

## H.264 Video Compression

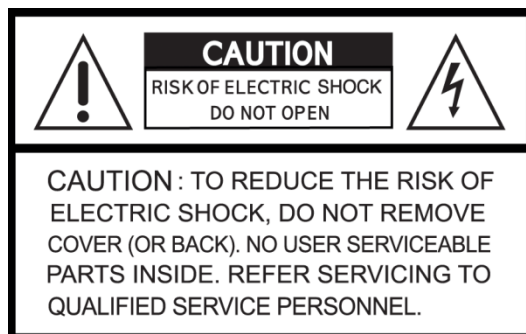
# Digital Video Recorder



Before installing and using this unit, please read this user guide carefully.

Be sure to keep it handy for later reference.

# Safety Precautions



## Explanation of Graphical Symbols



This symbol indicates the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.



This symbol indicates the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

### WARNING

To reduce a risk of fire or electric shock, do not expose this product to rain or moisture.

### CAUTION

Changes or modifications not expressly approved by the manufacturer may void the user's authority to operate this equipment.

### CAUTION

Danger of explosion if battery is incorrectly replaced.

Replace only with the same or equivalent type recommended by the manufacturer.

Discard used batteries according to the manufacturer's instructions.

## **These precautions must be followed for safety reasons.**



### **Warning**

- Do not use if the unit emits smoke, strange sounds are heard or odor is emitted.
  - Continued use may cause electrocution and/or fire. Immediately remove the power plug from the outlet. Once the unit stops emitting smoke, consult the dealership where this unit was purchased or factory shop for repairs.
  - Do not attempt repairs on your own.
- Make sure the power cable is not damaged.
  - Always use the power cable supplied with the unit.
  - Do not place heavy objects on the power cable or place the power cable near heating equipment. Also, do not bend the power cable forcefully, work upon or staple it. A damaged power cable may result in fire and/or electrocution.
  - Should the power cable become damaged it must be replaced by the dealership where this unit was purchased or factory shop.
- Make sure there is no dust accumulation on the power plug or the outlet.
  - Dust accumulation may result in a short-circuit and heat generation and cause fire.
  - Be especially careful when using an outlet situated in a room exposed to high humidity, condensation and/or dust, or in a kitchen.
  - Periodically remove the power plug from the outlet and clean any dust and dirt between the plug and the outlet.
- Caution when connecting the power cable
  - Connect the power plug directly with the outlet. Faulty connection may result in heat generation and cause fire.
  - Do not use the power cable while it is tied in a bundle. This may result in heat generation and cause fire.
  - When using the extension cord supplied, make sure the power consumption of the connected unit does not exceed the electrical rating of the extension cord. Higher power consumption may result in heat generation and cause fire.
- Disassembly prohibited
  - Do not place your hand inside this unit as this may cause fire and/or electrocution.
  - Consult the dealership where this unit was purchased or factory shop for diagnostics, adjustments, and repairs.
- Do not place any foreign objects inside the unit.
  - Do not insert or push in any metal or combustible object through openings such as air ducts. This may cause fire and/or electrocution.

- In the event that a foreign object is inside the unit, turn off and unplug the unit. Consult the dealership where this unit was purchased or factory shop. Continued use may result in fire and/or electrocution.
- Do not place a container holding water or other liquids above the unit when it is connected to power.
  - In the event that water gets inside the unit, turn off and unplug the unit. Consult the dealership where this unit was purchased or factory shop. Continued use may result in a fire or electrocution.
- Do not allow the unit to get wet.
  - This unit is not waterproof. Do not expose the unit to water. This may cause fire and/or electrocution. Do not use in a bath or shower room.
  - In the event that the internal components have been exposed to water, turn the power off and remove the power plug from the outlet. Consult the dealership where this unit was purchased or factory shop. Continued use may cause electrocution and/or fire.
- Do not use during thunder/thunder storms.
  - Do not use during thunder/thunder storms. Never touch the connection cable during thunder/thunder storms. This may cause electrocution.
- Do not place in an unstable position.
  - Doing so may cause accidents and/or breakdowns through falling or toppling.
  - In the event that the unit has been dropped or the casing has been damaged, turn the power off and remove the power plug from the outlet. Consult the dealership where this unit was purchased or factory shop. Continued use may cause electrocution and fire.
- Do not expose to shock or vibration.
  - Stored data may be damaged or lost through hard-disk breakdowns caused by shock/vibration.
- Do not use this unit in areas where it is exposed to the possibility of explosion.
  - Do not use this unit in areas where explosive and/or flammable gases are present. This may cause fire and/or explosion.
- For pluggable equipment, the socket-outlet shall be installed near the equipment and shall be easily accessible.



## **Caution**

- Do not pull on the power cable when removing the power plug from the outlet.
  - Hold the power plug when disconnecting the power cable from the outlet. Pulling on the power cable from the outlet. Pulling on the power cable may damage the cord. This may cause fire and/or electrocution.
- Do not touch the power plug with wet hands.
  - Doing so may result in electrocution.
- Do not sit on.

- Doing so may cause the unit to fall, be damaged and/or result in injury.
- Make sure the cables are connected properly.
  - Connect and install the power cable and connection cable very carefully. Tripping over the cable may result in the unit capsizing or falling and cause injury.
- Do not place heavy objects on connected units.
  - Doing so may affect the stability of the unit and cause it to fall which may result in injury. Doing so may also damage the unit depending on the weight of the object.
- Shipment and portability
  - Never move this unit while the power is turned on.
  - When shipping, remove the power plug from the outlet, confirm that the connection cable has been removed, and store in original packaging. Ship using a method that causes the least amount of shock and/or damage to this unit. Also, do not drop this unit.
- Maintenance when the unit is going to remain unused for long periods of time
  - Remove the power plug from the outlet when the unit is going to remain unused for long periods of time.
- Cleaning the internal components
  - Consult the dealership where this unit was purchased or factory shop for cleaning internal components. Leaving the unit unused for long periods of time may attract dust to the internal components, which in turn may cause fire and/or breakdowns.
- Do not block the cooling fans or air ducts.
  - This unit is equipped with air ducts and cooling fans in order to assist the ventilation of hot air produced by the hard disk drive. Placing covers, placing in a case, or placing inside bookcases may cause heat build up, and may result in fire and/or electrocution.
  - When the unit is set up in a rack, leave open space on all sides.
    - . Leave 5 cm or more of space above and below.
    - . Leave 10 cm or more of space on both sides and on the rear.
- Do not expose to extreme temperatures or humidity changes.
  - Do not place in areas where the unit will be exposed to extreme temperatures ( $\pm 10$  degrees C per hour) or humidity changes.
- Points on unit positioning
  - This unit is constructed using precision electronic parts. Avoid placing it in areas described below as this may cause faulty operation and/or breakdowns.
    - . In direct sunlight
    - . In places exposed to water
    - . In the vicinity of cooling and heating units or humidifiers
    - . Near the air conditioner where the unit is exposed to cool air
    - . Dusty areas
    - . Areas that contain fire hazards
    - . In the vicinity of volatile substances

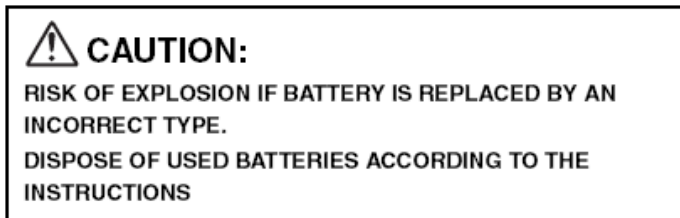
. Areas where the unit will be exposed to constant vibration (in trains, cars, etc.)

- **Cautionary points on condensation**

- Droplets may form on the outside when very cold water is poured into a cup. In the same way, droplets may form around the internal components of this unit. This is called condensation.
- Do not use this unit if condensation has formed. Using this unit while condensation is formed may cause breakdowns. In the event of sudden sharp temperature changes, turn off the power and do not use this unit until the temperature of the room where it is positioned stabilizes (about 2 hours). Condensation will not occur while the power is turned on.
- When condensation is likely to occur... Use the unit after turning the power off and leaving it for 1~2 hours.

- **Back up battery**

- This unit has got a built-in lithium battery used to back up the clock function. The battery continues to operate the clock even when there is a power disruption.
- The life expectancy of the battery is approximately 2 years. If the battery runs out or leaks, the clock resets when the power is turned off.
- Battery fluid leaks
  - . In the event that the battery fluid has leaked rinse hands/clothes thoroughly with water.
  - . Loss of eyesight may result if battery fluid enters the eyes. Do not rub the eyes. Immediately rinse with clean water and consult a physician.
- When disposing of this unit
  - . Consult the dealership where this unit was purchased for information concerning the disposal of the lithium battery.



## Warning

Installation and servicing should be performed only by qualified and experienced personnel.

Turn off the power of the DVR when connecting cameras, audio or sensor cables.

The manufacturer is not responsible for any damage caused by improper use of the product or failure to follow instructions for the product.

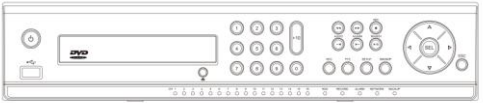





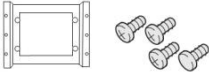
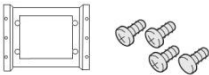


The manufacturer is not responsible for any problems caused by or resulting from the user physically opening the DVR for examination or attempting to fix the unit. The manufacturer may not be held liable for any issues with the unit if the warranty seal is removed.

## Warranty for Critical Parts

- HDD, Battery and ATX Power: 2 years (25°C environment)
- Cooling Fan: 3 years (25°C environment)

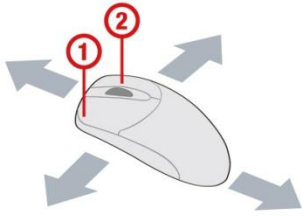
## Product Components

The package contains the main unit and its components as specified below. When you purchase the unit, Please check to ensure the components specified below are included.

DVR Set	
DVD-RW (option)	
Client Software CD, User Guide	
Remote Control , Battery1.5V, Mouse	
DVD-RW data cable (Refer to below table)	
HDD data and power cable (Refer to below table)	
HDD mounting bracket & Screw (Refer to below table)	
DVD-RW mounting bracket & Screw (Refer to below table)	
HDD & DVD-RW fixing screw (Refer to below table)	
Power Cable (110V or 220V)(1EA)	

Items	DVD-RW version	Basic version
	1ODD+2HDD	4HDD
HDD data cable	2	4
HDD power cable	X	X
DVD-RW data cable	1	X
HDD mounting bracket (for 2HDD)	1	2
HDD & Grommet fixing screw	8	16
HDD Grommet	8	16
DVD-RW mounting bracket	1	X
DVD-RW mounting bracket screw	4	X
HDD/DVD-RW bracket fixing screw	1	2

## Basic function of the MOUSE

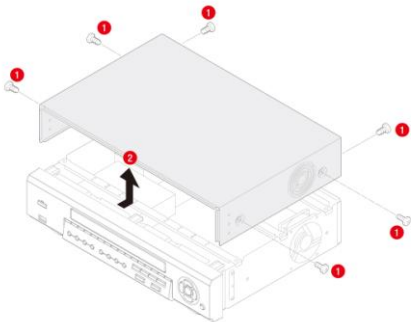


① : Left button: SELECT function

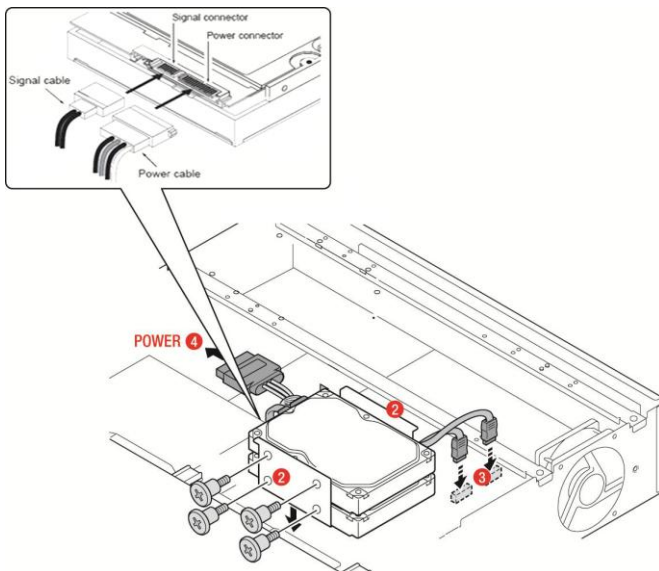
② : Wheel: MOVEMENT function on a drop-down menu

## Mounting the HARD DISK

1. Unfasten the cover of the unit.

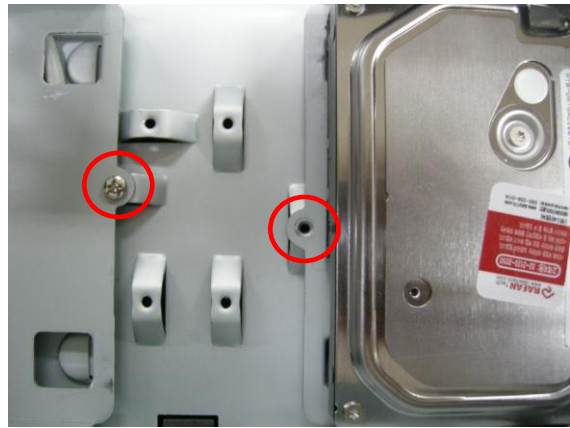


2. Fix the supplied HDD mounting bracket to the hard disk using the supplied mounting bracket screws.

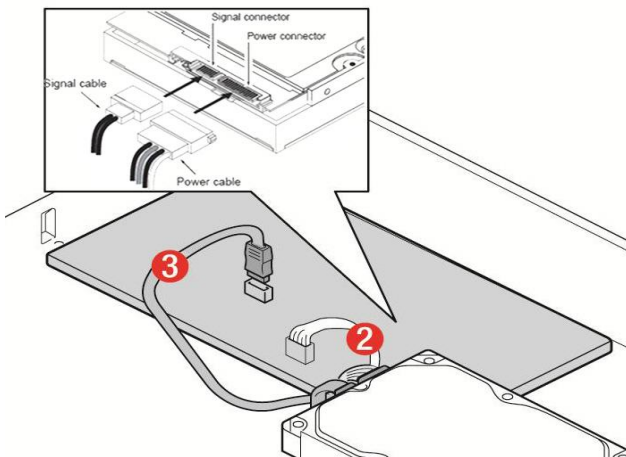




3. Insert the HDD bracket to the hole and fix the screw.



4. Connect the supplied SATA cable and power cable to the hard disk.



**NOTE)** HDD1 and HDD3 are for eSATA. Internal HDD could be distinguished 1 Master HDD and other Slave HDDs. Master HDD should be connected in advance of Slave HDD surely. For instance, the slave HDD should be connected to HDD6, HDD7 or HDD8 if the master HDD is connected to HDD5. In case of ODD, it doesn't matter with the order.

**NOTE)** HDD ports could be grouped as follows; Group A (HDD5, HDD6, HDD7, HDD8) and 2 Group B (HDD1, HDD2, HDD3, HDD4). If user input the port for ODD to the Group A, user has to input the ports for internal HDD to the Group B and can use just ESATA-B. If user doesn't use ODD, there is not any problem.

**NOTE)** Please mount all HDDs which you want to use when installing at the first time. It is not allow a movement, removal or supplement of HDD to the system which be in use.

## Available Model and Max. Recording Speed

Model	Maximum Recording / Playback Speed
	D1 Resolution (704x480/704x576)
CM-1040S	HD 1080p@30/30fps, HD 720p@60/60fps, NTSC 240/240fps, PAL 200/200fps

## Specification

ITEM	CM-1040S
Video Compression	H.264 (Main Profile)
Video Input	2 HD-SDI (1080p25/30, 1080i50/60, 720p25/30/50/60 Auto Detection) 8 Composite (NTSC/PAL Auto Detection)
Video Output	1 HDMI (Max. 1920x1080p60 and Various Resolution) 1 VGA (Max. 1920x1080p60 and Various Resolution) 1 CVBS , 4 SPOT OUT
Audio Compression	G.711
Audio Input	10 RCA
Audio Output	1 RCA, 1 HDMI
Sensor Input	10 TTL, NC/NO Selectable
Alarm Output	4 Relay Out by Sensor, Motion and Video Loss
POS	1 RS-232C (DSUB 9)
PTZ	2 HD-SDI, 1 RS-485
Keyboard Controller	1 RS-485
USB	3 USB 2.0 (2 Front Panel and 1 Rear Panel)
Network	1 Gigabit Ethernet (RJ-45), Auto MDI/MDIX
Multiple Operation	PentaPlex (Live/Recording/Playback/Backup/Network)
Live Zoom	Digital Zoom (Zoom-in of specific area)
Motion Detection	Yes (22x15)
Recording Resolution	HD 1920x1080, 1920x540, 1280x720 or 640x360 per Channel NTSC(704x480, 704x240, 352x240) or PAL(704x576, 704x288, 352x288) per Channel
Recording Quality	4 Levels (Super/High/Standard/Economy)
Recording Mode	Continuous, Schedule, Motion, Sensor, Manual
Pre-Recording	Min. 15 seconds and Max. 20 minutes
Post-Recording	Min. 10 seconds and Max. 30 seconds
Watermarking	Yes
Search Mode	Timeline, Event, Archive, Log and First/Last/Specific Time
Playback Zoom	Digital Zoom (Zoom-in of specific area)
Playback Speed	x0.25, x0.5, x2, x4, x8, x16, x32
Instant Playback	Yes (TBD)
Backup File Format	JPEG(Snap Shot), Proprietary Format(Video Clip)
Backup Media	USB Stick/HDD(using by USB Port)/DVD
Huge Backup	Yes

Backup Player	Built-in Player for PC
Internal Storage	4 SATA HDDs (without ODD)
External Storage	2 e-SATA (up to 16TB)
SMART	HDD Error Check and Reporting using by Alarm and e-Mail
Filesystem	Self-developed, Reliable and Stable Filesystem
User Interface	Graphic User Interface, Mouse, IR Remote Controller and Keypad
Dual Streaming	Resolution, Frame Rate and Quality Control per Channel
PC Client	Live, Search/Playback, Backup and PTZF
Web Client	Live, Search/Playback, Backup and PTZF
Remote Setup	Yes
Remote Upgrade	Yes
3G Mobile	Yes (iPhone, Android, Blackberry)
DST (Daylight Saving Time)	Yes
Multiple Language	Yes
NTP	Yes
DDNS	Yes
Protocols	RTP, RTSP, RTCP, HTTP, DDNS, NTP, SMTP, DHCP
Operational Condition	0℃~40℃ (32°F~104°F), Humidity 20~80%
Power	AC 100~127V/200~240V, 50~60Hz, 280W
Net Weight (Gross Weight)	6Kgs (9.5Kgs) / 13.2Lbs (20.9Lbs)
Unit Dimension (W x D x H)	432mm x 430mm x 98mm (17.00" x 16.92" x 3.85")
Certifications	CE, FCC, KCC

Specifications are subject to change without notice

## HDD Capacity by Recording Quality

(10 Channels, Continuous, Full-HD@15fps or HD@30fps and D1@30/25fps, Audio On)

HDD Capacity	LEVEL 5(H)		LEVEL 4		LEVEL 3		LEVEL 2		LEVEL 1(L)	
	day(s)	hour(s)	day(s)	hour(s)	day(s)	hour(s)	day(s)	hour(s)	day(s)	hour(s)
250GB	0	15	0	19	1	2	1	7	1	14
320GB	0	20	1	1	1	10	1	16	2	2
500GB	1	9	1	17	2	6	2	17	3	8
1TB	2	19	3	12	4	15	5	12	6	20
1.5TB	4	6	5	7	7	0	8	8	10	8
2TB	5	16	7	2	9	9	11	4	13	20

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## 1. Name, Function and Connection

### 1-1. Front Panel

The following information will help you to operate the front panel controls.

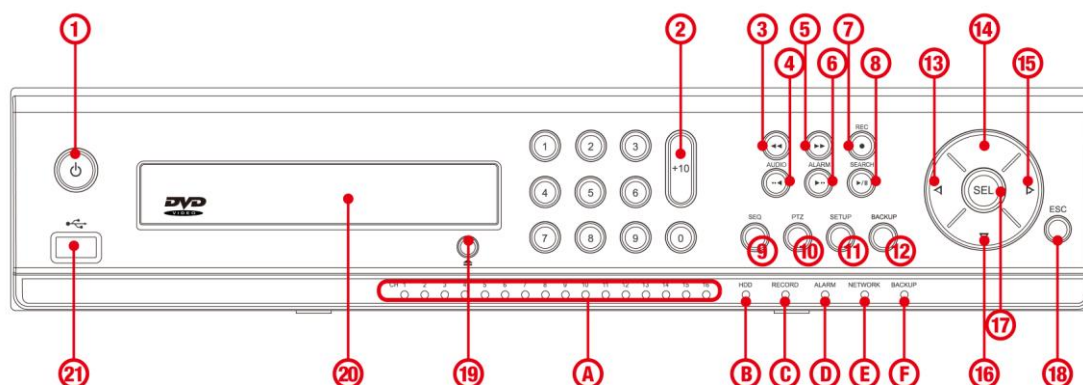

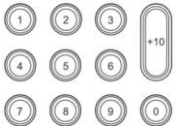














Figure 2.1.1. Front panel








NO.	Name	Description
A	<b>CH1~10</b>	Indicating that the channel is being recorded.
B	<b>HDD</b>	Indicating that the system is accessing the hard disk.
C	<b>RECORD</b>	Indicating that the system is recording video data.
D	<b>ALARM</b>	Indicating that when sensor(s) is/are triggered or motion is detected.
E	<b>NETWORK</b>	Indicating that when Network client connects through the network.
F	<b>BACKUP</b>	Indicating that USB or DVD-RW storage device is stored images or video.

Table2.1.1. Indication lamps

Table 2.1.2. Front panel buttons

NO	Name	Description
1		POWER ON/ OFF
2		Channel keys. For channel 10, press the 0 key.

3		Press to rewind the footage in playback mode.
4		Press to select audio mode such as SINGLE, MIX and MUTE. MUTE- All of 10 channels. SINGLE- Highlighted channel only. MIX- All of 10 channels.
4		Jump/Step backward. In playback mode, the playback position moves 60 seconds backward.
5		Press to fast forward the footage in playback mode.
6		Press to enable/disable ALARM operation.
6		Jump/Step forward. In playback mode, the playback position moves 60 seconds forward.
7		Press to start or stop manual recording.
8		Press to go to SEARCH menu in live display mode.
8		Press to play/pause the footage in playback mode.
9		Enable/disable the automatic sequence of display of channels in full screen, quad, 2+8 mixed channels display mode.
10		Press to control Pan/Tilt/Zoom operations.
11		Press to enter SETUP menu.

12		Press to capture video in jpeg format in live or playback mode.
13		Press to move left or to change the values in Setup mode. It is also used as the number 4 when entering password.
14		Press to move up the menu in Setup mode. It is also used as the number 1 when entering password.
15		Press to move right or to change the values in Setup mode. It is also used as the number 2 when entering password.
16		Press to move down the menu in Setup mode. It is also used as the number 3 when entering password.
17		Press to select desired menu item or to store the setup value.
18		Press for temporary storage of the changed value or to return to the previous menu screen.
19	<b>OPEN /CLOSE</b>	To open and close the insert tray, press the button.
20	<b>DVD drive</b>	To save video, insert a CD-R/DVD-R
21	<b>USB Port</b>	To archive still-image or video into a USB memory or upgrade firmware with USB memory stick, connect a USB memory to the USB terminal on the front panel.



## 1-2. Rear Panel

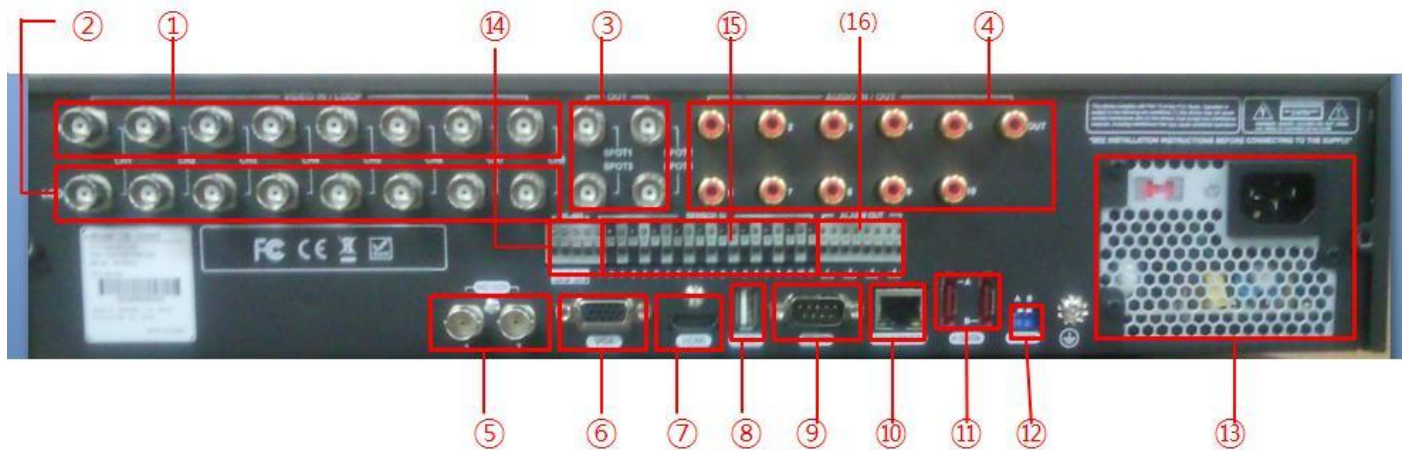


Figure 2.2.1. Rear Panel

Table 2.2.1. Rear panel connections

NO	Connection	Purpose
1	<b>VIDEO IN</b>	8 BNC connectors for video input. (NTSC/PAL 1~8ch)
2	<b>LOOP</b>	8 BNC connectors for video output. (Loop Back)
3	<b>SPOT</b>	4 composite video outputs for spot monitoring.
4	<b>AUDIO IN</b>	8 connectors for audio input. (1~10ch)
	<b>AUDIO OUT</b>	1 connector for audio output.
5	<b>VIDEO IN</b>	2 HD-SDI connectors for video input. (9~10ch)
6	<b>VGA</b>	Connector for VGA monitor.
7	<b>HDMI OUT</b>	Main Video Output (1280x720P)
8	<b>USB Port</b>	Connector for Mouse or Backup
9	<b>RS-232</b>	POS Interface (TBD).
10	<b>ETHERNET</b>	RJ-45 connector for network function
11	<b>E-SATA</b>	2 e-SATA ports to archive still-image or video into a External Storage HDD . RAID Units to be available in the future
12	<b>TERMINATE</b>	RS-485 termination switch for 1 <sup>st</sup> and 2 <sup>nd</sup> .
13	<b>POWER SOCKET</b>	Connect for AC110V~250V
14	<b>RS-485</b>	1 <sup>st</sup> and 2 <sup>nd</sup> ports for RS-485. (for camera and controller)
15	<b>SENSOR IN</b>	8 connectors for sensor device connection.
16	<b>ALARM OUT</b>	2 connectors for alarm device connection. Provides simple On/Off switching by using relay. 0.5A/125V, 1A/30V

### 1-3. Remote control



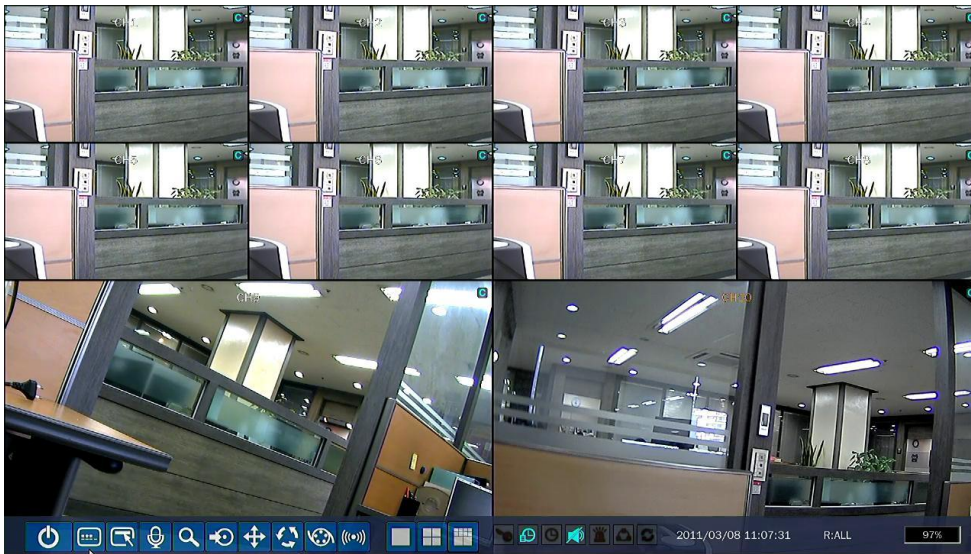
<b>RECORD</b>	Manual recording
<b>DISPLAY</b>	Display of Full, Quad, 9 or 16 split screen
<b>F/REW</b>	Jump 60 seconds backward
<b>PLAY/PAUSE</b>	Play/Pause
<b>F/ADV</b>	Jump 60 seconds forward
<b>REW</b>	Rewind
<b>BACKUP</b>	Backup still or video data
<b>FF</b>	Fast Forward
<b>ALARM</b>	Disable alarm operation
<b>SETUP</b>	Setup menu screen
<b>ID</b>	DVR ID (ID Button + DVR ID number)
<b>AUDIO</b>	Mute, Single(1CH), MIX(4CH)
<b>LOCK</b>	Lock all of key functions
<b>SEQ</b>	Sequence of Full or Quad view
<b>PTZ</b>	PTZ menu screen
<b>SEARCH</b>	Search menu screen
<b>DIRECTION KEY</b>	Direction key
<b>SELECT</b>	Select or display of split screen
<b>ESC</b>	Esc
<b>NUMBER 1~9,0</b>	Channel 1 to 9 / 10CH->press 0

## 2. Setting up the DVR

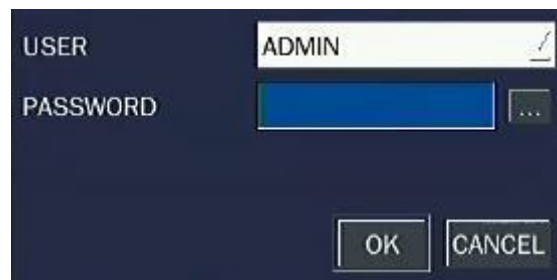
The following sections detail the initial setup of a DVR.

### 2-1. Setup – Main Screen

To enter the setup menu, select MENU and SETUP on the screen using the mouse or press the SETUP



button on the front panel. Then select a user type. User can select one of user types (ADMIN, USER1, USER2, USER3) using the control button (◀ ▲ ▶ ▼) on the front panel and press SEL button. Input the password by front key panel, mouse or remote controller.



Use the Virtual Keyboard when you use front key and mouse. The factory default password is 1111. It is highly recommended to assign a new password to protect the system. User can assign a new password in SECURITY setup menu.

**HD VIDEO INPUT:** Display a channel, total time, elapsed time, error count, active pixels, total pixels, active

lines, total lines and frame rate of HD channel (9~10).

**CONTROL BAR AUTO HIDE:** Set to hide automatically or display continuously a control bar on the bottom side in a Live mode.

**CHANNEL INFORMATION:** Display a channel number, channel name, resolution, frame rate, quality and recording type of each channel.

**SYSTEM INFORMATION:** Display a software version, storage size, network type, IP address, MAC address, DDNS status, DVR ID and remote controller ID of the system.

**SYSTEM LOCK:** To lock the system, user input a password. To unlock the system, please press ESC button on a front panel or a remote control. Then, the system will ask a password.

**Table 2.1.1. Setup menu tree**

- DISPLAY
  - OSD
  - OSD CONTRAST
  - SEQUENCE
  - SEQ-DWELL TIME
  - CHANNEL
    - NAME
    - COVERT
    - BRIGHTNESS
    - CONTRAST
    - HUE
    - SATURATION
  - VIDEO OPTION (HDMI/VGA)
- RECORD
  - CHANNEL
    - RESOLUTION
    - FRAME RATE
    - QUALITY
    - RECORDING
    - SENSOR RECORDING
    - PRE RECORD
    - POST EVENT RECORD
    - AUDIO
    - SCHEDULE
- DEVICE
  - ALARM OUT
  - CONTROLLER & PTZ
  - SPOT OUT
  - CHANNEL
    - MOTION ZONE

- MOTION SENSITIVITY
- KEY TONE
- REMOTE CONTROL ID
- SENSOR
  - TYPE
- STORAGE
  - OVERWRITE
  - DISK FORMAT
  - DISK INFO
  - RECORDING LIMIT
    - RECORDING LIMIT DAYS
  - S.M.A.R.T
- SYSTEM
  - DVR-ID
  - DESCRIPTION
  - LANGUAGE
  - DATE FORMAT
  - SET DATE & TIME
  - CLIENT ACCESS
  - NTP
  - SEND EMAIL
- SECURITY
  - USER AUTHENTICATION
  - USER PASSOWRD
  - AUTHORITY OF PLAYBACK
- NETWORK
  - PORT
  - WEB PORT
  - NETWORK TYPE (DHCP, STATIC)
  - DNS (PRIMARY)
  - DNS (SECONDARY)
  - DDNS
  - NETWORK STREAM
- CONFIG
  - SAVE SETUP TO A USB
  - LOAD SETUP FROM A USB
  - LOAD DEFAULT
  - LOAD FACTORY DEFAULT

## 2-2. Setup – Display Mode

Press the SETUP button and enter the password. The setup menu is displayed as picture below. Select DISPLAY icon and press SEL button to enter the setup menu item. Navigate through the menu items using the control button (◀ ▲ ▶ ▼) and change the value of the menu item using the control button (◀ ▲ ▶ ▼). To return to setup menu screen, press the ESC button.

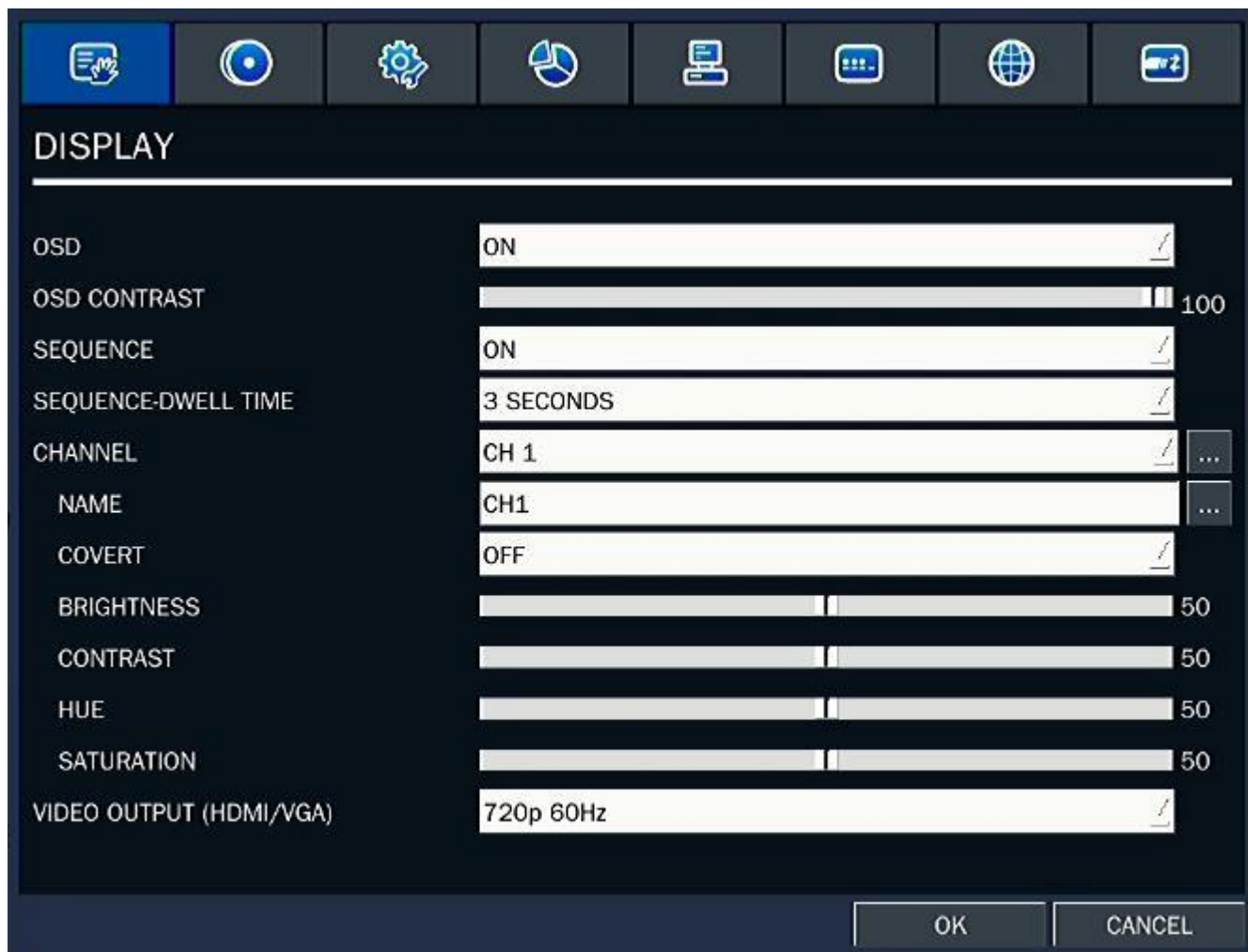


Figure 2.2.1. Display mode setup screen

Table 2.2.1. Menu items in DISPLAY mode setup

Item	Description
<b>OSD</b>	Enable/disable on-screen-display. Select ON: show it on the screen, Select OFF: Disappear on the screen.
<b>OSD CONTRAST</b>	Set the visibility level of the On Screen Display (OSD).(0-100)
<b>SEQUENCE</b>	Enable/disable sequential display of video in full screen mode.
<b>SEQ-DWELL TIME</b>	Set the dwell time of each, single channel display in sequential display mode (3~60seconds)
<b>CHANNEL</b>	Select a channel for applying the following settings using the control button (◀ ▲ ▶ ▼). Press SEL button to change the channel.



<b>NAME</b>	Set the channel name. Press SEL button and set the channel name and select OK using the control button (◀ ▲ ▶ ▼).
<b>COVERT</b>	Enable/disable display of the video channel in live display mode.
<b>BRIGHTNESS</b>	Change the brightness value of the specified channel.(0-100) It is for analog channels (1~8ch) only and HD channels (9,10ch) couldn't control.
<b>CONTRAST</b>	Change the contrast value of the specified channel. (0-100) It is for analog channels (1~8ch) only and HD channels (9,10ch) couldn't control.
<b>HUE</b>	Change the hue value of the specified channel. (0-100) It is for analog channels (1~8ch) only and HD channels (9,10ch) couldn't control.
<b>SATURATION</b>	Change the saturation value of the specified channel. (0-100) It is for analog channels (1~8ch) only and HD channels (9,10ch) couldn't control.
<b>VIDEO OUTPUT (HDMI/VGA)</b>	Select a video output type for HDMI/VGA. (720p 50Hz, 720p 60Hz, 1080i 50Hz, 1080i 60Hz, 1080p 50Hz, 1080p 60Hz). Default value is 720p 60Hz. If the monitor doesn't support some output type, it would be returned to the previous value.

### 2-3. Setup – Recording Mode

Press the SETUP button and enter the password. The setup menu is displayed as picture below. Select RECORD icon and press SEL button to enter the setup menu item. Navigate through the menu items using the control button (◀ ▲ ▶ ▼) and change the value of the menu item using the control button (◀ ▲ ▶ ▼). To return to setup menu screen, press the ESC button.

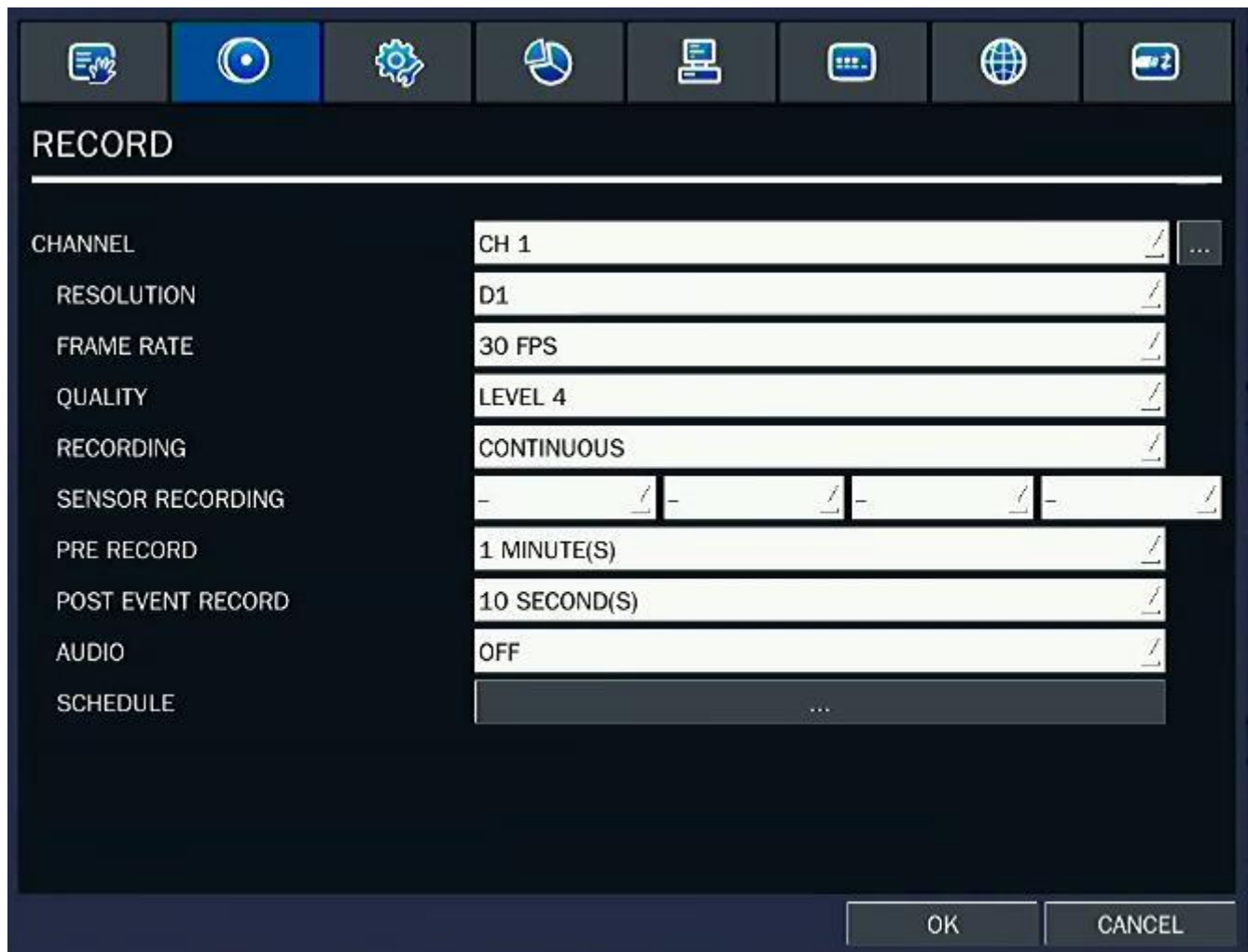


Figure 2.3.1. Recording mode setup screen

Table 2.3.1. Menu items in Recording mode setup

Menu item	Description
<b>CHANNEL</b>	Select a channel for applying the following settings using the control button (◀ ▲ ▶ ▼). Press SEL button to change the setting value of all channels at once. Once you select an item, then press SEL to set value for all channels. Use virtual keyboard for all setting on one screen as you want as bellow picture.



	ALL	1	2	3	4	5	6	7	8
RESOLUTION	D1	D1	D1	D1	D1	D1	D1	D1	D1
FRAME RATE	25	25	25	25	25	25	25	25	25
QUALITY	LEVEL 4	LEVEL 4	LEVEL 4	LEVEL 4	LEVEL 4	LEVEL 4	LEVEL 4	LEVEL 4	LEVEL 4
RECORDING	CONTINUOUS	CONTINUOUS	CONTINUOUS	CONTINUOUS	CONTINUOUS	CONTINUOUS	CONTINUOUS	CONTINUOUS	CONTINUOUS
PRE RECORD	1 MINUTE(S)	1 MINUTE(S)	1 MINUTE(S)	1 MINUTE(S)	1 MINUTE(S)	1 MINUTE(S)	1 MINUTE(S)	1 MINUTE(S)	1 MINUTE(S)
POST EVENT REC	10 SECOND(S)	10 SECOND(S)	10 SECOND(S)	10 SECOND(S)	10 SECOND(S)	10 SECOND(S)	10 SECOND(S)	10 SECOND(S)	10 SECOND(S)
AUDIO	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF

	ALL	9	10
RESOLUTION	1280 x 720	640 x 360	1280 x 720
FRAME RATE	20	20	30
QUALITY	LEVEL 4	LEVEL 4	LEVEL 4
RECORDING	CONTINUOUS	CONTINUOUS	CONTINUOUS
PRE RECORD	1 MINUTE(S)	1 MINUTE(S)	1 MINUTE(S)
POST EVENT REC	10 SECOND(S)	10 SECOND(S)	10 SECOND(S)
AUDIO	OFF	OFF	OFF

OK CANCEL

**RESOLUTION** Set the resolution for the specified channel.

D1, Half D1 and CIF for analog channels (1~8ch)

1280x720 and 640x360 for HD channels (9~10ch)

**FRAME RATE** Set the frame rate for the specified channel. The sum of the frame rate values from each channel cannot exceed the maximum frame rates for a specific recording resolution.

**Typical values of the maximum frame rate for video are**

**D1 @240/200 fps for analog channels (1~8ch)**

**1080p @30/25fps or 720p @60/50fps for HD channels (9~10ch)**

**\* It is not possible to use 1080p camera and 720p camera at the same time.**

**QUALITY** Select the recording quality for the specified channel. Options are: Economy, Standard, High and Super.

**RECORDING** Assign the recording mode for each channel. Options are: Continuous, By Motion, By Sensor, By Schedule or Disable.

**SENSOR RECORDING** Enable setting up to 4 sensors for the specified channel using the control button (◀ ▶ ▲ ▼).

**PRE RECORD** Enable/disable pre-event recording. Pre-event recording time is 15 seconds to 20 minutes(Selectable)

**POST EVENT RECORD** Set the post event recording time duration for the specified channel. (10-30 seconds)

**AUDIO** Enable/disable audio recording for the specified channel.

**SCHEDULE** Set the recording schedule. Press SEL to go to schedule setup screen.

### 2-3-1. Recording Schedules

To setup a recording schedule, select SCHEDULE in the RECORD menu. Navigate through the items using the control button (◀ ▲ ▶ ▼).

Once the channel 1 is selected, SCHEDULE-CH1 screen is displayed. Select ALL or each day using the control button (◀ ▲ ▶ ▼) and set the recording mode using the SEL button repeatedly

**Figure 2.3.2. Schedule recording setup screen**

C: CONTINUOUS recording, when you select the color will change to Blue Color

M: MOTION recording, when you select the color will change to Yellow Color

S: SENSOR recording, when you select the color will change to Red Color

–: Does not record

[ALL]: Move the cursor to ALL and select a recording mode C,M or S using the SEL button to set the same setting for every day.

[SUN to SAT]: Move the cursor to SUN to SAT and select a recording mode C,M or S using the SEL button to set the same setting for the whole day.

[Vertical Bar “|”]: Move the cursor to ALL and move the cursor to the specific time using the control button (◀ ▲ ▶ ▼). And select a recording mode C,M or S using the SEL button to set the same setting.

[SEL]: The recording mode can be selected by pressing repeatedly the SEL button.

[COPY FROM] [COPY TO]: Set the channel 1 schedule and select COPY TO using the control button (◀ ▲ ▶ ▼), select CH2 using the control button (◀ ▲ ▶ ▼) and press the SEL button. Then the CH1 schedule is copied to CH2.

To return to setup menu screen, press the ESC button.

The setting of the schedule recording is determined by the admin only.

**2-4. Setup – Device Mode**

Press the SETUP button and enter the password. The setup menu is displayed as picture below. Select DEVICE icon and press SEL button to enter the setup menu item. Navigate through the menu items using the control button (◀ ▶ ▲ ▼) and change the value of the menu item using the control button (◀ ▶ ▲ ▼).To return to setup menu screen, press the ESC button.



**Figure 2.4.1. Device mode setup screen**

**Table 2.4.1. Menu items in Device Setup screen**

Item	Description
ALARM OUT	Set the sensor, motion, and video loss for each alarm.
CONTROLLER & PTZ	Set the Controller and PTZ camera speed, number, type and ID.
SPOT OUT	

<b>CHANNEL</b>	Select specified channel for motion zone setup.
<b>MOTION ZONE</b>	Select either Full Zone or Partial Zone for motion sensing.
<b>MOTION SENSITIVITY</b>	Set the motion sensitivity for the specified channel. Control the motion sensitivity from 1 to 9.
<b>KEY TONE</b>	Enable/disable key tone.
<b>REMOTE CONTROL ID</b>	Select an ID of remote control. 1. Select ID. 2. Press the same number as ID set in DVR on a remote control. 3. Then icon will be displayed on Live screen of DVR that respond to the remote control. The options are from 00 to 99
<b>SENSOR</b>	Select sensor NO from 1 to 10
<b>TYPE</b>	Set the type of sensor for the specified channel. Options are: OFF, N/O (normal open), and N/C (normal closed).

#### 2-4-1. ALARM-OUT

Figure 2.4.2. ALARM-OUT setup screen

Table 2.4.2. Menu item in ALARM-OUT Setup screen

Item	Description
<b>ALARM OUT</b>	Select an alarm out number. Available NO: 4
<b>SENSOR IN</b>	Enable setting up to 4 sensors of 10 sensors for each alarm.
<b>MOTION ON</b>	Enable setting up to 4 cameras of 10 cameras for each alarm.
<b>VIDEO LOSS ON</b>	Enable setting up to 4 cameras of 10 cameras for each alarm.
<b>ALARM DURATION</b>	Set the alarm dwell time from 5 to 60 seconds.
<b>ERROR ALARM</b>	Set the error type for the alarm activation. The options are OFF, ALL, HDD ERROR and VIDEO LOSS.

## 2-4-2 Controller & PTZ Setup

To control the controller and PTZ functions of the camera, connect a controller to the RS-485 port.

- ① Connect the RS-485 cables of Controller and PTZ camera to the RS-485 port on the rear panel.
- ② Press SEL button or double click to enter the menu. Then Controller and PTZ menu screen is displayed.

Section	Parameter	Value
CONTROLLER	SPEED	9600
	ID	0
	CHANNEL	1
CAMERA	SPEED	9600
	ID	0

Figure 2.4.3. Controller and PTZ Control Setup Screen

**Note:** For speed dome cameras that support RS-485, connect them directly to the RS-485 port. If the camera is controlled with RS-232C, use an RS-485 to RS-232C signal converter.

On the Controller and PTZ control setup screen, you can select or set the protocol type of the camera that is the same as the one installed on the site. If the camera has a specific camera ID, select the camera ID using the control button (◀ ▲ ▶ ▼).

The following options are available on the Controller and PTZ setup screen.

**CHANNEL** (channel number that the Controller and PTZ is connected to)

**NAME** (protocol type)

**SPEED** (19200, 14400, 9600, 4800, 2400)

**ID** (0-63)

### 2-4-3. Spot Out

Item	Description
<b>SPOT OUT</b>	Spot Out 1: from 1 channel to 4 channel Spot Out 2: from 5 channel to 8 channel Spot Out 3: for 9 channel Spot Out 4: for 10 channel
<b>SPOT TYPE</b>	Select Full screen or Quad screen mode.
<b>SPOT ON EVENT</b>	Enable/Disable display of the channel when an event is active.
<b>SPOT EVENT DWELL TIME</b>	Set the dwell time for the display of the event activated channel. (3-10sec)
<b>SEQUENCE</b>	Enable/disable sequential display of spot channel in full screen. If select ON, spot channel selection screen is displayed.
<b>SEQ-DWEL TIME</b>	Set the dwell time for the spot channel display.(3-10sec)
<b>SPOT CHANNEL</b>	Select a channel for spot monitoring using the mouse or the control button (◀ ▲ ▶ ▼) on the remote control and press OK button.

### 2-4-4. Motion Zone Setup

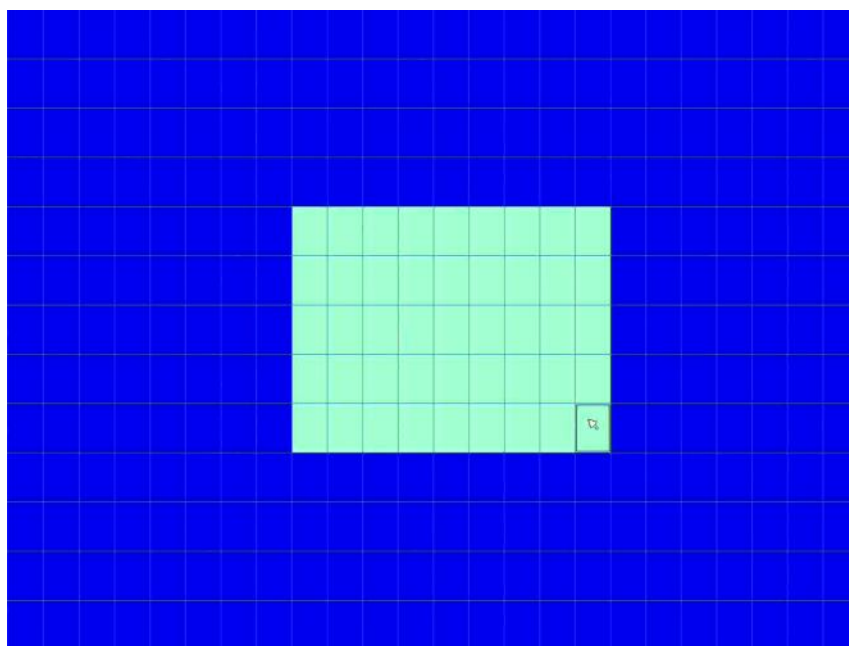
Select MOTION ZONE using the control button (◀ ▲ ▶ ▼) and select either PARTIAL ZONE or FULL ZONE using the control button (◀ ▲ ▶ ▼). And press the SEL button.

If FULL ZONE is selected, the motion setting screen is not displayed. Only set the level of sensitivity for MOTION SENSITIVITY.

**FULL ZONE:** The motion sensor is active on the whole screen.

**PARTIAL ZONE:** The motion sensor is active in the set detection frame.

Select the sensor detection position using the control button (◀ ▲ ▶ ▼) and press the SEL button. Then the color of the position which is selected will be changed. Press ESC button to return to the DEVICE setup menu.



**Figure 2.4.4. Motion Zone selection screen**

## **2-5. Setup – Storage Mode**

Press the SETUP button and enter the password. The setup menu is displayed as picture below. Select STORAGE icon and press SEL button to enter the setup menu item. Navigate through the menu items using the control button (◀ ▲ ▶ ▼) and change the value of the menu item using the control button (◀ ▲ ▶ ▼). To return to setup menu screen, press the ESC button.



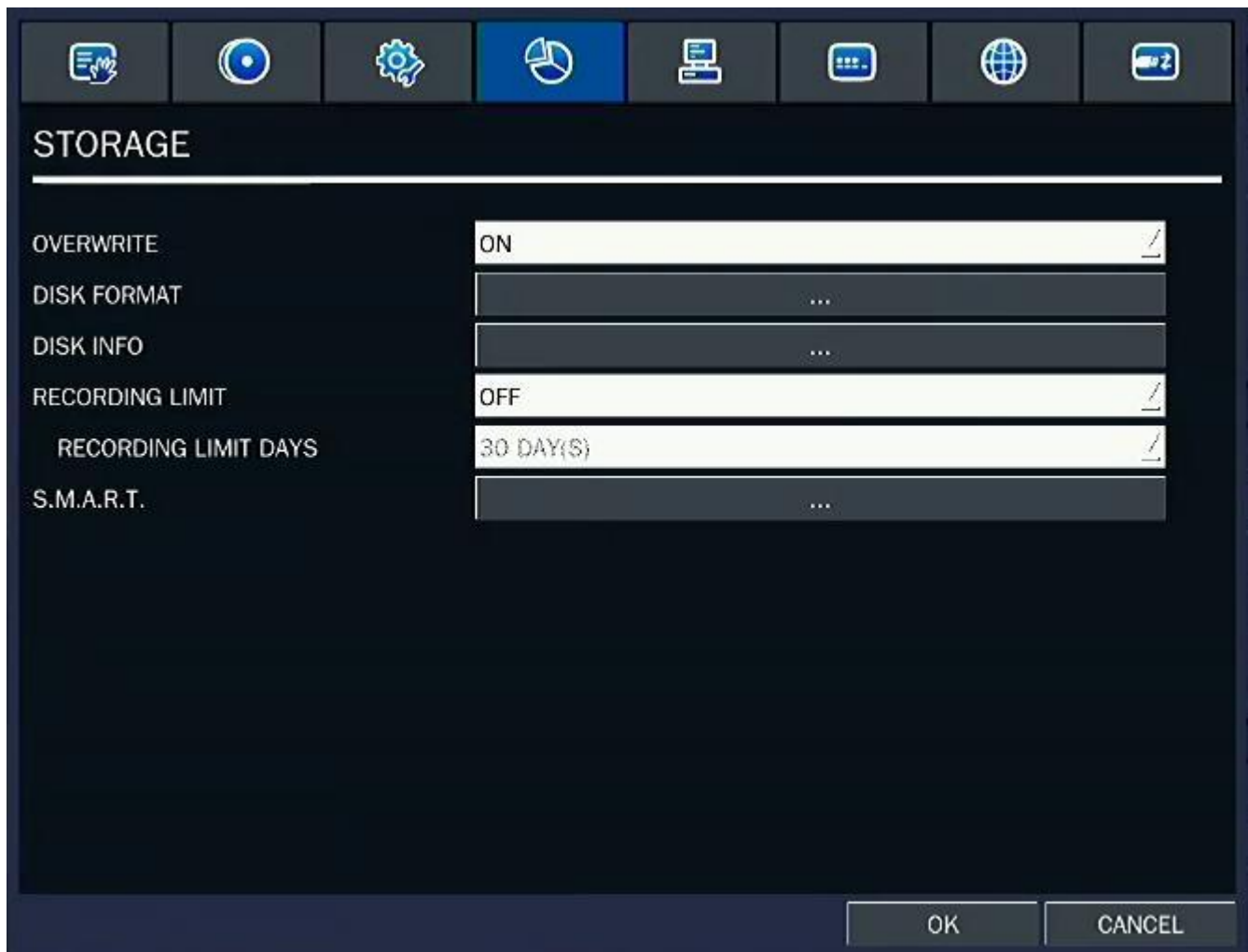


Figure 2.5.1. STORAGE setup screen

Table 2.5.1. Menu items in STORAGE Setup screen

Item	Description
<b>OVERWRITE</b>	When enabled, the DVR will continue recording and overwrite the oldest existing recorded data once the hard drive is full. When disabled, recording will stop once the hard drive is full.
<b>DISK FORMAT</b>	<p>You will have an option YES or NO for the hard drive format.</p> <p><b>Caution:</b></p> <p>We recommend that you archive any data that you may need in the future before you format the hard drive.</p> <div data-bbox="370 1680 909 2002"> <p>Warning Will you format HDD?</p> <p>If yes, all the data will be erased from HDD. If the data is to be kept, select NO.</p> <p>YES NO</p> </div>



## DISK INFO

### Hard drive information

HDD SIZE : 931 GB (FREE : 896 GB)  
HDD START TIME : 2011/04/15 05:13:00  
HDD LAST TIME : 2011/04/15 11:32:00

	Model Name	Temperature	Power On Time	Health (Good/Normal/Bad)
HDD 1				
HDD 2				
HDD 3				
HDD 4				
HDD 5				
HDD 6				
HDD 7	Hitachi HDS721010CLA332	31 °C (87 °F)	57 days 11 hours	Good
HDD 8				

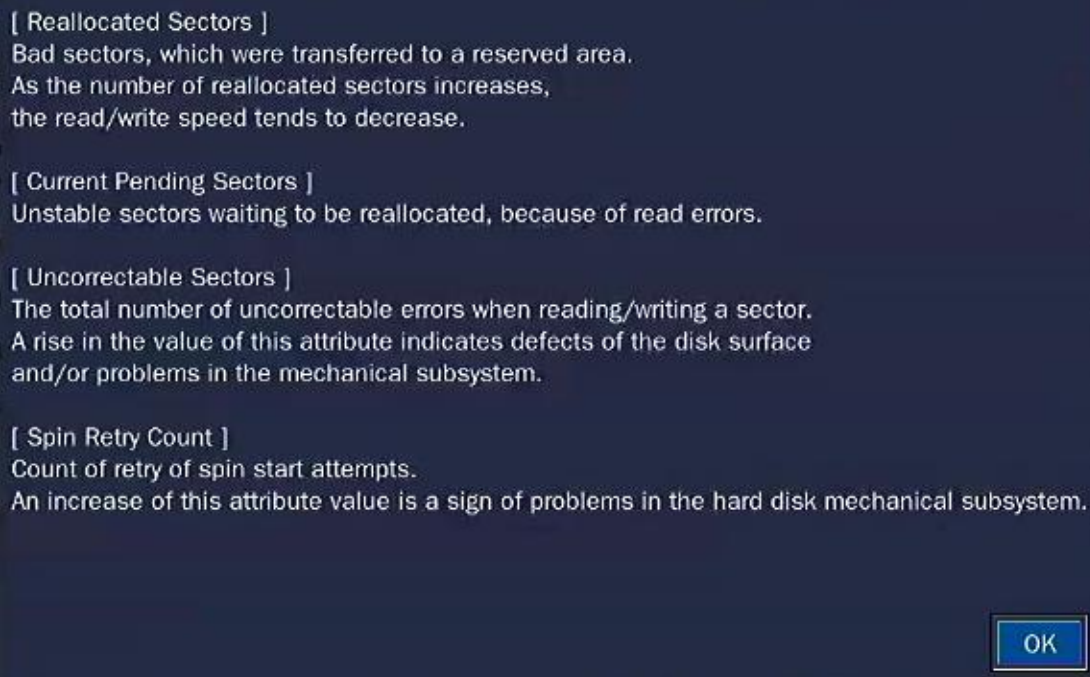
OK

DETAIL

	Reallocated Sectors	Current Pending Sectors	Uncorrectable Sectors	Spin Retry Sectors
HDD 1				
HDD 2				
HDD 3				
HDD 4				
HDD 5				
HDD 6				
HDD 7	0	0	0	0
HDD 8				

OK

HELP



**RECORDING LIMIT** Enable/disable recording limit.

**RECORDING LIMIT DAYS** Set the recording limit days.(1- 90 days)  
The data will remove by the hour.

**S.M.A.R.T.** Set the alarm and buzzer by setting HDD temperature limit.



## 2-6. Setup – System Mode

Press the SETUP button and enter the password. The setup menu is displayed as picture below. Select SYSTEM icon and press SEL button to enter the menu item. Navigate through the menu items using the control button (◀ ▲ ▶ ▼) and change the value of the menu item using the control button (◀ ▲ ▶ ▼). To return to setup menu screen, press the ESC button.

**SYSTEM**

DVR-ID	DVR	...
DESCRIPTION	...	
LANGUAGE	ENGLISH	/
DATE FORMAT	YYYY/MM/DD	/
SET DATE & TIME	...	
CLIENT ACCESS	ON	/
NTP	OFF	/
SEND EMAIL	OFF	/

OK CANCEL

**Figure 2.6.1. SYSTEM Setup Screen**

**Table 2.6.1. Menu items in SYSTEM Setup screen**

Item	Description
<b>DVR ID</b>	Press the SEL button and select DVR ID using the control button (◀ ▶ ▲ ▼), and press SEL button. Press OK to apply the selected DVR ID. SPACE / Caps Lock(Select either Capital or Lower letter) BS(Back space: Erase previous character) / Clear(Erase all characters)
<b>DESCRIPTION</b>	Press SEL button to view system information. (Software version, Storage size, IP address and MAC address.)

SOFTWARE VERSION	Ver 3.1.1 (13:01 04/15/2011)
STORAGE SIZE	931 GB
IP ADDRESS	0.0.0.0
MAC ADDRESS	00:02:69:05:7B:41
DDNS STATUS	Not Ready

OK

<b>LANGUAGE</b>	Select the display language using the control button (◀ ▲ ▶ ▼). Once a language is selected, the display language changes.
<b>DATE FORMAT</b>	Select the date display format using the control button (◀ ▲ ▶ ▼). Options are: YYYY/MM/DD, MM/DD/YYYY, DD/MM/YYYY, YYYY-MM-DD, MM-DD-YYYY, DD-MM-YYYY
<b>SET DATE&amp;TIME</b>	Select the display date and time using the mouse or the control button (◀ ▲ ▶ ▼) on the remote control and press OK button to set the present date and time.

DAYLIGHT SAVING OFF

■ SET DATE & TIME 2011 / 4 / 15 11 : 36 : 51

OK CANCEL

### DAY LIGHT SAVING

Select DAYLIGHT SAVING using the mouse and the control button (◀ ▲ ▶ ▼) on the remote control and select the appropriate daylight saving time zone.

If choosing EU or OTHERS, set the applicable conditions.

The options are:

**OFF**

**USA**

**EU**

**OTHERS**

1. OFF: Daylight saving is not set.
2. USA: Applies the USA daylight saving time.
3. EU: Applies the EU daylight saving time.
  - Select the GMT AREA using the control button (◀ ▲ ▶ ▼).
  - Set the time difference with the standard time using the control

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button (◀ ▲ ▶ ▼).

4. OTHERS: If the time zone is neither USA nor E, set the start and end date of the daylight saving period.
  - Select BEGIN or END using the control button (◀ ▲ ▶ ▼) and press the SEL button.
  - Select the item using the control button (◀ ▲ ▶ ▼), select the setting value using the control button (◀ ▲ ▶ ▼) and press the ESC button to return to SET DATE & TIME setup menu.

**CAUTION:**

- Do not set the start time to 23:00 for DLS.
- DLS can't be applied if the date of BEGIN and END is the same.

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<b>CLIENT ACCESS</b>	Enable/Disable remote access through network client software.
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<b>NTP</b>	NTP is an abbreviation for Network Time Protocol, which is for synchronizing the clocks of computer systems over variable-latency data networks.
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The screenshot shows a configuration menu with a dark blue background and white text. It contains five rows of settings, each with a label on the left and a text input field on the right. The first two rows have a three-dot menu icon to the right of the input field. The last row has a checkmark icon to the right of the input field. At the bottom right, there are two buttons labeled 'OK' and 'CANCEL'.

PRIMARY SNTP SERVER	kr.pool.ntp.org	...
SECONDARY SNTP SERVER	time.kriss.re.kr	...
TIME ZONE	GMT +9:00 (Seoul/Tokyo)	/
CONNECTION MODE	TIME	/
CONNECTION PERIOD	3 HOUR(S)	/

OK CANCEL

**PRIMARY SNTP SERVER:** Input the address of the primary NTP time server.

**SECONDARY SNTP SERVER:** Input the address of the secondary NTP time server.

**TIME ZONE:** Greenwich Mean Time(GMT) is a term originally referring to mean solar time at the Royal Observatory, Greenwich in London. Because NTP synchronizes with Greenwich Mean Time(GMT) regardless of geography, users must set their own time difference. (Ex.KOREA GMT+09:00)

**CONNECTON MODE:** Select NTP time server connection mode.

**INTERVAL:** Synchronize the clock by hours which is set on the connection period menu.

**TIME:** Synchronize the clock at the time daily which is set on the connection period menu.

**CONNECTION PERIOD:** 1~24

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**SEND EMAIL**

Enable/disable the send e-mail function.(ON/OFF)

TRANSMISSION MODE	IMAGE
IP NOTIFICATION	OFF
EVENT ALARM	OFF
S.M.A.R.T.	OFF
MAIL TO	Unspecified
MAIL SERVER	Unspecified
ID	Unspecified
PASSWORD	*****
MAIL FROM	Unspecified

OK CANCEL

**TRANSMISSION MODE:** Sending an image only of the channel that triggered the alarm when an alarm event is triggered.

**IP NOTIFICATION:** Enable/disable sending e-mail when the IP address of your DVR is changed.

**EVENT ALARM:** Enable/disable sending e-mail reports on the channel that triggered the alarm when an alarm event is triggered.

**MAIL TO:** Enter the appropriate email address to enable sending e-mail reports using a virtual keyboard.

**MAIL SERVER:** Enter the appropriate mail server information to enable sending daily e-mail reports using a virtual keyboard.

**ID:** To set the connection user ID for the mail server using a virtual keyboard. (ex.ID@yahoo.com)

**PASSWORD:** To set the connection password for the mail server using a virtual keyboard.

**MAIL FROM:** To set the mail address sent to the destination host using a virtual keyboard.

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## 2-7. Setup – SECURITY Mode

Press the SETUP button and enter the password. The setup menu is displayed as picture below. Select SECURITY icon and press SEL button to enter the setup menu item. Navigate through the menu items using the control button (◀ ▲ ▶ ▼) and change the value of the menu item using the control button (◀ ▲ ▶ ▼). To return to setup menu screen, press the ESC button

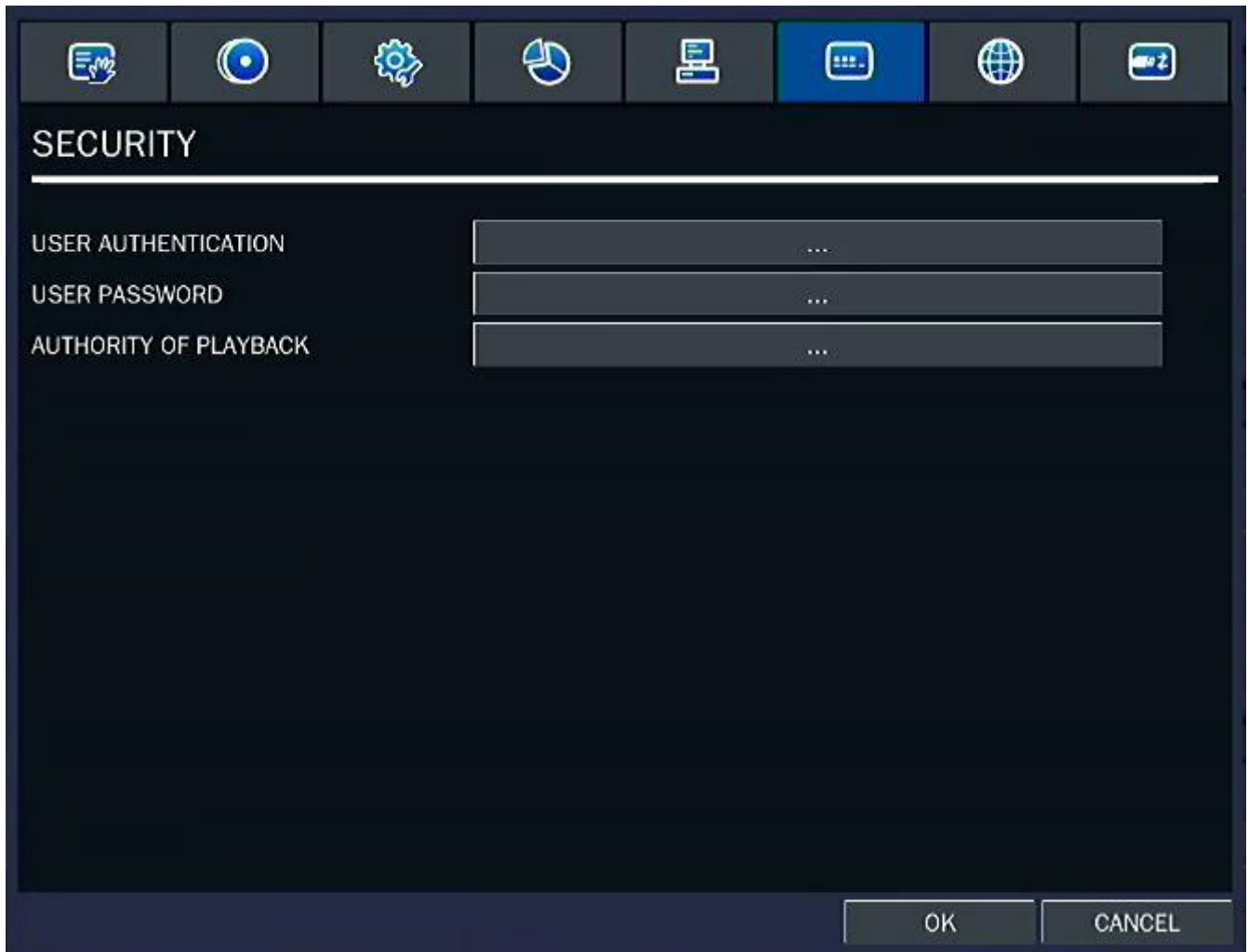


Figure 2.7.1. SECURITY setup screen

Table 2.7.1. Menu Items in SECURITY Setup Screen

Item	Description					
<b>USER AUTHENTICATION</b>	<b>PASSWORD CHECK:</b> Check either V or blank for the functions such as <b>Setup, Playback(PB), PTZ, Record OFF(R/OFF), and Network.</b> V: Ask for a password when the given function is selected for all users. Blank: Does not ask for a password when the given function is selected for all users.					
	PASSWORD	SETUP	PB	PTZ	R/OFF	NETWORK
PASSWORD CHECK		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
ADMIN	1111	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
NETWORK	1111	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
USER1	1111	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
USER2	1111	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
USER3	1111	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
						OK CANCEL



**USER PASSWORD ADMIN, NETWORK, USER1, USER2, USER3:**

Options are ADMIN, USER1, USER2 and USER3.

Select USER PASSWORD using control button (◀ ▲ ▶ ▼) and press SEL button. Select user type using the control button (◀ ▲ ▶ ▼) and SEL button. Enter the current password and select OK. Enter the new password and select OK. Enter the same password again to confirm and select OK. Then the message “PASSWORD CHANGED” is displayed.

The factory default password is 1111.

USER: ADMIN

CURRENT: [ ] OK

NEW: [ ] OK

CONFIRM: [ ] OK

OK CANCEL

**AUTHORITY OF PLAYBACK** Enable/disable a covert function in playback mode.

V: No covert.

Blank: Covert

	1	2	3	4	5	6	7	8	9	10
ADMIN	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
USER1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
USER2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
USER3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

OK CANCEL

**2-8. Setup – Network Mode**

Press the SETUP button and enter the password. The setup menu is displayed as picture below. Select NETWORK icon and press SEL button to enter the setup menu item. Navigate through the menu items using the control button (◀ ▲ ▶ ▼) and change the value of the menu item using the control button (◀ ▲ ▶ ▼). To return to setup menu screen, press the ESC button



Item	Value
PORT	5445
WEB PORT	80
NETWORK TYPE	DHCP
IP	0.0.0.0
SUBNET MASK	0.0.0.0
GATEWAY	0.0.0.0
DNS (PRIMARY)	168.126.63.1
DNS (SECONDARY)	168.126.63.2
DDNS	OFF
NETWORK STREAM	...

**Figure 2.8.1. NETWORK setup screen**

**Table 2.8.1. Menu items in Network Setup screen**

Item	Description
<b>PORT</b>	Port number (Default: 5445)
<b>WEB PORT</b>	Web Sever Port number (Default: 80)
<b>NETWORK TYPE</b>	Select a type of network connection. Options are: DHCP and STATIC Note. Other parts of the network setup screen change depending on what network type you select.
<b>DHCP</b>	DVR automatically get IP varying from time to time from network and does not therefore need to be set.
<b>STATIC</b>	Assigned to an Internet service provider ( <a href="#">ISP</a> ) to be its permanent address on the Internet.
<b>DNS (PRIMARY)</b>	The address for the primary DNS server
<b>DNS (SECONDARY)</b>	The address for the secondary DNS server
<b>DDNS</b>	Enable/disable using domain name address through DDNS server.

---

“ON” mode, DDNS server name appears for domain registration.

**DDNS SERVER NAME:** The DDNS sever name is bestddns.com.

**CAUTION:**

Do not change this sever name. If this is changed, the DDNS service cannot be available.

**DDNS INTERVAL:** Set the connection interval (5-60minutes)

---

<b>NETWORK STREAM</b>	Set the value for network streaming.
-----------------------	--------------------------------------

---

## 2-8-1. Port and Web Port

When you connect one or more DVRs to a network through an IP sharing device, each device must have a unique TCP port number for access to each unit from outside the LAN. Also, the IP sharing device must be configured for port forwarding so when each port is accessed on the IP sharing device, it will forward to the appropriate DVR.

**Note:** This port number is listed next to the Port menu option in the Network Setup screen. If you plan to access the DVR units only from within the same LAN, the TCP port does not have to be changed.

### Network access beyond a router

In order to access the DVR remotely beyond a router (firewall), the user must open TCP port for command level, live/storage channels. User need to open port number 5445.

If the DVR supports remote setup and upgrade function over the network, user need to open additional port number 80.

### Web viewer Network access beyond Router

In order to access beyond Router (Firewall), user must open 1 TCP port that is set on NETWORK > WEB PORT. If this port is not open properly, user can not access DVR using direct Web viewer (Example: When NETWORK > WEB PORT is set as 80, 80 TCP port of IP address of DVR must be open.)

## 2-8-2. Network Types

### 2-8-2-1. DHCP

An IP address is automatically assigned by the DHCP server, which automatically assigns IP address and other parameters to new devices.

When ADSL or other network being used adopts variable IP method, not fixed IP. This option is used as a way to automatically get IP address.

### 2-8-2-2.STATIC

1. For the use of fixed IP.

(See your network administrator if you do not have this information.)

2. When DVR is installed in IP sharer that is connected with ADSL, a user can assign fixed IP to DVR from IP sharer itself using “DMZ” function out of such sharer.

Input IP set in DMZ on “IP” field and Gateway of ADSL modem on “Gateway” field. Similarly, for Subnet Mask, DNS address, input relevant values in IP sharer.

**Table 2.8.2. LAN**

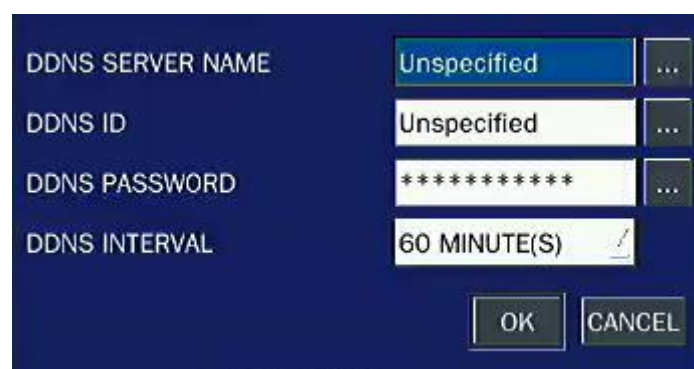
Item	Description
<b>IP</b>	The fixed IP address of the DVR unit.
<b>SUBNET MASK</b>	The subnet mask for the LAN
<b>GATEWAY</b>	The IP address of the Gateway
<b>DNS (PRIMARY)</b>	The address for the DNS server
<b>DNS (SECONDARY)</b>	The address for the DNS server

### 2-8-3. DDNS

User can use the function to connect to a network with a domain name. When it selects a Sever 1, user can select one type among three DDNS Servers which be supporting for free. (okddns.com for Korea, ddnscenter.com for USA and bestddns.com for other area including EU) The DDNS interval can be set from 5 to 60 minutes. To connect to a network with a domain name, user also has to register a MAC address and create a unique domain name to <http://www.bestddns.com>, <http://www.okddns.com> or <http://www.ddnscenter.com>. Please refer to page 90 for the detail of the registration.



**Figure 2.8.2. Network setup screen – DDNS Server 1**



**Figure 2.8.3. Network setup screen – DDNS Server 2**

If user wants to use other general-purpose DDNS Server, select a Sever 2. Then, user has to input the server name, ID and password using a virtual keyboard.

#### 2-8-4. NETWORK STREAM

User can set the Resolution, the frame rate and the quality for a network stream classified by channel. It is recommended that user should adjust each item to proper level to get the network service smoothly.

	ALL	1	2	3	4	5	6	7	8
RESOLUTION	CIF	CIF	CIF	CIF	CIF	CIF	CIF	CIF	CIF
FRAME RATE	25	25	25	25	25	25	25	25	25
QUALITY	LEVEL 5(H)	LEVEL 5(H)	LEVEL 5(H)	LEVEL 5(H)	LEVEL 5(H)	LEVEL 5(H)	LEVEL 5(H)	LEVEL 5(H)	LEVEL 5(H)

	ALL	9	10
RESOLUTION	640 x 360	640 x 360	640 x 360
FRAME RATE	30	30	30
QUALITY	LEVEL 5(H)	LEVEL 5(H)	LEVEL 5(H)

**Figure 2.8.4. Network setup screen – Network Stream**

#### 2-9. Setup - CONFIG Mode

Press the SETUP button and enter the password. The setup menu is displayed as picture below. Select CONFIG icon and press SEL button to enter the setup menu item. Navigate through the menu items using the control button (◀ ▲ ▶ ▼) and change the value of the menu item using the control button (◀ ▲ ▶ ▼). To return to setup menu screen, press the ESC button

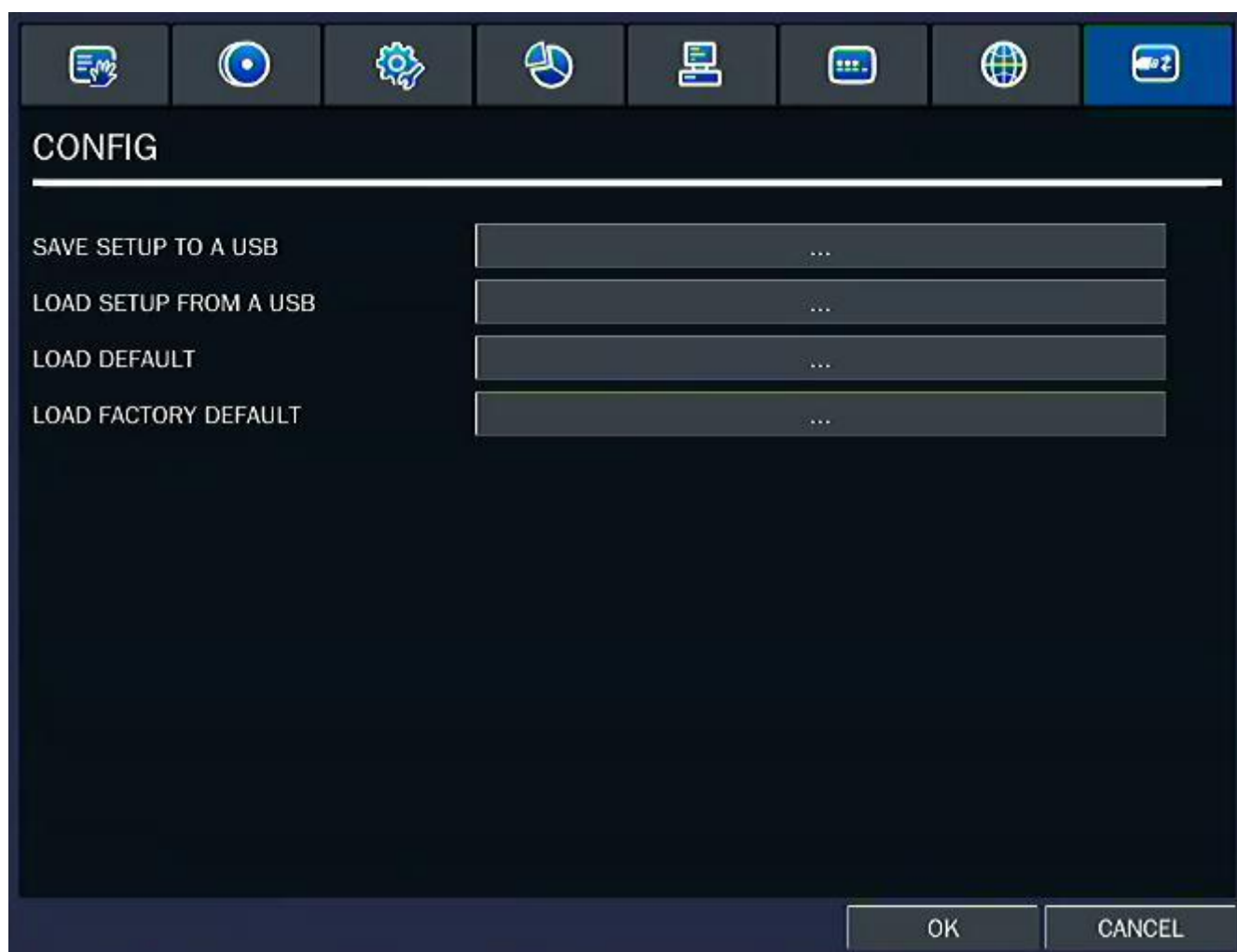


Figure 2.9.1. Config setup screen

Table 2.9.1. Config setup

Item	Description
<b>SAVE SETUP TO A USB</b>	User can save the current configuration (Setting values) of DVR to the USB memory stick. Put the USB stick on the front panel and press SEL to start the saving process.
<b>LOAD SETUP FROM A USB</b>	User can upload the configuration of DVR to another DVR using the USB Memory stick. Put the USB stick on the front panel and press SEL to start the loading process.
<b>LOAD DEFAULT</b>	Select ON to reset the system to the default settings. (The follow settings such as <b>Language, DVR ID, Security User Authentication, Security User P/W, Date format, DLS settings, Network settings, HDD serial number, and HDD ERROR time</b> will not be included.)

<b>LOAD</b>	Select ON to reset the system to the factory default settings.
<b>FACTORY</b>	
<b>DEFAULT</b>	

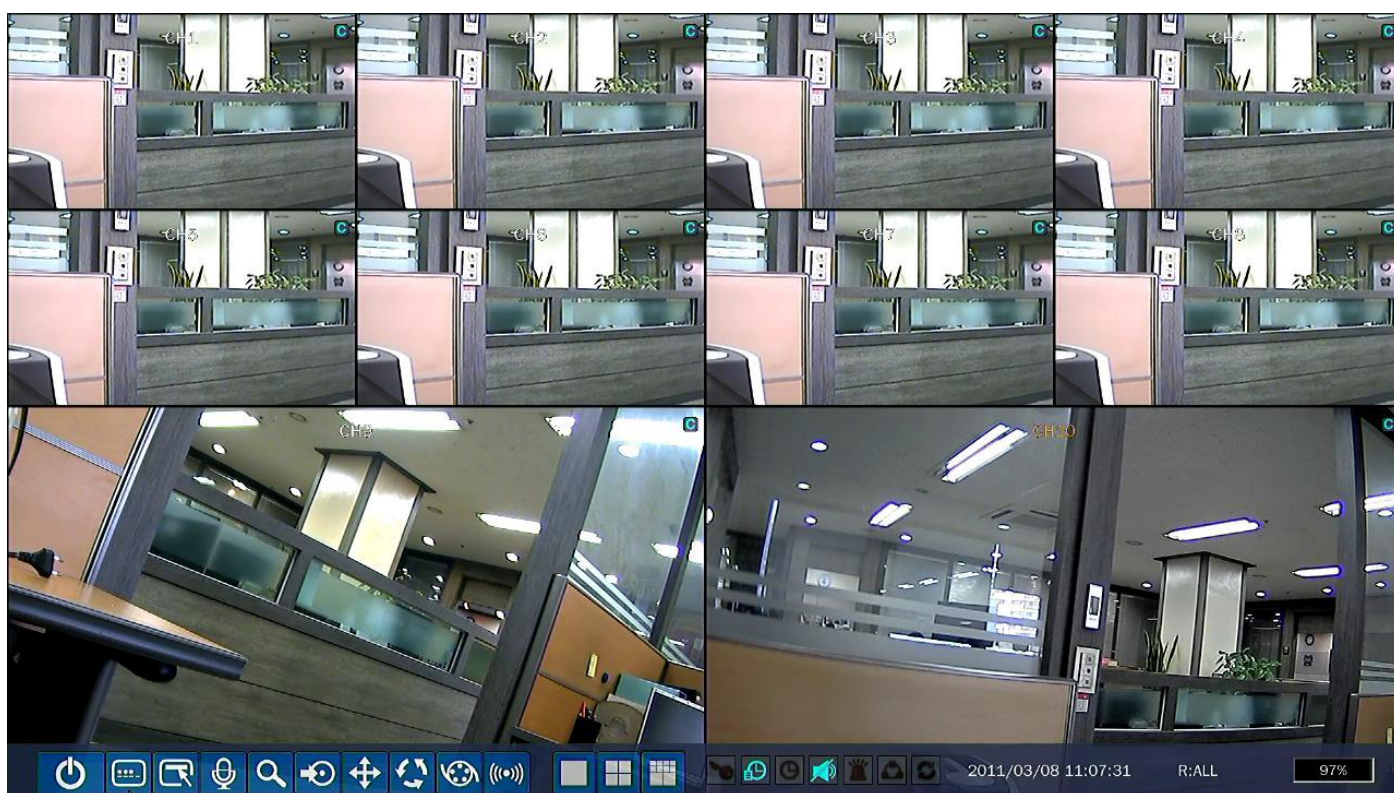
### 3. Saving Setup

To preserve the setup values that you have changed, select YES.

## 4. Live, Search, and Playback




### 4-1. Live Viewing Screen

In the Live screen, video inputs from the cameras are displayed as they are configured in the Display Setup screen. Various on-screen display (OSD) symbols, which indicate the status of the DVR, are described in Table 5.1.1.









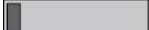

















**Figure 4.1.1. Live Viewing Screen**

**Table 4.1.1. Status Indicator Icons in Live Viewing Screen**



Icon	Description
	Click the power icon when you want to shut it off by mouse
	Click the LOCK icon when you want to lock and unlock the DVR by a mouse
	Click the SETUP icon on the screen using the mouse to see menu items. Select menu item (SETUP, SEARCH, BACKUP, RECORD, PTZ, SEQUENCE, AUDIO or ALARM-OUT) using the mouse to enable/disable



	its functions
	Click the AUDIO icon when you want to activate the audio using a mouse
	Click this SEARCH icon when you want to play back and search from the recorded data using a mouse
	Click this BACKUP icon when you want to back up from the recorded data to USB Memory Stick
	Click this PTZ icon when you want to control the PTZ cams using a mouse
	Click this SEQUENCE icon when you want to activate the sequential screen
	Click this MANUAL RECORD icon when you want to manually record
	Click this ALARM OUT icon when you want to activate alarm out
	Click the split screen icon to change the current split screen mode using the mouse or SEL button.
2009/04/14 17:23:40	Displays the current date and time
R:A	Remote control ID display. If no remote ID is set the message “ALL” is displayed.
 15%	Displays the amount of recording on the hard disk from 0-100%.
	Indicates that HDD is recycled.
	Continuous recording in progress.
	Manual recording in progress. To set the Manual recording mode, press the Record button on the front panel.
	Motion alarm recording in progress.
	Sensor recording in progress.
	Indicates that lock activated, this icon will be back to black color when unlock.
	Audio mute. To set audio mute, press the Audio button on the front panel.
	Single audio display. To set audio single for highlighted channel only, press the Audio button on the front panel.
	To mix audio display, press the Audio button on the left side.

	Indicates that alarm is set. To set the alarm function, press the Alarm button on the front panel.
	Indicates that alarm output is activated.
	Mixed audio display
	Alarm indicator. When there is an alarm (sensor or motion alarm) in the video channel, this icon will be highlighted bright blue.
	Indicates that a network client is connected to the DVR.
	Indicates that sequencing mode is enabled.

**Table 4.1.2. Button functions in Live Viewing Screen**

Button	Description
	Select channel to be displayed in full screen mode.
	Switch between full screen and quad display mode.
<b>SEQ</b>	Press to start auto sequencing of the screen in full screen mode. (Toggle)
<b>RECORD</b>	Press to start and stop manual recording.
<b>SEARCH</b>	Press to go to the search menu. Event search /Time line search /Log /Archive search
<b>ARCH</b>	Press to capture a still image. The still image will be stored into hard drive. It can be transferred to the USB device.
<b>SETUP</b>	Press to launch SETUP menu.
<b>ESC</b>	Press for temporal storage of the changed value or to return to the previous menu screen.

## 4-2. SEARCH Screen

To enter the search screen, select SEARCH menu on the screen using the mouse or press SEARCH icon on live screen.





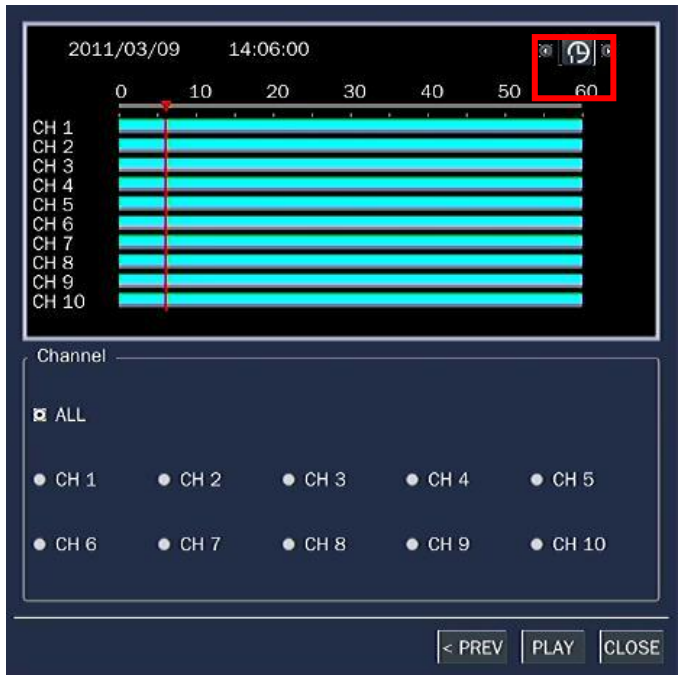
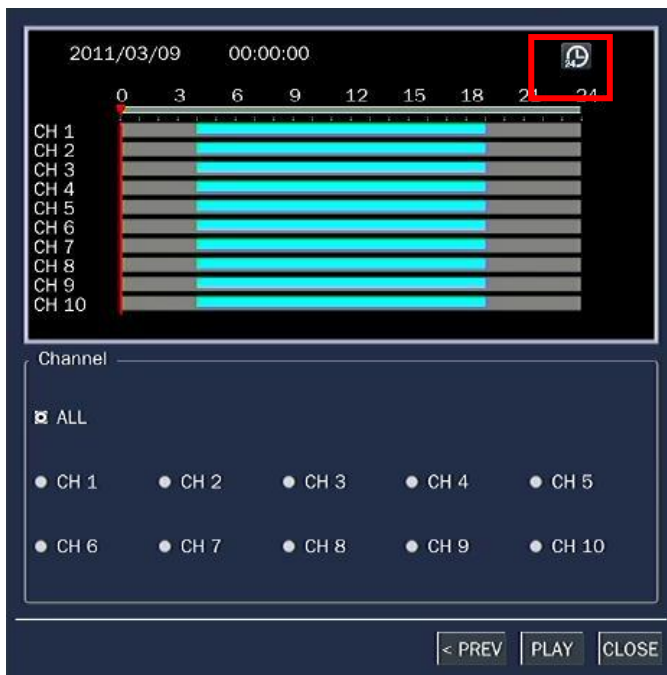
**Figure 4.2.1. Search Screen**

There are 7 ways of search menu such as TIMELINE, EVENT, GO TO FIRST TIME, GO TO LAST TIME, GO TO SPECIFIC TIME, ARCHIVE and LOG on the screen.

#### 4-2-1. TIME-LINE Search

The TIME-LINE search window is used to find the stored video by using the time line bar.





When it clicks a Timeline menu, user can see a calendar which has recording data. Select a specific date and time. Use a drag-and-drop function of the mouse control. User can select a specific minutes using a button in the above red box. Press a PLAY button after setting a specific time. Press the PREV to return to the SEARCH window.

#### 4-2-2. Event Search

The Event Search window is used to find stored video.

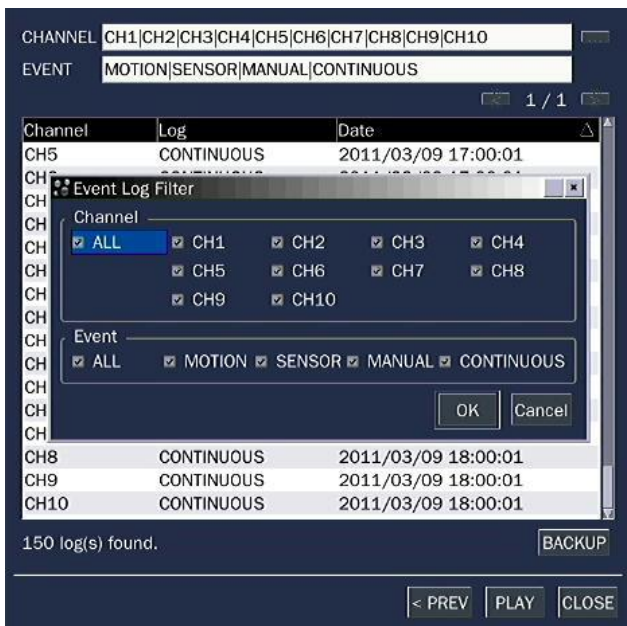
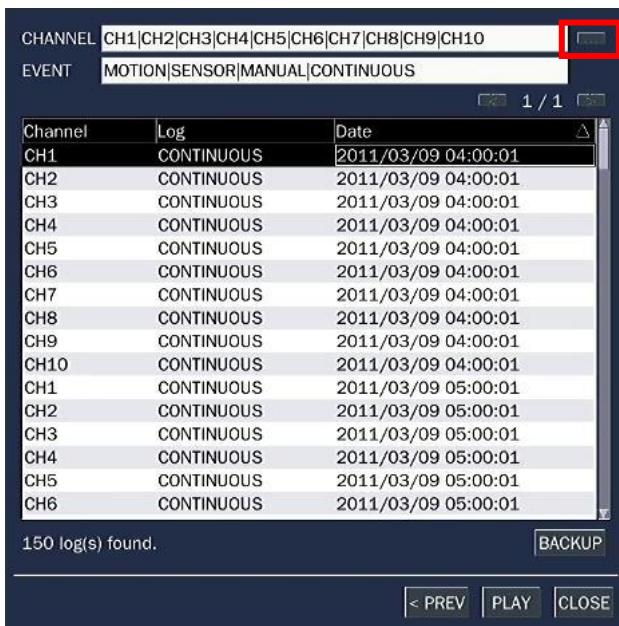


Figure 4.2.2. Event Search screen

When it clicks an Event menu, user can see a calendar which has recording data. Select a specific date and then user can see all data. Press a PLAY button to playback the data or a SAVE button to save the data at once after selecting a specific data. User can find a data of the specific channel and event using a button in the above red box. Press the PREV to return to the SEARCH window.

### 4-2-3. Go To First Time

You can access from the oldest recorded data on the DVR hard drive by selecting GO TO FIRST TIME on the SEARCH window. Press the PREV to return to the SEARCH window.

### 4-2-4. Go To Last Time

You can access from the last minute recorded data on the DVR hard drive by selecting GO TO LAST TIME on the SEARCH window. Press the PREV to return to the SEARCH window.

### 4-2-5. Go To Specific Time

● TIME LINE

● EVENT

● GO TO FIRST TIME

● GO TO LAST TIME

▣ GO TO SPECIFIC TIME

2011 / 4 / 19 0 : 2 : 30

● ARCHIVE

● LOG

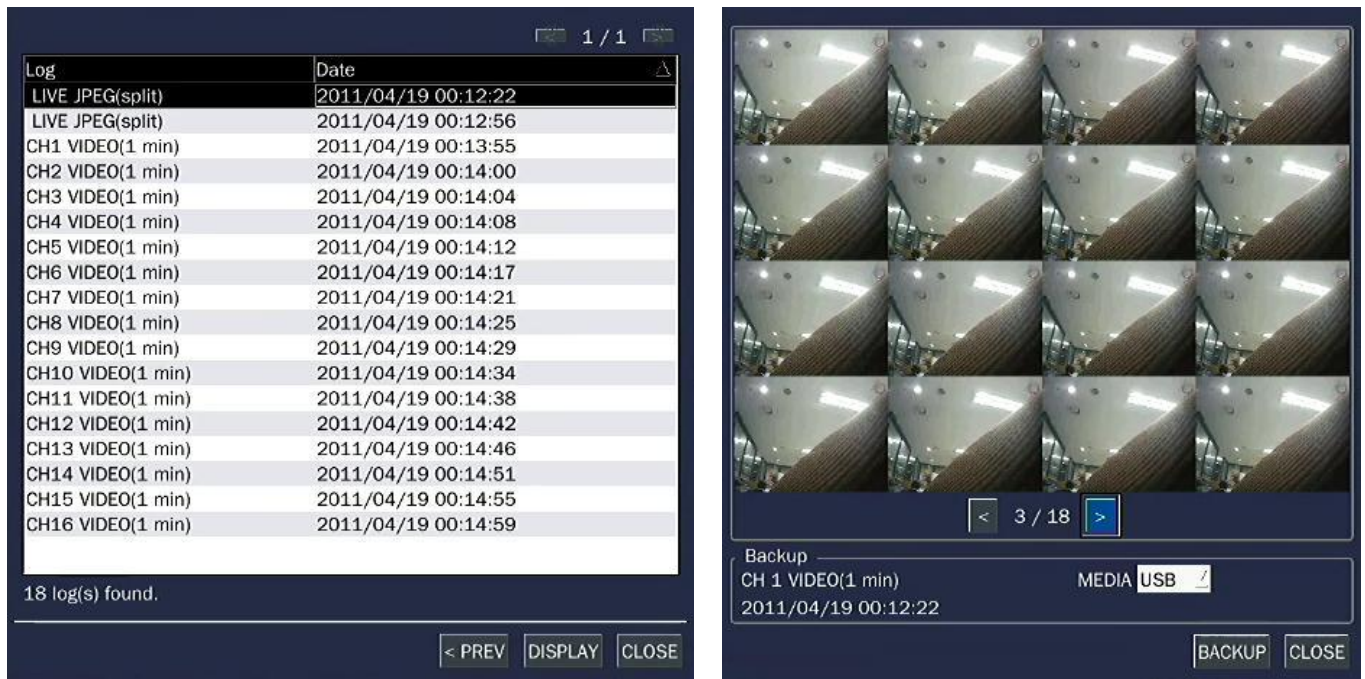
PREV PLAY CLOSE

**Figure 4.2.3. Go To Specific Time**

User can search for video data from a specific instance by setting the date and time in the Go To Specific Time menu. Use the mouse or the control button (◀ ▲ ▶ ▼) on the remote control to change the date and time value and press the PLAY button after setting. If there are no the video data in the set date and time, the DVR will play the latest video data.

### 4-2-6. Archive Search

The ARCHIVE Search window is used to find previously stored video or images.



**Figure 4.2.4. Archive Search Screen**

When it clicks an Archive menu, user can see a calendar which has recording data. Select a specific date and then user can see all data. When it presses a Display button, the still image or the first frame of the selected video is opened and user can save the data.

#### 4-2-7. Log Search

You can access the LOG list search screen by selecting LOG on the SEARCH window.



**Figure 4.2.5. Log Search Screen**

When it clicks a Log menu, user can see a calendar which has recording data. Select a specific date and press NEXT button. Then user can see all log data. Press SAVE button to save the data and then the data is saved to text file format.



### 4-3. Play mode

During playback of a recorded event, the mode changes from SEARCH to PLAY. While in PLAY mode, you may return to the SEARCH screen by pressing the X button on the status bar or the ESC button of a remote control.

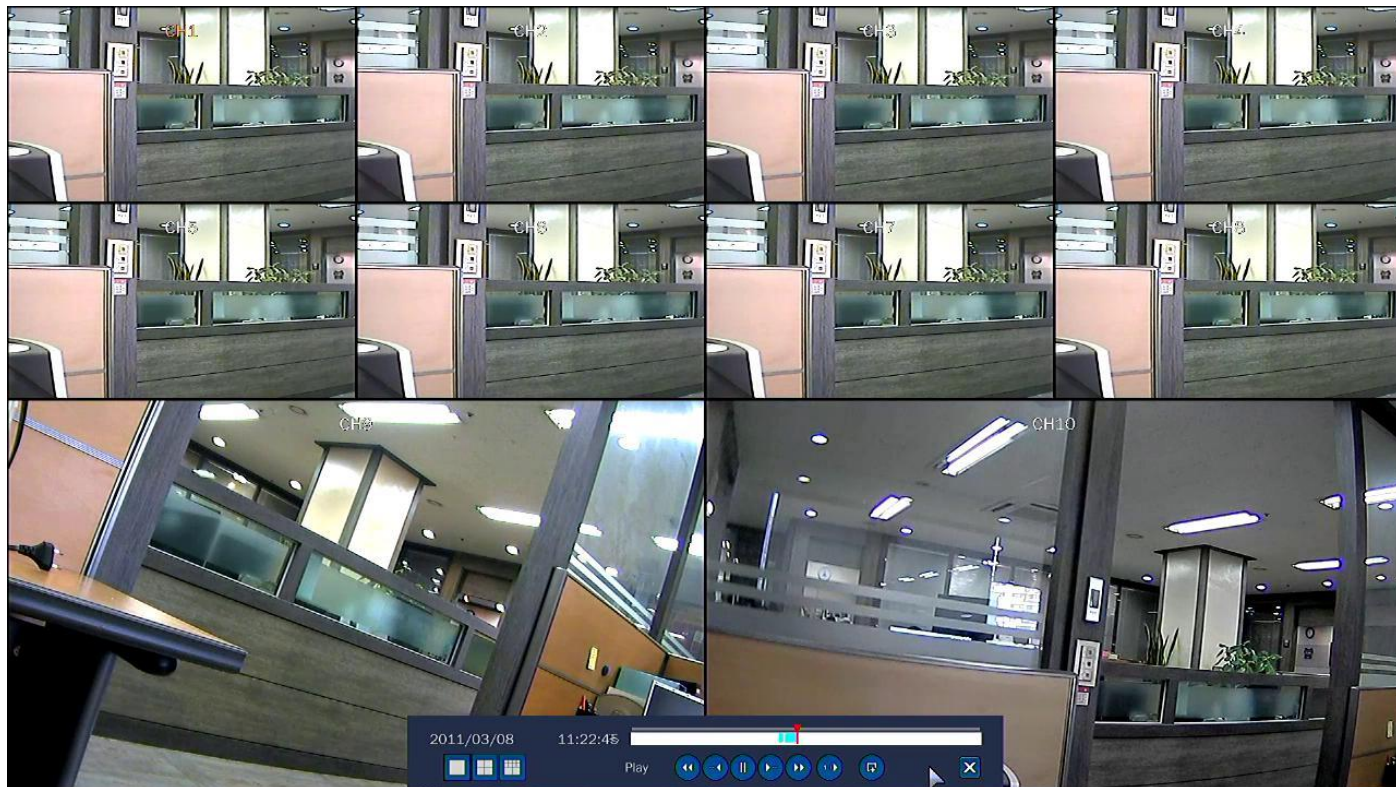








Figure 4.3.1. PLAY Mode Screen

The following status bar hides automatically and appears again when putting a mouse pointer to the bar.

Table 4.3.1. Button functions in PLAY Mode

Button	Description
	Return to the previous menu screen, search window, or exit from the Menu
	Press to rewind the footage at 1x, 2x and 4x speeds. Reverse playback speed is shown as -1x(normal), -2x (2 times normal) and -4x (4 times normal) at the bottom right of the screen.
	Jump/Step backward. The playback position moves 60 seconds backward.
	Press to play or pause recorded video.
	Jump/Step forward. Playback position moves 60 seconds forward.
	Press to fast forward the footage at 1x, 2x and 4x speeds. Playback speed is indicated as +1x, +2x and +4x for normal, twice and 4 times of the regular speed at the bottom right of the screen.



Press to backup the video.

## 5. PTZ Control


To control the PTZ functions of the camera, select PTZ menu on the screen using the mouse. Select the item you wish to control the PTZ camera and control them using the mouse or the control button (◀ ▲ ▶ ▼) on the remote control. Please refer to the table 5.1. for the control.

**Figure 5.1. PTZ Control Screen**



**Table 5.1. Button Functions in PTZ Control**

Item	Description
<b>INITIALIZE</b>	Initialize the PTZ settings of the selected camera.
<b>PAN / TILT</b>	Select PAN/TILT using the mouse or the control button (◀ ▲ ▶ ▼) and press SEL button on the remote control. Adjust the tilt(UP/DOWN) / pan(LEFT/RIGHT) position using the mouse or the control button (◀ ▲ ▶ ▼) on the remote control.
<b>ZOOM / FOCUS</b>	Select ZOOM/FOCUS using the mouse or the control button (◀ ▲ ▶ ▼) and press SEL button on the remote control. Adjust the zoom(Mouse Wheel Down or Up/Down button of the remote control)/focus(Mouse Wheel Up or Left/Right button of the remote control)position.
<b>OSD</b>	Select the OSD to enter the menu. Control keys are Right, Left, UP, Down, Select, Far (REW KEY), and Near (FF KEY). Press the ESC button to return to the main menu. Press the PTZ button to escape from the OSD menu.
<b>AUTOSCAN</b>	Press the right key (▶) on the control button to start auto scan Press the left key (◀) on the control button to stop auto scan.
<b>PRESET</b>	Select the PRESET and press the left key (◀) on the control button. Then, number input window will appear. Set the number (3 digits) using the number key and press the SEL to set the preset number for the current position. Press the right key (▶) on the control button and set the number (3 digits) to go to the preset number.
<b>TOUR</b>	Select the TOUR and press the right key (▶) on the control button. Then, number input window will appear.

	Set the number (1 digit) using the number key and press SEL to make the group number work. Press the left key (◀) on the control button to stop tour. User can set the preset number in the tour group of the OSD menu.
<b>NUMBER</b>	Available only on the TOUR and PRESET menu.
	Press the ESC button to return to the main menu.

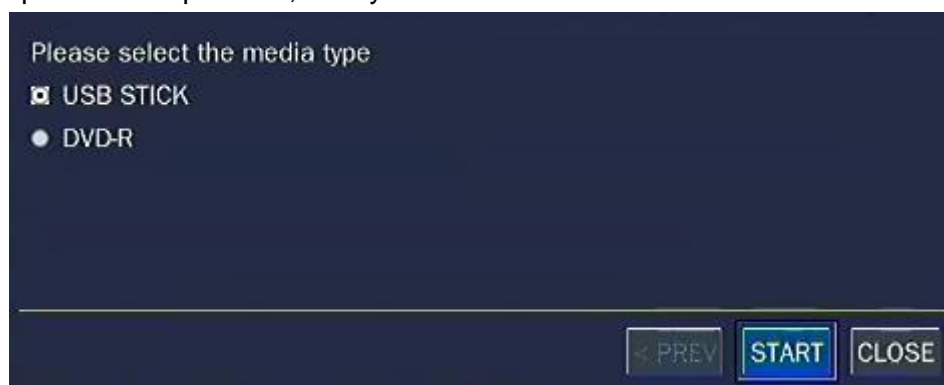
- **Preset/ Tour/ OSD/ Autoscan function are available on the specific model AP8777 and PMA-200.** (Select it in the NAME of PTZ setup menu)

## 6. Back up

### 6-1. Still Image backup onto USB flash memory

Still images can be captured and archived onto the USB stick or hard drive in live mode or while playing back recorded video. In live mode, press the BACKUP button to launch the archive function or select BACKUP menu on the screen using the mouse.

1. Select a specific channel which wants to backup on live screen.
2. When you press BACKUP button, the archiving screen will display as Figure 6.1.1.
3. Once you press Backup button, the system will start to archive the data to the selected media.



**Figure 6.1.1. Still Image Archiving and Backup Screen**

---

**NOTICE** For a backup using a USB stick, a format of the USB stick has to be set to FAT32.

---

### 6-2. Video backup onto USB flash memory

Video can be captured and archived onto the USB stick or hard drive while playing back recorded video. In playback mode, press the BACKUP button to launch the archiving function.

1. When you press BACKUP button, the DVR will ask whether to archive a Still Image or Video clip.
2. If the user selects VIDEO, the DVR will ask for the media. To use the huge backup, the external USB HDD has to be mounted.

3. After selecting the media, the DVR will ask for the channel and the setting of the archiving duration. If the huge Backup is selected, the duration is from 1 hour to 24 hours.
4. After selecting the channel and setting of the duration, the system will start to archive the data to the selected media.



Figure 6.2.1. Video Archiving and Backup Screen

The DVR will convert the corresponding portion of the video into an AVI file.

### 6-3. Transferring still images or video from the ARCHIVE list

The stored data onto hard drive will be found in the ARCHIVE list in SEARCH window.

User can back up still images or video into the storage device from the ARCHIVE list.

1. Select the date to begin searching and navigate through the days using the mouse or the control button (◀ ▲ ▶ ▼) on the remote control.
2. Once you have selected the date, press NEXT button to open the list of stored data.
3. Use the mouse or the control button (◀ ▲ ▶ ▼) on the remote control to scroll through the on-screen listings.
4. Select a list of stored events that happened previous to or after the current selection.
5. Once the desired event has been selected, press NEXT button to view the still image or the first frame of the selected video.
6. Press the BACKUP button to launch the archiving function in playback mode.
7. Press CLOSE button to return to the SEARCH window.



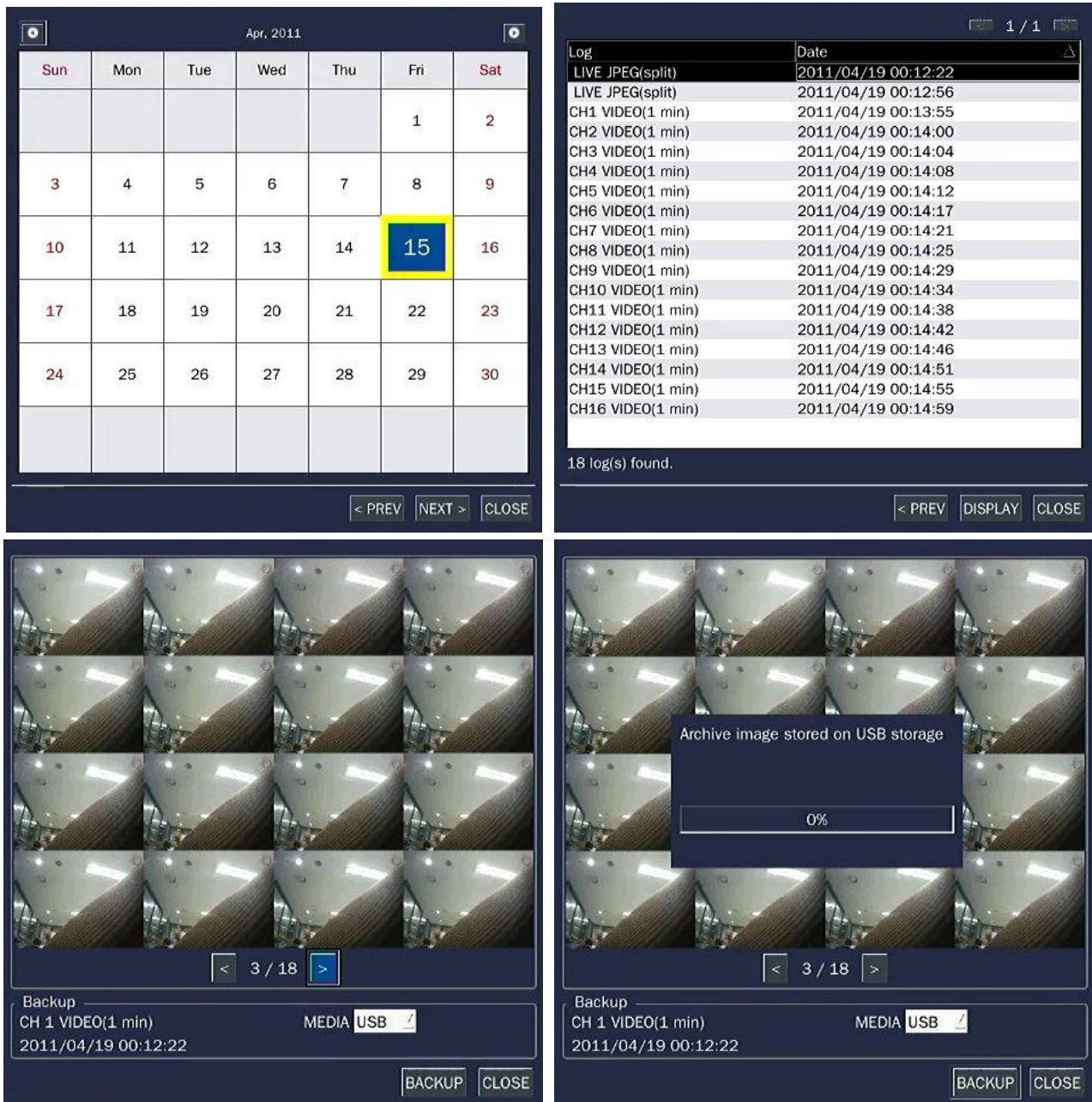


Figure 6.3.1. Archive Search Screen

#### 6-4. Playback of Backup Video

- **H.264 format:** H.264 format video can be played back by the player (the HD player) that the DVR copies on USB thumb drive with video.  
Three files are copied on USB thumb drive
  - H.264 file: H.264 format video file.
  - INDEX file: Title file of date and time.
  - HD PLAYER: Exclusive video viewer.
- **AVI conversion:** User can convert the H.264 format video to AVI format video which can be played back by Window Media Player™ or other media player that is compatible with AVI format video.



## 7. Upgrading Firmware

In order to upgrade, the firmware upgrade file must first be downloaded and copied into the USB memory stick. Create a new folder in the USB memory stick and name it “upgrade”. Copy the firmware upgrade file “xxxxxx.bin” into the “upgrade” folder. Then, boot a system after inserting the USB memory stick on the system. The system will be upgrade automatically.

### NOTICE

The folder on the USB memory stick must be named “**upgrade**”.

After the firmware upgrade file is copied into the USB memory stick, connect the USB memory stick to the USB port on the front panel and do the followings:

### Remote Firmware Upgrade

User can upgrade the firmware via Network as follows.

1. Go to the Remote Setup menu on the UMS Multi or Web Viewer.

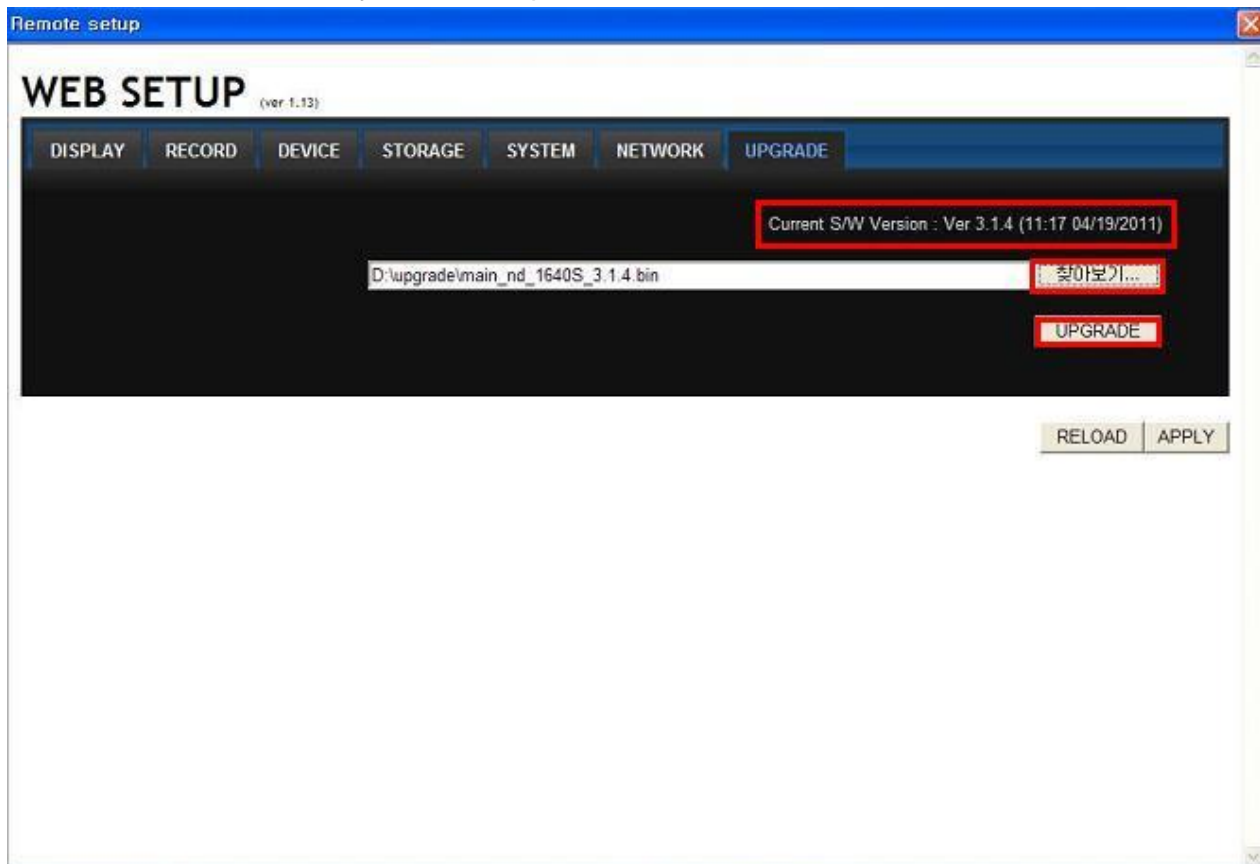




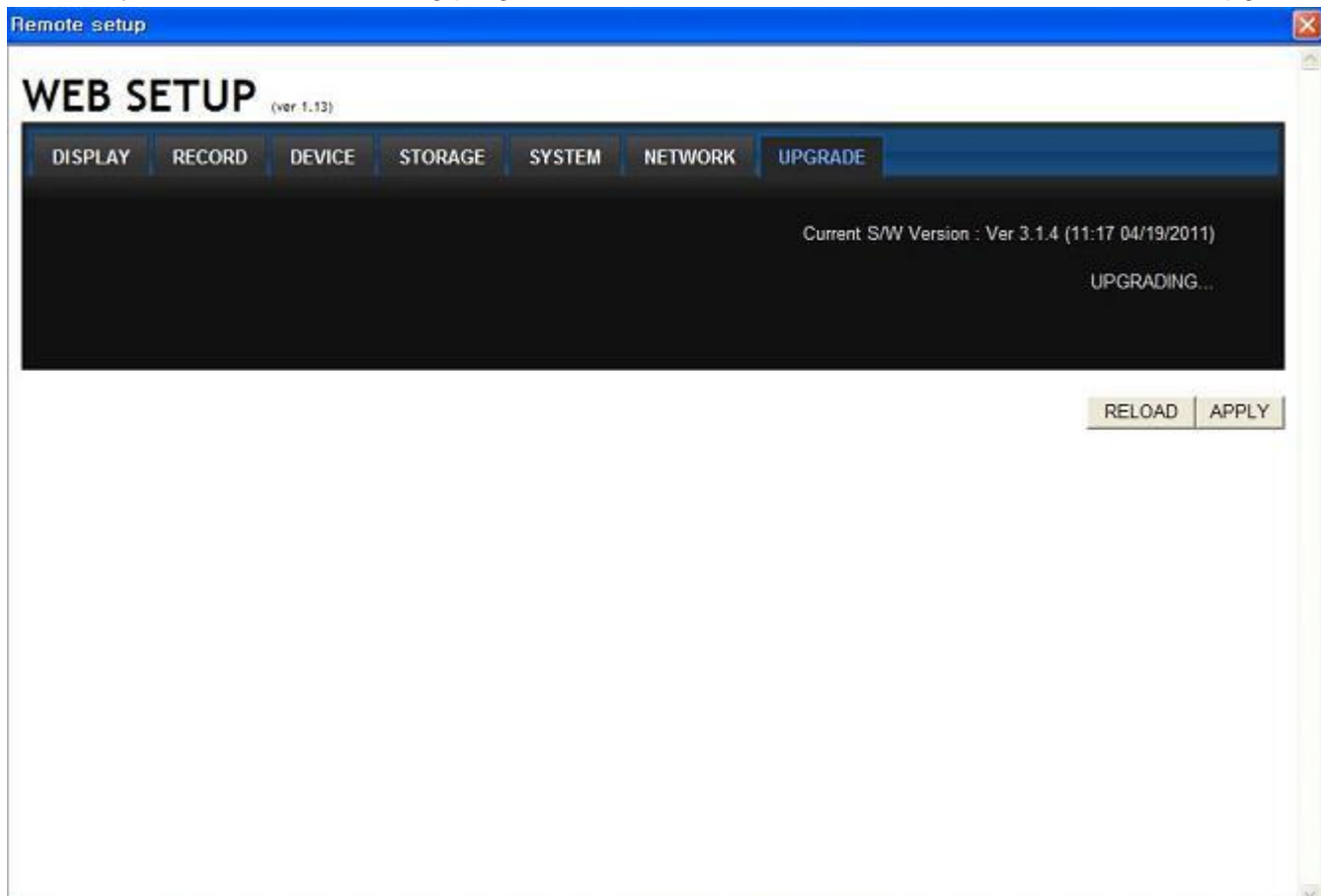
2. Press the password for admin. Just admin is possible to connect to the remote setup menu.



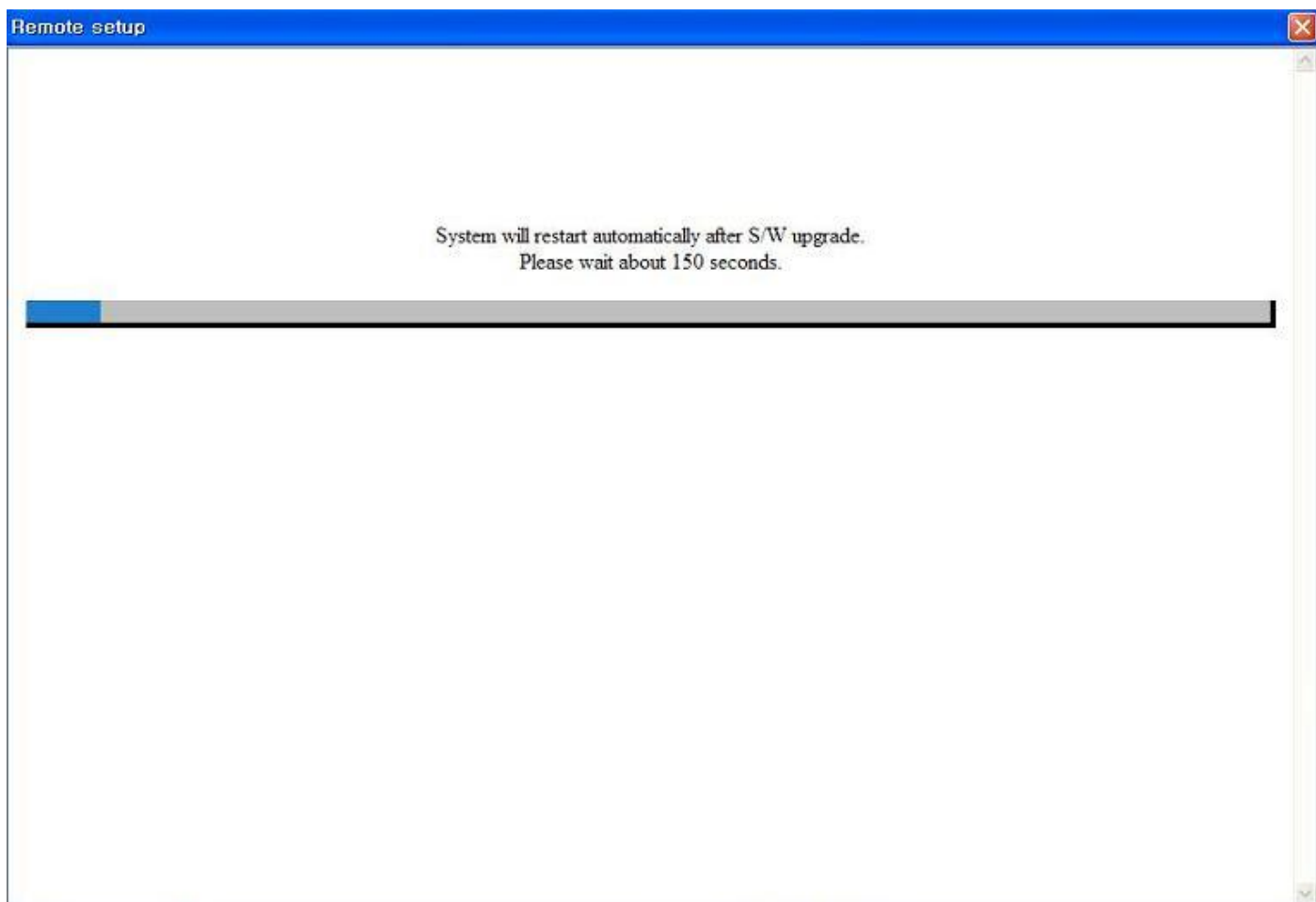
3. Go to the Remote Upgrade menu. Then, you can see the current F/W version as follows. To upgrade a new F/W, insert the F/W in your PC and press the UPGRADE button.



4. Then, you can see the following progress bar and it would be taken around 150 seconds to upgrade.







5. When finishing the upgrade, the network streaming would be connected again automatically and you can see the following screen. Please check the current F/W version if the upgrade is succeeded.



## 8. Network access using the Exclusive network viewer, UMS single

The DVR provides a live remote monitoring feature. Remote monitoring requires installation of the network viewer on your PC.

### NOTICE

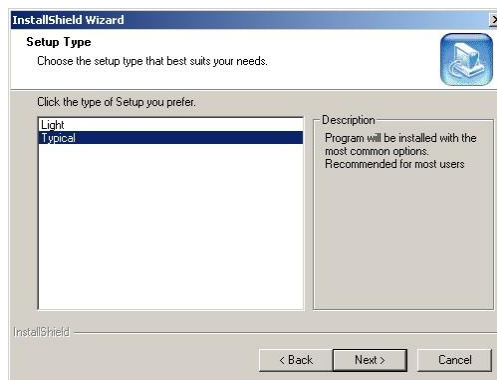
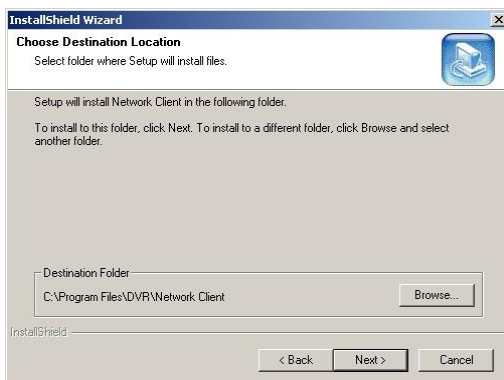
In a high bandwidth network, a maximum of four users can access one DVR simultaneously. In a low bandwidth network it is recommended that only one user access the DVR at a time.

### 8-1. PC requirements

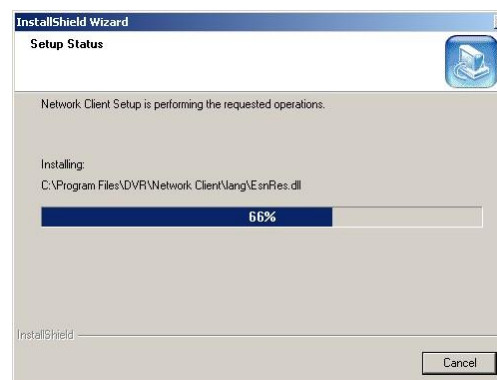
- CPU: Intel Pentium IV 1.4Ghz or higher
- Memory: 512MB (1GB or higher is recommended.)
- VGA memory: 16MB (64MB or higher is recommended.)
- Resolution: 1024x768
- O/S: Windows 2000, XP Professional, XP home
- Direct X: DirectX 8.1 or higher

### 8-2. Installing the network viewer

1. Insert the provided CD in the CD drive and double-click “UMSClient(XXXX).exe”
2. Select a destination folder and click “Next”.
3. Select the type and click “Next”.



4. Select the program folder and click “Next”.
5. The setup status screen is displayed.


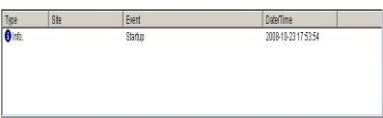


After the installation is completed, “UMS Client”  icon is displayed on the desktop.

### 8-3. Live monitoring mode and functions.



Button	Function	Description
	<b>DATE &amp; TIME</b>	Displays the current date and time.
	<b>CONNECT/DISCONNECT</b>	Connect/disconnect network connection.
	<b>SEARCH</b>	Switches the live mode to search mode.
	<b>DISPLAY MODE</b>	Select a channel and screen display mode.
	<b>PAN/TILT/ZOOM/ FOCUS</b>	Control the PAN/TILT/ZOOM/FOCUS features on the remote camera.
	<b>CAPTURE</b>	Capture a still image from live screen.
	<b>PLAY/PAUSE</b>	Play/pause live video.
	<b>ALARM</b>	The ON/OFF button of the alarm output of the DVR. When an alarm of the DVR is output, this button becomes Red.
	<b>SETUP</b>	Display the setup screen of the network viewer.
	<b>HDD USAGE</b>	DVR HDD storage Indicator.
	<b>NETWORK BANDWIDTH</b>	Shows the transferred frames and

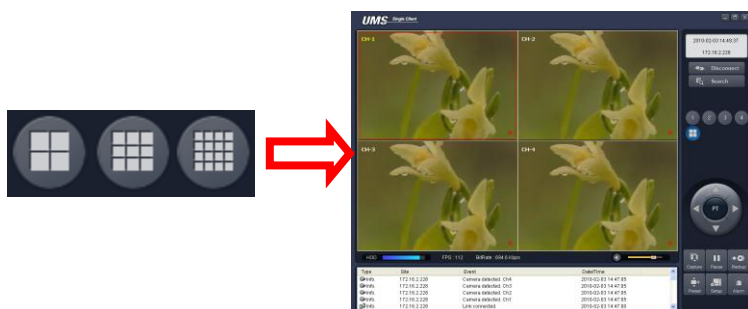
		network bandwidth.
	<b>AUDIO</b>	Adjust the volume. The audio can be turned on or off by clicking the audio icon.
	<b>LOG WINDOW</b>	

## Operations of the display mode of the main screen

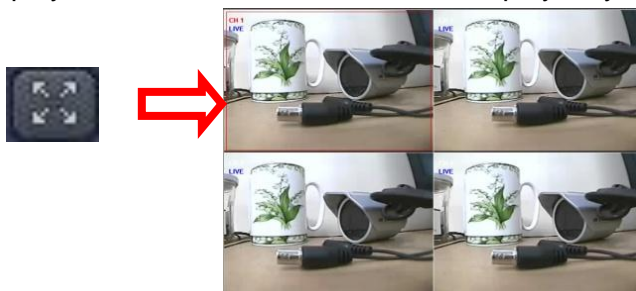
- Single channel display - Click the one of channel button or double-click the channel screen.



- QUAD/-screen display - Click the QUAD button to switch to quad-screen display



- Full screen display - Click the maximize button to display only screen and hidden the operation panel.

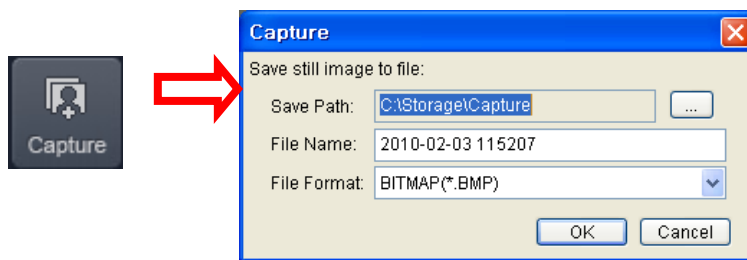


## Image capture of live screen

Still-image of live screen can be captured and saved as BMP or JPEG file.

1. Click the channel to be captured. Then the channel screen is surrounded with a red line.
2. Click the CAPTURE button. Then the IMAGE CAPTURE dialog is displayed.





3. Set the conditions and click OK button. Then still-image is saved.





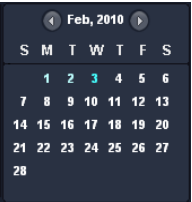
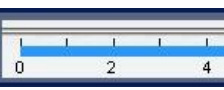

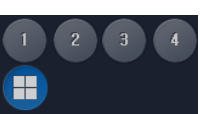
#### 8-4. Bi directional audio

The UMS Client allows for bi directional audio between the client and a dvr unit. On the PC, to use bi directional audio, you will need a sound card of handling a microphone and speakers. On the dvr side, you will need to connect a microphone to the audio in connection, and a pair of amplified speakers to the audio out connection.

#### 8-5. Remote search mode and functions



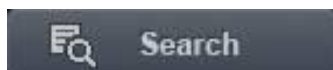
Button	Function	Description
	<b>DATE &amp; TIME</b>	Displays the recording time of the data selected on the time bar at the bottom of the main user interface.
	<b>DISCONNECT</b>	Disconnect network connection..
	<b>LIVE</b>	Switches the search mode to live mode.

	<b>CAPTURE</b>	Capture a still image from live screen.
	<b>MARK IN</b>	Set the start time for video backup.
	<b>MARK OUT</b>	Set the ending time for video backup.
	<b>BACKUP</b>	Backup the selected recorded video as AVI format.
	<b>SEARCH CALENDAR</b>	The calendar shows dates with recorded video in a light blue and the selected date in dark blue.
	<b>TIMELINE BAR</b>	The timeline shows recorded data in dark blue on the bar.
	<b>PLAYBACK BUTTON</b>	The playback buttons.
	<b>DISPLAY MODE</b>	Select a channel and screen display mode.

### Searching and playing video in the remote DVR

Video recorded in the remote DVR or Video recorded on the PC can be searched and played back.

1. Connect the network to the remote DVR and press SEARCH button. Then the mode is changed from the live mode to the search mode.

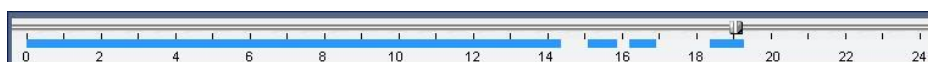


- Searching the video recorded in the remote DVR: Connect the network to the DVR..
- Searching the video recorded in the PC: Do not connect the network to the DVR.

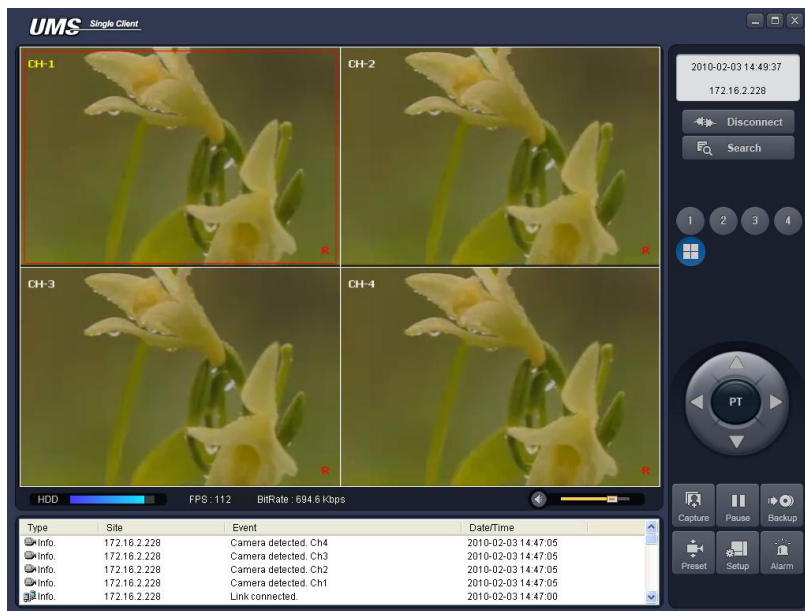
2. Select the date to search the video.



3. Drag the slid on the time scale and drop it between 0 to 24.



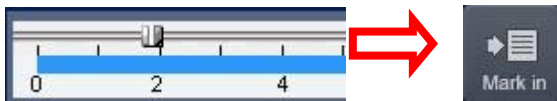
- Press the PLAY button. Then the video recorded in the remote DVR is played back.



### Backup of video in the remote DVR

Video recorded in the remote DVR can be backed up on the PC HDD as AVI format.

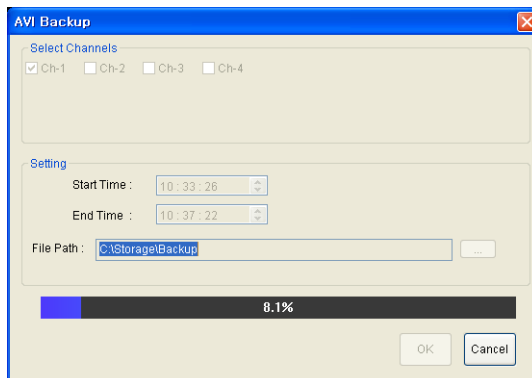
- Connect the network to the remote DVR and play the video recorded in the remote DVR.
- Drag the slider on the time scale and drop to the start time for video backup and press the MARK IN button.



- Drag the slider on the time scale and drop to the end time for video backup and press the MARK OUT button. Then the marked time is displayed in dark green.



- AVI Backup dialog is displayed. Click the OK button. Then the marked video is backed up.

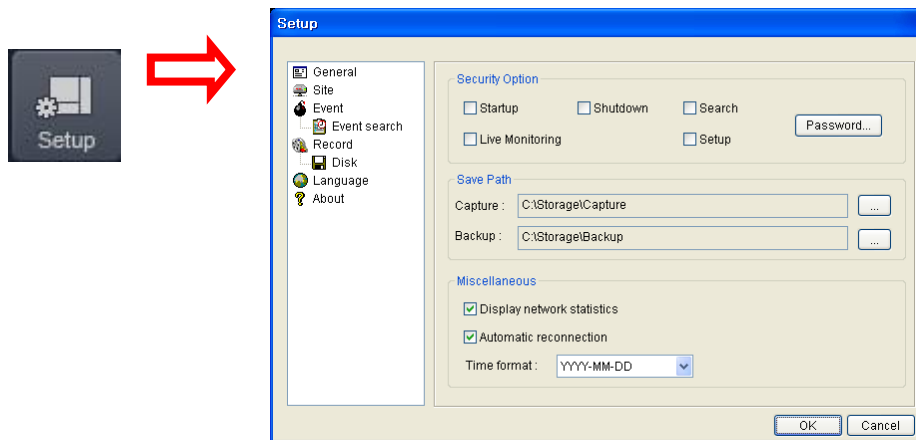


- Start time / Stop time: Backup time can be changed.

- File path: Shows the folder that the backup file is recorded.
- Channel: Shows backup channel.

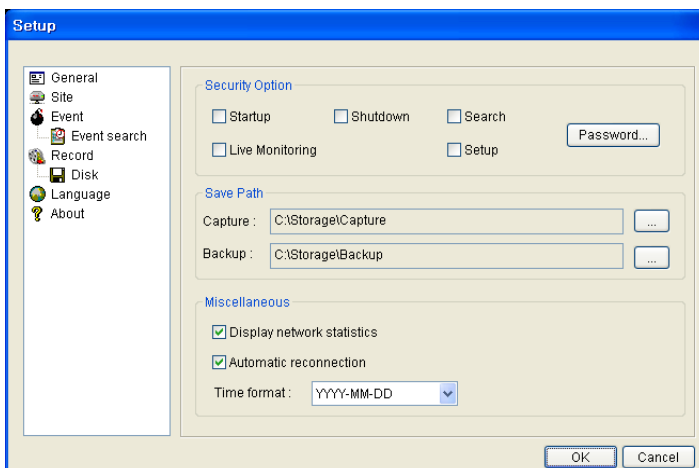
## 8-6. PC System configuration

Click the SETUP button. Then the Setup dialog is displayed.



### Setting General

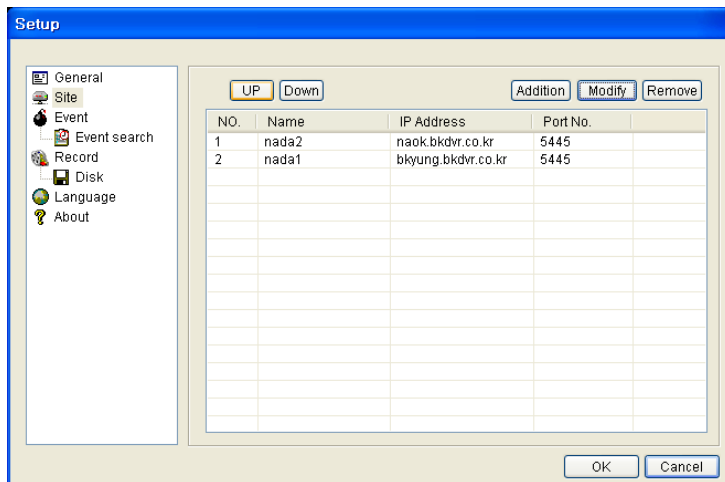
Set the Security Option, Save Path, and Miscellaneous.



- **Security Option:** Set a password for security options. When you access any of the selected functions, you will need to enter the password.
- **Save Path:** Specify the location to record for backup and still image capture.
- **Automatic reconnection:** If a user selects this function, the client S/W will automatically try to connect to the previously connected IP address if the network connection is lost.
- **Display network statistics:** If a user selects this function, the client S/W will display network status, Bit rate and Frame rate.
- **Time Format:** Change the mode the Client software displays the time.

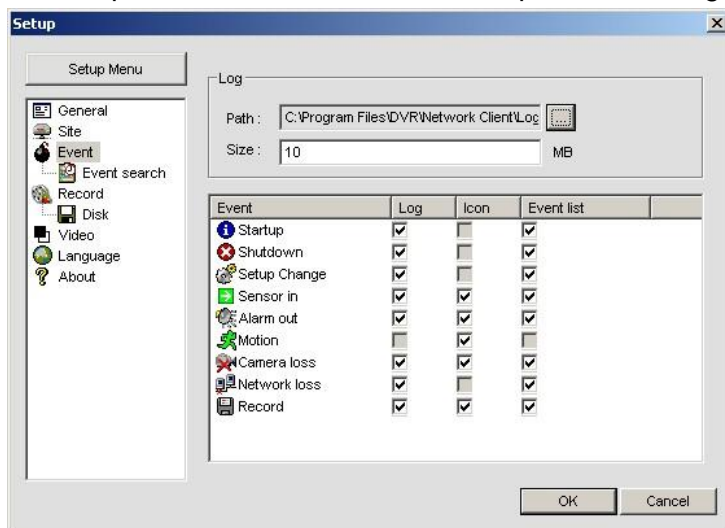
### Setting Site

The remote DVRs can be added, modified, and removed.



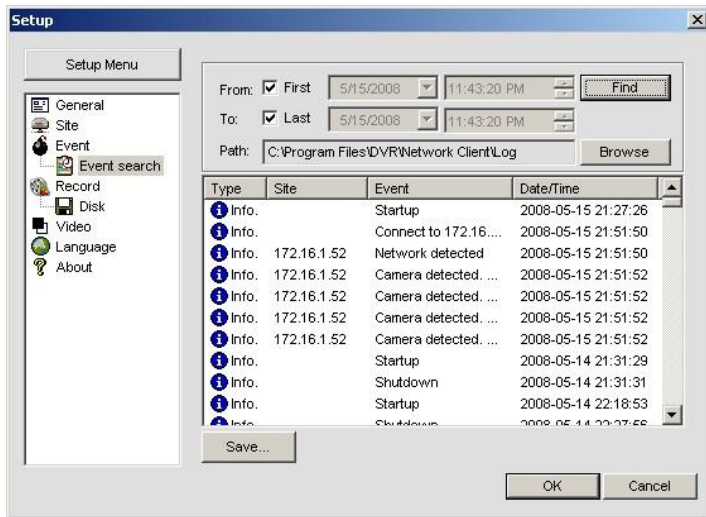
## Setting Event

Set the record path and the size of local disk space for the log files.



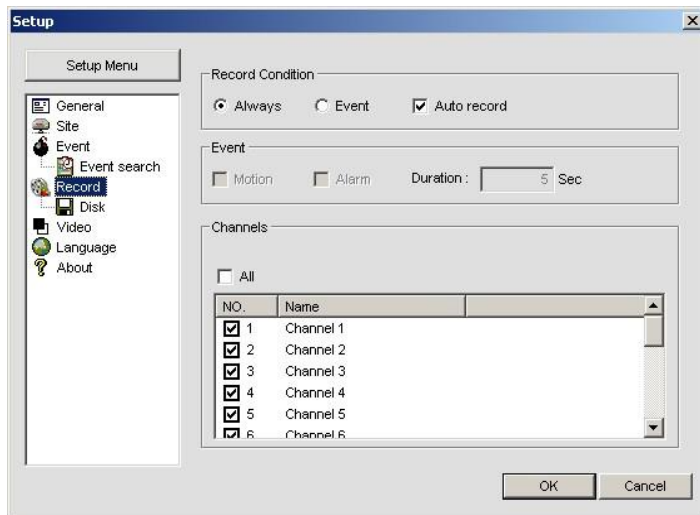
- LOG – Select to save event log into 'log file'.
- ICON – Select to display the event on live video.
- EVENT LIST – Select to show the event in the 'Event List' window of live mode.

Search and check the recorded log data.

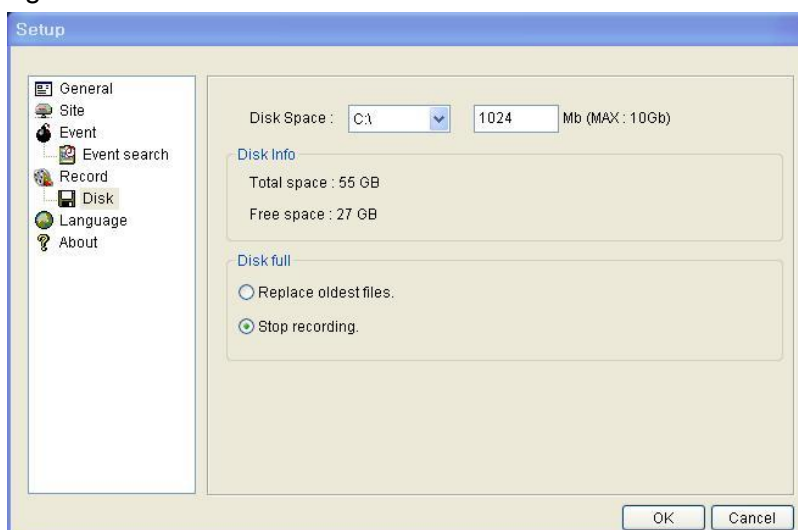


## Setting Record

Set the recording conditions and select channels to record.



Select the local disk to use and the amount of disk space you want to allow the program to use for recording.



## 9. Network access using the Exclusive network viewer, UMS multi

### 9-1. Overview

The UMS Multi-Client is a multiple site monitoring client software with; video, audio, and alarm signals from the DVRs over networks. The UMS Multi-Client does not limit the number of DVR units to register.

The program displays to up 256 live videos on one display and even playback videos window on the same or another display monitor.

On the program, user may control PTZF cameras on the DVRs. By attaching a microphone and speaker system to devices on site, user may make bi-directional audio communication over the network.

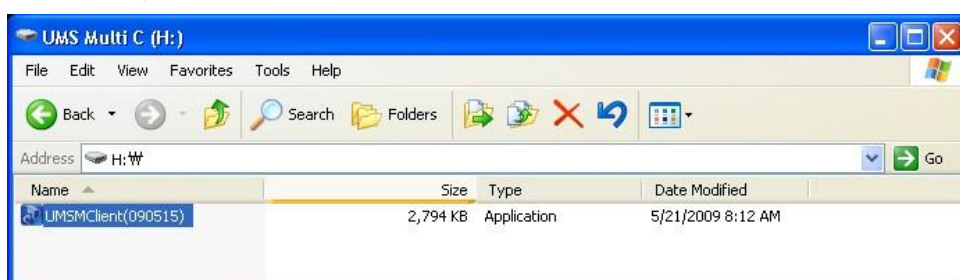
### 9-2. Minimum PC requirements

CPU	Intel PentiumIV
	2Ghz
Memory	512MB or Higher is recommended.
VGA	128MB or Higher is recommended.
Resolution	1024x768
Disk space	1GB
OS	Windows 2000, XP Professional, XP Home, Vista (Some versions of Vista has problem in installation. Please contact your vendor for more information.)
Network	10/100Base T
Others	Direct X 8.1 or Higher

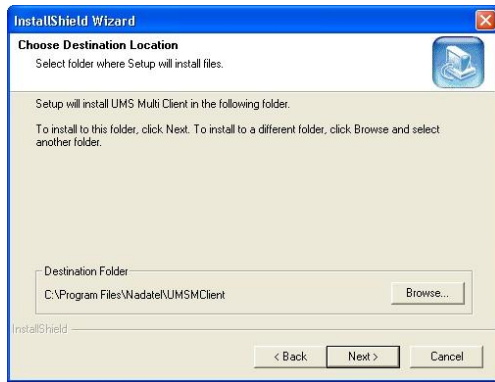
Before installing the program, check the PC specifications. The DVR remote software may not perform correctly if the PC does not meet the minimum requirements.

### 9-3. Installing the program

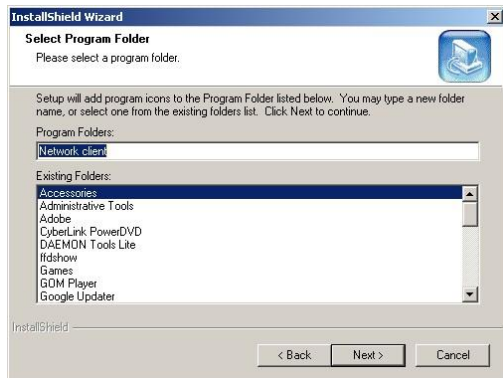
1. Insert the provided CD in the CD drive and double-click “UMSMultiClient (XXXX).exe”



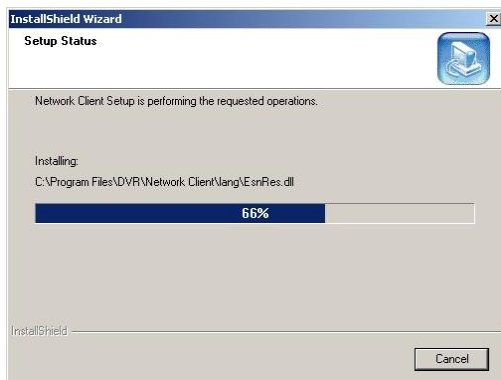
2. Select a destination folder and click “Next”.



3. Select the program folder and click “Next”.



4. The setup status screen is displayed.



5. After the installation is completed, “**UMS Multi Client**” icon displays on the desktop screen.

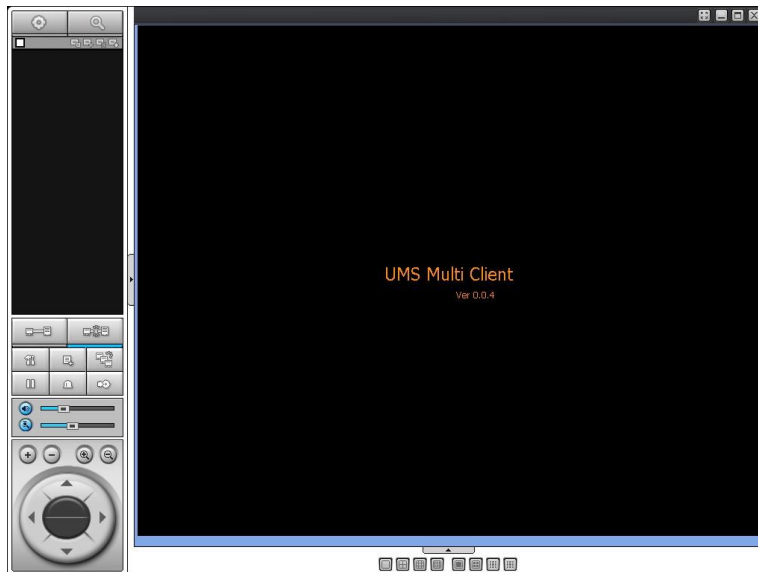


## 9-4. Live Window











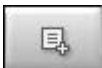

When installation is completed, double click the “**UMS Multi Client**” icon on your desktop to start the program.



















#### 9-4-1. Main user interface



#### 9-4-2. Control buttons

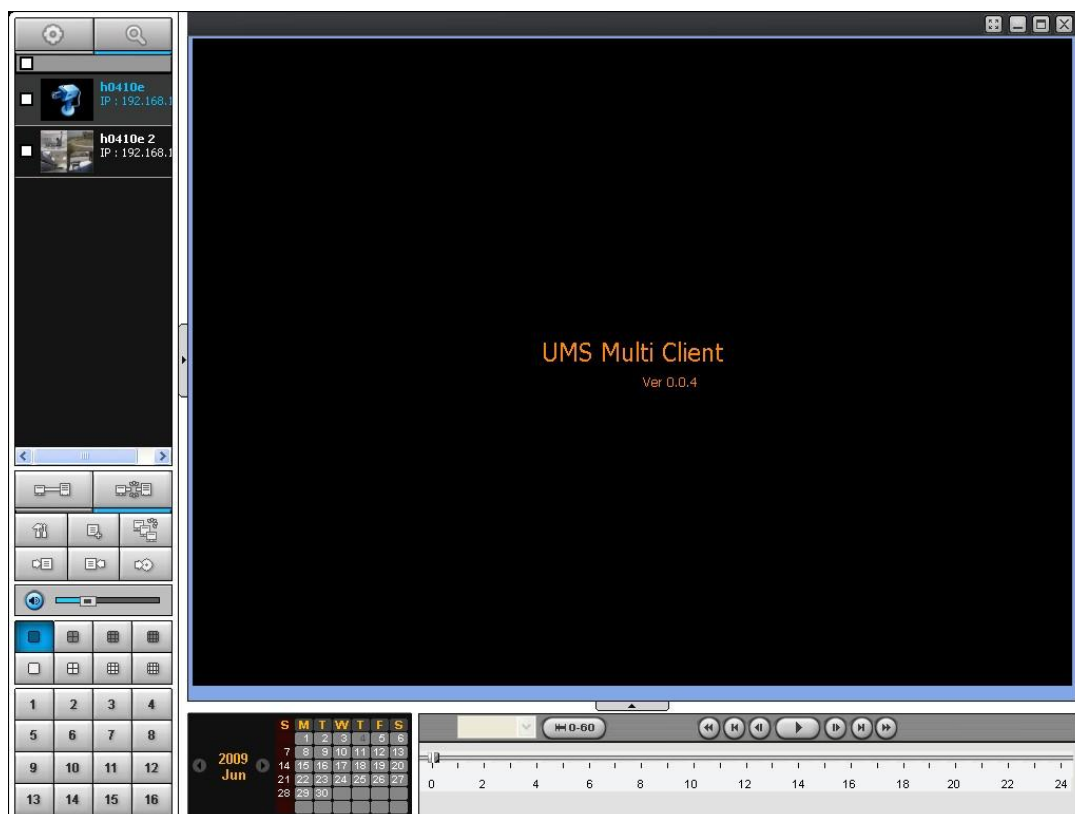
Button	Description
 LOCAL PLAYBACK	Click this icon to run a playback window to search and play videos that are recorded in local PC.
 REMOTE PLAYBACK	Click this icon to run a playback window to search and play videos that are recorded in remote DVR.
 SITE MANAGEMENT	 THUMBNAIL REFRESH: Click this icon to refresh and renew thumbnail image of every connected site.  SITE ADDITION: Click this icon to open 'Site Addition' window.  SITE DELETE: Click this icon to delete site from the index window, after disconnect a site.  NET FINDER: Select the site from the index window and click this icon to modify the information of specific site.
 CONNECT	Click this icon to connect the selected site/sites.
 DISCONNECT	Click this icon to disconnect the selected site/sites.
 SETUP	Click this icon to setup configuration of UMS MULTI CLIENT.
 CAPTURE	Click this icon to capture a still image
 EVENT LIST	

 PAUSE	Click this icon to play/pause live video.
 ALARM ON	
 RECORD ON	Enable or disable recording of live video to local disk which has set in setup menu.
 AUDIO	Use the volume control bar to set the audio level.
 MIC	Use the micro phone volume control bar to set the micro phone level.
	<p>User can control PAN/TILT &amp; ZOON/FOCUS.</p> <p>   PAN left /right             TILT up/down         </p> <p>   ZOOM in/out             FOCUS in/out         </p>
 CHANNEL SPLIT	To select the numbers of display channel/channels (Single, quad, 9 channels, and 16 channels) of highlighted site.
 DVR SITE SPLIT	To select the numbers of DVR/DVRs (1 DVR, 4 DVRs, 9 DVRs, 16 DVRs) on main display screen.



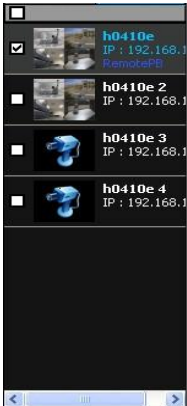


## 9-5. Search and Playback Window





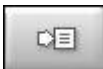







### 9-5-1. Main user interface


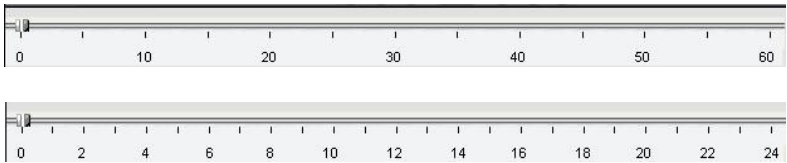

You can access to search window by clicking the search icon (Local Playback / Remote Playback) on the upper left of Live Window.




#### 9-5-2. Main control panel

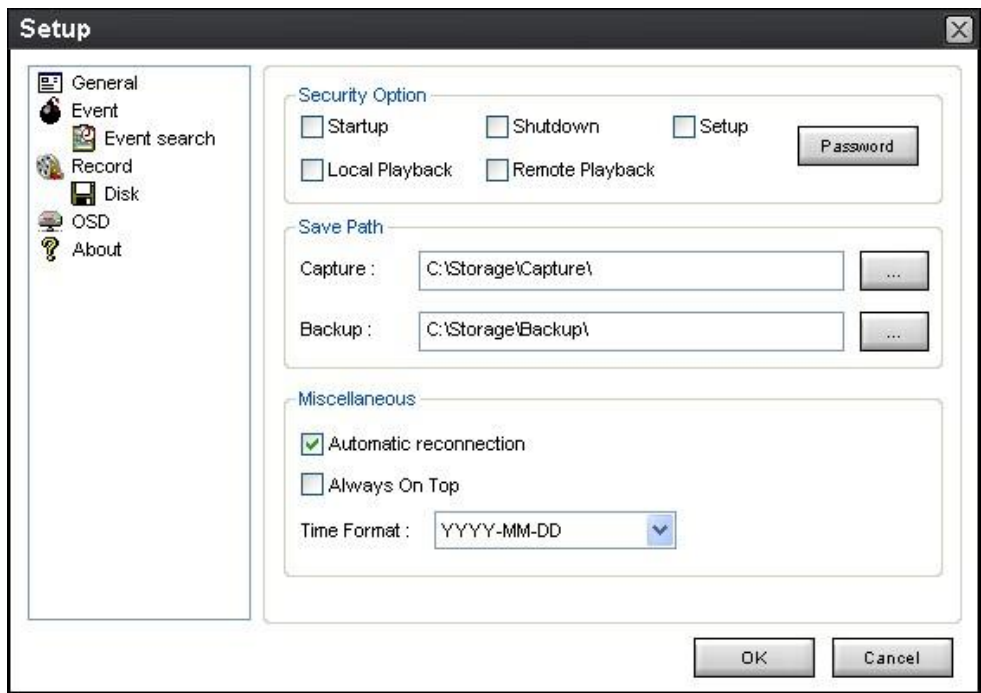
Button	Description
 LOCAL PLAYBACK	Click this icon to run a playback window to search and play videos that are recorded in local PC.
 REMOTE PLAYBACK	Click this icon to run a playback window to search and play videos that are recorded in remote DVR.
	Directory window shows site/sites that are pre-registered.
 CONNECT	Click this icon to connect the selected site/sites.
 DISCONNECT	Click this icon to disconnect the selected site/sites.

 <b>SETUP</b>	Click this icon to setup configuration of UMS MULTI CLIENT.
 <b>CAPTURE</b>	Click this icon to capture a still image.
 <b>EVENT LIST</b>	
 <b>MARK IN</b>	Click this icon to set the beginning time for backup of the recorded video in AVI format.
 <b>MARK OUT</b>	Click this icon to set the ending time for backup of the recorded video in AVI format.
 <b>BACKUP</b>	Click this icon to backup the recorded video in AVI format.
 <b>AUDIO</b>	Use the volume control bar to set the audio level.
 <b>DVR SITE SPLIT</b>	To select the numbers of DVR/DVRs (1 DVR, 4 DVRs, 9 DVRs, 16 DVRs) on main display screen.
 <b>CHANNEL SPLIT</b>	To select the numbers of display channel/channels (Single, quad, 9 channels, and 16 channels) of highlighted site.
	To select the channel to playback.
	The calendar shows dates with recorded video in color.
	To display the recorded data of selected channel or all channels on a time line scale.

	<p>To change a time line scale from 24 hours to 60 minutes or vise versa.</p>  <p>The timeline shows recorded data in color on the bar. You can adjust the time line scale and move it to the time you wish to playback. Then click the play icon to display the recorded video.</p>
	<p>Playback buttons.</p>

## 9-6. Setup of UMS Multi Client

Click the setup icon  to setup the configuration of UMS Multi Client software. The Setup window displays.



### 9-6-1. General

#### 9-6-1-1. Security Option: Set a password for security options.

Select security options and set a password.

Then when you access any of selected functions, you need to enter the password.

You can also set the save path for capturing and backup.

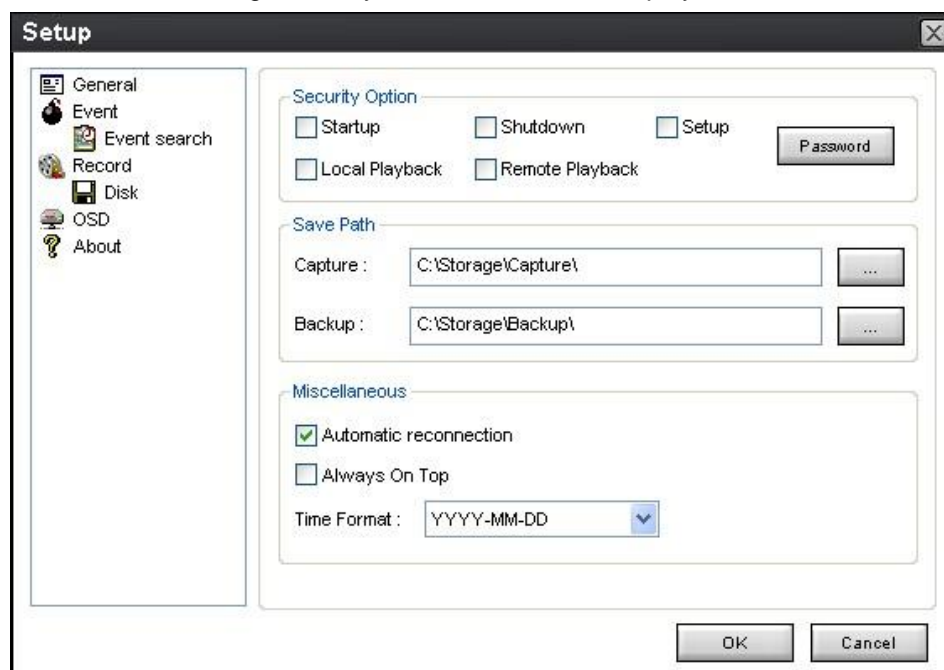
#### 9-6-1-2. Save Path: Specify the location to save captured still image for Capture and Backup data.

#### 9-6-1-3. Miscellaneous

**Automatic reconnection:** If a user selects this function, client S/W will automatically try to connect the finally connected IP address, after the network is disconnected.

**Always On Top:** If a user selects this function, client S/W will display continuously at the very front than other software on the PC.

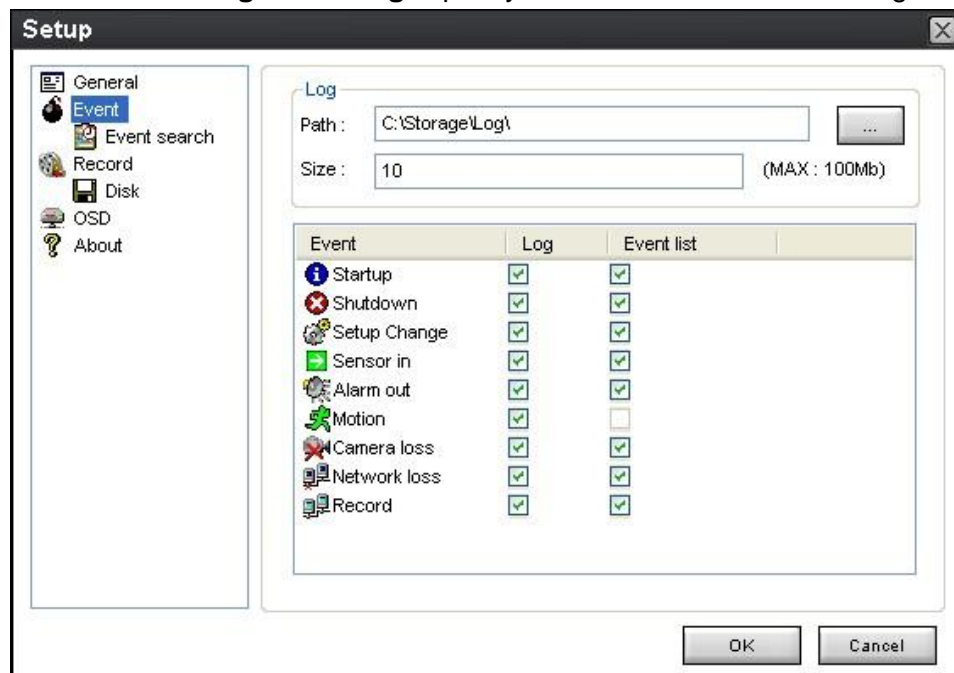
**Time Format:** Change the way the Client software displays the time.



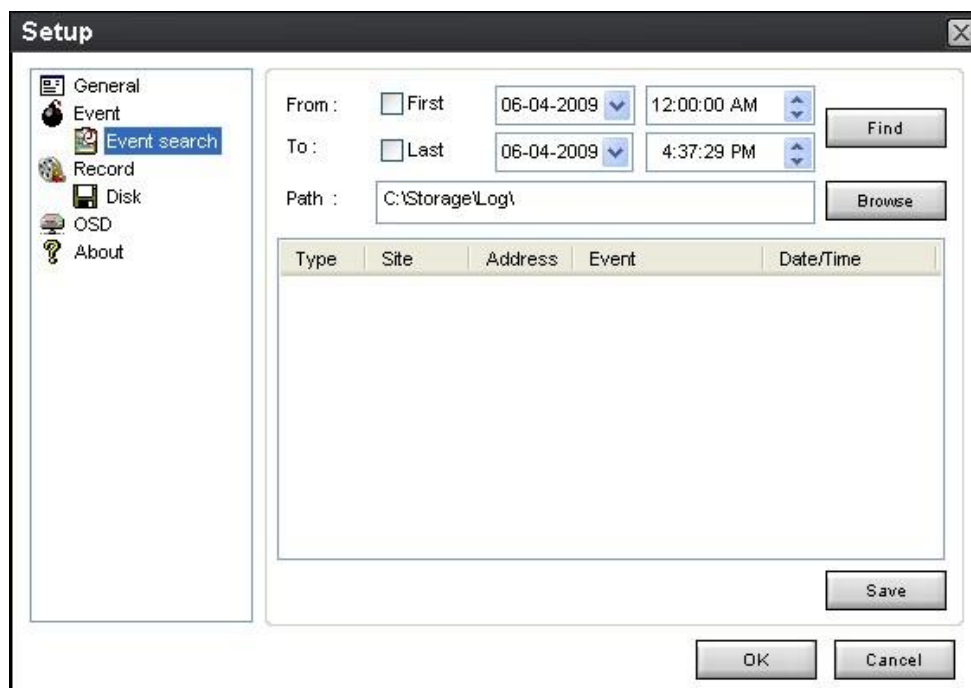
## 9-6-2. Event

Event log can be archived and searched.

### 9-6-2-1. Archiving Event Log: Specify the location to save event logs and select event to archive.



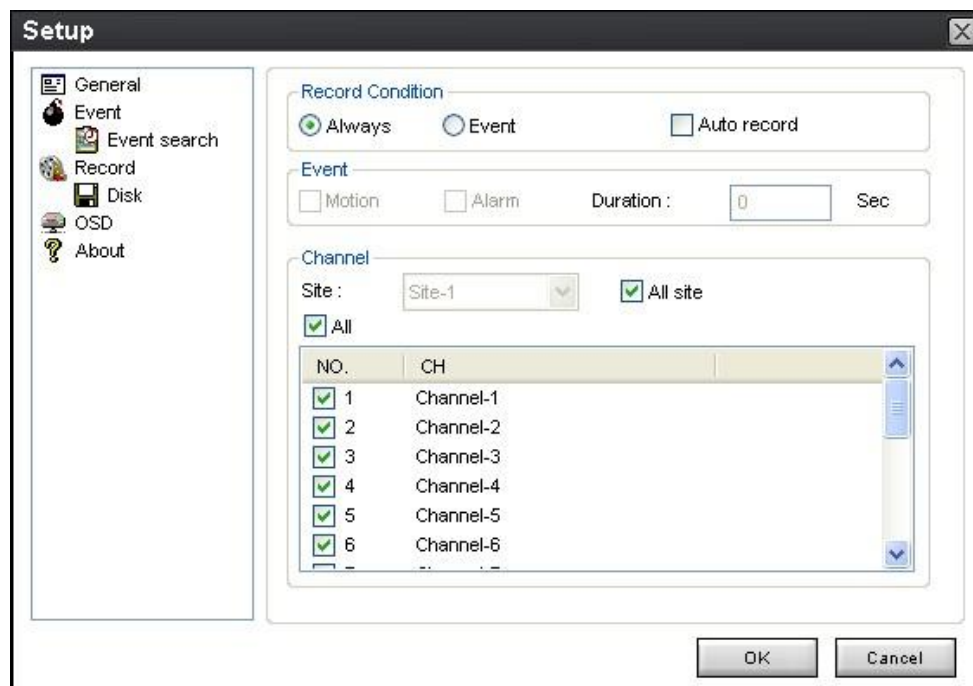
### 9-6-2-2. Archiving Event Log: Event log can be searched from selected time.



### 9-6-3. Record

**9-6-3-1. Record setup:** You can set the recording conditions for Always, Event, or Auto record. And you can also select target DVR/DVRs and channel/channels.

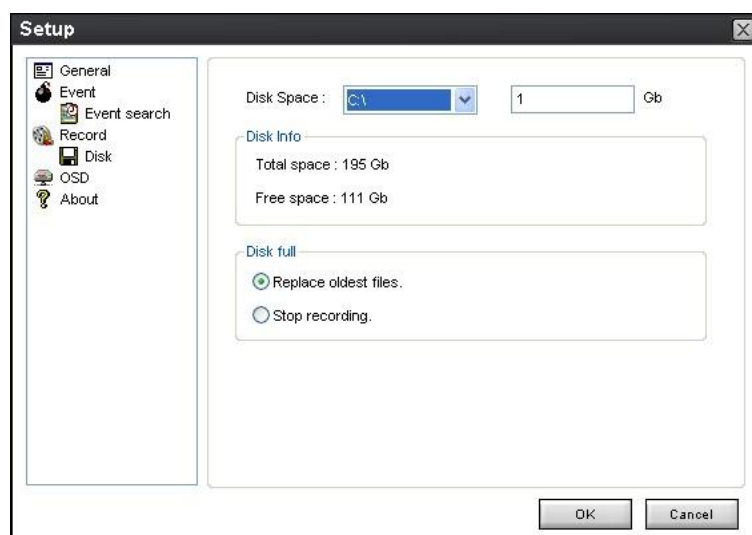
When you set the recording condition to event, you can set event for motion or alarm with duration.



**9-6-3-2. Record local storage setup:** You can select the local disk to use and the amount of disk space you want to allow the program to use for recording. You can also select the option to overwrite data or stop

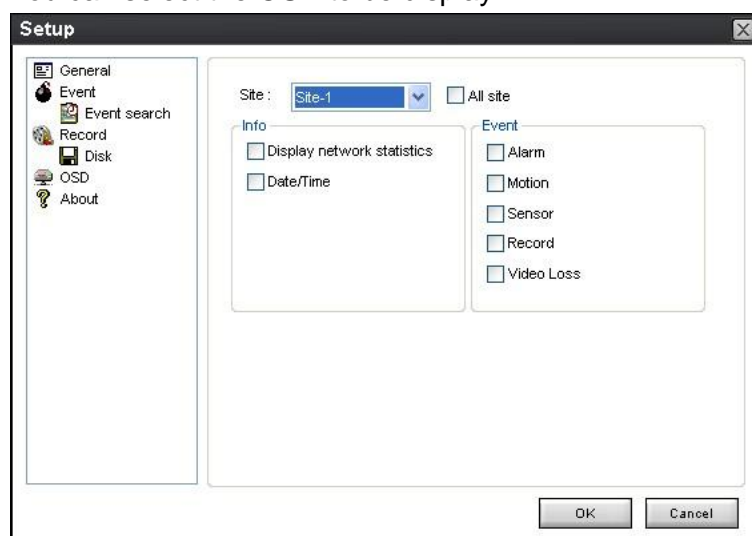


recording when the maximum amount of disk space is full.



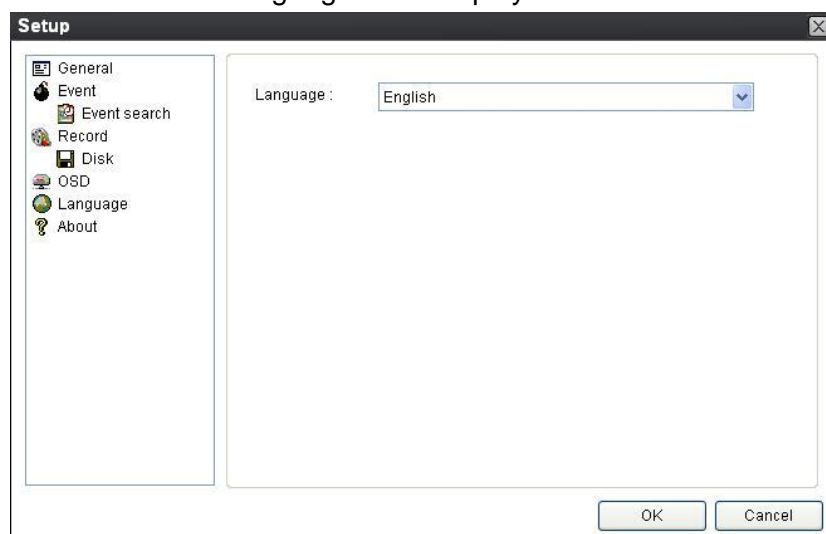
#### 9-6-4. OSD

You can select the OSD to be display



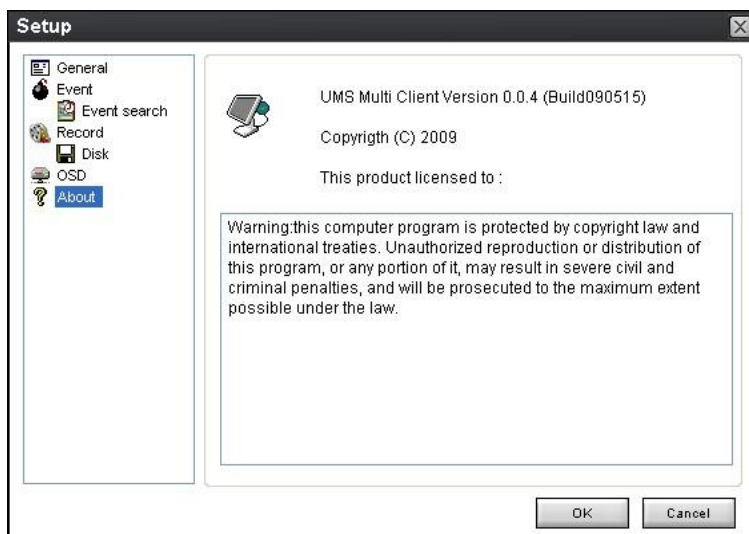
#### 9-6-5. Language

You can select a language to be display.



### 9-6-6. About

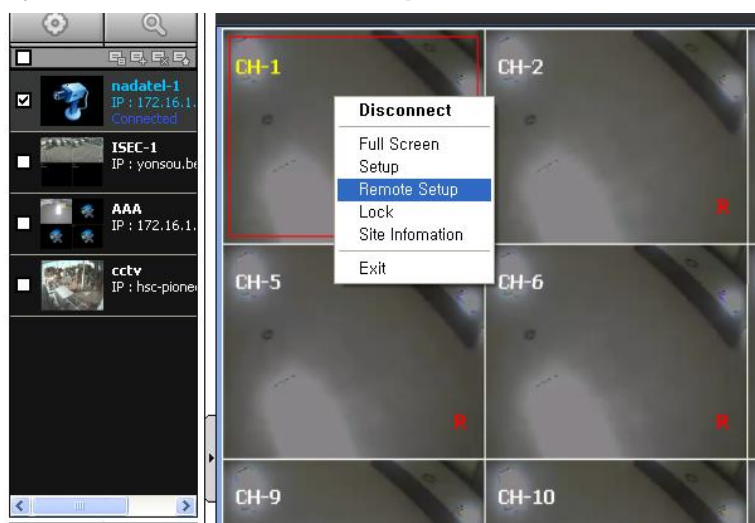
“About” provides network client version information.



### 9-7. Remote Setup

The menu settings for the DVR unit can be set from a PC, via network.

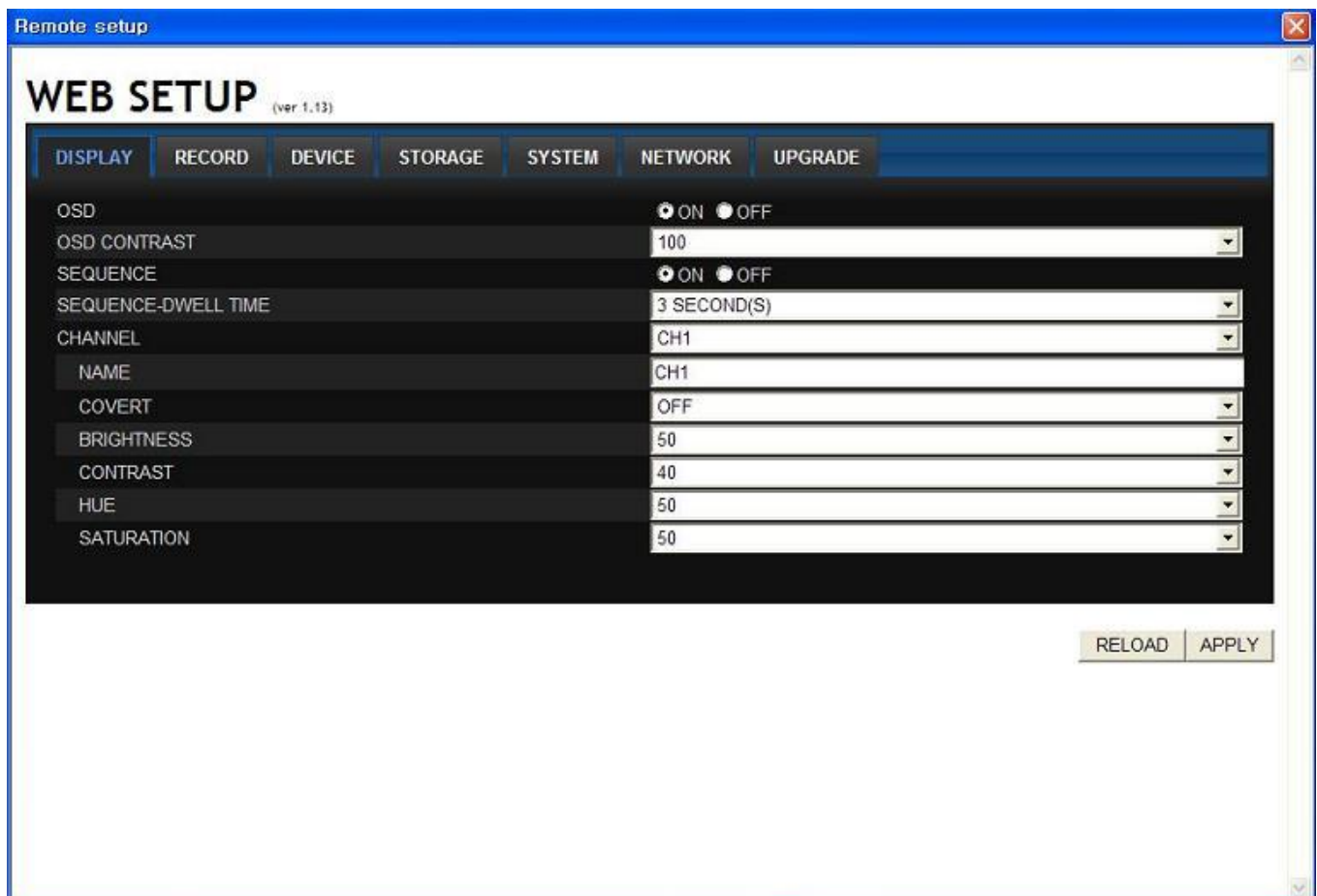
Put the cursor of the mouse on the channel which is connected to the site and press the right. Then the following window is displayed. Select the **Remote Setup**.



Then the setup window is displayed as follows to check the password for admin. Just admin is possible to connect to the remote setup menu. The specified menu screen is displayed on the upper side of the screen. Setting is basically the same as with the DVR menu setting.



### 9-7-1. Display



User can set the value on this remote setup page. After setting the value, please press the APPLY button. Then the value would be applied to the system without the system rebooting. RELOAD button is used when user want to bring the value in the system.

## 9-7-2. RECORD

Remote setup

### WEB SETUP (ver.1.13)

DISPLAY RECORD **DEVICE** STORAGE SYSTEM NETWORK UPGRADE

CHANNEL	CH1
RESOLUTION	D1
FRAME RATE	30 FPS
QUALITY	LEVEL 5(H)
RECORDING	CONTINUOUS
SENSOR RECORDING	- - - -
PRE RECORD	1 MINUTE(S)
POST EVENT RECORD	10 SECOND(S)
AUDIO	<input checked="" type="radio"/> ON <input type="radio"/> OFF

RELOAD APPLY

## 9-7-3. DEVICE

Remote setup

### WEB SETUP (ver.1.13)

DISPLAY RECORD **DEVICE** STORAGE SYSTEM NETWORK UPGRADE

ALARM-OUT	1
SENSOR IN	- - - -
MOTION ON	- - - -
VIDEO LOSS ON	- - - -
ALARM DURATION	5
ERROR ALARM	OFF
PTZ	
CHANNEL	CH1
CAMERA	----
SPEED	9600
ID	0
MOTION	
CHANNEL	CH1
MOTION ZONE	FULL ZONE
MOTION SENSITIVITY	9
KEY TONE	<input checked="" type="radio"/> ON <input type="radio"/> OFF
REMOTE CONTROLLER ID	0
SENSOR	1
TYPE	OFF

RELOAD APPLY

#### 9-7-4. STORAGE

Remote setup

## WEB SETUP (ver 1.13)

DISPLAY RECORD DEVICE **STORAGE** SYSTEM NETWORK UPGRADE

OVERWRITE	<input checked="" type="radio"/> ON <input type="radio"/> OFF
RECORDING LIMIT	OFF
RECORDING LIMIT DAYS	30 DAY(S)
SMART	
TEMPERATURE LIMIT	45°C 113°F
ALARM	<input checked="" type="radio"/> ON <input type="radio"/> OFF
BUZZER	<input checked="" type="radio"/> ON <input type="radio"/> OFF

RELOAD APPLY

#### 9-7-5. SYSTEM

Remote setup

## WEB SETUP (ver 1.13)

DISPLAY RECORD DEVICE STORAGE **SYSTEM** NETWORK UPGRADE

DVR-ID	DVR
DATE FORMAT	YYYY/MM/DD
CLIENT ACCESS	<input checked="" type="radio"/> ON <input type="radio"/> OFF
NTP	OFF
PRIMARY SNTP SERVER	kr.pool.ntp.org
SECONDARY SNTP SERVER	time.kriss.re.kr
TIME ZONE	GMT +9:00 (Seoul/Tokyo)
CONNECTION MODE	TIME
CONNECTION PERIOD	3
SEND EMAIL	OFF
TRANSMISSION MODE	IMAGE
IP NOTIFICATION	OFF
EVENT ALARM	OFF
SMART	OFF
MAIL TO	Unspecified
MAIL SERVER	Unspecified
ID	Unspecified
PASSWORD	*****
MAIL FROM	Unspecified

## 9-7-6. NETWORK

Remote setup

### WEB SETUP (ver 1.13)

DISPLAY	RECORD	DEVICE	STORAGE	SYSTEM	NETWORK	UPGRADE
PORT	5445					
WEBPORT	80					
NETWORK TYPE	STATIC					
IP	172.16.5.129					
SUBNET MASK	255.255.0.0					
GATEWAY	172.16.1.254					
1st DNS	168.126.63.1					
2nd DNS	168.126.63.2					
DDNS	OFF					
DDNS SERVER1 NAME	bestddns.com					
DDNS SERVER1 INTERVAL	60 MINUTE(S)					
DDNS SERVER2 NAME	Unspecified					
DDNS SERVER2 ID	Unspecified					
DDNS SERVER2 PASSWORD	*****					
DDNS SERVER2 INTERVAL	60 MINUTE(S)					
NETWORK STREAM	CH1					
RESOLUTION	CIF					
FRAME RATE	30 FPS					
QUALITY	LEVEL 5(H)					

skype

## 9-7-7. UPGRADE

Remote setup

### WEB SETUP (ver 1.13)

DISPLAY	RECORD	DEVICE	STORAGE	SYSTEM	NETWORK	UPGRADE
Current S/W Version : Ver 3.1.4 (11:17 04/19/2011)						
<input type="text"/>						찾아보기...
						UPGRADE
						RELOAD APPLY

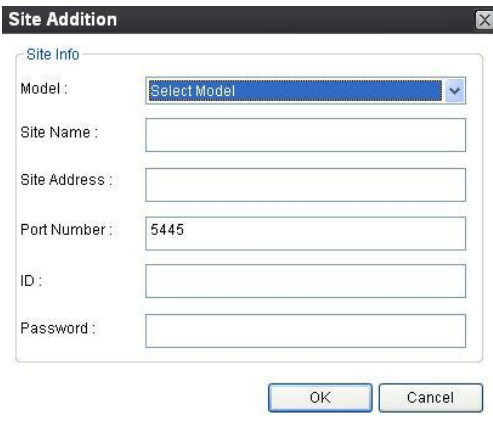
Please refer to page 54 for the Remote Upgrade.

## 9-8. Operation

### 9-8-1. Addition, Delete, and modify of DVR sites

#### 9-8-1-1. Addition of sites

1. Click  SITE ADDITION button. And then the following window displays.



The 'Site Addition' dialog box contains the following fields:

- Model: A dropdown menu with 'Select Model' as the current selection.
- Site Name: A text input field.
- Site Address: A text input field.
- Port Number: A text input field with '5445' entered.
- ID: A text input field.
- Password: A text input field.

At the bottom are 'OK' and 'Cancel' buttons.

- Model: User has to select surely a suitable type.  
SDVR series, H series DVR  
N series DVR, HD DVR  
IP Camera
- Site Name: Input a name that properly describes a site.
- IP Address: Input IP address (Public IP address of a router that DVR is connected.) or Domain name that is registered at [www.okddns.com](http://www.okddns.com) (for Korea), [www.ddnscenter.com](http://www.ddnscenter.com) (for USA) or [www.bestddns.com](http://www.bestddns.com) (for other area including EU)
- Port No.: Input port number of DVR.
- ID: Input ID of DVR.
- Password: Input network password of DVR.

2. Click OK button. And then the registered site is added on the directory window.




#### 9-8-1-2. Delete of sites

1. Select the site/sites to delete from the directory window.






2. Click  SITE DELETE button. And then the selected site/sites is/are deleted.

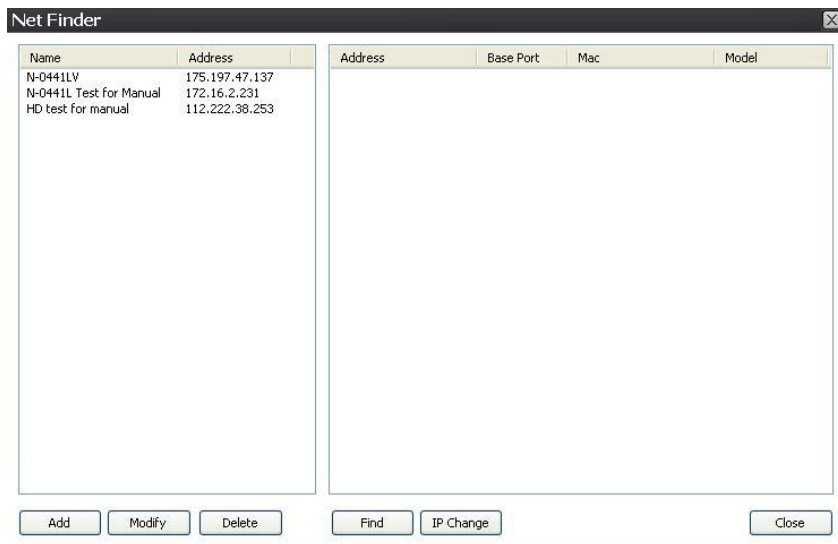


### 9-8-1-3. Modify of sites

1. Select the site/sites to modify from the directory window.



2. Click  NET FINDER button. And then the following window displays.



3. Click MODIFY button. And then the modified information is applied.

**Site Info**

Model : N series DVR, HD DVR

Site Name : N-0441LV

Site Address : 175.197.47.137

Port Number : 2445

ID : admin

Password : \*\*\*\*

**Channels**

Channels : 4 CH

Ch No.	Name
1	CH-1
2	CH-2
3	CH-3
4	CH-4


Buttons: OK, Cancel

## 9-8-2. Connect and Disconnect

### 9-8-2-1. Connect

1. Select site/sites to connect from the directory window.




2. Click  CONNECT button, and then site/sites displays/display as connected.



### 9-8-2-2. Disconnect

1. Select site/sites to disconnect from the directory window.



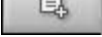
2. Click  DISCONNECT button, and then selected site/sites disconnected.

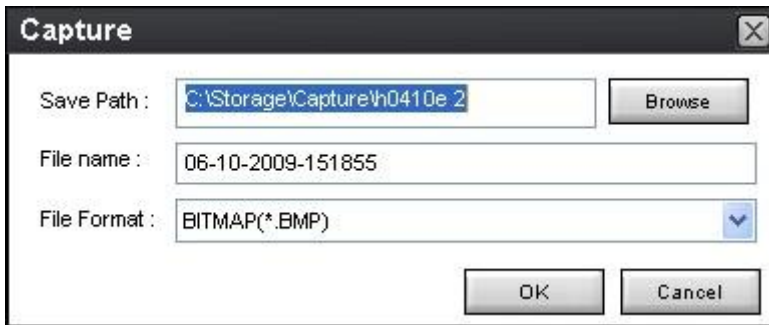


### 9-8-3. Still-image capture during Live

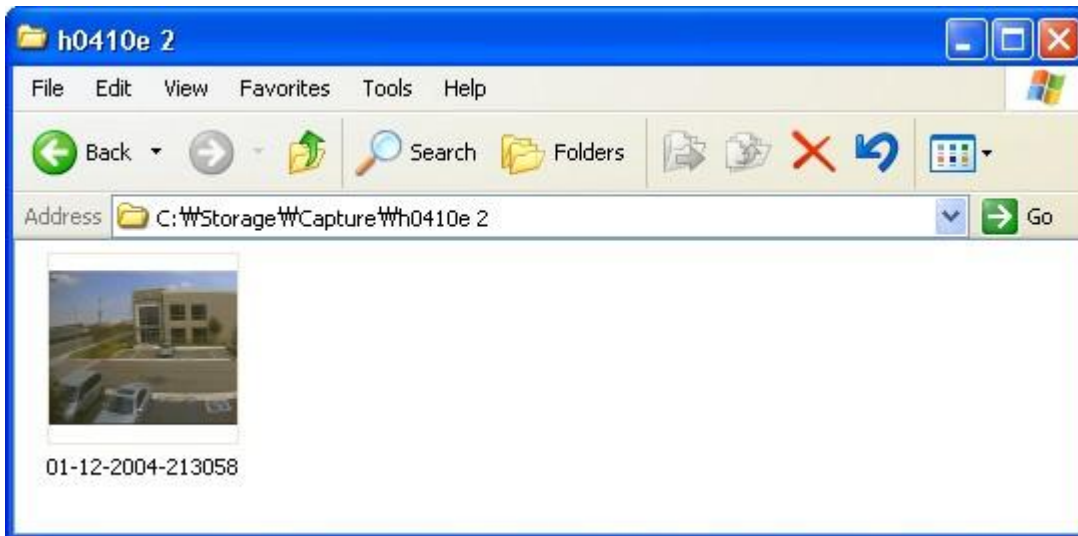
1. Double-click a channel to capture from the display screen. (Otherwise all channels will be captured.).




2. Click  CAPTURE button. And then a Capture window displays.

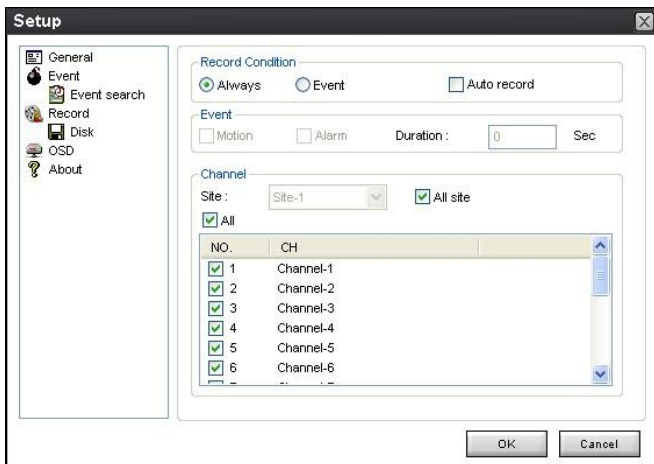


3. Set Save path, File Name, and File Format. And then click OK button.  
4. Still image is saved as set in Capture window.

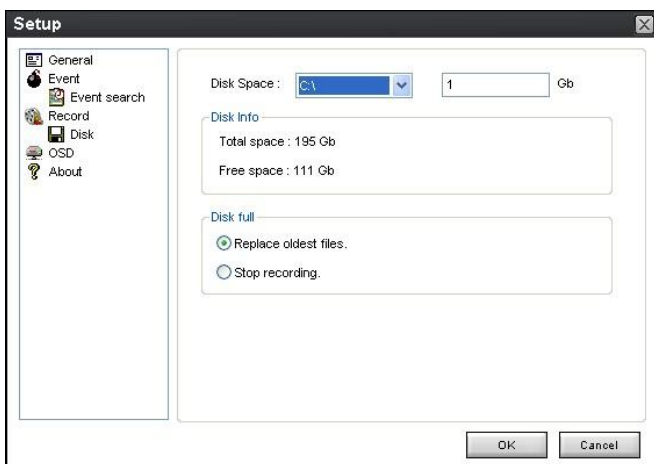


#### 9-8-4. Recording video on local PC during Live

1. Click  SETUP button. And then a setup window display.  
2. Select Record and set the values.

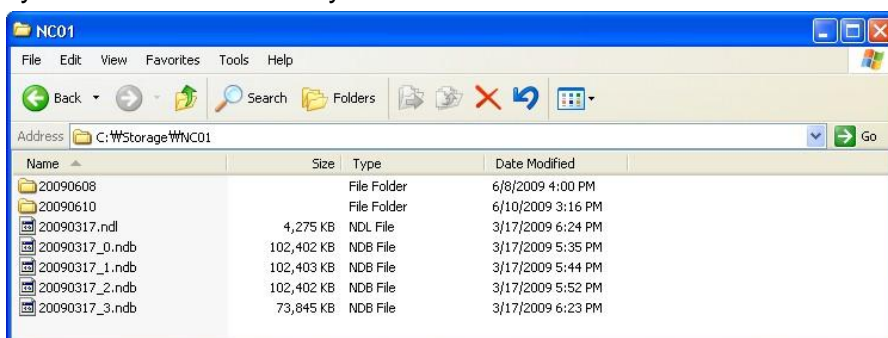


3. Select Disk and set the values.




4. Click  RECORD ON button. And the color of button is changed.

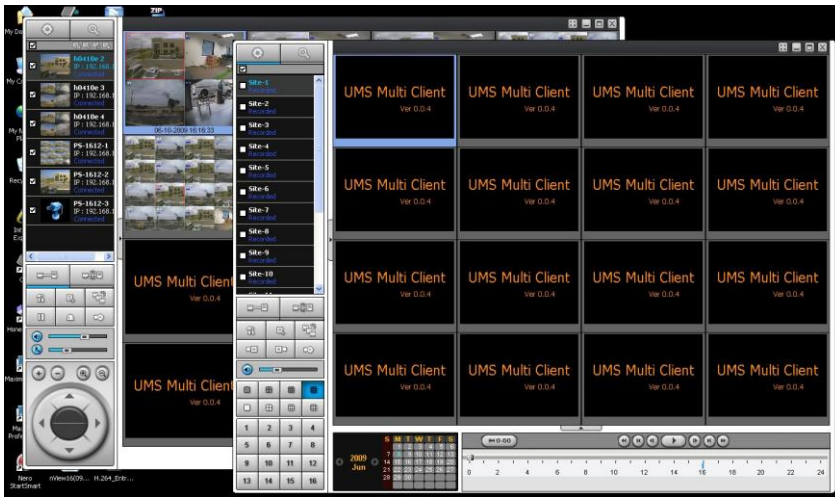
5. Live video data is recorded as set in Record and Disk setup. These video data can be searched and play-backed with Local Playback.




## 9-8-5. Local Playback and Remote Playback

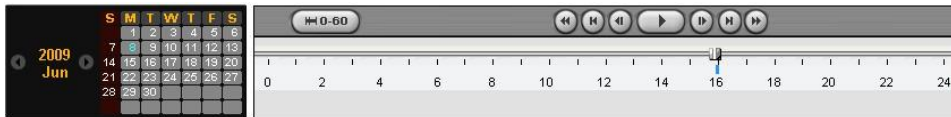
### 9-8-5-1. Playback of recorded video on local PC

1. Click  LOCAL PLAYBACK button. And then Playback Window display over Live Window.



2. Select site/sites to connect from the directory window.

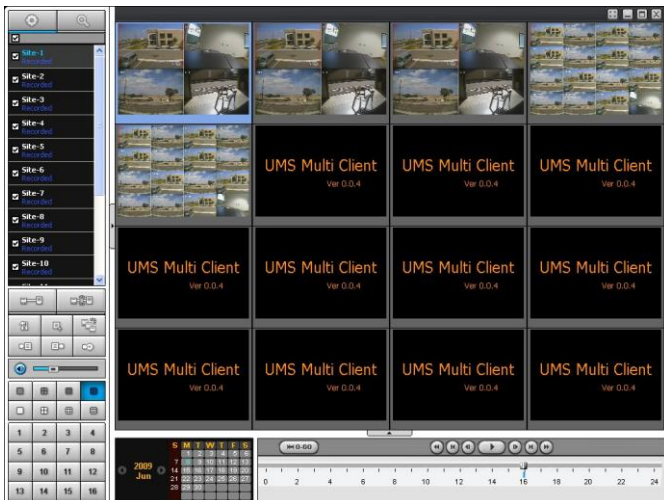
3. Click  CONNECT button. And then Green bar displays on Search calendar and slide window.




4. Move scroll bar on where there is video data and Play button.



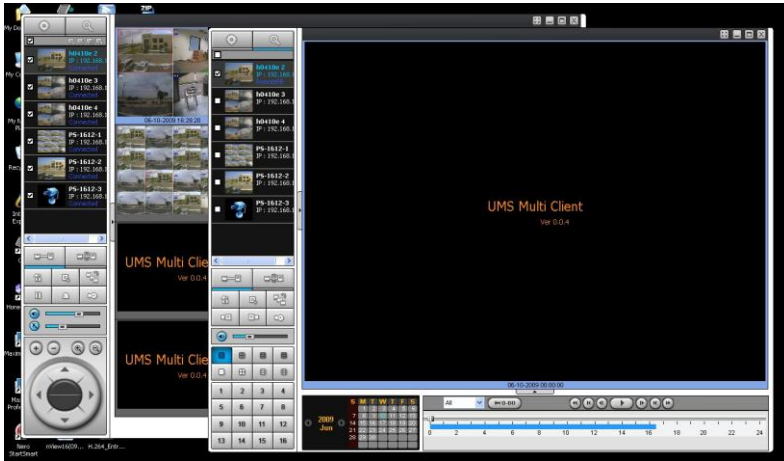
5. Video data that is recorded on local PC will be play-backed.



## 9-8-5-2. Playback of recorded video on remote DVR

1. Click  REMOTE PLAYBACK button. And then Playback Window display over Live Window.





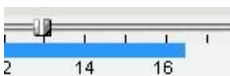
2. Select site to connect from the directory window.



3. Click **CONNECT** button. And then Green bar displays on Search calendar and slide window.



4. Move scroll bar on where there is video data and Play button.



5. Video data that is recorded on a remote DVR is play-backed.

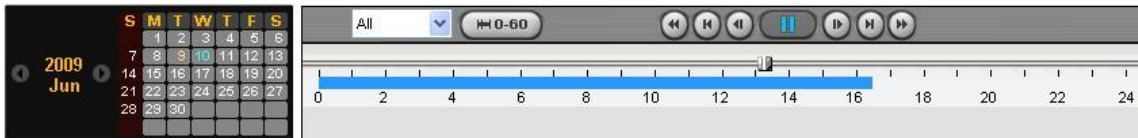



## 9-8-6. AVI Backup during playback

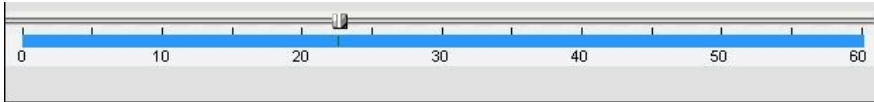
You can back up the recorded videos in AVI format during playback.




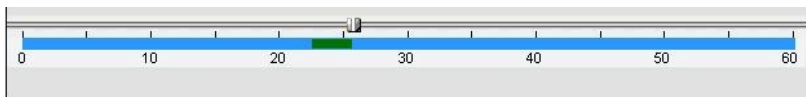
1. Double-click the target channel to backup.
2. Select the beginning time by using the search calendar and slide bar.




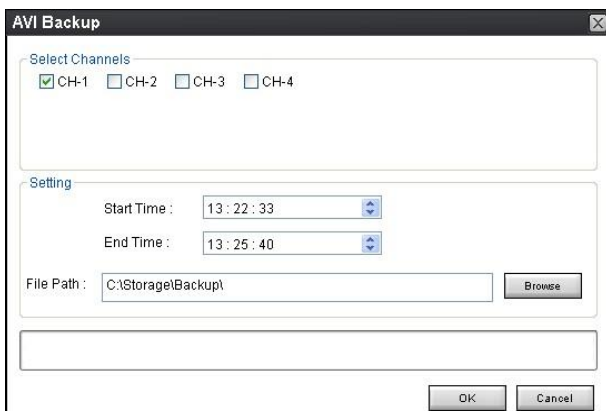
3. Click  MARK IN button, when the scale of the timeline is located on the target time as the beginning time of backup.



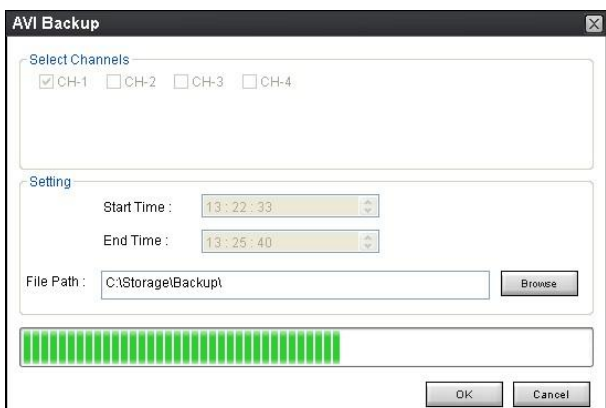
4. Set the ending time on the blue timeline by dragging the scale on the target time as the ending time of backup and clicking  MARK OUT button. Then, color of the timeline between the beginning time and ending time will be changed into dark Green.



5. Click  BACKUP. And then the window appears as below.



6. You can also set the beginning time and ending time on this window. After selecting a channel for backup, click the OK button. The backup will begin.



7. AVI video data is recorded as set in AVI Backup window. AVI format video can be played back by Window Media Player™ or other media player that is compatible with AVI format video.



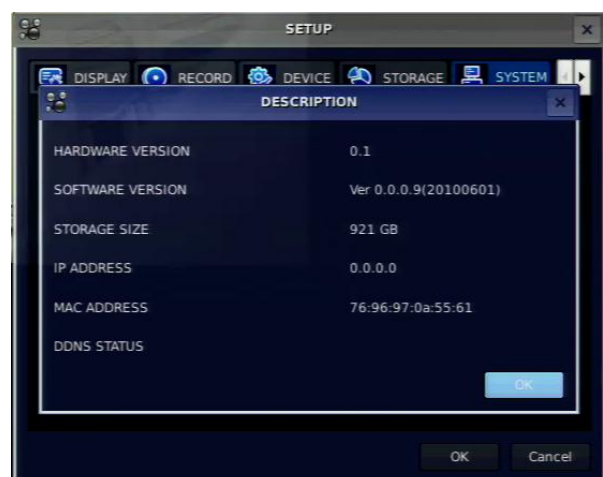
### Notice

When it does a backup with NSF format, user can do a playback using the DVR player. The DVR player is installed with the S/W in user's PC.

## 10. Network – By an web-browser viewer

The DVR provides a live remote monitoring feature by web-browser viewer.

1. Check the IP address of the DVR from SETUP>SYSTEM>DESCRIPTION>IP ADDRESS.



2. Input the IP address or Domain name address that you pre-registered on [www.bestddns.com](http://www.bestddns.com) on the address field and press “Go”. Please pre-register on [www.okddns.com](http://www.okddns.com) in Korea and on [www.ddnscenter.com](http://www.ddnscenter.com) in USA.



3. Click this bar. Then the dialog box is displayed.



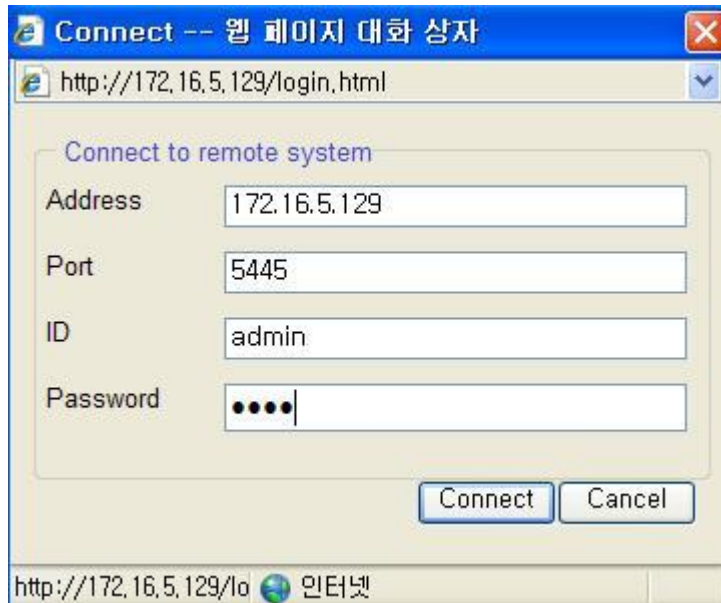
4. Click "Install" to download ActiveX control.



5. Web Browser Viewer is displayed as bellow.

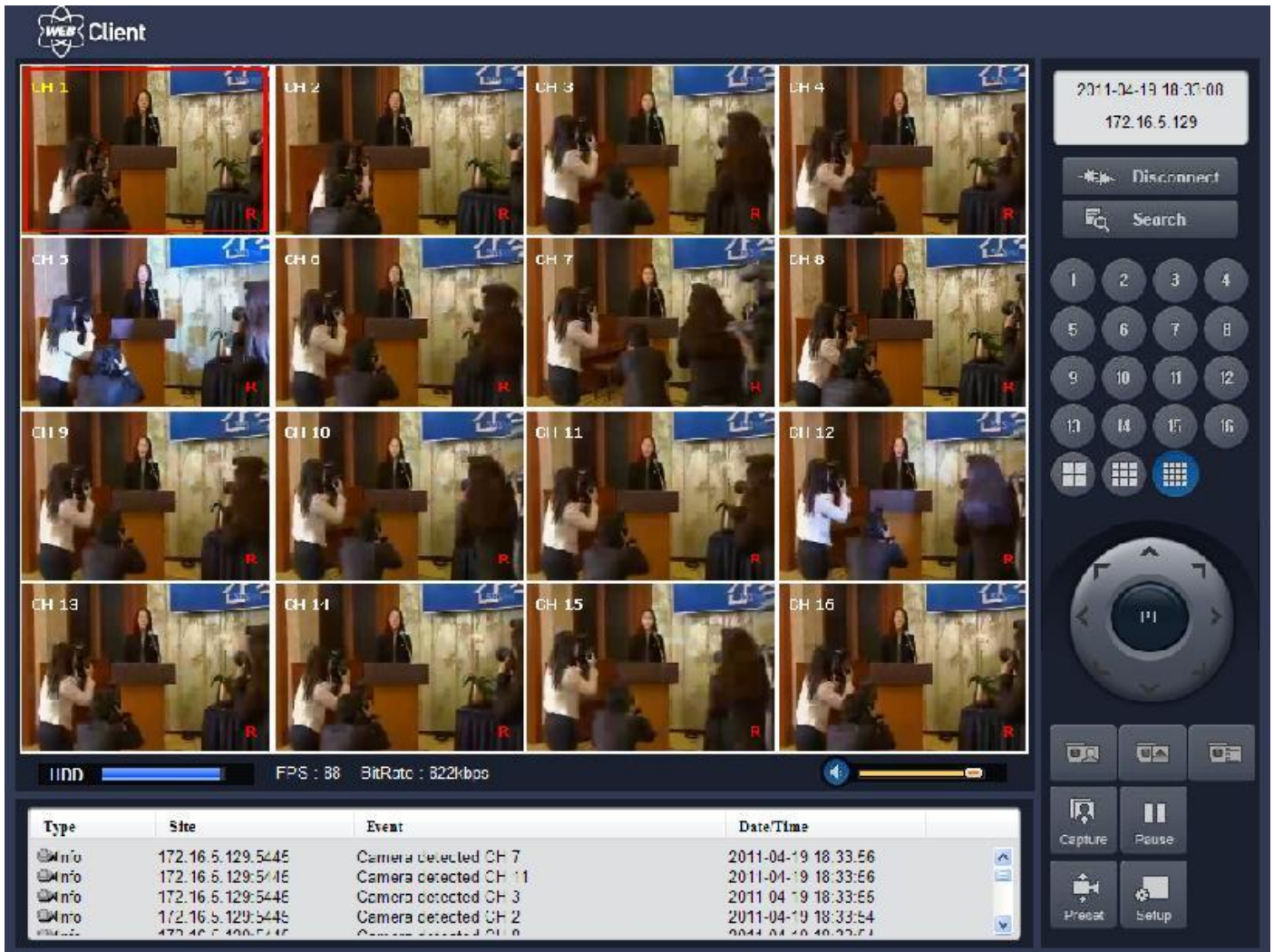


6. Click CONNECT button on the Left upper corner of web-viewer. Then “Connect” dialog is displayed. Enter IP address (or Domain name address that you pre-registered on [www.bestddns.com](http://www.bestddns.com), [www.okddns.com](http://www.okddns.com) or [www.ddnscenter.com](http://www.ddnscenter.com), Port number and Password and click “Connect”



- Server address: Input IP address of the DVR from SETUP>SYSTEM>DESCRIPTION>IP ADDRESS or Domain name address that you pre-registered on [www.bestddns.com](http://www.bestddns.com), [www.okddns.com](http://www.okddns.com) or [www.ddnscenter.com](http://www.ddnscenter.com),
- Port: Input Port number (The number is set on SETUP>NETWORK>PORT.)
- ID: Input ID of DVR.
- Password: Input network password of DVR.  
(The number is set on SETUP>SYSTEM>NETWORK PASSWORD.)

7. Then the cameras connected to the DVR are displayed on the screen.



8. SETUP: The menu settings for the DVR unit can be set from a PC, via network. Refer to the detail of Remote Setup description of UMS Multi Client. Please check the detail to the page 77, Remote Setup.

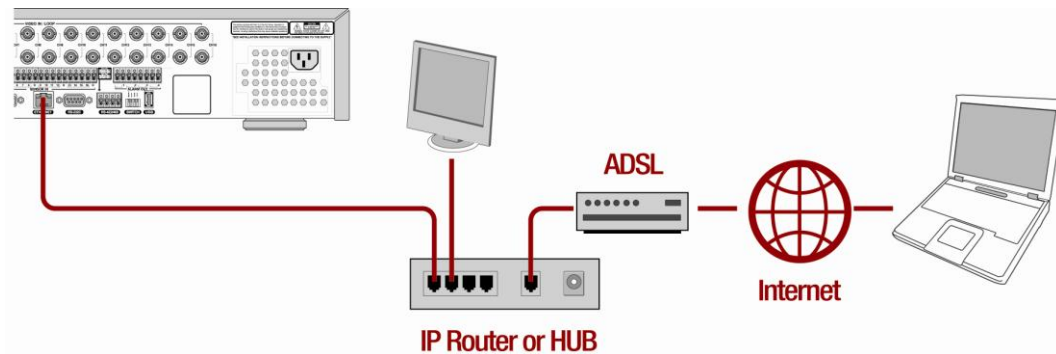


## APPENDIX: How to connect network

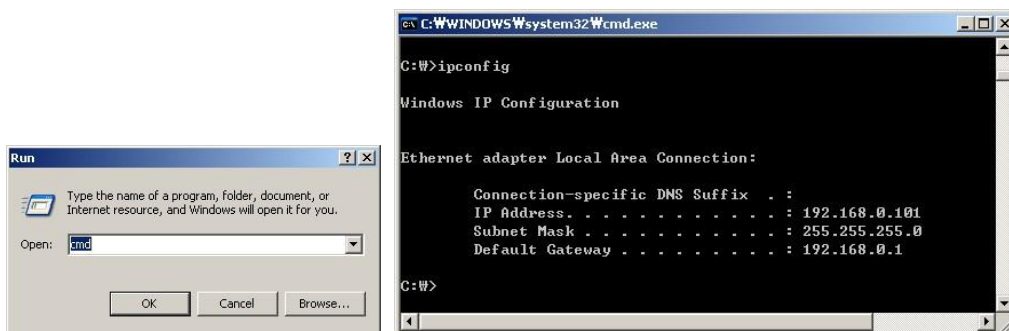
### A. How to set IP address of the DVR and open TCP port of the router?

The port forwarding is dependent on the brand and model of the router. The port forwarding is required to allow access to the DVR beyond a router.

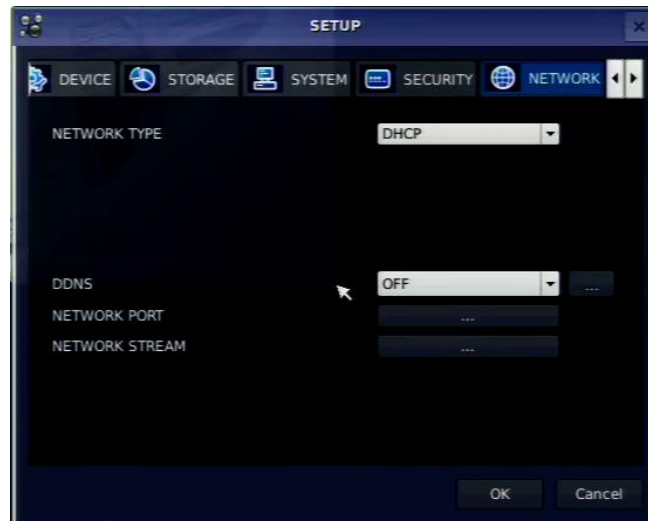
**Connect network cable between DVR and Router or ADSL modem.**



1. Default network setting on DVR are
  - Port: 5445
  - WEB Port : 80
  - Network : DHCP
2. From PC connected in the same Router, find IP address, Gateway, and Subnet mask by IPCONFIG command in command prompt.



3. But if IP is something else like 192.168.x.xxx., you should change IP address, Subnet, Gateway on the DVR. Go to SETUP>NETWORK>LAN of the DVR and change the IP settings to be like IP: 192.168.XXX.XXX and Gateway: 192.168.XXX.XXX. (Refer to the user's manual of Router.)



Open your web browser. Enter the router IP address in the address bar (The router IP address are different with the brand and model.), click GO.



4. Enter the user name and password (**admin** is default) and press the **OK** button.

User name:

Password:

☐ Remember my password

OK Cancel

5. Select the Port Range Forwarding tab.



Port Range					
Application	Start	End	Protocol	IP Address	Enable
<input type="text"/>	554	to 554	Both	192.168.1.1	<input checked="" type="checkbox"/>

6. Enter the each field.
  - i. Application: Enter a description of the DVR (Example: store1)
  - ii. Start: Enter the first number of the port you need to port forward (Example: 5445)
  - iii. End: Enter the last number of the port you need to port forward (Example: 5445)
  - iv. Protocol: Select Both.
  - v. IP address: Enter the IP address of the DVR on SETUP>NETWORK>LAN>IP ADDRESS.
  - vi. Enable: Check the enable box.



7. Select the Save settings button located on the bottom of the window. Then Port forwarding is finished.

Save Settings

Cancel Changes

### Network access beyond a router

In order to access the DVR remotely beyond a router (firewall), the user must open TCP port for command level, live channels and storage channels. User need to open 2ports numbers on the router; the DVR port number 5445 and the WEB port number 80.

If this port is not opened properly, user can not access DVR beyond a router.

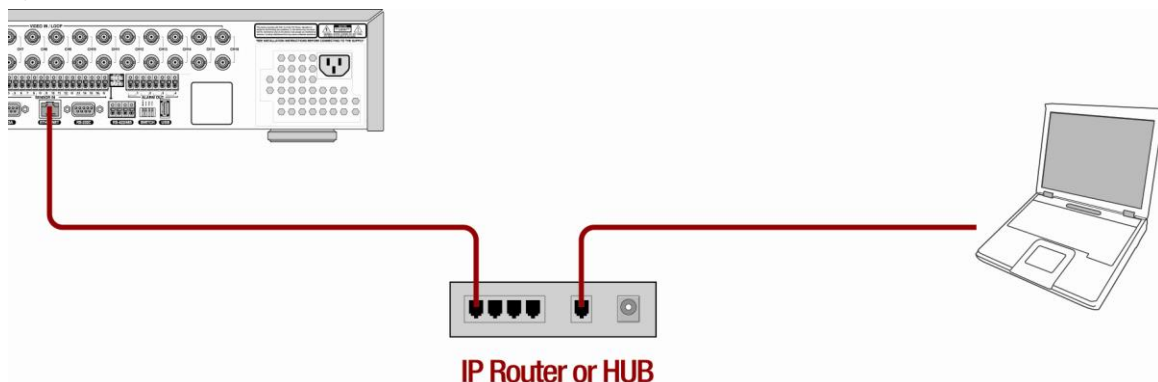
You can learn how to port forward many kinds of Routers from the bellow site.


[http://www.portforward.com/english/routers/port\\_forwarding/routerindex.htm](http://www.portforward.com/english/routers/port_forwarding/routerindex.htm)

## B. How to access DVR from Remote PC?

### LAN Connection – Using a switching hub

Connect to the system, using a hub (Switching hub) and an Ethernet cable (10BASE-T/100BASE-TX CAT 5 LAN cable)



1. Run the pre-install the network client software on the supplied CD. (Refer to Chapter 6. Network access using the Exclusive network viewer)
2. Check the IP address from SETUP>SYSTEM>DESCRIPTION of DVR.
3. Run network client software and click  button.

The screenshot shows a "Site Addition" dialog box with a "Site Info" tab. It contains the following fields:

- Model: A dropdown menu with "Select Model" as the current selection.
- Site Name: An empty text input field.
- Site Address: An empty text input field.
- Port Number: A text input field containing the value "5445".
- ID: An empty text input field.
- Password: An empty text input field.

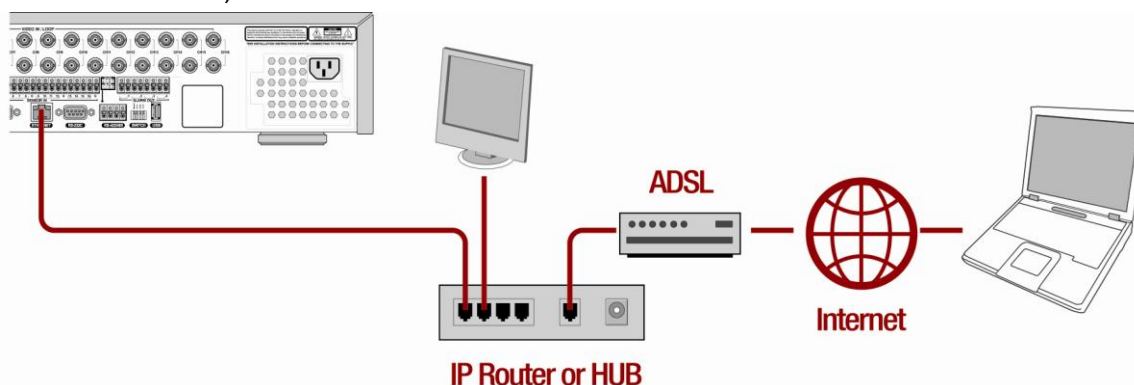
At the bottom right, there are "OK" and "Cancel" buttons.

4. Input Site Name, Site Address(IP address), Port No., and Password on the connect window. And

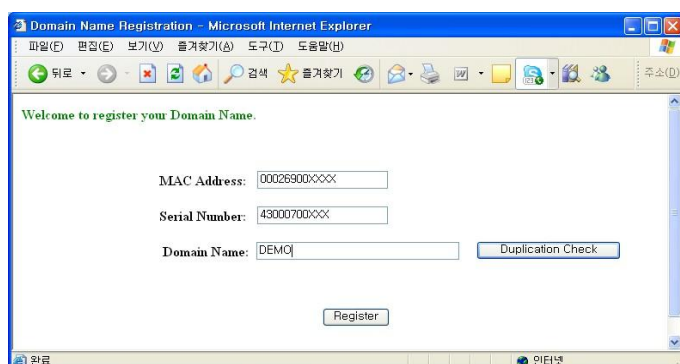
click OK. Then, press  button after checking the left check box.

## Internet (ADSL) Connection using DDNS


Connect to the system, using an Router or ADSL modem and an Ethernet cable (10BASE-T/100BASE-TX CAT 5 LAN cable)

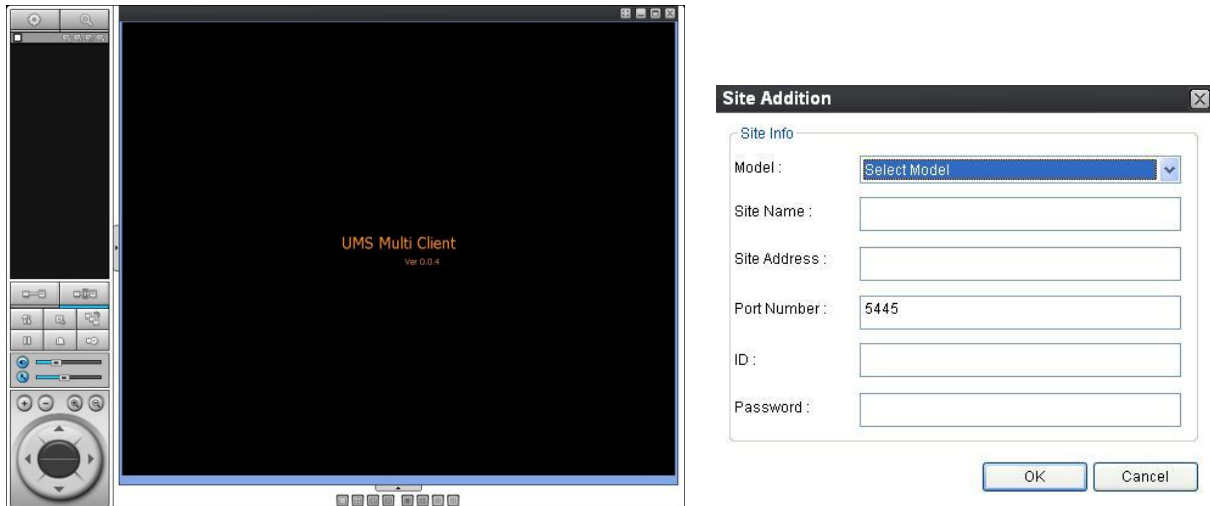


1. Go to SETUP>NETWORK. Set NETWORK TYPE as DHCP and DDNS SERVER as ON. And select one type among bestddns.com, okddns.com and ddnscenter.com after setting to DDNS1.
2. Go to Setup menu of Router and open TCP port 5445 and 80 using Port Forwarding. (Refer to A. How to set IP address of the DVR and open TCP port of the router?)
3. Confirm the Mac address and Serial No. from the label of the rear panel of the DVR.
4. Open the web browser and log on <http://www.bestddns.com>. Please log on <http://www.okddns.com> in Korea and <http://www.ddnscenter.com> in USA.




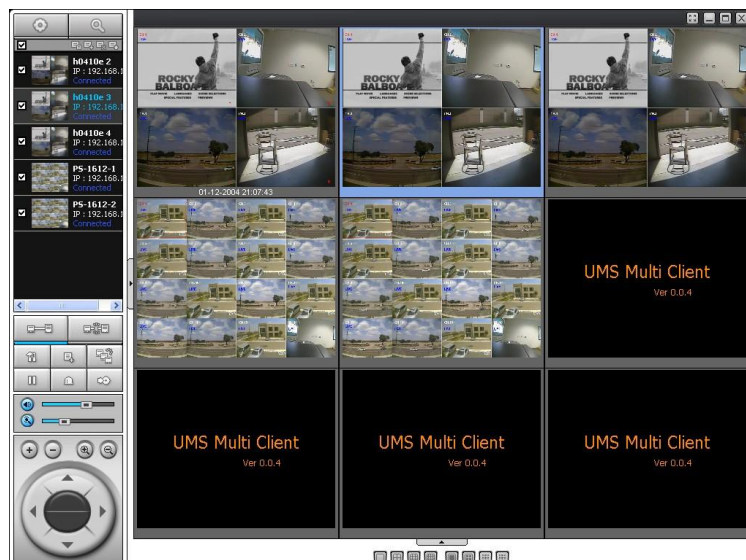
- MAC Address: Input the Mac address (EX. 0002690XXXXX) without any space.
  - Serial Number: Input the Serial No. (EX. 43000700XXX.) without any space.
5. Domain Name: Input Domain Name for your DVR system
  6. Click the DUPLICATION CHECK button to see if the domain name is available.

7. If you see the screen "You can use the Domain name you entered" then click RETURN and click REGISTER button to complete the registration.
8. Run the pre-install the network client software on the supplied CD. (Refer to Chapter 8. Network access using the Exclusive network viewer)
9. Click  button and add the DVR as necessary.



- Model: Select one type surely among SDVR series, H DVR series DVR / N series DVR, HD DVR / IP Camera.
- Site Name: Input the name of the DVR.
- Site Address: Input the Domain Name that is registered on <http://www.bestddns.com>. Please log on <http://www.okddns.com> in Korea and <http://www.ddnscenter.com> in USA. (EX. XXXXX.bestddns.com)
- Port Number: Input the DVR port number.
- Password: Input the network password.

10. Press  button after checking the left check box of the site that you will access.

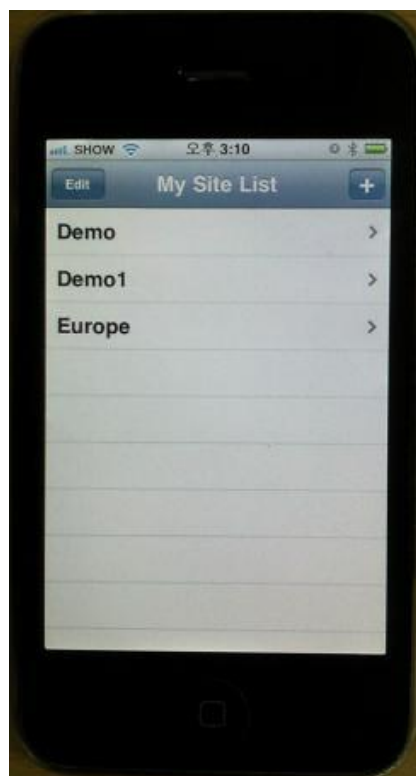


### C. How to access DVR with iPhone?

1. Connect to App Store in iPhone and search “iUMS” to the search menu. Then, download the iUMS application.



2. Register your DVR and input the IP address or domain name, ID and password. Then, press the specific channel. More functions such as PTZ, split screen, playback and etc will be supported to the next version.





#### D. How to access DVR with Android?

1. Connect to Market in Android and search “iUMS” to the search menu. Then, download the iUMS application.



2. Register your DVR and input the IP address or domain name, ID and password. Then, press the specific channel. More functions such as PTZ, split screen, playback and etc will be supported to the next version.

