

Digital Video Recorder

MODEL :4CH/9CH/16CH

User's Manual

Ver : H.HD.02.HW_1.2

For safe use of system and to prevent product failure or accident, please read this manual carefully before use.

Before Usage

This product has been designed and manufactured to assure personal safety. Improper use can result in electronic shock or fire hazard. The safeguards incorporated in this product will be protected you if you observe the following procedures for installation, use, and servicing.

This product does not contain any parts that can be repaired by user.

CAUTION

It is strongly recommended that you read this manual and use the product in a proper way



The following might cause a fire

- ◆ Avoid placing the unit near direct sunlight, heat source such as a heater, etc.
- ◆ Do not share the outlet with the other appliances. It might cause an abnormal heating and a fire.
- ◆ when smoke goes up or when you smell a strange smell, stop using the unit and turn the unit off by unplug, and contact the after-sales service center.
- ◆ Place the unit at a distance from a heat source. It is in danger of a fire.
- ◆ Don't put burning material such as a flammable spray, etc. It may cause a fire.
- ◆ Don't install the unit at a dusty place. It may cause a fire.
- ◆ Plug the unit firmly not to be shaky. If the plug is not safely inserted into the outlet, it may cause a fire.
- ◆ When the multi-outlet is used, don't use several appliances at the same time.

The abnormal heating of the outlet can cause a fire.
- ◆ Don't damage, modify, bend, twist, pull, stick, or heat the power cord and the plug.
- ◆ If the plug is loose in the outlet, don't use. It can cause a fire or an electric shock.
- ◆ Don't insert the metals such as a coin, a hair pin, a piece of iron, etc., or flammable material such as a paper, a matchstick, etc. in the product. It can cause a fire or an electric shock.

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1 — Summary

Feature

This Stand Alone Digital Video Recorder is capable of high quality of video and audio data recording and provides various ways of data search by Calendar, Date/Time and event. Also the system allows remote user to access in order to monitor and control multiple local DVRs via TCP/IP / LAN connection.

Main features

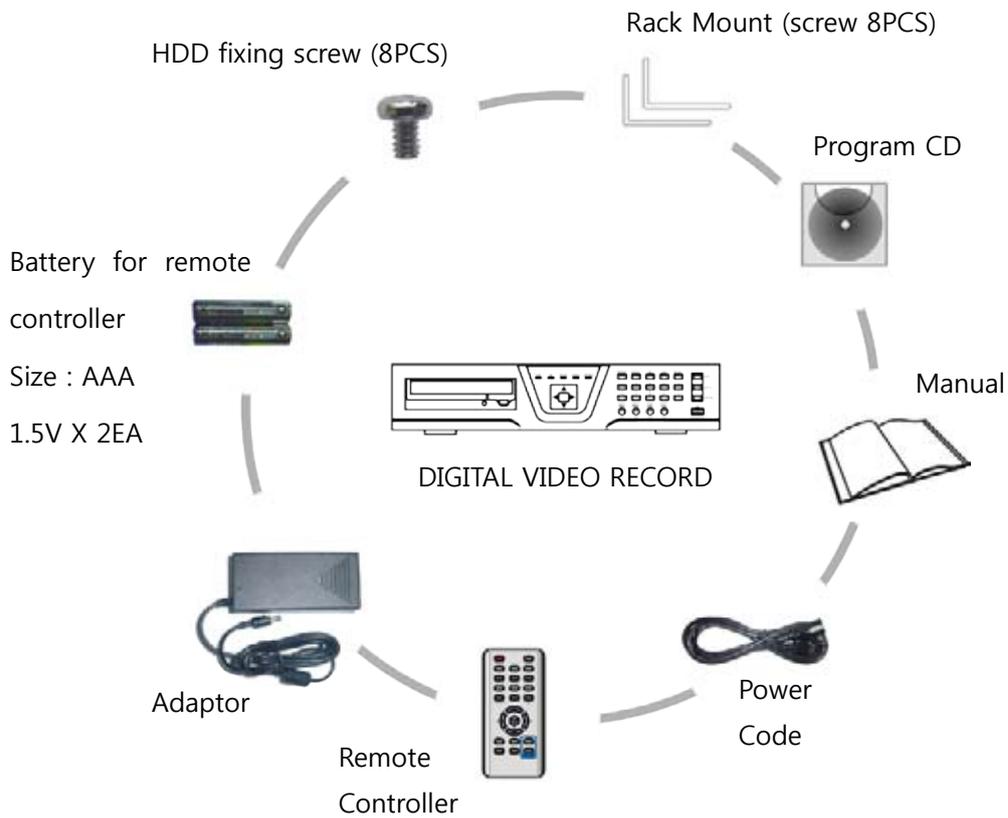
- (1) High resolution live display
- (2) Easy installation and operation
- (3) Motion detection record
- (4) Sensor and Alarm outputs
- (5) Reserved recording (Motion, Sensor/Alarm and time selected record)
- (6) Network control via Dynamic IP
- (7) NTSC / PAL compatible
- (8) Highest data compression of H.264 technology
- (9) Data backup to USB memory stick or DVD R/W

Application

- (1) Bank, ATM unit, Supermarket, Convenient store and other public places.
- (2) Private homes, Apartment, Jewelry shop, Commercial compound and other places where it needs anti theft surveillance system.
- (3) Warehouse, Production line and other places where evidence is needed after any event happened and to analyze the situation.
- (4) Where to monitor sites remotely

2 — Installation

Contents

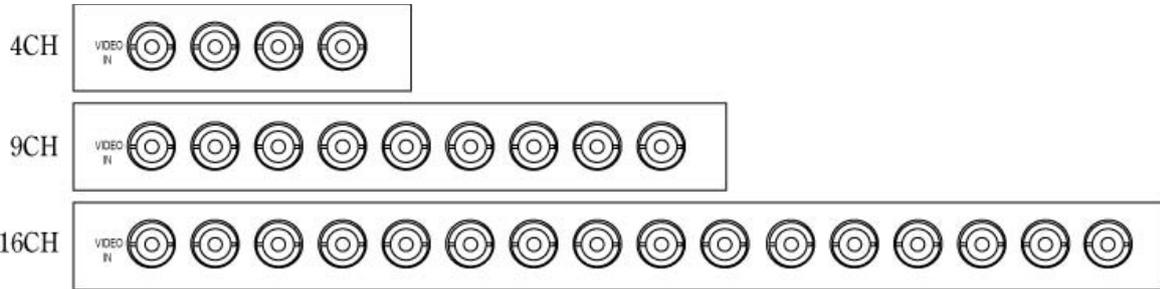


Accessories.

- Digital Video Recorder (1EA)
- HDD Fixing screw (8pcs)
- Program CD (1EA)
- Manual (1EA)
- Power code (1EA)
- Rack Mount (screw 8pcs)
- Remote controller)
- Battery AAA (1.5V 2EA)
- Adaptor (1EA)

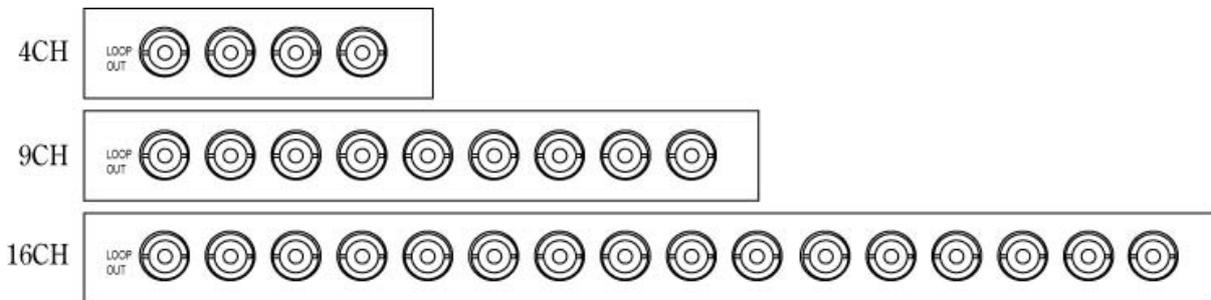
[Note] Check the accessories before use.

Video Input



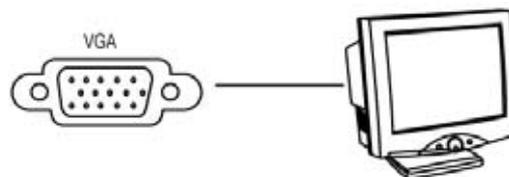
Connect a coaxial cable from video source to BNC Video In connector.

Loop Through



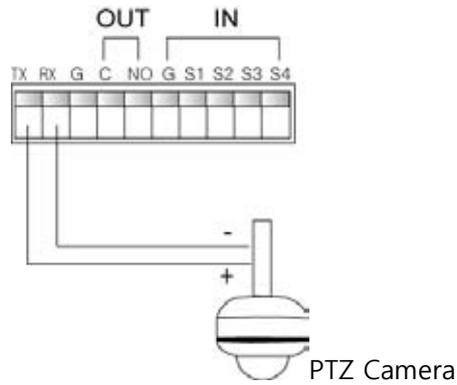
In order to use video source to the other device, connect BNC cable to the loop out connector.

VGA Output



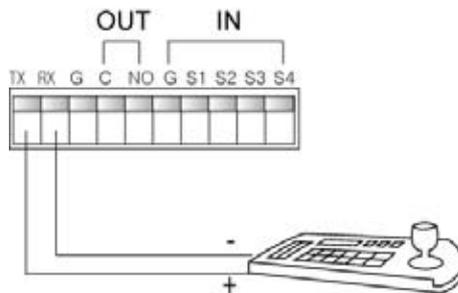
Connect the PC monitor (LCD / CRT).

RS-485 (PTZ control)



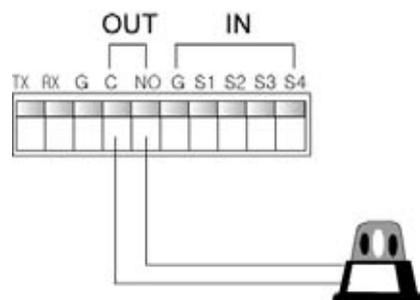
Connect the PTZ camera which is supporting its protocol as per the above diagram.

RS-485 (External keyboard connection)



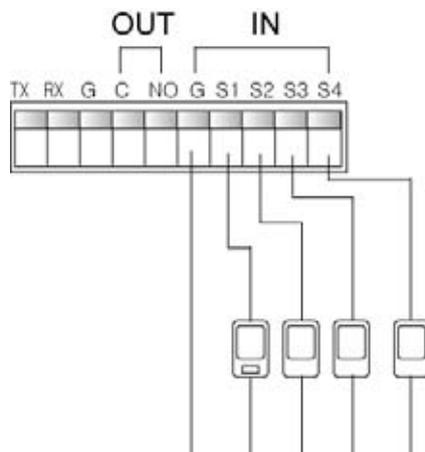
Connect the external keyboard that should be purchased by the DVR manufacturer.

Alarm out connection



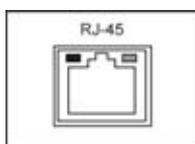
DVR supports 1 alarm output as above diagram.

Sensor connection



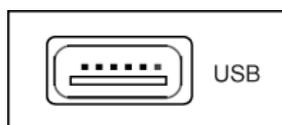
DVR supports 4 Sensor input as above diagram.

RJ-45 port (Internet connection)



The network connection can be made through the 10/100/1000Mb Ethernet connector by RJ-45.

USB port



DVR supports two USB 2.0 port on front and rear panel for mouse control, firmware upgrade and backup use.

3 — System configuration

How to call Setup menu

DVR can be operated by using front buttons, remote controller and mouse.

- **By front button**

Press "MENU" button.

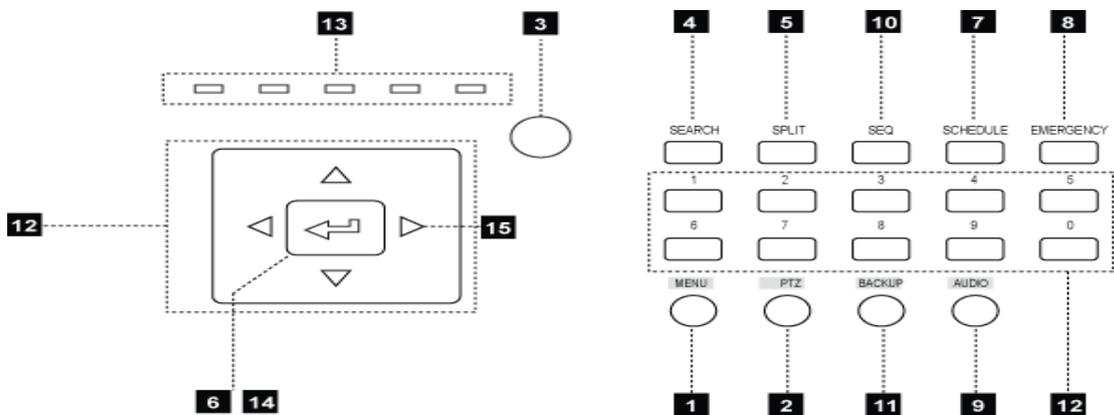
- **By remote controller**

Press "MENU" button on the controller.

- **By mouse**

Click the right button of mouse.

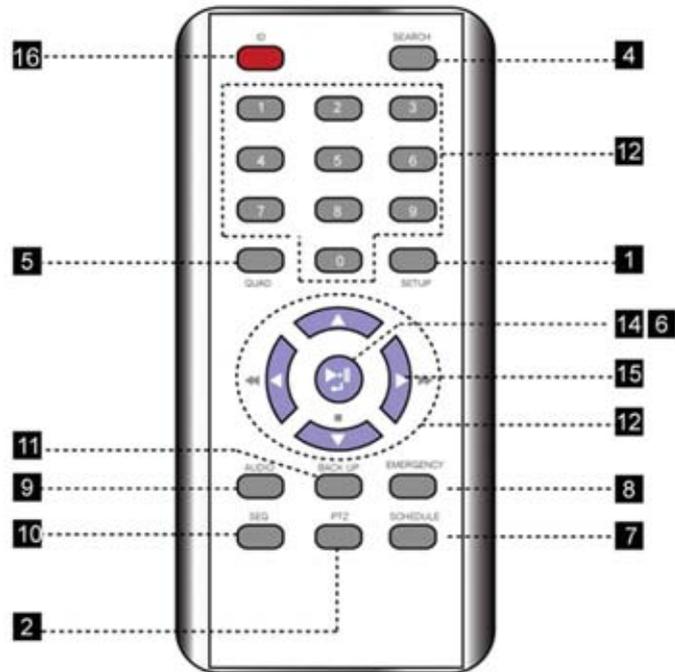
Front panel button



(Front button)



(Mouse menu icon)



(Remote controller)

[1] MENU

- Call main menu
- Move back to previous menu

[2] PTZ

Button to call PTZ controller menu, PTZ channel must be selected as full screen first.

[3] IR Receiver

Receive the IR signal from remote controller.

[4] SEARCH

Call search menu to playback record image.

[5] SPLIT

Switch to multi channel mode.

Press "▲" button to switch variable split screen.

- 4CH DVR : Press "SPLIT" button -> 4 Split screen.
- 9CH DVR : Press "SPLIT" button -> 9 Split screen.
- 16CH DVR : Press "SPLIT" button -> 16 Split screen.

[6] LOG OUT(KEYLOCK)

- Using front button or remote controller, press and hold (about 4 sec) to log out.

- Using mouse, click the "LOCK" icon then front button operation is restricted. (Key lock)

[7] SCHEDULE RECORD

Press button to start scheduled recording in emergency record model.

[8] EMERGENCY RECORD

In case of emergency, press "EMERGENCY" button to star recording forcibly regardless of the recording schedule.

[9] AUDIO

Select a audio channel.

[10] AUTO SEQUENCE

To display each camera in sequence, display duration is selectable in DISPLAY menu.

[11] BACKUP

Call backup menu to start recorded data archiving to external media.

[12] Channel / Numeric button

Refer to the "Front direction button" page.

[13] LED

LED shows the status of operating.

- POWER : Highlight when power is on.
- REC. : Highlight when DVR is recording.
- NETWORK : Highlight when DVR is connected by network.
- SCHEDULE : Highlight when DVR is recoding on scheduled mode.
- EMERGENCY : Highlight when DVR is recording on emergency mode.

[14] ERROR LIST

In case of system error, the error icon appears on screen with beep sound. Press "ENTER" button to see the list and to stop beep sound.



Icon will be shown in the status bar.

- Main Disk1 Error : 1st HDD error.
- Mirror Disk Error : "Mirror Disk" HDD error.
(Unless use Mirror disk, message "Main Disk2 Error" will be shown)
- DNS Connection Error : Dynamic IP service fail.
- SMTP Connection Error : "E-mail notification" fail.
 - Disk Full : Hard disk drive is full.

[15] SPLIT GROUP SETTING

In the split group, press "▶" button to change a channel on each group.

[16] ID To control several DVRs using one remote controller, assign the ID to DVR and remote controller.

Front direction key

[1] Left button

- Menu move to left
- Reverse playback speed control

[2] Upper button

- Menu move to up
- Change split mode in live

[3] Playback and Confirmation button

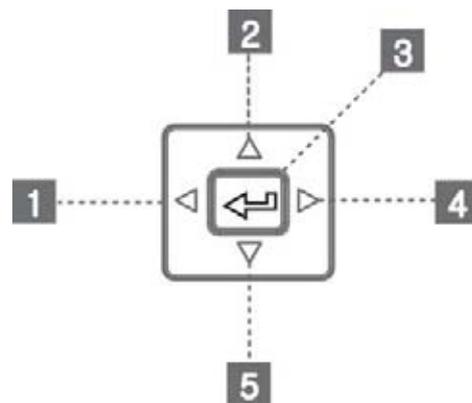
- Confirm the configuration in setup menu.
- Play / Pause button in search mode.
- Log out (Press more than 2 second)
- Stop beep and show error list when system error.

[4] Right button

- Menu move to the right.
- Playback speed control

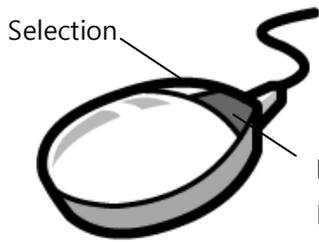
[5] Lower button

- Menu move to down
- Stop button in search mode.



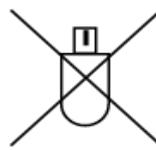
Mouse

PC mouse can be used to operate and control all the system function, this feature is for the users who are familiar to PC environment.

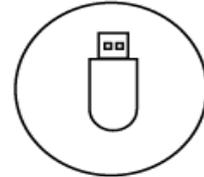


Menu call and
Move back to previous

Click right side mouse button to open main menu.
Click selection button to use ◀, ▶, ▲, ▼ on each configuration..



PS/2 MOUSE



USB MOUSE

Icon



HDD Status



Emergency recording



Schedule recording



Key lock status icon



Auto sequence icon



Internet connection icon



Network connection



Sensor recording



Motion detection



Video Loss



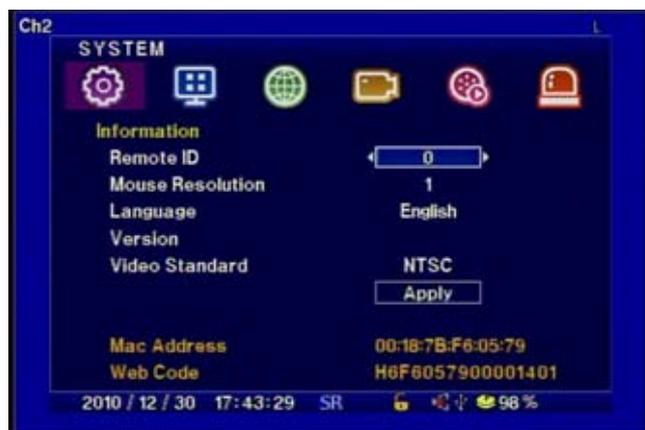
Record icon



De-interlace icon

How to setup the 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.



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

Menu > 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 cannot recognize DVR correctly.

[3] Remote controller ID menu displays as above image when you click ID button of remote controller.

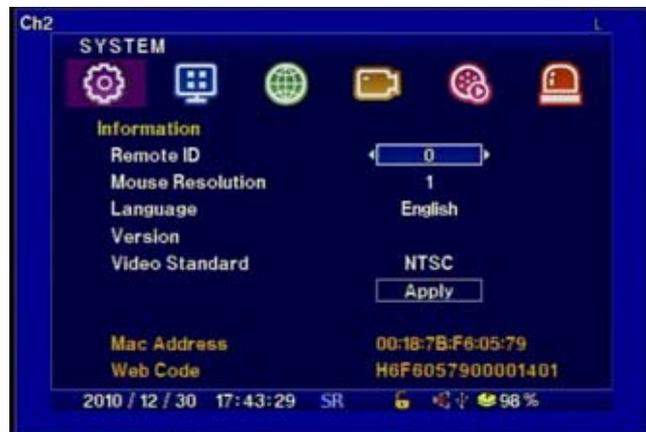
- DVR ID : It displays current ID of the system.
- "00" : Input the same ID number of DVR and press "Confirm"

[Note]

- The DVR can be controlled once the ID between the DVR and remote controller is same so, if the DVR is not working, please check the ID.

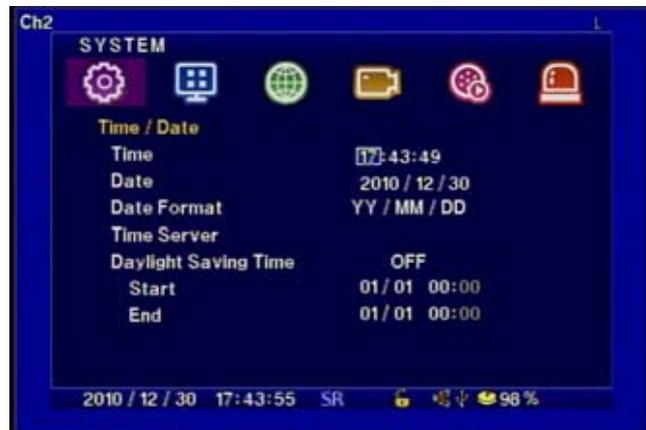
4 — Setup

INFORMATION



- [1] REMOCON 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 Sensitivity : 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
- H/W Version : Hardware version
 - S/W Version : Software version
 - N/W Version : Network version
- [5] Video Standard : Select a video standard of your region then press "APPLY".
(System is reboot automatically and applied)
- [6] Mac Address : MAC address of system
- [7] Web Code : Identification for remote monitoring of dynamic IP user.
Please refer to the CMS manual or Network menu.

Date/Time



[1] Time / Date : Shows current time and date

[2] Date Format : elect a display format.

- ASIA : YYYY/MM/DD --> 2006/05/31
- US : MM/DD/YYYY --> 05/31/2006
- EURO : DD/MM/YYYY --> 31/05/2006

[3] Time Server : It helps time set of DVR automatically by synchronization of time server service.

- Time server : Input the URL of server
- Sync Cycle : Select the period to synchronize between DVR and time server
- GMT : Select GMT time zone where user located in.

[Note]

- **In case DVR is not connected with internet or time server name is not collect, DVR gives beep and error message. Press "CONFIRM" button to off sound and see a error message.**

GMT zone and time server name are searched easily on internet browser.

[4] Daylight Saving Time : It is commonly called as "Summer time". During the period, user can change system time 1 hour early or late.

Password

The administrator (Admin) has a whole authority to control the DVR and rest user may be restricted their authority as per the user authority.



- [1] User ID : Able to input max. 8 user's account.
- [2] User Group : Select a group which is defined by functionality.
 - admin : Able to use all functions.
 - power User : Able to use Configuration, Search, Backup.
 - User : Choose a function to use.
- [3] Password : Input the new P/W for the selected ID. (Max. 8 digit)

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

- [4] Authority : Select a function to allow on each user's authority.
- [5] Camera allocation : Select a allowable camera on each user.

Hard Disk

It is the HDD and ODD setup. Since it is closely related to the record, if the setup is wrong, it may cause the mal functioning.



[1] Disk1 : Priority disk drive information..

- Main Disk : Use as a recording disk.
- Mirror Disk : Use as a mirroring disk.
- None : No use.

[2] DISK2 : Secondary disk drive or ODD (CD/DVD-RW) information.

In case of using ODD, "RW Write" info will be shown.

- Main Disk : Use as a recording disk
- Mirror Disk : Use as a mirroring disk
- None : No use.

[3] FORMAT : Initialize a disk drive.

[4] TOTAL : Display total HDD capacity. (Occupied size / Available size)

[5] Over write: It is to set overwrite option when the HDD is full. System will overwrite from the firstly saved data in the HDD.

[6] Auto Delete : The function is to keep recorded data in HDD during only for specified period.
(Range: 1~120days)

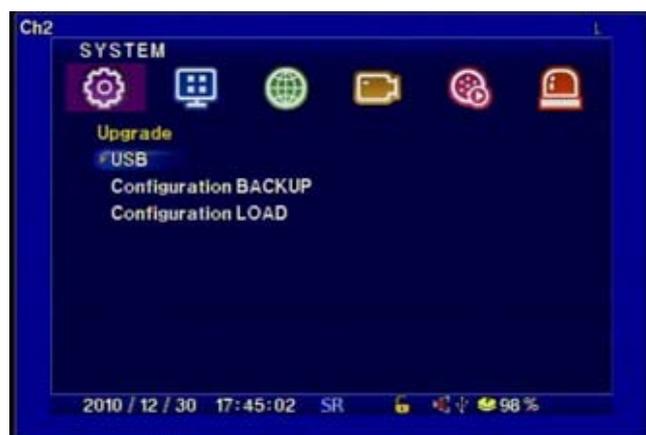
DEFAULT SETTING



- Default Setting : Except major configuration (Network, Password), parameters are initialized.
- Factory Setting : All parameters are initialized.

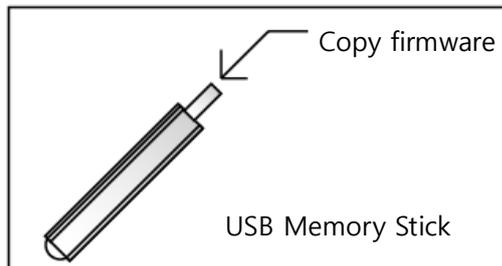
UPGRADE

In order to improve system performance or adding new function, firmware upgrade is needed



[1] F/W 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 backup is being procedure.

[2] Configuration backup : Copy the current system configuration to USB memory.

[3] Configuration LOAD : Upload the saved system configuration.

Button Setup

Button setup (Front, Mouse, Remote controller and Button beep)



[1] Auto Key Lock : It prohibits button use.

· On : It asks the password for the important buttons.

(Channel button, QUAD button, SEQ button can be used any time)



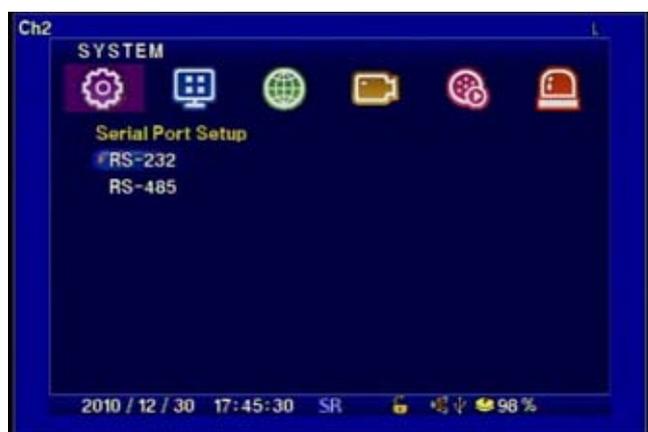
(When key locked, icon is changed as above picture)

· Off : It does not use this button.

[2] Button Beep : It makes beep sound while the button is pressed.

Serial Port Setup

It is the menu to setup the communication port through the other device.



[1] In case of using RS-232 port, setup the below information first.

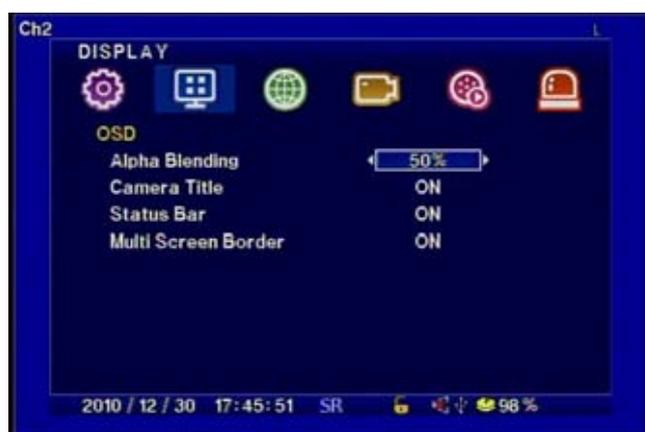
· Baudrate / Parity / Stopbit

[2] In case of using RS-485 port, it is for the "Keyboard" and "PTZ". Since the setup is different from the device, please refer to the manual of them

5- Display Setup

OSD

It setup the displaying on the screen.



- [1] Alpha-blending : It setup the transparence of menu.
- [2] Camera Title : It setup the camera name.
- [3] Status Bar : It shows the status bar on the bottom of screen.
- [4] Multi-screen Border : It shows the border line.

Split Mode

DVR provides the various of split mode when you press the "QUAD" button. You can choose the split mode and change the channel. Multi split mode is subject to each model.

[Note] If you press the "UP" key in live mode, the split mode is changed and if you press "RIGHT (direction)" key, the split group is changed.

Select the split mode

16 Split mode (For 16Ch Model)



- Default 16 split mode.
- Select 16 split mode then press "QUAD" button to setup 16 split mode.

13 Split mode (For 16Ch Model)



- 13 split mode provides 2 different group of display.
- Select 13 split mode and press "QUAD" button to display 13 split mode on the screen.
Press "Right" direction button to select the group 1 or group2.
- If you want to change the Ch number, click or using the scroll wheel of mouse)

10 Split mode (For 16Ch Model)



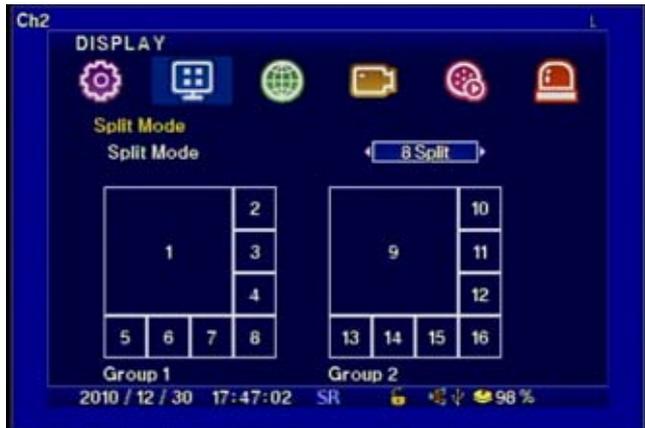
- 10 split mode provides 2 different group of display.
- Select 10 split mode and press "QUAD" button to display 10 split mode on the screen. Press "Right" direction button to select the group 1 or group2.
- If you want to change the Ch number, click or using the scroll wheel of mouse

9 Split mode (For 9/16Ch Model)



- 9 split mode provides 2 different group of display.
- Select 9 split mode and press "QUAD" button to display 9 split mode on the screen. Press "Right" direction button to select the group 1 or group2.
- If you want to change the Ch number, click or using the scroll wheel of mouse

8 Split mode (For 9/16Ch Model)



- 8 split mode provides 2 different group of display.
- Select 8 split mode and press "QUAD" button to display 8 split mode on the screen. Press "Right" direction button to select the group 1 or group2.
- you want to change the Ch number, click or using the scroll wheel of mouse.

6 Split mode (For 9/16Ch Model)



- 6 split mode provides 3 different group of display.
- Select 4 split mode and press "QUAD" button to display 4 split mode on the screen. Press "Right" direction button to select the group 1, group2 or group.
- you want to change the Ch number, click or using the scroll wheel of mouse.

4 Split mode (For 4/9/16Ch Model)



- 4 split mode provides 4 different group of display.
- Select 4 split mode and press "QUAD" button to display 4 split mode on the screen. Press "Right" direction button to select the group 1, group2, group 3 or group 4.
- If you want to change the Ch number, click or using the scroll wheel of mouse.

Auto Sequence

It shows the sequencing image as per the selected time duration.



- [1] Auto Loss Skip : If there is no video input, it skip video loss channel.
- [2] CH1 ~ CH8 : Select a group. (Depend on model, it would be different)
- [3] Display time : Select the display duration while sequencing (1 sec. ~30 sec.)

Icon



[1] Monitor : Select a monitor input interface.

- SMALL : Using small monitor
- NORMAL : Using normal TV monitor
- VGA : Using VGA, LCD monitor

[2] VGA : Select a resolution of monitor

- 800 X 600
- 1024 X 764
- 1280 X 1024

6 — Network Setup

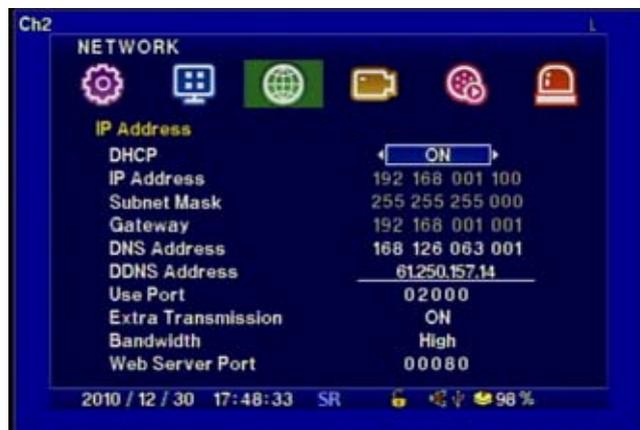
IP address

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.

[NOTE] The difference between the dynamic and fixed IP!

- Dynamic IP : The using internet line is common wide for the user. Since doesn't have the fixed address, it is hard to connect from the outside. But it is possible if there is the server which in informing the address.

- Fixed IP : It has the specific and only IP address in the world to connect the internet.



[1] DHCP : It uses for dynamic IP user (On).

The static IP user does not need the DHCP function (Off)

[2] IP Address : The dynamic IP user does not set it up.

If you use the static IP, input the following information after ask it to ISP.

[Sample]

- IP ADDRESS : 192.168.001.050
- SUBNET MASK : 255.255.255.000
- GATEWAY : 192.168.001.001
- DNS : 168.126.063.001

[3] DDNS address : It is for dynamic IP user, do not change the DDNS address.

(Default port 3000)

[NOTE] If dynamic IP user uses the router, the user should do the port forwarding if he uses the router. The port forwarding function is described on the router manual.

[4] Extra transmission

- ON : Max 120fps at CIF resolution can be transmitted through the internet.
- OFF : Max 480fps can be transmitted according to the network speed

[5] Bandwidth : It can be selectable as per the network speed for smooth image streaming.

- HIGH : It streams as per the current record setup.
- MIDDLE: It streams middle level from the current record setup.
- LOW: It streams low level from the current record setup.

[6] Web Server Port

Since there is Built-in webserver, if you know the IP address, you can direct connect to DVR through web browser. The default port is 80.

(Example) You can use with fixed IP and DNS service

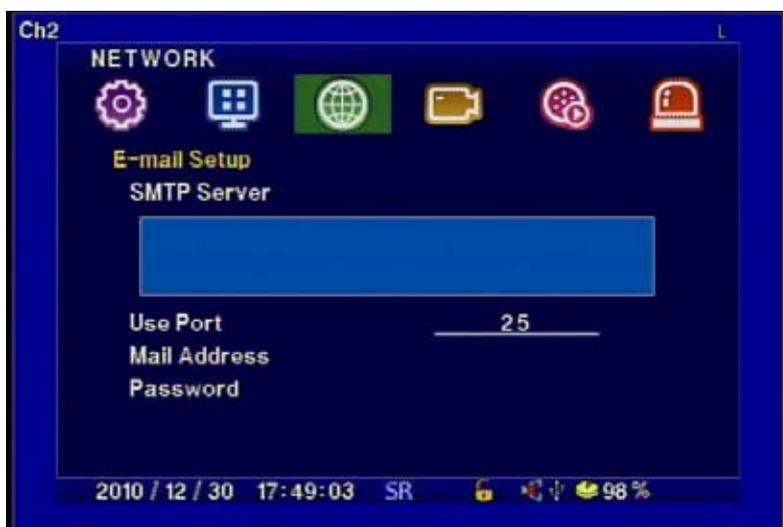
-Fixed IP.

If the DVR IP is 192.168.010.003, you can simply enter '<http://192.168.010.003> 80' on URL, then monitoring program is automatically executing. This connection is possible in LAN and Fixed IP using condition. If the port is 80, it can be deleted. Other than that, you have to input the port number to the end of IP address ex) 192.168.010.003 2500(port number)

E-Mail Setup

E-mail setup

It is the basic setup for e-mail sending. Since it will not send the mail if the setup is wrong, please be careful.



[1] SMTP SERVER : Mail sending server. Input the mail server address of user.

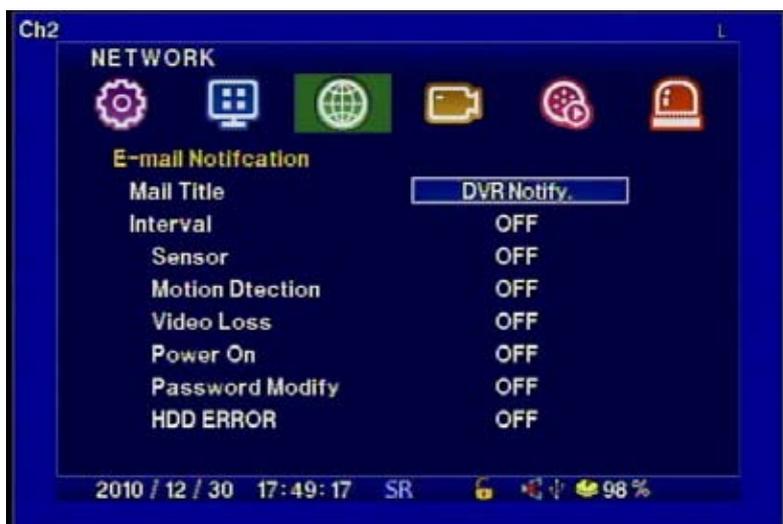
Input the send mail("SMTP) address. If you are not sure, please contact your mail server manager.

[2] USER PORT : Most mail server use port 25 so, if it doesn't work, please check the port No.

[3] Mail Address : Input the e-mail address of receiver (Max. 3 Account)

[4] Password : Input the password of account.

E-Mail Notification



[1] Mail Title : Input the email title.

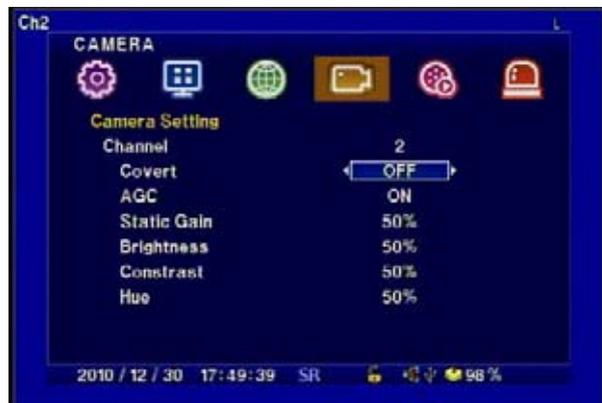
[2] Interval : If you make the time setup in event cases, the DVR doesn't send the e-mail repeatedly during the selected duration. It is to prohibit the mass e-mail sending in frequent events.

[3] Notification : E-mail sending can be selected as per the event.

- Sensor : It sends the mail in sensor evnt.
- Motion detection: It sends the mail in MD evnt.
- Video loss : It sends the mail in video loss evnt.
- Power on : It sends the mail in power on.
- Password modify : It sends the mail in password is modified.
- HDD ERROR : It sends the mail in HDD error.

7 — Camera setup

Camera setup



[1] Channel: Select a channel.

[2] Covert

- On : Enable to hide a camera image
- Off : Disable to hide a camera image

[3] AGC (Automatic Gain Control) : It setup the automatic gain control of camera to get the proper bright.

[4] Static gain: It amplify the camera input signal.

[5] Brightness : Bright control

[6] Contrast : Contrast control

[7] Heu : Black/White control

Camera Title



The camera title can be input by the virtual keyboard.

PTZ Setting



- Channel : Select a channel that PTZ camera is connected.
- Serial Port : Select a communication port either RS-485 or RS-232.
- Model : Select a PTZ model (Protocol)
- ID : Select a PTZ camera ID.
- Touring Mode : Select a touring mode.

[DVR mode]

Touring setting can be programable by DVR.

[Camera mode]

Use touring from camera menu setting.

Advanced



[1] Pan Speed : Speed control of right and left

[2] Tilt Speed: Speed control of up and down

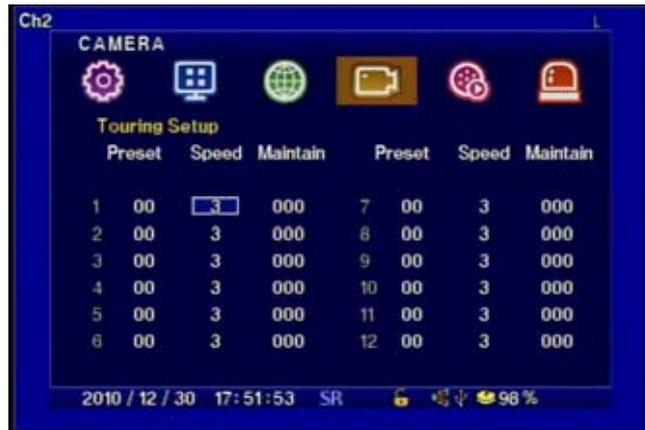
[3] Zoom Speed : Speed control of Zoom

[4] Focus Speed : Speed control of focus

[5] Reverse Control (Pan) : Select the reverse movement of PAN (right and left).

[6] Reverse Control (Tilt) : Select the reverse movement of TILT (up and down).

[7] Touring Setup



- Preset : Select the PTZ preset as per the number and select the speed to move.
- Speed : Select the moving speed.
- Maintain : Select the duration time at selected preset zone.

How to use PTZ

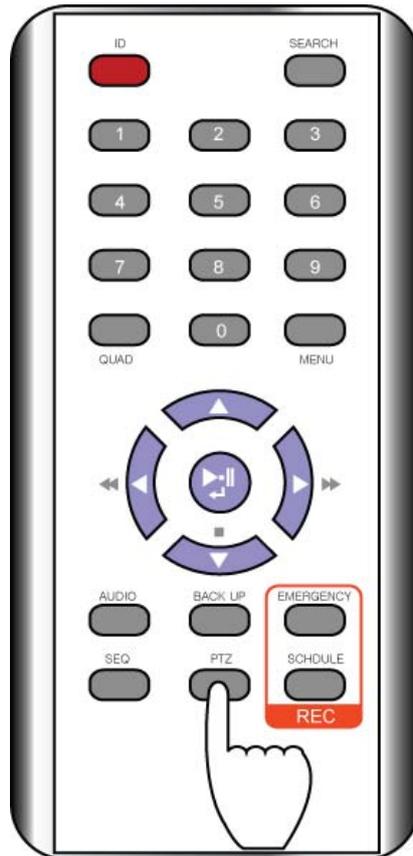
How to call the PTZ menu.

The PTZ camera should be installed and selected from DVR.

(1) Menu call by mouse : Select the PTZ camera installed channel and click the right button of mouse and click the PTZ icon as follows then, it will show "+"



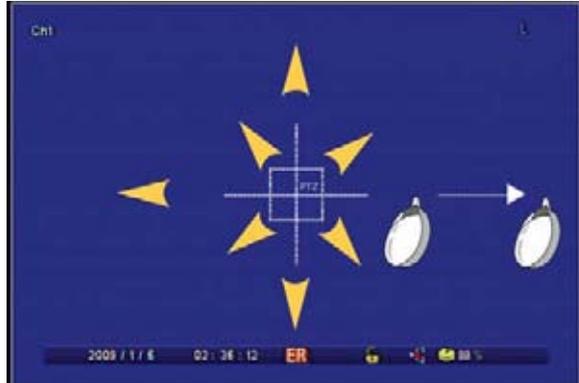
(2) Menu call from remote controller : Select the PTZ camera installed channel and press 'PTZ' from remote controller then, it will show "+".



(PTZ control screen)

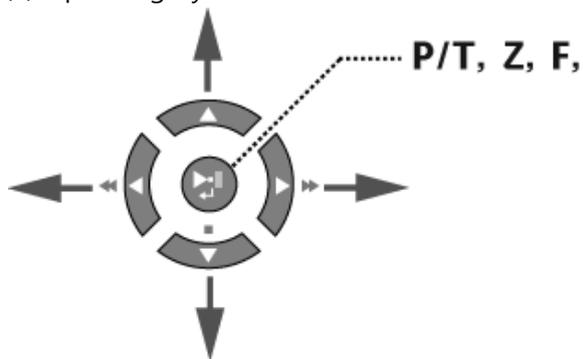
How to operate PTZ

(1) Operating by mouse



- When you use mouse, drag the mouse from inside to outside. If the mouse is moving far away from center, the speed become faster.
- By moving the mouse scroll, the menu changes then, select right/left.
 - P/T : Camera moving.
 - Z : Camera zoom-in/out
 - F : Focus control.

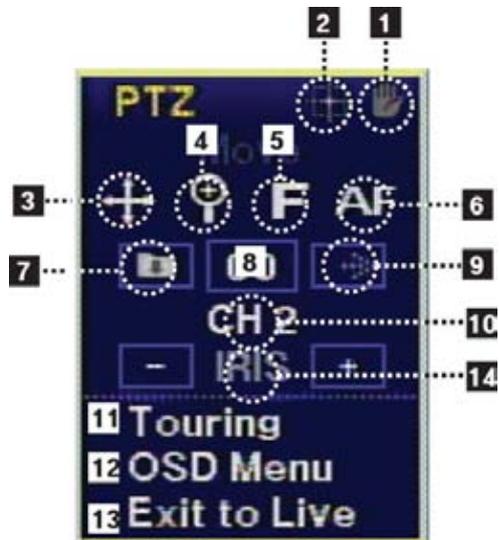
(2) Operating by remote controller



- The camera can be moved by direction key.
- By pressing the 'enter' key, the menu changes then, select right/left.
 - P/T : Camera moving.
 - Z : Camera zoom-in/out
 - F : Focus control.

PAN/TILT ADVANCED MENU

Once you call the PTZ menu, if you click it once again, the advanced setup menu shows.



- (1) In front button or in remote controller, if you want to change the pop-UP location of Advanced menu, move to right/left(If you use mouse, you can drag it.)
- (2) Enable or disable "+" icon on the screen.
- (3) Pan/Tilt Mode
- (4) Zoom In/Out mode
- (5) Focus In/Out mode.
- (6) Auto Focus.
- (7) Save Preset.
- (8) Select a preset number.
- (9) Move camera at preset position.
- (10) Change a channel.

(11) Start touring.

(12) Call camera menu.

(13) Quit PTZ control (or Press "Menu" button.)

(14) IRIS

8 — Record

Record setup



[1] Pre-recording

It is the pre-record setup. It may have the image around 5 seconds before the event happen.

[2] Channel : It is setup for channel.(If you want the same setup for all channel, press' 'ALL')

[3] On/Off: It is setup for Record ON/OFF.

[4] Resolution : It is setup for the record resolution

[5] Speed: It is setup for record frame. It is different from the resolution.

[6] Quality: It is setup for recording quality.

LOWEST < LOW < LORMAL < HIGH < HIGHEST

[7] Days to record : It shows the recording date which is estimated based on HDD capacity and recording setup.

* **Estimated recording date is subject to change depending on actual site environment.**

[8] Post-Recording : It is setup for the record duration after event happen

[9] Record Audio : It is setup for Audio record.

Weekly Record

For schedule recording, each of schedule can be made as per the day/date/time and channel. The record schedule can be setup by an hour.

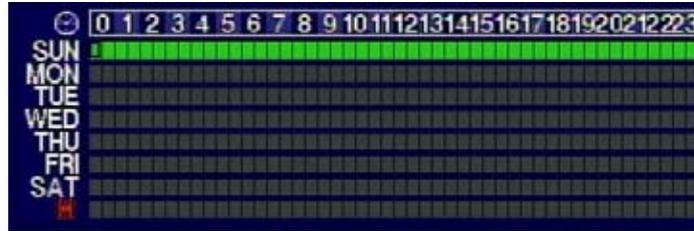


- N : No record
- C : Continuous record
- M : Motion detected record
- S : Sensor triggered record
- M+S : Motion or sensor record

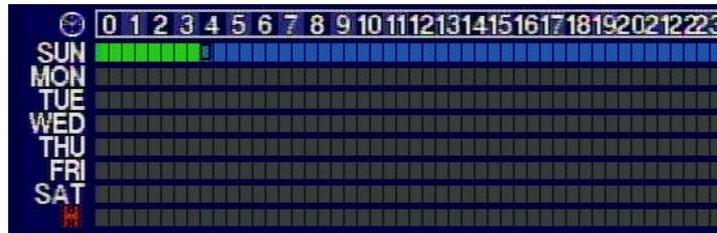
[How to setup]

[1] Select the channel. (Channel can be displayed 4CH / 9CH / 16CH as per the DVR model)

[2] Once you select the day and time, whenever press "Confirm" button, event color is changed in this order. (N-> C -. M -> S -> M+S)



[3] Select the other date or time and press "Confirm" to change event color that is applied from hereafter of selected date or time.



[4] Delete : It clears the current date setup.

[5] Channel copy: Copy the current record setup to the selected channel.

[6] All Channel to Copy : It applies to all channel.

[7] Holiday : Select the holiday by using the calendar.



The holiday selection is possible by the direction and "OK" button. If you select the date, it changes red color. Then, the record of this date is made as "H" on SCHEDULE record.

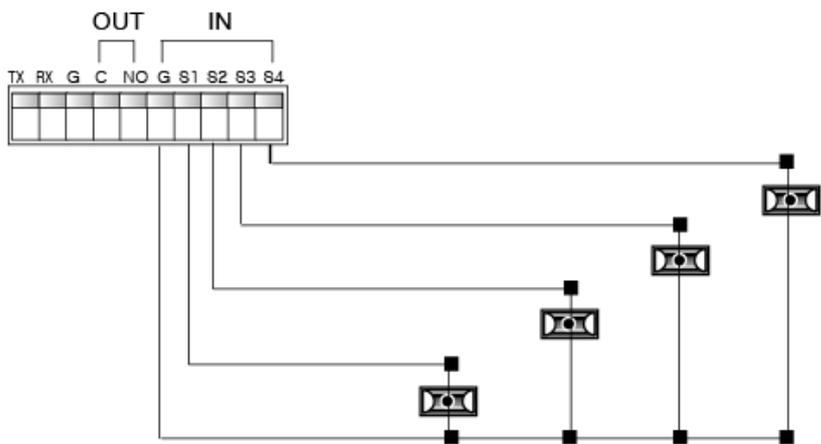
[Notice] In case of using mouse.

If you select it by mouse, select the type of event first (N C M S M+S) and drag it on the day.

9 — Event Setup

Sensor

It shows the sensor connection and setup. It supports 4 sensor input.



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

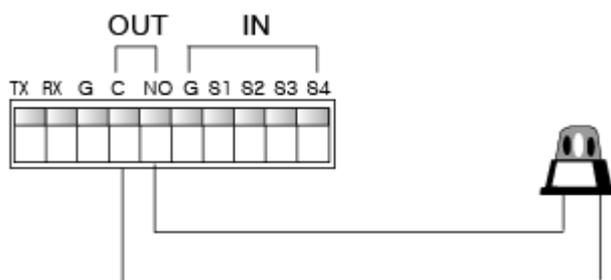
[2] On/Off : Select the sensor usage.

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

- N/Open (NORMAL OPEN)
- N/Close (NORMAL CLOSE)

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

Alarm



[1] Detection : Select the alarm out event.

[2] Channel : Select the alarm out channel

[3] Alarm Out Time : Select the alarm out duration.(1 ~30seconds)

[4] Internal Buzzer : Select the internal buzzer and usage.(1 ~30seconds)

Motion Detection



- [1] Channel : Select the motion detection channel.
- [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.



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

- MD selected area : Blue out-line
- MD non-selected area : transparent
- If the movement is detected, the color of that area turns red.

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

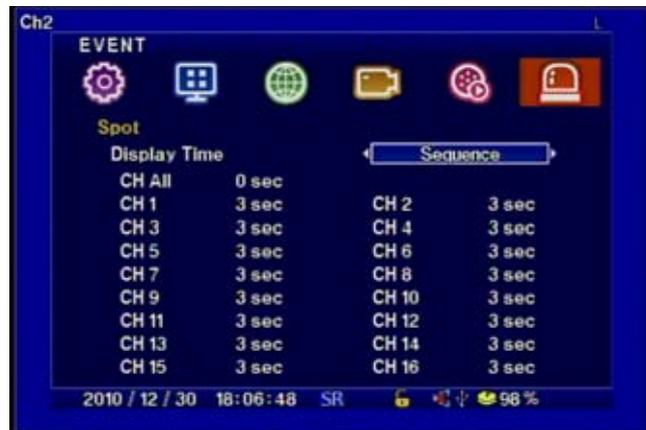
"No1" button: Select all.

"No 2" button: Release all

[Using mouse]

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

SPOT OUT



[1] Display : Select a mode.

- Sequence : The channel is sequencing channel by channel for display time.
- Event : It pop-up the event channel.
- SEQ+EVENT : The channel is sequencing in normal time but, if the event happen, the relevant channel is pop-up.

[2] Select the channel group to output among CH1 ~CH16.

[3] Display time : It is setup for the dwell time during sequencing.

Audio

If the microphone is connected to the DVR, you can listen to the audio sound in live or search mode. The audio listening is possible In multi-screen mode as well.



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

[2] Selection mode

- No use : 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.

10 — SEARCH

Search

[1] How to call menu : Select the "SEARCH" remote controller, mouse.

[2] Search mode selection



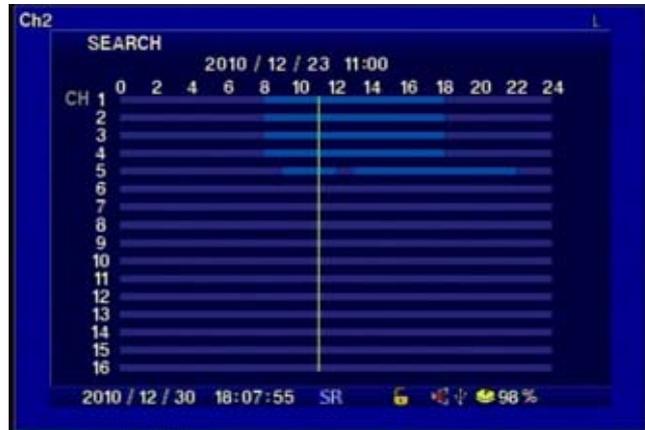
- Calendar search: It searches by calendar.
- Date /Time search: It searches specific Date/Time.
- Event search: It searches as per the event.
- Go to first : It searches the first recorded data on HDD.
- Go to last : It searches the last recorded data on HDD.

Calendar serach

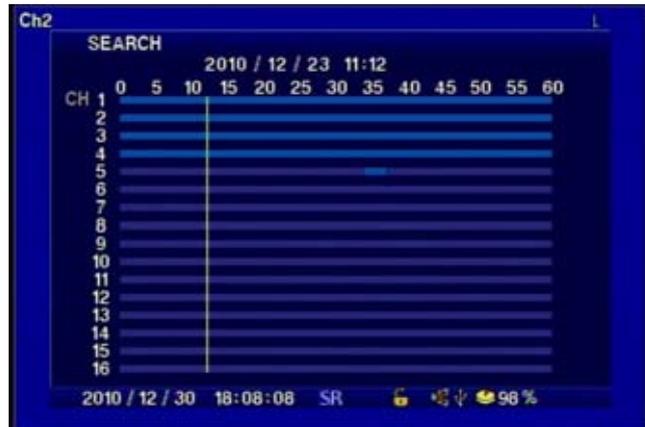
[1] If the DVR read the recorded data, it shows red color on relevant date. Using the direction key, you can change the YEAR/MONTH/DATE. Press the enter button after you select the date.



[2] The recorded data shows up as graphic information per channel & time. If you select the time to search, press "Enter" button.



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



Date/Time search

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



- [1] Start Rec : Current It shows the record begin time.
- [2] End Rec : It shows the record end time.
- [3] Channel : Select the channel to search.
- [4] Play Begin : Input the time to search.
- [5] Play : Click “Play” to start playback

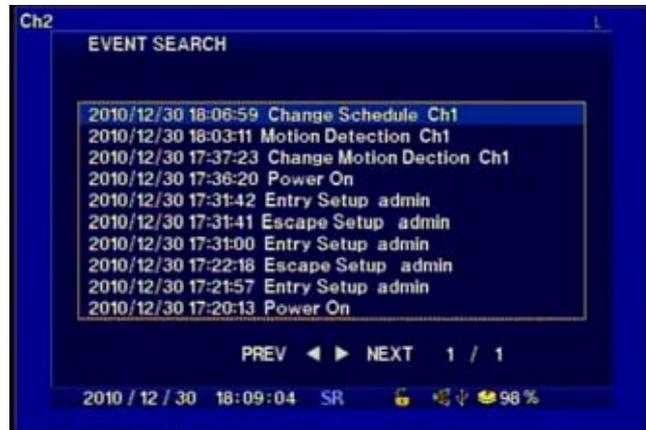
Event search



- [1] Date : Select the date to search.
- [2] Channel : Select the channel to search.

[3] Event : Select the type of event(MD/Sensor/Video Loss / System/all)

[4] Search : If you click “Search”, it shows the event list and if you click, it searches the relevant image.



[5] When you select a event list from above, it shows playback.

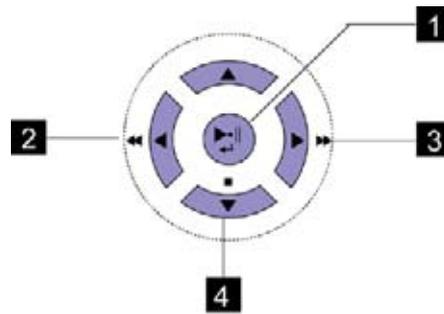
Go to first / Go to last

It searches the first or last recorded image.

Search control

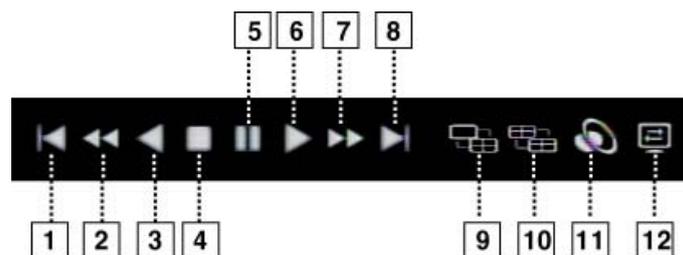
Search button description

[By remote controller]



- [1] Playback or Pause
- [2] Reverse playback and its speed control
- [3] Speed control of playback
- [4] Stop

[By mouse]



- | | |
|---------------------------------|---------------------------------------|
| [1] It searches 5 minutes back. | [2] Speed control of reverse playback |
| [3] Reverse playback | [4] Stop |
| [5] Pause | [6] Search |
| [7] Speed control of playback | [8] It moves to 5minutes ahead |
| [9] Channel Division change | [10] Channel Division group change |
| [11] Audio listen | [12] De-interlace mode change |

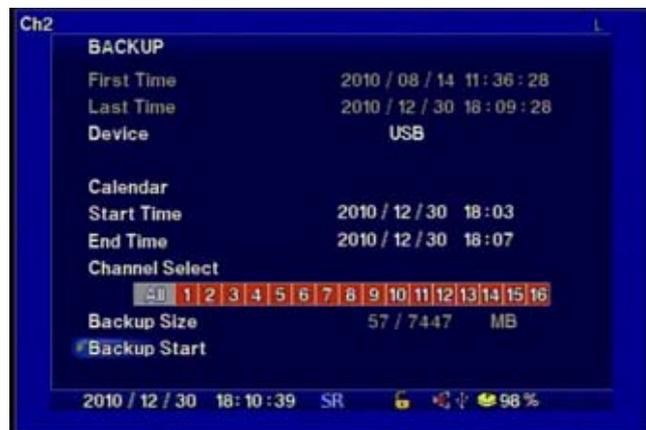
※ De-interlace: When you search the 704X480 recorded image, if the fast-moving picture is trembling, de-interlace mode will avoid this problem.

11 — Backup

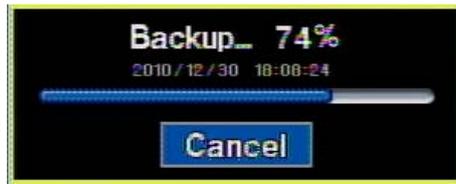
BACKUP

After select the image to be backup, it can be saved to USB stick and searched the backup image without additional program since the viewer program is saving together when the image backup.

- (1) Connect the USB stick to the USB port on DVR.
- (2) If you press the 'BACKUP' button from the front panel or, remote controller, showing up the below menu.



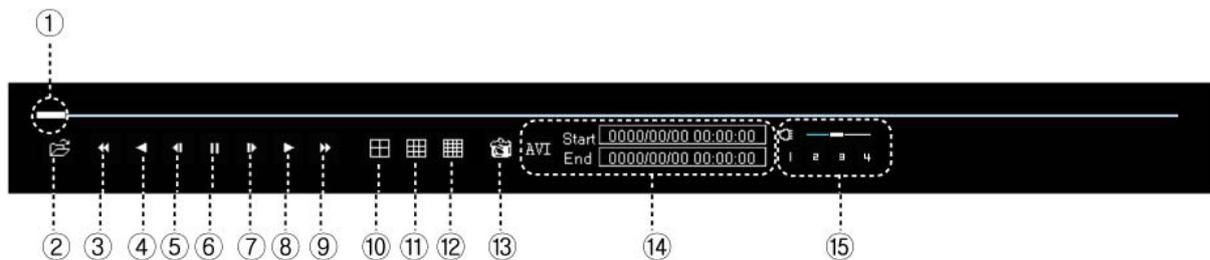
- (3) Select the 'USB' from the backup device.
- (4) Select the Backup start and end time.
- (5) Channel selection: Select the channel to be backup (Selected channel turns red)
- (6) If the selection/setup is completed, click the 'BACKUP START' button.



(7) When backup is completed, you can find the backup file on your USB stick as following shape. If you click it, it searches the backup image.



(8) Viewer program (It auto-runs when backup file click)



- ① Scroll bar : It displays the location from the total image volume.
- ② Open : It is for other backup file open.
- ③ Fast reverse playback.
- ④ Reverse playback
- ⑤ Step reverse playback
- ⑥ Pause
- ⑦ Step forward playback
- ⑧ Playback
- ⑨ Fast forward
- ⑩ 4Ch divided image
- ⑪ 9Ch divided image
- ⑫ 16Ch divided image
- ⑬ Capturing the live image
- ⑭ It is using when you convert the backup file to AVI. The time selection can be made click the " START" and "END".
- ⑮ If you click the number, you can listen to the audio sound

12 — Appendix

Classification		4CH	9CH	16CH
Operating system		Embedded Linux		
Codec algorithm		H.264		
Audio algorithm		G723.1		
Video method		NTSC / PAL (select)		
Video IN/OUT	Video input	4Ch	9Ch	16Ch
	Video output	Loop Out (4/9/16), Composite (1), Spot(1), S-VHS(1) VGA(1)		
	Output mode	Small TV, CCTV, VGA monitor (select)		
Live		Real Time Live		
Split mode		1, 4	1, 4, 6, 8, 9	1, 4, 6, 8, 9, 10, 13, 16
Record resolution	NTSC	CIF(360 X 240), 2CIF(720 X 240), D1(720 X 480)		
	PAL	CIF(360 X 288), 2CIF(720 X 288), D1(720 X 576)		
Record frame	CIF	120/100 fps	270 / 225 fps	480 / 400 fps
	2CIF	120/100 fps	240 / 200 fps	240 / 200 fps
	D1	120/100 fps	120 / 100 fps	120 / 100 fps
Record mode		Emergency record, schedule record, sensor record, motion record, record before and after event		
Search	Search mode	Search calendar, date and time, event, start and end		
	Play speed	x1, x2, x4, x8, x10		
Audio	Input/output	4/1		
	Volume	Able to adjust volume		
Input sensor/output alarm		4/1		
PORT	RS-232	Keyboard control		
	RS-485	PTZ control		
	LAN	10/100/1000 Base-Tx Ethernet (RJ-45) - Fixed IP, DHCP & DDNS		
Network control		Video Dual-Stream (Local recording & Network Transmission)		
Backup device	Internal	ODD BACKUP		
	External	Local Backup by USB Memory Stick and Network Backup by CMS		

HDD	(2 x SATA HDD) or (2 x SATA HDD & 1 x SATA ODD)
System Operation	Front button, USB mouse, IR remote controller, keyboard (Option)
others	Support multiple languages
	Able to enter Hangul for camera name
	Able to control as mouse moves in controlling pan-tilt
	Able to install backup viewer program and to convert into AVI
power	DC 12V 5A, Adapter
temperature	0°C ~ 40°C
size	430 mm(W) X 100mm(H) X 470mm(D)
weight	6.7Kg

MEMO
