

DIGITAL VIDEO RECORDER

USER MANUAL

960H DVR (4/9/16CH)

HD-SDI DVR (4/8CH)



Before reading this manual

This user manual contains basic instruction on installing and using Digital Video Recorders. Users who are using this product for the first time as well as users with experience using comparable products, must read this operation manual carefully before use and heed to the warnings and precautions contained herein while using the product. Safety warnings and precautions contained in this operation manual are intended to promote proper use of the product and thereby prevent accidents and property damage and must be followed at all times. If there is any problem on installation or use, get help from a technical expert.

Once you have read this operation manual, keep it at an easily accessible location for future.

[Note] The information contained herein is subject to change without notice. Revisions or new editions to this publication may be issued to incorporate such changes.

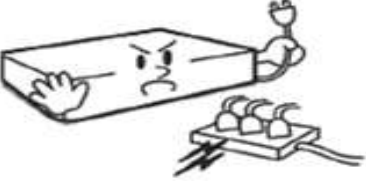




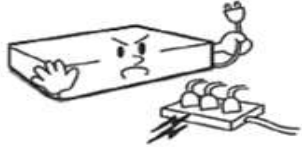


Some pictures could not be matched to the contents for other channels as this manual covers 4/8/9/16CH of DVRs.







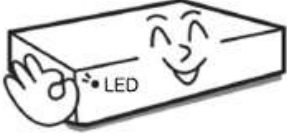
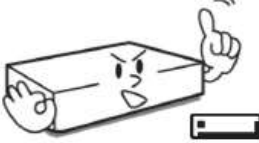
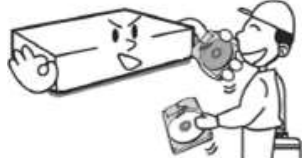
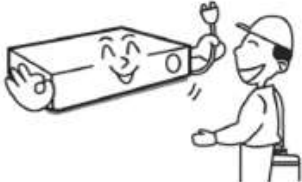
This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Note of Caution

Warning	
<p>Check if the power is switched off before installation. Don't plug in at the same time. Otherwise it may be set on fire or put you at the risk of electrocution or damage.</p> 	<p>Check if the power is switched off before installation or additional repair. Never plug in while the device is in operation. Otherwise it might be set on fire or put you at the risk of fire, electrocution and damage.</p> 
<p>Keep the cables at least 15 centimeters away from the wall and at least five centimeters away from the side so that the cables, including power line and video cable, may not be disfigured. Otherwise it might put you at the risk of fire, electrocution and damage.</p> 	<p>Never uplift the cover, break down, repair and maintain at your disposal. Otherwise it might put you at the risk of fire, electrocution and damage.</p> 
<p>Keep the device environment always clean before and after installation of the device. Use dry cloth to clean the device. Never use any organic solvent. Otherwise it might be the cause of electrocution or mechanic disorder.</p> 	<p>Input voltage of the device should come within the range of 10 percent of specified voltage. Use separate wall power to keep heating appliances, including hair dryer, iron and refrigerator. Otherwise it might be the cause of fire and electrocution.</p> 
<p>When strange noise or smell is sensed, immediately plug out and send inquiry to service center or seller.</p> 	<p>Do not install device in humid place filled with dust. It might be the cause of electrocution and fire.</p> 

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Caution	
<p>Do not install the device in any place where strong magnetic flow, electric wavelength and vibration may be sensed or where radio, TV or other wireless device is located. Keep the device away from magnetic flow, electric wave or vibration.</p> 	<p>Do not put anything heavy on the product. Otherwise it may be the cause of disorder.</p> 
<p>Strong shockwave or vibration may be the cause of mechanic disorder. Please be careful.</p> 	<p>Be careful so that anything conductive may not fall into the ventilation hole. Otherwise it may be the cause of disorder.</p> 
<p>Check if power switch and record on the front side of the product is still turned on.</p> 	<p>When HDD is overloaded, you change the setting to keep recording. In that case, check again if it would be OK to eliminate the saved data.</p> 
<p>When HDD saving data gets old enough, video data to be saved may suffer so much damage that it may be irreparable. If screen appears broken while regenerating data saved in HDD, it means HDD won't work any longer. Immediately contact service center to replace them.</p> 	<p>When any abnormal sign is detected, immediately contact seller or service center.</p> 

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Caution : Any changes or modifications in construction of this device which are not expressly Approved by the party responsible for compliance could void the user's authority to operate the equipment.

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1. Introduction

1-1 Features

The highly advanced and high-performance video recorder is designed to make it easier to install and use with safety.

Main feature

- Easy installation by IP Installer
- Support various mobile applications (iOS, Android)
- Search by date/time, Calendar, Event
- Front USB port for easy backup
- Able to back up by ODD (optional)
- Support GIGA bit Ethernet.
- Support Dual-Stream network transmission.
- Able to output simultaneously thru TV, VGA, S-VHS, Spot
- Able to set the resolution, frame and quality per channel.
- Support a number of PTZ protocol
- Support Central Monitoring Software (CMS).

Application Range

- ✓ Banks, ATM machine, supermarket, convenience store and other places
- ✓ residential area, apartment buildings, jewelry store, commercial building
- ✓ places requiring safety for children such as school, elementary school and playground
- ✓ warehouse, storage house and workplace
- ✓ Places requiring remote surveillance

1-2 Technology Summary

This DVR converts analog NTSC or PAL video to digital data and saves them to HDD. The video saved to HDD has more benefits than analog video recorded to video tape. It does not need tracking and provide various playback options without streaking or tearing. Also, it is available to search data with time or event base. As it encodes video data with its own encoding technology, it is not impossible to fake the data. And even if any unexpected damage happens to the main HDD, recording and playback are available in the mirroring HDD.

2. Installation

2-1 Components

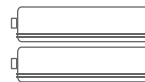
Please check if there are all the components below after you purchase the goods. If there is any component not included, please contact the store you purchased.



DVR



Manual



Battery
(AAA x 2)



Screw



Power Cable



Adaptor



Software CD



Remote Controller

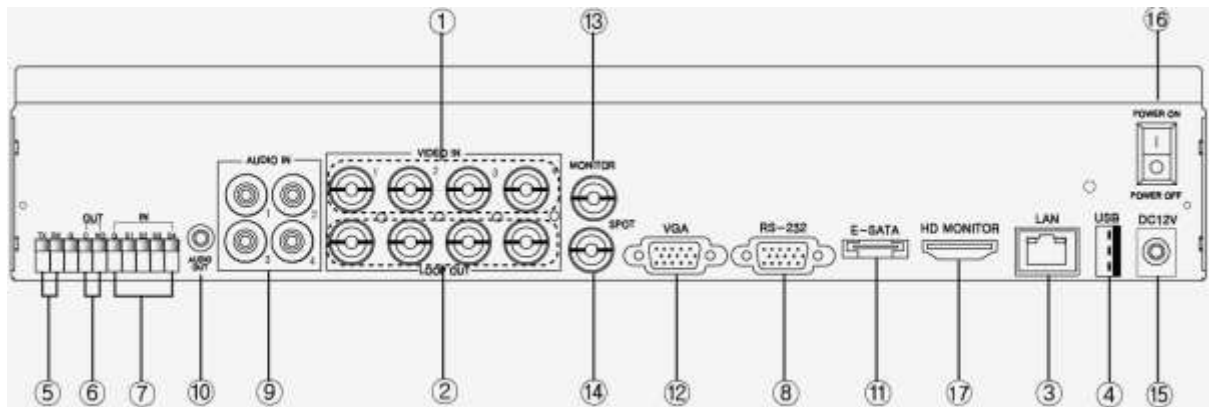
[Note] Specification of Adaptor

960H DVR (4/9/16ch): DC 12V, 5A

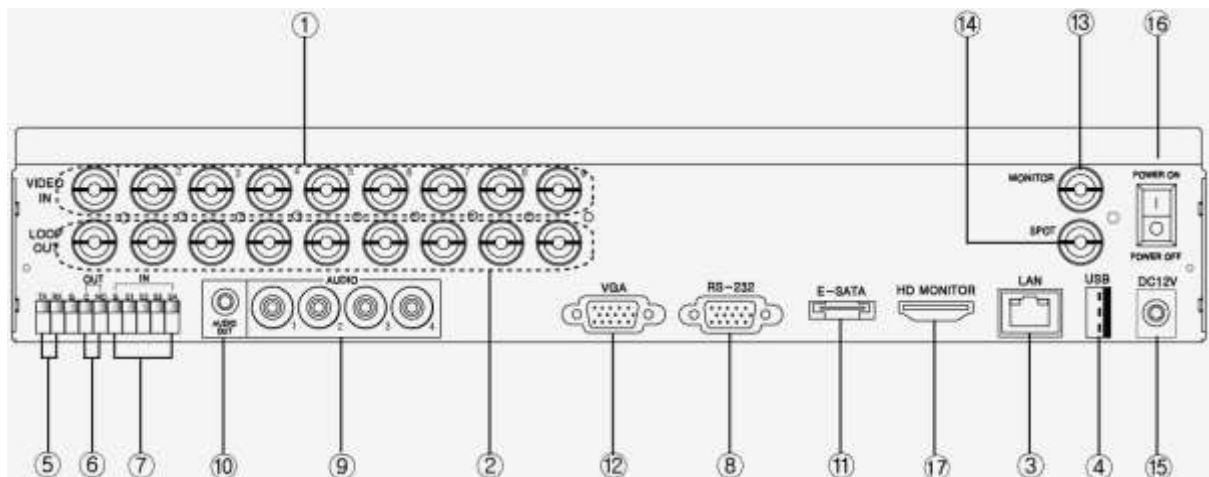
HD-SDI DVR (4/8ch): DC 12V, 6.67A

2-2 REAR PANEL

960H DVR (4/9/16ch)

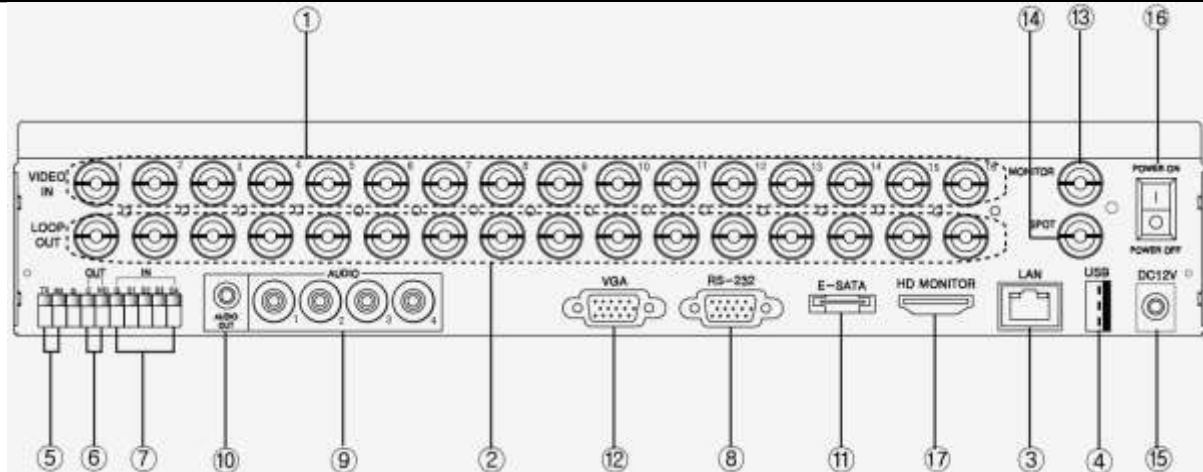


(4CH REAR PANEL DIAGRAM)



(9CH REAR PANEL DIAGRAM)

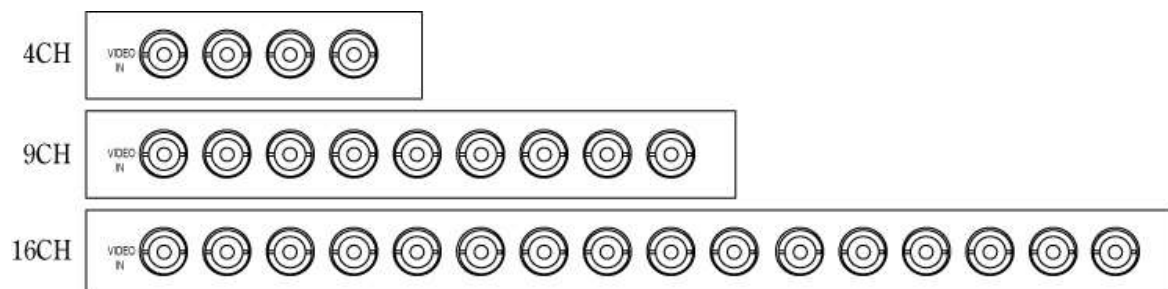
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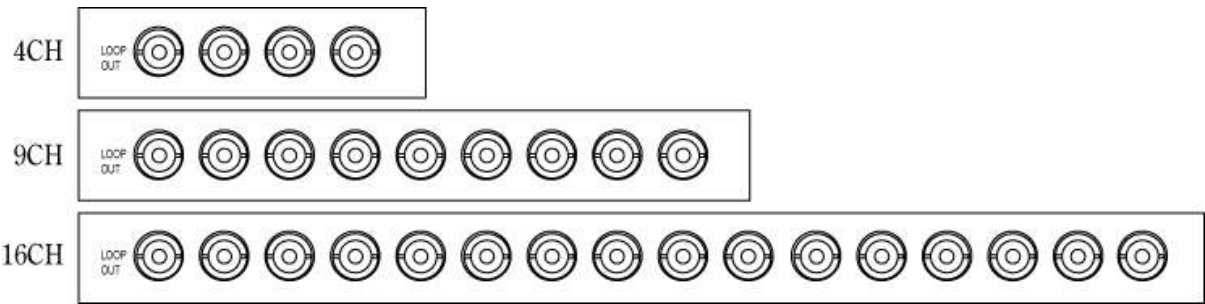
(16CH REAR PANEL DIAGRAM)

- | | |
|--|-------------------------------|
| [1] Video Input (Camera Video Input) | [9] Audio Input |
| [2] Video Output (CCTV Monitor Output) | [10] Audio Output |
| [3] LAN port (Network) | [11] E-SATA Input |
| [4] USB (Rear) | [12] VGA Monitor |
| [5] RS-485 | [13] Composite Monitor Output |
| [6] Alarm Output | [14] SPOT OUT |
| [7] Sensor Input | [15] Adaptor |
| [8] Serial Port | [16] Power Switch |
| | [17] HDMI Monitor |

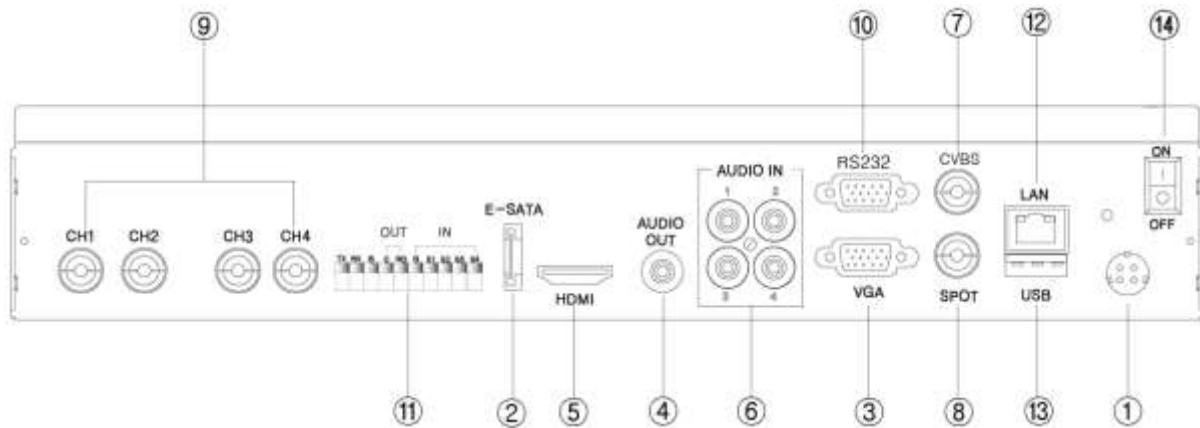
[VIDEO INPUT]



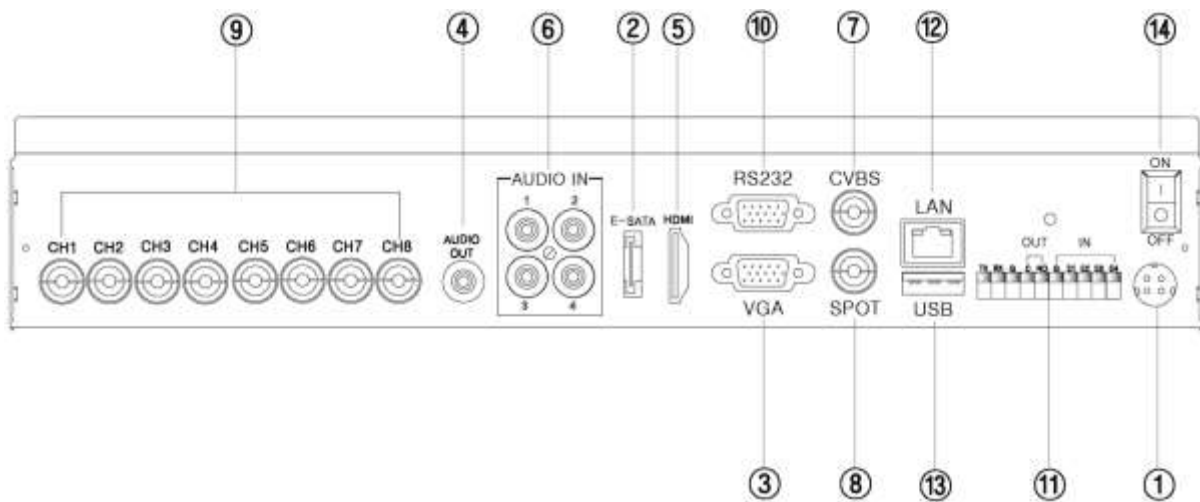
[Video Loop Through]



HD SDI DVR (4/8CH)



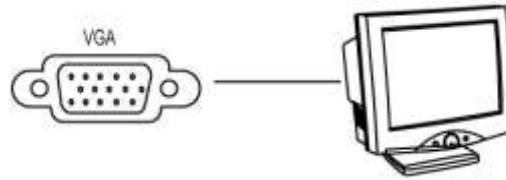
(4CH REAR PANEL DIAGRAM)



(8CH REAR PANEL DIAGRAM)

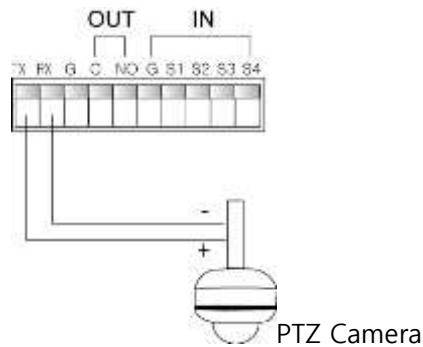
- | | |
|---------------------------|----------------------------------|
| [1] POWER IN | [8] SPOT OUT |
| [2] E-SATA IN | [9] VIDEO IN |
| [3] VGA MONITOR OUT | [10] RS-232 INTERFACE |
| [4] AUDIO OUT | [11] RS-485/ALARM OUT /SENSOR IN |
| [5] HDMI MONITOR OUT | [12] LAN |
| [6] AUDIO INPUT | [13] USB |
| [7] COMPOSITE MONITOR OUT | [14] POWER SWITCH |

【VGA】



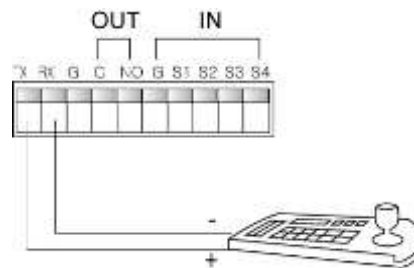
Connect a VGA monitor to the DVR with a standard VGA Cable. We recommend using a 17" LCD or CRT monitor or above.

【RS-485 Connections (PTZ Camera)】



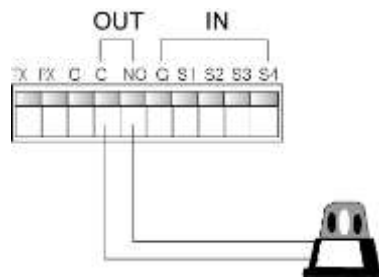
RS-485 ports are used to connect external PTZ cameras compatible to the DVR.

【RS-485 Connections (External Keyboard)】



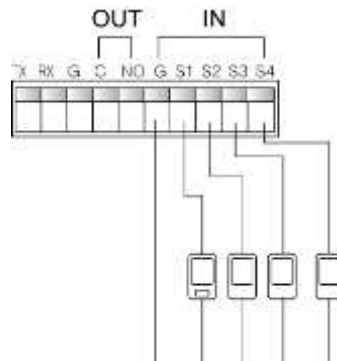
There are single RS-485 communications ports, these ports are used to connect external PTZ camera controllers. If you wish to use an external controller, please contact the store.

【Alarm Out】



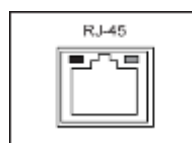
Only 1 alarm out is supported. A device must be wired to C (Common) and NO (Normally Open) and 12V DC ground voltage must be applied to the port.

【Sensor Input】



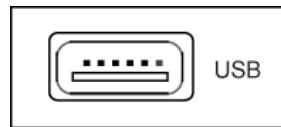
Each sensor input can be controlled by a device such as a motion/IR sensor, door contact sensor, and similar devices. Each device can either be wired as N/O or N/C (Normally Open/Normally Closed).

【Ethernet Port】



The RJ-45 port is used to connect the DVR to a network through a DTE (Data Terminal Equipment) device such as a switch or router with an integrated switch. To connect the system to a network please use a standard RJ-45 cable (patch/straight through) and make sure both ends of the cable are securely connected to the proper ports. Consult your local IT administrator for detailed configuration procedures and setup. The maximum cable length for Category 5e, RJ-45 cable is 100 meter or 300 feet.

【USB Port】



The USB connection ports are used for both back up and mouse control purposes. Either port can be used for back up via USB memory stick or for mouse control. A third option for the two USB ports are for firmware updating procedures. You will only need to use one port for firmware updates.

Two USB ports are located one front side of the DVR and the other in rear side of the DVR. These ports may be used for both USB mouse connection and for USB memory stick back up procedures

【HDMI Port】

HD
MONITOR



Used to connect the DVR to the monitor that has a HDMI port.

【E-SATA Port】

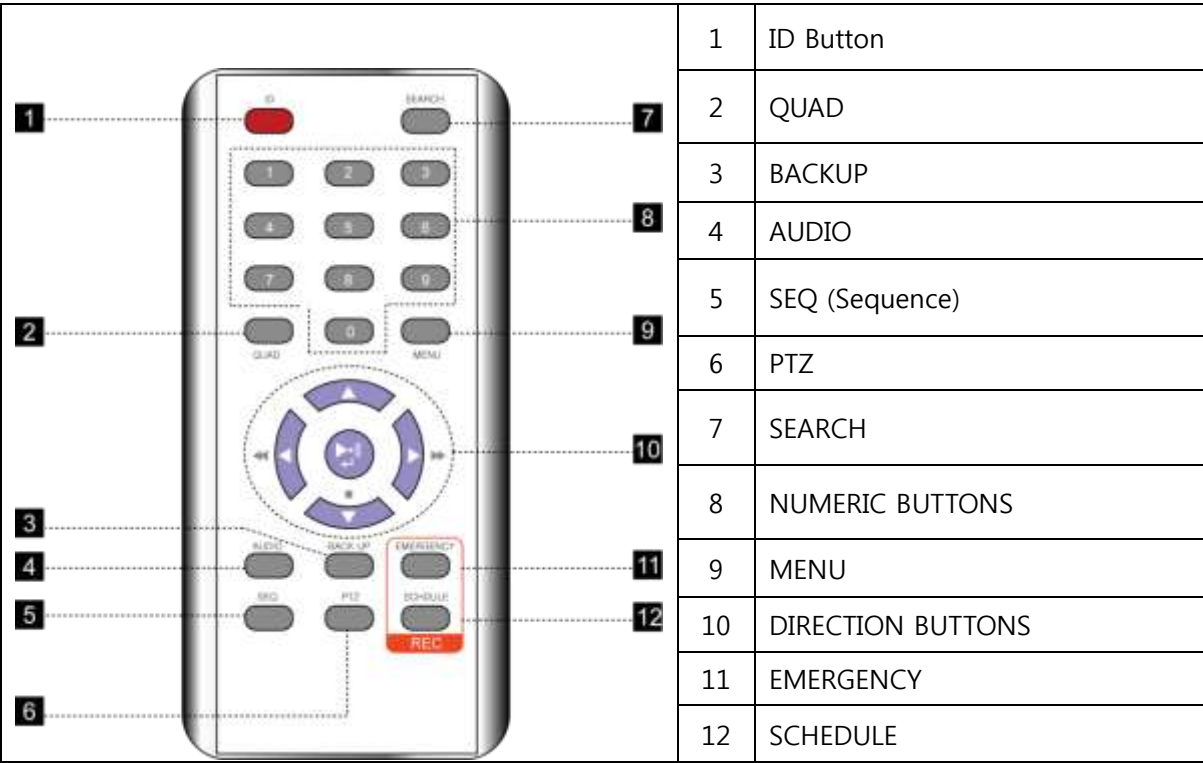
E-SATA



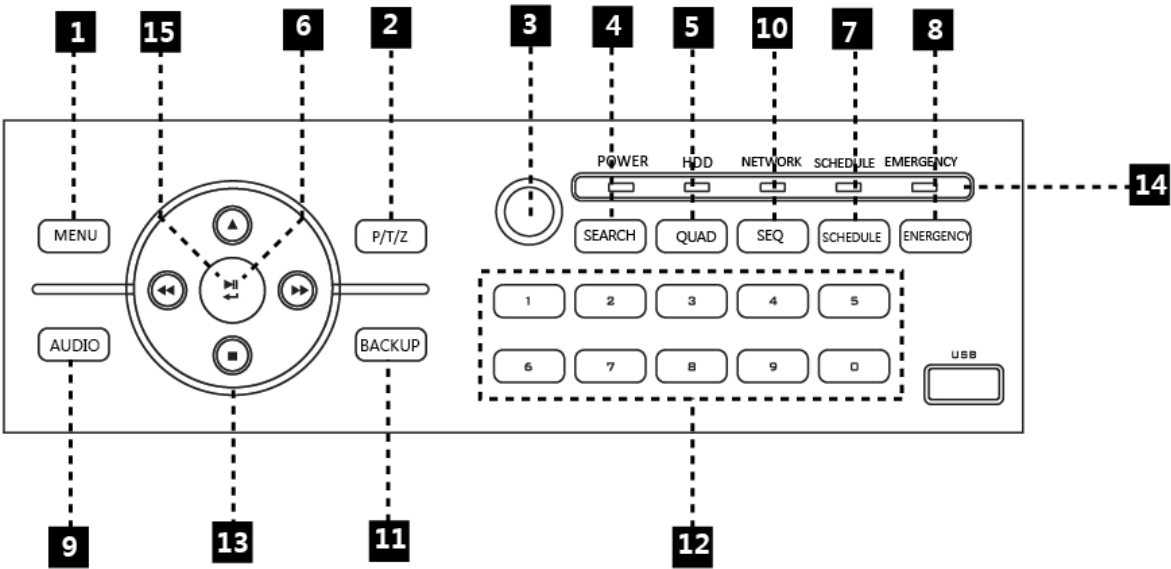
Used to connect the external HDD with E-SATA cable.

3. Overview

3-1 Remote Controller



(Remote Controller)



(FRONT PANEL)

[1] MENU Button

Used to display the setup menu. Also used to go back to previous step. In case of a mouse, right click has the same control.

[2] P/T/Z Button

Used to call the PTZ control menu.

[3] IR Receiver

Receive the IR signal from a remote controller.

[4] SEARCH Button

Used to call the search menu.

[5] QUAD Button

Used to display the split screen.

4CH : Available to configure to 4 split.

8CH : Available to configure to 4, 9 split.

9CH : Available to configure to 4, 6, 9 split.

16CH : Available to configure to 4, 6, 9, 13, 16 split.

You can also switch to various split modes with ▲ button.

[6] ► || Button

It is confirm button and also used to play and pause the recorded video.

If you push the button for about 3 second, 'Log Off' message is displayed.

[7] Schedule Recording Button

Enable Schedule Recording. Starts recording under the schedule and event settings configured in Weekly Schedule.

[8] Emergency Recording Button

Enable Emergency Recording. Irrespective of the current schedule, starts full channel continuous recording under the current Recording Setting configured.

[9] AUDIO Button

Used to listen audio by selecting a channel.

[10] SEQ Button

Enable sequence mode. You can configure sequence option at System > Display > Auto Sequence.

[11] BACKUP Button

Display the backup menu.

[12] CHANNEL Button

You can enter any channel to select a camera in Live or Playback or number to configure settings.

[13] Direction Buttons

Use as a control button on Setup menu. (Speed control on playback, Stop button, Pause button.)

[14] LEDs

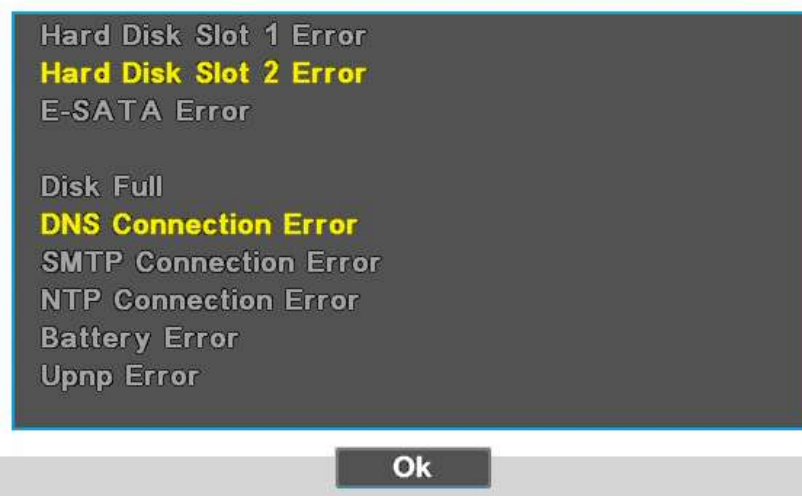
- POWER : Lights up while the main unit is in operation.
- HDD : Lights up when data is being written on the HDD.
- NETWORK : Lights up when linked remotely over internet.
- SCHEDULE : Lights up when Schedule Recording is in progress.
- EMERGENCY : Lights up when Emergency Recording is in progress.

[15] ERROR List

If an error is occurred, the DVR triggers beeps and displays error icon. In this case, if you push confirm(► ||) button, an error message is displayed on the screen.



Error Icon is displayed on the status bar.



- HDD 1 Error : Displayed in case of HDD Error or No disk
- HDD 2 Error : Displayed in case of HDD Error or No disk
- E-SATA Error : Displayed in case of HDD Error or No disk
- DISK Full : Displayed when there is no remaining space on HDD while you select Overwrite Off.
(☞ Can be solved by selecting Overwrite On)
- Cannot connect to DNS Server : Displayed when failed to internet connection
- Cannot connect to SMTP Server : Displayed when there is an error in E-Mail Server setting
- Cannot connect to NTP Server : Displayed when failed to connect to NTP Server
- Battery Error : Displayed when Lithium battery (CR-2032) on main board does not provide power properly.
- Upnp Fail : Displayed when Upnp connection is failed
- Check Video Input : Displayed in case of Video loss
- Check Recording Status : Displayed when recording is not in progress while video is connected.
- Check Network Status : Displayed when there is a problem on network connection.

3-2 Direction Button of Front Panel

① ◀◀

Go Left on the menu.

Scan backward through the video at a fast rate (Up to x16)

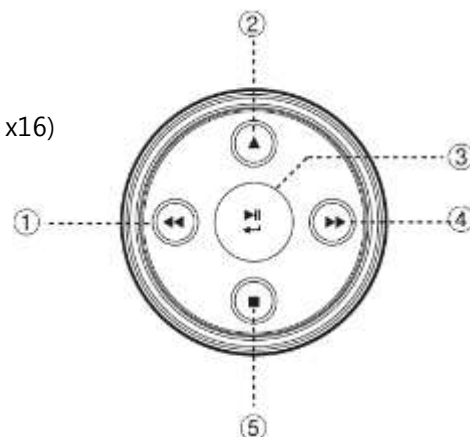
② ▲

Go Up on the menu.

Switch split screen on Live

③ ▶||

Confirm button and also used to play and pause the recorded video. If you push the button for about 3 second, 'Log Off' message is displayed. You can also display Error List when an error is happened and also end beeping by pushing this button on live mode.



④ ►►

Go right on the menu.

Scan forward through the video at a fast rate (Up to 16)

⑤ ▼

Go down on the menu.

Cancel the playback of the recorded video.

3-3 Control by a mouse





You can also use a USB mouse to control the DVR. You can display Setup menu with right-click and also go back to previous step on the menu.



3-4 Understanding of Icons

1. The icons on the live screen indicate the status.



-  Recording
-  Video Loss
-  Motion Detection
-  Sensor

2. Camera title will be shown as above.



3. Status Bar



[1] Display date and time

[2] ER means Emergency Recording and SR means Schedule Recording.

[3] Show network status and key lock

[4] Show HDD status and display "Overwrite" when overwriting previous data.

3-5 Assigning remote controller ID

In order to use remote controller, the ID must be same both DVR and remote controller. By assigning DVR ID, it allows the user to control multiple DVRs with one remote controller.



[Assigning the remote control ID values]

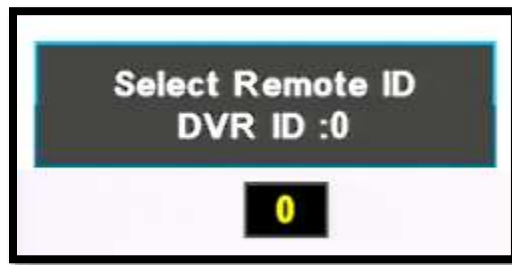
[1] Check current system ID and can be changed by user. (Factory default ID: "0")

Menu > System > Information > Remote ID (Range: 0 ~ 99)

System ID must be configured on DVR system menu. It cannot change DVR system on remote controller.

[2] How to use remote controller

ID must be identified between remote controller and system. Otherwise remote controller doesn't recognize DVR correctly.



Remote controller ID menu displays as above image when you press ID button of remote controller.

- DVR ID : It displays current ID of the system.
- "0" : Input the same ID number of DVR and press "Confirm"












3-6 Menu Display

[1] Front panel button : Push "MENU" button on the front panel.

[2] Mouse : Right-click

[3] Remote : Push "MENU" button



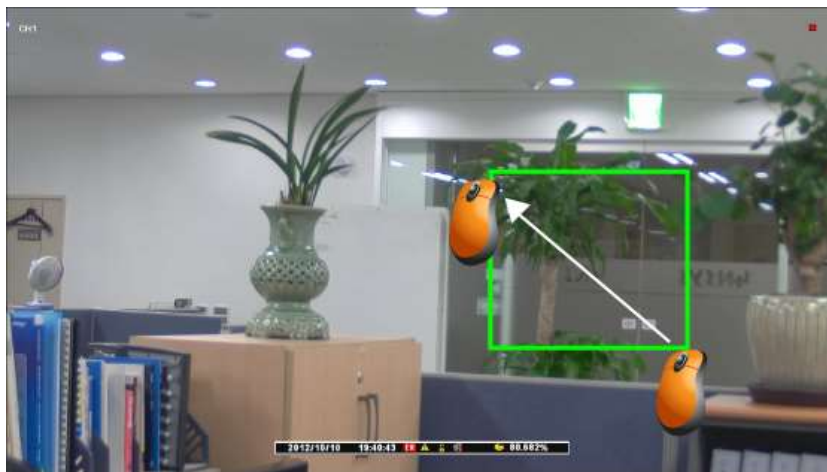
	System	Go to main menu
	Search	Go to search menu
	Backup	Go to backup menu
	Audio Out	Go to audio output menu
	Emergency	Start emergency recording
	Schedule	Start schedule recording
	PTZ Control	Go to PTZ Control menu
	Sequence	Start sequence
	I/O	Switch output to Alarm or internal buzzer
	Split Mode	Change display split mode
	Zoom	Magnify the image at live or playback

3-7. Digital Zoom

Magnify the image at live or playback.

[1] How to magnify with a mouse

Locate the mouse pointer on the place you want to magnify. And click the left button of mouse and drag it. You can cancel by dragging with mouse left button clicked. (Also you may use "Zoom In / Zoom Out" menu by displaying menu)

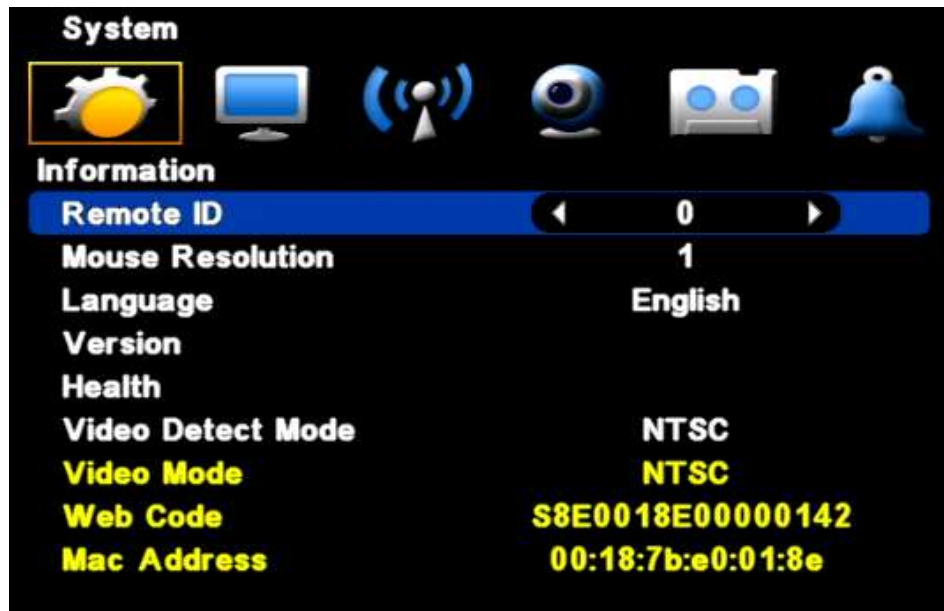


[2] How to magnify with a remote (Front panel button)

- On Live : Display Menu and select "Zoom In/ Zoom Out". And move with direction buttons. Select Menu button to cancel
- On playback : Select "Emergency Recording" and move with direction buttons. Select Menu" to cancel.

4. Configuration

4-1 Information



[1] Remote ID : Assign the ID of remote controller, so that user can separately control multiple DVR unit with one controller. (ID range: 0 ~ 99)

[2] Mouse Resolution : Mouse sensitivity level can be adjusted at user's convenience.
(Basic Level 1; Slow speed, Level 1 < Level 2 < Level 3 to increase reaction speed.)

[3] Language : Select a language

[4] Version : Show S/W, H/W and N/W

[5] Health : Indicates storage status

- Hard Disk 1~3 : Display the temperature of hard disk
- E-SATA : Display the temperature of hard disk connected to E-SATA
- Board : Display the temperature of the DVR's main board.

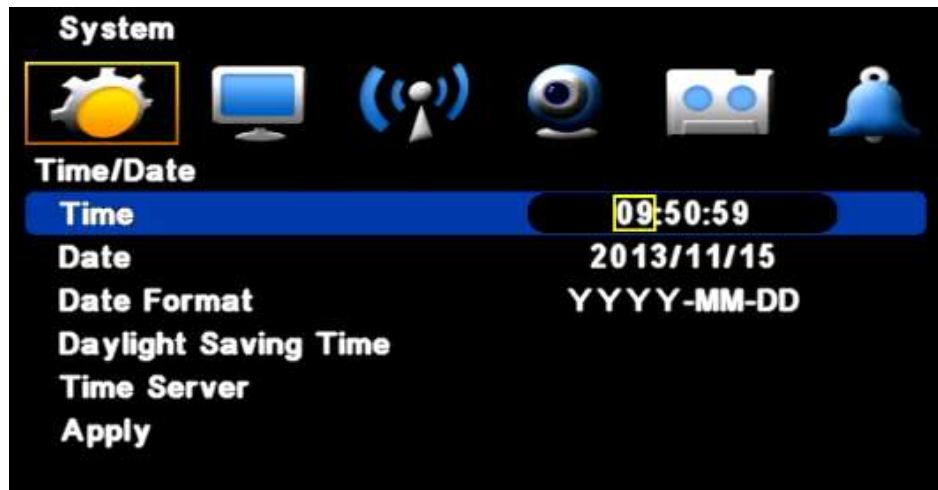
[6] Video Detect Mode : Select a video signal format. (NTSC / PAL)

[7] Video Mode : Display video signal format

[8] WEB Code : DDNS ID for DDNS connection.

[9] MAC Address

4-2. Time/Date



[1] Time : Set time

[2] Date : Set date

[3] Date format : Select a Time/Date display format.

[4] Daylight Saving Time : Set "ON" to apply daylight saving time.



Enter Month/Week/Day to begin and also enter Month/Week/Day to end.



- Time Server : Enter the time Server's IP address or domain name. (Default : kr.pool.ntp.org)
- Synchronize Period : Specify the server synchronization interval.
 - Power On : Synchronize after power is on.
 - 12 Hour : Synchronize per every 12 hours.
 - 24 Hour : Synchronize per every 24 hours.
 - Off : Not use synchronization.
- Time Zone : Designate the time zone.
- Time Synchronization : Apply the settings.

4-3. Password



[1] ID : Available to register max 8 account ("Admin" and "User1~7")

- admin : Administrator ID
- User1~7 : User ID

[Note] Default password of all ID is "11111111".

[2] Assign an authority per selected ID

- Configuration : Available to set configuration
- Hard Disk : Available to set Hard Disk
- Search : Available to search
- Backup : Available to back up
- PTZ Setting : PTZ operation is available
- PTZ OSD Menu : Assign an authority to display PTZ OSD menu
- Record Key : Assign an authority to use "REC" on the front
- Camera : Available to see the selected channel

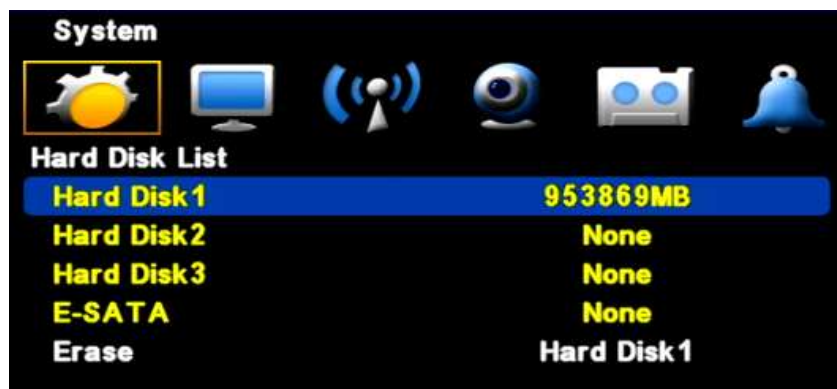
4-4. Hard Disk

As it is related to recording, if any setting is wrong, system error or abnormal recording could happen.

[1] Hard Disk List : It provides the information for Hard Disk, external USB Hard Disk and format.



- Hard Disk 1~3 : Display the Hard disk capacity internally mounted
- E-SATA : Display the capacity of E-SATA
- Delete : Select a disk and format(delete) it



[2] Total : Display total capacity and used capacity of Hard Disk

[3] Over write : Record continuously by overwriting the hard disk

[4] Erase Data : Format several hard disks altogether.

- Main Disk : Format all the mounted disks named "Main disk"

- Mirror Disk : Format all the mounted disks named "Mirror Disk"

[5] Auto Delete : Keep the recorded data for the selected period and automatically delete the previous data.

[6] Advanced : Select whether a Hard Disk is used as Main disk or Mirror disk.

- Hard Disk 1~3 : Select with which purpose it will be used.
- E-SATA : Select with which purpose it will be used.
- Apply : Save the setting

[Note] After setting, select "Apply" to save. Then, the system is rebooted.

4-5. Default Setup

You can initialize the current setting to default or factory values.



[1] Default Setup : Except major configuration(Network, Password), parameters are initialized.

[2] Factory Setup : All parameters are initialized.

4-6. Upgrade



[1] USB (Firmware Upgrade) : In order to upgrade system firmware with USB memory stick, the firmware file must be saved in the USB storage first and then insert to DVR to start USB upgrade from the menu.

[Note]

Do not turn off power or remove USB stick while the upgrade is in progress.

[2] Configuration Backup : Save a configuration file of DVR.

[3] Configuration Load : Upload a configuration file to DVR.

4-7. Button Setup

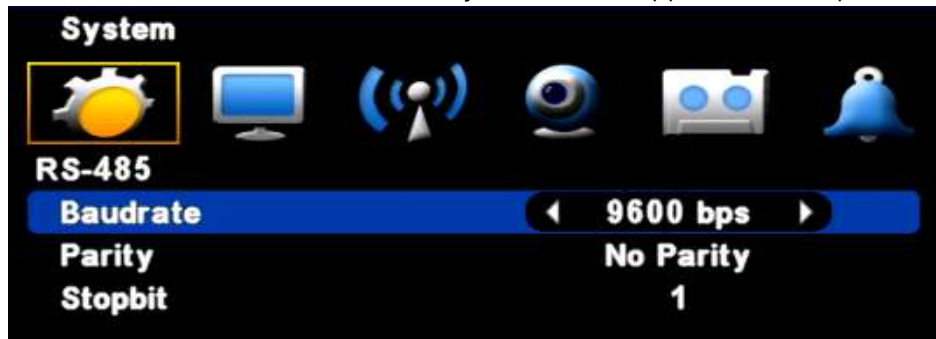
After a certain time passes, screen is automatically locked.



- Auto key lock : There is no key input during specific time, system locks the button automatically.
In order to unlock, input the password. (10 sec. 30 sec. 1 min. OFF)
- Key Beep : If you select ON, beep sound occurs

4-8. RS-485

In order to control the PTZ camera or control keyboard, DVR supports RS-485 port.

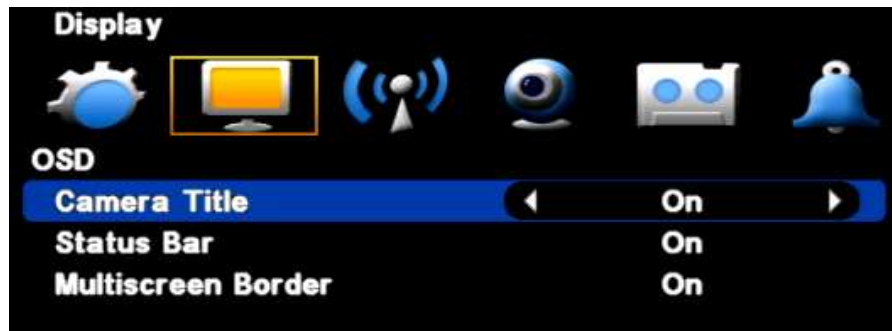


Baudrate /Parity /Stopbit : Refer to the manual of "Keyboard" or "PTZ camera"

5. Display

5-1. OSD (On Screen Display)

Show OSD information on the screen.



[1] Camera Title : ON / OFF

[2] Status Bar : ON / OFF

[3] Multiscreen Border : ON / OFF

5-2. Split Mode

Selecting split mode. (Split mode is different per channel.)

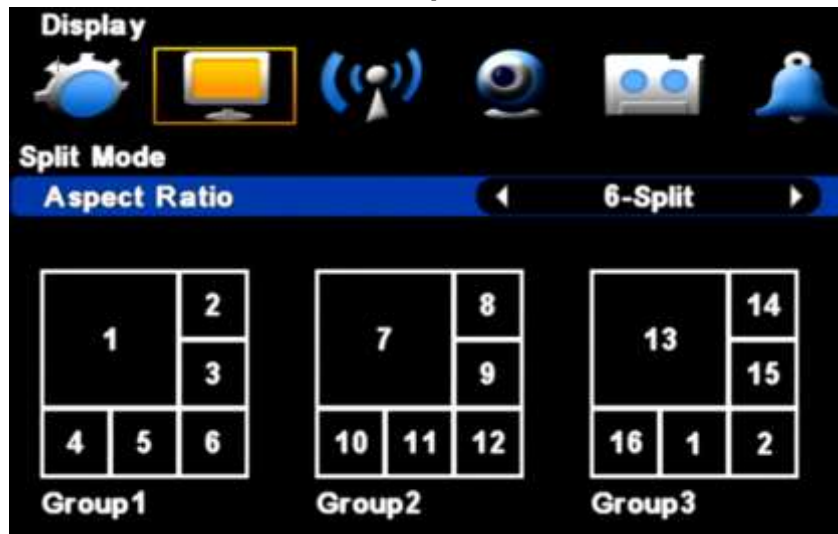
960H DVR(4/9/16CH)

[4-Split]



9/16CH DVR

[6-Split]



9/16CH DVR

[9-Split]



9/16CH DVR

[13-Split]



16CH DVR

[16-Split]



16CH DVR

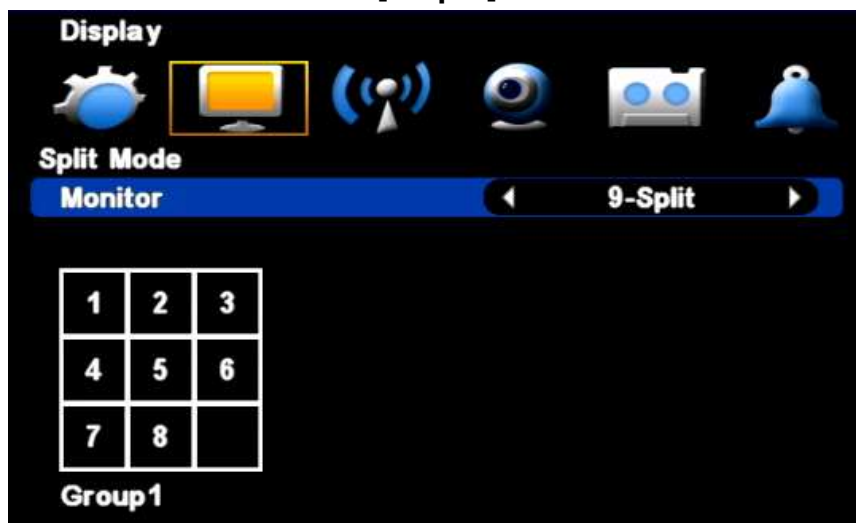
HD SDI DVR(8CH)

[4-Split]



8CH DVR

[9-Split]



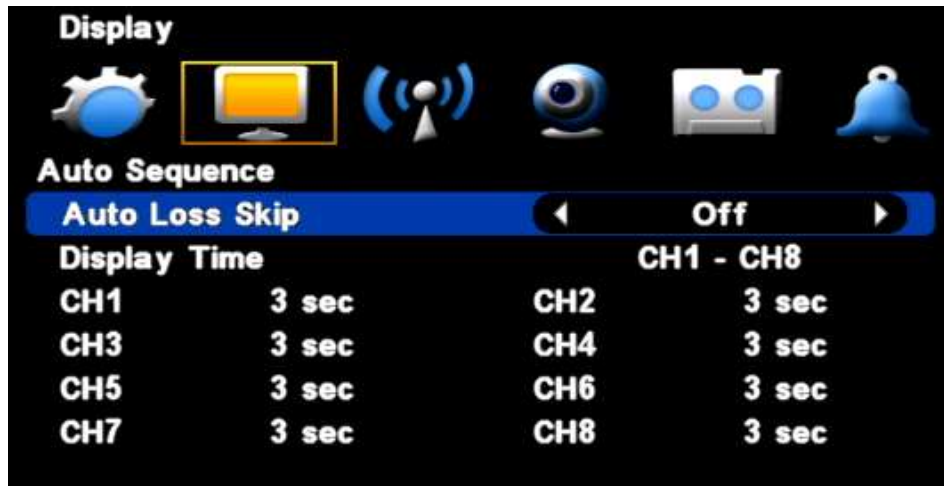
8CH DVR

[Note] Switching split mode

You can use ▲(Direction button) to select split mode and ►(Direction button) to select different channel group.

5-3. Auto sequence

Configure auto sequence setting.



(Channel display is different per channel)

- Auto Loss Skip : If there is no video input, it skip video loss channel.
- Display time : Select a display duration while sequencing (1 sec. ~30 sec.)

[Note] Sequence doesn't work on event pop-up.

5-4. Spot Out

Control extra spot output on rear panel. By using additional monitor, event triggered video display and sequence display are available.



[1] Mode

- Sequence : Display videos in selected time order per channel.
- Event : Display event triggered channel.
- Seq+Event : If an event is triggered, the video is displayed first and then videos displays in sequence.

[2] Display Time : Set time per channel applied in sequence display.

5-5. TV Adjustment

You can choose a type of video output. This model supports HDMI, VGA and composite output.



- Monitor : Default Resolution is 800*600.
 - HDMI Resolution : 16:9(1920*1080), 16:9(1280*720)
 - VGA Resolution : 4:3(1024*768), 4:3(800*600)
- ICON : You can configure the location of camera title, event icon and recording icon on live screen.
 - Normal : Select when you use normal CCTV monitor.
 - VGA : Select when you use PC monitor
 - Small : Select when you use old CCTV monitor

※ Initialization of Monitor Setting.

You can initialize the monitor setting value as below.

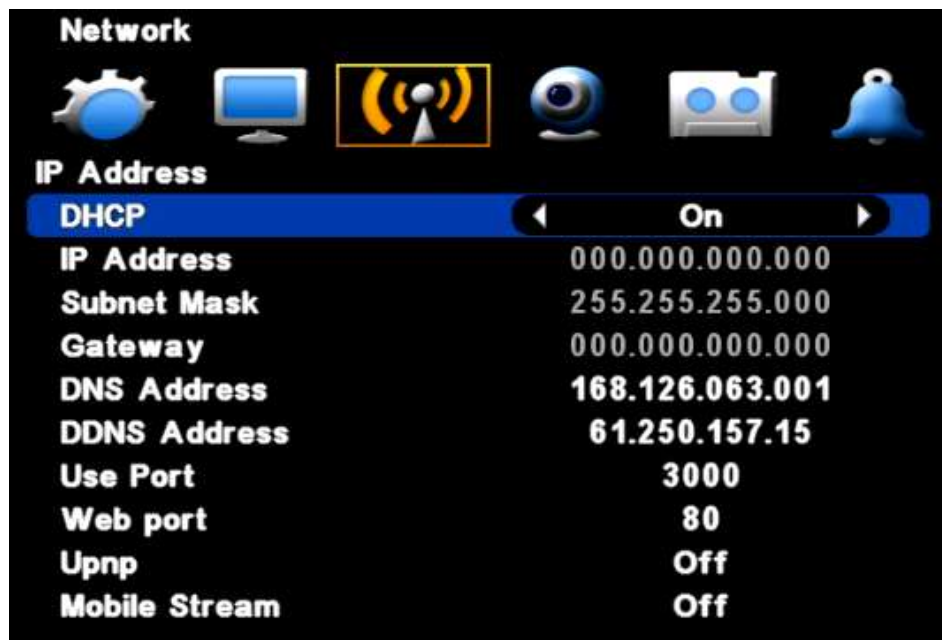
First, push '1' button on the front panel and switch the power on.

Second, keep pushing '1' button for around 30~35 seconds while the DVR is booting.

6. Network Setup

6-1. IP Address

It is the system setup for remote monitoring or backup and it needs the network setup of DVR.
The user must know whether their internet is dynamic IP(DHCP) or fixed IP. Please check it to your ISP before setup.



[1] DHCP : "ON" for dynamic IP user.
"OFF" for static IP user.

[2] IP Address : Input the IP address.

[Example]

- IP address : 61.250.152.050
- Subnet Mask : 255.255.255.000
- Gateway : 61.250.152.001
- DNS Address : 164.124.101.002

[3] DDNS Address : Do not change the DDNS server IP (61.250.157.15)

[4] Use Port : Default port is 3000.

[5] Upnp : If a router supports Upnp, it automatically set port forwarding.

[6] Mobile Stream : Used to improve live monitoring on mobile.

- If you configure Mobile Stream ON, split screen has the same resolution with one channel popup screen.

Ex) If resolution of split screen is 320*240, full screen for one channel is also displayed as 320*240. You can check the resolution at System > Network Codec Setup.

- If you configure Mobile Stream Off, the resolution for split screen and popup screen displayed differently.

Ex) If resolution of split screen is 320*240, full screen for one channel is displayed as 1280*720.

[NOTE] In case of using the router, the user should make port forwarding.

The port forwarding function is described on the router manual.

6-2. Notification

When an event is triggered, the event info is notified by e-mail.

E-Mail Setup

Configure Mail settings. Configured setting is displayed by yellow letters.



[1] SMTP Server : Enter the SMTP Server's IP address or domain name.

[2] Mail From : Enter the mail address which you would use. Used not to be blocked as a spam mail.

[3] Mail Address : Enter recipient's mail address. (Available up to 3 accounts)



[4] Password : Select if ID/Password input is necessary when sending a mail.

When you configure Alert Mail Server, you should enter User ID and Password as below.

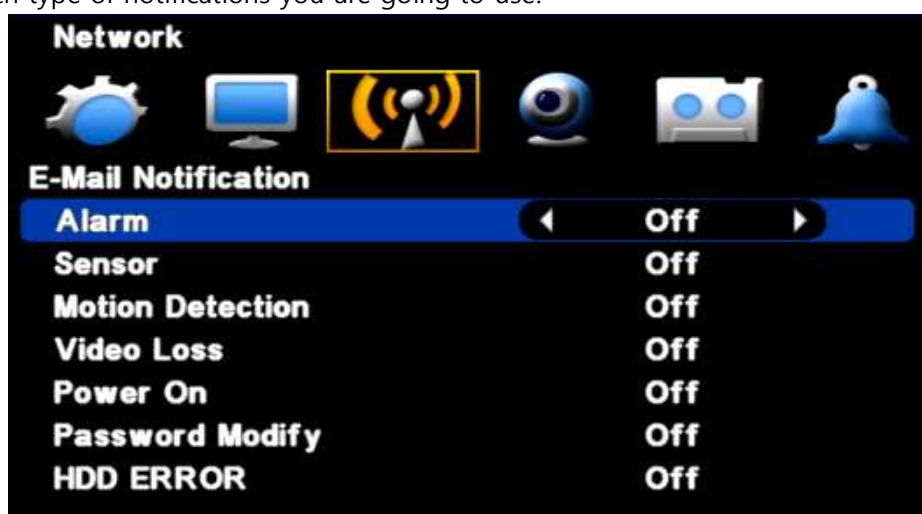
ID : dvr_hp@dvr1-alert.com

PW : 4n7300win

[5] Use Port : Default SMTP server port number is 25.

6-3. E-mail Notification

Select which type of notifications you are going to use.

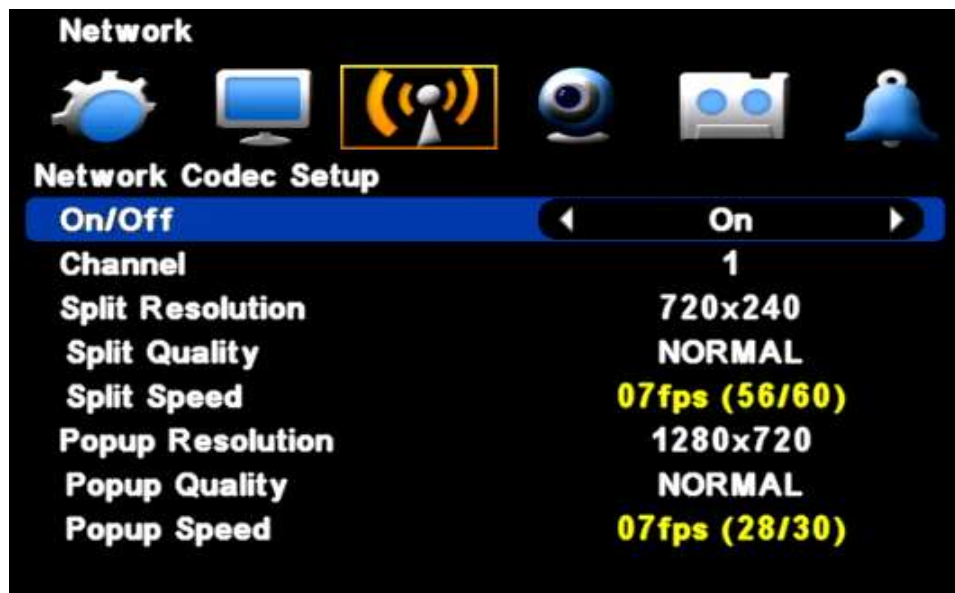


Notification type : You can select the type for E-mail notification.

- Alarm : E-mail is sent with still image when an alarm occurs
- Sensor : E-mail is sent with still image when triggering a sensor
- Motion Detection : E-mail is sent with still image when detecting a motion.
- Video Loss : E-mail is sent when video input is lost.
- Power On : E-mail is sent when power is on after off.
- Password Modify : E-mail is sent when the system password is modified
- HDD Error : E-mail is sent when HDD error happens

6-4. Network Codec Setup

It is available to transmit data through extra network transmission codec. There are two ways of setting. Split Resolution is a transmission mode for split screen and Popup Resolution is a transmission mode for one channel full screen.



- On/Off : Select "On" to use dual codec setup
- Channel : Select channel to set (Available to set per channel)
- Split Resolution : Transmitting resolution of split screen (Fixed with CIF)
- Split Quality : Select picture quality of split screen to transmit
- Split Speed : Select transmission frame of split screen
- Popup Resolution : Transmitting resolution of 1 channel full screen (Fixed with 1280*720)
- Popup Quality : Select picture quality of 1 channel full screen to transmit
- Popup Speed : Select transmitting frame of 1 channel full screen

DIGITAL VIDEO RECORDER MANUAL

※ Resolution and frame limit for extra transmission

Split Screen		1ch Popup	
Resolution	Frame Rate	Resolution	Frame Rate
320 * 240	30 fps	1280 * 720	7 fps
720 * 240	15 fps	1920 * 1080	5 fps
720 * 480	7 fps		

- Picture quality : You can also select picture quality. (Lowest, Low, Normal, High, Highest)

[Note] We recommend you to use network codec setup in order to maintain normal transmission speed.

7. CAMERA

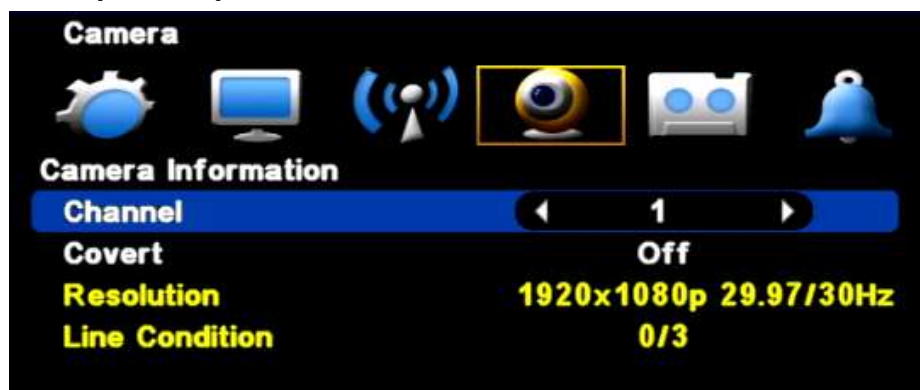
7-1 Camera Information

960H DVR(4/9/16CH)



- Channel: Select a channel for setting.
- On/Off: Set a camera as On, Off or Covert
 - On: Use
 - Off: Not use
 - Covert: It doesn't show the image
- Brightness: Bright control
- Contrast: Contrast control
- Saturation: Black/White control
- Hue: Magenta and Cyan control

HD SDI DVR(4/8CH)



- Channel : Select a channel for setting.
- Covert : You can switch off live video.
- Resolution : Displays the resolution of camera.
- Line Condition : Checks the line condition status of camera by counting the error. The error

counting could not work if the protocol between DVR & Camera is different.

7-2. Camera Title

Input a camera title using by virtual keyboard.



Press a space bar to change a language.

7-3. PTZ Setting

Configure PTZ setting.



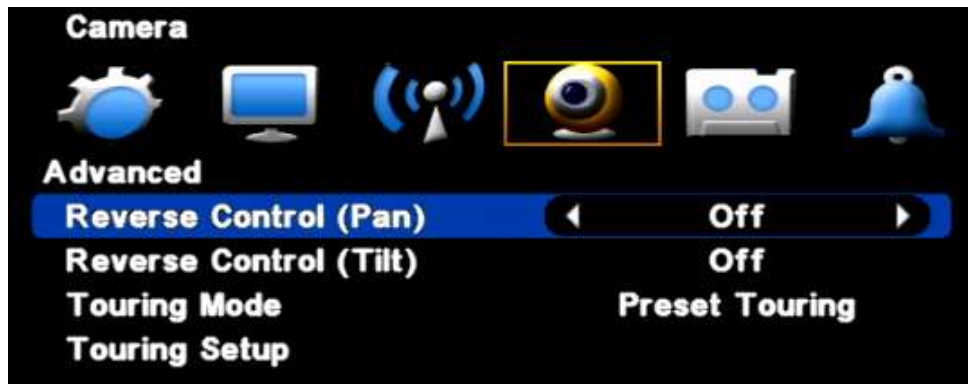
[1] Channel: Select a channel

[2] ON/OFF : Enable or disable to use PTZ.

[3] MODEL : Select the PTZ protocol or, model

[4] ID : Select the PTZ ID. (For more detail, refer to the manual of PTZ device.)

[Advanced]



[1] Reverse Control (Pan) : Set the Pan works reverse direction.

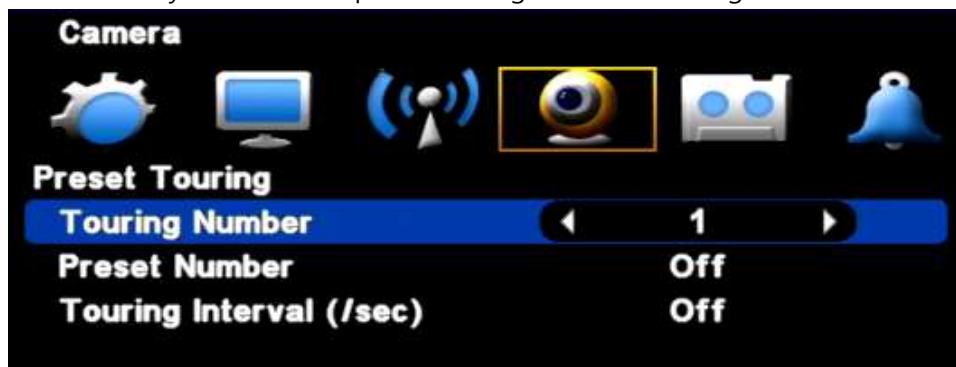
[2] Reverse Control (Tilt) : Set the Tilt works reverse direction.

[3] Touring Mode

- Preset Touring : Use touring by DVR setting.
- Camera Touring : Use touring by camera setting. (PTZ camera built-in touring function is available only.)

[4] Preset Touring

It is operable when you select the 'preset touring' from the touring mode' menu.



The touring number is selectable 1~16.

[1] Touring number : Select the number.

[2] Preset number : Select the preset number saved before.

[3] Touring interval (/SEC) : Select the touring dwell time.

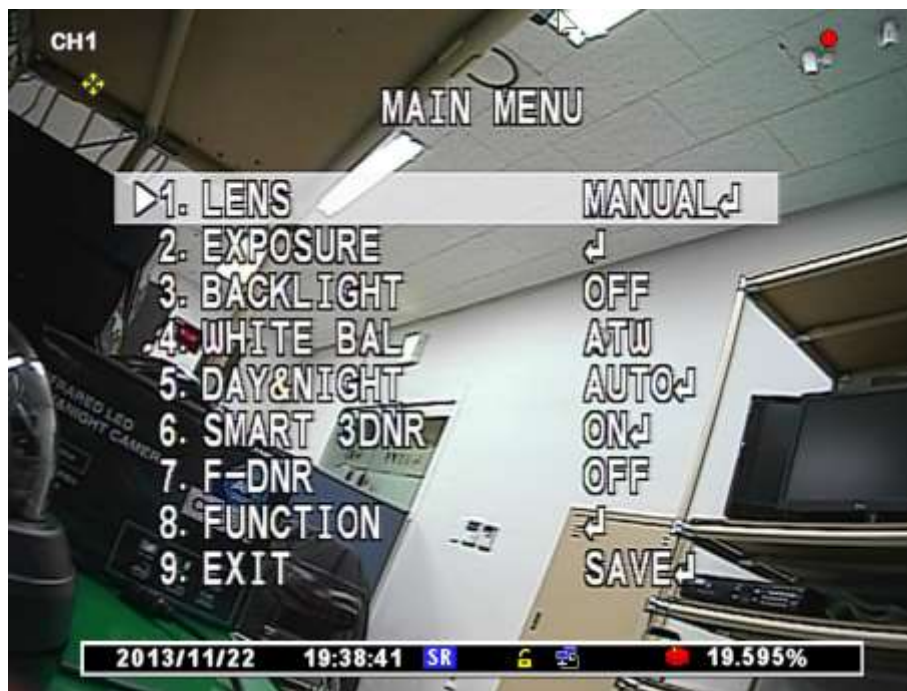
[NOTE] PTZ protocol selection

Protocol is PTZ moving driver. The protocol is registered as per the camera model name or protocol name. Please check whether you PTZ is usable for this DVR. The touring is supporting when the camera itself support the touring function.

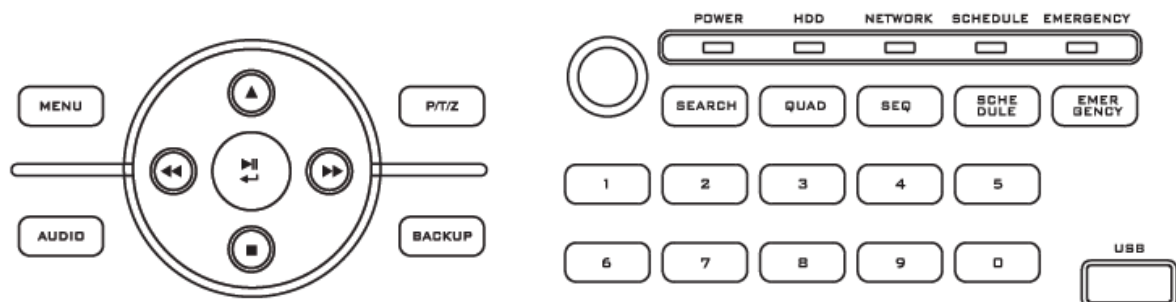
7-4. How to use PTZ

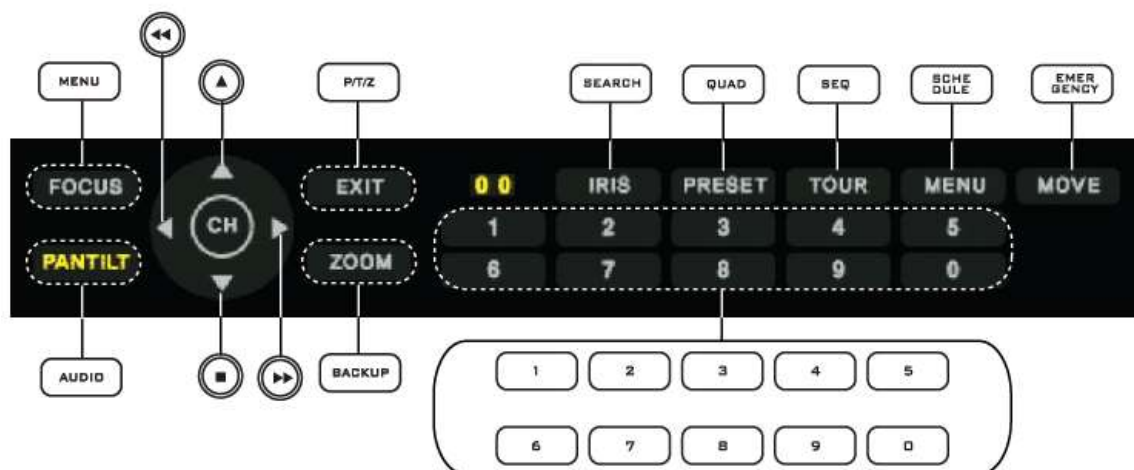
[How to call the PTZ menu]

- DVR : Click PTZ button.
- Mouse menu: Click the right button of mouse and select the 'PTZ'.
- Remote controller menu: Click the "PTZ" from remote controller.



(PTZ Control Menu)





You may use the buttons of front panel as location of each button on the menu is same with the one of front panel.

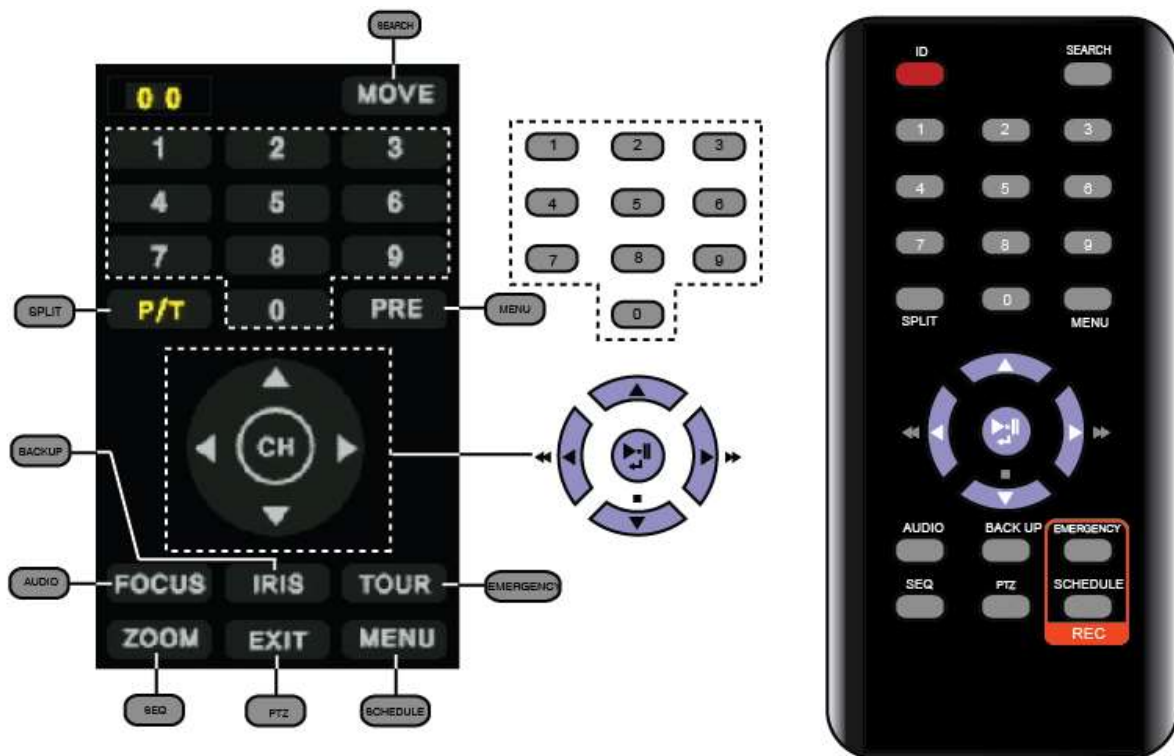
[Note] You can control the PTZ menu with buttons of front panel and a mouse.

- CH : Used to select PTZ camera number.
- EXIT : Close the PTZ control menu.
- PANTILT : Control the direction of PTZ camera with direction buttons. Diagonal direction buttons can be controlled by a mouse only.
- FOCUS : Control Focus with ▲ & ▼ buttons.
- ZOOM : Control Zoom with ▲ & ▼ buttons.
- IRIS : Control the IRIS with ▲ & ▼ buttons.
- MOVE : You can move the OSD menu up or down on the screen.
- PRESET : Control Preset function.
 - **Saving Preset** : Click Preset button and enter a preset number. Then, click the Save button. (You can save the preset up to 99.)
 - **Calling Preset menu** : Click Preset button to display a popup menu. Then, if you enter a preset number saved, the camera is moved to the location configured.

[Note] If you click Preset button on the PTZ menu, you can get out of the Preset mode.

- TOUR : Used to activate several presets configured previously one after another. (Only the camera that supports touring is available to use this function.)
- MENU : Call OSD menu of a camera. It is necessary to call the PTZ menu of a camera in order to control Touring setting or ID shift, etc. (You can only control the cameras supporting RS-485 communication.)

[PTZ Control by a remote]



Calling PTZ menu.

Push PTZ button to display the PTZ control menu. The button arrangement on the menu displayed is same with a real remote.




- CH : Used to select PTZ camera number.
 - EXIT : Close the PTZ control menu.
 - PANTILT : Control the direction of PTZ camera with direction buttons. Diagonal direction buttons can be controlled by a mouse only.
 - FOCUS : Control Focus with ▲ & ▼ buttons.
 - ZOOM : Control Zoom with ▲ & ▼ buttons.
 - IRIS : Control the IRIS with ▲ & ▼ buttons.
 - MOVE : You can move the OSD menu up or down on the screen.
 - PRESET : Control Preset function.
 - **Saving Preset** : Click Preset button and enter a preset number. Then, click the Save button.
(You can save the preset up to 00~99.)
 - **Calling Preset menu** : Click Preset button to display a popup menu. Then, if you enter a preset number saved, the camera is moved to the location configured.
- [Note] If you click Preset button on the front panel, you can get out of the Preset mode.**
- TOUR : Used to activate several presets configured previously one after another.
(Only the camera that supports touring is available to use this function.)
 - MENU : Call OSD menu of a camera. It is necessary to call the PTZ menu of a camera in order to control Touring setting or ID shift, etc. (You can only control the cameras supporting RS-485 communication.)

[Note] Calling the OSD menu of Pelco-C Camera

Pelco-C protocol enables to directly call the OSD menu of a camera without extra connection like RS-485. Configuration is as below.

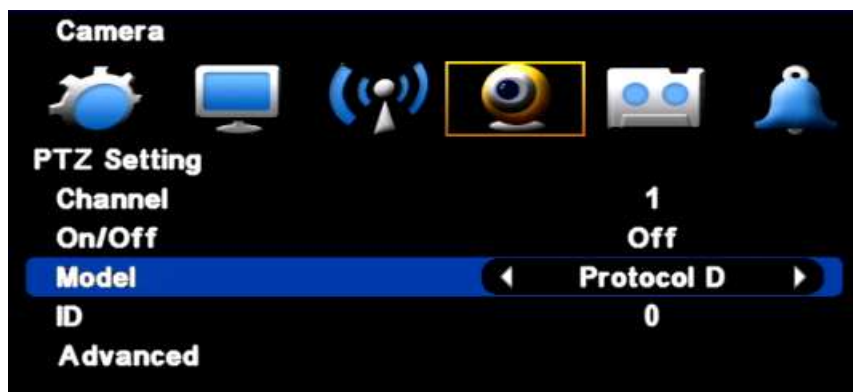
Select a relevant camera model first.

 If there is no manufacturer and model name on PAN/TILT device list, you may select '[PELCO] COAXITRON'.



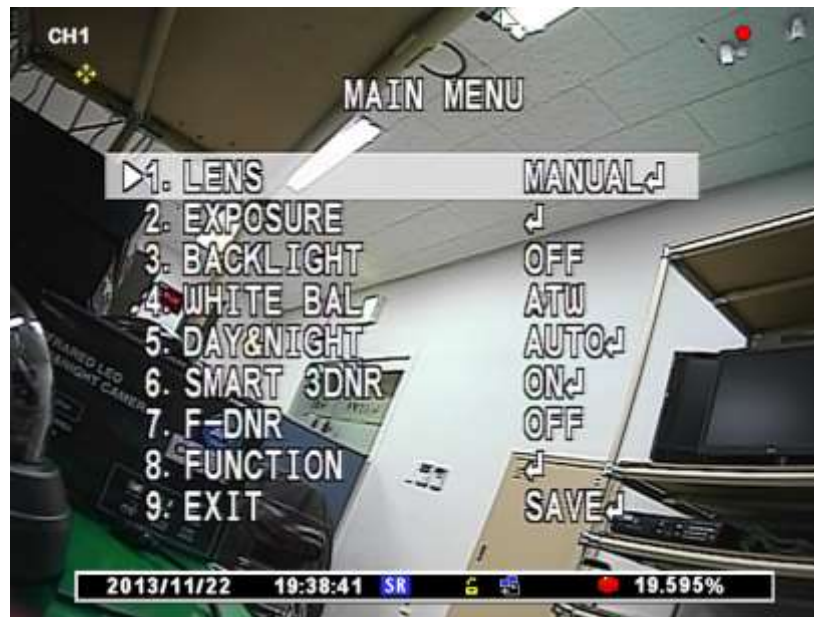
Pelco-C Protocol is displayed as below.

(☞ Pelco-C Protocol is supported to 960H DVR only.)



If you want to call OSD menu of Pelco-C camera on the screen, designate the relevant channel and push P/T/Z button on the front panel.

If you select Menu button on the OSD menu, OSD of the PTZ camera is displayed as below.



7-5 Privacy

You can select privacy masking area in the field of view of camera.

[Note] The selected privacy masking area is displayed with black on live, search and archived data.



- Channel : Select the channel to configure.
- On/Off : On or Off the privacy masking.
- Privacy Area : Select the privacy masking area.

[Detection area setting]

You can navigate the screen with direction buttons and select privacy masking area with confirm button. Also, you can select the area by dragging with a mouse.

DIGITAL VIDEO RECORDER MANUAL

- Selecting the privacy masking area : Selected with pink color.
- Cancel the privacy masking area : Click the selected area to cancel.



<Selecting the area>



<Screen applied>

[Note] You can select privacy masking areas up to 4 areas.

8. Record

8-1 Record Setting

Set resolution, quality, recording speed and audio. Each setting affects the size and picture quality.

960H DVR(4/9/16CH)



HD SDI DVR(4/8CH)



[1] Channel : Set channel

[2] On/Off : Set On or Off for recording

[3] Resolution : Set resolution

[4] Quality : Set picture quality of recorded video

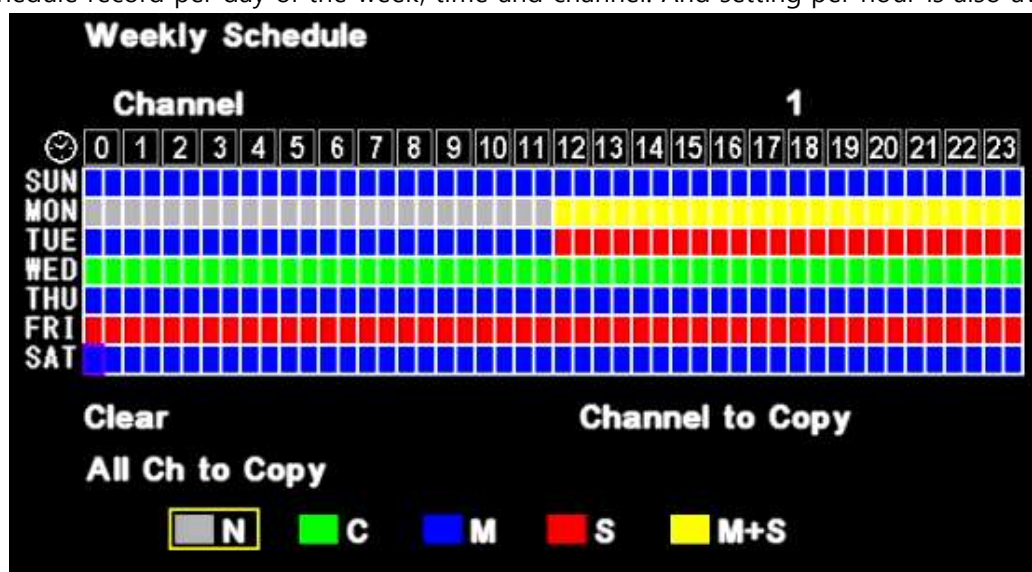
[5] Speed : Set record frame

[6] Post-Recording : Set recording duration time after an event is triggered.

[7] Record Audio : Set On or Off for audio recording

8-2. Weekly Schedule

Set schedule record per day of the week, time and channel. And setting per hour is also available.



[How to setup]

- Select a channel
- After selecting the day of the week and time, every mouse click makes color shift like N(Grey) → C(Green) → M(Blue) → S(Red) → M+S(Yellow)
- After selecting the other day of the week and time, every OK button click makes color shift.
- Clear : Delete the schedule of the selected channel
- Channel Copy : Copy the currently set recording schedule to the selected channel.
- All Ch to Copy : Copy the currently set recording schedule to all channels.

Detailed info for each color

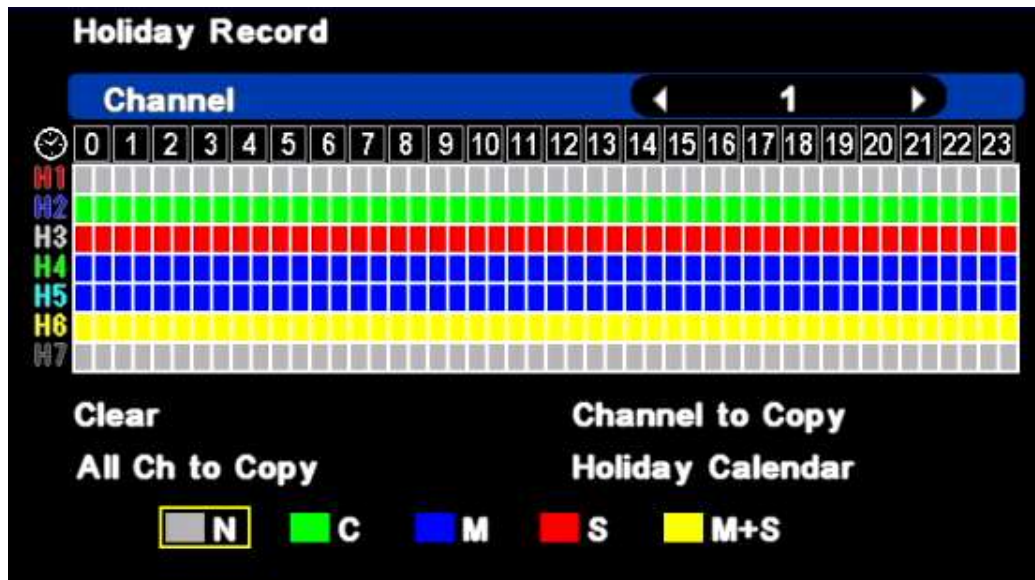
Color	Action	Description
N (Grey)	None	No record
C (Green)	Continuous	Continuous record
M (Blue)	Motion	Motion detected record
S (Red)	Sensor	Sensor triggered record
M+S (Yellow)	Motion+Sensor	Recording by motion detection or sensor triggering

8-3. Holiday Record

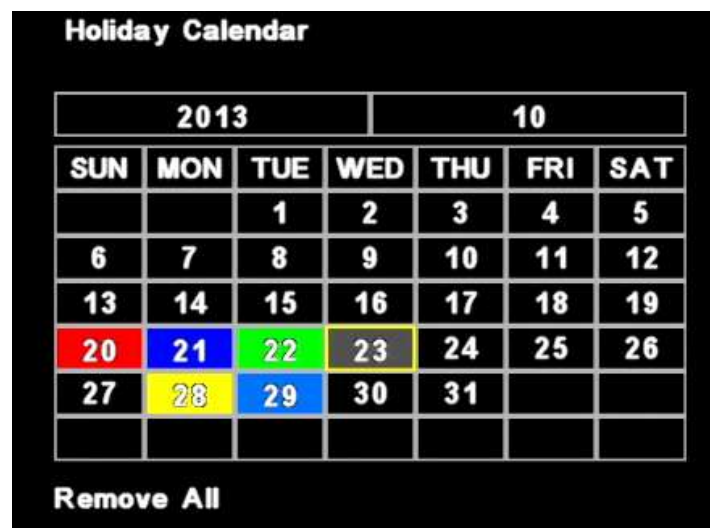
Set holiday record with different option.

[1] 7 different holiday setup can be made.

After selecting record type from H1 to H7, set time with mouse dragging or remote direction key.



[2] Select the Holiday on Holiday Calendar and then set the holiday type among H1 to H7.



Every mouse click on the selected date makes color shift and available to set from H1 to H7.

9. Event Setup

9-1. Sensor

It is for sensor setup.



[1] Sensor Input : Select the sensor input channel.

[2] On/Off : Select the sensor usage.

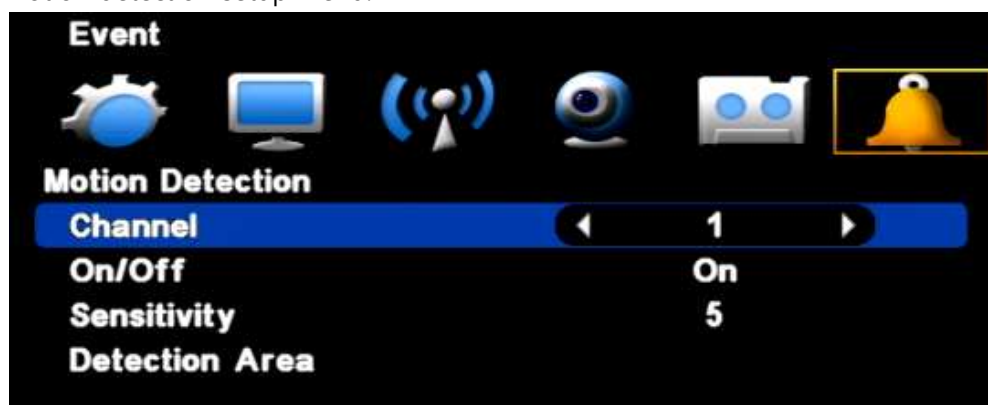
[3] Input Type: Select the sensor input type.

- N/Open (NORMAL OPEN) : The contact is normally opened but close when the signal is generated.
- N/Close (NORMAL CLOSE) : The contact is normally closed but open when the signal is generated.

[4] Related camera: Select the camera to be related with sensor. Multi-selection is possible.

9-2. Motion Detection

It is the motion detection setup menu.



[1] Channel : Select the motion detection channel.

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[2] On/Off : Select the motion detection usage.

[3] Sensitivity : Select the sensitivity of motion detection. Please apply it after the actual testing.

[4] Detection Area: Select the motion detection area. (1~5)



The cursor moving by the direction key and if press "enter", this block is designated for motion detection.

- MD selected area : Pink color
- MD non-selected area : Transparent
- If the movement is detected, the color of that area turns green.

[Apply to all] If you use the following key, you can apply or release in one button

"No1" button: Release all

"No 2" button: Select all.

[Using mouse]

Locate the pointer on start point and click the right button then dragging to the ending point.

9-3. Event Action

Event record will be made as per the setup.



[1] Motion : It is the setup for PTZ, pop-up, relay out, buzzer in motion detection.



- Channel : Select the channel to apply.
- Preset channel : Select the preset camera being applied for the event.
- Preset number : Select the preset number to move.
- Popup Channel : Select the usage Popup usage by ON/OFF.
- Popup Duration : Popup window floating time.
- Relay out : Select the alarm out
- Relay duration : Relay out duration.
- Internal buzzer : Internal buzzer usage.

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[2] Sensor : It is the setup for PTZ, pop-up, relay out, buzzer in sensor triggering.



- Channel : Select the channel to apply.
- Preset channel : Select the preset camera being applied for the event.
- Preset number : Select the preset number to move.
- Popup Channel : Select the usage Popup usage by ON/OFF.
- Popup Duration : Popup window floating time.
- Relay out : Select the alarm out
- Relay duration : Relay out duration.
- Internal buzzer : Internal buzzer usage.

[3] Video loss : It is the setup for PTZ, pop-up, relay out, buzzer in video loss.



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- Channel : Select the channel to apply.
- Preset channel : Select the preset camera being applied for the event.
- Preset number : Select the preset number to move.
- Popup Channel : Select the usage Popup usage by ON/OFF.
- Popup Duration : Popup window floating time.
- Relay out : Select the alarm out
- Relay duration : Relay out duration.
- Internal buzzer : Internal buzzer usage.

10. Search

10-1. Search menu

It supports the various ways of search mode such as Calendar, Date/Time, Event, etc.

[1] How to call menu : Select the "SEARCH" from remote controller and right button of mouse.

[2] Search mode selection

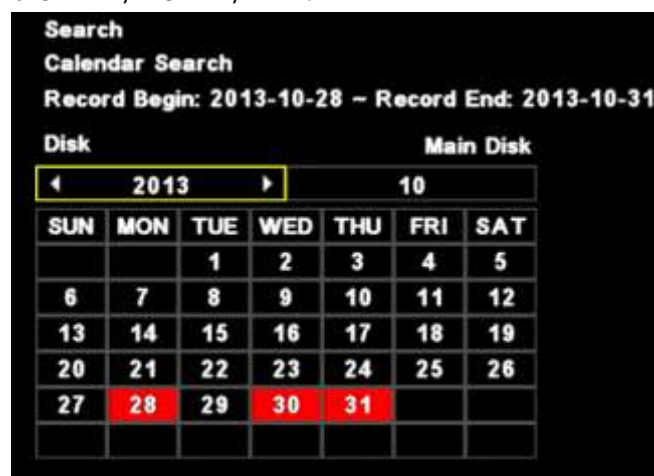


- Calendar search: It searches by calendar.
- Date /Time search: It searches specific Date/Time.
- Event search: It searches as per the event.
- Go to first : It searches the first recorded data on HDD.
- Go to last : It searches the last recorded data on HDD.

10-2. Calendar search

It searches using by the calendar.

[1] If there is the recorded data on DVR, it shows red color on recorded date. Using the direction key, you can change the YEAR/MONTH/DATE.

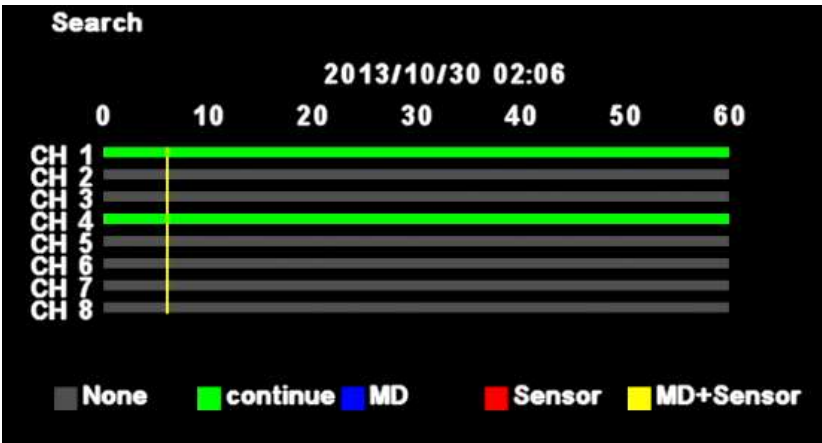


[2] If there is the recorded data, it shows red color so, press the enter button on selected date.



(Channel display could be different per model 4ch/8ch/16ch)

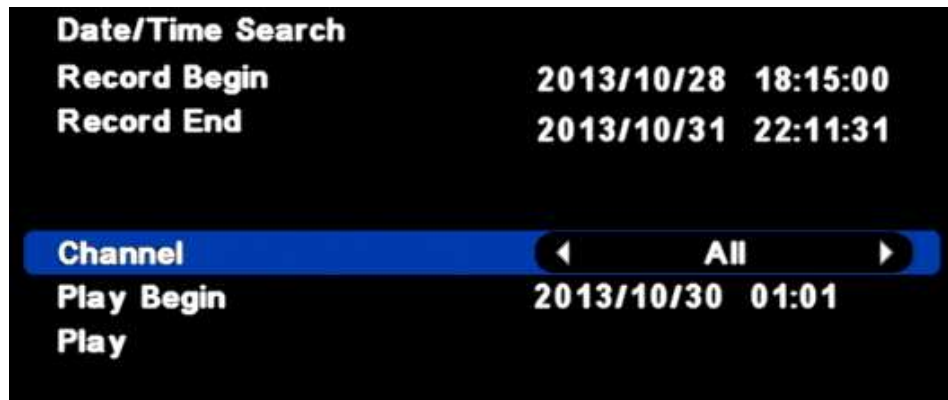
[3] The recorded data shows as a graph and select the minutes to search.



(Channel display could be different per model 4ch/8ch/16ch)

10-3. Date/Time search

If you know the specific date/ Time, input the time to search.



- [1] Record begin : It shows the record began time.
- [2] Record end : It shows the record end time.
- [3] Channel : Select the channel to search.
- [4] Play Begin : Input the time to search.
- [5] Play : If you click "Play", it playback the selected time.

10-4. Event search

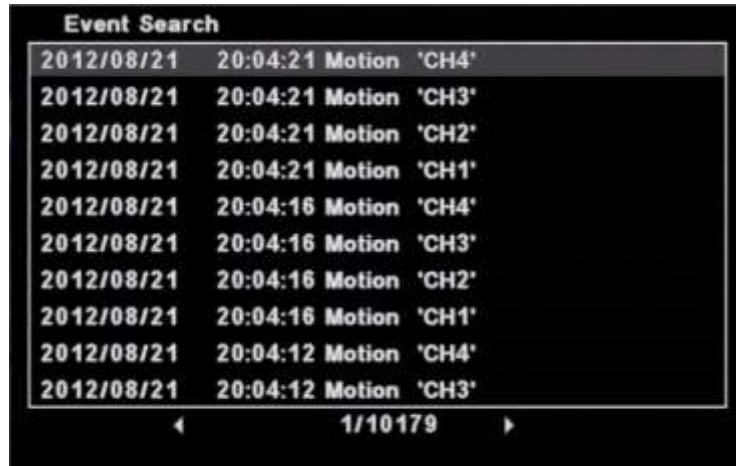
It searches event recorded data.



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- Designate the disk to search.
- Date : Specify the date to search
- Channel : Select the channel to search
- Event : Select the event type to search
- Search : Click 'Search' to start searching

If you select any event list, playback is started.



The screenshot shows a menu titled "Event Search" with a list of search results. The results are organized into four columns: Date, Time, Event Type, and Channel. The first row is highlighted. At the bottom of the menu, there are navigation arrows and a page indicator "1/10179".

Event Search			
2012/08/21	20:04:21	Motion	'CH4'
2012/08/21	20:04:21	Motion	'CH3'
2012/08/21	20:04:21	Motion	'CH2'
2012/08/21	20:04:21	Motion	'CH1'
2012/08/21	20:04:16	Motion	'CH4'
2012/08/21	20:04:16	Motion	'CH3'
2012/08/21	20:04:16	Motion	'CH2'
2012/08/21	20:04:16	Motion	'CH1'
2012/08/21	20:04:12	Motion	'CH4'
2012/08/21	20:04:12	Motion	'CH3'

◀ 1/10179 ▶

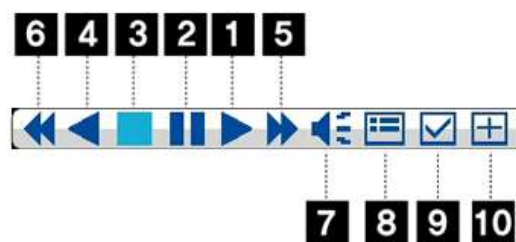
10-5. Go to first / Go to last

It searches the first or last recorded image.

10-6. Search Control

[Control by mouse]

Description of search button



[1] X1 playback

[2] Pause

[3] Stop

[4] Reverse playback

[5] Playback speed control

[6] Reverse playback speed control

[7] Audio during playback

[8] Calendar search during playback

[9] Mark In-Mark Out : If you click it during playback, it recognizes as a backup start time and if you click it once again, it recognizes as a backup end time. After this, it moves to the backup menu automatically.

[10] Screen magnifying function in the full screen. (Use Emergency recording button on the remote controller.)

[Control by Remote control]

Use the direction from the remote control to control the speed

10-7. Audio

Audio can be listened in Live or Search.



[1] Menu recall : If you select the "AUDIO" during the live or playback, the audio out menu show up. The menu call is possible by remote controller or mouse.

[2] Mode selection

- OFF : No audio use.
- CH1 : Audio out only from CH1
- CH2 : Audio out only from CH2
- CH3 : Audio out only from CH3
- CH4 : Audio out only from CH4
- Auto : Only selected channel audio out.
- Volume control : If the length of bar increase, the volume louder.

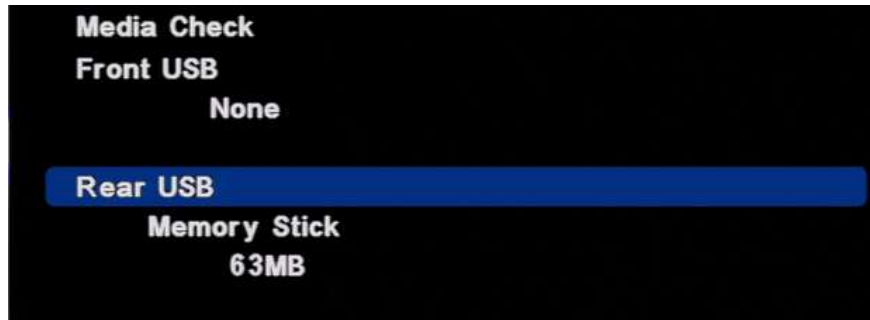


11. Backup

11-1. Backup

Selected image can be backup to the external device(USB). Connect the USB pen drive to the DVR and select 'BACKUP' button from remote controller or, click the right button of mouse.

- [1] Select the recognized backup device. If it recognized normal, it shows the device capacity such as "XXX MB".



- [2] Select the date from Calendar.



[3] Select the time by double click.



(Channel display is different per model 4ch/8ch/16ch)

[4] Select the minute. Once you select "Start", the time will be automatically input.

[Note] When you specify the start time, if you place your mouse cursor to the time you want and push '1' button, the start time is directly applied.



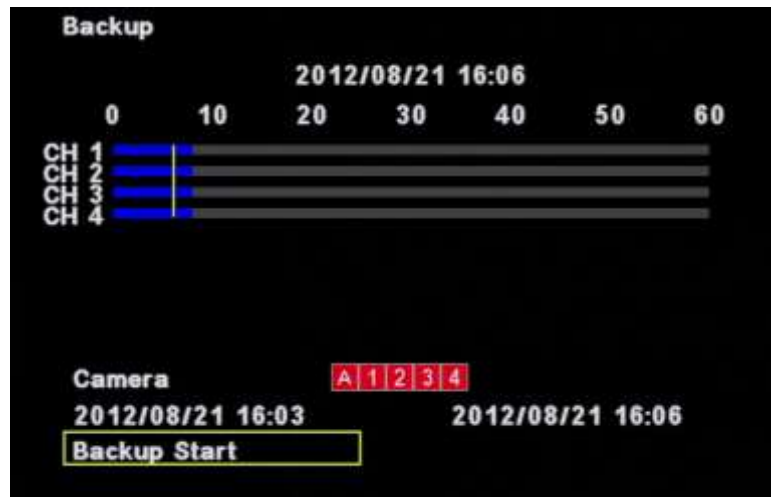
[5] Backup end time selection

- If the backup end time is the same hour, select the minute and click, "end", the time will be automatically input.
- If the backup end time is the different hour, go back to the previous menu by right button

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of mouse or, "MENU" button. Then, select the hour/minutes and click "end" for automatic time input.

[Note] After selecting the start time, if you place your mouse cursor to the time you want and push '1' button, the backup end time is directly applied.

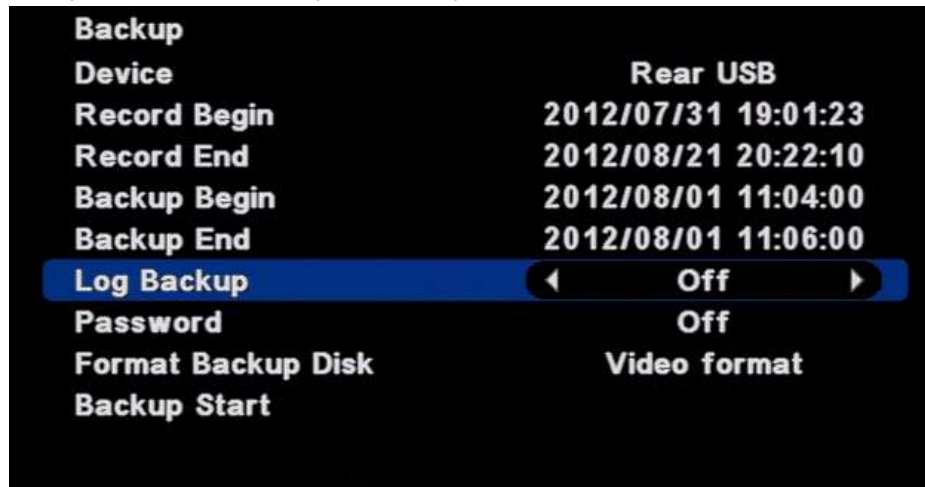


[6] Camera : Select the channel to be backup.(Selected channel will be shown as red)

[7] Backup Start : If all setup is completed, click the 'Backup start' button then, backup starts. It shows the backup capacity/ USB pen drive capacity" so, if everything is OK, click 'OK'.



[8] Before backup, it shows the USB port, backup time then, select OPTION.



- Log Backup : Used to backup including all the logs saved in the DVR. You can check the archived log files after converting them with HLHV, log converting software. The log files can be opened with notepad or MS-Word.

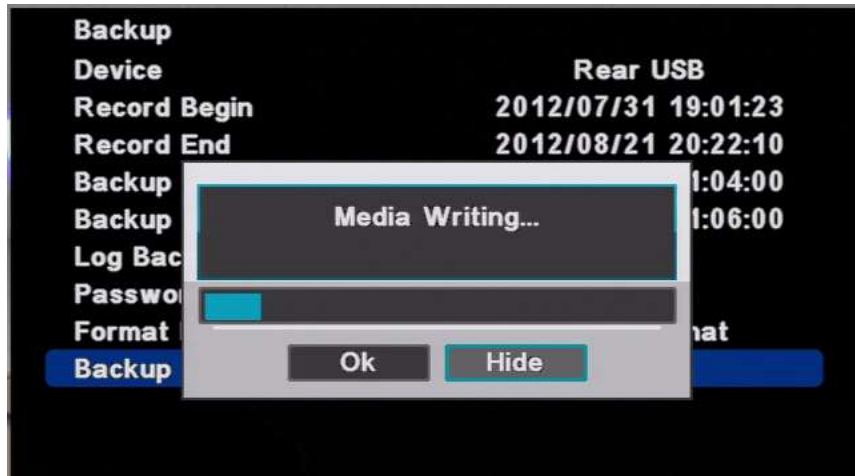
- Converting log files

Click Open and select notepad file. Then, click Conver button to have excel files.



- Password : Configure the password when archiving the file.
- Format Backup Disk : Configure the backup format
 - Executable Format : Archive the file including viewer software
 - Video Format : Archive the file only

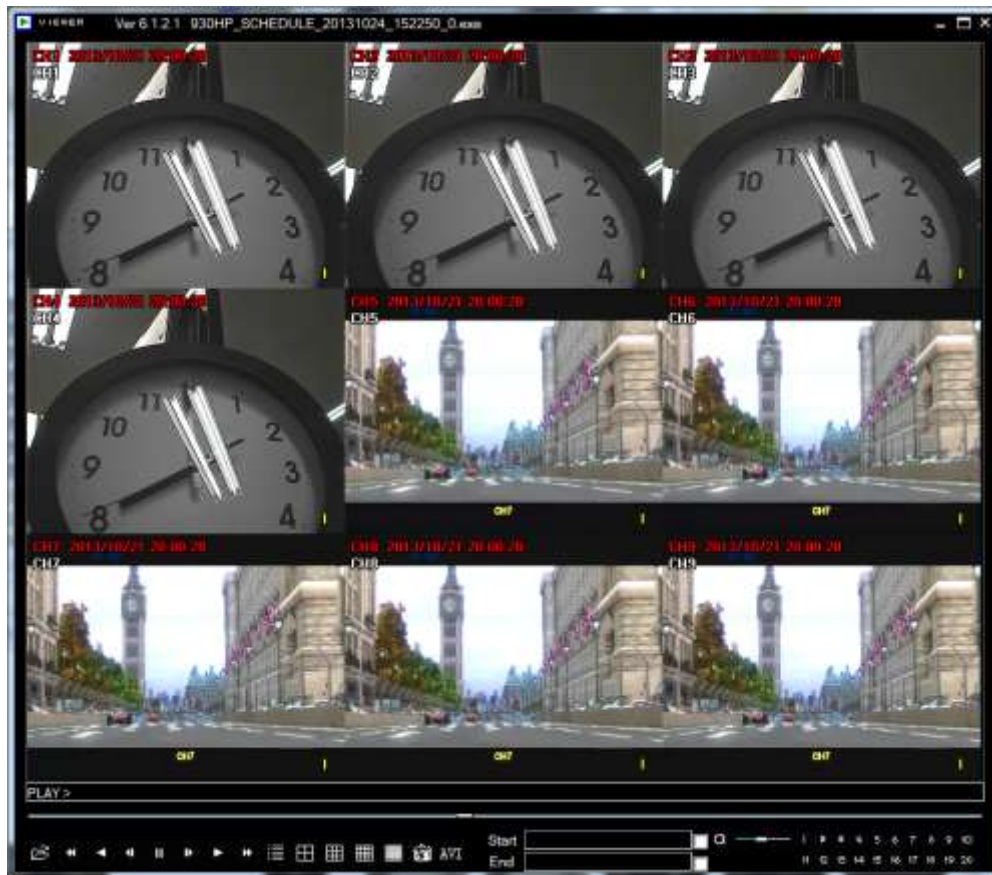
[9] Backup Start : The backup start after click 'OK'



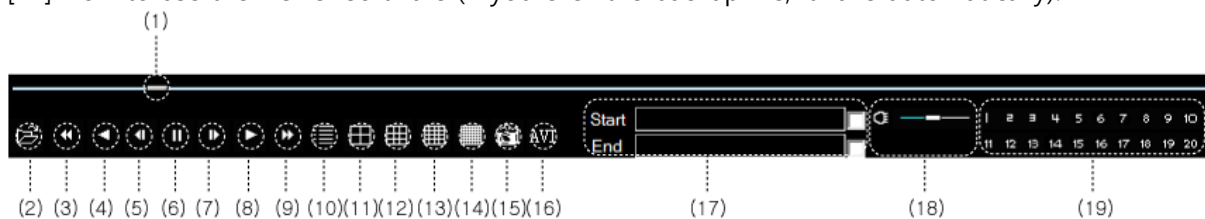
[10] If the backup is completed, you will see the below icon as a file in USB stick. If you click it, playback starts.



960H DVR(4/9/16CH)



[11] How to use the viewer software (If you click the backup file, it runs automatically).



(1) Scroll bar : It shows the current location from the total playback volume.

(2) Open : To open the other backup file.

(3) Fast reverse playback

(4) Reverse playback

(5) One step reverse playback

(6) Pause

(7) One step playback

(8) Playback

(9) Fast playback

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- (10) Display the playback list
- (11) 4 split screen
- (12) 9 split screen
- (13) 16 split screen
- (14) 20 split screen
- (15) Current image capture
- (16) Used to convert the file to AVI format. Designate the start time and end time by mouse click. Then, click AVI to make AVI file.
- (17) Start and End time display for AVI backup
- (18) If you click it, you can listen to the recorded audio of selected channel.
- (19) Display the selected channel

HD SDI DVR(4/8CH)



Instruction for backup viewer software is same with 960H DVR.

12. Mobile Viewing by iPhone

12-1 Install the program

Go to Apple Store website and search and download MPRMS. Then install the MPRMS.

12-2 Execute the program

When the installation is completed, the following icon is created.



Select the icon to execute.

12-3 Register the product information

Enter the network information to access the DVR with iPhone.

[1] Register



Execute the program in iPhone and click "New" for the new registration.

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[2] Enter the Reg Name.



Any name is available to use for Reg. Name.

[3] Select the model name



If the item to be connected is a DVR, select DVR.

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[4] Enter the DVR ID and Password.



◎ DVR ID : Enter the ID registered in the DVR

◎ Password : Enter the password registered in the DVR

(Note : You can check the ID and password in the DVR Setup Menu)

[5] Enter the DVR IP (Static IP user only)



Dynamic IP user doesn't enter the DVR IP.

(Note) The static IP indicates the IP address registered in DVR.

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[6] Set DDNS IP (Dynamic IP user only)



◎ Static IP user selects "OFF".

DDNS USE :



◎ Dynamic IP user selects "ON"

DDNS USE :



◎ DDNS ID : Enter the DVR's unique "Web code".

(Note : Keep the DDNS IP and DDNS PORT at their default value.)

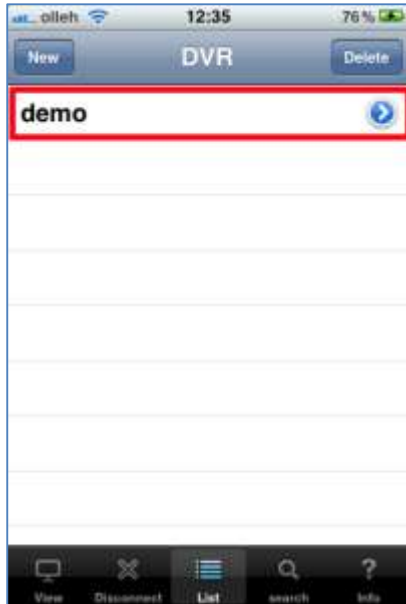
[7] Set DDNS IP (Dynamic IP user only)



After setting all, press "ADD" to save.

12-4 Live monitoring

[1] Click the registered "DVR Name".



[2] Connect remotely



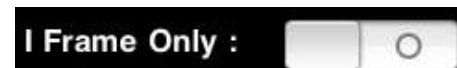
For a channel selection, click "CH SELECT" to select a number.



Click "PTZ" to control Pan/Tilt/Zoom



Off the information such as time, resolution, channel, etc. and display the video only.



When selected, it transmits still images with certain intervals in case video streaming is interrupted due to the network load.

☞ See full screen : If you turn iPhone to one side, it's switched to full screen. (Touch any part of the full screen to call the menu)

12-5 Search

Select "search" the icon below.



[1] Select Date/Time



After selecting a date, select "SEARCH".

[2] Search key operation



Play reverse



Pause



Play



Switch to Live

12-6 Relay out



Relay can be controlled remotely.

Time selection : Set the duration time of alarm output

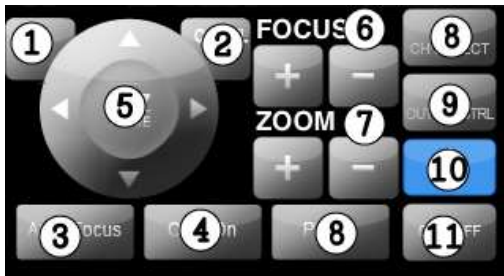
Off : Alarm off

Infinity : Keep the alarm output continued

12-7 PTZ control



PTZ control is available on iPhone. The way how to control is the same with on CMS and DVR

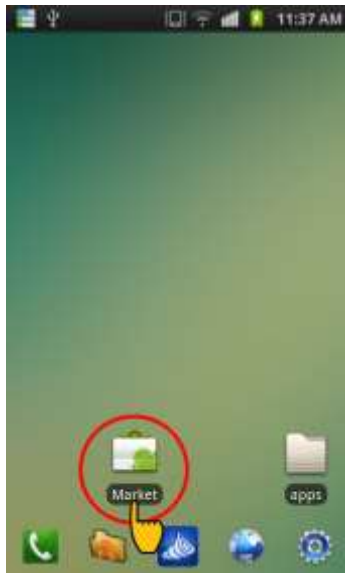


- (1) Select
- (2) Cancel
- (3) Automatic camera focus
- (4) Call the PTZ menu
- (5) Direction button
- (6) Camera focus control
- (7) Camera zoom control
- (8) Select the channel
- (9) Relay out button (A user can set relay out)
- (10) Select the PTZ menu
- (11) OSD display On/Off button for live screen

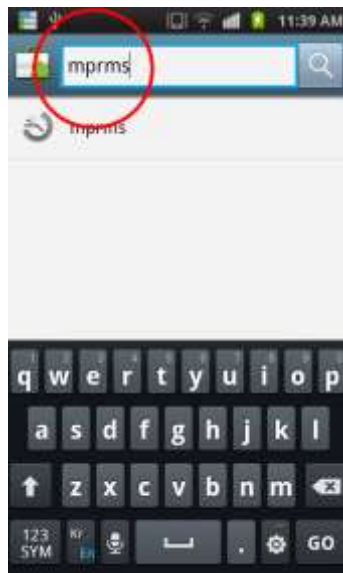
13. Mobile Viewing by Android phone

13-1 Install the program

To install the program on the Phone, execute the 'MARKET' program and download the 'MPRMS' to install. If the installation is completed, you will see the 'MPRMS' icon on the main SCREEN.



(1)



(2)



(3)

13-2 Execute program

Select "MPRMS" to execute the program.



(Select the icon)

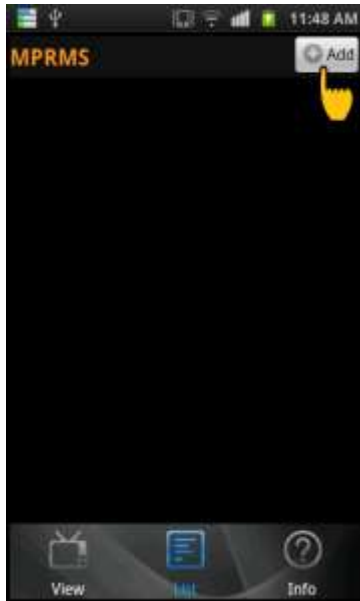


(Executed Program)

13-3 Register the product information

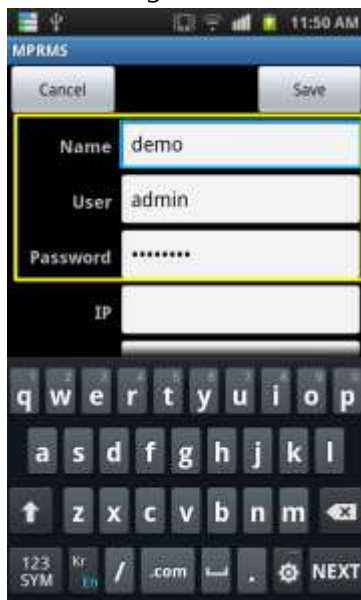
Register the product information for remote monitoring.

[1] Register



Select "Add" to start the registration.

[2] Enter the registration information



(1)



(2)



(3)

(1) Enter the name, Product ID(User) and Password.

Name : Enter any name you want.

User : Enter the "User ID" registered to the DVR.

Password : Enter the "Password" registered to the DVR.

(Note : "Menu" → "System" → "Password")

IP : This setting is only for static IP users.

(2) After selecting "DDNS use", enter the "Password, IP and Port".

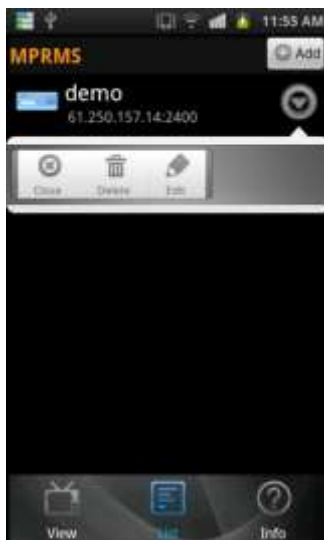
(Note: Dynamic IP user only)

(3) You can check the DDNS ID from the DVR menu: 'Menu' → "System" → System Information.

Copy the 'WEBCODE' and enter it to DDNS ID and save it. (DDNS PORT is automatically changed as per the Webcode of DVR.)

13-4 Modify/Delete of Registered Information

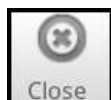
If you want to modify or delete the registered information, select the triangle-shaped icon.



Select to edit the registered info.



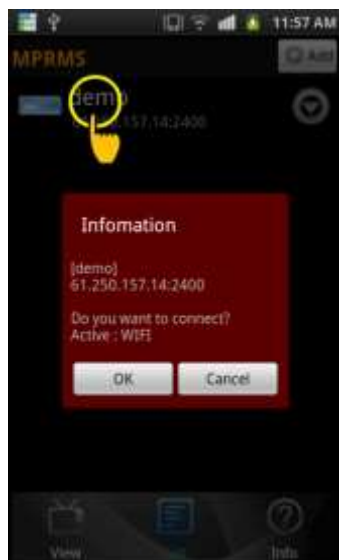
Select to delete the registered info.



Close TOOL menu (As a dual function, it ends the connection)

13-5 Remote connection

Select the registered list for connection. Once you click the registered device, it shows the brief information like the 1st picture below. If you click the red-colored background, detailed info. appears like the 2nd picture. Click OK to execute the monitoring program.



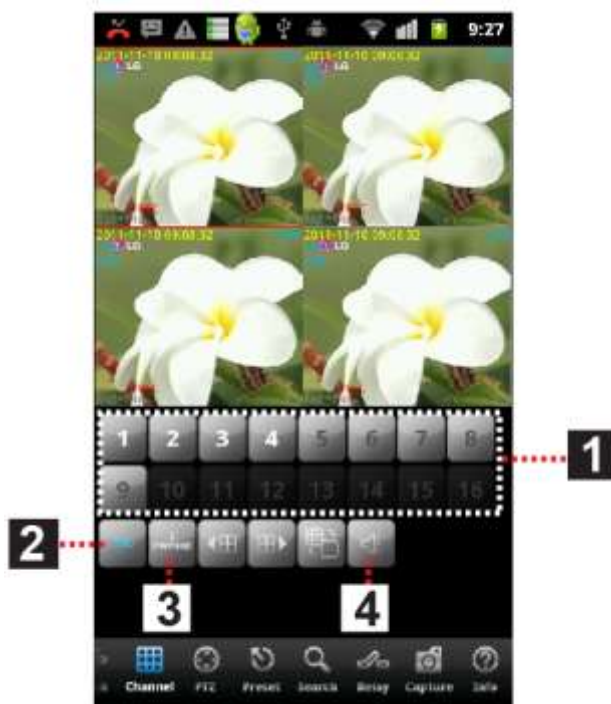
(Select the list)



(Detailed info.)

13-6 Live

Live shows the images taken from each camera in real time.



(1) Number : The screen no. currently displayed is shown with bold white. If you select a channel, the channel is displayed with full screen. (The channel no. could be different per model.)

(2) OSD : You can turn on or off the display for channel no., date, time, event, etc

(3) I frame : It transmits still images with certain intervals in case video streaming is interrupted due to network load.

(4) Audio listening : If you select a channel, you can listen the audio.

13-7 Multi-screen

Live monitoring by 4 split multi-screen is available.



(1) Move to previous 4ch split screen.

(Ex) When monitoring 16ch DVR, split screen of CH1/2/3/4 is switched into CH13/14/15/16.

(2) Move to next 4ch split screen

(Ex) When monitoring 16ch DVR, split screen of CH1/2/3/4 is switched into CH5/6/7/8.

(3) You can change one channel into another during 4 split monitoring.

(Step)

- 1) When monitoring 1/2/3/4, if you want to change CH1 into CH6, select CH1 at first.
- 2) Then, the screen is switched into CH1 full screen. This time, if you select CH6, then the screen is switched into CH6 full screen.
- 3) If you click "Multi-icon" like picture, the screen is switched into split screen of CH6/2/3/4.

13-8 Main menu

On the bottom line of screen, there is a main menu. Select the menu to change the function



Go back to the previous step or close the monitoring program



Move to live mode (Channel change, 1 Frame and OSD display is available)



Go to PTZ mode



Go to PTZ preset mode



Go to search mode



Go to alarm mode



See the registered info.

13-9 PTZ

You can control the PTZ camera remotely.



(Select PTZ mode)



(PTZ mode screen)

(1) Go to PTZ mode

Select the PTZ connected channel and click the PTZ button.

(2) How to control PTZ



The PTZ camera moves to the selected direction.



Zoom in/ out



Focus adjustment



Touring operates according to the previously registered 'Preset' number



IRIS Open/ Close.



Call the PTZ menu



Auto Focus



OK button for PTZ OSD menu



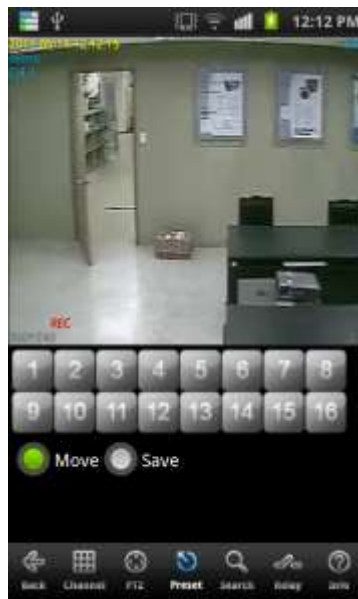
Cancel or the upper menu on PTZ OSD menu

13-10 PTZ Preset

You can set the movement of PTZ camera previously and make the automatic PTZ movement.



(Select preset mode)



(Preset mode screen)

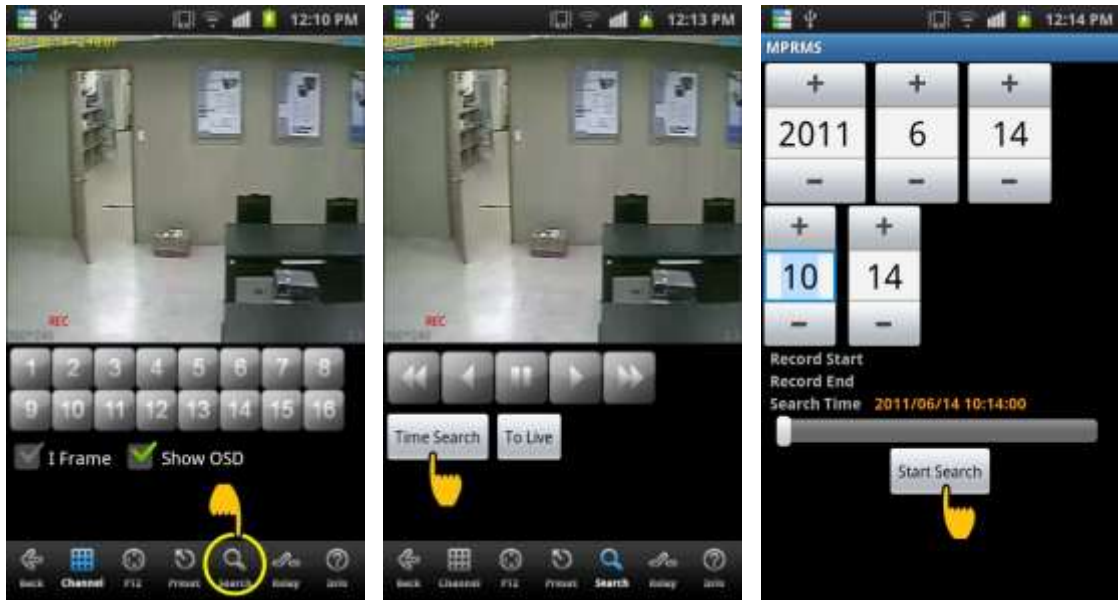
(1) How to go to PTZ mode

Select the PTZ connected channel and click the Preset button.

(2) How to operate Preset

- Move: If you select "Move" and press a number, then the camera moves.
- Save: If you select "Save" and press a number, then the current location is saved.

13-11 Search



(1. Select the search mode) (2. Select "Time Search") (3. Select the date and time)

- (1) Select the search mode
- (2) Select "Time Search": Select "Time Search" to enter the search conditions.
 (Note: Select "To Live" to return to the live mode during the search.)
- (3) Enter the date and time: Select the date and time and click "Start Search" for search.



Fast reverse playback



Reverse playback



Pause



Playback



Fast playback

13-12 Relay Out

Relay can be controlled remotely.



- (1) Relay : Select On or Off
- (2) Number : Select the relay number.
- (3) Time : Select the duration time.
- (4) Execute : Make the alarm output work

13-13 Information display

It shows the information of current connection.



(Select info)

(Display the connection info)

[Display Info]

Below is the example for an explanation.

- IP : 61.250.157.37 : 2000 Via DDNS ← Connected IP information.
- MODEL : 16CH(63,xxx xxx:0) ← 16Ch model
- Webcode : H6F6057200001394 ← Product ID(Webcode).
- F/W : 84, N/W:21 ← F/W and network version.
- VSTD : NTSC ← VIDEO standard.

13-14 End the connection



(Select the back button)



(Select the Yes button)

There are several ways to finish the program.

1. If you click 'BACK', it asks like "Do you want to disconnect?" Then, you may click Yes.
2. Or you may just press close button on the phone.

14. Appendix

Specification

960H DVR(4/9/16CH)

Specification		4CH	9CH	16CH
Operating System		Embedded Linux		
Compression		H.264		
Audio compression		G723.1		
Video Standard		NTSC/PAL		
Video Input/Output	Video Input	4	9	16
	Video Output	Composite(1), Spot(1), VGA(1), HDMI(1)		
	Output Mode	CCTV, VGA, HDMI Monitor		
Live		Real-time Live		
Split Mode		1,4	1,4,6,9	1,4,6,9,13,16
Record Resolution	NTSC	480x240, 960x240, 960x480		
	PAL	480x288, 960x288, 960x576		
Record Frame	960H	120/100fps	240/200fps	240/200fps
	D1	120/100fps	240/200fps	240/200fps
Record Mode		Continuous, Schedule, Alarm, Motion, Emergency		
Search	Search Mode	Calendar, Date & Time, Event Search, First Search, Last Search, Backup Search		
	Play Speed	x1, x2, x4, x8, x16		
Audio	Input/Output	4/1		
Input Sensor/ Output Alarm		4/1		
Port	RS-232	External Keyboard controller & PTZ		
	RS-485			
	LAN	10/100/1000 Base-Tx Ethernet (RJ-45) - Fixed IP, DHCP & DDNS		
Network Control		Video Dual-Stream (Local Recording & Network Transmission)		
Remote Access	Software	CMS		
Backup Device	Internal	ODD Backup (Option)		
	External	USB, E-SATA External Storage		
HDD		2xSATA HDD or 1xSATA HDD & 1xODD		
System Operation		Front Button, USB Mouse, IR Remote Controller, Keyboard(Optional)		
Others		Multi-Language		
		PTZ control by virtual joystick(operated by mouse)		
		Backup Viewer auto copy & AVI export		
Power Consumption		12.2W	14W	16W
Power		Adaptor 12V 5A		
Temperature		0°C ~ 40°C		
Dimension		358mm(W) X 67mm(H) X335mm(D)		
Weight		4.1kg		

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HD SDI DVR(4/8CH)

Specification		4CH	8CH
Operating System		Embedded Linux	
Compression		H.264	
Audio compression		G723.1	
Video Standard		NTSC/PAL	
Video Input/Output	Video Input	4	8
	Video Output	1 x HDMI / 1 x VGA / 1 x SPOT(BNC)	
	Output Mode	CCTV, VGA, HDMI Monitor	
Live		Real-time Live	
Split Mode		1,4	1,4,8
Record Resolution	1080P	1920*1080, 1920*540, 960*540	
	720P	1280*720, 1280*360, 640*360	
Record Frame		NTSC:30fps / PAL: 25fps	
Record Mode		Continuous, Schedule, Alarm, Motion, Emergency	
Search	Search Mode	Calendar, Date & Time, Event Search, First Search, Last Search, Backup Search	
	Play Speed	x1, x2, x4, x8, x16	
Audio	Input/Output	4/1	
Input Sensor/ Output Alarm		4/1	
Port	RS-232	External Keyboard controller & PTZ	
	RS-485		
	LAN	10/100/1000 Base-Tx Ethernet (RJ-45) - Fixed IP, DHCP & DDNS	
Network Control		Video Dual-Stream (Local Recording & Network Transmission)	
Remote Management	Software	Built-in Web server (IE browser), iPhone, Android,	
Backup Device	Internal	ODD Backup (Option)	
	External	USB, E-SATA External Storage	
HDD		3 * SATA HDD & 1 * E-SATA HDD) or (2 * SATA HDD & 1 * E-SATA HDD & 1 * SATA ODD	
System Operation		Front Button, USB Mouse, IR Remote Controller, Keyboard(Optional)	
Others		Multi-Language	
		PTZ control by virtual joystick(operated by mouse)	
		Backup Viewer auto copy & AVI export	
Power Consumption		16.5W	
Power		Adaptor 12V 6.67A	
Temperature		0°C ~ 40°C	
Dimension		358mm(W) X 67mm(H) X335mm(D)	
Weight		3.5kg	

MEMO

MEMO
