

# Standalone 4CH DVR

User's Manual









V.1.2

# Standalone 4CH DVR

User's Manual

## Contents

<b>1.</b>	<b>Product introduction</b> .....	<b>4</b>
1.1.	System specification .....	4
<b>2.</b>	<b>Product operation</b> .....	<b>5</b>
2.1.	Various split screen.....	5
2.2.	1 channel audio recording and playback .....	5
2.3.	USB backup.....	5
2.4.	Firmware upgrade via USB memory stick .....	5
2.5.	Network client viewer with various features.....	5
<b>3.</b>	<b>DVR installation</b> .....	<b>6</b>
3.1.	Package contents .....	6
3.2.	Installation procedure.....	6
3.3.	System beginning .....	6
<b>4.</b>	<b>Product's name and functions</b> .....	<b>7</b>
4.1.	Front panel and the buttons .....	7
4.2.	Rear panel connection part .....	9
4.3.	Remote controller.....	10
<b>5.</b>	<b>Display mode</b> .....	<b>11</b>
5.1.	QUAD mode .....	11
5.2.	PIP mode.....	11
5.3.	FULL screen mode .....	12
5.4.	AUTO rotation mode .....	12
5.5.	TRIPLEX mode.....	12
<b>6.</b>	<b>DVR function explanation</b> .....	<b>13</b>
6.1.	Recording .....	13
6.2.	Playing back .....	13
6.3.	Searching .....	14
6.4.	Zooming.....	16
6.5.	FREEZE .....	16
6.6.	USB backup.....	17
6.7.	System information .....	17

<b>7.</b>	<b>Menu</b> .....	<b>18</b>
7.1.	Setup menu.....	18
7.2.	System menu  .....	19
7.3.	Display setup menu  .....	23
7.4.	Record menu  .....	25
7.5.	Network menu  .....	26
7.6.	Alarm/motion menu  .....	27
7.7.	Schedule record menu  .....	28
7.8.	USB backup menu  .....	28
7.9.	PAN/TILT setup  .....	29
<b>8.</b>	<b>Network client software</b> .....	<b>30</b>
8.1.	WEB VIEWER and DVR VIEWER: Live screen remote monitoring.....	32
8.2.	DVR HDD PLAYER: HDD scan playback.....	35
8.3.	DVR USB PLAYER: USB backup playback.....	37
8.4.	DVR REMOTE SEARCH: Remote search.....	39
<b>9.</b>	<b>Internet Router Setting</b> .....	<b>42</b>
9.1.	Virtual server (port forwarding) setting.....	42
	<b>App. A. Trouble-shooting</b> .....	<b>43</b>
	<b>App. B. Product specification</b> .....	<b>44</b>

### **PRIOR TO OPERATING THE SYSTEM**

- This manual is an explanation on low cost 4channel DVR. If you are not familiar with DVR or this is the first time to use DVR itself, please contact professional technicians for installation and operation.

### **BE CAREFUL OF THE FOLLOWINGS!**

- Do not install the system where vibration and/or shock can be made. It can cause trouble.
- Turn the system off when you do cleaning and make sure to use dry towel.
- Do not expose the system to water or moisture.
- Install the system on even place where is not sealed and maintain proper temperature.
- Avoid the place where temperature fluctuation - causes a break-down or an electric shock - is too much. And avoid the place with much moisture.
- Do not get on the system or do not put heavy things on the system.
- When you smell something burning from the system or see smog, turn the system off and contact the supplier.

## 1. Product introduction

### 1.1. System specification

Storage	Up to 750GB EIDE HDD (24 Bit, 48 Bit) HDD x 1ea (MASTER)
Video compression	M-JPEG(Motion JPEG)
Video input	4 (NTSC/PAL) channels
Recording resolution	704 x 240(288), 352 x 240(288)
Recording speed	120ips@CIF – NTSC, 100ips@CIF – PAL 60ips@Half D1 – NTSC, 50ips@Half D1 – PAL (CIF: 352 x 240(288), Half D1: 704 x 240(288))
Recording mode	Manual recording Event recording - Motion, alarm Remote recording through network
Playback mode	FF: 2X ~ 32X, REW: 2X~16X,
Live display	120ips @ NTSC, 100ips @ PAL
Display mode	QUAD, Full screen, PIP, Automated rotation
Full Triplex	Recording, playing back, network or backup
Motion detection	5 levels sensitivity, 16 x 12 motion grid area setting
Audio	Input 1 port Output 1 port

## 2. Product operation

### 2.1. Various split screen

It processes 4channel video input at real-time, and provides various split screen (QUAD, FULL, PIP, AUTO, FREEZE).

### 2.2. 1channel audio recording and playback

It records 1channel audio input together with video data and saves it on HDD, and you can playback the audio with the video data.

### 2.3. USB backup

It supports USB thumb drive backup and up to USB 2.0. Motion picture backup is the feature to save proper parts in motion pictures. Besides, this backup data can be played back on PC where "Client viewer" is installed.

### 2.4. Firmware upgrade via USB memory stick

If you want to upgrade the system via USB memory stick, please change the file's name to 'update.bin' to save it in a USB memory stick. And put the stick in the DVR's USB port inside the front flip. And go to 'USB SETUP MENU' and select 'FIRMWARE UPDATE' and then it is automatically processed. After completing the procedure (takes 4 ~ 5 minutes), reboot the system.

### 2.5. Network client viewer with various features

- Various display mode(1channel/4 split)
- You can save the current screen that is being monitored at the Viewer in PC.
- You can convert the saved streaming data on your PC and live video data into AVI file to save.
- You can search the recorded date on the DVR remotely..
- You can also view the images through Internet Explorer..

### 3. DVR installation

#### 3.1. Package contents

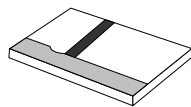
##### ① The DVR system



##### ② Viewer CD



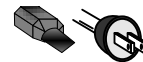
##### ③ User's manual



##### ④ Power adapter



##### ⑤ Power plug



##### ⑥ Remote controller



##### ⑦ HDD screws and batteries, AAA



#### 3.2. Installation procedure

1. Open the package and check the items and take the DVR out.
2. Connect the camera cables to the ports on the rear panel.
3. Connect the monitor cable to the output port on the rear panel.
4. Connect other devices such as networking, pan/tilt, audio and others.
5. Connect the supplied DC 12V power adapter.
6. Power is automatically supplied, and DVR system gets initialized, and it converts to monitoring mode in a few seconds.

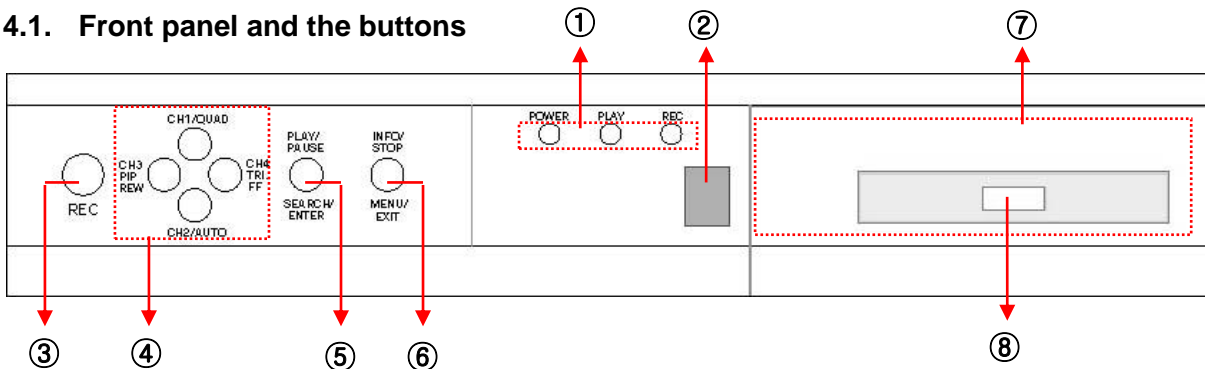
#### 3.3. System beginning

1. Images are displayed and the system gets initialized. During this process, graph is displayed.
2. During initializing, DVR machine checks system, gets defaulted, and checks HDD etc.
3. Initializing goes on for approximately 10 seconds.
4. You can change the settings through SETUP screen if you want even during system operation and recording.



## 4. Product's name and functions

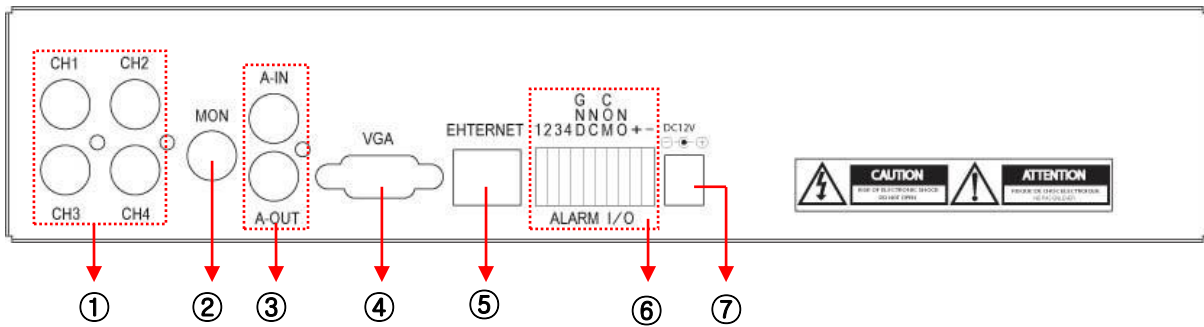
### 4.1. Front panel and the buttons



NO	Items	Descriptions
1	Status LED	<ul style="list-style-type: none"> <li>- POWER: DVR is on, and then it is lit.</li> <li>- PLAY: It is lit when the data is being read on HDD.</li> <li>- REC(Recording): It is lit when data is being recorded. In case of no recording, it gets off.</li> </ul>
2	REMOTE	Signal-receiving part
3	REC(Recording)	At live monitoring mode, when you press REC button, each channel shows red icon and the images are getting recorded. If you press one more time, recording is stopped.
4	CH1/QUAD, CH2/AUTO, CH3/PIP/REW, CH4/TRI/FF (arrows)	<p><b><u>In case of live monitoring mode</u></b></p> <ul style="list-style-type: none"> <li>- Short push: It shows the proper channel's image in a full screen.</li> <li>- Long push (more than 3 seconds):</li> </ul> <p>QUAD: It shows 4 channels' images in a screen.            AUTO: It rotates 4channels' images by channel to show them on a full screen.            PIP: It shows a couple of small sub-screens on a main screen at the same time.            TRI: It shows live images and playback images on a screen at the same time.</p> <p><b><u>In case of menu setting mode (arrows activated)</u></b></p> <ul style="list-style-type: none"> <li>- Short push: up, down and modification at the current menu</li> <li>- Long push (more than 3 seconds): continuous up and down at the current menu</li> </ul> <p><b><u>In case of playback mode</u></b></p> <ul style="list-style-type: none"> <li>- Short push:</li> </ul> <p>QUAD: It shows 4channels' images on one screen at the same time.            TRI: It shows live images and playback images on a screen at the same time.            REW: RW(Rewind)            FF: FF(Fast Forward)</p> <p><b>** When AUTO buttons is pressed, Triplex mode runs.</b></p> <ul style="list-style-type: none"> <li>- Long push (more than 3 seconds): It shows the proper channel's images on a full screen.</li> </ul> <p><b><u>In booting (in the first power on, in rebooting after USB updates)</u></b></p> <p>CH3: Press this button until you hear buzzer sound (about 3 secs), and then it boots to NTSC video format.            CH4: Press this button until you hear buzzer sound (about 3 secs), and then it boots to PAL video format.</p>

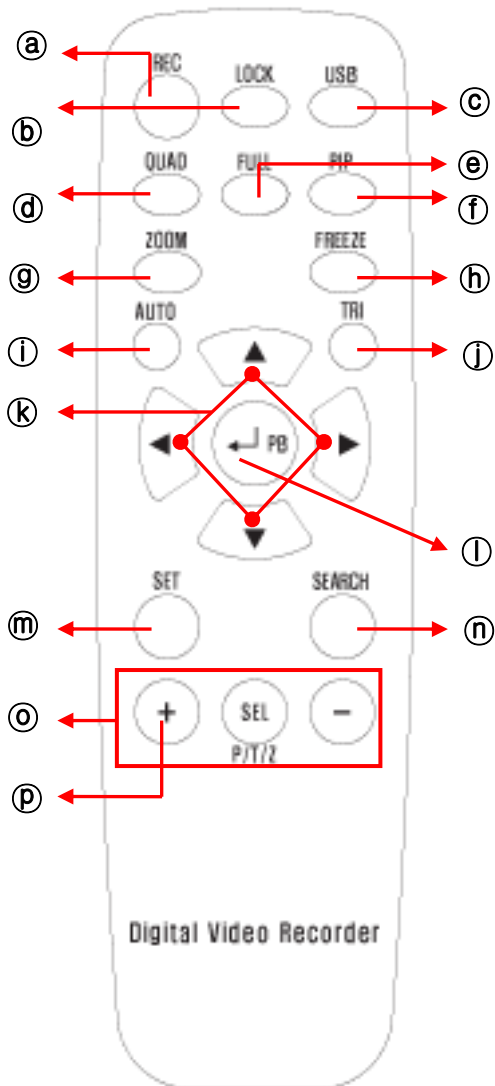
5	PLAY/PAUSE, SEARCH/ENTER	<ul style="list-style-type: none"> <li>- Short push: It is used to play back the recorded data under monitoring and playback mode. One more time of push during playback makes the screen to pause.</li> <li>- Long push (more than 3 seconds): Search function under monitoring and playback mode. RECORD START-STOP search: List search of recording start and recording stop that users operated manually. EVENT search: List search of motion and alarm recording TIME search: Search function that users can input desired time to view</li> <li>- It works as 'ENTER' as well under menu setting.</li> </ul>
6	INFO/STOP, MENU/EXIT	<ul style="list-style-type: none"> <li>- Short push: It shows system information in use.</li> <li>- It is to get out of playback mode and then convert to monitoring mode.</li> <li>- Long push (more than 3 seconds): It is to get in main menu.</li> <li>- VGA resolution change (In booting (in the first power on, in rebooting after USB updates) In booting, press this button for app. 3 seconds until buzzer beeps, then resolution can be changed (1280*1024/1024*768, default 1280*1024).</li> </ul>
7	Front flip	<ul style="list-style-type: none"> <li>- Inside is USB port and you can open this by using a groove at top right.</li> </ul>
8	USB port	<ul style="list-style-type: none"> <li>- You can see this if you open the front flip. This is a port for USB memory stick.</li> </ul>

## 4.2. Rear panel connection part



No	Items	Descriptions
1	Video input (1~4channel)	It supports 4 video inputs. Each of the input is independently available for black and white or color composite video input.
2	Monitor output	It shows each channel's input image on monitor.
3	Audio in / out	Live or recorded audio is available. For audio output, the speaker with amplifier or volume controller is required. (Line level audio in/out using RCA mono type connector is supported.)
4	VGA (optional)	You can view images on PC monitor or TV with VGA function (1280*1024, 1024*768 resolution supported).
5	Ethernet	It supports 10/100Mbps Ethernet of RJ-45 network port.
6	Alarm / Pan/Tilt	<p>Alarm input (1,2,3,4,GND)</p> <ul style="list-style-type: none"> <li>- It supports 4 alarm inputs. The equipment with ON/OFF switch or with TTL open collector such as door contact can be used. User can operate this manually.</li> </ul> <p>Alarm output (NC,COM,NO)</p> <ul style="list-style-type: none"> <li>- It supports 1 external output and 1 internal buzzer. Alarm status can be monitored by using alarm output or buzzer such as flash light and bell etc. And if alarm goes off, you can reset it by pressing 'ENTER' on the front panel. The limit of volt is +5V.</li> <li>- In case of alarm output (relay output), it runs as long as buzzer sound set time.</li> </ul> <p>PANTILT(+,-)</p> <ul style="list-style-type: none"> <li>- It controls PAN/TILT cameras. Be careful of polarity of +, - to connect to RS-485.</li> </ul>
7	Power	It supplies power by the power adapter supplied by the manufacturer.

4.3. Remote controller



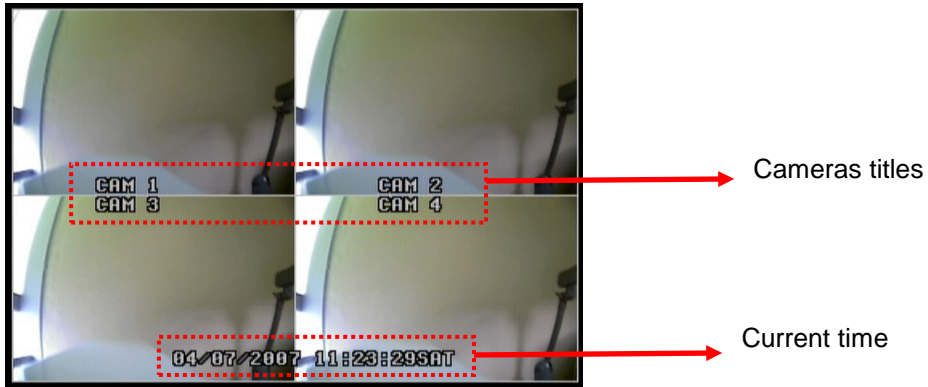
- a REC: It starts recording and stops recording.
- b LOCK: It is to lock the buttons on the front panel of DVR and the buttons of remote controller.
- c USB: It is for backup through USB memory stick.
- d QUAD: It is to show 4 channel's images on one screen at the same time.
- e FULL: It is used to view each channel (CH1~CH4). Whenever you press it, each channel is shown by the order of CH1->CH2->CH3->CH4.
- f PIP: Many small sub-screens in a main screen can be shown at the same time.
- g ZOOM: The current displayed screen is zoomed by 2x2. This function is used to see closely the small part of the images.
- h FREEZE: It shows paused screen of the currently displayed screen.
- i AUTO: It rotates 4 channels' images by channels to show them on a full screen.
- j TRI: It shows live images and playback images on one screen at the same time.
- k Arrows: It is for way of MENU move.

- l ENTER/PB(PLAYBACK): It is used to play back the saved images on HDD during monitoring mode.
- m SET: It is used for DVR's various setting, e.g. main menu or upper menu.
- n SEARCH: It is for searching function under monitoring and playback mode.
- o PAN/TILT: It is used to control PAN/TILT cameras.
- p INFO: It shows system information in use such as HDD model, size available or consumed and recording setting. This is only when PAN/TILT function is not in use.

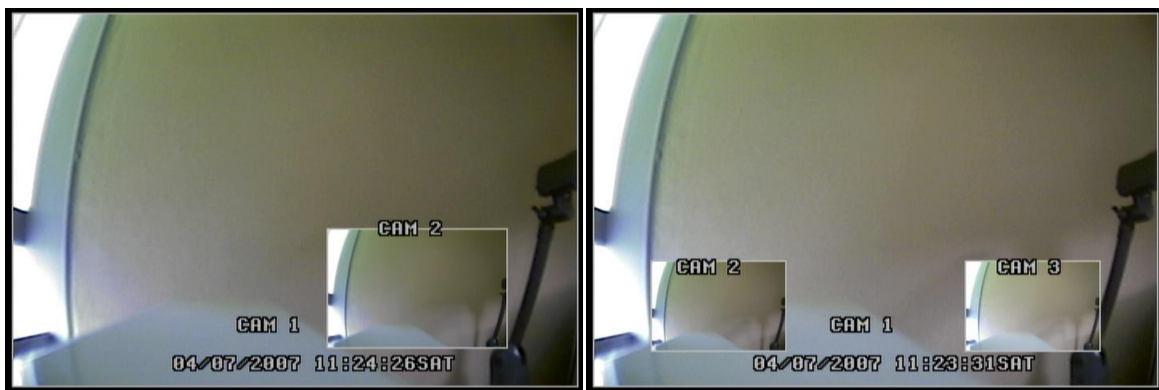
## 5. Display mode

This product provides various display modes, and they are independently executed regardless of any cases of screens or recording status.

### 5.1. QUAD mode



### 5.2. PIP mode



PIP mode 1

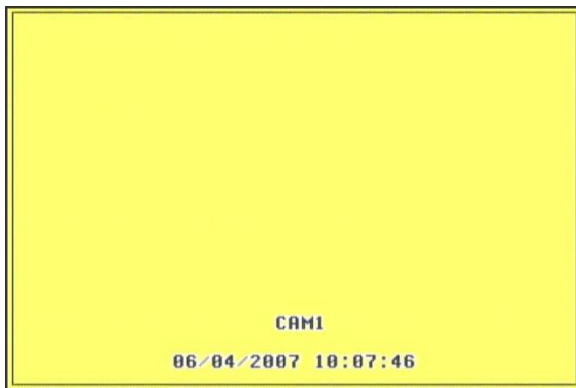
PIP mode 2



PIP mode 3

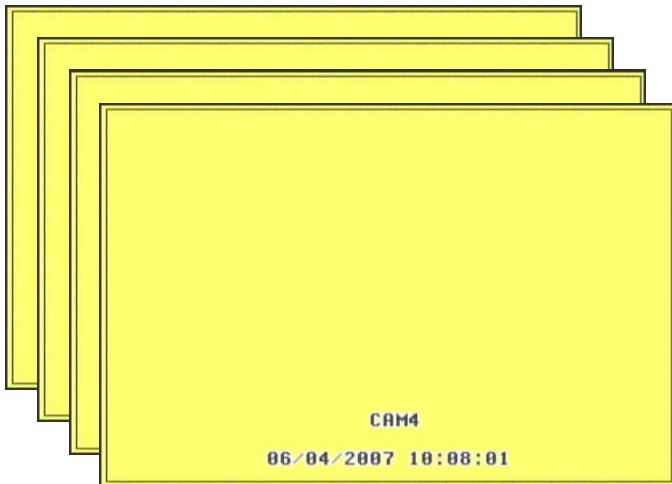
- Press PIP button, and then it works by the order of PIP mode 1->PIP mode 2 ->PIP mode 3.

### 5.3. FULL screen mode



- If you press the full screen button for certain channel, then it will be displayed on a full screen.

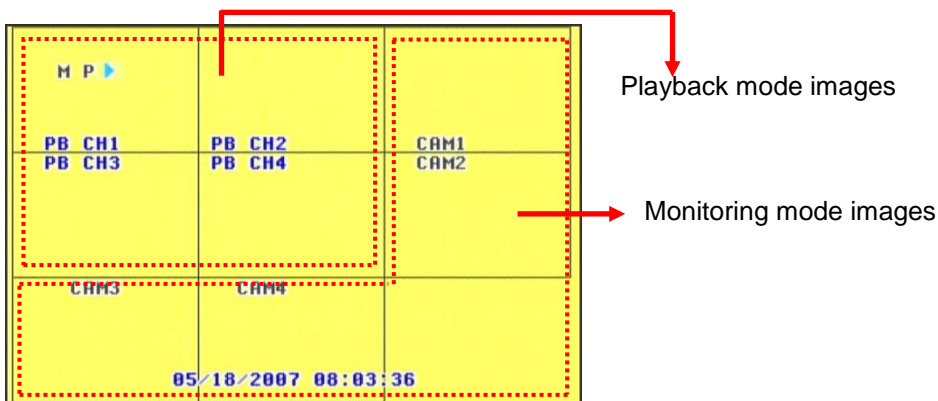
### 5.4. AUTO rotation mode



- If you press AUTO button, then the proper images are displayed fully on a screen by channels.

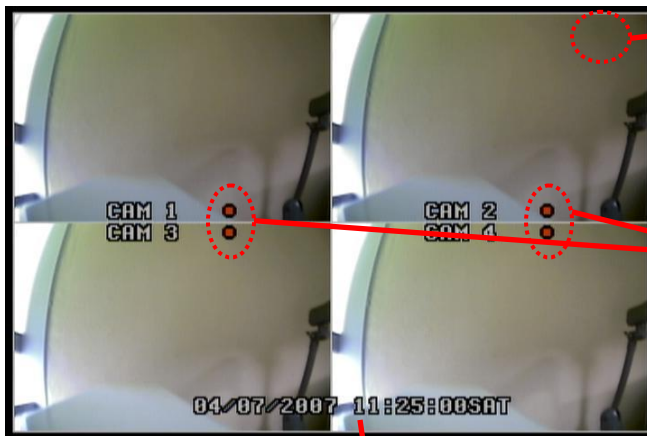
### 5.5. TRIPLEX mode

Playback mode images and monitoring mode images are displayed at the same time.



## 6. DVR function explanation

### 6.1. Recording



Recording kinds in case of event recording

**M**: Motion    **A**: Alarm

It means "recording" now.

**CAM4** ■ **MA**

: In case of event happened, event kinds are displayed next to the channel titles.

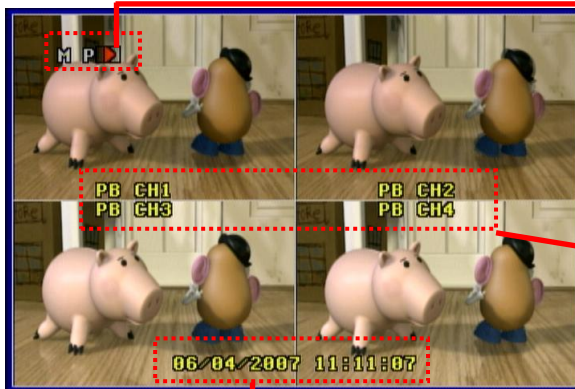
Set time precisely, because time is recorded too in recording the images.

Note. If you change time during running the DVR system, searching may not be done.

When is recording made?

1. When you press REC button, recording begins. When you press one more time, it stops.
2. When motion recording is set on and there is motion detected, motion icon is shown on the screen.
3. When alarm is triggered.

### 6.2. Playing back



It shows playback is in process

**X32** ▶▶ Fast forward / Rewind

**END** ▶▶ It means there is no playback data any more.

Camera number of PB: playback

**CH1** ■ Recording and playback icons are displayed together.

Recorded time shown

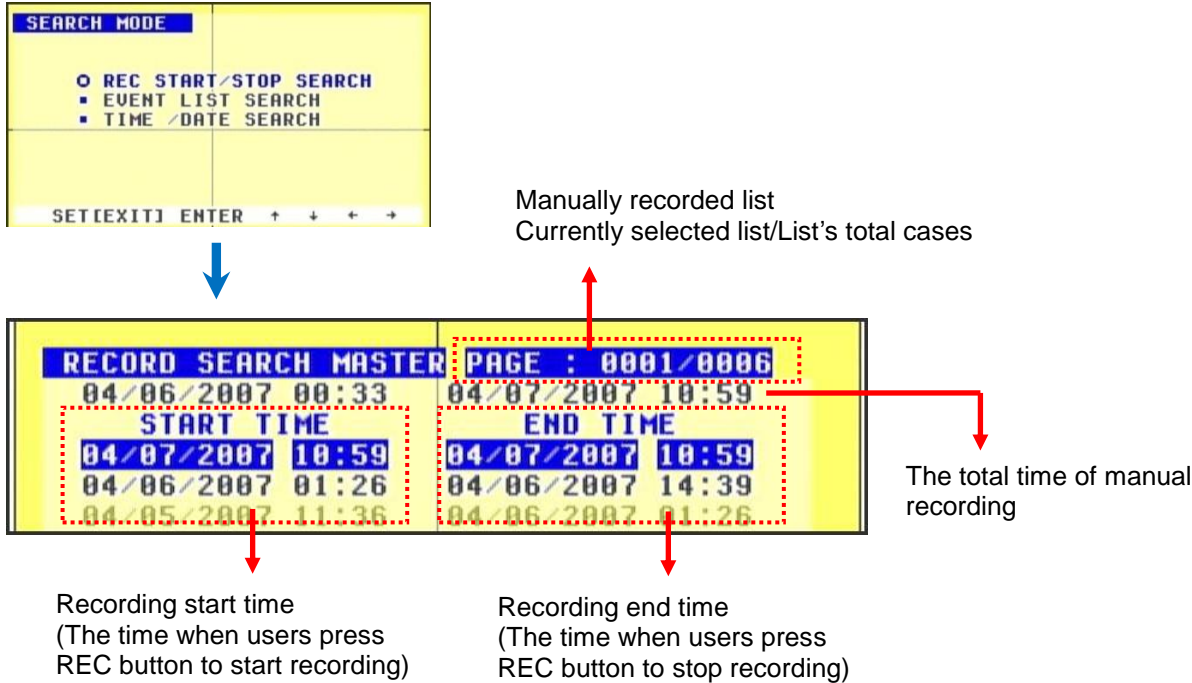
- You can view FULL/QUAD/TRIPLEX mode during playback.



### 6.3. Searching

#### 6.3.1. Manual recording searching

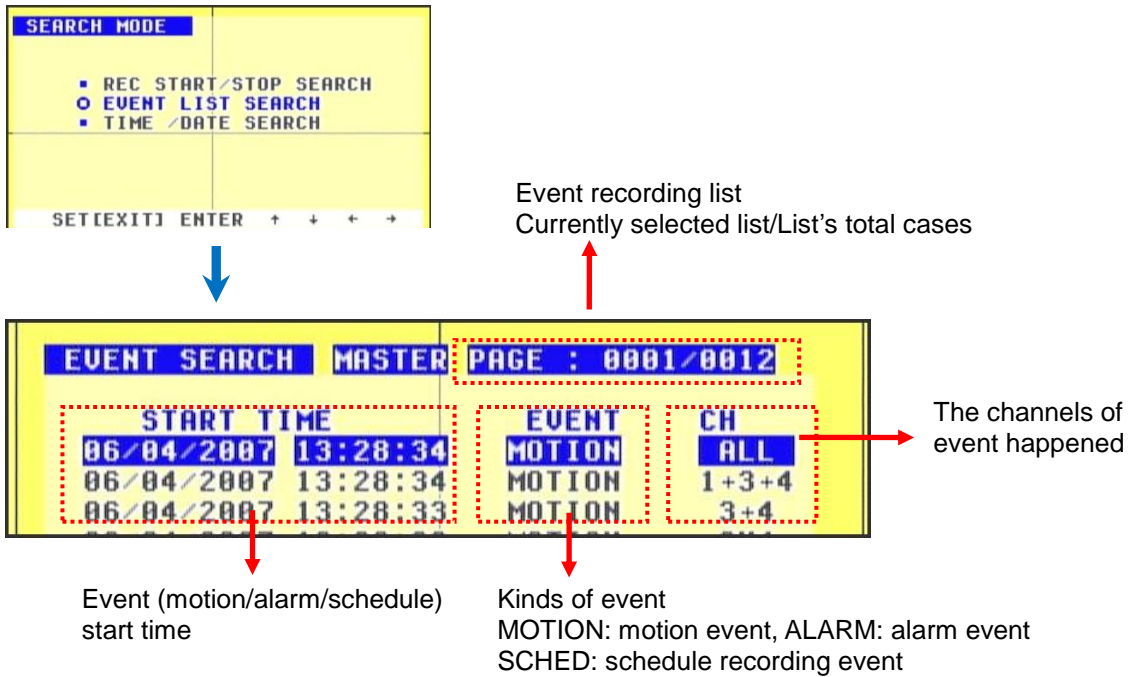
The function to search manually recorded images. When you press ENTER, the following screen appears.





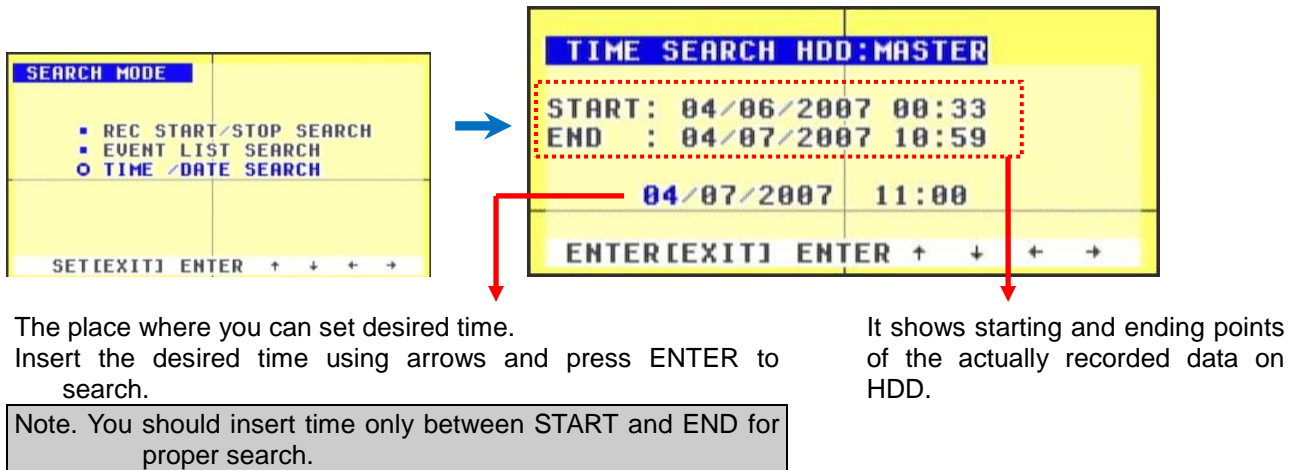
6.3.2. Event recording search

The function to search images by preset sequence due to external reasons of motion/alarm/schedule recording etc. If you press 'ENTER' button, you will see the screen as follows.



6.3.3. Time / dates search

It is the function to search certain data among all the data. When you press ENTER, you will see the screen as follows.



## 6.4. Zooming



It means the current status is 'zoom'.



Zoom mode window. Move to the place for zooming by arrows and press ENTER. Then that place is zoomed in like the picture shown right.

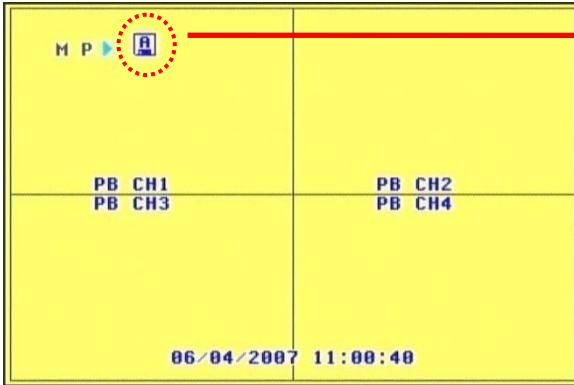
## 6.5. FREEZE



It means the current status is 'freeze'. Press FREEZE button one more time, then it releases. (Even though you make the screen frozen, recording is made without any trouble.)

### 6.6. USB backup

USB backup can be made only **during playback**. During playback, find the target images and press USB button or long press(3 sec) Search button at DVR Font. Then DVR saves that data on USB memory stick. You can press the button one more time to quit. During this process, USB icon is shown on the screen.



It means currently motion image is being saved via USB port. (It will be shown in 2 seconds after pressing it.)

Note. During backup process, if you pull the USB drive out, system error can be occurred.  
 Note. Backup will not run during network function.

### 6.7. System information



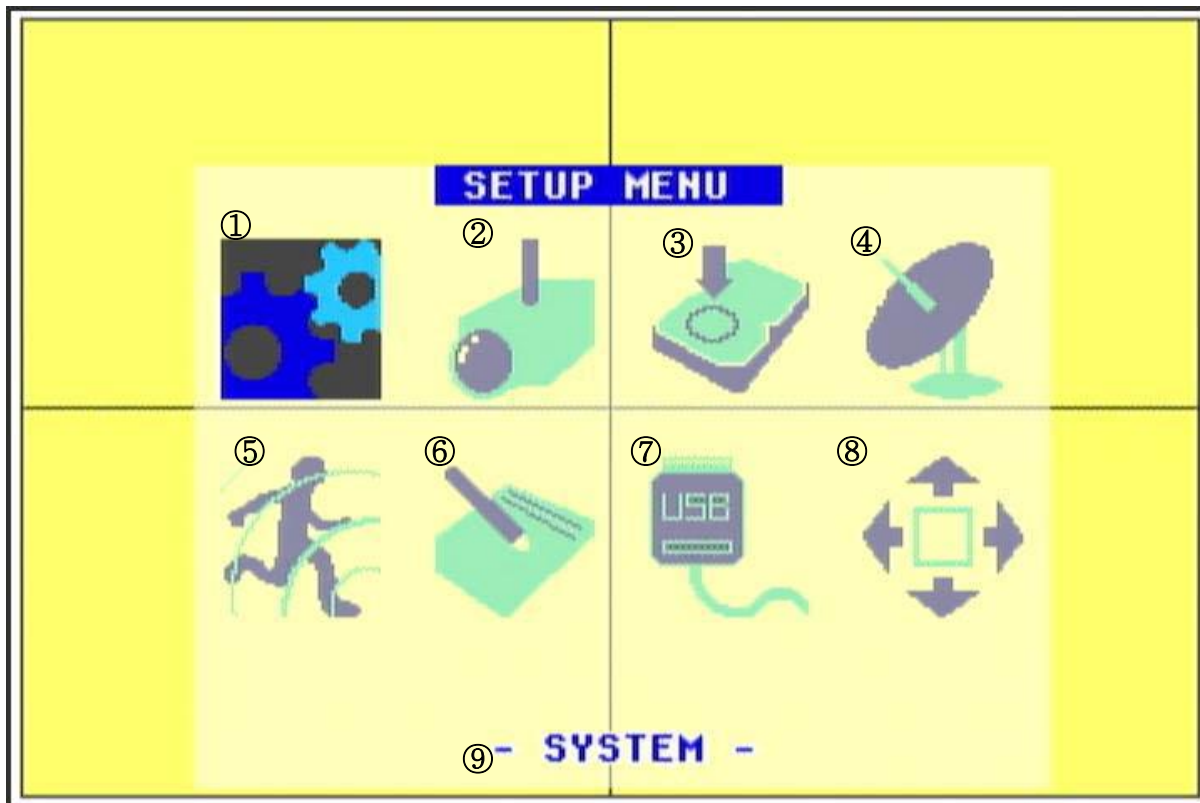
DVR system's basic information is displayed to understand the generals such as hard drive's model, size, recording and playback point, recording/network setting, and software version etc.

## 7. Menu

It is menu to modify/save the set values of the current DVR system. You can control the set values for the system to be proper for users' purpose by setting displayed message on screen and recording specifications.

### 7.1. Setup menu

If you press MENU/EXIT button under monitoring mode, you will see the screen as follows.



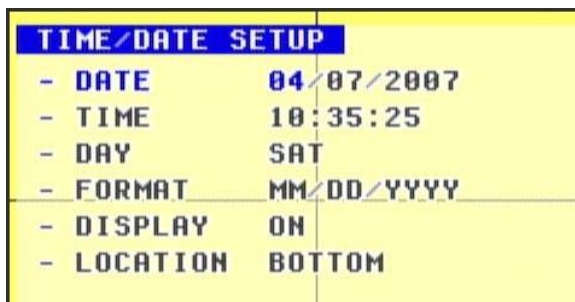
- ① Menu to set DVR's basic setting.  
During recording, Time/Date set menu, HDD format menu, and Factory reset menu will not be activated.
- ② Menu for display related setting
- ③ Menu for recording related setting
- ④ Menu for network related setting
- ⑤ Menu for motion/alarm related setting
- ⑥ Menu for schedule recording related setting
- ⑦ Menu for USB related information and program update
- ⑧ Menu for pan/tilt related setting
- ⑨ It shows selected menu's name.

## 7.2. System menu

You set system's basic set values. There is time/date setting, hard drive formatting, auto rotation setting, system initializing, buzzer setting, password setting, and language setting. When you select 'SYSTEM SET', the following system setting menu screen appears.

### 7.2.1. Time/date setting

On system setup, if you select 'TIME/DATE SET' menu, sub-menu appears. You can set the proper menu by arrow keys (left/right: move, up/down: edit).



- DATE/TIME/DAY : It sets the current date/time.
- FORMAT : It selects the format of date/time display. 'YYYY/MM/DD' 'MM/DD/YYYY' 'DD/MM/YYYY', three types are supported (default value: MM/DD/YYYY).
- DISPLAY : It sets whether you use date/time display or not under monitoring and/or playback mode (default value: ON).
- LOCATION : It selects the position of date/time display, 'TOP' or 'BOTTOM' (default value: BOTTOM)

### 7.2.2. Hard drive format

If you select 'HDD FORMAT' on system setup, sub-menu appears.

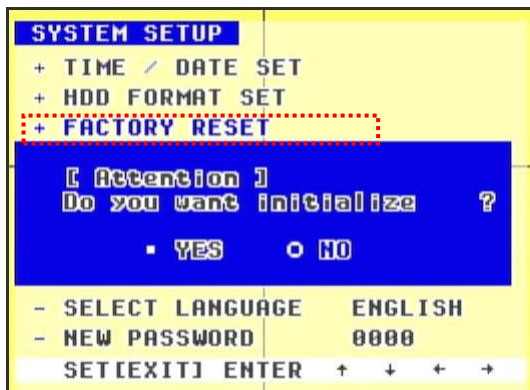


- It erases all the recorded data on HDD.
- If you insert password, it asks again before erasing (default password: **0000**).
- If you select 'YES', it erases all the data on HDD including manual recording / event recording list. Be careful of doing this!



### 7.2.3. System defaulted

If you select 'FACTORY RESET' on system setup, a window of YES/NO appears.

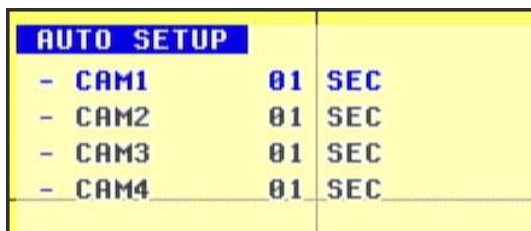


- It makes all the DVR's set values defaulted like factory default values.



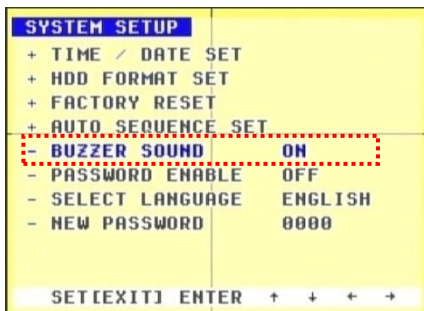
## 7.2.4. Auto rotation setting

If you select 'AUTO SEQUENCE SET' on system setup, sub-menu appears.



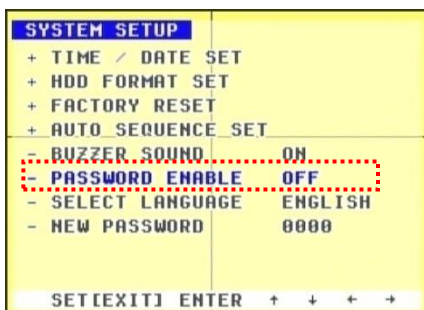
- It sets time for each channel's duration.
- It modifies auto rotated channels and time by using arrow keys. It can set number, 01~99 sec. (up/down: move, left/right: edit)
- During auto mode, the proper channel is displayed for the set time on a full screen. After the set time, it moves to next channel. (NO, 01~99 sec)

## 7.2.5. Buzzer setting



- It modifies values with left and right buttons. (ON/OFF default: ON)

## 7.2.6. Password on/off setting



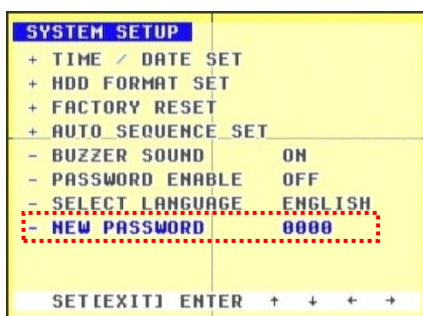
- It modifies values with left / right buttons. (ON/OFF default: OFF)
- If you set it 'ON', the DVR system asks for password, and only administrator can control the DVR system in case of circumstances setting.

## 7.2.7. Language setting



- It modifies values with left / right buttons. (ENGLISH/KOREAN/ITALIAN/CHINESE /JAPANESE/HUNGARIAN/YUGOSLAVIAN /RUSSIAN/POLISH/SPANISH)

## 7.2.8. Password input setting



- It modifies password values by arrow buttons, from 0000 to 9999. Default password: **0000** (Left/right: cipher move, up/down: edit)

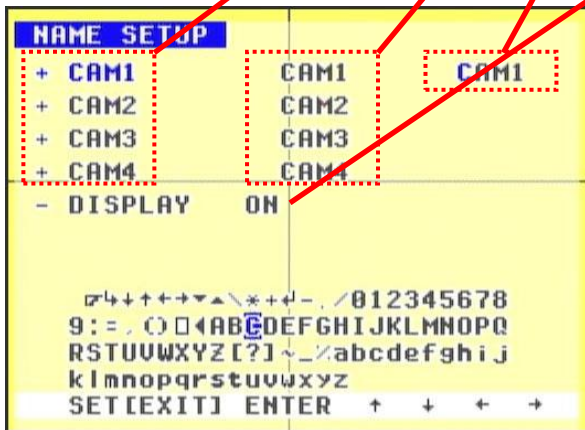
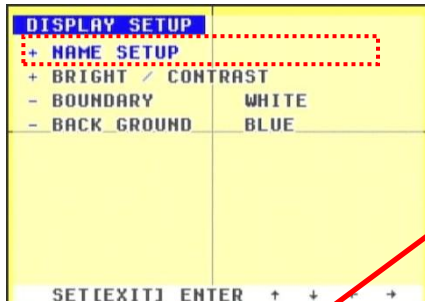


### 7.3. Display setup menu

It is the menu of basic circumstances setting of monitoring screen. There are menus of name setting, each channel's brightness and contrast, boundary setting and background setting. Select 'Display SETUP' at main menu.

#### 7.3.1. Channel name setup

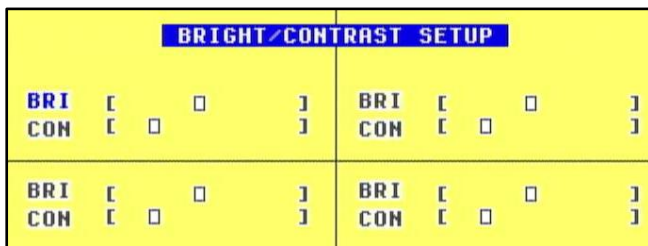
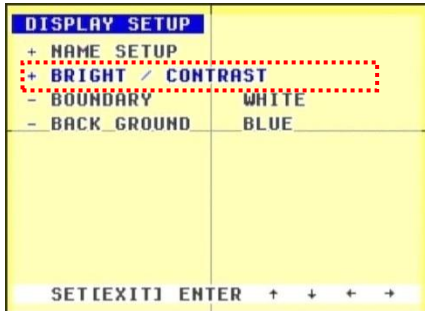
It sets each channel's title of monitoring. If you select 'NAME SET' under DISPLAY menu, the following sub-menu appears.



- Camera channel no
- Camera titles before editing
- Camera title under editing
- It decides channel title display on or off.
- If you press ENTER at a target channel, letter table as follows is displayed to set. You can select the letters using up/down/left/right buttons.
- Up to 8 letters can be displayed. After completing setting, press ENTER to finalize setting.

7.3.2. Brightness/contrast setting

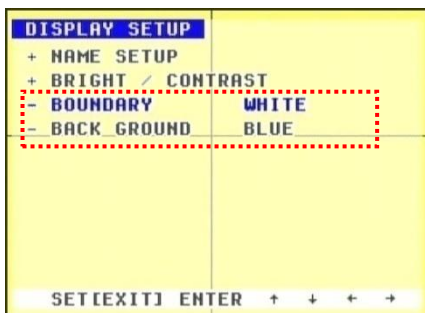
It controls the brightness/contrast of each channel's image of monitoring. If you select 'BRIGHTNESS/CONTRAST' under DISPLAY menu, you will see the following sub-menu.



- It sets brightness/contrast channel by channel with arrow buttons. During this, the set value is applied to the screen right away, so users select the most proper value instantly.
- Each item has 11 levels of setting (up/down: channel and move to other item, left/right: edit)

7.3.3. BOUNDARY / BACKGROUND setting.

When images and the menu to set each channel's boundary in case of 4 split screen, PIP, and TRIPLEX are not input, this function sets the basic color displayed on screen.



- **BOUNDARY**  
: It sets the boundary color with left and right buttons. You can select white, gray, and black (default: white).
- **BACKGROUND**  
: It selects back ground color with left and right buttons. You can select blue and black.



BOUNDARY

BACKGROUND: It is displayed when there is no video signal.

## 7.4. Record menu

It is the menu to set recording for monitoring screen. It can record the data suitably for users' demand by setting recording related items because DVR saves data on limited capacity of HDD. If you select 'RECORD SET' on main menu, the following recording setting menu appears. You can choose the items and modify the values with arrow keys (up/down: move, left/right: edit).

RECORD SETUP	
- OVERWRITE	ON
- RECORD SPEED	60Fld/1Sec
- RECORD QUALITY	VERY HIGH
- RECORD SOURCE	704*240
- PLAYBACK SPEED	NO USE
- AUDIO ENABLE	NO USE
SET [EXIT] ENTER + + + +	

- **OVERWRITE (ON/OFF)**  
: It decides HDD overwriting. If you select 'YES', the oldest data are deleted to record the latest data. If you select 'NO', recording stops when HDD is full of recorded data.

- **RECORD SPEED**  
: It selects how many frames (images) are recorded in recording. As the images are more, the recorded data is close to real-time, but it consumes more HDD capacity. Normally '5 Fld/1SEC' is set for about one week (based on 80GB HDD.).

### <HDD duration hours per setting>

Based on **80GB HDD**

	MAX IMAGE SIZE	60 FPS	30 FPS	12 FPS	5 FPS
<b>VERY HIGH</b>	65536	5.157926	10.31585	25.78963	61.89511
<b>HIGH</b>	49152	6.877235	13.75447	34.38617	82.52681
<b>NORMAL</b>	32768	10.31585	20.6317	51.57926	123.7902
<b>LOW</b>	24576	13.75447	27.50894	68.77235	165.0536
					Unit: Hour

- **RECORD QUALITY (VERY HIGH/HIGH/NORMAL/LOW)**  
: It is an item to define recorded images' quality. In case of 'VERY HIGH', image quality is the best, but it consumes HDD's capacity the most. Normally 'HIGH' is set. For longer recording, 'NORMAL' or 'LOW' is set.
- **RECORD SOURCE (704 \* 240 / 352 \* 240)**  
: It sets recorded images' resolution. 'Half D1' and 'CIF', two kinds are supported. If you want to record by double times of 'REC SPEED' set value, set it as 'CIF'. If you want to record as 'REC SPEED' set, then set it as 'Half D1'. In other words, if you want to record 120(100) images per second, then set it as 'CIF'.
- **AUDIO ENABLE**  
: It selects audio channel for recording. This DVR records 1 channel audio.

## 7.5. Network menu

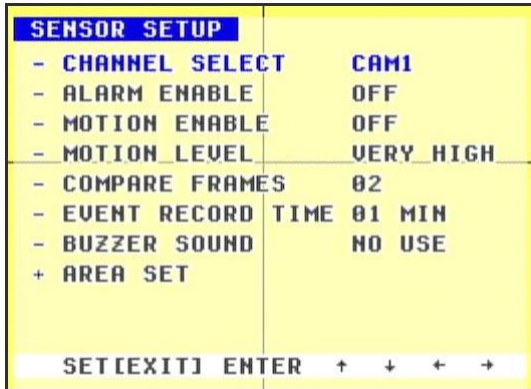
This is the menu to set network circumstances. In order to control the various functions of the system through network and manage/monitor remotely, you need to set network circumstances first. Select 'NETWORK' menu under main menu, and then you can choose items and modify values with arrow keys (up/down: move, left/right: edit).

NETWORK SETUP	
- DHCP SET	DISABLE
- SUBNET MASK	255 255 255 000
- GATEWAY	192 168 010 001
- IP ADDRESS	192 168 010 005
- ROUTER STATUS EXTERIOR	
- COMMAND PORT	5001
- DATA PORT	5000
SET [EXIT] ENTER + + + +	

- **COMMAND / DATA PORT**  
: It sets DVR's network communication's ports.  
This DVR system uses the ports of '5000' and '5001'.
- **How to check & change MAC Address**  
Under 'NETWORK SETUP' menu, press REC button 4 times in a row, and then MAC address of the DVR system will be shown.
- **DHCP SET**  
: This DVR system supports DHCP and DDNS.
- In case of static IP, it needs to be set 'DISABLE'. In case of DHCP, it needs to be set 'Enable'.
- In case of static IP, contact network manager to set the circumstances. In case of DHCP/DDNS, all the values are set automatically.
- Besides, in case of DHCP set, it also supports DDNS for remote access so that you can always access the system automatically even though the IP address is changed.

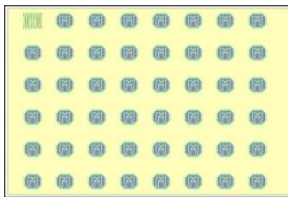
## 7.6. Alarm/motion menu

It is the menu to set sensor input, alarm output, and motion setting. This DVR system supports 4 channels of sensor input and 1 channel of alarm output (relay output). Besides, each of 4 channels can be set independently for motion recording. Select 'SENSOR SETUP' at main menu and you can choose items and modify values (up/down: move, left/right: edit).



- CHANNEL SELECT  
: It selects a channel.
- ALARM ENABLE  
: It sets alarm input type (NO, NC, OFF).
- MOTION ENABLE (ON/OFF)  
: It sets motion detection.

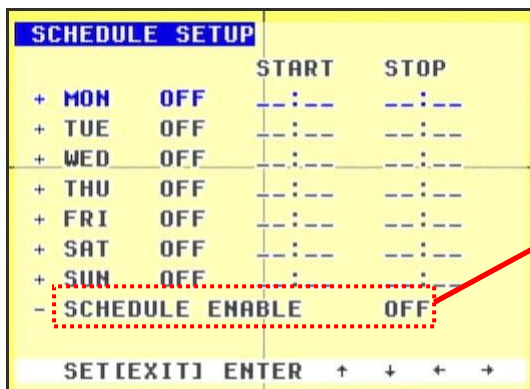
- MOTION LEVEL.(VERY LOW/LOW/NORMAL/HIGH/VERY HIGH)  
: It sets motion detection's sensitivity. If you set it VERY HIGH, motion recording will be made even though there is very little motion.
- COMPARE FRAMES (00~15)  
: This sets how many images are used for motion detection. Normally 2 frames are set.
- EVENT RECORD TIME (OFF, 01~99 MIN, CONTINUE)  
: This is the function to record images in motion detection. It records images as set.
- BUZZER SOUND (NO USE, 01~99 SEC)  
: In case of motion detected, alarming sound goes off. It sets buzzer sound duration time. If you set 'NO USE', the sound does not go off at all.
- AREA SET  
: As motion detection area set, the following screen appears.



The part filled with yellow color is the area where motion is going to be detected.

### 7.7. Schedule record menu

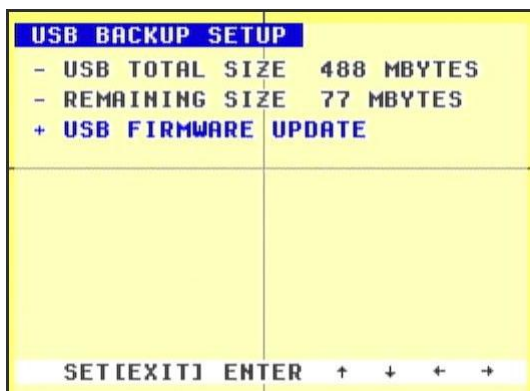
This DVR system supports schedule recording. It can select certain desired time to record for one week. Select 'SCHEDULE SETUP' at main menu.



- Select days with up and down buttons and press ENTER to set. Set start and end time with up, down, left and right buttons. After done, press ENTER to move to other days.
- Finally, if you want to use schedule record, you should set 'SCHEDULE ENABLE' on.

### 7.8. USB backup menu

You can save the playback file for backup and update the system through USB thumb drive. Select 'BACKUP' at main menu.



- USB TOTAL SIZE  
: It shows USB memory's total capacity that is stuck to the DVR system. If the system does not recognize USB memory stick, it displays 'NO DETECT'.
- REMAINING SIZE  
: It shows available capacity. If the system does not recognize USB memory stick, it displays 'NO DETECT'.
- USB FIRMWARE UPDATE  
: It is used to update the DVR's system with the latest firmware. It is updated with Update.bin file. The system reboots automatically after update.

### 7.9. PAN/TILT setup



This is the menu to set PAN/TILT camera. This DVR supports one channel of PAN/TILT control. Select 'PAN/TILT' at main menu.

PAN-TILT SETUP	
- PTZ TYPE	PELCO-D
- DEVICE ID	000
- BAUD RATE	9600
SET [EXIT] ENTER + + + +	

- PAN/TILT cameras' protocol

Note. Recommendation  
: PELCO-D, PELCO-P.

- Set ID at the camera
- Set baud rate value at camera

## 8. Network client software

- This DVR's client program consists of four kinds of software by function. You can view the images through web browser. Web viewer:
  - Input <http://www.dvr-cctv.net> at the address bar.
  - Select "STANDALONE 4CH DVR" at top.

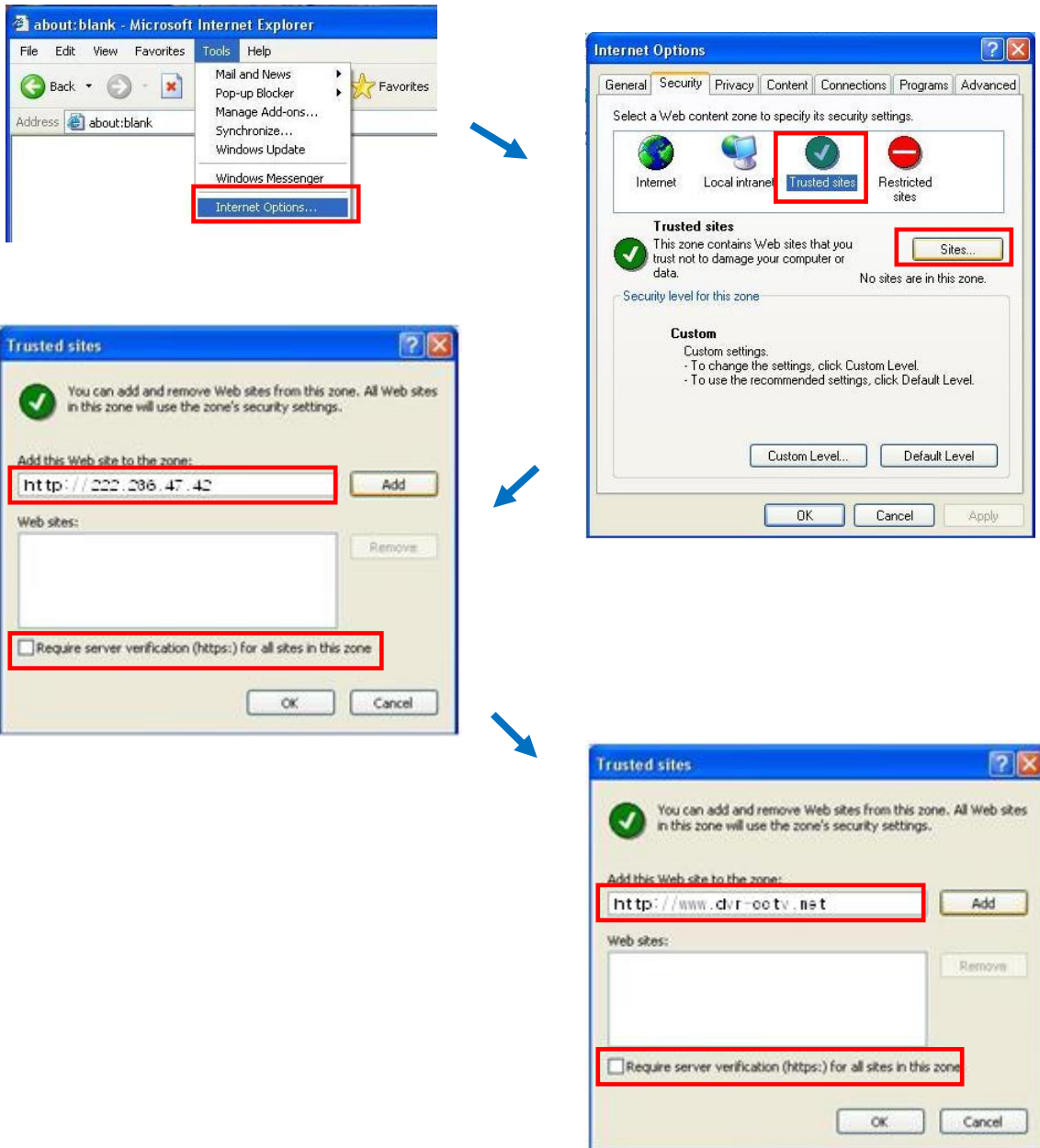
Note. When you can't see web viewer screen, please refer to the next page about Active X errors.

- Copy the contents provided in the CD on PC's HDD space or execute the CD's contents directly.
  - DvrViewer.exe: It is used to monitor the current images.
  - DvrHddPlayer.exe: It is used to view the HDD recorded at DVR after connecting the HDD to your computer.
  - DvrUSBPlayer.exe: It is used to view USB backup data on PC.
  - DvrRemoteSearch.exe: It is used to search the recorded data on the DVR's' HDD at client PC.



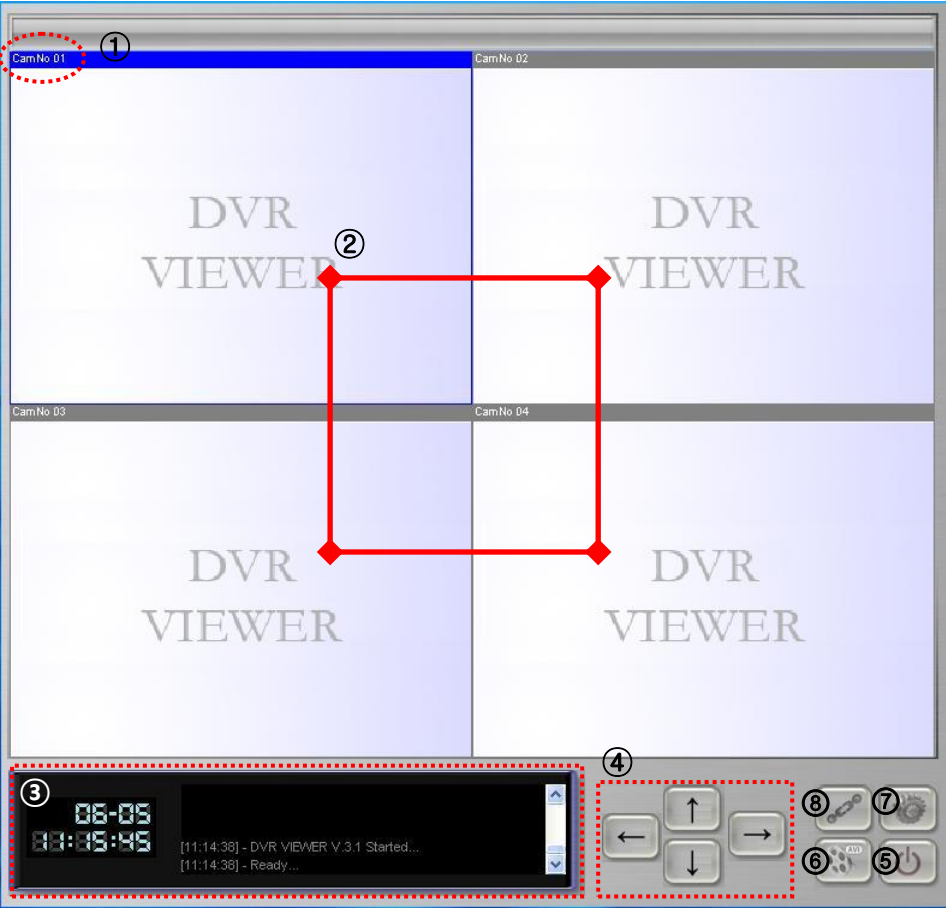
**<IN CASE OF ACTIVEX ERRORS>**

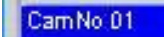
1. Registration at Trusted sites.
  - [Tools]->[Internet options]->[Security]->[Trusted sites]-> Click Sites.
  - Add <http://www.dvr-cctv.net>
  - Add <http://222.236.47.42>
  - Not select require server verification (https:) for all sites in this zone



2. After setting above, access <http://www.dvr-cctv.net> and click "STANDALONE 4CH".

8.1. WEB VIEWER and DVR VIEWER: Live screen remote monitoring




①  It shows images' channel title.



② It shows each channel's monitoring mode images. If you double click certain channel, that channel will be shown in a full screen. One more double click makes it into 4 split screens.

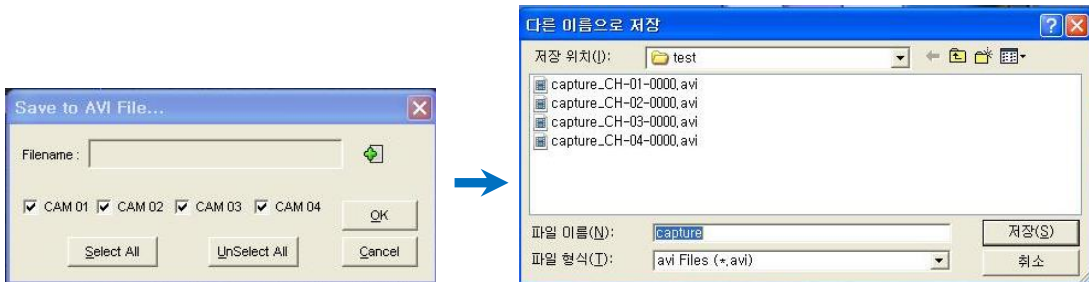



③ It shows the current time and operation status message.

④ Pan/tilt control button: This function controls pan/tilt cameras remotely (up, down, left, right).

⑤  Program termination button

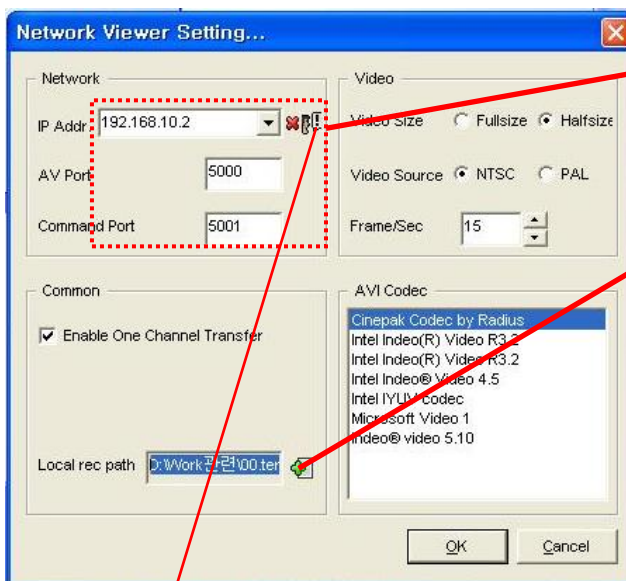
- ⑥  AVI file saving button: It saves the currently displayed screen at Viewer in AVI format. Instant saving is directed to 'Local rec path' of ⑦. You can redirect the path by clicking  icon.



- ⑦  Option button

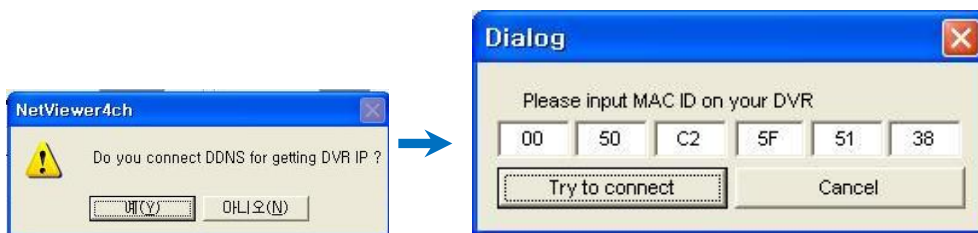
**In case of network disconnected**

This is the button to set IP, video source, and saving path etc. If you click it, you will see the window as follows.



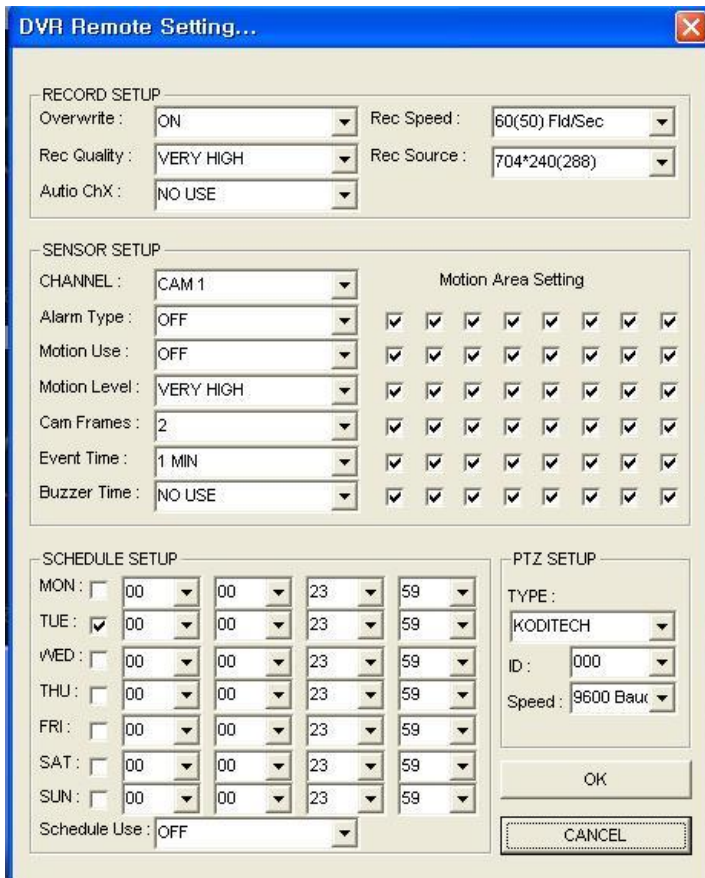
- In case of static IP, input the IP directly. In case of DDNS, please see below.
- Input ports which are set at DVR network setting. (default values 5000, 5001 used)
- It sets the path to save M-JPEG stream or AVI file.

-  In case of dynamic IP (ADSL, VDSL etc), click DDNS setting icon.



- When MAC address input-window appears, input MAC address that is shown on DVR rear side, and click 'Try to connect'. And then you will see the process of finding IP at DDNS. When it's done, you can see the DVR's dynamic IP address.

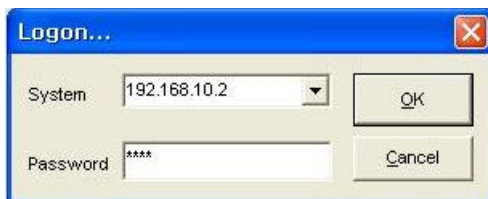
- **In case of network connected**



- You can control remotely the setting menus such as DVR's recording, motion/sensor, schedule recording, PTZ setting.

Note. After setting modification, if you press OK button, the local DVR system gets rebooted and modified to the new setting values.

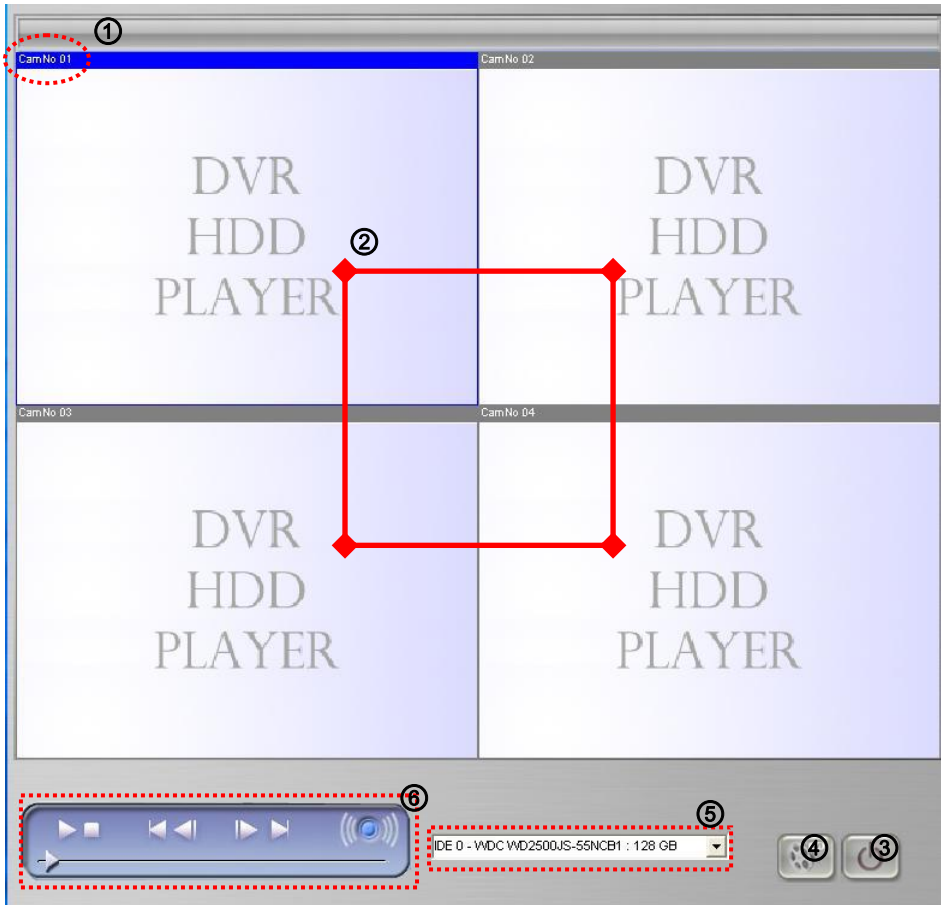
⑧  Access button




- The target DVR which is set at ⑦ above is shown, and input password that is set at the DVR to try access. **(default password: 0000)**

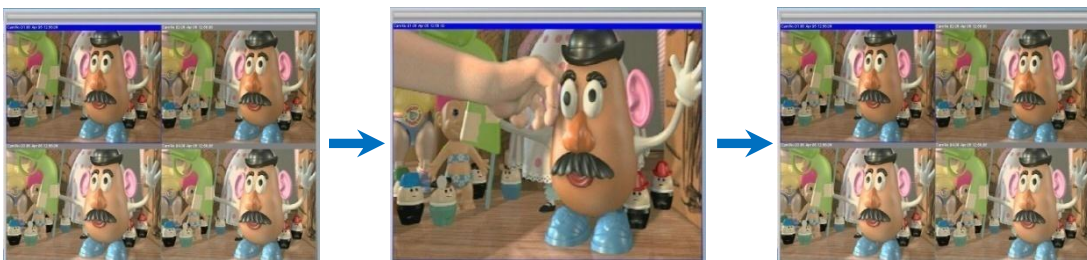
### 8.2. DVR HDD PLAYER: HDD scan playback


HDD scan function is to play back the HDD's recorded data on the DVR after you connect the HDD to PC directly.





①  It shows images' channels' title.

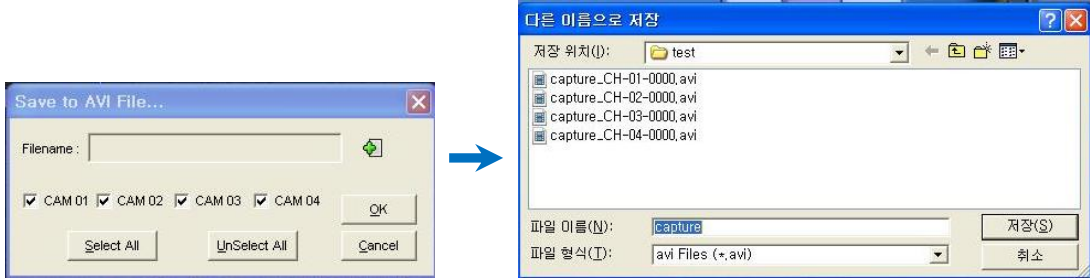
② It shows each channel's playback mode's images. If you double click certain channel, that channel can be shown on a full screen. One more double click makes it 4 split screen.



③  Program termination button

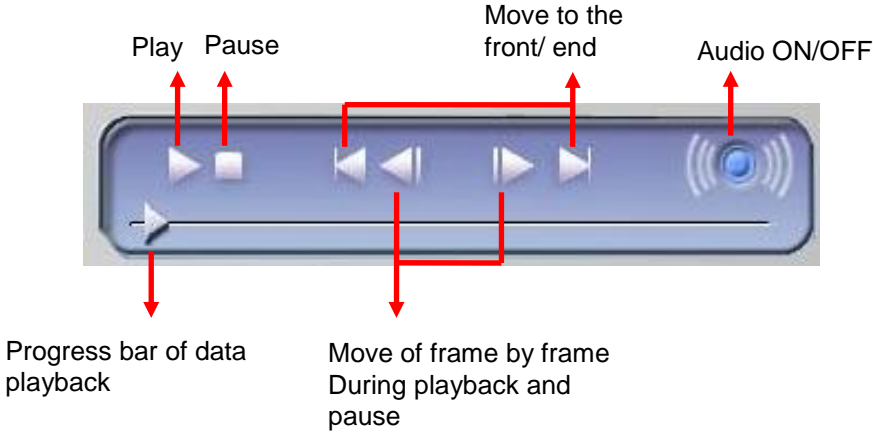


- ④  AVI file saving button: It saves the currently displayed screen at Viewer in AVI format. Instant saving is directed to 'Local rec path' of ⑦. You can redirect the path by clicking  icon.



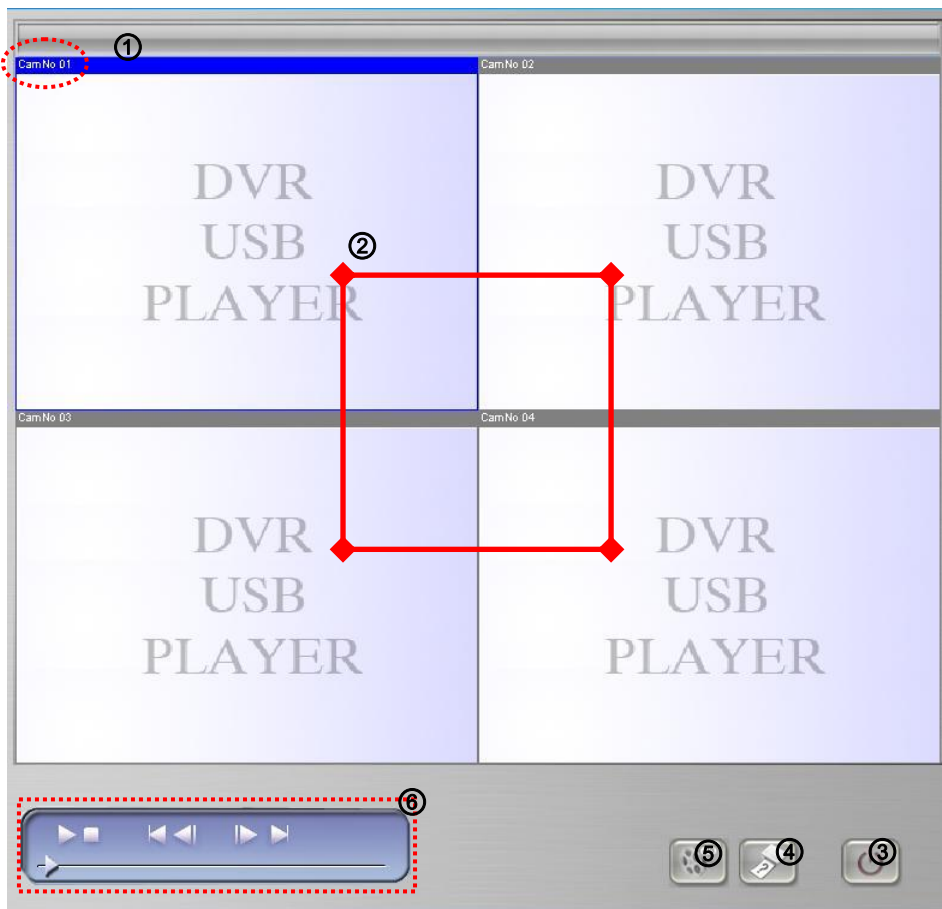
- ⑤ HDD selection window

- ⑥ PLAYER:



### 8.3. DVR USB PLAYER: USB backup playback

USB backup playback is a function to play back the backup data saved on USB memory stick on PC. Connect the recorded USB pen drive to PC and play back the recorded data.




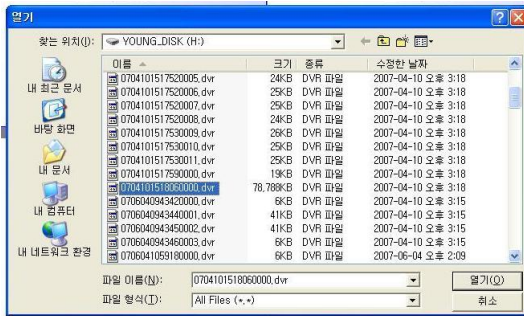
① It shows images' channel title.

② It shows each channel's playback mode's images. If you double click certain channel, that channel can be shown on a full screen. One more double click makes it 4 split screen.





③ Program termination button

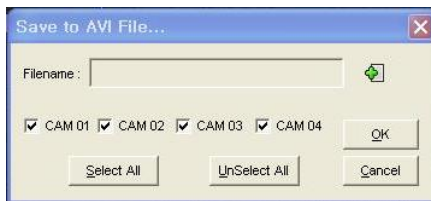
- ④  Button for file open: It opens image data of backup data.



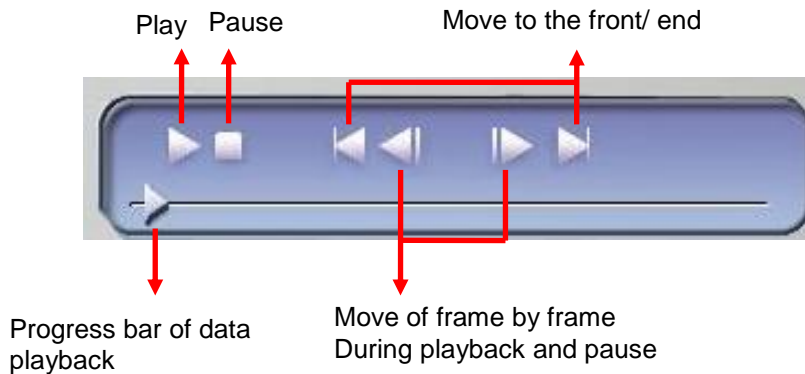
- Go to the path of the saved backup data and click the desired data to playback.

Note. It can only play back the type of M-JPEG stream (\*.dvr) data.

- ⑤  AVI file saving button: It saves the currently displayed screen at Viewer in AVI format. Instant saving is directed to 'Local rec path' of ⑦. You can redirect the path by clicking  icon.

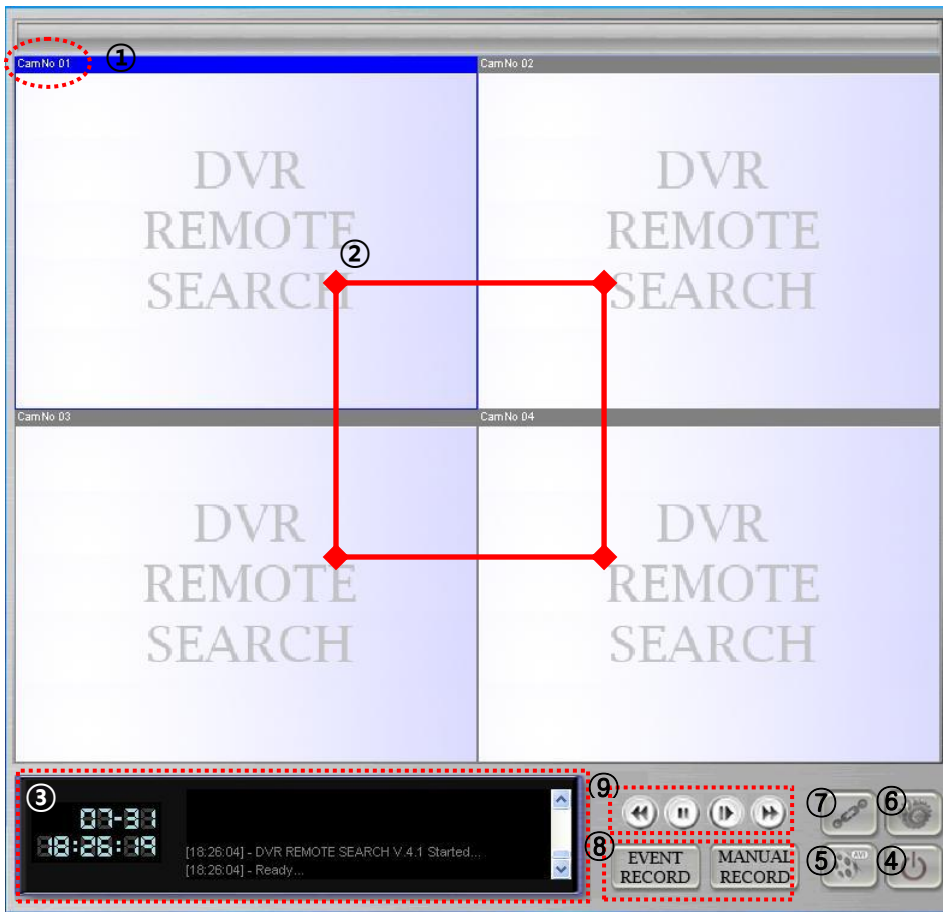


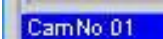
⑥ PLAYER:



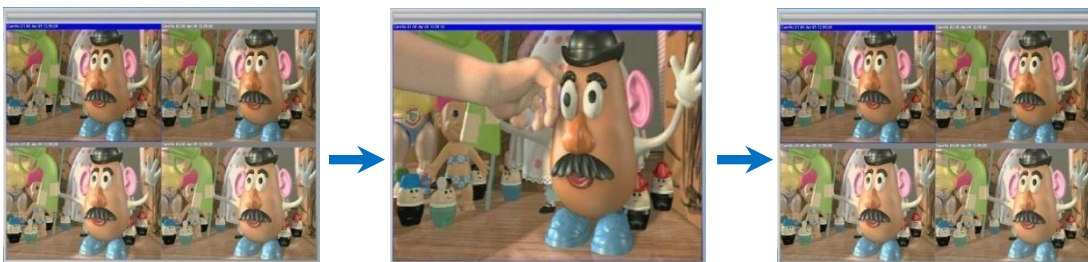


### 8.4. DVR REMOTE SEARCH: Remote search






①  It shows images' channel title.

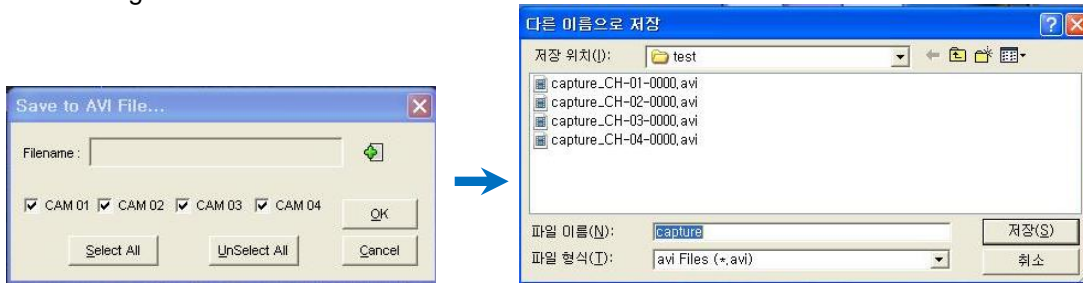
② It shows each channel's monitoring mode images. If you double click certain channel, that channel will be shown in a full screen. One more double click makes it into 4 split screens.




③ It shows the current time and operation status message.

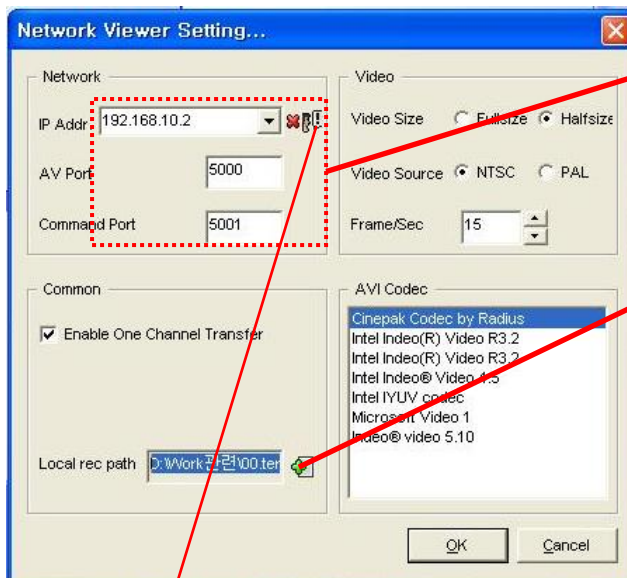
④  Program termination button

- ⑤  AVI file saving button: It saves the currently displayed screen at Viewer in AVI format. Instant saving is directed to 'Local rec path' of ⑦. You can redirect the path by clicking  icon.



- ⑥  Environment setting button

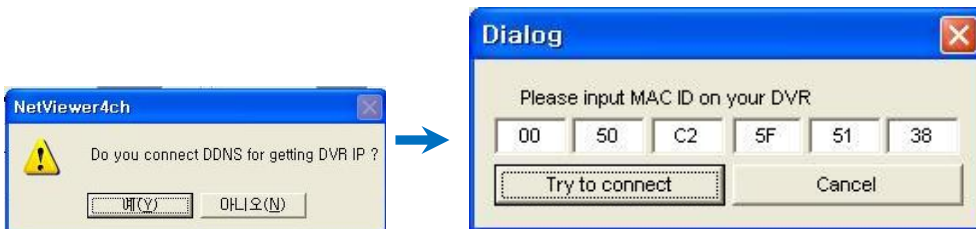
This is the button to set IP, video source, and saving path etc. If you click it, you will see the window as follows.



**Network setting**

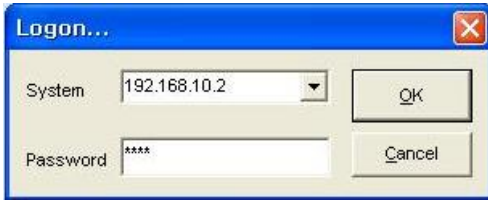
- In case of static IP, input the IP directly. In case of DDNS, please see below.
- Input ports which are set at DVR network setting. (default values 5000, 5001 used)
- It sets the path to save M-JPEG stream or AVI file.

-  In case of dynamic IP (ADSL, VDSL etc), click DDNS setting icon.




- When MAC address input-window appears, input MAC address that is shown on DVR rear side, and click 'Try to connect'. And then you will see the process of finding IP at DDNS. When it's done, you can see the DVR's dynamic IP address.

⑦  Access button



- The target DVR which is set at ⑦ above is shown, and input password that is set at the DVR to try access.  
**(default password: 0000)**

Note. Concurrent access with Network Viewer is not supported.

⑧  Search button: This is used to bring the list of manual and event(motion, alarm, schedule) recording from the DVR.

Note. Data search can be done with the network connected  
(process ③ “connected to xxx.xxx.xxx.xxx” message check)

Index	Start time	End time	LBA
0	07/04/10 11:13:35	07/04/10 11:54:15	0x469a0100
1	07/04/10 12:49:13	07/04/10 13:11:00	0x31aca300
2	07/04/10 13:11:30	07/04/10 13:12:00	0x94e2c400
3	07/04/10 13:12:24	07/04/10 13:37:08	0xf202c600

<Manual recording list>

Index	Start time	Name	Channel	LBA
0	07/04/10 14:08:50			0x85e3f800
1	07/04/10 14:08:29	motion	1,2	0x71d4f800
2	07/04/10 14:07:23	motion	1,2	0x0f23f700
3	07/04/10 14:06:22	motion	1,2	0x16caf500
4	07/04/10 14:06:19			0x23bef500

<Event recording list>

- If you select the wanted list to play back, you will see the list shown on the left picture. Double-click one of the data on the list, then the proper data is played..

⑨ Playback control button: These buttons are to control the selected data's playback speed.



REW PAUSE PLAY FF

Note. You can't use RemoteSearch's playback at the same time as the local DVR's playback.

## 9. Internet Router Setting

### 9.1. Virtual server (port forwarding) setting

How to set is various from model to model. This guide is for ipTIME G104 of EFM networks.

The screenshot shows the 'Port Forwarding Setup' page in the EFMnetworks ipTIMEG104 web interface. The page is titled 'NAT >> Port Forwarding' and includes a 'Port Forwarding Setup' section. The setup form contains the following fields:

- Rule Name: DVR-DEMO
- Protocol: TCP
- External Port Range: 5000 - 5001
- Internal PC IP Address: 192.168.1.11
- Internal Port Range: 5000 - 5001

Below the form, there is a section for 'The connected PC's IP address is' with 'Add' and 'Modify' buttons. A note states 'Max number of rule is 60.'

A table below the form lists existing rules:

Idx	OP	Rule Name	Proto	External Port Range	Internal PC IP	Internal Port Range	Del
1	<input checked="" type="checkbox"/>		tcp		192.168.1		<input type="checkbox"/>
2	<input checked="" type="checkbox"/>		tcp		192.168.1		<input type="checkbox"/>
3	<input checked="" type="checkbox"/>	DVR-DEMO	tcp	5000~5001	192.168.1.11	5000~5001	<input type="checkbox"/>

- You need to set the DVR's port #5000~5001.

## App. A. Trouble-shooting

Troubles	Check-points
Power does not get on.	Please check the external SMPS status.
Can't see live display images.	Please check camera cable connection. Please check monitor cable connection. Please check camera power status.
Live images are too bright.	Please check camera input status. Please check camera's brightness setting.
DVR stops recording.	Please check "overwrite" recording mode in the SETUP menu.
The initial booting takes more than 20 seconds.	Please check if HDD jumper connection is "MASTER". Please check HDD information on INFO screen is "NO DETECT".
In booting, HDD: NO DETECT message is shown..	Please check if the HDD is installed in the DVR.. Please check if HDD connection cable is done properly. Please try another HDD.
During DVR working, it reboots automatically.	Under Search mode, please go in REC START/STOP SEARCH. Then please check if "REBOOT HDD ERROR" is at END TIME. The above message means the currently used HDD has bad sector, so you need to replace it with another HDD if it often happens.

## App. B. Product specification

Models		4 channel standalone type DVR
Video	Input	4 composite (BNC)
	Output	1 Composite (BNC), 1 VGA optional
Audio	In / out	1 in (RCA) / 1 out (RCA)
Live display	Video signal	NTSC - Real time display @ 704x480 PAL - Real time display @ 704x576
	Compression	Motion JPEG
Recording	Resolution	NTSC: 704x240(Half D1), 352x240(CIF) PAL: 704x288(Half D1), 352x288(CIF)
	Speed	NTSC: 60fps@Half D1, 120fps@CIF PAL: 50fps@Half D1, 100fps@CIF
	Mode	Motion, Sensor, Manual, Schedule
	Image quality	Very high, High, Normal, Low
Sensor in / alarm out		4 in / 1 out
System control		IR Remote controller / Key buttons / Network
PTZ control		RS-485, pan / tilt
Storage		1ea of internal HDD. Up to EIDE 750GB HDD
Backup		USB thumb drive, HDD reading at PC, AVI convert
Search		Time / Event list / Manual recording list
Network		10/100Mbps ethernet, RJ-45, DDNS/DHCP, Dedicated software
Power supply		DC 12V/3.5A/external SMPS based on 1ea of HDD
Dimensions & weight		30 x 6(height) x 22cm, 4 kgs
Operating temperature		5°C ~ 40°C
Operating humidity		0% ~ 90%

This specification may be changed for better quality without prior notice.

## **Memo**

## **Memo**

---