DIGITAL WATCHDOG
Complete Surveillance Solutions

USER MANUAL

Compressor™

Analog to IP Video Encoder

DW-ENHD16

Default Login Information	
Username: **admin**	Password: **admin**

WHAT'S IN THE BOX

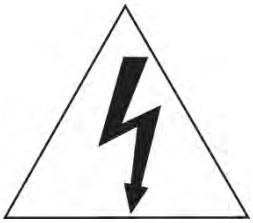
QSG Manual		1 Set	12V D/C & Power Cable		1 Set

NOTE: Download All Your Support Materials and Tools in One Place

1. Go to: **http://www.digital-watchdog.com/support-download/**
2. Search your product by entering the part number in the **'Search by Product'** search bar. Results for applicable part numbers will populate automatically based on the part number you enter.
3. Click **'Search'**. All supported materials, including manuals, Quick Start Guides (QSG), software and firmware will appear in the results.

Rev: 03/19

CAUTION



CAUTION

RISK OF ELECTRIC SHOCK DO NOT OPEN

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

WARNING
TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EX-POSE THIS PRODUCT TO RAIN OR MOISTURE. DO NOT INSERT ANYMETALLIC OBJECT THROUGH THE VENTILATION GRILLS OR OTHER OPENNINGS ON THE EQUIPMENT.

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 subject to 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 to comply with the limits for a “Class A” digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

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

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 adequatemeasures.

CE COMPLIANCE STATEMENT

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

IMPORTANT SAFETY INSTRUCTIONS

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 IEC60950-1/UL60950-1 or Certified/Listed Class 2 power source only.
17. ITE is to be connected only to PoE networks without routing to the outside plant.

Table of Contents

Table of Contents 5

1. Overview **7**

1.1 Package contents 8

1.2 Encoder description 8

2. Installation **9**

2.1 Connecting exterior devices 9

2.2 Starting the system 11

2.3 Quick Setup 11

2.3.1 Account 11

2.3.2 System 12

2.3.3 Network 12

2.3.4 Time/Date 12

3. Live Screen Configuration **13**

3.1 Icons in live screen 14

3.2 Live launcher menu 15

3.3 Quick menu 16

3.3.1 PTZ control 17

3.3.2 Status > System log 18

3.3.3 Status > Event 19

3.3.4 Status > Stream 20

4. Setup menu **21**

4.1 General buttons in setup menu 22

4.2 SYSTEM 23

4.2.1 System 23

4.2.2 Time/Date 25

4.2.3 Account > User 28

4.2.4 Configuration (Config) 30

4.3 CAMERA 32

4.3.1 Basic 32

4.3.2 Advanced 34

4.4 DEVICE 36

4.4.1 Display 36

4.4.2 PTZ > PTZ 41

4.4.3 Serial Device > Serial Device 42

4.5 EVENT 43
4.5.1 System 43
4.5.2 Alarm In 44
4.5.3 Motion 47
4.5.4 Video Loss > Setup 49
4.5.5 Notification 50
4.6 NETWORK 52
4.6.1 Basic > WAN Port 52
4.6.2 DVRNS/DDNS 53
4.6.3 E-Mail 55
4.6.4 Notification Server 56

5. Webviewer Error! Bookmark not defined.

5.1 How to monitor with webviewer 58
5.1.1 In case of selecting Viewer (Internet Explorer) 59
5.1.2 In case of selecting Setup 60

6. Products Specifications 61

1. Overview

This chapter describes the encoder, its components and their terms and features.

This manual introduces a 16ch HD Encoder which monitors and controls HD analog cameras.

Users can monitor HD analog cameras through network and also can be monitored by local HDMI monitor.

The device features include the following:

- The most cost-effective path to IP
- Supports HD-Analog, HD-TVI and all CVBS signals up to 2.1MP/1080p resolution
- Connect your analog cameras to DW Spectrum® IPVMS or any ONVIF approved CMS
- Convert up to 16 analog cameras to an IP video signals
- Real-time 480fps 2.1MP/1080p, 720p and 960H resolution at local monitoring output
- Simultaneous streaming
- Works with DW Spectrum® IPVMS recording license (needs 4 x DW-SPCP04LSC004, sold separately)
- Support motion detection
- Support two-way audio (4 input, 1 output)
- 1x RS-485 Interface for PTZ control
- Search and playback from DW Spectrum® IPVMS
- Frame rate and bandwidth control
- 4 alarm input, 1 alarm output
- Event notifications via e-mail with image
- ONVIF conformant, Profile S

1.1 Package contents

The device package contents consist of the following:

⚠ Note	Please check all components involved.

Table 1-1 Package contents

No	Name	No	Name
1	Encoder	3	Quick guide
2	DC Power Adapter & Power cord		

1.2 Encoder description

Refer to the diagrams below for buttons description and ports on the back of the encoder.

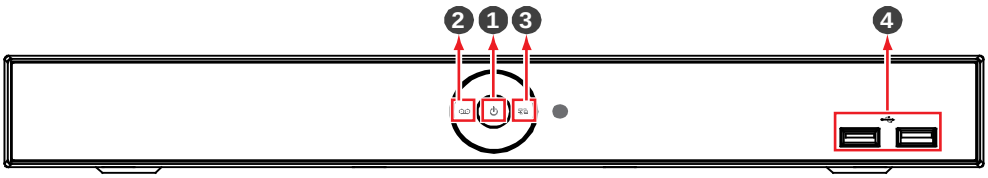


Figure 1-1 Name and Connection of each front section

Table 1-2 Name and Function of each front section

No.	Name	Function
1	⏻	Power is on/off.
2	⊙⊙	Not in use.
3	🖧	The encoder is being accessed remotely via the network.
4	USB port	The encoder includes 2 USB ports

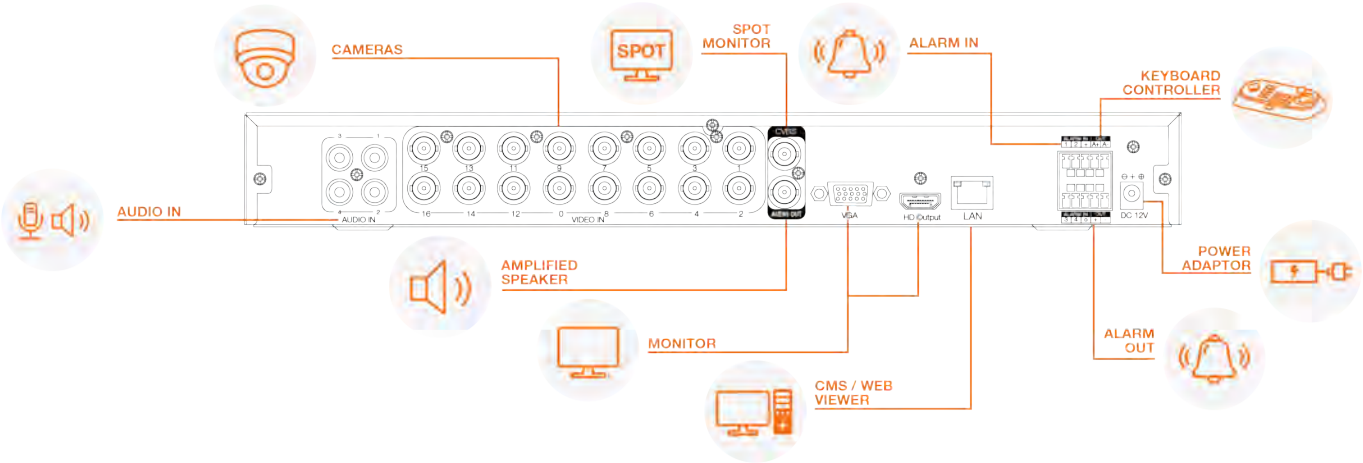


Figure 1-2 Name and Connection of each rear section

2. Installation

Mount and install any external devices such as cameras, sensors and microphones according to the installation instructions. Connect the external devices to the encoder's rear based on the diagram above. Below is an example of a proper connection between the Compressor, the cameras, and your remote monitoring software.

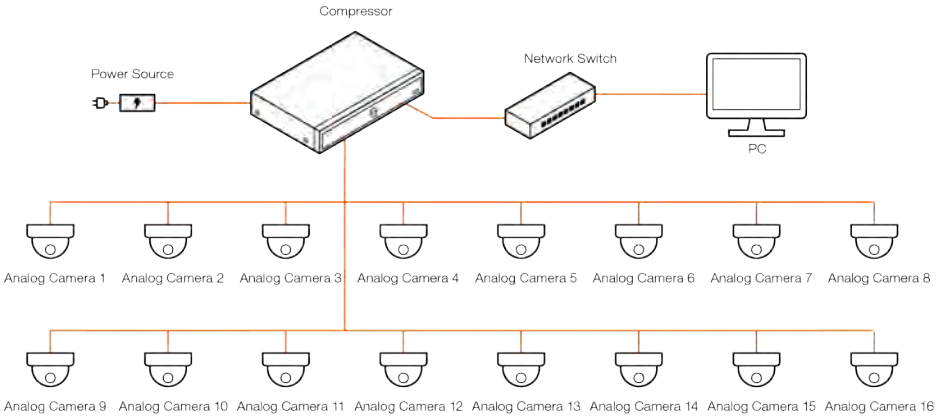
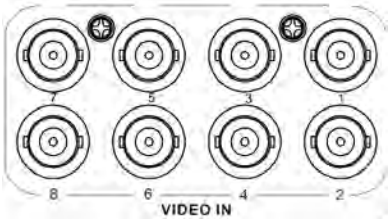


Figure 2-1 Connection map

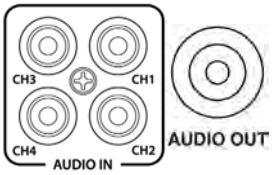
2.1 Connecting exterior devices

How to connect external devices to the ports in the back of the device:

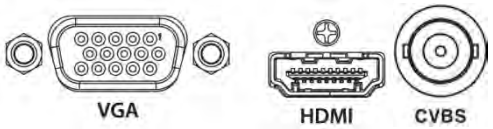
1. Place the unit in a stable flat surface.
2. Do NOT install the device too close to the wall. Protrusive connectors in the rear of the unit may be forcedly curved or pressed, which can cause fires, electric shocks, or injury.
3. When connecting external devices to the encoder, make sure the system is off and the power cable is disconnected.
4. Connect analog cameras to the video in ports in the back of the encoder. The encoder will detect the camera's signal automatically upon connection.



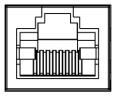
5. Connect a microphone to the audio input ports and a speaker to the audio output port. Be sure to check regulations in the area whether recording to be legal or not.



6. Connect a monitor to the VGA, HDMI or CVBS port.

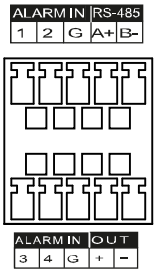


7 Connect a network cable to the network port.

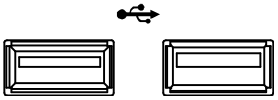


LAN

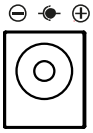
8 Connect an alarm and RS485 devices to the terminal block as needed.



9 Connect a USB mouse to either one of the USB ports in front panel of the unit.



10 Once all external devices are connected properly, connect the encoder to an adequate power supply using the included cables.



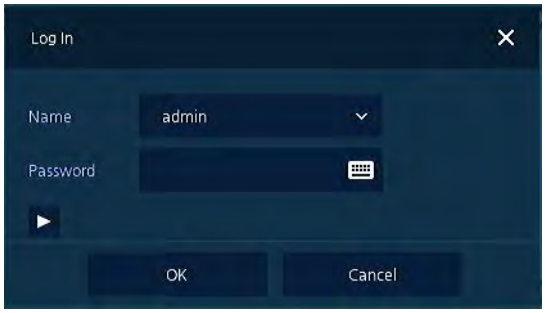
DC 12V

Note	The encoder does not have a power button. The system boots up automatically upon connection to an external power source.

2.2 Starting the system

Once all external devices have been connected to the back of the encoder, and the encoder has been added to the network properly, per the example above, power up the encoder and begin the quick setup wizard.

1. When the encoder boots up, it will be in protective mode. You will not be able to access the encoder's setup menu until you login using the proper username and password.
2. To unlock the encoder, right-click anywhere on the screen. The login screen will appear. (Default user name / password: admin / admin)



3. When the encoder boots up for the first time, you will be guided through the Startup Wizard. It is highly recommended that you change your password after initial setup for security purposes.

Note	Default user name and password are admin/admin. Click ▶ to see the encoder's MAC address. If you lost your password, contact DW's technical support to reset it.
⚠ **Attention**	Please change password after login due to security.

2.3 Quick Setup

The quick setup wizard helps users setup the encoder's main settings, including account setup, system settings, network settings and date and time settings.

2.3.1 Account

1. Click the keyboard icon to set **a new user name** and **password**. It is highly recommended to change the default admin password.
2. Press **OK, then Save** to save the changes.
3. Press **Next** button to end Account setting.

2.3.2 System

1 Adjust the system settings in this screen:

- Language: Select system language.
- Device Name: Enter the device name.
- Keyboard ID: Setup the encoder's ID to match the ID settings of a keyboard controller. If you are controlling multiple encoders, setup different IDs for each encoder.
- HDMI / VGA: Set the resolution for the local monitor output connection.

2 Press Save button to save changes.

3 Press Next to end system settings.

2.3.3 Network

1. Set the encoder's network settings to match your network's requirements. It is recommended to set the network type to DHCP and let the encoder auto-detect the network's settings. Then, change the type to Static.
   Please contact your network administrator for more information.
   - WAN Port: Select whether to use static IP or dynamic IP.
   - IP Address, Subnet Mask, Gateway, DNS, and Port: If dynamic network has been selected in the WAN Port options, all these settings will be adjusted automatically to match your network. If Static IP is selected, manually enter all the necessary information.
2. Press **Save** button to save changes.
3. Press **Next** to end Network settings.

2.3.4 Time/Date

1. **Set each item in Time/Date** setting screen.
   - Network Time Sync: Select network for synchronizing with a time server.
   - System Time: Select if you do not wish to synchronize your encoder with a network time server. Set the device time and select whether to enable Daylight saving time (DST).
   - Time Zone: Select time zone for the system being installed.
   - DST Start/End: For Daylight saving time, set the application start and end dates.
2. Press Save button to save changes.
3. Press Next to end Time/Date setting.

3. Live Screen Configuration

Below image is the encoder's main UI.

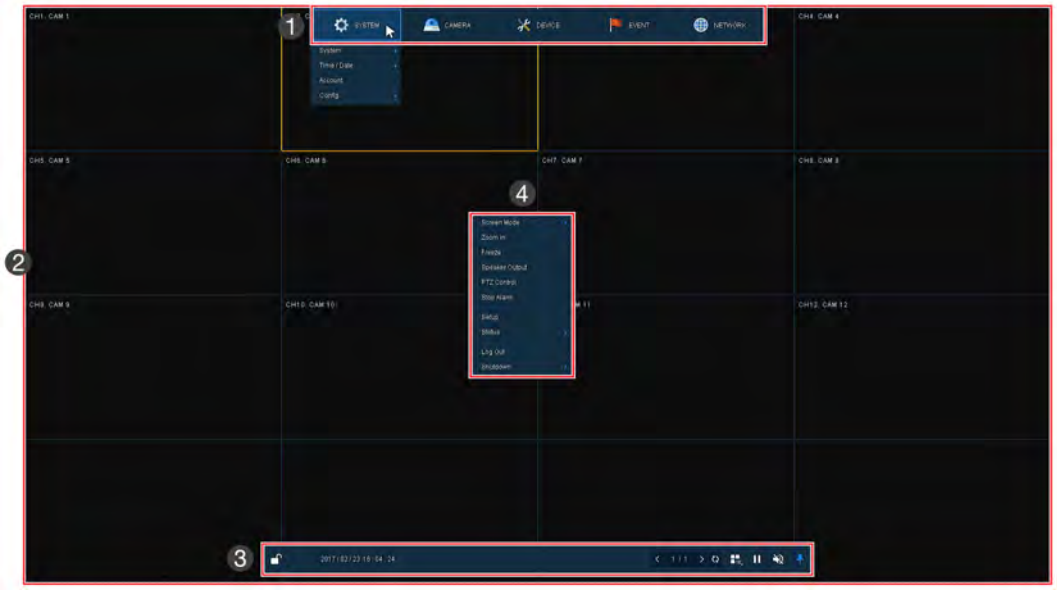


Figure 3-1 UI Screen Configuration

Table 3-1 Items and Description of UI Screen Configuration

No.	Item	Description
1	Setup menu	Located on the top of the screen. See "4 Setup" for more information.
2	Live screen	Shows live video for the connected cameras.
3	Launcher menu	Located on the bottom of the screen. See "3.2 Live Launcher" for more information.
4	Quick menu	Right-click anywhere on the screen to open the quick menu options. See "3.3 Quick" for more information.

3.1 Icons in live screen

When viewing live video from the cameras connected to the encoder, a series of icons will display on the screen. Each representing a different setting or notification related to the selected channel.

Note	Chosen live screen is marked with a blue frame. Mouse-located live screen is marked as yellow one.

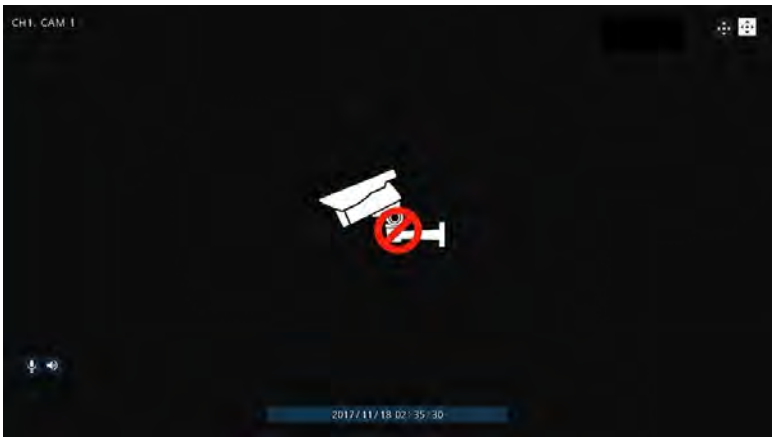


Figure 3-2 Live screen icon

Table 3-2 Live screen icon and its description

No.	Icon	Description
1	CH1 CAM1	Channel numbers and camera titles.
2		A camera with PTZ function.
3		PTZ control function in process.
4		Video loss.
5		Mic on/off.
6		Speaker on/off.
7	2017/11/18 02:35:30	Displaying current time and date.

3.2 Live launcher menu

The launch menu is the main menu bar located at the bottom of the encoder's screen.

Figure 3-3 Launcher menu

Table 3-3 Launcher menu Item and Description

No.	Item	Description
1		Log in/out status and logged in ID.
2	Date and time	Displaying current date and time.
3		Move to previous/next split view screen or next single screen view.
4		Display channels in sequence (toggle)
5		Select the screen split mode in live screen (single screen, 4-, 9-, and 16-split view options).
6		Stop or play selected live screen images (toggle).
7		Audio on or mute for selected live screen (toggle).
8		Pin the launcher menu to always show or hide (toggle).

3.3 Quick menu

The quick menu is available by right-clicking anywhere on the encoder's screen. The available options are:

Figure 3-4 Quick menu

Table 3-4 Quick menu Item and Description

No.	Item	Description
1	Screen mode	Select the split view mode of live screen (single screen, 4-, 9-, and 16-split view options).
2	Zoom in	Digital zoom into a selected live screen (zoom out, 2x, 4x and 8x).
3	Freeze	Freeze the video selected (toggle).
4	Speaker output/ mute	Turn on or off audio.
5	PTZ control	Enable or disable PTZ function.
6	Stop alarm	Stop monitoring alarm output and event.
7	Spot monitor	Set the output mode of a spot monitor (Auto, full and 4x4).
8	Setup	Open the settings menu. See section "4. Setup" for more information.
9	Status	Show the device's system log, event and stream status.
10	Log in/log out	Log out of the current user or log into a new user.
11	Shutdown	Shuts down the device.

3.3.1 PTZ control

For PTZ cameras connected to the encoder, use the PTZ control to move the camera and adjust settings as needed.

Note	To enable PTZ Control menu, go to **DEVICE > PTZ** in the upper live screen.

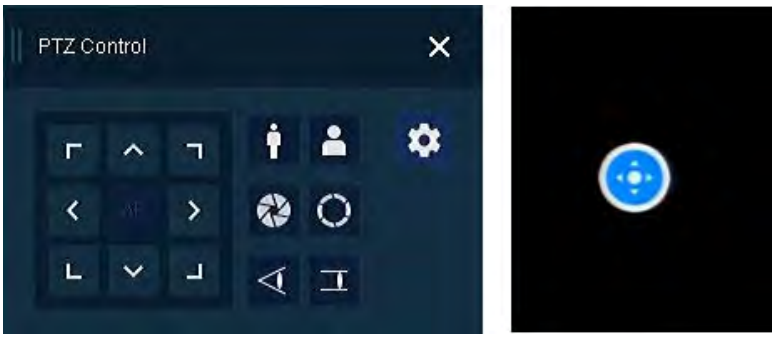


Figure 3-5 Quick menu > PTZ control

Table 3-5 Quick menu > PTZ control item and description

No.	Item	Description
1		Move the camera's view with direction buttons.
2		Move the camera's view with PTZ ball.
3	AF	Adjust screen focus automatically.
4	Zoom out	Zoom function on supported PTZ camera.
5	Zoom in	
6	IRIS off	Adjust iris in the camera on supported models.
7	IRIS on	
8	Focus far	Manual focus adjustment on supported models.
9	Focus near	
10		Open the camera's menu.

In PTZ Control screen, right-click anywhereon the screen to open the PTZ quick menu options.

Figure 3-6 PTZ control Quick menu

Table 3-6 PTZ control's quick menu Item and description

No.	Item	Description
1	Preset, Tour, Scan, Pattern	Run PTZ functions on supported models.
2	Exit	Exit the PTZ quick menu and open the live view quick menu (PTZ mode still enabled)

3.3.2 Status > System log

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

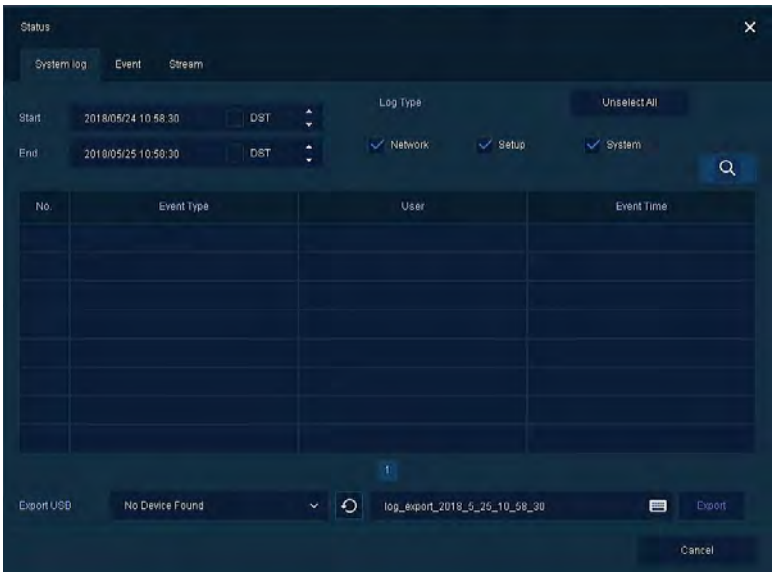


Figure 3-7 Status > System log

Table 3-7 Status of Quick menu > System log items and description

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, Setup, 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 lists.
7	Cancel	Completing the status screen.

3.3.3 Status > Event

When selecting Status from the quick menu options, users can see real-time event information for the unit.

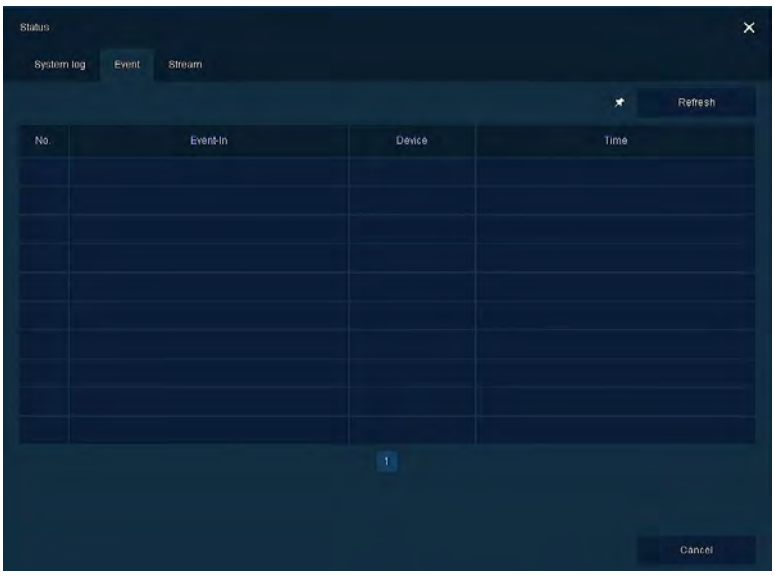


Figure 3-8 Status > Event

Table 3-8 Status > Event Item and Description in Quick menu

No.	Item	Description
1		Show or hide an event list (toggle).
2	Refresh	Delete event list.
3	Event list	Display event list.
4	Cancel	Complete status screen.

3.3.4 Status > Stream

When selecting Status from the quick menu options, users can see the streaming information for the unit.

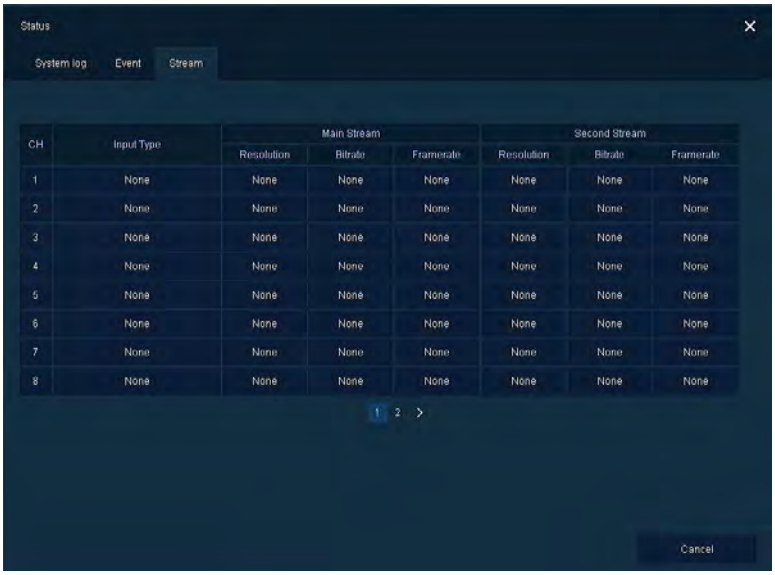


Figure 3-9 Status > Stream

Table 3-9 Status > Stream items and description

No.	Item	Description
1	Input type	Display input video type.
2	Main stream	Display main stream status.
3	Second stream	Display second stream status.

4. Setup menu

Setup is available from the quick menu by right-clicking anywhere and selecting Setup.

Figure 4-1 Setup menu

Table 4-1 Setup menu tree

Category	Sub-category	Section
SYSTEM	System	System
		F/W Upgrade
	Time/Date	Time/Date
		Holiday
	Account	User
	Configuration	Export/Import
		Factory Default
CAMERA	Basic	Basic
		Audio In/Out
	Advanced	Scan Mode
		Advanced
DEVICE	Display	Display
		Spot
		OSD
		Sequence
	PTZ	PTZ
	Serial Device	Serial Device
EVENT	System	System
	Alarm In	Setup
		Schedule
	Motion	Setup
		Schedule
	Video Loss	Setup
	Notification	Periodic
		Schedule
NETWORK	Basic	WAN Port
	DVRNS/DDNS	DVRNS/Dashboard
		DDNS
	E-Mail	E-Mail
	Notification Server	Notification Server
		Notification Message

4.1 General buttons in setup menu

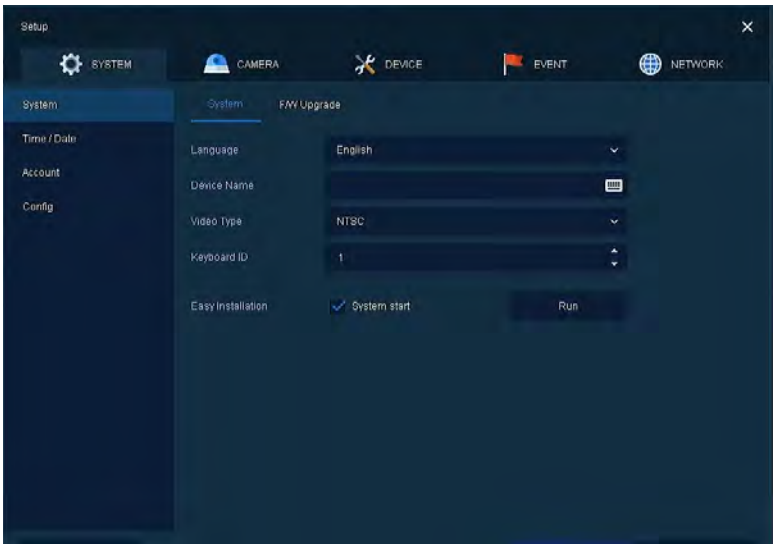


Figure 4-2 General buttons in setup menu

Table 4-1 Item and Description of General buttons in setup menu

No.	Item	Description
1	Default	Restore settings to their factory default.
2	Save	Save changes to the encoder's settings.
3	Cancel	Cancel changes to the encoder's settings.
4	Restore	Cancel changes to the encoder's settings and restore to the last saved values.
5	Apply	Apply changes to the encoder's settings.

4.2 SYSTEM

4.2.1 System

Setup the system's basic settings and update the firmware.

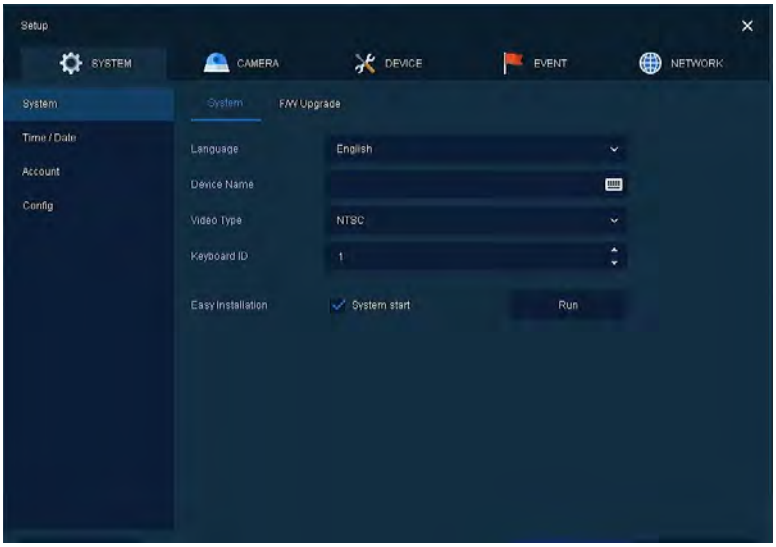


Figure 4-3 SYSTEM > System > System

Table 4-2 SYSTEM > System > System Item and Description

No.	Name	Function
1	Language	Set the system's language.
2	Device name	Enter the device's name (English characters only).
3	Video type	Select image standard types (NTSC or PAL).
4	Keyboard ID	Select keyboard ID (1-255).
5	System start	If enabled the encoder will run the setup wizard every time it reboots.
6	Run	Run the setup wizard.

4.2.1.1 System > F/W Upgrade

Upgrade the system's firmware.

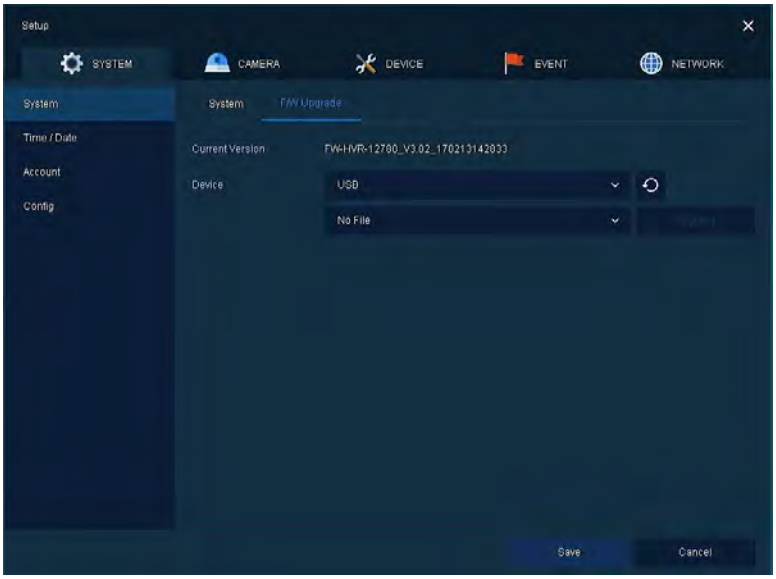


Figure 4-4 SYSTEM > System > F/W Upgrade

Table 4-3 SYSTEM > System > F/W Upgrade Item and Description

No.	Name	Function
1	Current version	Display the firmware version currently installed.
2	Device	Connect a USB memory with new firmware files to upgrade the system's firmware.

4.2.2 Time/Date

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

4.2.2.1 Time/Date > Time/Date

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

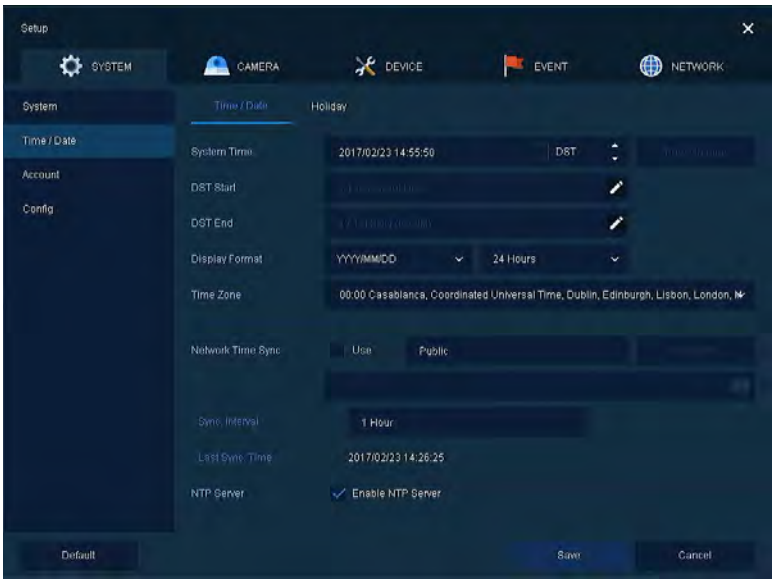


Figure 4-5 SYSTEM > Time/Date > Time/Date

Table 4-4 SYSTEM > Time/Date > Time/Date Item and Description

No.	Name	Function
1	System time	Set the date and time. ▪ DST: select whether to use daylight saving time ▪ Time change: save changed time.
2	DST start	Set the starting date of DST
3	DST end	Set the ending date of DST
4	Display format	Select the format to display date and time.
5	Time zone	Select time zone.
6	Network time sync	When using a specific network time server, click the “Use” checkbox and enter the server address. ▪ Sync. Interval: select synchronization period (1~7-hour) ▪ Last Sync. Time: displaying the final synchronized time
7	NTP server	Select whether to use an NTP server.

4.2.2.2 Time/Date > Holiday

Set specific days as holidays. These can later have their own settings, alarms and notifications.

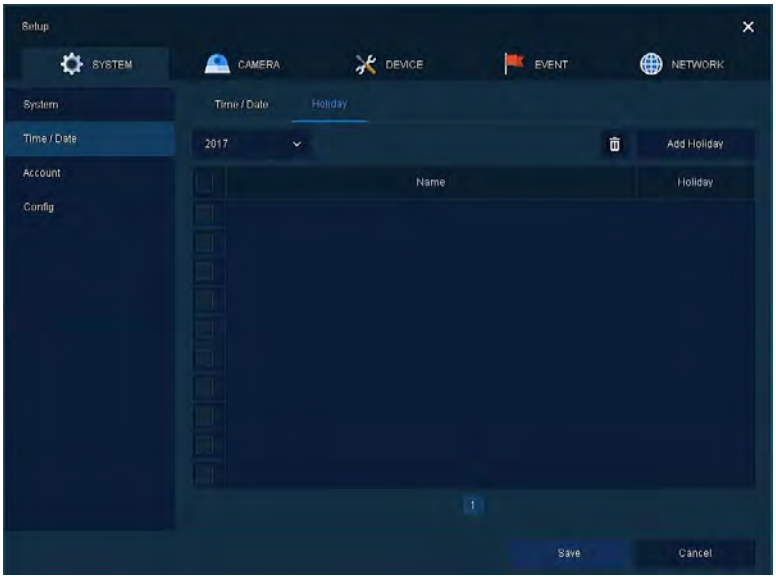


Figure 4-6 SYSTEM > Time/Date > Holiday

Table 4-5 SYSTEM > Time/Date > Holiday Item and Description

No.	Name	Function
1	Year	Select the year to set a holidays.
2		Delete selected holiday.
3	Add holiday	Add a holiday.
4	List	Show the holiday list.

When the "**Add Holiday" button is selected, the following window will appear. Use the options to select the date, the type of holiday and when how will it repeat itself each year.**

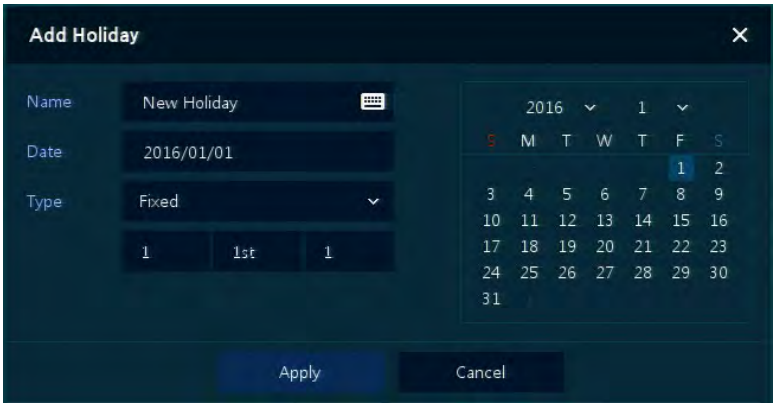


Figure 4-7 SYSTEM > Time/Date > Holiday > Add Holiday

Table 4-6 SYSTEM > Time/Date > Holiday > Add Holiday Item and Description

No.	Name	Function
1	Name	Enter the holiday's name.
2	Date	Display chosen date.
3	Type	Select the holiday type. Fixed will set the specific numeric day of the month as a holiday (e.g., 4th of July). **Relative** will set the day of the week and its position in the month as a holiday (e.g., **1, first, 1 will** designate the first Sunday of January as a holiday).
4	Calendar	Select the holiday to add.

4.2.3 Account > User

Add or modify user accounts and their access rights to the system.

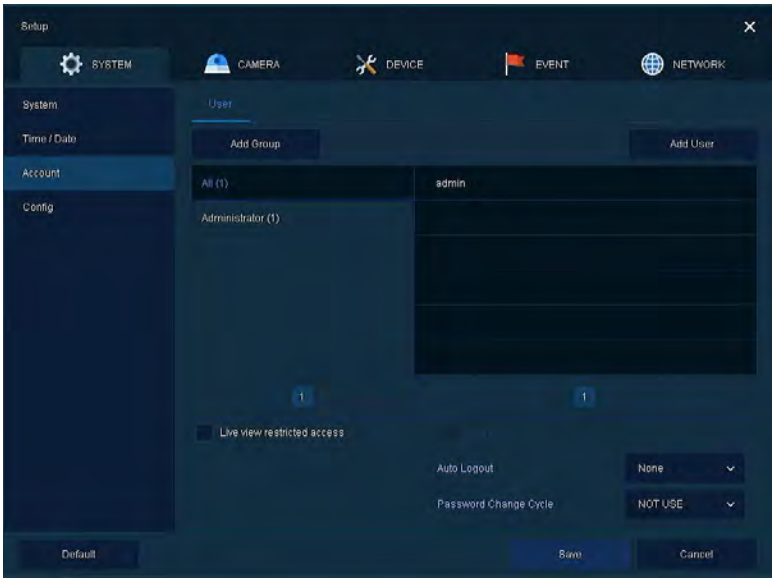


Figure 4-8 SYSTEM > Account > User

Table 4-7 SYSTEM > Account > User Item and Description

No.	Name	Function
1	Add group	Add a new users' group.
2	Add user	Add a new user.
3	Group list	Display all groups.
4	User list	Display all users across all groups.
5	Live view restricted access	Do not display live video if the system is not logged into a user.
6	Auto login	Click/clear automatic login checkbox.
7	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).
8	Password change cycle	If enable, user will be required to change their password periodically.

To add a new user group, press "**Add Group". The** screen below will appear. You can setup the specific permission levels for this group on this page. You can allow all users assigned to the group access to live view, PTZ control, access to the setup menu, or firmware update rights. You can also assign specific channels or limit what channels users in the group can view. You must have at least one group setup to add users (see below).

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

Table 4-8 SYSTEM > Account > User > Add Group Item and Description

No.	Name	Function
1	Name	Enter the group's name.
2	Permission	Select the access level for this group.
3		Select what channels to permit users in the group access to.

To add a user, press "**Add User". The setup window below will appear.** Enter the new user's name, user ID and password and assign to a group.

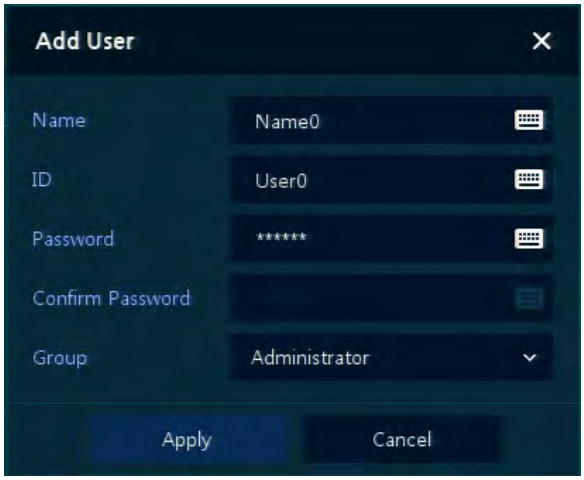


Figure 4-10 SYSTEM > Account > User > Add User

Table 4-9 SYSTEM > Account > User > Add User Item and Description

No.	Name	Function
1	Name	Enter the user name.
2	ID	Enter the user ID. This will be the ID used to log into the system.
3	Password	Enter the password.
4	Confirm password	Confirm the password.
5	Group	Select to the group to which belongs.

4.2.4 Configuration (Config.)

In this menu, you can import and export settings or reset the system to its factory default settings.

4.2.4.1 Config. > Export/Import

You can export the current system's settings to a USB or import settings from a different system.

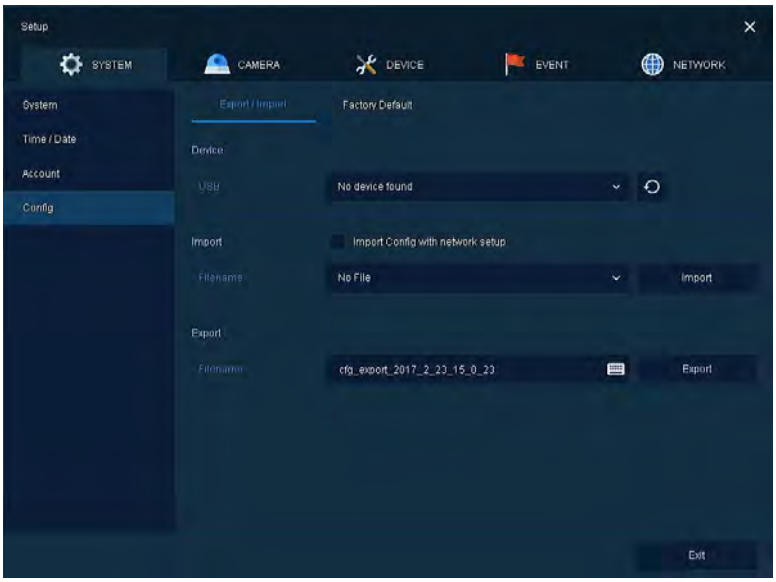


Figure 4-11 SYSTEM > Config. > Export/Import

Table 4-10 SYSTEM > Config. > Export/Import Item and Description

No.	Name	Function
1	Device	Select an exterior connector with USB. ▪ USB: displays the USB device connected. ▪ Refresh button: re-scan for external devices.
2	Import	Apply information saved in USB to the device. ▪ Import system settings from a different system. ▪ If import Config with network setup, the network settings 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 system settings and save them to a USB. ▪ If Export Config with network setup, the network settings information is saved with the system settings onto the USB. ▪ Export button: Save the set information in the USB.

4.2.4.2 Config > Factory Default

Restore the system to its factory settings. Check the boxes next to the settings you wish to reset or click “Select All”. Click “Default” to confirm the reset.

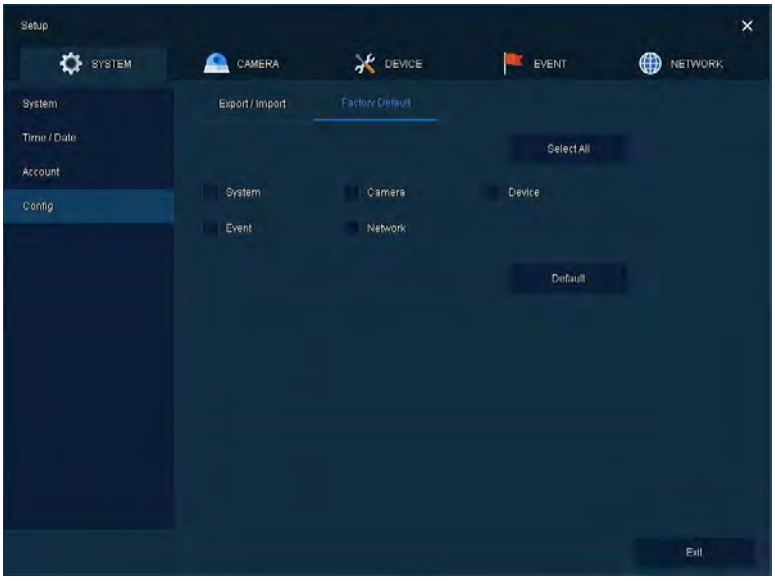


Figure 4-12 SYSTEM > Config > Factory Default

Table 4-11 SYSTEM > Config > Factory Default Item and Description

No.	Name	Function
1	Select all / unselect all	Select all items to be defaulted.
2	Default item	Select related items to be defaulted.
3	Default button	Default the system to the basics.

4.3 CAMERA

In the **CAMERA** menu, you can adjust the settings for the cameras connected with the device.

4.3.1 Basic

Set the basic functions of camera and audio.

4.3.1.1 Basic > Basic

Set the basic items for each channel. You can edit the channel's title and set a channel as a covert channel.

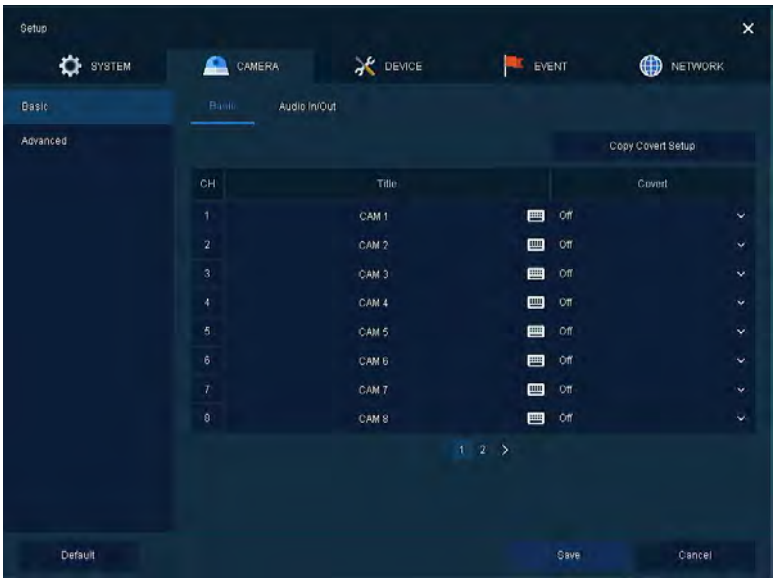


Figure 4-13 CAMERA > Basic > Basic

Table 4-12 CAMERA > Basic > Basic Item and Description

No.	Name	Function
1	CH	Display the channel's name.
2	Title	Enter the channel's name to identify the cameras.
3	Covert	Set a channel to covert channel. Select if images from this channel will be visible in the Live screen, or show only the channel's status (OFF, Video Only, Video/State All).
4	Copy covert Setup	Apply the covert settings from one channel to multiple channels.

Press **Copy Covert Setup** button. The screen below will appear. Select which channel to copy the settings from. Check the boxes next to each channel you want to apply the same settings.

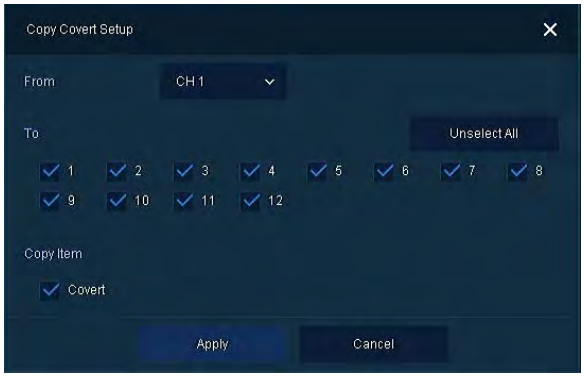


Figure 4-14 CAMERA > Basic > Basic > Copy Covert Setup

Table 4-13 CAMERA > Basic > Basic > Copy Covert Setup Item and Description

No.	Name	Function
1	From	Select a channel converted setting.
2	To	Select a channel to be copied.
3	Select all / unselect all	Select all channels.

4.3.1.2 Basic > Audio In/Out

Setup audio input and output for supported decives.

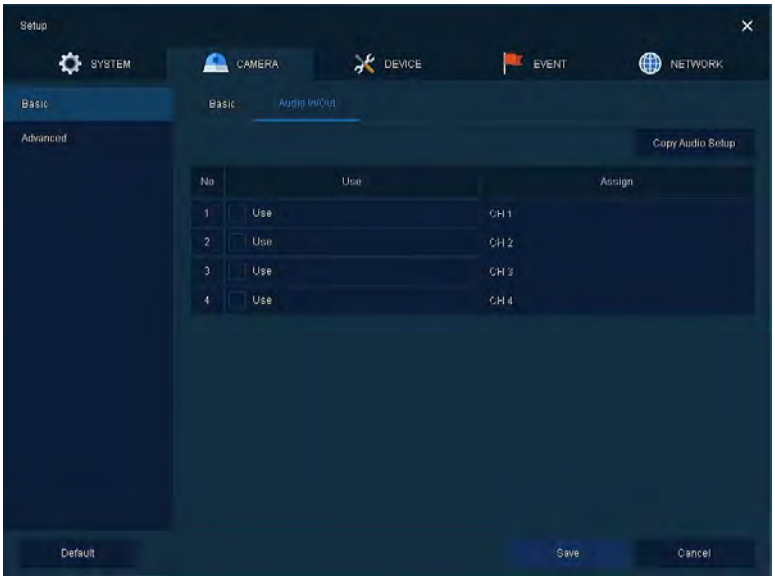


Figure 4-15 CAMERA >Basic > Audio In

Table 4-14 CAMERA > Basic > Audio In Item and Description

No.	Name	Function
1	No	Display channels of audio.
2	Use	Select to enable audio.
3	Assign	Select channels to be assigned audio.

4.3.2 Advanced

Set camera video, stream and privacy mask settings for each channel.

4.3.2.1 Advanced > Scan Mode

Use this screen to adjust the signal detected from the camera as needed. The system supported HD-Analog and HD-TVI. You can also setup the signal detection to auto, allowing the system to detect the signal automatically.

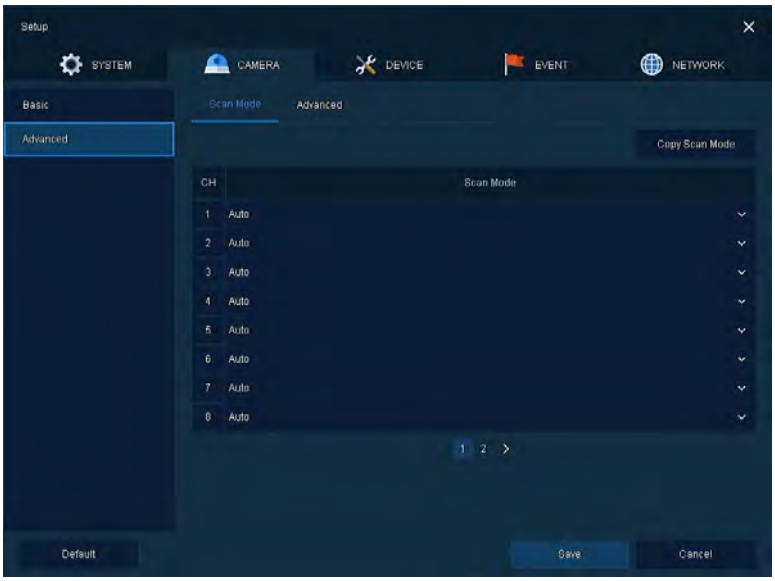


Figure 4-16 CAMERA > Advanced > Scan Mode

Table 4-15 CAMERA > Advanced > Scan Mode Item and Description

No.	Name	Function
1	CH	Display channels.
2	Scan mode	Automatically detects the camera's signal type (Auto, HD-Analog, and HD-TVI).
3	Copy scan mode	Copy the current settings to other channels.

4.3.2.2 Advanced > Advanced

Setup each channels' brightness, contrast and color and set privacy masks in the cameras' field of view (FoV).

Figure 4-17 CAMERA > Advanced > Advanced

Table 4-16 CAMERA > Advanced > Advanced Item and Description

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 (setup up to 4 masks per channel).

Click the Editing Icon ( ) in the right corner, then Privacy Mask screen will be shown.

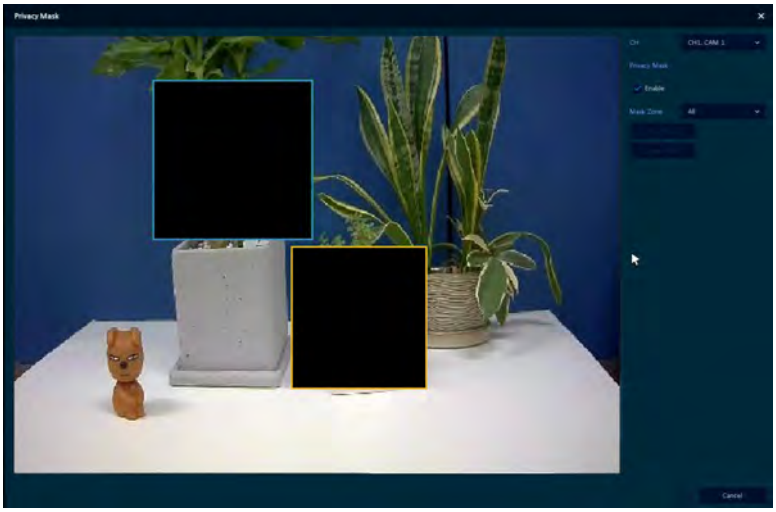


Figure 4-18 CAMERA > Advanced > Privacy Mask

Table 4-17 CAMERA > Advanced > Privacy Mask Item and Description

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

4.3.2.3 How to set Privacy Mask

Users can set 4 privacy masks:

1. Press **New Mask**. **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.

4.4 DEVICE

In **the DEVICE menu**, set the device's display, PTZ settings and other external devices connected to the unit.

4.4.1 Display

Set the system's live screen display settings.

4.4.1.1 Display > Display

Set the display settings. You can adjust the resolution of the local output monitor, enable pop-up event screens and enable a monitor relay switch.

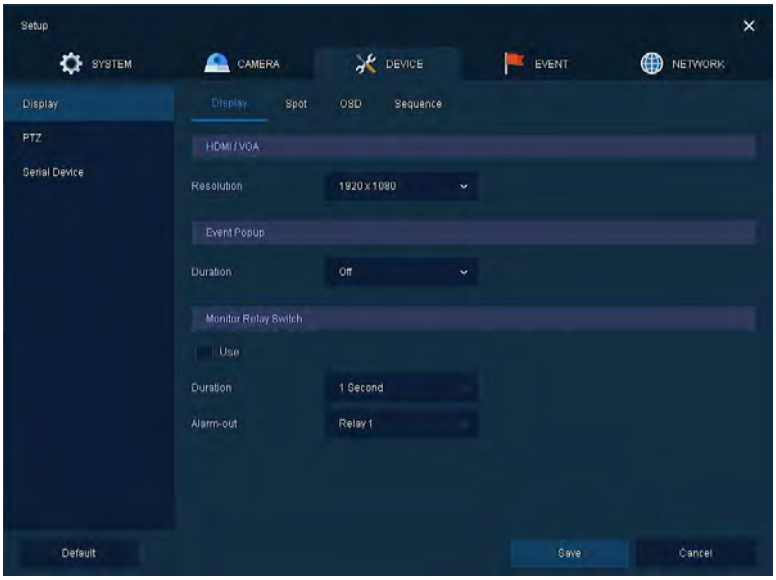


Figure 4-19 DEVICE > Display > Display

Table 4-18 DEVICE > Display > Display Item and Description

No.	Name	Function
1	HDMI/VGA	Select the resolution of the display device (available: 1024x768. 1280x720, 1920x1080).
2	Event popup	Set duration of event popup. When enabled, a popup screen will appear when an alarm is triggered, showing the relevant channel.
3	Monitor relay switch	Send an alarm out when the screen's layout changes.

4.4.1.2 Display > Spot

Set the Spot output settings.

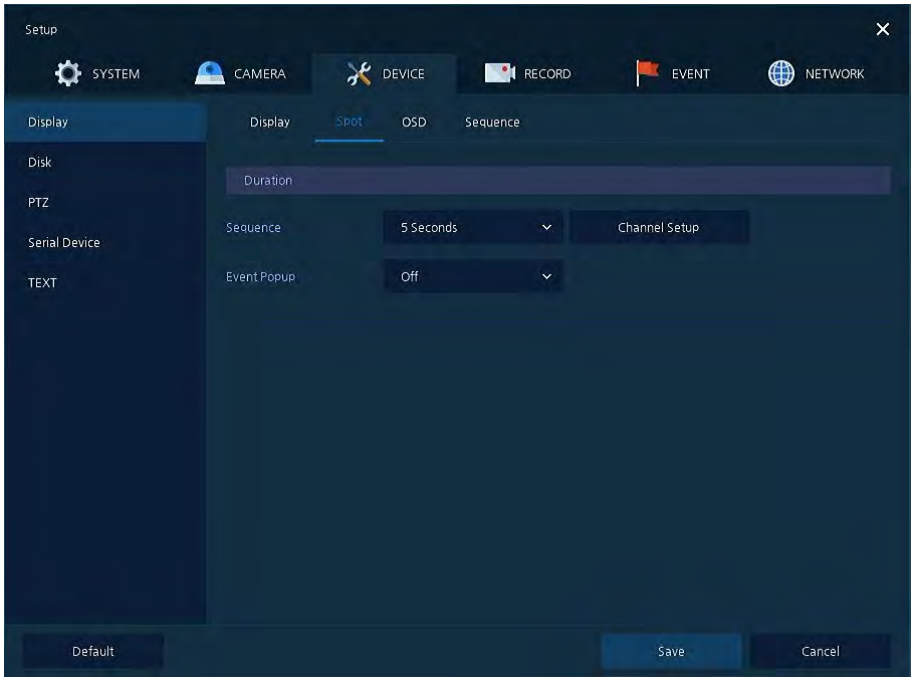


Figure 4-20 DEVICE > Display > Spot

Table 4-19 DEVICE > Display > Spot Item and Description

No.	Name	Function
1	Sequence	Set the channel and dwell time (5, 10, 20, 30sec) when Auto mode is selected.
2	Event popup	Sets the hold time for full screen images of a channel when an event occurs (available options: 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.

4.4.1.3 Display > OSD

Set the on screen display (OSD) settings.

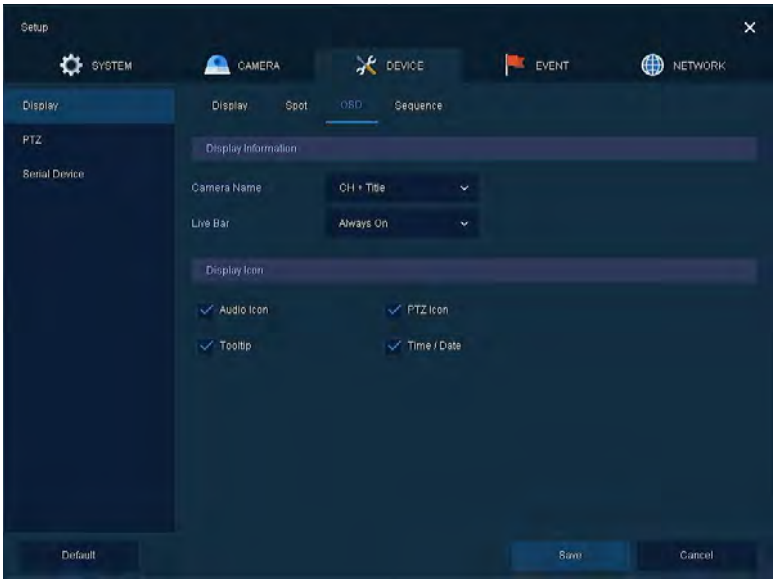


Figure 4-21 DEVICE > Display > OSD

Table 4-20 DEVICE > Display > OSD Item and Description

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 what icons to display in the live screen.

4.4.1.4 Display > Sequence

Setup a sequence view for the live display.

Figure 4-22 DEVICE > Display > Sequence

Table 4-21 DEVICE > Display > Sequence Item and Description

No.	Name	Function
1	Quad sequence	Set a sequence showing 4 channels at a time.
2	Division	Select the screen partition mode (Full or quad).
3	Sequence list	Display the sequence list based on division selected.
4	Add sequence	Add items to the play sequence.
5	NO.	Shows the channels in their display order.
6	Division	Displays as full, 2X2 (quad).
7	CH list	Set the channels order in the sequence.
8	Dwell time	Set the dwell time for each channel (3 sec~30 sec)
9	Default	Change all settings back to default settings.
10		Revise the list.
11		Delete the list.

Click on **Add Sequence** to add a new sequence. The screen below will appear. Select the channel, set the dwell time and the division type of the sequence (full screen or quad mode).

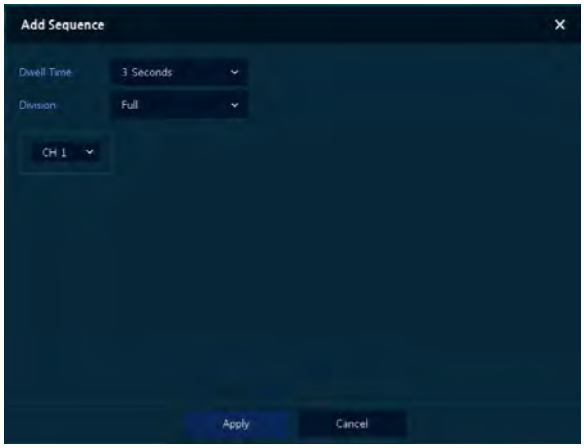


Figure 4-23 DEVICE > Display > Sequence > Add Sequence

Table 4-22 DEVICE > Display > Sequence > Add Sequence Item and Description

No.	Name	Function
1	Dwell time	Select dwell time to show each channel (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 which channels to include in the sequence.

4.4.2 PTZ > PTZ

To use PTZ menu to setup PTZ enabled cameras.

Figure 4-24 DEVICE > PTZ > PTZ

Table 4-23 DEVICE > PTZ > PTZ Item and Description

No.	Name	Function
1	Copy PTZ Setup	Apply setting from a selected channel to multiple channels.
2	CH	Channels number.
3	ID	Select the camera's ID (set from 1 to 255).
4	Protocol	Select protocol of the camera connected to the selected channel.
5	Speed	Select pan-tilt speed of camera connected to the selected channel. Set from 1 to 5 with 1 being the slowest and 5 the fastest.

Note	For more information about camera ID, protocol information, and details, see the PTZ camera's user manual.

4.4.3 Serial Device > Serial Device

Setup a serial device connected to the system such as PTZ cameras and USB devices.

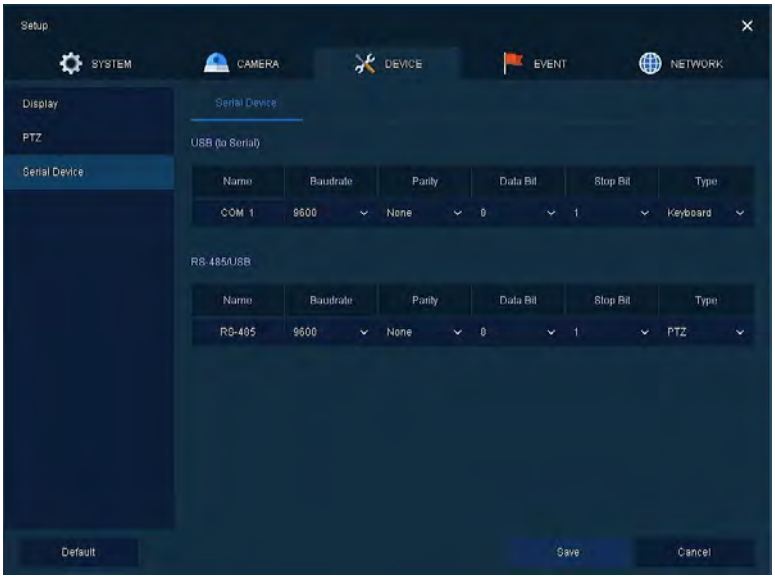


Figure 4-25 DEVICE > Serial Device > Serial Device

Table 4-24 DEVICE > Serial Device > Serial Device Item and Description

No.	Name	Function
1	USB (to serial)	Set communication transmission value of USB device.
2	RS-485	Set communication transmission value of RS-485 connector.

4.5 EVENT

In **the EVENT menu**, users can setup notifications, alarm and sensors, video loss and motion detection.

4.5.1 System

Set the system events that would trigger alarms.

4.5.1.1 System > System

Set the system event of the device

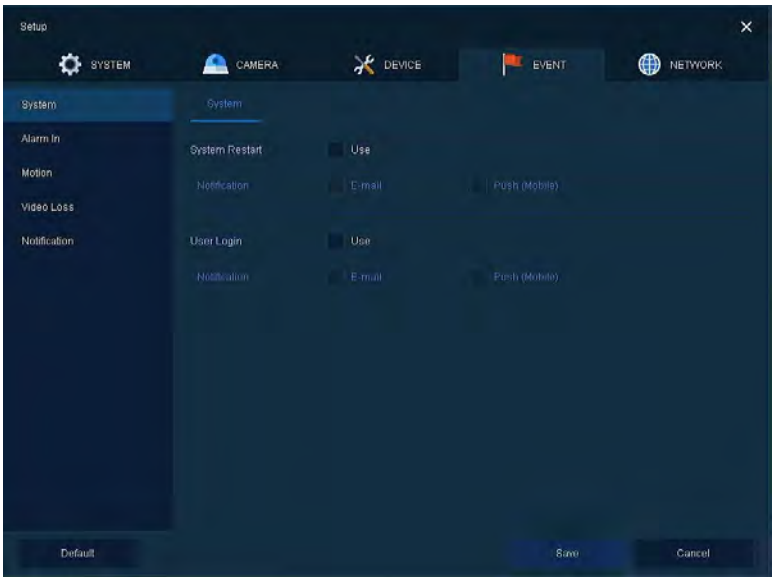


Figure 4-26 Event > System > System

Table 4-25 Event > System > System Item and Description

No.	Name	Function
1	System restart	Enable system reboot as an event.
2	Notification	Select to send an e-mail or push mobile notifications when an event occurs.
3	User login	Enable user-login as an event.

4.5.2 Alarm In

Set sensor alarms and schedule

4.5.2.1 Alarm In > Setup

Set sensor alarms

Figure 4-27 Event > Alarm In > Setup

Table 4-26 Event > Alarm In > Setup Item and Description

No.	Name	Function
1	Sensor	Sensor's channel number.
2	Use	Enable a sensor.
3	Type	Select sensor types (N.O, N.C).
4	Beep	Set a beep sound when a sensor is activated. Select from the available length options (null, 5 sec, 10 sec, 20 sec, 30 sec, 1 min, 10 min, 30 min, and 1 hour).
5	Alarm	Set an alarm option when a sensor is activated.
6	Noti.	Select to send an e-mail notification when a sensor is activated.
7	Preset	Set a PTZ camera to move to a specific preset when a sensor is activated.
8	Copy alarm setup	Apply setting from a selected channel to multiple channels.

Click on the editing Icon ( ) next to **Alarm, Group Rec, Noti., Preset** to show the following screen:

Figure 4-28 Event > Alarm In > Setup > Event: Alarm

Table 4-27 Event > Alarm In > Setup > Event: Alarm Item and Description

No.	Name	Function
1	Alarm-out	Set the alarm. • Relay: enable a relay output when an event occurs. • Dwell time: set a duration for an alarm (Keep, 5 sec, 10 sec, 20 sec, 30 sec, 1 min, 10 min, 30 min, and 1 hour)
2	Monitor popup	Enable a monitor popup when an event occurs.
3		Select which channel to popup on the monitor when an event occurs.
3	Remote notification	Setup an e-mail or push notifications to your smart phone when an event occurs.
4	Preset	Preset of PTZ camera is running. • Use: enable a PTZ camera's preset as an action when an event occurs. • CH: select channels. Please note a PTZ camera must be connected to the channel. • Preset: enter the preset value.

4.5.2.2 Alarm In > Schedule

Setup a schedule when sensors are active. You can setup individual schedules for each sensor connected to the encoder, or copy and apply the same schedule to all devices.

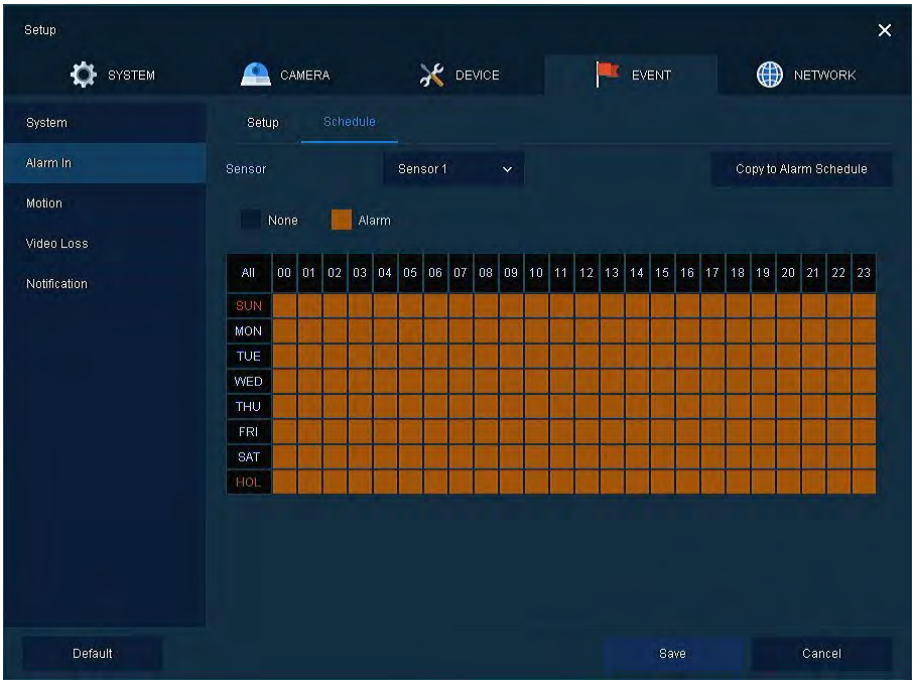


Figure 4-29 Event > Alarm In > Schedule

Table 4-28 Event > Alarm In > Schedule Item and Description

No.	Name	Function
1	Sensor	Select the sensor to set the schedule for.
2	Schedule type	Select the types of schedules. If None is selected, the sensor will be disabled.
3	Schedule table	Displays the operating schedule for the selected sensor. 7 days of the week and holidays are shown on the left, and 24 hours of each day are shown on the top row. Each square represents an hour in a specific day. If the square is orange, the sensor is activated during that time and day.
4	Drag field	You can select multiple hours and days for quick setup. To do so, click and hold on any square in the schedule table. While holding the mouse' left button down, drag the mouse across the areas in the table you want to setup. To complete the setup, release the mouse's button. .
5	Copy to alarm schedule button	Apply setting from a selected channel to multiple channels.

4.5.3 Motion

Set and schedule motion detection for each of the system's channels.

4.5.3.1 Motion > Setup

Set motion detection

Figure 4-30 Event > Motion > Setup

Table 4-29 Event > Motion > Setup Item and Description

No.	Name	Function
1	CH	Show channel's number.
2	Use	Enable motion detection for each channel.
3	Area	Display the motion detection area.
4	Sens.	Select the sensitivity level for motion detection (Level 1~10).
5	Beep	Set a beep sound when motion is detected. Select from the available length options (null, 5 sec, 10 sec, 20 sec, 30 sec, 1 min, 10 min, 30 min, and 1 hour).
6	Alarm	Set an alarm output when motion is detected.
7	Noti.	Set an e-mail notification when motion is detected.
8	Preset	Set a PTZ camera to move to a specific preset when motion is detected.
9	Copy to motion setup	Apply setting from a selected channel to multiple channels.

Note	Placing your mouse on **Alarm, Noti., Preset** and clicking editing icon ( ) in right corner displays Event: Alarm screen. For more information about **Event: Motion** screen, see section "4.5.2 Alarm In > Setup in Alarm In."

4.5.3.2 Motion > Schedule

To schedule record time when the motion sensor detects across channels

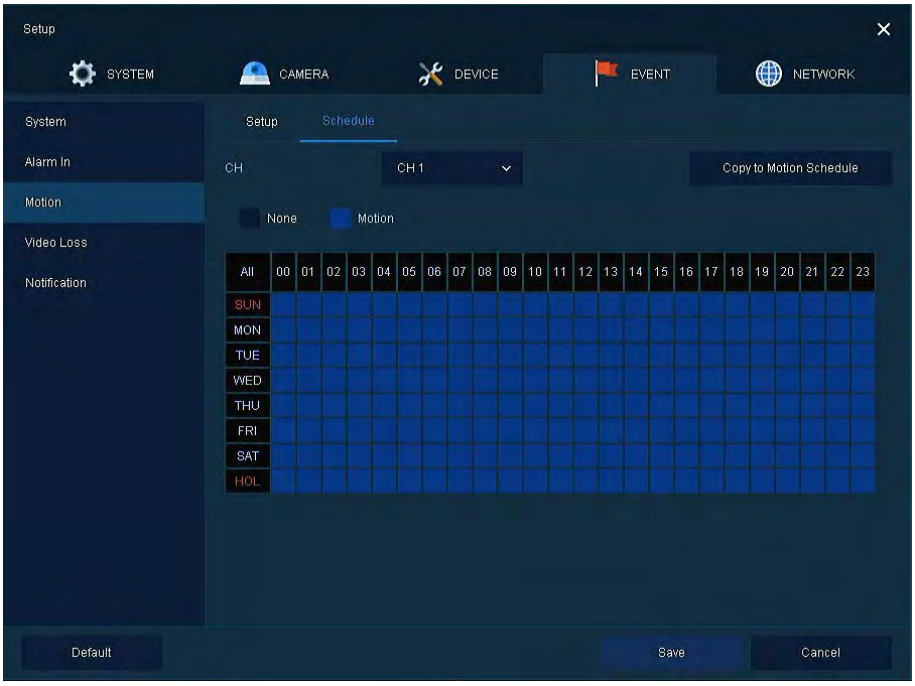


Figure 4-31 Event > Motion > Schedule

Table 4-30 Event > Motion > Schedule Item and Description

No.	Name	Function
1	CH	Select the channel to set the motion detection schedule for.
2	Schedule type	Select the types of schedules. If None is selected, the motion detection will be disabled.
3	Schedule table	Displays the operating schedule for the selected channel. 7 days of the week and holidays are shown on the left, and 24 hours of each day are shown on the top row. Each square represents an hour in a specific day. If the square is blue, motion detection is activated during that time and day.
4	Drag field	You can select multiple hours and days for quick setup. To do so, click and hold on any square in the schedule table. While holding the mouse' left button down, drag the mouse across the areas in the table you want to setup. To complete the setup, release the mouse's button. .
5	Copy to motion schedule button	Apply setting from a selected channel to multiple channels.

4.5.4 Video Loss > Setup

To set Video Loss across channels

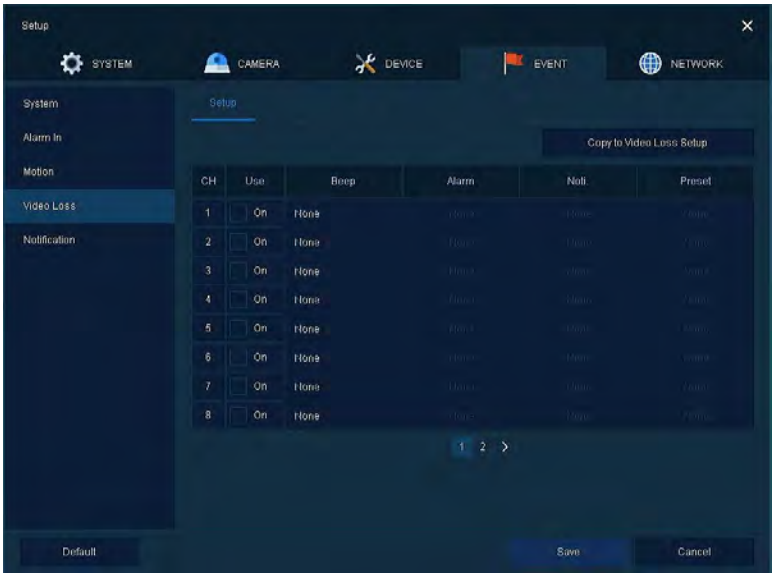


Figure 4-32 Event > Video Loss > Setup

Table 4-31 Event > Video Loss > Setup Item and Description

No.	Name	Function
1	CH	Show channel's number.
2	Use	Enable video loss event for each channel.
3	Beep	Set a beep sound when video loss is detected. Select from the available length options (null, 5 sec, 10 sec, 20 sec, 30 sec, 1 min, 10 min, 30 min, and 1 hour).
4	Alarm	Set an alarm output when video loss is detected.
5	Noti.	Set an e-mail notification when video loss is detected.
6	Preset	Set a PTZ camera to move to a specific preset when video loss is detected.
7	Copy to Video Loss Setup	Copy the Video Loss set value to other channels.

Note	Placing your mouse on **Alarm, Noti., Preset** and clicking editing icon ( ) in right corner displays **Event: Video Loss** screen. For more information about **Event: Video Loss** screen, see section "4.5.2 Alarm In > Setup in Alarm In."

4.5.5 Notification

Set and schedule notifications for alarms and events.

4.5.5.1 Notification > Periodic

Set a periodic alarm. This alarm will go out to an e-mail every set amount of time with information about a selected channel's events.

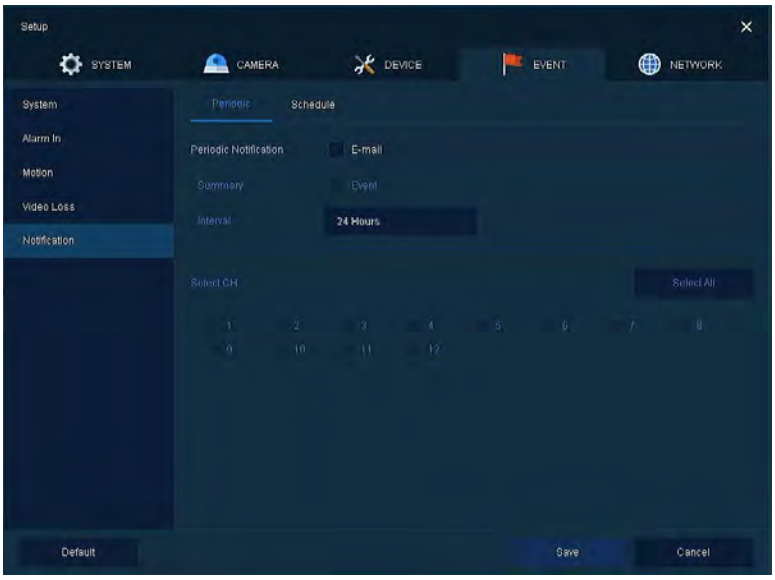


Figure 4-33 EVENT > Notification > Periodic

Table 4-32 EVENT > Notification > Periodic Item and Description

No.	Name	Function
1	Periodic notification	Enable periodic alarms.
2	Summary	Send event information.
3	Interval	Select how often the e-mail will be sent (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 to be included in the e-mail.
5	Select All / Unselect All	Select/deselect all channels

4.5.5.2 Notification > Schedule

Schedule remote notification (alarm and motion)

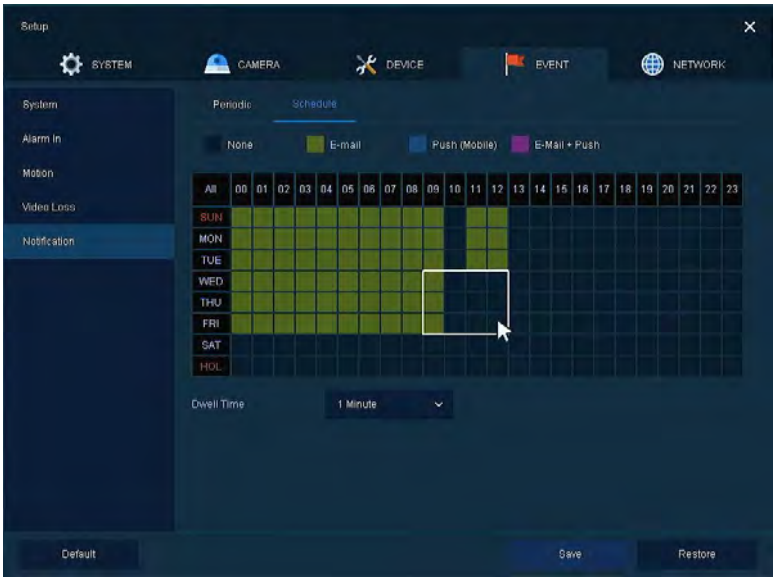


Figure 4-34 EVENT > Notification > Schedule

Table 4-33 EVENT > Notification > Schedule Item and Description

No.	Name	Function
1	Schedule type	Select the types of schedules. If None is selected, notifications will be disabled. Select green to enable e-mail notifications, blue for push mobile notification or purple to enable both.
2	Schedule table	Displays the operating schedule for enabled notifications. 7 days of the week and holidays are shown on the left, and 24 hours of each day are shown on the top row. Each square represents an hour in a specific day.
3	Drag field	You can select multiple hours and days for quick setup. To do so, click and hold on any square in the schedule table. While holding the mouse' left button down, drag the mouse across the areas in the table you want to setup. To complete the setup, release the mouse's button. .

4.6 NETWORK

In the **NETWORK** menu, users may set the network environment. Please contact your network administrator for more information.

4.6.1 Basic > WAN Port

Set the system's network environment

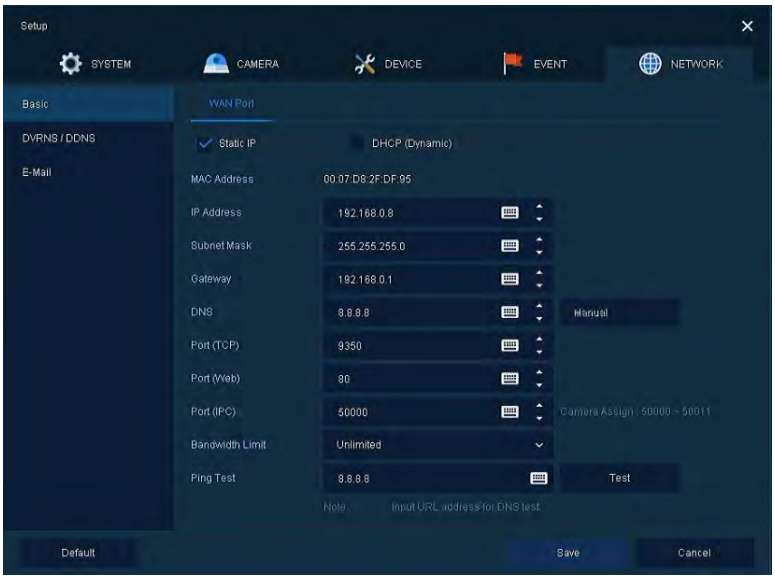


Figure 4-35 NETWORK > Basic > WAN Port

Table 4-34 NETWORK > Basic > WAN Port Item and Description

No.	Name	Function
1	Static IP	Check to use a static IP. If this option is selected, manually enter the device's IP address, subnet mask and gateway information.
2	DHCP (Dynamic)	Check to use DHCP (Dynamic). If selected, the system will scan the network and automatically assign itself the proper IP address, subnet mask and gateway according to the network settings.
3	MAC address	View the device's MAC Address.
4	DNS	Select manual and enter a DNS address or choose auto to set automatically.
5	Port (TCP)	Enter the TCP port information.
6	Port (web)	Enter the web port information.
7	Bandwidth limit	Set a limit to the amount of bandwidth the device can use in the network (no limits, 50Mbps, 10Mbps, 5Mbps, 2Mbps, 1Mbps, 500Kbps, 400Kbps, 300Kbps, 200Kbps, and 100Kbps).
8	Ping test	Enter an IP address in the ping test to complete the test.

4.6.2 DVRNS/DDNS

Set DVRNS/DDNS

4.6.2.1 DVRNS/DDNS > DVRNS/Dashboard

Register a DVRNS/Dashboard account

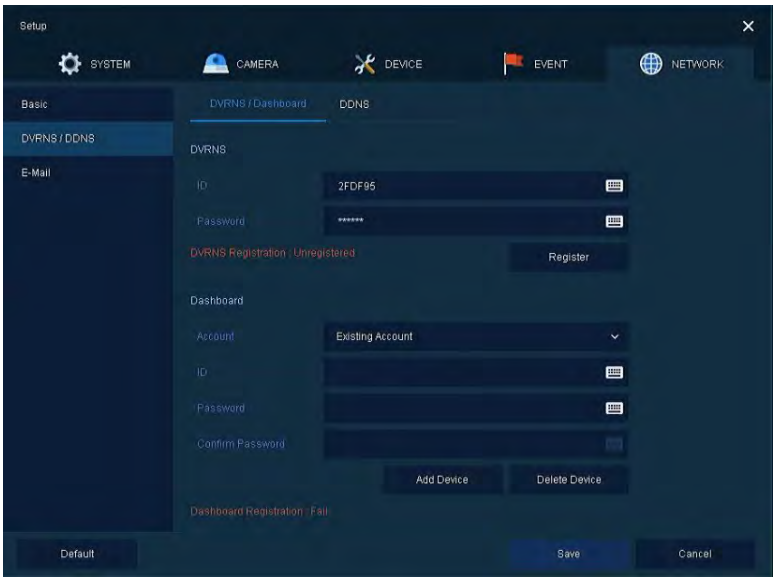


Figure 4-36 NETWORK > DVRNS/DDNS > DVRNS/Dashboard

Table 4-35 NETWORK > DVRNS/DDNS > DVRNS/Dashboard Item and Description

No.	Name	Function
1	DVRNS	Register a DVRNS account • ID: enter DVRNS ID (default: MAC address of the unit). • Password: enter DVRNS password. • Register: register DVRNS account.
2	Dashboard	Add/delete a dashboard account • Account: select the type of account (existing account or new account). • ID: enter your dashboard ID. • Password: Enter your dashboard password. • Add Device: add a dashboard account. • Delete Device: delete a dashboard account.

4.6.2.2 DVRNS/DDNS > DDNS

Set a DDNS site for remote users to access

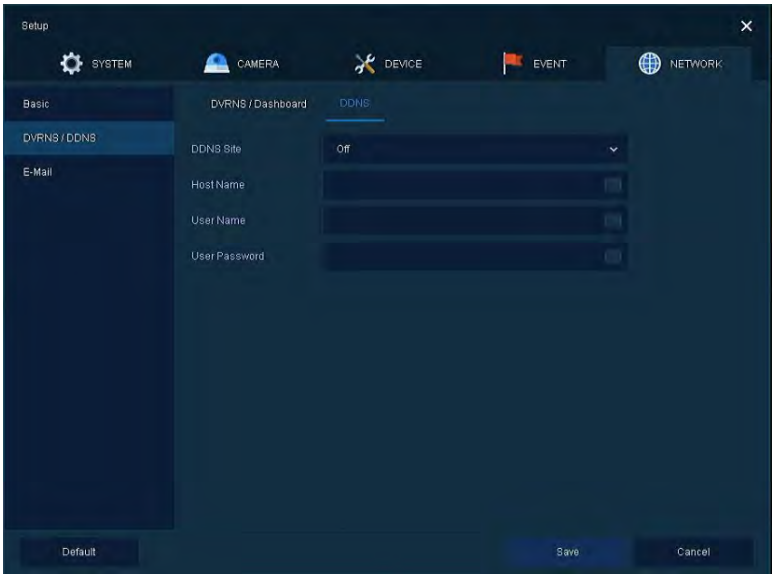


Figure 4-37 NETWORK > DVRNS/DDNS > DDNS

Table 4-36 NETWORK > DVRNS/DDNS > DDNS Item and Description

No.	Name	Function
1	DDNS site	Select DDNS site from the available options.
2	Host name	Enter the host name.
3	User name	Enter the user name.
4	User password	Enter the user password.

4.6.3 E-Mail

Set an e-mail server to send e-mail notifications when events occur.

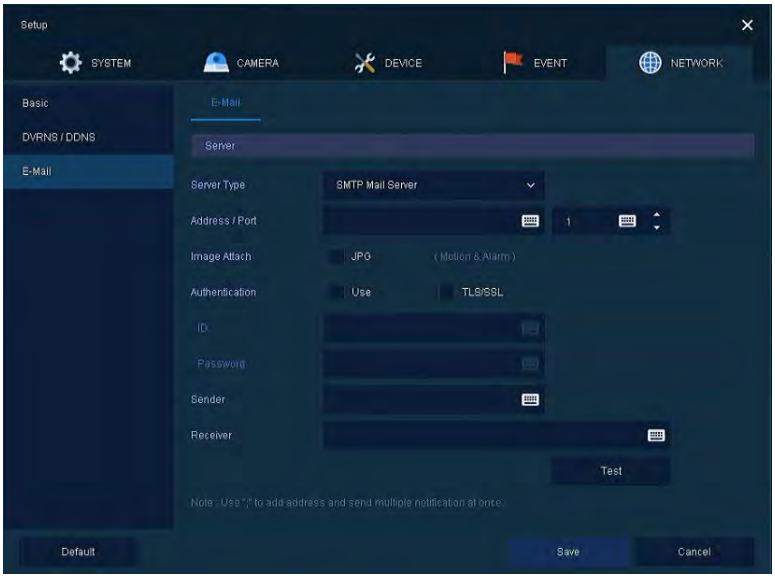


Figure 4-38 NETWORK > E-Mail > E-Mail

Table 4-37 NETWORK > E-Mail > E-Mail Item and Description

No.	Name	Function
1	Server type	Select an SMTP server. • gmail.com • hotmail.com • aol.com • naver.com • daum.com
2	Address / port	Enter the server address and port number.
3	Image attach	Set to add a JPEG image to the e-mails.
4	Authentication	Select/deselect using authentication and password.
5	ID	Enter the email ID.
6	Password	Enter the email password.
7	Sender	Enter a sender's name.
8	Receiver	Enter the receiver's information. To add multiple e-mail addresses as receivers, separate each address with a comma.
9	Test	Verify whether the email server is set normally.

4.6.4 Notification Server

4.6.4.1 Notification Server > Notification Server

Setup a notification server. When an event occurs, a notification will be sent to a server.

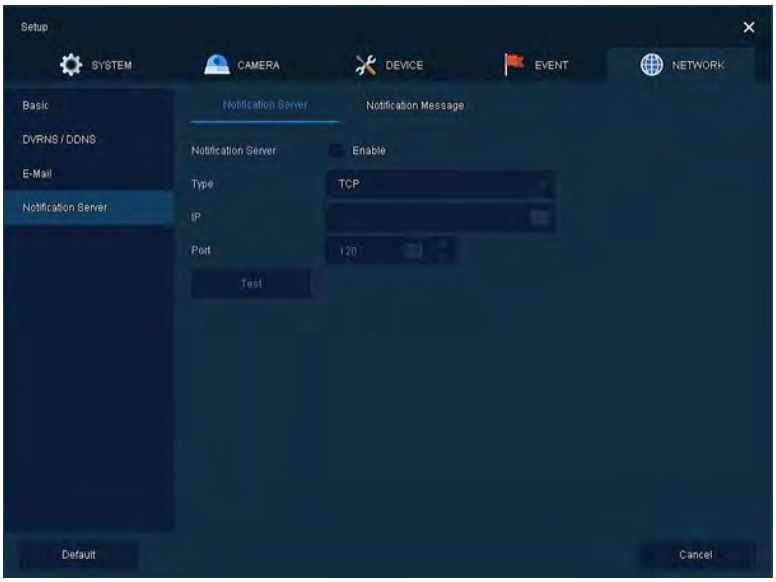


Figure 4-39 NETWORK > Notification Server > Notification Server

Table 4-38 NETWORK > Notification Server > Notification Server Item and Description

No.	Name	Function
1	Notification server	Select/deselect whether to use notification server.
2	Type	Select TCP or UDP protocol.
3	IP	Enter the server's IP address or host name.
4	Port	Enter the server's port.
5	Test	Send a test message to the server to check the connection status. Click Save when the transmission is successful. TCP can check the results in the recorder, but UDP should be checked in the notification server.

4.6.4.2 Notification Server > Notification Message

Set up a message to be sent to the notification server when event occurs.

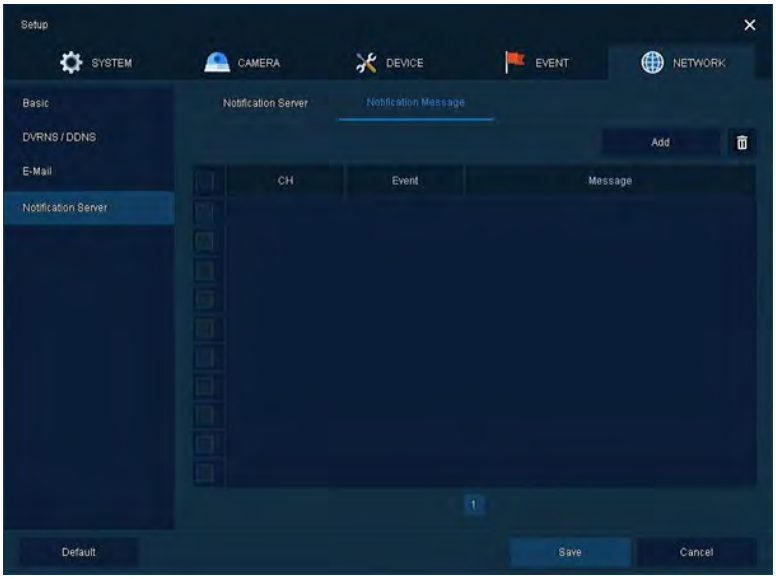


Figure 4-40 NETWORK > Notification Server > Notification Message

Table 4-39 NETWORK > Notification Server > Notification Message Item and Description

No.	Name	Function
1		Deleted registered notification message.
2	Add	Notification message edit window pop-up.
3	CH	Camera channel.
4	Event	Display event type as Motion, Alarm, and Video Loss.
5	Message	Display notification message.

Click the **Add** button to open the **Add Message** screen below:

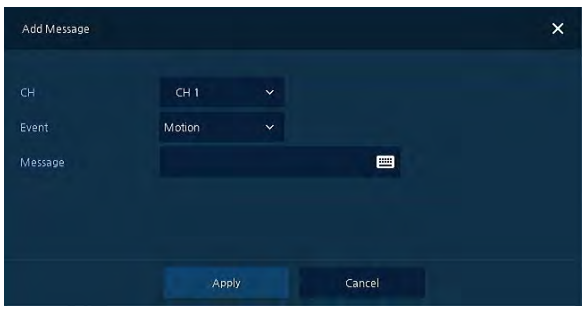


Figure 4-41 NETWORK > Notification Server > Notification Message > Add Message

Table 4-40 NETWORK > Notification Server > Notification Message > Add Message

No.	Name	Function
1	CH	Select the channel to add a message.
2	Event	Select the event type (motion, alarm, video loss).
3	Message	Create a message to send.

5. Web viewer

This chapter describes web viewer for monitoring video form the device through a PC in remote mode.

5.1 How to monitor with web viewer

Table 5-1 System Requirement for Web viewer

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 Core™ i5-2550 3.30GHz or higher	Intel Core™ 2 Duo E7200 2.53GHz or higher
RAM	2GB or higher	1.5GB or higher
VGA	ATI Radeon™ HD 3650 or NVIDIA GeForce 8400GS or higher(1280x1024, 32bpp or Higher), Multi Monitor	ATI Radeon™ 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 the encoder in your Internet browser. Please note that you may have to open ports in your router in order to access the encoder from a separate network. Please contact your network administrator for more information.

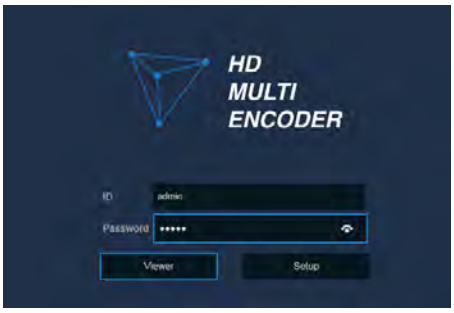
2 Enter ID and password, and click one of the buttons:

- Viewer: view live images.
- Setup: enter the encoder's setup menu remotely.

To view live video from the encoder, you will be prompted to download and install Java. Follow the next page's instructions to properly download and install the Java files.

5.1.1 In case of selecting Viewer (Internet Explorer)

1 Click **Viewer**.



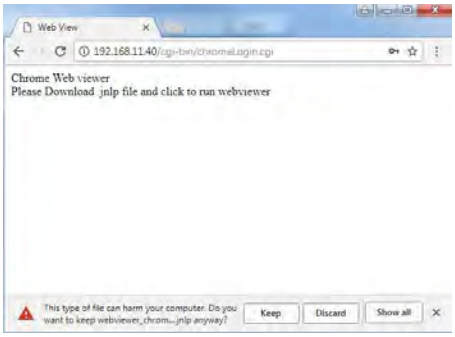
2 When Java download screen opens, download and install JAVA.

3 Live images may be monitored.

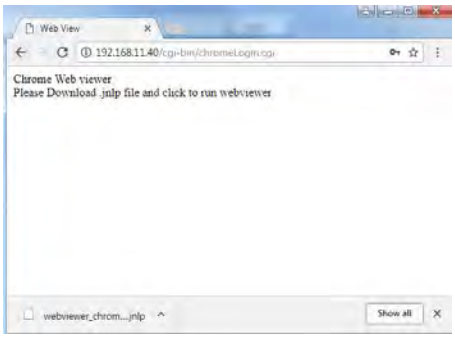
In case of selecting Viewer (Chrome)

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

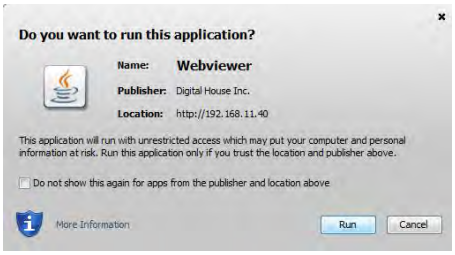
Click **Keep** button.



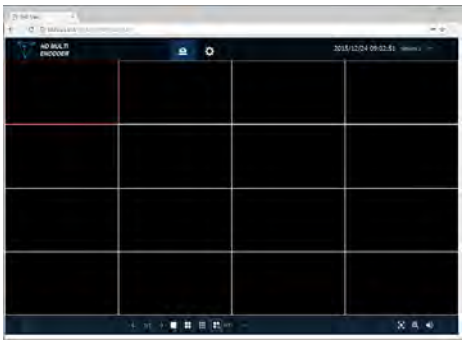
2 Click **webviewer_chrome.jnlp**.



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



4 Live images may be monitored.



5.1.2 In case of selecting Setup

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

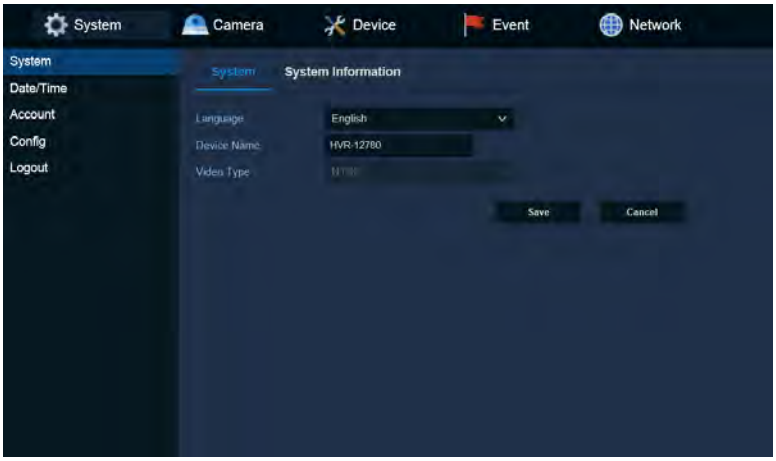


Figure 5-1 Setup screen

6. Products Specifications

VIDEO		
Video input	Signal type	HD-Analog, HD-TVI and analog signal up to 960H
	CH#	16CH BNC input
Video out	Outputs and Resolutions	True HD / VGA: 1920x1080, 1280x720, 1024x768 Spot: 1.0 Vp-p (75 ohm, Composite)
Display mode		True HD/VGA: 1/4/9/16 Split, PIP, Sequence Spot: 1/16 Split, Sequence
Compression		H.264
Resolution		Main stream: 240fps @ 2.1MP/1080p
		Sub Stream: 240fps @ VGA
PERFORMANCE		
Interface	Audio in and out	4 RCA input / 1 RCA output
	Alarm in and out	4 alarm inputs / 1 output, terminal block
	RS-485 / UTC	1 terminal block
		PTZ control via UTC (HD-Analog / HD-TVI / HD-CVI)
Features	Motion detection	Locally and via DW Spectrum® IPVMS
	Privacy masks	Yes
	Alarm management	Locally and via DW Spectrum® IPVMS. Motion detection, sensor and alarm activation, video loss, system start and user login
	Notifications	E-mail notifications
	Security	HTTPS, SSL, Multi User Authority
NETWORK		
Network connection		1 RJ45 10/100/1000 Base-T
Streaming	Transmission speed live	Max. 240fps @ 1080p
	Max. throughput	288Mbps
	Bandwidth	Support bandwidth control
	Protocols	ONVIF, TCP/IP, UDP, DHCP, uPNP, DDNS, Zeroconf, Bonjour
Access	Web viewer	Internet Explorer® XP or higher with live view and remote setup
	software	DW Spectrum® IPVMS

GENERAL		
Operating temperature and humidity		32°F ~ 113°F (0°C ~ 45°C) Less than 90% (non-condensing)
Other certifications		FCC
Electrical	Power requirement	12V DC, 2A
	Power consumption	Max. 14.4W, 1.2A
Dimensions		14.76″ x 1.76″ x 12.52″ (375 x 44.9 x 318.2 mm)
Weight		3.96lbs (1.8kg)

※ Specifications are subject to change without notice.