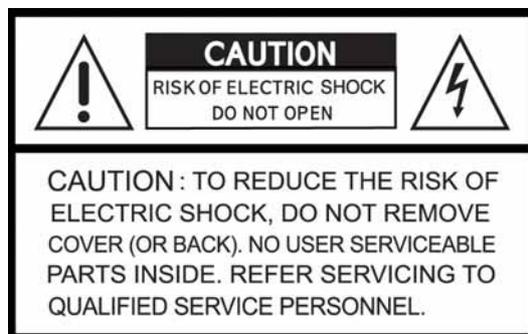


# USER GUIDE

## EST9120/EST16120 9/16 channel MPEG-4 Triplex DVR V. 1.5



## **SAFETY PRECAUTIONS**



## **EXPLANATION OF SYMBOLS**



This symbol is intended to alert the user to the presence of important operation and maintenance (servicing) instructions in the literature accompanying the appliance.



This symbol is intended to alert the user to the presence of unprotected "dangerous voltage" within the product's enclosure that may be strong enough to cause a risk of electric shock

### **CAUTION**

THIS PRODUCT HAS MULTIPLE-RATED VOLTAGES (110V AND 220V).

SEE INSTALLATION INSTRUCTIONS BEFORE CONNECTING TO THE POWER SUPPLY.

THIS PRODUCT USES A LITHIUM BATTERY.

RISK OF EXPLOSION IF THE BATTERY ON THE MAIN BOARD IS REPLACED BY AN INCORRECT TYPE. DISPOSE OF USED BATTERIES ACCORDING TO INSTRUCTIONS.

THIS EQUIPMENT AND ALL COMMUNICATION WIRINGS ARE INTENDED FOR INDOOR USE.

TO REDUCE THE RISK OF FIRE ELECTRIC SHOCK, DO NOT EXPOSE THE UNIT TO RAIN OR MOISTURE.

## **WARNING**

THE PRODUCT SHOULD BE INSTALLED BY A TRAINED PROFESSIONAL. THE DVR SHOULD BE POWERED OFF WHEN CONNECTING CAMERA, AUDIO, OR SENSOR CABLES.

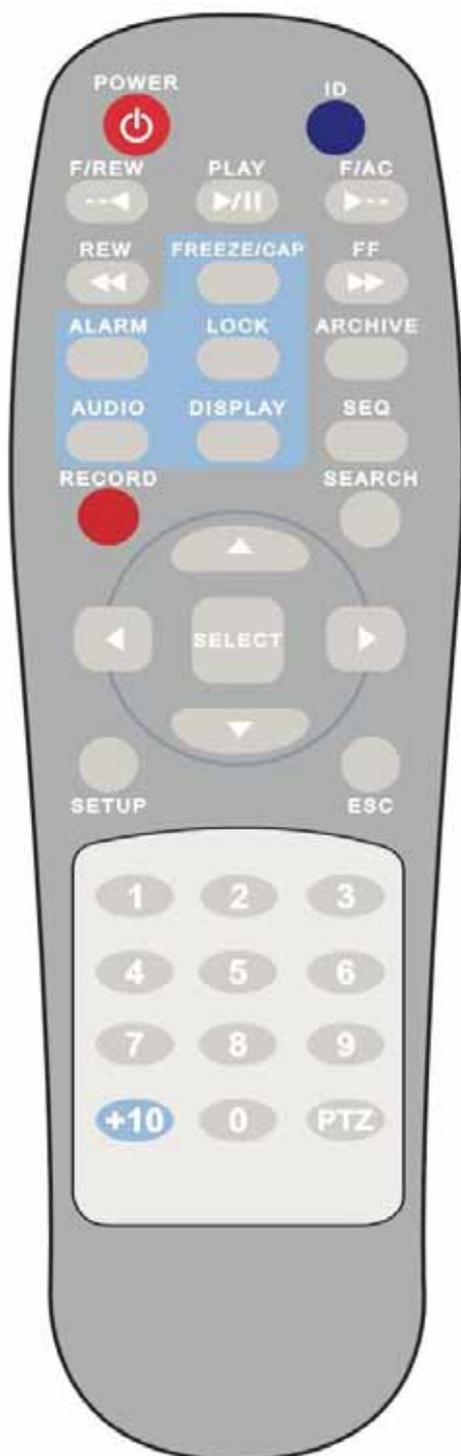
THE MANUFACTURER IS NOT RESPONSIBLE FOR ANY DAMAGES CAUSED BY IMPROPER USE OF THE PRODUCT OR FAILURE TO FOLLOW INSTRUCTIONS FOR THE PRODUCT.

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.

## THE LIST OF CONFIGURATION

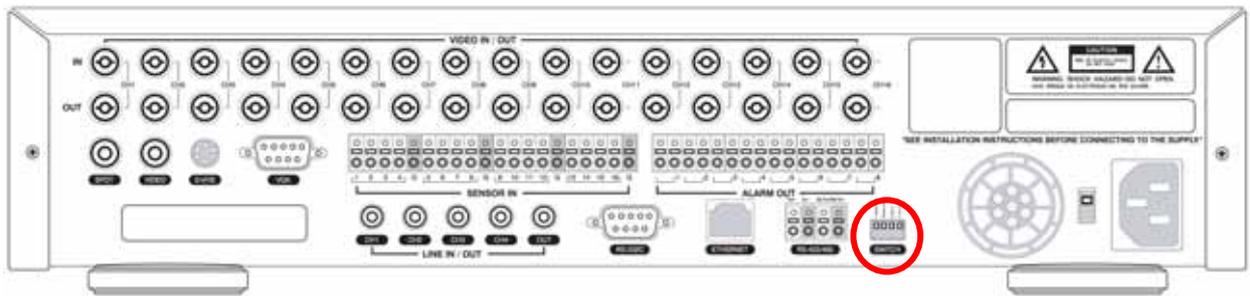
DVR SET	
CLIENT SOFTWARE CD	
REMOTE CONTROLLER	
BATTERY	
MANUAL (SERVER & REMOTE CLIENT S/W)	
RUBBER RINGS & SCREWS (4x4x4EA)	
IDE HDD CABLE(2EA)	
HDD BRACKETS(4EA)	
POWER CABLE 110V & 220V	

## THE OPERATION OF REMOTE CONTROLLER



POWER	Power On/Off
ID (DVRs)	Input DVR ID (ID : i.e. 00 or 01)
F/REW	Jump 60 seconds backward
PLAY	Play/Pause
F/ADV	Jump 60 seconds forward
REW	Rewind (X1, X2, X4, X8)
FREEZE/CAP	Freeze/Capture for Still Image
FF	Fast Forward (X1, X2, X4, X8)
ALARM	Disable alarm operation
LOCK/ SETUP	Key lock of all of the functions /Setup menu screen
ARCHIVE	Display of archive list
AUDIO	Disable, Mute or Highlighted channel only
DISPLAY	Change division (1->4->9->16)
SEQ	Sequence of Full or Quad view
RECORD	Manual recording
SEARCH	Search menu screen
DIRECTION	Direction or number 1 to 4
SELECT	Enter and Save button
SETUP	Setup or Menu button
ESC	Esc
PTZ	PTZ menu screen
NUMBER	Channel 1 to 9
+10	Channel 10 and channel 11 to16 10CH->press +10 and number 0 11CH->press +10 and number 1 12CH->press +10 and number 2 13CH->press +10 and number 3 14CH->press +10 and number 4 15CH->press +10 and number 5 16CH->press +10 and number 6

## VIDEO SIGNAL SELECT / SETTING



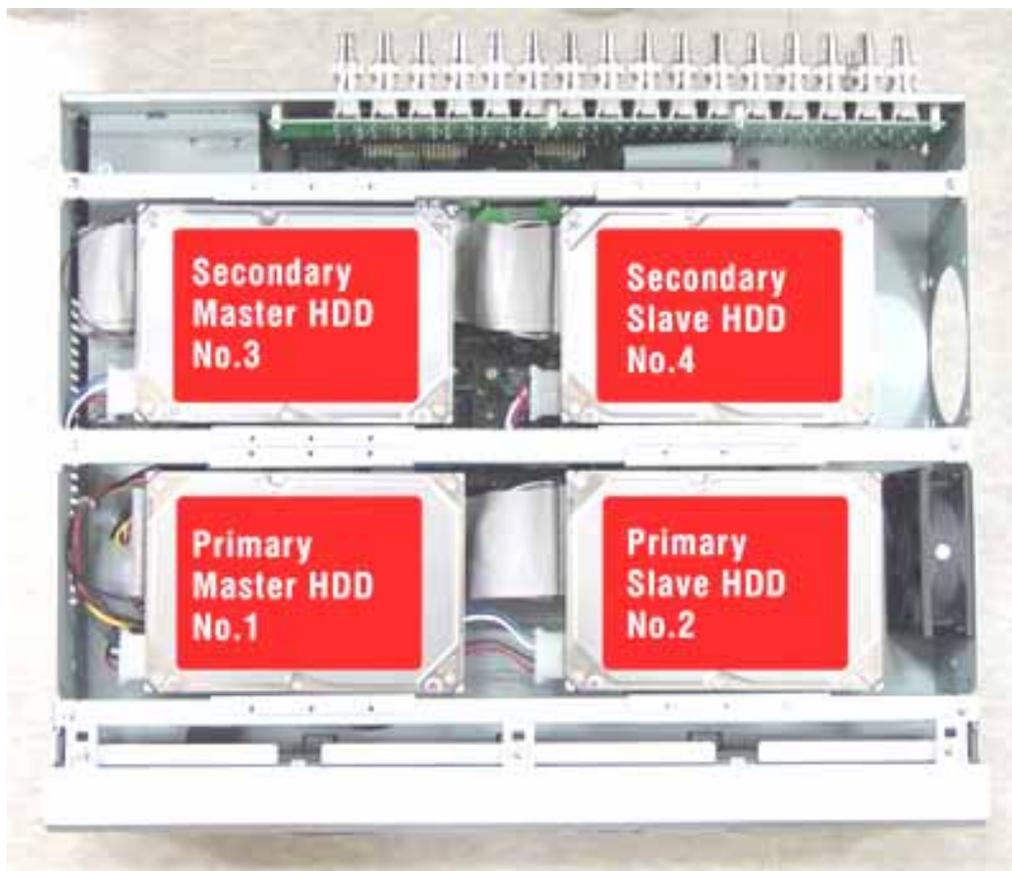
SETTING	Video mode		Video output	
	NTSC	PAL	BNC	VGA
	O	X	O	X
	X	O	O	X
	O	X	X	O
	X	O	X	O

### NOTICE

Do not change the setting when the power is on.

When the position of the switch is changed, the DVR should be rebooted to apply the new setting.

## HDD INSTALLATION



### HDD installation order

1. Primary Master HDD
2. Primary Slave HDD
3. Secondary Master HDD
4. Secondary Slave HDD

#### **NOTICE**

The brands and models of all HDD should be the same. If the brands and models of each HDD are different with others, the DVR could not recognize HDD.

### Compatible HDD models

BRAND	CAPACITY	RPM	BUFFER	INTERFACE
HITACHI	80GB	7200RPM	2M	E-IDE
	160GB	7200RPM	8M	E-IDE
	250GB	7200RPM	8M	E-IDE
MAXTER	80GB	7200RPM	2M	E-IDE
	160GB	7200RPM	8M	E-IDE
	250GB	7200RPM	8M	E-IDE
SAMSUNG	80GB	7200RPM	2M	E-IDE
	160GB	7200RPM	2M	E-IDE
WESTERN DIGITAL	80GB	7200RPM	2M	E-IDE
	160GB	7200RPM	8M	E-IDE
	250GB	7200RPM	8M	E-IDE
SEAGATE	40GB	7200RPM	2M	E-IDE
	80GB	7200RPM	2M	E-IDE
	160GB	7200RPM	2M	E-IDE
	250GB	7200RPM	2M	E-IDE

## SPECIFICATIONS

ITEM		Description	
Video	Input	Channel, Input Level	9/16CH, Composite 1.0Vp-p, 75 Ohm
		Signal Format	NTSC/PAL
		Video Loss Check	Yes
	Output	Main Monitor Output	1 CH BNC, 1 CH S-VIDEO, 1CH VGA
		Output Level	Composite 1.0Vp-p +_0.2, 75 Ohm
		Signal Format	NTSC/PAL & VGA
		Etc Output	9/16CH Loop-back , 1CH SPOT
Audio	Input & Output	4 CH Line input & 1 CH Line output	
	Audio Codec	G.711	
Alarm	Sensor Input	9/16 (NC/NO Selectable)	
	Alarm Output	8	
	Alarm Output	By Alarm, Motion, HDD Error, Temperature, FAN & POWER Failure, Video Loss, And ABCD (A Blind Camera Detection)	
Recording	Compression	MPEG-4	
	Multi-operation	TRIPLEX (Playback/Record/Network)	
	Frame Rate	NTSC	MAX. 120fps @ 352x240
			MAX.60fps @ 704x240
			MAX. 30fps @ 704x480
		PAL	MAX. 100fps @ 352x288
			MAX. 50fps @ 704x288
			MAX. 25fps @ 704x576
	Recording quality grade	5 grades	
	Recording Mode	Continuous / Schedule / Motion/ Sensor/ Manual	
Motion Detection	Motion detection setup by Grid		
Pre & Post Recording	Yes		
Display			
Frame Rate ( /Sec)	NTSC: 30fps/channel, 60 field PAL: 25fps/channel, 50 field		
Playback	Multi-Decoding	1, 4, 9, 16 & PIP	

	Playback Speed	Fast Forward / Reverse	x 2, 4, 8, 16, 32, Max
	Search Mode		Time, Event, Channels
Storage	Internal HDD	Interface Type	EIDE/ATA133
		Max Capacity of 1 HDD	250GB
		Max HDD Number	4
	File system		NaFS: Own developed & Designed for never broken by any power failure
	Backup	USB 2.0 memory stick & CDRW	Still Image & AVI
Network		Moving picture & Still Image	
User I/F	Menu Display		GUI
	Input Method		Front Keypad, Remote controller
Serial port	Console & External Modem		1 RS-232C (9pin D-SUB connector)
	Camera control		1 RS-485/422 (4 Terminal Block)
Network	Dynamic IP support		Yes
	Network Interface		10/100 base-T Ethernet (RJ-45)
Network	Functions		Live, Search, Backup, PTZF Camera Control
Client S/W	Central Monitoring System		Yes
Additional Functions	DLS (Day Light Saving)		Yes
	Multi-Language		Yes
	S/W Upgrade		USB memory stick
Power	Power Source		100~127V/200~240V, 50-60Hz

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## 1. Features

9/16 channels real-time live display and 16channels simultaneous playback.

MPEG-4 - Unbeatable recording picture quality and compression ratio has been tuned for years. It best fits for minimizing recording space and networking speed.

TRIPLEX - Simultaneous Recording, Playback, and Networking

NaFS (File System developed) - Designed & developed for preventing loss and broke of recording data by any power failure.

DSP solution -To be updated up to 240/200fps recording speed.

Reliability - Real Time Operating System and simplified hardware as well as watchdog timer ensure the reliability.

Individual channel recording and playback with different frame rate.

High-quality live and playback resolution.

Multi-site management - Supported by CMS application.

Network features - Remote Live, Playback, PTZF Control, and Backup.

Network via LAN, DHCP, ADSL (Dynamic and Static IP address).

4 channels audio recording.

Various recording mode selectable – By Alarm, Motion, HDD Error, Temperature, FAN and Power Failure, Video Loss, A Blind Camera Detection.

User-friendly setup menu with graphic user interface.

Easy to schedule a complicated weekly recording plan.

The OSD icons on screen provide various helpful and well-explained information.

Motion detection – Grid 30x24 motion zone per camera is provided.

USB ports for JPEG, MPEG data backup and software upgrade using USB flash memory stick.

Still image capture and review as JPEG format.

Internal Pan/Tilt/Zoom/Focus controller.

Easy operating with the buttons on the front and the remote controller.

User verification by password certification.

Video loss detection.

Backup - Still-images or AVI data into USB flash memory stick and Network.

Variety of Hard Drive Sizes - up to internally 1TB (250GB HDD X 4) for long-term recording.

Multi-Languages -User can easily select language from Setup menu.

Various Video Output - VGA(800x600 24 Bit Color), S-VHS, SPOT

## 2. Name, Function and Connection

### 2-1. Front Panel

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



**Figure 2.1.1. Front panel**

Table 2.1.1. Indication lamps

Name	Description
<b>HDD</b>	LED light is on when the system is accessing hard disk.
<b>REC</b>	LED light is on when the system is recording video data.
<b>ALARM</b>	LED light is on when alarm sensor(s) is/are triggered or motion is detected.
<b>NETWORK</b>	LED light is on when client is connected to the system through the network.
<b>BACKUP</b>	LED light is on when USB storage device is stored images or video.

Table 2.1.2. Front panel buttons

Name	Description
<b>POWER</b>	Power ON/ OFF. If a password has set for power off in the SECURITY setup menu, the system will ask you the password when you press the STAND BY-ON button.
<b>DISPLAY</b>	Press to select full, quad, 9 or 16 split screen in live display mode.
<b>SEQ</b>	Press to start auto sequencing of the screen in full or quad display mode.
<b>AUDIO</b>	Press to select audio mode. SINGLE, MIX, MUTE MUTE- All of 4 channels. SINGLE- Highlighted channel only. MIX- All of 4 channels.
<b>PTZ</b>	Press to control PTZ operation
<b>SETUP</b>	Press to launch SETUP menu.
<b>ALARM</b>	Press to disable alarm operation.
<b>ARCHIVE</b>	Press to see the ARCHIVE LIST in live display mode.

<b>FREEZE/ CAPTURE</b>	Press to freeze and capture video in jpeg format in live or playback mode.
<b>REW/ LOG</b>	Press to rewind the footage at 1x, 2x, 4x, 8x, 16x, and 32x speed in playback mode or to see the LOG LIST in live display mode.
<b>F/REW</b>	Jump/Step backward. In playback mode, the playback position moves 60 seconds backward.
<b>F/ADV</b>	Jump/Step forward. In playback mode, the playback position moves 60 seconds forward.
<b>FF</b>	Press to fast forward the footage at 1x, 2x, 4x, 8x, 16x, and 32x speed in playback mode.
<b>SEARCH PLAY/PAUSE</b>	Press to go to SEARCH menu in live display mode or to play and pause the footage in playback mode.
<b>REC</b>	Press to start or stop manual recording.
	Press to move up the menu items in setup mode. It is also used as the number 1 when entering password.
	Press to move right in the menu or to change the values in setup mode. It is also used as the number 2 when entering password.
	Press to move down the menu items in setup mode. It is also used as the number 3 when entering password.
	Press to move left in the menu or to change the values in setup mode. It is also used as the number 4 when entering password.
	Press to select desired menu item or to store the setup value in the setup menu.
<b>ESC</b>	Press for temporal storage of the changed value or to return to the previous menu screen.
<b>USB Port</b>	There is a USB Port located on the left side of the front panel. This USB port is used to archive footage into a USB storage device.

## 2-2. Rear Panel

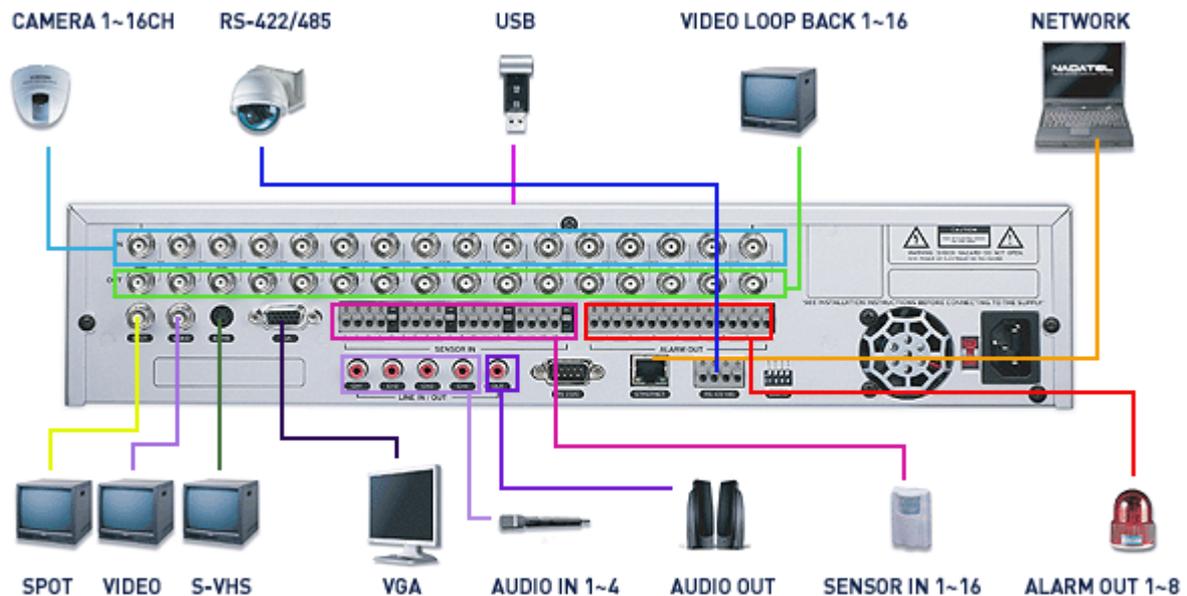


Figure 2.2.1. Rear Panel

Table 2.2.1. Rear panel connections

Connection	Description
<b>VIDEO IN</b>	9/16 connectors for video input. Connect camera output to Video-in (NTSC/PAL)
<b>VIDEO OUT</b>	9/16 connectors for video output.(loop back)
<b>SPOT</b>	Composite video output for spot monitoring.
<b>VIDEO</b>	Composite video output in NTSC or PAL format
<b>S-VHS</b>	S-VHS output
<b>VGA</b>	Connector for VGA monitor
<b>AUDIO IN</b>	4 connectors for audio input.
<b>AUDIO OUT</b>	1 connector for audio output.
<b>RS-232</b>	For engineering use only.
<b>LAN</b>	RJ45 connector for LAN connection.
<b>RS-485/422</b>	For camera control use.
<b>SENSOR IN</b>	Connector for sensor device connection.
<b>ALARM OUT</b>	8 connectors for alarm device connection.

	Provides simple On/Off switching by using relay. 0.5A/125V, 1A/30V
<b>POWER</b>	Connect AC115/230V power cable.
<b>SWITCHES</b>	
<b>TEST</b>	For future use
<b>422/485</b>	Select 422 or 485
<b>VGA</b>	Set to ON when VGA monitor is used.
<b>PAL</b>	Set to ON when video is PAL

**CAUTION:** Once the position of the switch is changed, 9-16CH should be rebooted to apply the new setting value.

### 3. Getting Started – Setting Up the DVR

The following sections detail the initial setup of the DVR

#### 3-1. Setup – Main Screen

When you press the SETUP button, the DVR will ask for a password. The default password is 1111, which can be entered by pressing the up button 4 times and then pressing the SEL button. We recommend you protect the system by assigning a new password immediately. The procedure for assigning a password is found in section 3.6. After a password has been assigned,

enter the password by using the  direction keys (representing 1, 2, 3, & 4), and then press the SEL button for the password validation. Once the password is entered, you will see the screen as shown in Figure 3.1.1. Navigate through the menu items and press the SEL button to enter the sub-category menu.



Figure 3.1.1. Setup menu screen

LIVE	OSD
	SEQUENCE
	SEQ-DWEL TIME
	OSD CONTRAST
	CHANNEL — DISPLAY, BRIGHTNESS, CONTRAST, HUE, SATURATION
RECORD	RESOLUTION
	CHANNEL — FRAME RATE, QUALITY, RECORDING, MOTION ZONE, MOTION SENSIVITY, SENSOR TYPE, PRE RECORD, POST EVENT RECORD, AUDIO, SCHEDULE
DEVICE	ALARM-OUT
	PTZ
	SPOT CHANNEL
	SPOT EVENT DWELL TIME
	KEY TONE
	REMOTE CONTROL ID
SYSTEM	DVR ID
	DESCRIPTION
	LOAD FA CTORY DEFAULT
	LOAD DEFAULT
	DATE FORMAT
	SET DATE & TIME
	LANGUAGE
	DAY LIGHT SAVING
SECURITY	ADMIN PASSWORD
	USER PASSWORD
	NETWORK PASSWORD
NETWORK	PORT
	CLIENT ACCESS
	BANDWIDTH SAVING
	NETWORK TYPE
	DDNS
STORAGE	OVERWRITE
	FORMAT
	DISK INFO

**Table 3.1.1. Setup menu configuration**

### 3-2. Setup – Live Mode

Set the values for live display. Navigate through the menu items by pressing the UP or DOWN button. The value of the menu item may be changed by pressing the LEFT or RIGHT button.

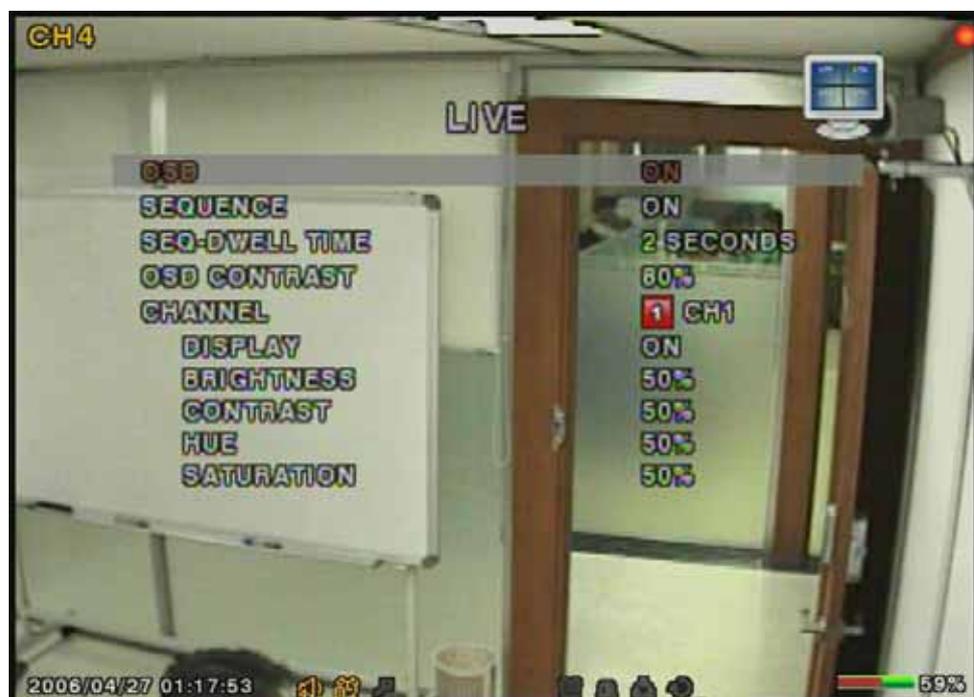


Figure 3.2.1. Live mode setup screen

Table 3.2.1. Menu items in LIVE mode setup

Item	Description
<b>OSD</b>	Enable/disable on-screen-display.
<b>SEQUENCE</b>	Enable/disable SEQ button
<b>SEQ-DWELL TIME</b>	Set the dwell time for each, 4 or 9 channel display in sequential display mode.
<b>OSD CONTRAST</b>	Set the visibility level of the On Screen Display (OSD)
<b>CHANNEL</b>	Select the channel for applying the following settings. Press SELECT to change channel name.
<b>DISPLAY</b>	Enable/disable display of the video channel in live display mode
<b>BRIGHTNESS</b>	Change the brightness value for the specified channel
<b>CONTRAST</b>	Change the contrast value for the specified channel
<b>HUE</b>	Change the hue value for the specified channel
<b>SATURATION</b>	Change the saturation value for the specified channel

### 3-3. Setup – Recording Mode

Set the values for recording video. Navigate through menu items by pressing the UP or DOWN button. User can change the value of the menu item by pressing the LEFT or RIGHT button.

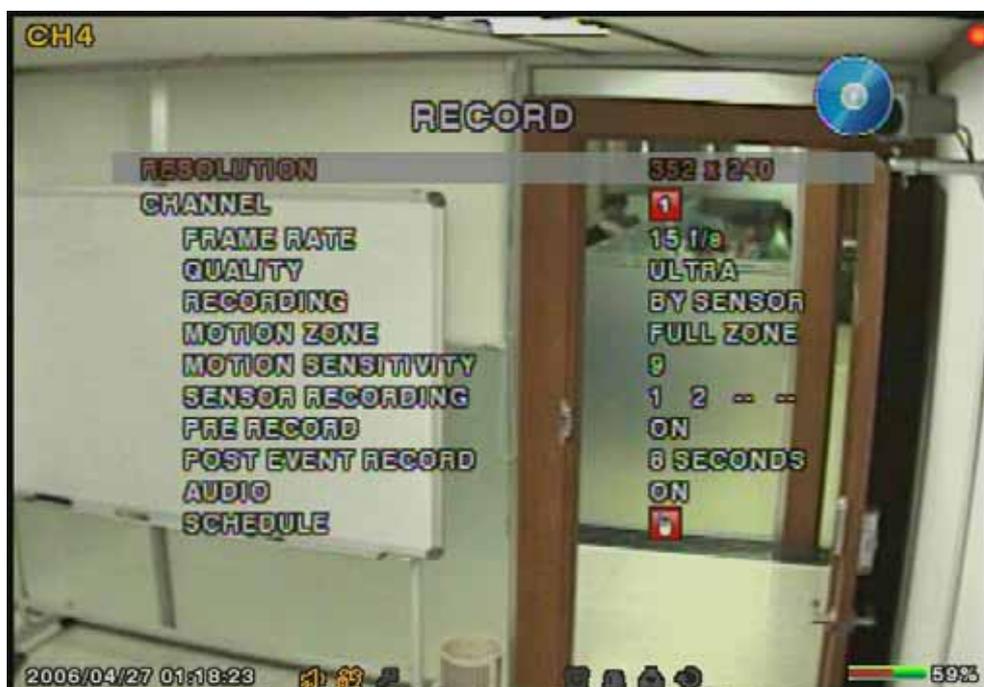


Figure 3.3.1. Recording mode setup screen

Table 3.3.1. Menu items in Recording mode setup

Menu item	Description
<b>RESOLUTION</b>	Set the resolution to 704x480 or 352x240(NTSC).
<b>CHANNEL</b>	Select a channel for applying the following settings.
<b>FRAME RATE</b>	Set the frame rate for the specified channel. The sum of the frame rate values from each channel cannot exceed maximum frame rates for a particular recording resolution.  <b>Typical values of the maximum frame rate for NTSC video are 120/100fps for 352*240(NTSC)/352*288(PAL), 60/50fps for 704*240(NTSC)/704*288(PAL), and 30/25 fps for 720*480(NTSC)/720*576(PAL).</b>
<b>QUALITY</b>	Select a recording quality for the specified channel from Network, Standard, High, Super. or Ultra
<b>RECORDING</b>	Set a recording mode for each channel. Select one of Continuous, By Motion, By Sensor, By Schedule or Disable.

<b>MOTION ZONE</b>	Select 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>SENSOR RECORDING</b>	Enable setting up to 4 sensors of 9 sensors for the specified channel.
<b>PRE RECORD</b>	Enable/disable pre-event recording. Pre-event recording time is 5 second and only intra-frames are recorded for pre-event recording.
<b>POST EVENT RECORD</b>	Set the post event recording time duration for the specified channel from 1 to 30 seconds.
<b>AUDIO</b>	Enable/disable audio for from 1 to 4 channel.
<b>SCHEDULE</b>	Set the recording schedule.

**NOTICE**

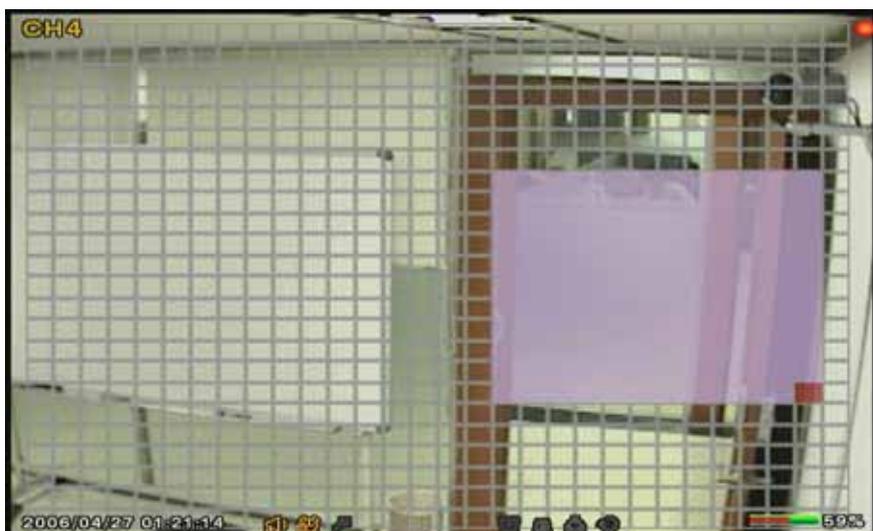
AUDIO is linked as bellows,

1CH AUDIO = 1CH VIDEO / 2CH AUDIO = 2CH VIDEO

3CH AUDIO = 3CH VIDEO / 4CH AUDIO = 4CH VIDEO

**3-3-1. Motion Zones**

By selecting Partial Zone in the Motion Zone menu, user can set-up the motion sensing zones in the screen. Move around each rectangular zone using 4 direction key buttons and press SEL button to include the rectangular region as part of the motion sensing zone. The rectangular blocks included as part of the motion zone are indicated by changing the color of the blocks.



**Figure 3.3.2. Motion Zone selection screen**

### 3-3-2. Recording Schedule

Select SCHEDULE in the RECORD menu to set up the recording schedule. Button functions applied in the recording schedule are summarized in the following table. Navigate through the items to highlight by using the 4 direction key buttons and set up the recording mode by using the buttons summarized in the following table.

[ALL] : When ALL is highlighted, selected recording mode by pressing SEL button is applied to entire time zone and channels.

[SUN to SAT] : When a particular channel is highlighted, selected recording mode by pressing SEL button is applied to entire time zone for the specified channel.

[ | ] : When one of vertical bars “ | “ is highlighted, selected recording mode by pressing SEL button is applied to **all day of the week** for the selected time zone. (Each vertical bar “ | “ corresponds with one hour.)

[SUN to SAT] and [ | ] Cross : When a particular intersection point is highlighted, selected recording mode by pressing SEL button is applied to that channel and time zone.

Table 3.3.2. Button functions in schedule Recording mode

Button	Function
REW	Use to set Continuous recording mode.
F/REW	Use to Disable recording setting.
PLAY/PAUSE	Use to enable Motion detection triggered recording.
FF	Use to enable Sensor triggered recording

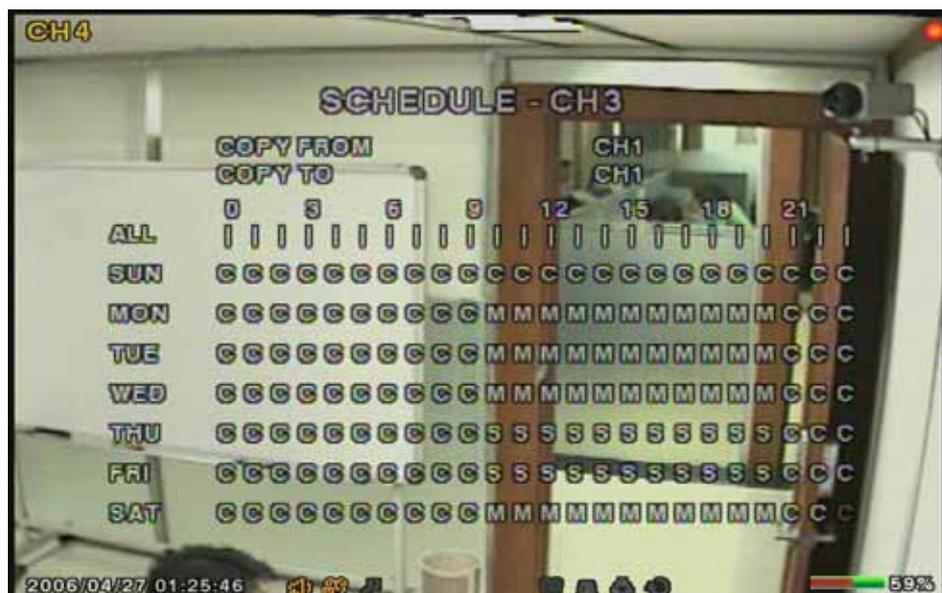


Figure 3.3.3. Schedule recording setup screen

### 3-4. Setup – Device Mode

Set the values for device setting. Navigate through menu items by pressing the UP or DOWN button. User can change the value of the menu item by pressing the LEFT or RIGHT button.



Figure 3.4.1. Device mode setup screen

Table 3.4.1. Menu items in Device Setup screen

Item	Description
<b>ALARM-OUT</b>	Set the sensor, motion, and video loss for each alarm.
<b>PTZ</b>	Set the camera speed, number, type and ID
<b>SPOT CHANNEL</b>	Select channel for spot monitoring.
<b>SPOT EVENT DWELL TIME</b>	Set the time of display the channel that the event is activated.
<b>KEY TONE</b>	Enable/disable key tone.
<b>REMOTE CONTROL ID</b>	<p>Select a ID of remote controller.</p> <ol style="list-style-type: none"> <li>1. Select ID.</li> <li>2. Press the same number as ID set in DVR on a remote controller.</li> <li>3. Then  icon will be displayed on Live screen of DVR that respond to the remote controller.</li> </ol>

## 3-4-1. ALARM-OUT

Table 3.4.2. Menu item in ALARM-OUT Setup screen

Item	Description
<b>ALARM OUT</b>	Select alarm from 1 to 8.
<b>SENSOR IN</b>	Enable setting up to 4 sensors of 16 sensors.
<b>MOTION ON</b>	Enable setting up to 4 cameras of 16 cameras.
<b>VIDEO LOSS ON</b>	Enable setting up to 4 cameras of 16 cameras.
<b>ALARM DURATION</b>	Set the dwell time of alarm from 1 to 60seconds.
<b>SENSOR</b>	Select sensor from 1 to 16.
<b>TYPE</b>	Set the type of sensor for the specified channel from none, N/O (normal open), and N/C (normal closed).



Figure 3.4.2. Alarm-out setup screen

### 3-4-3. PTZ Setup

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

For speed dome cameras that supports RS-485, connect them directly to the RS-485 port. But if the camera is controlled with RS-232C, it is needed to use Signal Converter (RS-485 to RS-232C)

In the PTZ Control setting in the setup menu, user can select or set the protocol type of the camera which is the same as the one that is installed on the site. If the camera has a specific camera ID, select the camera ID by using Left or Right button.



Figure 3.4.3. PTZ setup screen

### 3-4-4. PTZF control

To operate the PTZF functions, connect the controller to the RS-485 port on the rear panel. The PTZ function button is found on the front panel. Once you press the PTZ button, the screen will appear as in figure 3.4.5. Highlight the item to select and control the cameras by using the UP and DOWN or LEFT and RIGHT buttons. Please refer to the table 3.4.4. for description.

Figure 3.4.5. PTZF control screen

Table 3.4.4. Button functions in PTZF control

Item	Description
<b>PAN / TILT</b>	Use the UP or DOWN button for TILT and LEFT or RIGHT button for PAN of the selected camera.
<b>ZOOM / FOCUS</b>	Use the UP or DOWN button for ZOOM in or out and LEFT or RIGHT button for FOCUS near or far of the selected camera.
<b>INITIALIZE</b>	Initialize the PTZ settings of the selected camera.

### 3-5. Setup – System Mode

In this menu, system parameters can be input. Navigate through the menu items by pressing the UP or DOWN button. User can change the value of the menu items by pressing the LEFT or RIGHT button and UP or DOWN button.

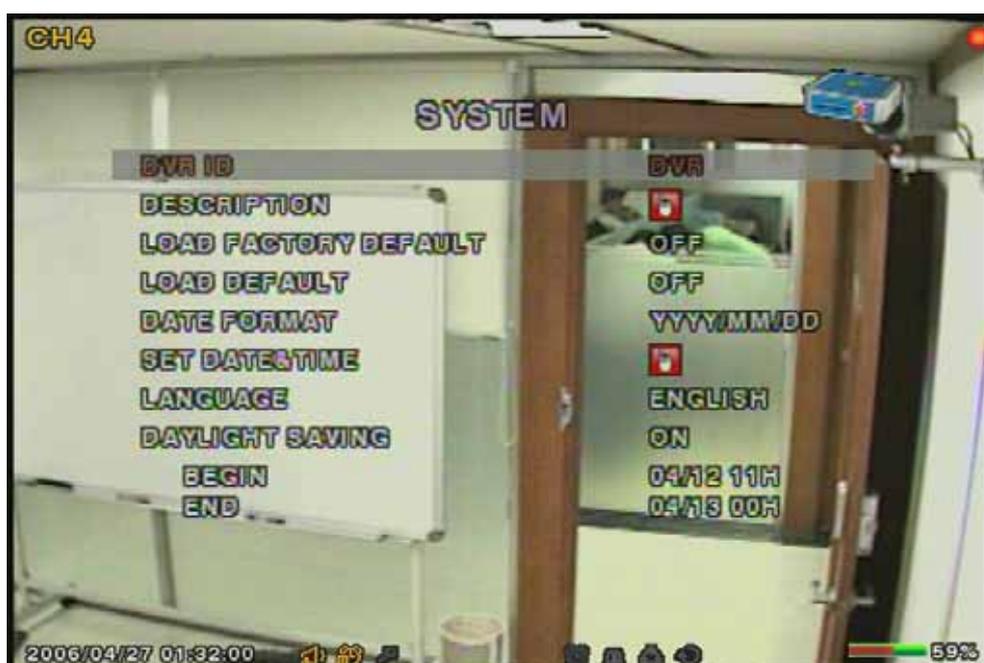


Figure 3.5.1. System setup screen

Table 3.5.1. Menu items in System Setup screen

Item	Description
<b>DVR ID</b>	The name of the system. Press the SEL button and move through the position for each alphanumeric character by pressing the LEFT or RIGHT button. UP or DOWN button is used to change the character for each location. 8 characters are available.

<b>DESCRIPTION</b>	System information.
<b>LOAD DEFAULT</b>	Select OFF or ON. Select ON to load defaults.
<b>DATE FORMAT</b>	Select the preferred date and time display
<b>SET DATE&amp;TIME</b>	Set the current date and time. After setting is done, press the SEL button and select CONFIRM. Then the system is automatically rebooted to apply the settings.
<b>USB UPGRADE</b>	Select this item to upgrade firmware by using USB memory stick. Refer to the direction from the section <b>6.UPGRADING FIRMWARE</b> .
<b>LANGUAGE</b>	User can select a language.
<b>DLS</b>	User can set to ON or OFF for DLS(Daylight Saving) by using LEFT or RIGHT button. After selecting ON, move the cursor to BEGIN(MM/DD/HH)field and press the SELECT button to set the start time of DLS. And move to END(MM/DD/HH)field to set the stop time of DLS by using UP or DOWN button. <b>CAUTION:</b> -DLS can't start from 23:00 -DLS can't be applied, if the date of BEGIN and END is same.



Figure 3.5.2. DVR ID setup screen



Figure 3.5.3. DVR information display screen



Figure 3.5.4. Date & Time setup screen

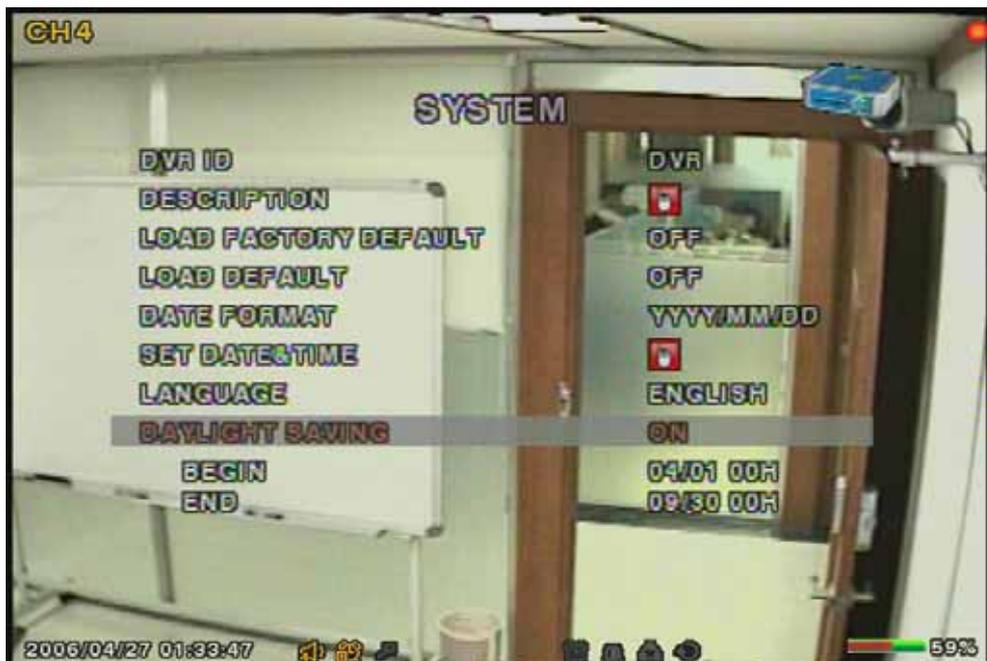


Figure 3.5.5. Daylight Saving setup screen

### 3-6. Setup – Security Mode

In this menu, password and security parameters can be input. Navigate through the menu items by pressing the UP or DOWN button. User can change the value of the menu items by pressing the LEFT or RIGHT button.



Figure 3.6.1. Security setup screen

Table 3.6.1. Menu Items in Security Setup Screen

Item	Description
<b>ADMIN PASSWORD</b>	Set a password for administrator. Once this menu is selected, the system will ask you current password and new password. Follow the procedure provided by the system. The password numbers can be input by using direction keys. The default password is 1111.
<b>USER PASSWORD</b>	Set a password for user. Once this menu is selected, the system will ask you current password and new password. Follow the procedure provided by the system. The password numbers can be input by using direction keys. The default password is 1111.
<b>NETWORK PASSWORD</b>	Set a password for network client. Once this menu is selected, the system will ask you current password and new password. Follow the procedure provided by the system. The password numbers can be input by using direction keys. The default password is 1111.
<b>PASSWORD CHECKING</b>	
<b>SETUP</b>	Select one of ADMIN, USER or OFF.
<b>POWER</b>	Select one of ADMIN, USER or OFF.
<b>RECORD</b>	Select one of ADMIN, USER or OFF.
<b>SEARCH</b>	Select one of ADMIN, USER or OFF.
<b>KEY LOCK</b>	Select one of ADMIN, USER or OFF.

### 3-7. Setup – Network Mode

Network parameters can be input in this screen. These parameters are used for remote clients who are connected to the DVR over the network.

Table 3.7.1. Menu items in Network Setup screen

Item	Description
<b>PORT</b>	RTSP port number
<b>CLIENT ACCESS</b>	Enable/Disable network client access
<b>BANDWIDTH SAVING</b>	Enable/Disable only-key frame transmission. This feature is useful when network bandwidth is not enough for live video streaming.
<b>NETWORK TYPE</b>	Select a type of network connection (LAN, DHCP, or ADSL)
<b>DDNS</b>	Set to ON or OFF for DDNS

<b>DDNS NAME</b>	The DDNS sever name is <a href="http://www.esthub.co.kr">www.esthub.co.kr</a>
	<p><b>Registration&gt;&gt;</b>  Check the MAC address of DVR from SETUP-&gt; SYSTEM-&gt; DESCRIPTION.  Please contact a distributor or an installer to register your DVR on DDNS Server. Register your own domain name on DDNS Server.  After your own domain name and MAC address of DVR are registered on DDNS server, user can access to network with own domain name.</p>

### 3-7-1. Ports

When connecting 1 or more DVRs to a network through an IP sharing device, each device must have a unique RTSP port number for access to each unit from outside the LAN. Also, the IP sharing device must be configured for port forwarding, so that each port, when accessed on the IP sharing device, will forward to the appropriate DVR. This port number is listed next to the Port menu option in the NETWORK menu. If the user plans to only access the units from within the same local area network, the RTSP port does not have to be changed.

#### **Network access beyond Router**

In order to access beyond Router (Firewall), user must open 3 TCP ports for Command level, Live channels, and Storage channels. If these all ports are not open properly, user can not access DVR beyond a router.

If DVR sets port number with 5445 as bellow, user has to open 3 TCP ports (5445, 5446, & 5447).

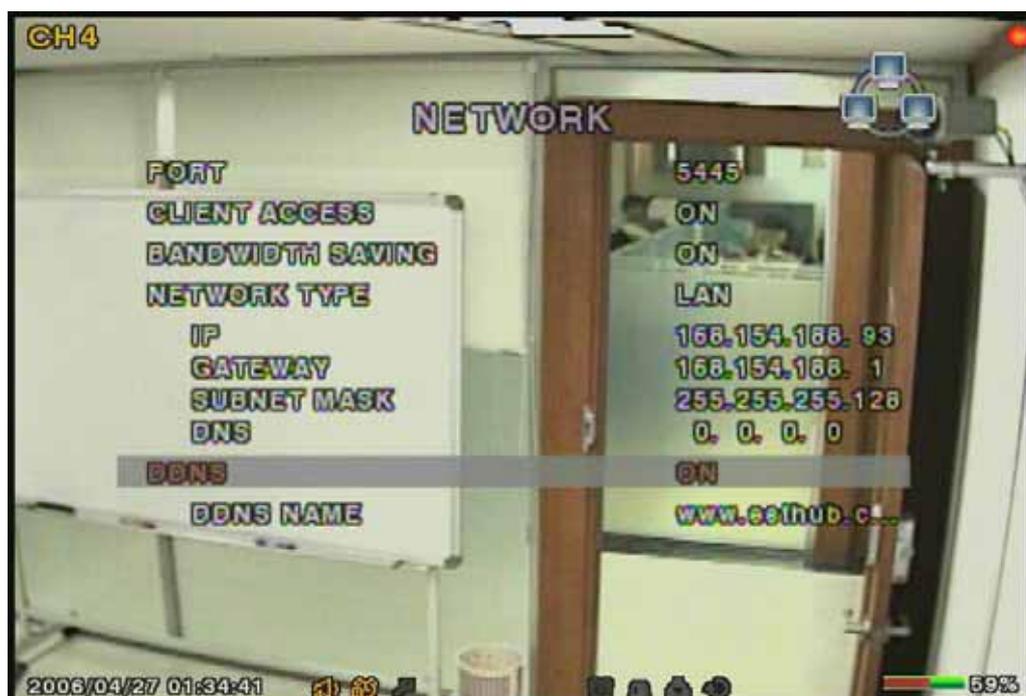


Figure 3.7.1. Network setup screen

### 3-7-2. Network types

There are three network types. Each type requires different settings.

#### LAN

To use the LAN option when connecting the DVR to a network, the following information is required. If you do not have this information, see your network administrator.

Table 3.7.2. LAN

Item	Description
IP	The fixed IP address of the DVR
GATEWAY	The IP address of the gateway
SUBNET MASK	The subnet mask for the LAN
DNS	Set the DNS IP.

#### DHCP

Select DHCP to use the DHCP option when connecting the DVR to a network. An IP address is automatically assigned by the DHCP server, which assigns IP address and other parameters to new devices automatically. To see the DVR's IP address, select DESCRIPTION from the SYSTEM menu.

If the network connection does not allow additional IP addresses, then an IP sharing device will be needed. In this case, forwarding may be needed to allow for a network connection. For more information on port forwarding, see the documentation for your IP sharing device or your network administrator.

## ADSL

To use the ADSL option when connecting the DVR to a network, the following information is required. If you do not have this information, see your network administrator.

Table 3.7.3. ADSL

Item	Description
<b>ID</b>	The user ID for ADSL connection
<b>PASSWORD</b>	The password for ADSL connection

User's ADSL connection must have an RJ45 output to connect to the DVR.

When sharing the connection with other devices, an IP sharing device should be used. In this case, select LAN as the NETWORK type. User will also need to configure the IP sharing device for port forwarding to allow for a network connection. For more information on port forwarding, see the documentation for your IP sharing device, or contact your network administrator.

### 3-8. Setup - Storage Mode

User can set recording mode in the hard disk drive or initiate format of the hard disk driver.



Figure 3.8.1. Storage setup screen

Table 3.8.1. storage setup

Item	Description
<b>OVERWRITE</b>	Overwrite existing material when hard disk drive is full.
<b>FORMAT</b>	Format hard disk drive.

### 3-9. Saving Setup

To preserve the changed setup values, select the SAVE SETUP menu and select CONFIRM.

## 4. Live & Search

### 4-1. Live Window

In the Live window, video inputs from the cameras are displayed on the configuration of the live setup. Various indicators showing the status of the DVR are shown as OSD symbols. Refer to Table 4.1.1 for the meanings of the indicators.

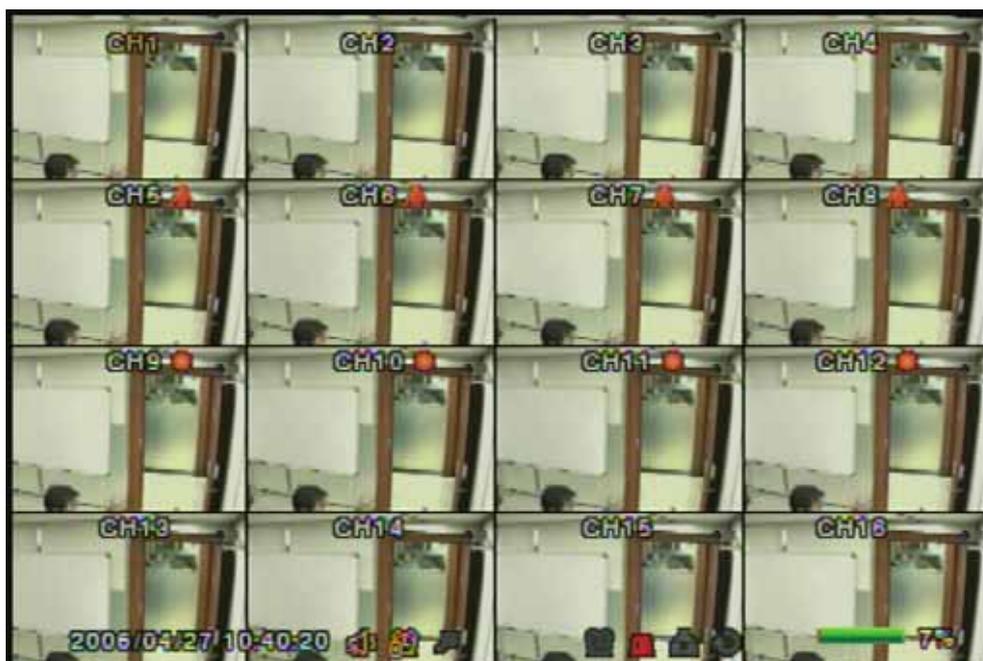


Figure 4.1.1. Live window

Table 4.1.1. Indicator ICONS in Live window

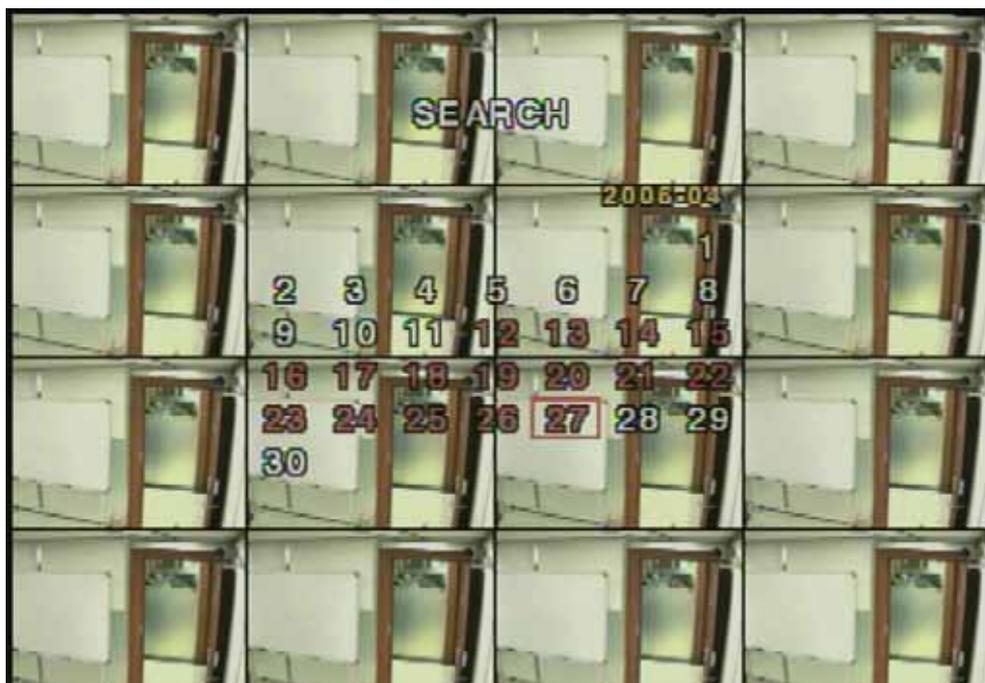
Icon	Description
	Continuous recording in progress
	Manual recording in progress
	Motion recording in progress
	Sensor recording in progress
	Alarm indicator. When there is an alarm (sensor alarm or motion alarm) in the video channel, this icon will be highlighted in bright red.
	Indicates that alarm output is activated.
	Indicates that a network client is connected to the DVR.
	Indicates that sequencing mode is enabled.

Table 4.1.2. Button functions in Live window

Button	Description
<b>SETUP</b>	Launch the SETUP menu.
<b>SEQ</b>	Enable/disable the automatic sequential display in full or quad mode. The channel display in quad mode is followed the settings in the setup menu.
<b>PLAY/PAUSE</b>	Launch the SEARCH window.
	Use to select channel 1 to 4 in full screen mode or to change the quad display in quad display mode by using the LEFT or RIGHT button. And use to select and highlight a channel to display in full display mode in 9 split display mode. The channel display in quad display mode is followed the setting in the setup menu.
<b>SEL</b>	Switch between full screen and current display mode.
<b>ESC</b>	No action
<b>REC</b>	Select for manual recording for all channels.

#### 4-2. SEARCH Window

Press PLAY/PAUSE button in live mode to enter SEARCH window. The screen will appear as in figure 4.2.1. The SEARCH window is used to find the stored video. Within the SEARCH menu, 3 categories of search filters can be applied: DATE, CHANNEL, and TYPE. Use the SEL button to move down the categories and use the UP button to move up the categories. The ESC button will return user to the live screen.



**Figure 4.2.1. Search mode screen**

Searching for an event:

1. Select a date of the video to begin searching, Use the LEFT or RIGHT button and UP or DOWN button to navigate through the date.
2. Once you have selected the date, press the SEL button to move to the CHANNEL selector.
3. Use the LEFT or RIGHT button to change the channel selection from ALL to any of the nine available channels.
4. Once you have selected the channel, press the SEL button to move to the TYPE selector.
5. Use the LEFT or RIGHT button to change the type of recording to ALL, MOTION, SENSOR, MANUAL, or CONTINUOUS.
6. Once you have selected the type of recording to search for, press the SEL button to see the list of recorded video.
7. To launch archiving function in playback mode, press the ARCH button.
8. Use the UP or DOWN button to scroll through the onscreen listings.
9. Use the LEFT or RIGHT button to display the event lists that happened previous or after the current list.
10. Once the desired event has been selected, press the SEL or PLAY/PAUSE button to play the selected video.



Figure 4.2.2 Search list

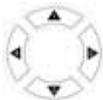
### 4-3. Play mode

During the playback of a recorded event, the mode changes from SEARCH to PLAY. While in PLAY mode, you may return to SEARCH LIST by pressing the ESC button.



Figure 4.3.1. Play mode screen

Table 4.3.1. Button functions in Play mode

Button	Description
<b>ESC</b>	Return to the previous menu screen or exit from the setup menu
<b>REW</b>	Press to rewind the footage at 1x, 2x, 4x, 8x, 16x, and 32x speeds. Reverse playback speed is shown as -1x(normal), -2x (2 times normal), -4x (4 times normal), -8x (8 times normal), -16x (16 times normal), and -32x (32 times normal) at the bottom right of the screen.
<b>F/REW</b>	Jump/Step backward. The playback position moves 60 seconds backward.
<b>PLAY/PAUSE</b>	Press to play or pause recorded video.
<b>F/ADV</b>	Jump/Step forward. Playback position moves 60 seconds forward.
<b>FF</b>	Press to fast forward the footage at 1x, 2x, 4x, 8x, 16x, and 32x speeds. Playback speed is indicated as +1x, +2x, +4x, +8x, +16x, and +32x for normal, twice, 4 times, 8 times, 16 times, and 32 times of the regular speed at the bottom right of the screen.
	Use to select channel 1 to 4 in full screen mode or to change the quad display by using the LEFT or RIGHT button. The channel display in quad display mode is followed the setting in the setup menu.
<b>SEL</b>	Switch between full screen and current display mode.
<b>FREEZE/CAPTURE</b>	Press to launch archiving function.

## 5. Archiving Video into USB Memory Device

To archive a still image or video to a USB storage device, user must first capture a still image or video to a hard disk drive.

### 5-1. Capturing images or video

Still image can be captured and stored into the hard disk drive in live mode or while playing back recorded video. In live mode, press FREEZE/CAPTURE button twice to capture and store the still image. Once you press the FREEZE/CAPTURE button twice, the screen shown in Figure 5.1.1 will be displayed.



**Figure 5.1.1. Archive mode screen**

The still image will be stored into the hard disk drive and can be transferred to the USB storage device later.

In playback mode, press the FREEZE/CAPTURE button to launch the archiving function. The system will ask whether to store still image or video. If the user selects still image, it will store captured image into the hard disk drive. If the user selects video, it will store video into the hard disk drive. When a USB storage device is plugged in and archiving to the USB is required, the system will convert the corresponding portion of the video into an AVI file and store it on the USB storage device.

## **5-2. Transferring still images or video into USB**

To begin transferring stored image or video to a USB storage device, connect a USB storage device. In live mode, press the FF button. This will bring up the ARCHIVE screen which will allow you to specify a date to search for stored images or videos.



**Figure 5.2.1. Archive menu screen**

Press the SEL button to retrieve a list of archived image or video.

Select one of the files in the archived list by using the UP or DOWN button, and then press the FREEZE/CAPTURE button to transfer to the USB storage device. When there is enough space for archiving, the system will start transferring the file. In the case of video, the system will change the video and audio into AVI format while transferring the video file into the USB storage device.



Figure 5.2.2. List of archived files

DivX player which supports DivX codec is required for proper playback of the AVI format. DivX player may be downloaded from:

<http://www.divx.com/divx/download/>

## 6. Network

The DVR provides a live remote monitoring feature. Remote monitoring requires installation of a software client program on your PC. A LAN connection using the RJ45 connector on the rear panel is mandatory for remote connection. For detailed features of the client program, please refer to the client program user guide.

For local operation purposes, the frame rate is limited to 1 frame/sec when there is no recording operation in the DVR. When recording is under progress, video frame rate for the live monitoring will follow the recording frame rate.

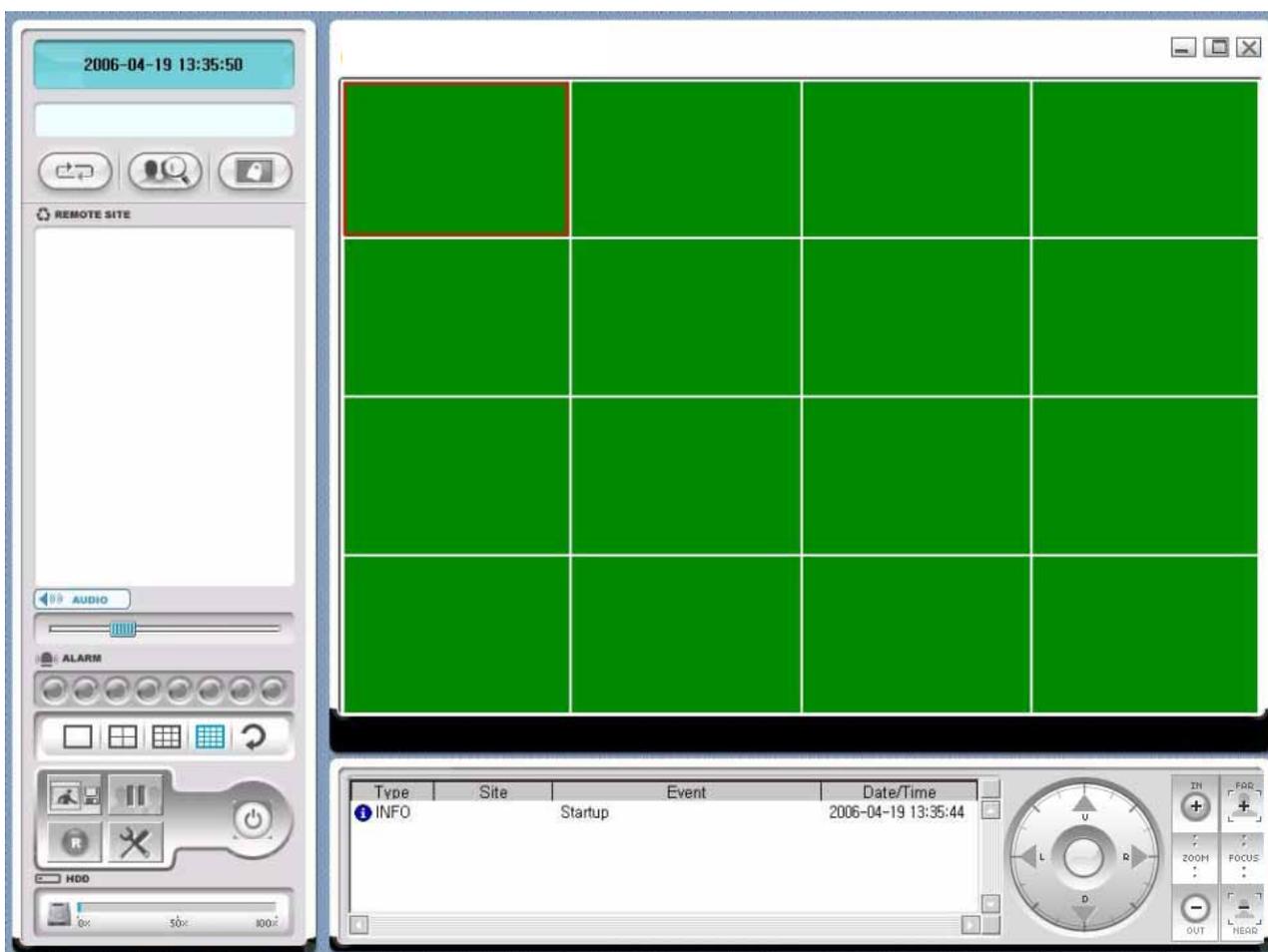


Figure 7.1. Main user interface

### 6-1. Overview

The remote software supports remote live viewing, search, playback and system configuration. By installing the Stand-Alone DVR remote software on a Windows PC you can monitor real-time and recorded images via optional Ethernet network. This includes the ability to monitor video, playback recorded video and change operating parameters.

## 6-2. Minimum PC requirements

	Minimum	Recommended
CPU	Intel Pentium	Intel Pentium
	500Mhz	2Ghz
Memory	128MB	256MB
VGA	16MB	64MB
Resolution	1024x768	1024x768
Disk space	10MB	10MB
OS	Windows 2000	Windows 2000
	Professional, XP	Professional, XP
Network	10/100Base T	10/100Base T
Others	Direct X 8.1 or Higher	Direct X 8.1 or Higher

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

## 6-3. Installing the program

1. Insert the provided CD into the CD-ROM drive of your PC.



2. Run `network.exe` to start the installation process.
3. Follow the onscreen directions.



4. Double click the `Network Client` icon to start the program

## 6-4. Live viewer

When installation is complete, double click the icon on your desktop to start the program.

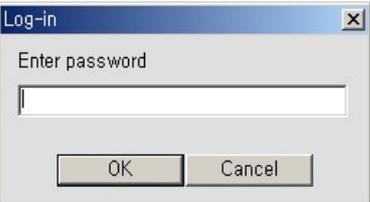
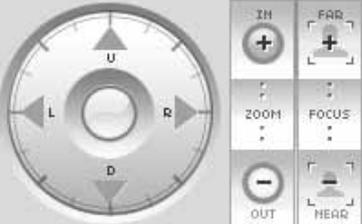


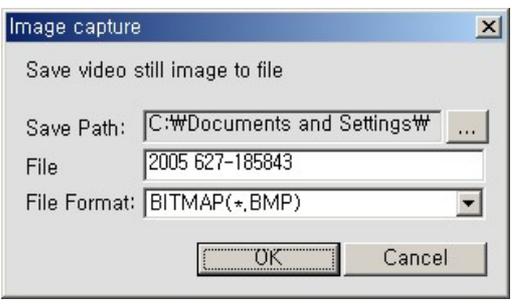
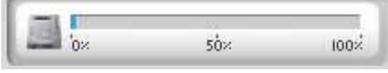
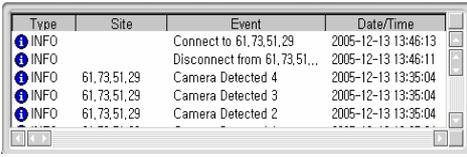
6-4-1. Main user interface



6-4-2. Main control panel

Button	Description
	Display of current time.
	Display of current connected IP address
	Click this icon to connect to the DVR
	Once you click the connection icon, this pop up window appears. Enter the IP address (or Sub-domain name) and a port number. And select the protocol type and enter password.

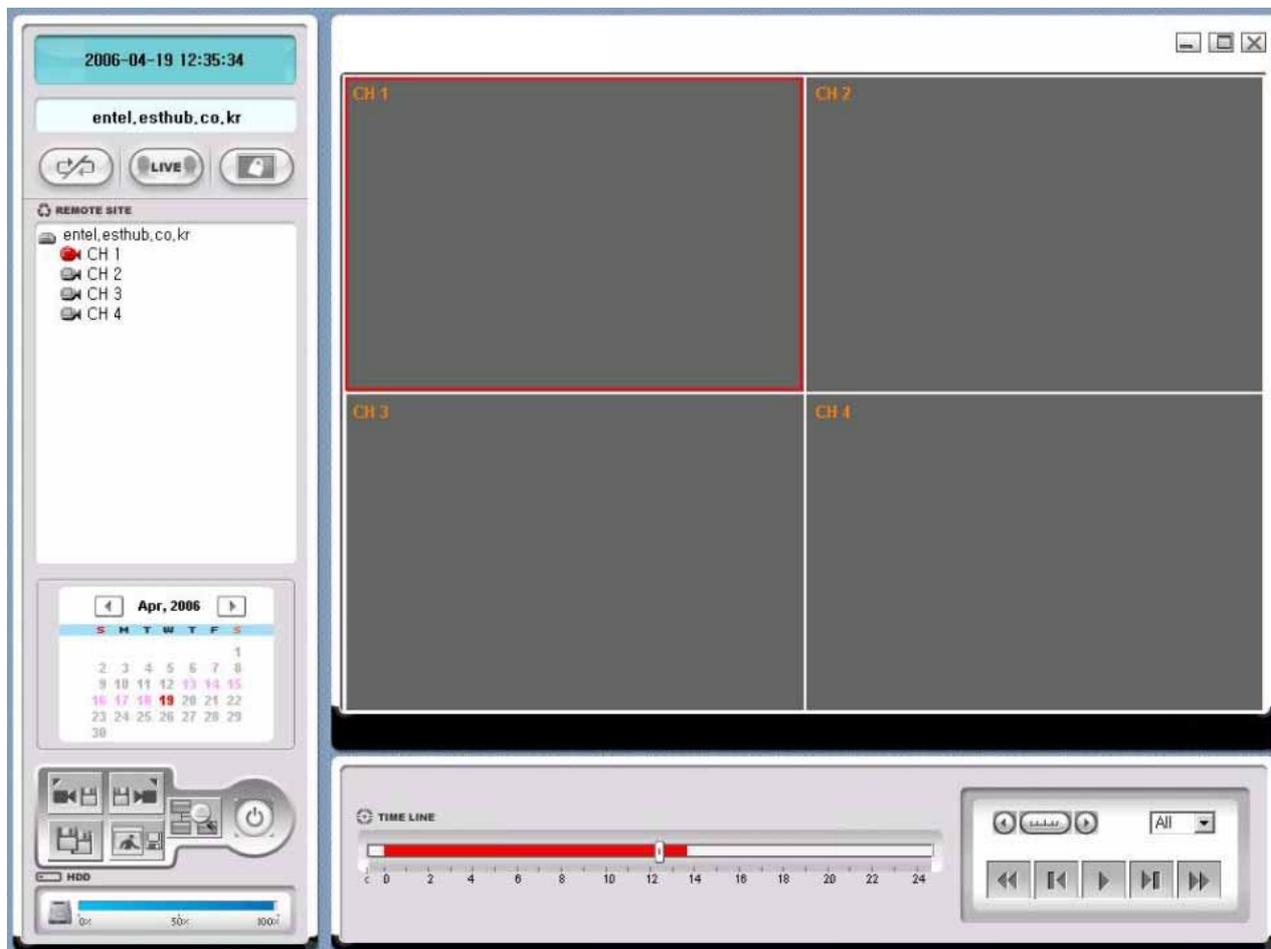
 <p>DISCONNECT</p>	<p>Click this icon to disconnect to the DVR</p>
 <p>SEARCH</p>	<p>Click this icon to search for recorded videos.</p>
 <p>LIVE</p>	<p>Click this icon to see a live video.</p>
 <p>LOCK</p>	<p>Click this icon to lock all operations of client software</p>
 <p>UNLOCK</p>	<p>Click this icon to unlock all operations of client software.</p>
	<p>Once you click the lock or unlock icon, this pop up window appears. You need to remember the pass word and enter the pass word when you try to operate the client software.</p>
	<p>User can control PAN/TILT &amp; ZOOM FOCUS of remote camera.</p>
 <p>PLAY</p>	<p>Click this icon to play live video.</p>
 <p>PAUSE</p>	<p>Click this icon to pause live video.</p>
 <p>RECORD</p>	<p>Enable or disable recording of live video to local disk which has set in setup menu</p>

 <p>CAPTURE</p>	<p>Click this icon to capture a still image</p>																								
	<p>Once you click the capture icon, this pop up window appears. A still image is captured in bmp file format.</p>																								
 <p>SETUP</p>	<p>Click this icon to setup configuration of client software.</p>																								
 <p>TERMINATE S/W</p>	<p>Click this icon to terminate client software.</p>																								
	<p>Alarm indicators for each channels. Alarm relay can be controlled with this button (1 time)</p>																								
	<p>Full screen Click 1ch division mode and camera channel in a row</p>																								
	<p>Division screen 4 Division/ 9 Division/ 16 Division</p>																								
 <p>ROTATE CH</p>	<p>Click this icon for Sequential display of each channel in full screen mode.</p>																								
	<p>Use the volume control bar to set the audio level.</p>																								
	<p>HDD storage Indicator of DVR</p>																								
 <table border="1" data-bbox="220 1778 687 1935"> <thead> <tr> <th>Type</th> <th>Site</th> <th>Event</th> <th>Date/Time</th> </tr> </thead> <tbody> <tr> <td>INFO</td> <td></td> <td>Connect to 61.73.51.29</td> <td>2005-12-13 13:46:13</td> </tr> <tr> <td>INFO</td> <td></td> <td>Disconnect from 61.73.51...</td> <td>2005-12-13 13:46:11</td> </tr> <tr> <td>INFO</td> <td>61.73.51.29</td> <td>Camera Detected 4</td> <td>2005-12-13 13:35:04</td> </tr> <tr> <td>INFO</td> <td>61.73.51.29</td> <td>Camera Detected 3</td> <td>2005-12-13 13:35:04</td> </tr> <tr> <td>INFO</td> <td>61.73.51.29</td> <td>Camera Detected 2</td> <td>2005-12-13 13:35:04</td> </tr> </tbody> </table>	Type	Site	Event	Date/Time	INFO		Connect to 61.73.51.29	2005-12-13 13:46:13	INFO		Disconnect from 61.73.51...	2005-12-13 13:46:11	INFO	61.73.51.29	Camera Detected 4	2005-12-13 13:35:04	INFO	61.73.51.29	Camera Detected 3	2005-12-13 13:35:04	INFO	61.73.51.29	Camera Detected 2	2005-12-13 13:35:04	<p>It shows information of client connection.</p>
Type	Site	Event	Date/Time																						
INFO		Connect to 61.73.51.29	2005-12-13 13:46:13																						
INFO		Disconnect from 61.73.51...	2005-12-13 13:46:11																						
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INFO	61.73.51.29	Camera Detected 3	2005-12-13 13:35:04																						
INFO	61.73.51.29	Camera Detected 2	2005-12-13 13:35:04																						
	<p>Maximize /Minimize /Exit of the client viewer</p>																								

## 6-5. Search and Playback Viewer

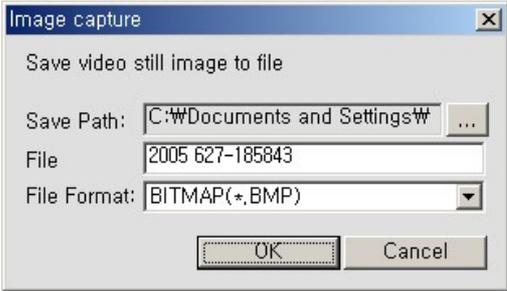
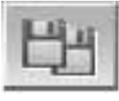
### 6-5-1. Main user interface

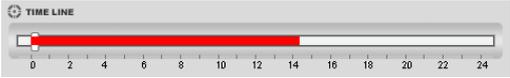
You can access to search window by clicking the search icon on the upper left of main user interface.



### 6-5-2. Main control panel

Button	Description
	It shows the recording time of the selected data by adjusting of scale in the middle of the bottom of the main user interface.
	Display of current connected IP address
	Click this icon to see live videos.

 <p>EXIT</p>	<p>Click this icon to exit from the operations of client software</p>
 <p>CAPTURE</p>	<p>Click this icon to capture a still image of recorded video.</p>
	<p>Once you click the capture icon, this pop up window appears. A still image is captured in bmp file format.</p>
 <p>MARK IN</p>	<p>Click this icon to set the beginning time for backup of the recorded video in AVI format</p>
 <p>MARK OUT</p>	<p>Click this icon to set the ending time for backup of the recorded video in AVI format</p>
 <p>BACKUP</p>	<p>Click this icon to backup the recorded video in AVI format.</p>
	<p>Once you click the backup icon, this pop up window appears.</p>
	<p>It shows the recorded date in blue bold and selected date in black.</p>

	It shows the recorded data in green bar. You can adjust the time line scale and click the play icon to display the recorded video
	Click this icon to play the recorded video
	Click to pause/stop the displaying video
	Click to fast forward the displaying
	Click to rewind the displaying
	Click to backward by 1frame
	Click to forward by 1frame

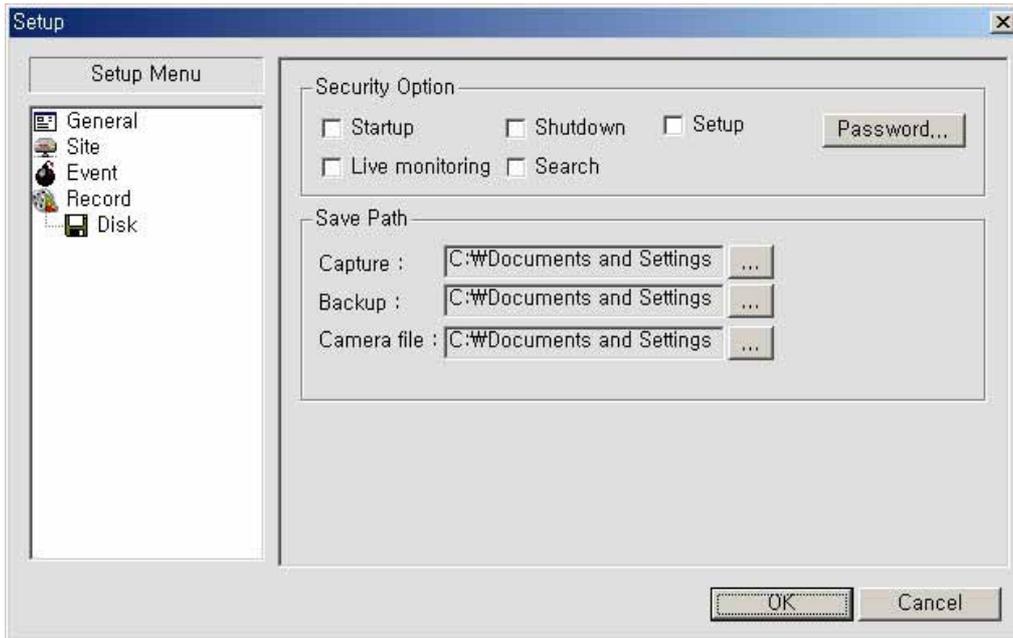
## 6-6. System configuration

Click the setup icon  to setup the configuration of DVR.

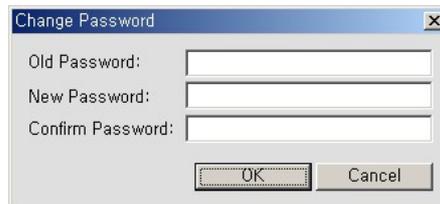
### 6-6-1. General

Once you click the setup icon, this pop up window appears. Select security options and set a password. Then when you access to the functions you have set, you need to enter the password which has set in setup menu.

You can set the save path for capturing, backup and camera files.

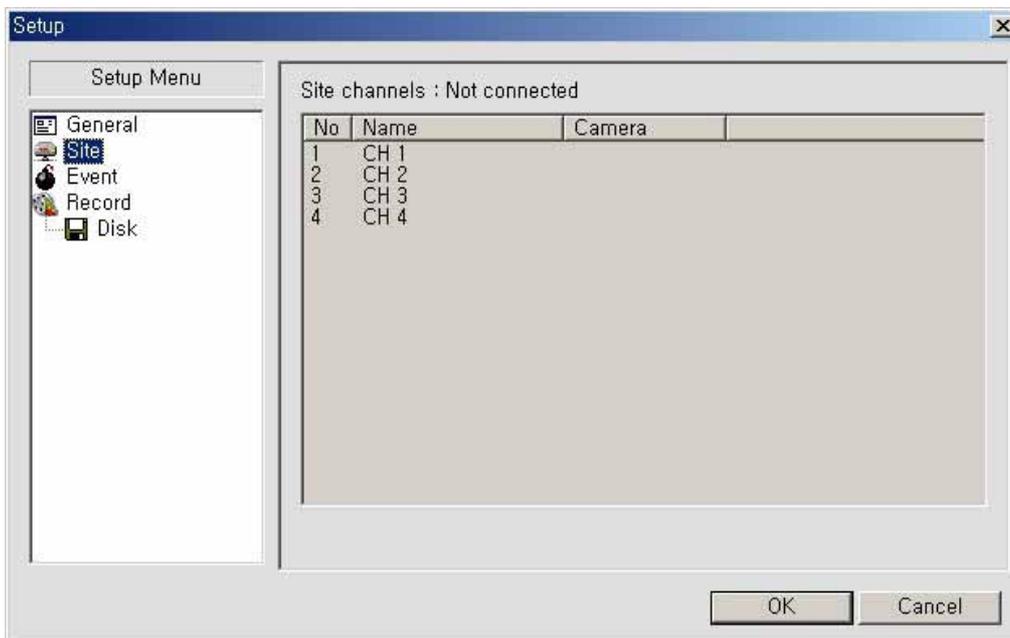


Set a password for security options.



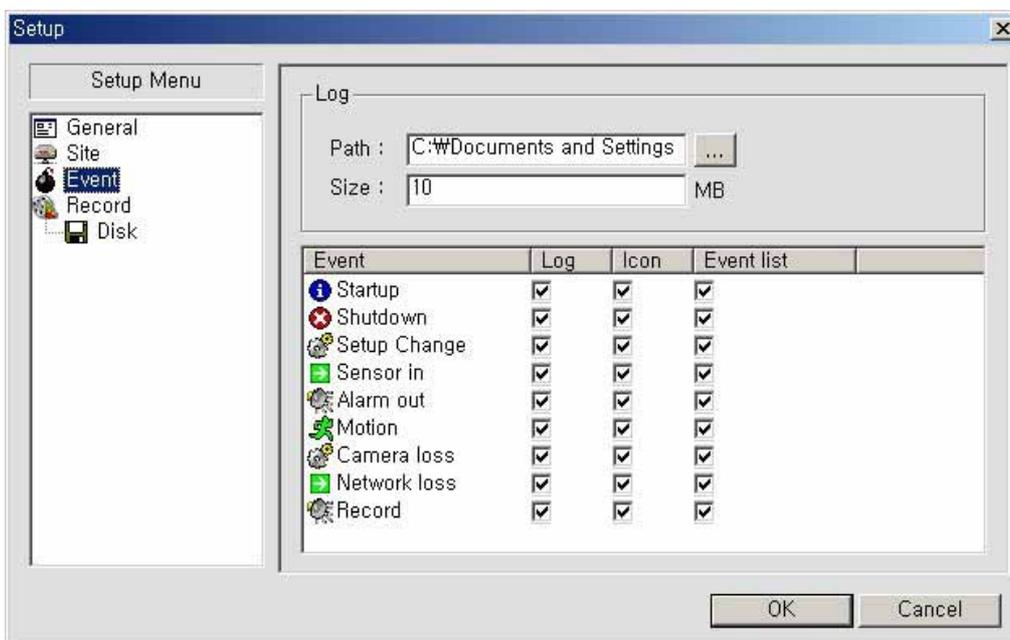
### 6-6-2. Site

It shows the channel information connected to DVR and you can change the channel title



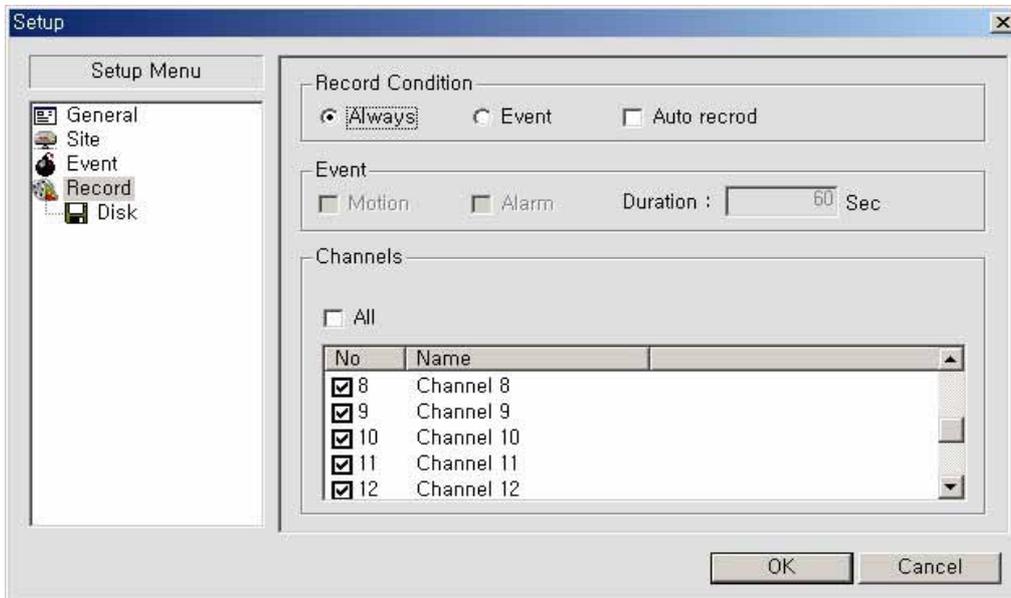
### 6-6-3. Event

You can set event items, the capacity of local disk and save path for log.



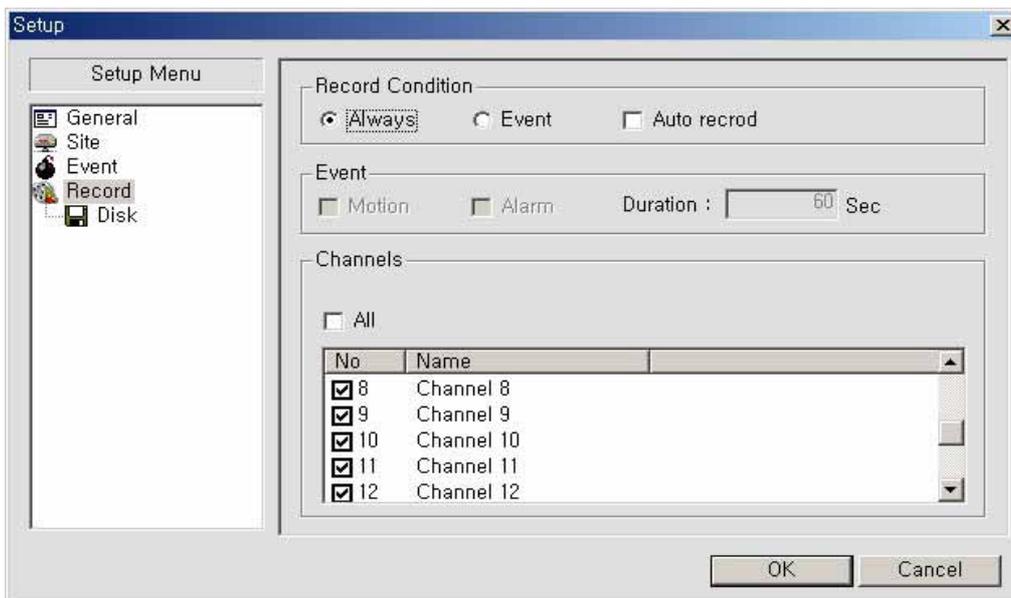
## 6-6-4. Record

You can set the recording conditions for always, event and auto recording. And you also can set each or all channels for recording.



When you set the recording condition to event, you can set event for motion or alarm with duration. And you also can set each or all channels for event recording.

## 7-6-5. Disk



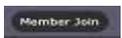
You can set the local disk and the capacity of it for recording. You can select the recording way to overwrite or stop recording when the local disk is full.

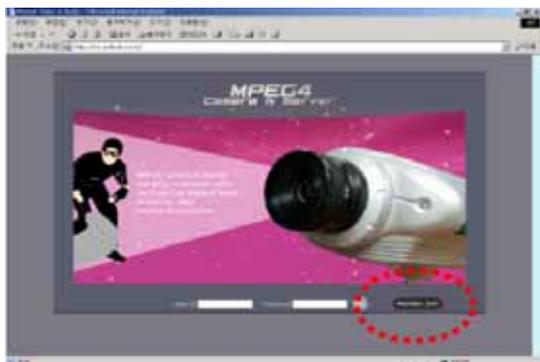
## 7 Using DDNS

### 7-1. DDNS Registration Procedure

#### [Step 1]

Enter the DDNS Web site (<http://www.esthub.co.kr>)

 [Click]



#### [Step 2]

. Input ID, Password, Name, E-Mail

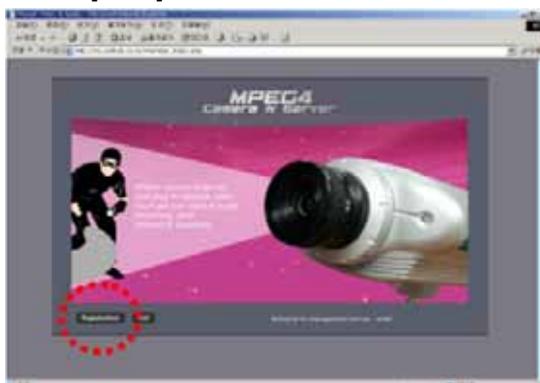
.  [Click]



#### [Step 3]

. Start registration Procedure.

.  [Click]



#### [Step 4]

. Input MAC Address, Registration No. ,

Domain Name.  [click]

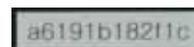


**.MAC Address** : Label means the Mac Address of DVR

e.g) 000269003B24



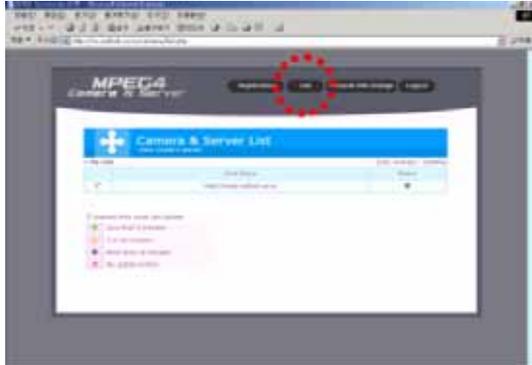
**.Registration No.** : Each MAC Address has its own Registration number.



**.Domain Name** : Input same user ID THEN User Domain name is composed like **ID.esthub.co.kr**  
e.g) In case, User ID is entel, then Domain name would be **entel.esthub.co.kr**

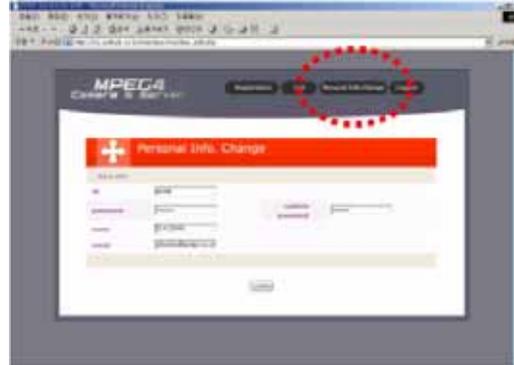
**[Step 5]**

. Able to confirm the present status of domain name(entel.esthub.co.kr) in Server List.



**[Step 6]**

. When need to change the information of User, Select Personal Info. Change button.



**7-2. DVR SETUP**

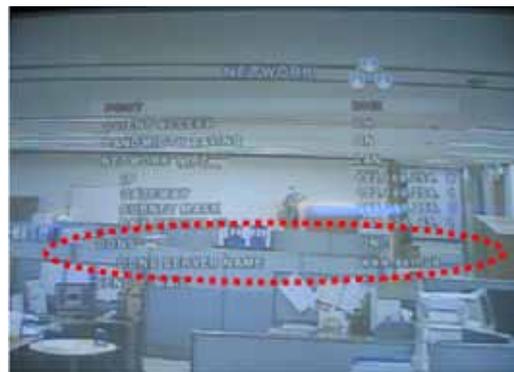
**[Step 1]**

. Go to SETUP, and Select Network to choose DDNS enable.



**[Step 2]**

. Change the value on DDNS to ON.



**[Step 3]**

. Configure the DDNS address to [www.esthub.co.kr](http://www.esthub.co.kr) and save DVR then it will be reboot automatically.



### 7-3. Using Client Program

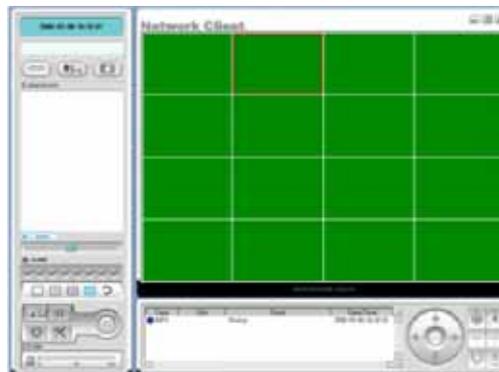
#### [Step 1]

- . Execute the Program.
- . xxxxx.exe in desktop [Click]



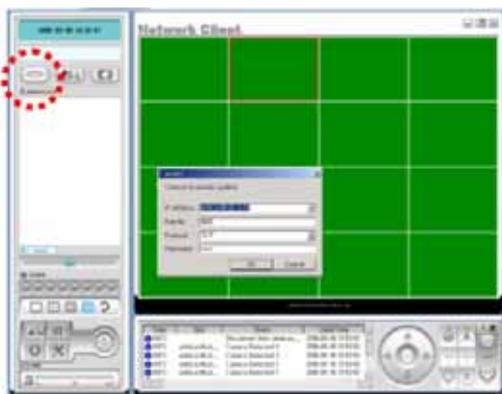
#### [Step 2]

- . Program will be executed.



#### [Step 3]

- . Program will be executed.
- .  [Click]



#### [Step 4]

- . Insert registered values like below.



- . **IP Address** : Domain Name(entel.esthub.co.kr) or Static IP.
- . **Port No** : 5445(Default Value)
- . **Protocol** : TCP(Default Value)
- . **Password** : xxxx(Network Password)

**[Step 5]**

. In Desktop of Windows.

Start -> Run -> CMD [Enter]

**[Step 6]**

. In order to check the status is normal, Use Ping Ping entel.esthub.co.kr [Enter]

Test

```

C:\Windows\system32\cmd.exe
Microsoft Windows [Version 5.00.2195]
(C) Copyright 1985-2000 Microsoft Corp.

C:\Documents and Settings\Administrator>ping entel.esthub.co.kr

Pinging entel.esthub.co.kr [61.73.18.198] with 32 bytes of data:

Reply from 61.73.18.198: bytes=32 time=34ms TTL=64
Reply from 61.73.18.198: bytes=32 time=34ms TTL=64
Reply from 61.73.18.198: bytes=32 time=33ms TTL=64
Reply from 61.73.18.198: bytes=32 time=32ms TTL=64

Ping statistics for 61.73.18.198:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 32ms, Maximum = 34ms, Average = 33ms

C:\Documents and Settings\Administrator>
  
```

This picture shows 61.73.18.198 is bound to entel.esthub.co.kr in DDNS.

# **USER GUIDE**

## **CMS**

**(Central Monitoring Software)**

**Version: 1.0**

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## 1. CMS – Central Monitoring Software

### 1-1. Overview

CMS supports remote live viewing, remote search, backup, camera control and other functions, linking multiple DVRs.

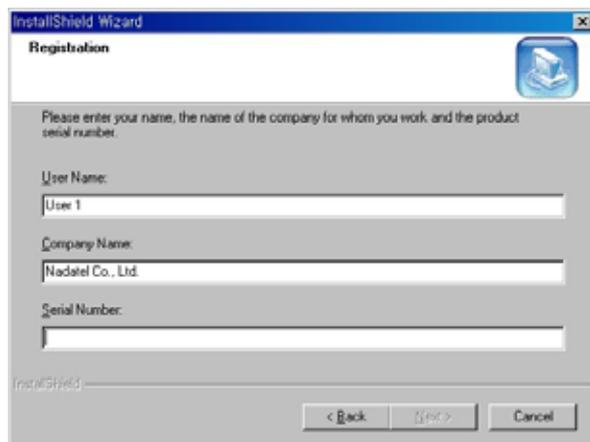
### 1-2. Minimum PC requirements

CPU	Intel Pentium
	2Ghz
Memory	256MB
VGA	64MB
Resolution	1024x768
Disk space	10MB
OS	Windows 2000, Professional, XP
Network	10/100Base T
Others	Direct X 8.1 or Higher

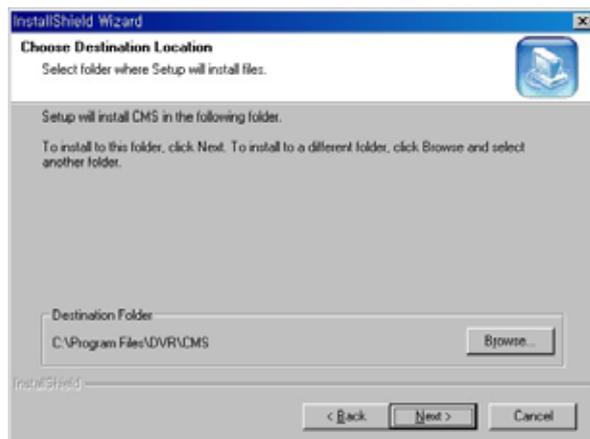
Before installing the program, check the PC specifications. The DVR remote software may not perform correctly if the PC does not meet the minimum requirements.

### 1-3. Installing the program

1. Insert the provided CD into the CD-ROM drive of your PC.
2. Run CMS(XXXXXX).exe to start the installation process.
3. Follow the onscreen directions. Enter User Name, Company Name and **Serial Number that is provided from the supplier.**



4. Select the target folder that the program is installed.



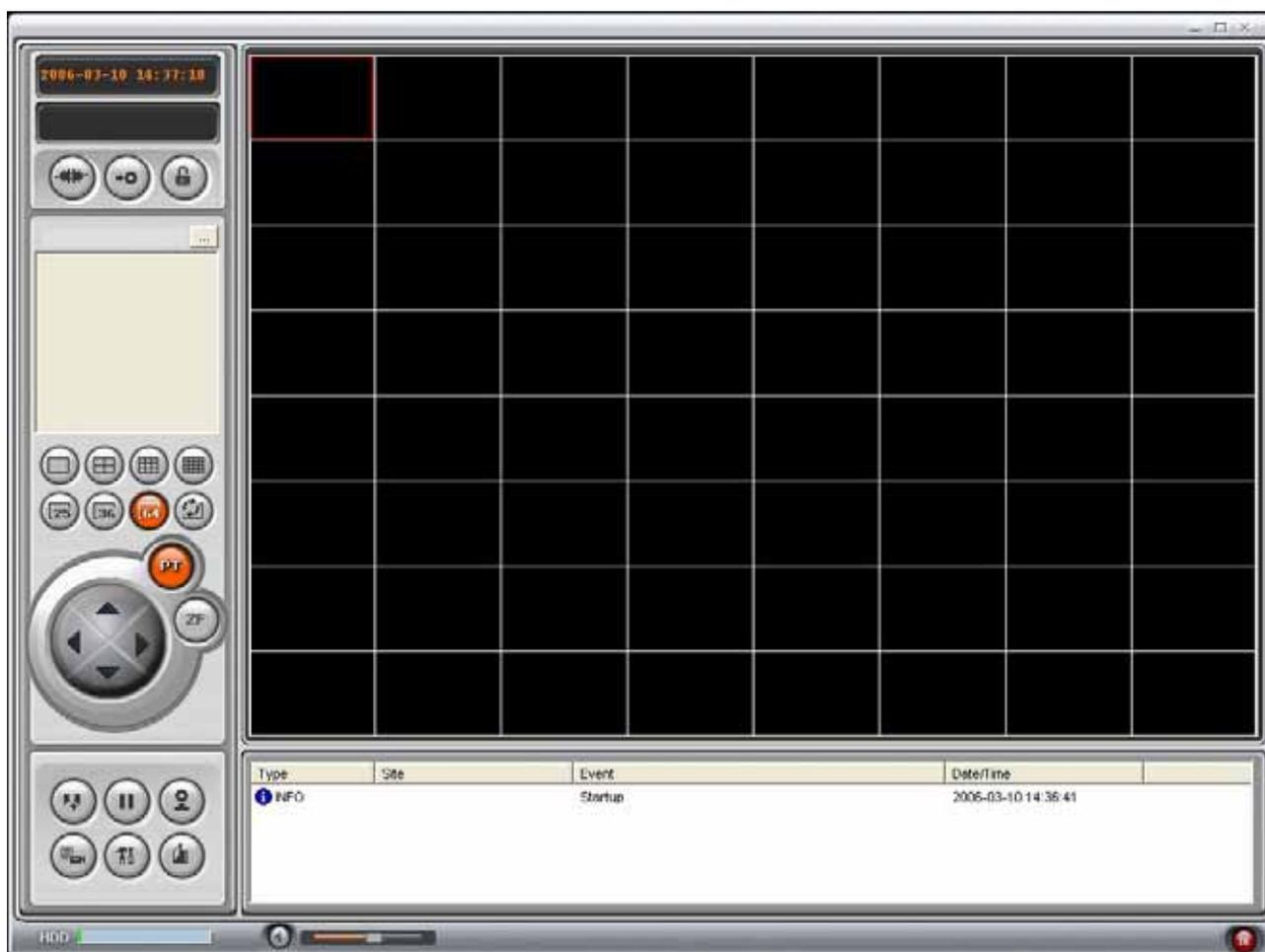
5. Double click the  icon to start the program.

## 1-4. Live Monitoring



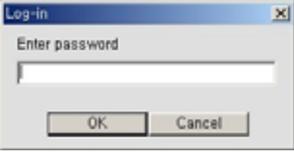
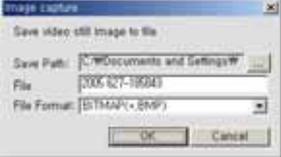
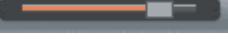
When installation is completed, double click the CMS icon on your desktop to start the program.

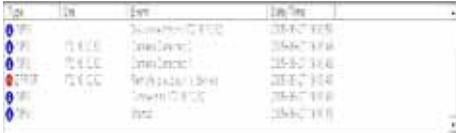
### 1-4-1. Main user interface



### 1-4-2. Control buttons

Button	Description
	Displays the current date and time.
Connect/Disconnect	Click this icon to connect / disconnect the DVRs

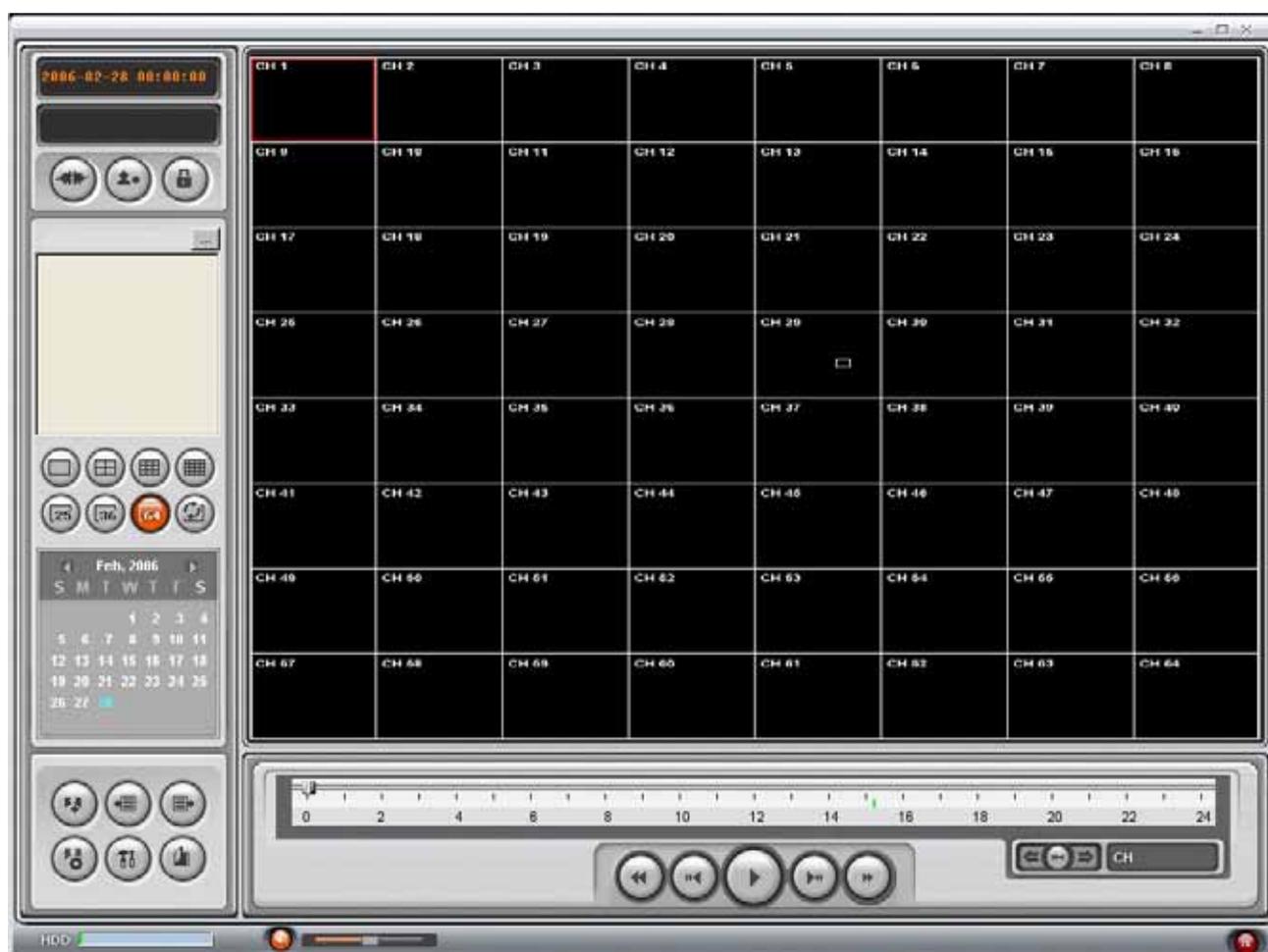
  <p>Search/Live</p>	<p>Click this icon to search for recorded videos / to see all live video.</p>
  <p>Lock/Unlock</p>	<p>Click this icon to lock/unlock all operations of CMS.</p>
	<p>Once you click   Lock/Unlock icon, this pop up window appears. You need to remember the password and enter the password when you try to operate the client software.</p>
	<p>User can control PAN/TILT &amp; ZOOM/FOCUS.</p> <p>  PAN left /right   TILT up/down</p> <p>  ZOOM in/out   FOCUS in/out</p>
  <p>Play/Pause</p>	<p>Click this icon to play/pause live video.</p>
 <p>RECORD</p>	<p>Enable or disable recording of live video to local disk which has set in setup menu</p>
 <p>CAPTURE</p>	<p>Click this icon to capture a still image</p>
	<p>Once you click the  capture icon, this pop up window appears. The still image is captured in either jpeg or bmp file format.</p>
 <p>SETUP</p>	<p>Click this icon to setup configuration of CMS.</p>
 <p>EXIT</p>	<p>Click this icon to exit from the operations of CMS.</p>
	<p>To select the numbers of display channels</p>
 <p>SEQUENCE</p>	<p>Click this icon for Sequential display of each channel in full screen mode.</p>
	<p>Use the volume control bar to set the audio level.</p>
	<p>You can select the audio on or off by clicking the audio icon</p>

	HDD storage Indicator of DVR.
	It shows the status of network connections.
	Max/Min/Exit of the client viewer
	The alarm output indicator lights up for 5 seconds if alarm output is activated on the DVR.

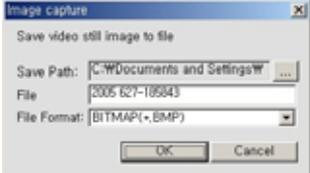
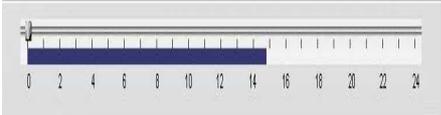
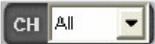
## 1-5. Search and Playback

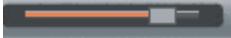
### 1-5-1. Main user interface

You can access to search window by clicking the search icon on the upper left of main user interface.



1-5-2. Main control panel

Button	Description
	<p>Displays the recording time of the selected data by adjusting of scale in the middle of the bottom of the main user interface.</p>
 LIVE	<p>Click this icon to see live videos.</p>
 CAPTURE	<p>Click this icon to capture a still image of recorded video.</p>
	<p>Once you click the  capture icon, this pop up window appears. The still image is captured in either jpeg or bmp file format.</p>
 MARK IN	<p>Click this icon to set the beginning time for backup of the recorded video in AVI format</p>
 MARK OUT	<p>Click this icon to set the ending time for backup of the recorded video in AVI format</p>
 BACKUP	<p>Click this icon to backup the recorded video in AVI format.</p>
	<p>The calendar shows dates with recorded video in a light blue and the selected date in dark blue.</p>
	<p>The timeline shows recorded data in dark blue 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>  : To move a time bar at a hour interval on a time line scale.</p> <p> : To change a time line scale from 24 hours to 60 minutes.</p> <p> : To display the recorded data of selected channel on a time line scale.</p>

	Click to rewind at 2x and 4x speeds, to reverse at 1frame, to play, to advance 1 frame, and to fast forward at 2x and 4x speeds in playback mode.
	To select the numbers of display channels
 SEQUENCE	Click this icon for Sequential display of each channel in full screen mode.
	Use the volume control bar to set the audio level.
	You can select the audio on or off by clicking the audio icon
 EXIT	Click this icon to exit from the operations of client software

### 1-5-3. Back up

You can backup the recorded videos in AVI format on search.

1. First you have to set the beginning time by using the scale. Please click MARK IN , when the scale of the Green timeline is located on the target time as the beginning time of backup.
2. 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 . Then, color of the timeline between the beginning time and ending time will be changed into dark Green.
3. Next, click BACKUP  and the pop up window appears as below.



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

## 1-6. System configuration

Click the setup icon  to setup the configuration of DVR.

### 1-6-1. General

Once you click the setup icon, this pop up window appears. Select security options and set a password.

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

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

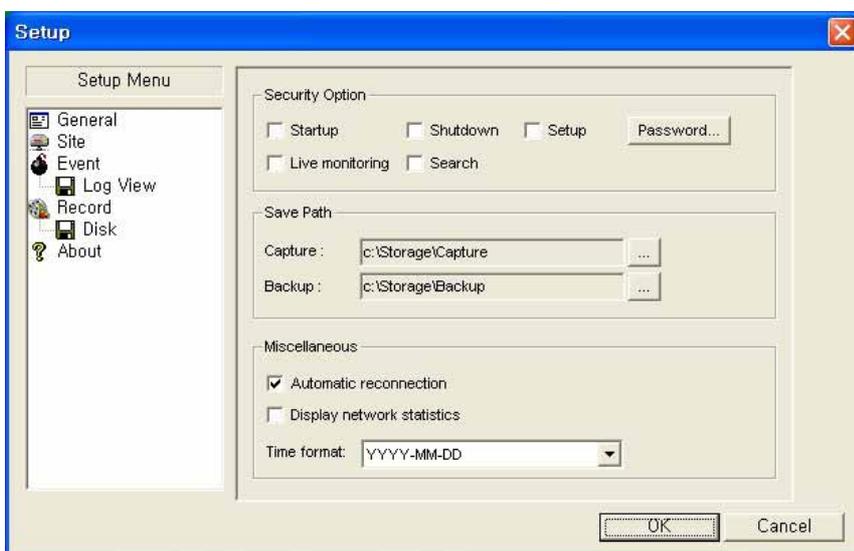
**Security Option:** Set a password for security options.

**Save Path:** Specify the location to record the receiving video for Backup and still image for Capture.

**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.

**Display network statistics:** If a user selects this function, client S/W will display network status, Bit rate and Frame rate.

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



Set a password for security options.



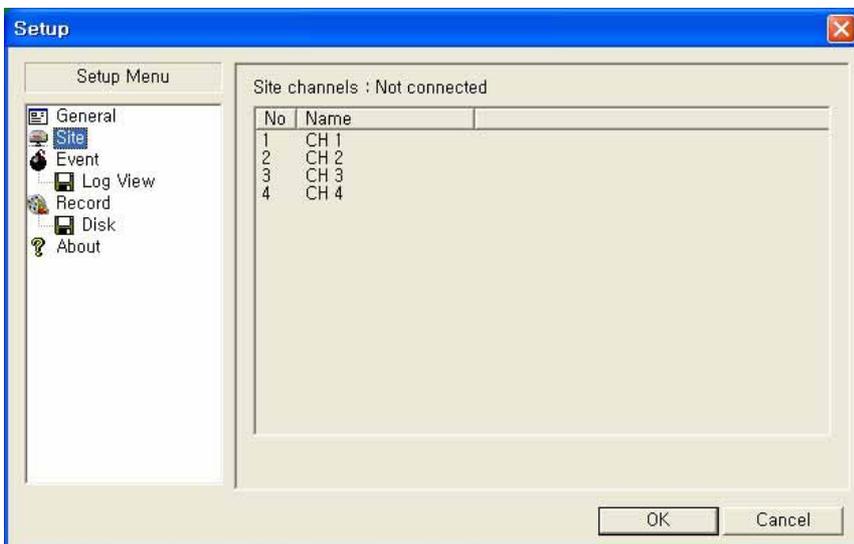
**Initial PW setting:** Do not enter any PW on 'Old Password'. Enter the same PW on 'New

Password' and 'Confirm Password', then press 'OK' button.

**From 2<sup>nd</sup> PW setting:** User needs to enter PW on 'Old Password' to change PW.

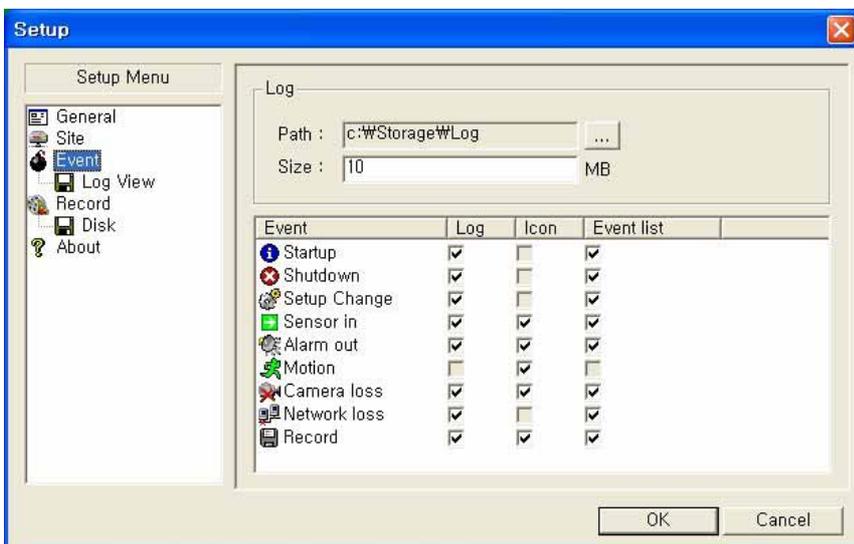
### 1-6-2. Site

This option shows the channel information of the DVR and allows you to change the channel title.



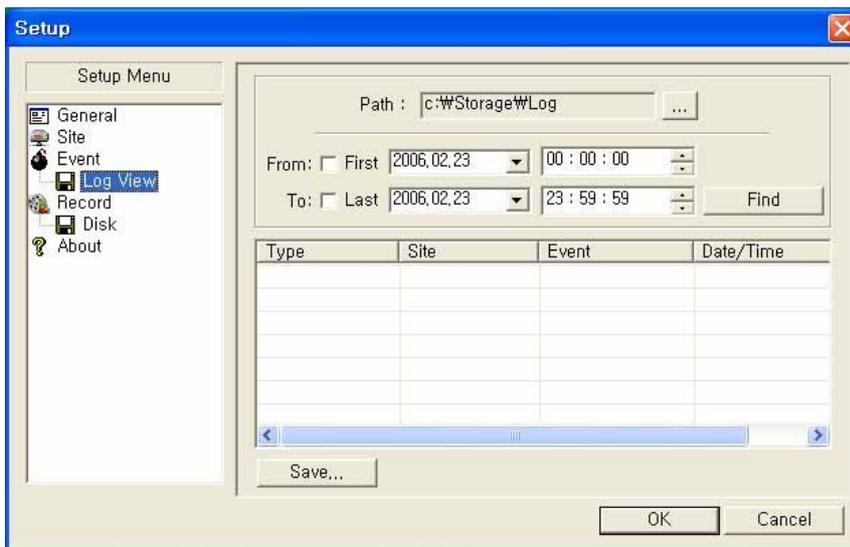
### 1-6-3. Event

You can set event items, the amount of local disk space you want to allow, and the save path for the log.



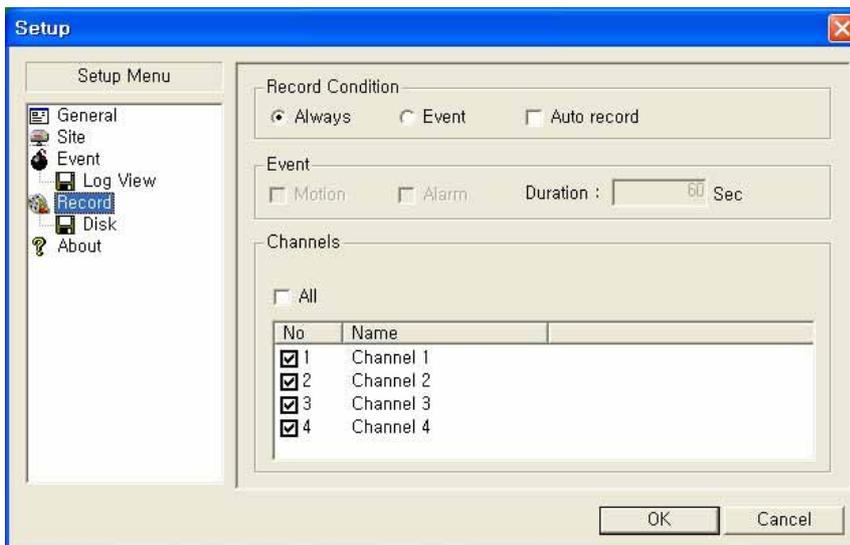
- LOG – Select to save event log into 'log file'.
- ICON – Select to display event on live video.
- EVENT LIST – Select to show event on 'Event List' window of live mode.

You can search and check the recorded log data.

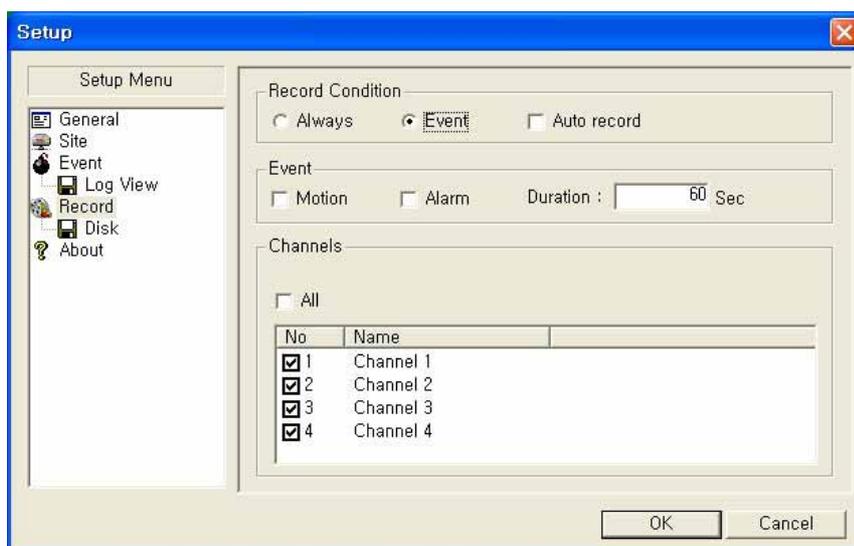


#### 1-6-4. Record

You can set the recording conditions for Always, Event, or Auto recording. You can also select individual channels or all channels to record.

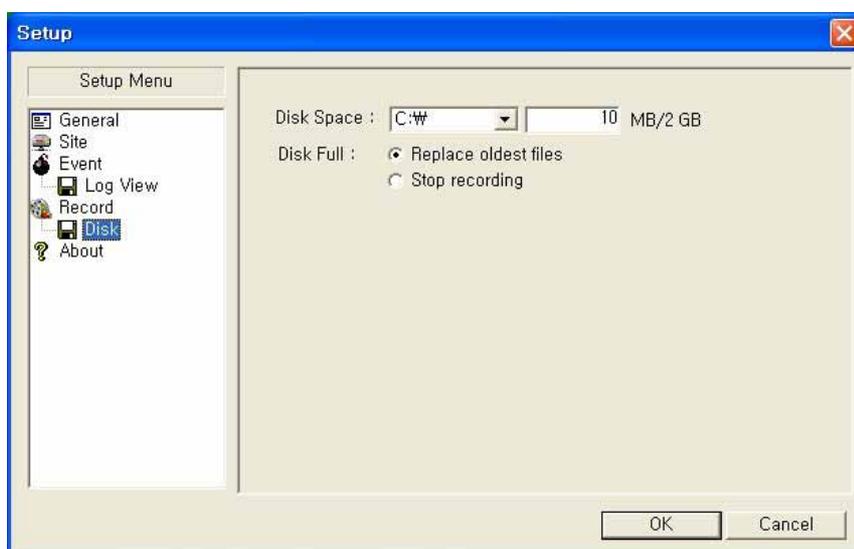


When you set the recording condition to event, you can set event for motion or alarm with duration. And you also can set each or all channels to record.



#### 1-6-5. Disk

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.



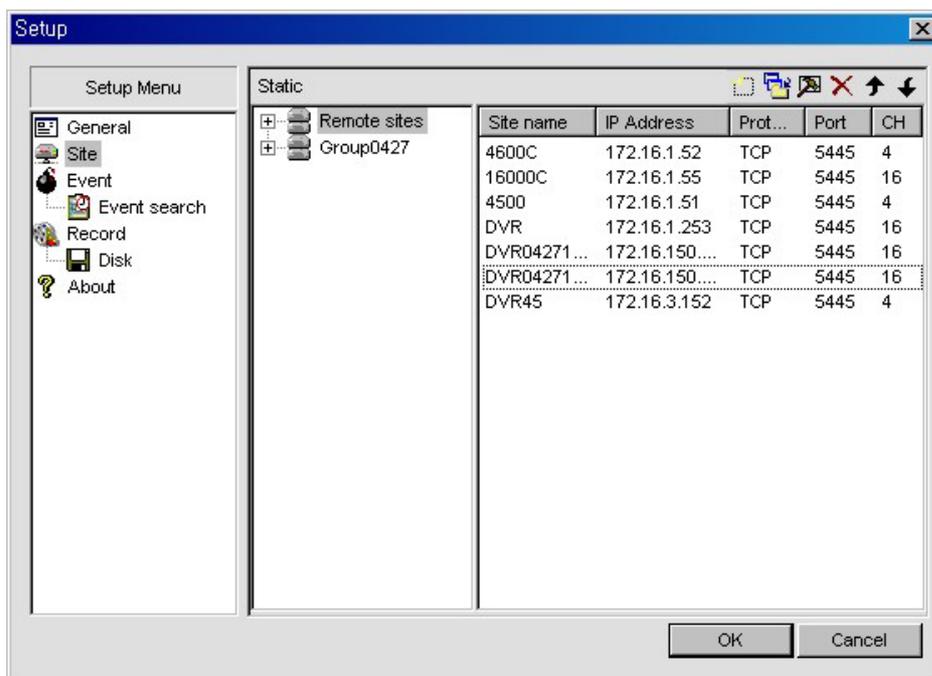
#### 1-6-6. About

“About” provides network client version information.

## 1-7. DVR Sites registration and Access

### 1-7-1. DVR Sites registration

1. Press  button.
2. Press SITE menu from the window and then the following registration menu.



BUTTONS	DESCRIPTION
	Create New Site: You can create new DVR site, make new group.
	Add Site to Group: You can add existing site to existing group.
	Modify: You can modify information of a site.
	Delete: You can delete a site.
	Move Item Up/Down

3. Press  Button to create new site or add new group.

Site

Group

Group : Group1234 Add...

Site

Site Name: DVR1

IP Address: 172.16.1.52

Port No.: 5445

Protocol: TCP

Password: \*\*\*\*

Channels: 4 CH  All channel

No	Name	Camera
<input checked="" type="checkbox"/> 1	CH 1	
<input checked="" type="checkbox"/> 2	CH 2	
<input checked="" type="checkbox"/> 3	CH 3	
<input checked="" type="checkbox"/> 4	CH 4	

OK Cancel

Add group

Group name: Group1234

OK Cancel

- ◇ Group: To select Group or to add new group.
- ◇ Site Name: Enter a site name.
- ◇ IP Address: Input IP address name or Domain name (Ex. xxxx.standalone4ch.com)
- ◇ Port No.: Input port number of DVR.
- ◇ Protocol: Select network protocol from TCP or UDP.
- ◇ Password: Input password of DVR.

Setup

Setup Menu

- General
- Site
- Event
- Event search
- Record
- Disk
- About

Static

- Remote sites
  - Group0427
  - Group1234
    - DVR1

Site name	IP Address	Prot...	Port	CH
DVR1	172.16.1.77	TCP	5445	4

OK Cancel

1-7-2. Access

1. Press the connect  button to access sites.
2. Select groups or sites and press Connect button.

