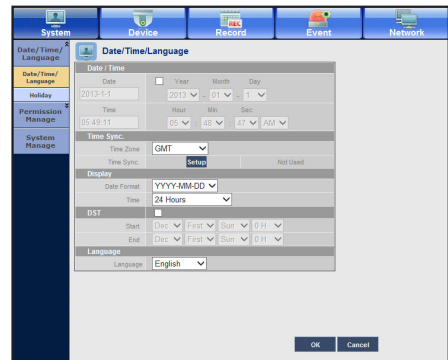
You can configure the various settings of the NVR system.

### Date/Time/Language

For more information, refer to “Date/Time/Language” in the “System Setup” menu. (Page 43)

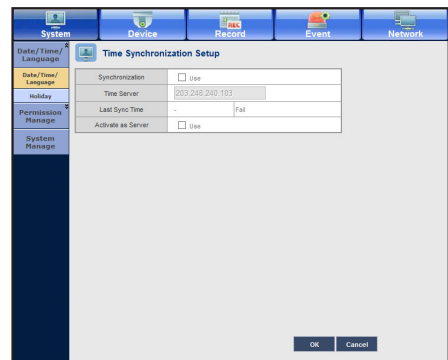
#### Date/Time

Set the date and time.



#### Time Synchronization Setup

Set the time synchronization.



#### Display

Date Format : Set the date type.

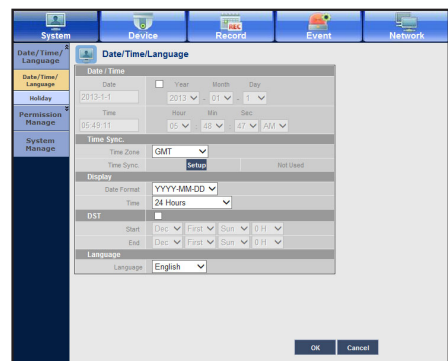
Time : Select a time format to display on the screen.

#### DST (Daylight Saving Time)

DST is displayed an hour ahead of the standard time of the time zone.

#### Language

Select a preferred language for the NVR.

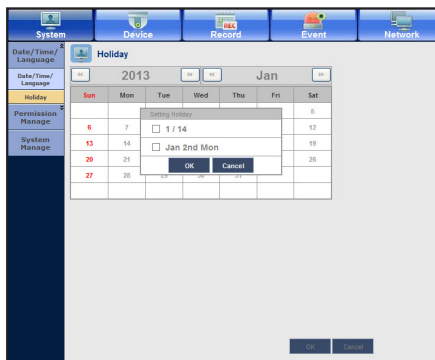




## Holiday

You can set specific dates to Holidays according to your preferences.

For more information, refer to “Setting Holiday” in the “System Setup” menu. (Page 44)



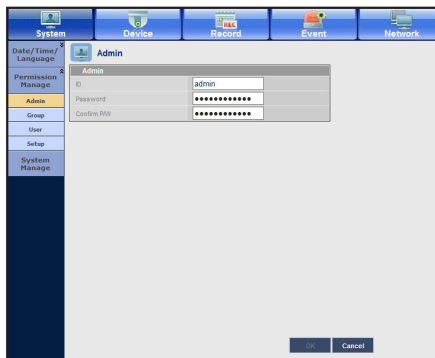
## Permission Management

For more information, refer to <Permission Management> in the “System Setup” menu. (Page 45)

### Admin

You can change the admin ID or the password.

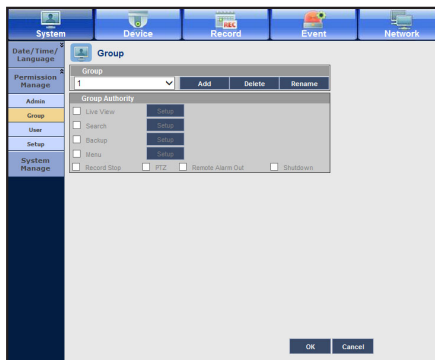
- ID allows alphanumeric characters only.
- Password allows only alphanumeric letters and special characters other than <\> and <">.



### Group

Users are classified into groups and the permission can be set according to the group.

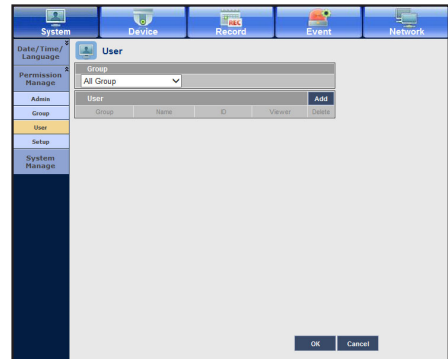
- First of all, add a group.



# setup viewer

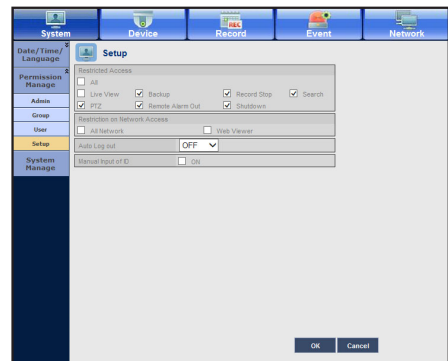
## User

You can add, change or remove a user or users.



## Setup

You can set the user permission.

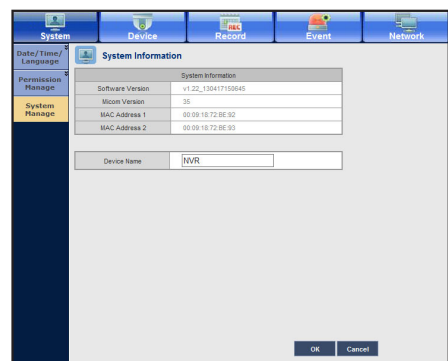


## System Management

For more information, refer to <System Management> in the "System Setup" menu. (Page 49)

## System Information

You can see information of the current system.  
Check the software version and MAC address.



## Device

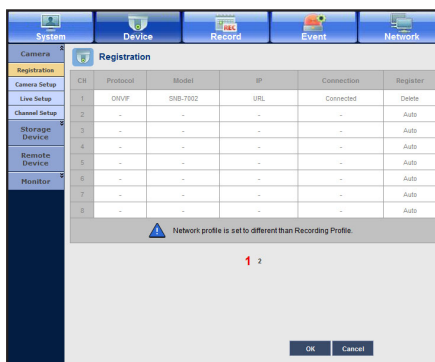
You can check a list of devices that are connected to the NVR and configure the necessary settings. Click <Device> in the menu screen.

For more information, refer to “Setting the Device”. (Page 54)

## Camera

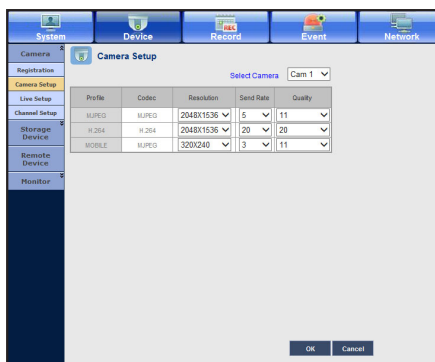
### Registration

You can add a network camera(s).



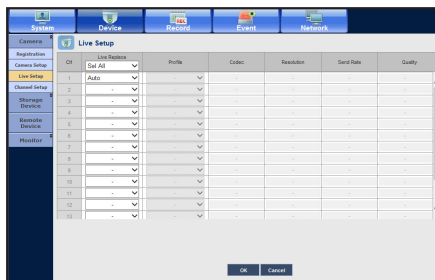
### Camera Setup

You can change the settings of a connected network camera.



### Live Setup

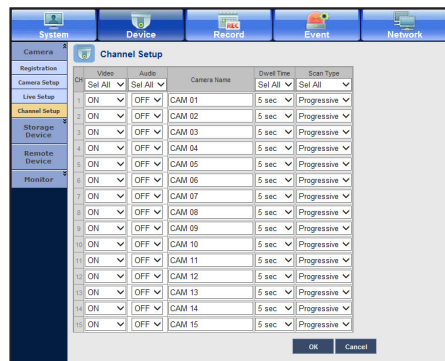
You can change the live transfer settings of the network camera.



# setup viewer

## Channel Setup

You can configure the video settings for each channel.



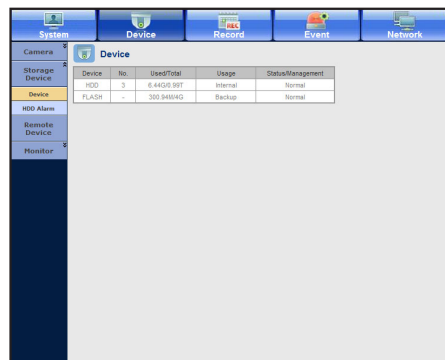
## Storage Device

You can check and change the settings related to the data storage device.

### Device

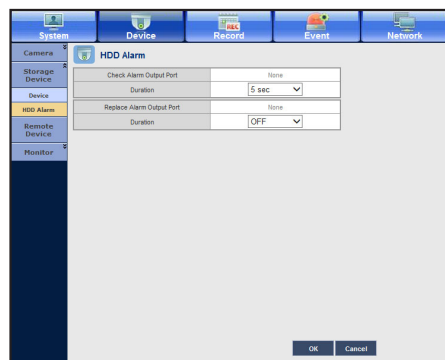
You will see a list of storage devices that are connected to the NVR.

You can check the type, used/total, usage and status of the device.



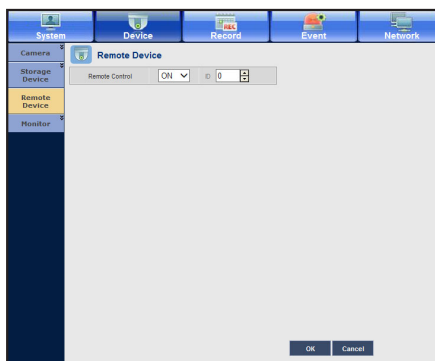
### HDD Alarm

You can set the alarm output channel and the alarm duration for an error.



## Remote Device


You can specify the ID of a remote control that will operate in sync with NVR.

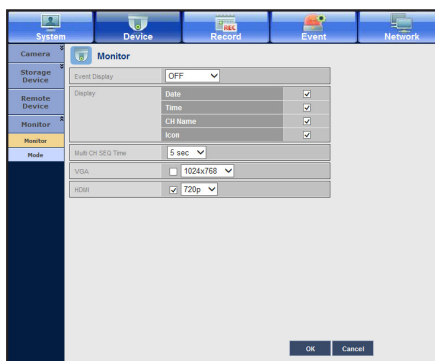


## Monitor

### Monitor

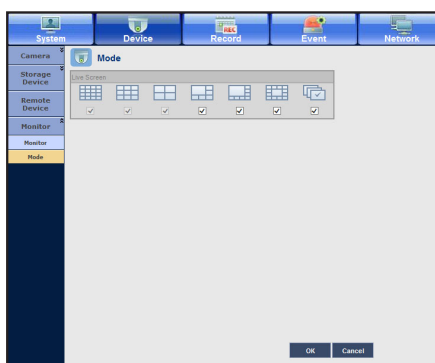
You can configure the monitoring screen settings and set the output system.

- 
▪ If the video is not played properly, refer to the troubleshooting section later in this manual. (Page 133)



### Mode

You can switch between live mode and play mode.



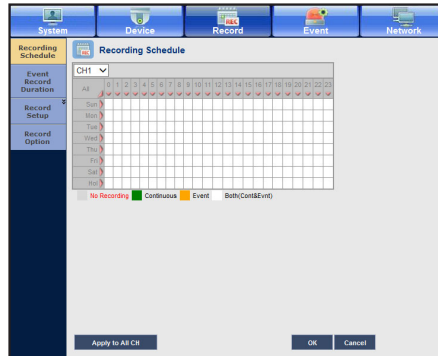
# setup viewer

## Record

For more information, refer to “Setting the Recording”. (Page 66)

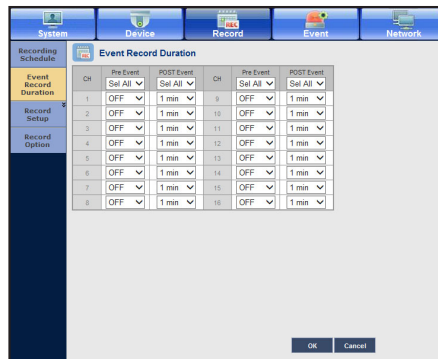
### Recording Schedule

If you set a recording schedule for a specific date and time, the recording will start at that specific time.



### Event Record Duration

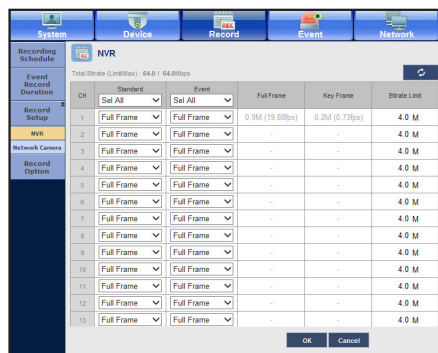
You can set the start and end times of recording that will be activated if an event occurs.



### Record Setup

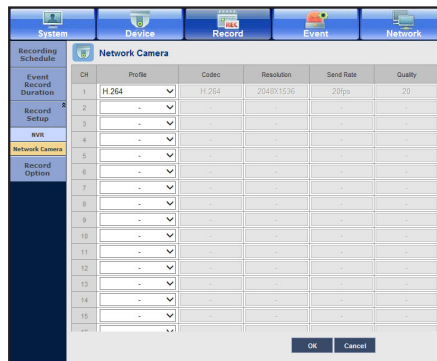
#### NVR

Select a type of the normal/event recording frame rate for each channel.



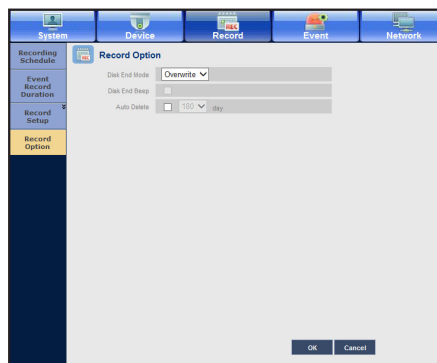
### Network Camera

You can configure the record-related settings of the network camera.



### Record Option

You can set the Disk End Mode.



# setup viewer

## Event

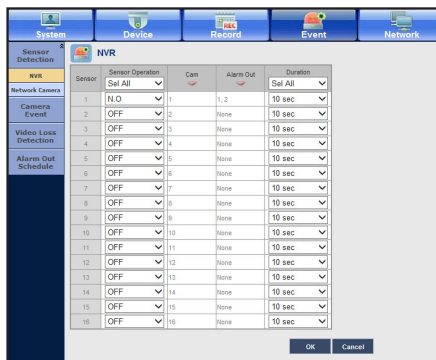
For more information, refer to “Setting the Event”. (Page 70)

## Sensor Detection

### NVR/Network Camera

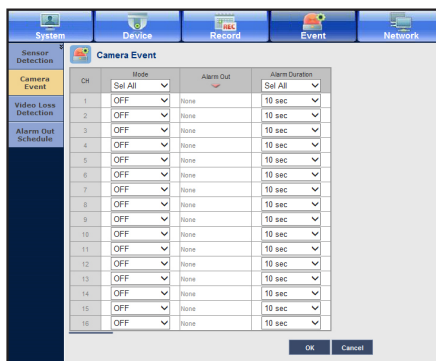
You can set the sensor operation mode and the synchronized camera as well as the alarm output type and the duration.

- If the connected network camera that has configured the alarm in/out settings triggers an alarm, NVR will perform the alarm out.



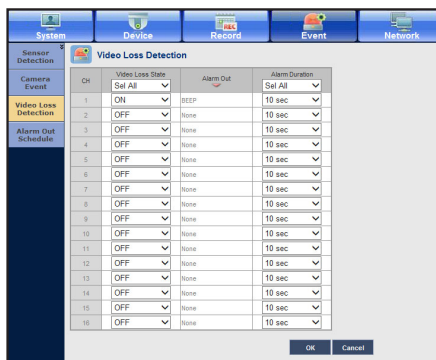
### Camera event

You can set camera event mode, alarm output type and alarm time.



### Video loss detection

You can set to trigger the alarm if a video loss occurs.

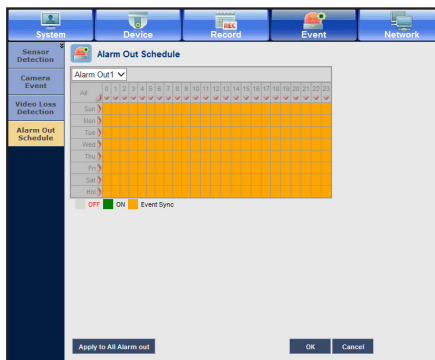




## Alarm Out Schedule

You can schedule the alarm output according to the day of the week and the time.

The default setting is Event Sync, which activates the alarm only if an event occurs.



## Network

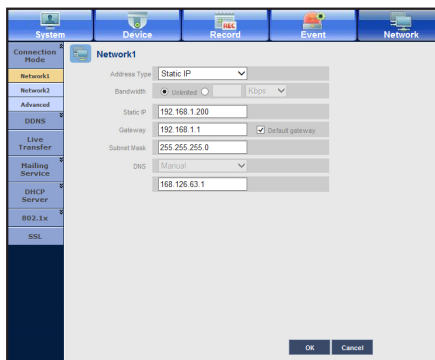
For more information, refer to “Network Configuration”. (Page 74)

### Connection Mode

A remote user can access the NVR via the network to check the current mode and the IP address.

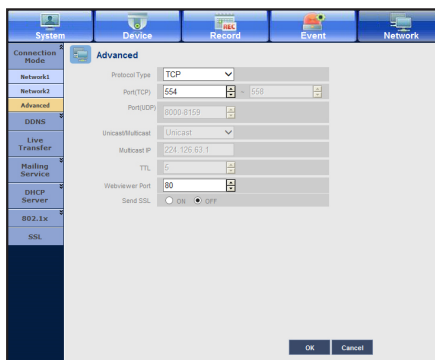
#### Network 1/2

Specify the network connection path.



### Advanced

You can configure the protocol related settings.

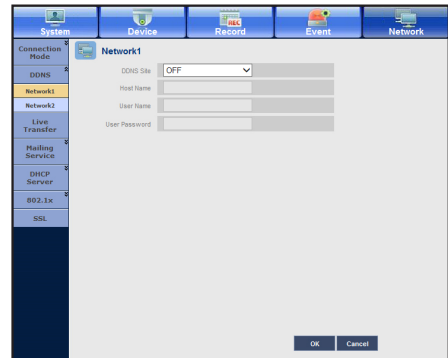


# setup viewer

## DDNS

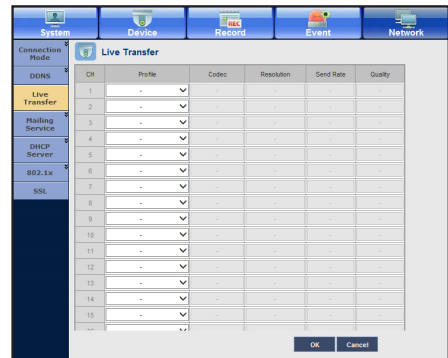
### Network1/2

You can check the DDNS settings.



## Live Streaming

You can configure the network transfer settings of the network camera.

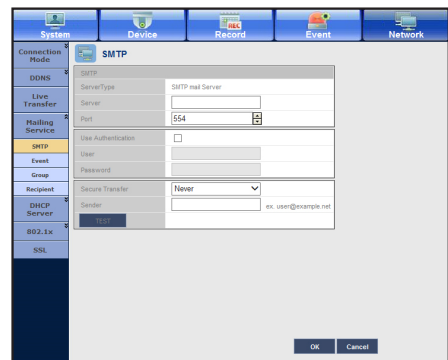


## Mailing Service

You can specify the SMTP server that sends a mail if an event occurs and set the recipient group and users.

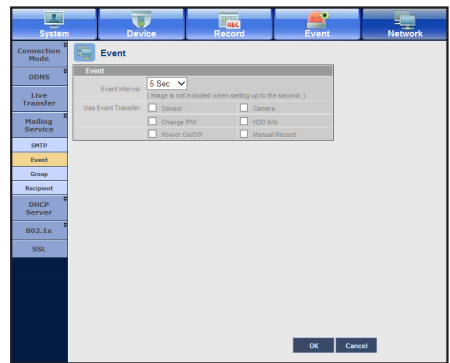
### SMTP

You can set the server that sends mails and specify if you use the authentication process.



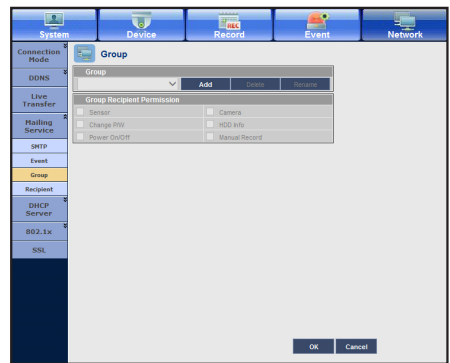
### Event

You can set the event interval and specify which events the server sends mails for.



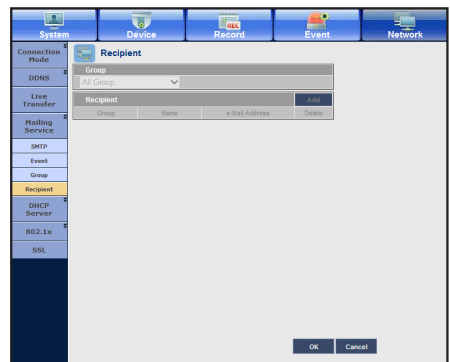
### Group

You can add a group to receive the mail if an event occurs and set the permission to receive the event mail for each group.



### Recipient

You can add a user or users who will receive the mail.

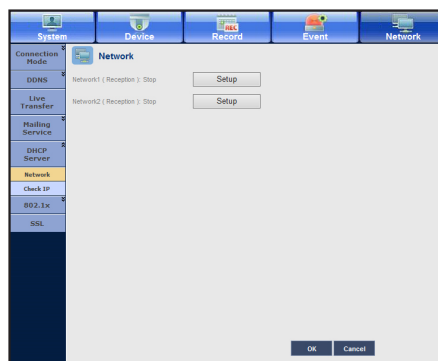


# setup viewer

## DHCP Server

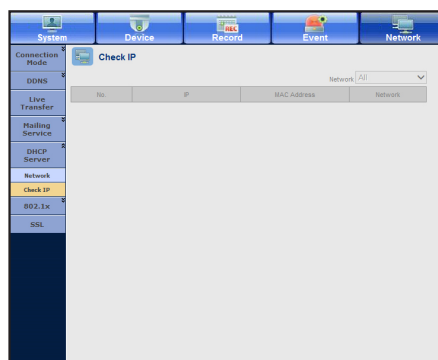
### Network

You can set the internal DHCP server and assign an IP address to the network camera.



### Check IP

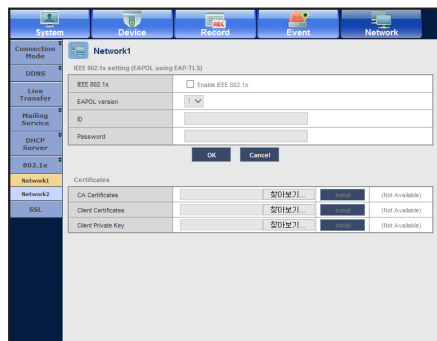
You can check the IP and MAC currently used through the DHCP server, and the connected network port.



## 802.1x

### Network1/2

When connecting to a network, you can select whether to use the 802.1x protocol and install corresponding certificate.

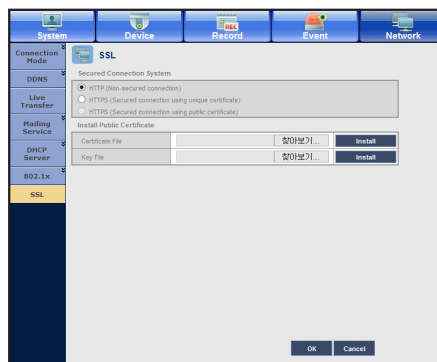


## SSL

You can select a security connection system or install public certificates.



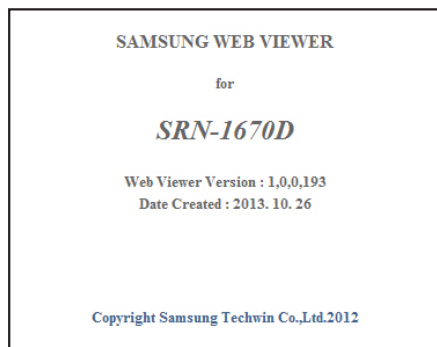
- While using HTTPS, if you want to switch to HTTP, then abnormal operation can take place as the browser contains the setting values. You need to change the URL to HTTP and reconnect or initialize the cookie setting of the browser.



## ABOUT

Click <ABOUT>.

Displays the model name of connected NVR and the version of Web Viewer.



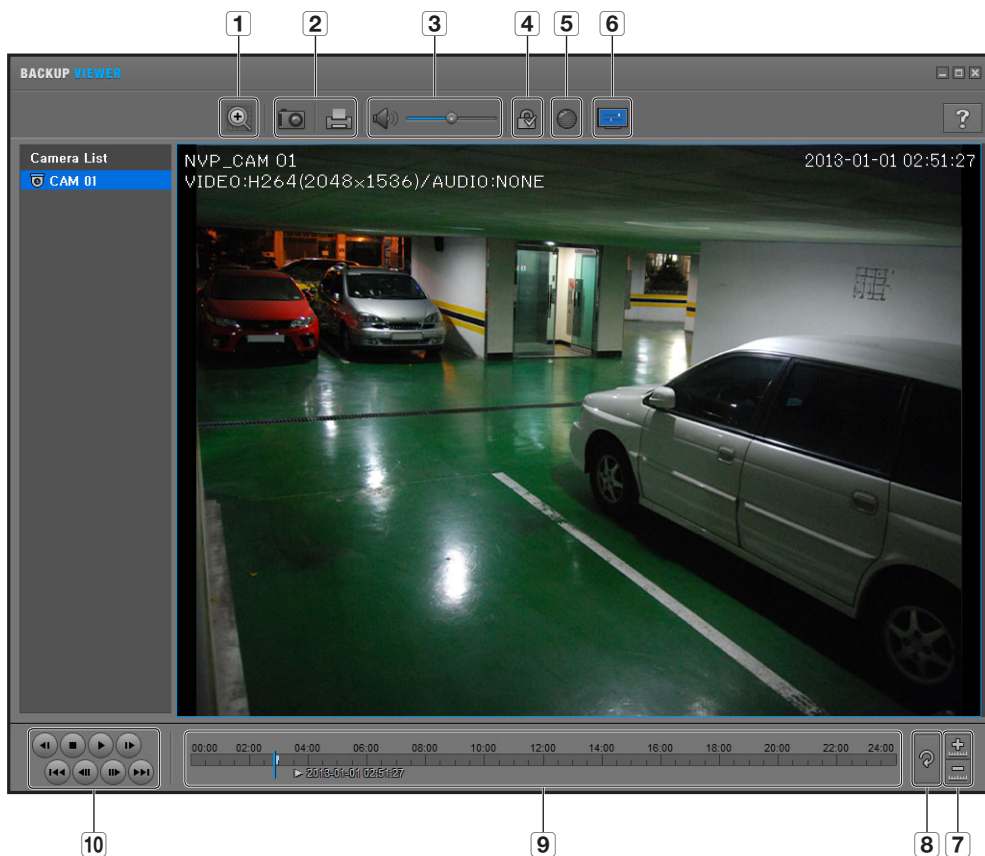
# backup viewer

## SEC BACKUP VIEWER

You can play a file that is backed up in the format of SEC.

Backup in SEC format produces backup data file, library file and self-executable viewer file.

















If you run the backup file viewer, the backup data file will be automatically played.



## Recommended System Requirements

PCs with a lower specification than the recommended below may not fully support forward/backward and high-speed playback.

- OS : Windows XP professional, Windows Vista, Windows 7
- CPU : Intel Core 2 Quad 2.5GHz or higher
- RAM : 3GB or more
- VGA : Geforce 6200 or higher

Item		Description
1	Digital Zoom	 <p>Enlarge the image by up to 100 times as big as the current one. Press the Zoom In () button to enlarge the image; press the Zoom Out () button to shrink the image. You can also use the slide bar () in the pop-up window to zoom in/out. Press () on a size-changed video to restore the default zoom factor (100%). If you enlarge the image by more than 200%, the enlarged area will be marked on the digital zooming screen. Click on the marked area and move it to a desired position. The digital zooming is applied to all backup viewer. When the digital zooming is canceled, the video size will restore the default rate of 100%.</p>
2	Screen Printout	 <p>Saves the current video's image as in an image file. Supports JPEG file format.</p>
		 <p>Prints out the current screen. You should have installed the appropriate printer driver before you can print out the screen.</p>
3	Audio	 <p>A toggle button. Each time you press this button, the audio output will toggle between activated and deactivated.</p>
		 <p>You can adjust the volume level from 0 to 100.</p>
4	Watermark	 <p>Press the button to enable file tampering detection, to detect data file forging.</p>
5	Deinterlace	 <p>You can enable the De-interlace function.</p>
6	Show OSD	 <p>Check the OSD checkbox to display the OSD information on the backup playback screen. Information such as backup date, day of the week, time, model name, and channel number will be displayed on the screen.</p>
7	Enlarge / Reduce Timeline	 <p>Collapses the time range that is displayed on the range bar of the storage time. You can collapse the range bar until the overall range is shortened to 24 hours.</p>
		 <p>Enlarges the time range that is displayed on the range bar of the storage time. You can enlarge the range bar until the overall range is extended to 1 minute.</p>
8	Restore Timeline	 <p>Restores the timeline to the default.</p>
9	Display of storage time range	<p>Displays the time range of a stored video file. You can move the gridline of the range bar to select a time point to play.</p>
10	Playback Control	 <p>You can adjust the video playback of the timeline.</p>

# appendix

## PRODUCT SPECIFICATION

Item		Details	
Model		SRN-470D	SRN-1670D
Video In		Max. 4CH	Max. 16CH
Video Out		VGA(1)/HDMI(1)	VGA(1)/HDMI(1)
Compression		H.264, MJPEG, MPEG-4	H.264, MJPEG, MPEG-4
Display	Speed	120fps, 4CIF(704x480)	240fps, 4CIF(704x480)
	Split Mode	1/4/Auto Sequence	1/4/6/8/9/13/16/Auto Sequence
	Monitor Out	VGA(1024x768/1280x1024(60Hz))/ HDMI(720p/1080p(60Hz))	VGA(1024x768/1280x1024(60Hz))/ HDMI(720p/1080p(60Hz))
Record	Speed	64Mbps (4 channels)	64Mbps (16 channels)
	Resolution	4CIF(704x480)/SVGA(800x600)/ 1.3M(1280x1024)/2M(1920x1080)/ 3M(2048x1536)	4CIF(704x480)/SVGA(800x600)/ 1.3M(1280x1024)/2M(1920x1080)/ 3M(2048x1536)
	Type	Normal, Scheduled, Event (Pre/Post)	Normal, Scheduled, Event (Pre/Post)
Play	Simultaneous playback	4 channels	4 channels
	Resolution	4CIF(704x480)/1.3M(1280x1024)/ 2M(1920x1080)/3M(2048x1536)	4CIF(704x480)/1.3M(1280x1024)/ 2M(1920x1080)/3M(2048x1536)
	Play	Fast Forward/Fast Backward, Slow Forward/Slow Backward, Move one step up/ Move one step down	
	Ethernet	Gigabit Ethernet x 2	
HDD	Built-in	Optional (ex. 500 GB)	Optional (ex. 1 TB)
	Extended	-	4
Backup	Device	2 USB (front 1 ports, rear 1 port), DVD-R/W	3 USB (front 2 ports, rear 1 port), DVD-R/W
	File	BU (proprietary to NVR), EXE (executable file)	BU (proprietary to NVR), EXE (executable file)
Extended Interface		External eSATA pots (x2) ▪ Compatible external storage	External eSATA pots (x2) ▪ Compatible external storage
Sensor	I/O	4/2	16/4
Voice	Input	4 channels (network)	16 channels (network)
Noise level		Below 40 dB	Below 47 dB
		This product complies with noise related standards for industrial equipments, and it is recommended to implement noise control measures for indoor installation.	

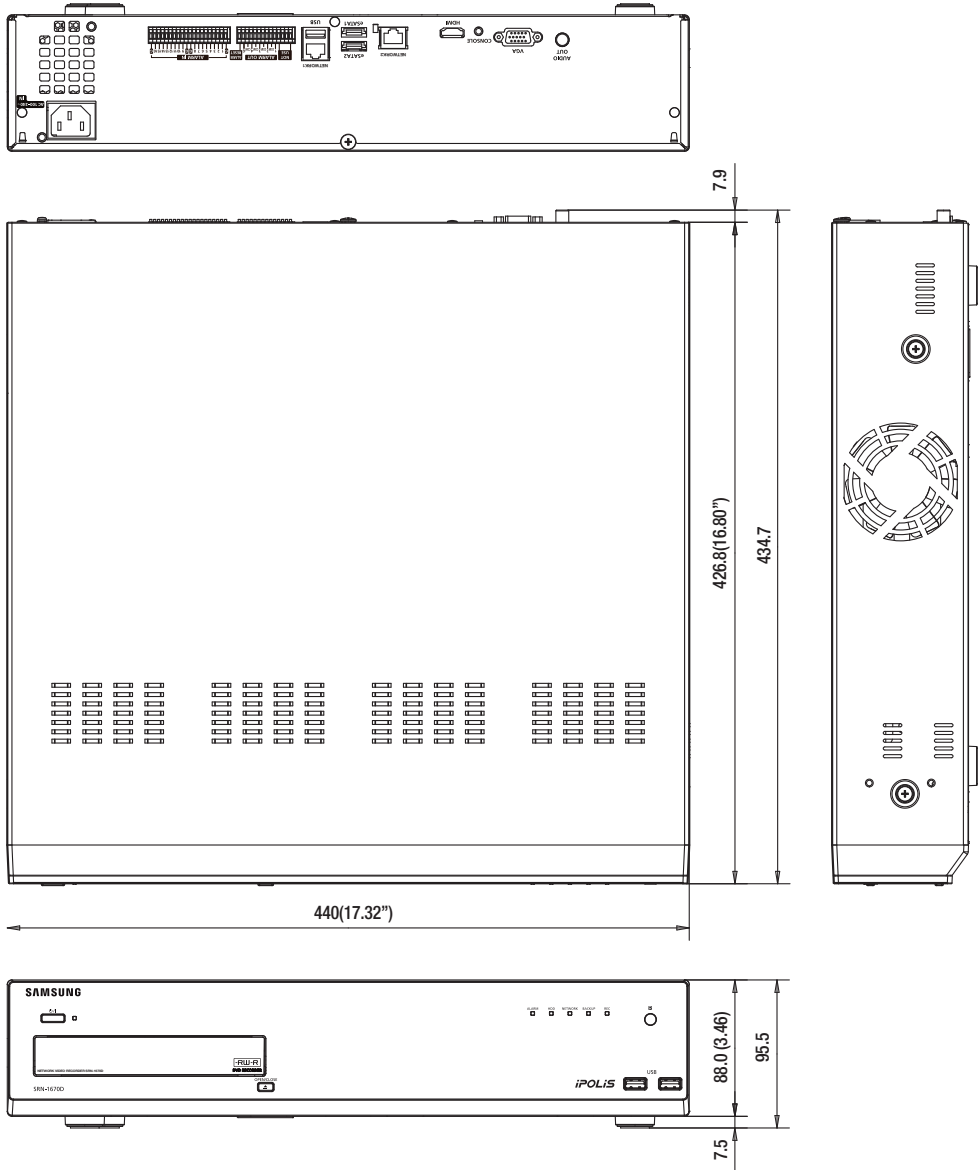


Item		Details	
Model		SRN-470D	SRN-1670D
Network	Interface	RJ-45, Gigabit Ethernet x 2	RJ-45, Gigabit Ethernet x 2
	Protocols	TCP/IP, DHCP, PPPoE, SMTP, NTP, HTTP, DDNS, RTP, RTSP	TCP/IP, DHCP, PPPoE, SMTP, NTP, HTTP, DDNS, RTP, RTSP
	Program	NET-i viewer, Webviewer	NET-i viewer, Webviewer
	Baud rate	MAX 48Mbps, Unlimited(48M)/2/1.5/1 Mbps, 800/600/500/400/300/200/100/50 kbps	MAX 48Mbps, Unlimited(48M)/2/1.5/1 Mbps, 800/600/500/400/300/200/100/50 kbps
Smart phone	Supported software programs	iPOLiS mobile, version 2.1 or later (Android / iOS)	
Control		IR remote control, mouse	IR remote control, mouse
		Permission settings for each user (max 10 users)	Permission settings for each user (max 10 users)
OSD (On Screen Display)		GUI, multilingual support (Korean included)	GUI, multilingual support (Korean included)
Temperature		+0°C to +40°C	+0°C to +40°C
Humidity		20% ~ 85%	20% ~ 85%
Power		DC12V Adaptor, 4A, 100~250VAC, 50~60Hz, 1.2A	100 to 240 VAC ±10%; 50/60 Hz, 4~1.5A
Power consumption		36W (1x HDD)	56W (1x HDD)
Dimension (W x H x D)		W215.0 x H88.0 x D351.7 mm (W8.46 x H3.46 x D13.85 inch)	W440.0 x H88.0 x D426.8 mm (W17.32 x H3.46 x D16.80 inch)
Weight		3.7Kg	7.1Kg



• SRN-1670D

unit : mm (inches)



# appendix

## DEFAULT SETTING

To reset the system, move to “**System Management > Settings > Load Factory Default**” and press the <Default> button.

This returns the factory default settings.

- The default settings are based on SRN-1670D.
- The initial administrator ID is “**admin**” and the password should be set when logging in for the first time. (When accessing the web viewer, the initial admin password is “**4321**”.)
- Please change your password every three months to safely protect personal information and to prevent the damage of the information theft. Please, take note that it’s a user’s responsibility for the security and any other problems caused by mismanaging a password.

Category	Details		Factory Default	
System	Date/Time/Language	Date/Time/Language	Date	YYYY-MM-DD
			Time	24 hours
			Time Zone	GMT
			Time Sync.	OFF
			DST	OFF
			Language	English
	Permission Management	Admin	ID	admin
		Group	Group	None
			Group Authority	
		User	Group	All
		Setup	Restricted Access	Backup/Record Stop/ Search/PTZ/Remote Alarm Out/Shutdown
			Restriction on Network Access	
			Auto Log out	3 Min
Manual Input of ID				
System Management	System Information	Device Name	NVR	
Device	Camera	Camera	Video	ON
			Audio	OFF
			Camera Name	CAM 01 ~ CAM 16
			Dwell Time	5 sec
			Scan Type	Progressive
	Storage Device	HDD Alarm	Check Alarm Output Port	OFF
			Duration	OFF
			Replace Alarm Output Port	OFF
			Duration	OFF
	Remote Device	Remote Control		ON
		ID		00

Category	Details		Factory Default	
Device	Monitor	Monitor	Event Display	OFF
			Display	All
			Multi CH SEQ Time	5 sec
			Video Output	VGA(1280x1024)
			Mode	Live Screen
Record	Recording Schedule	CH1~CH16	Both(Cont&Evt)	
	Event Record Duration	Pre Event	OFF	
		POST Event	1 min	
	Record Setup	Standard REC Rate	Full Frame	
		Event REC Rate	Full Frame	
	Record Option	Disk End Mode	Overwrite	
		Disk End Beep	OFF	
	Auto Delete	180		
Event	Sensor Detection	NVR	Sensor Operation	OFF
			Cam	Camera No.
			Alarm Out	None
		Duration	10 sec	
		Network Camera	Sensor Operation	OFF
			Cam	Camera No.
	Alarm Out		None	
	Duration	10 sec		
	Camera Event		Mode	OFF
			Alarm Out	None
			Alarm Duration	10 sec
	Video loss detection		Video loss status	OFF
			Alarm Out	None
			Alarm Duration	10 sec
Alarm Out Schedule		Alarm Out1		
Network	Connection Mode	Network1	Address Type	Static IP
			Bandwidth	Unlimited
			Static IP	192.168.1.200
			Gateway	192.168.1.1
			Subnet Mask	255.255.255.0
			DNS	168.126.63.1

# appendix

Category	Details		Factory Default	
Network	Connection Mode	Network2	Address Type	Static IP
			Bandwidth	Unlimited
			Static IP	192.168.2.200
			Gateway	192.168.2.1
			Subnet Mask	255.255.255.0
			DNS	168.126.63.1
		Advanced	Protocol Type	TCP
			Port (TCP)	554
			Port (UDP)	8000~8159
			Unicast/Multicast	Unicast
			Multicast IP	224.126.63.1
			TTL	5
			Webviewer Port	80
			Send SSL	OFF
	DDNS	Network1	DDNS Site	OFF
		Network2	DDNS Site	OFF
	Mailing Service	SMTP	Server Type	SMTP mail server
			Port	25
			Use Authentication	OFF
			Secure Transfer	Never
		Event	Event Interval	10 min
			Use Event Transfer	OFF
		Group	Group	OFF
	Recipient Permission		OFF	
	DHCP Server	Network1	Status	Stop
			IP Range	0,0,0,0 ~ 0,0,0,0
			IP Lease time	86400
Network2		Status	Stop	
		IP Range	0,0,0,0 ~ 0,0,0,0	
		IP Lease time	86400	
802.1x	Network1	IEEE 802.1x	OFF	
	Network2	IEEE 802.1x	OFF	
SSL		Secured Connection System	HTTP (Non-secured connection)	

## TROUBLESHOOTING

Problem	Action
The system does not turn on and the indicator on the front panel does not work at all.	<ul style="list-style-type: none"> <li>• Check if the power supply system is properly connected.</li> <li>• Check the system for the input voltage from the power source.</li> <li>• If the problem persists even after you have taken the above actions, check the power supplier and replace it with a new one if necessary.</li> <li>• Check inside if the cables are properly connected. (SMPS, FRONT)</li> </ul>
Some channels display just a black screen even if they receive video sources.	<ul style="list-style-type: none"> <li>• Check if the camera is properly supplied with power.</li> <li>• Check the video output connecting the camera's webviewer.</li> <li>• Check if the network port is properly connected and the network setting is set correctly.</li> <li>• Change the hub supporting Gigabit, it may solve.</li> <li>• Check 4 pin cable connected properly to the front panel. When the cable disconnected it may happen.</li> </ul>
[REC] button on the remote does not turn on REC LED and does not start recording.	<ul style="list-style-type: none"> <li>• Check if there is a free space on the HDD for the recording.</li> <li>• Check if the record mode is set to <b>ON</b> in the record mode setting.</li> </ul>
The screen displays the logo image repeatedly.	<ul style="list-style-type: none"> <li>• Check 4 pin cable connected properly to the front panel. When the cable disconnected it may happen.</li> <li>• This may occur from a problem with the main board, or the related software is corrupt. Contact the nearest service center for more information.</li> </ul>
The Channel button does not work on the Live screen.	<ul style="list-style-type: none"> <li>• The Channel button does not work if the current screen is in the event monitoring mode. In the event monitoring screen, press the <b>[ALARM]</b> button to exit the screen and select a channel.</li> </ul>
The cursor will not move to the Start button when I start the calendar search.	<ul style="list-style-type: none"> <li>• Check if the channel and the date that you want to play are marked with the V symbol. Both channel and date should be checked before you can start playing with the Start button.</li> </ul>
No video is played on the connected monitor.	<ul style="list-style-type: none"> <li>• Check if the necessary cables are connected to the monitor properly.</li> <li>• If the problem persists even in proper connection, move to <b>[STOP (■)] → [ZOOM] → [STOP (■)] → [ZOOM]</b> and press <b>[MENU]</b> to display the default resolution dialog. From this dialog, specify a desired resolution. You may still view nothing on the screen. Then, the screen will restore the default resolution in a moment. Change the current resolution to a different resolution and apply your change. The video will be displayed in the last specified resolution.</li> </ul>
Cannot stop alarm by pressing the <b>[ALARM]</b> button of the remote, due to continuing alarm events. The alarm persists and I could not set it off in any way.	<ul style="list-style-type: none"> <li>• Press the <b>[MENU]</b> button of the remote and cancel alarm as shown below. <ol style="list-style-type: none"> <li>1) To release the event monitoring mode : Monitoring Mode – set the duration of the event monitoring to Off.</li> <li>2) To release the alarm sound : Event Record Mode – Alarm (Camera Event /Video Loss) – deactivate the alarm sound.</li> <li>3) To release the event : Event Record Mode – Alarm (Camera Event / Video Loss) – set the mode to Off.</li> </ol> </li> </ul>

# appendix

Problem	Action
No response controlling PTZ in the live viewer.	<ul style="list-style-type: none"> <li>• Check the registered Camera if it support PTZ function.</li> </ul>
The camera is not connected or the PC fails to connect to the product.	<ul style="list-style-type: none"> <li>• Check if the network cable is connected properly.</li> <li>• Ensure that you have set Network – Connection Mode.</li> <li>• Check the IP setting of the PC or camera.</li> <li>• Try the Ping Test.</li> <li>• Check if there is a different device near the product uses the same IP.</li> </ul>
The Live screen is too bright or too dark.	<ul style="list-style-type: none"> <li>• Check the video settings of the registered camera.</li> </ul>
Not all of multiple external HDDs that I have installed on the NVR are recognized by the NVR even if I configured the necessary settings properly.	<ul style="list-style-type: none"> <li>• It may take time to recognize multiple external HDDs. Try again in a minute. If the problem persists and not all of the external HDDs are recognized, that is highly likely to an error of the external HDD it self. Try with a different HDD or HDDs.</li> </ul>
A message of “Need to reset date/time.” Is displayed on the screen.	<ul style="list-style-type: none"> <li>• This message is displayed if there occurs a problem with the time setting of the internal clock or an error in the clock itself. Contact the retailer or the service center for more information.</li> </ul>
The time bar is not displayed in Search mode.	<ul style="list-style-type: none"> <li>• The timeline can switch between normal and extension mode. In extension mode, the time bar may not be displayed in the current timeline. Switch to normal mode or use the left or right button to navigate through the time bar.</li> </ul>
The “NO HDD” icon and an error message are displayed.	<ul style="list-style-type: none"> <li>• Check the HDD for connection. If the problem persists in a normal condition, contact the nearest service center to have the HDD checked by the service personnel.</li> </ul>
I have installed an additional HDD on the NVR but it does not recognize the HDD.	<ul style="list-style-type: none"> <li>• See the compatibility list to check if the additional HDD is supported by the NVR. For the compatibility list, contact the retailer where you purchased the NVR.</li> </ul>
I have connected an external storage device (external eSATA HDD) to the NVR but the NVR seems not to recognize it.	<ul style="list-style-type: none"> <li>• See the compatibility list of external storage devices to check if the connected device is supported by the NVR. For the compatibility list, contact the retailer where you purchased the NVR.</li> </ul>
If I press the ESC key in full screen mode of the WebViewer, the system does not switch to a normal split mode.	<ul style="list-style-type: none"> <li>• Press the ALT+TAB keys to select ‘ACTIVE MOVIE’ and press the ESC key again. The system will switch to a normal split mode.</li> </ul>
I found it difficult to configure the network settings if using the default search, backup and router settings.	<ul style="list-style-type: none"> <li>• For more information, refer to the user manual.</li> <li>• If you want to check the basics of the product for a quick start, refer to the quick start guide (backup, search).</li> <li>• If you use the router for network connection, refer to the “<b>Connecting and Setting the Network</b>” section in this manual.</li> </ul>
I forgot the password.	<ul style="list-style-type: none"> <li>• Contact the NVR administrator for help.</li> </ul>



Problem	Action
Backup data is just not played by the PC or NVR.	<ul style="list-style-type: none"> <li>• When you are backing up data, you have choices about the player either: PC or NVR. Make your selection before proceeding.</li> <li>• If you are using the PC to play the data, the format of the backup file should be either SEC.</li> <li>• If you are using the NVR for this purpose, formatting backup files should be done by the NVR.</li> </ul>
My player does not switch to Live mode while in playback.	<ul style="list-style-type: none"> <li>• Press the Stop [■] button on the remote control, or click the [■] icon on the launcher to switch to Live mode.</li> </ul>
Recording does not work.	<ul style="list-style-type: none"> <li>• If your player does not display a Live image at all, that indicates recording does not work so first check if you see an image on the screen.</li> <li>• Recording does not work if the recording settings are not properly configured.               <ol style="list-style-type: none"> <li>1) Manual Record: Press the <b>[REC]</b> button on the front panel of the NVR or on the remote control to start recording.</li> <li>2) Scheduled Record: Specify a desired time in Menu – Record – Recording Schedule. Recording will start at the specified time.                   <ul style="list-style-type: none"> <li>- <b>&lt;Continuous&gt;</b> Record: Recording will proceed in any conditions at the specified time.</li> <li>- <b>&lt;Event&gt;</b> Record: When an event occurs, recording will perform only if the event is of alarm, motion detection and video loss. If there is no event found, recording will not perform.</li> <li>- <b>&lt;Continuous / Event&gt;</b> Record: If there is no event found, Continuous recording will perform. Whereas, if an event occurs, Event recording will perform.</li> </ul> </li> </ol> </li> </ul>
The image quality of the recording data is not good.	<ul style="list-style-type: none"> <li>• Increase the resolution and quality level in Menu – Record – Quality / Resolution.               <ol style="list-style-type: none"> <li>1) Resolution: Select a bigger size when specifying the recording size. The recording image in the CIF format shows a deteriorated quality as it is enlarged from a small-sized image.</li> <li>2) Record Quality: Specify a bigger level for the recording quality.</li> </ol> </li> <li>• If you increase the resolution and the recording quality, the data size increases accordingly. So the HDD will be filled faster. Overwriting will overwrite the existing data so recording will proceed at a shorter interval.</li> </ul>
I pressed the <b>[REC]</b> button on the remote control but neither the REC indicator turn on nor recording proceeds.	<ul style="list-style-type: none"> <li>• Move to the Record Setup menu and check if the frame rate of normal recording is set to <b>&lt;OFF&gt;</b>.</li> </ul>
Frame rate of the actual recording does not match that of configured to the camera.	<ul style="list-style-type: none"> <li>• If multiple profiles were applied to one camera for video transmission, the actual video stream can be serviced by the camera at a lower frame rate than specified. Configure your camera to use one profile for data streaming as possible. For example, if you set the same profile for recording and network profiles, the actual recording is made at the specified frame rate. Still, live video display using split screen mode may apply yet another profile to camera in accordance with the used screen mode. Note that allowed limit bitrate for recording / recording settings should be set to be bigger values than that of camera's feed.</li> </ul>

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