USER MANUAL

4/8/16 Channel DVR (Digital Video Recorder)

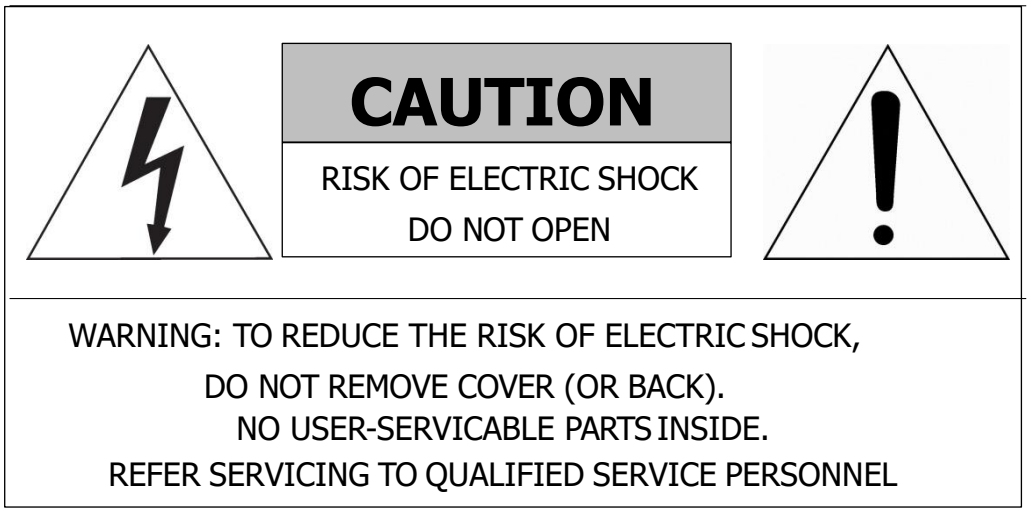
Please read this manual thoroughly before use and keep it handy for future reference

WARNING (AVERTISSEMENT)

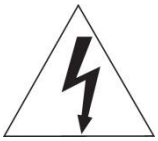
TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE. DO NOT INSERT ANYMETALLIC OBJECT THROUGH THE VENTILATION GRILLS OR OTHEROPENNINGS ON THE EQUIPMENT.

(POUR RÉDUIRE LE RISQUE D'INCENDIE OU D'ÉLECTROCUTION, N'EXPOSEZ PAS CE PRODUIT À LA PLUIE OU À L'HUMIDITÉ. NE PAS INSÉRER D'OBJET MÉTALLIQUE À TRAVERS LES GRILLES DE VENTILATION OU AUTRES OUVERTURES SUR L'ÉQUIPEMENT.)

CAUTION



EXPLANATION OF GRAPHICAL SYMBOLS



The lightning flash with arrowhead symbol, within an equilateral triangle, is in- tended to alert the user to the presence of dangerous voltage within the products enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

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

HIGH-DEFINITION MULTIMEDIA INTERFACE

FCC COMPLIANCE STATEMENT

This device complies with Part 15 of the FCC Rules. Operation is subjectto the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC INFORMATION: This equipment has been tested and found tocomply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protectionagainst harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radiofrequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interferenceat his own expense.

CAUTION: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This Class A digital apparatus complies with CAN ICES-003.

Cet appareil numèrique de la classe A est conforme á la norme NMB-003 du Canada.

CE COMPLIANCE STATEMENT

WARNING

This is a Class A product. In a domestic environment this product may causeradio interference in which case the user may be required to take adequate measures.

CAUTION

RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE. DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS.

IMPORTANT SAFETY INSTRUCTIONS (CONSIGNES DE SÉCURITÉ IMPORTANTES)

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. ***CAUTION : These servicing instructions are for use by qualified service personnel only. To reduce the risk of electric shock do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.***
16. ***Use satisfy clause 2.5 of UL-62368 or Certified/Listed Class 2 power source only.***
17. ***This product is intended to be supplied by a Listed Power Supply Unit marked "Class 2" or "LPS" and rated from 12 Vdc, [4ch 12 Vdc 3.3A], [8ch 12 Vdc 5.0A], [16ch 12 Vdc 5.0A].***
18. ***CAUTION : Risk of Explosion if Battery is replaced by an Incorrect Type. Dispose of Used Batteries According to the Instructions.***

(1. Lisez ces instructions.

2. Conservez ces instructions.

3. Tenez compte de tous les avertissements.

4. Suivez toutes les instructions.

5. N'utilisez pas cet appareil près de l'eau.

6. Nettoyez uniquement avec un chiffon sec.

7. Ne bloquez aucune ouverture de ventilation. Installer conformément aux instructions du fabricant.

8. Ne l'installez pas à proximité de sources de chaleur telles que des radiateurs, des registres de chaleur, des cuisinières ou d'autres appareils (y compris des amplificateurs) produisant de la chaleur.

9. N'annulez pas l'objectif de sécurité de la fiche polarisée ou de mise à la terre. Une fiche polarisée a deux lames dont l'une est plus large que l'autre. Une fiche de type mise à la terre a deux lames et une troisième broche de mise à la terre. La lame large ou la troisième dent est prévue pour votre sécurité. Si la fiche fournie ne rentre pas dans votre prise, consultez un électricien pour remplacer la prise obsolète.

10. Protégez le cordon d'alimentation contre les piétinements ou les pincements, en particulier au niveau des fiches, des prises de courant et du point de sortie de l'appareil.

11. Utilisez uniquement les pièces jointes/accessoires spécifiés par le fabricant.

12. Utiliser uniquement avec le chariot, le support, le trépied, le support ou la table spécifié par le fabricant ou vendu avec l'appareil. Lorsqu'un chariot est utilisé, faire preuve de prudence lors du déplacement de la combinaison chariot/appareil pour éviter les blessures en cas de renversement.

13. Débranchez cet appareil pendant les orages ou lorsqu'il n'est pas utilisé pendant de longues périodes.

14. Confiez toutes les réparations à un personnel qualifié. Une réparation est nécessaire lorsque l'appareil a été endommagé de quelque manière que ce soit, comme le cordon d'alimentation ou la prise est endommagé, du liquide a été renversé ou des objets sont tombés dans l'appareil, l'appareil a été exposé à la pluie ou à l'humidité, ne fonctionne pas normalement , ou a été supprimé.

15. ATTENTION : Ces instructions d'entretien sont destinées à être utilisées uniquement par du personnel d'entretien qualifié. Pour réduire le risque de choc électrique, n'effectuez aucun entretien autre que celui contenu dans les instructions d'utilisation, sauf si vous êtes qualifié pour le faire.

16. Utilisez uniquement une source d'alimentation conforme à la clause 2.5 de la norme UL-62368 ou certifiée/homologuée de classe 2.

17. Ce produit est destiné à être alimenté par une unité d'alimentation répertoriée marquée "Classe 2" ou "LPS" et évaluée à partir de 12 Vdc, [4ch 12 Vdc 3.3A], [8ch 12 Vdc 5.0A], [16ch 12 Vdc 5.0A].

18. ATTENTION : Risque d'explosion si la batterie est remplacée par un type incorrect. Jetez les piles usagées conformément aux instructions.)

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1. Overview

This chapter describes DVR overview, components and their terms and features.

This manual introduces a digital video recorder (DVR) which monitors or record, controls images a camera.

Multiple users may monitor video at the same time, and many cameras can be controlled simultaneously by a manager. Also, through a PC or a smartphone, video might be monitored by transmitting video and audio using a network.

The device features include the following:

Support H.264 and H.265 compression

Convenient UI from user's viewpoint

Composite input port for 4/8/16 channels

Providing AHD, TVI, 960H, and D1

4K(3840x2160) HDMI output

4Mega pixel screen recording, audio recording and playing

HDD information and status presentation

HDD overwriting

USB Data Back-up

Simultaneous recoding and playing of 4/8/16 channels

Various search mode (time, event, thumbnail, smart search and text)

Various recording mode (manual, event, timed recording, panic recording)

Remote monitoring through a network viewer, a web viewer, and a mobile viewer

1.1 Package Contents

The device package contents consist of the following:

⚠ **Note**	Please check all components involved.

No	Name	No	Name
1	DVR	2	DC Power Adapter & Power cord
3	Mouse	4	SATA power cable
5	SATA cable	6	Rack mount bracket & screws (option)
7	HDD fixing screw	8	Quick guide

1.2 DVR Description

Each part is listed in the below:

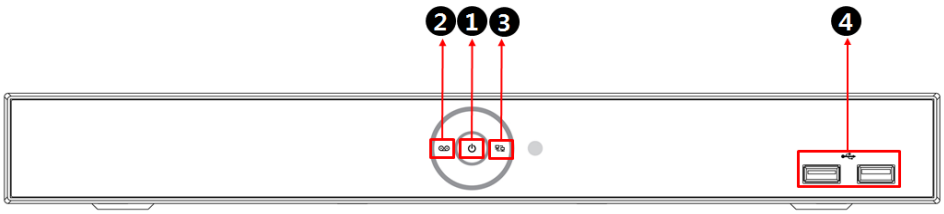
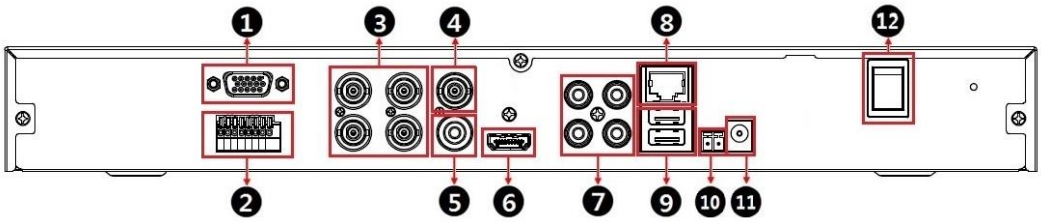


Figure 1-1 Name and Connection of each front section

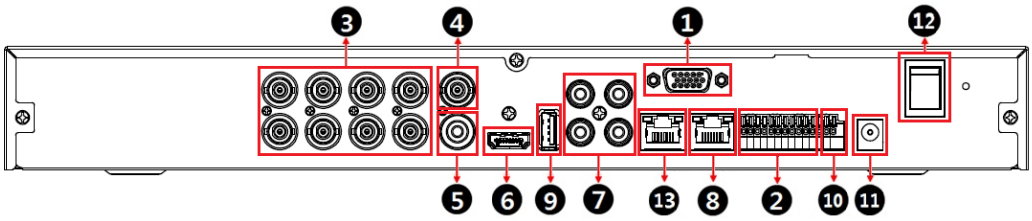
No.	Name	Function
1	**Power status LED**	Pointing out device on/off.
2	**Recording status LED**	Pointing out recording in process.
3	**Network LED**	With a network viewer, pointing out network in connection
4	**USB port**	USB port is connected for USB mouse or firmware upgrade, and data back-up.

Note	4ch DVR : 1 Front & 2 Rear USB ports. 8ch DVR : 2 Front & 1 Rear USB ports. 16ch DVR : 2 Front & 1 Rear USB ports.

4CH DVR



8CH DVR



16CH DVR

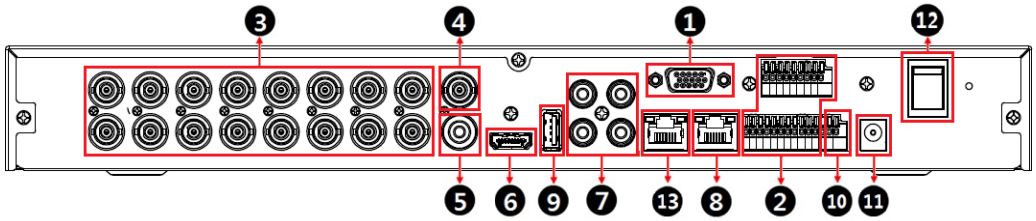


Figure 1-2 Name and Connection of each rear section of 4ch, 8ch, and 16ch DVR

No.	Name	Function
1	**VGA**	VGA output port.
2	**Alarm In/Out**	Alarm connector.
3	**Video In**	Camera video input port.
4	**CVBS**	CVBS output port (depending on device types).
5	**Audio Out**	Audio output port.
6	**HDMI**	HDMI output port.
7	**Audio In**	Camera audio input port.
8	**LAN**	Network connector.
9	**USB**	USB port is connected for USB mouse or firmware upgrade, and data back-up.
10	**RS485**	RS-485 communication connector.
11	**DC12V**	Power supply connector.
12	**Power Switch**	Power On-Off.
13	**WAN**	WAN port is connected for internet.

2. Installation

This chapter describes the way to install DVR.

When installing a device, connect rear of the device with each port on the basis of below connection map.

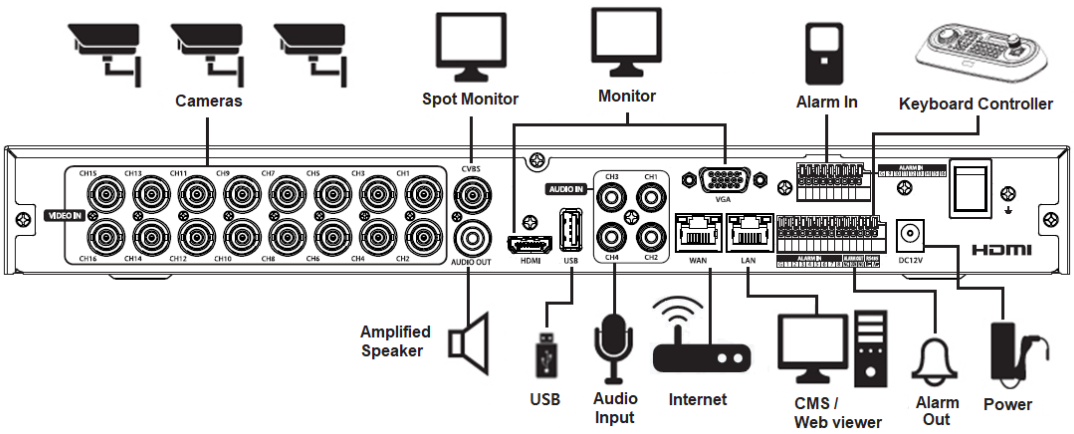


Figure 2-1 Connection map

The device starts first like below sequences:

1. Installing HDD.
2. Connecting with an exterior device.
3. Starting a system.
4. Setting a quick setup.

2.1 Installing HDD

How to install HDD in the device:

Attention

- Withdraw the mains plug before installing HDD to reduce the risk of injury or electrical shock, or device malfunction.
- Make sure to check the compatibility of HDD with the device.

1. Always switch off and unplug the unit.
2. Unscrew with a screw driver (+) and open the unit cover.
3. Install HDD in the bottom case.
4. Connect a data cable and power cable with HDD.
5. Close the cover and tighten screws.

2.2 Connecting with Exterior Device

How to connect each port to rear section of the unit:

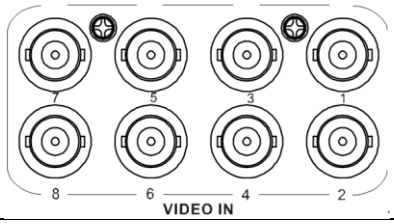
1. Place the unit in a stable flat surface.
2. Make a room between front/rear sides of the device not to break connectors.

Warning	Do NOT install the device too close to the wall. Protrusive connects rear the unit may be forcedly curved or pressed, which cause fires, electric shocks, or injury.

3. Check to switch off and unplug the unit.

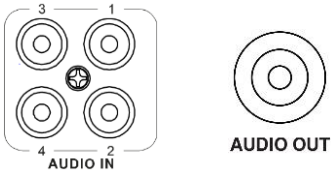
Warning	Make sure to withdraw the mains plug before installing the device.

4. Connect input ports of camera.



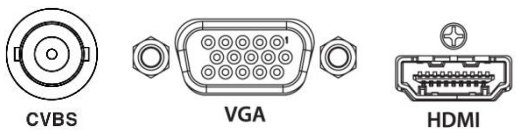
Note	Connecting a camera port with the unit automatically detects the camera.

5. Connect an audio input port with a Mic and output port with a speaker.

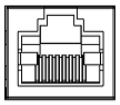


Note	Assure regulations in the area whether recording to be legal or not.

6. Connect a monitor with VGA, HDMI or CVBS port.

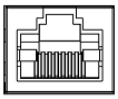


7. Connect a network port.



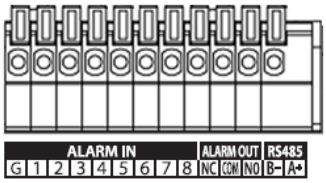
LAN

8. Connect an internet port.

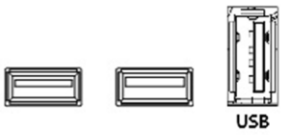


WAN

9. Connect an alarm and RS485 devices.

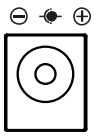


10. Connect USB port in front section of the unit with a mouse.



USB

11. Supply the main power after completion.



DC 12V

12. Turn on the switch after completion.

Attention	Before connection, match socket with adapter pins.

Note	No power button; supplying the main power automatically starts running the unit.

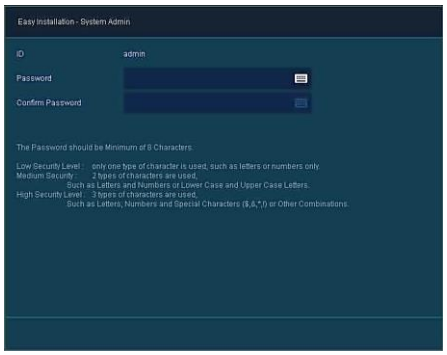
2.3 Starting System

Power supply begins with system operation as follows:

1. Switching on initialize with below icons in order.

Note	Installing new HDD might take more initialize time.

2. With buzzer sounds, the start screen is presented.
3. Create password and input the password in the password field and confirm the password.



Note	We highly recommend you to create a strong password of your own choosing. And we recommend you change your password regularly.

4. In **Log in** screen, enter the **ID**, **Password** and press **OK**.

Note	If lost password, Click Forgot Password to select the QR code or File type. ▪ QR code : Click "View QR Code", scan the QR code with your registered mobile device, generate a security code and set a new password. ▪ File type : Inform the MAC address to supplier to create temporary password.

2.4 Quick Setup

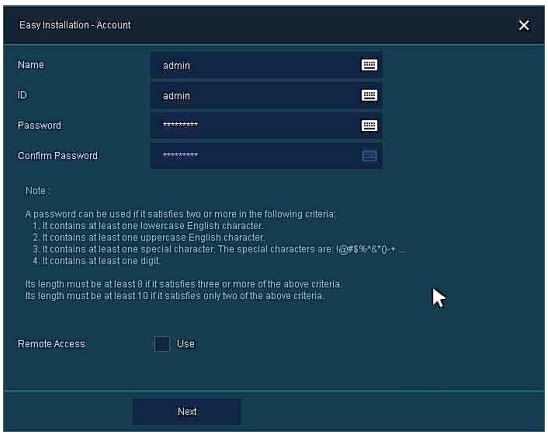
First start of the system operates Easy Installation as follows:

1. Account
2. Password Reset
3. System
4. Network
5. Time/Date
6. Auto Upgrade
7. Record

2.4.1 Account

How to set Account of Easy Installation:

1. Click the keyboard icon to set **ID** and **Password** users want.



2. With keyboard UI, set the **ID** and **Password**, and press **OK**.

Note	▪ The default password must be changed for security. ▪ Max character length is 20.

3. Enter new password**.**

A password can be used if it satisfies two or more in the following criteria:

1) It contains at least one lowercase English character.

2) It contains at least one uppercase English character.

3) It contains at least one special character. The special characters are "! @ # $ % ^ & * ( ) - + ..."

4) It contains at least one digit.

Its length must be at least 10 if it satisfies only two of the above criteria.

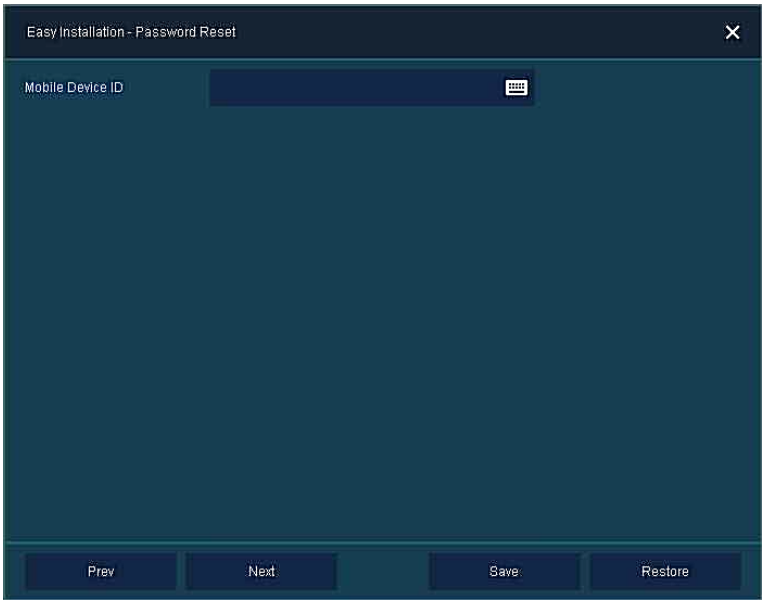
Its length must be at least 8 if it satisfies three or more of the above criteria.

4. Select **Remote Access** to allow a user to access this recorder from a remote site**.**
5. Press **Next** button to end Account setting and move the next setting phase.

2.4.2 Password Reset

How to set the system of Easy Installation:

1. Click the keyboard icon to set **Mobile Device ID** users want.
2. With keyboard UI, set the **ID** and press **OK**



Mobile Device ID : Help you to reset password when you forgot your password.

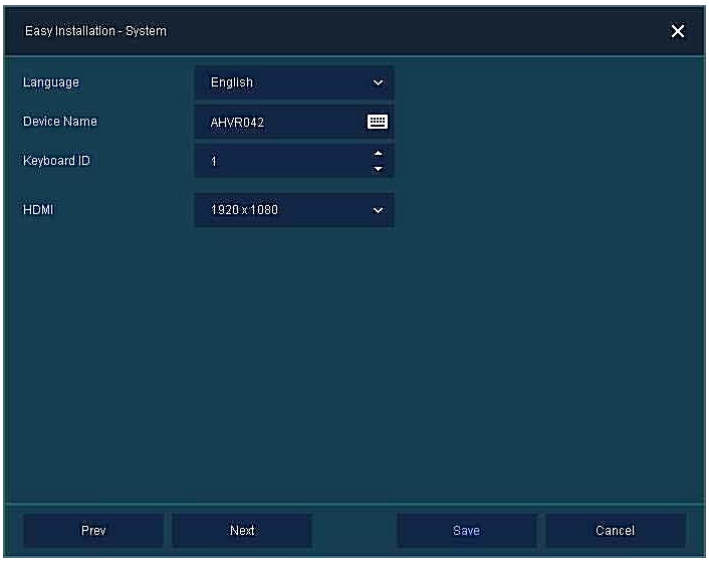
3. Press **Save** button to save set value.
4. Press **Next** to end Password Reset setting and move the next setting phase.

.

2.4.3 System

How to set the system of Easy Installation:

1. Set each item in **System** setting screen.



- Language: Select system language.
- Device Name: Enter the device name.
- Keyboard ID: To identify device usages in controlling DVR with RS485 through a keyboard

  Selecting the device ID. In case of simultaneous use of equipment, set ID with difference.

Note	As for using many DVRs, set ID with difference.

- HDMI/VGA: Set resolution of a monitor connected to the device.

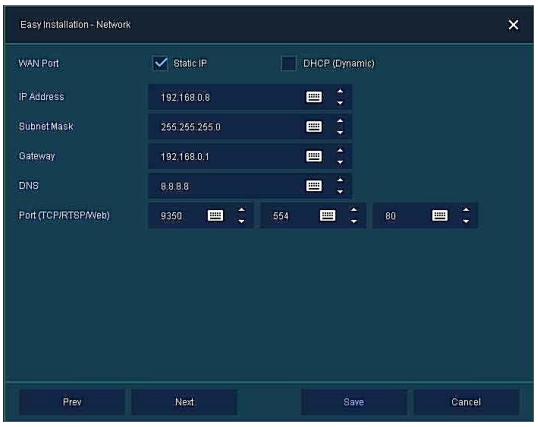
Note	▪ Video is not displayed through VGA port if set 3840x2160 resolution. ▪ If resolution is set to 3840x2160 and a monitor that does not support this resolution is connected to the HDMI port, it will automatically change to 1024x768 resolution.

2. Press **Save** button to save set value.
3. Press **Next** to end System setting and move the next setting phase.

2.4.4 Network

How to set the network of Easy Installation:

1. Set each item in **Network** setting screen.



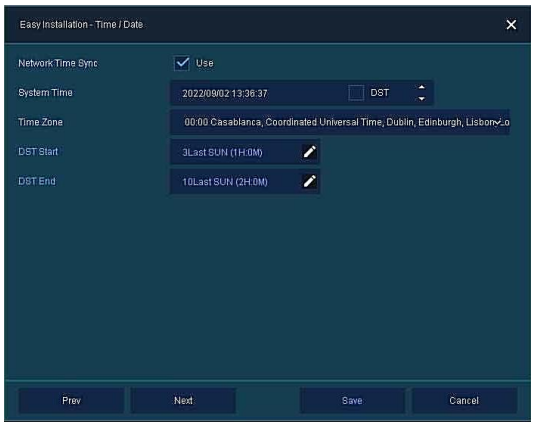
- WAN Port: Select whether to use static IP or dynamic IP.
- IP Address, Subnet Mask, Gateway, DNS, and Port: As for dynamic IP, enter information in each space.

2. Press **Save** button to save set value.
3. Press **Next** to end Network setting and move the next setting phase.

2.4.5 Time/Date

How to set the time/date of Easy Installation:

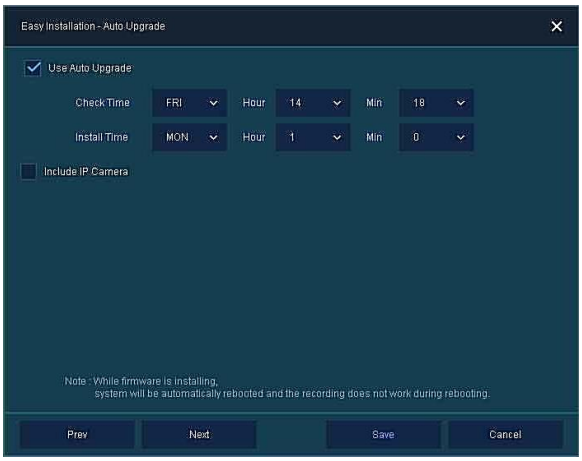
1. Set each item in **Time/Date** setting screen.



- Network Time Sync: Select network for synchronizing with time server.
- System Time: Not for synchronizing with network time server, set the device time; otherwise (applying for Daylight saving time), select DST.
- Time Zone: Select time zone for the system being installed.
- DST Start/End: For applying Daylight saving time, set the application period.

2. Press **Save** button to save set value.
3. Press **Next** to end Time/Date setting and move the next setting phase.

2.4.6 Auto Upgrade

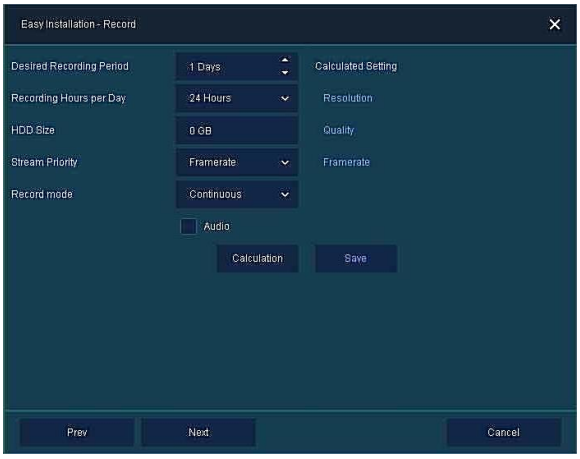


1. Select **Use Auto Upgrade** to upgrade system to new firmware automatically.
   - Check Time : Set the time to check if there is a new firmware.
   - Install Time : Sets the time when the firmware is installed.
2. Select **Include IP Camera** to install new firmware on IP cameras.

2.4.7 Record

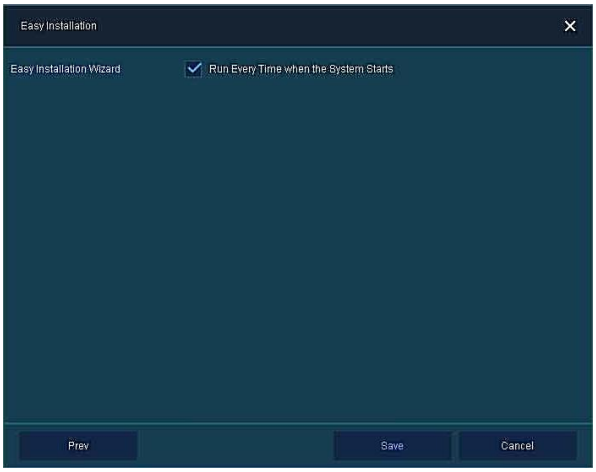
How to set the record of Easy Installation:

1. Set each item in **Record** setting screen.



   - Select desired recording period and daily recording hours.
   - HDD size will be displayed automatically.
   - Select priority of frame rate or resolution.
   - Select recording modes as continuous or event.
   - Select if audio record or not.
   - Click **Calculation** to see recommended frame rate and resolution.
2. Press **Save** button to save set value.
3. Press **Next** to end Recoding setting and move the next setting phase.

2.4.8 Easy Installation Wizard



1. Select to run Easy Installation every time when the system start.
2. Press **Save** button to save set value and end Easy Installation.

3. Live Screen Configuration

UI screen is configured like below figure.

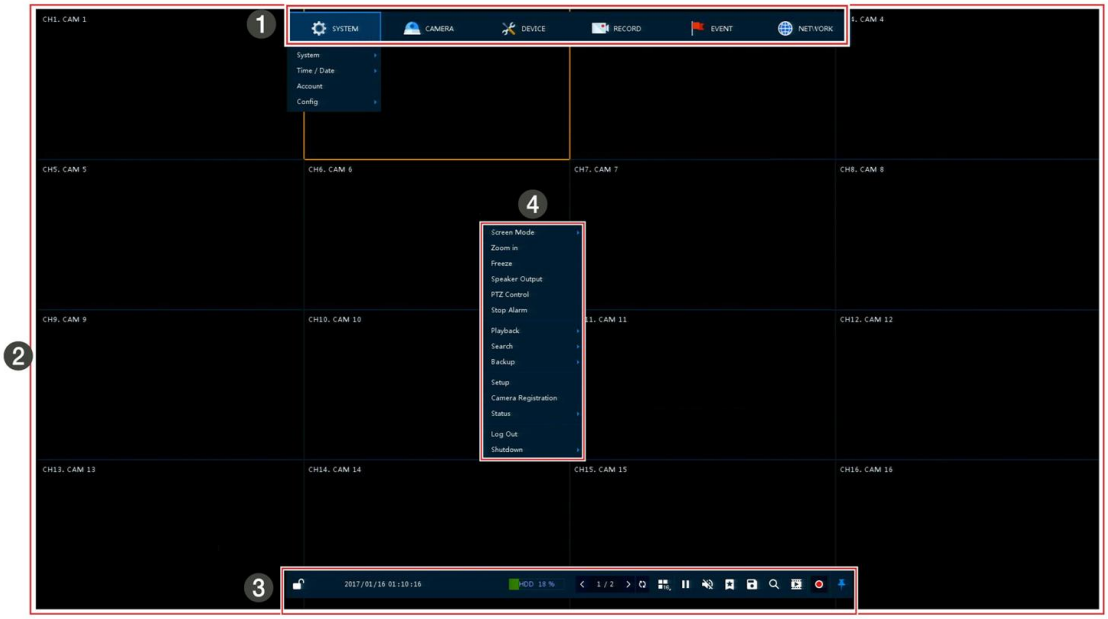


Figure 3-1 UI Screen Configuration

No.	Item	Description
1	**Setup menu**	Setting menu is located in the corner of upper screen. See "4 Setup menu" to display detailed information about the setting menu.
2	**Live screen**	Show live video of connected cameras.
3	**Launcher menu**	Launcher menu is located in the corner of below screen. See "3.2 Live Launcher " to display detailed information about the launcher menu.
4	**Quick menu**	Clicking the right button of a mouse displays Quick menu. See "3.3 Quick menu" to display detailed information about the quick menu.

3.1 Icons in Live screen

Each icon in the live screen displays a present setting status or a function. UI screen consists of like below.

Figure 3-2 Live screen icon

No.	Icon	Description
1	**CH1 CAM1**	Channel numbers and camera titles.
2		A camera with PTZ function.
3		PTZ control function in process.
4		Recording in alarm event mode.
5		Recording in motion event mode.
6		Recording in panic recording mode.
7		Recording in consecutive recording mode.
8		Video loss icon.
9		Mic on/off.
10		Speaker on/off.
11		Displaying present time and date.

Note	Chosen live screen is marked as a blue frame; mouse-located live screen is marked as yellow one.

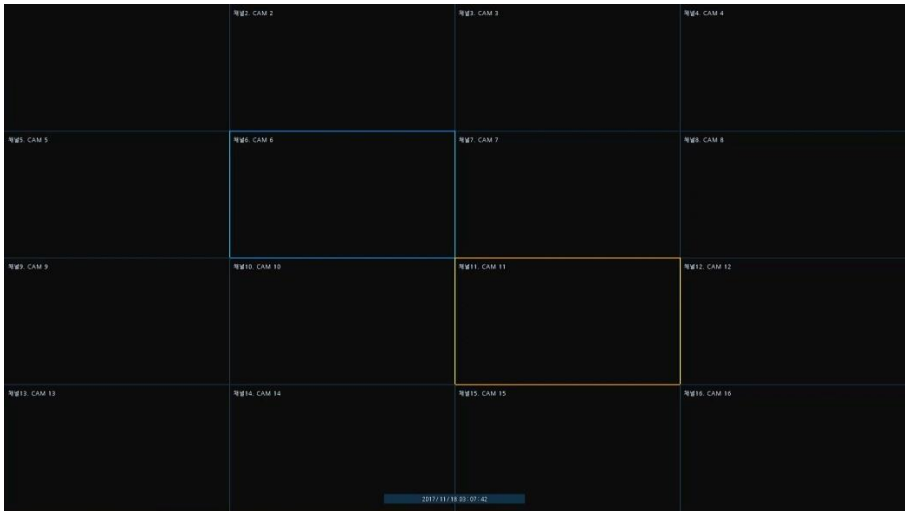


Figure 3-3 Chosen live screen channel

3.2 Live Launcher menu

This chapter describes Launcher menu in the bottom of the screen.

Figure 3-4 Launcher menu

No.	Item	Description
1		Log in/out status and logged in ID.
2	**Date & Time**	Displaying present date and time.
3	**HDD**	Displaying HDD capacity in use.
4		Moving to previous/next partition screen.
5		Displaying live screen in order set (toggle).
6		Selecting partition mode to mark in live screen (single screen, 4-, 9-, and 16- partition).
7		Stopping or replaying selected live screen images (toggle).
8		Audio on or mute chosen live screen (toggle).
9		Save the bookmark.
10		Make a backup video of users want. See "3.2.1 Backup" to display detailed information about back-up.
11		Searching recording data (time, event, thumbnail, smart search and text). See "5.1 Search" to display detailed information about search.
12		Playback recorded data.
13		Starting immediate recording of selected channel.
14		Locking or releasing launcher menu (toggle).

3.2.1 Backup

The device provides a back-up function of live screen.

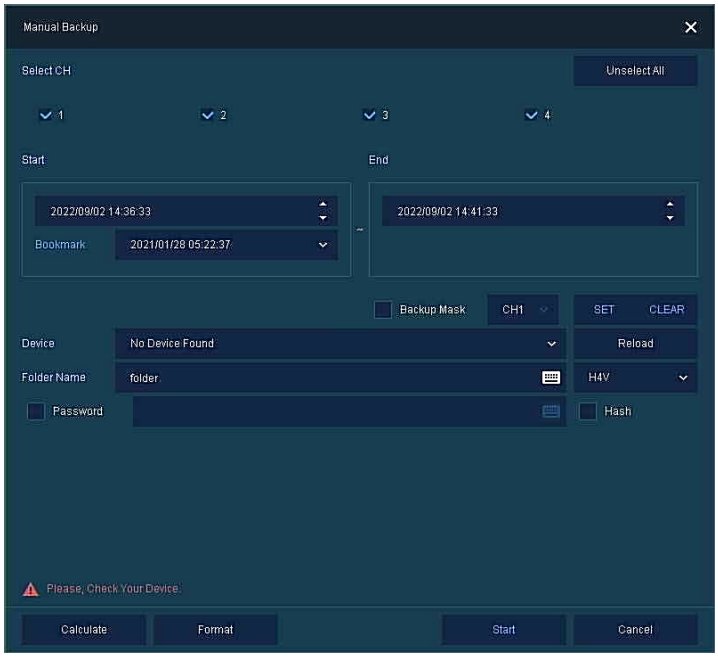


Figure 3-5 Backup

No.	Item	Description
1	**Select CH**	Selecting a channel users want to back-up.
2	**Select All/ Unselect All**	Select or clear all channels.
3	**Start**	Setting back-up start time (Bookmark: bookmark list).
4	**End**	Setting back-up ending time (Bookmark: bookmark list).
5	**Time Overlap**	Selecting time if there are two recorded data in the same time.
6	**Backup Mask**	User can mask selected area. It works H4V format only.
7	**Device**	Selecting the device to save back-up files.
8	**Reload**	Opening the device information.
9	**Folder Name**	Entering a folder name to save back-up files.
10	**File format**	Selecting a file format to back-up.
11	**Password**	If back-up file format is H4V, user can set password for security.
12	**Hash**	Insert Hash information into the backup file. It support H4V format only. The hash information can be used to verify the forgery of the backup file.
13	**Calculate**	Calculating data capacity to back-up.
14	**Format**	Formatting the device to back-up.
15	**Start**	Starting back-up.
16	**Cancel**	Closing the backup screen.

Select **Backup Mask** and click **SET** button to open the Privacy Mask pop-up window.

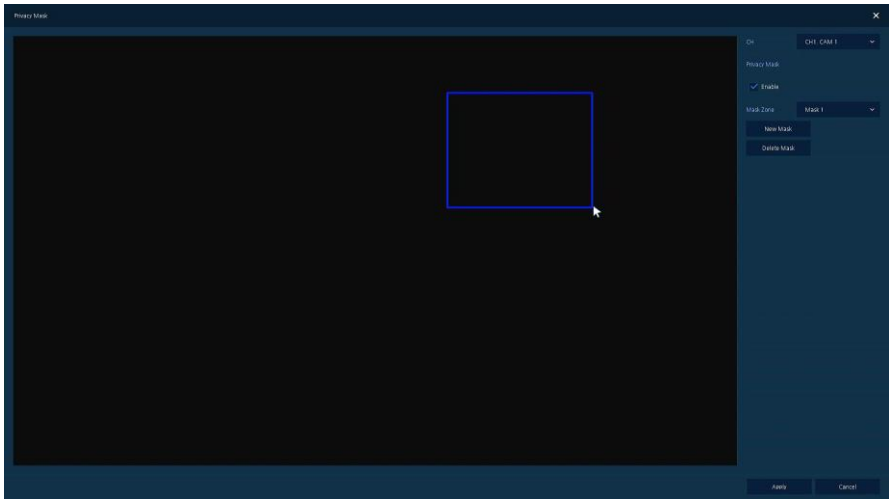


Figure 3-6 Backup Mask

No.	Item	Description
1	**Select CH**	Select the channel to set the privacy zone.
2	**Privacy Mask Enable**	Select whether to use the Privacy Mask.
3	**Mask Zone**	Apply all or only the selected mask.
4	**New Mask**	Create a new privacy zone. Up to 4 masks can be created.
5	**Delete Mask**	Delete all or selected privacy zones.

3.3 Quick menu

This chapter depicts Quick menu when users click the right button of the mouse in live screen.

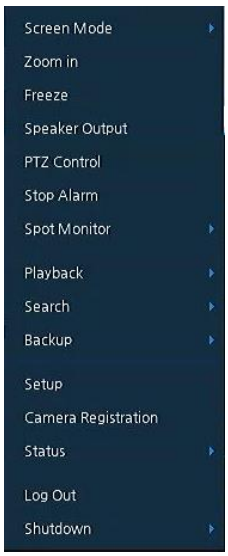


Figure 3-7 Quick menu

No.	Item	Description
1	**Screen Mode**	Selecting the partition mode of live screen (Full, 2X2, 3X3, and 4x4).
2	**Zoom in**	Magnifying selected live screen (Zoom out, 2 times, 4 times, and 8 times).
3	**Freeze**	Freezes the video selected live screen images (toggle on/off).
4	**Speaker Output/Mute**	Turning on/off a sound speaker.
5	**PTZ Control**	Controlling PTZ function.
6	**Stop Alarm**	Stopping monitoring alarm output and event.
7	**Spot Monitor**	Set the output mode of a spot monitor (SEQ, Full, and 2x2).
8	**Playback**	Playing selected live screen images (before 30 sec, 1 min, 5 min, 10 min, 30 min, 1-hour, Go to last play time, and Go to last record time).
9	**Search**	Searching recording data (time, event, thumbnail, and text). See "5.1 Search" to display detailed information about search.
10	**Backup**	Backup video users want. See "3.2.1 Backup" to display detailed information about back-up.
11	**Setup**	Opens the DVRs main set up menu.. For more information about setting menu, see section "4 Setup menu".
12	**Camera Registration**	Opens a pop-up menu for IP camera registration.
13	**Status**	Opens a pop-up menu showing: device system log, event, and recording status (system log, event, and record).
14	**Log in/Log out**	Log in/Log out.
15	**Shutdown**	Shuts down or restarts the device (shutdown, restart).

3.3.1 PTZ Control

The location of images may be moved to monitor with PTZ ball.

Note	PTZ Control menu can be displayed if relevant channel's protocol is set in **DEVICE > PTZ** in the upper live screen.

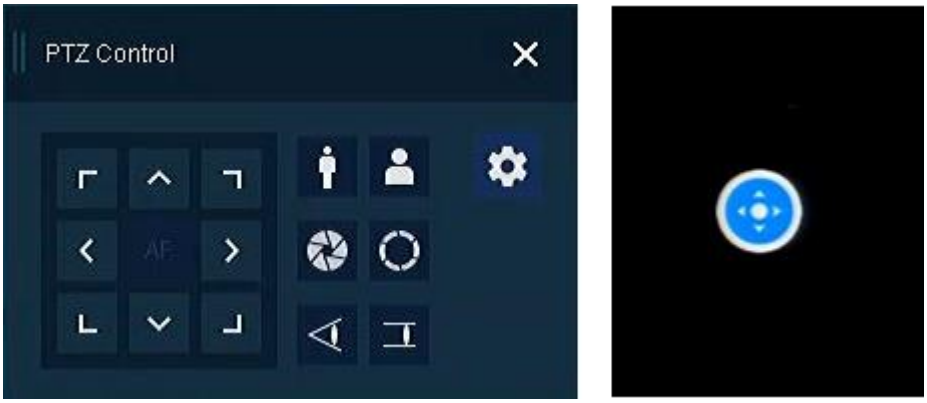


Figure 3-8 Quick menu > PTZ Control

No.	Item	Description
1		Moving images with direction buttons.
2		Moving images with PTZ ball.
3	AF	Adjusting screen focus automatically.
4	**Zoom Out**	Zoom function of PTZ camera.
5	**Zoom In**	
6	**IRIS OFF**	Adjusting iris in the camera.
7	**IRIS On**	
8	**Focus Far**	Manual focus adjustment.
9	**Focus Near**	
10		Open camera menu.

In PTZ Control screen, clicking the right button of the mouse displays Quick menu.

Figure 3-9 PTZ Control Quick menu

No.	Item	Description
1	**Preset Go**	Run selected Preset number.
2	**Preset Save**	Save specific positions of the camera, at most 255 settings.
3	**Tour Go**	Run Tour function.
4	**Scan Go**	Run Scan function.
5	**Pattern Go**	Run Pattern function.
6	**Exit**	Exit to live screen menu in PTZ Control menu.

3.3.2 Camera Registration

Users can register the IP cameras if IP Mode is selected & Camera registration.

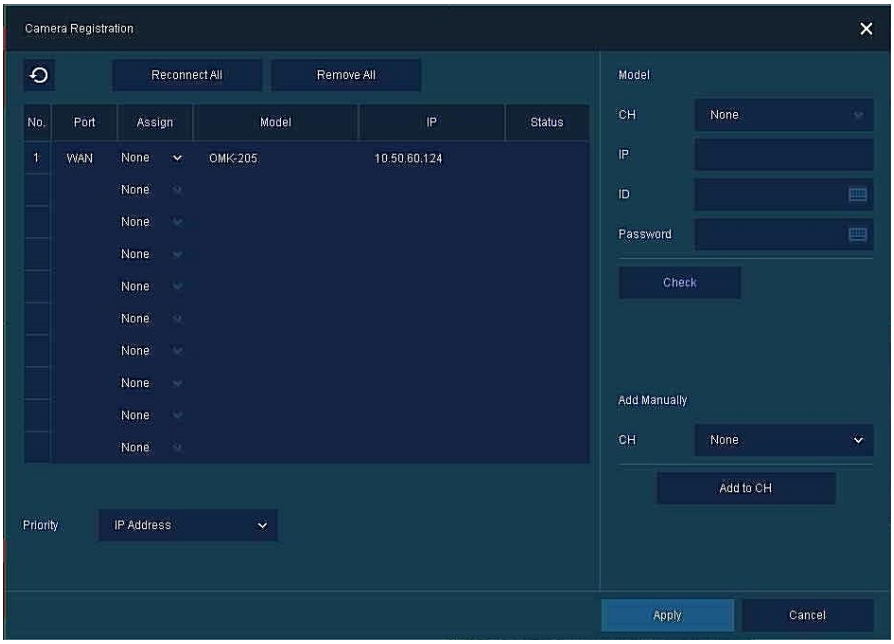


Figure 3-10 Camera Registration

No.	Item	Description
1		Search the connected IP cameras.
2	**Auto Assign**	Automatically assign the channel windows.
3	**Port**	Show the detected camera port.
4	**Assign**	Selecting the channel windows manually.
5	**Model**	Show detected camera model number.
6	**IP**	Show detected camera IP address.
7	**Status**	Show connection status.
8	**Priority**	If IP camera has both IP address and Zero-Conf. IP address, only one address will be searched according to the selected priority.
9	**Add Manually**	Select channel and click to open manual add window

Add Manually

Click Add to CH to open Camera Registration.

Or move the mouse point at the middle of channel on the live screen.

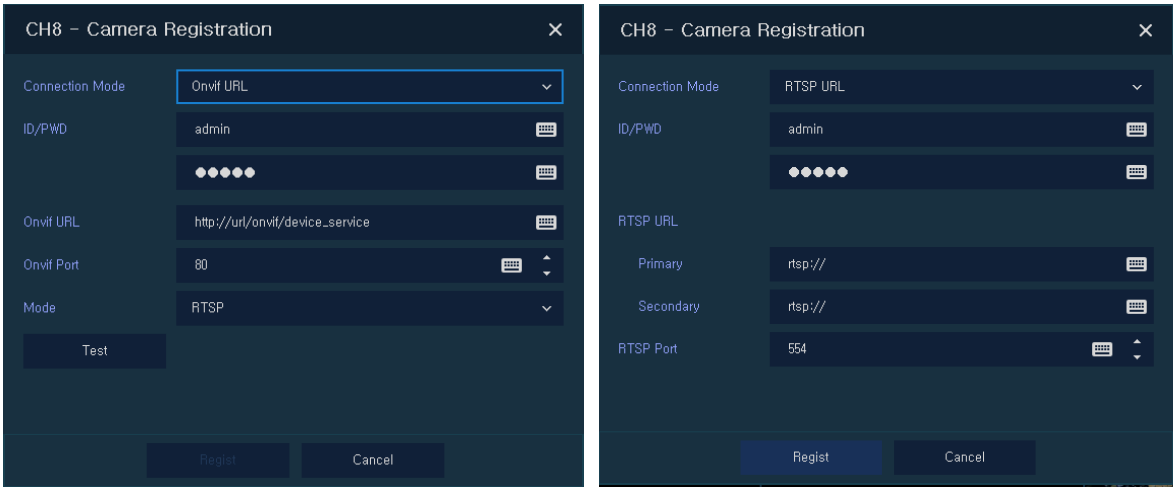


Figure 3-11 Camera Registration (manual add)

No.	Item	Description
1	**Connection Mode**	Select connection mode as Onvif or RTSP.
2	**ID/PWD**	Enter ID and password of IP camera.
3	**Onvif URL**	Enter camera IP address.
4	**RTSP URL**	Enter Primary and Secondary RTSP IP address and URL.
5	**Onvif Port**	Enter web port. Default port is 80.
6	**RTSP Port**	Enter RTSP port. Default port is 554.
7	**Mode**	Select video stream format (RTSP/HTTP).

3.3.3 Status > System log

Users can see the system log information in **System log** tap in **Status** screen.

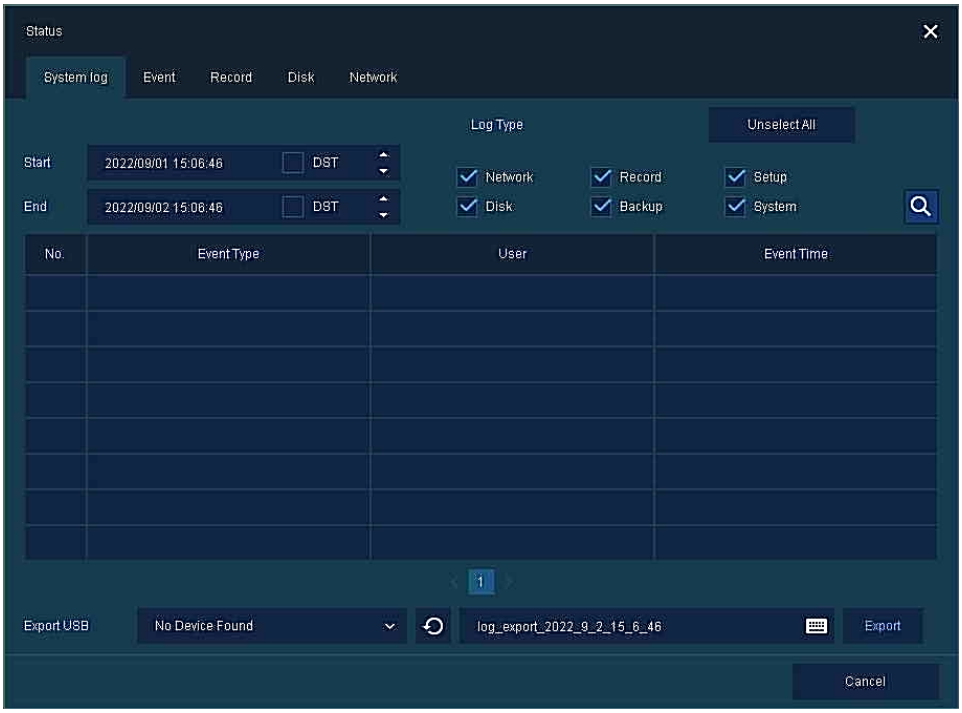


Figure 3-12 Status > System login Quick menu

No.	Item	Description
1	**Start**	Setting starting time of system log to search.
2	**End**	Setting ending time of system log to search.
3	**Log Type**	Selecting log types (Network, Record, Setup, Disk, Backup, and System).
4	**Select All /Unselect All**	Selecting or clearing all log types (toggle).
5	**Search**	Pressing search button search on the basis of set condition.
6	**System log list**	Displaying system log list.
7	**Cancel**	Completing the status screen.

3.3.4 Status > Event

Users can see the real-time event information of the unit in **Event** tap in **Status** screen.

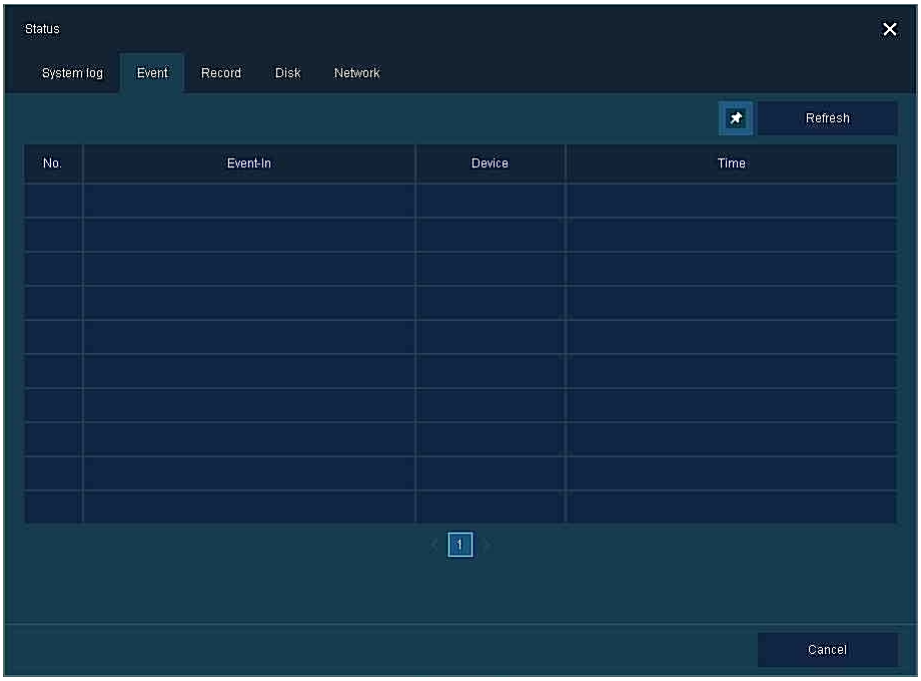


Figure 3-13 Status > Event in Quick menu

No.	Item	Description
1		Temporary fixing or releasing an event list (toggle).
2	**Refresh**	Deleting the event list.
3	**Event list**	Displaying the event list.
4	**Cancel**	Completing the status screen.

3.3.5 Status > Record

Users can see the recording status in **Record** tap in **Status** screen.

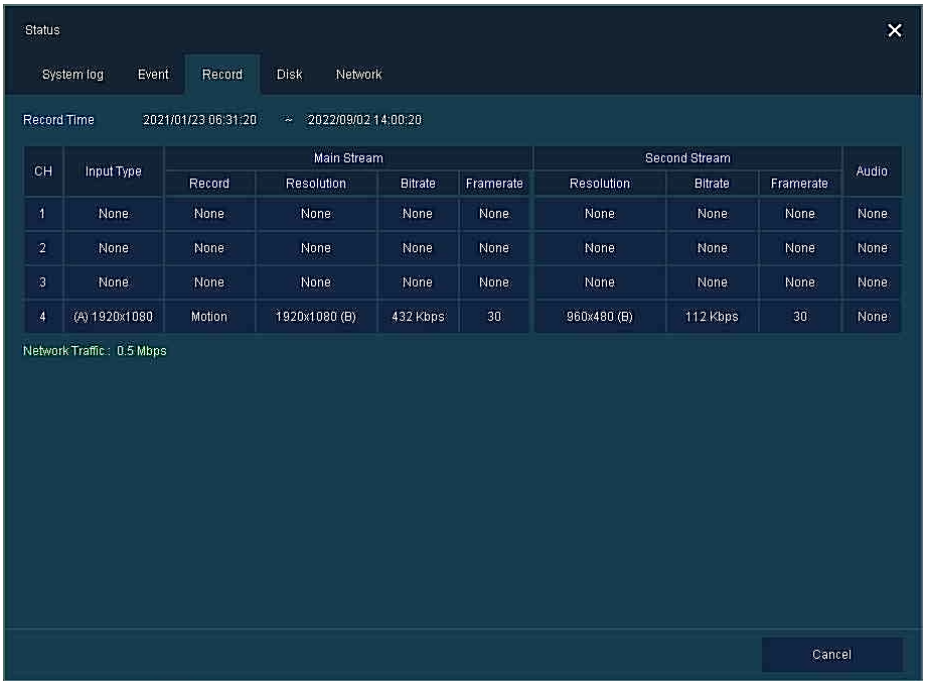


Figure 3-14 Status > Record in Quick menu

No.	Item	Description
1	**Record time**	Marking recorded period.
2	**Record list**	Displaying the record setting status.
3	**Cancel**	Completing the status screen.

3.3.6 Status > Disk

Users can see the disk status in **Disk** tap in **Status** screen.

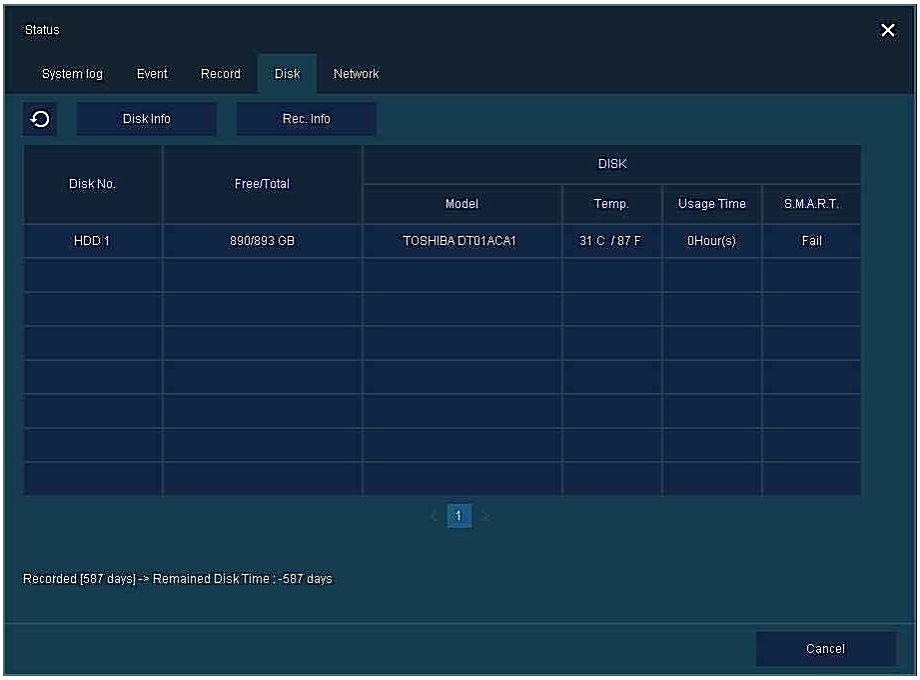


Figure 3-15 Status > Disk in Quick menu

No.	Item	Description
1	**Disk Info**	Display disk temperature and S.M.A.R.T information.
2	**Rec. Info**	Display recording period.
3	**Cancel**	Completing the status screen.

3.3.7 Status > Network

Users can see the network status of the WAN port in Network tap in **Status** screen.

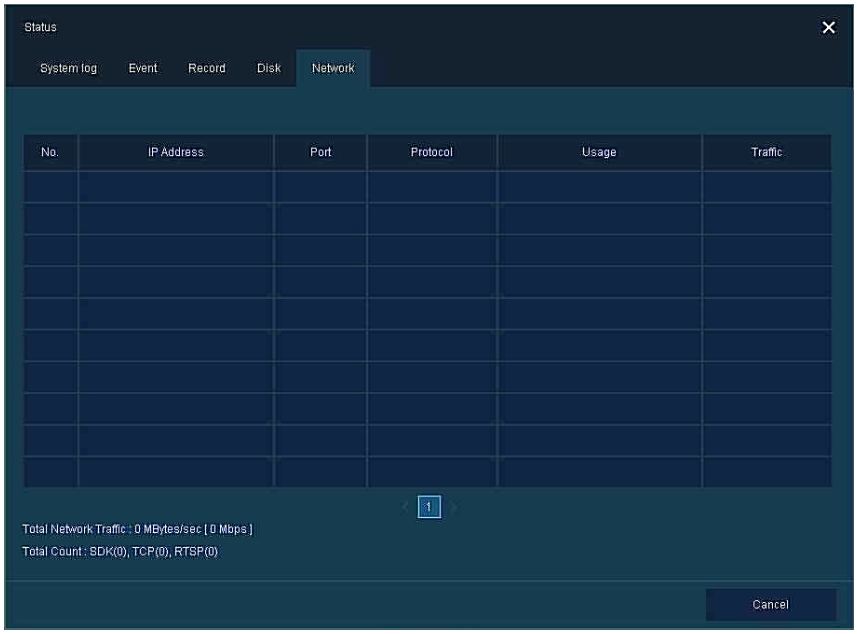


Figure 3-16 Status > Network in Quick menu

No.	Item	Description
1	**No**	Display WAN port number.
2	**IP Address**	Display IP address
3	**Port**	Display port information
4	**Protocol**	Display protocol information.
5	**Usage**	Display the traffic information being used.
6	**Traffic**	Display the current network traffic usage.

4. Setup menu

This chapter describes Setup menu in the upper side of the screen.

Figure 4-1 Setup menu

Selecting the menu opens the setting screen.

Note	**Setup** screen is available to click **Setup** in Quick menu by clicking the right button of the mouse.

No.	Item	Description
1	**SYSTEM**	Setting the system environment.
2	**CAMERA**	Setting the camera.
3	**DEVICE**	Setting the non-camera device connected with the DVR.
4	**RECORD**	Setting the recording parameters.
5	**EVENT**	Setting each event.
6	**NETWORK**	Setting the network environment.

Setup menu includes:

1 Depth	2 Depth	3 Depth
SYSTEM	System	System
		F/W Upgrade
	Time/Date	Time/Date
		Holiday
	Account	User
		Lockout
	Config	Export/Import
		Factory Default
CAMERA	Basic	Basic
		Audio In/Out
	Advanced	Scan Mode
		Analog Camera
		IP Camera
		Stream
	Registration	Registration

1 Depth	2 Depth	3 Depth
DEVICE	Display	Display
		Spot
		OSD
		Sequence
		Layout
	Disk	Setup
	PTZ	PTZ
	Serial Device	Serial Device
	TEXT	POS Setup
		TEXT
RECORD	Schedule	Schedule
		Quick
	Main Stream	Analog Camera
		IP Camera
	Second Stream	Analog Camera
		IP Camera
	Panic	Panic
EVENT	System/Disk	System
		Disk
	Alarm In	Setup
		Schedule
	Motion	Setup
		Schedule
	Video Loss	Setup
	Notification	Periodic
		Schedule
NETWORK	Basic	WAN Port
		IP Filter
	DVRNS/DDNS	DVRNS/Dashboard
		DDNS
	E-Mail	E-Mail
	P2P	P2P

4.1 General buttons in Setup menu

This section depicts General buttons in Setup menu.

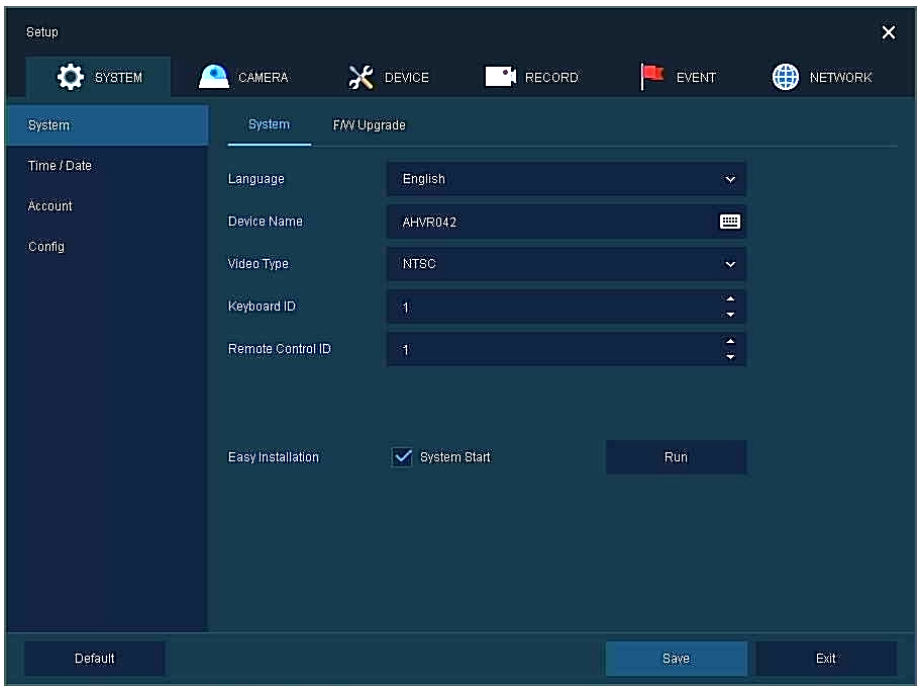


Figure 4-2 General buttons in Setup menu

No.	Item	Description
1	**Default**	Reverse changed setting value to default in factory.
2	**Save**	Save the set content.
3	**Cancel**	Cancel the set value.
4	**Restore**	Cancel the set value, and reverse it to default.
5	**Apply**	Apply the content set.

4.2 SYSTEM

In **SYSTEM**, basic system environment is set.

4.2.1 System

Set and upgrade the basic items of the system.

System > System

Set the basic items in the System.

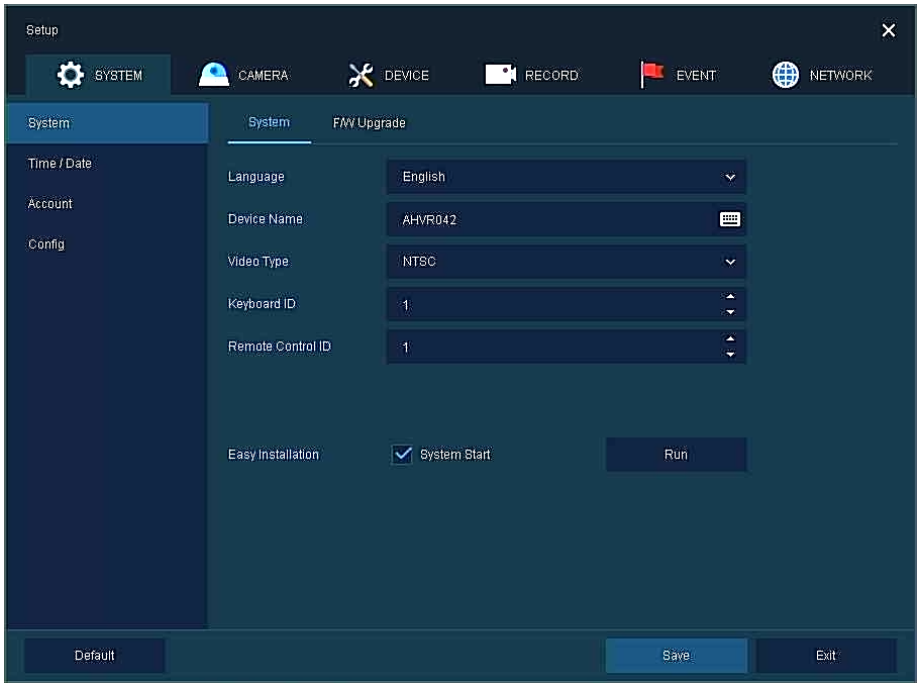


Figure 4-3 SYSTEM > System > System

No.	Name	Function
1	**Language**	Set the system language.
2	**Device Name**	Enter the device name (Only English is possible).
3	**Video Type**	Select image standard types (NTSC, PAL).
4	**Keyboard ID**	Select keyboard ID (1~255).
5	**Remote Control ID**	Select wireless remote control ID (1~99).
6	**System start**	Select Easy Installation in starting the system.
7	**Run**	Run Easy Installation.

Warning If change video type, system will reboot and all setup go to factory default.

System > F/W Upgrade

Set the upgraded items of the system.

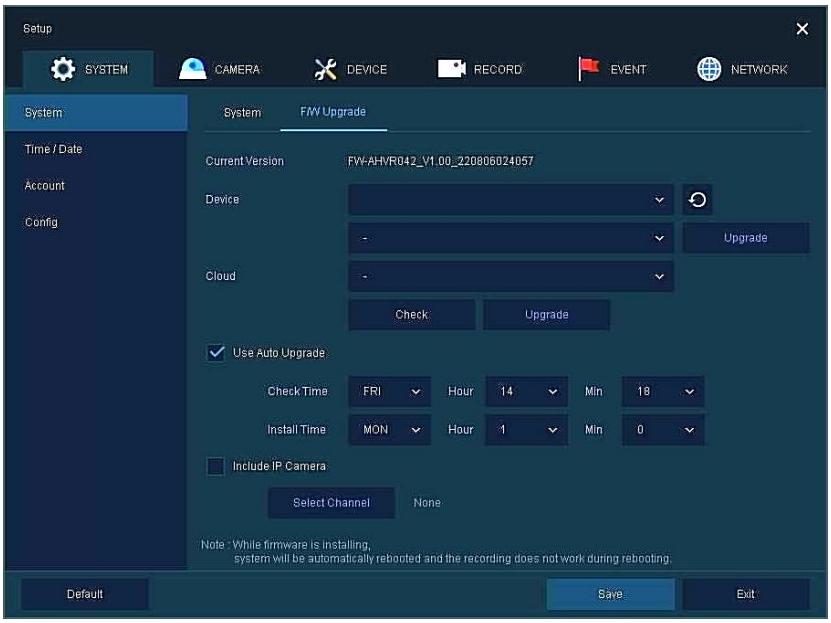


Figure 4-4 SYSTEM > System > F/W Upgrade

No.	Name	Function
1	**Current Version**	Displaying the present tool version.
2	**Device**	Connect USB memory that has files to upgrade to the USB port, select files to upgrade.
3	**Cloud**	Displaying new firmware list on the cloud server. Click **Check** button to check for new version. Click **Upgrade** to upgrade to selected firmware. **Use Auto Upgrade** Select **Use Auto Upgrade** to upgrade system to new firmware automatically. Check Time : Set the time to check if there is a new firmware. Install Time : Set the time when the firmware is installed. **Include IP Camera** Select **Include IP Camera** to install new firmware on IP cameras. Select Channel : Select camera channel where the new firmware will be installed.

Note	▪ If firmware version in the USB drive or cloud server is lower than present system version, system does not display the firmware. ▪ To upgrade through network, recorder must have HDD.

4.2.2 Time/Date

Set the date, time, and holidays of the system.

Time/Date > Time/Date

Set the date, time, and holidays of the system.

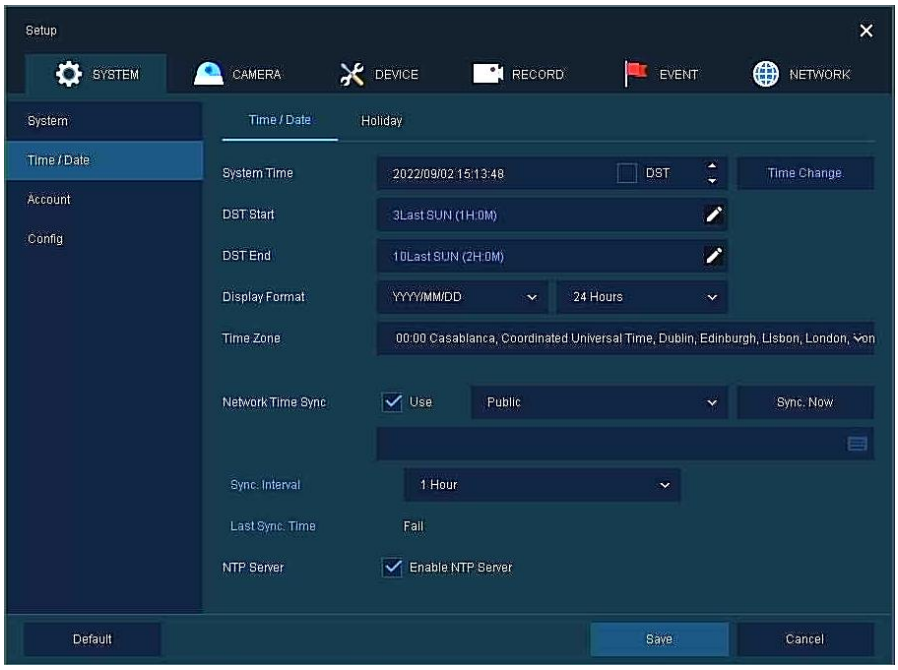


Figure 4-5 SYSTEM > Time/Date > Time/Date

No.	Name	Function
1	**System Time**	Set the date and time. ▪ DST: Select whether to use summer time. ▪ Time change: Save changed time.
2	**DST Start**	Set the starting date of summer time
3	**DST End**	Set the ending date of summer time
4	**Display Format**	Select the format to present date and time.
5	**Time Zone**	Select time zone.
6	**Network Time Sync**	For using a specific network time server, click the Use checkbox and enter the server address. ▪ Sync. Interval: Select synchronization period (1~24-hour). ▪ Last Sync. Time: Displaying the final synchronized time.
7	**NTP Server**	Select whether to use NTP server.

Time/Date > Holiday

Set holidays of the system.

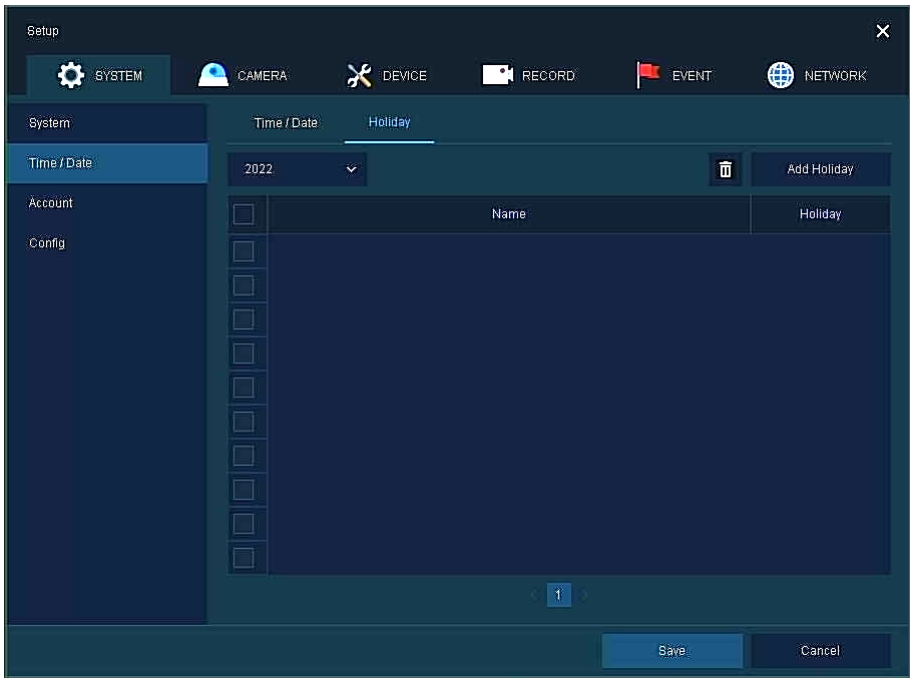


Figure 4-6 SYSTEM > Time/Date > Holiday

No.	Name	Function
1	**Year**	Select years to set holidays.
2		Delete selected holidays.
3	**Add Holiday**	Add holidays.
4	**List**	Display added holiday lists.

Clicking **Add Holiday** displays holiday addition screen like below.

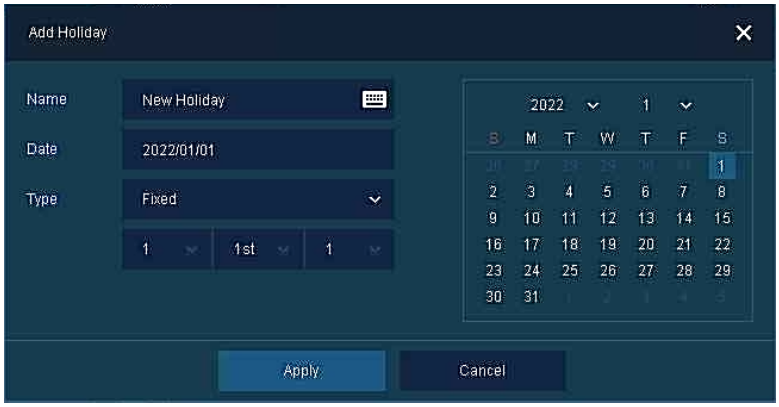


Figure 4-7 SYSTEM > Time/Date > Holiday > Add Holiday

No.	Name	Function
1	**Name**	Enter the holiday name.
2	**Date**	Display chosen date.
3	**Type**	Select the holiday types. e.g.,) Selecting **Relative** and **1, first,** and **Sun**, which designates annual January of the 1st Sunday as a holiday.
4	**Calendar**	Select the holiday to add.

4.2.3 Account

Account > User

Set the user's account of the system.

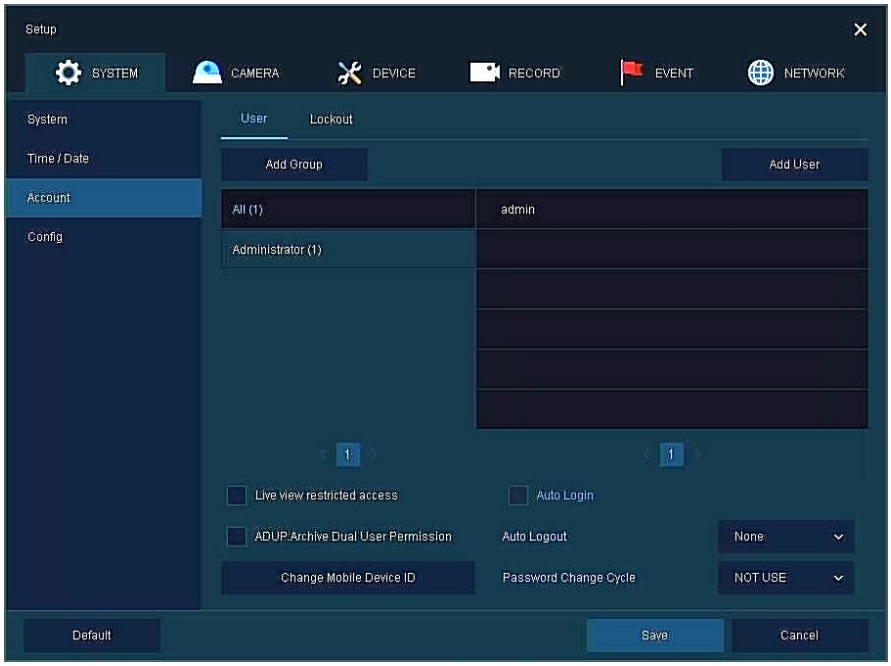


Figure 4-8 SYSTEM > Account > User

No.	Name	Function
1	**Add Group**	Add users' group.
2	**Add User**	Add users.
3	**Group List**	Display a total group list.
4	**User List**	Display user lists across groups.
5	**Live view restricted access**	Do not display live video if log it out.
6	**ADUP(Archive Dual User Permission)**	Two users should access to search, playback and back-up.
7	**Auto Login**	Click/clear the automatic login checkbox.
8	**Auto Logout**	Select automatic logout time (Null, 1 min, 2 min, 3 min, 4 min, 5 min, 6 min, 7 min, 8 min, 9 min, 10 min, and 30 min).
9	**Password Change Cycle**	If enable, user should change the password periodically.

Press **Add Group** button, then **Add Group** screen displays.

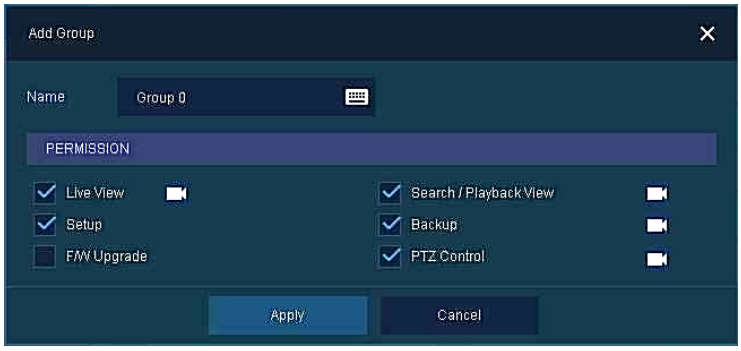


Figure 4-9 SYSTEM > Account > User > Add Group

No.	Name	Function
1	**Name**	Enter the group name.
2	**PERMISSION**	Select items to permit access.
3		Select channels to permit access.

Press **Add User** button, then **Add User** screen displays.

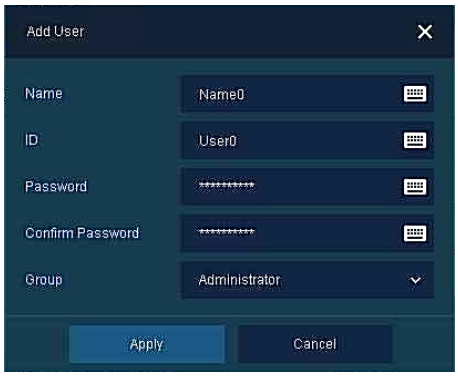


Figure 4-10 SYSTEM > Account > User > Add User

No.	Name	Function
1	**Name**	Enter the user name.
2	**ID**	Enter the user ID.
3	**Password**	Enter the password.
4	**Confirm Password**	Confirm the password.
5	**Group**	Select to the group to which belongs.

A password can be used if it satisfies two or more in the following criteria:

1) It contains at least one lowercase English character.

2) It contains at least one uppercase English character.

3) It contains at least one special character. The special characters are " !@#$%^&*()-+ ..."

4) It contains at least one digit.

Its length must be at least 10 if it satisfies only two of the above criteria.

Its length must be at least 8 if it satisfies three or more of the above criteria.

Account > Lockout

Set Lockout of the system.

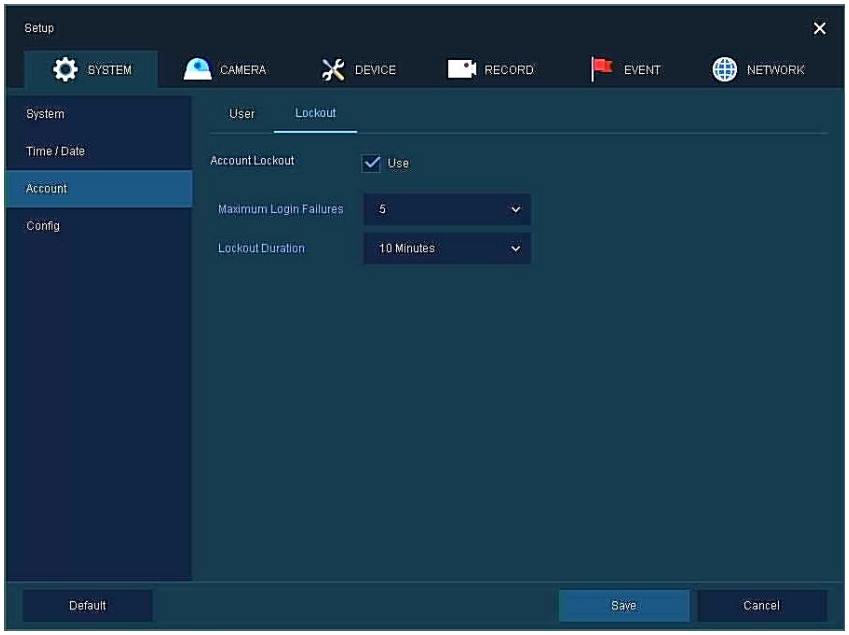


Figure 4-11 SYSTEM > Account > Lockout

No.	Name	Function
1	**Account Lockout**	Apply Account Lockout.
2	**Maximum Login Failures**	Select Maximum login failures.
3	**Lockout Duration**	Select lockout duration times.

4.2.4 Config (Configuration)

Set Export/Import and Factory Default of the system.

Config > Export/Import

Through a save medium, users may apply information set to other devices identically.

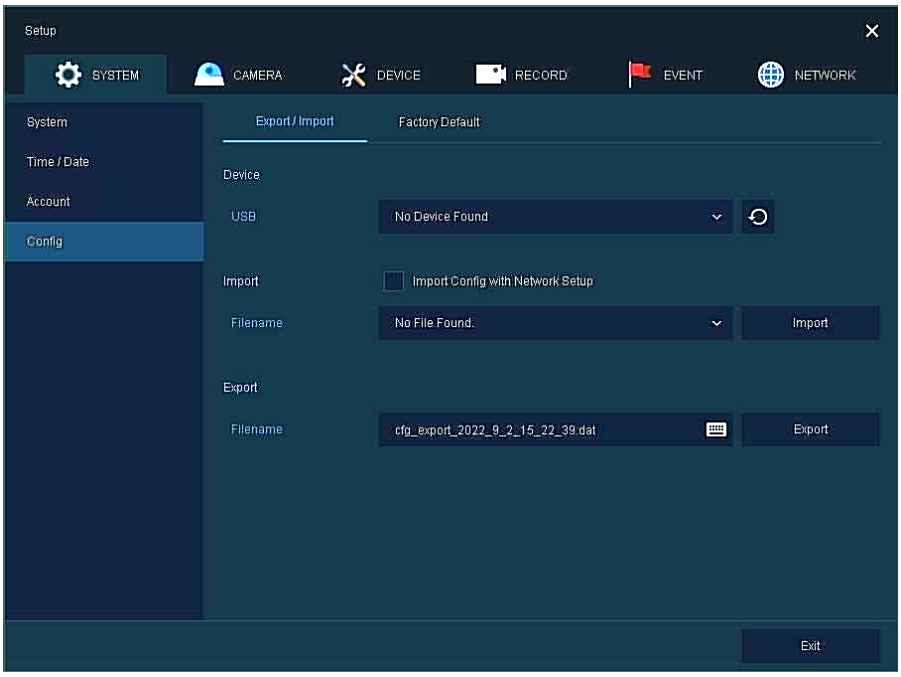


Figure 4-12 SYSTEM > Config > Export/Import

No.	Name	Function
1	**Device**	Select an exterior connector with USB. ▪ USB: Displays the USB device connected. ▪ Refresh button: Re-recognize the device.
2	**Import**	Apply information saved in USB to the device. ▪ Import Config with network setup: The network setting information is brought from the setting information. ▪ Import button: The file in USB is brought to the designated device.
3	**Export**	Save the set information in the USB. ▪ Export Config with network setup: Save the information including network setting one from the setting information to be exported. Export button: Save the set information in the USB.

Config > Factory Default

Default the setting value of the device.

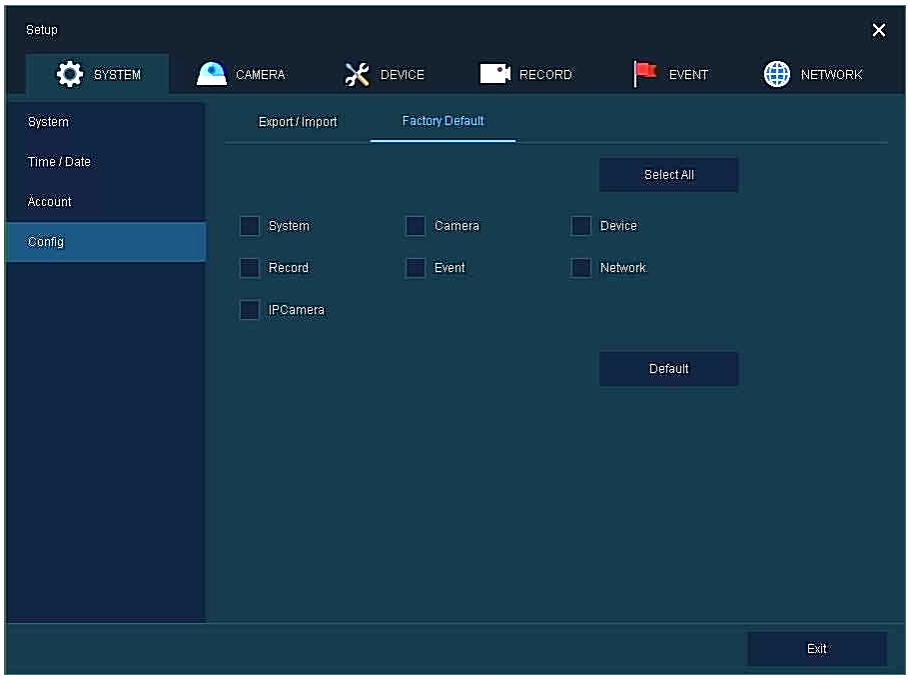


Figure 4-13 SYSTEM > Config > Factory Default

No.	Name	Function
1	**Select All /Unselect All**	Select/deselect all items to be defaulted.
2	**Default Item**	Select/deselect related items to be defaulted.
3	**Default button**	Default the system to the basics.

4.3 CAMERA

In **CAMERA** section, set the camera to be connected with the device.

4.3.1 Basic

Set the fundamental functions of camera and audio.

Basic > Basic

Set the basic items of camera by channels.

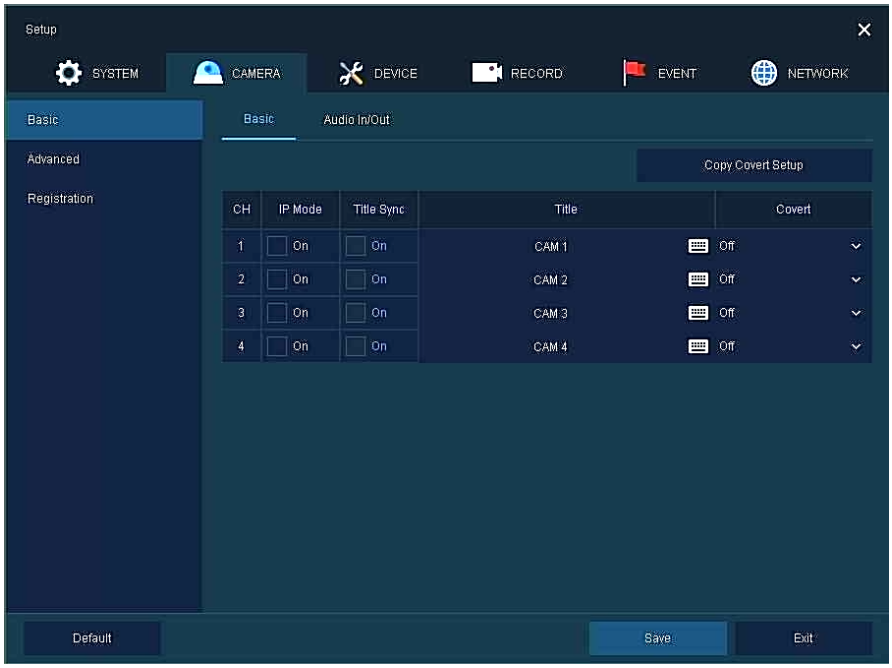


Figure 4-14 CAMERA > Basic > Basic

No.	Name	Function
1	**CH**	Display the channel name.
2	**IP Mode**	Select IP Mode On/Off
3	**Title Sync**	Select ON to get the title from the camera.
4	**Title**	Enter the camera name of relevant channels.
5	**Covert**	Select images to be shown in the Live screen by channels and whether to mark a status message or not (Off, Video Only, Video/State All).
6	**Copy Covert Setup**	In Convert, set items can be duplicated to other channels.

Press **Copy Covert Setup** button, then **Copy Covert Setup** screen displays.

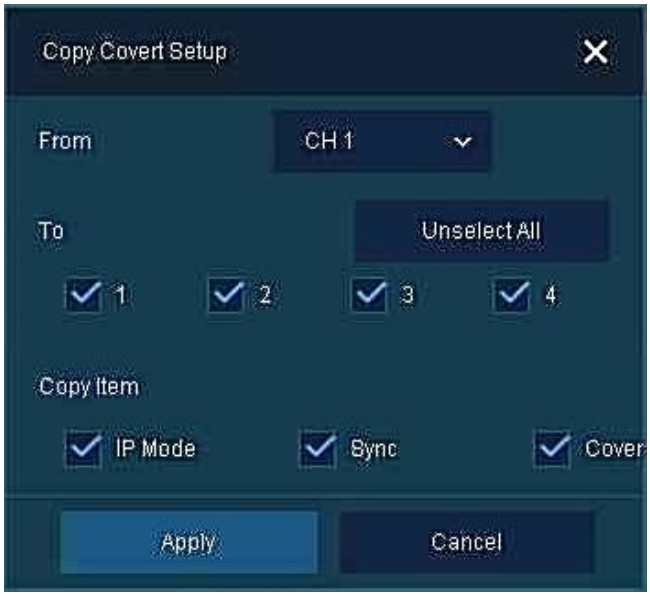


Figure 4-15 CAMERA > Basic > Basic > Copy Covert Setup

No.	Name	Function
1	**From**	Select a channel converted setting.
2	**To**	Select a channel to be copied.
3	**Copy Item**	IP Mode : Copy IP Mode setting. Sync : Copy Title Sync setting. Covert : Copy covert setting
4	**Select All /Unselect All**	Select/deselect all channels.

Basic > Audio In/Out

How to set audio of camera across channels

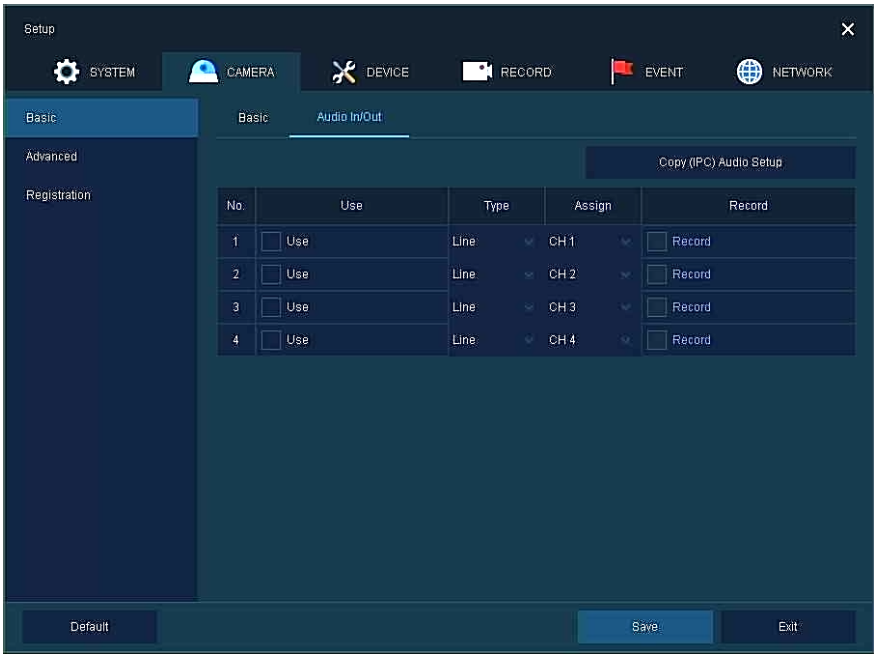


Figure 4-16 CAMERA >Basic > Audio In/Out

No.	Name	Function
1	**No**	Display channels of audio
2	**Use**	Select/deselect whether to use audio.
3	**Line**	Select type of audio (Line or Camera)
3	**Assign**	Select channels to be assigned audio.
4	**Record**	Select/deselect whether to save audio.

4.3.2 Advanced

Set camera video, stream and privacy mask.

Advanced > Scan Mode

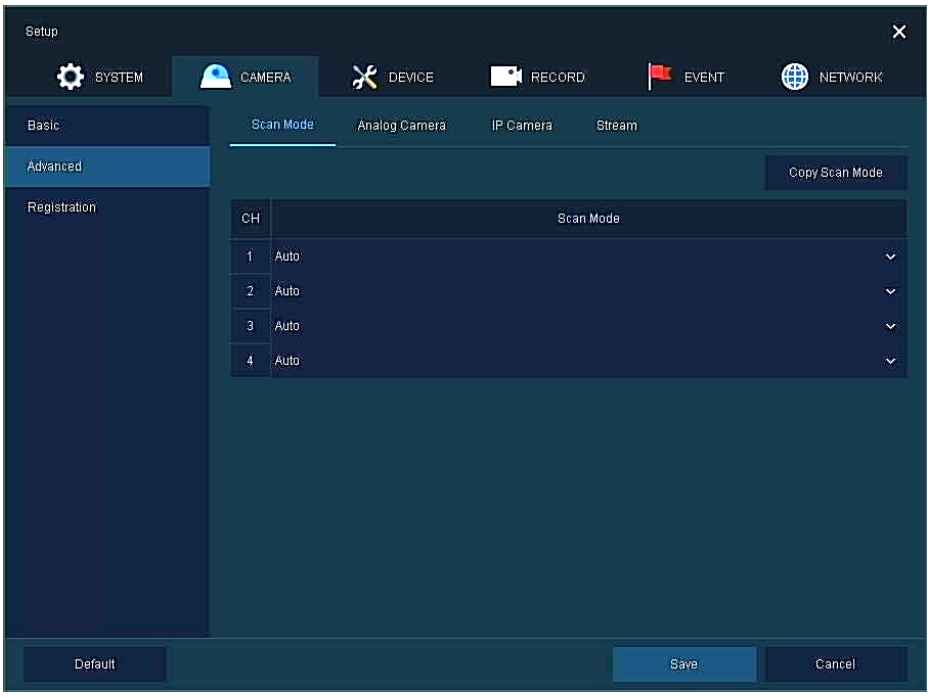


Figure 4-17 CAMERA > Advanced > Scan Mode

No.	Name	Function
1	**CH**	Display channels.
2	**Scan Mode**	Automatically detects the camera input type or fixes the input video format to the selected type (Auto, AHD, TVI).
3	**Copy Scan Mode**	Copies the currently set scan mode settings to another channels.

Advanced > Analog Camera

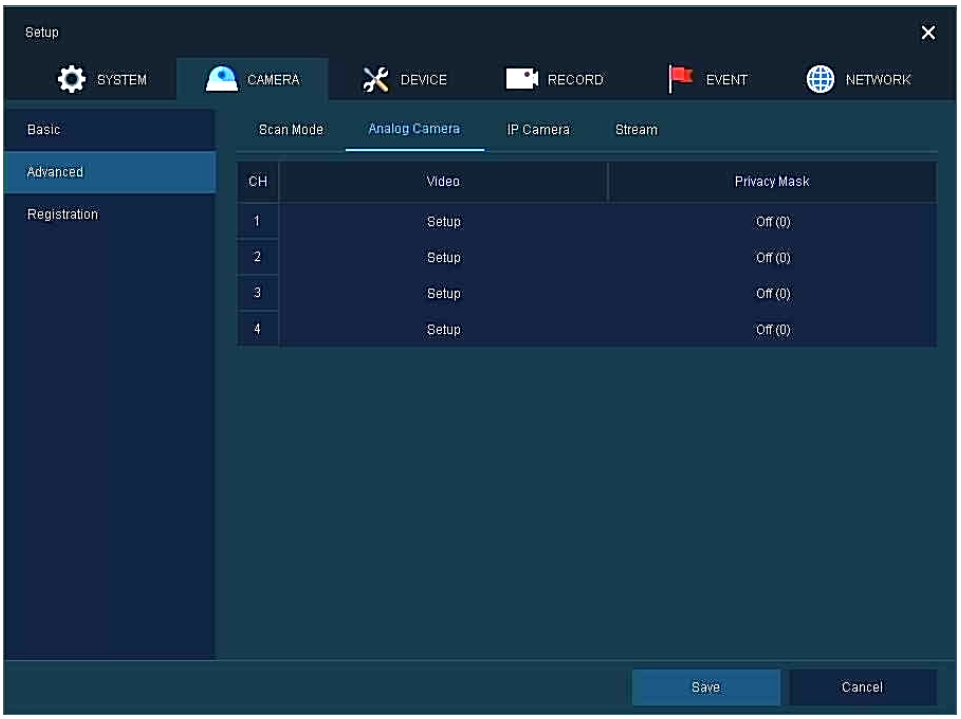


Figure 4-18 CAMERA > Advanced > Analog Camera

No.	Name	Function
1	**CH**	Display channels.
2	**Video**	Set brightness, contrast, and color of the camera.
3	**Privacy Mask**	Set the privacy field; display field numbers set in parenthesis (at most 4 setting available).

Locate the mouse in the Privacy Mask field, and then click Editing Icon ( ) in the right corner, then Privacy Mask screen displays.

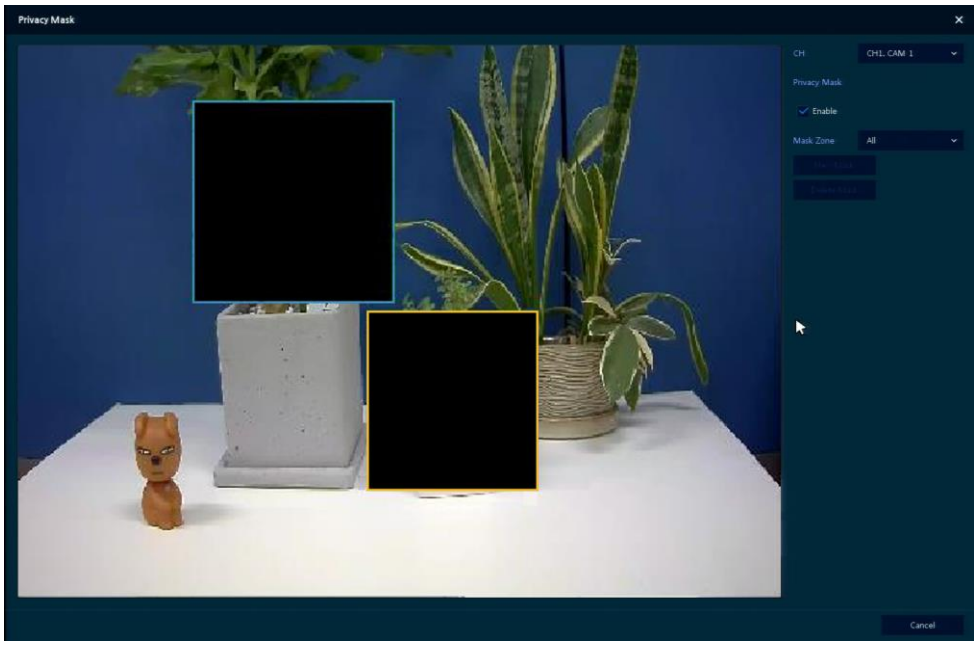


Figure 4-19 CAMERA > Advanced > Privacy Mask

No.	Name	Function
1	**CH**	Select channels to set privacy field.
2	**Privacy Mask**	Select/deselect whether to use privacy field.
3	**New Mask**	Select privacy field again.
4	**Delete Mask**	Delete selected privacy field.

How to set Privacy Mask

Users might set 4 Privacy Masks, and the way to set Privacy Mask is as follows:

1. Press **New Mask** button. **Mask Zone** is automatically set as **Mask1**.
2. Drag the area you want in the screen with a mouse.
   - Revision: Select Mask No. in **Mask Zone** and drag the area you want in the screen with a mouse.
   - Deletion: Select Mask No. in **Mask Zone** and click **Delete Mask**.
3. Press **Apply** button to complete setting.

Advanced > IP Camera

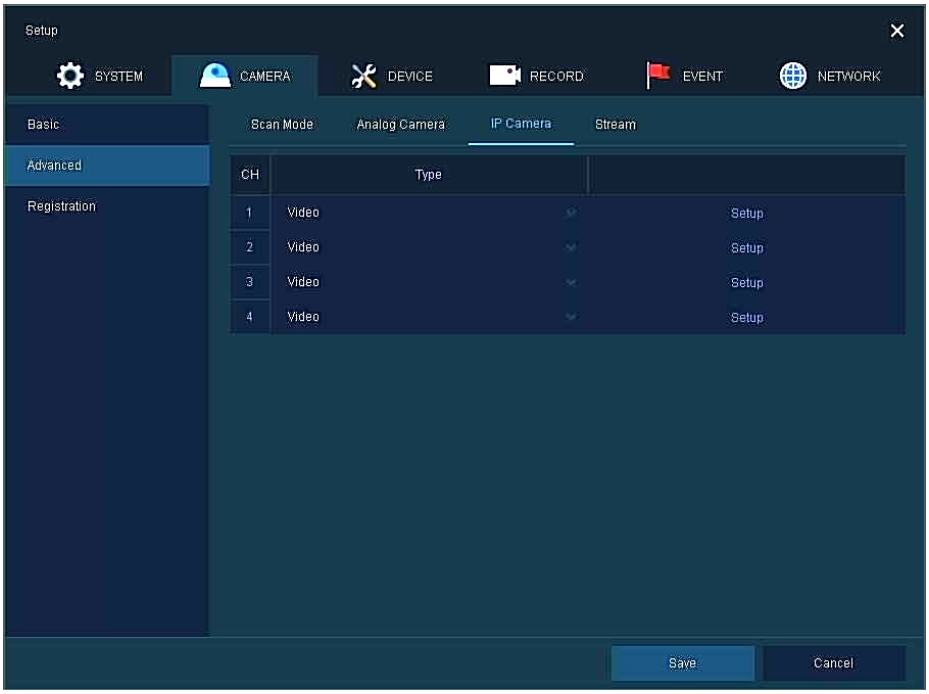


Figure 4-20 CAMERA > Advanced > IP Camera

No.	Name	Function
1	**CH**	Display channels.
2	**Video**	Set brightness, contrast, and color of the camera.
3	**Stream**	Setup camera stream such as Resolution, Framerate, Bitrate and etc.
4	**Privacy Mask**	Set the privacy field; display field numbers set in parenthesis (at most 4 setting available). See "Advanced >Analog Camera Registration>Privacy Mask" to display detailed information.

Note	This menu will be appeared when IP Mode is selected & Camera registration.

Video Setup

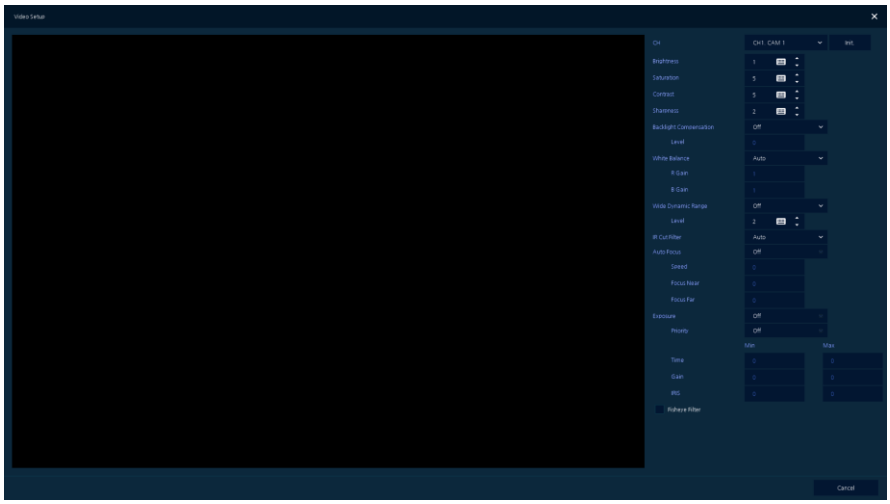


Figure 4-21 CAMERA > Advanced > IP Camera: Video

No.	Name	Function
1	**CH**	Display channel.
2	**Init.**	Initialize setting value.
3	**Brightness, Saturation, Contrast, Sharpness, White Balance**	Change camera image settings. The setting range varies depending on the connected camera. For details, refer to the connected camera manual.
4	**Backlight Compensation**	Enable or disable BLC function.
5	**Wide Dynamic Range**	Enable or disable WDR function.
6	**IR Cut Filter**	Select Day & night control type. The setting value may differ depending on the connected camera. For details, refer to the camera manual.
7	**Auto Focus**	Sets Auto focus mode on zoom camera. For details, refer to the connected camera manual.
8	**Exposure**	Sets Exposure mode. For details, refer to the connected camera manual.
9	**Fisheye Filter**	Click to use Fisheye View menu.

Advanced >Stream Setup

Figure 4-22 CAMERA > Advanced > IP Camera: Stream

No.	Name	Function
1	**CH**	Display channel.
2	**Main Stream**	Sets Codec type, Profile, Resolution, Framerate, Bitrate, GOP of Main stream. The values that can be set depend on the connected camera. For details, refer to the connected camera manual.
3	**Second Stream**	Sets Codec type, Profile, Resolution, Framerate, Bitrate, GOP of Sub stream. The values that can be set depend on the connected camera. For details, refer to the connected camera manual.
4	**Audio**	Enable or disable Audio setup. Codec type and frequency depend on the connected camera.
5	**Alarm In**	Sets Alarm in type as NO(Normally Open) or NC(Normally Close).

Advanced > Stream

Setup camera stream such as Resolution, Framerate, Bitrate and etc.

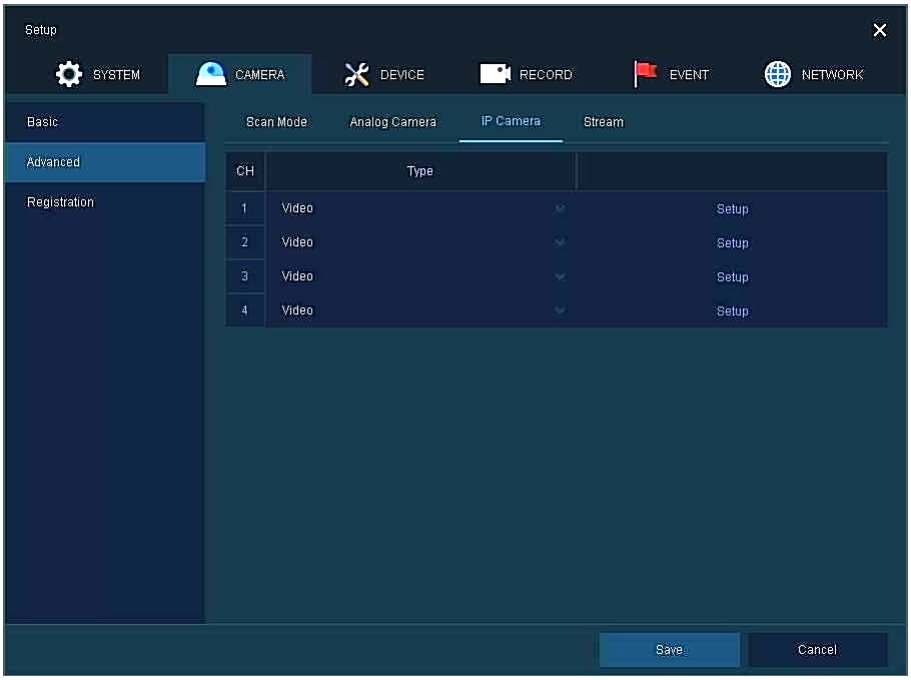


Figure 4-23 CAMERA > Advanced > IP Camera: Stream

No.	Name	Function
1	**CH**	Select channels.
2	**Copy Stream Setup**	Set items can be duplicated to other channels.
3	**Main Stream**	Setup main stream.
4	**Second Stream**	Setup second stream.

4.3.3 Registration

As registration function of camera, users can set IP camera registration.

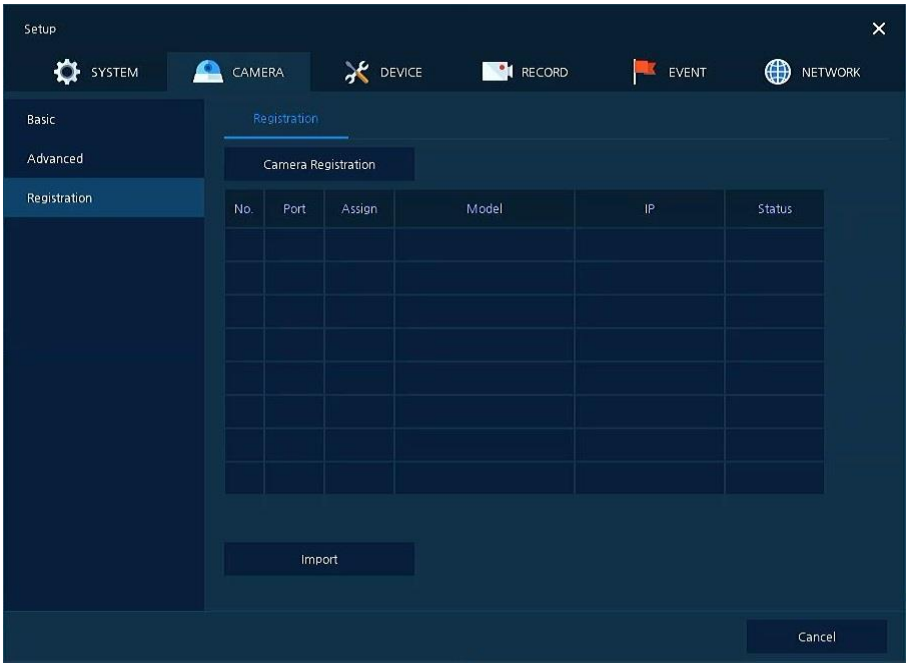


Figure 4-24 CAMERA > Registration

No.	Name	Function
1	**Camera Registration**	Register IP Camera. See "3.3.2. Camera Registration" to display detailed information about the camera registration.
2	**Registration list**	Displays the status of the currently registered IP camera.
3	**Import**	Register IP camera using text file format.

Click the **Import** button to open the Import window as shown blow.

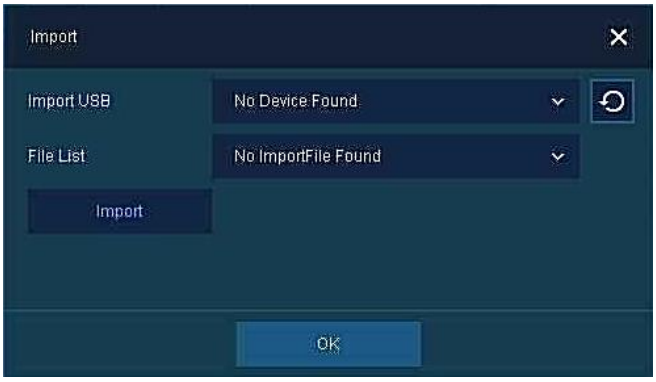


Figure 4-25 CAMERA > Registration > Import

No.	Name	Function
1	**Import USB**	Check the USB device is connected. If you connect a USB device with pop-up window open, click button to rescan.
2	**File Name**	Enter the file name include extension to import the IP camera list.
3	**Import**	Import the camera list.

Note	The contents of the IP camera list are written in the following order. Channel number, IP address, ID, Password, Device service address, Web port, Camera title. Ex) 1,192.168.0.8,admin,admin,http://192.168.0.8/onvif/device_service,80,CAM1

Attention	When creating IP camera list, the encoding method should be saved in UTF-8 formation.

4.4 DEVICE

In **DEVICE**, set the device to connect with the unit.

4.4.1 Display

Set matters related to a display device and live screen.

Display > Display

Set the display device.

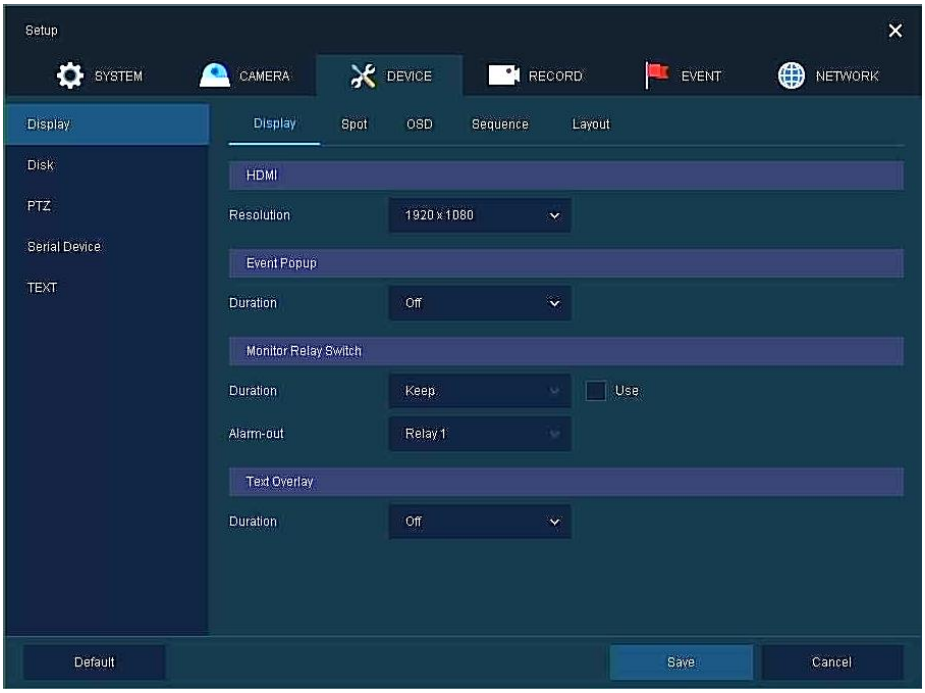


Figure 4-26 DEVICE > Display > Display

No.	Name	Function
1	**HDMI/VGA**	Select the resolution of the display device. (3840x2160, 1920x1080,1280x720, 1024x768)
2	**Event Popup**	Set duration of event popup.
3	**Monitor Relay Switch**	Send alarm out when screen layout changed.
4	**Text Overlay**	Set duration of text overlay popup screen.

Attention

- VGA port does not support 3840x2160 resolution.
- If resolution is set to 3840x2160 and a monitor that does not support this resolution is connected to the HDMI port, it will automatically change to 1024x768 resolution.

Display > Spot

Set the output of the Spot monitor.

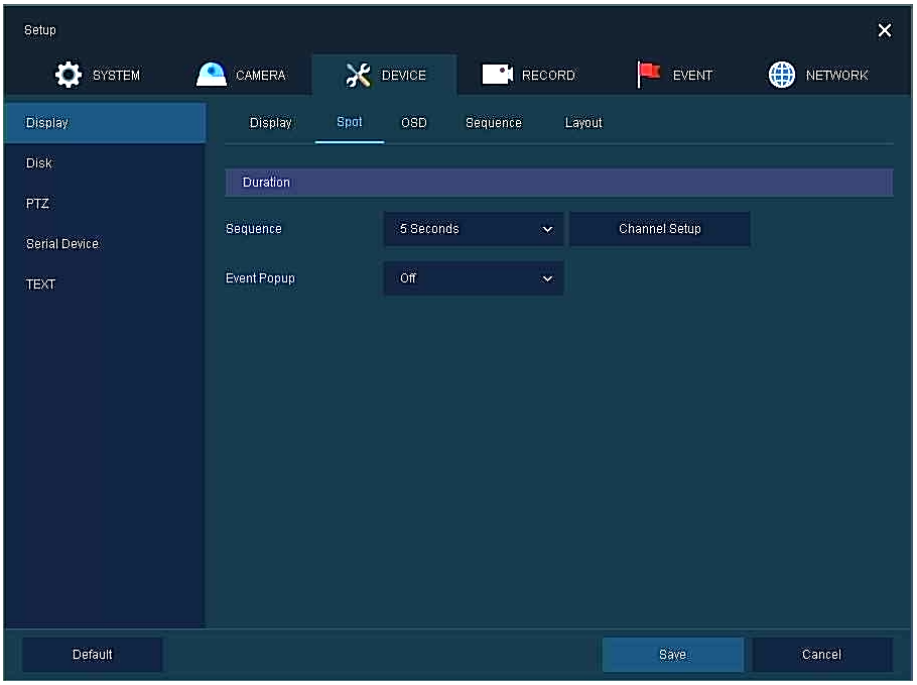


Figure 4-27 DEVICE > Display > Spot

No.	Name	Function
1	**Sequence**	Set the channel and dwell time (5, 10, 20, 30sec) when the Auto mode of Spot Monitor is selected.
2	**Event Popup**	Sets the hold time of the full screen image of the channel where the event occurred (Off, 5, 10, 20, 30sec, Continuous). If multiple channels have an event at the same time, the event channel is shown as a spilt screen.

Display > OSD

Set the OSD of the display device.

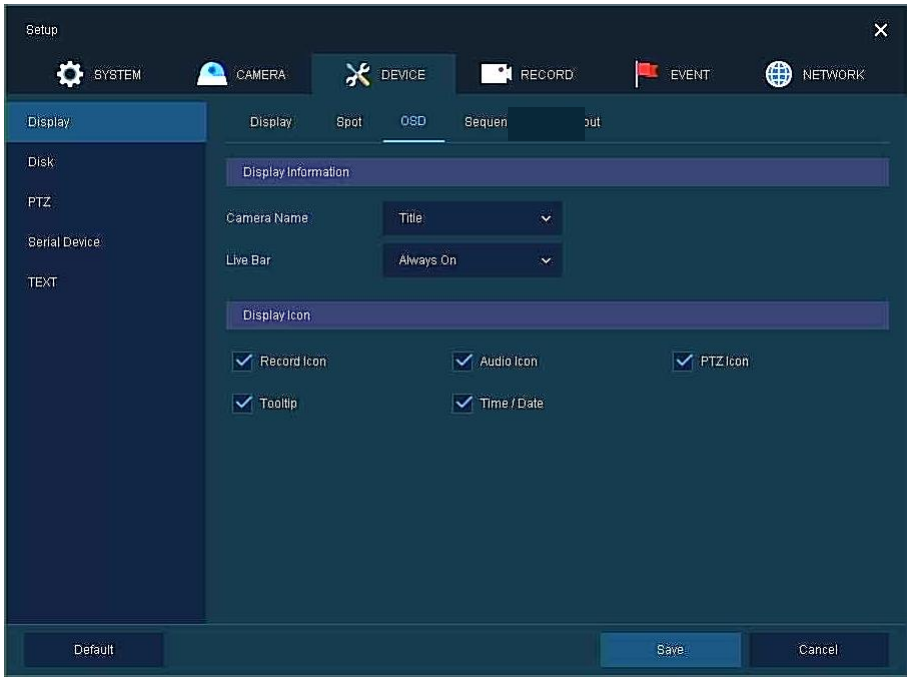


Figure 4-28 DEVICE > Display > OSD

No.	Name	Function
1	**Camera Name**	Select the way to display camera in live screen (Off, CH+Title, CH).
2	**Live Bar**	Select the way to display the live bar (Always On, Auto Hide).
3	**Display Icon**	Select/deselect icons to display in the live screen.

Display > Sequence

How to set the play sequence of live screen

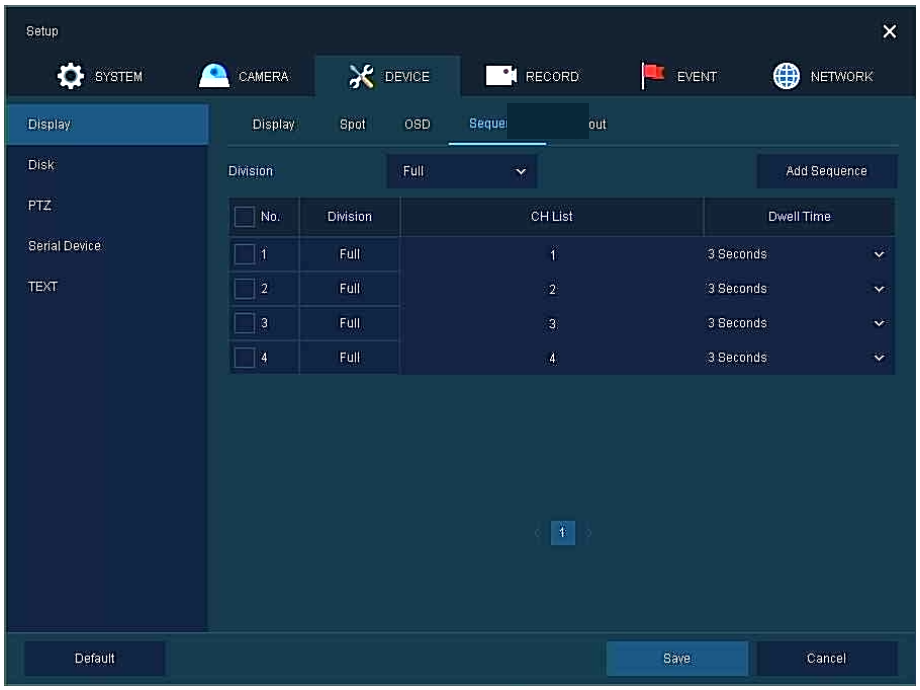


Figure 4-29 DEVICE > Display > Sequence

No.	Name	Function
1	**Quad Sequence**	Set to convert automatically as 4-partition screen on the time basis(4ch model does not support this function).
2	**Division**	Select screen partition mode to be marked in the below table (All, Full, and Quad).
3	**Sequence List**	Display the sequence list based on division selected value.
4	**Add Sequence**	Add items to be included in the play sequence.
5	**NO**	Automatically controvert screens in number order.
6	**Division**	Displays as full, 2X2 (Quad).
7	**CH LIST**	Set automatic conversion CHs. In case of choosing CH3 in No. 1, CH3 is shown in advance.
8	**Dwell Time**	Set the remaining time for automatic conversion (3 sec~30 sec).
9	**Default**	Reverse to changed set value in default.
10		Revise the list.
11		Delete the list.

Clicking **Add Sequence** displays **Add Sequence** screen.

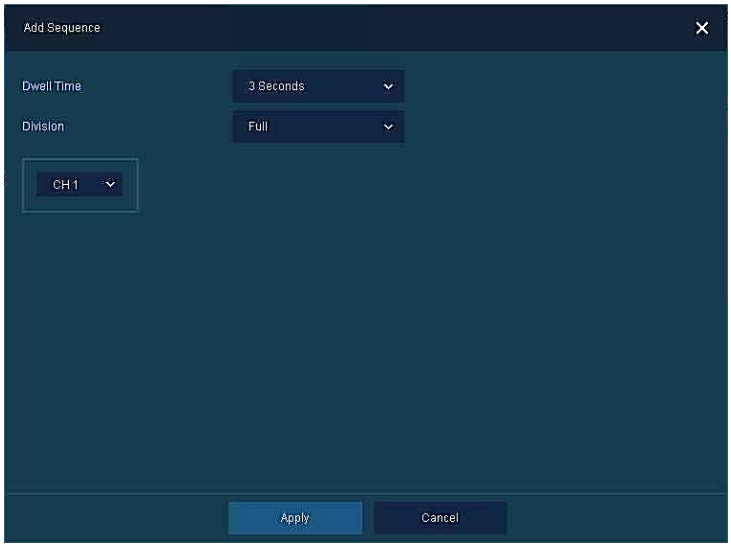


Figure 4-30 DEVICE > Display > Sequence > Add Sequence

No.	Name	Function
1	**Dwell Time**	Select time to play (3 sec, 5 sec, 10 sec, 15 sec, and 30 sec).
2	**Division**	Select the partition screen to play (Full, Quad).
3	**Channel Selection**	Select channels to play.

Display > Layout

Adjust display format.

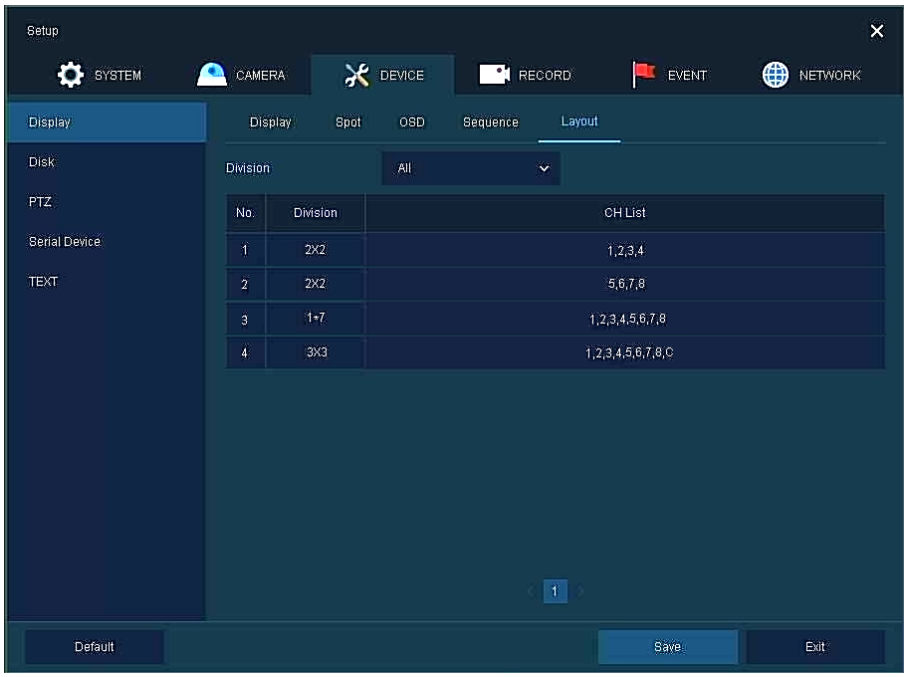


Figure 4-31 DEVICE > Display > Layout

No.	Name	Function
1	**Division**	Select screen partition mode.
2	**No**	Display screen partition mode in number order.
3	**Division**	Display screen partition mode.
4	**Ch List**	Select channels displayed in each division mode.

4.4.2 Disk

Disk > Setup

The way to set the disk

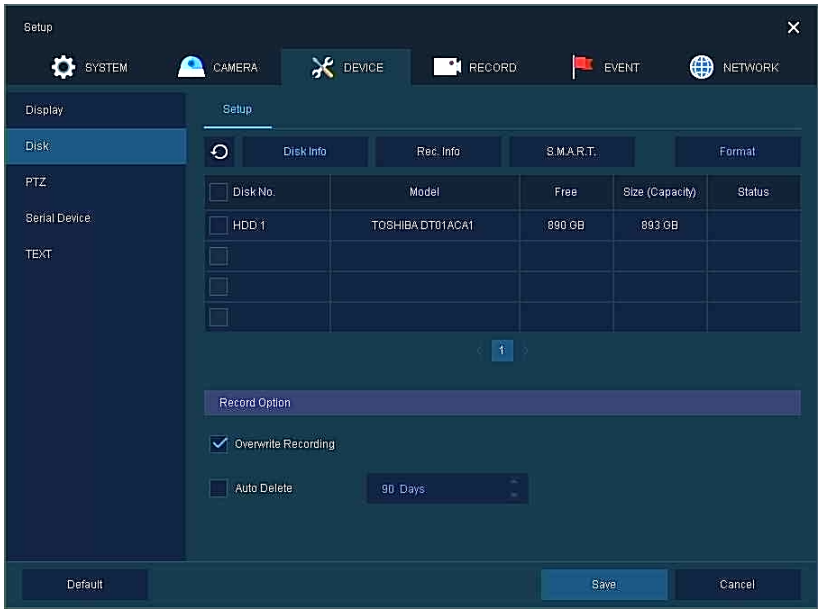


Figure 4-32 DEVICE > Disk > Setup

No.	Name	Function
1		Refresh disk information.
2	**Disk Info**	Display the basic disk information in disc list. ▪ Model: disk model name ▪ Free: disk capacity to save ▪ Size (Capacity): total disk capacity ▪ Status: disk status
3	**Rec. Info**	Display saved disk information in disc list. ▪ Start Recording Time: starting time for saving information in the disk ▪ End Recording Time: ending time to stop saving information in the disk ▪ Status: disk status
4	**S.M.A.R.T.**	Display S.M.A.R.T. information in disc list. ▪ Model: disk model name ▪ Temp.: disk temperature ▪ Alive Time: running time after turning on the disk ▪ S.M.A.R.T.: a presenter of disk's malfunction
5	**Disk List**	Display the disk list select/deselect disc to be formatted.
6	**Format**	Format the disk selected.
7	**Overwrite Recording**	Select/deselect to rewrite new data on the existing disk in case of insufficient saving space remained.
8	**Auto Delete**	Select/deselect to use the function to delete saved data automatically (1-180 days) from desired channel.

4.4.3 PTZ > PTZ

To use PTZ Function of the device, users need to match ID, protocol, and speed with each camera.

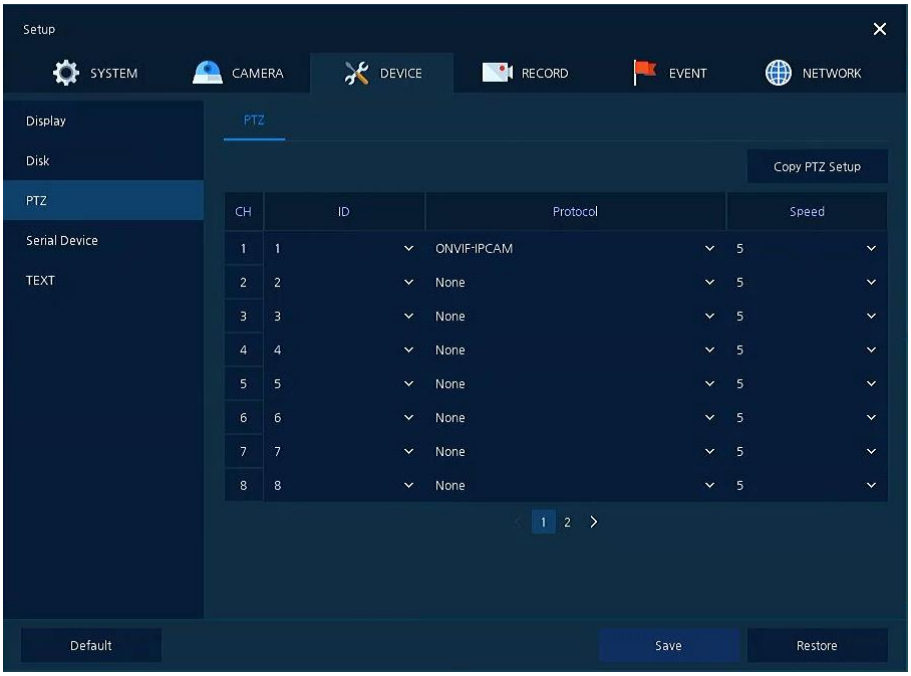


Figure 4-33 DEVICE > PTZ > PTZ

No.	Name	Function
1	**Copy PTZ Setup**	Apply setting history to all or selected channels in the same way.
2	**CH**	Display channels.
3	**ID**	Select camera ID connected to relevant channels (1-255).
4	**Protocol**	Select protocol of camera connected to relevant channels.
5	**Speed**	Select pan-tilt of camera connected to relevant channels (1-5).

Note	For more information about camera ID, protocol information, and details, see Instruction of relevant PTZ function camera.

4.4.4 Serial Device > Serial Device

Users need to set Serial Device to connect PTZ camera, USB device with the unit.

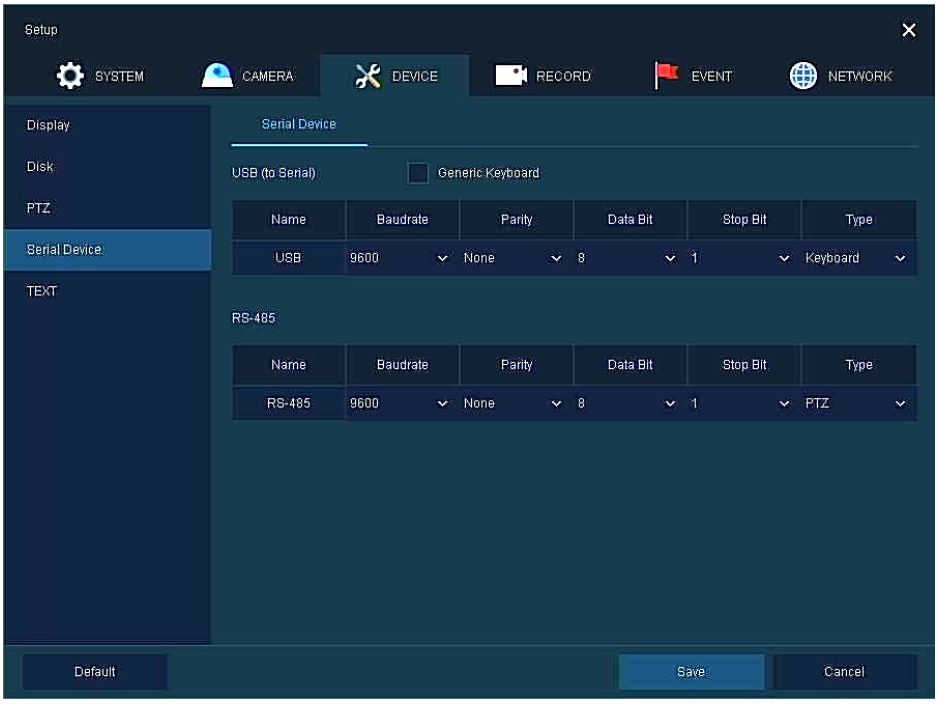


Figure 4-34 DEVICE > Serial Device > Serial Device

No.	Name	Function
1	**USB (to Serial)**	Set communication transmission value of USB device. *Generic keyboard : Choose whether to use a generic keyboard device.
2	**RS-485**	Set communication transmission value of RS-485 connector.

4.4.5 TEXT

TEXT > POS Setup

Set the input device such as ATM or POS, etc.

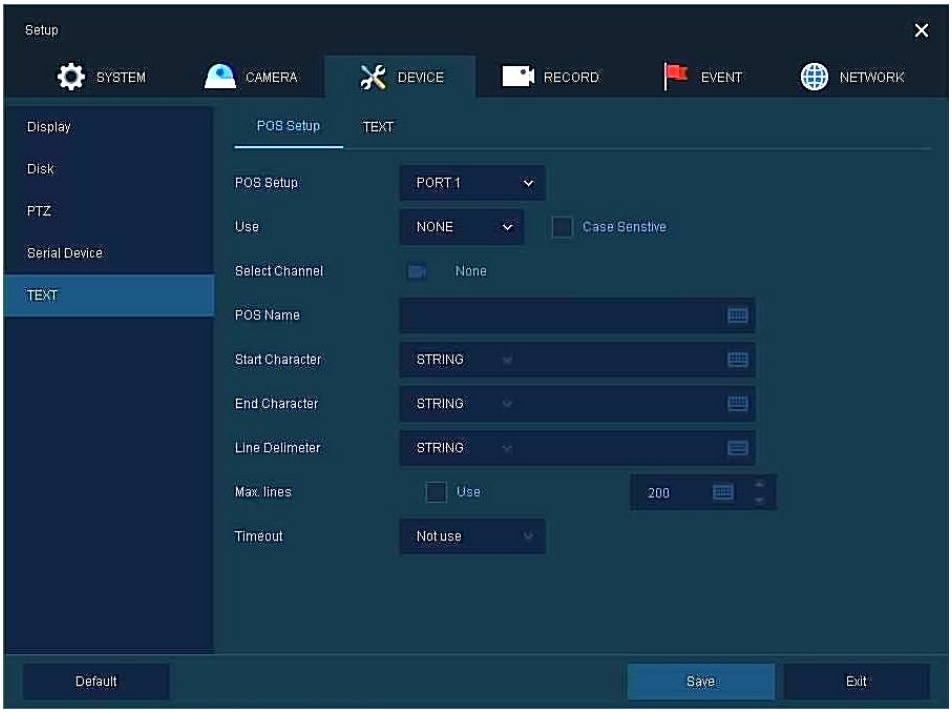


Figure 4-35 DEVICE > TEXT > POS Setup

No.	Name	Function
1	**POS Setup**	Select LAN or PORT1 suitable for your POS device.
2	**Use**	Select NONE or Generic. ** Case Sensitive : Used to parse uppercase and lowercase.*
3	**Select Channel**	Select channels POS devices are connected to
4	**POS Name**	Enter POS device name.
5	**Start Character** **End Character** **Line Delimiter**	You can set the start character, end character and line delimiter for the POS overlay characters. Select NONE, HEX or STRING and enter corresponding characters for your POS device.
6	**Max. Lines**	Use : Select **Use** to limit strings. Enter the maximum number of strings.
7	**Timeout**	Select Timeout from the drop-down list.

TEXT > TEXT

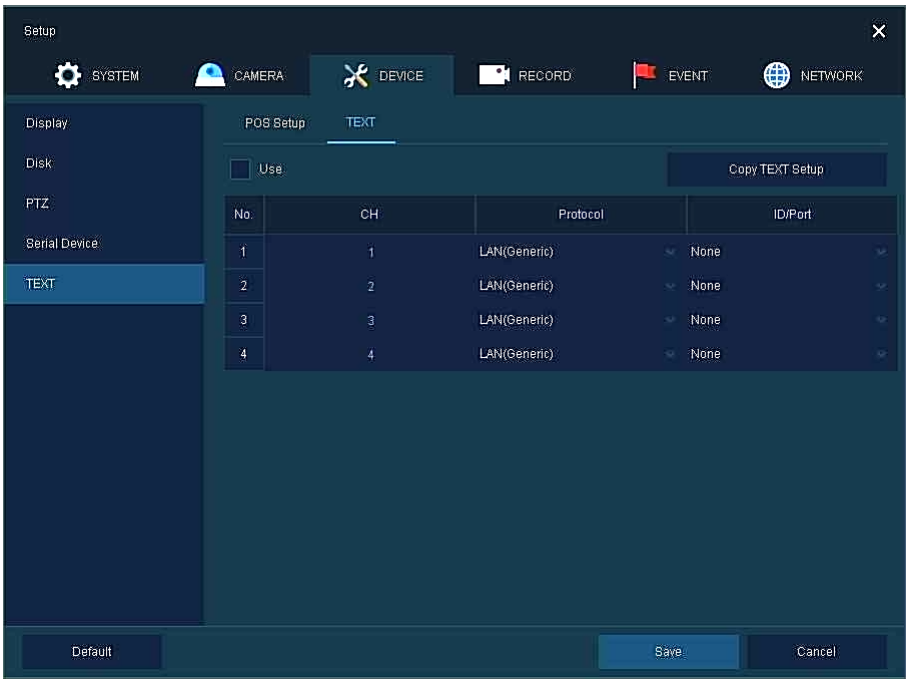


Figure 4-36 DEVICE > TEXT > TEXT

No.	Name	Function
1	**Use**	Select/deselect whether to use text function.
2	**CH**	Select camera channels to connect with the text input device.
3	**Protocol**	Select protocol to correspond with the text input device.
4	**ID. Port**	Select ID and port no. to correspond with the text input device.
5	**Copy to TEXT Setup**	As for connecting multiple units, duplicate set value to others.

Press **Copy to TEXT Setup** button, then **Copy to TEXT Setup** screen displays.

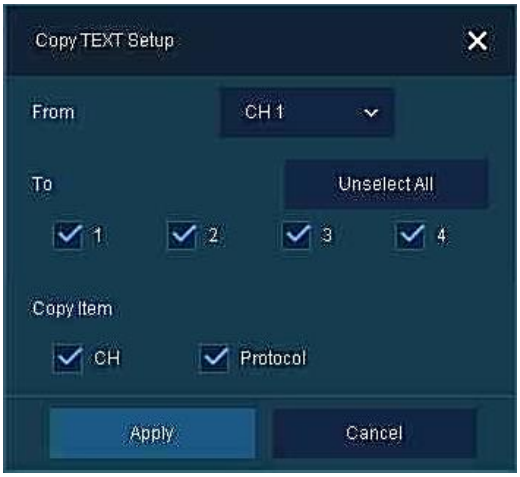


Figure 4-37 DEVICE > TEXT > TEXT > Copy to TEXT Setup

No.	Name	Function
1	**From**	Select channels set.
2	**To**	Select the device to be copied.
3	**Select All /Unselect All**	Select/deselect all channels.
4	**Copy Item**	Select/deselect items to be copied.

4.5 RECORD

In **RECORD,** users may set matters related to recording.

4.5.1 Schedule

Schedule > Schedule

Recording types can be set across channels and time.

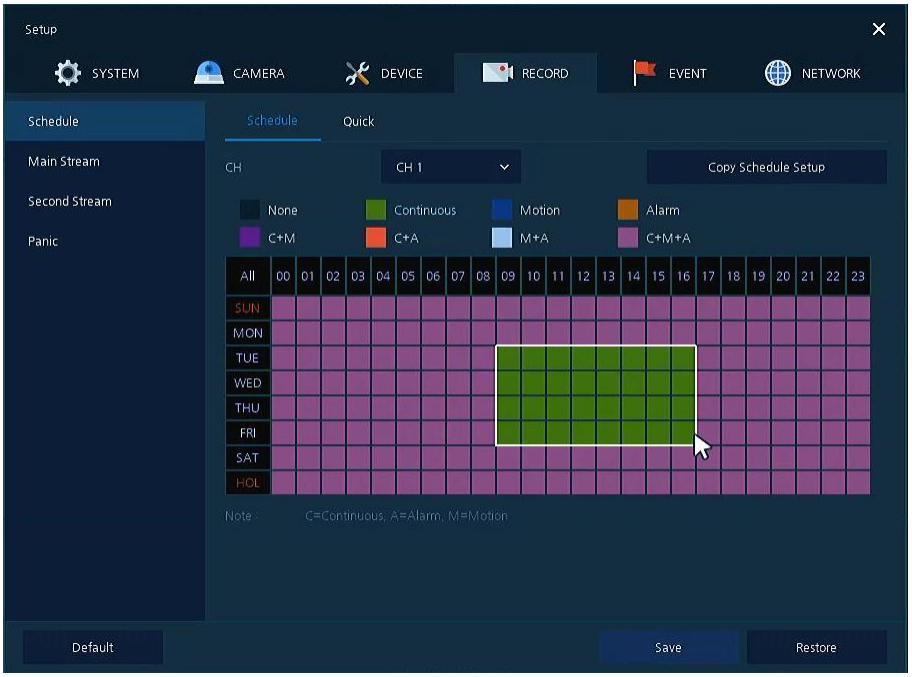


Figure 4-38 RECORD > Schedule > Schedule

No.	Name	Function
1	**CH**	Select channels to set schedules.
2	**Schedule Type Selection**	Select the types of schedules.
3	**Schedule Table**	Display the schedule users set.
4	**Drag Field**	Display the area dragged with a mouse.
5	**Copy Schedule Setup**	Copy set recording schedule to other channels.

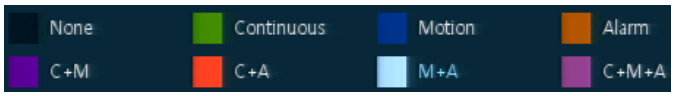
The function of each scheduling type involves:

Color	Scheduling type	Function
	None	Do not record.
	Continuous	Record on consecutive mode when time set.
	Motion	Record on event recording mode when motion sensitive event occurs.
	Alarm	Record on event recording mode when alarm occurs.
	C+M	Record on event recording mode when motion sensitive event occurs during consecutive mode recording.
	C+A	Record on event recording mode when alarm occurs during consecutive mode recording.
	M+A	Record on event recording mode when only alarm and motion sensitive event occur.
	C+M+A	Record on event recording mode when only alarm and motion sensitive event occur during consecutive mode recording.

The way to schedule recording across channels.

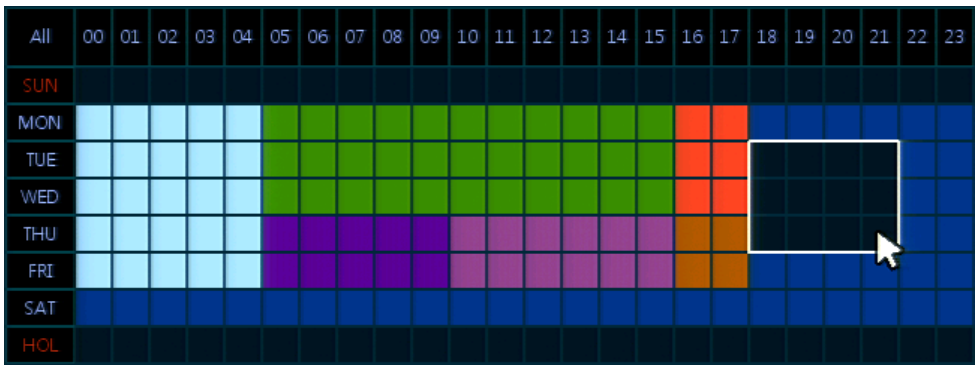
1. Select channels to schedule.

2. Select items in scheduling types.



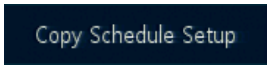
3. Position the mouse to the schedule table.

4. Drag the area to be scheduled with a mouse.

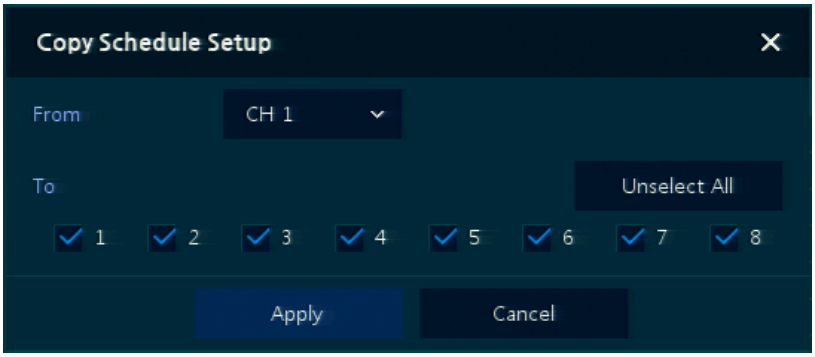


5. Selected field is presented as scheduling type colors.

6. Click **Copy Schedule Setup** if you want to copy the schedule to other channels.



7. **Copy Schedule Setup** screen displays.



8. Select channels to be copied.

9. Select channels to apply copied content.

10. Copy the schedule by pressing **Apply**.

11. Press **Save** to save the schedule.

Schedule > Quick

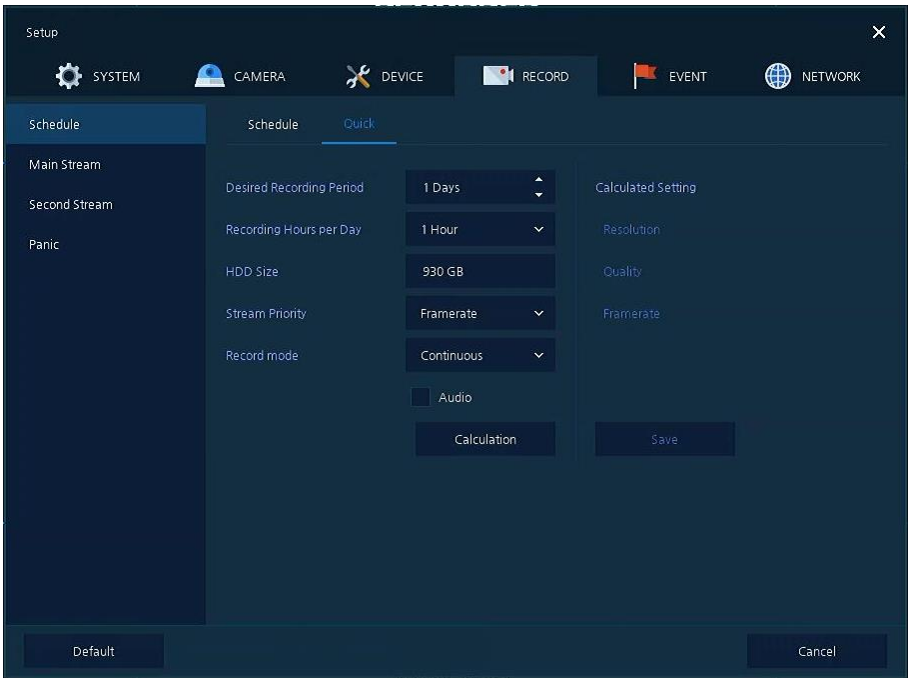


Figure 4-39 RECORD > Schedule > Quick

No.	Name	Function
1	**Desired Recording Period**	Select desired recording period.
2	**Recording Hours per Day**	Select recording hours per day.
3	**HDD Size**	It is automatically displayed.
4	**Stream Priority**	Select Framerate or Resolution.
5	**Recording mode**	Select recording mode as Continuous or Event.
6	**Audio**	Enable if audio is recorded.
7	**Calculation**	User can see recommended resolution and frame rate to meet recording period.

4.5.2 Main Stream

To set the image resolution when event occurs across channels or general recording is in process.

Main Stream > Analog Camera

To set the image quality and resolution of Main Stream

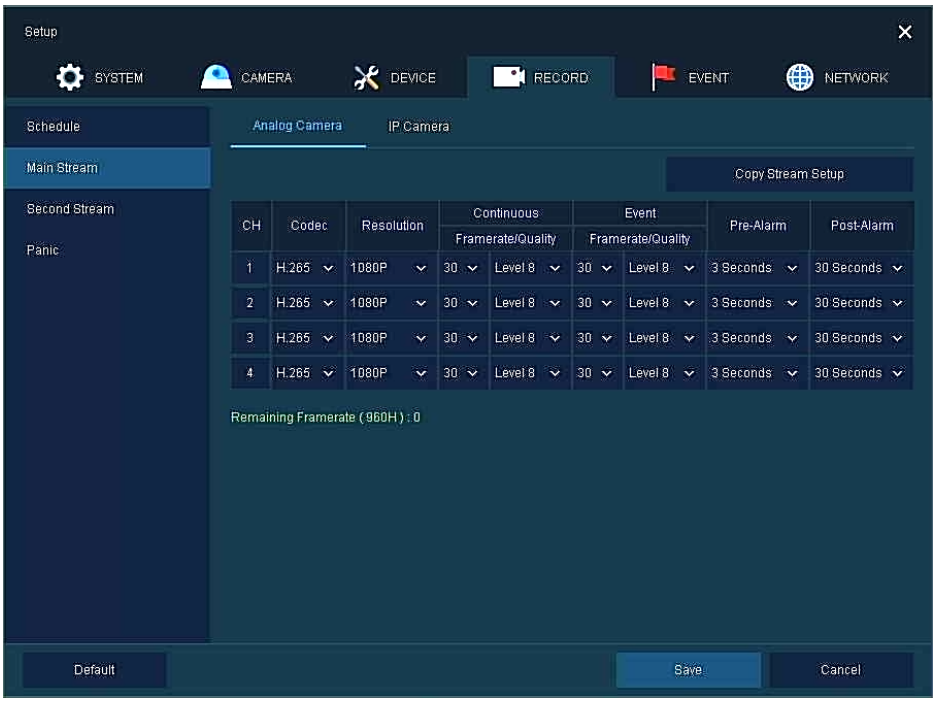


Figure 4-40 RECORD > Stream > Main Stream

No.	Name	Function
1	**CH**	Display channels.
2	**Codec**	Set the codec of video (H.265, H.264)
3	**Resolution**	Set the resolution of video clips (1080P, 720P, and 960H).
4	**Continuous**	Select recording FPS and image quality in consecutive recording. ▪ Frame Rate: recording FPS selection (1-30) ▪ Quality: recording image quality selection (Level 1-8)
5	**Event**	Select recording FPS and image quality in event recording. ▪ Frame Rate: recording FPS selection (1-30) ▪ Quality: recording image quality selection (Level 1-8)
6	**Pre-Alarm**	Start recording before set time, if event occurs (None, 1 sec, 2 sec, 3 sec).
7	**Post-Alarm**	Recording after set time until event ends (5 sec, 10 sec, 30 sec, 1 min, 5 min, 10 min, 30 min and 1 hour).
8	**Copy Stream Setup**	Copy main recording image set value to other channels.

Clicking **Copy Stream Setup** opens **Copy Stream Setup**.

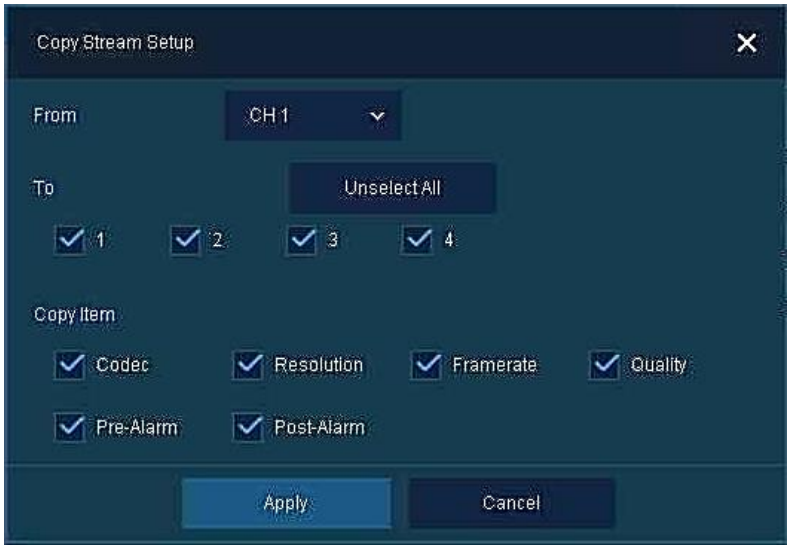


Figure 4-41 RECORD > Stream > Main Stream > Copy Stream Setup

No.	Name	Function
1	**From**	Select the channel set.
2	**To**	Select the device to be copied.
3	**Select All /Unselect All**	Select/deselect all channels.
4	**Copy Item**	Select/deselect items to be copied.

Main Stream > IP Camera

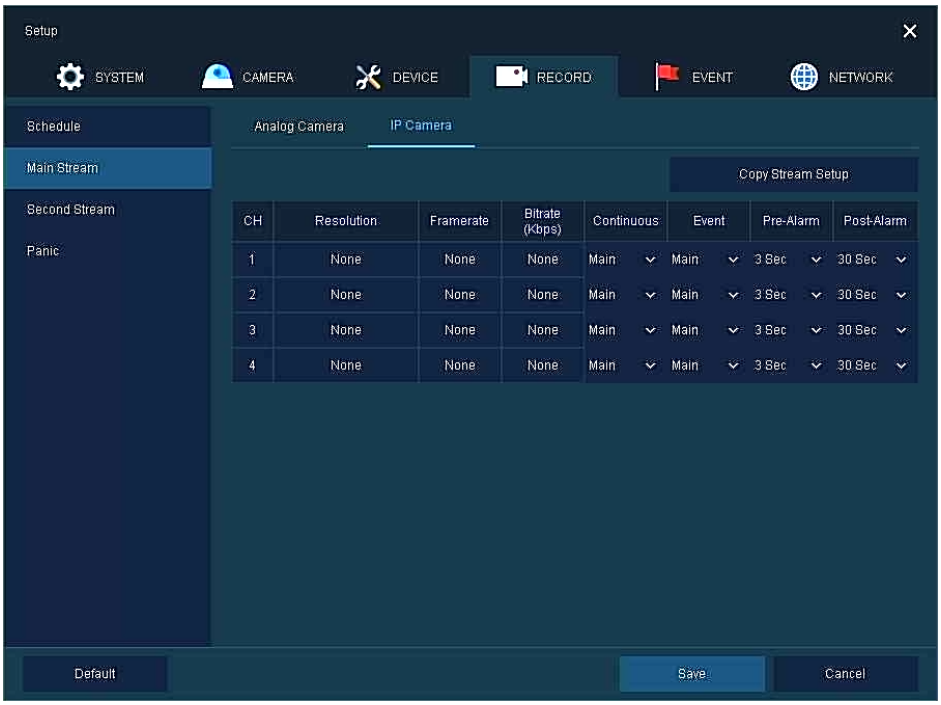


Figure 4-42 RECORD > Main Stream > IP Camera

No.	Name	Function
1	**CH**	Display channels.
2	**Resolution** **Framerate** **Bitrate**	Show camera main stream setup status.
3	**Continuous**	Select recording stream in case of Continuous mode.
4	**Event**	Select recording stream in case of Event mode.
5	**Pre-Alarm**	Start recording before set time, if event occurs (None, 1 sec, 2 sec, 3 sec).
6	**Post-Alarm**	Recording after set time until event ends (None, 5 sec, 10 sec, 30 sec, 1 min, 5 min, 10 min, 30 min and 1 hour).
7	**Copy Stream Setup**	Copy main recording image set value to other channels. For more information about set value copy, see section "4.5.2 Stream > Main Stream in Main Stream."

Note	This menu will be appeared when IP Mode is selected & Camera registration.

4.5.3 Second Stream

Second Stream > Analog Camera

To set the image quality and resolution of Second Stream

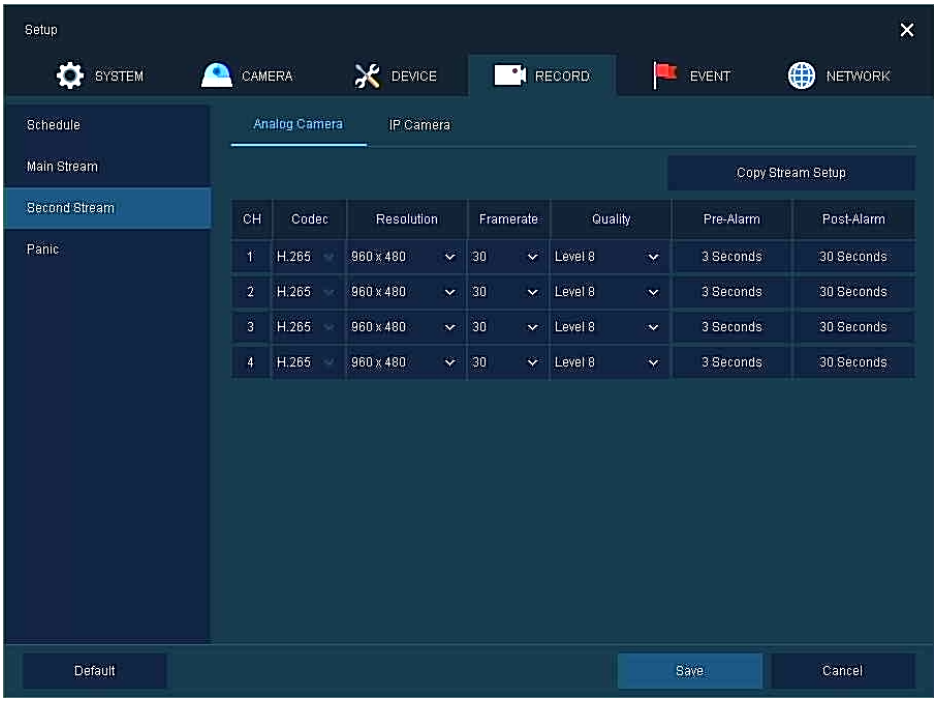


Figure 4-43 RECORD > Stream > Second Stream

No.	Name	Function
1	**CH**	Display channels.
2	**Codec**	Set the codec of video (H.265, H.264)
3	**Resolution**	Set the resolution of video clips (960x480, 640x480, 480x240, 352x240).
4	**Frame Rate**	Select recording FPS (1-30).
5	**Quality**	Select image quality (Level 1-8).
6	**Pre-Alarm**	Start recording before set time, if event occurs.
7	**Post-Alarm**	Recording after set time until event ends.
8	**Copy Stream Setup**	Copy main recording image set value to other channels. For more information about set value copy, see section "4.5.2 Stream > Main Stream in Main Stream."

Second Stream > IP Camera

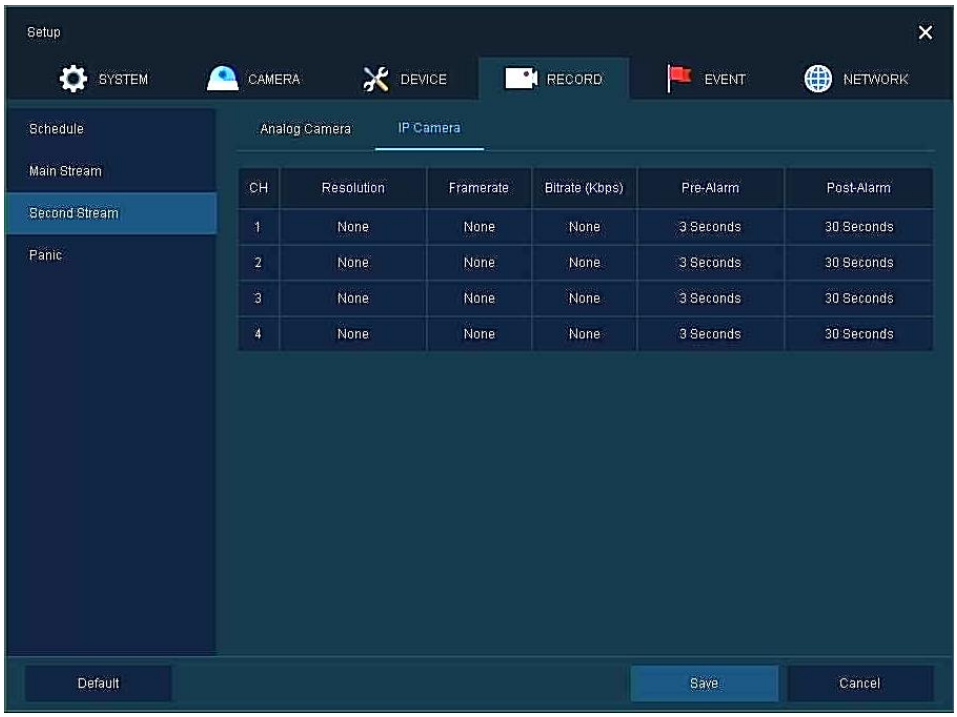


Figure 4-44 RECORD > Second Stream > IP Camera

No.	Name	Function
1	**CH**	Display channels.
2	**Resolution** **Framerate** **Bitrate**	Show camera main stream setup status.
3	**Pre-Alarm**	Start recording before set time, if event occurs.
4	**Post-Alarm**	Recording after set time until event ends.

Note	This menu will be appeared when IP Mode is selected & Camera registration.

4.5.4 Panic

How to set immediate recording

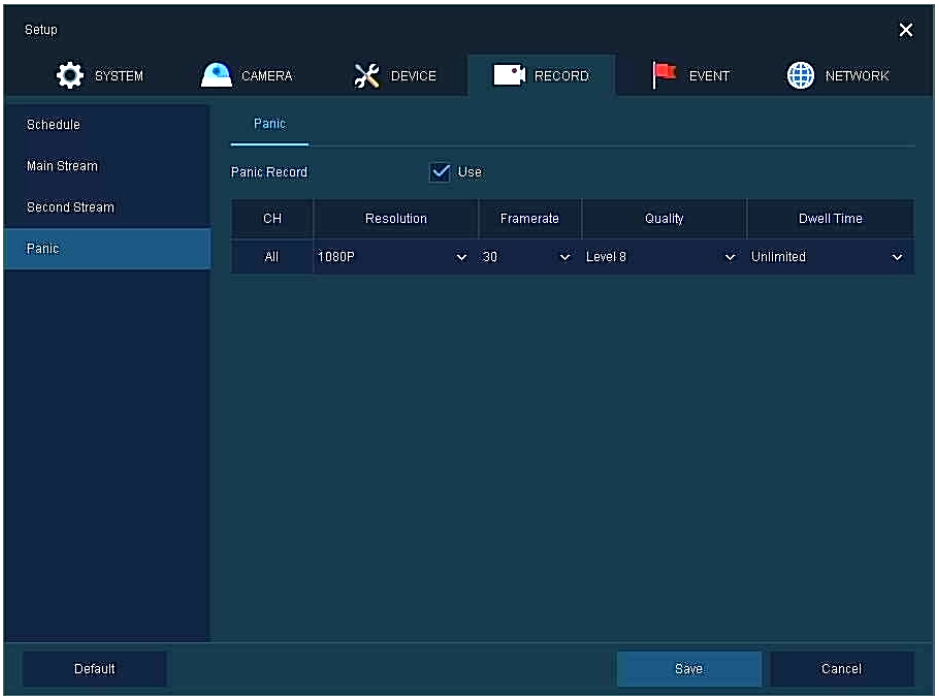


Figure 4-45 RECORD > Stream > Panic

No.	Name	Function
1	**Panic Record**	Select/deselect to use immediate recording function.
2	**CH**	Display channels.
3	**Resolution**	Set the resolution of video clips (1080P, 720P, 960H).
4	**Frame rate**	Select recording FPS (1-30).
5	**Quality**	Select image quality (Level 1-8).
6	**Dwell Time**	Select recording duration (Unlimited, 10 sec, 30 sec, 1 min, 5 min, 10 min, and 30 min).

4.6 EVENT

In **EVENT**, users may set each event of the device.

4.6.1 System/Disk

To set the system and disk event

System/Disk > System

To set the system event of the device

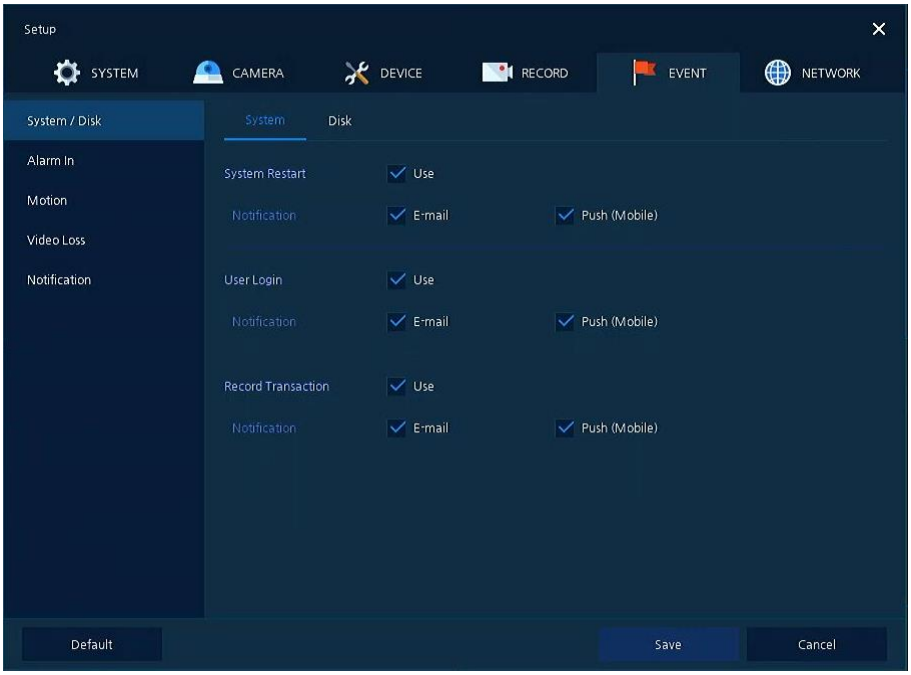


Figure 4-46 Event > System/Disk > System

No.	Name	Function
1	**System Restart**	Select/deselect whether to use system restart event.
2	**Notification**	Select/deselect whether to use mailing or mobile push in case of event.
3	**User Login**	Select/deselect whether to use user-login event.
4	**Record Transaction**	Select/deselect whether to use record transaction event.

System/Disk > Disk

To set disk event

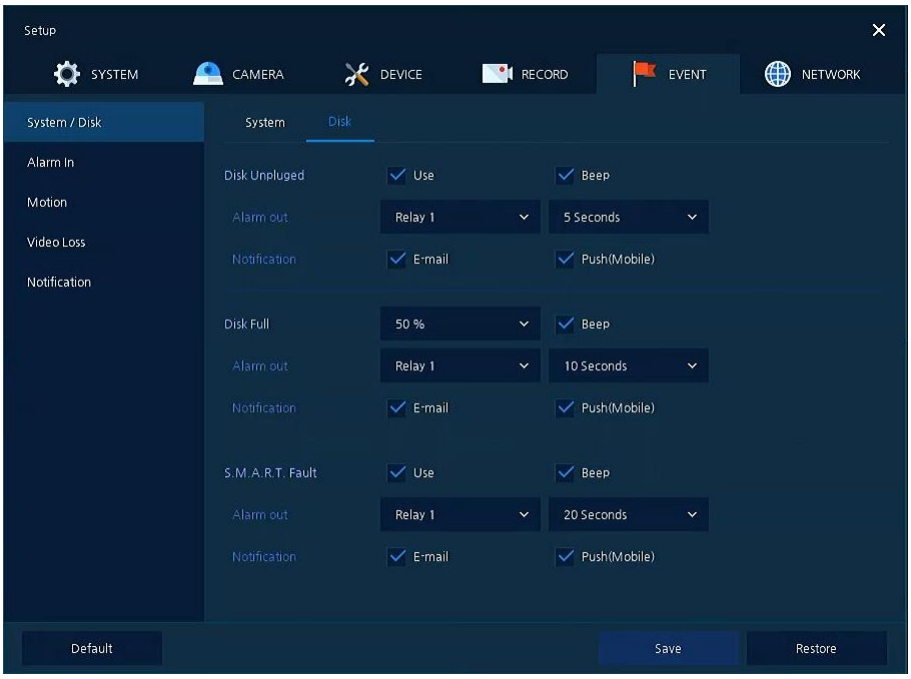


Figure 4-47 Event > System/Disk > Disk

No.	Name	Function
1	**Disk Unplugged**	Select/deselect whether to use disk unplugged event.
2	**Beep**	Select/deselect whether to use buzzer sound in case of event.
3	**Alarm out**	Select to end alarm time (Keep, 5 sec, 10 sec, 20 sec, 30 sec, 1 min, 10 min, 30 min, and 1 hour).
4	**Notification**	Select/deselect whether to use mailing or mobile push in case of event.
5	**Disk Full**	Set disk capacity for disk full event (Off, 50%, 60%, 70%, 80%, 90%, and 100%).
6	**S.M.A.R.T. Fault**	Select/deselect whether to use S.M.A.R.T. Fault event of HDD.

4.6.2 Alarm In

To set sensor alarms and schedule

Alarm In > Setup

To set sensor alarms

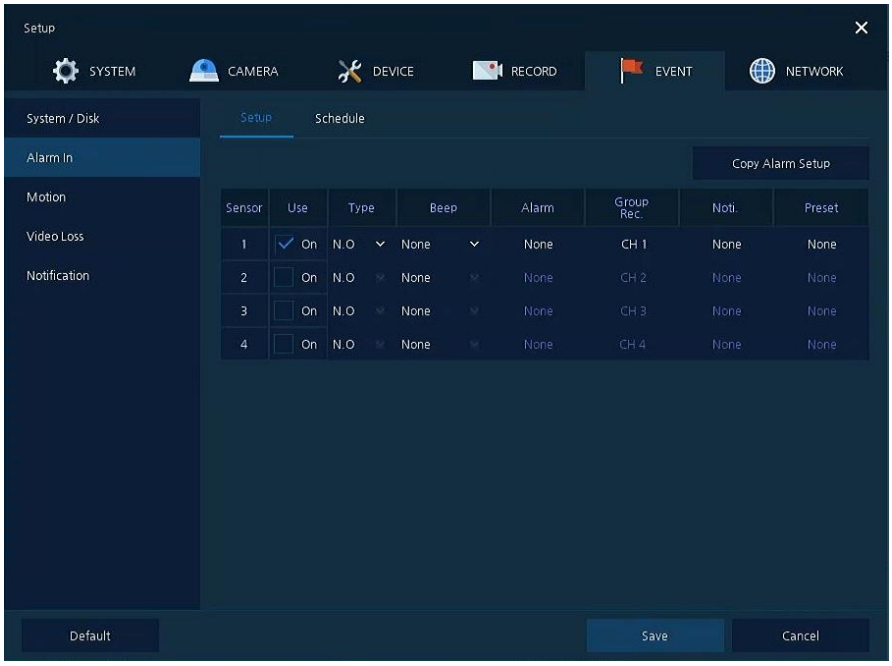


Figure 4-48 Event > Alarm In > Setup

No.	Name	Function
1	**Sensor**	Display sensor numbers.
2	**Use**	Select/deselect whether to use alarm in the sensor.
3	**Type**	Select sensor types (N.O, N.C).
4	**Assign**	Select camera channels to designate a sensor (CH 1~4/8/16, immediate recording).
5	**Beep**	Select use time of buzzer sound (null, 5 sec, 10 sec, 20 sec, 30 sec, 1 min, 10 min, 30 min, and 1 hour).
6	**Alarm**	Set alarm output.
7	**Group Rec.**	Select the camera to record simultaneously.
8	**Noti.**	Set email notices.
9	**Preset**	Set preset of PTZ camera.
10	**Copy to Alarm Setup**	Copy alarm set value to other channels. For more information about set value copy, see section "4.5.2 Stream > Main Stream in Main Stream."

Placing your mouse on **Alarm, Group Rec, Noti., Preset** and clicking editing Icon( ) in right corner displays Event : Alarm screen.

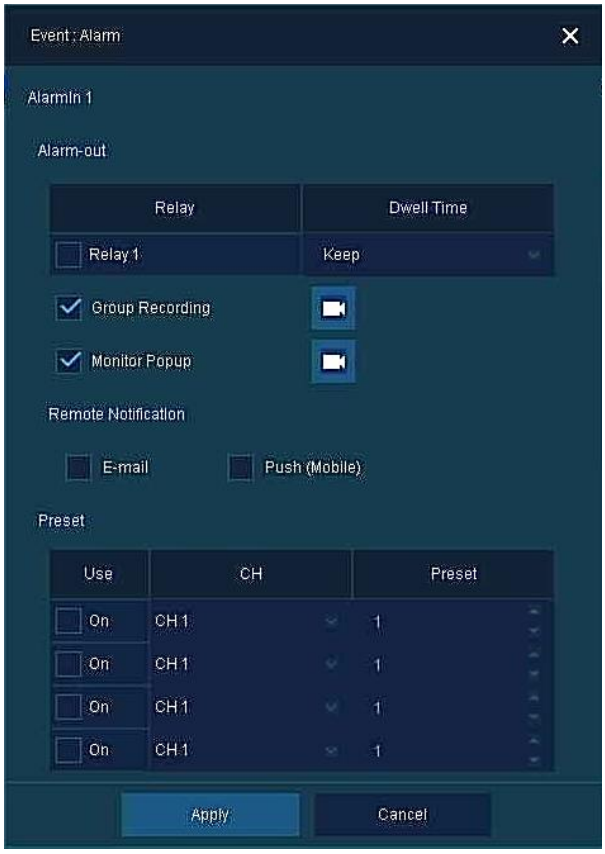


Figure 4-49 Event > Alarm In > Setup > Event : Alarm

No.	Name	Function
1	**Alarm-out**	Set the alarm. ▪ Relay: Select/clear the Relay output checkbox. ▪ Dwell Time: Selecting alarm duration (Keep, 5 sec, 10 sec, 20 sec, 30 sec, 1 min, 10 min, 30 min, and 1 hour)
2	**Group Recording**	Select/deselect whether to use Group Recording.
3		Simultaneous recording camera channel screen opens.
4	**Monitor Popup**	Select/deselect whether to use Monitor Popup.
5		Channel selection screen opens.
6	**Remote Notification**	Select/deselect whether to use remote mailing.
7	**Preset**	Preset of PTZ camera is running. ▪ Use: Select/deselect whether to use preset. ▪ CH: Select channels. ▪ Preset: Set preset value.

Alarm In > Schedule

To schedule recording time when alarm occurs across device sensors

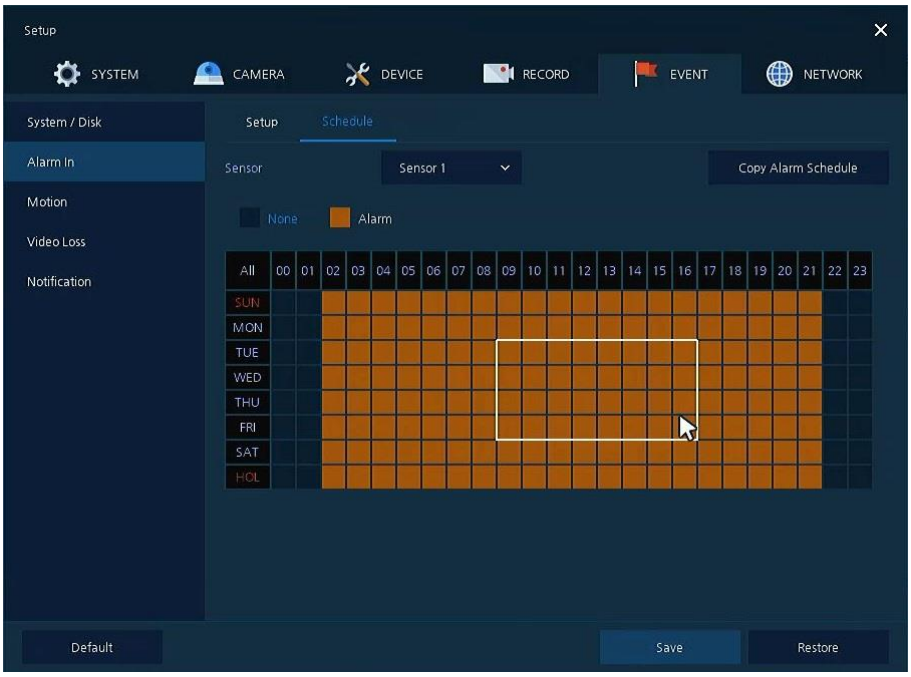


Figure 4-50 Event > Alarm In > Schedule

No.	Name	Function
1	**Sensor**	Select the sensor to set the schedule.
2	**Schedule Type Selection**	Select the types of schedules.
3	**Schedule Table**	Display the schedule users set.
4	**Drag Field**	Display the area dragged with a mouse.
5	**Copy to Alarm Schedule**	Copy the schedule on alarm set to other sensors. For more information about set value copy, see section "4.5.2 Stream > Main Stream in Main Stream."

Note	For more details about scheduling recording time when alarm occurs across sensors, see section "4.5.1 Schedule."

4.6.3 Motion

To set and schedule motions across channels

Motion > Setup

To set motions across channels.

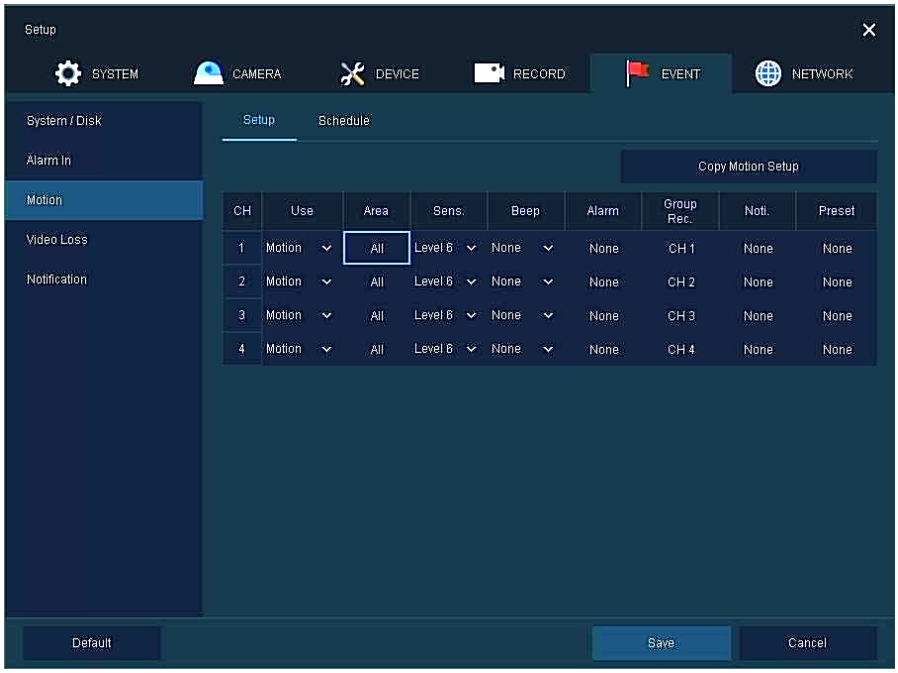


Figure 4-51 Event > Motion > Setup

No.	Name	Function
1	**CH**	Display channels.
2	**Use**	Select whether to use motion function in the channel.
3	**Area**	Display the motion area.
4	**Sens.**	Select the sense level of the motion sensor (Level 1~10).
5	**Beep**	Select use time of buzzer (None, 5 sec, 10 sec, 20 sec, 30 sec, 1 min, 10 min, 30 min, and 1 hour).
6	**Alarm**	Set alarm output.
7	**Group Rec.**	Select the camera to record simultaneously.
8	**Noti.**	Set email notices.
9	**Preset**	Set preset of PTZ camera.
10	**Copy to Motion Setup**	Copy motion set value to other channels. For more information about set value copy, see section "4.5.2 Stream > Main Stream in Main Stream."

Note	Placing your mouse on **Alarm, Group Rec, Noti, Preset** and clicking editing icon( ) in right corner displays Event : Alarm screen. For more information about **Event : Motion** screen, see section "4.6.2 Alarm In > Setup in Alarm In."

Motion > Schedule

To schedule record time when the motion sensor detects across channels

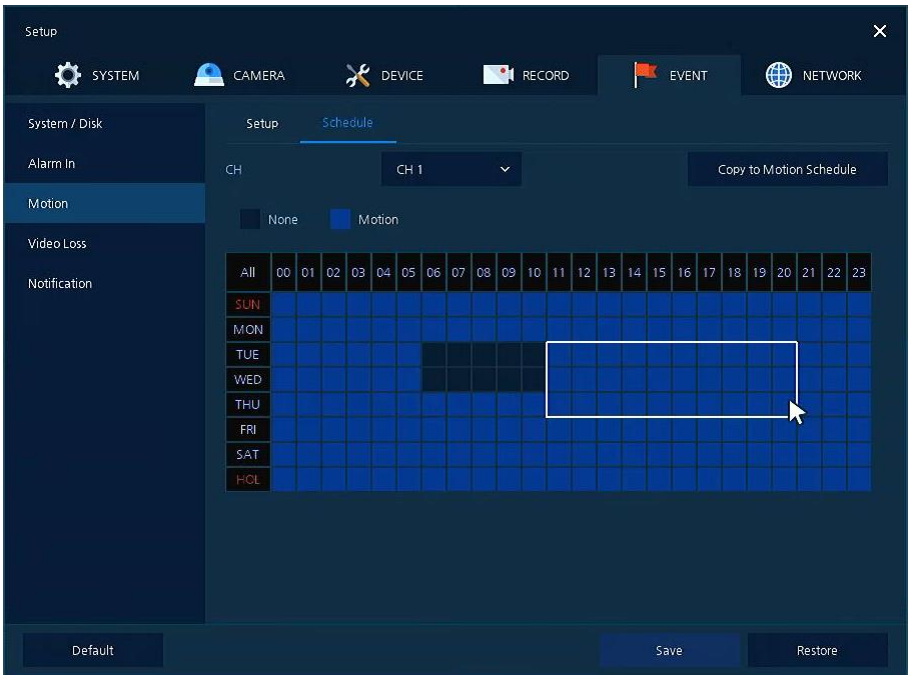


Figure 4-52 Event > Motion > Schedule

No.	Name	Function
1	**CH**	Select channels to set schedules.
2	**Schedule Type Selection**	Select the types of schedules.
3	**Schedule Table**	Display the schedule users set.
4	**Drag Field**	Display the area dragged with a mouse.
5	**Copy to Motion Schedule**	Copy the motion detection schedule to other channels. For more information about set value copy, see section "4.5.2 Stream > Main Stream in Main Stream."

Note	For more information how to schedule record time when the motion sensor detects across channels, see section "4.5.1 Schedule."

4.6.4 Video Loss

To set Video Loss across channels

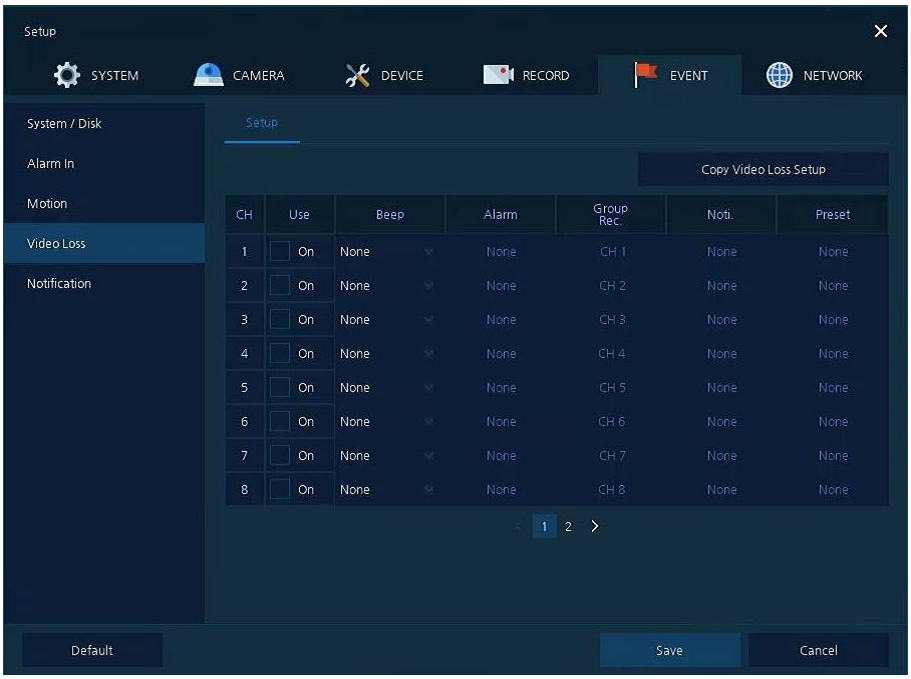


Figure 4-53 Event > Video Loss > Setup

No.	Name	Function
1	**CH**	Display channels.
2	**Use**	Select/deselect whether to use Video Loss in the channel.
3	**Beep**	Select use time of buzzer sound (null, 5 sec, 10 sec, 20 sec, 30 sec, 1 min, 10 min, 30 min, and 1 hour).
4	**Alarm**	Set alarm output.
5	**Group Rec.**	Select the camera to record simultaneously.
6	**Noti.**	Set email notices.
7	**Preset**	Set preset of PTZ camera.
8	**Copy to Video Loss Setup**	Copy the Video Loss set value to other channels. For more information about set value copy, see section "4.5.2 Stream > Main Stream in Main Stream."

Note	Placing your mouse on **Alarm, Group Rec, Noti., Preset** and clicking editing icon( ) in right corner displays **Event : Video Loss** screen. For more information about **Event : Video Loss** screen, see section "4.6.2 Alarm In > Setup in Alarm In."

4.6.5 Notification

To set and schedule periodical alarms

Notification > Periodic

To set periodical alarms

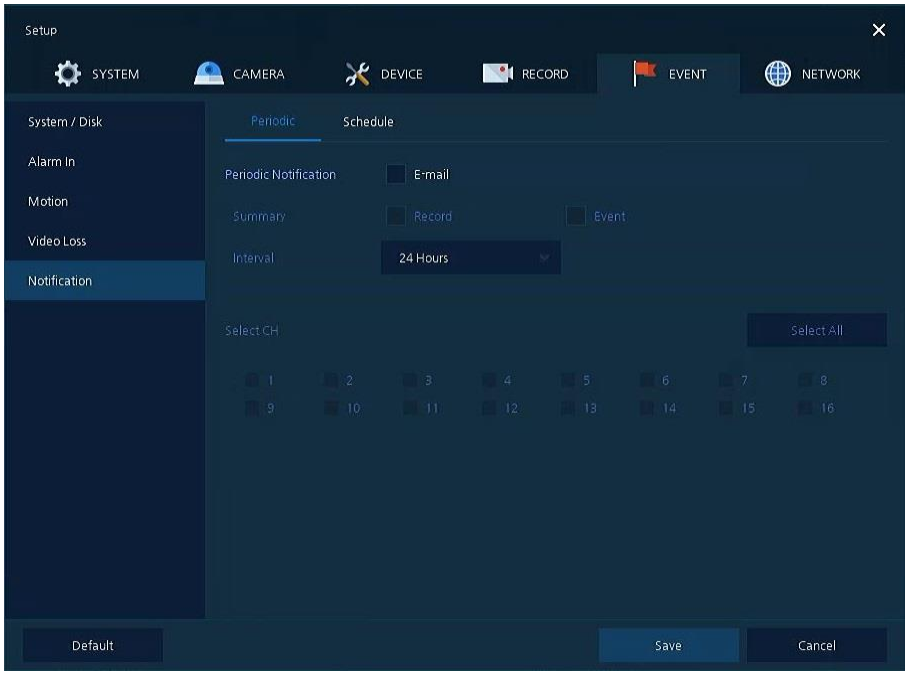


Figure 4-54 EVENT > Notification > Periodic

No.	Name	Function
1	**Periodic Notification**	Select/deselect whether to use periodical alarms.
2	**Summary**	Send the save or event information. ▪ Record: sending the save information ▪ Event: sending the event information
3	**Interval**	Set the alarm interval (5 min, 10 min, 30 min, and 1 hour, 2-hour, 6-hour, 8-hour, 12-hour, and 24-hour).
4	**Select CH**	Select channels users want.
5	**Select All /Unselect All**	Select/deselect all channels.

Notification > Schedule

To schedule remote notification (alarm & motion)

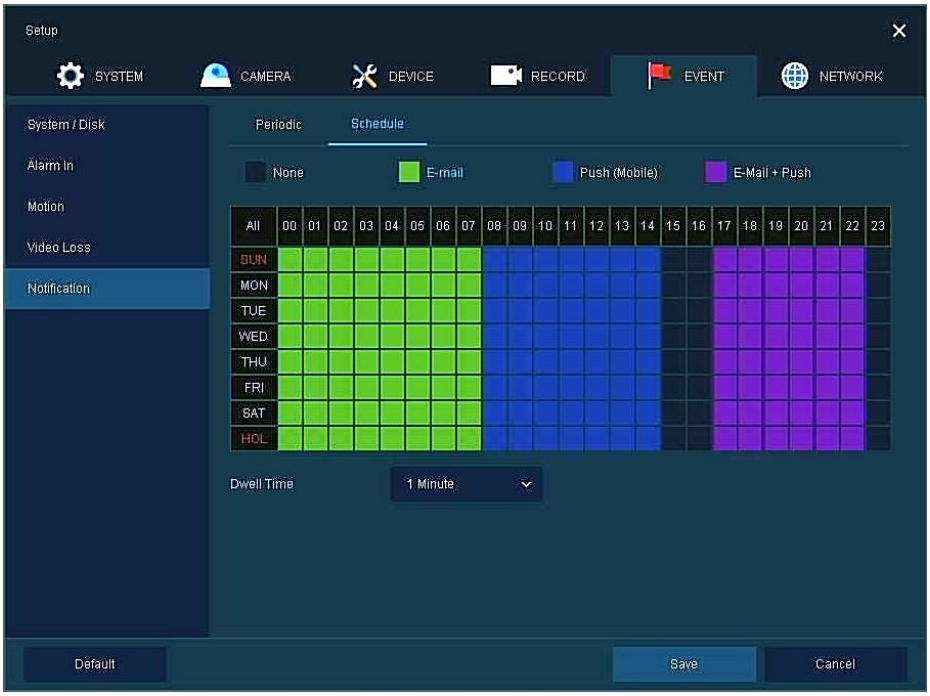


Figure 4-55 EVENT > Notification > Schedule

No.	Name	Function
1	**Notification Type Selection**	Select the types of notification. (None, E-mail, Push(Mobile), E-mail + Push
2	**Schedule Table**	Display the schedule users set.
3	**Drag Field**	Display the area dragged with a mouse.
4	**Dwell Time**	Set Notification dwell time(1Min~1Hour).

Note	For more information how to schedule record time when the alarm is detected, see section "4.5.1 Schedule."

4.7 NETWORK

In **NETWORK,** users may set the network environment.

4.7.1 Basic > WAN Port

To set the network environment

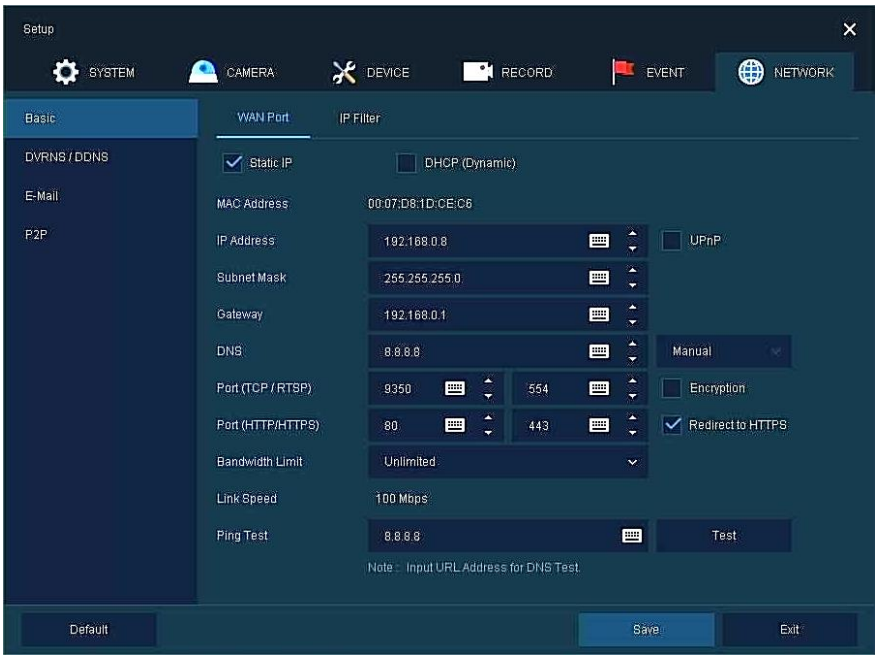


Figure 4-56 NETWORK > Basic > WAN Port

No.	Name	Function
1	**Static IP**	Check if you use static IP. For using static IP, enter IP address, Subnet Mask, and Gateway.
2	**DHCP (Dynamic)**	Select whether to use DHCP (Dynamic).
3	**MAC Address**	Display the MAC Address.
4	**IP Address SubnetMask Gateway**	Enter the each information properly. ** UPnP : Select to use UPnP protocol.*
5	**DNS**	Select manual and enter DNS; otherwise choose automatic function.
6	**Port (TCP/RTSP)**	Enter TCP and RTSP port. Default is 9350.
7	**Encryption**	Select the Encryption box for video data by using TCP port. Select to encrypt for video data through TCP port.
8	**Port(Http/Https)**	Enter HTTP/HTTPS port. Default is 80.
9	**Redirect to HTTPS**	Redirection to HTTPS when connecting via HTTP.
10	**Bandwidth Limit**	Select bandwidth to limit (Unlimited, 50Mbps, 10Mbps, 5Mbps, 2Mbps, 1Mbps, 500Kbps, 400Kbps, 300Kbps, 200Kbps, and 100Kbps).
11	**Link Speed**	Display current negotiated Ethernet speed.
12	**Ping Test**	Enter IP in Ping test and implement the text.

4.7.2 Basic > IP Filter

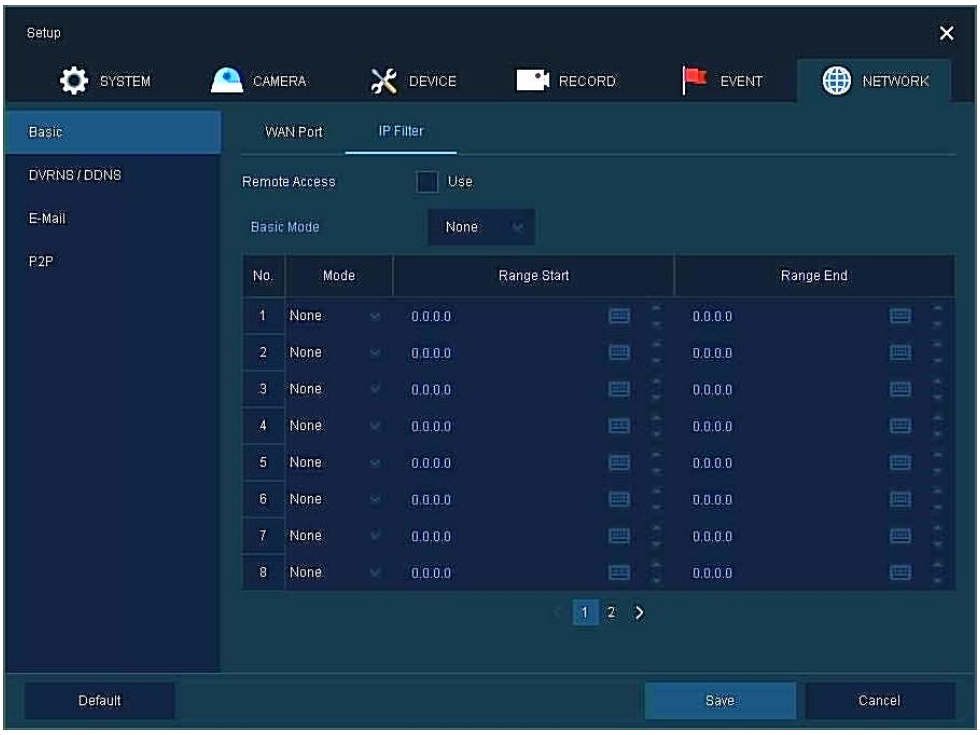


Figure 4-57 NETWORK > Basic > IP Filter

No.	Name	Function
1	**Remote Access**	Select **Remote Access** to allow a user to access this recorder from a remote site.
2	**Basic mode**	Select None to disallow access. Select Access to access IP address range. Select Deny to restrict IP address range.
3	**Mode**	Select None to follow Basic mode. Select Access to access IP address range. Select Deny to restrict IP address range.
4	**Range Start**	Enter the Start IP address to Access or to Deny.
5	**Range End**	Enter the End IP address to Access or to Deny.

4.7.3 DVRNS/DDNS

To set DVRNS/DDNS

DVRNS/DDNS > DVRNS/Dashboard

To register DVRNS/Dashboard account

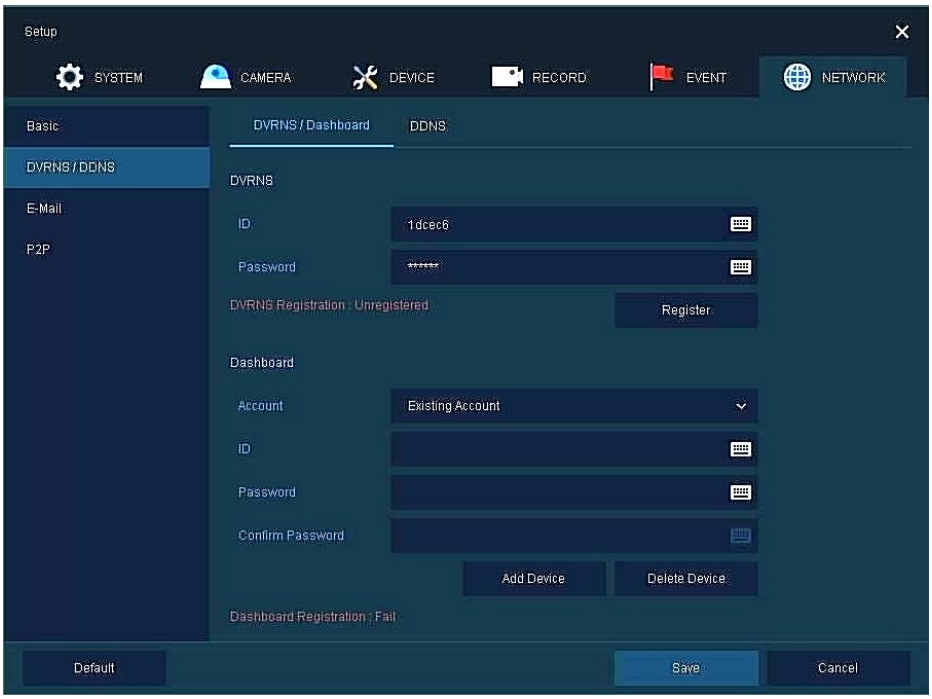


Figure 4-58 NETWORK > DVRNS/DDNS > DVRNS/Dashboard

No.	Name	Function
1	**DVRNS**	Register DVRNS account. ▪ ID: Enter DVRNS ID (default: MAC address of the unit) ▪ Password: Enter DVRNS password ▪ Register: Register DVRNS account
2	**Dashboard**	Add/delete Dashboard account. ▪ Account: Select the types of account (Existing Account or New Account) ▪ ID: Enter Dashboard ID ▪ Password: Enter Dashboard password ▪ Add Device: Add Dashboard account ▪ Delete Device: Delete Dashboard account

DVRNS/DDNS > DDNS

To set DDNS site for remote users to access in networking

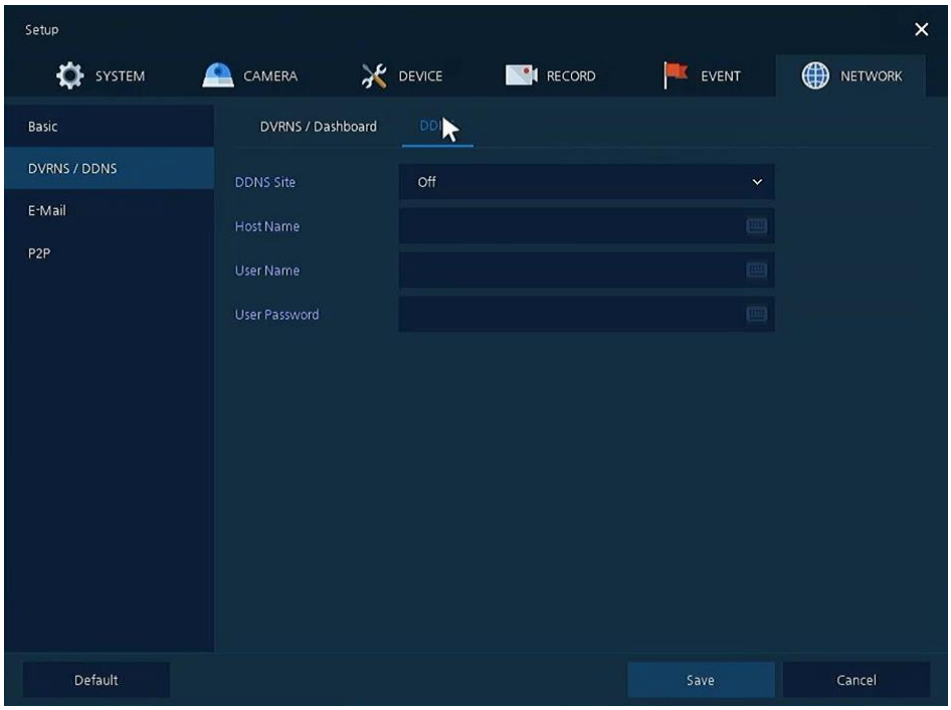


Figure 4-59 NETWORK > DVRNS/DDNS > DDNS

No.	Name	Function
1	**DDNS Site**	Select DDNS site.
2	**Host Name**	Enter the host name.
3	**User Name**	Enter the user name.
4	**User Password**	Enter the user password.

4.7.4 E-Mail

To set email server to send email on the occasion of event

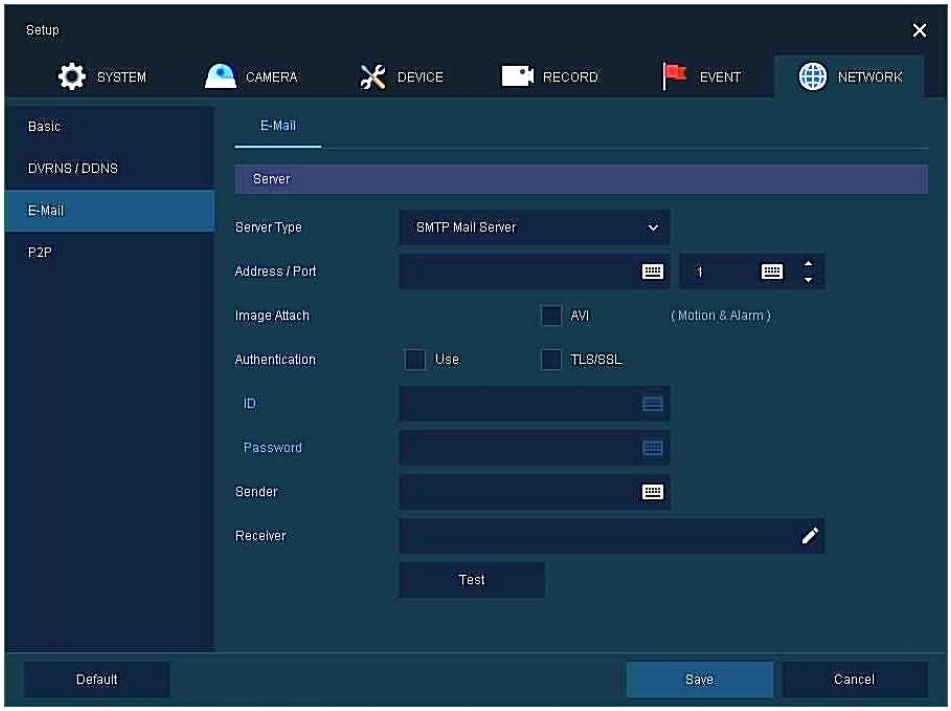


Figure 4-60 NETWORK > E-Mail > E-Mail

No.	Name	Function
1	**Server Type**	Select SMTP server. ▪ gmail.com ▪ hotmail.com ▪ aol.com ▪ naver.com ▪ daum.com
2	**Address/Port**	Enter server address and port number.
3	**Image Attach**	Select/deselect whether to attach AVI file.
4	**Authentication**	Select/deselect using authentication and password.
5	**ID**	Enter the email ID.
6	**Password**	Enter the email password.
7	**Sender**	Write the sender.
8	**Receiver**	Write the receiver.
9	**Test**	Verify whether the email server is set normally.

4.7.5 P2P

User can connect recorder from mobile app using QR code scan.

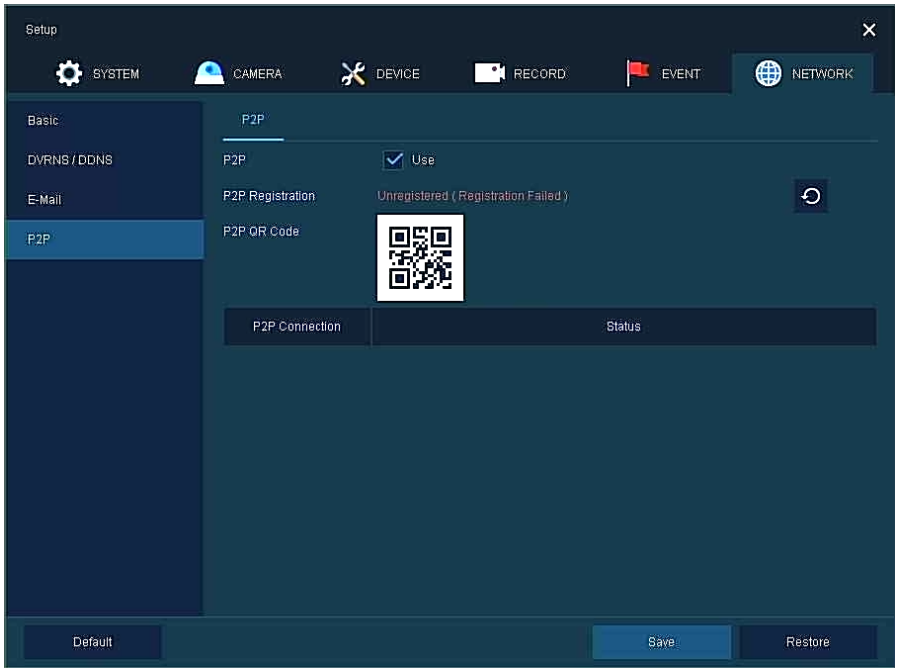


Figure 4-61 NETWORK > P2P > P2P

No.	Name	Function
1	**USE**	Select/deselect whether to use P2P function.
2	**P2P Registration**	Click button to check up registration status.
3	**P2P QR Code**	Scan QR code using mobile app to connect recorder.
4	**P2P Connection**	Display connection status.

5. Search/Playback

This chapter describes Live Launcher search and play menu in the below screen bar.

Figure 5-1 Live Launcher Search, Play menu

No.	Item	Description
1		Search recorded data (time, event, thumbnail, smart search and text).
2		Playback recorded data.

5.1 Search

This function searches recorded data as Time, Event, Thumbnail, Smart Search and Text.

Search > Time

Recording data is searched by date and time.

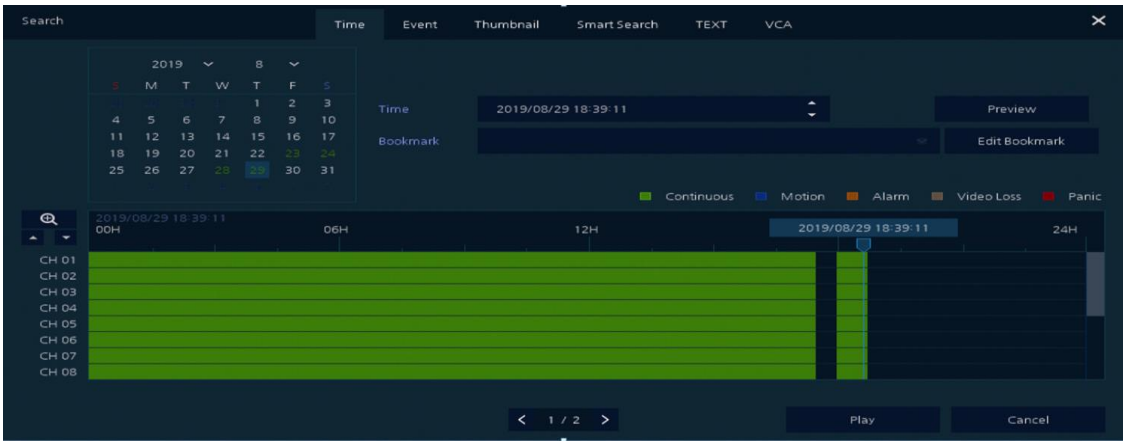


Figure 5-2 Search: Time

No.	Item	Description
1	**Calendar**	Selecting the date to search.
2	**Time**	Setting time to search.
3	**Bookmark**	Selecting a bookmark to search.
4	**Timeline**	Display timelines across channels.
5	**Preview**	Previewing video clips searched.
6	**Play**	Playing video clips. For more information about Live bar, see section "5.2 Playback".
7	**Cancel**	Ending search screen.

Search > Event

Recording data is searched by event type.

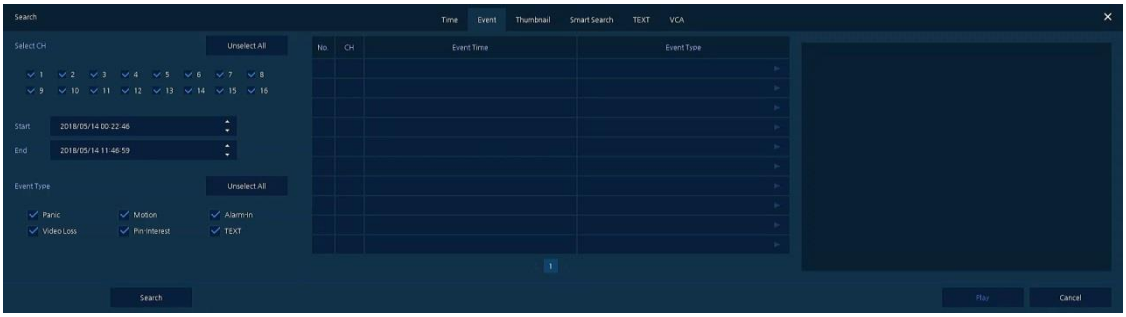


Figure 5-3 Search: Event

No.	Item	Description
1	**Select CH**	Select channels to search.
2	**Select All / Unselect All**	Select/deselect all channels.
3	**Start**	Setting starting time to search.
4	**End**	Setting ending time to search.
5	**EVENT TYPE**	Selecting the types of event (immediate recording, motion, Alarm-In, Video Loss, and bookmark).
6	**Search**	Searching the event.
7	**Event List**	Displaying event list searched.
8	**Thumbnail Field**	Displaying thumbnail images of selected event.
9	**Play**	Playing video clips selected. For more information about Live bar, see section "5.2 Playback".
10	**Cancel**	Ending search screen.

Search > Thumbnail

Recording data is searched and played back as a thumbnail image at intervals of time.

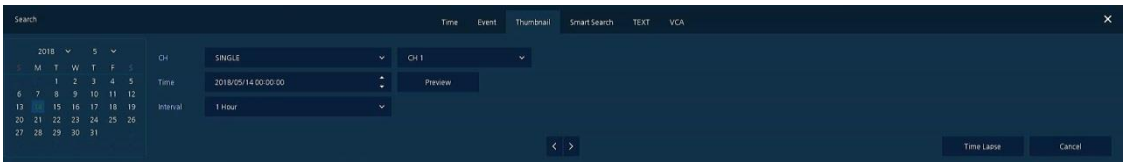


Figure 5-4 Search: Thumbnail

No.	Item	Description
1	**Calendar**	Selecting dates to search.
2	**CH**	Selecting channels to search.
3	**Time**	Selecting time to search.
4	**Interval**	Setting time interval for searching images.
5	**Time Lapse/Pause**	Playing or stopping videos searched.
6	**Cancel**	Ending search screen.

Search > Smart Search

Recording data is searched by detecting change of specific area.

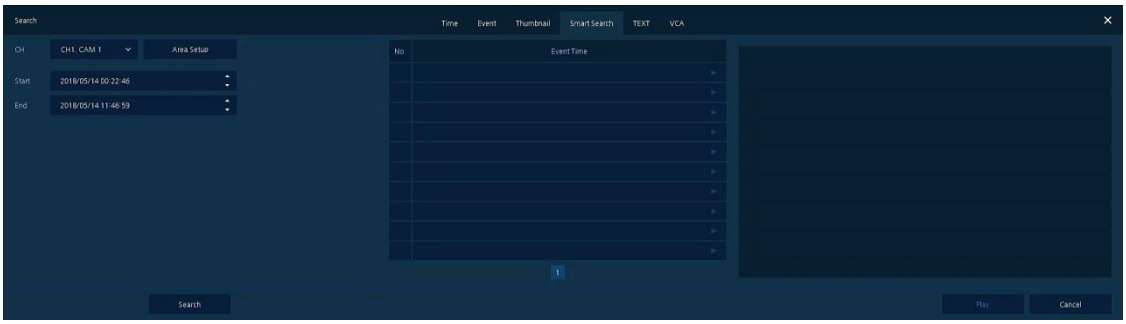


Figure 5-5 Search: Smart Search

No.	Item	Description
1	**CH**	Selecting channels to search.
2	**Area Setup**	Select area to search motion event.
3	**Start**	Setting starting time to search.
4	**End**	Setting ending time to search.

Search > TEXT

Recording data is searched by keyword.

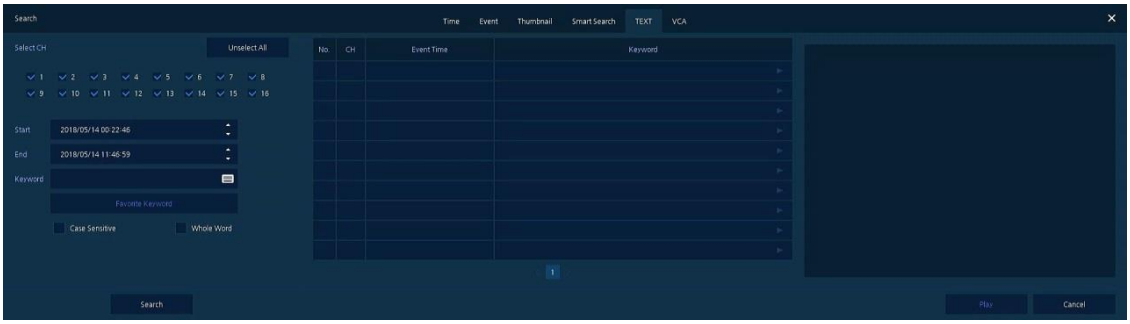


Figure 5-6 Search: TEXT

No.	Item	Description
1	**Select CH**	Select channels to search.
2	**Select All / Unselect All**	Select/deselect all channels.
3	**Start**	Setting starting time to search.
4	**End**	Setting ending time to search.
5	**Keyword**	Entering keyword to search.
6	**Case Sensitive**	Searching items in case-sensitive.
7	**Whole Word**	Searching items that include all words.
8	**Search**	Searching the event.
9	**Event List**	Displaying event list searched.
10	**Thumbnail Field**	Displaying thumbnail images of selected event.
11	**Play**	Playing video clips selected. For more information about Live bar, see section "5.2 Playback".
12	**Cancel**	Ending search screen.

Search > VCA

Recording data is searched by VCA event type.

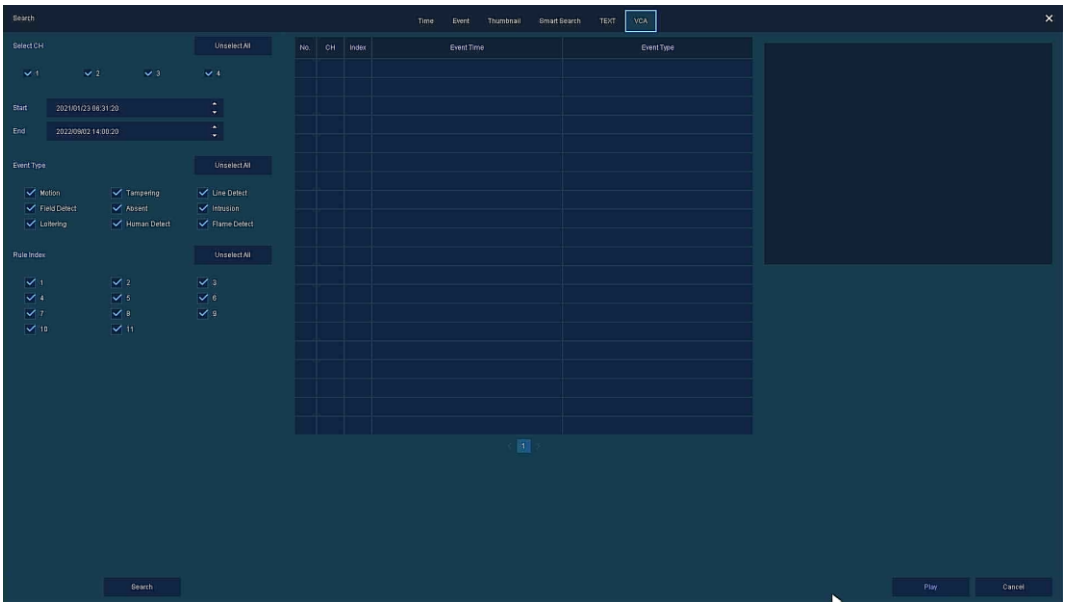


Figure 5-7 Search: VCA

No.	Item	Description
1	**Select CH**	Selecting channels to search
2	**Start, End**	Set start time and end time.
3	**Event Type**	Selecting VCA event type.
4	**Rule Index**	Selecting VCA rule index type.
5	**Search**	Search VCA event.
6	**Event List**	Displaying event list searched
7	**Thumbnail Field**	Displaying thumbnail images of selected event
8	**Play**	Playback selected event.
9	**Cancel**	Ending search screen

5.2 Playback

To play recorded data

Figure 5-8 Playback Launcher

No.	Item	Description
1	▶	Display present play status.
2	**Date and Time**	Display date and time of playing videos.
3	⏮	Go to first section of the video.
4	◀◀	Play fast backward(2~64x).
5	◀|	Decrease speed under playback mode (1/2~1/8x), Backward step under pause mode
6	◀	Play backward
7	⏸ ▶	Play forward and pause the videos
8	|▶	Play forward step.
9	▶▶	Play fast forward(2~64x).
10	⏭	Go to last section of the video.
11	‹ ›	Moving to previous/next partition screens
12	⛶ ⊞ ⋮⋮ ⊞16	Selecting the partition mode to mark in the screen
13	🔇	Audio output on-off(toggle).
14	🔍	Searching the recorded data (time, event, thumbnail, smart search, text, and VCA). For more information about search, see section "5.1 Search."
15	←	Closing playing videos and moving to live screen.
16	▲ ▼	Opening or closing the record time-line.
17	📌	Activating/deactivating automatic hidden function of Launcher menu.

Clicking opens **Record Time-Line**.

Figure 5-9 Playback Launcher > Record Time-Line

No.	Name	Function
1	**Time lines**	Shows the recording status. Select the desired time with the mouse to playback.
2		Add bookmarks at the selected time in the Time line.
3		Run a Manual backup. See "3.2.1 Backup" to display detailed information about back-up.
4		Open the calendar window and select a date from the calendar.
5		Show time bar by single channel, quad channels or all channels.
6		Show time line by 1hour or 24hours (toggle).

Click mouse right button to open **quick menu** in the playback mode.

Figure 5-10 Playback Quick menu

No.	Item	Description
1	**Screen Mode**	Select the partition mode of live screen (Full, 2X2, 3X3, and 4x4).
2	**Zoom in**	Magnify selected live screen (2x, 4x 8x). This menu is shown full screen mode only.
3	**VCA Overlay**	VCA overlay on the screen.
4	**Speaker Output/Mute**	Turning on/off a sound speaker.
5	**Spot Monitor**	Set the output mode of a spot monitor (SEQ, Full, and 2x2).
6	**Goto Live**	Stop playback and return to live mode.
7	**Search**	Open Search window.
8	**Backup**	Open manual backup menu.
9	**Status**	Open Status window.
10	**Set Bookmark**	Save the bookmark.

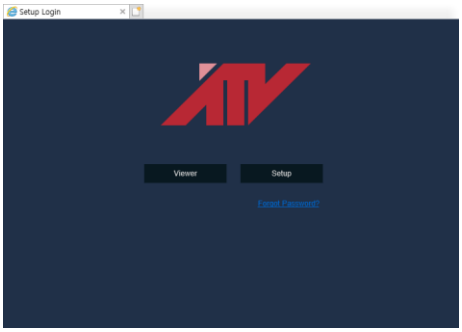
6. Webviewer

This chapter describes webviewer for monitoring videos through a PC in remote mode.

How to monitor with webviewer.

Item	Recommended	Minimum
OS	Microsoft® Windows® 10 x86(64bit) (Home Premium, Professional, Ultimate) Microsoft® Windows® 8(pro, Enterprise)	Microsoft® Windows® XP Home SP3
CPU	Intel CoreTM i5-2550 3.30GHz or higher	Intel CoreTM 2 Duo E7200 2.53GHz or higher
RAM	4GB or higher	2GB or higher
VGA	ATI RadeonTM HD 3650 or NVIDIA GeForce 8400GS or higher(1280x1024, 32bpp or Higher), Multi Monitor	ATI RadeonTM HD 2400 or NVIDIA GeForce FX5500 or higher(1024x768, 24bpp or higher)
HDD	Over 6GB	Over 1GB
LAN	Gigabit Ethernet	10/100 Mbps Ethernet

1. Enter IP address of a recorder in Internet browser.

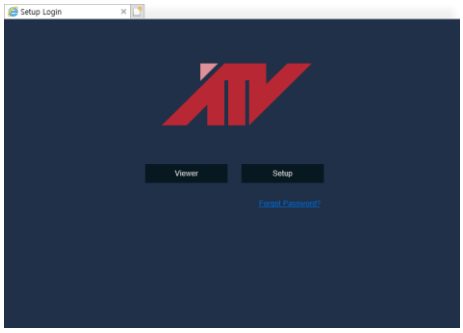


2. Click the button and then enter ID and Password.
   - Viewer: playing recorder Live images
   - Setup: setting menu in similar ways with recorder connected monitor.

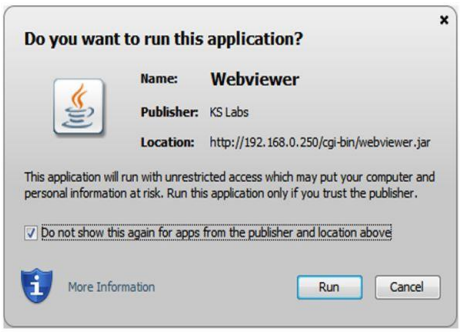
For using Viewer, users need to download Java. The way to download is shown as follows:

In case of selecting Viewer(Internet Explorer)

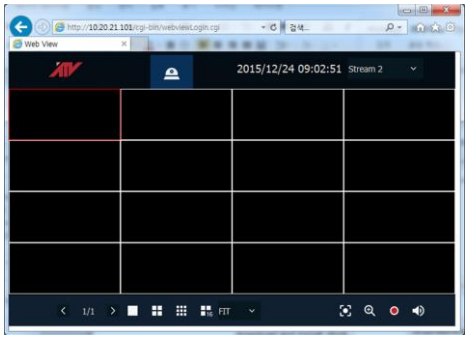
1. Click **Viewer**.



2. When Java download screen opens, download and install JAVA.



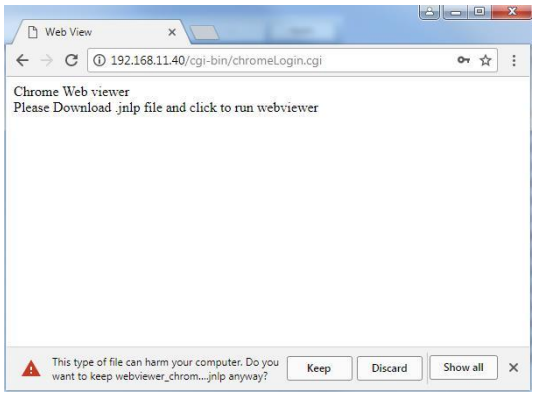
3. Live images may be monitored.



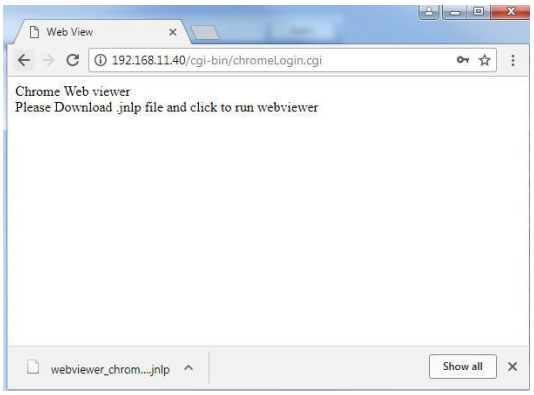
In case of selecting Viewer(Chrome)

1. After click **Viewer**, .jnlp file can be downloaded.

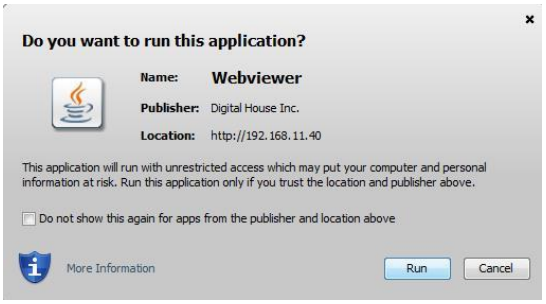
   Click **Keep** button.



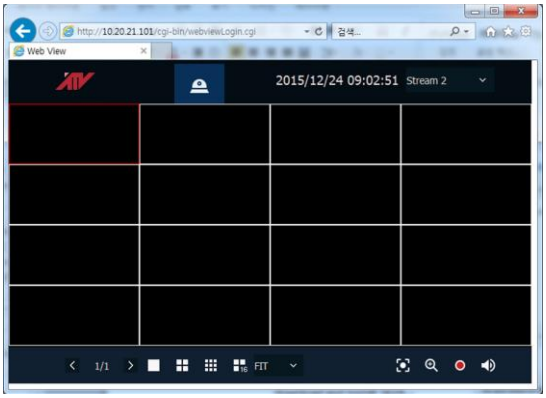
2. Click **webviewer_chrome.jnlp.**



3. When Java download screen opens, download and install JAVA.



4. Live images may be monitored**.**



In case of selecting Setup

Users can set the menu in similar ways with DVR connected monitor.

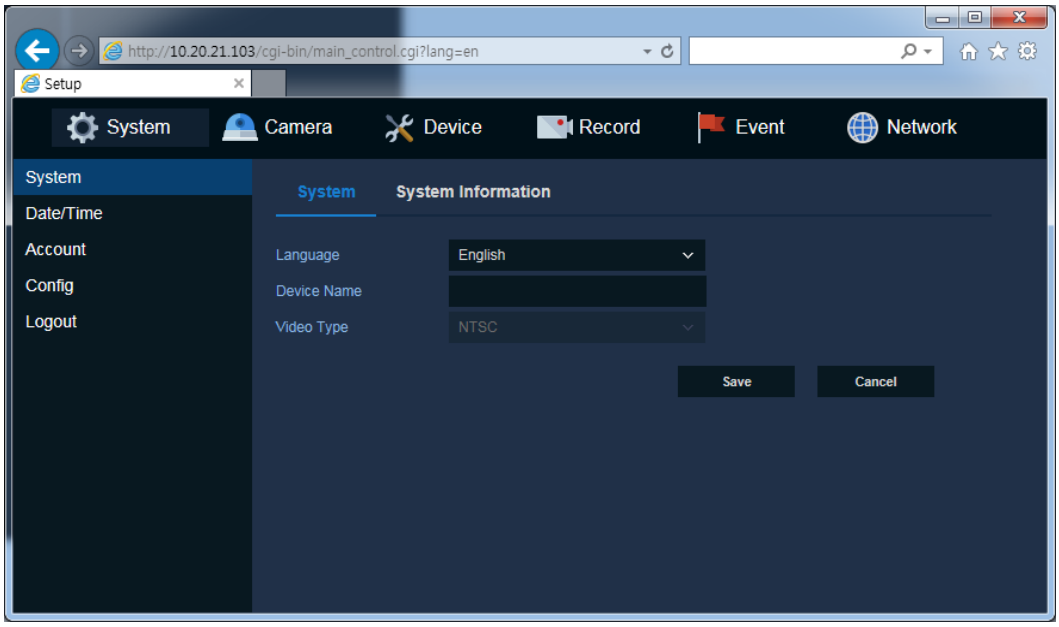


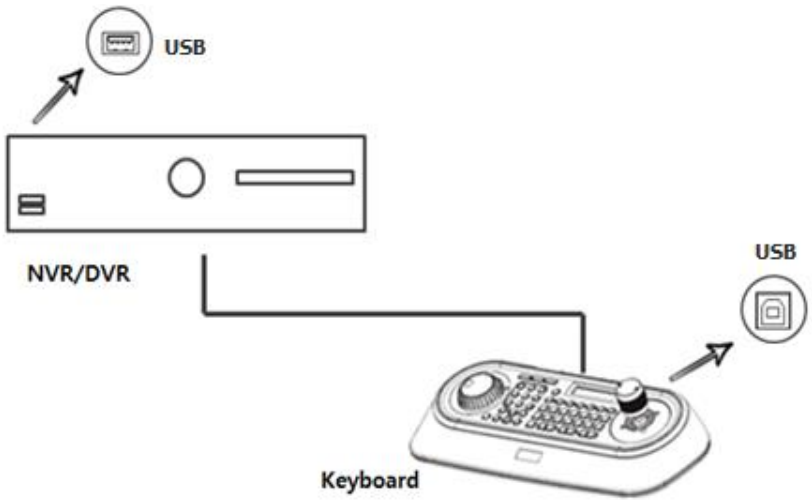
Figure 6-1 Setup screen

7. Appendix

7.1 Installing System Keyboard

To setup the keyboard controllers, the user needs to setup the network, passwords and perform special tasks such as Uploading and Downloading programmed data from the dome cameras. To enter the Keyboard menu, press and hold CTRL and press MENU expressed as CTRL + MENU in the manual. You will see the following menu.

Keyboard Setup- for USB



MAIN MENU
Configuration
Network
Camera
Time/Date
Alarm
LCD
Data Bank
Initialization
Information
Information
Hold Time: 005s
SAVE AND EXIT

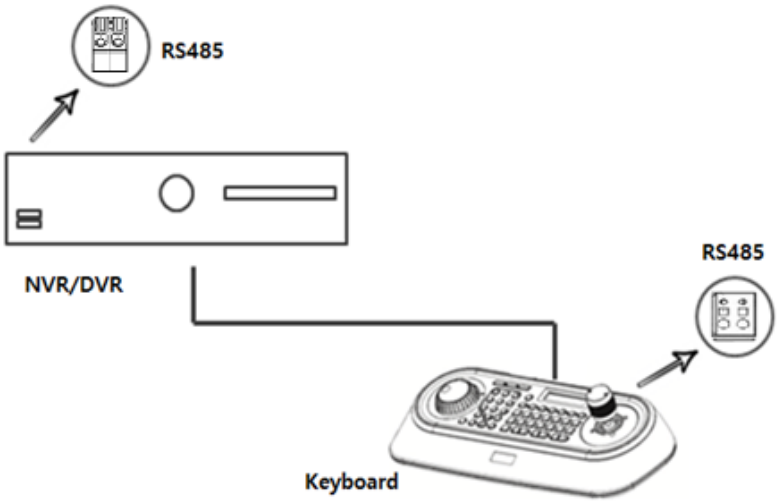
Network
Baud Rate
Com Ports
USB: ON
Mux Config
Set Slave KBD
SAVE AND EXIT

Set USB On in the keyboard menu.

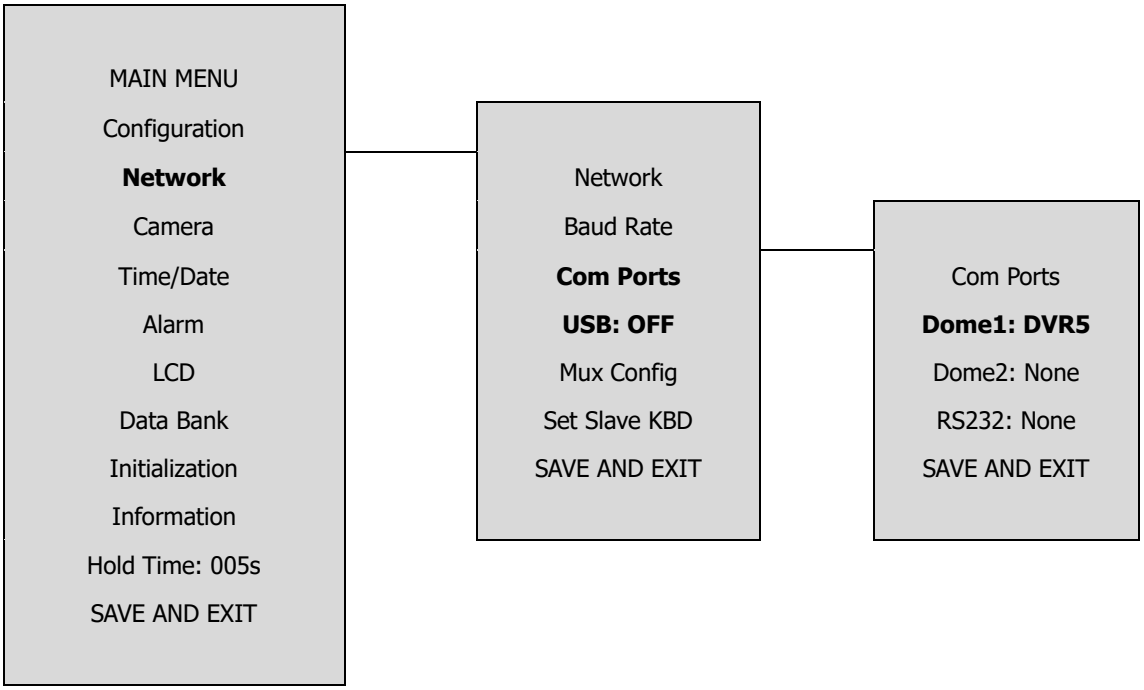
Menu	Status	Configuration
USB	**ON**	Client Keyboard : Only USB Port(The other ports and slave keyboards are not supported)
	OFF	General Keyboard : Dome1/Dome2/RS232(The USB port is not supported)

Note	If Keyboard Controller power is disconnected and reconnected, you must also disconnect and reconnect the USB either from the Keyboard Controller or DVR/NVR side

Keyboard Setup- for RS485



SET USB Off and Dome1: DVR5 in keyboard menu.



Recorder Setup

Set serial port of recorder.

Device > Serial Device

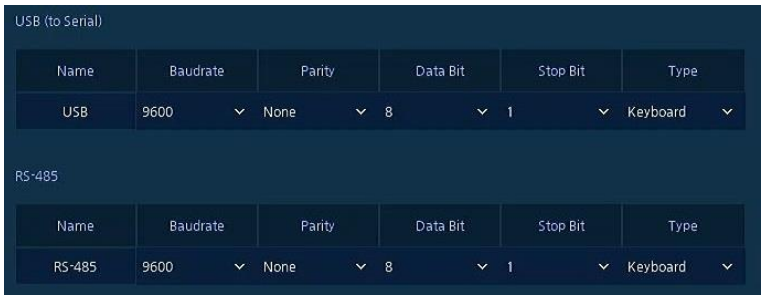


Figure 7-1 Device > Serial Device

In case of USB Connection

Name	Baudrate	Parity	Data	Stop bit	Type
USB	9600	None.	8	1	Keyboard

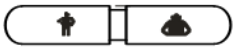
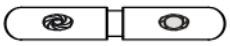
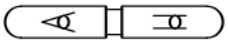
In case of RS-485 Connection

Name	Baudrate	Parity	Data	Stop bit	Type
RS-485	9600	None.	8	1	Keyboard

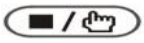
KBD Controller Keys in Live mode

Function	Key Label	Descriptions
Menu	MACRO (MENU)	Enter the DVR/NVR MENU screen. Pressing the button also closes the MENU screen. Using the Joystick, you can navigate menu and select by turning the Joystick clockwise. This will also function as Enter.
Display Mode		Change the display mode to different split screen.
PTZ	PTZ	Control PTZ camera(s) connected channel(show icon). In the PTZ control mode, PTZ icon change to . Please MACRO (MENU) to open PTZ quick menu. Press PTZ button again to exit PTZ mode.
Enter	SET	Select a highlighted item or completes an entry that you have made. Using the Joystick and turning it clockwise will also function as Enter.
Full Screen and Input Number	**No.+** MAIN	Displays selected channel in full screen. However, when selecting a channel to display in full screen, no channels must be highlighted (yellow border) in the multi-channel mode.
Digital Zoom		From Live display, select the desired channel and press Zoom button to activate the Zoom Mode. Twist joystick to zoom in and out control. Press again to exit zoom mode
Digital Zoom Control		Digital zoom in/out control.
Freeze	FRE	From Live Display, click the FRE button to activate the Freeze Mode.
Auto Sequence Mode	SEQ	When in the Live Mode, press the SEQ button will display another full live channel sequentially.
Alarm		Will turn off the alarm and beep.
Record		Toggle will start and stop the panic recording operation.
Search	SCAN	Open search menu. Press again, menu move to Time -> Event -> Thumbnail -> Smart Search -> Text -> VCA. Click cancel in the recorder menu or press to exit search menu.
Play		Go to Playback mode. During playback, pause the video.
Joystick		- The use of the Joystick will allow you select channels, view in different modes (single or multiple), Zoom in/out, Select/Enter or navigate through menu. - Turn the Joystick counter clockwise for single view mode.

KBD Controller Keys in PTZ mode

Function	Key Label	Descriptions
PRESET, TOUR, PTRN, SCAN Action	No. + PRST TOUR PTRN SCAN	PRST, TOUR, PTRN, SCAN action
PRESET Setting	No. + CTRL PRST	Preset save.
Zoom		Zoom in/out control. Turn the Joystick clockwise or counter clockwise for zoom in/out control.
Iris		Iris Open/Close control, Smart focus(specific camera). Open camera OSD menu(specific camera)
Focus		Focus Near/Far control.
Configuration	MENU	Enters PTZ programming menu.
Control	CTRL	CTRL + Joystick : In a programming mode (Preset, Pattern, Scan, Privacy….) the joystick operates as if in the normal control mode. While pressing and holding down the CTRL key, all movements of the joystick will start recording when in the pattern programming menu
Cancel	ESC	Cancels current inputs. Exits from currently running functions or menu, error status, etc.
Enter	ENTER	Completes entering data for the password or title
PTZ	PTZ	Enter or exit PTZ mode.
Menu	MACRO MENU	Open PTZ quick menu.
Enter	SET ↵	Enter button under quick menu or pop-up menu.
Channel Change	**No. +** MAIN	Channel change.
Joystick		PTZ control or menu navigation control.

KBD Controller Keys in Playback mode

Function	Key Label	Descriptions
Play Back Control		Play/Pause recorded data
Play Back (PB) Stop		Pause/Play, Fast Forward, Fast Rewind, Forward One Frame, Go Back One Frame
Play Back (PB) Stop		Stop Playback and return to Live mode
Jog/Shuttle		Fast Forward, Fast Rewind, Forward One Frame, Go Back One Frame

8. Products Specifications

MODEL		4CH DVR	8CH DVR	16CH DVR
VIDEO				
Video Input Channel		Up to 4ch	Up to 8ch	Up to 16ch
Video Input Type		AHD, TVI, CVBS, IP	AHD, TVI, CVBS, IP	AHD, TVI, CVBS, IP
Video Input Resolution	BNC	4M, 1080p, 720p, 960H, D1(CVBS)	4M, 1080p, 720p, 960H, D1(CVBS)	4M, 1080p, 720p, 960H, D1(CVBS)
	IP	Up to 2M	Up to 2M	Up to 2M
Display Output		1 VGA, 1 HDMI, 1 BNC(Spot, CVBS)	1 VGA, 1 HDMI, 1 BNC(Spot, CVBS)	1 VGA, 1 HDMI, 1 BNC(Spot, CVBS)
Display Output		1 VGA, 1 HDMI	1 VGA, 1 HDMI	1 VGA, 1 HDMI
Display Resolution	VGA, HDMI	3840x2160, 1920x1080, 1280x720, 1024x768	3840x2160, 1920x1080, 1280x720, 1024x768	3840x2160, 1920x1080, 1280x720, 1024x768
	Spot	1.0 Vp-p (75 ohm, Composite)	1.0 Vp-p (75 ohm, Composite)	1.0 Vp-p (75 ohm, Composite)
Display Speed		100/120fps	200/240fps	400/480fps
Display Mode	VGA, HDMI	1/4 Split, Sequence	1/4/8/9 Split, Sequence	1/4/8/9/10/16 Split, Sequence
	Spot	1/4 Split, Sequence	1/9 Split, Sequence	1/16 Split, Sequence
RECORDING				
Compression		H.264/H.265	H.264/H.265	H.264/H.265
Recording Resolution	BNC	4M, 1080p, 720p, 960H	4M, 1080p, 720p, 960H	4M, 1080p, 720p, 960H
	IP	Up to 2M	Up to 2M	Up to 2M
Recording Speed		Main stream : 60fps@4M, 120fps@1080p Sub Stream : 120fps@VGA	Main Stream : 120fps@4M, 240fps@1080p Sub Stream : 240fps@VGA	Main Stream : 120fps@4M, 240fps@1080p Sub Stream : 240fps@VGA
Recording Mode		Continuous, Motion, Alarm, C+M, C+A, M+A, C+M+A, Panic	Continuous, Motion, Alarm, C+M, C+A, M+A, C+M+A, Panic	Continuous, Motion, Alarm, C+M, C+A, M+A, C+M+A, Panic
Pre Alarm		1 ~ 3sec	1 ~ 3sec	1 ~ 3sec
Post Alarm		5sec ~ 1hour	5sec ~ 1hour	5sec ~ 1hour
PLAYBACK				
Simultaneous Playback		1/4 Split	1/4/8/9 Split	1/4/8/9/10/16 Split
Playback Mode		Backward, Forward 2x~64x, Timelaps	Backward, Forward 2x~64x, Timelaps	Backward, Forward 2x~64x, Timelaps
Search Mode		Time, Event, Thumbnail, Text, Smart(motion)	Time, Event, Thumbnail, Text, Smart(motion)	Time, Event, Thumbnail, Text, Smart(motion)

MODEL	4CH DVR	8CH DVR	16CH DVR
STORAGE			
Internal HDD	2 HDD	2 HDD	2 HDD
Backup	USB	USB	USB
Backup File Format	MP4, H4V	MP4, H4V	MP4, H4V
FUNCTION			
PTZ & OSD Control	RS485, UTC	RS485, UTC	RS485, UTC
Text In	POS/ATM (Network, VSSI-Pro, ASCII)	POS/ATM (Network, VSSI-Pro, ASCII)	POS/ATM (Network, VSSI-Pro, ASCII)
User Interface	Mouse, USB/RS485 Keyboard, IR Remote Control(option)	Mouse, USB/RS485 Keyboard, IR Remote Control(option)	Mouse, USB/RS485 Keyboard, IR Remote Control(option)
NETWORK			
Ethernet	1 RJ45 10/100 Base-T	2 RJ45 10/100/1000 Base-T	2 RJ45 10/100/1000 Base-T
Max. Output Throughput	Unlimited (Guarantee 72Mbps, Support Bandwidth Control)	Unlimited (Guarantee 144Mbps, Support Bandwidth Control)	Unlimited (Guarantee 288Mbps, Support Bandwidth Control)
Remote Monitoring	CMS, Mobile, Web, Dashboard	CMS, Mobile, Web, Dashboard	CMS, Mobile, Web, Dashboard
EXTERNAL IN/OUT			
Audio In	4 RCA	4 RCA	4 RCA
Audio Out	1 RCA, 1 HDMI	1 RCA, 1 HDMI	1 RCA, 1 HDMI
Alarm In	4 Input(Terminal block) Relay 1A-24VDC / 0.5A~125VAC	8 Input (Terminal block) Relay 1A-24VDC / 0.5A~125VAC	16 Input (Terminal block) Relay 1A-24VDC / 0.5A~125VAC
Alarm Out	1 Output(Terminal block)	1 Output (Terminal block)	1 Output (Terminal block)
Serial Port	1 RS485(Terminal block)	1 RS485(Terminal block)	1 RS485(Terminal block)
USB	3 USB (Front : 1 / Rear : 2)	3 USB (Front : 2 / Rear : 1)	3 USB (Front : 2 / Rear : 1)
ETC			
Operating Humidity	0 ~ 90% RH (Non-condensing)	0 ~ 90% RH (Non-condensing)	0 ~ 90% RH (Non-condensing)
Operating Temp.	0℃ ~ +40℃	0℃ ~ +40℃	0℃ ~ +40℃
Power Supply (See Note 1)	12V/3.3A	12V/5.0A	12V/5.0A
Power Consumption	30W (Include 2HDD)	33W (Include 2HDD)	35W (Include 2HDD)
Dimension(WxHxD)	375 x 45.0 x 318.2mm	375 x 45.0 x 318.2mm	375 x 45.0 x 318.2mm
Net Weight	Approx. 2.3Kg(Exclude HDD)	Approx. 2.3Kg(Exclude HDD)	Approx. 2.5Kg(Exclude HDD)

※ Specifications are subject to change without notice.

Note 1: When connecting IP cameras and installing HDD's,
ensure devices do not exceed the maximum power specification

4/8/16 CHANNEL DIGITAL VIDEO RECORDER

USER MANUAL