

# INSTRUCTION MANUAL

## 1080p AHD 4/8/16CH Digital Video Recorders



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

## WARNING

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

## CAUTION



## EXPLANATION OF GRAPHICAL SYMBOLS



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



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

## PRECAUTIONS

### Safety ----- Installation -----

Should any liquid or solid object fall into the cabinet, unplug the unit and have it checked by the qualified personnel before operating it any further.

Unplug the unit from the wall outlet if it is not going to be used for several days or more. To disconnect the cord, pull it out by the plug. Never pull the cord itself.

Allow adequate air circulation to prevent internal heat build-up. Do not place the unit on surfaces (rugs, blankets, etc.) or near materials (curtains, draperies) that may block the ventilation holes.

Height and vertical linearity controls located at the rear panel are for special adjustments by qualified personnel only.

Do not install the unit in an extremely hot or humid place or in a place subject to excessive dust, mechanical vibration.

The unit is not designed to be waterproof. Exposure to rain or water may damage the unit.

### Cleaning -----

Clean the unit with a slightly damp soft cloth. Use a mild household detergent. Never use strong solvents such as thinner or benzene as they might damage the finish of the unit.

Retain the original carton and packing materials for safe transport of this unit in the future.

## FCC COMPLIANCE STATEMENT

INFORMATION TO THE USER: 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.

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 NUMÉRIQUE DE LA CLASSE A EST CONFORME À LA NORME NMB-003 DU CANADA.

## CE COMPLIANCE STATEMENT

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

## IMPORTANT SAFETY INSTRUCTIONS

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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 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 power source that satisfies clause 2.5 of IEC60950-1/UL60950-1 or Certified/Listed Class 2.
17. ITE is to be connected only to PoE networks without routing to the outside plant.



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# Chapter 1. Introduction

## 1.1. Description

This manual applies to AHD Digital video recorder. The AHD digital video recorder supports up to 4/8ch AHD analogue cameras. It can record high quality images onto its maximum capacity of hard disk drives. The Series is extremely straightforward to install and setup through a dedicated configuration wizard. You can start monitoring instantly, as the images are automatically assigned to a layout menu. The alarm input and alarm output can be used to connect various third party devices, such as, door sensors and alarm bells.

## 1.2. Components

The system comes with the following components:

- H.264 Standalone AHD DVR
- IR Remote Controller
- DC Power Adaptor
- Power Cord
- Installation CD

Note: Check your package to make sure that you received the complete system, including all components shown above.

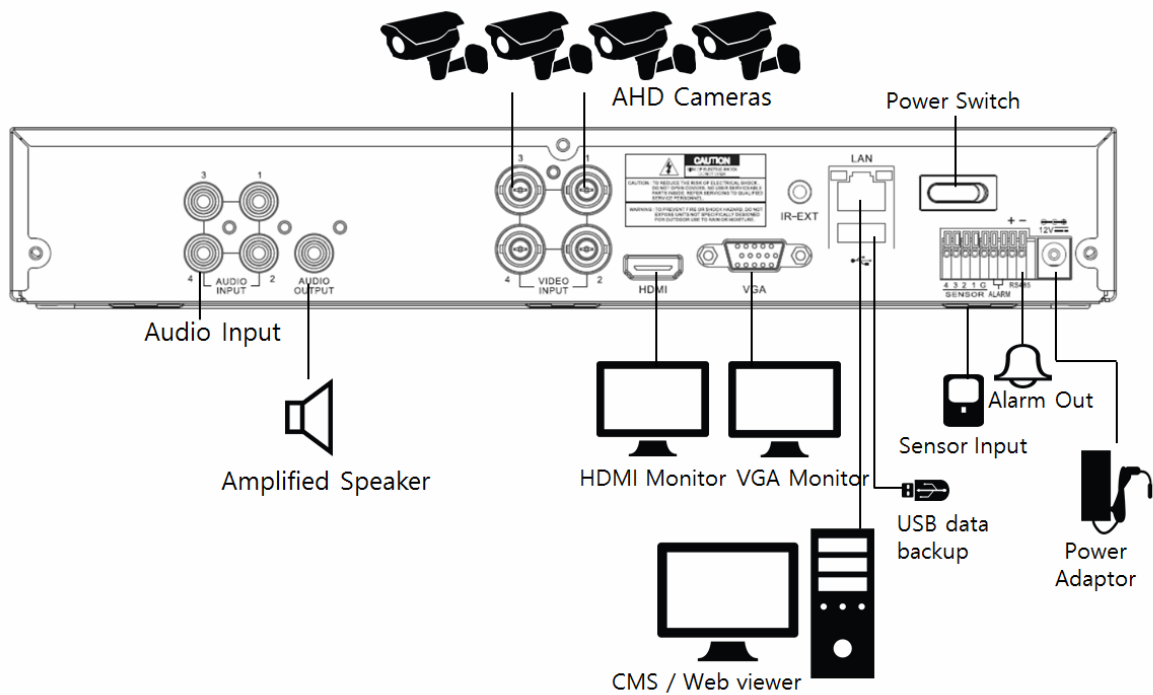
## 1.3. Key Features

The AHD DVR is the most advance H.264 standalone AHD DVR developed for all industrial applications. In addition to its sleek professional design, it is very reliable and cost effective. Most of all, the DVR offers you High Definition picture quality with cost effective AHD analog cameras. And, its VCA (video content analysis) function will offer you the advanced security environment.

- Real time live, real time recording
- H.264 High Profile Hardwired Codec
- Full HD (1920 x 1080P) display on HDMI and VGA
- 1 or 2 Internal hard disc drives (specific models)
- 2 USB interface
- S.M.A.R.T. hard disc check
- VCA with dedicated cameras
- Protect Video / Audio clip from overwrite
- Still Image capture and direct print
- Authentication of data from reproduction and falsification
- Gigabit Ethernet
- DVRNS, DDNS, FTP File Transfer
- Small recording file size with crystal clear picture quality
- Adjustable recording frame rate, resolution and picture quality
- Video / Audio data backup in AVI / H.264 format
- Configuration file Import/Export & Camera setup cloning

- Dynamic / Static IP support with own / public name server
- All channel sensor inputs, Alarm outputs, PTZ control
- Advanced event search function
- System / Event log file management
- Self-diagnosis and hardware watch-dog
- 48 Languages
- Remote Client software, web viewer, mobile app,

## 1.4. Basic Security System Configuration



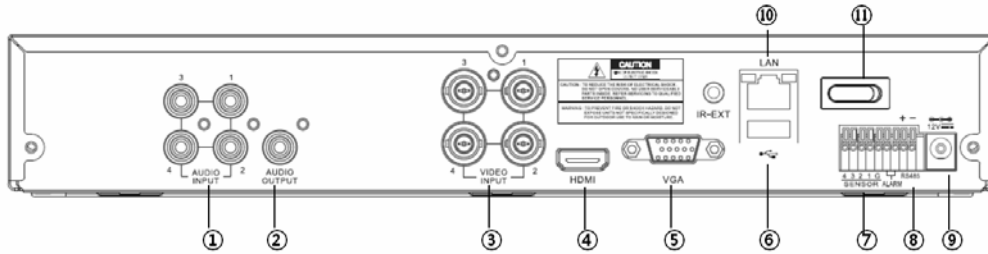
## 1.5. Front Panel View



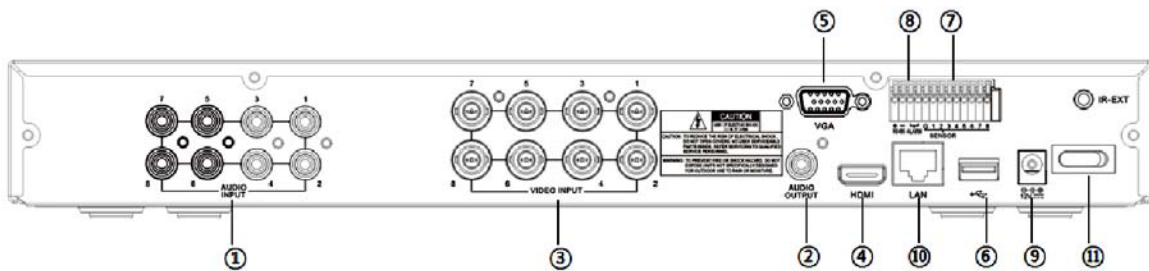
No.	Title	Description
①	DVR power indicator	DVR power indicator
②	REC LED	Recording indicator
③	Playback LED	Playback indicator
④	Network LED	Network connection indicator
⑤	IR REMOTE CONTROL SENSOR	Receives all incoming signals from the remote control
⑥	USB 2.0 Port	Connect USB mouse or USB memory device for firmware upgrade.

# 1.6. Rear Panel View

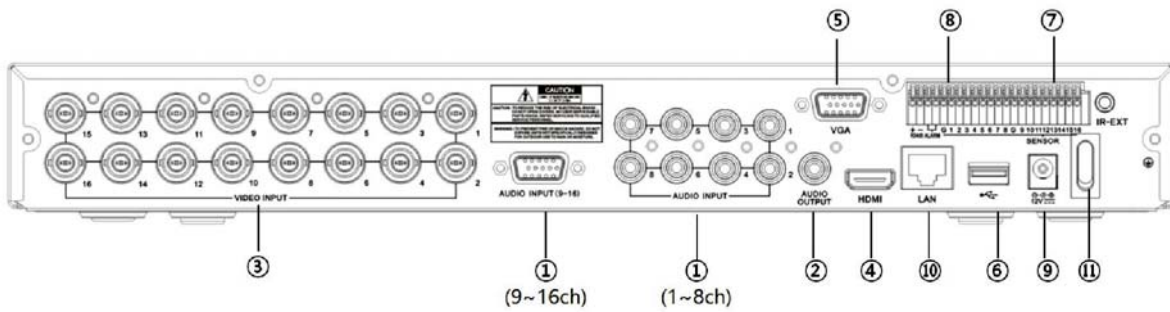
## 4CH AHD DVR



## 8CH AHD DVR



## 16CH AHD DVR



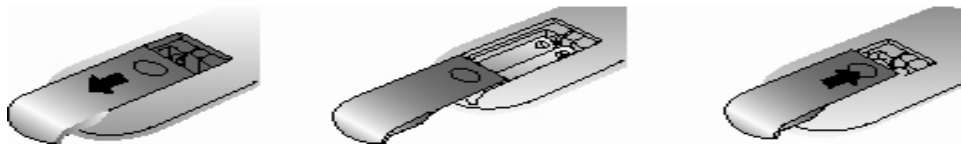
①	Audio input	②	Audio out	③	Camera input
④	HDMI	⑤	VGA out	⑥	USB 2.0
⑦	Sensor/Alarm: I/O	⑧	RS-485	⑨	Power input
⑩	Network port	⑪	Power switch		

## 1.7. IR Remote Control



1	Numeric button: select camera (channel) number
2	ALL: Multi-channel display
3	Menu: Enter or exit the menu
4	Mute: Mute on/off
5	SUBMENU: Enter into search menu
6	Navigate Buttons: ◀ Left ▲ Up ▶ Right ▼ Down
7	SEL: To select and save the menu and parameter change
8	◀◀ Rewind (select speeds from 2x, 4x, 8x, 16x, 32x, 64x for faster rewind)
9	▶ Play: Play a recorded file
10	▶▶ : Fast forward (select speeds from 2x, 4x, 8x, 16x, 32x, 64x for faster forward)
11	Rec: Start/Stop manual recording
12	⏸ : Pause a video during playback mode
13	■ Stop: Stop playback

### Installing batteries



1. Remove the battery cover by sliding in the direction of the arrow.
2. Insert two AAA batteries according to directions provided.
3. Replace the battery cover by sliding in the direction of the arrow.

## Chapter 2. Installation

### 2.1. HDD Installation

#### Before Installation



We recommend setting the current time on your DVR before HDD Installation. Please make sure that the power of DVR is switched off before starting installation.

- Step 1. Make sure the DVR power is switched OFF
- Step 2. Open the top cover of DVR using a cross screw driver.
- Step 3. Take out the HDD mounting plate from DVR.
- Step 4. Place HDD(s) on the mounting plate and mount it with screws.
- Step 5. Replace the mounting plate into the DVR and fix it with screws.
- Step 6. Attach the data and power cable to HDD(s) correctly.
- Step 7. Replace the top cover of DVR and fix it with screws.

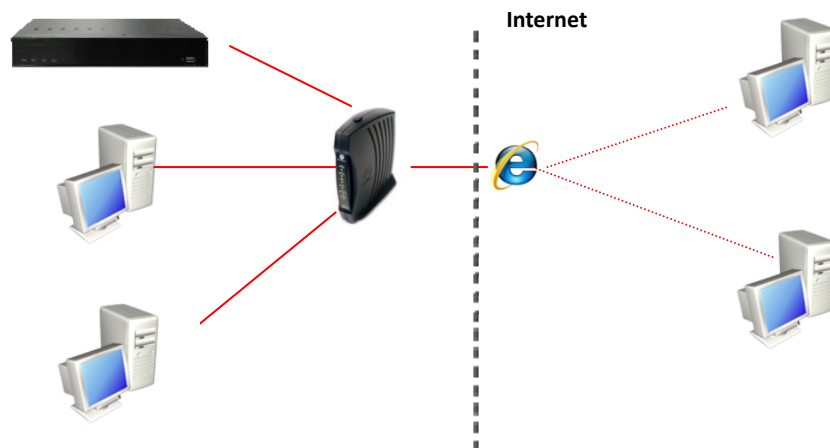
#### After HDD installation

- Step 8. Turn the DVR power ON.
- Step 9. DVR will detect HDD(s) during the booting and will format HDD(s).
- Step 10. After HDD formatting, DVR will be automatically rebooted and will be ready to work with HDD(s).

### 2.2. Network Connection Setup

#### 2.2.1 Using a Static IP Address

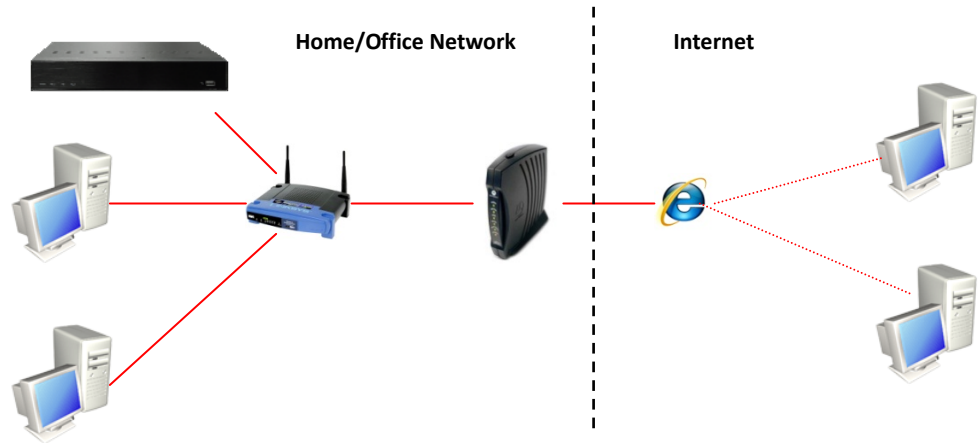
You can use the Static IP address, Subnet Mask and Gateway address provided by your ISP (Internet Service Provider) for your DVR. The Gateway address is the IP address of your broadband modem.






## 2.2.2 Using a Dynamic IP Address

You can use a router with your Dynamic IP broadband modem. In this case, you should set the configuration of a router properly for network connection between DVR and Net/Web Viewer. Please follow the instructions in next section to configure your router correctly.



 If your Broadband modem does not support internal loop back (port forwarding) function and you want to monitor DVR using a PC located in same Intranet, you should use Direct IP instead of DVRNS in the connection menu of NetViewer. If your PC is located outside of Intranet, you can use both DVRNS and Direct IP to connect to DVR even though your Broadband Modem has limited features.

## 2.2.3. Router Configuration

If your DVR is connected to the network through a router, you should configure router properly. There are 3 steps as follows.

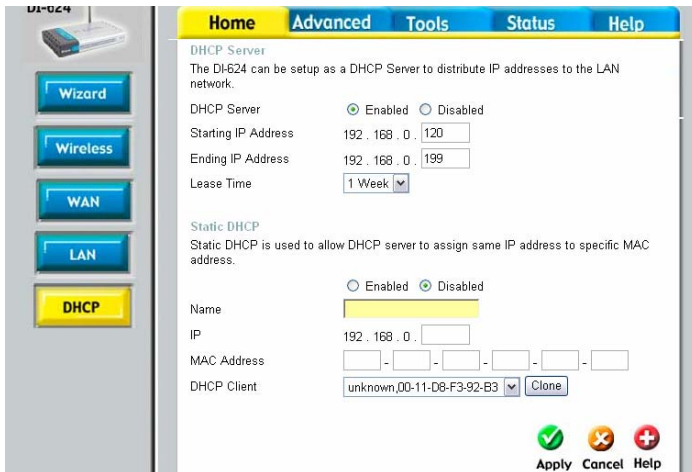
1. WAN Setting
2. DHCP Setting
3. Virtual Server Setting

### 2.2.3.1. WAN Setting

The screenshot shows the 'WAN Settings' page of a router's web interface. The page has a navigation menu on the left with buttons for 'Wizard', 'Wireless', 'WAN', 'LAN', and 'DHCP'. The 'WAN' button is highlighted. The main content area has tabs for 'Home', 'Advanced', 'Tools', 'Status', and 'Help'. Under 'WAN Settings', there is a prompt: 'Please select the appropriate option to connect to your ISP.' The options are:   
-  Dynamic IP Address: Choose this option to obtain an IP address automatically from your ISP. (For most Cable modem users)   
-  Static IP Address: Choose this option to set static IP information provided to you by your ISP.   
-  PPPoE: Choose this option if your ISP uses PPPoE. (For most DSL users)   
-  Others: PPTP, L2TP and BigPond Cable (for Europe use only), L2TP (for specific ISPs use only), BigPond Cable (for Australia use only)   
Below these options, there is a 'Dynamic IP' section with fields for:   
- Host Name: DI-624 (optional)   
- MAC Address: 00 - 11 - 95 - 02 - 1D - 57 (optional) with a 'Clone MAC Address' button   
- Primary DNS Address: 206.13.28.12   
- Secondary DNS Address: 206.13.31.12 (optional)   
- MTU: 1500   
At the bottom right, there are three icons (checkmark, X, plus) and buttons for 'Apply', 'Cancel', and 'Help'.

When you connect to your Router, you can find menu for WAN setting. Please confirm the WAN setting. If you are using DSL service, you should select PPPoE, and you will be directed to a sub-menu to type in DSL user name and password.

### 2.2.3.2. DHCP & IP Address Setting



To assign a unique private IP address to DVR in your intranet environment automatically, you can enable DHCP option in the Network Setup menu of your DVR and your Router. In this case, you can skip the procedures described on this page.

We recommend assigning IP address to DVR manually to prevent unexpected change of IP address.

\*A router from D-Link is quoted as an example in this manual. The images of setup menu above may not always match another router's setup menu.

If you have any problem with DHCP function or want to assign the private IP address, please disable DHCP option in the Network Setup menu of your DVR and check the starting and ending IP used by DHCP server of the Router. You can assign any private IP address to your DVR even if it is out of the DHCP range, but the IP address should match with the one entered in the Network Setup menu of your DVR.

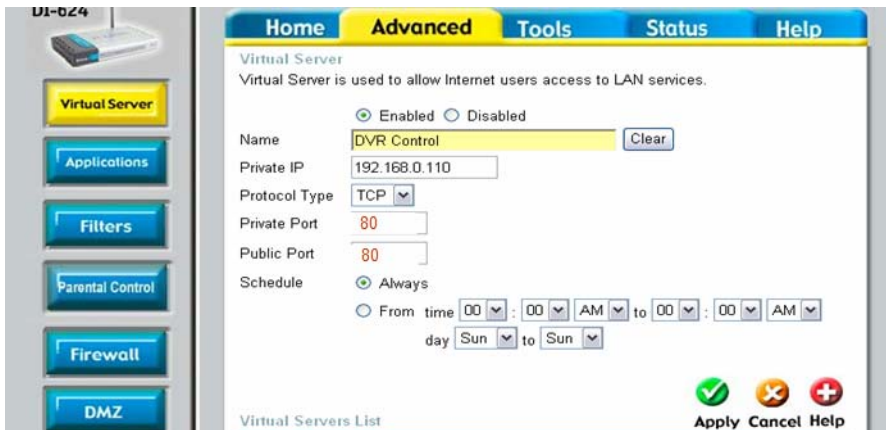
### 2.2.3.3. Virtual Server Setting

You should register your DVR as a virtual server. Please enter the information into IP address field of the router (e.g. 192.168.0.110).

Protocol Type should be TCP. Private/Public Port numbers should be the same with the Port numbers assigned in DVR. You can change port numbers in Network Setup menu to avoid conflict with other network servers.

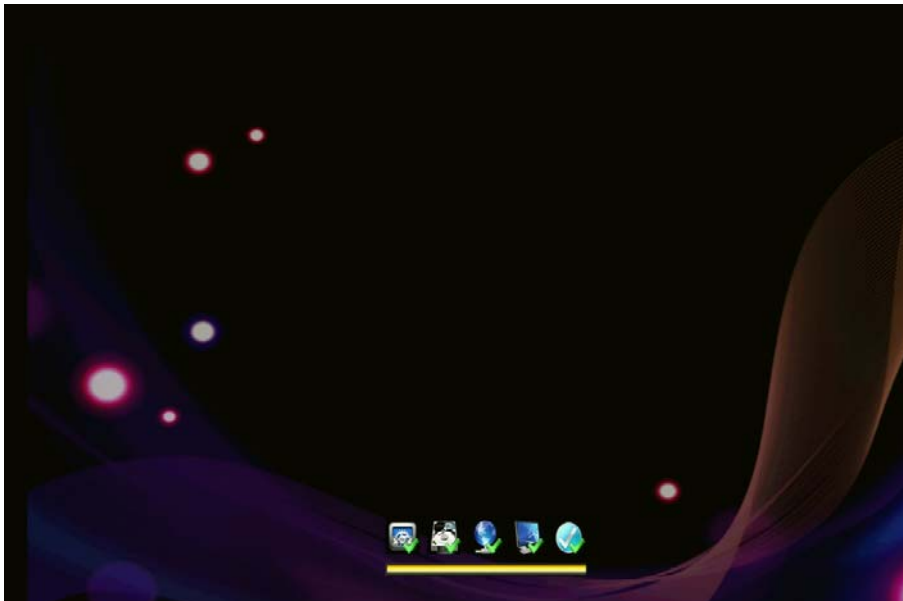
Your DVR uses 3 port numbers and the default Port numbers are 9350~1 and 80. 9350~1 are for controlling the video, audio and commands of Net Viewer, and 80 is for Web Viewer. You need to register 3 port numbers into the router as network servers. Please make sure that your router does not block those port numbers to/from the DVR with filter and firewall features.





## Starting the System

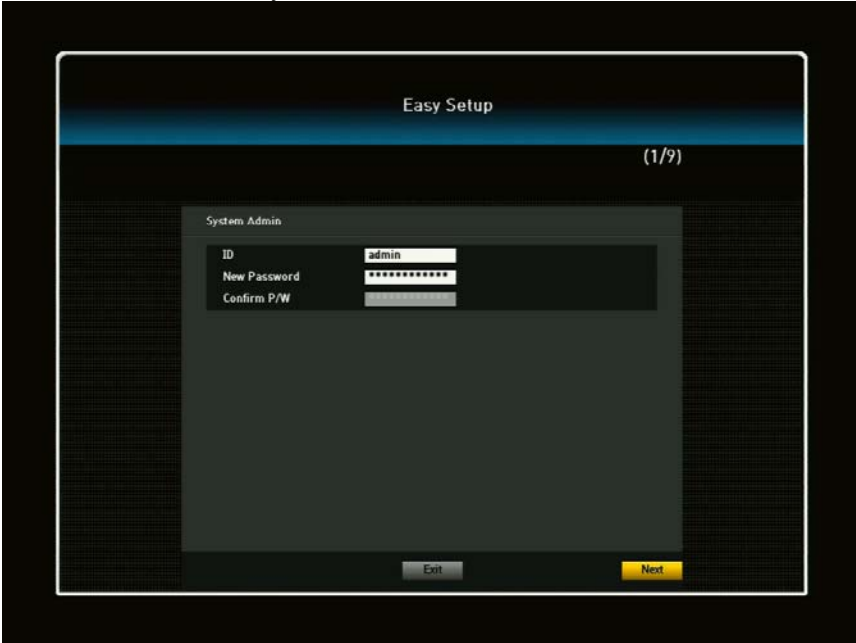
When power is turned on, you will see the initializing screen and it may take up to one minute to complete. After initializing is complete, an Easy Setup screen will appear.



# Easy Setup

An Easy Setup screen of 9 steps will appear. If you don't like to setup all at this point and like to skip the steps, please click the Exit button. Then the system will exit to main live screen. However, you can setup the system at anytime you want by click the Easy Setup Menu in the right-click mouse menu.

[1/9] System Admin:  
The user can set the System ID and Password.



[2/9] Connection Mode:  
The user can set the Network connection.



[3/9] Port/Connection Test:

You can set the Port and Connection testing. If you want to test if DVR IP address is connected to the network environment, please enter the desired DVR IP address to click the test button.



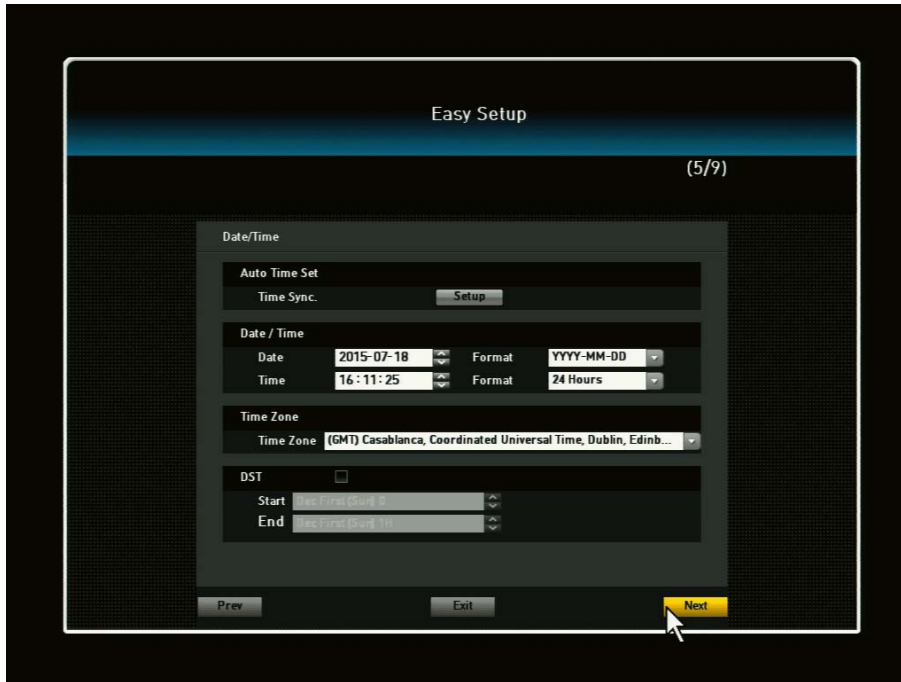
[4/9] DVRNS / Dashboard

At this step, the user can setup Network ID and Password for the Administrator and User. The User can register the DVR system to DVRNS server. Also, the user can register the system to Dashboard server. As per the DVRNS and Dashboard registration, please refer to this manual as described herein below. The Network ID and Password will be used to access the DVR from remote site (i.e., web browser, web viewer)



[5/9] Date / Time

In this step, the user can set the date and time of the system and Time Sync with the time server, and Daylight Saving Time (DST).



[6/9] Camera Setup

The user can set the video (on/off, cover 1 and 2), audio (on/off) and camera title.



[7/9] Record Quality

The user can set the recording resolution, recording rate and recording quality



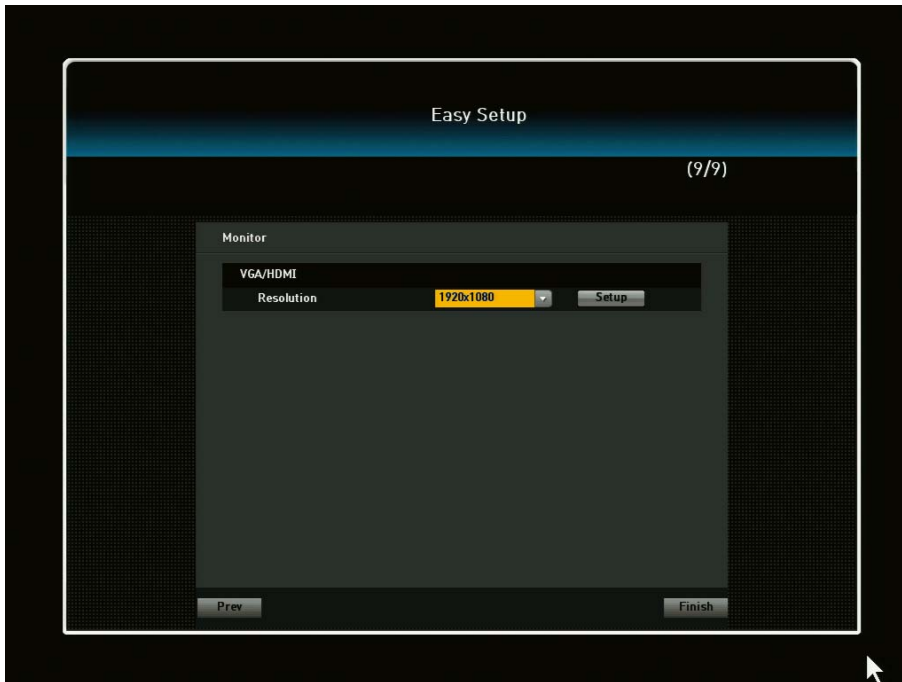
[8/9] Event Detection

The user can set the Motion (on/off) and Video Loss (on/off)



### [9/9] Monitor Resolution Setup

The user can select the display resolution with more suitable for the display monitor type.



After Easy Setup is completed or exited from Easy Setup menu, a live screen will appear.



When the user does not log-in the system and click to any menu, it will prompt you to the login dialog. Enter ID and Password by using the virtual keyboard and click OK. By default, the ID is set at "admin" and the Password is set at "admin"



# Live Menu Description

## Mouse Menu

To navigate by using your mouse, right click your mouse anywhere on the screen and you will be given options to choose from.



When a channel is selected, the Mouse Menu options/selections are different than the Mouse Menu when a channel is not selected.

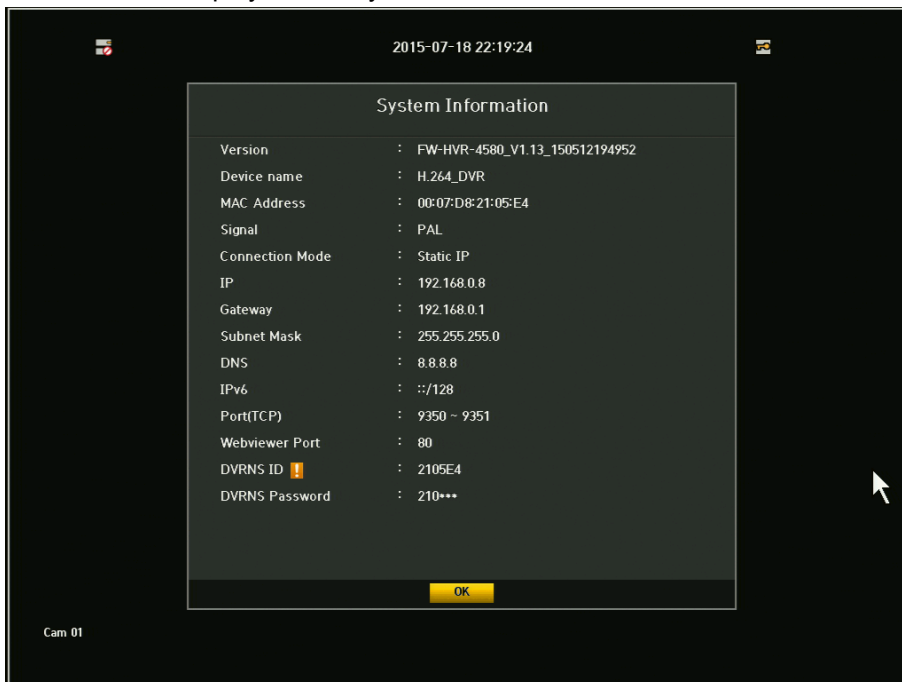



## Menu Description

1	Screen Mode	Can select how you would like to view screen
2	Zoom In	Can zoom in for the desired area.
3	Audio On/Off	Option to have the audio on or off
4	Freeze	Can freeze Playback or Live scene
5	Stop Alarm	Stops the alarm output and the event monitoring.
6	Record Start/Stop	Starts/stops the manual recording
7	Play	Plays the search result (for 30sec. 1min, 5min, 10min and all)
8	Search	Can search for recorded data (by time, event, capture, etc)
9	Backup	Can backup data via USB drive
10	Main Menu	Access the main menu.
11	Information	This menu will display system information
12	Easy Setup	You'll be able to setup your system with simple.
13	Shutdown	Will allow you to completely shut down the unit
14	Hide Launcher	Hides the launcher.
15	Logout	You can log out.

## System Information

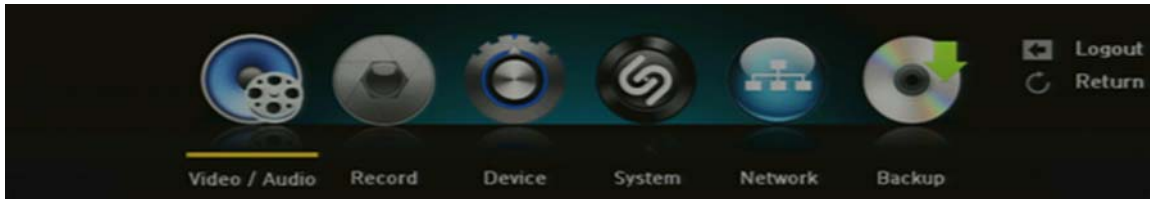
This menu will display overall system information



When there's an exclamation mark , this indicates that the DVR has not been registered in our DVRNS server. VRNS Password will only show half of the registered password. You can enter up to 8 characters max. If four characters are used in the password, it will show as 12\*\*, six characters will show as 123\*\*\* and eight character, 1234\*\*\*\*

## Chapter 3. Main Menu Setup

- Go to Main Menu Window using:  
Remote control – Press MENU, Mouse – Right click and click MENU icon.



- To go to desired sub menu:  
Use direction keys and press ENTER (remote control) or click on the mouse
- To go to the higher level menu:  
Remote control – Press MENU, Mouse – Right click

### Main Menu Tree

VIDEO/AUDIO	RECORD	DEVICE
Camera	Policy	Storage
Monitor	Record Quality	Sensor / Video Loss Detection
Sequence / Event Display	Record Method	Alarm Schedule
OSD / Display Position	Record Option	PTZ
Screen Mode	Schedule	System Controller/Printer Device
	Holiday	Video Analysis
	Motion	
	Event Record Duration	
SYSTEM	NETWORK	BACKUP
Date / Time	Connection	Backup
Signal / Language / Device name	Port / Connection Test	
Config	DVRNS / Dashboard	
Log Information	DDNS	
Admin	Live Transfer	
Group	FTP File Transfer	
User	Email / SNS	
Setup	iSCSI	

## 3.1. Video/Audio Setup

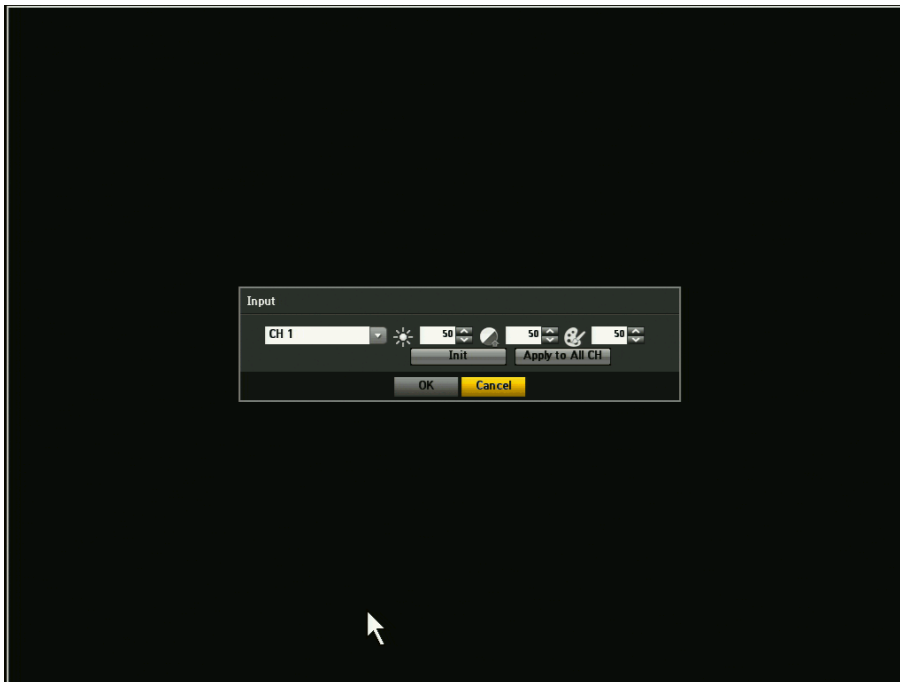
There are 5 sub menus under Video/Audio. To exit to main menu, press MENU (or right click on the mouse) key again.

### 3.1.1. Camera (Channel) Name and Display



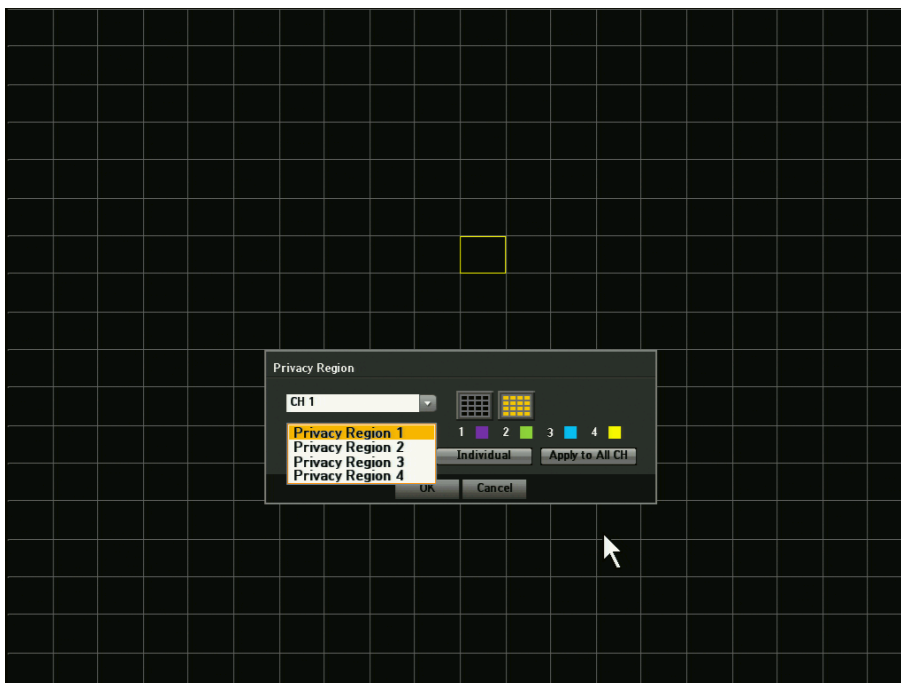
- 1) VIDEO: You may select the video ON, OFF, COVERT 1 or COVERT 2.
  - ON: Pictures/Images and icons will appear on screen as normal.
  - OFF: When the video is switched to OFF, there is no action taken, (no images/pictures, recordings, etc.).
  - COVERT 1: Video/pictures will not appear and will be blank/black, but icons and camera name will appear. Despite being in covert, the DVR will continue to record.
  - COVERT 2: In this mode, the screen will be completely blank including icon, camera names, etc. but will continue to record.
- 2) AUDIO: You may select the audio ON or OFF position.
- 3) TITLE: Create your own title for each camera connected to the DVR by using the virtual keyboard (up to 15 characters). If you skip this setup, camera # will be displayed on the screen

Screen Input: You can configure your screen to your preference by adjusting the channel.



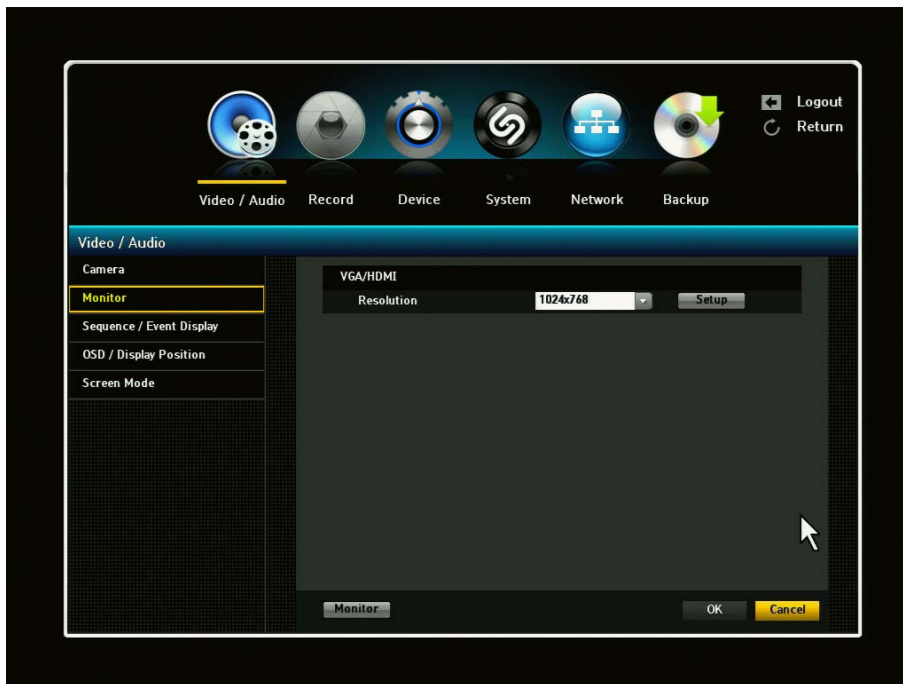
- 1) Brightness
- 2) Contrast
- 3) Color
- 4) Click the <Init> to initialize settings back to the default 50.
- 5) When the desired setting is entered, click <OK>.

Privacy Region: You can set privacy region for each channel up to four privacy region settings.

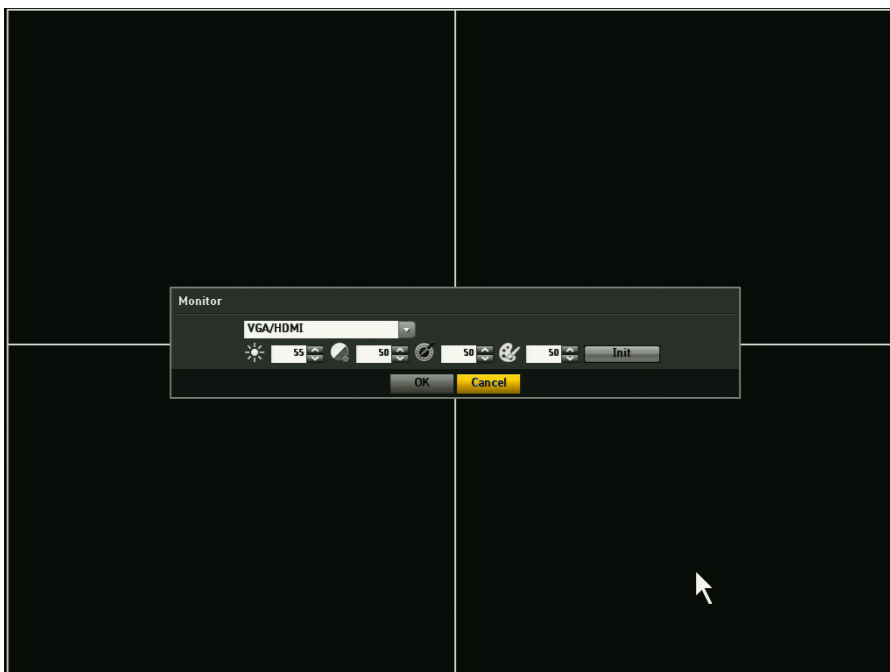


### 3.1.2. Monitor

In this menu, you'll be able to set the desired HDMI/VGA resolution by simply clicking on the resolution scroll down bar and select the setting.

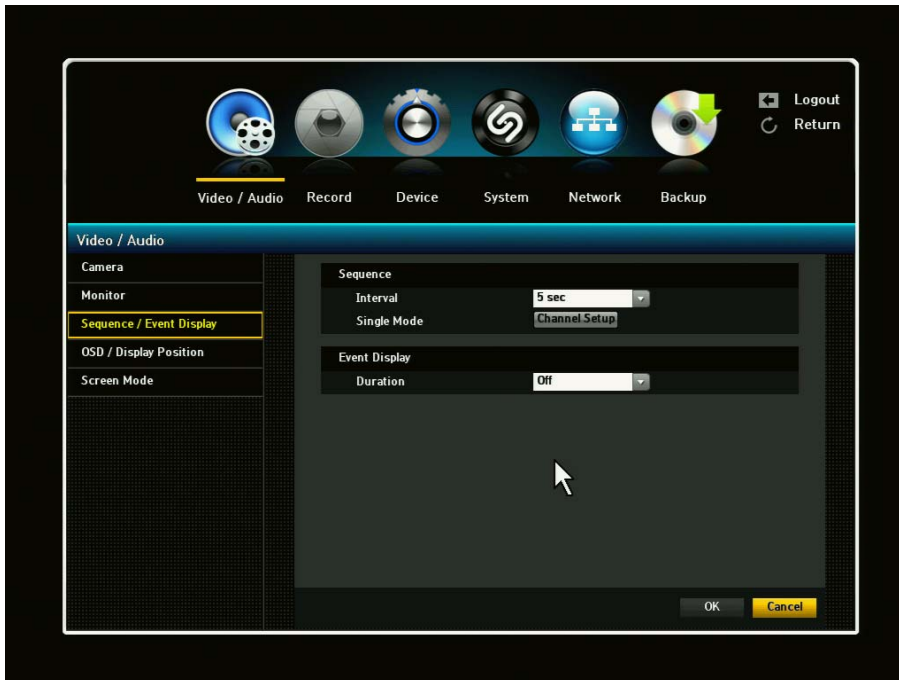


To adjust the brightness/contrast/hue/color for monitor, click the Monitor button on the bottom left corner.



### 3.1.3. Sequence / Events Display

The DVR can display each live video channel in full screen (or a group of channels) in sequence mode similar to slide show in PC. Select the interval, channel setup and Duration.



#### 1) SEQUENCE:

- Interval: You may select OFF position or 30 sec maximum.
- Single Mode: By clicking the channel setup, you can select individual channel or all.

#### 2) EVENT DISPLAY:

- Duration: You may select OFF position or continuous

### 3.1.4. OSD / Display Position

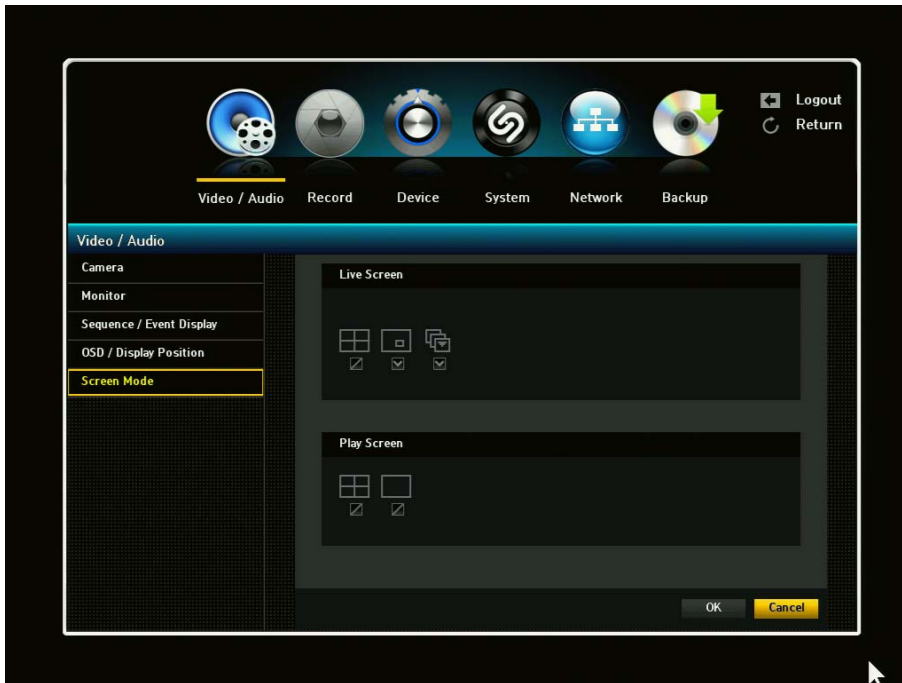
You can configure each parameter for on-screen-display using direction keys and ENTER button. To save and exit from this menu, press MENU.



- 1) CAMERA ID MODE [NUMBER / NAME / OFF]  
You can display a number or name of your camera on the screen. Select OFF not to display any.
- 2) BORDER COLOR [WHITE / BLACK / OFF]  
Select the color of border line on multiple channel display mode. Choose from WHITE and BLACK
- 3) ICON [ON/OFF]  
Select ON or OFF to display Icon
- 4) DATE / TIME / Tooltip [ON / OFF]  
Select the On / Off of date / time / tooltip displaying on the screen. OFF will not display current date / time / tooltip on the live screen. But the DVR will record the video with time/date stamp.
- 5) DISPLAY POSITION SETUP: Click the Display Position Setup button to adjust the data position

### 3.1.5. Screen Mode

You can configure the Live screen and Split Screens.



- 1) Live Screen: Select split modes for the Live screen.
- 2) Play Screen: Select split modes for the playback screen.
- 3) When the screen mode setup is done, click OK.



## 3.2. Record Setup

With this menu, you can set all parameters (see the picture as below) related to recording for each camera independently. Use direction keys and ENTER button to select the camera (channel) and change the setup value.

### 3.2.1. Policy

DVR can record a live video by manual, schedule, event (motion detection and/or external sensor) and by network user's command. You can set the recording policy for each camera independently.



- 1) Manual (R) [ON / OFF]  
ON: When turned ON, you can start recording manually by pressing a REC button (or by clicking REC icon on mouse menu). Press REC key again to stop recording.  
OFF: Manual recording is disabled on selected camera(s).
- 2) Schedule (S) [ON / OFF]  
ON: Schedule record enabled. DVR will record as your schedule setup.  
OFF: Schedule record disabled on selected camera and DVR will not record by your schedule setup. This will override schedule setup menu.
- 3) Audio [ON/OFF]: Allows user to turn audio record ON or OFF.

### 3.2.2. Record Quality

Setup the record quality parameters for each camera.



- 1) Resolution [1080p, 720p, 960H, 1/2 960H and 1/4 960H]  
There are several recording resolution modes you can choose from. 1080p is the highest resolution.
- 2) Record Rate (F/S) [NTSC: 30-1] [PAL 25-1]  
Select recording speed in frame (image) per second. Higher F/S requires more HDD spaces.
- 3) Record Quality  
Select recording video quality. You can select level 1 (low) to level 8 (high) for video quality.

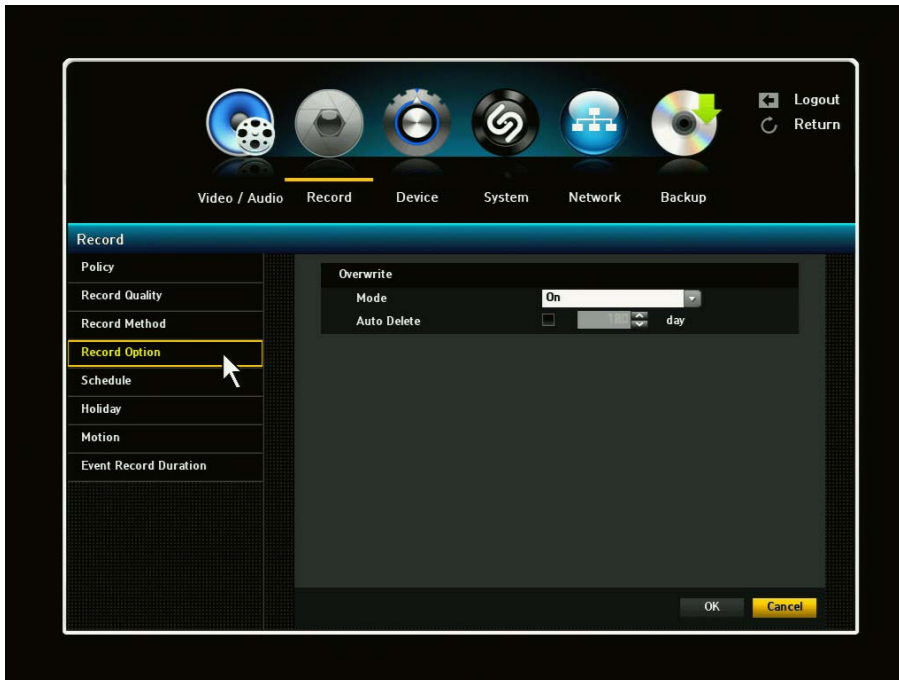
### 3.2.3. Recording Method

The user can set the recording resolution for both normal and Event condition. That is, the user can set the low resolution for normal condition and high resolution for Event condition respectively for each channel.



### 3.2.4. Recording Option


You can enable/disable HDD overwriting feature and set warning method when HDD is full and overwriting is disabled.



#### 1) HDD Overwrite Mode [ON / OFF]

If you select “ON”, DVR will delete the old recorded files (from the oldest file) and will record the new video file when the HDD is full.

If you select “OFF”, the DVR will stop recording when the HDD(s) is full.

If HDD OVERWRITE is OFF when the HDD is full, the DVR will warn you to change the setup or replace the HDD. If disk warning is activated, a Disk Full Icon  will appear on the screen. If then, enable the HDD overwrite feature or replace your HDD(s) immediately.

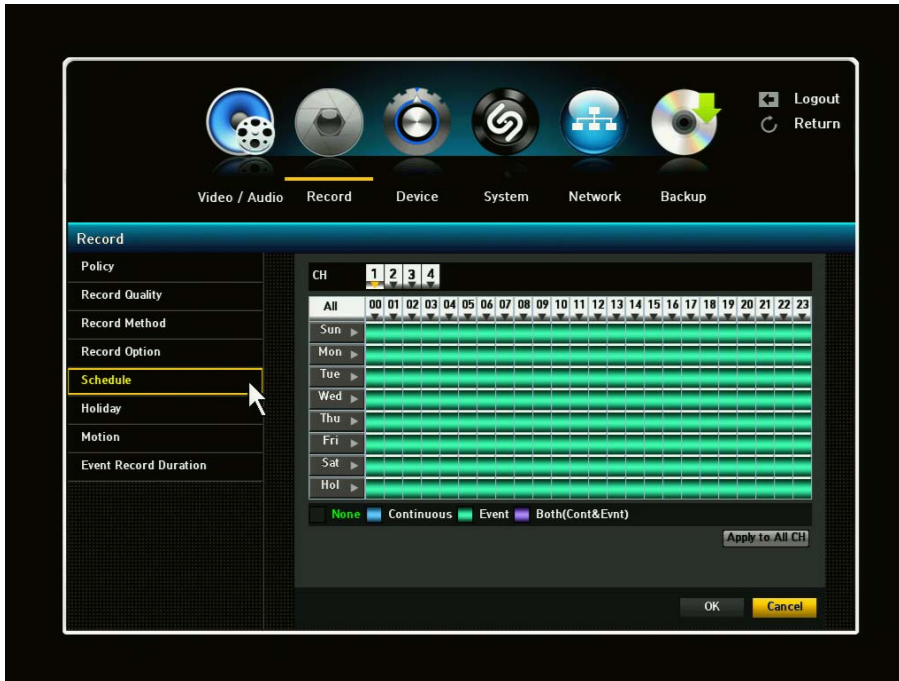
#### 2) Auto Delete.

You can choose this option if you want to delete data on a HDD after an elapse of certain period of time of recording.

If you want to use the “Auto Delete” option, click on the box right next to the “Auto Delete” option. “Auto Delete” window will be displayed. It will ask you if you would like to proceed. If you click OK, you can select number of days to auto delete. If the user set the “Auto Delete” as 60days, the DVR will delete the data which is elapsed of 60 days.

### 3.2.5. Recording Schedule Setup

This menu allows you to create your own recording schedule and trigger type. To enable this feature, schedule recording feature at RECORD->POLICY->SCHEDULE menu must be turned "ON". Using direction keys and ENTER button, choose preferred record types (such as Continuous, Event, Both (Cont&Evt)) on the selected time and date. Different color will represent different recording types.



1) CH : 1 ~ 4

Select channel for schedule recording.

2) Select Day [SUN – SAT, Hol]

Select the desired day for schedule recording.

3) Time

Move the cursor to desired time and press ENTER key to set it highlighted. Press click again to change schedule recording option by color.

You can set different recording schedule and type for each camera (channel) or you can apply current schedule setting to all other cameras by pressing "Apply to All CH" button.

Apply To All Channel: If selected, "Apply to All CH" window will appear. Press OK to apply the setup to all channels. When the recording schedule setup is done, click OK.

### 3.2.6. Holiday

You can set specific dates to Holidays & Weekends according to your preferences. Holidays are applied to <Record Schedule> and <Alarm Schedule> as well.



- 1) Select Record in Main Menu and click Holiday & Weekend.
- 2) A calendar for Holiday & Weekend setup will appear.
- 3) By using your mouse or buttons, select year or month and click [OK] or [ENTER].
- 4) Select a desired date and click [ENTER] or [OK]
- 5) You will see the “Setting Holiday” screen.
  - Example: Select September 21 and check on <9/21> only to make every September 21<sup>st</sup> a holiday. Check both on <9/21> and September 3<sup>rd</sup> Wed> to make every September 21st and 3<sup>rd</sup> Wednesday of September holidays.
- 6) When the Holiday setup is complete, click <OK>.

### 3.2.7. Motion

This menu allows you to set motion detection area for motion recording. To start a motion trigger recording, RECORD-> POLICY->MOTION must be enabled



Sensitivity [LEVEL 1 – LEVEL 10]

The higher level is more sensitive to detect motions.

Area [FULL / SETUP]

Full: Motion will be detected from full viewing area.

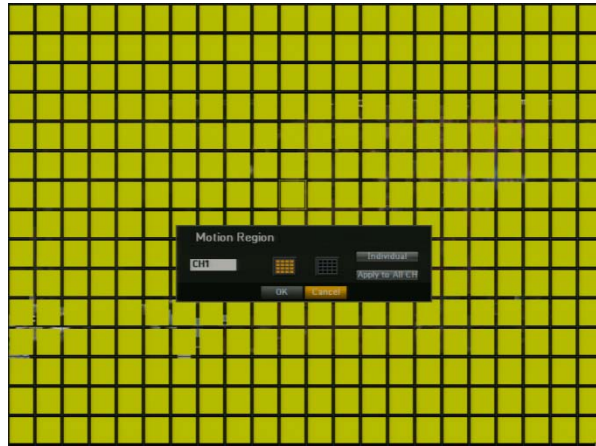
Position: You can setup the detection area manually. To set up the area, go to POSITION menu

To set up Motion Recording, you will need to do three (3) essential steps. These steps does not have to be in these necessary order but must be executed for Motion Recording.

1. Under Record menu, scroll down and click the Motion tab. After clicking, you will be in Motion Detection page. Under Mode tab, you will need to enable it (ON)
2. Next, go to Record Schedule. From this page, you can set the days, hours and channels for event.
3. Lastly, you will set need to set the policy. Under Record menu, click on the Policy tab. This will take you to the Policy page. Under Schedule, enable it by clicking it to ON.

Setting the Motion Detection Area:

1. Select <Motion Region>
2. When “Motion Region” window appears, select a channel for detection and set the area of motion detection.
3. To set the area in “Motion Region” window select desired region. To set the area cells individually, click <Individual> button.
4. When selected <Individual>, “Motion Region” window will appear and you can select cells one by one or drag the mouse to desired area to select motion region.
5. Select: Selected cell is set to be a part of motion detection area.
6. Unselected: Selected cell is removed from the motion detection area.
7. Inverse: Unselected cells are set to be the motion detection area.
8. Menu: After selecting individual motion areas, click menu for the “Motion Region” window to appear.
9. When the motion detection setup is complete, click <OK>. By clicking <OK>, you will exit this Motion region setting.



- ✓ Select
- Unselect
- Inverse
- Menu

*Important:*

When setting the Motion Detection, areas in yellow will only detect motion.

3.2.8. Event Record Duration

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



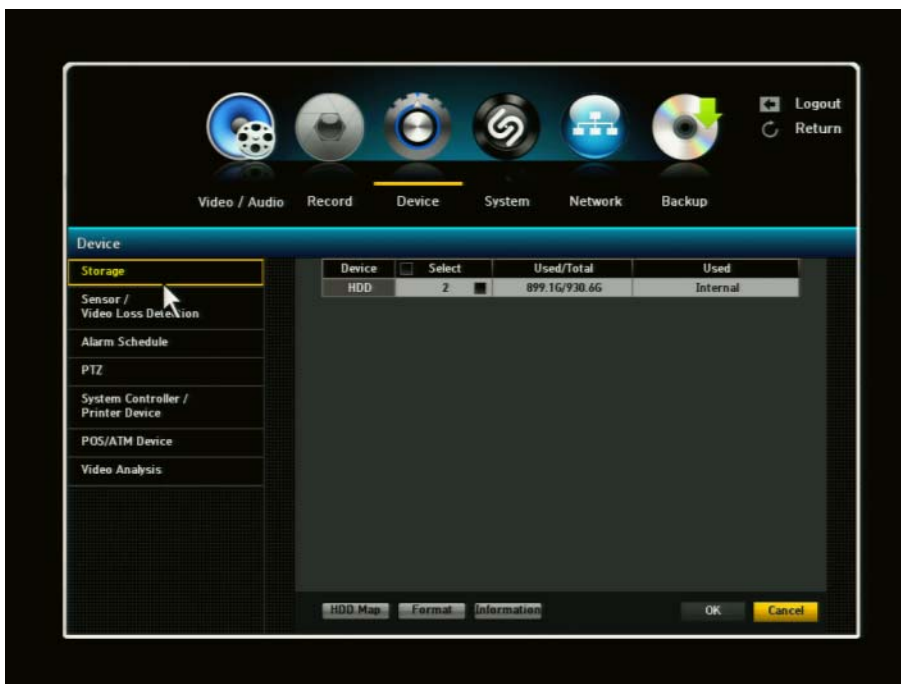
- 1) Pre Event: The recording of an event will start at a pre-determined time prior to the actual occurrence of the event. If it is set to 5 seconds, the recording begins from 5 seconds before the event.

- 2) Post Event: The recording will continue for a pre-determined time after the actual end of an event. If it is set to 5 seconds, the recording ends in 5 seconds after an event. You can set up the Post Event to maximum of 6 hours.
- 3) When the event recording duration setup is complete, click <OK>.

## 3.3. Device Setup

With this menu, you can configure the peripherals in your DVR such as PTZ control and printer.

### 3.3.1. Storage



HDD: HDD size and percentage used will be shown.

2<sup>nd</sup> HDD: 2nd HDD size and percentage used will be shown (if installed). You can have up to 2 internal HDDs.

Flash: If the flash capacity exceeds 2TB or more, it will appear as INVALID USB DEVICE. A pop-up window will appear with a message stating: Does not support USB devices that are larger than 2 TB.

FORMAT: You can format each HDD if necessary. Select <Format> and a window formatting the HDD will appear. The window will ask you if you want to proceed with formatting. Click OK. The selected HDD will be formatted.

If another USB device is used, it will display that particular device and you can format it if so desired.

**! Formatting will delete all recordings/data!**

S.M.A.R.T: HDD will use the S.M.A.R.T function to display HDD status. If there are many bad blocks, the HDD may be compromised therefore you may need to change the HDD.

HDD Info: HDD will use the S.M.A.R.T function to display HDD status. If there are many bad blocks,



the HDD may be compromised therefore you may need to change the HDD.

### 3.3.2. Sensor / Video Loss Detection Setup

Select the right type of your external sensors connected to DVR. There are 2 different types of sensors. (N.O.- Normal Open and N.C.- Normal Close). Press ENTER button to change and select the sensor type.



#### 1) Channel [CH1 - CH16]

Select the CHANNEL which the sensor is connected to.

#### 2) Type [N.O. / N.C.]

N.O.: "Normal mode-Open". Two sensor lines are not connected (=open) in the normal mode.  
Sensor lines will be connected (=close) in the activation mode.

N.C. : "Normal mode-Close". Two sensor lines are connected (=close) in the normal mode.  
Sensor lines will be disconnected (=open) in the activation mode. Press MENU to save and exit.

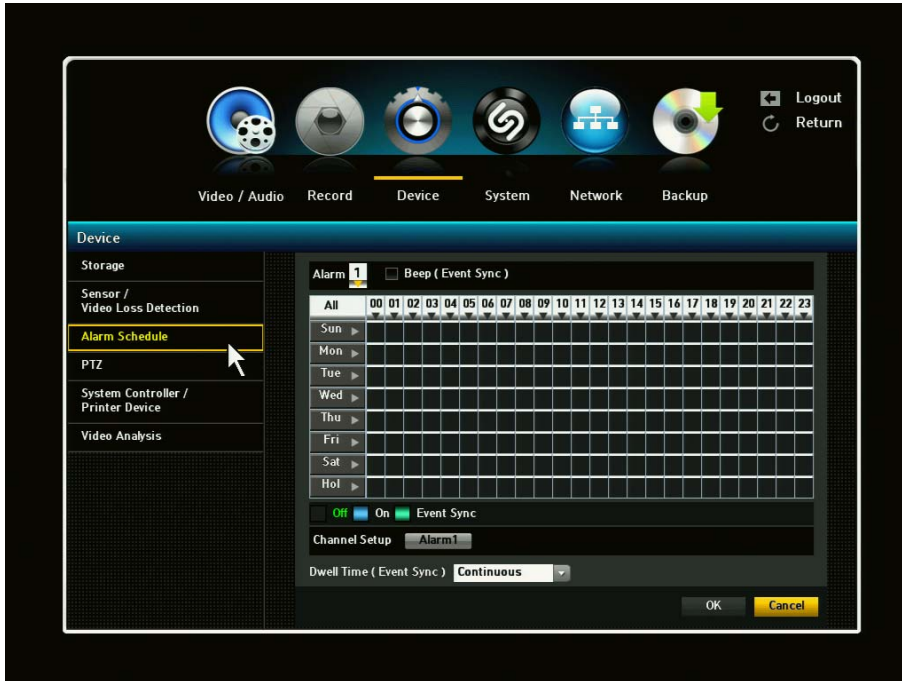
#### 3) Cam: Select a channel to be connected to the sensor.

Once the camera is selected, " Cam Preset Setup" window will appear. Select a channel and setup the preset.

#### 4) Video Loss State: Select ON or OFF for each channel.

### 3.3.3. Alarm Schedule Setup

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



- 1) ON: Marked in Blue, it will always generated alarm On scheduled time.
- 2) OFF: Marked in Black, no alarm is generated even if an event occurs.
- 3) Event Sync: Marked in Green, it generates alarm Only when an event occurs.
- 4) When the alarm is generated on the scheduled time, you can stop the alarm by cancelling the schedule.
- 5) When the Alarm Schedule setup is complete, click <OK>.

### 3.3.4. PTZ Control Setup

DVR supports Pan, Tilt, Zoom and Focus control for PTZF cameras or servers. It has RS485 port to connect to PTZ cameras and supports most industrial common protocols.



- 1) ID: You can create own ID number (0-255) for each PTZ camera (up to 16 cameras. Ex. is for 4 ch).
- 2) PROTOCOL: Select the correct protocol for each PTZ camera connected to DVR.
- 3) SPEED: Select the speed of camera movement (1-5). The higher number indicates faster speed.
- 4) When the PTZ setup is complete, click <OK>

### 3.3.5. System Controller / Printer Device

You can set the RS-485 communicator for use of PTZ Camera and system keyboards with the DVR.



- 1) Set the values of each communication setup of the remote device.
- 2) Baud rate: Baud rate settings of the DVR, PTZ camera and system keyboard should be matched for proper operations.
- 3) Make sure to match IDs of the DVR and System Keyboard and click <OK>.
- 4) Remote Control: You can select to have it ON or OFF and enter ID.
- 5) Printer: You can select whether the printer is USB or Network.

### 3.3.6. Video Analysis



Mode ON: Video Analysis will be activated.

Mode OFF: Video Analysis will be deactivated.

Protocol: Select device/Protocol (Currently only have Hitron).

Once the Video Analysis is set and complete, you will be able to view events if an action has taken place. You'll be able to view in Search Menu under Video Analysis.

## 3.4. System Setup

This menu helps you to configure DVR for basic operation. You can set the current time for your area, network parameters, and password for security purposes.

### 3.4.1. Date / Time Setup

You can setup the current date and time manually.



- 1) Date: Sets the date that will appear on the screen. You can Select the date format
- 2) Time: Sets the time and its format that will appear on the Screen. Select either one from <24 Hours or 12 Hours (AM/PM)>
- 3) Time Zone: Sets the time zone of your area based on the Greenwich Mean Time (GMT)  
- GMT is a standard World Time and the basis of world time zone.
- 4) DST: Set up Daylight Saving Time with its period to make the time earlier than the GMT of its time zone by 1hour during the set period.

### 3.4.2. Signal / Language / Device Name

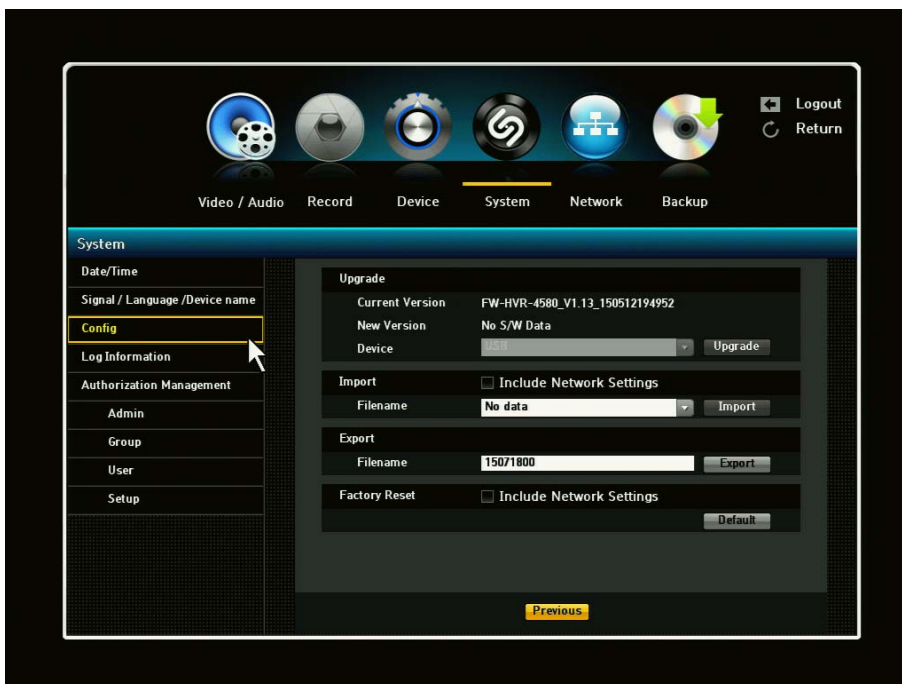
DVR supports several languages. Select your preferred language using ENTER button and press MENU to save and exit. Select your video signal format type: NTSC or PAL. Use ENTER key to select the type and press OK button.

Note: Changing the video signal setup of the DVR will cause it to reboot



### 3.4.3. Config

With this menu, you can EXPORT, IMPORT, RESET your DVR configuration. You can also upgrade your firmware from this menu.



1) Upgrade: Upgrade DVR firmware with USB memory stick at local USB port.

How to upgrade firmware with USB memory stick:

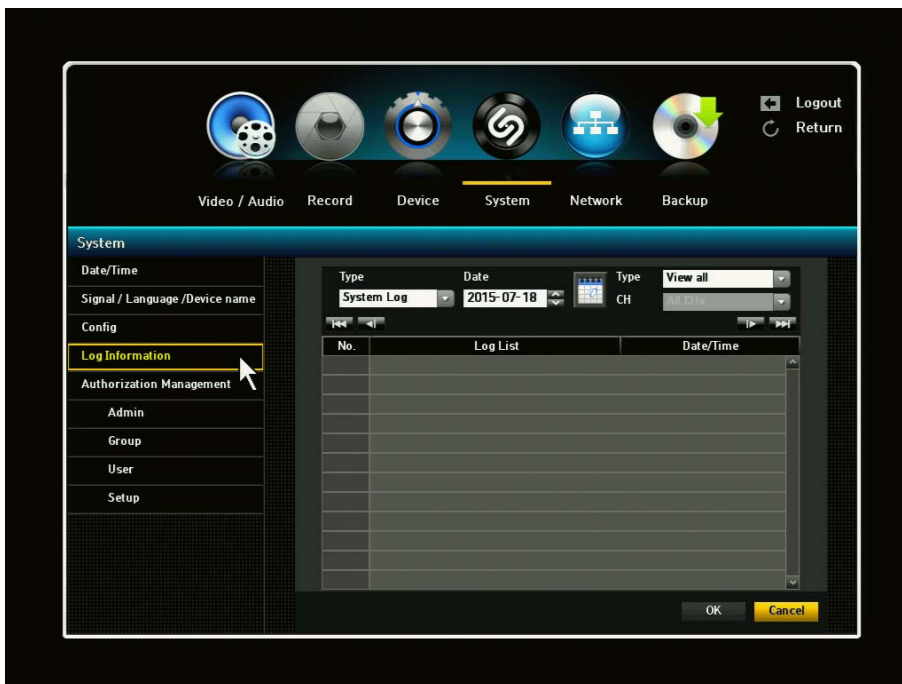
- Check you current firmware version before starting upgrade.
- Have a newer version of firmware software in a USB memory stick.
- Insert a USB memory stick to the USB port on the DVR.
- Press Menu button
- Go to CONFIG.
- Available firmware file will be shown on the screen. Select the right firmware file.
- Click UPGRADE
- DVR will reboot automatically after update. Please wait until DVR is rebooted automatically.

- 2) Import Configuration: Import and copy the DVR configuration file from a USB memory stick.
- 3) Export Configuration: Export current DVR configuration to USB memory stick. You can import this file from other DVR(s) and clone the configuration from other DVR(s).
- 4) Reset: You can restore all configurations to factory default values.  
(Except current time and network setup configuration)

#### 3.4.4. Log Information

You can browse logs on the system and events. System Log shows log and timestamp on every system start, system shutdown and any changes on system settings.

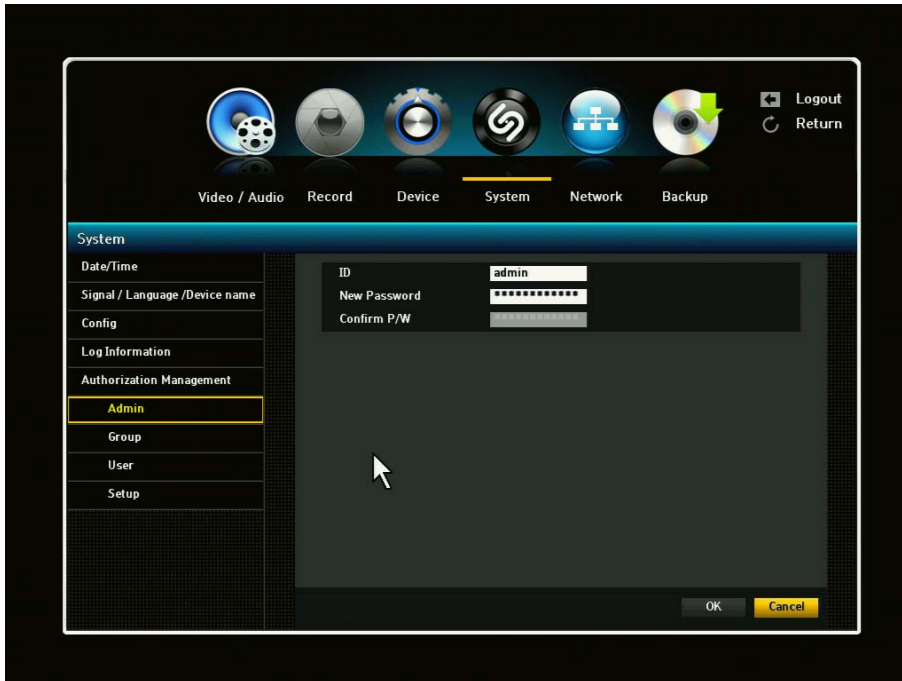
You can retrieve log information by calendar by clicking the calendar icon.



### 3.4.5. Authorization Management

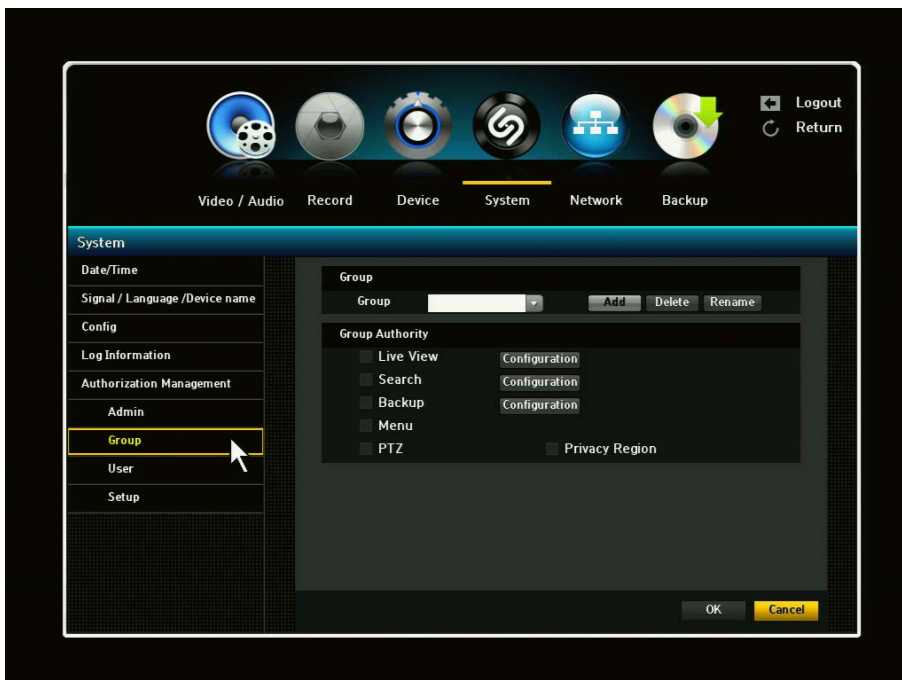
You can set permissions of each user over the DVR's specific function and settings.

#### 3.4.5.1. Admin.



- 1) Under Authorization Management Admin, you can change Admin's ID and Password. By clicking on the ID, a virtual keyboard will appear to type in ID. This also applies to Password and Confirm PW. Once you have entered your ID and PW, click OK.
- 2) By default, the ID and Password are set to "admin" and "admin"

#### 3.4.5.2. Group





1) Select Group and window for Add, Delete, Rename and Group Authority setup appears.

2) Click to a desired item and set the value.

- Add, Delete, Rename: You can add, delete, rename a group or modify permissions given to the group. A virtual keyboard will appear when Add or Rename is selected. You can add up to 10 groups.

-Add: When you first run the DVR with the admin account, only the admin accounts exists. Add has already been deactivated. Select to display the virtual keyboard. Enter a group name. You can add up to 10 groups.

-Delete: Deletes a user group that is already registered. Selecting Delete will delete all user accounts belonging to that group.

-Rename: Renames a group that is already registered. Select Rename to display the virtual keyboard.

- Group Authority: Sets permissions to access menu items of each group. Users of a group can access checked functions.

3) When the group setup is complete, press OK.

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

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

Select a menu to which the group permission is assigned.

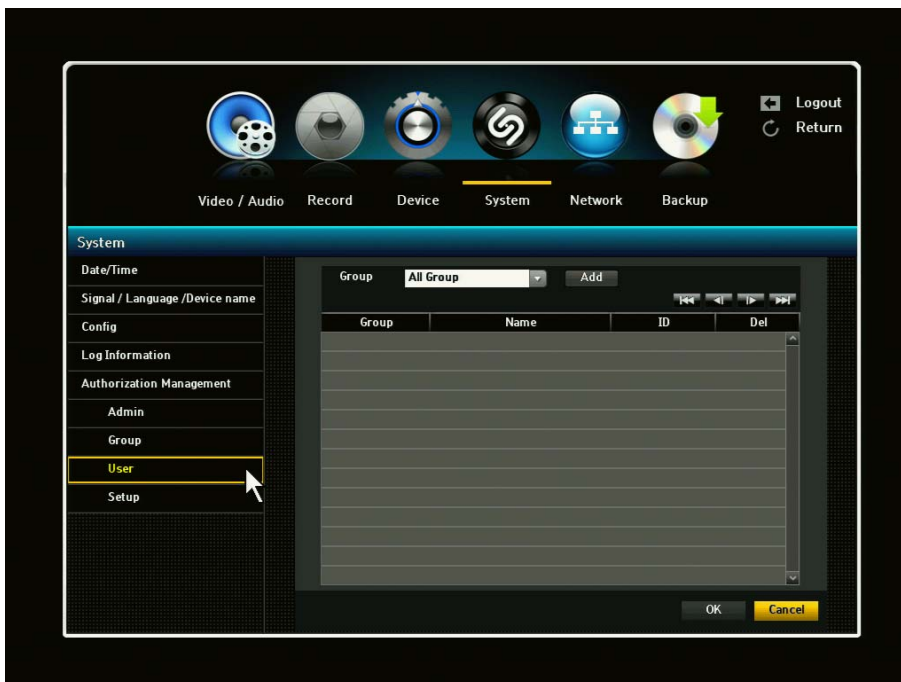
The menu where the group permission is assigned will be displayed in the Live menu when a group user logs in.

Live View / Search / Backup / Menu

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

### 3.4.5.3. User

**! Users can be added only if a Group has been already established.**



- 1) When selecting Add from the window, a window for “Add User” will appear. You can configure the Network Viewer setting including Name, ID, Select Group and Password. Result of the user setup appears in the User window.  
To change the user property, use “Edit User”.  
The “Edit User” window appears when you select a desired item to be changed in the User window.
- 2) When the user setup is complete, click <OK>.

#### 3.4.5.4. Setup

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



- 1) The Restricted Access, Manual Input of ID and Auto Log Out setup screen will appear.
- 2) Click to a desired item and set the value.

- A) Restricted Access: All menu items allowed for a user can be set with the value.
- Checked Box = Restricted/Not Accessible
  - Unchecked Box = Accessible

\* If box is checked in Restricted Access, a user can access the item only if the user has permission in Group Authority setting.

B) Auto Log Out: A user will be automatically logged out if there is no operation on DVR for over set period of time.

## 3.5. Network Setup

With this menu, you can setup the network for DVR. Before starting this setup, the DVR must be connected to the router by LAN cable. Also, please make sure that internet is working properly.

Important: If you are not familiar with network configuration and find any difficulties during this setup, please consult with your IT specialist or contact your distributor.

You should complete your network setup to control and manage the DVR through the internet and/or local network just like you are next to the DVR.

### 3.5.1. Connection



When No Router Is Used:

- 1) Static IP Mode:
  - Internet Connection: Static IP ADSL, Leased Lines and LAN environments allow connection between the DVR and the remote user.
  - DVR Network Setting: Set the <Connection Mode> to <Static IP>.
- 2) Dynamic IP (DHCP) Mode:
  - Internet Connection: Connect the DVR directly to a cable modem, DHCP ADSL Modem or FTTH network.
  - DVR Network Settings: Set the <Connection Mode> to <Dynamic IP>

#### When A Router Is Used:

- 1) Setting the DVR with a Static IP:
  - Internet Connection: You can connect the DVR to a router which is connected to a cable modem or a router in a LAN environment.
- 2) Setting the DVR Network:
  - Set the <Connection Mode> to <Static IP>.
  - Check whether the set IP address is in the Static IP range provided by the IP router.
- 3) Make sure the Gateway address and Subnet Mask are equal to those set in the IP router.
- 4) Setting the DHCP IP Address of the IP router:
  - To access the IP router's configurations, open a web browser on the local PC that is connected to the IP router and enter the router's address (ex. <http://192.68.1.1>).
  - At this stage, make the local PC's windows network configurations to the below example:  
EX.) IP:192.168.1.2  
Subnet Mask: 255.255.255.0  
Gateway: 192.168.1.1
  - Once connected to the IP router, it prompts with password. While entering nothing to the User Name field, enter, "admin" into the password field and press <OK> to access the router configuration
  - Access the router's DHCP configuration menu and it's DHCP server activation and provide the start and end address. Set the start address (192.168.0.100) and end address (192.168.0.200).

#### Setting Router's Port Forwarding

To remotely access/view your camera, it is required to perform port forwarding. It is essential to access the DVR connected to the router from outside of the router's network.

- 1) External Port Range: Enter the TCP Port set in the <Port (TCP)> in <Protocol> menu of the connected DVR. If more than one DVRs are connected to the router, the TCP port can be different.
- 2) Internal PC IP Address: Enter the IP address set to the <IP> in <Connection> menu of the connected DVR.
- 3) Internal Port Range: Set same range as External Port Range.

You can set the network connection route and protocol.

- 1) Connection Mode: Sets the network connection mode.
- 2) Bandwidth: Sets the maximum data flow to be transferred (Upload speed) Options will vary depending on the selected connection mode.

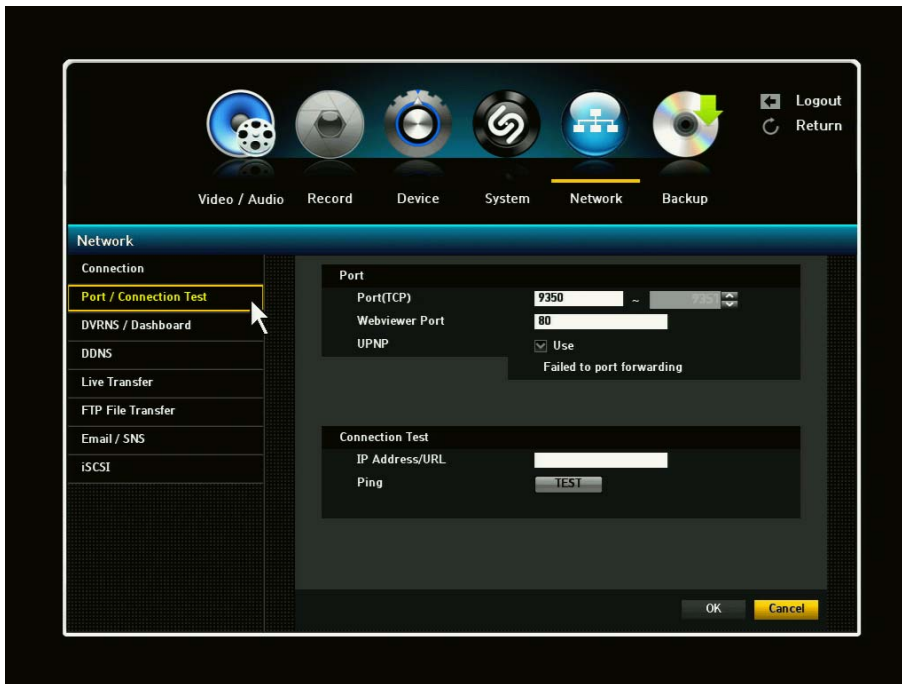
For Static IP, Dynamic IP: Select one from 50 kbps-2Mbps and unlimited.

- 3) IP, Gateway, Subnet Mask and DNS  
For Static IP: You can directly input IP address, Gateway, Subnet Mask and DNS.

For Dynamic IP: IP Address, Gateway and Subnet Mask are set automatically.

- 4) When the connection setup is complete, click <OK>.

### 3.5.2. Port / Connection Test



- 1) Port (TCP): Initially, 9350-9351 is set.  
It increases/decreased by  
TCP: It has better stability and lower speed when compared to UDP and recommended for internet environments.
- 2) WebViewer Port: Enter the port number for the Web Viewer.  
Initially, it is set to 80.
- 3) When the protocol setup is complete, click OK.

### 3.5.3. DVRNS / Dashboard

You must enter your Network ID and Password to gain network access. By using the virtual keyboard, you may enter your ID and Password.

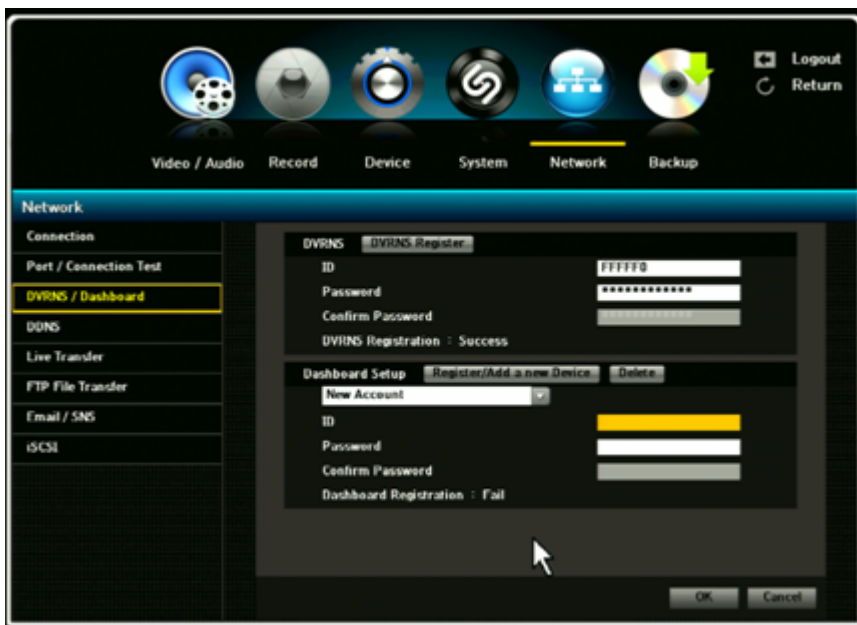


**!** This Exclamation icon indicates that the DVR has not been registered to our DVRNS server. If the ID is already in use, you will see a registration window stating that it's an invalid ID. You will need to click ok and re-enter ID.

Registration: For a complete setup of your DVR, you must register your DVR to our DVRNS server. Here, you will need to enter your Network ID and Password. If your ID and/or Password is rejected, it may be due to that ID and Password is already registered. If this is the case, simply enter another ID and PW. ID and Password you set up will be used when you connect to that DVR using NetViewer or WebViewer.

### 3.5.4. Dashboard Setup

Dashboard allows you to access, manage and monitor the multiple DVR with single ID from anywhere in the world where you can access the internet. Once you login with your ID, the Dashboard shows the registered DVR list on the web and enables you to access the DVR for real-time monitoring and playback. As free internet service, for using the Dashboard, you should setup the DVR on the Dashboard by registering your ID and Password.



#### 3.5.4.1. Setup / Registration

Dashboard Setup by New Account:

For Dashboard setup, you'll first need to enter important information and register. Scroll down and select New Account. Once you have selected the New Account, you'll need to enter your ID and Password.

To enter your ID and Password, use the virtual keyboard that's provided. After you have selected and entered your ID and Password, click on to the "Register/Add a new device" tab to register.

If the entered ID and Password are approved, you will receive "ID Approved" popup window in the middle of the screen. It will also indicate at the bottom of page, Dashboard Registration: SUCCESS. If the ID and Password is not accepted, then it will show as "FAIL" and you will have to re-enter your ID and Password.

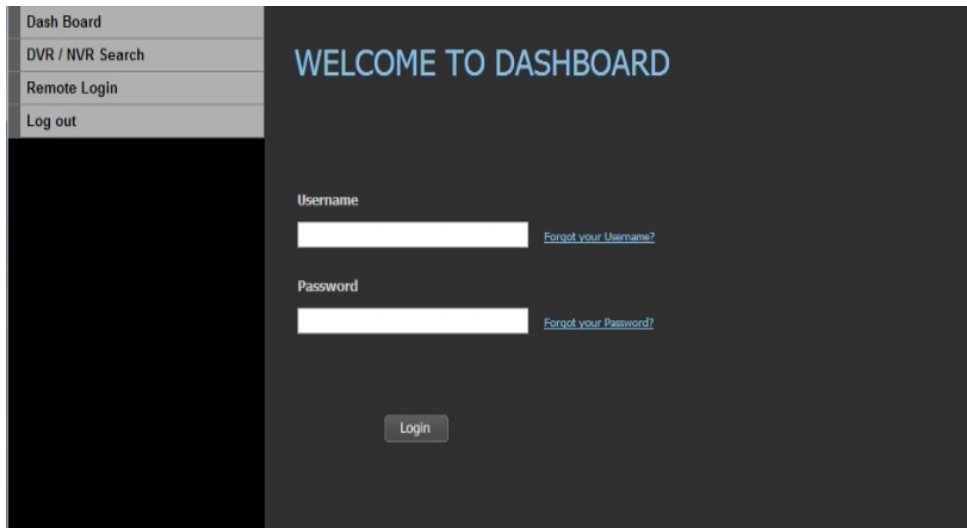
### Dashboard Setup by Existing Account:

The user can manage and control the mutifull DVRs with single ID and Password by web browser. If the user wants to control more than 2 DVRs with single ID and PW by web browser, the Dashboard ID and PW for the DVRs should be same.

#### 3.5.4.2. Dashboard Starting

To start your Dashboard, you will need to type in:

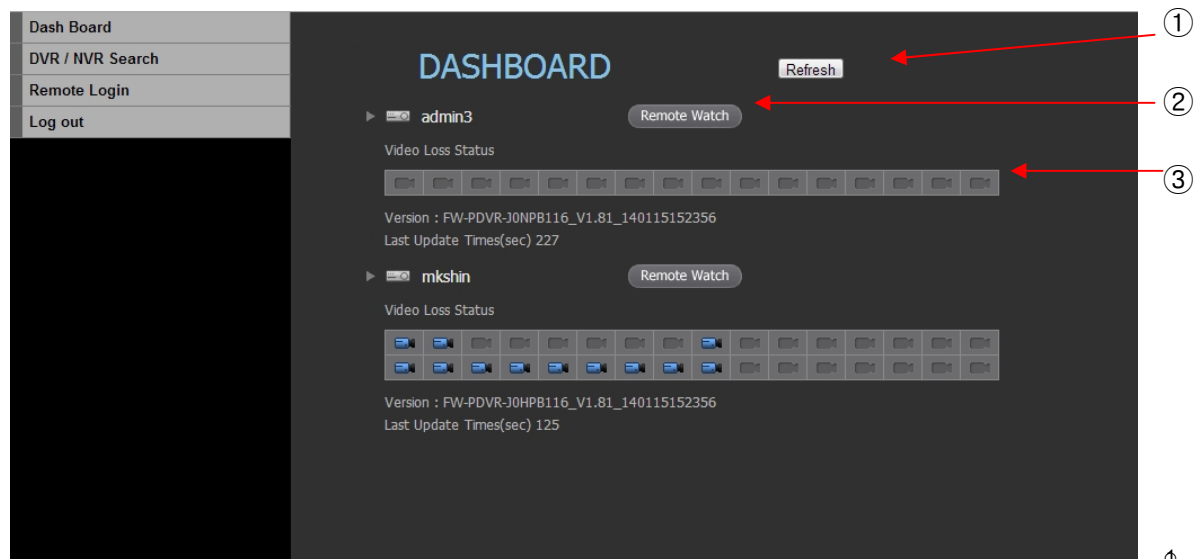
<http://securityddns.com/dashbord> in the browser address bar. After entering , click the enter button and Welcome To Dashboard page will appear.



To gain access, enter your Username and Password. Your username/ID and Password will be same as the one that you entered when you first registered on Dashboard Setup page. After it has been entered, click the Login button for full access.

#### 3.5.4.3. Dashboard Login

Once you have logged on, the Dashboard will appear and from here, you'll be able to view your DVR information. Click the REMOTE WATCH tab and you'll be able to access your DVR and monitor.



Refresh: Updates the list of cameras.

② Remote Watch: Access remote viewing from your desired DVR. A Web Viewer will appear and you can monitor LIVE or do Playback.

③ Video Loss Status: This will show you the camera status and determine whether there is connection

to the DVR.

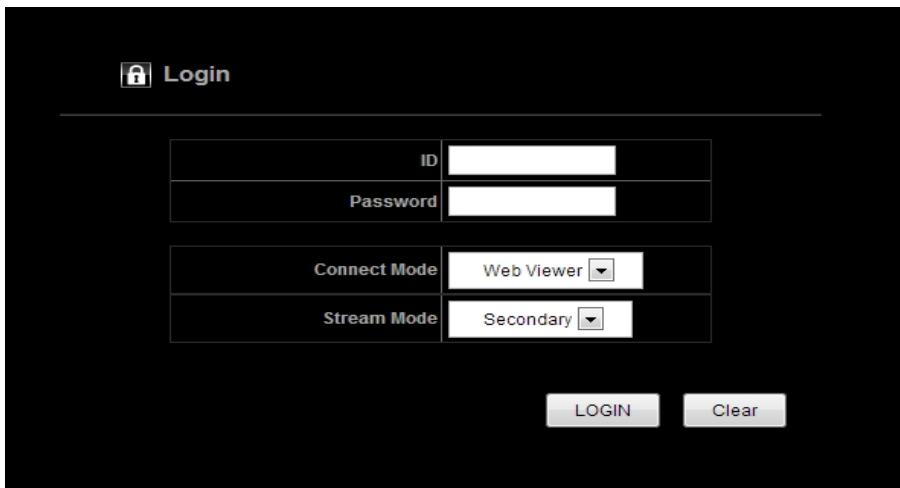
#### 3.5.4.4. DVR Search

In your Dashboard, type in the Network ID of your desired DVR and it directly connect to your DVR's webpage.



The screenshot shows a dark-themed interface with a sidebar on the left containing menu items: 'Dash Board', 'DVR / NVR Search', 'Remote Login', and 'Log out'. The main area features the heading 'GO TO MY DVR / NVR' in blue. Below the heading is a form with a label 'Network ID' followed by a white input field and a 'GO' button.

Network ID: Once you have entered the Network ID for desired DVR, click the GO button. After clicking the GO button, it will route you to the web page login.



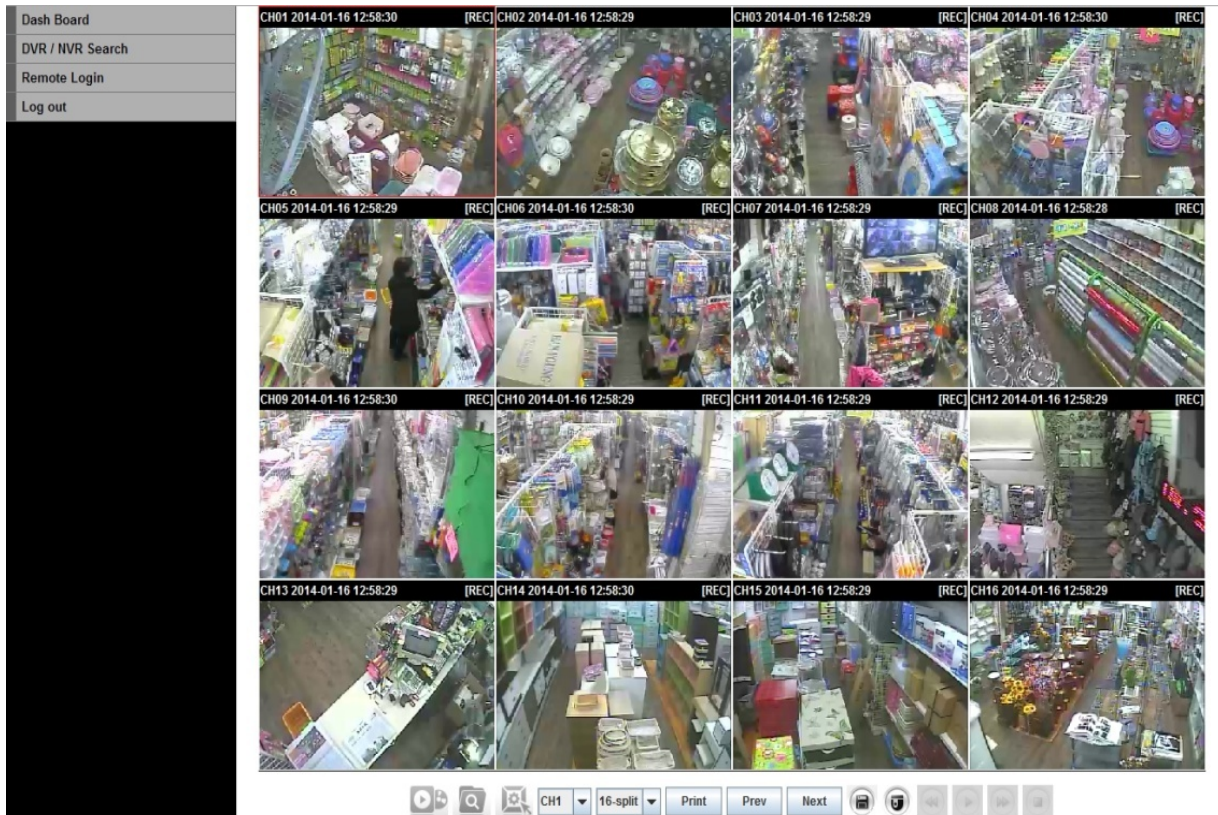
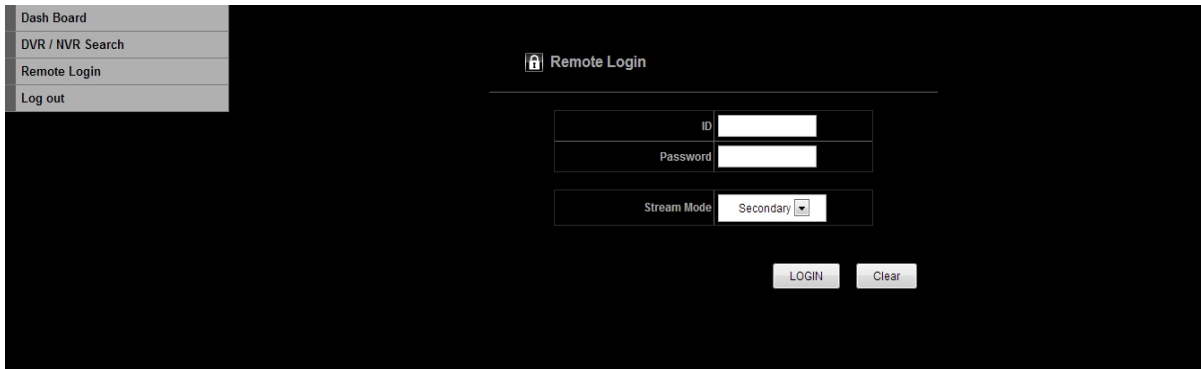
The screenshot shows a 'Login' page with a lock icon and the title 'Login'. It contains four input fields: 'ID', 'Password', 'Connect Mode' (a dropdown menu with 'Web Viewer' selected), and 'Stream Mode' (a dropdown menu with 'Secondary' selected). At the bottom right, there are two buttons: 'LOGIN' and 'Clear'.

Once you have entered the Login page, you will then need to enter your ID and Password. Once you have entered your ID and Password, you will then be able to access your DVR's setting page.



### 3.5.4.5. Remote Login

Using your Web Viewer, you will be able to Live Monitor and perform playback from your DVR.



To access your Web Viewer for Live monitoring and Playback, you will need to enter your ID and Password

### 3.5.5. DDNS

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



- 1) A virtual keyboard will appear for user input.
- 2) Once the DDNS setup is complete, click OK.

#### DDNS Setting:

DDNS is a short form of Dynamic Domain Naming Systems. DNS (Domain Name System) is a service that routes a Domain name consisting of user friendly characters to an IP consisting of numbers (64.233.189.104).

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

### 3.5.6. Live Transfer

You can set the quality of the image that is transferred from the DVR to the network.

- 1) Record Rate: Choose from OFF to 30fps (Highest)
- 2) Record Quality: Level 1 (Lowest) to Level 8 (Highest)



### 3.5.7. FTP File Transfer

This menu allows the user to transfer the FTP file to a specific server when event is triggered. For the detail information, please refer to the description by click the Help button.



The Help description is as follows;

#### FTP Server

IP Address/URL – Enter the FTP server IP address or host name.

Port – Enter the port number used by the FTP server. The Default number is 21.

User Name/Password – Provide your log-in information to the desired FTP Server.

Upload Path – Specify the path to the directory where the uploaded files will be stored.

Create Folder – Create a designated folder to save all files.

Base File Name – This name will be used for all of the files saved.

Ex. File name will be “Base File Name\_Ch#\_yymmdd\_hrrmmsec.avi”

#### FTP Transfer Settings

Max File Time Limit – If recording time exceeds POST EVENT time, files will be sent in slice.

Channel – Press the Channel Setup button to select channel(s).

Event – Select between Motion and Sensor.

#### Warning

\* You MUST set your DVR recording to ON position for FTP file transfer to work.

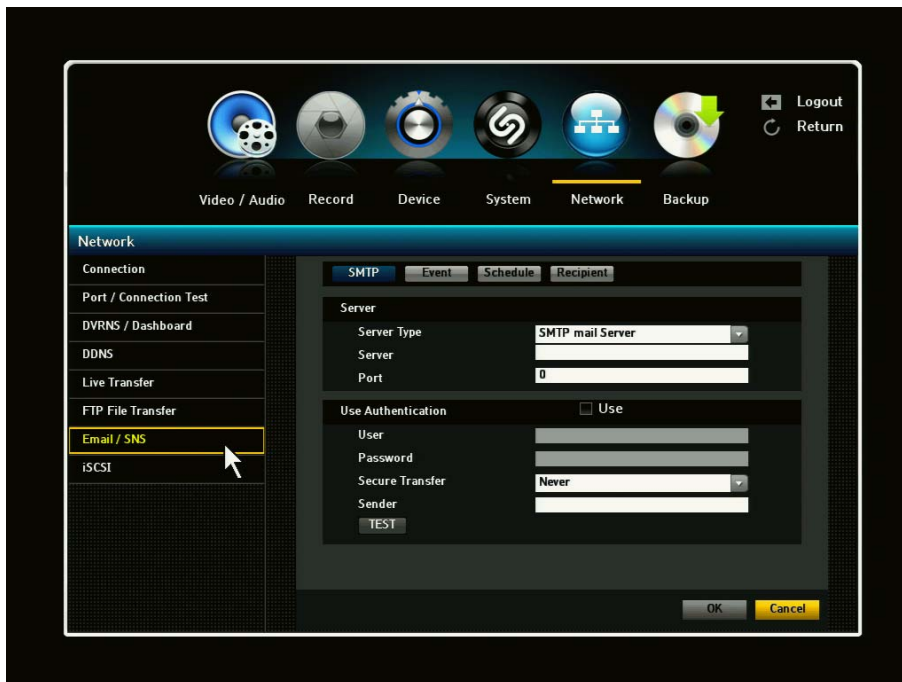
\*\* Files are uploaded in AVI format.

### 3.5.8. Email / SNS

You can send Email / SNS to registered DVR users. There are four sub-menus under Email / SNS: SMTP, Event, Schedule & Recipient.

#### 3.5.8.1. Email / SNS: SMTP

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



Sets the SMTP mail server.

- 1) Server Type: Displays the connected server type.
- 2) Server: Enters a server to connect to.
- 3) Port: Sets the communication port.

- 4) User Authentication: Click the check box next to User Authentication if the SMTP server requires user authentication. The account input box will be activated.
- 5) User: Enter a user to use authentication when connecting to the SMTP server.
- 6) Password: Enter the password of the SMTP server user.
- 7) Sender: Use the virtual keyboard to enter the sender's email address.
- 8) TEST: Conducts the test on the server settings.
- 9) When the SMTP setting is complete, click OK.

### 3.5.8.2. Email / SNS: Event

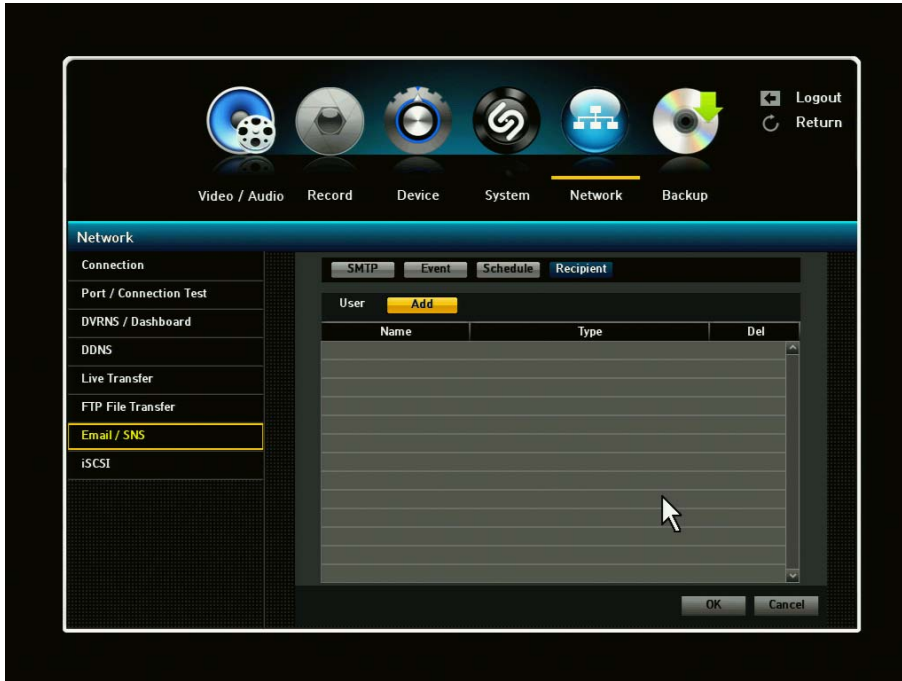
You can set the interval and type of event that will be sent to the user.



- 1) Event Interval: Set the event interval time (10 min – 30 min)
  - If a series of events occurs, an email will be sent at that specified interval time and not on each event to notify you that an event had taken place.
- 2) Use Event Transfer: Select an event type to send if an even occurs. If the selected event occurs, an e-mail will be sent to the group that has the recipient authority.
- 3) Channel Setup: By clicking the Channel Setup button, you can select desired channels for Event.
- 4) When the event setting is complete, click OK.

### 3.5.8.3.Email / SNS: Recipient

You can add a user to the mailing service. Click the User Add button and Add recipient window will appear in the middle of the screen. To input recipient's name and email address, click the space next to the name and virtual keyboard will appear. Once you have entered the name and email information, click OK.



Click on the ADD button and an Add Recipient window will appear. Select Type, Email or Twitter. If email is selected, proceed to Name and Email.

By using the virtual keyboard, enter name and email information and click OK

If Twitter is selected, you will need to type in the Email by using the virtual keyboard and click the SEND button. After you have sent the email, you will receive a PIN from Twitter which will allow you access Twitter.

### 3.5.8.4.Email / SNS: Schedule

Schedule menu will allow one to set schedule to receive notification. You may choose email, SNS or both (Email & SNS). Each notification will have different color association. You may select specific channel for notification or simply click Apply to All CH tab.

### 3.5.9. iSCSI

The DVR supports the iSCSI function.



- 1) Use iSCSI: If you want to use iSCSI, check Use iSCSI box. If you check the iSCSI box, iSCSI setting menu will be enabled.
- 2) Device: You can enter Initiator Node Name.
- 3) iSCSI
  - Target Address: You can enter iSCSI device IP address.
  - Target Port : You can enter iSCSI port number
  - CHAP Authentication:
    - i. Use : If you want to use CHAP Authentication, you can check the use box
    - ii. User Name : You can enter iSCSI authentication user name
    - iii. User Password: You can enter iSCSI authentication user password
- 4) Session1, Session2: You can mount multiple iSCSI sessions from the same target address.

## Target Nodes:

If you click Target Node Setup button, it will display target node name and you can select only one target node name.

If it does not display any target node name, you must check DVR network or iSCSI device network. If error popup window appears, you must check iSCSI setting information if entered correctly.



## Mount, Unmount:

By using above information, you can mount or unmount.

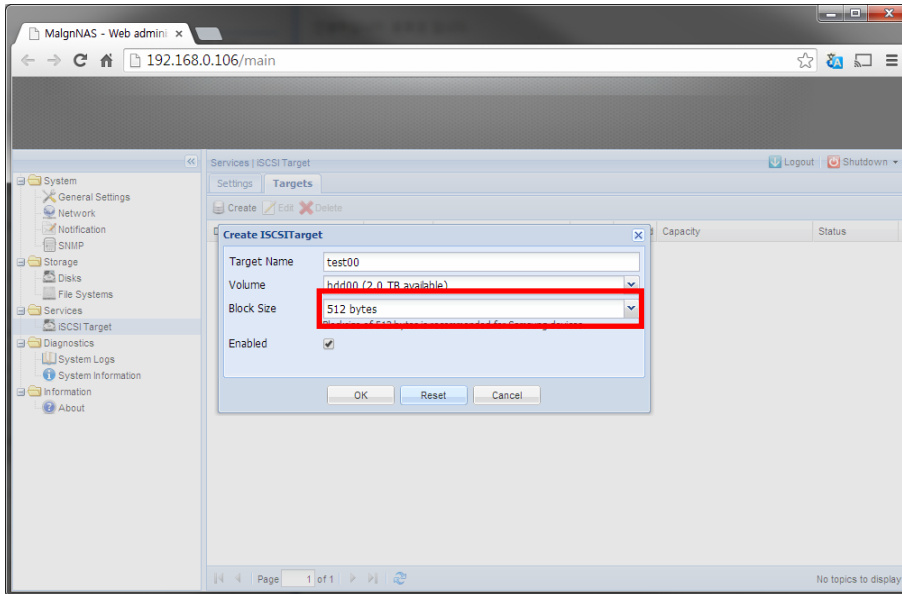
The file system can be mounted or unmounted by pressing the toggle button labeled Mount. You can record if there are no errors in normal mount.

- If you try boot with no disk and you mount the iSCSI, it will automatically reboot.
- If the iSCSI file system is different from the DVR file system after the mount, it will automatically format.
- You cannot change the IP address when the iSCSI is already mounted. If you want to change the IP address of the DVR, you must unmount.

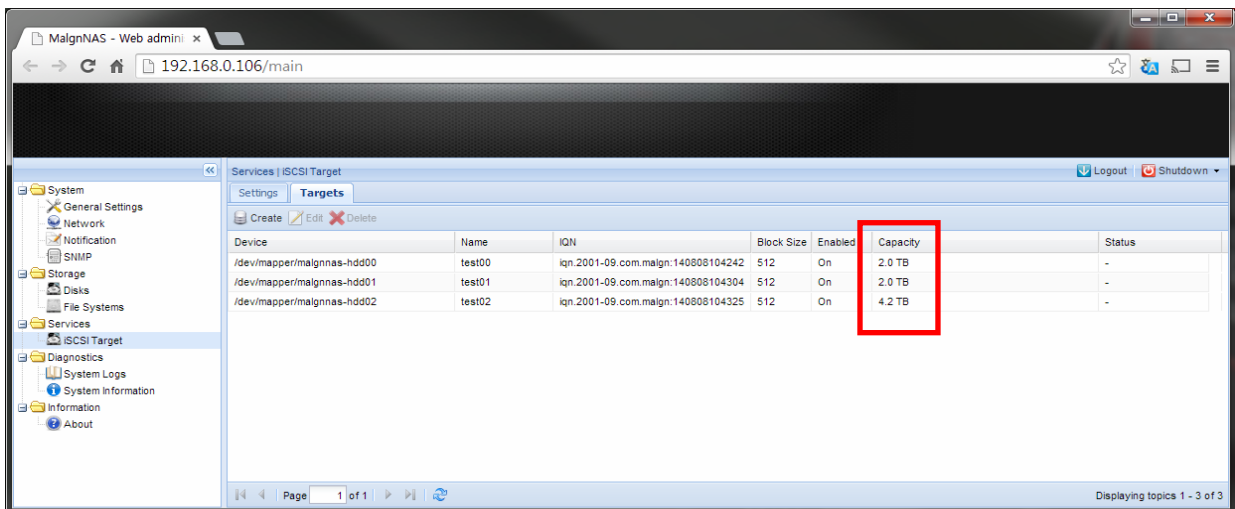


iSCSI device block size.

⇒ In iSCSI device setting block size, you must set to 512byte.

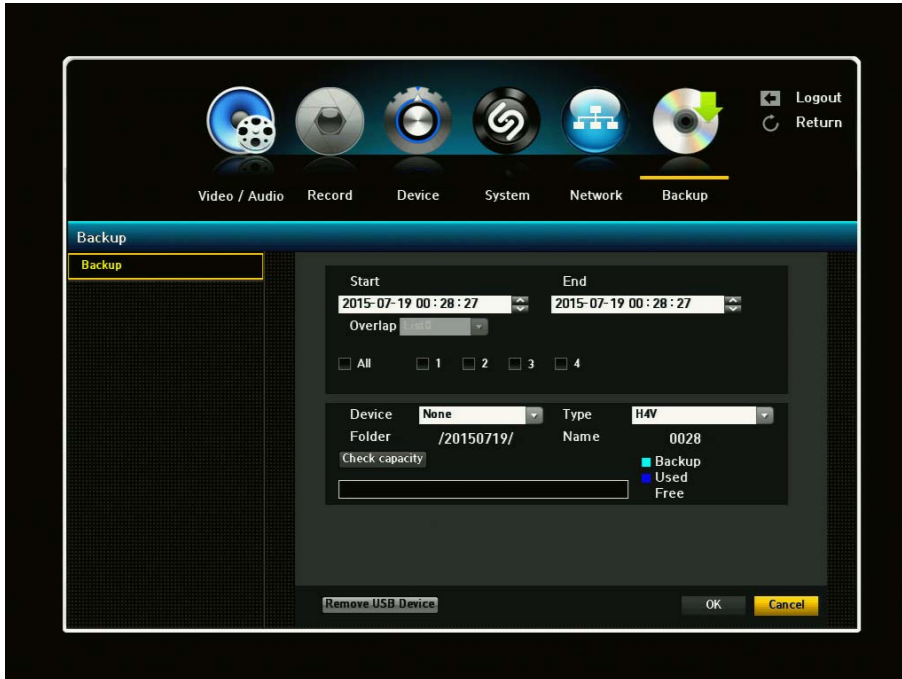


⇒ In iSCSI device IP address, it should be set to static IP address, not in DHCP.



## 3.6. Back Up

You can check the backup device and set the backup schedule by channel or by time. You can only backup your data with either a UBS Drive or external CD/DVD Writer.






- 1) Backup Range: Sets the Start and End time for the backup.
- 2) Overlap: Shows a list of overlapping data on a same time according to the number data. This will appear when one channel has multiple data on a certain time point due to changing of time or time zone.
- 3) Channel: Sets the channel to back up. You can select more than one channel to backup.
- 4) Device: Select a backup device from the recognized device. Only USB Drive or external CD/DVD can be used for back since there is no internal CD/DVD Writer.
- 5) Type: Sets the backup data format.
  - AVI: Saves the CODEC information provided by the DVR with the recording data and saved data can be played back by using external viewers such as Windows Media Player on a PC.
  - H4V: You can backup your file with this format.
- 6) Folder name: You can set the back up file name.
- 7) Check Capacity: Shows that size of the selected back up data used and available capacity of the selected back up device.
- 8) Remove USB Drive: By clicking this button, a popup window will appear to confirm removal of USB device.
- 9) When the backup is done, click OK
  - If no available device is recognized for backup, OK button is not activated.

## CHAPTER 4: Search Menu



### 4.1. Time Search

You can search for recorded data of a desired time.

- 1) Select a date to search.
- 2) Recorded data on that date and time will be listed. The display bar is different according to the data type so check the data type for the color in the left pane.
- 3) Using mouse, drag the time bar to the desired search criteria and select the desired channels.
- 4)  Go to First: Moves to the earliest date.
- 5) Go to Last: Moves to the most recent date.
- 6) Time Search: Enter a time to perform the search or use the up/down to select one.
  -  Zoom In (+): The map enlarges in detail. It will switch in the sequence of 24 hours-18 hours-8 hour-4 hour.
- 7) Zoom Out (-): The map will switch in the reverse order of the detailed mode above.
  - Preview: when selecting the time, the preview image will be shown as a still image. If the selected channel does not contain any recorded data, it will be marked black.
- 8) Select a data item and click <Play> icon .
  - The screen switches to the data playback mode.



To search by calendar, click the calendar icon. A calendar will appear in the middle of the screen.

There are 6 options to choose from to retrieve recorded data. You can choose to search one at a time, multiple at a time or by all. You can click the “All” tab to view all options or you can click individually.

- 1) Normal: You can search for data that has been manually recorded. Normal is a reference to when a recording is manually entered by clicking the record button on the DVR.
- 2) Schedule: You can search for data that has been recorded under the scheduled setting.
- 3) Motion: You can search for data that has been recorded under motion setting.
- 4) Alarm: You can search for data that has been recorded under sensor setting.
- 5) Video Loss: You can search for data that has been recorded under video loss setting.
- 6) Network: You can search for data that has been recorded under Net Viewer/Network.

Bookmark: It will list all of the data that was bookmarked which will allow user to find data with convenience. When viewing the recorded file/data in playback, simply click the bookmark button and it will automatically add it to the bookmark page with date and time.

## 4.2. Event Search

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



- 1) Use the mouse or direction buttons to set the search criteria and Play button.
- 2) Click the desired channel(s). The selected channels will be colored as yellows.
- 3) All recorded events on a specific date for the selected channels will be displayed (Normal / Schedule recording included)
- 4) Date/Time Preview: If you select a data item in the list, the still image of the selected data will be displayed in the left preview pane.
- 5) Event: Displays the type of the event that occurred.
- 6) Select a data item and click Play button. The screen switches to the event data playback mode.

You can choose event search by calendar by clicking the Calendar icon. Calendar display will appear.

## 4.3. Motion

Under motion search, you are able to search for all areas that have been recorded when motion is detected. It is a very specific search instruction to eliminate time loss and unwanted search areas. If a motion is detected in each channel, you can set a desired area to perform the search.



- 1) If you set the manual area to Motion Region, the Setup button will be activated.
- 2) Motion Region: Select an area to perform search.
  - All Area: Searches for all areas of the selected channel.
  - Current Area: Searches for the motion area for each channel specified in "Motion Detection Setting the Motion Detection Area".
  - Manual Area: You can set the motion area manually.
- 3) Setup: The Setup button will be activated only if you have set the motion area to Manual. Press the button to display the area setting window.
- 4) Date/Time: The Date/Time will be automatically set by the hour and the end time will be automatically set to one hour later than the start time if it is set.
- 5) Preview: Select a data item in the list to display the still image of the item.
- 6) Select a data item and click Play. The screen switches to the motion data playback mode.

## 4.4. Protect



How to retrieve Protected files:

Any recorded files (video/audio) you set as protected will be stored under this list and will no longer be

available by regular CALENDAR/TIME search. You can search, playback, backup, remove files using this menu.

Click SEARCH -> PROTECT.

You will see the file list with recording start Time.

Select a file and click PLAY button. Protect icon will be displayed on playback screen to notify you that this is a protected video file.

## 4.4. Capture



How to retrieve captured image files

Click SEARCH -> CAPTURE.

You will see the list of captured image files. When clicking the desired channel(s) to be activated (yellow colored), it will show you captured date, time and a source channel (camera) number.

To see the captured image, click on the Date/Time Preview section. The desired image will appear on the preview display pane. To view the image in a normal/enlarged view, click [Play] at the bottom of screen.

You can choose to delete the captured image by clicking the <Delete> button or if you would like to backup the captured image, click the <Backup> button.

## 4.5. Video Analysis

You can search for data as a preferred function in a specified preset position.



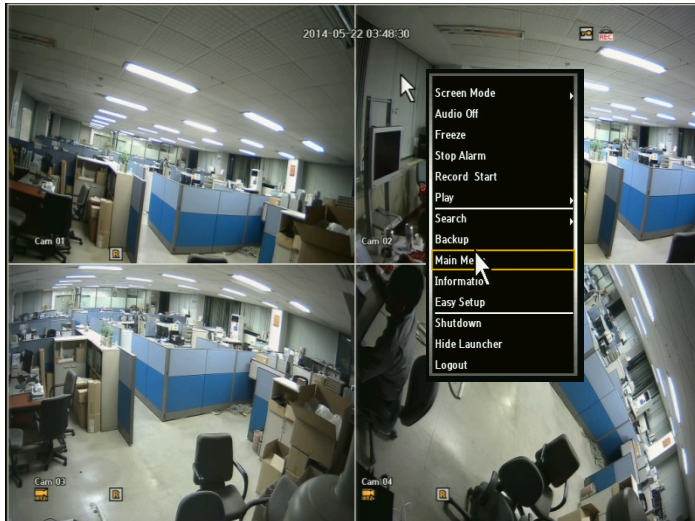
- 1) Motion: An object in motion will be detected.
- 2) Tracking: The camera will track a moving object.
- 3) Cross: You can detect a moving object crossing a specified virtual line in a preset position.
- 4) Enter: You can detect a moving object that newly enters in a specified area, (enter box)
- 5) Abandon: You can detect an object abandoned in a specified area.
- 6) Removal: You can detect an object removed in a specified area.

The Video Analysis function is only available for the camera supporting video analysis.

# CHAPTER 5. General Operation

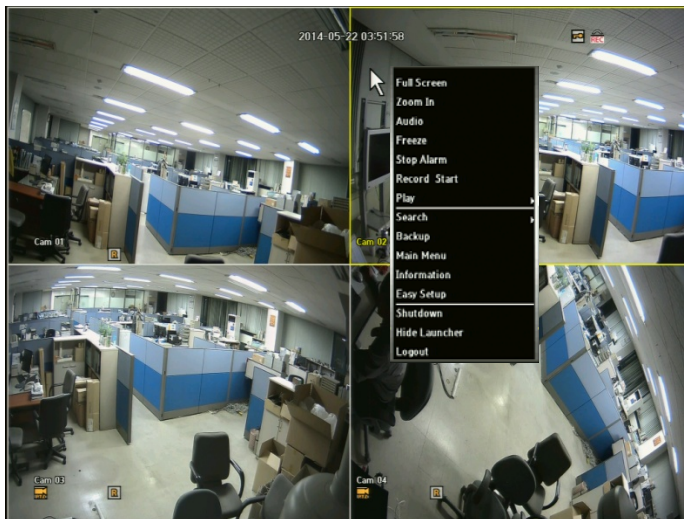
## 5.1. General Menu

To navigate by using your mouse, right click your mouse anywhere on the screen and you will be given options to choose from.



- 1) Screen Mode
- 2) Audio On/Off
- 3) Freeze
- 4) Stop Alarm
- 5) Record Start/Stop
- 6) Play
- 7) Search
- 8) Backup
- 9) Main Menu
- 10) Information
- 11) Easy Setup
- 12) Shut Down
- 13) Hide/Show Launcher
- 14) Logout

When a channel is selected, the General Menu options/selections are different than the General Menu when a channel is not selected.

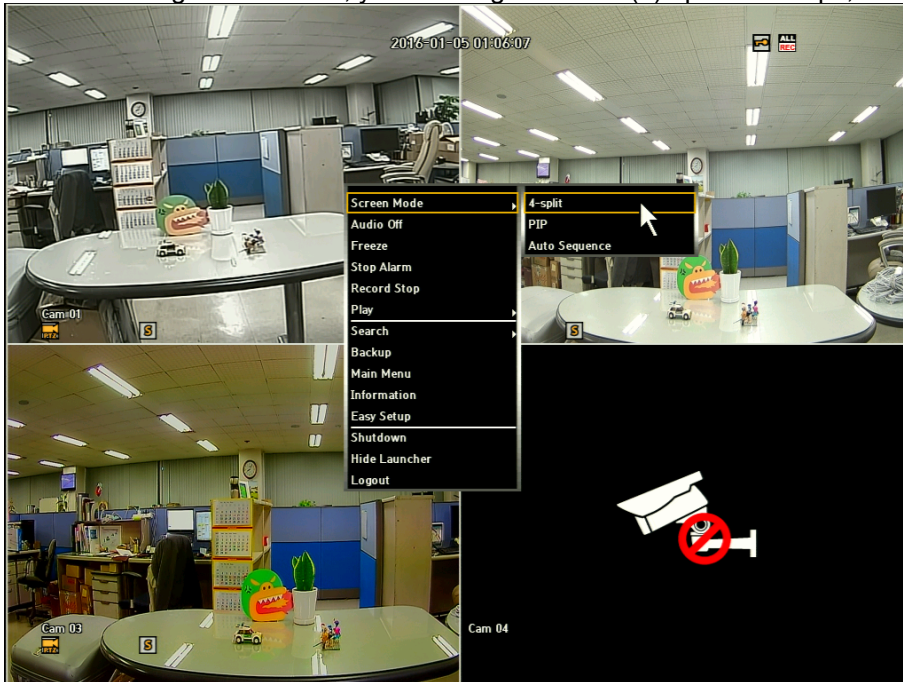


- 1) Full Screen
- 2) PTZ Control (PTZ supporting camera)
- 3) Zoom In
- 4) Audio On/Off
- 5) Freeze
- 6) Stop Alarm
- 7) Record Start/Stop
- 8) Play
- 9) Search
- 10) Backup
- 11) Main Menu
- 12) Information
- 13) Easy Setup
- 14) Shut Down
- 15) Hide Launcher
- 16) Logout



### 5.1 .1 .General Menu: Screen Mode

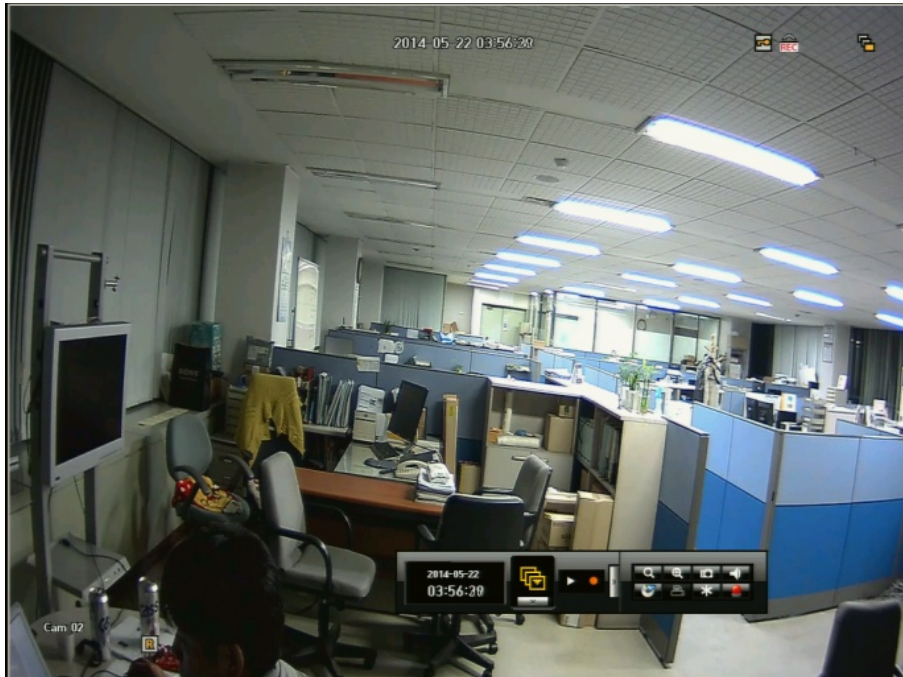
When selecting Scene Mode, you will be given three (3) options: 4-Split, PIP and Auto sequence.



### Auto Sequence

If you activate Auto Display Mode (Sequence Display Mode), live channels (cameras) will be displayed on the monitor screen in accordance with your sequence setup.

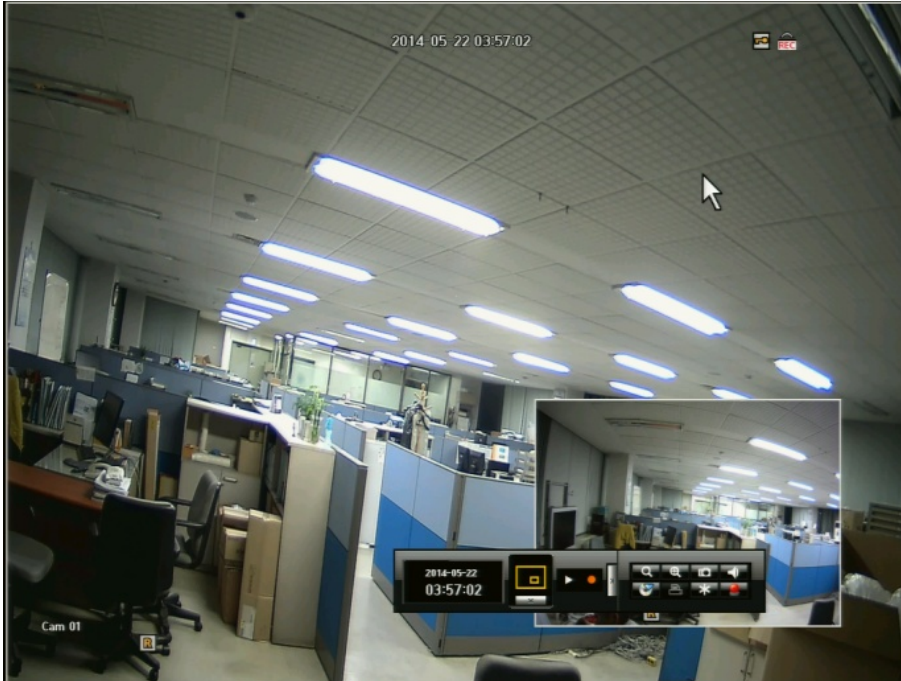
When Auto Sequence is activated, an auto mode icon will be shown on the upper right corner of the screen until you stop this mode.



### PIP (Picture in Picture)

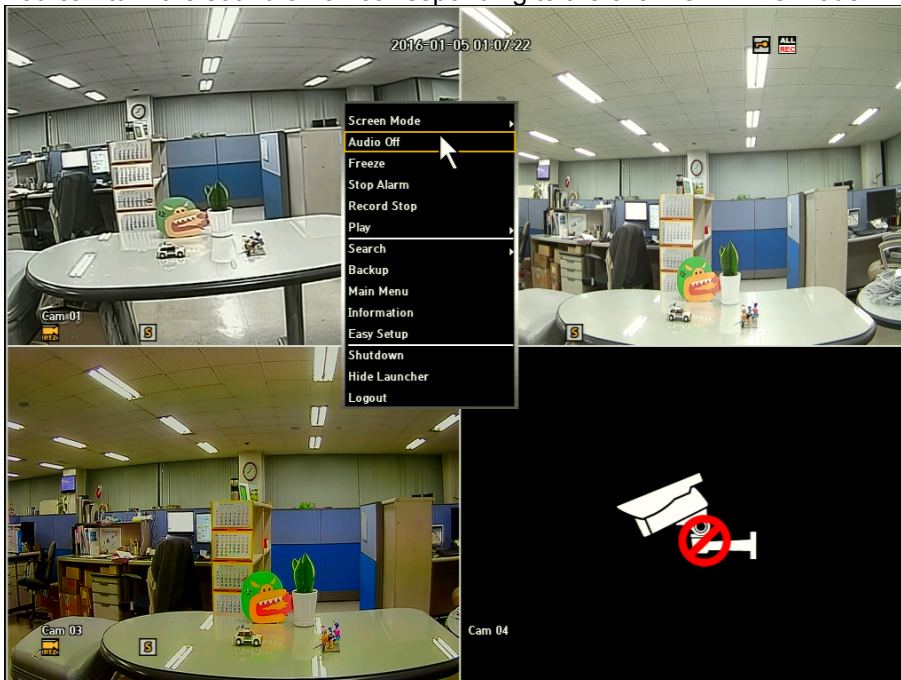
To activate PIP Display Mode, select PIP mode. Main channel is displayed on the full monitor screen at the same time as one two or three other channels are displayed in inset window.

To exit from this mode, select the desired screen mode. To exchange the two images of PIP screen each other with a mouse, simply drag full screen to the inset screen, then the two screens will be exchanged.



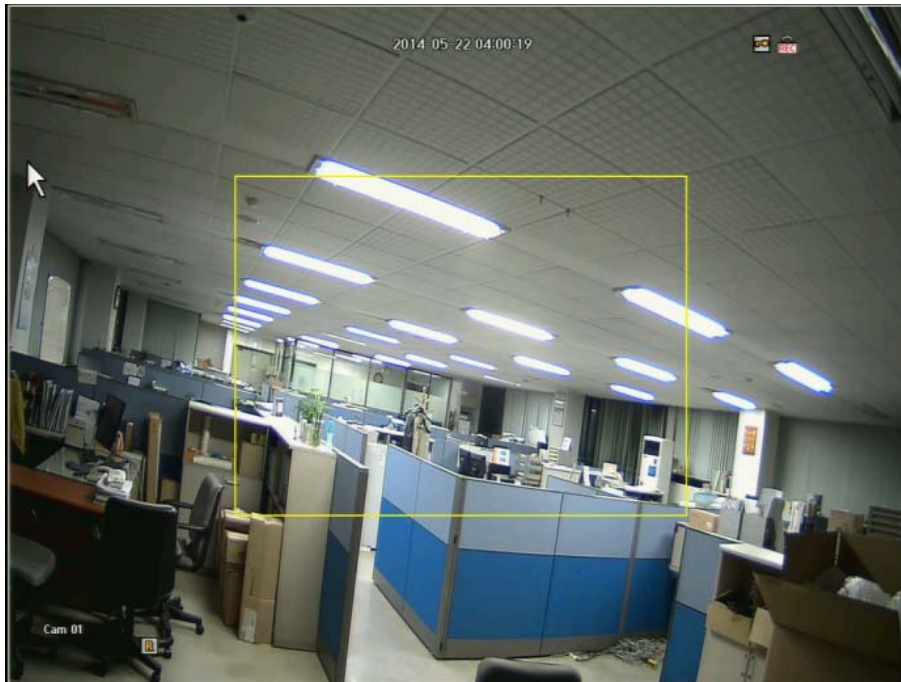
### 5.1.2. General Menu: Audio OFF

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



### 5.1.3. General Menu: Zoom In

Select Zoom-in and click the selected portion (as yellow colored) to enlarge. You can use the direction keys or the mouse to enlarge desired area. Click enter or double click once the desired area is confirmed.



**! Zoom is only available in Single-Screen Display Live Mode.**  
In Single Live Mode, grip the yellow box to move to a desired area and click the box to enlarge. It will enlarge the area x2, x4, x6 and x8 by using mouse wheeling.

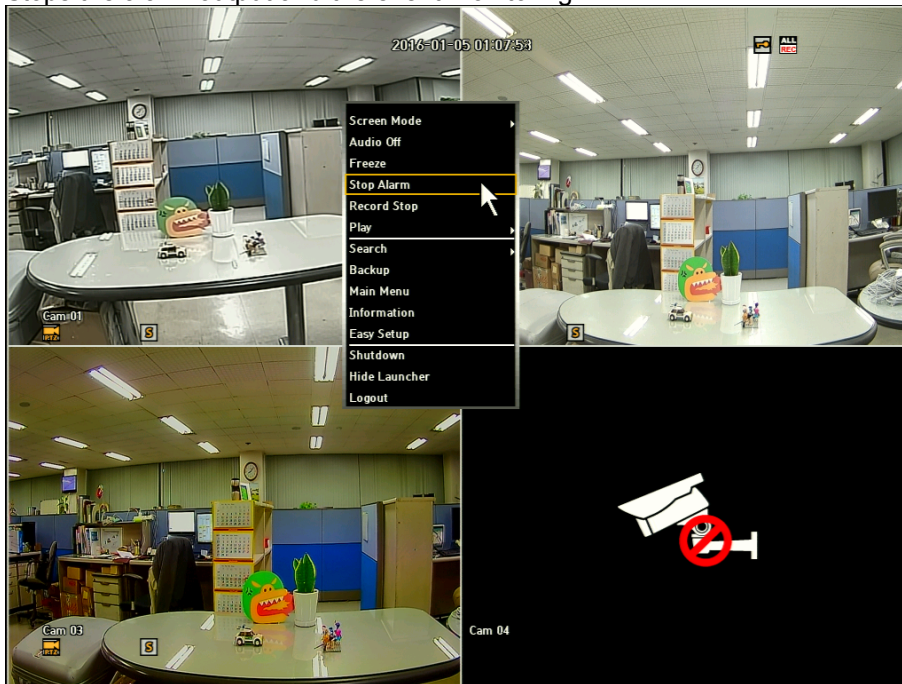
### 5.1.4. General Menu: Freeze

This is only available in Live Mode and will temporarily pause Live feeds.



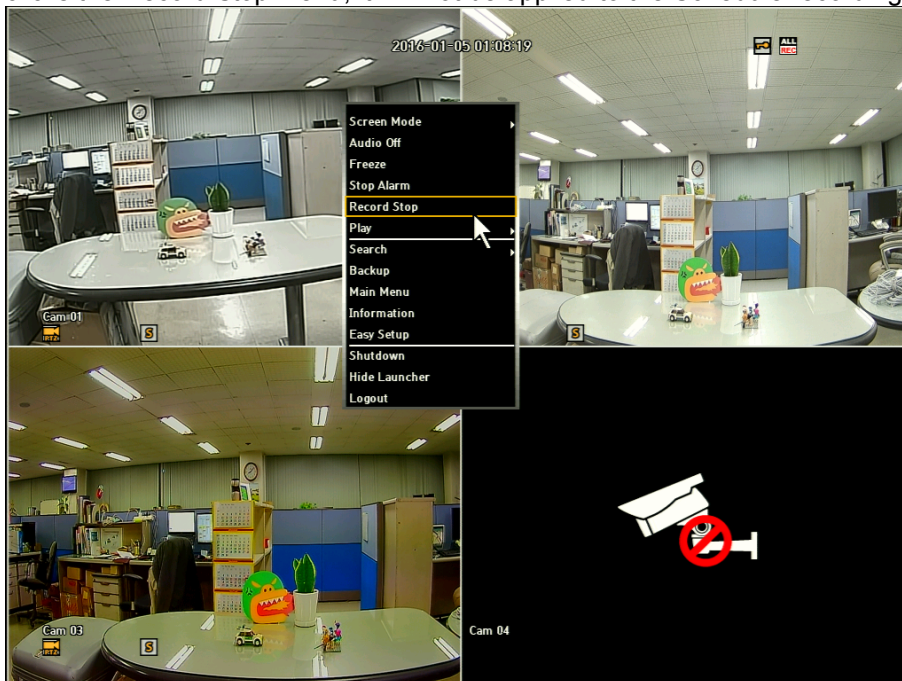
### 5.1.5. General Menu: Stop Alarm

Stops the alarm output and the event monitoring.



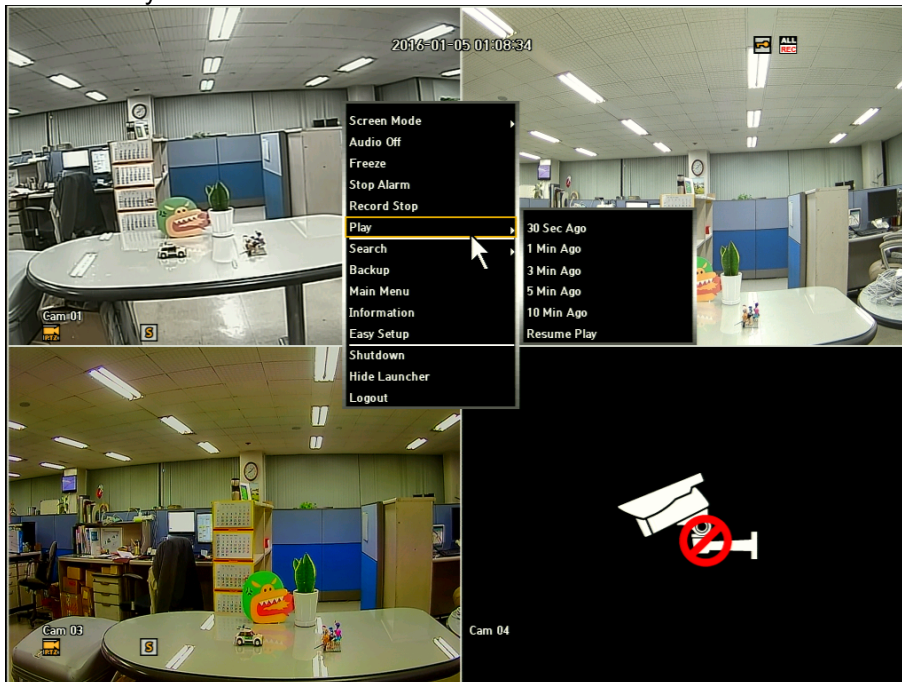
### 5.1.6. General Menu: Record Start/Stop

Will start and stop Manual recording. However, if the schedule or event recording is set, even the user clicks the Record Stop menu, it will not be applied to the Schedule recording or Event recording.



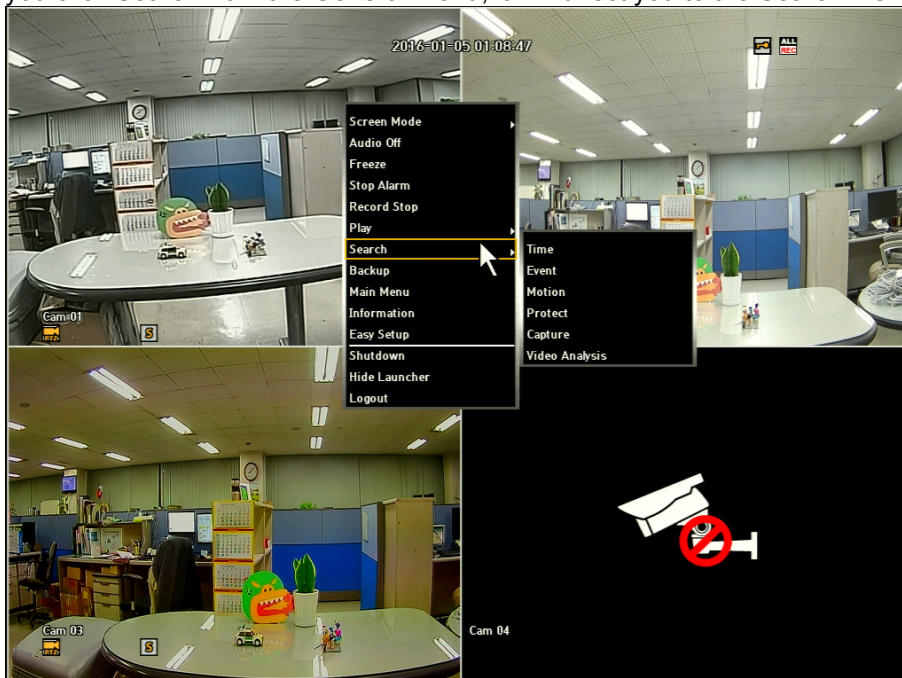
### 5.1.7. General Menu: Play

You can playback data stored in the HDD. Also you can playback with quick play for 30sec ~ 10min, which is very critical time search.



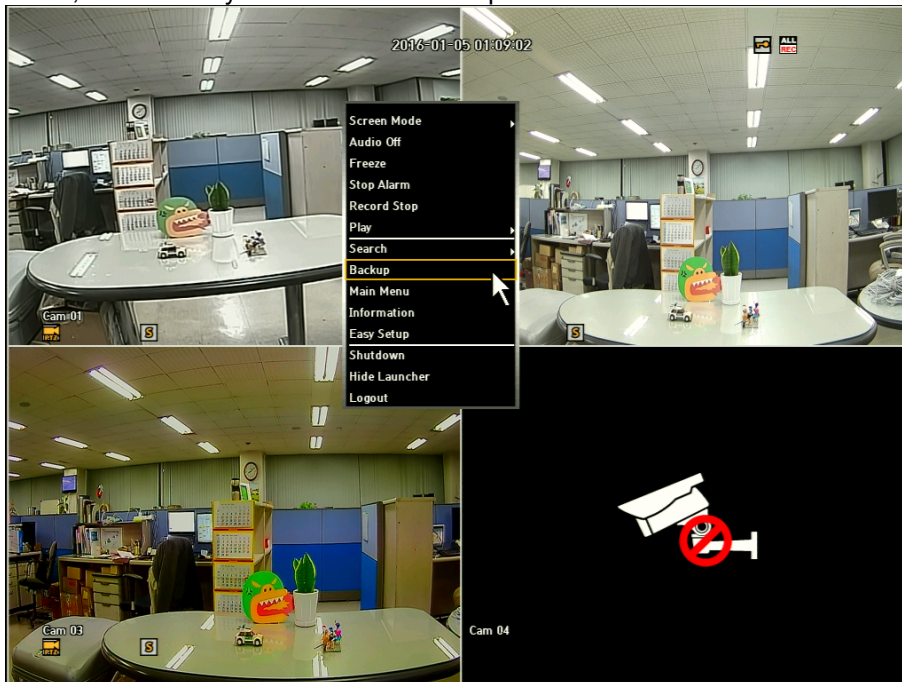
### 5.1.8. General Menu: Search

You can perform search for recorded data by Time, Event, Protect, Capture and Video Analysis. Once you click Search from the General Menu, it will direct you to the Search Menu.



### 5.1.9. General Menu: Backup

You can back up the desired data to a connected device. By clicking the Backup tab from the General Menu, it will direct you to the Main Backup Menu.



### 5.1.10. General Menu: Main Menu

By clicking the Main Menu on the General Menu, it will direct you to the Main Menu.



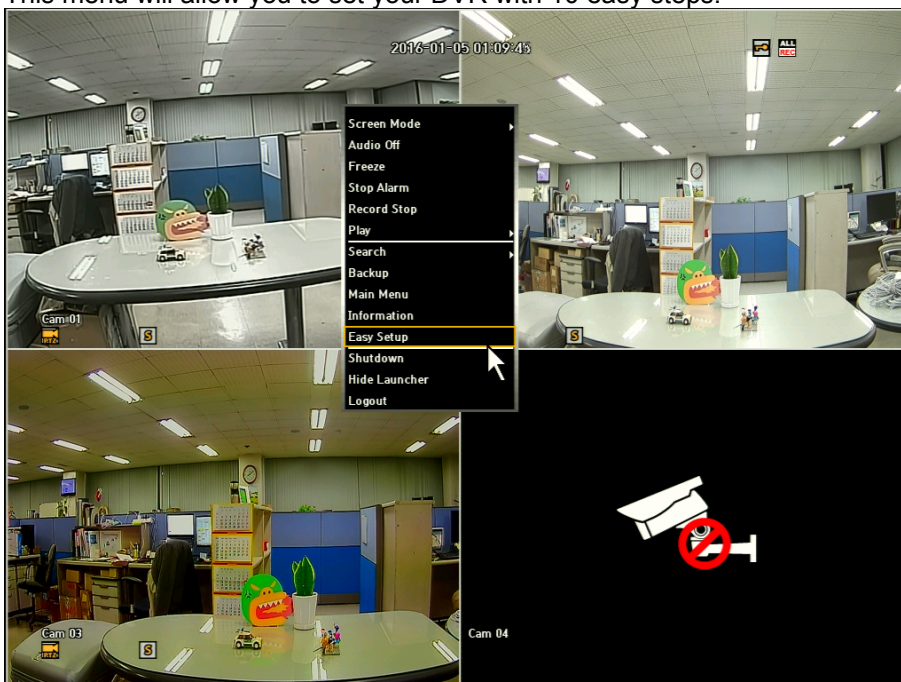
### 5.1.11. General Menu: Information

This menu will display overall system information.



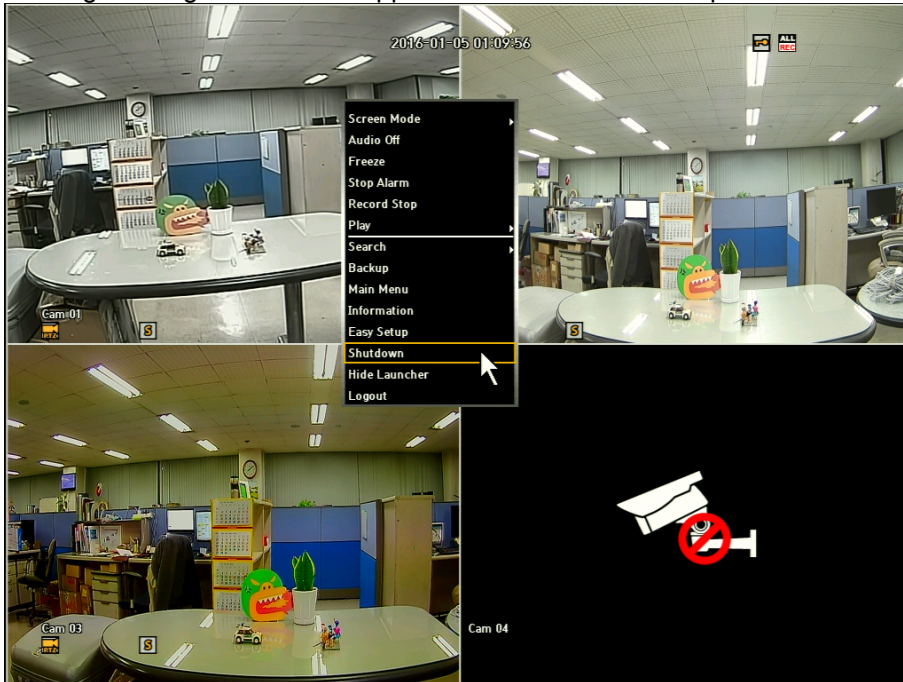
### 5.1.12. General Menu: Easy Setup

This menu will allow you to set your DVR with 10 easy steps.



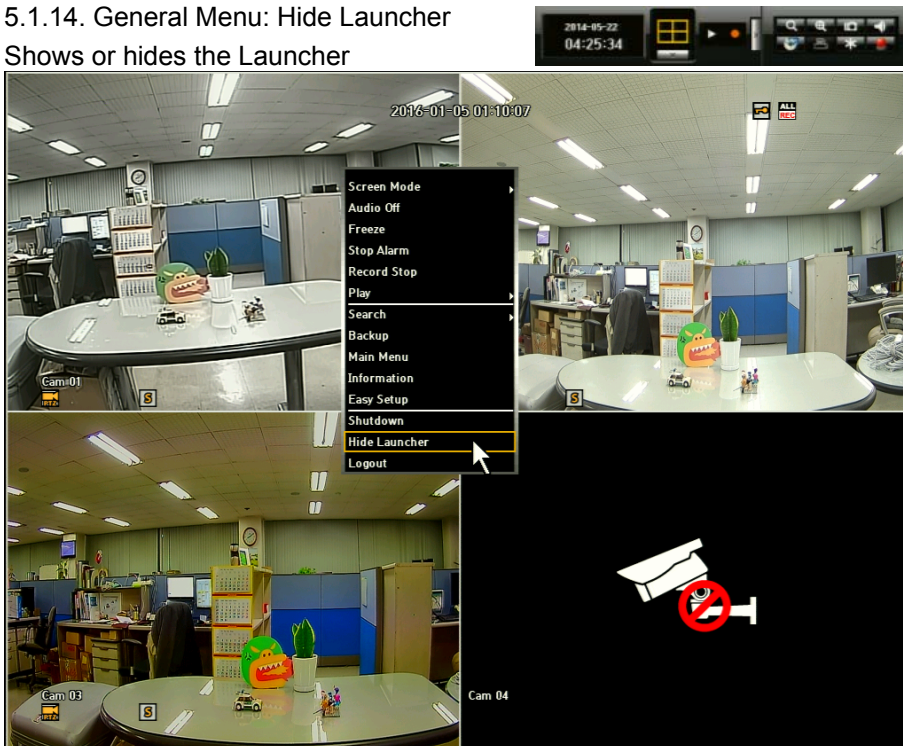
### 5.1.13. General Menu: Shut Down

This menu will allow you to completely shut down your DVR unit. When the user clicks this menu, a warning message window will appear to confirm the user to proceed.



### 5.1.14. General Menu: Hide Launcher

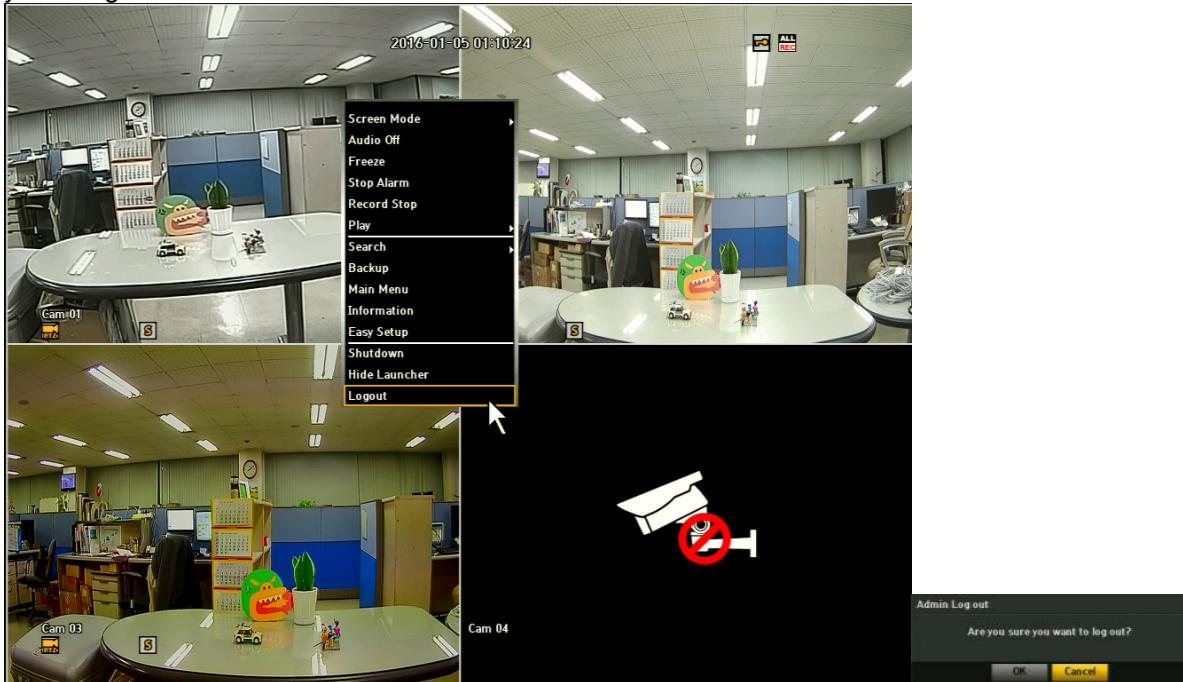
Shows or hides the Launcher





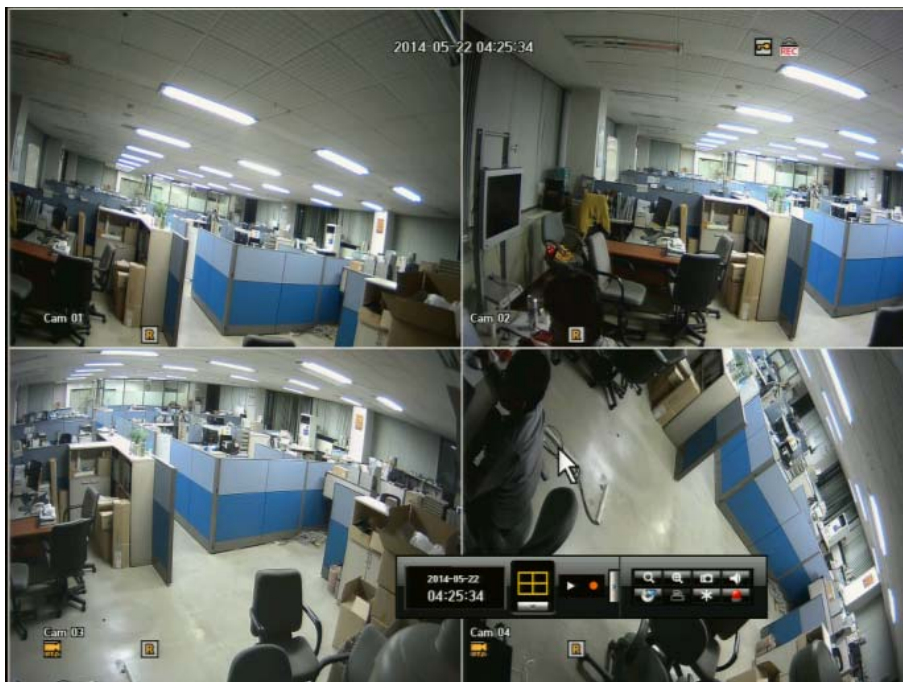
### 5.1.15. General Menu: Logout

This menu allows you to logout by clicking the Logout button. A logout window will appear to confirm you to logout.

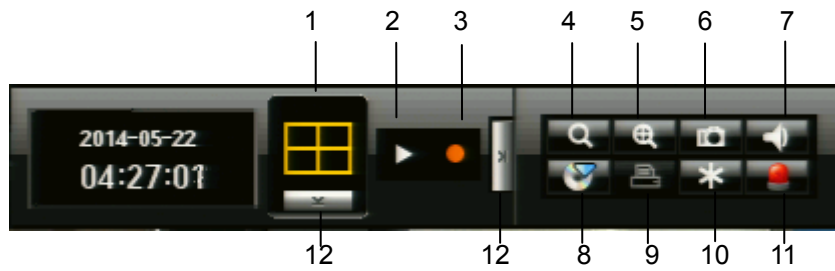


### 5.2. Live Launcher

The Live Launcher menu appears at the bottom of the live screen. Some of the menu buttons will appear in the Live Launcher, General Menu and Playback Launcher for the convenience of not having to go back and forth to navigate to the desired action.

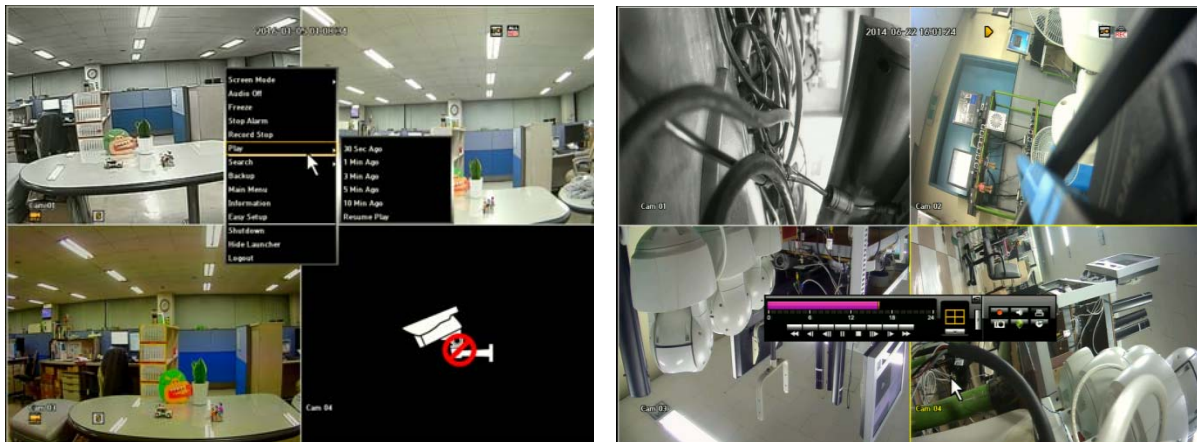


### 5.2.1. Live Launcher Control Button Description



1	Scene Mode	5	Zoom In	9	Printer
2	Resume Play	6	Capture	10	Freeze
3	Record	7	Audio	11	Alarm Off
4	Search	8	Backup	12	Menu expansion button

### 5.3. Playback Launcher



- 1) Click <Play> Menu in Mouse Menu or on Live launcher. You can select 30sec. 1 min, 5 min, 10 min and critical time playback. Once you select the time, the selected data is played and the play launcher appears on the screen.
  - If there is an existing data, <Play> will start immediately without performing the search
  - You can play up to 4 channels in real time on a 4 CH DVR.
  - In a split mode, the real time playback may not be supported, depending on the record quality, resolution and number of channels. Some frame rates may be supported.
- 2) Playback Information: Displays the date and time of the current data in the top.
- 3) Mode Switch: Select a desired play mode or press the [MODE] button to switch the screen mode to 4-split and Single in that sequence.
  - The default channel of the Live Mode is CH1, which can be changed later.
- 4) Switches to Live Mode.
- 5) Records all channels.
- 6) Play Time: Displays the time and date of the current video.
- 7) Play Bar: Displays the time of recorded data in the selected channel for the past 24 hours; the red gridline indicates the current play time.
  - Speed: Supports various speed options of x1, x2(-2), x4 (-4), x8(-8), x16(-16), x32(-32) and x64(-64).
  - Slow: Supports slow speed options of x1/2(-1/2), x1/4(-1/4) and x1/8(-1/8)

### 5.3.1. Play Launcher Control Button Description




1	Playbar: Displays the time of recorded data in the selected channel for the past 24 hours	7	Playback control button: Allows user to control playback of desired function.
2	Playback display mode: Allows user to playback of desired mode.	8	Capture: You can capture video image either in Playback Mode or Live Mode
3	Return button: Redirects to Search Menu	9	Protect: You can protect recorded data from HDD overwriting.
4	Record: Records all channels in Live Mode.	10	Backup: Backup your data by using USB Drive or External HDD
5	Audio: Turns off all sound/ Audio off	11	Menu expansion button: Open or hide menu buttons
6	Printer: Allows you to Print image either in Live or Playback Mode		



### 5.3.2. Playback (P) and Trap Mode (Pause / FF/ REW / Frame Advance)



**Playback Icon:** To playback any recorded files, click ► in the Playback control button. '►'. Icon will be displayed on the right-top of the screen during the playback. Recorded time will be displayed in white under current time. To stop playback and go to live view, Click "Stop" button.

 **Playback Audio Icon:** This icon indicates an audio for the file being playback.

You can FF, REW and pause during the playback mode. FF and REW have 6 different speeds.

During the playback, you can watch pictures in frame by frame mode. To view next or previous I- Frame video still image, press PAUSE button and press  or  in pause mode.


To watch a certain channel in full screen mode, press a channel number from a remote controller. To go back to the original playback mode, press the current channel number again. If you use a mouse, click the selected channel screen to display in full screen. Click the screen again to go back to original split display mode.

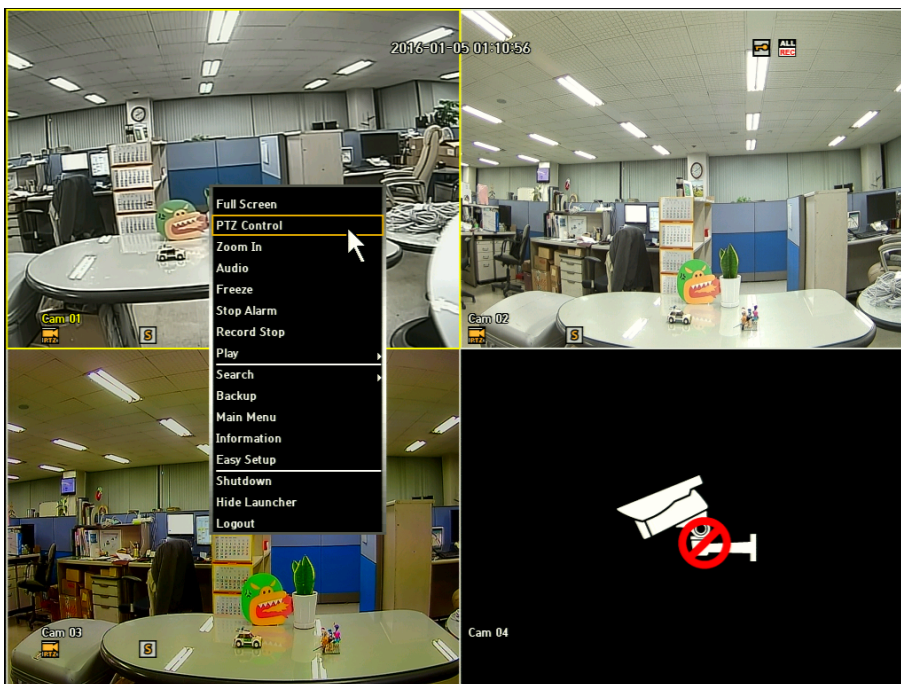
## 5.4. PTZ Control

The DVR enables you to adjust the settings of a PTZ camera as well as an ordinary one according to your preference. The PTZ device can be activated only if a channel in connection with the PTZ camera is selected.

### GETTING STARTED WITH PTZ

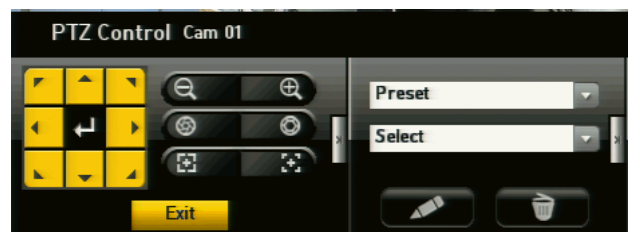
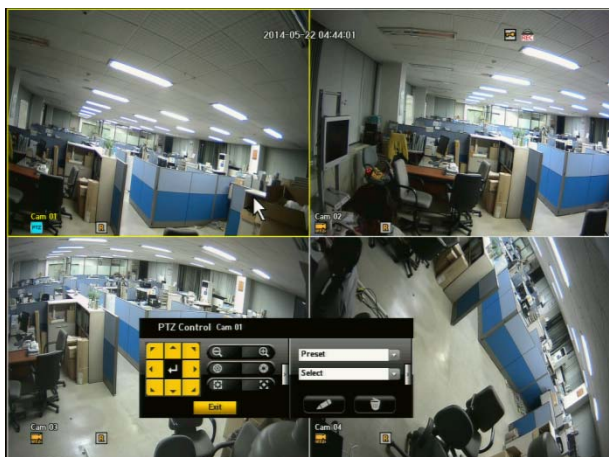
The PTZ camera is available only if a channel is selected in the following way:



- 1) Using the right-click menu in Live Mode
  - Right-click any area on the screen to display the context menu and select PTZ control.
- 2) Using icons on the live screen
  - Click the PTZ icon  on the live screen.







### USING THE PTZ CAMERA1

You can use one camera to perform all functions of PAN, TILT & ZOOM (PTZ) for monitoring multiple places and set the preset to your preference in a desired mode.

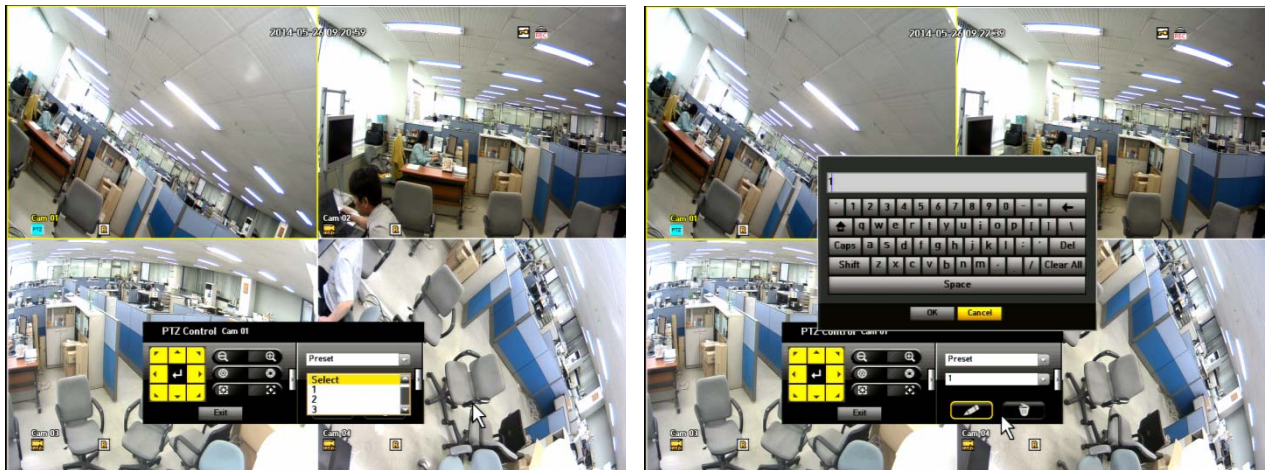


- 1) PTZ Direction Button/Wheel: Click to any given direction you wish to view. You will be able to view 360 degree. 
- 2) ZOOM In/Out : You can use the Zoom function of the PTZ camera for closer view.



- 3) IRIS : Adjusts the intensity of radiation incoming to the iris. (this function is only available for the cameras supporting iris control function).
- 4) FOCUS : Enables you to adjust the focus manually.
- 5) Preset: the camera can set the position of the preference area.
- 6) Tour: The camera automatically runs between/among the preset points that you selected.
- 7) Scan: The camera moves to the preset points in the specified sequence. If multiple presets are specified, the PTZ camera will automatically move to all of the preset points sequentially. (some PTZ model may not support this function)
- 8) Pattern: Makes the PTZ camera remember and follow the past route. (some PTZ model may not support this function)
- 9) <Setup-Preset> : You can change the preset numeric value and name, and Tour setting.
- 10) Delete Preset> : You can delete the preset and tour position setting.

Before entering the PTZ device control mode, set the Values of the PTZ device in the < PTZ Control Cam #> menu.


### PRESET SETTING



A preset is a set of specific target points of a PTZ camera and up to 128 presets per camera can be stored.

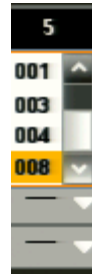
- 1) In PTZ Control mode, use the direction buttons to adjust the camera to desired direction. Firstly set the preset number and then adjust the camera to the desired direction.
- 2) And then, select the <Setup-Preset> key .
  - A virtual keyboard will appear to input the desired name.
- 3) Save: You can save the preset settings by click OK button in the virtual keyboard.
- 4) Preset Call: when the users select the stored location number, the camera will move to the selected location.
- 5) Delete> : It will delete the selected preset information.

## TOUR SETTING

Firstly select the Tour menu and click Setup-Preset button , the Tour setting window will appear.



Tour Number: you can set 1 ~ 8.  
 Dwell Time: Dwell time of one Preset. (0 ~ 99 sec).  
 Tour program setting: max. 50 tour set per tour number can be set.



When the user enters the Tour Setting window, the user can find the stored Preset information. And then select the desired Preset to click Save button, the tour setting will be completed.

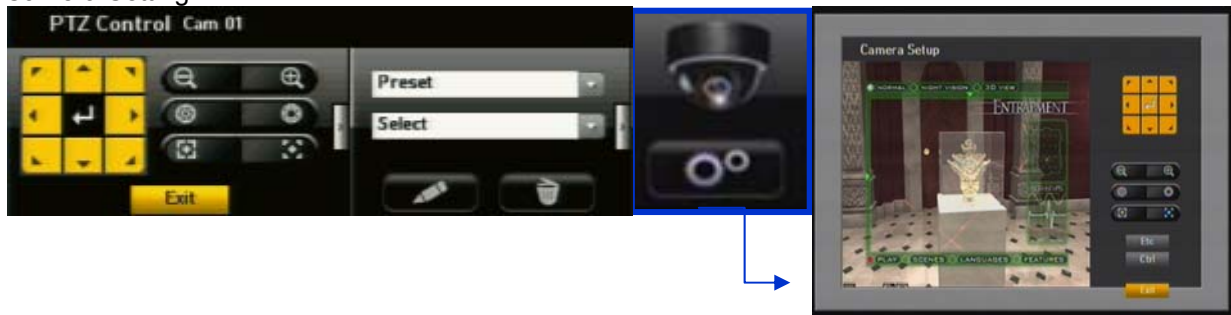
If the user wants to call the desired Tour, Select the stored number to call. For stop the tour, click any direction key or Zoom

in / out button.

When the user deletes any preset which is stored in any Tour, that preset will be deleted from preset list group of Tour but the Tour will run with the remaining presets. And when the user deletes the Preset #1, and stores the Preset #1 again, the Preset #1 will not be stored automatically. In this case, the user will set the Tour again.

After selecting the Tour number and click the Delete button, the stored Tour will be deleted.

## Camera Setting:



A PTZ camera has its own menu system. Optimize the PTZ camera according to the DVR.

- 1) Connect the PTZ camera to the DVR and run the PTZ camera again to display the camera's protocol setting window.
- 2) Check the protocol ID of the camera.
  - In <Device> Setting the PTZ, enter the PTZ camera ID in the ID input box of the channel that is connected to the PTZ camera.
- 3) Select <Camera Setup> in the PTZ Control menu. The camera specific menu appears.
  - You can configure the settings of only the cameras that support the protocols of Hitron.
- 4) PTZ Direction Button/Wheel : Allows the user to navigate in desired direction of the camera.
- 5) Zoom/IRIS/Focus:
  - Zoom: You can zoom in or out image by using the ZOOM button.
  - IRIS: You can adjust the entering light amount by using the IRIS button.
  - Focus: You can adjust the focus by using the FOCUS button.
- 6) ESC: Allows you to exit the program without saving.
- 7) Ctrl (Control): By pressing the Direction Button along with the Ctrl button, you change the value of angle.
- 8) Exit: By clicking the Exit button, it will redirect you to the PTZ control.

## 5.5. Recording **R S E**



Manual Recording Icon: **R**

If DVR starts recording by manual trigger, recording indication icon will be displayed on the left top of the screen. To stop recording, press RECORD button again.

Recording Icon:


When DVR starts recording by events, the recording icon will be activated:

Schedule Recording **S**,

Regular/manual Recording **R**,

External Sensor driven Recording **E**

Recording will stop when the event is terminated.

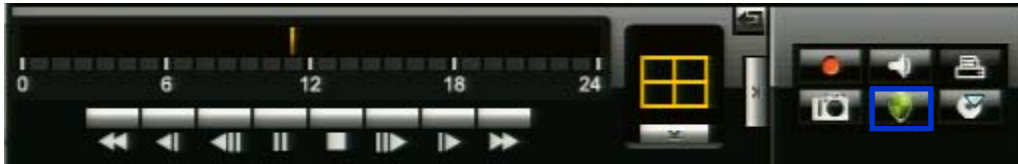
Audio Icon 

This audio icon (bottom of screen) is not displayed if you set MUTE on. The number indicates the selected audio channel for the output to speaker.

## Chapter 6. Protect Video/Audio File

### 6.1. Protect Registration

You can protect important recorded files from HDD overwriting. Register important files to protect list. During the playback of recorded file, just click the Protect icon on the launcher to save as protected file.



How to protect important files from HDD overwriting?

During the playback of recorded file, you can transfer current retrieving file to PROTECT LIST. This file will not be erased while it is under PROTECT LIST, which is a safe space on your HDD. With a mouse, right click to pop main menu window. Click PROTECT button. Click YES on the PROTECT LIST REGISTER window.

*IMPORTANT:*

- 1) You can register up to 6 files in your DVR under the PROTECT LIST
- 2) You cannot register the file still in recording. You must finish recording to register this file to PROTECT LIST.

### 6.2. Playback and Remove Protected File

You can manage protected files separately from regular recorded files (clips) stored in HDD.



How to search and playback protected files?

- Press SEARCH button and select PROTECT LIST.
  - It will show start time.
  - Click (ENTER) to select the file, and press -- PLAY button to playback.
- Using a mouse, click SEARCH ->PROTECT.



How to delete protected files?

To remove old files from PROTECT LIST, go to PROTECT LIST menu. Select file(s) you want to remove.

Click DELETE and YES to remove it permanently.

**IMPORTANT:** If you click YES, the file will be erased from HDD permanently and will not be recovered.

## 6.3. Protected File Backup

Protected files are very important and are valuable evidences for any incidents. You can make a copy of protected files on to USB memory same as the ordinary backup function of your DVR.



How to backup protected files?

- 1) Go to PROTECT LIST menu.
- 2) Select a file to backup
- 3) Press Backup button. Then, choose External HDD or USB backup.
- 4) Insert a USB memory stick to USB port
- 5) You DO NOT have to select the starting/ending time for backup. It will be automatically detected when you select a file for a backup.
- 6) Select the channel(s), format type, and press OK. You will see the file size for which to be backup.

## Chapter 7. Capture Video Still Image

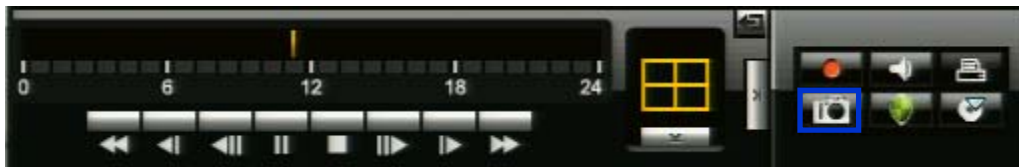
### 7.1. Still Image Capture

You can capture and save up to 100 still images and retrieve, delete, or back them up easily. You can capture videos instantly using a mouse or remote control.



How to capture video images?

During playback mode (including FF, REW and Pause) or live display, you can capture current video image using a mouse or remote control.



Mouse: Click Capture (camera icon) button at the Launcher.

Remote controller: Press Capture button.

When you click capture button, DVR stores all channels immediately into temporal buffer. Once you click capture, you will see a channel select menu to select channels to save into HDD. Using direction keys or a mouse, you can designate which channels to save. After selecting all desirable channels, press OK button to store pictures into HDD.

## 7.2. View Captured Image

The DVR keeps and manages captured files separately from other video files stored in HDD. You can view them at any time unless you remove them from CAPTURE LIST. You can store up to 100 captured images in master HDD.



How to view captured images?

Click SEARCH Menu -> CAPTURE

Select a file and click the Play button. A Capture icon will appear on the top left corner in the playback screen.

## 7.3. Remove Captured Image

You can save up to 100 captured images into our HDD. You should erase some saved images to save new captured images.



How to remove captured image files?

**IMPORTANT:** If there are 100 captured images in your HDD and you try to capture new video images, "Capture list is full" message will be appeared. To protect your captured images, please maintain your captured images not to exceed 100 images.

To erase image files from CAPTURE LIST, press SEARCH -> CAPTURE. Select a file to remove. Press DELETE button at the bottom.

## 7.4. Backup Captured Image

Captured image files are very important and are valuable evidences for any incidents. You can make a copy of captured files into a USB memory stick.

How to backup captured image files?

Press SEARCH -> CAPTURE LIST menu. Select a file to backup from captured file list.

Insert a USB memory stick to a USB port of DVR. Press BACKUP button.

When the backup is completed, BACKUP COMPLETED message will be appeared on the screen.



# Chapter 8. Web Viewer – Connection via Internet Explorer

## 8.1. System Requirement

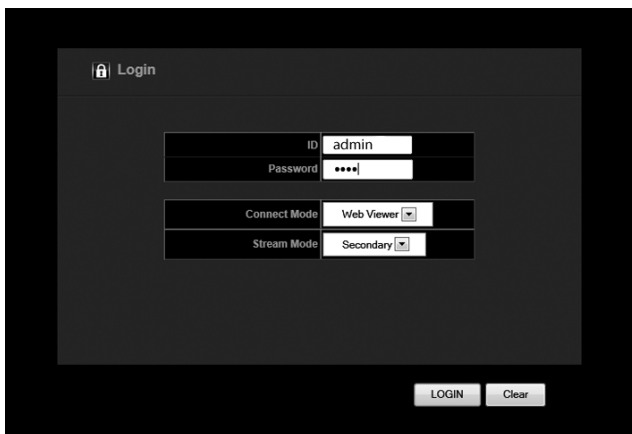
- Pentium 4 or above recommended
- O/S: Microsoft Windows XP, Vista, Windows 7
- 2GB RAM or above recommended
- Super VGA 512M or above (1GB recommended)
- 10/100 Base T network card for LAN operation

### 8.1.1. Network Environment

	Client PC	DVR
Recommend	More than 3 Mbps	More than 3 Mbps

## 8.2. Web Viewer – Getting Started

### 8.2.1. Connect DVR via Web Browser using Direct IP.

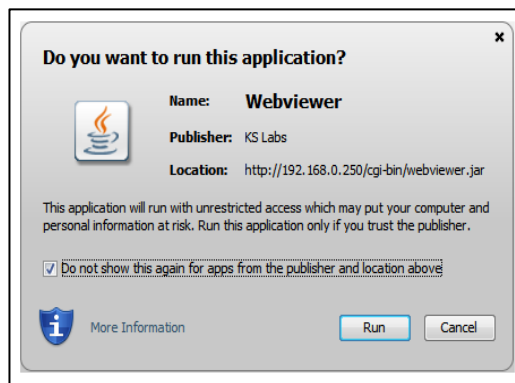


1) Open your internet browser.

2) Type your DVR's IP address in your internet browser (ex: <http://192.168.0.30>). You will be directed to screen as left.

3) At the log in page, type your network ID and password and click Login button. Then you will be directed to the Web Viewer main screen. Default setting is ID: admin / PASSWORD: admin

4) After you have entered your ID and Password, there will be JAVA initializing stage



1. Before running your Web viewer, JAVA will need to initialize. Following a brief initializing, a Security Warning window will appear

2. Security Warning will ask you if you accept to run the application. Click on the box indicating that you accept the risk and want to run this application and click the RUN button.

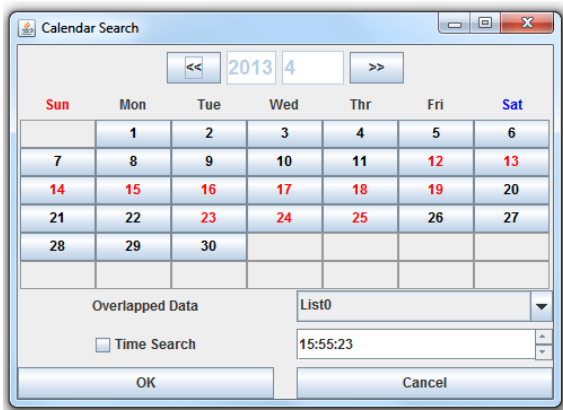
### 8.2.2. General Web Viewer Operation


When you connect to your DVR, you will see a screen as below.



1	Connect/Disconnect Button: Connect to DVR which is designated in Login pop-up window. To disconnect or connect to other DVRs please click this button again.
2	Search Button: You will be able to search for data by calendar search.
3	Setup Button: Will allow you to setup you own personal DVR configuration
4	Channel Selection Button: You can choose any channel to display in full screen display mode
5	Multi Screen Button: You can set display mode in Full (1CH), 4CH(or 8CH or 16CH for specific model)
6	Print Button: You will be able to print selected channel.
7	Previous Button: It will allow you to go back to previous channel or set of split mode channels/multi screen mode.
8	Next Button: It will take you to the next channel or set of split mode channels/multi screen mode.
9	Zoom Button: It will allow you to Zoom IN once a channel is selected. You many select how much and where to Zoom IN.
10	Resolution Button: Able to select resolution and adjustments can only be done in single channel mode.
11	Record Button: Allows you to enable recording on your DVR. Press it again and will disable recording.
12	PTZ Control Button: You will be able to control your PTZ camera that's connected to the DVR.
13	Playback Control Buttons: Rewind, Play, Fast Forward & Stop

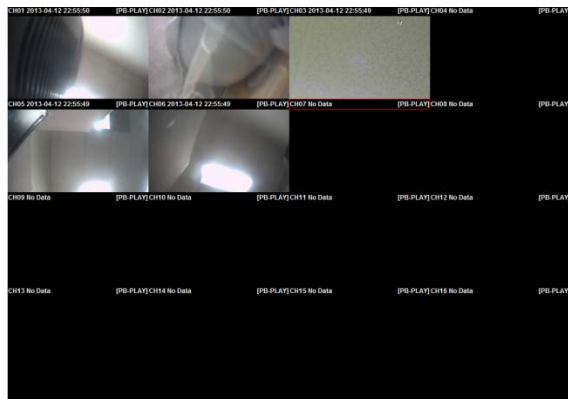
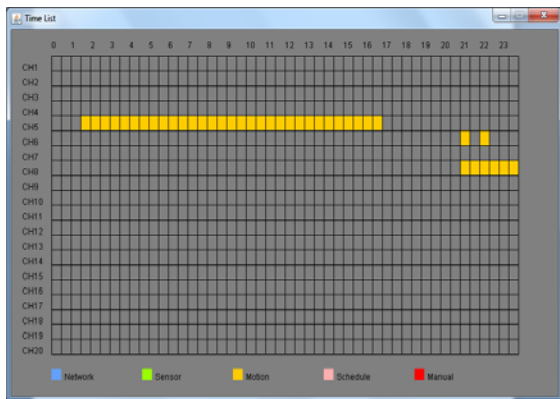
### 8.2.3. Calendar and Time Search Button:



You can search data from Calendar Search or by Time Search. Click on the Search button  at the menu bar.

Once you have clicked the Search button, a Calendar Search will appear. The dates that are marked in red color indicates that there are data on that date. To search for data on a specific date, click the date and click the OK button.

A time chart with camera (CH) will appear. It will show you all the data recorded on a specific channel in the 24 hour period. Double click the desired time for the channel. Remote live screen will appear.

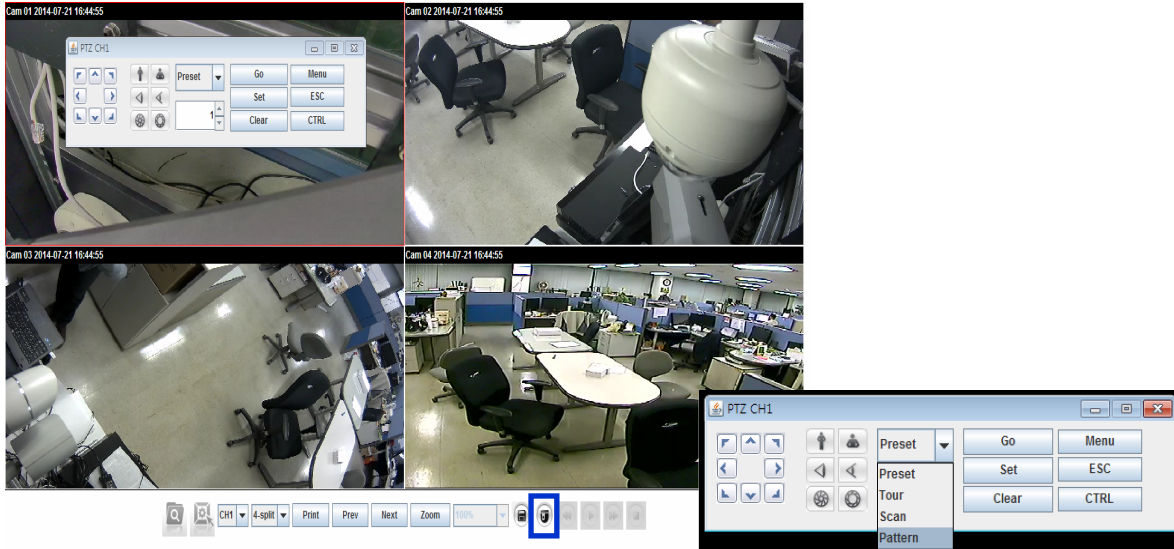


If you choose to search for data on a specific date and time, simple click the date (in red) and enable the Time Search located at bottom left corner. After it is enabled, select a time that you would like to view the data. After the time is selected, click the OK button. Then the remote live screen will appear.

## 8.2.4. PTZ Control



You will be able to control your PTZ camera that's connected to your DVR. Keep in mind that PTZ control function can only be performed in LIVE mode. First select a specific channel to control the PTZ camera, then simply click on the PTZ icon/button on the menu bar. Once you have selected a channel and the PTZ button, a PTZ control window will appear on the screen. At the top of the PTZ control, it will show you which channel is selected to control the PTZ.



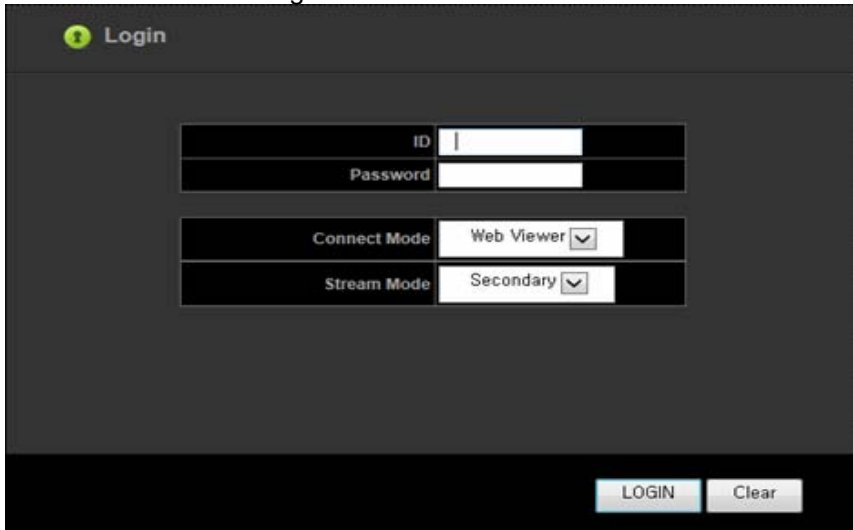
You can control iris, preset, tour, scan, pattern and menu control remotely from the DVR.



# Chapter 9. Web Viewer – Setup/Web Configuration

## 9.1. Web Configuration

You can remotely control and manage the DVR from your Internet. We strongly recommend not using this function in normal operation. If you change the configuration of the DVR to a wrong value, the DVR may not work properly and can cause unexpected problems. This feature is for professional administrator who manages it from remote site.

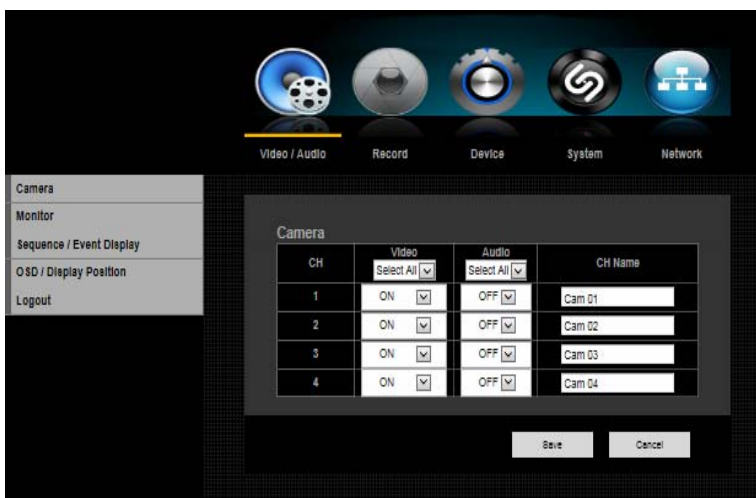


To control the DVR remotely, simply type in the DVR IP address in the Internet browser. Once you have entered the IP address, a Login window will appear. To gain access, you will need your ID and Password.

You will be given two options/functions under Connect Mode: Web Viewer and Setup. To view, simply click the LOGIN button. To configure the DVR, click the down arrow button in the Connect Mode to Setup (See two images above).

### 9.1.1. Video/Audio

#### 9.1.1.1. Camera

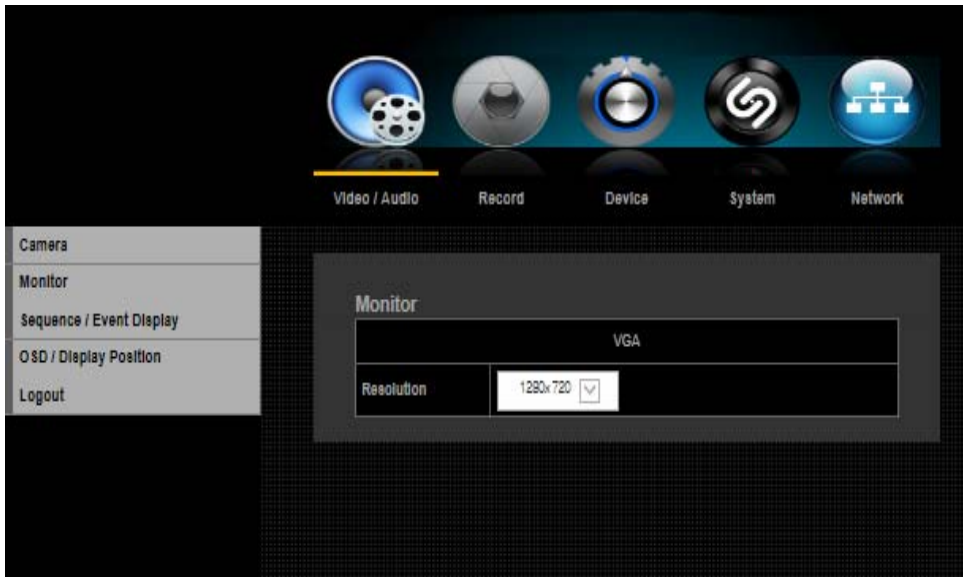


- 1) VIDEO: You may select the video ON, OFF, COVERT 1 or COVERT 2.
- 2) AUDIO: You may select the audio ON or OFF position.
- 3) TITLE/CH NAME: Create your own name/title for each camera. If you skip this setup, camera # will be displayed on the screen.

\*\* For detailed information, please refer to the Main Menu under Video/Audio

### 9.1.1.2. Monitor

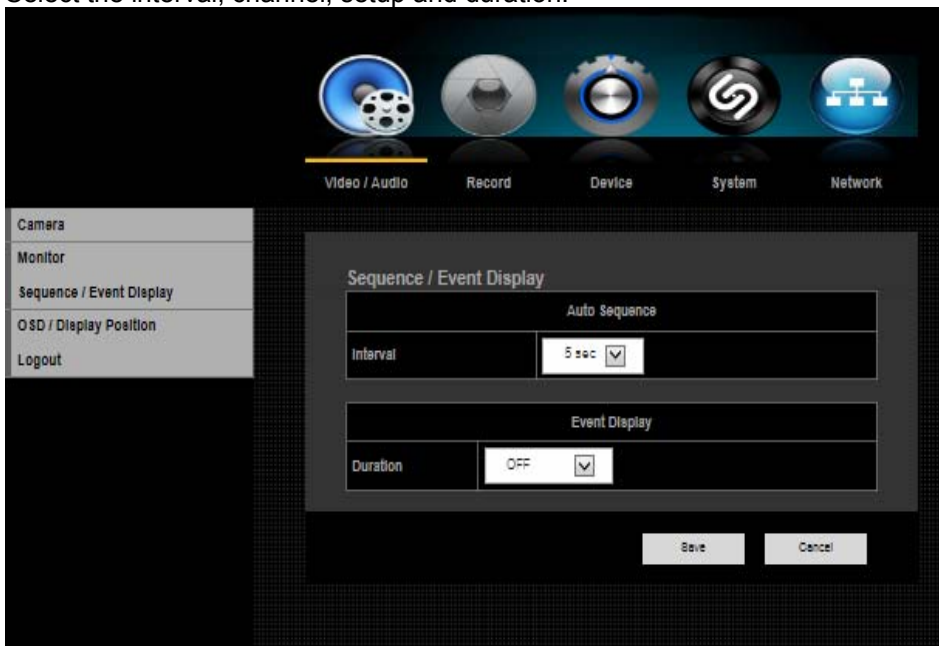
You may adjust the resolution of main video output.



\*\* For detailed information, please refer to the Main Menu under Video/Audio

### 9.1.1.3. Sequence/Event Display

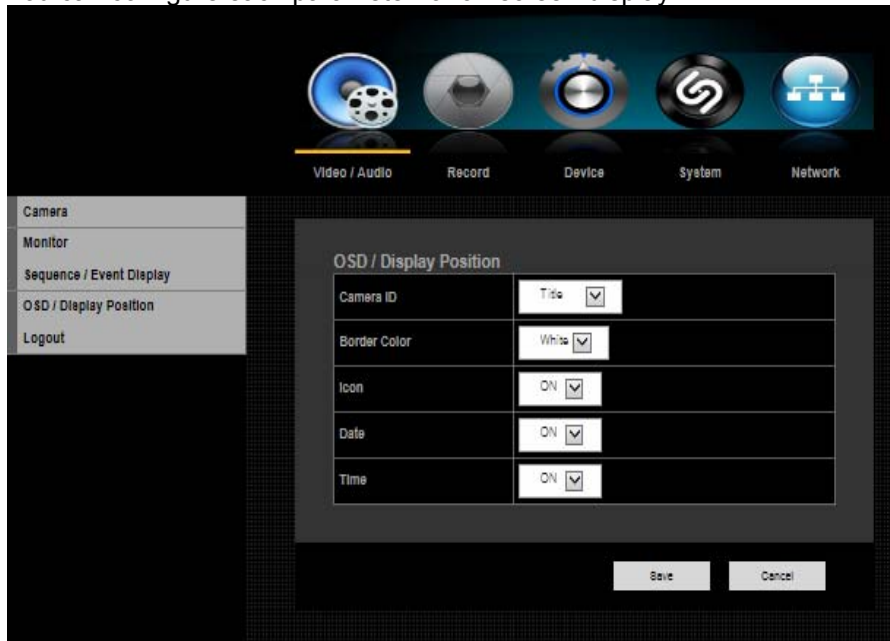
The DVR can display each live video channel in full screen (or a group of channels) in sequence mode. Select the interval, channel, setup and duration.



\*\* For detailed information, please refer to the Main Menu under Video/Audio

#### 9.1.1.4. OSD/Display Position

You can configure each parameter for on-screen-display.

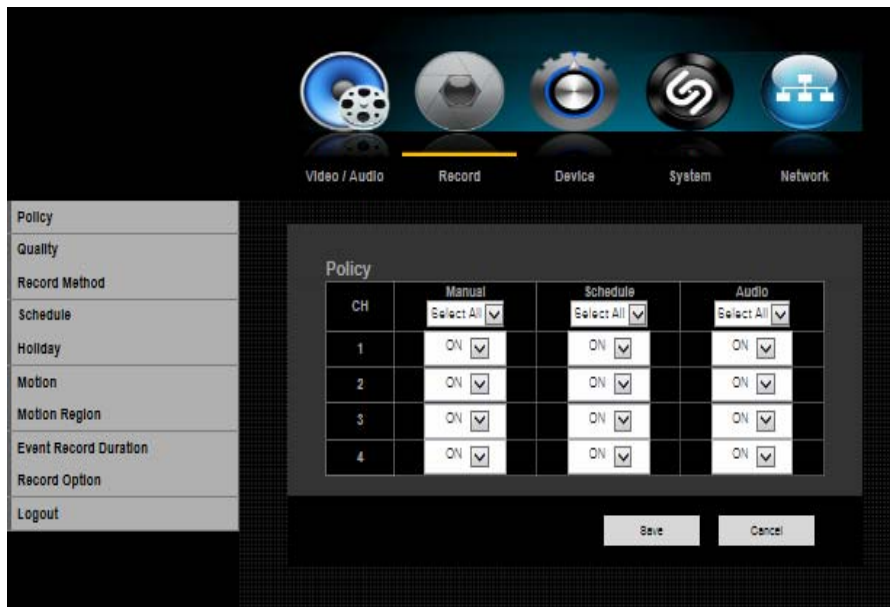


#### 9.1.2. Record

You can set all parameters related to recording for each camera independently.

##### 9.1.2.1. Policy

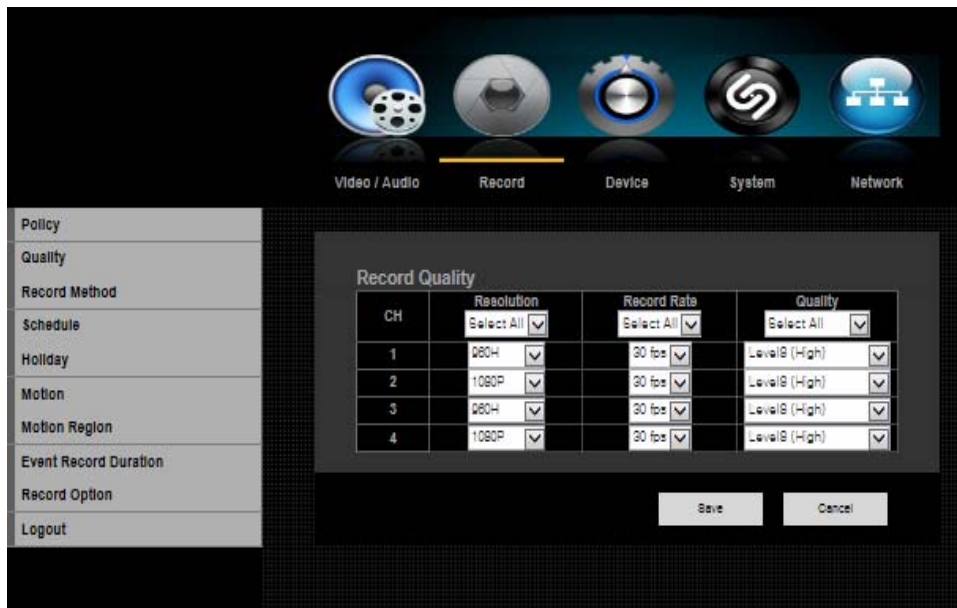
DVR can record a live video by manual, schedule, event (motion detection and/or external sensor) and by network user's command. You can set the recording policy for each camera independently.



\*\* For detailed information, please refer to the Main Menu under Record

### 9.1.2.2. Recording Quality

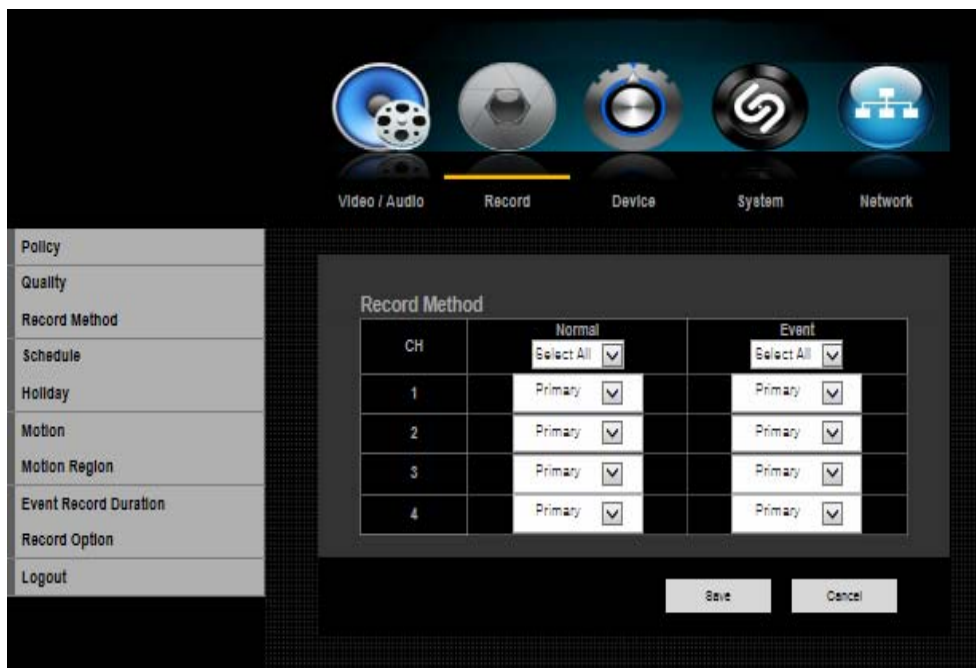
DVR can set the recording quality for normal and event condition. Therefore, the user can set the recording quality with low resolution for normal condition and high resolution for event condition.



\*\* For detailed information, please refer to the Main Menu under Record

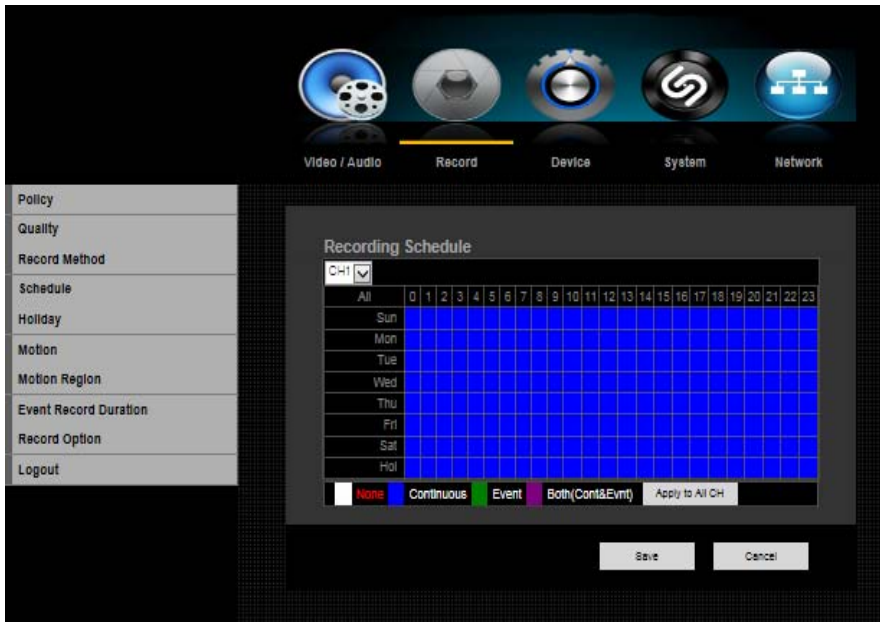
### 9.1.2.3. Record Method

The user can set the record method (primary and secondary) for normal and event conditions.



\*\* For detailed information, please refer to the Main Menu under Record

### 9.1.2.4. Schedule



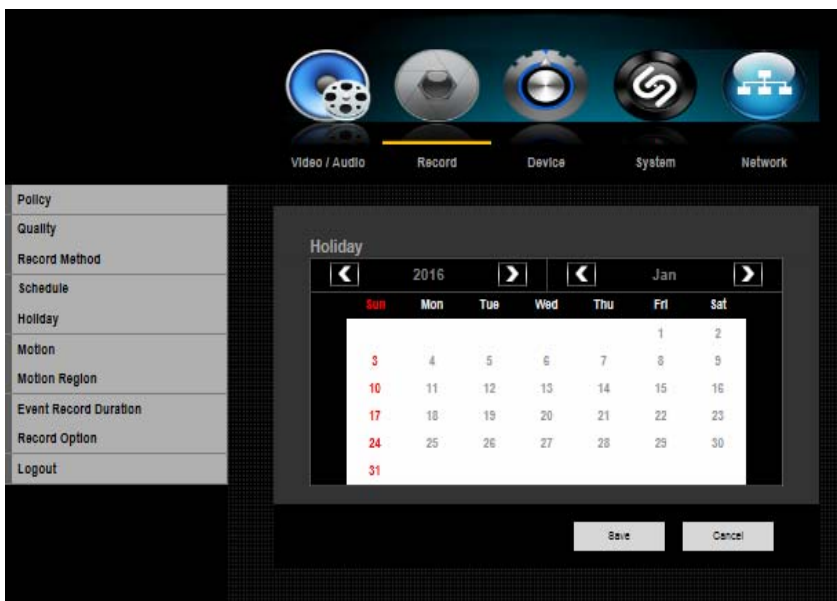
- 1) CAMERA CH: Select channel for schedule recording.
- 2) SELECT DAY [SUN – SAT/Holiday] : Select the desired day for schedule recording.
- 3) TIME: Move the cursor to desired time and click to set it highlighted. Press click again to change schedule recording option by color.

You can set different recording schedule and type for each camera (channel) or you can apply current schedule setting to all other cameras by click APPLY TO ALL CH button.

\*\* For detailed information, please refer to the Main Menu under Record

### 9.1.2.5. Holiday

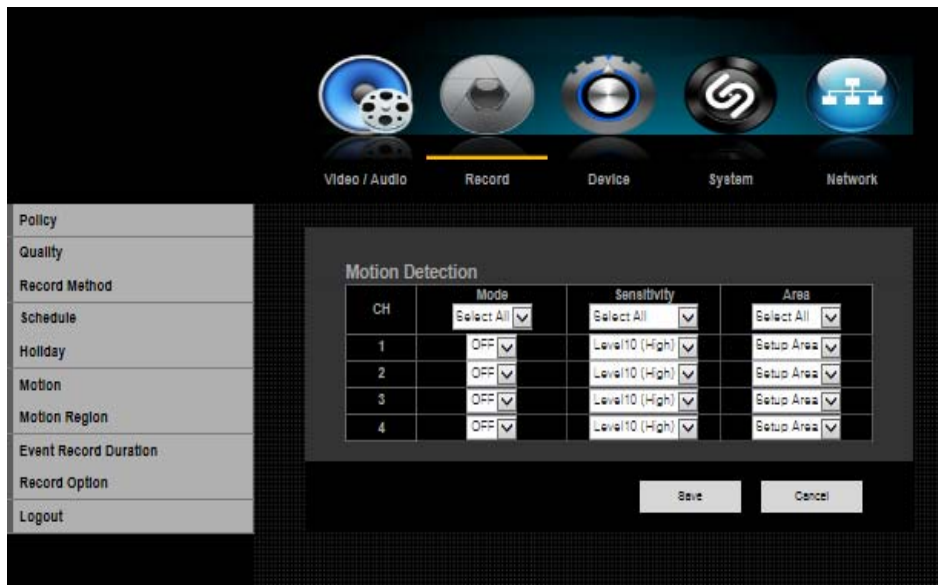
You can set specific dates to Holidays according to your preferences. Holidays are applied to <Record Schedule> and < Alarm Schedule> as well.



\*\* For detailed information, please refer to the Main Menu under Record.

### 9.1.2.6. Motion Detection

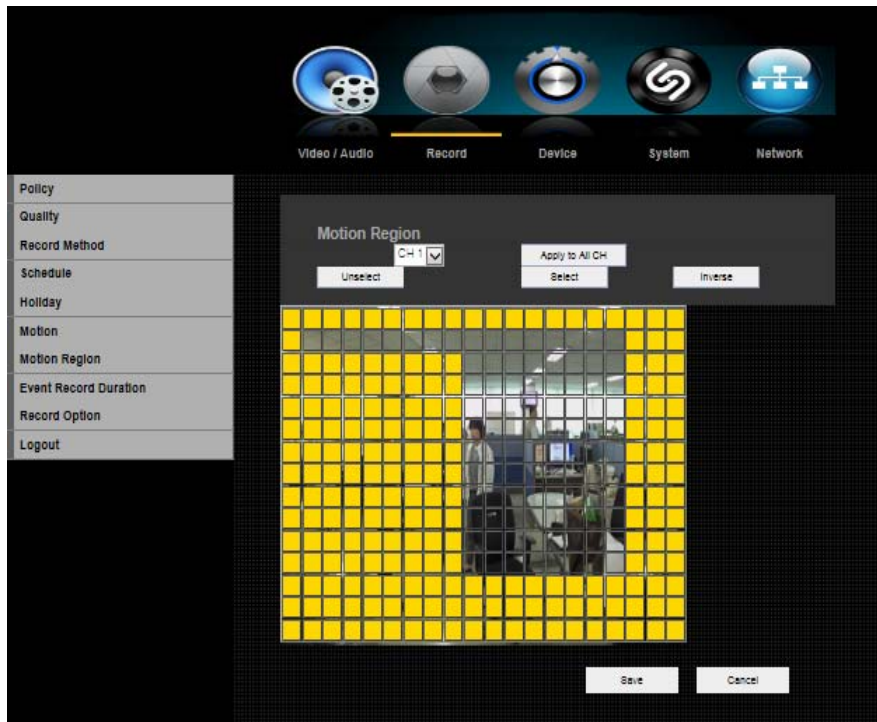
You can set the motion detection mode, areas and sensitivity levels for recording.



\*\* For detailed information, please refer to the Main Menu under Record.

### 9.1.2.7. Motion Region

You can set the motion detection regions for recording.

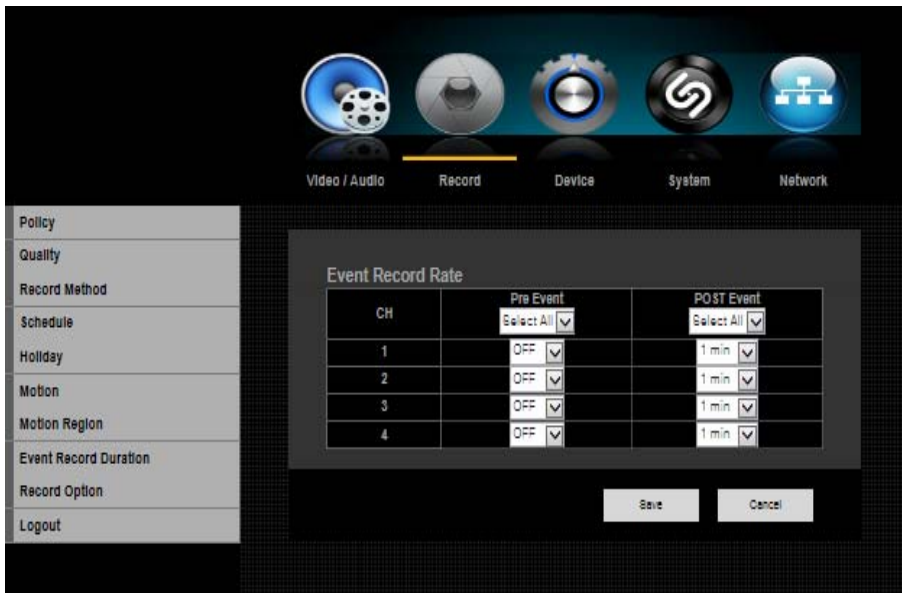


\*\* For detailed information, please refer to the Main Menu under Record.

### 9.1.2.8. Event Record Duration

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

- Pre Event
- Post Event



\*\* For detailed information, please refer to the Main Menu under Record

### 9.1.2.6. Record Option

You can enable/disable HDD overwriting feature.



\*\* For detailed information, please refer to the Main Menu under Record

### 9.1.3. Device

You can configure the peripherals in your DVR such as PTZ control and printer

#### 9.1.3.1. Sensor Detection

Select the right type of your external sensors connected to the DVR. There are two different types of sensors, (N.O. - Normal Open and N.C. - Normal Close). Press APPLY button to change and select the sensor type.



\*\* For detailed information, please refer to the Main Menu under Device

#### 9.1.3.2. Video Loss Detection

Video Loss Detection: Select ON or OFF for each channel.

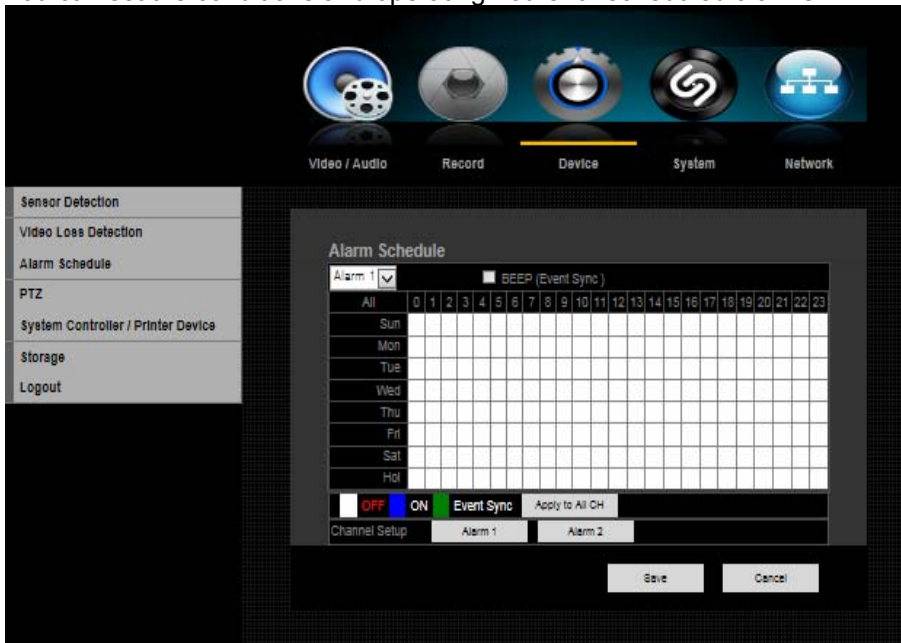


\*\* For detailed information, please refer to the Main Menu under Device



### 9.1.3.3. Alarm Schedule

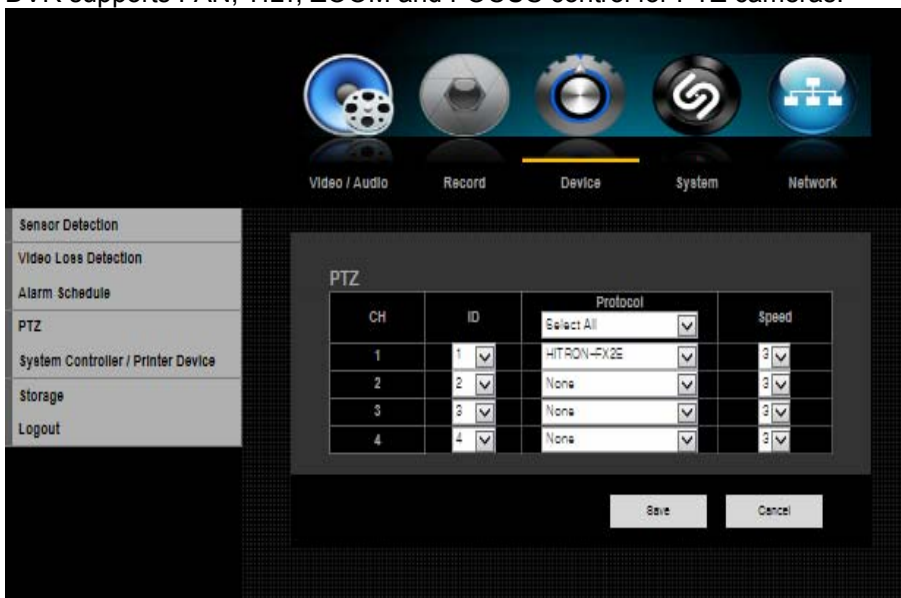
You can set the conditions and operating hours for scheduled alarms.



\*\* For detailed information, please refer to the Main Menu under Device

### 9.1.3.4. PTZ

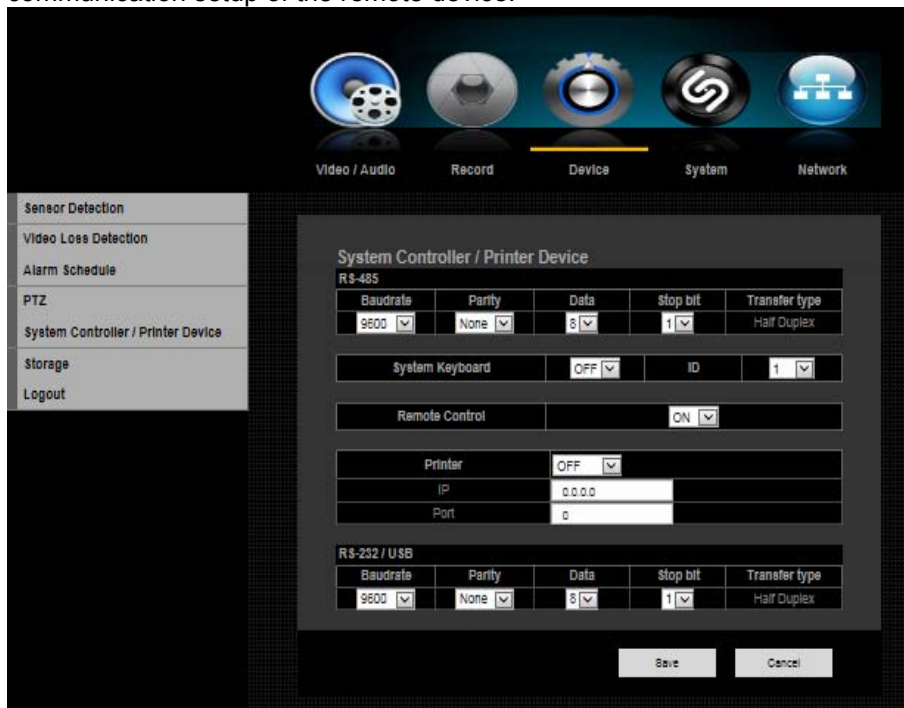
DVR supports PAN, TILT, ZOOM and FOCUS control for PTZ cameras.



\*\* For detailed information, please refer to the Main Menu under Device

### 9.1.3.5. System Controller / Printer Device

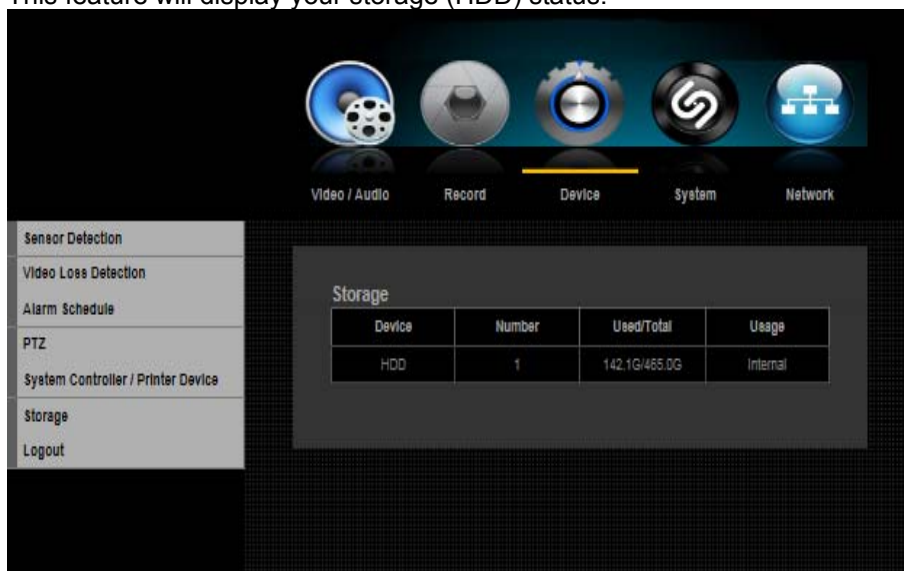
You can set the communicator for use of PTZ with the DVR. You can set the values of each communication setup of the remote device.



\*\* For detailed information, please refer to the Main Menu under Device

### 9.1.3.6. Storage

This feature will display your storage (HDD) status.



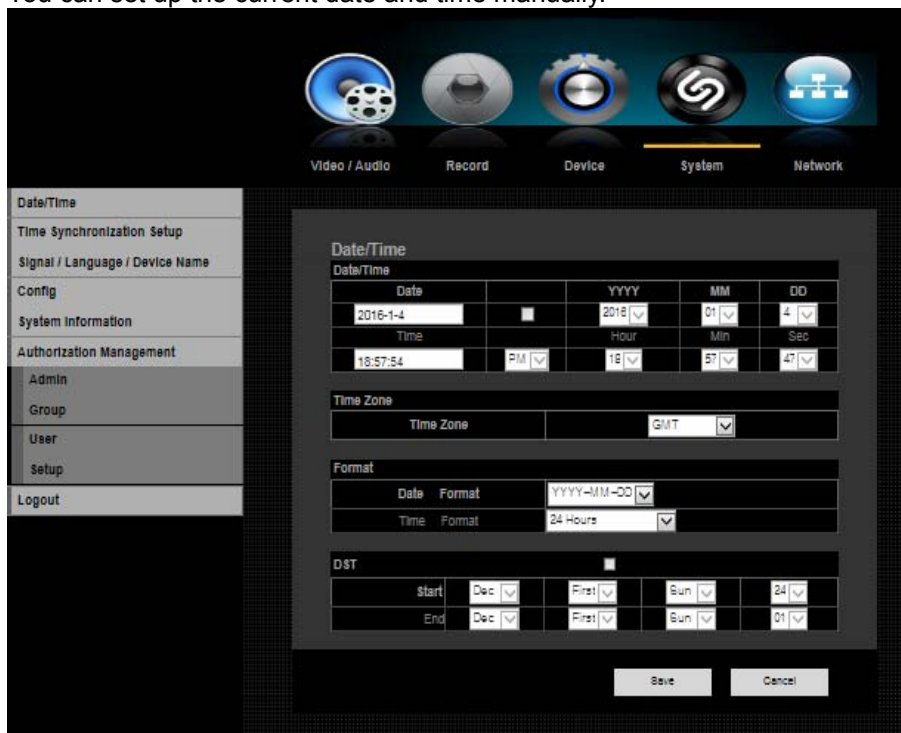
\*\* For detailed information, please refer to the Main Menu under Device

### 9.1.4. System

The menu will help you to configure DVR for basic operation.

#### 9.1.4.1. Date/Time

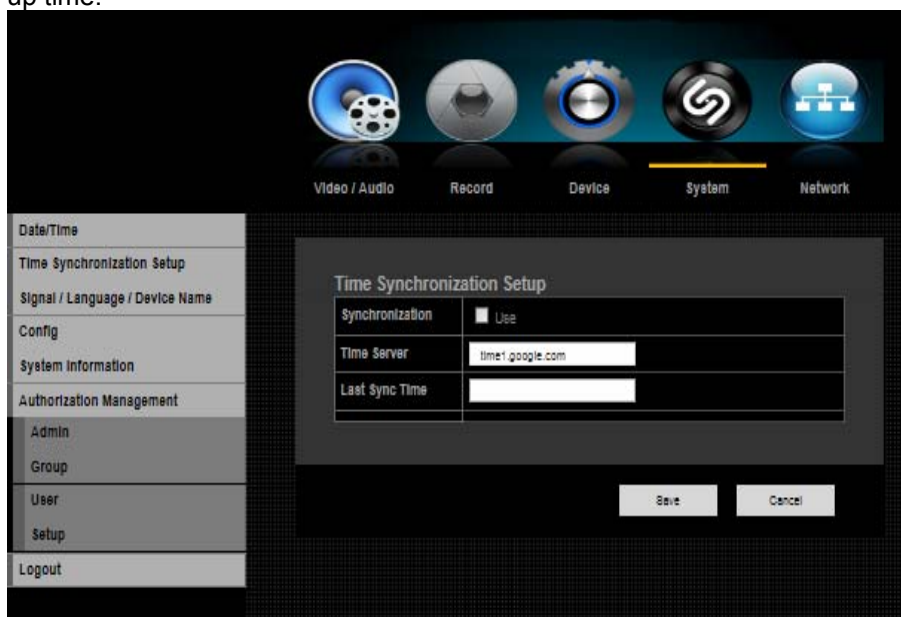
You can set up the current date and time manually.



\*\* For detailed information, please refer to the Main Menu under System

#### 9.1.4.2. Time Synchronization Setup

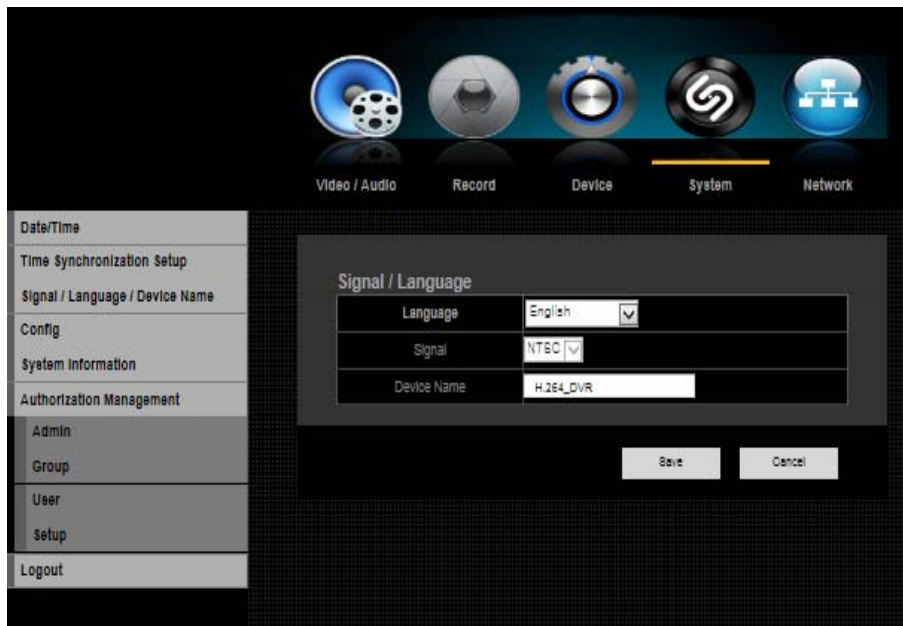
Auto Time Set (Time Sync.): By clicking the Time Sync. Setup button, you'll able to automatically set up time.



\*\* For detailed information, please refer to the Main Menu under System

### 9.1.4.3. Signal/Language/Device name

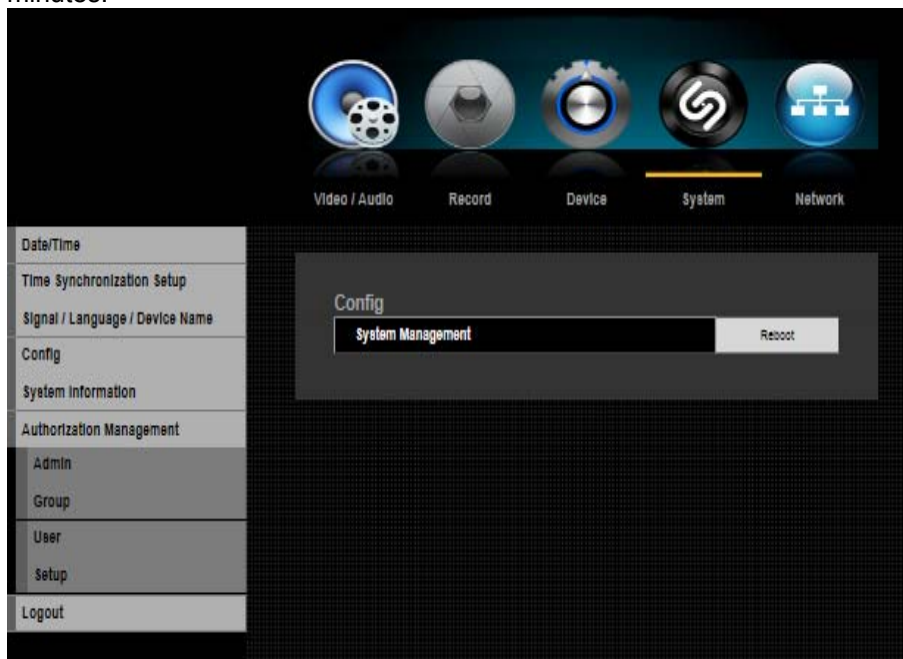
DVR supports up to 48 different languages. Select your preferred languages.  
Video Signal: Select your video signal format type, NTSC or PAL.



\*\* For detailed information, please refer to the Main Menu under System

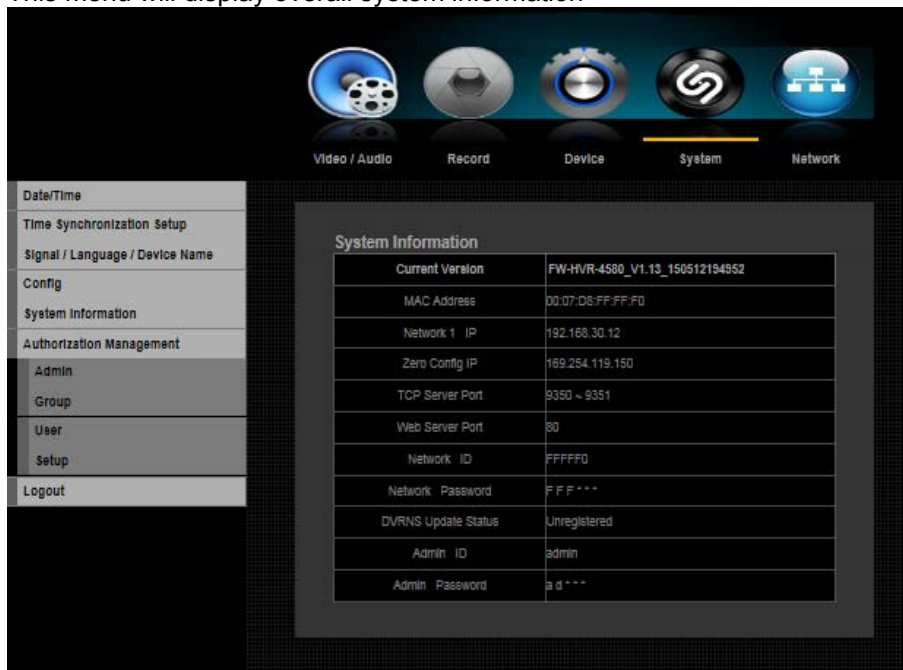
### 9.1.4.4. Config

This menu allows the user to reboot the DVR system remotely. For DVR rebooting, it will take about 2 minutes.



#### 9.1.4.5. System Information

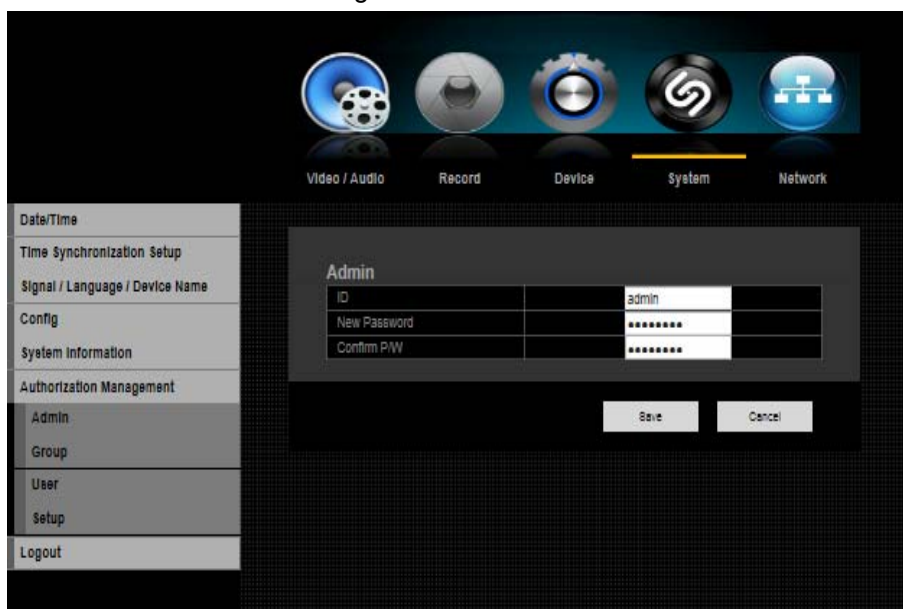
This menu will display overall system information



#### 9.1.4.6. Authorization Management

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

##### 9.1.4.6.1. Authorization Management: Admin



1) Under Permission Management Admin, you can change Admin ID and Password. By clicking on the ID, a virtual keyboard will appear to type in ID. This also applies to Password and Confirm PW. Once you have entered your ID and PW, click OK.

2) By default, the ID and Password are set to "admin" and "admin"

\*\* For detailed information, please refer to the Main Menu under System

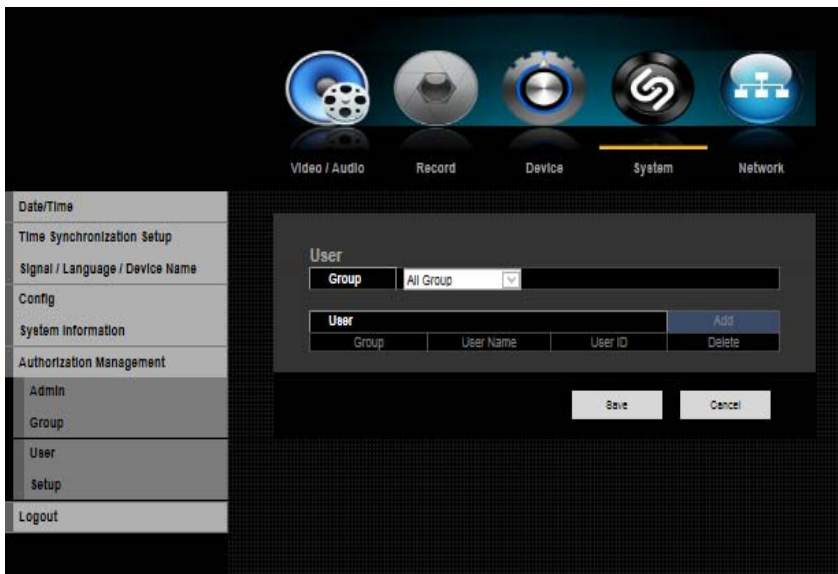
### 9.1.4.6.2. Authorization Management: Group



- 1) Select Group and window for Add, Delete, Rename and Group Authority setup appears.
- 2) Click to a desired item and set the value.

\*\* For detailed information, please refer to the Main Menu under System

### 9.1.4.6.3. Authorization Management: User



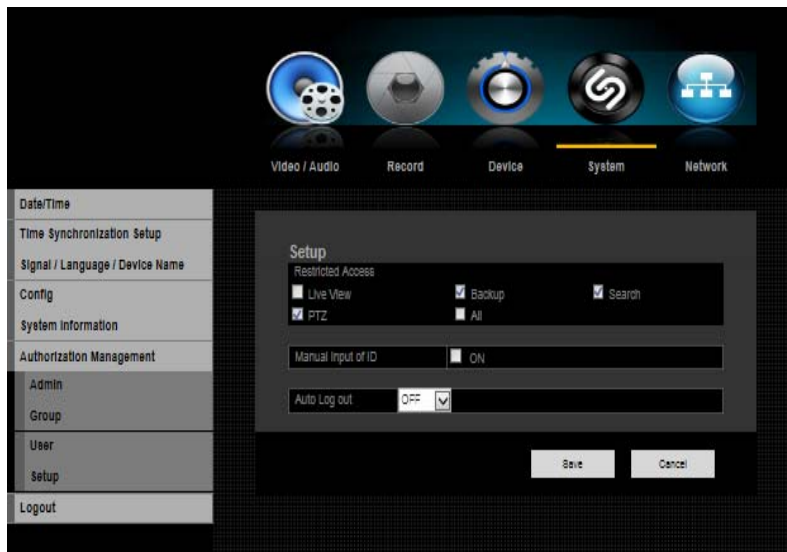
- 1) When selecting Add from the window, a window for “Add User” will appear. You can configure the Network Viewer setting including Name, ID, Select Group and Password. Result of the user setup appears in the User window. To change the use property, use “Edit User”. The “Edit User” window appears when you select a desired item to be changed in the User window.
- 2) When the user setup is complete, click <OK>.

**! Users can be added only if a Group has been already established.**

\*\* For detailed information, please refer to the Main Menu under System

#### 9.1.4.6.4. Authorization Management: Setup

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



\*\* For detailed information, please refer to the Main Menu under System

#### 9.1.5. Network

With this menu, you can setup the network for DVR. Before starting this setup, the DVR must be connected to the router by LAN cable. Also, please make sure that internet is working properly.

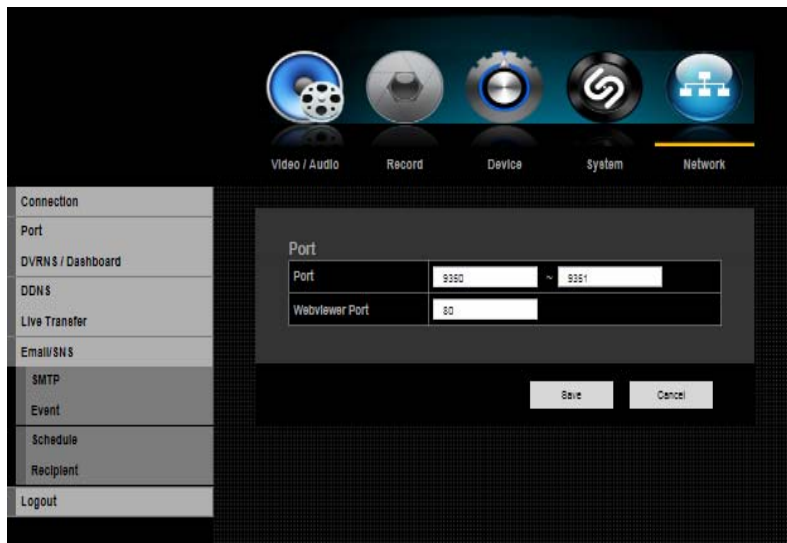
##### 9.1.5.1. Connection

You can set the network connection route and protocol.



\*\* For detailed information, please refer to the Main Menu under Network

### 9.1.5.2. Port

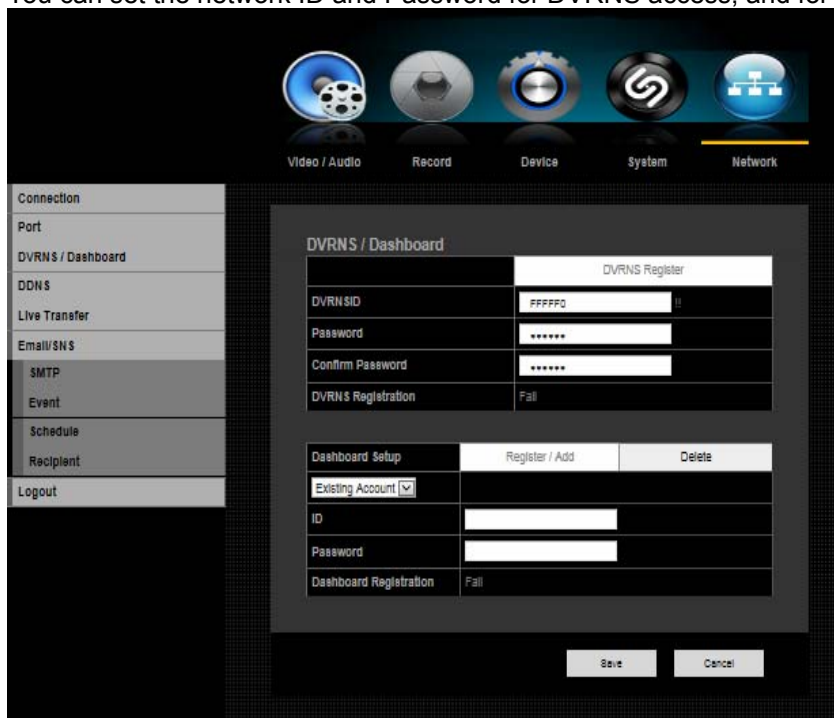


- 1) Port (TCP): Initially, 9350-9351 is set.  
TCP: It has better stability and lower speed when compared to UDP and recommended for internet environments.
- 2) Web Viewer Port: Enter the port number for the Web Viewer. Initially, it is set to 80.
- 3) When the protocol setup is complete, click OK.

\*\* For detailed information, please refer to the Main Menu under Network.

### 9.1.5.3. DVRNS / Dashboard

You can set the network ID and Password for DVRNS access, and for Dashboard connection.

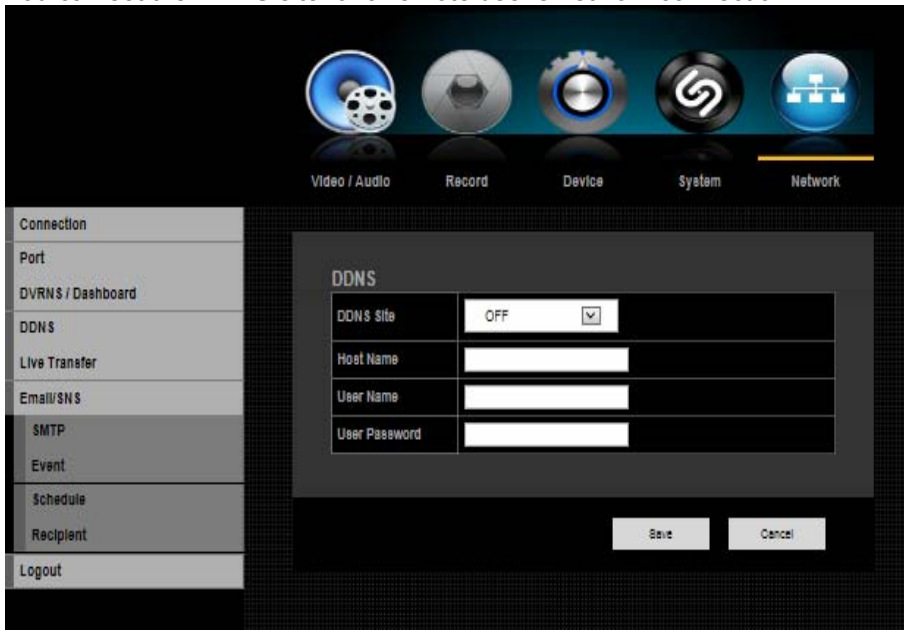


\*\* For detailed information, please refer to the Main Menu under Network



#### 9.1.5.4. DDNS

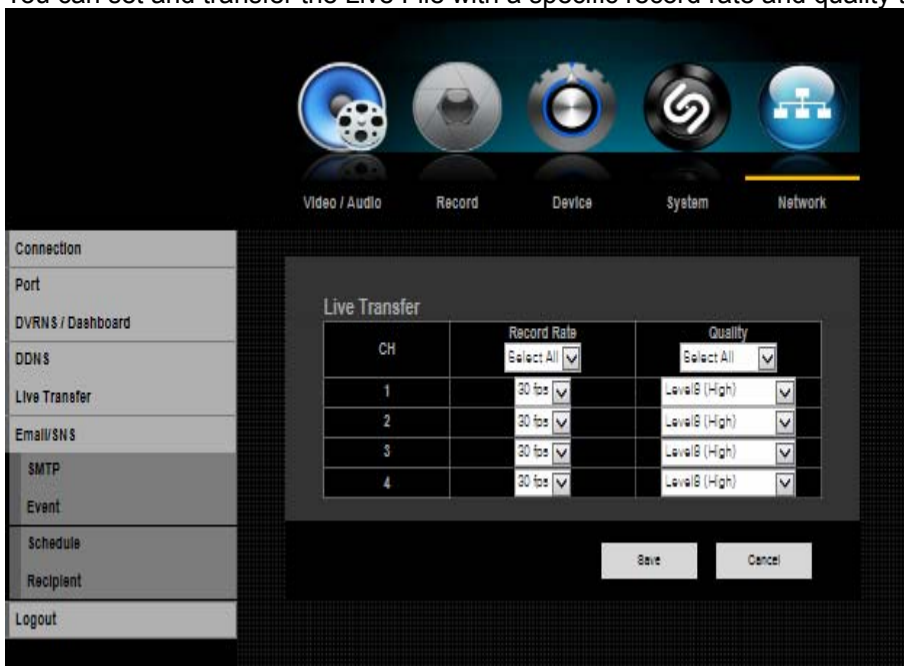
You can set the DDNS site for a remote user's network connection.



\*\* For detailed information, please refer to the Main Menu under Network

#### 9.1.5.5. Live File Transfer

You can set and transfer the Live File with a specific record rate and quality to a specific server.



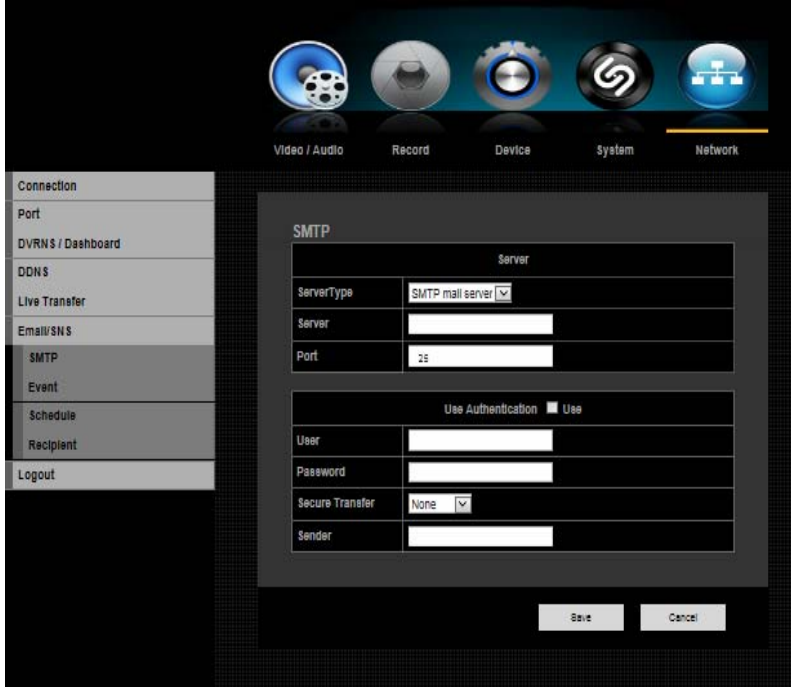
\*\* For detailed information, please refer to the Main Menu under Network

### 9.1.5.6. Email/SNS

Receive event notifications by either Email or SNS (Social Networking Service)

#### 9.1.5.6.1 Email / SNS: SMTP

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



\*\* For detailed information, please refer to the Main Menu under Network

#### 9.1.5.6.2. Email / SNS: Event

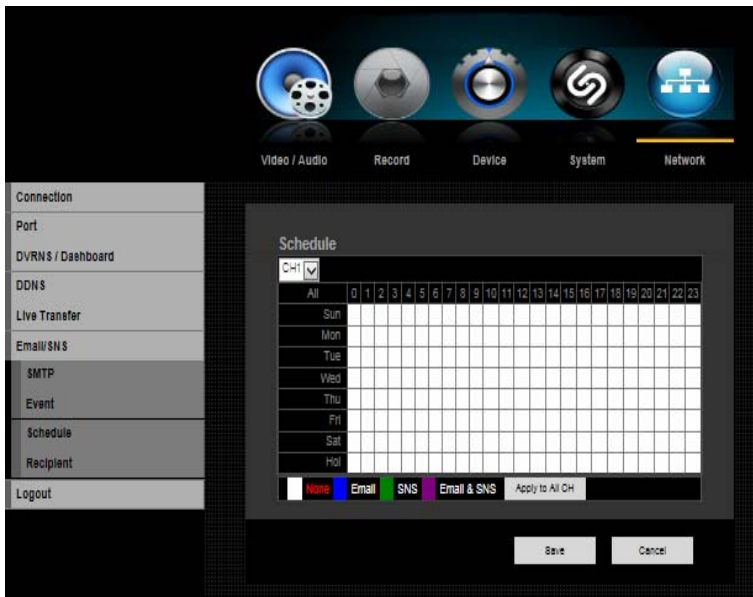
You can set the interval and type of event that will be sent to the user.



\*\* For detailed information, please refer to the Main Menu under Network

### 9.1.5.6.3. Email / SNS: Schedule

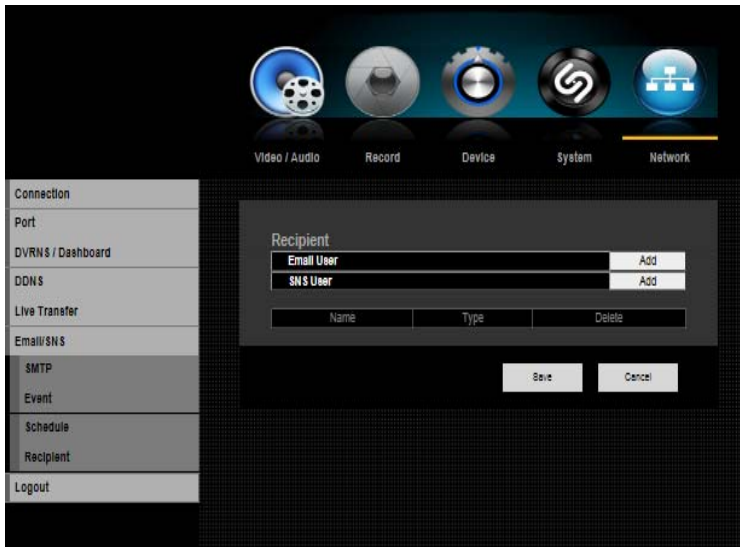
Schedule menu will allow one to set schedule to receive notification. You may choose email, SNS or both (Email & SNS). Each notification will have different color association. You may select specific channel for notification or simply click Apply to All CH tab.



\*\* For detailed information, please refer to the Main Menu under Network

### 9.1.5.6.4. Email / SNS: Recipient

You can add a user to the mailing service. Click the User Add button and Add recipient window will appear in the middle of the screen. Enter recipient's name and email address and click OK.



\*\* For detailed information, please refer to the Main Menu under Network

Product Specifications

Channel		4CH	8CH	16CH
Video	Input	4 BNC	8 BNC	16 BNC
	Display Output	VGA, HDMI		
Audio	Input	4 Channel	8 Channel	16 Channel
	Output	1 RCA		
Display	Display FPS(NTSC/PAL)	120fps	240fps	480fps
	VGA Display Resolution	Up to 1920x1080		
	Screen Split Mode	1/4	1/4/6/8/9	1/4/6/8/9/13/16
	PIP and Zoom	PIP/Zone(x2, x4, x6, x8)		
Pentaplex Mode		Simultaneous Live, Recording, Playback, Backup, Network		
Mobile Phone Support		Tive HD		
Recording	Frame Rate	Adjustable Frame Rate for Each Camera		
	Recording Ways	Manual, Schedule, Event(Motion, Sensor)		
	Recording FPS	30fps(Each CH)	30fps(Each CH)	15fps(Each CH)
	Protect Video/Audio File	Protect Video/Audio from HDD Overwrite		
	Still Image Capture	Live or Playback Image Local Capture and Backup for Legal Evidence		
	Internal Hard Drive	1xSATA	2xSATA	2xSATA
Remote Monitoring/Control		10/100 Base Ethernet		
		Dynamic/Static		
		Web Viewer and VMS Support		
		Dual Streaming for Live and Recording		
		E-Map Support		
Playback	Playback Screen Mode	1/4	1/4/6/8/9	1/4/6/8/9/13/16
	Search Mode	Date/Time, Calendar, Event, Motion, Protect, Capture, VCA, Text		
Alarm Control	External Sensor Input	4CH NC/NO	8CH NC/NO	16CH NC/NO
	Alarm Output	1		
Data Backup		USB Flash Memory		
		AVI Format for Easy Viewing, Private Format for Image Authentication		
Others	Video Content Analysis	Yes(with Specific Cameras)		
	NTP Server/Client	Yes		
	System Keyboard	USB and Support		
	Printer	USB or Network Printer		
	Control	IR Remote Control, USB Mouse, Client Software		
	Event Log & Pre-Alarm Record	System/Event Log Management, Pre Recording for Motion/Sensor		
	Auto Deletion	Setup Recording Duration Per Channel		

	RS485	PTZ Control	
	Languages	48 Languages Support	
	Power Supply	12VDC, 2A	
	Dimension	300x47x209mm	378x47x317mm

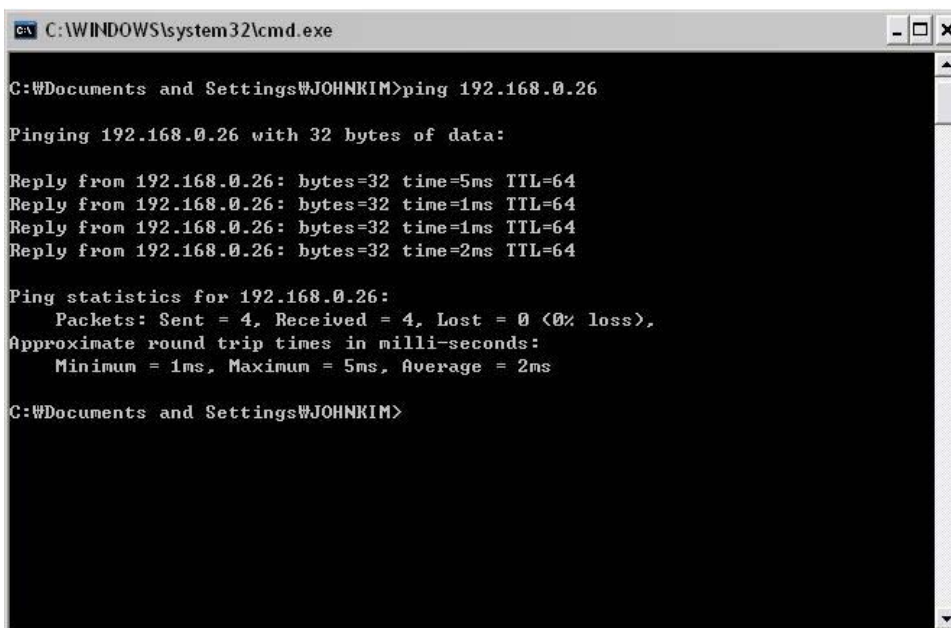
*Notice:* The information in this manual was current when published. The manufacturer reserves the right to revise and improve its products. All specifications are subject to change without notice.

# Network Troubleshooting

You must set your network environment properly to use remote control software (Net Viewer or Web Viewer).

## 1. Ping Test through your Router

*Ping* is a command-line tool used to check whether another computer is reachable from your own. You can use the command either from the Windows Command Prompt or from a Linux terminal. The following shows the sample output under Windows: Type “ping DVR IP address” (e.g. ping 192.168.0.26). If DVR and your computer are in same intranet (LAN) and are connected each other through router, you will see successful ping test.



```
C:\WINDOWS\system32\cmd.exe
C:\Documents and Settings\JOHNKIM>ping 192.168.0.26

Pinging 192.168.0.26 with 32 bytes of data:

Reply from 192.168.0.26: bytes=32 time=5ms TTL=64
Reply from 192.168.0.26: bytes=32 time=1ms TTL=64
Reply from 192.168.0.26: bytes=32 time=1ms TTL=64
Reply from 192.168.0.26: bytes=32 time=2ms TTL=64

Ping statistics for 192.168.0.26:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 5ms, Average = 2ms

C:\Documents and Settings\JOHNKIM>
```

If you get time out message at ping test, you should fix this problem before going to next step.

- Check if DVR and computer are in same intranet.
- Check if there are other computers or devices that have same IP address in same intranet.
- Check if IP address, subnet mask and gateway address are correct.

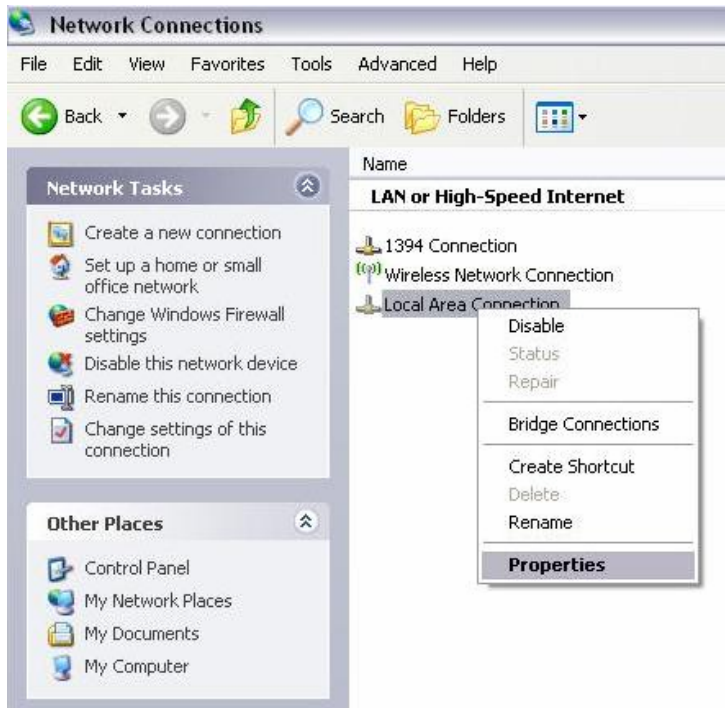
## 2. Direct ping test without Router

You can do ping test simply with direct connection between PC and DVR. If it fails, please check your intranet (LAN) configuration.

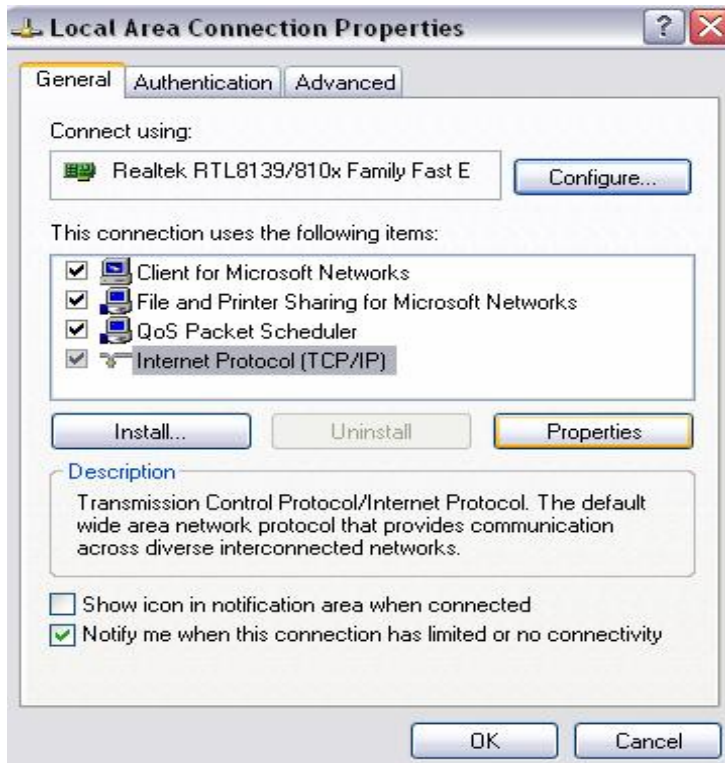
- Connect PC and DVR using Crossover LAN cable (usually orange color).



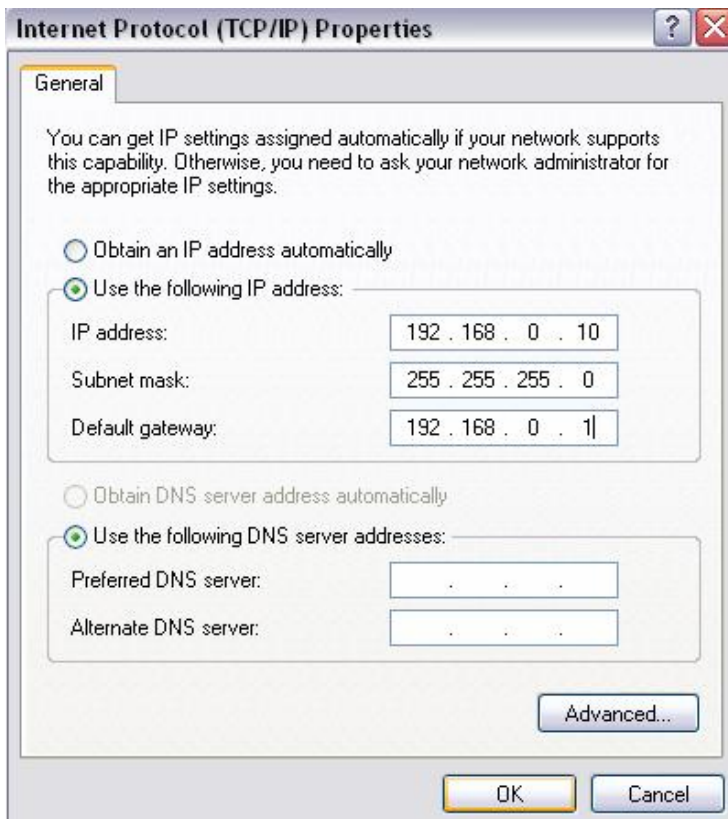
- Set IP address, Subnet mask, and Gateway address of your PC.



- Open Network Connections
- Select Properties of Local Area Connection



- Select Internet Protocol (TCP/IP)
- Select Properties



- Click on Use the following IP address
- Type in Subnet mask and Gateway address of DVR into these fields.
- Type in IP address like example.

- Do ping test again.  
With the test result, you can figure out whether or not the setup has been successful.



## Terms / Icons Glossary

Composite Video - A format of an analog television (picture only) signal before it is combined with a sound signal.

DHCP - Dynamic Host Configuration Protocol. A network application protocol used by devices to obtain configuration info for operation in an internet protocol network. Also a source of IP addresses.

DSL - Internet connection that can be used at the same time and on the same telephone line with a regular telephone.

Dynamic IP Address - IP address used when a computer's IP address is assigned automatically and can change.

Fps - Frames per second.

H.264 - The latest block-oriented motion-compensation-based codec standard for video compression.

IP- Internet Protocol. A set of rules used for communicating data across a packet-switched internetwork) for communication between its nodes

IP Address - Internet Protocol Address. A numerical identification and logical address that is assigned to devices participating in a computer network utilizing Internet Protocol (IP).

LAN - Local area network. A computer area that is limited to a particular space or area.

NTSC - The analog television system that is used in most of the Americas, Japan, South Korea, Taiwan, Burma, and some Pacific island nations and territories. Also the name of U.S. standardization body that adopted the National Television System Committee broadcast standard.

PAL - Phase Alternating Line. An analogue television encoding system set in broadcast television systems in large parts of the world.

Pentaplex - Multi-channel DVRs that can monitor and record up to 16 separate cameras.

PIP - Picture in Picture.

PPP - Point-to-Point Protocol. A data link protocol commonly used to establish a direct connection between two networking nodes. It can provide connection authentication, transmission encryption privacy, and compression.

PPPoE - Point-to-Point Protocol over Ethernet. A network protocol for encapsulating Point-to-Point Protocol frames inside Ethernet frames.

PTZF - Pan, tilt, zoom, focus.























S-Video - Analog video signal that carries the video data as two separate signals: luminance & chroma. S-Video carries standard definition video but does not carry audio on the same cable.

Static IP Address - IP address used when a computer is configured to use the same IP address each time it powers up.

VGA - Video Graphics Array. The lowest common denominator that all PC graphics hardware supports. Allows the computer to project onto the monitor

WAN - Wide area network. A computer area that covers a broad area.

## DVR Icon Reference

	REGULAR RECORDING Icon indicates manual recording is set		PTZ SET - Icon indicates PTZ function is available
	SCHEDULE RECORDING Icon indicates recording is set to record according to schedule		PTZ- Icon indicates that PTZ function has been activated
	EVENT RECORDING Icon indicates that Event Recording has been activated		SENSOR EVENT (ALARM IN)-Icon indicates Sensor Event (Alarm In) has been activated
	AUTO SEQUENCE-Displays channels in sequential order		LOG ON- Indicates you are already logged on
	NO DISK-There are no HDDs installed		AUDIO ON- Indicates audio is currently on
	DISK FULL-HDD storage is full and will not record		AUDIO OFF- Indicates audio is currently turned off
	DISK ERROR- There is an error on HDDs.		EVENT MONITORING- When an event has occurred, the icon will display on the screen
	FREEZE-Icon indicates Live image is in freeze mode		TWO WAY AUDIO-Allows two way communication from your PC to camera.
	RECORDING- DVR is in recording mode		CAPTURE-Allows to capture image in Live or Playback mode
	ZOOM-IN- Allows user to enlarge specific area of the video		PROCESSING BACKUP- Data is currently being backed up
	MOTION EVENT- Icon indicates that an event has taken place and is recording		PROTECT-It protects recorded data from HDD overwriting.



**1080p AHD 4/8/16CH  
Digital Video Recorders**

REV.A