HD1080p 4ch/8ch/16ch
Network Video Recorder

PIXEL MASTER NVR

NR4HL / NR8HL
NR8H / NR16H

USER'S MANUAL

Before connecting, operating or adjusting this product,
read this instruction booklet carefully and completely

GANZ®

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The Company shall not have any responsibility for any accident or damage that may incur during the use of the product.
For your safety, we provide a few instructions about installation, manipulation, cleaning, assembly/disassembly of the product as below. So please read carefully and comply with the instructions.

Before installation

Comply with the following instructions to prevent a fire, explosion, system failure shock. or electric

- ✧ Remove the power supply module before proceeding.
- ✧ Check the input voltage (AC100V–AC240V) to the power supply module before connecting it.
- ✧ Keep the product away from humidity.
- ✧ Ensure that all devices connected to the product should be properly earth-grounded.

In operation mode

Comply with the following instructions to prevent a fire, explosion, system failure or electric

- ✧ If you need to open the cover, consult with a service person who could help you do what you want to do.
- ✧ Do not connect multiple devices to a single power socket.
- ✧ Keep the product away from dust or too much combustible substances (ex: propane gas).
- ✧ Do not touch it with wet hand.
- ✧ Do not insert a conductor in the vent of the ventilation system.
- ✧ Do not apply excessive force to unplug the power cord.

Disassembly & Cleaning

- ✧ When cleaning on the surface, use a dry cloth.
- ✧ Do not wipe the product using water, paint thinner or organic solvents.
- ✧ Do never dismantle, repair or modify the product by your own.

During installation

To prevent an accident or physical injury and to operate NVR properly, please comply with the followings

- ✧ Secure at least 18 centimeter of distance between cooling fan and wall for a proper ventilation.
- ✧ Install the product on a flat surface.
- ✧ Keep it away from direct sunlight or excessive temperature.

While in use

- ✧ Do not apply force to or shake it while using it.
- ✧ Do not move, throw away or put excessive force to it.
- ✧ Using any un-recommended HDD may cause a system failure. Check the compatibility list and use only compatible HDDs.
- ✧ {A system failure or data loss caused by an incompatible HDD will void your warranty.}

Key Features

This product allows you to receive audio and video signals from a max of 4/8/16 CH 1080p H.264 network camera before saving them to the internal HDD.
Besides, you can also transfer them to an external device that can be monitored on your PC or mobile phone remotely.

- ✧ Display the video from up to 4/8/16 CH 1080p network camera in real time (Max 120/240 fps)
- ✧ Save the video from up to 4/8/16 CH 1080p network camera in a max of 32/64Mbps (8Mbps per channel) (Max 120/240/480fps)
- ✧ Play up to 4/8/16 CH 1080p video in real time (Max 120/240/480fps)
- ✧ H.264 BP/MP/HP network camera supported(BP: Baseline profile, MP: Main profile, HP: High profile)
- ✧ 4/8 built-in port, PoE switching hub (40W/72W)
- ✧ 'Plug & Play' camera connection
- ✧ Protect the IP camera via secured closed circuit LAN environment
- ✧ Auto notification with self diagnosis (HDD S.M.A.R.T, temperature, network connection status, fan error, etc.)
- ✧ Dual streaming supported for a remote display
- ✧ Auto resolution & FPS adjustment for a remote service
- ✧ External eSATA HDD supported – various search methods (time, event, bookmark and thumbnail)
- ✧ Mass storage backup via USB port or FTP server
- ✧ Dedicated smart phone applications that can be used with iPhone and iPad or on Android OS
- ✧ 1080p Full HD GUI

What's included

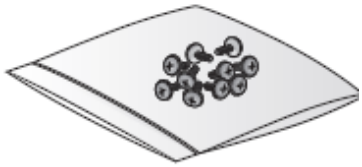
Mouse

Remote Control x1
& Batteries (AAA x2)

Power Cable x2
(Provide only 1 for NR8H)

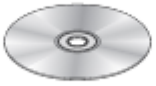
DC 12V Adaptor
(NR4HL/NR8HL only)

DC 48V Adaptor
(Except NR8H)

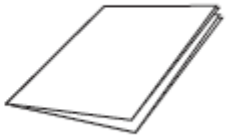


Screws

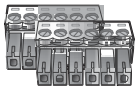
Adapter cable retainer clip x2
(NR4HL/NR8HL only)



User manual CD



Quick User Guide

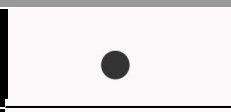
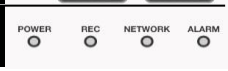


Terminal Blocks x2

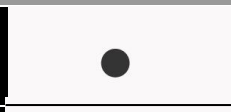
8-channel Extension Hub x1
(NR16H only)

Front Panel

| NR4HL / NR8HL

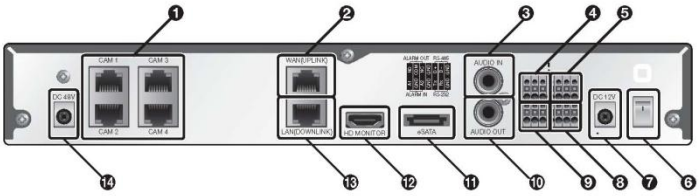
Name		Description
IR Remote Control Receiver		Receive the signal from the remote control
USB		Used for connecting USB storage or mouse.
Status LED		Show the status of power, recording or network connection together with the corresponding alarm.

| NR8H / NR16H

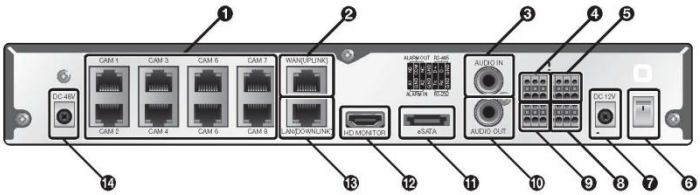
Name		Description
IR Remote Control Receiver		Receive the signal from the remote control
USB		Used for connecting USB storage or mouse.
Status LED		Show the status of power, recording or network connection together with the corresponding alarm.
HDD 1~5 / eSATA		Indicates connection status of internal/external storage devices.

Rear Panel

| NR4HL



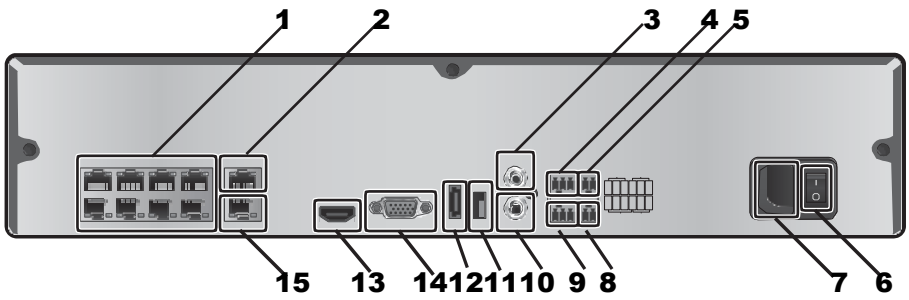
| NR8HL



NO	Name	Description
1	CAM1~CAM8	Ethernet ports used for connecting the network camera video and power.
2	WAN(UPLINK)	Network port for connection to the Internet, router or hub
3	AUDIO IN	Microphone connection port.
4	ALARM OUT	Alarm output device connection port.
5	RS-485	Communications port for connecting peripherals such as system keyboard.
6	Power Switch	NVR power switch. Plug the power cord and turn this switch on.
7	DC 12V	NVR power input port Connect to a 12V adaptor.
8	RS-232C	Signal connection port for POS and ATM.-Scheduled to be upgraded.
9	ALARM IN	Alarm input signal port.
10	AUDIO OUT	Port for speaker connection.
11	eSATA	Connection port for external SATA storage.
12	HD MONITOR	Port for connecting a full HD(1920x1080) supported monitor. Use the HDMI cable to connect with a 1080p 60Hz monitor.
13	LAN(DOWNLINK)	Port for connecting the dedicated network device. (Do not share with other device.)
14	DC 48V	Power input port for the camera (PoE compliant). Connect to a 48V adaptor.

Rear Panel

| NR8H / NR16H



NO	Name	Description
1	CAM1~CAM8	Ethernet ports used for connecting the network camera video and power. (Can supply power to cameras with PoE function)
2	WAN(UPLINK)	Network port for connection to the Internet, router or hub
3	AUDIO IN	Microphone connection port.
4	ALARM OUT	Alarm output device connection port.
5	RS-485	Communications port for connecting peripherals such as system keyboard.
6	Power Switch	NVR power switch. Plug the power cord and turn this switch on.
7	100-240V 50/60 Hz	NVR power input port.
8	RS-232C	Signal connection port for POS and ATM. (TBA)
9	ALARM IN	Alarm input signal port.
10	AUDIO OUT	Port for speaker connection.
11	USB	Port for connecting USB devices. (For mouse or firmware updating)
12	eSATA	Connection port for external SATA storage.
13	HD MONITOR	Port for connecting a full HD(1920x1080) supported monitor. Use the HDMI cable to connect with a 1080p 60Hz monitor.
14	VGA	VGA video output terminal. (TBA)
15	LAN(DOWNLINK)	Port for connecting the dedicated network device. (Do not share with other device.)

Remote Control At a Glance

POWER
Turn on or off the power.

SEARCH
Display the search window.

ARCHIVE
Display the backup window.

Channel
Function as channel selection button in live or playback mode. Or used for entering the password.

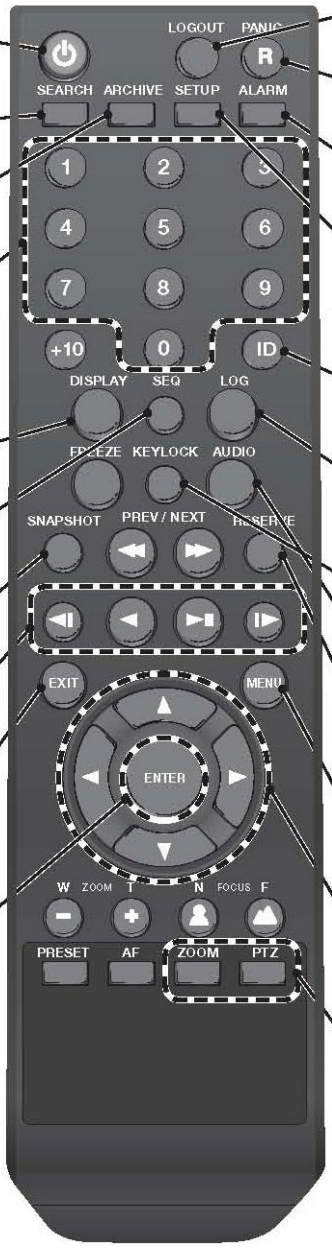
DISPLAY
Switch the split mode.

SEQ
Switch to sequence mode.

SNAPSHOT
Turn on or off the power.
◀I, ◀, ▶II, I▶
Used to change the direction or adjust the play speed in playback mode.

EXIT
Exit from the current screen and return to the previous screen.

ENTER
Select a menu item or apply your settings.



LOGOUT
LOGOUT

PANIC
Start the emergency recording.

ALARM
Show the alarm status with a popup window.

SETUP
Display the system setup menu.

ID
Set the remote control ID.

LOG
Display the log list.

KEYLOCK
Lock any operation on the unit.

AUDIO
Display the audio channel selection window.

RESERVE
Turn on or off the power.

MENU
Display the tool bar on the live screen.
▲, ▼, ◀, ▶
Use to move through the menus

PTZ/ZOOM
Enter the PTZ or digital zoom Mode and control the operation.

Change the remote control ID

The remote control will be active only if the remote control ID matches with that specified on the NVR.

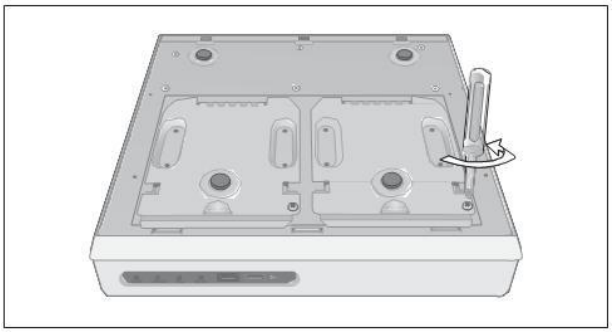
If multiple NVRs are installed on one place and you have just a single remote control, use the ID button to set the remote control ID. Only the ID-matching NVR can be controlled.

1. From **<SYSTEM> - <CONTROL DEVICE>** under the System Setup menu, set the **<REMOTE CONTROLLER ID>** and press **<Apply>.**
   Select between 00 and 99. For more details, refer to **<SYSTEM SETUP>.**
   The remote control will be active only if the remote control ID matches with that of the NVR's system ID.
2. Press the **[ID]** button on the remote control. The default remote control ID is 00.
3. Use the number buttons to provide a two-digit ID. If you want to enter 01, for instance, enter the number 0 and 1 in sequence.
   Check if the remote control ID is set properly by manipulating the remote control.
4. To reset the ID to 00, press and hold the **[ID]** button.

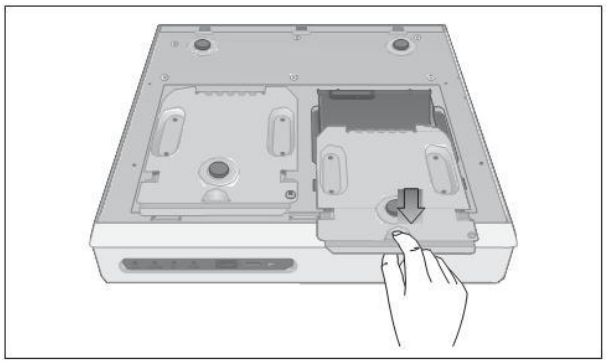
INSTALLATION

NR4HL/8HL

1. Remove the bracket screw on the bottom of the NVR.

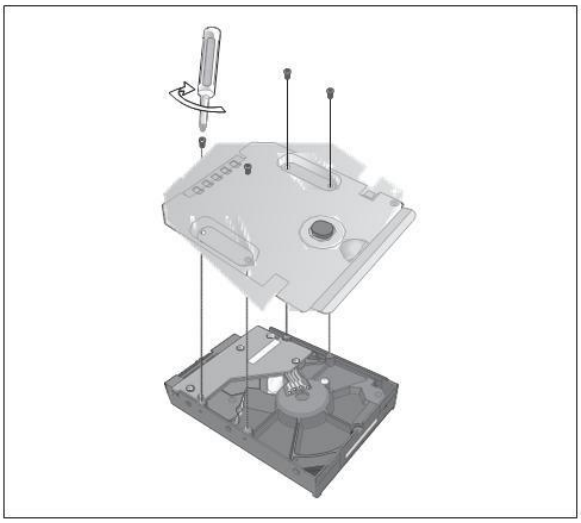


2. Hold the bracket handle in the middle and pull it out to separate the bracket form the main unit.

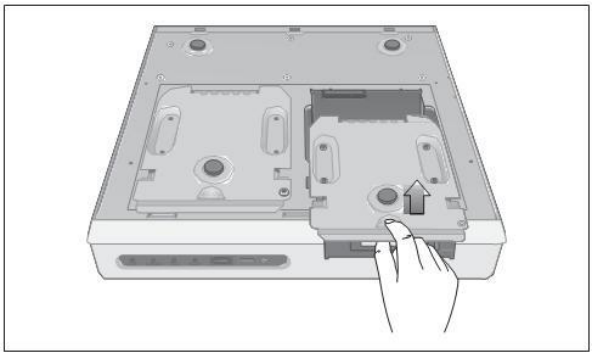


3. Install the HDD on the separater bracket and fasten 4 screws on both sides to secure HDD.

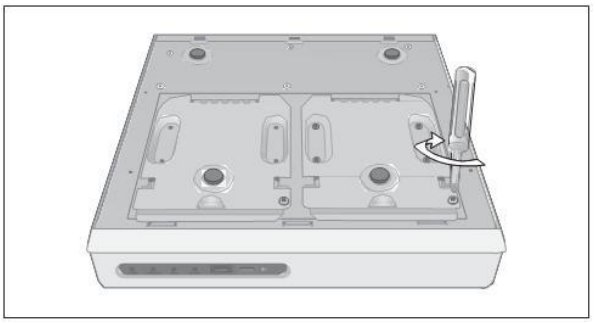
   ✓ When installing HDD, make sure to install in the correct direction.



4. Insert the bracket instead with HDD back into the main unit.



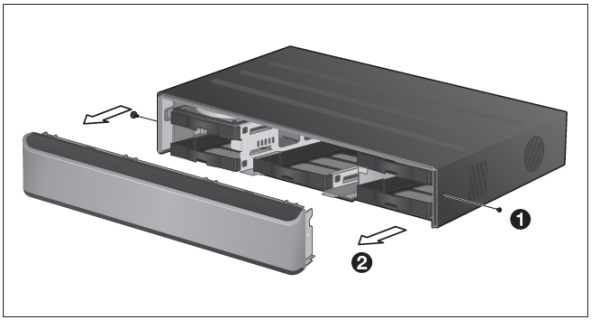
5. Fasten the bracket screw removed earlier.



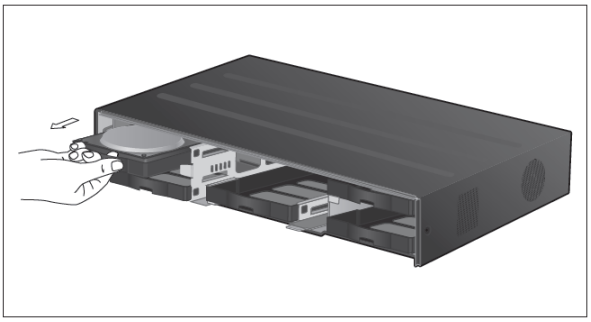
NR8H/16H

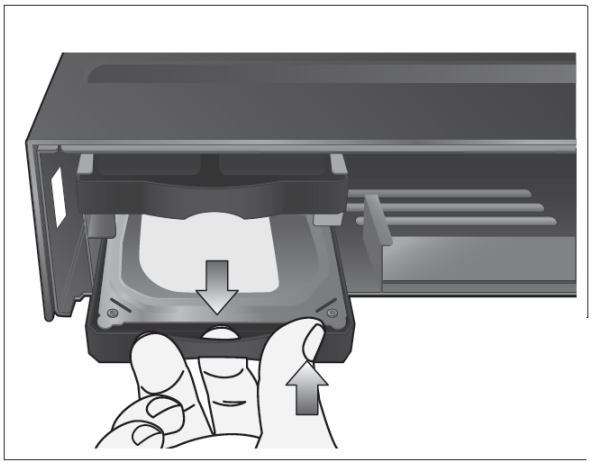
1. Remove 2 screws on both ends of NVR.

2. Pull the front side of the unit forward to separate it.

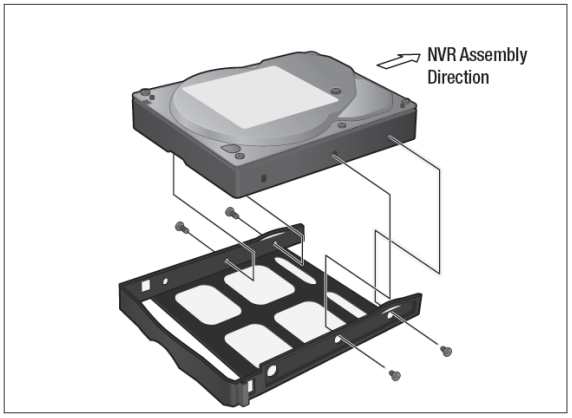


3. Hold the middle of the HDD brackets handle with index finger and pull it toward while sustaining the bracket handle with your thumb and middle finger as shown in the illustration.





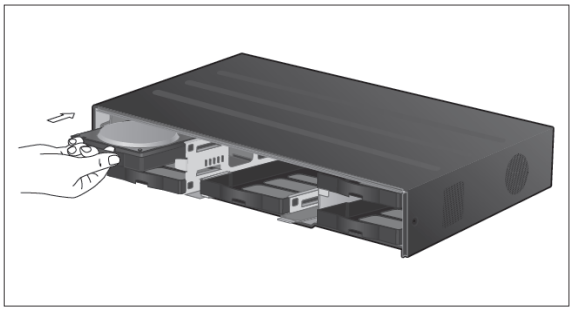
4. Once the HDD bracket is separated from the main unit, remove 4 screws on both ends of HDD bracket to separate the HDD.



5. Install a new HDD and fasten 4 screws back to both ends of the bracket to fix.

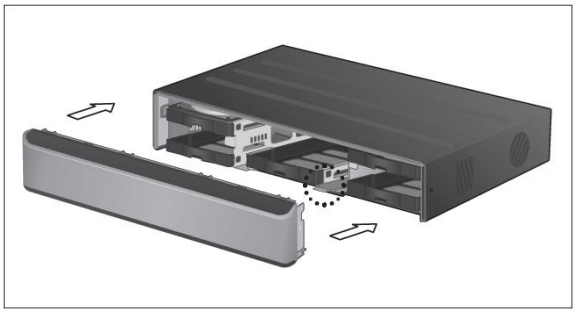
   ✓ When installing HDD, make sure to Install in the correct direction.

6. Push the bracket installed with new HDD back into the main units it is completely inserted.



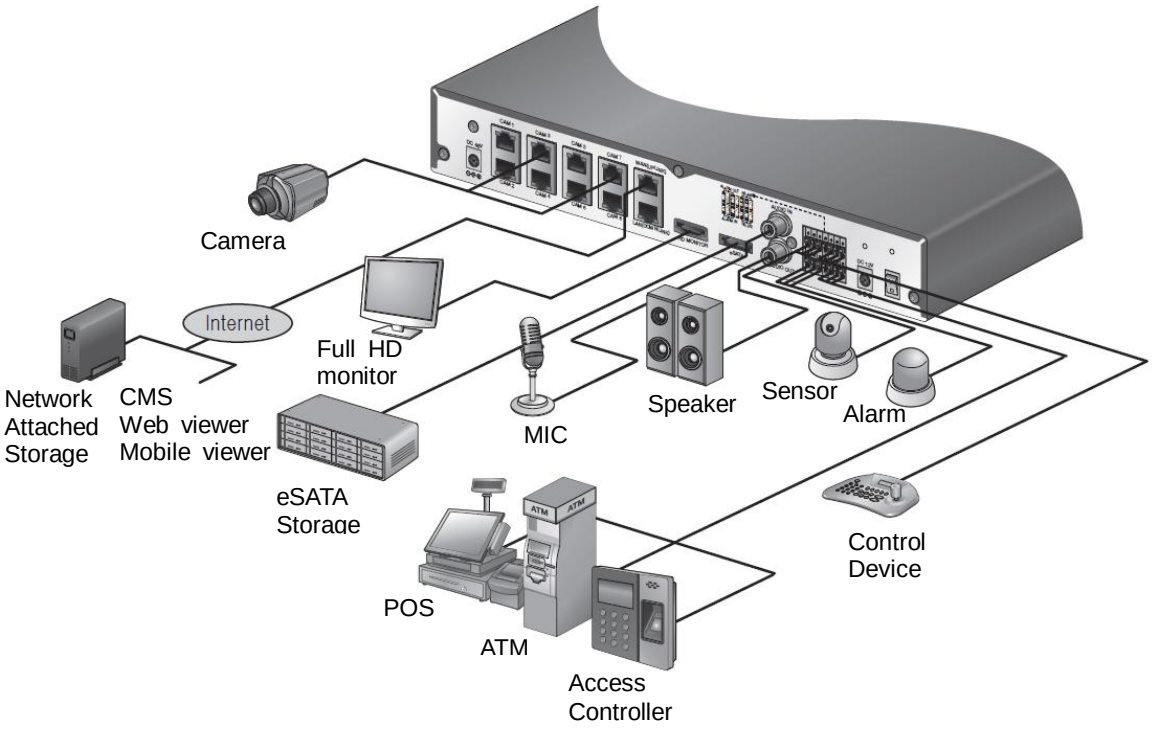
7. Assemble the front panel back to the unit.

   ✓ When assembling the front panel to the main unit, make sure the marked part is tightly attached.



8. Fasten 2 screws on both ends of main unit.

Basic Layout



Precautions

To secure recording stability from an overloaded network traffic , hacking attempt or DoS (Denial of Service) attack, only the direct cable connection between camera and NVR is allowed.

- ✓ Using a hub is allowed only for extending single channel for extended transfer range to 100m each.

Any access from an outside PC to the IP camera will be strictly prohibited for the purpose of secure operation.

- ✓ Signal connection for POS and ATM is scheduled to be upgraded later.

Connecting to an external device

Connecting to the monitor

This product supports VGA (D-sub) monitors that support resolution of **1080p 60Hz HDMI or 1920x1080.**

Connct the product with HDMI cable by connecting it to HDMI Out port under the unit and H DMI Input port of the monitor.

Or, use a HDMI-to-DVI cable by connecting the product's HDMI port and the monitor's DVI port. You can use a VGA (D-sub) cable to connect this product and VGA port of the monitor.

! Output for two monitors at the same time is not supported.
Either one of the HDMI and VGA output to one monitor is available.

Power Connection

- NR4HL /NR8HL

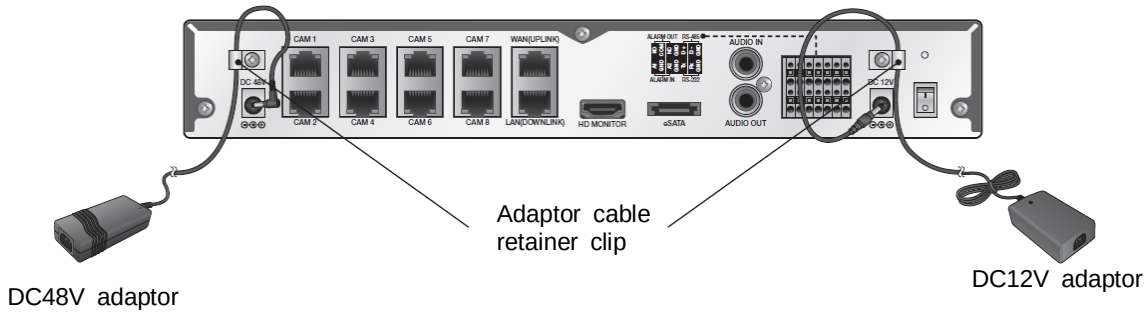
Two adaptors are provided: one for NVR operation (DC 12V), and the other for PoE (Power Over Ethernet, DC48V).

NVR power connection

Plug the provided DC 12V adaptor in the rear power port of the NVR.

PoE Switching hub power connection

Plug the provided DC 48V adaptor in the rear power port of the NVR.
When done, attach the adaptor cable clip to the rear panel and insert the cable in.



- NR8H /NR16H

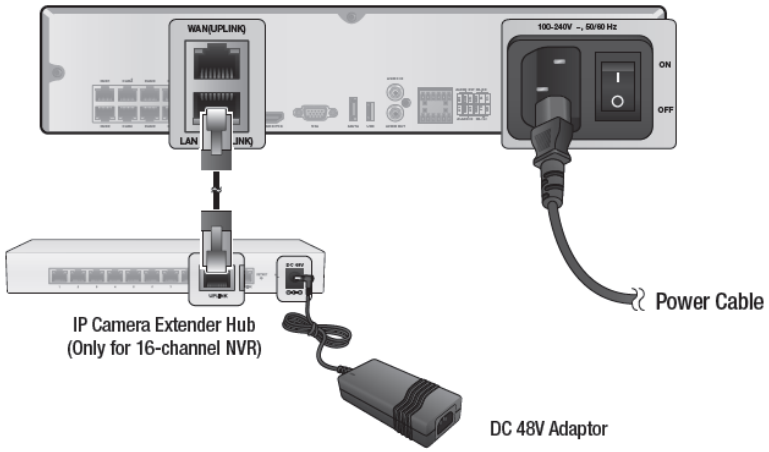
Apply power to NVR main unit, and connect the provided DC 48V power supply adaptor to the external PoE switch (Power Over Ethernet for 16-channel models).

NVR power connection

Connect the provided power cord to the power inlet.

PoE Switching hub power connection

Plug the provided DC 48V adaptor in the rear power port of the Hub.

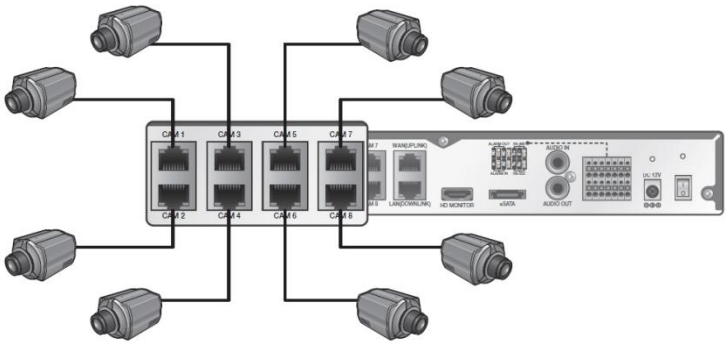


- ✧ Make connection when the power is not applied yet.
- ✧ Arrange up the cables and be careful not to peel off the cable coating.
- ✧ Do not place the power cord under the carpet or rug. The power cord is usually earth-grounded. However, even
  if it's not earth-grounded, do never modify it on your own for earth-grounding.
- ✧ Do not insert multiple devices in a single power socket. Otherwise, it may cause a power overload.
- ✧ For stable power supply, this product provides two separate adaptors and two corresponding AC cords by factory default. Make sure all cables are connected properly.
- ✧ Make sure the power connection and cable are connected tightly and not loose.

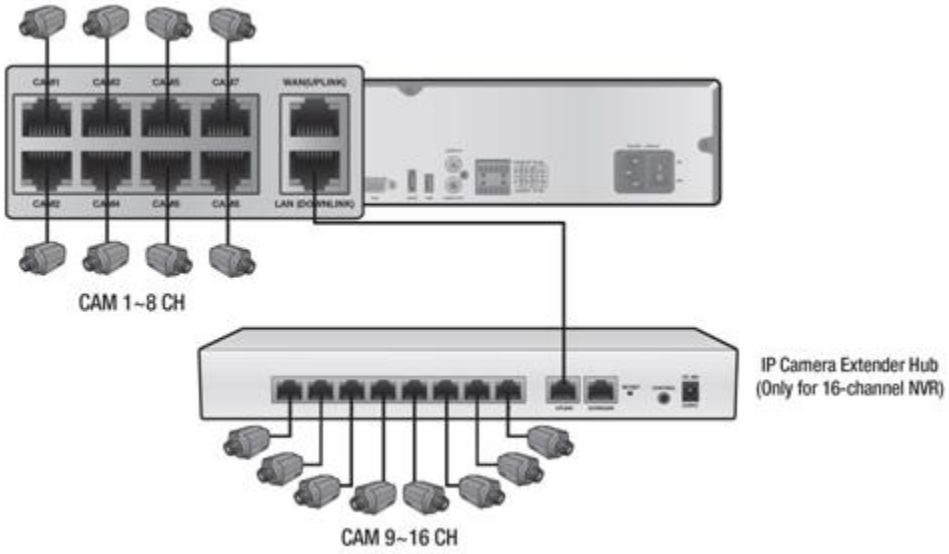
Connecting the camera

You can connect a PoE-featuring IP camera to the rear [CAM1]~[CAM8], RJ45 port using the CAT5 10/100Mb Ethernet cable without a separate power source.
Connect IP cameras to the [CAM9] ~ [CAM16] ports of the hub, and connect [LAN (DOWNLINK)] port and the hub's [NVR] port with an Ethernet cable to establish connections for channel 9~16 cameras (16ch only)

- **NR4HL /NR8HL**



- **NR8H /NR16H**



Precautions

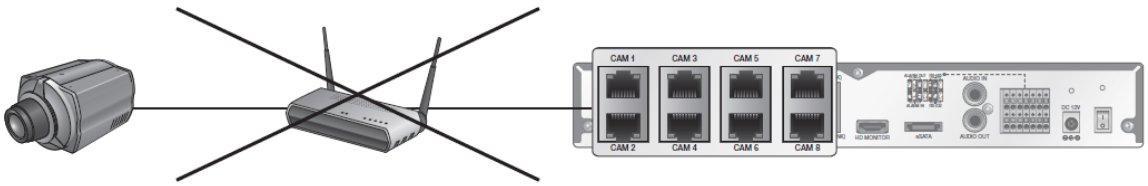
To secure recording stability from an overloaded network traffic, hacking attempt or DoS (Denial of Service) attack, only the direct cable connection between camera and NVR is allowed.

- ✓ **If the IP camera provides the alarm I/O port or Audio I/O port, you can make alarm or audio connection. For more details, refer to the user manual of the IP camera.**
- ✧ The Ethernet connection is effective within 100 meter in distance. Beyond that, you may encounter a data loss or failure to connect to the camera. If you need to make cable connection of longer than 100 meters, use a separate PoE extender for cable extension.

- ✧ The total power consumption of the IP cameras should not exceed the rated power capacity of the 48V PoE adaptor (Main unit; 95W external PoE hub: 72W for NR8H/NR16H). Beyond that, the video may not be played properly or no video will be displayed at all. If this is the case, use a separate (additional) power source for supplying power to the cameras.

- ✧ Even if total power requirement meets PoE device's power capacity, a camera of more than 15W power requirement per a port cannot be used.

- ✧ Each camera's power consumption can be checked on the network map screen, and total power consumption should consider camera's maximum possible consumption with optional accessories (such as IR / heater device).

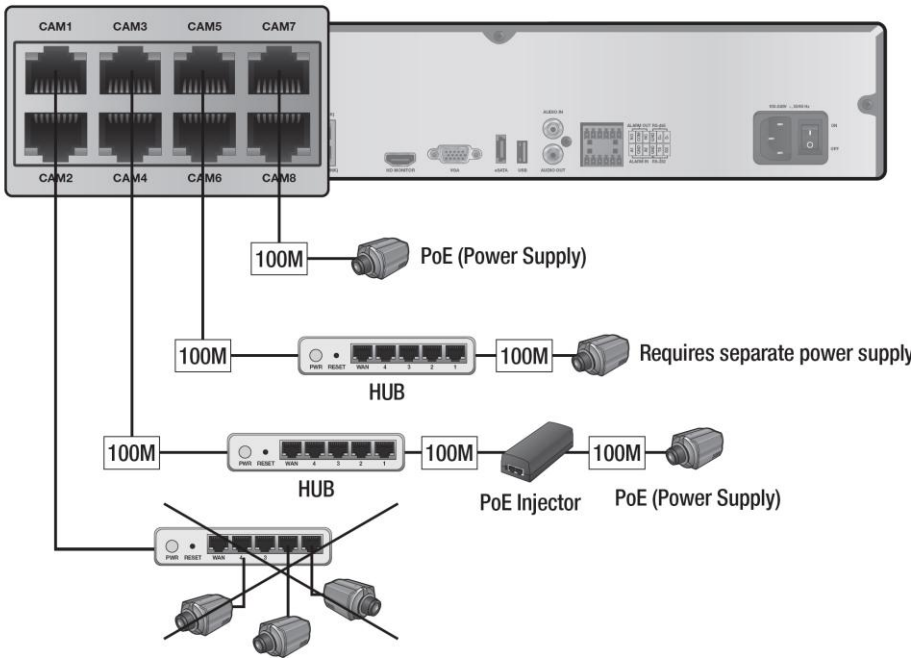


Camera HUB or Router NVR

- ✧ For stable operation, a dedicated communication line is established for IP cameras in the same network. This is why network router or hub connection is not allowed.

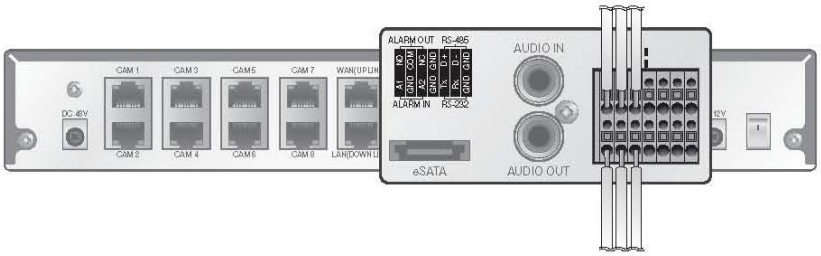
If the distance between the NVR and IP camera is more than 100m

You may extend the transfer range by connecting a switching hub or PoE device between the Ethernet port and IP camera if desired distance is longer than 100m.



- ✓ Connecting cameras directly to a general switching hub requires camera connected to a separate power supply.
- ✓ A switching hub connected for extending transfer range of a single channel should be connected to one camera only.

Alarm I/O Connection



To connect the alarm input signal

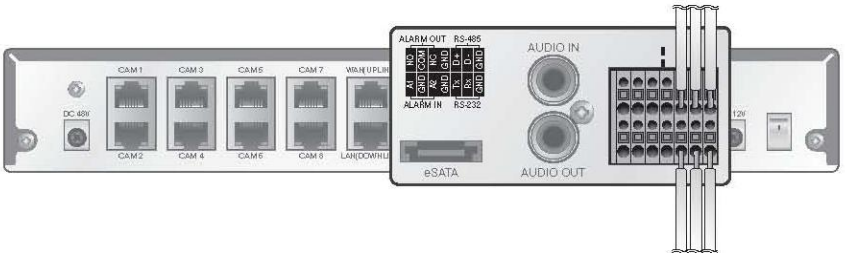
1. While pressing and holding the **[A1]** or **[A2]** port button in the rear bottom of the NVR, insert the alarm signal cable in the hole under the button.
2. Insert the grounding wire in the **[GND]** port.
3. To ensure secure connection, release the button and pull out the wire to check if it's not pulled out.
4. To remove the wire, pull it out while holding the upper button.

To connect the alarm output signal

Connect the signal line of an alarm output device to the rear **[ALARM OUT]** port.

1. Check the relay output type of Normal Open or Normal Close before selecting a proper type (N/O or N/C). While holding the **[N/O]** or **[N/C]** button, arrange the alarm signal cable through the hole under the button.
   - ✓ N/O(Normal Open) : normally Open but switching to Close if an alarm out occurs.
   - ✓ GND : Insert the grounding wire.
   - ✓ N/C(Normal Close) : normally Close but switching to Open if an alarm out occurs.
2. Insert the grounding wire in the **[GND]** port.
3. To ensure secure connection, release the button and pull out the wire to check if it's not pulled out.
4. To remove the wire, pull it out while holding the upper button.

Communication Port



RS-485 Connection

Connect the keyboard controller.

You can connect a text-in device such as POS or ATM. After connecting the control device, be sure to match the connection settings between NVR and device. Make communication settings in <Control Device>. (page 55)

1. Use the signal line to make connection between **[D+]** of the rear NVR and **[D+]** of the keyboard controller.
2. Make connection between **[D-]** of the rear NVR and **[D-]** of the keyboard controller.
3. Make connection between **[GND]** of the terminal block plug and **[GND]** of the keyboard controller.
4. Install the wire-connected terminal block in the rear part.
   - ✓ For RS-485 connection, refer to the user manual of the keyboard controller.
   - ✓ Signal connection for POS and ATM is scheduled to be upgraded later.

RS-232 Connection

You can connect a text-in device such as POS or ATM.

For connection of the text-in device, refer to the user manual of the text-in device.

- ✓ Signal connection for POS and ATM is scheduled to be upgraded later.

Audio Device Connection

You can connect an audio output device such as speaker amplifier.

Connect the audio input device such as microphone to the rear Audio In port, connect the audio output device such as speaker amplifier to the Audio Out port.

eSATA Storage

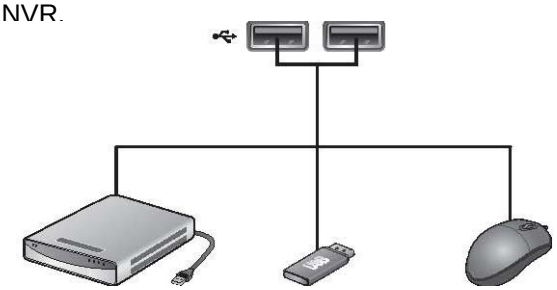
If the internal storage space is insufficient, you can extend your storage capacity by adding an eSATA storage device to the rear eSATA port.

Recommended eSATA device
-Manufacturer : Sarotech
-Model : C5-US3-N

✓ Using devices other than recommended eSATA products may cause serious problem.

USB Device

You can connect a USB storage device for backup of recorded video, saving snapshot, updating the firmware, importing/exporting user data or settings. You can also connect the USB mouse to control all operations of the NVR.



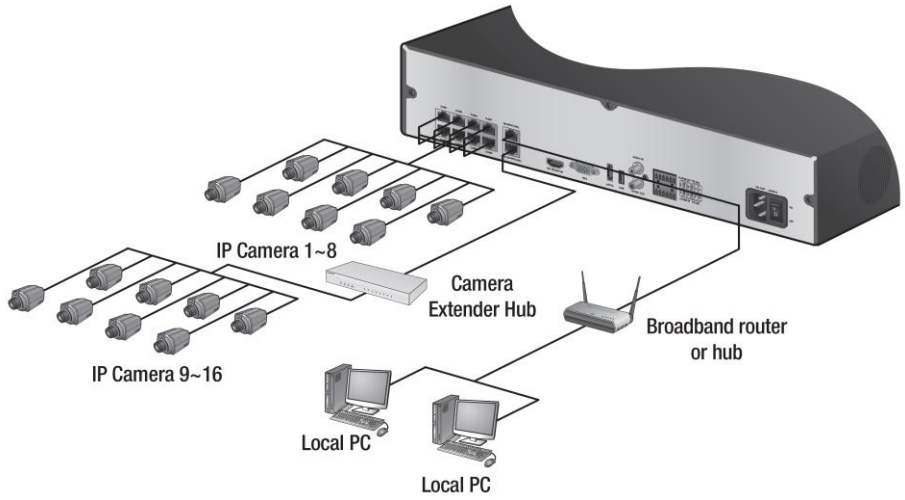
External HDD (For backup only) | USB Storage | Mouse

✧ If you need to connect a USB HDD with a high power consumption, it is recommended to use a separate power source for that HDD.

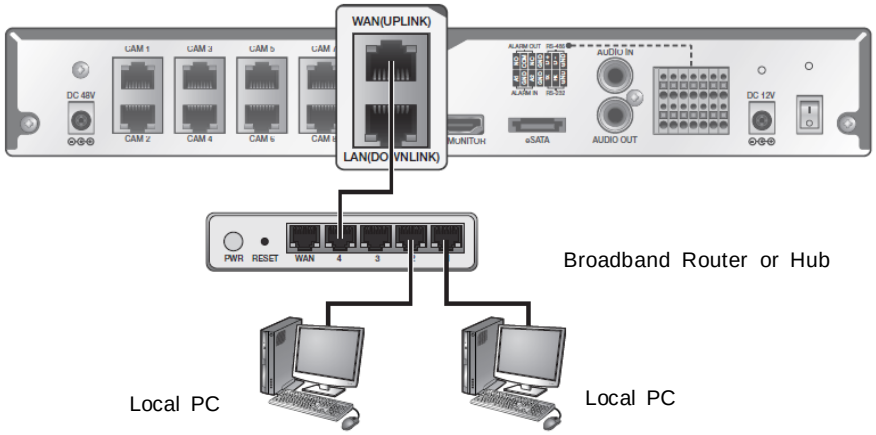
Network Connection

PC connection in the local network

You can connect NVR to a PC in the same network and control or manipulate it on the PC monitor.



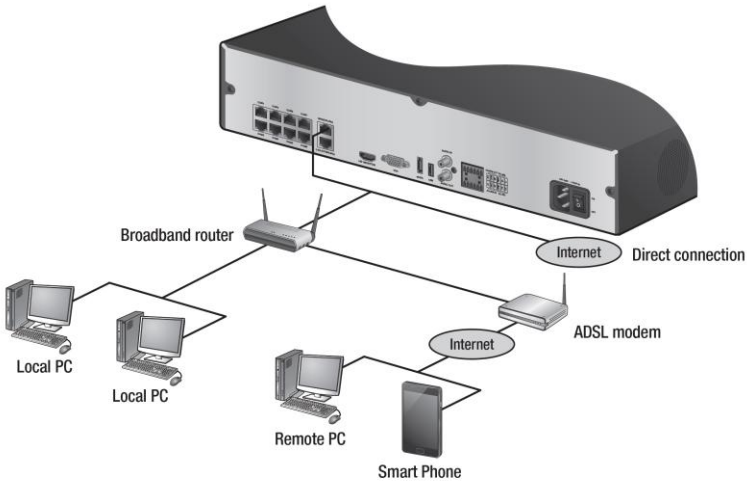
1. Connect the [WAN(UPLINK)] port in the rear panel to the router or hub.
2. Connect the local PC to the router or hub.



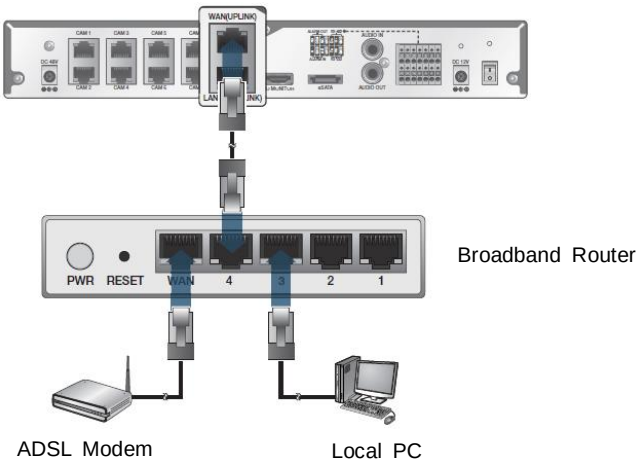
3. Enter the address in the address bar (web browser) of the local PC or of the dedica ted software program in the format of “http://IP address:web service port ”.
   (Ex : http://192.168. 1.23:8080) The web service port is set to 8080 by default. From the Network Setup screen, you can change the port number.
4. Provide the ID and password before logging in. Then, you can view the monitoring s creen. Access **ID (factory default) : ADMIN**, **P/W : 1234.**
   - ✓ For the security purpose, change the password right after you purchased the pro duct.

PC connection from a remote network

You can connect NVR to a PC or mobile device in the same remote network and control or manipulate it on the monitor of the PC or mobile device



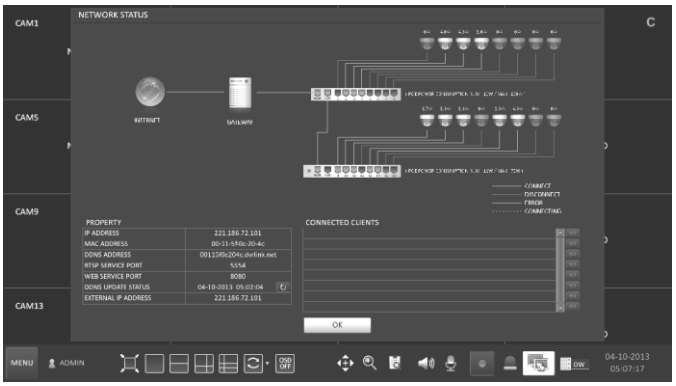
1. Connect the **[WAN(UPLINK)]** port in the rear panel to the router.



2. Connect the **[WAN(UPLINK)]** port of the router directly to the fixed IP LAN cable, or connect it to the ADSL modem.
3. If using the router, set the port forwarding and enter the DDNS address in the address bar (web browser) of the remote PC, or of the dedicated software program or mobile phone.
   For the IP and DDNS address settings, refer **to "Network Setup"**. (page 47)
4. If the MAC address of the NVR is 00-1C-B8-12-34-56 and the web port number is 8080, enter "http://001CB8123456.dvrlink.net:8080" in the address bar of the web browser.If you have renamed DDNS as "mydvr", you can make network connection at http://mydvr.dvrlink.net:8080

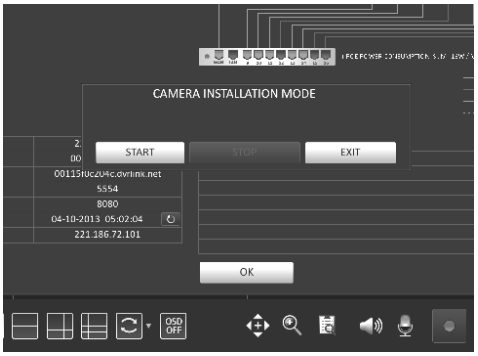
Camera installation mode

You can set all connected cameras into installation mode for analog video output monitoring. Click network status icon on the live view screen to open network status window.



Press <DISPLAY>, <SEQ>, and <LOG> in order by remote control to open “CAMERA INSTALLATION MODE” Menu

Click <START> to change cameras to installation mode.
When done, click <STOP> and click <Exit> to back to normal mode.



Start Up/ Shutdown

START

You can connect NVR to a PC in the same network and control or manipulate it on the PC monitor.

1. Connect the adaptor to the 48V PoE power input port in the rear panel of NVR.(NR4HL/8HL)
   Or connect to external Hub(NR16H)

✓ Make connection when the power is not applied yet.

2. Connect the adaptor to the 12V power input port in the rear panel of NVR.(NR4HL/8HL)
   Connect AC cord to rear panel.(NR8H/16H)
3. Turn on the power switch in the rear panel of NVR. With a beep, the logo screen appears several seconds after the front LED turns on.
4. When the booting process is completed, the live screen then the login screen appears.

Log In

To manipulate or access the menus of NVR, you should have logged in.

1. When the system starts, the login screen appears.
2. Select a user and provide the password.
   The default password of the "ADMIN" account is "1234".
3. Click **<OK>**.
   If the login information is correct and valid, you will see the live screen.

✓ For the security purpose, change the password right after you purchased the product.

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Log Out

To prevent unauthorized access, it is recommended to log out when you leave the screen.

✓ Hover the cursor near the bottom of the screen to display the menu.

1. In the monitoring screen, click **<MENU>** in the bottom left corner of the screen to **<LOG OUT>**, or press the **[LOGOUT]** button on the remote control.

2. Access to Search / Backup / System Setup / Record Setup / System Shutdown will be restricted.

System Shutdown

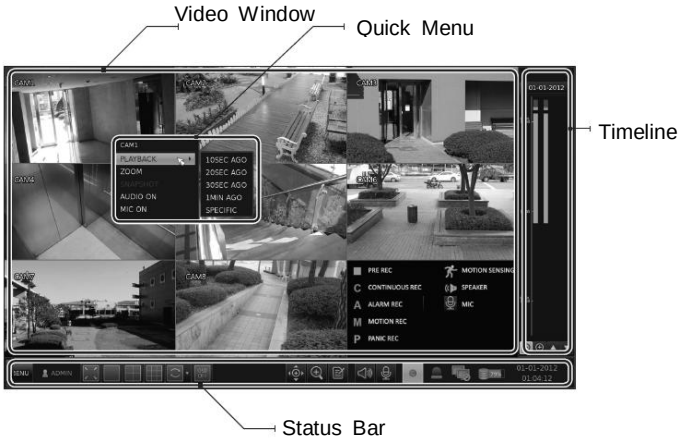
You can connect NVR to a PC or mobile device in the same remote network and control or manipulate it on the monitor of the PC or mobile device

1. In the monitoring screen, click **<Menu>** in the bottom left corner of the screen to **<SHUTDOWN>** the system, or press the **[POWER]** button on the remote control.
2. Use the virtual keyboard to enter the password.
3. Be sure to turn off the power switch in the rear panel.

✓ If you turn off the system in an abnormal manner such as removing the power cord while the system is in operation, the disk will have or increase the bad sectors, causing data loss and shortened life cycle of the disk.

Live Screen At a Glance

The live screen largely consists of three components: video window, status bar and timeline z one.



Video Window

Icons used in the video window.

ITEM		Description
Camera ID	CAM1	Show the camera ID
Record Mode Icons	☐	Displayed if an event recording is reserved.
	C	Display the status of the continuous recording.
	A	Display the recording status when an alarm occurs.
	M	Display the recording status when a motion event occurs..
	P	Display the status of the emergency recording..
Audio I/O Icons		The audio signal of the connected camera is outputting.
		The audio signal is transferring to the connected camera via the microphone.
Motion Detection Icon		A motion is detected by the connected camera.

Status Bar

Press the ▼ button on the remote control, or place the mouse in the lower area of the screen to display the status bar.

ITEM		Description
Menu Button		Select one of the system setup, search and backup menu items before accessing it.
User ID		Show the ID of the user who has currently logged in.
Screen Control Buttons		Edit the screen layout to show the status bar and timeline at all times or only when the mouse cursor hovers on the status bar/timeline
		Select a split mode.
		Select Auto Sequence or Special Split Mode.
		Display or hide the OSD menu on the screen.
PTZ		Move to the PTZ screen. You can control the PTZ operations of a PTZ-compliant camera on the PTZ screen.
Zoom		Move to the Digital Zoom.
Quick Log		Display the log list of the recent recording events.
Audio Channel Selection Button		You can use the camera supporting the audio input to listen to the audio.
Microphone Channel Selection Button		Select a camera to which the audio signal will be transferred from the connected microphone.
Panic Record		Start the panic recording.
Alarm Indicator		Turns on if an event occurs. It does not turn on if no reaction to the event is yet defined. Click this to check the information of the event that occurred.
Network Connection Status		Check if network connection is made via an external PC or mobile device. Click this to view the details of the concurrent users and to check the network connection status. For more information, refer to "Network Setup". (page 47)
Disk Space		Show the disk space information. If you have set the disk overwrite mode, it will be displayed "OW" (Over Write) from the start point of the overwriting. Click this to view the details of the disk status. For more information, refer to "Record Setup".(page 66)
Date & Time		Display the current time and date.

Timeline

Press the [▸] button on the remote control or move the cursor to the right of the screen to display the timeline. Double-click the timeline to move to the video screen. Drag and drop it to make backup or event search for the specified area.

ITEM		Description
Timeline Date		Display the date of the current timeline. Click this to select a desired date of the timeline.
Expand/ Collapse the timeline		Expand or collapse the timeline.
Navigation through Timeline		Navigate through the timeline. You can also use the mouse wheel to do the navigation..
Timeline Bar		Display the recording data with time. The color of each bar indicates the following: ✓ Green : Continuous Recording ✓ Red : Alarm Recording ✓ Blue : Motion Recording ✓ Yellow: Panic Recording

Quick Menu.

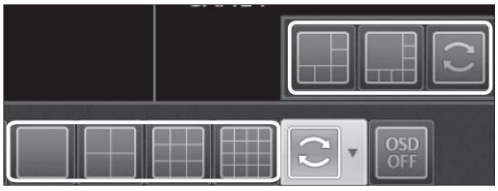
ITEM	Description
Channel No	Display the number of the current channel.
Play	Start playing the video of the selected channel from the specified time.
Zoom	Zoom the video of the selected channel.
Snapshot Capture	Capture the current live video and save it in the .jpeg format. Then, you can save the captured video in the HDD or export it to an external USB memory device.
Audio ON/OFF	Turn on or off the audio signal of the selected channel.
Microphone ON/OFF	Turn on or off the microphone signal of the selected channel
ONE PUSH	Automatically adjust the focus. It's available only if supported by the connected camera.

Using the status bar in the live mode

Selecting a split mode

Click a desired split mode from 1, 4, 9, 16, 6 and 8 split screen. Or press the **[DISPLAY]** button on the remote control until a desired split mode is displayed.

- ✓ 4ch (8ch) NVR model support only 1- and 4-split (8-split) screen modes.



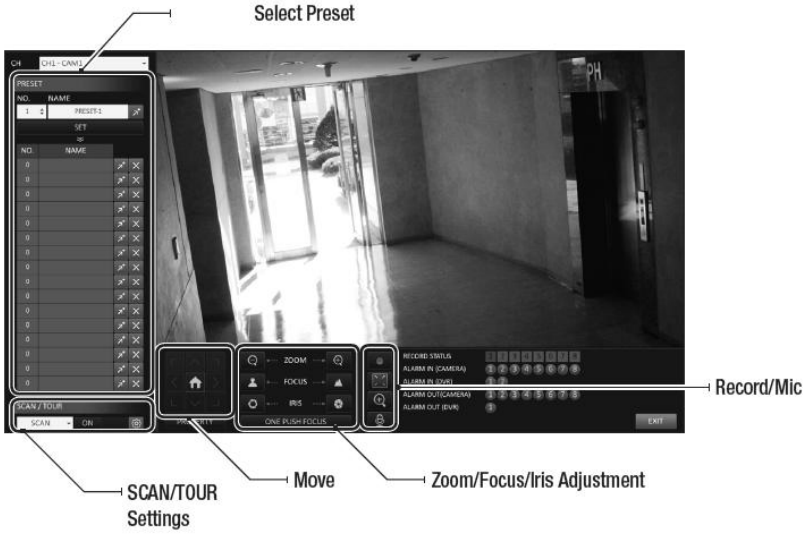
Auto sequence

Click the Sequence button in the status bar, or press the **[SEQ]** button on the remote control to perform the specified sequence mode.
You can configure the sequence settings in **<SEQUENCE>**.

For details, refer to “Sequence”. (page 43)

Controlling PTZ

You can control PTZ cameras connected to each channel. Use the mouse to click PTZ button on the status bar, or press the [PTZ] button of the remote control to initiate the predefined sequence.
In PTZ mode, use buttons on the screen to control PTZ or use [ZOOM], [FOCUS] and [PRESET] buttons of the remote control.



Pan/Tilt Control

Use mouse to rotate the PTZ camera in the direction of up/down/left/right and diagonal directions.
You can control Pan/Tilt with **[▲▼◄►]** buttons of the remote control.

Zoom / Focus Control

You can control the PTZ camera for zooming and focus adjustment.
Click <ONE PUSH FOCUS> button to adjust the camera's focus automatically.
If the connected camera supports manual iris adjustment, you can adjust the iris setting.
You can control by using **[ZOOM]** and [FOCUS] buttons of the remote control.

1. Click <PROPERTY> and change to a desired setting of the PTZ camera (for auto focus, auto IRIS, pan/tilt speed, zoom speed, focusing speed, iris speed).

- ✓Depending on the PTZ camera manufacturer and model, some of the PTZ properties may not be applicable.

- CH : Selects the PTZ camera connected to the NVR.
- PRESET (No. / Name) : You can select the preset number and name.

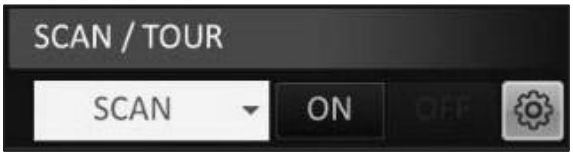
- ✓Up to 255 presets can be selected for a PTZ camera, while up to 16 presets can be registered to one NVR.

2. Control the Camera's PTZ while watching the video. Press the <SET> button to append t he preset.

- >Click the shortcut icon to move to the corresponding PTZ (preset) position.
- >Click Delete icon to delete the corresponding preset.
- ✓PRESET: Memorizes the PTZ camera's framing for direct access at a later time.

SCAN/TOUR

1. Select **<SCAN>** and click the **<ON>** button.
2. Click the < > icon.



3. Select a user-defined preset and register it.

- >DWELL : Sets the dwell time of 00 seconds before moving to the next preset location.
- ✓**<SCAN>** function patrols two preset positions at the specified speed and interval for back-and-forth monitoring.

4. Select **<TOUR>** and click the **<ON>** button.

5. Click the < > icon.

6. Select a user-defined preset and register it.

- >DWELL: Sets the dwell time of 00 seconds before moving to the next preset location.

- ✓<TOUR> function patrols multiple presets in order (PRESET 1 ... PRESET 2 ... PRESET 3 .....) for automated Patrolling monitoring.

Digital Zooming

You can enlarge the monitoring screen for better view.
Zooming will enlarge the video of the selected channel. If no channel is selected, channel 1 will be zoomed.

1. Click Zoom in the status bar or move the cursor to a desired channel and right-click it to display the context menu.
   Select **<ZOOM>**.
   You can also press the **[ZOOM]** button on the remote control.
2. Move to the zoom control screen. When the menu bar appears in the right bottom, use the buttons to control the zooming.

- ✧ CH1 - CAM1 Select a channel to zoom in/out.
- ✧ Zoom out the current (enlarged) image step by step.
- ✧ Enlarge the current image step by step.
  Zoom Box : Use the yellow box to move to or select a desired zooming area.
- ✧ EXIT Exit the zooming screen and return to the live screen.

To check the event log

You can check the log of the events that occurred.

1. Click Log to display the **"EVENT LOG"** window. The log list is sorted with the latest one on top.
2. Double-click a desired log to display the event video.
   You will move to the play screen of the selected log.

To select an audio input channel

Select a channel from which the audio signal will be received.
If you check the **<LINK TO FULL SCREEN>** Option and change the 1-split screen, the audio signal will be sync with the selected channel.

✓ Even if a channel to syn with is already selected, checking the **<LINK TO FULL SCREEN>** option will receive the audio signal only from the selected 1-split screen regardless of the previous setting.

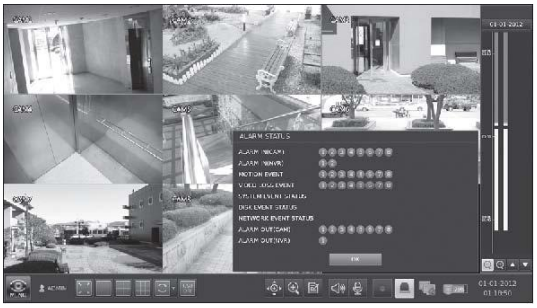
To select an audio output channel

You can select a camera outputting the voice signal from the microphone that is connected to NVR.

To check the alarm status

You can check the alarm status of each camera.

Click **<OK>** to close the window

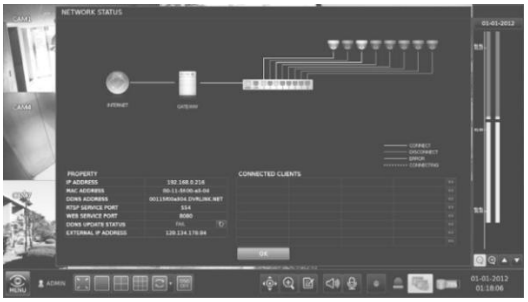


To check the network status

You can check the network connection status.

Click **<OK>** to close the window.

✓ For more information, refer to "Network Status". (page 50).



To check the disk status

You can check the storage space of the current disk and check also if there is any problem with the disk.

Click **<OK>** to close the window.

For more information, refer to "Disk Information". (page 56).

Saving captured snapshots

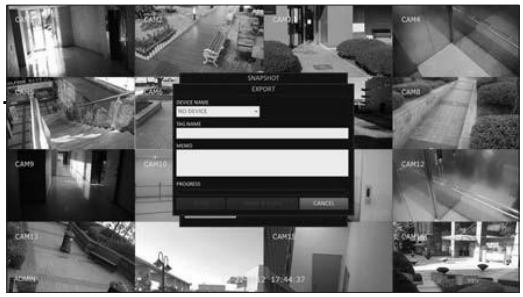
You can capture the current video screen and save or export to a connected storage device.

1. Select a channel first, and right click to open popup menu, and select **<SNAPSHOT>** menu item, or press the **[SNAPSHOT]** button of the remote control.

2. Connect a storage device, and click **<EXPORT>** button.
   To save the captured image onto the built-in HDD, press the **<RESERVE>** button.

✓Saved image can be found in the **"Archiving > Reserved data management"** and can be backed up. (Page 78)

3. Enter the **<TAG NAME>** and **<MEMO>** and press **<BURN>** or **<ERASE & BURN>** button.



- > A progress bar appears and indicates the Progress of exporting to storage device.
- > BURN : Snapshot is stored in the connected USB storage device.
- > ERASE & BURN : Deletes all fi les in the connected USB storage and then saves the snapshot.

Note that <ERASE & BURN> option erases all data in the USB storage device and will not be restored once deleted.

To move to the System Setup menu

How to use the mouse

How to use the remote control 1

How to use the remote control 2

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Camera Setting

You can configure the camera settings on the NVR screen regarding the camera title, image, hide/show, and motion.

CAMERA TITLE

You can change the camera title that is displayed on the screen.

1. From **<SYSTEM SETUP>** - **<CAMERA>,** select **<CAMERA TITLE>.**
2. Use the **[▲▼◂▸/ENTER]** buttons on the remote control or use the mouse to select a channel that you want to rename.
   Alternatively, simply double-click the camera to rename from the top left corner.

✓ Up to **12** alphanumeric letters can be entered.

3. With the virtual keyboard that appears, enter a camera title and click **<OK>.**
4. To apply the change, click **<APPLY>** in the bottom of the screen.
5. When done, press the **[EXIT]** button on the remote control or click **<CLOSE>** in the lower screen.
   The confirmation message appears and you will return to the previous menu.

Camera Setup

Adjust the brightness, contrast, color and quality for each channel to your preference.

1. From **<SYSTEM SETUP> - <CAMERA>**, select **<CAMERA SETUP>**.
2. Use the **[▲▼◂▸/ENTER]** buttons on the remo te control or use the mouse to set each option of the image menu.

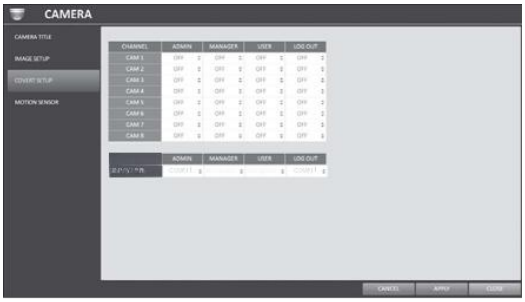
>IMAGE SETTINGS: Configures detailed image capturing setup for the camera.

>EXPOSURE:Controls the camera's exposure Adaptively to ambient lighting condition of installed location.

>DIRECT CONFIGURE: Connect to the IP camera via web to manipulate directly. When DIRECT CONFIGURE mode started, You can access the camera by web browser and control the camera.(ie. fine control of MFZP lens and FW upgrade of the camera)

3. To apply the change, click **<APPLY>** in the bottom of the screen.
4. When done, press the **[EXIT]** button on the remote controller or **<Close>** in the lower screen.

Covert Setup



You can set to hide the camera video so that a specific user or user group can not view.
Set a channel(s) that you want to hide from a specific user or user group.

1. From **<SYSTEM SETUP>** - **<CAMERA>**, select **<COVERT SETUP>**.
2. Use the **[▲▼◄►/ENTER]** buttons on the remote control or use the mouse to select a covert channel(s) from a specific user group.
   >ADMIN, MANAGER, USER : Set them to **<ON>**.
   The selected channel will be hidden from the applicable user account.
   >LOGOUT : Set it to **<ON>**. When the user logs out, the selected channel will not be displayed.
3. Select display title on live view screen for covert channel either “COVERT” or “NO VIDEO”
   To activate this settings, user need to logoff then login NVR again.
4. To apply the change, click **<APPLY>** in the bottom of the screen.
5. When done, press the **[EXIT]** button on the remote control or click **<CLOSE>** in the lower screen.

The confirmation message appears and you will return to the previous menu.
To change the covert settings from user group to user, move to the **<USER>** menu and make necessary changes. (page 46)

Motion Sensor

Set the motion sensor of the camera so that it can detect a motion event.

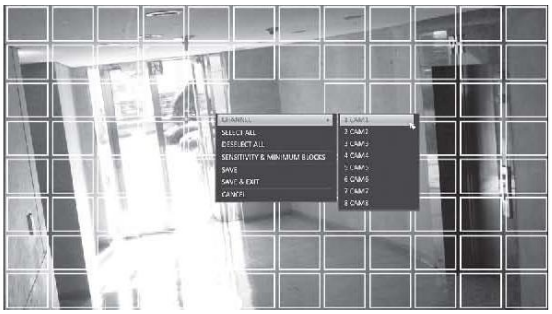
1. From **<SYSTEM SETUP>** - **<CAMERA>**, select **<MOTION SENSOR>**.
2. Use the **[▲▼◄►/ENTER]** buttons on the remote control or use the mouse to specify the use of each option item.
   > ACTIVATION : turn on or off the motion sensor.
   > MOTION MARK: Set it to **<ON>**.
   The video window will display the motion mark if a motion is detected.
   > SENSITIVITY : Set the sensitivity level of the motion sensor to either Day or Nighttime.
   > MINIMUM BLOCKS : Set the minimum number of blocks (that will be considered an event) to Day or Nighttime if a motion is detected in several blocks in the motion sensor area.
   > AREA SETUP : Specify the motion detection area.

3. To apply the change, click **<APPLY>** in the bottom of the screen.
4. When done, press the **[EXIT]** button on the remote control or click **<CLOSE>** in the low er screen. The confirmation message appears and you will return to the previous menu.

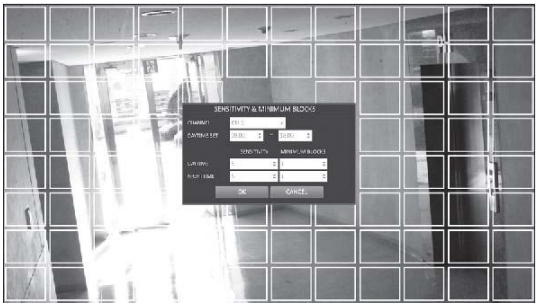
✓ The above options such as **<SENSITIVITY>** and **<MINIMUM BLOCKS>** and how to set the motion area may be restricted depending on the specification of the connected c amera.

Motion Area Setup

From the motion setup window, click **<AREA SETUP>** in the right corner to display the are a setup screen. Setting the motion area may differ depending on the camera model. Below is a typical setting of the motion area.



1. Click **<AREA SETUP>** to move to the motion area setup screen.
2. If using the remote control, press the **[ENTER]** button to mark the current position.
3. Use the arrow buttons to move to a desired block and press **[ENTER]**. The area setup will begin.
   Then, use the arrow buttons to specify the area. Alternatively, you can use the drag-and-drop method to specify or release the area as using mouse.
4. If you select the specified area again, it will be released.
5. Press the **[EXIT]** button on the remote control or right-click any area to display the popup window as in the right picture.

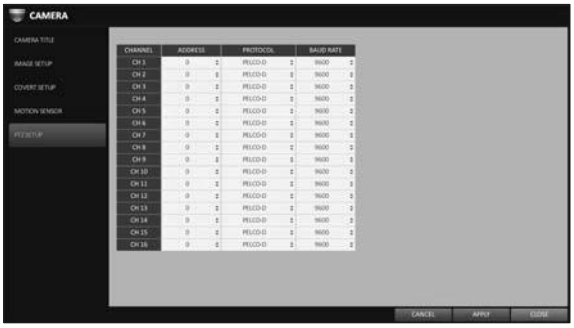


6. From the popup window, move to and specify the **<SENSITIVITY>** and **<MINIMUM BLOCKS>** for the current channel.
   > CHANNEL : select a channel that you specify the sensitivity and minimum blocks for.
   >SENSITIVITY : 1(Low) ~ 10(High) - The higher the number is, the more higher the sensitivity level becomes.
   >MINIMUM BLOCKS : 1(High) ~ 10(Low) - The lower the number is, the higher the sensitivity level becomes.
   > DAYTIME SET : specify the time period that will be considered as daytime.
   > DAYTIME : specify the **<SENSITIVITY>** and **<MINIMUM BLOCKS>** for the daytime.
   > NIGHTTIME : specify the **<SENSITIVITY>** and **<MINIMUM BLOCKS>** for the nighttime.

Images recorded in a low contrast scene such as at night cause severe noise, triggering the motion event too often.
If this is the case, reduce the nighttime sensitivity to a degree.

PTZ SETUP

You can set the camera ID, protocol, baud rate and data transmission speed for each channel.



1. From **<SYSTEM SETUP>** - **<CAMERA>**, select **<PTZ SETUP>**.

2. Use **[▲▼◀▶ ENTER]** buttons of the remote control or mouse to set the address (ID), protocol and data transmission speed for each channel.

3. To apply the change, click **<APPLY>** in the bottom of the screen. Once clicked **<APPLY>** button after changing settings, a restarting message pops up. Click **<Yes>** to restart the system automatically.

4. Once the setup is complete, press the **[EXIT]** button of the remote control or click **<CLOSE>** button on the bottom to display a confirmation dialog. Click **<CANCEL>** to return to the previous menu.

Display Setting

You can configure the display settings regarding the OSD menus, monitor and sequence.

OSD

Configure the settings for the time, title, boundary, icon and language that will be displayed on the screen.

1. From **<SYSTEM SETUP> - <DISPLAY>**, select **<OSD>**.
2. Use the **[▲▼◂▸/ENTER]** buttons on the remote control or use the mouse to set each option of the OSD item.
   > CAMERA TITLE : specify the display of the camera title on the screen.
   > RECORDING MODE ICON : specify the display of the record mode icon on the screen.
   > AUDIO ICON : specify the display of the audio icon on the screen.
   > STATUS BAR ON FULL SCREEN MODE : select to show or hide the status bar in full screen mode.
   - AUTO HIDE: place the cursor in the lower area of the screen to display the status bar. If moving the cursor up, the status bar will disappear.
   - ALWAYS ON: The status bar will be displayed at all times.
   - 5 SEC ~1 MIN: If no mouse movement is detected for from 5 seconds to 1 minute, the status bar will disappear.

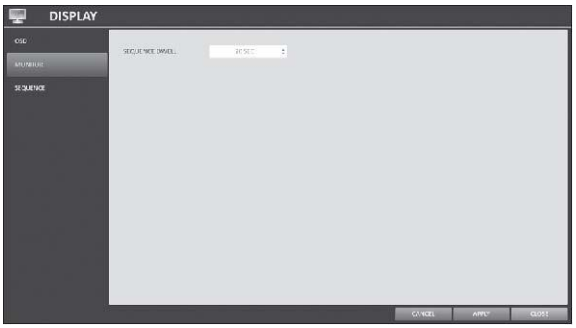
   > TIMELINE ON FULL SCREEN MODE: select to show/hide the timeline in full screen mode. AUTO HIDE : place the cursor in the right corner to display the timeline. If moving the cursor to the left, the timeline will disappear.
   - ALWAYS ON : The timeline will be displayed at all times.
   - ALWAYS OFF : The timeline will not be displayed.

> BORDER LINE: specify the display of the cross-border between channels in a split mode
> BORDER COLOR : select a color for the border.
> USER NAME : specify the display of the currently logged-in users on the status bar.
> LANGUAGE : select a menu display language.

3. To apply the change, click **<APPLY>** in the bottom of the screen.
4. When done, press the **[EXIT]** button on the remote control or click **<CLOSE>** in the lower screen. The confirmation message appears and you will return to the previous menu.

Monitor

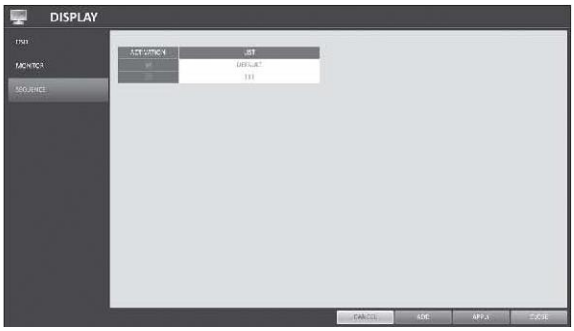
If you change from monitoring mode to sequence, you have to set the sequence interval.



1. From **<SYSTEM SETUP> - <DISPLAY>**, select **<MONITOR>**.
2. Use the **[▲▼◂▸/ENTER]** buttons on the remote control or use the mouse to set a sequence interval for auto mode to 1 through 60 seconds.
3. To apply the change, click <APPLY> in the bottom of the screen.
4. When done, press the **[EXIT]** button on the Remote control or click **<CLOSE>** in the lower screen.
   The confirmation message appears and you will return to the previous menu.

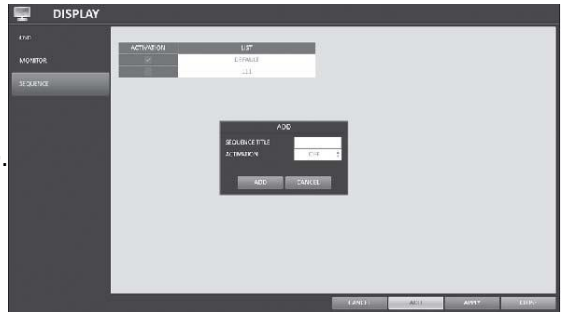
Sequence

Select a split mode for the sequence, and also select a list of active items when the sequen ce is performed.



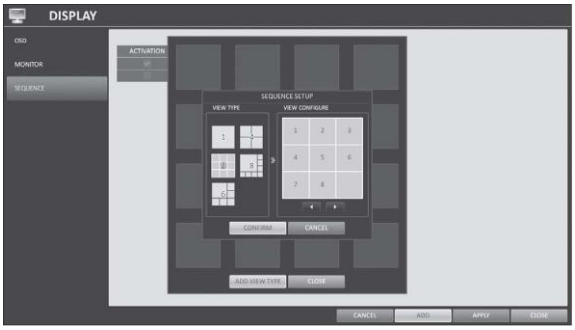
1. From **<SYSTEM SETUP> - <DISPLAY>**, select **<SEQUENCE>**.
2. Use the **[▲▼◂▸/ENTER]** buttons on the remote control or use the mouse to add a sequence or change the settings of the existing sequence.
   >ACTIVATION : Select a list that you want to Activate the sequence for.
   Only one list will become active.
   >ADD : add a sequence.
3. To apply the change, click **<APPLY>** in the bottom of the screen.
4. When done, press the **[EXIT]** button on the remote control or click **<CLOSE>** in the low er screen. The confirmation message appears and you will return to the previous menu.

To add a sequence



1. Click **<ADD>** in the bottom of the screen.
2. When the "ADD" dialog appears, enter a title using the virtual keyboard.
3. Enter the name of the sequence and click **<ADD>**.
4. When the **<ADD VIEW TYPE>** dialog appears, click **<ADD>**.
5. When the "SEQUENCE SETUP" dialog appears, Select a split mode that you want to add from **<VIEW TYPE>**.

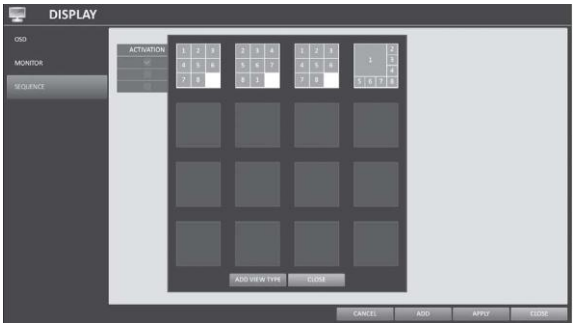
6. If the selected split mode is CONFIRMATION displayed on **<VIEW >**, select a channel you want to display in each split screen.
7. Click **<OK>**. The set sequence mode is confirmed and will be added to the Add Sequence list in order
8. When done, click **<CLOSE>** in the bottom of the screen.
   After the sequence type is saved, you will return to the previous screen.
9. Right-click on the new sequence, or press the **[ENTER]** button on the remote control to edit or delete it.



To edit a sequence

1. Select a sequence that you want to edit in the list.
2. The "EDIT" dialog appears.
3. Use the **[▲▼◄►/ENTER]** buttons on the remote control or use the mouse to edit the selected sequence.
   >SEQUENCE TITLE:enter a new sequence name.
   >ACTIVATION : specify the use of the sequence.
   >MODIFY : change the settings of the sequence mode.
   >DELETE : delete the selected sequence list.
   >CANCEL : cancel the changes.

4. Pressing the **<EDIT>** button will display the Edit Sequence window.
5. To change the existing settings, select a screen mode that you want to edit and right-click to display the context menu.
   Then, select **<EDIT>**.
6. When done, click **<CLOSE>** to close the window.
7. To apply your changes, click **<APPLY>**.



Audio Setup

You can configure the settings of the voice and audio signal.

AUDIO

Choose whether to receive the live sound source and select an audio channel.

1. From **<SYSTEM SETUP> - <AUDIO>**, select **<AUDIO>**.
2. Use the **[▲▼◂▸/ENTER]** buttons on the remote control or use the mouse to select an item that you want to edit.

   >DEFAULT LIVE AUDIO CHANNEL : select an Audio channel to monitor on the live screen.
   >NETWORK AUDIO TRANSMISSION : decide if NVR transfers the audio signal to the remote client.
   >RECEIVE NETWORK AUDIO: decide if NVR receives the audio signal from the remote client.
3. To apply the change, click **<APPLY>** in the bottom of the screen.
4. When done, press the **[EXIT]** button on the remote control or click **<CLOSE>** in the low er screen. The confirmation message appears and you will return to the previous menu.

Buzzer output

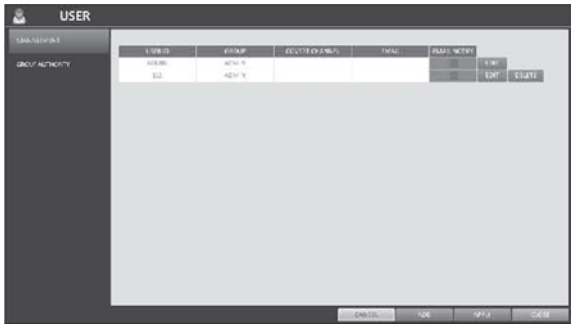
You can set to output the buzzer if you manipulate the remote control.

1. From **<SYSTEM SETUP> - <AUDIO>**, select **<BUZZER>**.
2. Use the **[▲▼◂▸/ENTER]** buttons on the remote control or use the mouse to select an item that you want to edit.
   > REMOTE CONTROL : specify the output of a Beep when you press a button on the remote control.
3. To apply the change, click <APPLY> in the bottom of the screen.
4. When done, press the [EXIT] button on the remote control or click <CLOSE> in the lower screen. The confirmation message appears and you will return to the previous menu.

User Setting

You can configure the settings regarding user management and user and group permissions.

Management



You can add a user account(s) that can be edited at a later time.

1. From **<SYSTEM SETUP> - <USER>**, select **<MANAGEMENT>**.
2. Use the **[▲▼◂▸/ENTER]** buttons on the remote control or use the mouse to add a user account or select an item that you want to edit.
3. To apply the change, click **<APPLY>** in the bottom of the screen.
4. When done, press the **[EXIT]** button on the remote control or click **<CLOSE>** in the lower screen.
   The confirmation message appears and you will return to the previous menu.

To add a user account

1. Click **<ADD>** in the bottom of the screen.
2. Use the **[▲▼◂▸]** buttons on the remote control and move to a desired item.
   Then, press **[ENTER]** to select the item.
   > USER ID : enter the user ID using the virtual keyboard.
   > PASSWORD : With the virtual keyboard, enter the password.
   > GROUP : From **<ADMIN>**, **<MANAGER>** and **<USER>**, select a group that the user belongs to.
   > EMAIL : Type in the e-mail address to which you will receive notification of an event if it occurs.
   > EMAIL NOTIFY : Choose whether you will receive notification of an event if it occurs.
   > COVERT CHANNEL : You can set the channel to hide from a specific user.
3. When done, click **<OK>**.
   The added user account will be listed.

To edit the user account information

1. From the list of users, select a user account to edit and click **<EDIT>** next to it.
2. From the Edit window, make necessary changes and click **<OK>**.
3. To delete the user account, click **<DELETE>**. The **<ADMIN>** account cannot be changed or edited.

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Group Authority

You can grant different user groups different permissions to a specific menu.

1. From **<SYSTEM SETUP> - <USER>**, select **<GROUP AUTHORITY>**.
2. Use the **[▲▼◂▸/ENTER]** buttons or use the mouse to set the permissions for both **<MANAGER>**and **<USER>** groups.
   >SEARCH : Set the permissions for the Search menu.
   >ARCHIVING : Set the permissions for the Backup menu.
   >SYSTEM SETUP : Set the permissions for the System Setup menu.
   >RECORD SETUP : Set the Access Permissions for the Record Setup menu.
   >EVENT ACTION CONTROL : Set the permissions to output the alarm or control the buzzer if an event such as alarm occurs.
   >LISTEN TO AUDIO : Set the permission to listen to the audio.
   >MICROPHONE : Set the permission to speak through the microphone.
   >REMOTE LOG IN : Set the permission to access remotely.
   >SHUTDOWN : Set the permission to shut down NVR from the System menu.
3. To apply the change, click <**APPLY>** in the bottom of the screen.
4. When done, press the **[EXIT]** button on the remote control or click **<CLOSE>** in the lower screen. The confirmation message appears and you will return to the previous menu.

Network Setup

You can configure the settings regarding user management and user and group permissions.

IP Setup

Specify the IP address as well as the remote service port.

1. From **<SYSTEM SETUP> - <NETWORK>**, select **<IP SETUP>**.
2. Use the **[▲▼◂▸/ENTER]** buttons on the remote control or use the mouse to specify each item of the network settings.
   >DHCP : If it is checked, set the IP address of the NVR to Dynamic IP.
   - If the **<DHCP>** item is checked, the sub Items of IP address, gateway, subnet mask, primary DNS server, secondary DNS server will be filled in automatically.

If you select to obtain an IP address from the **<DHCP>** server, when the lease time of the DHCP server expires, you will lose connection to the IP camera momentarily while the network settings will be updated.
However, the network connection will be restored soon. It is recommended to use a fixed IP for stable network connection.

>IP ADDRESS : Provide the IP address.
>GATEWAY : provide the gateway address.
>SUBNET MASK : provide the subnet mask address.
>1ST DNS SERVER : Enter the address of the primary DNS server.
>2ST DNS SERVER : Enter the address of the primary DNS server.
>RTSP SERVICE PORT : port number that the remote client receives the NVR video from.
>WEB SERVER PORT : port number used for connecting to the NVR with the web browser.
>PORT FORWARDING : If you are using a router, you can set the port forwarding so that external access to the NVR is enabled.
If the router does not support the uPnP protocol, you must set the port forwarding manually. For more information, contact your network administrator.
>DELETE PORT : release the port forwarding settings for the router.
>MAX TX SPEED : Limit the network transfer rate to access a remote client.
The video signal may be transferred at a less rate than specified, which depends on the status of your network connection.

3. To apply the change, click **<APPLY>** in the bottom of the screen.
4. When done, press the **[EXIT]** button on the remote control or click **<CLOSE>** in the lower screen. The confirmation message appears and you will return to the previous menu.

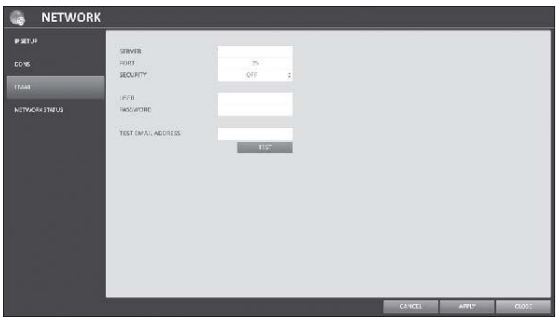
DDNS

You can configure the DDNS settings so that remote users who are connected to the network can access remotely DDNS is an IP redirection service in a dynamic IP environment that redirects (maps) the new IP address to a registered domain name each time the IP address is changed.

1. From **<SYSTEM SETUP> - <Network>**, select **<DDNS>**.
2. Use the **[▲▼◂▸/ENTER]** buttons on the remote control or use the mouse to specify the use of DDNS and select a server.
   >DDNS : Specify the use of DDNS connection.
   >DDNS SERVER : Select a server to connect to.
   >NVR NAME : Enter the name of the NVR that you want to use as DDNS.
   >DDNS REGISTRATION TEST : Check if the <**NVR NAME**> can be set as DDNS. If there is a duplicate name in the server, the registration will fail. If this is the case, rename the **<NVR NAME>** and press Test to check if it works properly.
   >USER NAME : Use this field only if you set DDNS server to dyndns.org.
   >PASSWORD : Use this field only if you set DDNS server to dyndns.org.
   >NVR ADDRESS : Provide the **<NVR NAME>** and press the **<DDNS REGISTRATION TEST>** button. The name will be added automatically.
   >DDNS CONNECTION TEST : Perform the connection test to check if DDNS is normally registered.
3. To apply the change, click **<APPLY>** in the bottom of the screen.
4. When done, press the **[EXIT]** button on the remote control or click **<CLOSE>** in the lower screen. The confirmation message appears and you will return to the previous menu.

Email

You can register and test an email address so that an email notification is delivered at a specific interval or if an event occurs.



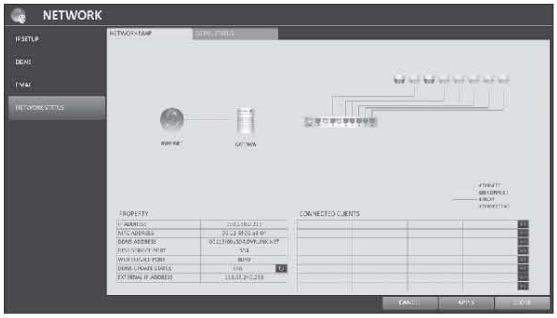
1. From <SYSTEM SETUP> - <NETWORK>, select **<EMAIL>**.
2. Use the **[▲▼◂▸/ENTER]** buttons on the remote control or use the mouse to specify the use of email and select a server.
   >SERVER : Set up the mail server. Set the mail Server that will be used for notification to the NVR. Use the virtual keyboard to enter your mail server.
   >PORT : Enter the mail server port.
   >SECURITY : If it is set to **<On>**, the email will be transferred in secure mode.
   If it is set to **<Off>**, the email will be transferred to a server that does not support SSL.
   >USER : Provide the email account (ID) of the sender.
   >PASSWORD : Provide the password of the sender.
   >TEST EMAIL ADDRESS : Enter an email address for the test purpose.
   >TEST : Send a test email and check if the test email is delivered normally.

3. To apply the change, click **<APPLY>** in the bottom of the screen.
4. When done, press the **[EXIT]** button on the remote control or click **<CLOSE>** in the lower screen. The confirmation message appears and you will return to the previous menu.

Network Status

From the network map screen, you can check the internet connection status and IP camera connection status, and check also the details of the connection status for each camera.

1. From **<SYSTEM SETUP> - <NETWORK>**, select **<NETWORK STATUS>**.
2. Use the **[▲▼◂▸/ENTER]** buttons on the remote control or use the mouse to select one between **<NETWORK MAP>** and **<DETAIL STATUS>**.
3. When done, press the **[EXIT]** button on the remote control or click **<CLOSE>** in the lower screen.
   The confirmation message appears and you will return to the previous menu.



Network Map

> IP ADDRRESS : Indicates the internal IP address of the NVR.
> MAC ADDRESS: Indicates the internal MAC address of the NVR.
>DDNS ADDRESS: Indicates the internal DDNS address of the NVR.
>RTSP SERVICE PORT : Indicates the network port of the video service.
For remote service, the router must have set up the port forwarding.
>WEB SERVICE PORT : Indicates the web service network port.
For the remote service to be enabled, the corresponding port of the router should have set up the port forwarding.
>DDNS UPDATE STATUS : Shows if the DDNS address was registered to the DDNS server normally. Press <> to try to register the DDNS address forcibly.
>EXTERNAL IP ADDRESS : Indicate the IP address for the internet, accessible from the NVR. The NVR can be granted access with the web browser at http://<External IP Address>:<Web Service Port>.
The IP address can vary in a dynamic IP environment.
>CONNECTED CLIENTS :Shows the list of clients that are currently connected.
Press <> to terminate the connection of an unwanted client forcibly.
Termination is limited to only users in a lower group than the current user.

The current PoE power consumption is updated sequentially in the order of channel.

Detail Status

You can check the details of the cameras that are connected to each channel.
Click < > in the right area of the list to show the details. Click **<RESET>** in the "IP CAMERA CONFIGURATION" window to reset the IP camera. When the IP camera settings are complete, click **<OK>**.

Security

For security purpose, you can set whether to use encryption and its method, and configure IP filtering.

1. From **<SYSTEM SETUP>** - **<NETWORK>**, select **<SECURITY>**
2. Use the **[▲▼◂▸/ENTER]** buttons on the remote control or use mouse to select on between **<ENCRYPTION>** and **<IP FILTER>**.

3. When done, press the **[EXIT]** button on the remote control or click **<CLOSE>** in the lower screen to return to the previous menu.

ENCRYPTION

>RTSP ENCRYPTION ENABLE: Set whether to apply RTPS encryption or not.
>RTSP ENCRYPTION METHOD: Select the encryption method.
>HTTPS ENABLE: Set whether to use HTTPS encryption or not.
>HTTP AUTHENTICATION METHOD: Select the authentication method for encrypted communication.

IP FILTER

>IP FILTER ENABLE : Set whether to apply IP filetr or not.
>IP FILTER RULE: You can select to allow or deny IP addresses listed in the IP filter.
>ADD:Click the button to add an IP address to be filtered, if IP filtering is enabled.

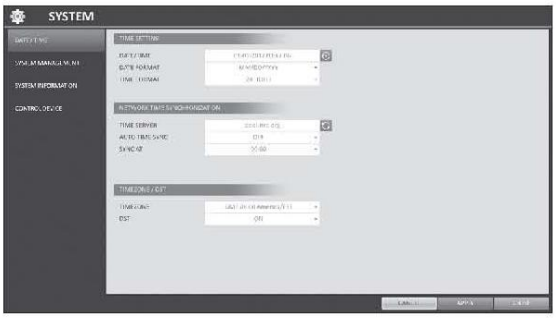
System

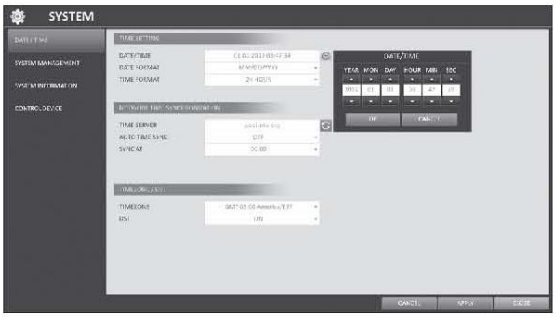
You can configure the settings of date/time, system management, and keyboard controller.

Date/Time

Specify the current date and time.

1. From **<SYSTEM SETUP> - <SYSTEM>**, select **<DATE/TIME>**.
2. Use the **[▲▼◂▸/ENTER]** buttons on the remote control or use the mouse to change the time or set the options as necessary.
   >DATE/TIME : Set the current time and date. Click< > to adjust the time manually.
   >DATE FORMAT : specify the date format.
   >TIME FORMAT : specify the time format.
   >TIME SERVER : obtain the current time from the time server. Click < > to get the current time.
   >AUTO TIME SYNC : automatically synchronize the time with the time server at a specific time.
   >SYNC AT : Set the time to sync with the time server.
   >TIMEZONE : specify the GMT standard time for your local area.
   >DST : You can set up or release the DST (Daylight Saving Time).





3. To apply the change, click **<APPLY>** in the bottom of the screen.
4. When done, press the **[EXIT]** button on the remote control or click **<CLOSE>** in the lower screen. The confirmation message appears and you will return to the previous menu.

System Management

You can check, update or reset the system information.

1. From **<SYSTEM SETUP> - <SYSTEM>**, select **<SYSTEM MANAGEMENT>**.

2. Use the **[▲▼◄►/ENTER]** buttons on the remote control or use the mouse to set each option of the system management.

FW UPDATE : you can update the current software with the latest version.

FACTORY DEFAULT : Return the NVR settings to the factory default.

SYSTEM DATA : Save the system settings or get the system information from other device.

- **SAVE** : Store the NVR settings to a storage device. Connect the storage device to the USB port of NVR.
- **LOAD** : Apply the settings of the storage device to the NVR. Connect the storage device to the USB port of NVR.

PASSWORD : Open or close the dialog box for settings of the menus: quit, system settings, record settings, backup, and search.

If it is set to **<Off>**, note that the ADMIN account is only effective and access to all menus will be restricted.

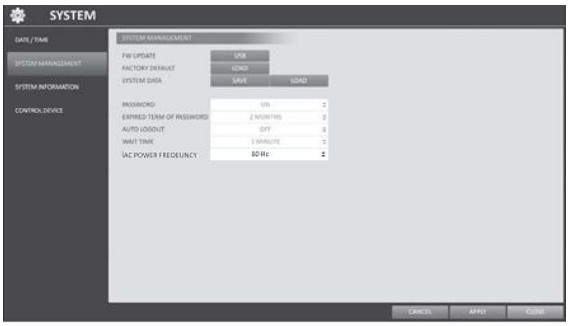
EXPIRED TERM OF PASSWORD : You will be prompted to change the current password after a certain period of time.

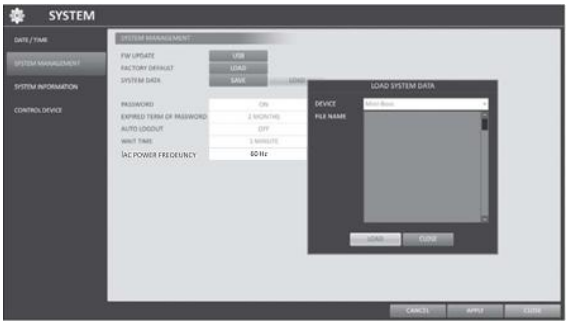
AUTO LOGOUT : If there is no user input for a certain period of time, you can set to log out automatically.

WAIT TIME : Specify the waiting time for Auto Logout.

PoE POWER LIMIT (HUB) : Sets the nominal power consumption of the external PoE device's power adaptor.

AC POWER FREQUENCY : Set to the actual AC power's frequency (50Hz / 60Hz) applied to NVR to avoid flickering.





3. When done, press the **[EXIT]** button on the remo te control or click **<CLOSE>** in the lower screen to return to the previous menu.

To perform the upgrade

1. Connect the USB storage device that contains the updatable files.
2. Click **<USB>**.
3. Select one(s) from the updatable files LIST listed in **<F/W >**.

4. Click **<UPGRADE>**.
5. When the confirmation message appears, click **<OK>**.

6. The progress bar displays the progress of the firmware upgrade process.
7. When the upgrade is complete, reboot the system.

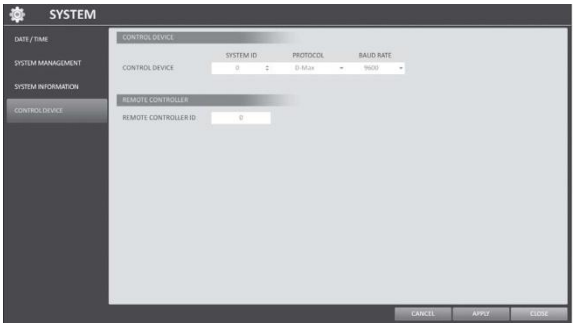
System Information

You can check the current system version and syste m-related settings.

1. From **<SYSTEM SETUP> - <SYSTEM>**, select **<SYSTEM INFORMATION>**.
2. Check the status of the current system.
3. When done, press the **[EXIT]** button on the remote control or click <CLOSE> in the lower screen.
   The confirmation message appears and you will return to the previous menu.

Control Device

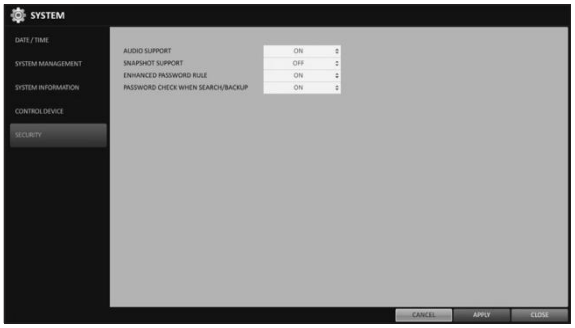
Configure the settings of the remote control and keyboard controller.



1. From **<SYSTEM SETUP> - <SYSTEM>**, select **<CONTROL DEVICE>**.
2. Use the **[▲▼◂▸/ENTER]** buttons on the remote control or use the mouse to set the connection options for the control device.
   >SYSTEM ID : Set the ID of the NVR so that the keyboard controller can identify.
   >PROTOCOL : Set up the protocol of the keyboard controller.
   >BAUD RATE : Specify the RS485 communication speed.
   >REMOTE CONTROLLER ID : Set the ID of the remote control.
3. To apply the change, click **<APPLY>** in the bottom of the screen.
4. When done, press the **[EXIT]** button on the remote control or click **<CLOSE>** in the lower screen. The confirmation message appears and you will return to the previous menu.

Security

For security, you can set to apply reinforced password policy (to system, search/backup) and control accessing audio and snapshot.



1. From **<SYSTEM SETUP> - <SYSTEM>**, select **<SECURITY>**
2. Use the **[▲▼◂▸/ENTER]** buttons on the remote control or use the mouse to set each option of security

>AUDIO SUPPORT: Allows audio function

If set to **<OFF>**, all audio functions are disabled. Live and playback screen do not produce audio, and no audio recording is allowed.

Note that changing the setting from **<OFF>** to **<ON>** initializes audio related settings. Hence, reconfiguration is required after enabling.

>SNAPSHOT SUPPORT: Allows snapshoto function

If set to **<OFF>**, all capturing functions are disabled. User cannot take a snapshot on the live screen, playback screen and backup player screen.
Event notification with e-mail will not include event snapshot too.

Note that changing the setting from **<OFF>** to **<ON>** initializes snapshot related settings. Hence, reconfiguration is required after enabling.

>ENHANCED PASSWORD RULE: Sets whether to apply strong password policy, which prevents using too easy password.

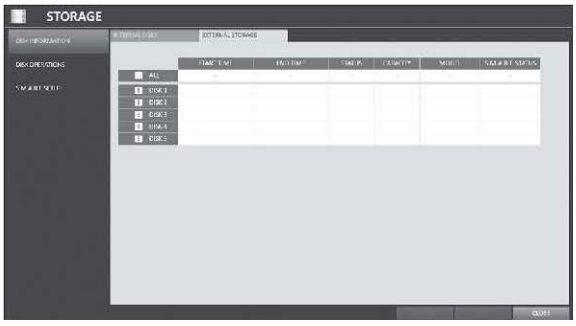
>PASSWORD CHECK WHEN SEARCH/BACKUP: Sets whether to ask password when attempted search/backup. Set to **<ON>** to ask password when accessing backup menu. Using **<EXPORT>** on the timeline will ask password too.

3. When done, press the **[EXIT]** button on the remote or **<CLOSE>** in the lower screen to return to the previous menu.

Storage

You can configure the settings of and view information of the disk and external storage device.

Disk Information



It will show information about the connected disk.

1. From **<SYSTEM SETUP> - <STORAGE>**, select **<DISK INFORMATION>**.
2. Use the **[▲▼◂▸/ENTER]** buttons on the remote control or use the mouse to select either **<INTERNAL >** or **<EXTERNAL STORAGE>**.
   Please check the status for each connected device.
   >START / END TIME : show the start time and end time of data stored in each disk.
   >STATUS : check if the connected disk is being used by the NVR. If you encounter a problem with the disk, the NVR will terminate the connection to the disk and mark it as 'Not In Use'.
   >CAPACITY : show the capacity of the disk.
   >MODEL : indicate the disk model.
   >S.M.A.R.T STATUS : Read the S.M.A.R.T information of the disk and check to display if the current disk is in normal operation.
   - NORMAL : The disk is in a normal state.
   - CHECK : The disk has an error so that you need to check the disk or the connection cables of the disk.
     If you leave the problem unresolved, no recording may be enabled.
     So it is recommended that you replace the disk immediately.
   - ERROR : The disk fails or is unable to use due to an error of the disk or the cable.
     The disk should be replaced immediately. Contact the retailer or the customer service to replace the disk.
3. When done, press the **[EXIT]** button on the remote control or click **<CLOSE>** in the lower screen to return to the previous menu.

Disk Operations

You can set to delete the recording automatically and set the overwrite options, and you can also format the HDD recording data.

1. From **<SYSTEM SETUP> - <STORAGE>**, select **<DISK OPERATIONS>**.

2. Use the **[▲▼◄►/ENTER]** buttons on the remote control or use the mouse to set the operation conditions of the disk.
   >DISK WRITE MODE
   - If it is set to **<OVERWRITE>**, the existing Data will be overwritten by new recording data if the recording data size exceeds the free space of the HDD.
   - If the option is set to **<ONCE>** and the HDD is full, the NVR will stop recording and output the beep or alarm that is pre-defined at **<EVENT>**.

   >RECORDING TIME LIMIT : The recording data will be deleted after a specific time of reservation. If it is set to **<OFF>**, this function will be disabled.
   >DISK FORMAT : format the hard disk.

Note that formatting the HDD will delete all video data and logs.

>ERASE VIDEO: You can delete all or part of recorded video. Click **<ERASE>** to move to "ERASE VIDEO" menu. Set the beginning and ending time and click **<ERASE>** button to delete video of selected time range.

3. To apply the change, click **<APPLY>** in the bottom of the screen.

4. When done, press the **[EXIT]** button on the remote control or click **<CLOSE>** in the lower screen.
   The confirmation message appears and you will return to the previous menu.

S.M.A.R.T settings

You can check the S.M.A.R.T information of the disk and specify the check frequency.

✓ What is S.M.A.R.T information?
S.M.A.R.T (Self-Monitoring, Analysis and Report Technology) is to detect a HDD that is likely to cause a problem in the future with a warning message.

1. From **<SYSTEM SETUP> - <STORAGE>**, select **<S.M.A.R.T. SETUP>**.

2. Use the **[▲▼◄►/ENTER]** buttons on the remote control or use the mouse to check the S.M.A.R.T operation and specify the check interval.

   >S.M.A.R.T STATUS : Read the S.M.A.R.T information of the disk and check to display if the current disk is in normal operation.

Click **<DETAIL INFO>** to view the details of the remote control and keyboard controller.

- NORMAL : The disk is in a normal state.
- CHECK : The disk has an error so that you need to check the disk or the connection cables of the disk. If you leave the problem unresolved, no recording may be enabled.
  So it is recommended that you replace the disk immediately.
- ERROR : The disk fails or is unable to use due to an error of the disk or the cable. The disk should be replaced immediately. Contact the retailer or the customer service to replace the disk.

✓ S.M.A.R.T CHECK INTERVAL : Specify the S.M.A.R.T check interval.
Click **<CHECK NOW>** to start checking.

3. To apply the change, click **<APPLY>** in the bottom of the screen.

4. When done, press the **[EXIT]** button on the remote control or click **<CLOSE>** in the low er screen. The confirmation message appears and you will return to the previous menu.

Event Setup

Define various events, and specify the conditions to notify the user in various ways.

Alarm Out

Specify the alarm output conditions with the work schedule.
Alarm Out

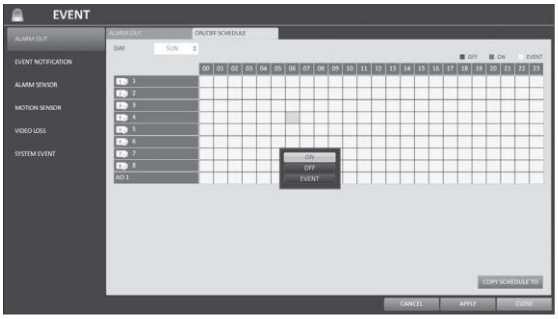
1. From **<SYSTEM SETUP> - <EVENT>**, select **<ALARM OUT>**.

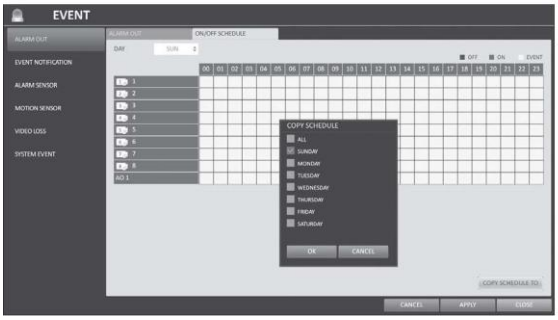
2. Use the **[▲▼◂▸/ENTER]** buttons on the remote control or use the mouse to select **<ALARM OUT>**and configure the related settings.
   >NAME : You can rename the alarm.
   >OPERATION : Set the alarm output mode.
   - N/O (Normal Open) : It normally stays Open. However, if an event occurs, it will switch to Close.
   - N/C (Normal Close) : It normally stays Close. However, if an event occurs, it will switch to Open.

   >DURATION : Specify the duration of the alarm output.
   - TRANSPARENT : Keep the alarm out for as much time as the event lasts.
   - UNTIL KEY : Keep the alarm out until a mouse or remote control button is pressed.
   - 5 ~ 300 SEC : Keep the alarm out for as long as specified.

   >TEST : Forcibly output the alarm for the test purpose.
3. To apply the change, click **<APPLY>** in the bottom of the screen.
4. When done, press the **[EXIT]** button on the remote control or click **<CLOSE**> in the lower screen. The confirmation message appears and you will return to the previous menu.

ON/OFF Schedule





You can activate or turn off the alarm output as scheduled.

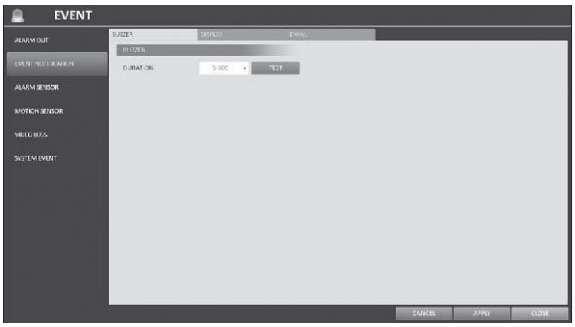
1. Use the **[▲▼◂▸/ENTER]** buttons on the remote control or use the mouse to select a **<DATE>** for the schedule.
2. Drag the mouse to resize the cell or use the on the **[▲▼◂▸]** buttons to move to the cell, then press **[ENTER]**.
3. Select a desired alarm output mode.
   >ON : The alarm output is always turned on.
   >OFF : The alarm output is always turned off.
   >EVENT : Trigger the alarm output in sync with the event.
4. Click **<COPY SCHEDULE>** to check the checkbox of the date that you want to copy the schedule at.
5. When done, click **<OK>** to apply the settings.
6. To apply the change, click **<APPLY>** in the bottom of the screen.
7. When done, press the **[EXIT]** button on the remote control or click **<CLOSE>** in the lower screen.
   The confirmation message appears and you will return to the previous menu.

Event Notification

Specify the methods of notification such as buzzer, video popup or email if an event occurs.

1. From **<SYSTEM SETUP> - <EVENT>**, select **<EVENT NOTIFICATION>**.
2. Use the **[▲▼◂▸]** buttons on the remote control or use the mouse to select one from **<BUZZER>**, **<DISPLAY>** and **<EMAIL>**.
3. Use the **[▲▼◂▸/ENTER]** buttons on the remote control or use the mouse to set the output method and duration.
4. To apply the change, click **<APPLY>** in the bottom of the screen.
5. When done, press the **[EXIT]** button on the remote control or click **<CLOSE>** in the lower screen. The confirmation message appears and you will return to the previous menu.

Buzzer output



You can notify the user of the event using the buzzer.

>DURATION

- TRANSPARENT : Keep the buzzer out for as much time as the event lasts.
- UNTIL KEY : Keep the buzzer out until a mouse or remote control button is pressed.
- 5 ~ 300 SEC : Keep the buzzer out for as long as specified.

Display

If an event occurs, you can display the video screen or a popup message to notify the user of the event.

>VIDEO POPUP : Display the video channel that is synchronized with the event on a single split screen. Set the DURATION of the single split screen.

- TRANSPARENT : Keep the video popup displayed for as much time as the event lasts.
- UNTIL KEY : Keep the video popup displayed until a mouse or remote control button is pressed.
- 5 ~ 300 SEC : Keep the video popup displayed for as long as specified.

If multiple events occur at the same time, or if multiple event-related video channels exist, the video popup will be displayed in the maximum split screen mode rather than the single split screen mode.

>OSD POPUP : This will notify the user of the event with a popup message if an OSD popup event occurs.

You can adjust the duration of the popup message.

- UNTIL KEY : Keep the OSD popup displayed until a mouse or remote control button is pressed.
- 5 ~ 300 SEC : Keep the OSD popup displayed for as long as specified.

Email

If an event occurs, this will notify registered users of the event by email. If you do not want to receive the email, uncheck the **<EMAIL NOTIFY>** option in **<MANAGEMENT>**. (Page 49)

>ADD NEW EMAIL: If you want to add a new mail recipient beside the existing ones, click this to add the recipient.

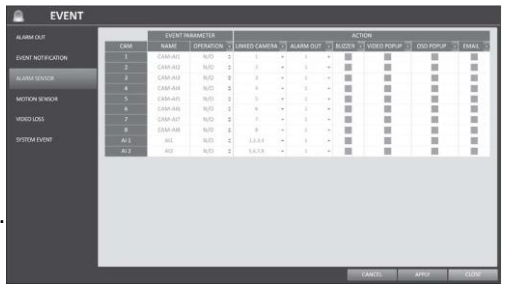
>MINIMUM EMAIL FREQUENCY: Adjust the minimum frequency of sending the email. For example, if you have set the minimum frequency to one minute, and another event occurs in less than one minute after the last email sending, the email for the new event will be sent one minute after.

✓ Some email servers can block the email sending if the email delivery cycle is too short, and classify it as spam. Contact your email service provider to adjust the minimum delivery cycle so that the server does not classify the email as spam.

>INCLUDE SNAPSHOT IMAGE: Set whether to include snapshot (still image) or not.

Alarm Sensor

You can configure the settings of the alarm sensor and specify the operation of the sensor if an event occurs.



1. From **<SYSTEM SETUP> - <EVENT>**, select **<ALARM SENSOR>**.
2. Use the **[▲▼◄►]** buttons on the remote control or use the mouse to specify the sensor input and operation.
   >NAME : You can specify the name of the alarm sensor.
   >OPERATION : You can specify the type of the sensor.
   - N/O (Normal Open): Normally the sensor is left Open. If the sensor switches to Close, an event will be triggered.
   -N/C (Normal Close): Normally the sensor is left Close. If the sensor switches to Open, an event will be triggered.

   >LINKED CAMERA : Set the camera to sync with the alarm sensor if it is triggered. If you have set the alarm recording and the sensor detects the recording, all synchronized cameras will start alarm recording.
   >ALARM OUTPUT : Specify the alarm output channel if it is detected by the alarm sensor. The alarm will be output to the specified channel.
   >PRESET : The camera moves to the selected preset upon detected alarm event.
   >BUZZER : Specify the output of the buzzer if an alarm is detected by the alarm sensor.
   >VIDEO POPUP : Select to display the video popup if an alarm is detected If there exist multiple **<LINKED CAMERA>**, the video popup will be displayed in the maximum split mode.
   >OSD POPUP : Select to display the OSD popup message if it is detected by the alarm sensor.
   >EMAIL : Select to send an email if detected by the alarm sensor.
   >FTP: Select to upload event notification into the FTP server if detected by the alarm sensor.
3. To apply the change, click **<APPLY>** in the bottom of the screen.
4. When done, press the **[EXIT]** button on the remote control or click **<CLOSE>** in the Lower screen. The confirmation message appears and you will return to the previous menu.

Motion Sensor

You can set an action to execute when a motion is detected. For the settings of the motion sensor, move to **<CAMERA SETUP>**.

1. From **<SYSTEM SETUP> - <EVENT>**, select **<MOTION SENSOR>**.

2. Use the **[▲▼◂▸]** buttons on the remote control or use the mouse to specify the ignorance interval and operation.
   >IGNORING INTERVAL : Specify the minimum interval of the motion event occurrence.
   For example, even if you have set the minimum frequency to 5 seconds and another motion event occurs in less than 5 seconds after the last motion event occurred, the new event will be ignored.
   If too many motion events occur, adjust to shorten the interval.

✓ Motion recording will be triggered immediately after the motion occurred regardless of the above settings.

>ALARM OUTPUT : Specify the alarm output channel if a motion is detected by the motion sensor.
>PRESET : On motion sensor's detections, the camera moves as defined by the selected preset.
>BUZZER : Specify the output of the buzzer if a motion is detected by the motion sensor.
>VIDEO POPUP : Select to display the video popup if a motion is detected by the motion sensor.
>EMAIL : Select to send an email if a motion is detected by the motion sensor.
>FTP: Select to upload event notification into the FTP server upon detected motion event.

3. To apply the change, click **<APPLY>** in the bottom of the screen.
4. When done, press the **[EXIT]** button on the remote control or click **<CLOSE>** in the lower screen. The confirmation message appears and you will return to the previous menu.

Video Loss

You can specify a reaction to the case where no video is received from the camera.

1. From **<SYSTEM SETUP> - <EVENT>**, select **<VIDEO>**.

2. Use the **[▲▼◂▸]** buttons on the remote control or use the mouse to specify the reaction to a video loss.
   >ALARM OUTPUT : Specify the alarm output channel if a video loss occurs.
   >BUZZER : Specify the output of the buzzer if a video loss occurs.
   >EMAIL : Select to send an email if a video loss occurs.
   >FTP: Select to upload event notification into the FTP server upon detected video loss event.

3. To apply the change, click **<APPLY>** in the bottom of the screen.
4. When done, press the **[EXIT]** button on the remote control or click **<CLOSE>** in the lower screen. The confirmation message appears and you will return to the previous menu.

System Event

You can set any action to an event related to the disk, recording, network or system. Like the other events, you may notify the event to the user using the alarm/buzzer output, OSD pop-up or email.

1. From **<SYSTEM SETUP> - <EVENT>**, select **<SYSTEM EVENT>**.
2. Use the **[▲▼◂▸]** buttons on the remote control or use the mouse to specify the reaction to each event.
3. To apply the change, click **<APPLY>** in the bottom of the screen.
4. When done, press the **[EXIT]** button on the remote control or click **<CLOSE>** in the lower screen. The confirmation message appears and you will return to the previous menu.

Disk

>OVERWRITE START EVENT : if you set the disk write mode to **<OVERWRITE>**, this event occurs when the disk is full and the overwriting begins accordingly.

>DISK FULL EVENT : if you set the disk write mode to **<ONCE>**, this event occurs when the disk is full (100%).

>DISK SPACE EXHAUSTED EVENT : Event that is triggered if the disk is almost full.
Click to specify the threshold percentage of usage to trigger the event.

>S.M.A.R.T EVENT : Occurs if the disk causes the S.M.A.R.T error.

>NO DISK EVENT : Occurs if no disk is recognized after the booting due to a disk failure or cable problem.

To detect the disk error, it is recommended not to change the settings of the S.M.A.R.T event, no disk event and buzzer output.

Record

>PANIC RECORD START EVENT : Specify the action to perform when the panic recording begins.

System

>BOOTING EVENT: This event occurs when the NVR is booting.

>LOGIN FAIL EVENT: This event occurs when the NVR fails to log in.
You can specify the times of clicking < > to trigger the event.

>FAN ERROR EVENT : This event occurs if the CPU cooling fan or unit's cooling fan does not work at all. If the fan fails, no recording will proceed by the NVR. If you encounter a fan failure, contact the retailer or the service enter for technical assistance.

>TEMPERATURE FAIL EVENT : This event occurs if the internal temperature of the NVR exceeds the effective range. Then, the NVR will not operate normally. If this is the case, check the followings and take a necessary measure.
- Check if the ventilation of the NVR is clogged with foreign substances. If so, remove them.
- Keep the NVR away from a heat source such as heater. Install it in a flat, lower area with good ventilation.
- If the problem persists, contact the retailer or service center.

>POE FAIL EVENT : This event occurs if power consumption reaches specified level of power supply capacity of NVR and external PoE Hub.(NR16H)

To monitor the normal operation of the NVR, it is recommended not to change the buzzer output settings of the fan failure event and the temperature fail event.

Network

>TROUBLE IN INTERNET CONNECTION : Occurs if the Internet connection to the NVR fails.
If you do not want to connect the NVR to the network, leave the **<Action>** item blank.

>FAIL IN REMOTE LOGIN : This event occurs if a remote client fails to log in due to an invalid ID or password.
You can specify the times of clicking < > to trigger the event.

>FAIL IN DDNS UPDATE : This event occurs if the NVR tried to update the DDNS address but failed.

✓ If the DDNS address fails to be updated,the NVR may not connect to a remote client.
If this is the case, enter the IP address from the client side to allow access from the NVR.
This is just a temporary measure.
For the IP address, move to and check **<EXTERNAL IP ADDRESS>** from the **<NETWORK>** window. Note that the **<EXTERNAL IP ADDRESS >** is subject to change if the NVR does not use the static IP.

Note that the **<EXTERNAL IP ADDRESS>** can change at any time in a dynamic IP environment.

You can configure the record settings for the NVR. Only authorized users can access the Record Setup menu.

To start the Record Setup menu

How to use the mouse

How to use the remote control 1

Record Setup

You can set the recording options for Auto or Manual mode.

1. From **<RECORD SETUP>** menu, select **<OPERATION MODE>**.
2. Use the **[▲▼◂▸]** buttons or use the mouse to set **<RECORD SETUP MODE>** to **<AUTO CONFIGURATION>** or**<MANUAL CONFIGURATION>**.
3. Set the recording options for each selected Record mode.
4. To apply the change, click **<APPLY>** in the bottom of the screen.
5. When done, press the **[EXIT]** button on the remote control or click **<CLOSE>** in the lower screen. The confirmation message appears and you will return to the previous menu.

Auto Configuration

If you choose your preferred record mode, the NVR will recommend you the optimized settings for the selected record mode.

>ALWAYS HIGH VIDEO QUALITY : Recording will proceed in the best quality regardless of the event at all times.
As this option will always make recording in the best quality, the recording period is the shortest compared to the other record modes.

>MOTION RECORD : Recording will proceed only if a motion is detected.

>ALARM RECORD : Recording will proceed only if an alarm event occurs.

>MOTION/ALARM RECORD : Recording will proceed only if a motion is detected or an alarm event occurs.

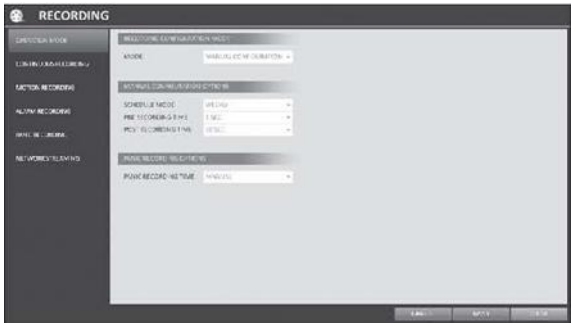
>INTENSIVE MOTION RECORD : Normally recording will be performed in a low quality. However, the quality will switch to high if a motion is detected.

>INTENSIVE ALARM RECORD : Normally recording will be performed in a low quality. However, the quality will switch to high if an alarm event occurs.

>INTENSIVE MOTION/ALARM RECORD : Normally recording will be performed in a low quality. However, the quality will switch to high if an alarm event occurs or a motion is detected.

Manual Configuration

If you set the record mode to **<MANUAL CONFIGURATION>**, the manual configuration windo w will appear where youcan set the manual recording and panic recording options.



>MANUAL CONFIGURATION OPTIONS : You can configure the recording settings by the time, date, and channel.
- SCHEDULE MODE : Set the recording schedule for a day (daily) or for a week (weekly).
- PRE RECORDING TIME : Set the pre-recording time.
- POST RECORDING TIME : Set the post-recording time.

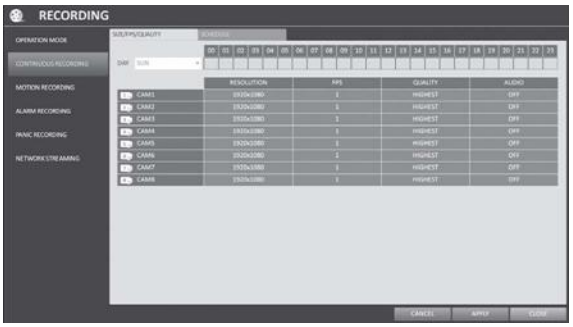
>PANIC RECORDING OPTIONS : Set the panic recording duration. If it is set to <MANUAL CONFIGURATION>, recording will continue until you turn it off manually.

Continuous Recording

You can configure the settings of: continuous recording time, recording size, frame rate per second and quality.

1. From the **<RECORD SETUP>** menu, select **<CONTINUOUS MODE>**.
   From **<OPERATION MODE>**, you must set **<RECORD SETUP MODE>** to **<MANUAL CONFIGURATION>** before you can set the **<CONTINUOUS RECORDING>**.
2. Use the **[▲▼◄►]** buttons on the remote control or use the mouse to select either **<SIZE/FPS/QUALITY>** or **<SCHEDULE>**.

Size/FPS/Quality Setting



1. Please select the day of the week to perform the continuous recording. From **<OPERATION MODE>**, you must set the **<SCHEDULE MODE>** of the **<MANUAL RECORD >** to **<WEEKLY>** before you can specify the **<DAY>**.
2. Click a time cell from which you want to edit the SIZE/FPS/Quality and drag it to a desired cell. Or use the **[▲▼◄►]** buttons on the remote control to move to the cell and press **[ENTER]**. Then, use the **[▲▼◄►]** buttons to move to a desired cell and press **[ENTER]** again.
3. When the cell selection is complete, the "**SIZE/FPS/QUALITY**" table appears.

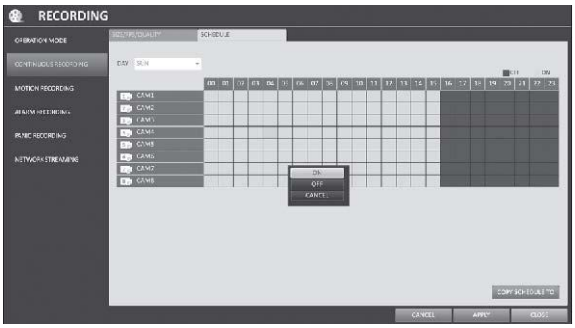
Specify the **<RESOLUTION>**, **<FPS>**, **<QUALITY>** and use of the <AUDIO> recording for each channel.

>RESOLUTION : set the size of the video recording.
>FPS : set the frame rate per second.
>QUALITY : set the recording quality.
>AUDIO : specify the use of the audio recording.

4. When done, click <OK>.
   You can check the recording size in the size table under the time selection bar.

The video size, FPS, quality and audio recording options may differ depending on the specification of the IP camera. For some IP cameras, the video transfer may be interrupted if some of the options are changed.

Schedule Setting



1. Select a start day of the week on the schedule.
2. Click a time cell from which you want to make the schedule and drag it to a desired cell.
   Or use the **[▲▼◄►]** buttons on the remote control to move to the cell and press **[ENTER]**. Then, use the **[▲▼◄►]** buttons to move to a desired cell and press **[ENTER]** again.
3. When the time selection is complete, you will be prompted to specify the use of recording in the Record Setup window.
4. To apply the change, click <**APPLY**> in the bottom of the screen.
5. When done, press the [**EXIT**] button on the remote control or click <**CLOSE**> in the lower screen. The confirmation message appears and you will return to the previous menu.

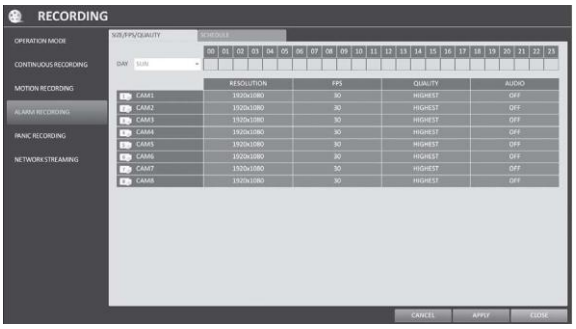
Motion Recording

Specify the recording size of the motion event if it occurs and make schedule for that recording.

1. From the **<RECORD SETUP>** menu, select **<MOTION RECORD>**.
2. Use the **[▲▼◄►]** buttons on the remote control or use the mouse to select either **<SIZE/FPS/QUALITY>** or **<SCHEDULE>**.
3. Set each item of **<RESOLUTION>**, **<FPS>**, **<QUALITY>**and use of the **<AUDIO>** for the motion recording.For more information, see the "Continuous Recording". (page 67)
4. To apply the change, click **<APPLY>** in the bottom of the screen.
5. When done, press the **[EXIT]** button on the remote control or click **<CLOSE>** in the lower sc reen. The confirmation message appears and you will return to the previous menu.

Alarm Recording

Specify the recording size of the alarm event if it occurs and make schedule for that recording.



1. From the **<RECORD SETUP>** menu, select **<ALARM RECORD>**.
2. Use the **[▲▼◂▸]** buttons on the remote control or use the mouse to select either **<SIZE/FPS/QUALITY>** or **<SCHEDULE>**.
3. Set each item of **<RESOLUTION>**, **<FPS>**, **<QUALITY>** and use of the **<AUDIO>** for the alarm recording. For more information, see the "Continuous Recording". (page 67)
4. To apply the change, click **<APPLY>** in the bottom of the screen.
5. When done, press the **[EXIT]** button on the remote control or click **<CLOSE>** in the low er screen. The confirmation message appears and you will return to the previous menu.

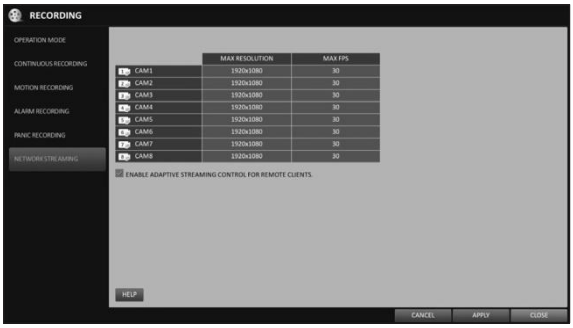
Panic Recording

In panic recording mode, you can specify the recording size and quality of the video.

1. From the **<RECORD SETUP>** menu, select **<PANIC RECORD>**
2. Set each item of **<RESOLUTION>**, **<FPS>**, **<QUALITY>** and use of the **<AUDIO>** for the panic recording. For more information, see the "Continuous Recording". (page 67)
3. To apply the change, click **<APPLY>** in the bottom of the screen.
4. When done, press the **[EXIT]** button on the remote control or click **<CLOSE>** in the lower screen. The confirmation message appears and you will return to the previous menu.

Network Streaming

You can specify the maximum size of network streaming for remote users and set the FPS. Even if you set the resolution and FPS to high for the network streaming, the NVR will reduce the size or FPS according to the network status (speed) before transferring the recording video.



1. From the **<RECORD SETUP>** menu, select **<NETWORK STREAMING>**.
2. Use the **[▲▼◄►/ENTER]** buttons on the remote control or use the mouse to select an item that you want to edit.
3. Set the **<MAX RESOLUTION>** and **<MAX FPS>** for each channel.

   >ENABLE ADAPTIVE STREAMING CONTROL FOR REMOTE CLIENTS: Optimizes the Transfer rate for client PC and mobile accesses, in case the network connection (through the internet) is low speed. (default selected /Enabled)

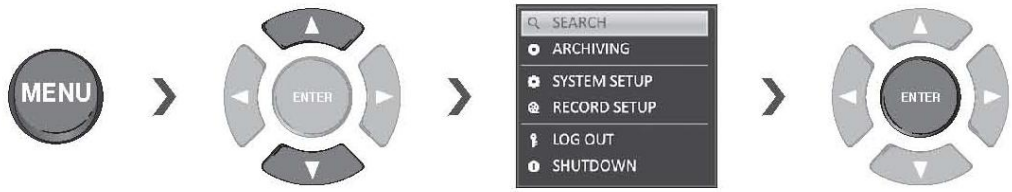
4. When done, click **<OK>**.
5. To apply the change, click **<APPLY>** in the bottom of the screen.
6. When done, press the **[EXIT]** button on the remote control or click **<CLOSE>** in the lower screen. The confirmation message appears and you will return to the previous menu**.**

You can configure the record settings for the NVR. Only authorized users can access the Record Setup menu.

To move to the Search menu while in monitoring

How to use the mouse

How to use the remote control 1



How to use the remote control 2

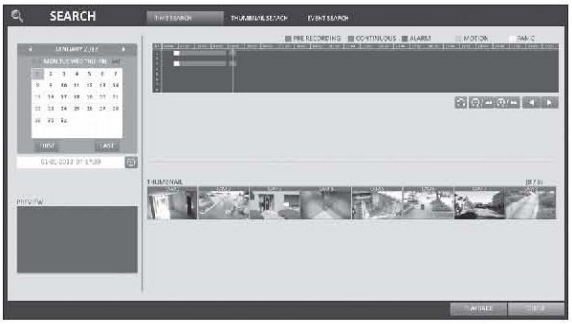
To move to the Search menu while in playback mode

How to use the mouse

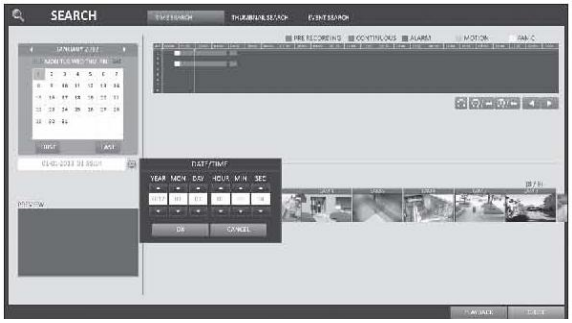
How to use the remote control I

Time Search

With the calendar, you can search for the recording data by the recorded date.



1. From the **<SEARCH>** menu, select **<TIME SEARCH>**.
2. Use the **[▲▼◂▸]** buttons or use the mouse to specify the search date and time from the calendar in the lef corner of the screen.
   >FIRST : The first date of recording is automatically selected.
   >LAST : The last date of recording is automatically selected.
   > : Press this to display the time selection menu where you can specify the time and date.
3. You can identify the type of the recording data by the color in the bar.
   >Yellow Green (Pre-recording) : The pre-recording is performed on the recording data after you set the **<PRE RECORDING TIME >** from **<OPERATION MODE>**.
   >Green (Continuous) : The continuous recording is performed on the recording data.
   >Red (Alarm) : The alarm event recording is performed on the recording data.
   >Blue (Motion) : The motion event recording is performed on the recording data.
   >Yellow (Panic) : The panic manual recording is performed on the recording data.
4. Click to move to a desired start time in the time bar, or use the buttons at the bottom of the status bar to make search.
   > : Recall the recording data.
   > : Expand the timeline of the time bar to a greater unit of time.
   > : Collapse the timeline of the time bar to a smaller unit of time..
   > : Use this to move to a previous time that is hidden in the time bar as it is expanded to a greater time unit.
   > : Use this to move to a next time that is hidden in the time bar as it is expanded to a greater time unit.



5. Click a thumbnail channel or use the **[▲▼◂▸]** buttons on the remote control to move to a desired channel and press **[ENTER]**. You can check the video in **<PREVIEW>**.

Click to move to a desired time, or simply double-click a desired time in the time bar to play the video data on that time.

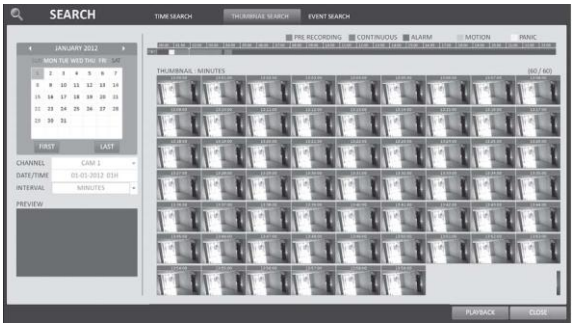
6. Press the **[ENTER]** button again on the remote control with the mouse, or simply double-click on the channel. You will move to the playback screen.
7. If you want to stop playing and return to the search screen, press **[EXIT]** or **[SEARCH]** on the remote control. You can also click **<MENU>** in the left corner and select desired menu.

Thumbnail Search

To improve your search, you will be provided with a list of thumbnails.
Select Day, Hour or Minute to narrow down the search results.

1. From the **<SEARCH>** menu, select **<THUMBNAIL SERARCH>**.
2. Use the **[▲▼◂▸]** buttons or use the mouse to specify the search date and time from the calendar in the left corner of the thumbnail search screen.
   >FIRST : The first date of recording is automatically selected.
   >LAST : The last date of recording is automatically selected.
   >CHANNEL : Select a channel to search for.
   >DATE/TIME : Specify the search date and time.

✓ The menus available differ depending on the selected interval mode.
   >INTERVAL: Select a time interval of the thumbnail view.



< "Minute" selection screen>

3. Double-click a desired play time in the recording data bar, or double-click a desired time image from the thumbnail list.
   You will move to the playback screen.
4. If you want to stop playing and return to the search screen, press **[EXIT]** or **[SEARCH]** on the remote control.
   You can also click **<MENU>** in the lower left corner and select a desired menu.

< "Hour" selection screen >

< "Day" selection screen >

Event Search

Search for events that occurred at the specified time and select an event to play from the list.

1. From the **<SEARCH>** menu, select **<EVENT SEARCH>**.
2. Use the **[▲▼◄►]** buttons or use the mouse to specify the **<START>** and **<END>** times in the left of the event search list.
3. Select a channel to search.
4. Mark the checkbox of the event to search from the **<EVENT>** list.
5. Press the **<SEARCH>** button.
   The search results will be listed as shown.
   >TYPE : displays the event type.
   >TIME : displays the recording start time.
   >CONTENTS : shows the details of the event found.
   >ORDER BY : If you select **<OLDEST>**, the list will be sorted with the earliest one on top.

6. Double-click a desired event or click **<PLAY>** in the lower right corner to move to the play screen.
7. If you want to stop playing and return to the search screen, press **[EXIT]** or **[SEARCH]** on the remote control. You can also click **<MENU>** in the lower left corner and select a desired menu.

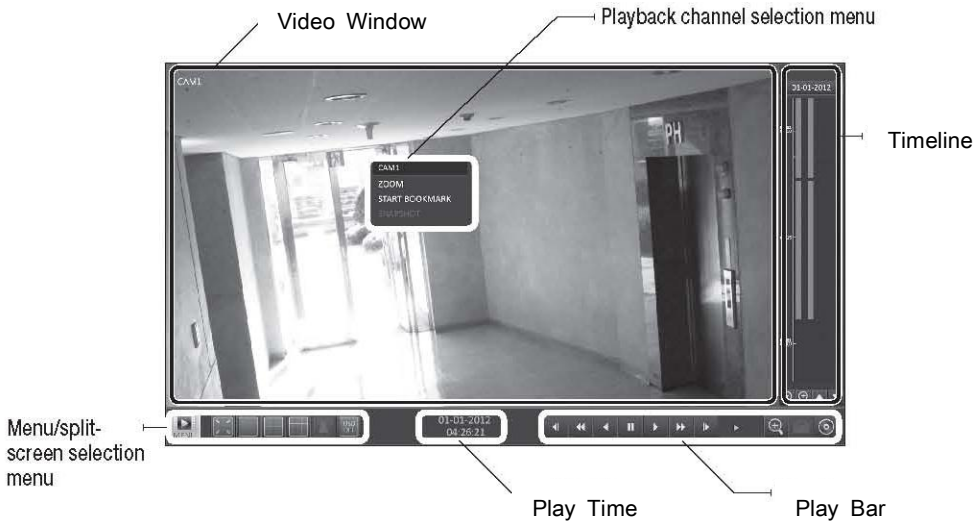
If you want to play

1. To play the searched data
   - You can search for and play a searched data.
2. To play with the live viewer
   - Simply double-click a desired time point in the right corner of the play screen.

✓ If you move the cursor to the rightmost, the "Timeline" bar will be displayed.

- Select a desired channel in the live screen and right-click to select **<PLAY>** in the conte xt menu. Then, select a desire play time.

Playback screen configuration



Video Window

Display the current video.

Timeline

Display the type of recording data.
The vertical bar in the timeline indicates the current point of playback. Double-click a desired point in the timeline to start playing the video from that point.
Once you drag to specify an area, you can perform the backup or event search for that area.

Menu/split-screen selection menu

For more information about how to use each button, refer to
"**Using the status bar in the live mode**". (page 32)

Play Bar

You can start playing, stop playing or change the play speed of the current video.

Event Search

Search for events that occurred at the specified time and select an event to play from the list.

Playback channel selection menu

ITEM	Description
CAM1	Display the title of the selected channel.
Zoom	Zoom the video of the selected channel. (The zooming function is active only in '1'split screen..
Start bookmarking	The "**Set bookmark**" popup appears, and you can bookmark a play point for the backup purpose
Snapshot Capture	Capture the current live video and save it in the .jpeg format.

Using the play bar

ITEM	Description
Jump	**Move forward or backward.**
Reverse Fast Play	The video will be reversely played at the speed of x64 > 32> 16 > 8 > 4 > 2 in this order.
Reverse Play	Play the video in the reverse direction.
Pause	Stop playing forward or playback temporarily.
Play	Play the video forward.
Fast Forward	The video will be played forward at the speed of x2 < 4 < 8 < 16 < 32 < 64 in this order.
Zoom In	Move to the zoom in/out screen of the selected channel.
Snapshot	Capture the current live video and save it in the .jpeg format. Then, you can save the captured video in the HDD or export it to an external USB memory device. While you perform the snapshot, the current video will be stopped playing.
Start/end bookmark	Add a bookmark for the current playback screen. Press this to display the "**SET BOOKMARK**" window. Provide each entry and click Start. The arrow in the bookmark button blinks to indicate that the bookmarking is in process. If you press the Bookmark button again, the bookmarking stops and the current settings will be reserved. Then, the reserved data can be backed up in Archive menu or can be played in the "**RESERVED DATA MANAGEMENT**" menu.

Bookmarking

During playback, you can add a bookmark for reserving the video data.
You can view the bookmarked data in the Archive menu, which can be saved to a connected device for the backup purpose.

1. Provide a tag in the **<TAG>** item for data reservation.
2. Provide the details of the reserved data in the **<MEMO>** input box.
3. Click **<START>**.You will return to the play screen with the backup progress.
4. To stop the bookmarking, click **<BOOKMARK( )>**.
5. To quit the bookmarking, click **<STOP>**. To continue with bookmarking, just click **<CONTINUE>**.
6. Click **<RESERVE>**.You can export the reserved data to a connected storage device using the **<ARCHIVE>**menu.

✓ What is the **<RESERVE>** function?
With the **<RESERVE>** function, you can reserve data even in overwrite mode.
This is useful if you want to backup data but you have no backup device available such as USB memory.
If you use "Reserve", the recording days will be compromised.
When you have backed up the reserved data to an external device, it is recommend ed to delete the internal reserved data.

To start the Archive menu

Using the Archive menu during playback

1. During the playback, click **<NEW ARCHIVE( )>**.
2. The "ARCHIVING SETUP" window appears where you can reserve the data.
3. Click **<MENU( )>** in the lower left corner and select the **<ARCHIVE>** menu.
4. Press the **[ARCHIVE]** button on the remote control.

Using the Archive menu during monitoring

1. Click **<MENU( )>** in the lower left corner and select the **<ARCHIVE>** menu.
2. Press the **[ARCHIVE]** button on the remote control.

Archive

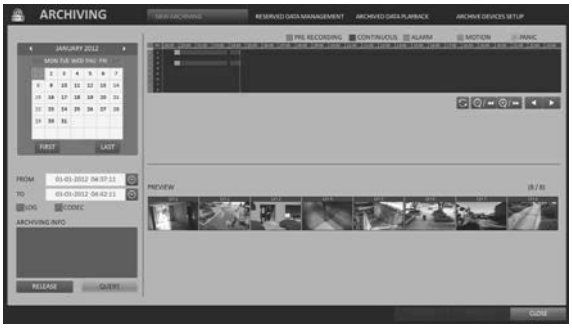
You can archive the searched data or reserve it.

1. From the **<ARCHIVE>** menu, select **<ARCHIVE>**.
2. Select a date for the archive from the calendar in the left.

✓ The date containing recording data will be marked in a colored box.
- FIRST : The first date of recording is automatically selected.
- LAST : The last date of recording is automatically selected.

3. Check the **<START>** and **<END>** times.

✓ Drag the timeline to specify the start and end time.



4. Mark the **<LOG>** and **<CODEC>** checkboxes and select to include the archiving.
5. Click **<QUERY>**. The results will be listed in **<ARCHIVING INFO>**.

✓ The maximum backup capacity for one time is 20GB.
✓ If the archiving request exceeds 20GB, the end time will be adjusted to within 20GB.

6. If you want to import to a storage device, connect it to the NVR and click **<EXPORT>**.
7. If you just want to reserve the data, click **<RESERVE>**. If the **<TAG NAME>** dialog appears, enter the name and click **<OK>**.
   Click **<RESERVE>** to save it to the HDD.

✓ Using **<RESERVE>** will compromise the recording days available. When you have archived the reserved data to an external device, it is rec ommended to delete the internal reserved data.

8. To exit the Archive menu, click **<CLOSE>**.

Reserved data management

You can search for the reserved data and delete or import it to a storage device.

1. From the **<ARCHIVE>** meun, select **<RESERVED DATA MANAGEMENT>**. The reserved data will be listed.
2. Select a data type from **<AVI>** and **<Snapshot Capture>**.
   > AVI : Searches AVI video fi les stored in the NVR.
   > SNAPSHOT CAPTURE : Searches captured snapshots stored in the NVR.
3. If you want to play the data, double-click a desired data item or click it and select **<PLAY>**.
4. If you want to import to a storage device, connect it to the NVR and click **<EXPORT>**.
5. If you want to delete the reserved data, click <✕> next to the list. Click **<CANCEL ALL>** To cancel reserving the whole page at once.
6. To exit the Archive menu, click **<CLOSE>**.

Playing the archived data

You can search the storage device for the archived data and check the details of or play it.

.

1. Connect the storage device containing the archived data.
2. When the storage device is recognized, click **<SEARCH>**.

3. To view the details, click <🗎> next to the list.

✓ Click <**VERIFY INTEGRITY**> to check if the data is corrupt or incomplete.

4. Select an item to play from the lost and click **<PLAY>**.
5. To exit the Archive menu, click **<CLOSE>**.

Archive Devices Setup

Provide the FTP server information for archiving data in the HDD before testing the transfer.

1. From the < ARCHIVE > menu, select **<ARCHIVE DEVICES SETUP>**
2. Move to the FTP information box.
3. Fill in each item using a virtual keyboard.
   - ✓ **HOST NAME** : enter the address at which you can access the server.
   - ✓ PORT : enter the port number to which you can access the server.
   - ✓ USER NAME : enter the user ID with which you can access the server.
   - ✓ PASSWORD : enter the connection password.
   - ✓ DIRECTORY : specify the archiving path.

4. When all information is filled, click **<CONNECTION TEST>** to check the connection stat us.
5. To apply the change, click **<APPLY>** in the bottom of the screen.
6. When done, press the **[EXIT]** button on the remote control or click **<CLOSE>** in the lower screen. The confirmation message appears and you will return to the previous menu.

What is the Web Viewer?

Web RA is a user-friendly software application that enables you to control the video data in c onnection with a remote NVR.

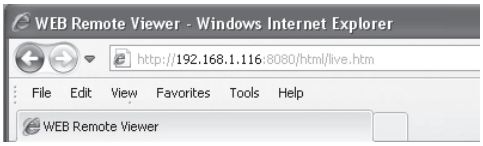
System Requirements

The following is the minimum hardware and operating system requirements to run Web RA.	
Operating System	Windows XP Professional Windows Vista Home Baisc / Premium, Window 7
Web browsers:	Internet Explorer 7.0 or later/Mozilla Firefox 3.6/Google Ch rome 4.1/Opera 10 Some web browsers other than Internet Explorer may not fully function
CPU	Intel Pentium 2.0 GHz
Memory	512 MB
Display	16-bit 1024 x 768 High Color
Hard Disk Drive	50MB (space required for installing the web viewer) * Additional HDD space is required for saving your recordi ngs. The file size of your recording may differ depending on th e specified quality.

Connection

Open a browser and enter the IP address of NVR, or type the URL in the address bar.

To connect to the NVR from inside



- ✓ Check the **"Network Status"** and verify the **<IP ADDRESS>** and **<WEB SERVICE PORT>** of the NVR. (page 48)
- ✓ Enter the IP address and web service port in the address bar of the browser.
  Ex) http://192.168.1.116:8080/

To connect to the NVR from outside

Using the IP address

- ✓ Check the "Network Status" and verify the **<EXTERNAL IP ADDRESS>** and **<WEB SERVICE PORT>** of the NVR. (page 48)
- ✓ If using a fixed (external) IP, enter the external IP that is specified in the NVR in the ad dress bar of the web browser. Ex) if the internal IP address is set to "http://222.112.4.4 8:8080" (192.xxx.xxx.xxx), no access from outside is allowed.

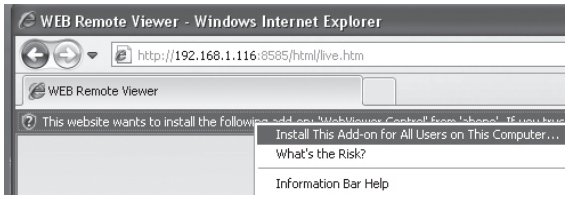
Using the URL

- ✓ Check the "Network Status" and verify the **<DDNS ADDRESS>** and **<WEB SERVICE PORT>** of the NVR. (page 48)
- ✓ Enter the DDNS address and web service port in the address bar of the browser.
  Ex) http://001CB8123456.DVRLINK.NET:8080
  - In a router network, you have to set the "Port Forwarding" and "DMZ Setting" to allo w access from outside.
  - For the necessary settings of the router, refer to the user manual of the router or co ntact the manufacturer of the router.

1. Provide the user ID and password.
   ✓ The default User name : **ADMIN**; the default password is **1234**.

2. Click the upper warning bar to install the ActiveX.

✓ If you fail to download the ActiveX control, move to **Tools ➔ Internet Options➔Security ➔Custom Level ➔**Download unsigned ActiveX control, and change its setting from "**Disable (recommended)**" to "**Enable**", and then click OK.



3. Click **<Install>**.

4. When the installation is complete, you will see the live screen.

Live

Live Screen At a Glance

Item	Description
1.View selection tab	You can switch to the live, playback and setup screen and check the provided information.
2. Live	Display the live screen of the currently connected NVR.
3. Split Mode	Select and switch to a desired split-screen mode.
4. Sequence	Set the sequence mode, switch to the next camera or select the full screen mode.
5. Status **Log** **PTZ** **Refresh Time** **Reload**	Show the connection status of each channel. Show the log. You can control PTZ cameras connected. Set the interval at which the NVR Status is refreshed. Load the NVR Status immediately.
6. Voice transmission	With the microphone, your voice will be transmitted to the NVR, or you can turn on or off the output of the voice signal.output of the voice signal.
7. Channel	Select a channel listed in the screen.
8. Save **Print** **Capture** **ActiveX Settings**	Save the live video on the screen. Print out the current screen Capture the selected image. Configure the ActiveX settings or specify the saving path of the captured image

Switching the split mode

Click the Switch button to switch the mode as follows:

<1-split Mode>

<4-split Mode>

<8-split Mode>

<9-split Mode>

<16-split Mode>

To save the video

1. Click < > to start saving.
2. The video from the selected channel will be saved to the PC in the AVI format. (Default path: C:¥SaveFolder) Click < > again to stop saving.
   Click **<ActiveX Setting>** to display the context menu where you can change the saving path.

Print

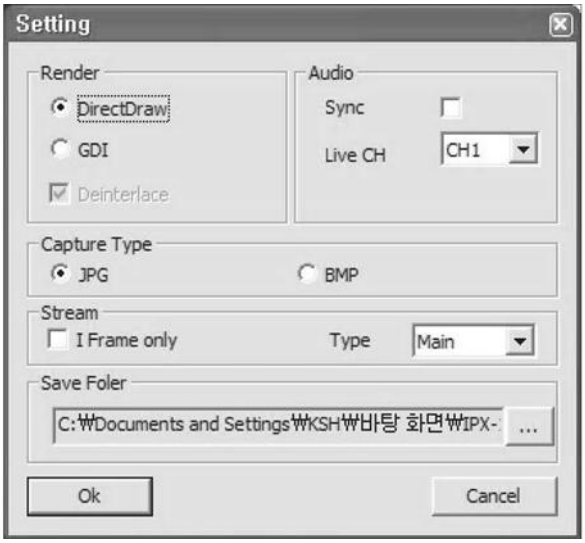
1. Click < > to start saving.
2. The current screen will be printed with the printer connected to the PC

Screen capture

1. Click < >
2. The current screen of the selected channel will be saved to the path specified in the PC. (Default path: C:¥SaveFolder)
   Click **<ActiveX Setting>** to display the context menu where you can change the saving path.

ActiveX Settings

1. Click < >.
2. When the setup screen appears, you can change the settings of the render type, audio, capture and saving path as well as the video streaming.
   >Render : DirectDraw is recommended in order to enable the hardware acceleration.
3. If you want to change the saving path, click < ... > (Save Folder) and specify a new path. The Windows Vista user cannot change the saving path.
4. Change the streaming settings according to the PC specification and network environment. Auto mode is recommended.
   >Sync : If this option is set, the audio signal will be synchronized with the video signal. However, you may encounter a delay due to buffering for the synchronization.



   >Live CH : Set the audio signal to use in live monitoring mode.
   >I Frame Only : Only the I frames (key frames) will be transferred.
   >Type :
   - Auto : The DVR will optimize the quality and FPS to the network status and specification of the connected PC before transferring the data.
   - Main : The video will be transferred in high definition (HD).
   - Second : The video will be transferred in a medium definition (SD).
5. When done, click **<OK>** to save your settings

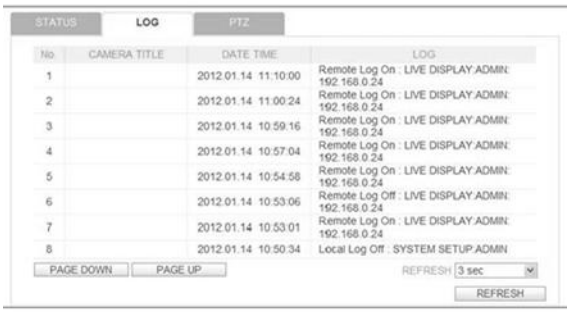
.

Status tab

Click **<Status>** at the bottom of the screen.
You can check the event occurrence for each channel of the connected NVR.

Log tab

Click **<Log>** at the bottom of the screen.
You can check the log of the connected NVR..



PTZ tab

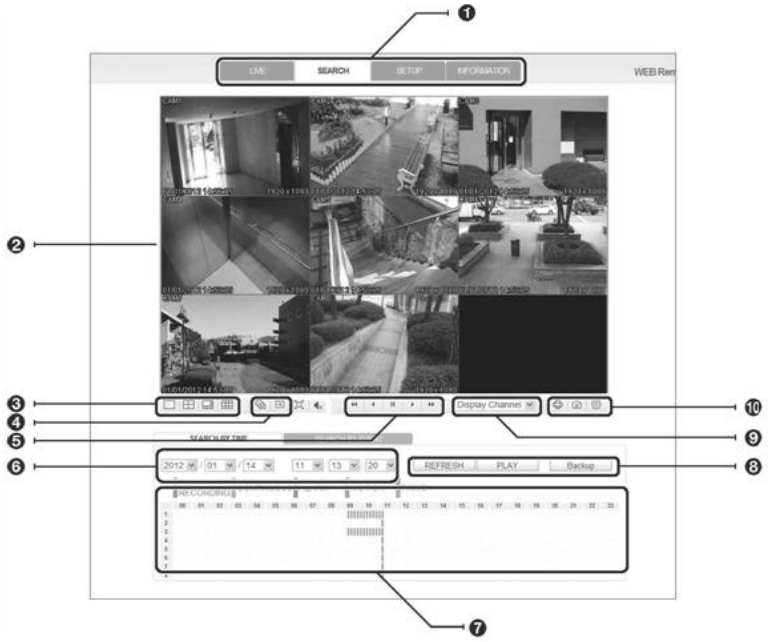
Click **<PTZ>** at the bottom of the screen.
You can control the operations of a PTZ camera.
Adjust the focus, zooming and iris of the camera.
You can use the arrow buttons to control the operations of the camera..

> Pattern : You can configure various settings of the camera including the zooming and movement.(Applied to some PTZ cameras only)
> PRESET : Move the camera in a predefined direction.
> Swing : The camera will move back and forth to a set position.

Search

Click **<Search>** to display the remote control screen for the NVR.

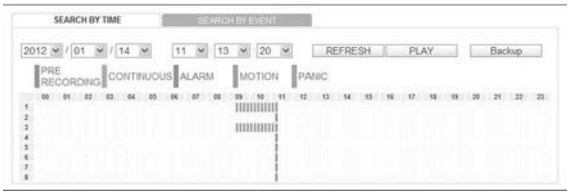
Search Viewer at a Glance



Item	Description
1.View selection tab	You can switch to the live, playback and setup screen and check the provided information.
2.Playback Screen	Play the recording data.
3.Split Mode	Select and switch to a desired split-screen mode.
4.Sequence	Set the sequence mode, switch to the next camera or select the full screen mode.You can turn on/off the voice signal.
5.Play button bar	You can control the playback screen.
6.Time Selection	Specify the start time of playback.
7.Time Line	Indicates the status of the recorded data.
8.REFRESH PLAY Backup	Reload the time line. Play the video that satisfies your search criteria. Archive the video that satisfies your search criteria.
9.Channel Selection	Select a channel listed in the screen.
10. Screen Image Capture ActiveX Settings	Print out the current screen. Capture the selected image Configure the ActiveX settings or specify the saving path of the captured image.

Search by time

Use the timeline to search for the data recorded in the NVR.



1. Select a date that you want to search.
2. Click **<REFRESH>**.
3. Check the existence of recording data in the bottom time line and specify the time range for your search.
   You can specify the start time by moving the time bar.
4. Click **<PLAY>**.
   >REFRESH : If your changes are not applied to the current screen, reload the changes.
   >PLAY : Play the searched video.
   >Backup : Archive the recorded video.

Search by event

You can sort the recording data items by event to facilitate your search.

1. Mark the checkbox of the event that you want to search for.
2. Specify the start and end dates and times for your log search.
3. Set the display order of the items found.
   >LATEST : The most recent event will be listed on top.
   >OLDEST : The earliest event will be listed on top.
4. Click **<SEARCH>**.You can check the log for your search at the bottom of the screen.
5. Select a log to play the recording data.

Setup

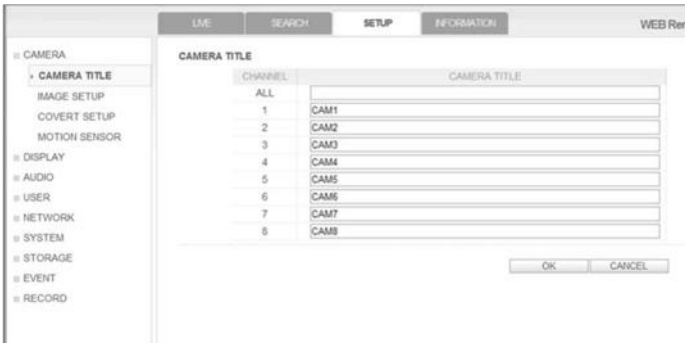
Click **<SETUP>** to display the remote control screen for the NVR.

When done, click **<OK>** to apply the changes to the remotely connected NVR.

- ✓ If the NVR is in process of system or record setting, the remote control will be
- ✓ disabled.

If you change the settings remotely at will, the major 'Record Settings' of the NVR may be changed, which is not recommended at all.

Search Viewer at a Glance



Camera

To name the camera title

You can name the camera title that is displayed on each channel screen. Select a channel to name and provide a new title.

Then, click **<OK>** to apply it.

- ✓ You can enter up to 12 alphanumeric characters for the camera title.

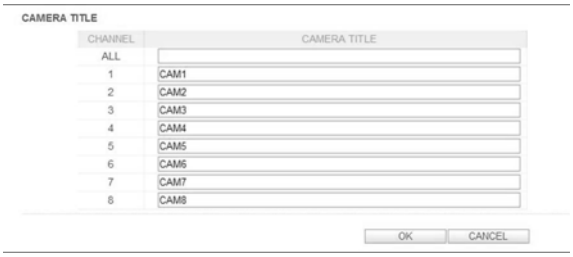


Image Settings

You can set the image of each channel.

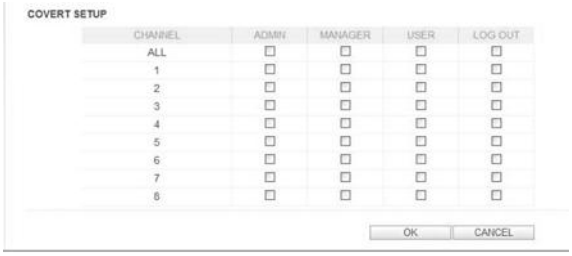
When done, click **<OK>** to apply the changes.

- ✓ The default color value is **<50>**. (Brightness, Contrast, Tint, Color)
- ✓ If you change the default settings, the video from the NVR or the video color may not be displayed properly.

Covert Setting

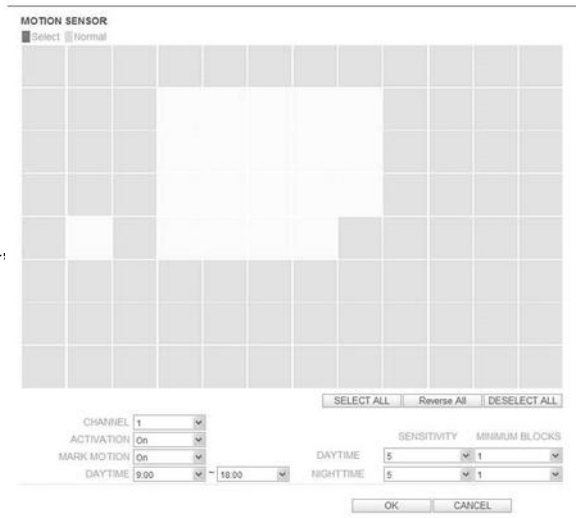
You can set to hide the video of a specific camera from a specific user. Set to hide the camera video so that a specific user or user group can not view. To change the covert settings from user group to user, move to the **<USER>** menu and make necessary changes.

When done, click **<OK>** to apply the changes.



Motion Setting

Specify the use of motion detection and reaction For each channel and set also the daytime/nighttime options.
Select a channel. Set the mask area and activation and specify the daytime range.
When done, click **<OK>** to apply the changes.



✓ For information about how to set the motion area, refer to "Motion Area Setup". (page 41)

Display

OSD Setting

Configure the settings for the time, title, boundary, icon and language that will be displayed on the screen.
Make changes to each item of the OSD menu and click **<OK>** to apply the changes.

✓ For detail about each displayed item, refer to "**OSD**" (page 42)

Monitor Settings

You can set the interval of an active sequence.
Specify the interval and click **<OK>** to apply it.

Audio

Audio/Buzzer

You can configure the settings of the voice and audio signal.

- ✓ For details about each displayed item, refer to **"Audio Setup".**(page 45)

User

User Management

You can add a user account and change the password.

- ✓ For details about each displayed item, refer to "**User Setting**".(page 46)

To add a user, click **<Add>** and provide the user information.

If you want to delete the user click **<DEL>** next to it.

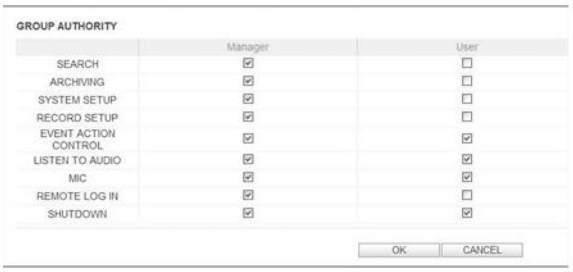
When done, click **<OK>** to apply the change.

Group Permission Setting

You can grant different user groups different permissions to a specific menu.

Mark the checkboxes of the menu items accessible by the user group.

When done, click **<OK>** to apply the changes.



- ✓ For more information about the accessible menu items,refer to "**Group Authority**". (page 47)

Network

Network Setting

You can check the network connection status and change the baud rate.

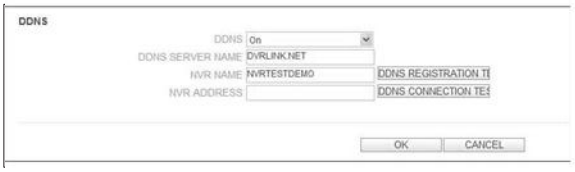
Change the maximum transfer rate and click **<OK>** to apply it.

- ✓ For more information about each network entry, refer to "**IP Setup**". (page 48)

DDNS Setting

You can configure the DDNS settings so that remote users who are connected to the network can access remotely.

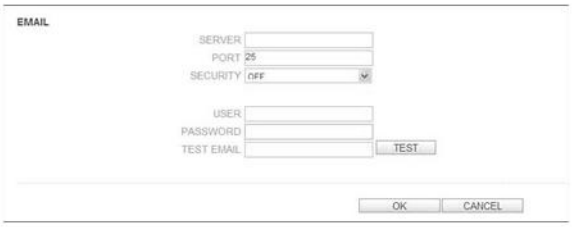
Change the DDNS settings and click **<OK>** to apply the changes.



Email Setting

You can register and test an email address so that an email notification is delivered at a specific interval or if an event occurs.

Provide the necessary information and click **<OK>** to apply it For more information, refer to "**Email**". (page 49)



Security settings

For security purpose, you can set whether to use encryption and its method, and configure IP Filtering. Change the system network settings and click **<APPLY>** to apply changes.

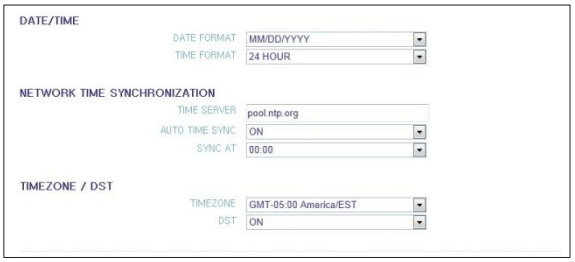
System

Date/Time Setting

Specify the current date and time.

When done, click **<OK>** to apply the changes.

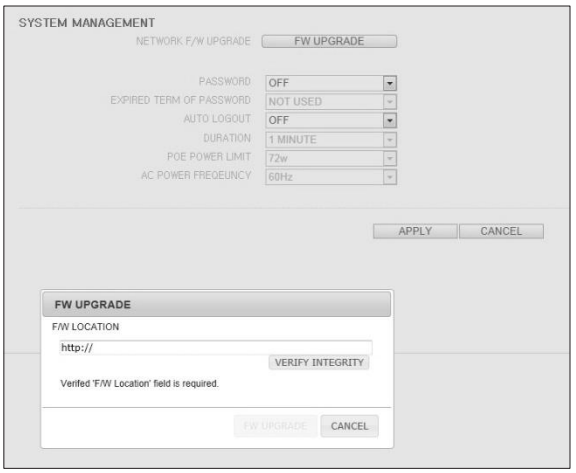
- ✓ For For more information about each of the time and date settings, refer to "**Date/Time**". (page 52)



System Management

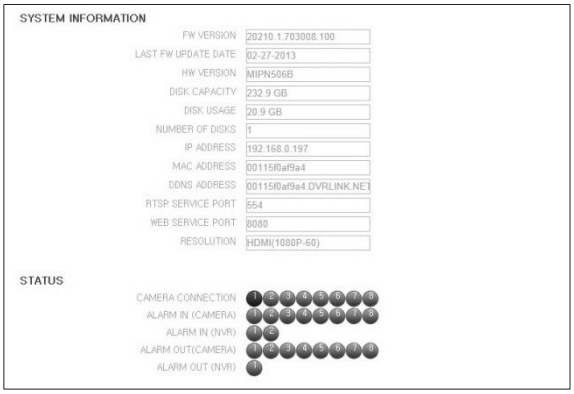
You can configure the access settings of: log in, log out, and auto logout.

>Network FW upgrade: Checksfor the latest firmware available on the network with the given URL and update it. To apply a new firmware, click <FW UPGRADE> and provide the firmware URL.



System Information

You can check information of system firmware version, disk space, and network settings, as well as the status information of network connection and alarm I/O.



Control Device Setting

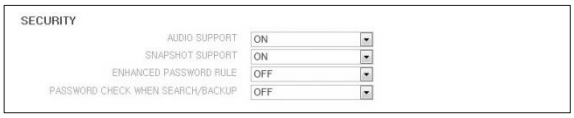
Set the connection of both the remote control and the keyboard control.

Change the communication settings and click **<OK>** to apply the changes.

- ✓ For more information about each communication item, refer to "**Control Device**". (page 55)

Security

For security, you can set to apply reinforced Password policy (to system, search/backup) and Control accessing audio and snapshot.



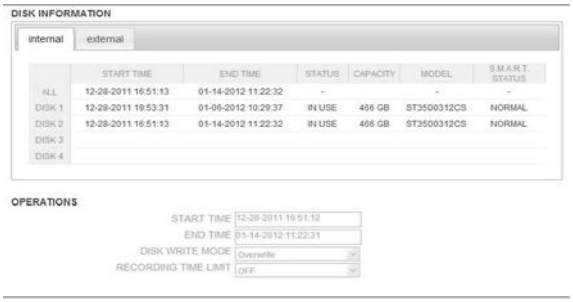
Change the system security settings and click **<APPLY>** to apply the changes.

- ✓ For more information, refer to "**Security**". (page 55)

Storage

Device Information

You can check a list of internal/external storage devices
connected to the NVR as well as the recording time information of each device.



S.M.A.R.T Status

You can check the S.M.A.R.T status for each of the internal and external devices.

- ✓ What is S.M.A.R.T?
  This is a sort of HDD self-diagnosis tool that detects anyerror on the system and alerts the user if an error occurs.

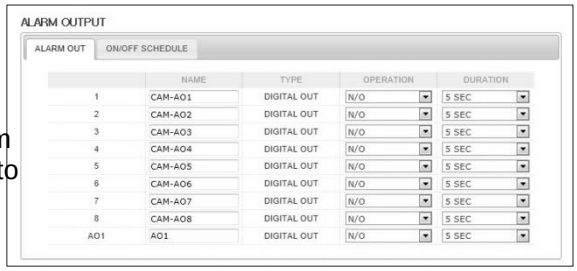
Event

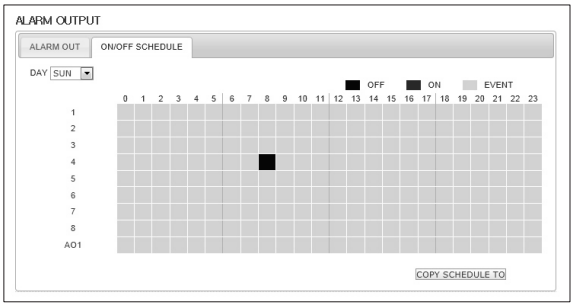
Alarm Output

Specify the alarm output conditions with the work schedule..

When done, click **<OK>** to apply the changes..

- ✓ For more information about the alarm output and ON/OFF schedule, refer to "**Alarm Out**". (page 58)



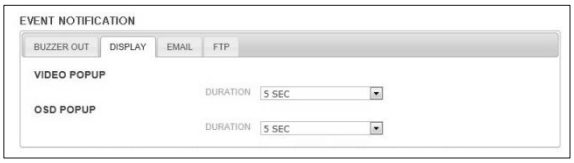


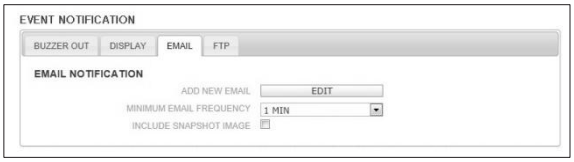
Event Notification

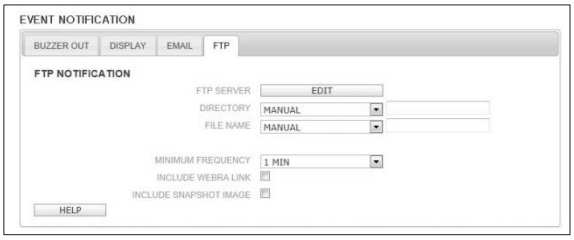
Specify the notification method using one of **<BUZZER OUT>,<DISPLAY>,<E-MAIL>** and **<FTP>** against an event alarm that occurs.

Set the dwell time for buzzer or pop-up display, or set the e-mail or FTP destination settings and then click **<APPLY>** to save your changes.

- ✓ For more information about the event notification, refer to "**Event Notification**". (page 59)





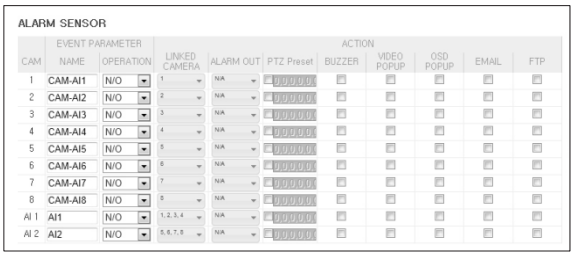


Alarm Sensor

You can configure the settings of the alarm sensor And specify the operation of the sensor if an event occurs.

When done, click **<OK>** to apply the changes.

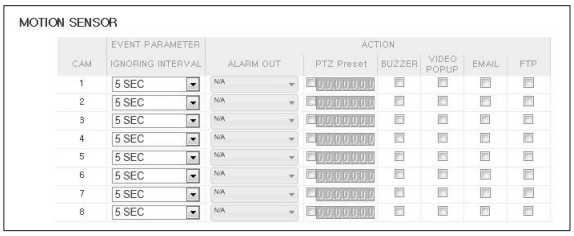
- ✓ For more information about each of the alarm sensor actions, refer to "**Alarm Sensor**". (page 61)



Motion Sensor

You can set an action to execute when a motion is detected.

When done, click **<OK>** to apply the changes.



- ✓ For more information about how to set the motion sensor, refer to "**Motion Sensor**". (page 62)

Video Loss

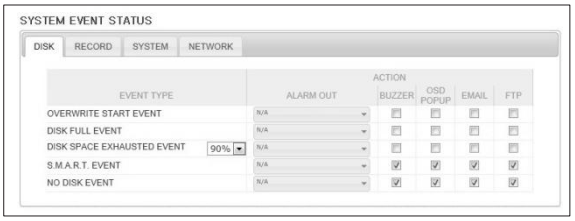
You can select an action for **<BUZZER>** and **<EMAIL>** and determine what to do on the alarm output port if no video is received from the camera.

When done, click **<OK>** to apply the changes.

System Event

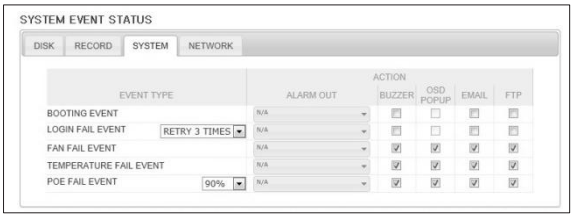
You can set which action to perform if an event related to the disk, recording, network or system happens.

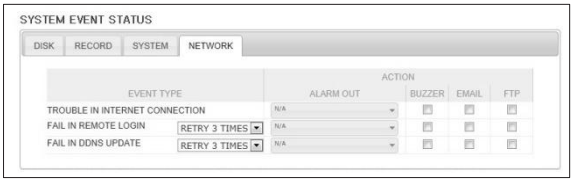
You may want to notify the user of the event using the alarm output, buzzer, OSD popup and email.



When done, click **<OK>** to apply the changes.

- ✓ For more information about how to set the system event, refer to "**System Event**". (page 63)





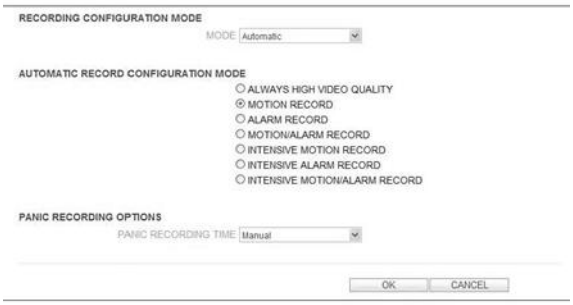
Record Setup

Record Setting

You can set the recording options for Auto or Manual mode

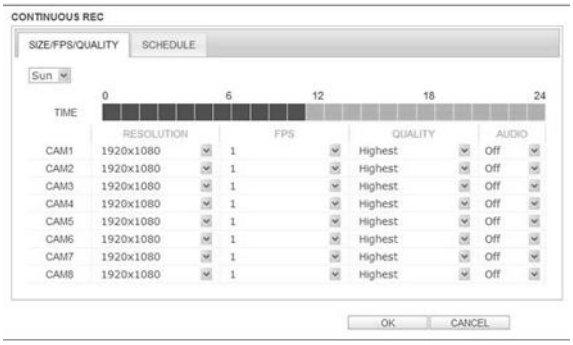
When done, click **<OK>** to apply the changes.

- ✓ For more information about how to set each mode, refer to "**Operation Mode**". (page 66)



Continuous Recording

You can configure the settings of:
continuous recording time, recording size, frame rate per second and quality.
Click < > next to each item to display the list of values available.

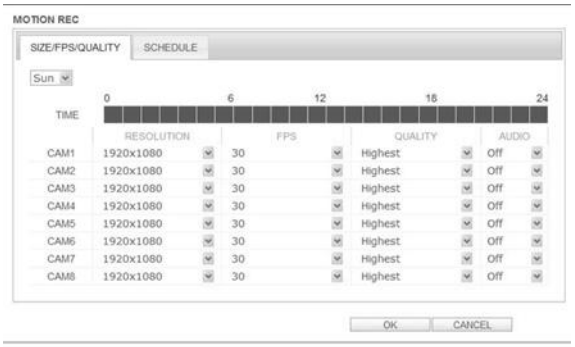


When you complete the recording size and schedule settings, click **<OK>** to apply your settings.

- ✓ For more information about the continuous recording size and schedule, refer to "**Continuous Recording**". (page 67)

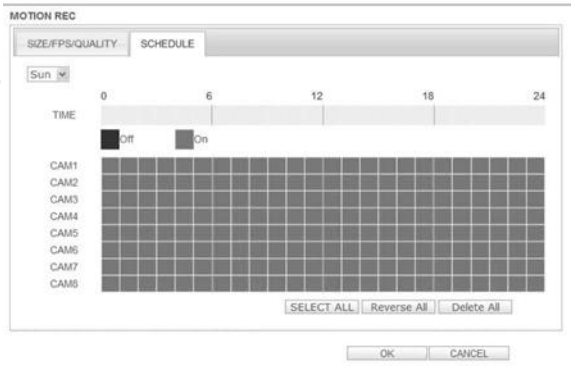
Motion Recording

Set the **<SIZE/FPS/QUALITY/AUDIO>** and the **<SCHEDULE>** to apply if a motion event occurs. Click < > next to each item to display the list of values available.



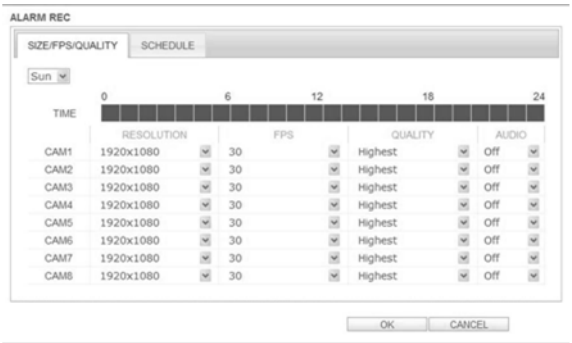
Complete setting the **<SIZE/FPS/QUALITY/AUDIO>** for the motion recording as well as the **<SCHEDULE>**, and click **<OK>** to apply the changes.

- ✓ For more information about the motion recording size and schedule, refer to "**Motion Recording**". (page 68)



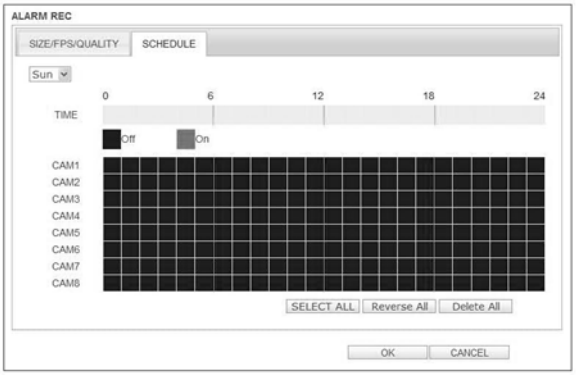
Alarm Recording

Set the **<SIZE/FPS/QUALITY/AUDIO>** and the **<SCHEDULE>** to apply if a motion event occurs. Click < > next to each item to display the list of values available.



Complete setting the **<SIZE/FPS/QUALITY/AUDIO>** for the alarm recording as well as the **<SCHEDULE>**, and click **<OK>** to apply the changes.

- ✓ For more information about the alarm recording size and schedule, refer to "**Alarm Recording**". (page 69)



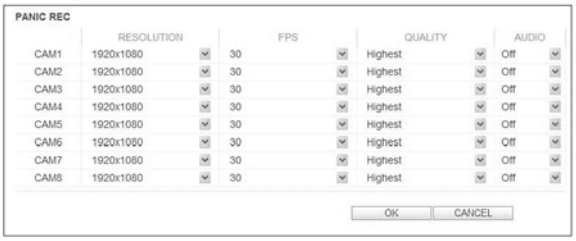
Panic Recording

From the **<PANIC RECORD>** menu, you can set the resolution, FPS, quality and audio settings to your preference.

Click <> next to each item to display the list of values available.

When you have completed the manual record settings, click **<OK>** to apply the changes.

- ✓ For more information about the manual record settings,refer to "**Panic Recording**". (page 69)



Network Streaming

You can specify the maximum size of network streaming and video resolution for remote users and change the FPS.

Click <> next to each item to display the list of values available.

When done, click **<OK>** to apply the settings.

About

Click the **<INFORMATION>** tab to check the model name of the NVR as well as the web viewer version.

GanzView

You can use the smart viewer to monitor the network on a remote site and play the monitori ng video anytime anywhere.

GanzView specification

Minimum/ recommended specification

OS	Minimum specification	Recommended specification
Android Phone	Processor :800 MHz or higher Flash : 512 MB or higher RAM : 512 MB or higher SD Card : 4 GB or higher OS : 2.0 or higher	Processor : 1 GHz or higher Flash : 512 MB RAM : 512 MB SD Card : 16 GB or higher OS : 2.1 or higher
iPhone	iPhone 3G, iPod touch 3rd Generation iPhone OS 3.1.3 or higher	iPhone 3GS or higher iPhone OS 3.2 or higher

Using the GanzViewer on iPhone

How to download the iPhone-dedicated application

From your iPhone, access the App Store. Enter "GanzView" in the search bar to find it befor
e
downloading. Install the application on your iPhone. The GanzView supports the 1/4 split scre
en mode.

- ✓ With the GanzView Lite, you cannot: check the log, control the PTZ operations or ch
  ange the system settings.

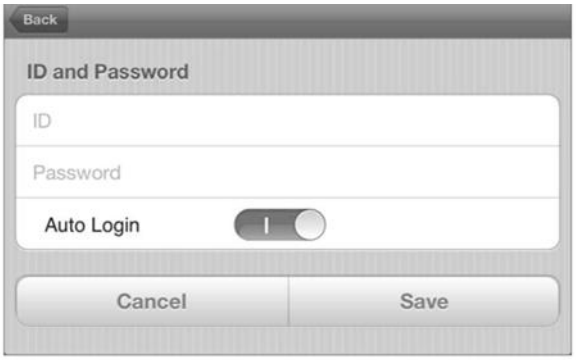
To connect to DVR with GanzView

1. Select and run the GanzView.
2. Click < + > in the top right corner of the D
   List to select and add a site to the list.

3. Enter the server name and click **<Save>**.

4. Provide the IP address, HTTP port number a
   RTSP port number, and click **<Save>**.

5. Provide the access ID of the DVR as well as the password.
6. Specify the use of the Auto Login.
7. Click **<Save>**.

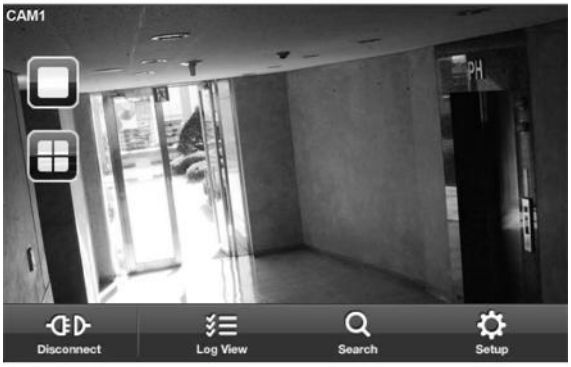


8. Select the site that you added in the DVR List.

9. Try to access the NVR.
   If connected successfully, you will see the screen as shown.

Split Mode

1. Click any area on the screen.
   The main menu appears at the bottom of the screen.



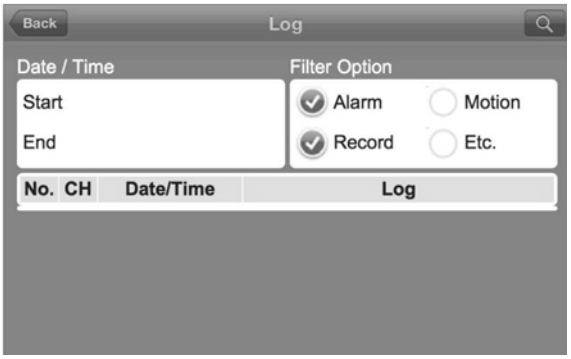
2. Click <❑> in the top left corner to switch to 1-split mode; click <⊞ > to switch to 4-split mode.

   ✓ Use the mouse to scroll the screen to the left or right to move to the next camera video screen.

Using the Log View

1. From the main menu, click < >.
You can check the log of the data stored.

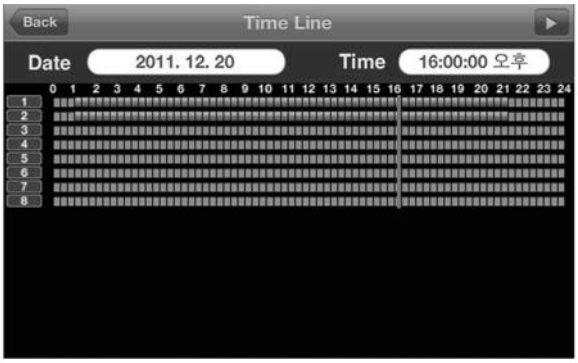
2. Select one from Alarm, Motion, Record, Etc. and click < >.
You will view the log of related items.



Using the Search function

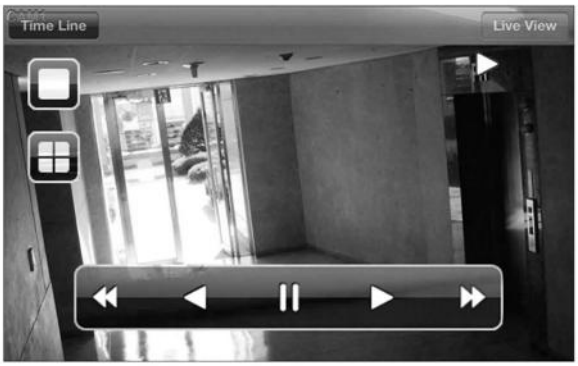
1. From the main menu, click <🔍>.
   You can view the history of the data stored.

2. Select a desired time and date.
   You can use the vertical time bar to specify the start time.



3. Click <▶> to play the video recorded at the specified time.

4. Click any area to display the play bar with which you can control the playing direction and speed of the video.



Using the Setup function

From the main menu, click <⚙ Setup>.

You will be connected to the web viewer site.

- ✓ For details about each displayed item, refer to "**Setup**".(page 89)

Using GanzView with Android

How to download the Android-dedicated application

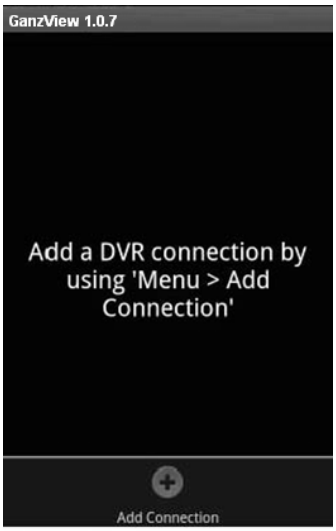
From your smart phone, access the Market.
Enter "GanzView" in the search bar to find it before downloading.
Install the application on your Smart Phone.

- ✓ The GanzView supports the 1/4 split screen mode.

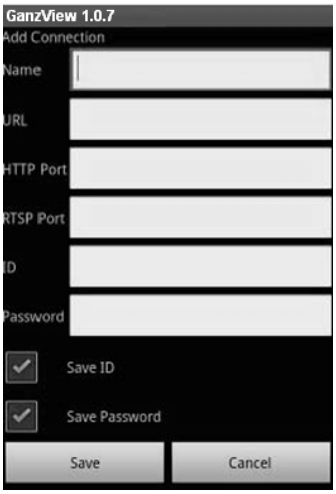
With the GanzView Lite, you cannot: check the log, control the PTZ operations or change the system settings.

To connect to DVR with GanzView

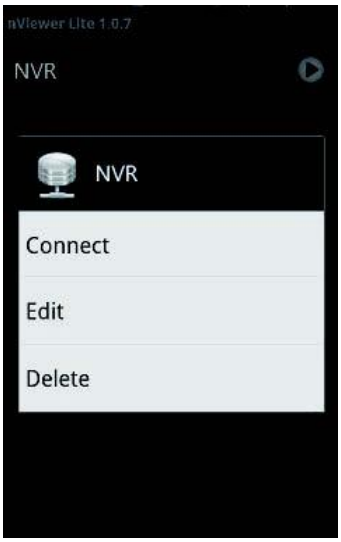
1. Select and run the GanzView.
2. Use the Add button to select and add a site to the list.



3. Please enter a Name.
4. Provide the IP address, HTTP port number and RTSP port number, and click **<Save>**.
5. Provide the access ID of the NVR as well as the password.
6. Select whether or not to save the ID and PW.
7. Click **<Save>**.



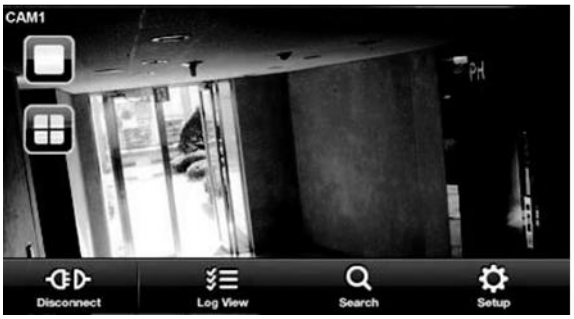
8. Select the site that you added in the NVR List.
   Press and hold the mouse button to display the pop-up window.



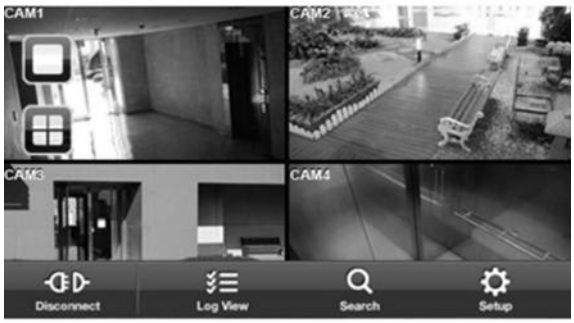
9. Select <**Connect**> and try to access.
   If connected successfully, you will see the screen as shown.

Split Mode

1. Click any area on the screen.
   The main menu appears at the bottom of the screen**.**



2. Click < > in the top left corner to switch to 1-split mode; click < > to switch to 4-split mode.
   - ✓ Use the mouse to scroll the screen to the left or right to move to the next camera video screen.



Using the Log View

1. From the main menu, click < >.
   You can check the log of the data stored.

2. Select one from Alarm, Motion, Record, Etc. and click < >.
   You will view the log of related items.

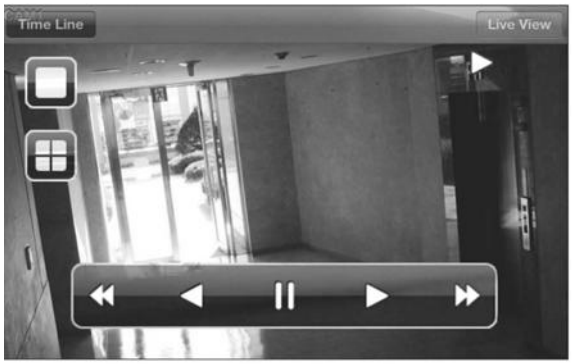
Using the Search function

1. From the main menu, click <Search>.
   You can view the video of the recording data.

2. Select a desired time and date.
   You can use the vertical time bar to specify the start time.

3. Click < > to play the video recorded at the specified time.

4. Click any area to display the play bar with which you can control the playing direction and speed of the video.



Using the Setup function

From the main menu, click < Setup >.
You will be connected to the web viewer site.

✓ For details about each displayed item, refer to "**Setup**".(page 89)

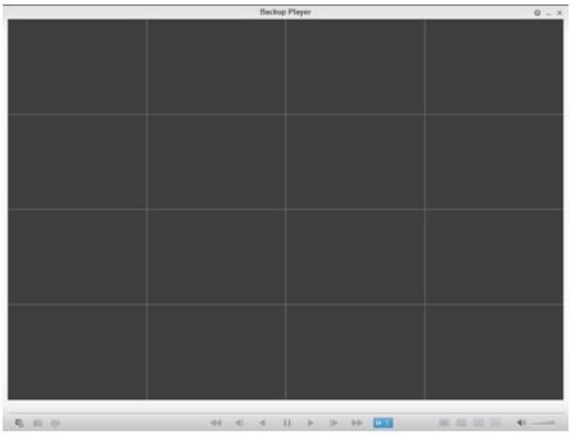
Archive Viewer

You can play the data archived in the NVR or the HDD data recorded by the NVR.

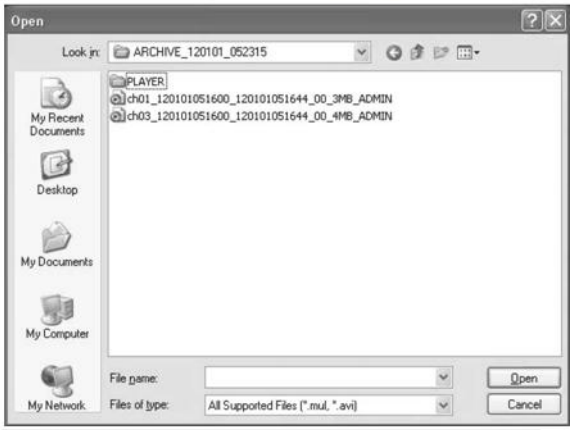
Getting started with the Backup Player

1. Connect the NVR to the backup USB storage device.
2. Open the folder saving the archived images.

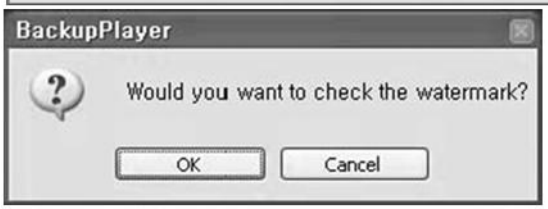
3. Run the Backup Player.

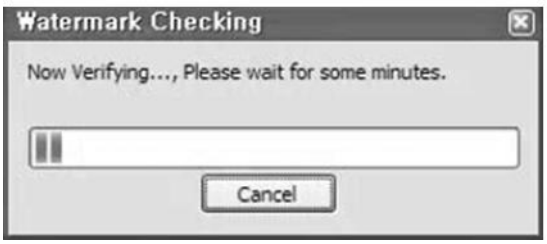


4. Click < > in the bottom left corner to display the file browser. Select the archived file to play.



5. Check the integrity of the archived file.
6. When done, the archived file will be played on the screen.





Backup Player At a Glance

Item	Description
1.Setup **Minimize, Close**	Configure the environment settings. Minimize or close the Backup Player.
2.Channel Information	Show the channel information and the video resolution.
3.Play Time	Display the time of the current video image
4.Play Time	Display the current playback time..
5.File Search **Capture** **Print**	Open the file that you backed up Capture the current screen. Print out the current screen.
6.Playback Control	Control the playback direction and speed of the current vi deo. For more information about how to use the playback contr ol buttons, refer bar to "**Using the play** ". (page 72)
7.Split Mode	Switch to 1-/4-/8-/16-split screen mode..
8.Audio Setting	Show the sound signal status and volume level..
9.Play Bar	Display the current playback position in the video.

Video Capture

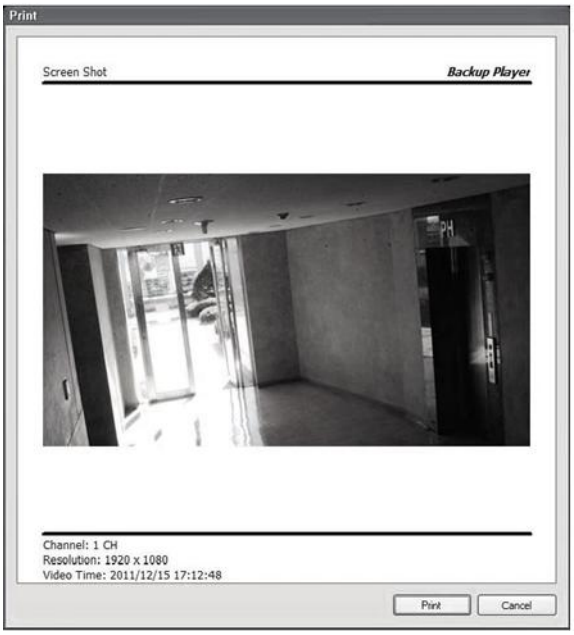
Click < > to capture the current video image.

- ✓ Selected Video : Capture the actual frame of the current video.
- ✓ Screen : Capture the visible portion of the current video.
- ✓ Format : Select a saving format. (BMP, JPG, PNG)
- ✓ Path : Specify the saving path. Default location : My Documents¥My Pictures

Print Out

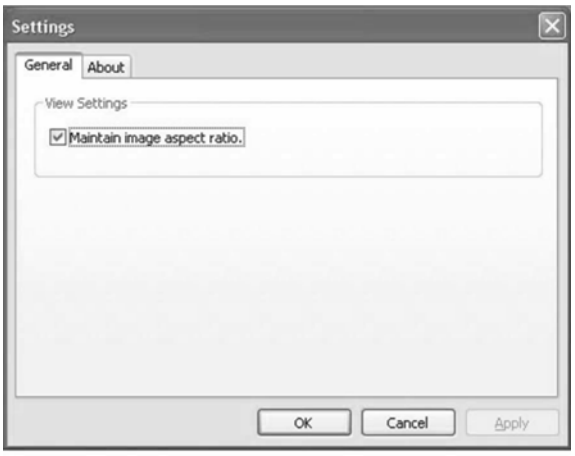
Click < > button to print out the image.

When the "**Print**" window appears, check the Preview and click "**Print**".

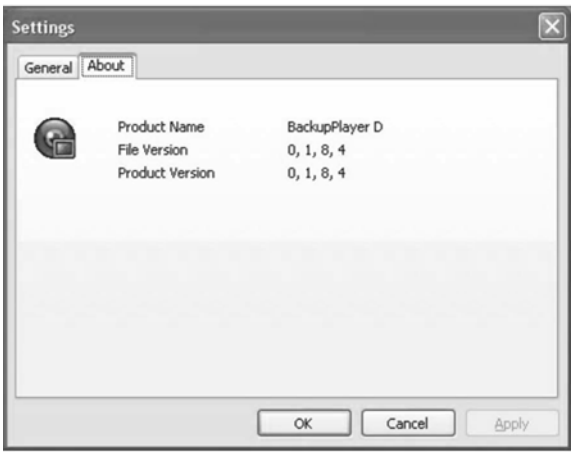


Settings

Click <⚙> to configure the Backup Player settings. You can check the version of the Backup Player.



- ✓ Maintain image aspect ratio : Preserve the aspect ratio of the image.
  If you do not mark this option, the image will be adjusted to fit the screen.



- ✓ About : You can check the program information including the current version.

Specification (NR4HL / NR8HL)

Item	Details 8 CH	4 CH	Remarks
VIDEO			
INPUT VIDEO	8 x IP Camera (Max HD1080p)	4 x IP Camera (Max HD1080p)	
# OF CHANNELs	8 CH	4 CH	
MAIN MONITOR	Full HD Display	Full HD Display	
MAINMONITOR RESOLUTION	HD1080p/60Hz	HD1080p/60Hz	Depend on IP Camera
MOTION DETECTION	Yes (From IP Camera)	Yes (From IP Camera)	
AUDIO			
INPUT AUDIO	8 CH (IP) + 1 CH (Internal)	4 CH (IP) + 1 CH (Internal)	Depend on IP Camera
OUTPUT AUDIO	8 CH (IP) + 1 CH (Internal)	4 CH (IP) + 1 CH (Internal)	Depend on IP Camera
CODEC	G.711	G.711	
RECORDING			
CODEC	H.264 (BP, MP, HP)	H.264 (BP, MP, HP)	
REC.RATE	MAX. 30 FPS@1080p/CH	MAX. 30 FPS@1080p/CH	Depend on IP Camera
REC.RESOLUTION	MAX. HD 1080p	MAX. HD 1080p	Depend on IP Camera
ALRM I/O			
ALARM INPUT	8 CH (IP) + 2 CH (Internal)	4 CH (IP) + 2 CH (Internal)	Depend on IP Camera
ALARM OUTPUT	8 CH (IP)+ 1 RELAY (Internal)	4 CH (IP)+ 1 RELAY (Internal)	Depend on IP Camera
STORAGE			
INTERNAL HDD (SATA)	2	2	
EXTERNAL STORAGE	YES (eSATA)	YES (eSATA)	
INTERFACES			
USB(USB2.0)	2 ports	2 ports	
RS-485	1	1	
RS-232	1	1	
LAN	**8 (IPCamera, PoE) + 1 (LAN) + 1(WAN)**	**4 (IPCamera, PoE) + 1 (LAN) + 1(WAN)**	
REMOTE CONTROL	YES	YES	
ETC			
WATCHDOG	YES	YES	
COOLINGFAN	2	2	
POWER			
POWER SUPPLY POWER CONSUMPTION	20W max. without HDD	20W max. without HDD	
ENVIRONMENT			
HUMIDITY	10~90% NC	10~90% NC	
TEMPERATURE	0℃ ~ 40℃ (32°F ~104°F)	0℃ ~ 40℃ (32°F ~104°F)	
CHASSIS			
DIMENSION(WEIGHT)	305mm x 298mm x 44mm	305mm x 298mm x 44mm	
CERTIFICATION			
	FCC, CE	FCC, CE	

Specification (NR8H / NR16H)

Item	Details 8 CH	16 CH	Remarks
VIDEO			
INPUT VIDEO	8 x IP Camera (Max HD1080p)	16xIP Camera (Max HD1080p)	
# OF CHANNELs	8 CH	16 CH	
MAIN MONITOR	Full HD Display	Full HD Display	
MAINMONITOR RESOLUTION	HD1080p	HD1080p	Depend on IP Camera
MOTION DETECTION	Yes (From IP Camera)	Yes (From IP Camera)	
AUDIO			
INPUT AUDIO	8 CH (IP) + 1 CH (Internal)	16 CH (IP) + 1 CH (Internal)	Depend on IP Camera
OUTPUT AUDIO	8 CH (IP) + 1 CH (Internal)	16 CH (IP) + 1 CH (Internal)	Depend on IP Camera
CODEC	G.711	G.711	
RECORDING			
CODEC	H.264 (BP, MP, HP)	H.264 (BP, MP, HP)	
REC.RATE	MAX. 30 FPS@1080p/CH	MAX. 30 FPS@1080p/CH	Depend on IP Camera
REC.RESOLUTION	MAX. HD 1080p	MAX. HD 1080p	Depend on IP Camera
ALRM I/O			
ALARM INPUT	8 CH (IP) + 2 CH (Internal)	16 CH (IP) + 2 CH (Internal)	Depend on IP Camera
ALARM OUTPUT	8 CH (IP)+ 1 RELAY (Internal)	16CH (IP)+ 1 RELAY (Internal)	Depend on IP Camera
STORAGE			
INTERNAL HDD (SATA)	5, RAID5 (TBA)	5, RAID5 (TBA)	
EXTERNAL STORAGE	YES (eSATA, NAS)	YES (eSATA, NAS)	
INTERFACES			
USB(USB2.0)	3 ports	3 ports	
RS-485	1	1	
RS-232	1	1	
LAN	**8 (IPCamera, PoE) + 1 (LAN) + 1(WAN)**	**4 (IPCamera, PoE) + 1 (LAN) + 1(WAN)**	
REMOTE CONTROL	YES	YES	
External Hub			
Network	-	2GE + 8FE(PoE)	
Total PoE power	-	60W	
NVR Management	-	ARM9 interior	
Adaptor	-	DC48V	
Power consumption	-	72W max.	
ETC			
WATCHDOG	YES	YES	
COOLINGFAN	2	2	
POWER			
POWER SUPPLY	AC100V~240V	AC100V~240V	
POWER CONSUMPTION	25W max. without HDD	25W max. without HDD	
ENVIRONMENT			
HUMIDITY	10~90% NC	10~90% NC	
TEMPERATURE	0℃ ~ 40℃ (32°F~104°F)	0℃ ~ 40℃ (32°F ~104°F)	
CHASSIS			
DIMENSION(WEIGHT)	430mm x 360mm x 88mm	430mm x 360mm x 88mm	
CERTIFICATION			
	FCC, CE	FCC, CE	

Français/French

Élimination de votre ancien appareil

1. Ce symbole, représentant une poubelle sur roulettes barrée d'une croix, signifie que le produit est couvert par la directive européenne 2002/96/EC.
2. Tous les produits électriques et électroniques doivent être éliminés séparément de la chaîne de collecte municipale des ordures, par l' intermédiaire des installations de collecte prescrites et désignées par le gouvernement ou les autorités locales.
3. Une élimination conforme aux instructions aidera à réduire les conséquences négatives et risques éventuels pour l'environnement et la santé humaine.
4. Pour plus d'informations concernant l'élimination de votre ancien appareil, veuillez contacter votre mairie, le service des ordures ménagères ou encore le magasin où vous avez acheté ce produit.

English

Disposal of your old appliance

1. When this crossed-out wheeled bin symbol is attached to a product it means the product is covered by the European Directive 2002/96/EC.
2. All electrical and electronic products should be disposed of separately from the municipal waste stream via designated collection facilities appointed by the government or the local authorities.
3. The correct disposal of your old appliance will help prevent potential negative consequences for the environment and human health.
4. For more detailed information about disposal of your old appliance, please contact your city office, waste disposal service or the shop where you purchased the product.

Deutsch/German

Entsorgung von Altgeräten

1. Wenn dieses Symbol eines durchgestrichenen Abfalleimers auf einem Produkt angebracht ist, unterliegt dieses Produkt der europäischen Richtlinie 2002/96/EC.
2. Alle Elektro- und Elektronik-Altgeräte müssen getrennt vom Hausmüll über die dafür staatlich vorgesehenen Stellen entsorgt werden.
3. Mit der ordnungsgemäßen Entsorgung des alten Geräts vermeiden Sie Umweltschäden und eine Gefährdung der persönlichen Gesundheit.
4. Weitere Informationen zur Entsorgung des alten Geräts erhalten Sie bei der Stadtverwaltung, beim Entsorgungsamt oder in dem Geschäft, wo Sie das Produkt erworben haben.

Italiano/Italian

RAEE: SMALTIMENTO DELLE VOSTRE VECCHIE APPARECCHIATURE

1. Quando il simbolo del "Cassonetto Barrato" è apposto su un prodotto, significa che lo stesso può ricadere nei termini previsti dalla Direttiva Europea nr. 2002/96/EC in funzione dell'attuazione definita dalla Legislazione dei singoli stati membri dell'Unione Europea.
2. Tutti i prodotti elettrici ed elettronici dovrebbero essere smaltiti separatamente dai rifiuti municipali, tramite appositi contenitori, approvati dall'Amministrazione Comunale o dalle Autorità Locali.
3. Il corretto smaltimento delle vostre vecchie apparecchiature, contribuirà a prevenire possibili conseguenze di impatto negativo sull' ambiente e per la salute dell'uomo.
4. Per maggiori informazioni circa lo smaltimento delle vostre vecchie apparecchiature, siete pregati di contattare l'ufficio municipale della vostra città, il servizio di smaltimento rifiuti o il punto vendita nel quale avete acquistato il prodotto.

Polski/Polish

Utylizacja starych urządzeń

1. Kiedy do produktu dołączony jest niniejszy przekreślony symbol kołowego pojemnika na śmieci, oznacza to, że produkt jest objęty europejską dyrektywą 2002/96/EC.
2. Wszystkie elektryczne i elektroniczne produkty powinny być utylizowane niezależnie od odpadów miejskich, z wykorzystaniem przeznaczonych do tego miejsc składowania wskazanych przez rząd lub miejscowe władze.
3. Właściwy sposób utylizacji starego urządzenia pomoże zapobiec potencjalnie negatywnemu wpływowi na zdrowie i środowisko.
4. Aby uzyskać więcej informacji o sposobach utylizacji starych urządzeń, należy skontaktować się z władzami lokalnymi, przedsiębiorstwem zajmującym się utylizacją odpadów lub sklepem, w którym produkt został kupiony.

Português/Portuguese

Eliminação do seu antigo aparelho

1. Quando este símbolo de latão cruzado estiver afixado a um produto, significa que o produto é abrangido pela Directiva Europeia 2002/96/EC.
2. Todos os produtos eléctricos e electrónicos devem ser eliminados separadamente da coleta de lixo municipal através de pontos de recolha designados, facilitados pelo governo ou autoridades locais.
3. A eliminação correcta do seu aparelho antigo ajuda a evitar potenciais consequências negativas para o ambiente e para a saúde humana.
4. Para obter informaçõs mais detalhadas acerca da eliminação do seu aparelho antigo, contacte as autoridades locais, um serviço de eliminação de resíduos ou a loja onde comprou o produto.

Español/Spanish

Cómo deshacerse de aparatos eléctricos y electrónicos viejos

1. Si en un producto aparece el símbolo de un contenedor de basura tachado, significa que éste se acoge a la Directiva 2002/96/EC.
2. Todos los aparatos eléctricos o electrónicos se deben desechar de forma distinta del servicio municipal de recogida de basura, a través de puntos de recogida designados por el gobierno o las autoridades locales.
3. La correcta recogida y tratamiento de los dispositivos inservibles contribuye a evitar riesgos potenciales para el medio ambiente y la salud pública.
4. Para obtener más información sobre cómo deshacerse de sus aparatos eléctricos y electrónicos viejos, póngase en contacto con su ayuntamiento, el servicio de recogida de basuras o el establecimiento donde adquirió el producto.

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