

# Digital Video Surveillance System

## User Manual

- ※ The picture might differ according to the specification and model.
- ※ Contents of this user manual are protected under copyrights and computer program laws.

### DVR Manual

<b>1<sup>st</sup> Edition</b>	<b>:</b>	<b>28 Oct 2013</b>
<b>2<sup>nd</sup> Edition</b>	<b>:</b>	<b>3 Dec 2013</b>
<b>3<sup>rd</sup> Edition</b>	<b>:</b>	<b>20 Jun 2014</b>
<b>4<sup>th</sup> Edition</b>	<b>:</b>	<b>4 Sep 2014</b>
<b>5<sup>th</sup> Edition</b>	<b>:</b>	<b>10 Dec 2014</b>
<b>6<sup>th</sup> Edition</b>	<b>:</b>	<b>11 Oct 2016</b>
<b>7<sup>th</sup> Edition</b>	<b>:</b>	<b>27 Nov 2019</b>
<b>8<sup>th</sup> Edition</b>	<b>:</b>	<b>17 Feb 2021</b>

**Thank You !**

Before operating the system, please read this User Manual and retain it for future reference.

# WARNING

TO REDUCE FIRE OR SHOCK HAZARD,  
DO NOT EXPOSE THE UNIT TO RAIN OR MOISTURE.

The installation should be made by a qualified service person  
and conformed to all local codes.

## Cautions

### Read Before System Operation

Follow these details to prevent material damage or personal injury.

### Signs of Caution and Warning



**Warning:** This sign indicates that the user could die or be seriously wounded if not used or installed properly.



**Caution:** This sign indicates that the user could be wounded or could expect property damage if not used or installed properly.



**Warning:** Do not expose the product to fog, rain or too much humid to decrease danger from electric shock or fire.

### General Warning



#### Warning

1. Use the power cord, which is supplied or recommended by the supplier, or it may cause fire.
2. Do not disassemble or reassemble the product.  
It may cause malfunction or fire.
3. Enquire to your vendor for repair.  
It may cause electric shock or fire if the repair is not done properly.
4. Do not touch the product with wet hands.  
It may cause malfunction or electric shock.
5. Product installation must be ensured to a professional for product installation, or it may cause malfunction, electric shock or fire.
6. Ground applies to video products equipped with a 3-wire grounding type plug having a third (grounding) pin.  
This plug only fits into a grounding-type power outlet.  
If grounding is not done, it may cause malfunction or electric shock.
7. Ground connection must not touch gas pipe, water pipe or telephone line.  
If grounding is not done properly, it may cause electric shock.
8. Prevent metallic foreign substance from going inside the product.  
It may cause malfunction or electric shock.
9. Do not spray insecticide or flammable spray while driving. It may cause fire.
10. Place the system in an open place where air ventilation is guaranteed, or it may cause over-heating and seriously damage the system to be fired.
11. Prevent water from instilling inside electrical parts.  
Clean with a dry towel or malfunction or electric shock could result.



#### Caution

1. Use the power cord, which is supplied or recommended by the supplier.  
The internal fan rotates at high speed and may cause an accident.
2. Do not drop, give strong vibration, or shock to the product.  
It may cause malfunction.
3. The air inhaler of the front panel and air outlet of the back panel must not be blocked during installation.  
The internal temperature of the product would be greater than allowable and could cause malfunction or fire.
4. Do not touch the product or the power cord when there is thunder.

It may cause electric shock.

5. Do not install the product near or on top of heating source.

The internal temperature of the product would be greater than allowable and could cause malfunction or fire.

6. Do not install the product on inclined or unstable location or where vibration could be committed.

It may cause malfunction.

## Cautions about the Power



### Warning

1. Must use the outlet of the grounding to connect the power cord, or it may cause fire.
2. Do not connect on the middle of power cord or use extension cord.  
It may generate heat or cause fire.
3. Do not touch the power cord with wet hands.  
It may cause electric shock.
4. Keep power cord dry and protect from humidity.  
It may generate heat or cause fire. The power cord is not waterproof.
5. Hold the body of the plug while removing the power plug.  
Do not pull the power cord. Damage to the power cord may generate heat or cause fire.
6. Check the power plug regularly.  
Humidity and moderation in smoking may cause fire.
7. Remove power cord from outlet when product is not used for a long time.  
It may cause short-circuit or electric shock.



### Caution

1. Do not turn off the power by removal of the power plug.  
To turn off the power, click the power button from the front panel.  
When the system stops abnormally, the power button might not work. Click power button for 5 full seconds to turn power off.
2. Do not cut off the power artificially, or give shock or vibration to unit while the hard disk is activating.  
It may cause hard disk failure or loss of data.



### Remarks

- ※ Pictures and buttons are subject to be changed or modified up to different models.
- ※ Function or configuration is subject to be changed or modified without prior notice for improvement of the product.




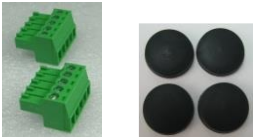
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## 1. Getting Started

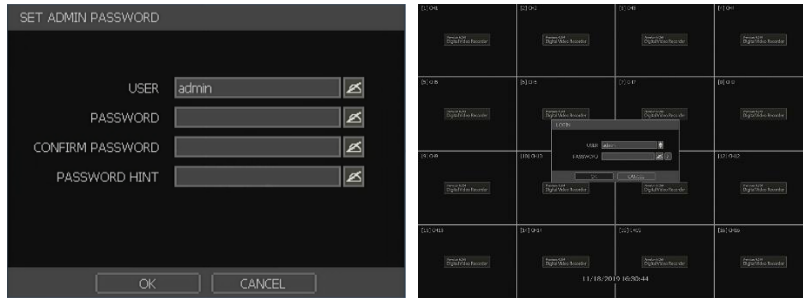
### 1.1 Checking Supplied Items

Make sure that you have following items supplied with your DVR. If any of these items is missing or damaged, notify your vendor immediately. Keep the packing utilities for moving or storage purposes afterwards.

Items	Photo	Quantity
User Manual and Remote Software	 <p>(*) Quick Manual and CD</p>	1 Set
12V D/C Adaptor & Power Cable	 <p>(*) Adaptor and cable may differ depending on the DVR model</p>	1 Set
USB mouse	 <p>(*) Type of controller may differ depending on the DVR model and can be replaced by USB Mouse.</p>	1 Set
Rubber Mount	 <p>(*) Packed goods may differ depending on the DVR model</p>	1 Pair (4 Pieces)

### 1.2 System Startup

After connecting all external devices to the DVR, power up the DVR by connecting power cable to the power jack on the rear panel. The boot logo will display. Please wait until the boot process completes.



When the system starts, the PASSWORD CHANGE window will be displayed. User can set the password for any available user. Or click "OK" to keep the default password as empty (no password). To login, right-click anywhere on the screen and enter the username and password in the popup screen (default admin username / password: admin / no password). There is only one administrator account configurable in the DVR. It is assigned with an unchangeable user ID marked as "admin". The default password is empty (no password). Administrator account has full access to the DVR and its configurable parameters and can also create new users and assign rights to new user accounts.

If the DVR is set to AUTO LOGIN, login process is not necessary.

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**Caution** 1) If the network configuration is set to DHCP mode but there is no DHCP server in the network or the network is not connected it may take a few minutes to start the system after turning on the power.

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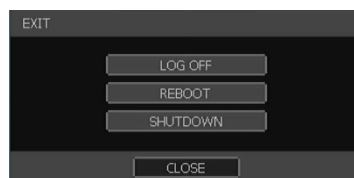
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**Note** 1) Do not forget the administrator's password that was set for the first time. In case the password is forgot, contact your local dealer for help.  
2) Refer to the "Section 4.1.2 User" for AUTO LOGIN and AUTO LOGOFF.

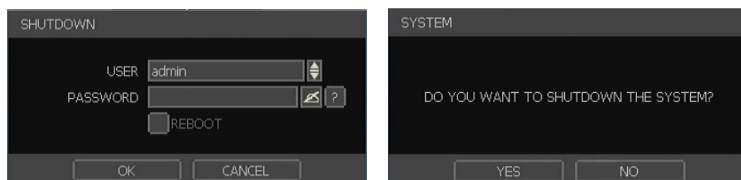
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### 1.3 System Shutdown

To turn the DVR's power off, click the exit button  on the tool bar and [SHUTDOWN] in the pop-up screen as below. Do not turn off the power by unplugging the power plug.



Enter the password and click [OK] to shut down the system. Click [YES] to confirm and turn the OFF button on the back side of the device for complete shutdown.




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**Note** User can input password by virtual keyboard or IR remote-control (if available).

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## 1.4 System Explanation

### 1.4.1. Front Panel

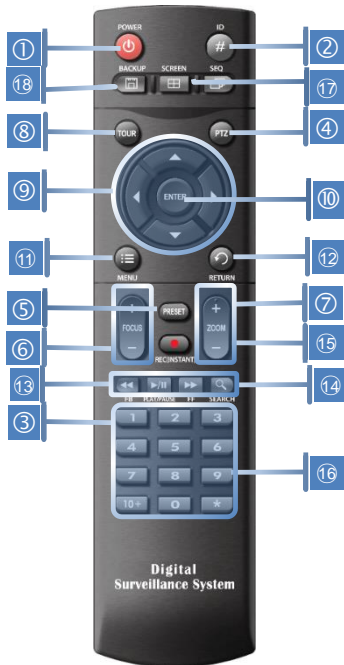


❖ Front Panel may differ depending on the DVR model.

- ① USB Port : For backup, upgrade and so on.
- ② LED Indicator : Indicates system status.(Power, Record and Network status)
- ③ Power button (On the back side)



### 1.4.2. IR Remote Controller (Optional Item)



- ① Power : System ON/OFF
- ② DVR ID Selection
- ③ Numeric Button : Channel selection or Password input
- ④ PTZ Button
- ⑤ Preset Button : Select Preset on PTZ mode
- ⑥ Focus Button : Focus IN/OUT on PTZ mode
- ⑦ ZOOM Button : Zoom IN/OUT on PTZ mode
- ⑧ Preset Tour : Tour ON/OFF on PTZ mode
- ⑨ Direction Button
- ⑩ Enter Button
- ⑪ Menu Button
- ⑫ Return Button
- ⑬ Playback Button on Search mode
- ⑭ Search Button
- ⑮ Emergency Recording Button
- ⑯ Auto-Sequence Button on Live mode
- ⑰ Screen Mode Button
- ⑱ Backup Button

\*\* The type of remote controller may differ or change depending on the DVR model.

User must setup REMOTE ID to match with the ID setting of IR remote controller, if user wants to use it to control DVR.

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**Note** User can control multiple DVRs with one IR Remote Controller.  
In order to control multiple DVRs, each DVR has different Remote ID.  
(The initial ID is set as "0".)

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**Note To setup the ID # in IR Remote Controller**

- 1) Keep pressing ID selection button (②) for about 5 seconds.
  - 2) Set the ID number by pressing numeric button on IR Remote Controller.  
ID number is available from 000 up to 255.
  - 3) You have to press numeric button as three-digit number format.  
For example, press "000" for 0, "023" for 23, "234" for 234.
- 

### 1.4.3. Tool Bar on Live Mode

In live view, move the mouse cursor to the bottom of the screen to show the menu bar.



**Menu Button**



Click on the menu button to access the DVR's main menu screen. User can make the overall setting for DVR. (Please refer to the "4. Setting" for details.)

### Screen Display Mode

Select the display split mode from the available options. Select 1, 4, 6, 9, 10, 13, 16ch mode. Available options may differ based on the model.

### SEQUENCE Mode

Start and stop sequence mode in live mode. Sequence is disabled if all channels are displayed.

### Channel number

Switch to single channel view of a specific channel by pressing the corresponding number.

### Emergency Recording

The system records all channels with full frame rate at the maximum resolution regardless of recording mode setting. To stop emergency recording, click the same icon again.

### Export

Backup the recorded image to external device with this button. (Please refer to the “4.6 Export” for details.)

### Playback

Switch to playback mode. (Please refer to the “3.4 Playback Recorded Image” for details.)

### Search

Open the search options on the screen. (Please refer to the “3.5 Search Recorded Image” for details.)

### Exit

Exit the DVR with three different options: Log Off, Reboot and Shutdown.

### Pin

When selected, the DVR's menu bar will be displayed on the screen permanently, regardless of the mouse's position.

#### 1.4.4. Tool Bar on Playback Mode

On Playback mode, the following menu is shown on the screen.



### Channel

Indicate the currently selected channel number.

### Intelligent Search Bar

Shows the recording status for the selected channel from 00:00 to 24:00. White-vertical line indicates the time currently displayed. Moving the white-vertical line will update the video shown.

### Previous / Next Date

Move to a previous date or the next date to search.

### Playback Control



: Playback speed control. (x32 / x16 / x8 / x4 / x2).



: Move backward one frame



: Stop button



: Play button



: Move forward one frame



: Playback speed control. (x2 / x4 / x8 / x16 / x32)



: Current playback speed

### Screen Display Mode

Select the display split mode from the available options. Select 1, 4, 6, 9, 10, 13 or 16ch mode. Available options may differ based on the model.

### Export

Backup the recorded video to an external devices. (Please refer to “4.6 Export” for the details.)

### Playback

Switch to playback mode. (Please refer to “3.4 Playback Recorded Image” for the details.)


### Exit

Close playback mode and move to live mode.

### Pin

When selected, the DVR's menu bar will be displayed on the screen permanently, regardless of the mouse's position.

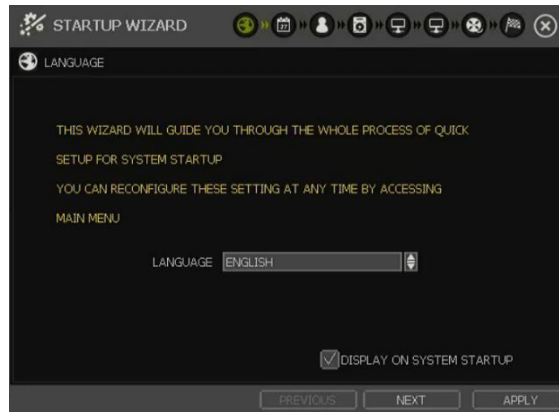
## 2. Startup Wizard

When the DVR is launched for the first time, the STARTUP WIZARD will appear. This wizard helps you setup the DVR's most basic settings for proper functioning. You can access the startup wizard any time by clicking the startup wizard [] button in MENU > SYSTEM > SETTINGS. (See section 4.1.5 Settings).

### 2.1 Language

Select the language according to the country or user's preference.

If “DISPLAY ON SYSTEM STARTUP” is selected, startup wizard will pop up every time the system is started.



## 2.2 Date/Time

Select the DVR's date and time format, select the time zone, enable or disable daylight savings and sync the DVR with an NTP server or manually enter the date and time. You can also select to sync the DVR with an NTP server, which will automatically sync your DVR's date and time settings.



### TIME SYNC MODE

There are three types of time sync mode:

- Server Mode: The operating DVR is set as a time sync server, which can synchronize the time other DVR(s) connected over the same network.
- Client Mode: Input the IP address of a designated DVR or remote software CMS as a time sync server in "SYNC SERVER". The DVR's time clock will be synchronized with the server by interval time set in "TIME SYNC CYCLE".
- NTP Mode: "pool.ntp.org" is the recommended NTP server. To activate, set the TIME ZONE of your local area and then click [SYNC NOW].

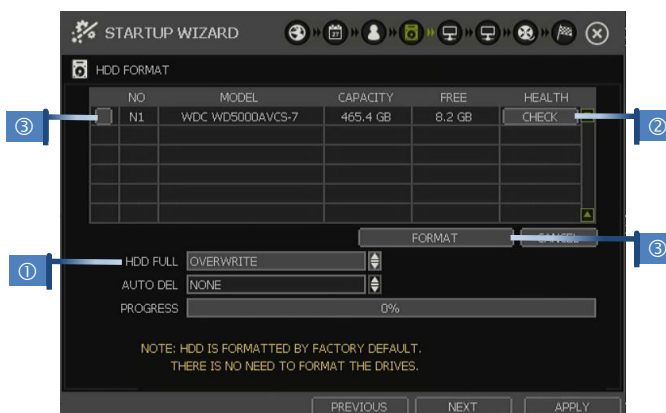
## 2.3 User

The ADMIN user (default password is no password) has full authority for system setting and can change the system password or add / delete users and assign different permission level to them. And setup auto login / auto logoff / after logoff.



**NOTE** 1) See section “4.1.2 User” for more information.

## 2.4 HDD FORMAT



### HDD FULL (①)

User can select “Overwrite” or “Stop recording” when HDD is full.

- Overwrite : DVR deletes the oldest data and record new data.
- Stop recording : DVR stops recording.

### HDD CHECK (②)

Click [CHECK] (CHECK) next to each HDD to view full information of each HDD such as model name, serial no, capacity, bad sector ratio, life time (used time) and temperature.



### HDD FORMAT (③)

Check the box next to the HDDs you wish to format and press the “FORMAT” button. If system resources are occupied such as network connection during format process, the format process may be failed. In this case, it is recommended to reboot the system to release system resources and then try to format again.



- Note**
- 1) It may take a few minutes to format HDD.
  - 2) When the format is done, all data in the HDD will be deleted.
  - 3) The system always reserves some space in each built-in HDD to effectively utilize archiving memory.

## 2.5 Network

DVR can be connected to network or internet through either fixed IP or dynamic IP by proper setting of DVR and router.

The screenshot shows the 'STARTUP WIZARD' interface with the 'NETWORK' tab selected. The configuration fields are as follows:

- NETWORK TYPE: DHCP (with an 'IP DETECT' button)
- IP ADDRESS: 0.0.0.0
- SUBNET MASK: 0.0.0.0
- GATEWAY: 0.0.0.0
- DNS SERVER: 0.0.0.0 (with a 'PING TEST' button)
- TCP/IP PORT: 9010
- WEB PORT: 80
- AUTO IP: 169.254.12.5
- BANDWIDTH LIMIT: 100 Mbps(bits/sec)
- USE UPNP PORT FORWARDING: (unchecked checkbox)

Navigation buttons at the bottom are 'PREVIOUS', 'NEXT', and 'APPLY'.

### NETWORK TYPE

Select either STATIC IP or DHCP for dynamic IP.

If DHCP is selected, the DVR will automatically configure the network settings according to the current network requirements. If DHCP is selected, click "IP DETECT" button to detect automatically all the network settings.

If Static IP is selected, manually enter all necessary network settings. For proper configuration, it is recommended to assign the DVR a DHCP address and let it auto discover all the proper network settings, and then change the Network Type back to Static IP and save the changes

### IP ADDRESS

Displays the DVR's IP address. If DHCP is selected, the IP address will automatically adjust to match the network's requirements. You can also manually change the IP address as needed.

### SUBNET MASK

Subnet Mask address classifies the subnet that the system belongs to. For more information, please consult your network administrator or your internet provider.

### GATEWAY

This is the IP address of the router or gateway server. It is required when connecting to the DVR through the external router over the internet (from another network). For more information, consult your network administrator or your internet provider.

### DNS SERVER

Enter the IP address of the Domain Name Server. You should input the DNS Server information in order to use DDNS, E-mail notifications and NTP Server. For more information, please consult your network administrator or your internet provider.

### TCP/IP PORT

Input the port number to use when connecting to the DVR locally or remotely. Default is 9010.

## WEB PORT

Input the port number to use when connecting from the Web Browser. Default is 80. If your ISP blocks the port # 80, you need to input another valid web port number (ex, 8080).

## BANDWIDTH LIMIT

Depending on the setting made by user, the system can control the data volume transmitted over network ranging from 25 kbps up to 1Gbps. This function is effective especially under narrow bandwidth network condition or when user wants to limit "network bandwidth occupied by video transmission" to a certain level. Default is 100 Mbps.

## UPnP (Universal Plug and Play)

UPnP is a plug-and-play feature that allows the DVR to be automatically discovered by a PC on the same network. To locate the DVR, go to "My Network" on your PC. The computer will scan your network for all supported devices. The first five characters of the file name of a detected DVR represent the model number, followed by the DVR's IP address

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**Note** The maximum number of simultaneous connection is 15 users.  
For the other network settings, such as DDNS, Notification, Mobile Push & P2P Cloud, please refer to the "4.5 Network".

---

## 2.6 DDNS

User can use either a public DDNS server or the DDNS server operated by DVR maker (dynlink.net) to connect through dynamic IP.



Input necessary information based on your network environment

- Enable Use DDNS box
- DDNS SERVER: Select DYNLINK.NET
- TCP/IP PORT: Default is 80.
- DOMAIN NAME: Assign a domain name for your DVR (ex, DVROFFICE). If the same domain name is assigned, the message will pop up when you click [CHECK]

## 2.7 QUICK SETUP

User can make simple recording setting for all channels.

It is to help user make easy configuration for recording resolution, recording speed, recording mode, recording quality and recording periods based on the capacity of HDD installed. Setting in this menu applied to "Menu > Record > Quick Setup" menu (4.4.4 Quick Setup).



### RECORDING SETTING(①)

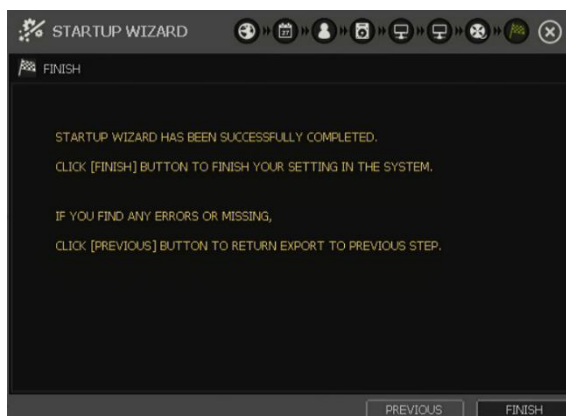
If user selects this, new setting is applied to the camera. If not, new setting is not applied to the camera. User can setup recording resolution, FPS, quality and mode.

### SECOND STREAM (②)

User can setup second stream recording resolution, FPS, quality and mode.

## 2.8 Finish

When the setting is finished, click "FINISH" button to close Startup Wizard.





## 3. Operation

### 3.1 User Log-in

Check the power connection.


Input USER and PASSWORD for login after turning on the system. The factory default of ID is “admin” and PASSWORD does not exist. Admin user is to fully control the entire DVR system by clicking ‘OK’ button.



- 
- Note**
- 1) LOGIN window will be permanently displayed until user logs in with the right USER and Password.
  - 2) If DVR is set as AUTO LOGIN, login process is not necessary.  
(Please refer to the “4.1.2 User” for details )
- 

### 3.2 Live Display Mode

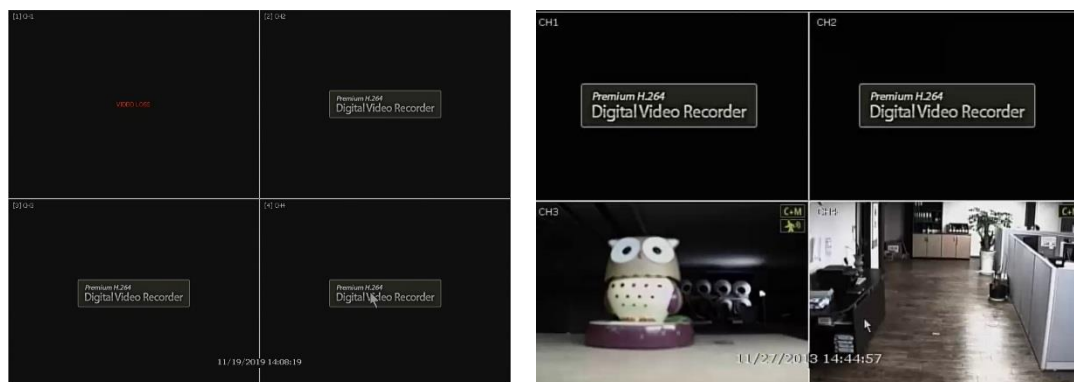
#### 3.2.1. Channel Selection

Live image can be seen by easy button operation after power-up. The images can be seen in 1, 4, 6, 9, 10, 13 and 16 screen splits (some split options may not be available according to the DVR’s number of channels). Whenever the up/down on IR remote controller is pressed, and whenever the screen display mode button (  ) on the tool bar is clicked, the screen will change to display the next channel or sequence of channels.

To switch from a multi-channel view to a single camera, click on the selected channel. To return to previous screen mode, click of the left mouse button again.



















“VIDEO LOSS” is shown on the display screen when no camera is connected or disconnects suddenly. When a camera is disconnected, a warning sound shall be generated depending on the system setting.

Admin users can set different level of authorization for each user, granting them specific access to specific channels. If a certain user is not authorized to view a channel, no image is shown on the display screen as below.



#### 3.2.2. Icons

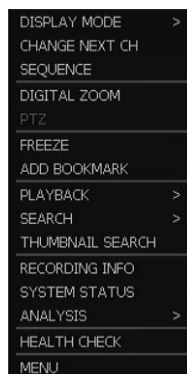
In real time live mode, icons or messages will be indicated on the screen to notify the system mode or status. Below are the icon categories, which are indicated on the monitor.

Icon to be shown at right-upper corner on each channel screen		Icon to be shown at right-bottom corner on full screen	
	Continuous Recording		No HDD.
	Motion Detection Recording		Using Emergency Recording
	Sensor Activating Recording		Using PTZ
	Continuous + Motion Alarm Recording		Warning for exceeding temperature
	Continuous + Sensor Activating Recording		Showing sequence mode
	Motion Detection + Sensor Activating Recording		Showing digital zoom mode
	Emergency Recording		
	Sensor Activated		
	Motion Detected		
	Audio Channel		
	PTZ Camera		
	POS		

**Note** If you cannot find any recording icon in the right corner of screen, the system is not recording. Check the recording schedule or camera in the main setup menu.

### 3.2.3. Pop-up Menu

User can click the right button of the mouse to pop up sub-menu as below. If user want to control a specific channel, put the mouse cursor on that channel and then click the right button.




#### DISPLAY MODE

User can change screen display mode from the available split options (1, 4, 6, 9, 10, 13, 16 split option).


#### CHANGE NEXT CH

View the next channel or next group of cameras in the current split mode. (Ex. Shows 5~8ch after 1~4ch.)

## SEQUENCE

When "SEQUENCE" is selected,  icon will appear on the right-bottom corner of the screen. Display screen will be sequentially changed.

## DIGITAL ZOOM

- Digital zoom is available in single channel view only. When "ZOOM" is selected,  icon is shown on the right-button corner of the screen and digital zoom control is available. (It is different from the zoom by PTZ.)
- To zoom-in, drag the mouse's cursor on the desired area to create a zoom square. You can also control zoom-in & zoom-out by mouse scrolling the mouse's wheel up and down. Once the image is zoomed-in, user can move the zoom area by clicking on the edge of the square and dragging it.
- To exit from the zoom mode, click the right button of the mouse and select "ZOOM EXIT" in the menu.

## PTZ


Enable PTZ mode. Please refer to "3.3 PTZ Operation" for detail. The available PTZ options depend on the camera's settings. See the camera's manual for more information

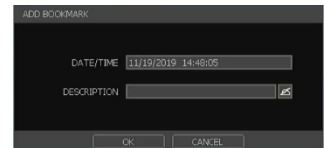
## FREEZE

Freeze the current live view. System clock (date/time information) will continue running at the bottom of the screen. Select FREEZE again to resume the live view.

## ADD BOOK MARK

User can add bookmark with description on the currently displayed image.

When the bookmark menu appears, enter a description with  button and click OK to save.



## PLAYBACK

Select a specific prior time (10sec. / 15sec. / 30sec. / 60sec. / 2min. / 3min. / 5min.) to instantly switch to playback mode.

## SEARCH

Search recorded video using the Calendar, Date/Time, First Data, Last Data, System Log, Event Log, Transaction Verification and Bookmark options. (Please refer to "3.6. Search Recorded Image" for details.)

## THUMBNAIL SEARCH

Search recorded video in thumbnail search modes. (Please refer to "3.5.9 Thumbnail Search" for more information.)

## RECORDING INFO

Check the recording status of the DVR, such as Recording Period, Daily Recording Size (Average), Recording Days and Remaining Recording Days.

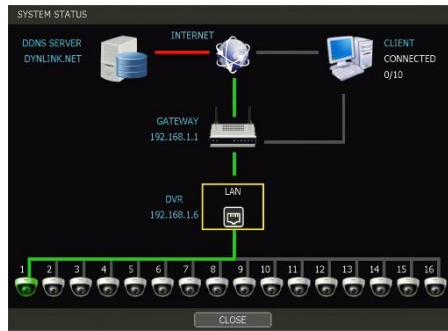


RECORDING INFO	
RECORD PERIOD	11/19/2019 ~ 11/19/2019
DAILY REC. SIZE (AVG.)	7.85GB
CURRENT RECORDING DAYS	1 DAYS
REMAINING REC. DAYS	64 DAYS

CLOSE

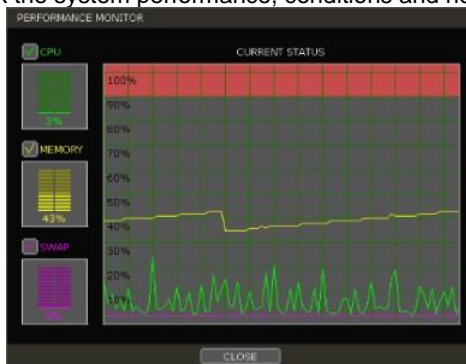
## SYSTEM STATUS

See the system status, including information on the network condition, number of clients currently connected to the DVR etc. A green line means the connection is live and working.



## ANALYSIS

Check the system performance, conditions and network conditions for the entire system.



[Performance monitor]



[Network monitor]

## HEALTH CHECK

Display the information of DVR system, network, camera, HDD as text.

Select which information to display and setup check cycle time.

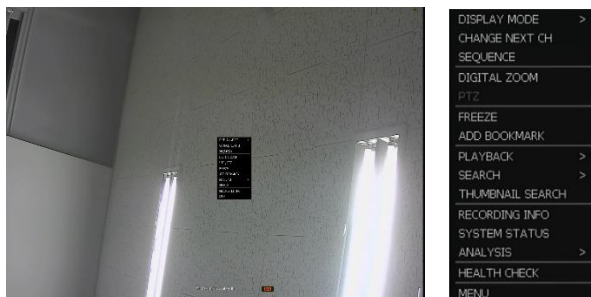
## MENU

User can open main menu setup screen.

## 3.3 PTZ Operation

In order to operate PTZ, the channel which is connected by PTZ should be in full screen mode.

User can get into PTZ mode by right-clicking the mouse button and selecting "PTZ" in the pop-up menu as below. When it is in the PTZ mode, **PTZ** icon is shown on the right-button corner of the screen.



### PTZ Control

In PTZ mode, user can control PTZ camera using the USB mouse. While pressing the left button, drag the mouse cursor up/down or left/rightward to move the camera's pan/tilt position. The further away from the center the mouse's cursor moves, the faster the PTZ camera will move.

To move the camera to a preset position, click the preset position number in the bottom of the screen to move the camera accordingly. The presets must be set prior to selection.



**Note** Full PTZ functions are available by using USB mouse, IR remote control, or keyboard controller.

### ZOOM/FOCUS

Move zoom-in/out by rolling the wheel of mouse to up/down. If mode is changed to "Focus", the camera's focus can be controlled by rolling the wheel of mouse.

### PRESET

When the preset menu pops-up, select the preset number and click "Enter" button to move to the corresponding preset position.

Maximum Preset number is 255 (It can be restricted by the number that PTZ camera supports).



### GUARD TOUR

When enable, User can automatically switch PTZ camera position according to the sequence of preset setting by using GUARD TOUR function, though the connected PTZ camera does not support it. "GUARD TOUR" on the pop-up menu can be enabled after changing to full screen for the channel that the PTZ camera is connected to. Please make sure that PTZ camera setting is correct, otherwise, "GUARD TOUR" is shown as disabled. (Please refer to "4.2.3 PTZ" for setting.)

### CONTROL

Go to PTZ control menu. Please refer to "4.2.3 PTZ" section.

### PTZ EXIT

Close PTZ control mode.

**Caution** User can set interval for each preset position.

Depends on PTZ camera, some preset positions might be skipped in the case the camera cannot mechanically move or control focus within the interval time. In this case, it is recommended to make setting of interval time a little longer.

## 3.4 Playback Recorded Images

To playback recorded image, press Play button from the IR Remote Controller or playback icon (⏮) in the menu bar. When the DVR transitions to playback mode, it automatically playback the latest recording image.



### Date/Time (①)

Shows date & time of the image that is being displayed.

### Tool Bar (②)

Contains playback control, recorded data check, screen mode etc. (Please refer to “1.4.4. Tool Bar on Playback Mode” for detail.)

### Pop-up Menu (③)

- ◆ Display Mode : Change display mode (1, 4, 9, 10, 13, 16 screen mode)
- ◆ Change next CH : Change to next playback channel
- ◆ Digital zoom : Enable or disable digital zoom (available in single channel view)
- ◆ Export : Open the Backup window
- ◆ Search : Search recorded data by various conditions  
(Please refer to “3.6 Search Recorded Image” for detail.)
- ◆ Thumbnail Search : Search recorded data with thumbnail search. Please refer to “
- ◆ Live Mode : Go to Live mode

### Exit Playback Mode (④)

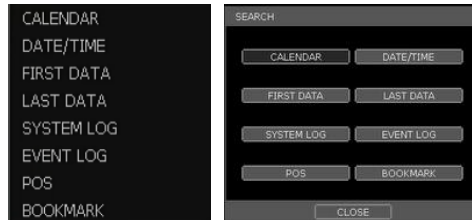
Clicking the exit icon  in the menu bar will return you to live view.

### 3.5 Search Recorded Image

Search recorded image by date and time, first and last data, events, bookmarks etc.

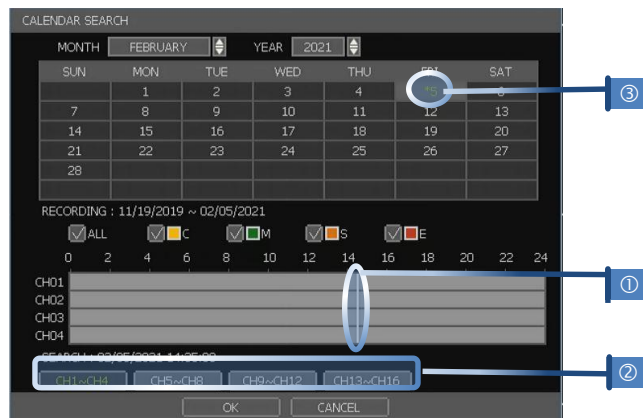
**Note** To enter the search options menu:

- ① In Playback mode, right click to open the Pop-up menu and select the search menu.
- ② In Live mode, press the Search button  in the tool bar at the bottom of the screen.



#### 3.5.1. Calendar Search

To search data for a specific date and time, select date and time.



Move the white-vertical line (①) to the time that user wants to search.

The colors of the time bar are different by each recording mode. Able to search data according to the type of recording mode. The time bar displayed four channels at a time. To check another channel group, select group button on the bottom of the window (②).

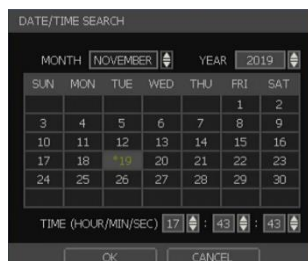
“\*” mark on dates (③) indicate days with recorded video available.

#### 3.5.2. Search Date/Time

Enter the desired date and time in the calendar screen.

Use the arrow button or mouse to move to each day/month/year and time category for selecting second / minute / hour / month / year.

Days with recorded data will be highlighted in green and “\*” next to them.



### 3.5.3. First Data

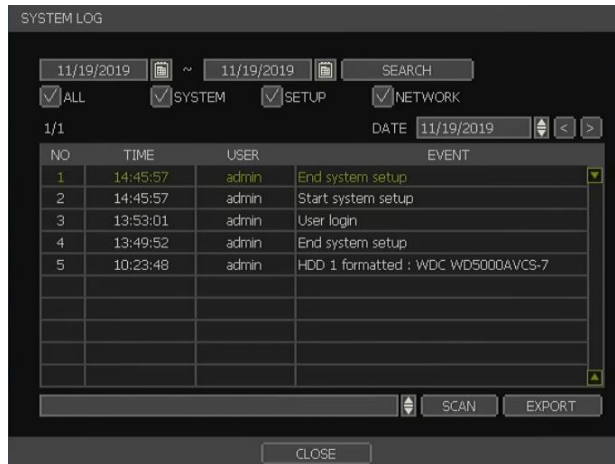
Go to the first screen of the recorded image. This is the oldest image recorded.

### 3.5.4. Last Data

Go to the last screen of the recorded image. This is the latest image recorded.

### 3.5.5. System Log

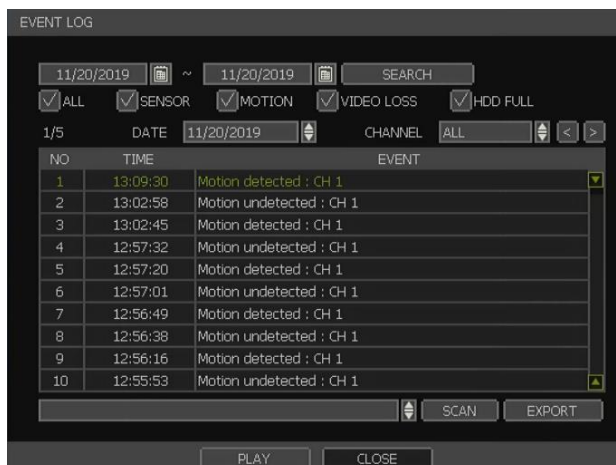
The system log search is used to find particular system log information, quickly and easily.



- ① Select date to search.
- ② Select log type to search. User can search individual events or all at once.
- ③ Click [SEARCH] button to show the search results in the list.
- ④ Click [EXPORT] button to copy the list to an external device such as USB flash drive as ".txt" file.
- ⑤ Once export is completed, user can find a date folder created in USB flash drive. There is "system.log" file stored in the date folder.

### 3.5.6. Event Log

Find particular events such as sensor activation, motion detection, video loss, HDD full or keyword.



- ① Select a date to search.
- ② Select log type to search. User can search individual events or all at once.
- ③ Click [SEARCH] button to show the result in the list.
- ④ Click [EXPORT] button to copy the list to an external device such as USB flash drive as ".txt" file.



Search text from a POS integration such as a POS device. Input the search information (channel #, date, time & keyword) and then click SEARCH to view search results. Enter a keyword to filter the results. Click PLAY to go to playback video and transaction data.

[illegible]

Bookmark search allows you to can check, modify and delete bookmarks. Select a bookmark from the search results list and PLAY to display the correspondent video image.

[illegible]

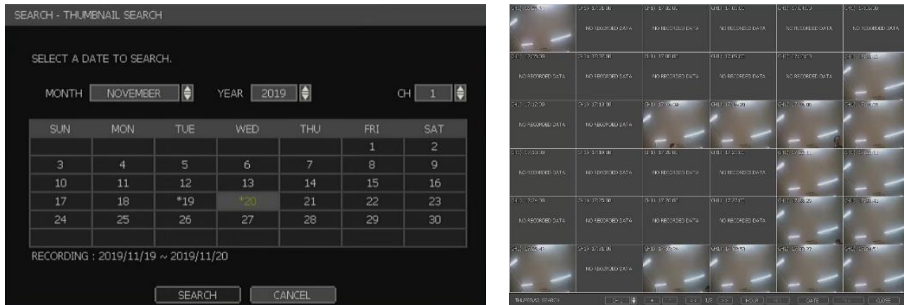
- Right-click on the selected channel and go to Thumbnail Search.
- Select the date you wish to search. Days with recorded video will appear in different color.
- Click SEARCH. The DVR will display 24 screen images (1 hour unit) of the channel on that day.

- Double-click on a specific image, or press the minute button to display 60 screen images (1 minute unit) on that hour.

User can easily & quickly search large amounts of video for specific events with this preview search, allowing you to playback the recorded image of that moment.

The number of thumbnail image and the size of each image can be increased/decreased and the maximum no. is 196(14 x 14), depending on the resolution.


In the preview search mode, user can change search date, display unit (time/minute) and go to playback mode directly.

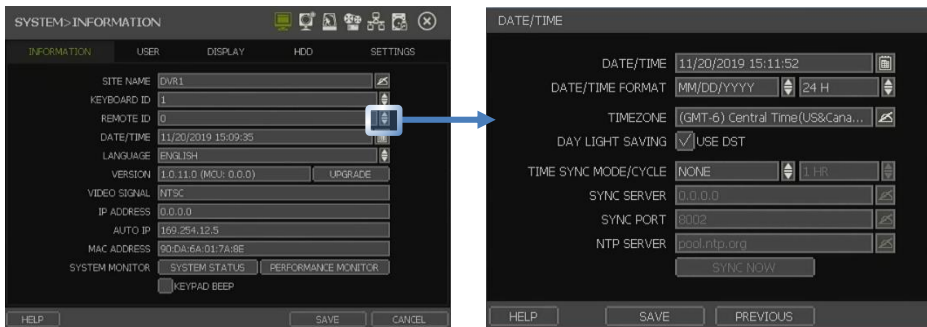


### 3.6 DST Setting and Image Playback

During DST (Daylight Saving Time) period, DVR time clock has to be adjusted according to regional time zone. That is, DVR time clock will be shifted by one hour after DST setting while DVR will restore the time clock to normal after DST finishes.

#### 3.6.1. DST Setting

To enable DST on the DVR, go to the menu of **SYSTEM > INFORMATION** and click "DATE/TIME" . Select "USE DST" to apply DST time change. (Select the proper Time Zone in order to activate DST)



#### 3.6.2. DST Image Playback

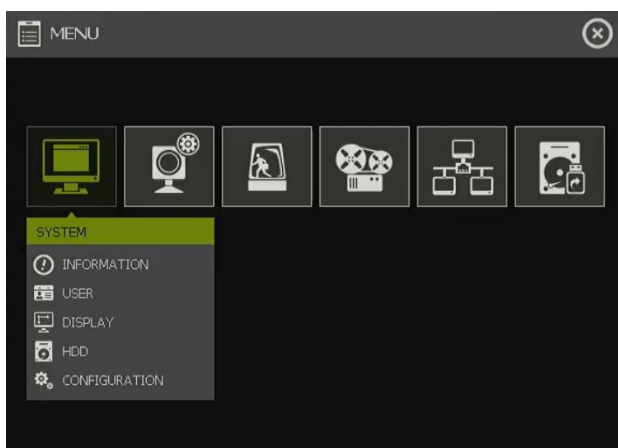
When there is overlapped data due to DST, the overlapping hour will appear blue in the search bar during playback.




To playback data from the overlapped hour, select a time in the intelli-search bar. A "Data Selection" message will appear. Select whether to play DST data or Non-DST data.

## 4. Setting

General setting structure consists of “System”, “Device”, “Event”, “Record”, “Network” and “Export” as below.



Main Classification	Sub Classification
SYSTEM	INFORMATION
	USER
	DISPLAY
	HDD
	CONFIGURATION
DEVICE	CAMERA
	AUDIO
	PTZ
	POS
	KEYBOARD
EVENT	SENSOR
	MOTION ALARM
	EVENT ALARM
RECORD	CAMERA
	SECOND STREAM
	RECORDING SCHEDULE
NETWORK	NETWORK
	DDNS
	NOTIFICATION
	MOBILE PUSH
	P2P CLOUD
EXPORT	EXPORT

To access the setup menu, click the  button in the menu bar or right-click anywhere on the screen and select MENU.

User can move mouse cursor from “System” through “Backup” to instantly look around the sub-menus in the menu screen.

## 4.1 System

### 4.1.1. Information

#### SITE NAME

Enter a site name to differentiate the DVR from other sites.

#### KEYBOARD ID

Setup SITE ID to match the ID setting of keyboard controller, Keyboard model and BUAD RATE must be setup in MENU > DEVICE > KEYBOARD (Please refer to “4.2.5 Keyboard” for detail).

#### REMOTE ID

User must setup REMOTE ID to match with the ID setting of IR remote controller, if user wants to use it to control DVR.

#### DATE/TIME

Using the available options, manually adjust the date and time, select the display mode for the time and the date, and select the appropriate time zone. If applicable, check the “USE DST” box.

There are three types of time sync mode.

- ◆ Server Mode  
The operating DVR is set as a Time Sync Server, which can synchronize the time other DVR(s) connected over the same network environment.
- ◆ Client Mode  
Input the IP address of designated DVR or Remote Software P/C (CMS) as a time sync server in “SYNC SERVER”. The DVR’s time clock is synchronized with the server by interval time set in “TIME SYNC CYCLE”.

#### ♦ NTP Mode

NTP server is one of standard time servers available on Internet and it is recommended to use "pool.ntp.org". To activate, set the TIME ZONE of your local area and then click SYNC NOW. For DST setting, Please refer to "3.7 DST Time Setting".

---

**Note** "HELP" button can help you understand how to setup several important settings. For example, if you need help about how to set Date/TIME, click "HELP" button at the left bottom of the menu.

---

## LANGUAGE

Select the display language from the available options.

DVR supports various languages. If you cannot find your preferred language, please contact your dealer in your area accordingly.

## VERSION

View the DVR's current firmware version and update to a newer version via USB flash memory or an FTP server connection.

---

**Caution** **Do not click CANCEL during firmware upgrade. It may cause serious damage to the system !**

Setting may be changed to factory default. Therefore, it is recommended to check the setting value and operating condition of the DVR after firmware upgrade.

---

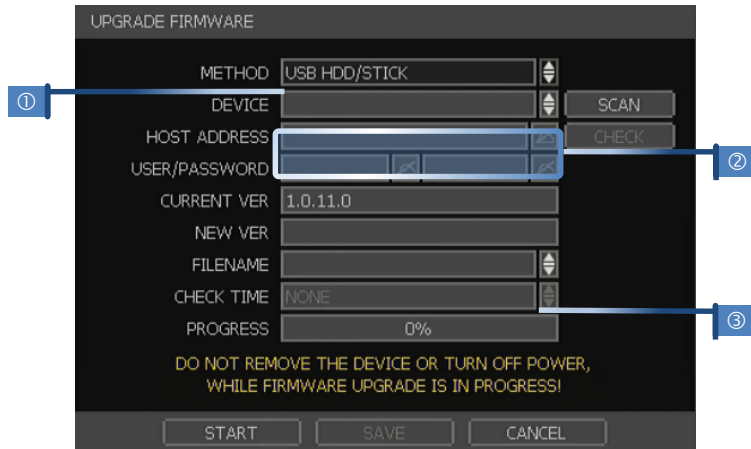
### Upgrading system using USB memory stick:

- 1) Insert USB drive with the firmware file formatted FAT/FAT32 in any USB port of the DVR (compatible with USB 2.0 version).
- 2) Select "USB" from the Method drop down options and press the "SCAN" button.
- 3) Once the system detects the USB drive, it will display the firmware file under "CURRENT VER" and the "NEW VER"
- 4) Click START to begin the upgrade process.

(\*) It is not allowed to use the partitioned USB memory

### Upgrading system using Automatic firmware upgrade through FTP server:

- 1) Select "FTP" in the drop-down options under "METHOD".
- 2) Enter the FTP's address and username and password (these should be filled out automatically).
- 3) Enter the CHECK TIME. The system will automatically check the FTP server for a newer firmware every day at set hour.



- 4) Click OK to proceed automatic firmware upgrade. After completed, the system will reboot Click
- 5) Click CHECK to allow the DVR to connect to the FTP server and check the latest Firmware version. If a new firmware is available, the DVR will ask you whether you want to upgrade it or not.
- 6) Click OK button to confirm and click START to start upgrading

## VIDEO SIGNAL

Check the right video signal (NTSC or PAL) according to the country. This setting should be matched with the NTSC/PAL Selection Switch located on the rear panel. Video images might heavily shake and blink if NTSC/PAL is not properly set.

## IP ADDRESS

Shows the DVR's current IP Address. It can be set at 'MENU>NETWORK>NETWORK'.

## AUTO IP

Shows the DVR's IP address.

## MAC ADDRESS

Shows the unique identity number for the DVR.

## SYSTEM MONITOR

Monitoring the system performance and condition.

## KEY PAD BEEP

User can turn on or off the beeping sound of key pad.

### 4.1.2. USER

The ADMIN user has full authority for system setting, and can change the system password or add/delete users and assign different permission level to them.

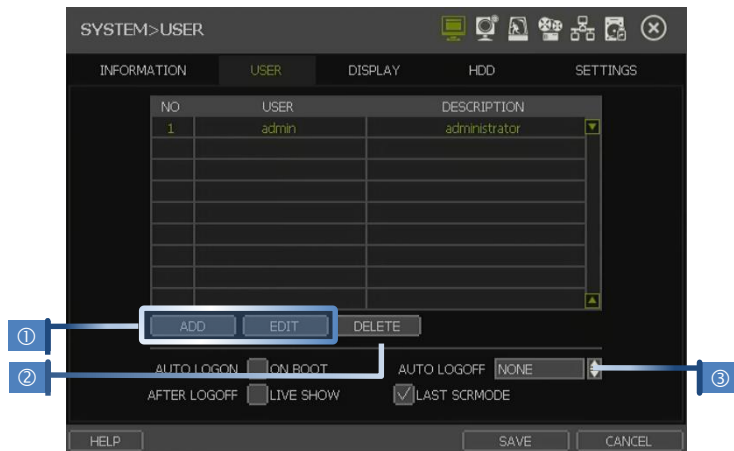
---

**Note** Maximum number of users including administrator is 16.

---

## User Management

Admin user can control authorization for each function. This authorization is applied when the user connects to the DVR from the remote software as well.



#### ① Add User

To add new user, click [ADD] button to open the new window. In this window, admin user can set new user's ID, description, password and select functions/menu access to allow to the new user.

In Live & Playback, only the selected channels are visible to the user. To change the setting, select user and click [Edit] button.

#### ② Delete User

Select user in the list by highlighting their name and click [Delete].

#### ③ Login Option

- If Auto Logon "On Boot" is enabled, the DVR will not request ID and password after power up.
- If "Auto Logoff" is enabled, the DVR will log off the current user after the set time of inactivity.
- If "After Logoff" option is enabled, the DVR will show live screen or last screen mode.



### Setting Authorized Level at Remote Software (UVMS)

Level of authority for the user is linked between DVR and Remote Software. If a user has been restricted in the DVR, those restrictions will also be applied when operating the Remote Software.

#### 4.1.3. DISPLAY

Set the sequence dwell time, display resolution, mouse cursor size, OSD display, spot-out channel & dwell time as below picture.



#### SEQUENCE

Set the dwell time for sequence channel display.

#### DISPLAY RESOLUTION

The system supports the following kinds of video resolutions:

HDMI: 2560x1440, 3840x2160 (4K), 800x600, 1024x768, 1280x1024, 1920x1080

VGA: 1920x1080, 800x600, 1024x768, 1280x1024

SPOT: D1

Set the proper resolution in accordance with the monitor resolution.

## OSD

Select what information will appear over the display by checking the corresponding boxes.

## SPOT OUT

Select channel to be displayed on spot monitor and set dwell time.

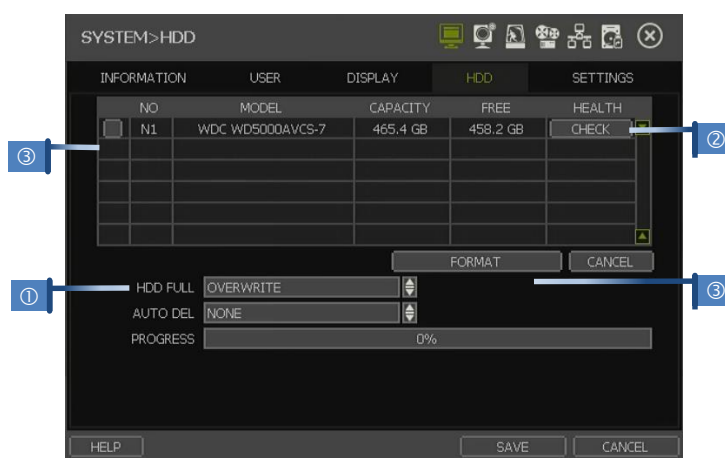
## SCREEN SAVER

The screen saver features protects the screen and data of the DVR by turning off after a set time of inactivity. Set the screen saver's waiting time for when the monitor will automatically turn off. Set in between 1 minute and 180minutes. If applicable, select to log off the current user when the screen saver is on.

## CHANNEL SWAP

Check for swapping the channel by drag and drop

### 4.1.4. HDD



#### HDD FULL (①)

When an HDD is full, select whether to "Overwrite" or "Stop recording".

- Overwrite : DVR deletes the oldest data and record new data.
- Stop recording : DVR stops recording.

#### HDD CHECK (②)

Click [CHECK] button (CHECK) next to each HDD to open the health check window. User can see full information of each HDD such as model name, serial no, capacity, bad sector ratio, life time (used time) and temperature.



**WARNING** To achieve high-level system stability, warning message of high temperature will be popped up when temperature inside the system exceeds optimum range. This problem may be driven from mal-function of ventilation fans. In this case, user shall inspect if the cooling fan is properly working, or ambient temperature around the system is properly kept.



## HDD FORMAT (③)

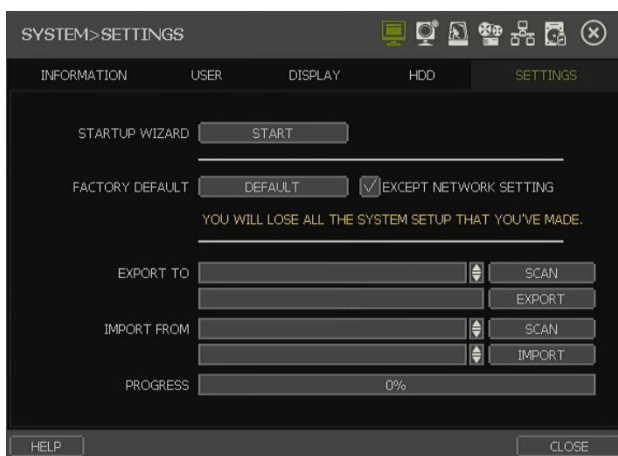
When the new HDD is installed or there seems to be a problem on the HDD, formatting the HDD is recommended.

If system resources are occupied such as network connection while the HDD format is in process, the formatting may be failed. In this case, reboot the system to release system resources and then try to format again.

Select the HDD to format by checking the check box next to the HDD name and pressing the format button. To format HDD, user has to enter a password.

- 
- Note**
- 1) It may take a few minutes to format HDD.
  - 2) When the format is done, all data in the HDD will be deleted.
  - 3) The system always reserves some space in each built-in HDD to effectively utilize archiving memory.
- 

## 4.1.5. SETTINGS



### STARTUP WIZARD

Manually start the startup wizard.

### FACTORY DEFAULT

Reset the system back to its factory default configuration. Once the factory default is done, all the configurations will be deleted and the system setting will return to its original factory default. Recorded video will not be deleted.

### EXPORT TO / IMPORT FROM

Copy the system configuration values from this DVR to save for your records or copy to another DVR.

- Export : Copy the settings of this system to USB memory devices.
- Import : Apply settings from other system DVR via USB memory devices.

During import process, make sure that the F/W version of the sourced DVR is the same as the target DVR's.

## 4.2 DEVICE

### 4.2.1. CAMERA

Set each camera's title, covert channel setting, privacy masks and general camera adjustments.



#### RESOLUTION

Resolution of each camera is shown automatically when the camera is connected.

#### TYPE

Set the camera signal type; Auto, TVI and AHD

#### TITLE

Designate a name for each channel. The name will appear both the DVR and remote software.

#### COVERT

"Covert," also called "hidden camera", hides camera display and playback as if there were no camera recording. Covert settings apply to both Live and Playback view in both the DVR and remote software.

#### ADJUST

Set the camera's brightness, contrast, color etc. Available options depend on the camera's model and features.

- Click [SET] in the 'ADJUST' section to get into the setup screen.



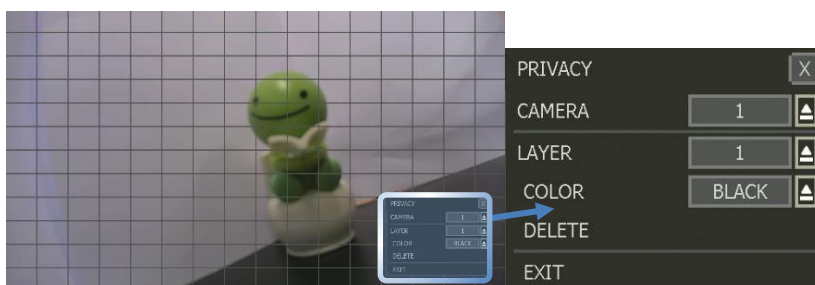
- Adjust the applicable options using the drop-down menu options.
- Click DEFAULT to set camera's option as a default value.
- Click SET A or SET B to change camera setup value quickly.
- APPLY ALL makes all channels have the same value.

- Click SAVE to save the changes and click [EXIT] to exit.

## PRIVACY

Hide specific areas in the camera's Field of View (FoV) in live and playback mode. Please check you're your camera supports this feature

- Click SET to get into the setup mode.
- Using the popup menu on the bottom right, select where to place the privacy mask, assign a color and index number to it. Click SAVE to save the changes and EXIT to return to the main setup page.



## 4.2.2. AUDIO

Select an audio input and output during live display and match it to a specific channel. The number of audio channel may differ depending on DVR model. User can hear audio sound under both live display and playback mode depending on the system setting.

Select "USE 2-WAY AUDIO" to make voice communication between DVR and remote side.



## 4.2.3. PTZ

Full control of PTZ camera is available in this menu. For details, please refer to "3.3 PTZ Operation".

Check the below items for proper P/T/Z operation.

- Check if the protocol of the connected PTZ camera is correct.
- Check if the communication setting including baud rate of the connected PTZ camera is in accordance with the assigned value for that P/T/Z protocol.
- Check if the address of the connected PTZ camera is correct.
- Check if wiring to P/T/Z controllers is correct.

---

### Procedure How to setup PTZ camera with Pelco-D protocol (example)

- 1) Make sure of serial communication with the PTZ camera through RS-485 port.
- 2) Select "Pelco-D" in the protocol list, and set address.
- 3) Click "Save" button to confirm this configuration.

\* UTC function isn't supported depending on the DVR model.

---



## PROTOCOL

Select the proper protocol of the connected PTZ camera. If PTZ camera is connected by UTC type protocol, baud rate and address setup is disabled.

## BAUD RATE


Select the baud rate level from 2,400bps up to 57,600bps. (Not supported in UTC type protocol).

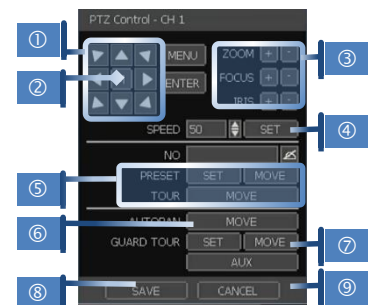
## ADDRESS

Set the PTZ driver address of the connected camera. It should be the same as that of the PTZ. (Not supported in UTC type protocol).

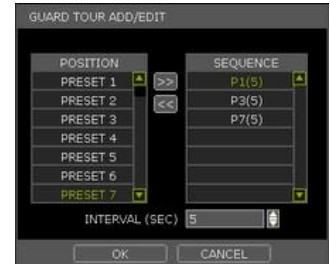
## CONTROL(\* The functions are depends on the PTZ model.)

When the PROGRAM button is selected, the OSD menu of the camera will appear on the monitor. Set the PTZ's speed, preset, tour, auto pan etc.

- ① Direction buttons: move camera up/down & left/right.
- ② M (depends on PTZ model): Show/hide the camera's OSD menu on the DVR monitor. Use the directional arrows to navigate the menu options.
- ③ ZOOM/FOCUS/IRIS: Control IN (+)/ OUT (-) for each functions. (Depending on camera's model and supported features.)
- ④ Speed: Change PTZ speed (0~100). This sets the speed in which the camera will move when controlled from the DVR using the virtual joystick. Save the changes by clicking [SET] button.
- ⑤ Preset
  - ◆ Set: Move the camera's position and zoom to desired position. Select the preset number using the  button. Press ADD to save the new preset. (The system supports preset the number of preset from 1 to 255. But it can be restricted by the number that PTZ camera supports.)
  - ◆ Move: Enter a preset number and press [Move] to move the camera to the preset position of that number.
- ⑥ TOUR: Set the camera move between preset positions in order. The camera will keep running the auto-pan until it manually is disabled.
- ⑦ AUTOPAN: Set the camera move to 360 ° in one direction. The camera will keep running the auto-pan until it manually is disabled.

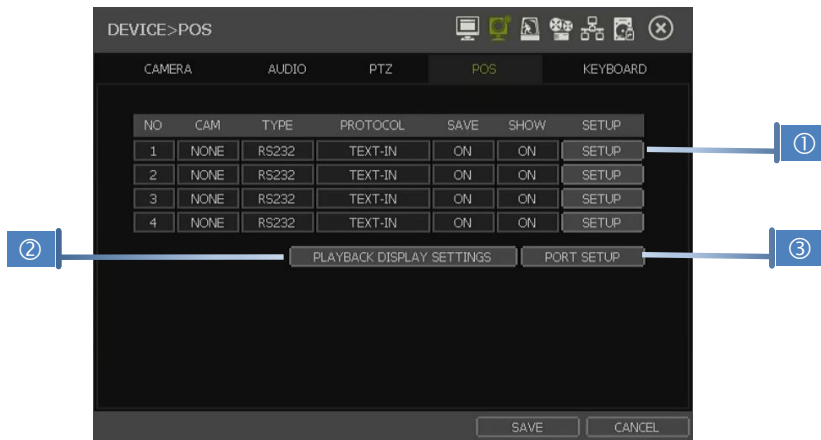


- ⑧ **GUARD TOUR:** Set the camera to move between selected presets in a set order and interval. The camera will keep running the guard tour until it is manually disabled.
- ♦ **Set:** Set the time interval (in seconds) and select the preset position. Add to sequence by clicking **>>** button. The preset will appear in the sequence column indicating the preset number and the set interval time.
  - ♦ **Delete:** To delete preset position from the sequence, select the preset sequence column and click **<<** button.
- ⑨ **AUX:** User can control additional settings such as power light, wiper and pump, etc. through AUX control button.



#### 4.2.4. POS

POS equipment can be connected to DVR through RS-232 port or LAN.



#### NO

Number of the Serial connection. For example: NO1 = COM1, NO4 = COM4.

#### CAM

Assign a camera to the POS device.

#### TYPE

Connection type between DVR and POS device.

#### PROTOCOL

Communication protocol between DVR and POS device.

#### SAVE

Enable or disable the DVR to save the transaction data.

#### SHOW

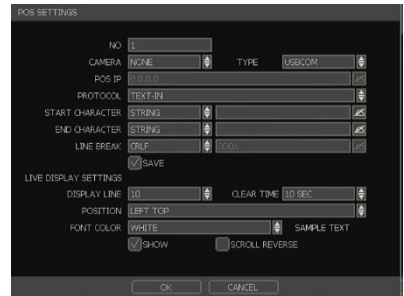
Enable or disable the DVR to display the transaction data.

#### SETUP (①)

Go to the setup screen.

- ♦ **NO** : ID# of POS device
- ♦ **CAMERA** : Select the camera to assign to the POS device
- ♦ **TYPE** : Select COM (RS-232) or TCP/IP (LAN)

- ◆ POS IP : Input the IP address of the POS device when it is connected through network.
- ◆ PROTOCOL : Communication protocol between DVR and POS device
  - ① TEXT-IN: Receive ASCII character
  - ② SDVR-POS: Manufacturer's own protocol
    - ❖ Please contact your POS dealer for information.
- ◆ START CHARACTER: Input the assigned character to start display and save. If there is no input, the system will display and save all data without classification per transaction.
- ◆ END CHARACTER: Input the assigned character to terminate display and save. It must have **START CHARACTER** to work correctly.
- ◆ LINE BREAK: Set the line change character. (It should be 16 digits HEX Value.)
  - ① [CRLF] / [CR] / [LF]: The character that is generally used in ASCII-type POS. (Please contact POS manufacturer for the detail.)
  - ② [Custom]: It can be used except the above general character. Only number (0~9) and alphabet (A ~ F) can be used and even numbers should be input.  
ex) Hexadecimal: 0x0D 0x0A → 0D0A
- ◆ SAVE : Save POS data.



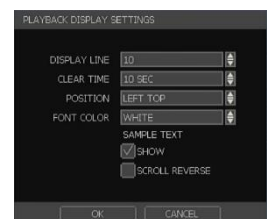
### - LIVE DISPLAY SETTINGS

- ◆ DISPLAY LINE : Set the number of lines to display on the screen.
- ◆ CLEAR TIME : Set the time period to display text on the screen. Data will be deleted from the screen if no new data is entered after the set time. If it is set as "0", the data will not be deleted (If there is Start Character and the character is input, current data will be deleted regardless of the Clear Time setting)
- ◆ POSITION : Designate the display position of POS data.
- ◆ FONT COLOR : Select the font color which will be displayed on the screen. It will be displayed with the color that is shown on "SAMPLE TEXT"
- ◆ SHOW : Select to display POS data in the live mode.
- ◆ SCROOLL REVERSE: Select to change the direction of scrolling. If it is selected, you can scroll from the bottom to top, that is, the latest data is displayed on the top.

### PLAYBACK DISPLAY SETTINGS (②)

Open setup screen for playback mode

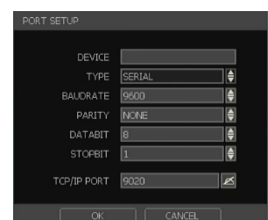
- ◆ DIPLAY LINE : Set the number of lines to display on the screen.
- ◆ CLEAR TIME : Set the time period to display on the screen. Data will be deleted from the screen if no new data is input after the set time. If it is set as "0", the data will not be deleted. (If there is Start Character and the character is input, current data will be deleted regardless of the Clear Time setting.)
- ◆ POSITION : Designate the display position of POS data.
- ◆ FONT COLOR : Select the font color which will be displayed on the screen. It will be displayed with the color that is shown on "SAMPLE TEXT".
- ◆ SHOW : Select to display POS data in the playback mode.
- ◆ SCROOLL REVERSE : Select to change the direction of scrolling. If it is selected, you can scroll from the bottom to top, the latest data is displayed on the top.



### PORT SETUP (③)

Open setup screen for communication port

- ◆ TYPE : Setup the type of communication port.
  - SERIAL : It is for 1-to-1 connection between DVR and POS device without Serial Mux.
  - MUX : It is for 1-to-Multi connection between DVR and POS device
- ◆ BAUDRATE : Set BAUDRATE according to the POS device.
- ◆ PARITY : Set PARITY according to the POS device.



- ♦ DATABIT : Set DATABIT according to the connected POS device.
- ♦ STOPBIT : Set STOPBIT according to the connected POS device.
- ♦ TCP/IP PORT : Set the TCP/IP Port number.

#### 4.2.5. KEYBOARD

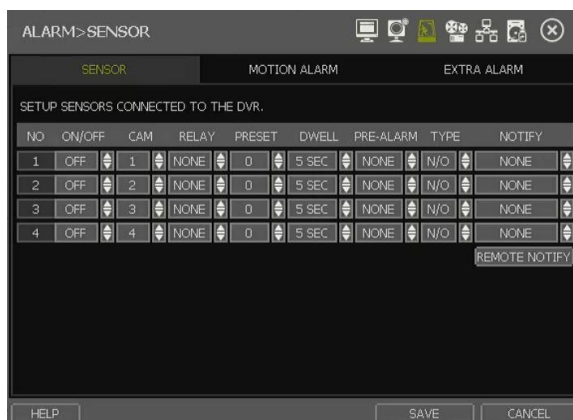
When the external keyboard is used, select the model and corresponding baud rate from the drop-down options. The baud rate must match the one set in the keyboard itself. Make sure the Keyboard ID in SYSTEM> INFORMATION setup page matched the one set in the keyboard.



### 4.3 EVENT

#### 4.3.1. Sensor

User can install multiple sensors on the system to get the pre & post alarm recording and intensive recording function as well.



#### ON/OFF

Turn on or turn off the sensor

#### CAM

Select the associated camera.

#### RERAY

Select the associated alarm output.

---

**Caution** Relay contact can stand up to 24V/1A. In case that it is connected to the external circuit which is over 24V/1A, it can cause a problem on the system.

---

### PRESET

Set a PTZ camera to move to a preset position when the sensor is triggered. (User should setup preset position in “4.2.3 PTZ Operation” menu in advance.)

### DWELL (Post Alarm)

Set the recoding period from when the sensor is activated. During this period, the selected camera will record according to the record setting. The recording stops and alarm output is turned off when the set period is completed.

### PRE-ALARM

Set recording period in seconds just before a sensor is activated. Input up to 5 seconds. The pre-alarm recording mode is always “continuous” at the recording speed set in “Camera” of “Record” menu.

### TYPE

Select the sensor type as N/O (Normal Open) and N/C (Normal Close). The circuit of an N/O sensor type is usually open, and the activation of the sensor occurs at the time of close, and N/C type works the reverse way.

---

**Note** Check the setting of the sensor type (N/O or N/C). It is recommended to use “Dry Contact Type” while “Wet Contact Type” may cause the damage to the system.  
The alarm might not function if the used sensor type and the system setting are inconsistent.

---

### NOTIFY

Enable sensor notification via a buzzer sound and/or a pop-up warning.

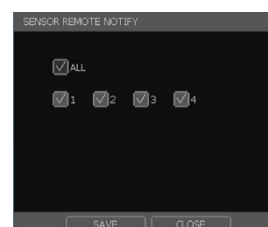
---

**Note** When “Camera pop-up” is enabled, in a multi-screen mode, the system will switch to single channel mode automatically upon alarm triggered.

---

### REMOTE NOTIFY

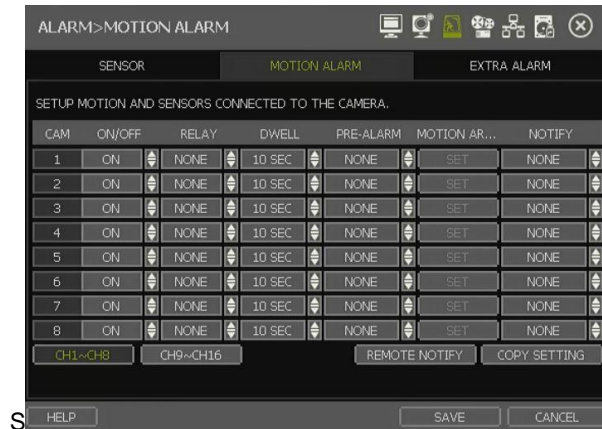
Enable to set sensor alarm through the network. (Up to 4 channels available)



### 4.3.2. Motion Alarm

Setup the DVR to start recording when motion is detected. The system can also trigger an alarm signal via the selected sensor-out channel.





### ON/OFF

Turn on or turn off the motion

### RELAY

Select related output.

**Caution** Relay contact can bear up to 24V/1A other devices. If it is connected to the power more than 24V/1A, the system may have problem with it.

### DWELL (Post Alarm)

Set sensor operation time in between 1 and 15 seconds.

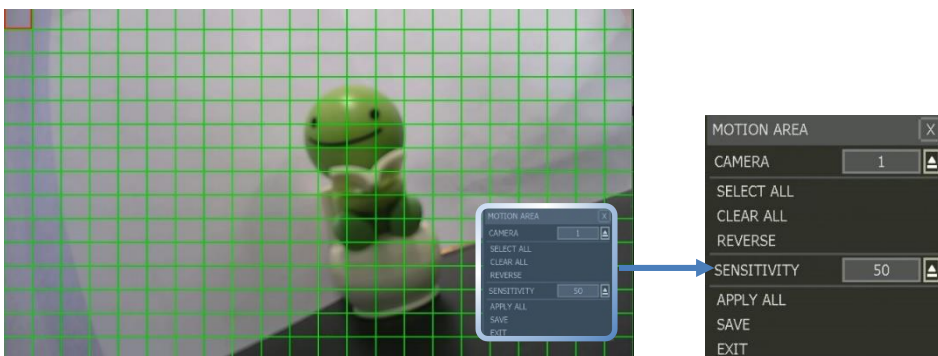
### PRE-ALARM

Set recording period in seconds just before motion is detected. Input up to 5 seconds. The pre-alarm recording mode is always “continuous” at the recording speed that user sets in “Camera” of “Record” menu.

### MOTION AREA

Set the camera's motion area and sensitivity. The area can be selected by clicking on a specific block or dragging the mouse's cursor across the screen to select multiple blocks. Areas where motion detection is activated will appear with green border line. Unselected area will be shown with grey border.

Click [SET] in the 'MOTION AREA' section to set area.



Select the motion detection area and click [SAVE] and then [EXIT] to save the change. Clicking on [SELECT ALL] will enable motion detection in the entire camera's FoV.

**Note** Motion detection area and sensitivity should be set, properly, in consideration of the actual motion happened in the site.

## NOTIFY

Enable motion notification via a buzzer sound and/or a pop-up warning.

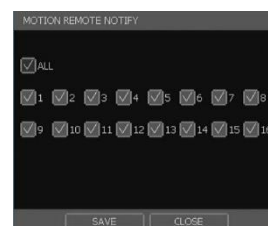
## REMOTE NOTIFY

Enable to set motion alarm through the network.

## COPY SETTING

To apply the settings to all cameras connected to the DVR, click on the Copy Settings button:

- Select the channel to get the setting from
- Select the property(s) to copy.
- Select the target channel(s) to apply the setting.
- Click [OK] to apply the setting to all the other selected channel(s).



### 4.3.3. Extra Alarm

Setup alarms for additional DVR abnormalities such as HDD check, video loss, recording failure and disk full.



## S.M.A.R.T.

Trigger an alarm signal when HDD is about to be out of operation. Please refer to the "Section 4.1.4 HDD" to check the HDD status.

## VIDEO LOSS

Trigger an alarm signal when a camera signal is disconnected.

## RECORDING FAILURE

Trigger an alarm signal when the system does not record image due to an error in HDD or system.

## DISK FULL

Trigger an alarm signal when the HDD is occupied with a certain percentage of its capacity. If user set HDD FULL as STOP RECORDING and the HDD is occupied with the certain percentage set here, DVR stops recording and alarm trigger.

---

**Note** Extra alarm will appear in the event log only when it is set as "ON".

---



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**Note** S.M.A.R.T(Self-Monitoring Analysis and Reporting Technology) is the technology that is developed by HDD manufacturers. In some cases, S.M.A.R.T may not detect the abnormal operation of the HDD. It is recommended to do HDD health check in the HDD menu regularly.

---

## 4.4 RECORD

### 4.4.1. Camera

User can make recording setting for each channel separately.



#### ON/OFF

Set recording on and off in each channel. If recording is not required on the selected channels, even when the camera signal is input, set the recording of the corresponding channel as [OFF]. Then, recording of the channel stops without pulling camera BNC cable off. [ON] or [OFF] can be selected. The default is [ON].

#### RESOLUTION

Image resolution for recording can be set. Select one setting from 352×240, 720×240, 720×480, 960×480, 1280×720 & 1920×1080. As the resolution number increases, the picture quality becomes higher. For example, 352×240 is VHS level and when high quality camera is used, 960×480/576 shows DVD level picture quality. When the picture quality gets higher, the recording file size becomes bigger and the recording period will be shorter. Thus, selecting appropriate resolution according to the situation is important.

---

**Note** The storage capacity for the same image will be different. Image per byte is ratio to the image dimensions (horizontal x vertical), thus 720×240/288(2CIF) is twice the size of 352×240/288(1CIF) and 720×480/576(D1) takes about 4 times the storage capacity. Therefore when high resolution is selected for the same period, the storage capacity taken up will be larger and the storage period will be shorter on the same Hard disk capacity.

---

#### FPS

Set frame each channel. The system automatically calculates remaining FPS.

#### QUALITY

Set recording quality from 1M up to 4M

#### AUDIO

Select the associated audio channel.

#### COPY SETTING

User can adjust setting value to all channel by copying setting value.

---

**Note** According to the setup of Resolution and FPS, system automatically calculates “Remaining FPS” for dual stream.

---

---

**Note** Dual stream function is applied to network transmission of the live image monitoring, only. In case of VOD(Playback) at the remote software, it is not related to dual stream and the network transmission follows record setting of the DVR.

---

#### 4.4.2. Second stream

Set the frame rate and resolution for second stream to effectively manage recording image quality and network traffic. For example user can make recording setup as “30fps at 1080P resolution” while the network setup as “7fps at CIF resolution”.



#### RESOLUTION

Select the resolution to be transmitted. The higher resolution requires the bigger network bandwidth due to its data size.

#### FPS

Select the frame rate to be transmitted. It is not related to the record setting.

#### QUALITY

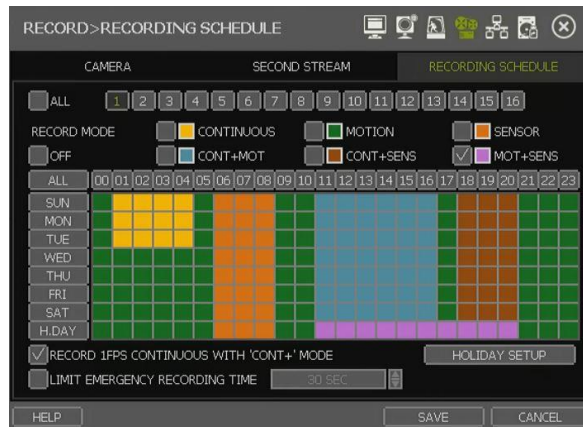
Select the image quality to be transmitted. It is not related to the record setting. The higher quality requires the bigger network bandwidth due to its data size.

#### AUDIO

Select on or off to transmit audio or not.

#### 4.4.3. Recording Schedule

Set recording schedule for each camera. Select the camera to set schedule, or "All". Recording can be set by each hour from 00 through 23 a day, for all days of the week. You can also setup a special recording mode for holidays.



##### NO COLOR (Off)

No recording. Even though user set recording frames in the CAMERA setup menu, the system will not record anything if user sets OFF in the schedule table.

##### YELLOW COLOR (Continuous Recording)

Record all the time as set by "CAMERA" settings.

##### GREEN COLOR (Motion-Detection Recording)

The system records only when motion is detected. If EVNET > MOTION ALARM is disabled, the system will record when motion is detected but motion alarm will not be activated.

##### ORANGE COLOR (Sensor-Activated Recording)

The system records only when a sensor is triggered as set in EVNET > SENSOR menu.

##### SKY BLUE COLOR (Continuous + Motion Detection Recording)

The system records continuously as set by RECORD > CAMERA menu.

When motion is detected according to the settings in EVENT > MOTION ALARM, the DVR will switch recording mode to motion configuration.

If EVNET > MOTION ALARM is disabled, the system will record when motion is detected but motion alarm will not be activated.

##### BROWN COLOR (Continuous + Sensor-Activated Recording)

The system records continuously as set by RECORD > CAMERA menu.

When a sensor is triggered according to the settings in EVNET > SENSOR, the DVR will switch recording mode to motion configuration.

If EVNET > SENSOR is disabled, then the system will record when a sensor is triggered but sensor alarm will not be activated.

##### PINK COLOR (Motion Detection + Sensor-Activated Recording)

The system records only when motion is detected AND when a sensor is triggered at the same time. If both EVNET > SENSOR and EVENT > MOTION ALARM are disabled, the system will record when a sensor is triggered and motion is detected but neither sensor nor motion detection alarms will be activated.

---

**Note** In case the recording schedule is set by "CONT + MOT" or "MOT + SENS", the system records by continuous or motion detection mode in normal operation. When motion is occurred in motion area

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or alarm is activated, recording mode will switch to recording as set by “MOTION ALARM” or “SENSOR” of “EVENT” menu.

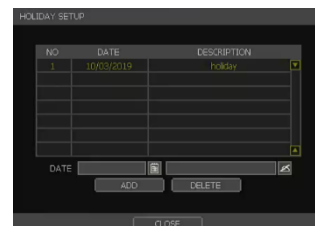
#### Dark Blue Color

The data recorded during DST (Daylight Saving Time) will be indicated in Dark Blue color in Intelli-Search Bar on playback mode.

## HOLIDAY SETUP

Setup specific days as holidays in to assign special recording schedule for those days. The system supports up to 32 holidays.

Press [DATE] button (📅) and write description, and press [ADD] to save data as a holiday.



### Note Instant Recording (Emergency Recording)

In the case of emergency, user enables instant record by pressing the panic button in the menu bar. The system will instantly start recording all the channels with full frame rate at the maximum resolution regardless of recording mode setting. **E-REC** will appear in live mode and red-colored bar is shown in the time search bar for video recorded by instant recording.

### Record 1fps continuous with “CONT+” mode

Check the box to set continuous recording to 1FPS when selecting “continuous + xx” modes.

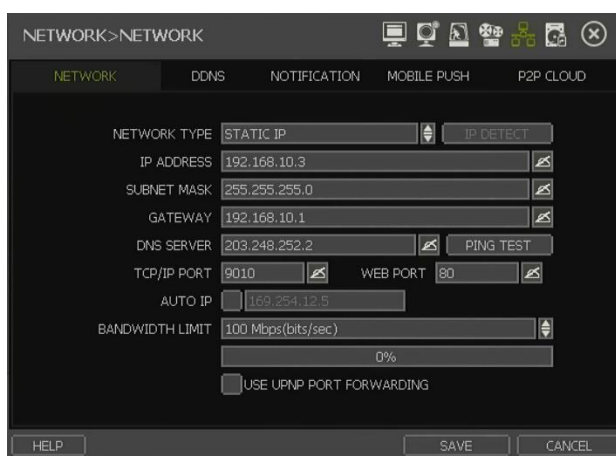
### Limit emergency recording time

Set a limit to how long the system will record in emergency recording mode. Select from 30sec/60sec/90sec/2min/5min/10min.

## 4.5 NETWORK

DVR can be connected to network or internet through either fixed IP or dynamic IP by proper setting of the DVR and router.

### 4.5.1. Network



### NETWORK TYPE

Select either STATIC IP or DHCP for dynamic IP.

If DHCP is selected, the DVR will automatically configure the network settings according to the current network requirements. If DHCP is selected, click IP DETECT to detect automatically all the network settings. If Static IP is selected, manually enter all necessary network settings. For proper configuration, it is

recommended to assign the DVR a DHCP address and let it auto discover all the proper network settings, and then change the network type back to static IP and save the changes.

### **IP ADDRESS**

Displays the DVR's IP address. If DHCP is selected, the IP address will automatically adjust to match the network's requirements. You can also manually change the IP address as needed.

### **SUBNET MASK**

Subnet mask address classifies the subnet that the system belongs to. For more information, please consult your network administrator or your internet provider.

### **GATEWAY**

This is the IP address of the router or gateway server. It is required when connecting to the DVR through the external router over the internet (from another network). For more information, consult your network administrator or your internet provider.

### **DNS SERVER**

Enter the IP address of the Domain Name Server. You should input the DNS server information in order to use DDNS, E-mail notifications and NTP server. For more information, please consult your network administrator or your internet provider.

### **TCP/IP PORT**

Input the port number to use when connecting to the DVR locally or remotely. Default is 9010. If your ISP blocks the port # 9010, you need to input another valid port number (ex, 9020).

### **WEB PORT**

Input the port number to use when connecting from the web browser. Default is 80. If your ISP blocks the port # 80, you need to input another valid web port number (ex, 8080).

### **AUTO IP**

Displays the system IP which is assigned through auto-IP, automatically.

### **BANDWIDTH LIMIT**

Depending on the setting made by user, the system can control the data volume transmitted over network ranging from 25 kbps up to 1Gbps. This function is effective especially under narrow bandwidth network condition or when user wants to limit "network bandwidth occupied by video transmission" to a certain level. Default is 100 Mbps.

### **UPnP (Universal Plug and Play)**

UPnP is a plug-and-play feature that allows the DVR to be automatically discovered by a PC on the same network. To locate the DVR, go to "My Network" on your PC. The computer will scan your network for all supported devices. The first five characters of the file name of a detected DVR represent the model number, followed by the DVR's IP address.

Input necessary information based on your network environment.

- **NETWORK TYPE** : Select **STATIC IP** (in case of fixed IP)
- **IP ADDRESS** : Assign a local IP # to DVR (ex, 192.168.0.164)
- **SUBNET MASK** : Input subnet mask of your LAN (ex, 255.255.255.0)
- **GATEWAY** : Input gateway of your LAN (ex, 192.168.0.1)
- **DNS SERVER** : Input IP # of your DNS server.  
User must input this IP # for internet connection. Please contact your ISP to get this IP#. You can input "8.8.8.8" in case you do not know this IP#.
- **TCP/IP PORT** : Default is 9010.  
If your ISP blocks the port # 9010, you need to input another valid port

- WEB PORT : number. (ex, 9020)  
: Default is 80.  
If your ISP blocks the port # 80, you need to input another valid web port number. (ex, 8080)
- BANDWIDTH LIMIT : Default is 100 Mbps.  
Select bandwidth limit you want to set in consideration of network condition.

---

**Note** The maximum number of simultaneous connection is 15 users.

---

#### 4.5.2. DDNS

Use can use either a public DDNS server or the DDNS server operated by DVR maker (dynlink.net) to connect through dynamic IP.

##### DDNS SERVER

User has to check on “Use DDNS” check box. The default is [DYNLINK.NET] and user can select [DYNDNS.COM] by using drop-down list. “dynlink.net” is the fixed domain name of DDNS server operated by DVR maker while “dyndns.com” is one of public DDNS servers.

---

**Note** “HELP” button will help you understand how to setup several important settings.  
For example, if you need help about how to set DDNS, click “HELP” button at the right bottom of the menu)

---

Input necessary information based on your network environment. And then click [SAVE] button.

- Enable Use DDNS box
- DDNS SERVER : Select DYNLINK.NET
- TCP/IP PORT : Default is 80.
- DOMAIN NAME : Assign domain name for your DVR (ex, DVROFFICE). If the same domain name is assigned, the message will pop up when you click [SAVE]

##### IP MAPPING and EXTERNAL IP

If you are using IP mapping and port forwarding (e.g. using router for internet connection), enable both USE DEVICE IP MAPPING and USE EXTERNAL IP for proper connection.

##### SETTING AT REMOTE S/W (UVMS)

In the menu of [Option > Setting], input DDNS Address and Port number.

##### SETTING AT M/S I/E

User can type the DVR's mac address + dynlink.net. If you are using a sub domain name, type the domain name + dynlink.net.

Ex) 1. If Mac address is “00:1C:84:01:00:02” → input as “http://001c84010002.dynlink.net”



Ex) 2. If the domain name is "DVROFFICE" → input as "http:// DVROFFICE.dynlink.net"

### 4.5.3. Notification

#### REMOTE NOTIFY

The system can send an alarm message to the IP address of a Remote Software P/C. Select REMOTE NOTIFY to use this function and set IP address & events.



#### ADD / EDIT / DELETE

User can use these to add/edit/delete IP address of Remote Software PC which will receive notification.

#### IP ADDRESS

Input the IP address of Remote Software PC which will receive events notification.

#### PORT

Input Port number which is set at the Remote Software PC. Default is 8003.

#### EVENT

Select events to be notified. When "ALL" is selected, all of the events will be notified.

#### E-MAIL NOTIFY

The system can send a notification to the e-mail address. Select E-MAIL NOTIFY to use this function and set e-mail address & events.



#### ADD / EDIT / DELETE

User can use these to add/edit/delete e-mail address which will receive e-mail notification.

#### E-MAIL

Input e-mail address which will receive events notification.

## EVENT

Select events to be notified. When “ALL” is selected, all of the events will be notified.

## SENDER Setting (SMTP)

Need to set sender to send e-mail notification.

- SMTP : Input SMTP server address.
- PORT : Input the port number that will be used for e-mail sending.
- USER : Input the user of the sending account.
- PASSWORD : Input Password of the sending account.
- INTERVAL : For e-mail notify, select the time interval indicating how often the system will send out an update e-mail dress.
- E-MAIL TEST : Check if the settings were entered correctly. The DVR sends e-mail and inform you of the result. In some cases, SMTP server does not send e-mail if the e-mail is received.
- Use SSLAUTHENTICATION: Incase the SMTP server requires SSL authentication (e.g. Gmail, Yahooemail, etc.), select this option.

---

**Note** RECORD > SCHEDULE should always be configured before notifications settings.  
 The system will not e-mail alarm messages if these recording settings are not setup first in the DVR's recording schedule. To receive motion and sensor e-mail notifications, set the SCHEDULE > RECORD, EVENT > MOTION ALARM and EVENT > SENSOR accordingly.

---

### 4.5.4. Mobile Push

The system can send an event notification to the mobile device registered in the DVR. The mobile app [MV3000] must be installed in your smart phone device prior to registration. Select USE MOBILE NOTIFY to use this function and select event to notify.

NETWORK > MOBILE PUSH

NETWORK DDNS NOTIFICATION **MOBILE PUSH** P2P CLOUD

☐ USE MOBILE NOTIFY

NO	NAME	DEVICE ID

DELETE DELETE ALL

EVENT ☐ ALL ☐ SENSOR ☐ MOTION ALARM  
☐ VIDEO LOSS ☐ S.M.A.R.T

INTERVAL 1 MIN

SAVE CANCEL

In the mobile app, add your DVR using the IP address or DDNS by clicking the + sign on the top right side of the app.

Once the site has been added to the device list on the app, highlight the DVR in the list and press the Setup button on the bottom right side of the app. Make sure USE PUSH CHECK is enabled.

The mobile device's ID will appear in the Mobile Notify table in the DVR.

- Note**
1. Mobile Push Notification function is available with iPhone, iPad & Android phone.
  2. Registration of Mobile Push Notification is available when it is set at the mobile device.
  3. Deletion of the list will be available when you click "Delete" button in the DVR menu or when you select disable of the Push Notify function in the mobile device.
  4. Maximum number of mobile devices is 50.

## DELETE / DELETE ALL

When the mobile device is registered to the DVR correctly, it shows in the list. Device ID is a unique ID of the mobile device. If you want to delete it, select the device and click [Delete] button. Then, push notification setup in the mobile device will be disabled.

User can delete all registered device by clicking [DELETE ALL] button.

- Note** Push Notification function only works when the DVR & mobile device has network connection to internet.

## 4.5.5. P2P CLOUD

The system supports QR reading and ezP2P™ cloud server.

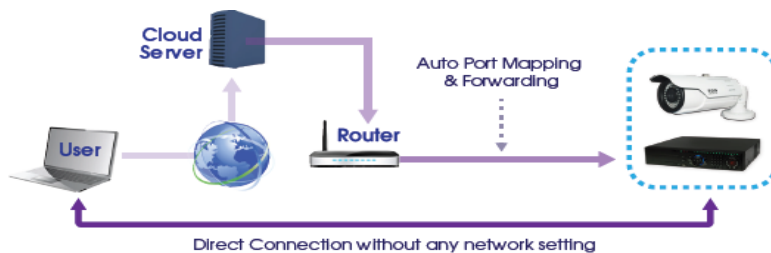
ezP2P™ setup by QR code: When the ezP2P™ Use is selected, ezP2P™ service is being used.



When user scan QR code with his mobile application (MV3000), user can easily register the system and monitor it.

## REGISTRATION (in the ezP2P™ Cloud Server)

ezP2P™ Cloud Service is a cloud-based video management system without any complicated network setting. Just login to ezP2P™ Cloud Server ([www.ezp2p.com](http://www.ezp2p.com)) with your own account and enjoy thumbnail preview and instant live monitoring.





## REGISTRATION (of the DVR to the ezP2P™ Cloud Server)

Select [USE P2P CLOUD]. Input E-MAIL & PASSWORD as were registered in the ezP2P™ Cloud Server site.



Click [Save] button to start communication with ezP2P Cloud Server. Process is shown in the image above. When registration is completed, user can ready to access to ezP2P™ cloud.

## CONNECTION (ezP2P™ Cloud Server)

Go to the ezP2P™ Cloud Service site ([www.ezp2p.com](http://www.ezp2p.com)) and login. The registered site list with snapshot image & detail information will be shown.



**Caution** P2P Cloud function may not be available, if;

- 1) Router does not support UPnP function or UPnP function is OFF.
- 2) Firewall is set in the network.  
(Port no. 50,000 or higher should be opened.)
- 3) The network condition does not support it due to the other issues.

Consult your network administrator or your internet service provider.

**Note** ezP2P™ is the function that allows users can easily connect to the DVR from the Web Browser in the save network using the DVR's MAC address only.

To use this feature, type the DVR's MAC address to the search bar in the web browser as follow :  
[http://\[Mac Address\].ezp2p.net](http://[Mac Address].ezp2p.net)  
 For example, if the Mac address is "00:1C:84:01:00:02", then user can input the address as  
 "001c84010002.ezp2p.net".

## 4.6 EXPORT

### 4.6.1. Manual Export

User can easily archive video while viewing the video playback. In live mode, click the [EXPORT] icon in the menu bar to open the export menu. In playback mode, press the QUICK export icon in the menu bar. Pressing it once will indicate the start time for the backup file. Click the icon again to indicate the end time for the backup clip. The backup menu screen will appear.

Connect an appropriate USB memory drive and press SCAN to recognize it before starting the backup process.



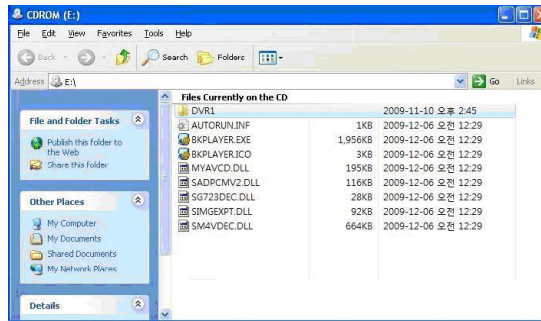
Adjust the following options as needed:

- Select the channels to be included in the backup file.
- Adjust the start and end time of the backup file.
- Select to include the Backup Viewer with the archived file.
- Press the "Estimate" button to see the expected size of the backup file.
- Check the box next to [ADD VIEWER] to add the backup player to the backup file. The backup player allows to play the video clip without installing any programs.
- Edit the file name and add a protection password if needed.
- Press [START] to start backup process. A progress bar will appear on the screen.

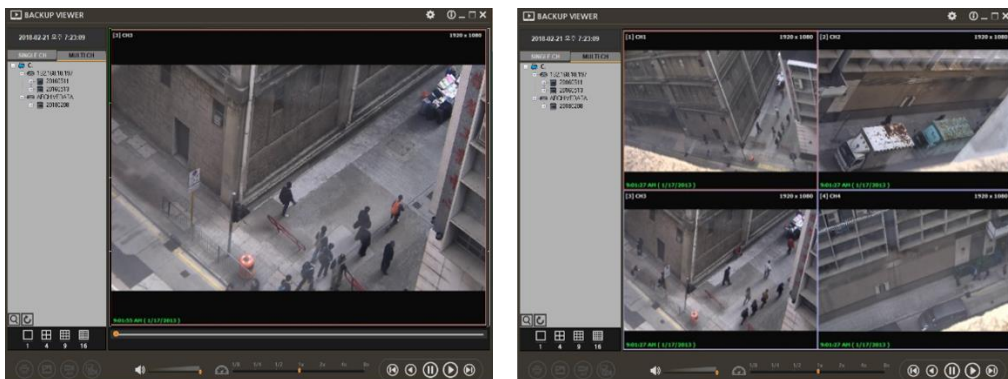
### 4.6.2. Backup Video Playback

If [ADD VIEWER] is selected, when user backup, the backup image can be reviewed in a PC with no need for additional installation. Once the backup device (USB) is connected to a PC, the files will appear in the USB's folder.

To play recorded data, double click the "MultiBackupPlayer.exe" file. In the backup player, open the video data file (SSF format) you wish to playback in the date folder.



To playback a single channel, click [SINGLE CH] tab and select a SSF file to playback and drag it to the viewing area. To playback multiple channels, click [MULTI CH] tab and “Search” to open folder that keeps all SSF files.

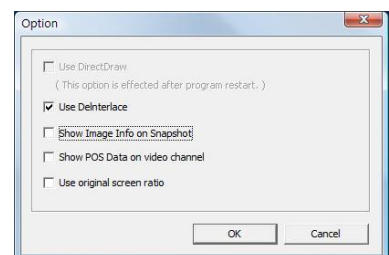


User can print, export an image, and zoom-out, by using the icons on the bottom-left of the player window.

## Option MENU

Various settings are available in OPTION window of the backup player software.

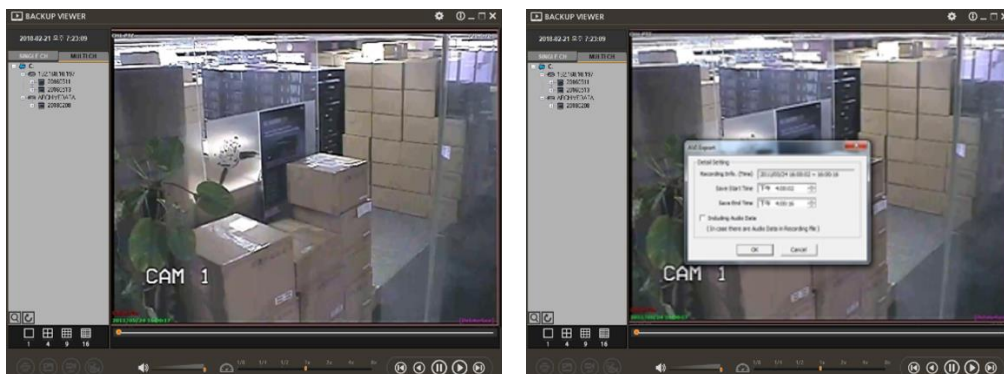
- **Use DirectDraw**  
Use DirectDraw, There are some PCs that do not support “Direct Draw”. In this case, user can uncheck the DirectDraw check-box in the “Option” menu.
- **Show Image Info on Snapshot**  
Image information will be added as text overlay when exporting an image.
- **Show POS Data on video channel**  
POS data that has been backed up can be displayed during playback.




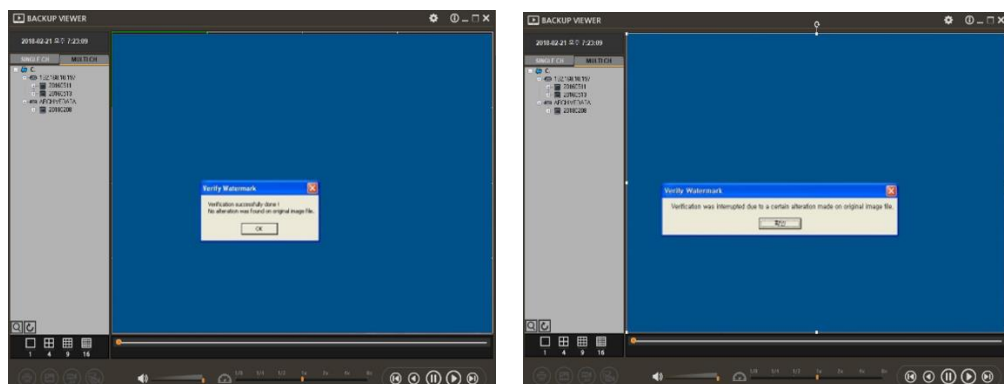
## WATERMARK Verification on AVI File

Can convert this backup file from SSF format to AVI format, so that user can playback AVI file in ordinary Window Media program.

- 1) Playback the SSF file in Single CH mode, click [Pause] icon.
- 2) Then, click [AVI Convert] icon.
- 3) Define the start time and end time.



When the AVI file is played back in the Backup Player, verify whether the file has been altered or not by pressing [Watermark] button (  ). If the file has been altered, a popup message will appear.



No alteration was found

AVI video clip has been altered

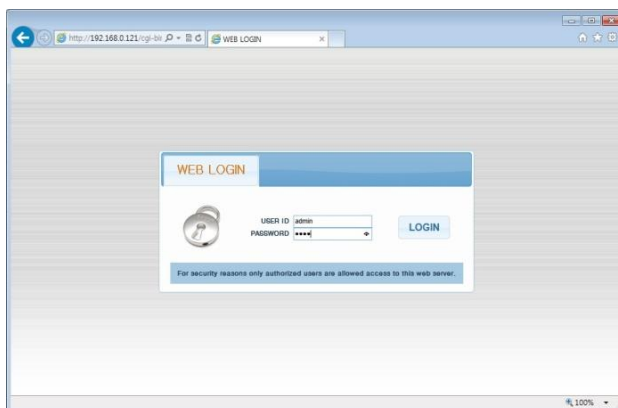
## 5. Web Surveillance through M/S IE

The system has a built-in web server by itself. This allows you to access the system by ordinary web-browser via network for live monitoring, playback or remote configuration without installing any additional software.

### 5.1 Web Login

In an Internet Explorer page, type the DVR's IP Address or DDNS address in the address bar. When the login page appears, enter the user ID and password. Default user ID and password are "admin" and n password. Once you are connected to the DVR, you will be prompted to download and install Active-X file.





### Active-X Installation

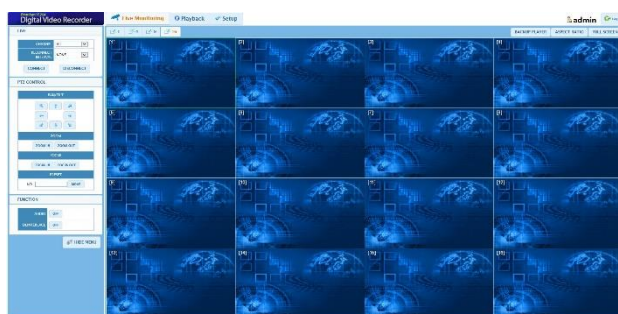
1. If the P/C doesn't have Active-X installed, installation guide message will appear automatically.
2. Click "install" and follow the installation wizard to complete the Active-X installation.



3. To avoid download restrictions for the Active-X file, make sure that Active-X controls are enabled in the web browser's security settings. Go to "Tools > Internet Options > Security > Internet > Custom Level" and enable all Active-X controls and plug-in. Failing to install the Active-X files properly may result in no video showing from the DVR.

## 5.2 Web Monitoring

Once the Active-X files are properly installed, the live view from the DVR will appear on the web page automatically. User can select other menus such as PLAYBACK and SETUP, or LOGOUT.



### LIVE

User can select channels to view in live mode, set the reconnection time interval in case of connection loss, and connect or disconnect all channels.

### PTZ CONTROL

User can control Pan/Tilt, Zoom In/Out, Focus In/Out and Preset buttons to control PTZ cameras connected to the DVR.

### FUNCTION



Enable or disable audio in from the camera or enabled or disable interlace function to improve image quality.

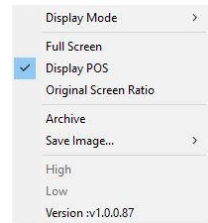
## HIDE MENU/SHOW MENU

To hide the menu bar, press the HIDE MENU. To view the menu bar again, press the SHOW MENU.

## POP-UP MENU

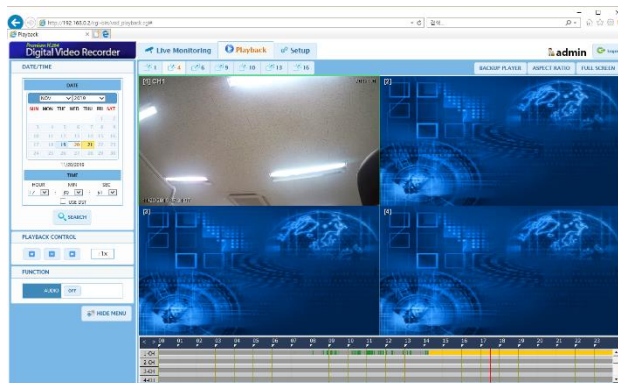
Right-click to open additional options:

- Display mode: change the current split view option from 1, 4, 6, 9, 10, 13 or 16 options.
- Full Screen: View current split view in full screen view. Right-click anywhere on the screen to exit full screen view.
- Display POS: show POS text
- Original screen ratio: view the cameras in their original aspect ratio.
- Archive: Backup a clip to your PC. Click the screen once to start the backup. Select the directory where you want the files to be stored. Click the Archive option again to end the backup process. A popup screen will ask you to save the archive or not
- Save Image: Save an image (JPG or BMP) of a selected channel.



## 5.3 Web Playback

To remotely playback from the DVR, click [PLAYBACK] button on the top of the window.



### PLAYBACK TIME

Select the date and time and click "GO" to view video from the selected time.

### PLAYBACK ICON

Use the Fast Forward, Rewind and Play/ Pause buttons to control the playback video.

### PLAY DST

Check this box to play overlapped images during DST (Daylight Saving Time) period. For details, please refer to section 3.6. DST Setting and Image Playback menu.

### INTELLI-SEARCH BAR

Move the red-vertical line to the time that user wants to search. The colors of the time bar indicate the different recording modes. Refer to "4.4.3" for more information.

## 5.4 Setup

### [Menu of Setup]

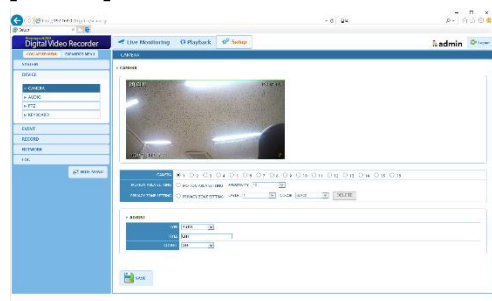
Main Classification	Sub Classification
SYSTEM	SYSTEM STATUS
	INFORMATION
	USER
	DISPLAY
	HDD
	SETTING
	UPGRADE
DEVICE	CONFIGURATION
	CAMERA
	AUDIO
	PTZ
EVENT	KEYBOARD
	SENSOR
RECORD	CAMERA ALARM
	EXTRA ALARM
NETWORK	CAMERA SCHEDULE
	NETWORK
	DDNS
LOG	NOTIFICATION
	SYSTEM LOG
	EVENT LOG

After log in with the right ID and password, user can make various configuration in Web Setup window as below. This Web Setup is only available to “admin” account.

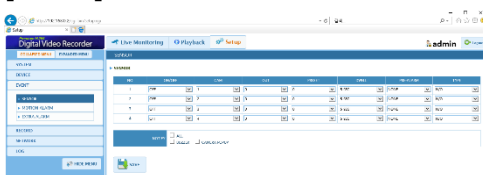
### [System]



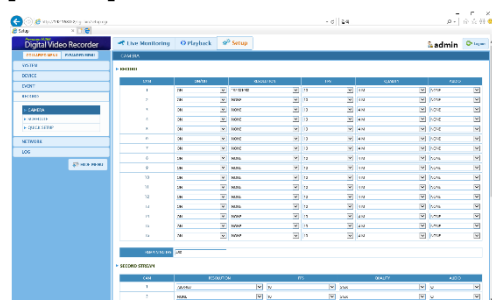
### [Device]



### [Event]

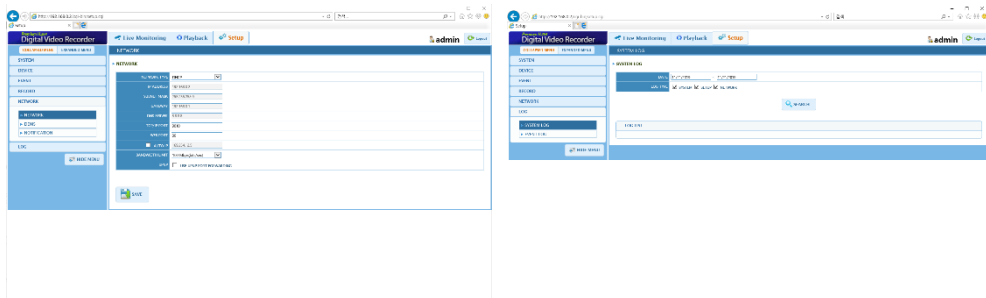


### [Record]



### [Network]

### [Log]




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**Note** This DVR system has its own built-in web server. Therefore, this web CGI screen is directly supported from the built-in web server of DVR regardless of Internet connection.

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**Note** <System Reboot> enables user to reboot the system without any change of the setup. User can use this function when the network is disconnected due to abnormal operation of the system and try to reconnect. However, IP number assigned to the system may be changed in case of DHCP mode.

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## 6. Q & A

### 1. DVR doesn't record images in sensor mode and/or motion mode.

- 1) It records images only when there is an event for the corresponding mode.
- 2) Please check if the setting is correctly done at the menu of [Event > Sensor], [Event > Motion Alarm], and [Record > Schedule].

### 2. There is a HDD installed but "No HDD" icon () is still shown on the screen.

- 1) Please check the cable connection of the HDD again.
- 2) If you can see the HDD list at [System > HDD] but the capacity indicates "0", it means that the HDD requires format.

### 3. There is nothing displayed on the HDMI / VGA monitor though electric power is supplied to DVR.

- 1) Please check if the power is supplied properly. When the power is supplied, you can hear the noise from FAN and HDD operation.
- 2) Please check the HDMI / VGA cable connection with the DVR. Remove all the cable connections, except for the monitor cable, and then apply power to the DVR again and check booting status.
- 3) In case that the display screen is stopped at logo screen, please contact your dealer or distributor.

### 4. Is it necessary to open the port when using DDNS?

Yes, it is. DDNS is the function that lets remote connections acknowledge the changed address of the DVR (dynamic IP provided by ISP) or to allow connection to the DVR by domain (domain.dynlink.net) without memorizing IP.

### 5. Remote software connection to the DVR works fine but WEB connection doesn't work.

- 1) Some ISP blocks port number 80. Please try again after changing WEB port.  
(8080 is recommended.)
- 2) Check whether the port number 80 is opened or not.

### 6. Image is not shown after login at WEB monitoring

TCP Base port should be opened. Default of TCP base port is 9010.

### 7. Image on remote software is suddenly disappeared after displaying for a short time.

- 1) Some ISP restricts upload data/traffic volume. Please contact your ISP.
- 2) Upload traffic restriction can be easily checked with the following steps.
  - > Turn off the power of Modem & Router.
  - > After some time (1~5minutes), turn on the power of Modem first and then Router.
  - > After reconnection, if it is disconnected again after a shot time (in a similar period later), it means that the ISP restricts upload traffic.

### 8. Backup or firmware upgrade through USB memory stick cannot be made though it is detected by the DVR.

- 1) USB memory stick should be formatted by FAT or FAT 32.
- 2) It is not allowed to use the partitioned and/or password-encoded USB memory

### 9. No firmware upgrade by using CD.

- 1) DVR detects the files only when they are in root directory.
- 2) Files in sub folder cannot be detected.
- 3) It is recommended to upgrade firmware with USB memory stick.

### 10. Time sync through NTP server doesn't work.

NTP server requires DNS server address. Please check if DNS server address is correct at the

[Network] setup page.

**11. E-mail transmission doesn't work in using E-mail notify function.**

- 1) E-mail notify function works based on SMTP service.
- 2) Please check if the sending mail address is correct and if the mail server supports SMTP service.
- 3) If you are using SMTP service which is based on TLS authentication (including SSL) such as Gmail and yahoo mail, please enable [Use SSL Authentication] at [Notification] setup page.
- 4) SMTP service is provided based on DNS. Please check if the DNS server address is correct at [Network] setup page.