USER GUIDE

STAND-ALONE

4 channel MPEG-4 Triplex DVR

V. 1.4

This document contains preliminary information and subject to change without notice.

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 persons.

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.

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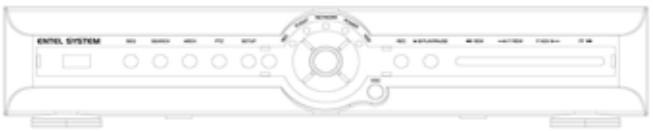
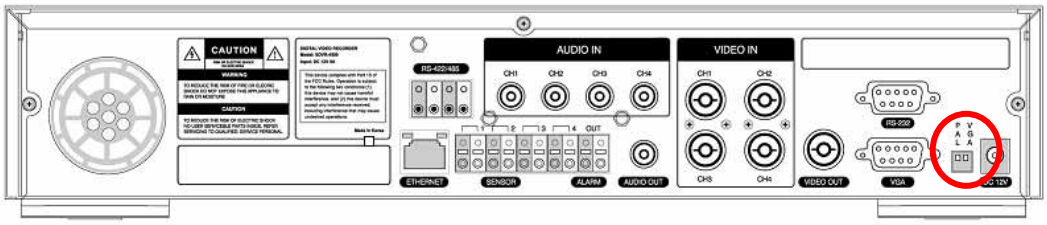
DVR SET	
CLIENT SOFTWARE CD	
REMOTE CONTROLLER	
BATTERY	
ADAPTOR	
MANUAL	
RUBBER RINGS & SCREWS	
IDE HDD CABLE	
HDD BRACKETS	
POWER CABLE	

VIDEO SIGNAL SELECT / SETTING



SETTING	Video mode		Video output	
	NTSC	PAL	BNC	VGA
P V A G L A **Factory Default**	O	X	O	X
P V A G L A	X	O	O	X
P V A G L A	O	X	X	O
P V A G L A	X	O	X	O

NOTICE

Do not change the setting when the power is on.

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

HDD INSTALLATION

◆ HDD SETTING

4*6mm X 4EA

#6-32*6 X 4EA

HDD IDE CABLE / HDD POWER CABLE

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1. Front Panel

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

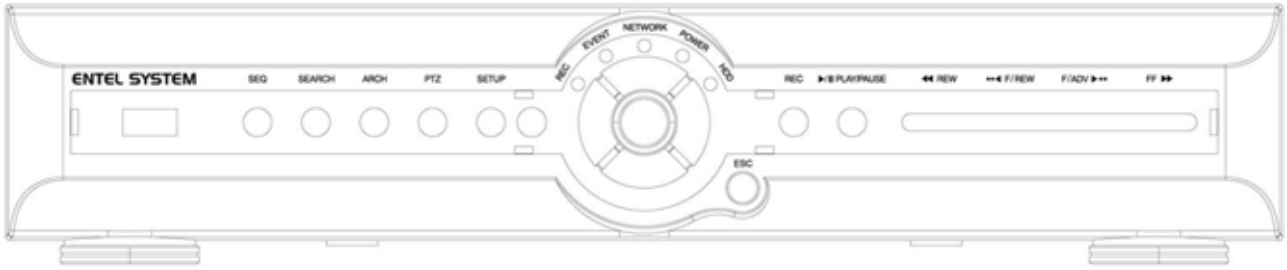


Figure 1.1 Front panel

Table 1.1. LED Indication

Name	Description
POWER	LED light is on when power is applied to the system.
HDD	LED light is on when the system is recording video data.
EVENT	LED light is on when alarm sensor(s) is/are triggered or motion is detected.
NETWORK	LED light is on when client is connected to the system through the network.

Table 1.2. Front panel buttons

Name	Description
SEQ	Press to start auto sequencing of the screen in full screen mode. (Toggle)
SEARCH	Press to go to the search menu. Event search /Time line search /Log /Archive search
ARCH	Press to start operations involving archiving in live or playback mode.
PTZ	Press to control PTZ operation
SETUP	Press to launch SETUP menu.
REC	Press to start and stop manual recording.
ESC	Press for temporal storage of the changed value or to return to previous menu screen.
	Press to move up the menu items in setup mode and to select camera 1 in live 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 and to select camera 2 in live mode. It is also used as the number 2 when entering password.

	Press to move down the menu items in setup mode and to select camera 3 in live 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 and to select camera 4 in live mode. It is also used as the number 4 when entering password.
	Press to select full screen or quad view in live display mode. It is also used to select desired menu item or to store the setup value in the menu.
PLAY/PAUSE	Press to play or to pause the footage in playback mode
◀◀ REW	Press to rewind the footage at 1x, 2x, and 4x speed in playback mode.
••◀ F/REW	Jump/Step backward. – In playback mode, the playback position moves 60 seconds backward.
F/ADV ▶••	Jump/Step forward – In playback mode, the playback position moves 60 seconds forward.
FF ▶▶	Press to fast forward the footage at 1x, 2x, and 4x speeds in playback mode.

There is a USB port located on the left side of the front panel. This USB port is used to archive footage onto a USB storage device. (USB 2.0 connector)

2. Rear Panel

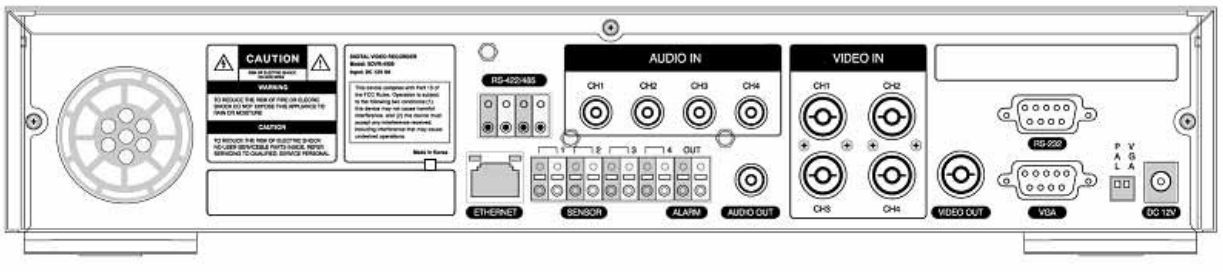


Figure 2.1. Rear Panel

Table 2.1. Rear panel connections

Connection	Purpose
VIDEO IN	Four connectors for video input. Connect camera output to Video-in (NTSC/PAL)
VIDEO OUT	Composite video output in NTSC or PAL format
AUDIO IN	Four connectors for audio input.
AUDIO OUT	One connector for audio output.
VGA	Connector for VGA monitor
RS-232	For engineering use only
RS-485/422	For camera control use
SENSOR IN	Connector for sensor device connection. 4 sensors can be connected to the equipment sensor 1, 2, 3, 4 are dedicated to Video channel 1, 2, 3, 4, respectively. Either normal open (NO) or normal close (NC) sensor can be selected for each sensor. Simple On/Off switching.
ALARM OUT	Connector for alarm device connection. Provides simple On/Off switching using relay. 0.5A/125V, 1A/30V
LAN	RJ45 connector for LAN connection
DC12V	Apply 12V DC using the DC adaptor supplied with the equipment.
SWITCHES	
PAL	Set to ON position when video is PAL
VGA	Set to ON position when VGA monitor is used.

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 3.4. After a password has been assigned, enter the password by using the 4 direction keys (representing 1, 2, 3, & 4), and then press the SEL button for 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

3-2. Setup – Live Mode

Set values for live display. Navigate through the menu items by pressing the UP/DOWN buttons.

The value of the menu item may be changed by pressing the LEFT/RIGHT buttons.

Table 3.2.1. Menu items in LIVE mode setup

Item	Description
OSD	Enable/disable on-screen-display.
SEQUENCE	Enable/disable sequential display of video channels in full screen mode

SEQ-DWELL TIME	Dwell time for each cannel display in sequential display mode
SCREEN CROPPING	Enable/Disable cropping to make the display fit into the screen.
OSD CONTRAST	Set the visibility level of the On Screen Display (OSD)
CHANNEL	Select the channel for applying the following settings.
DISPLAY	Enable/disable display of the video channel in live display mode
SEQ LIST	Enable/disable the specified channel to be included in sequential display mode.
BRIGHTNESS	Change the brightness value for the specified channel
CONTRAST	Change the contrast value for the specified channel
HUE	Change the hue value for the specified channel
SATURATION	Change the saturation value for the specified channel

Figure 3.2.1. Live mode setup screen

3-3. Setup – Recording Mode

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

Table 3.3.1. Menu items in Recording mode setup

Menu item	Description
RESOLUTION	Set resolution to either full or quad.
CHANNEL	Select the channel for applying the following settings.
FRAME RATE	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. Typical values of the maximum frame rate for NTSC video are 120 fps for quad and 30 fps for full.
QUALITY	Select the recording quality for the specified channel from normal, high, and superior.
RECORDING	Assign the recording mode for each channel. Recording modes: Continuous, Motion, Sensor, and Disable.
MOTION ZONE	Select Full Zone or Partial Zone for motion sensing. If the Partial Zone is selected, screen will be change as shown in figure 3.3.2.
MOTION SENSITIVITY	Set the motion sensitivity for the specified channel. Control the motion sensitivity from 1 to 9.
SENSOR TYPE	Set the type of sensor for the specified channel from none, N/O (normal open), and N/C (normal closed).
PRE RECORD	Enable/disable pre-event recording. Pre-event recording time is 5 sec and only intra-frames are recorded for pre-event recording.
POST EVENT RECORD	Set post event recording time duration for the specified channel
ALARM	Enable/disable alarm generation for the specified channel.
ALARM DURATION	Set alarm time duration for the specified channel.
AUDIO	Enable/disable audio for the specified channel
SCHEDULE	Set recording schedule. If this menu item is selected, screen will change as shown in figure 3.3.3.

Figure 3.3.1. Recording mode setup screen

3-3-1. Motion Zones

By selecting Partial Zone in the Motion Zone menu, users can set-up the motion sensing zones in the screen shown in figure 3.3.2. 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 zones are indicated by changing the color of the blocks

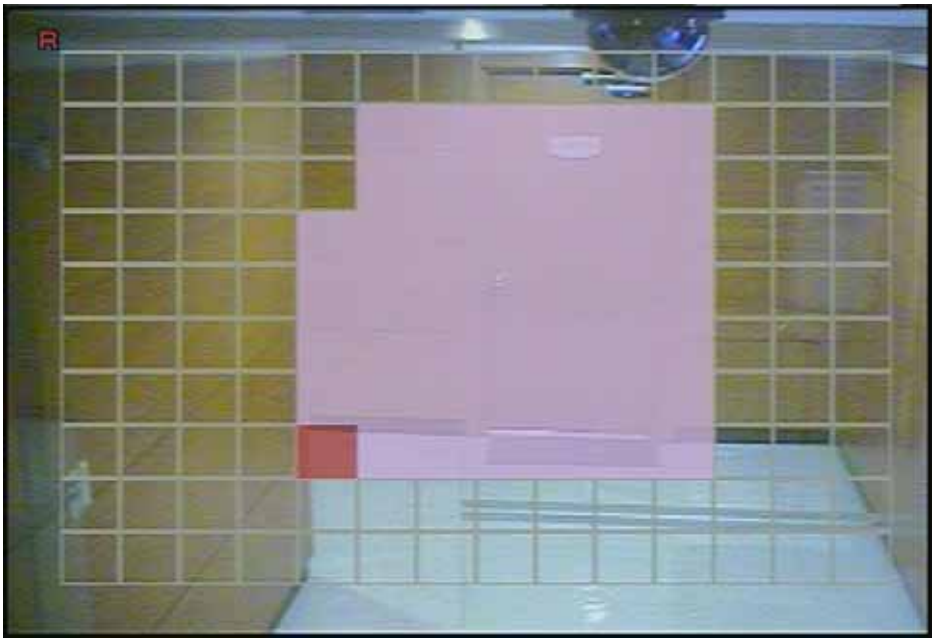


Figure 3.3.2. Motion Zone selection screen

3-3-2. Recording Schedule

Select SCHEDULE in the RECORD menu to set up the recording schedule. Button functions applied in scheduling are summarized in the following table. Navigate through the items to highlight using the 4 direction key buttons and set recording schedule using the buttons summarized in the following table. When ALL is highlighted, selected recording mode is applied to entire time zone and channels. When a particular channel is highlighted, selected recording mode is applied to entire time zone for the specified channel. When one of vertical bars " | " is highlighted, selected recording mode is applied to the entire channel for the selected time zone. Each vertical bar " | " corresponds with one hour.

Table 3.3.1. Button functions in schedule Recording mode

Button	Function
◀◀ REW	Use to set Continuous recording mode ➔ **C**
●●◀ F/REW	Use to disable recording setting.

▶/II PLAY/PAUSE	Use to enable Motion detection triggered recording. ➔ **M**
FF ▶▶	Use to enable Sensor triggered recording ➔ **S**

Figure 3.3.3. Schedule recording setup screen

3-4. System

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

Table 3.4.1. Menu items in System Setup screen

Item	Description
DVR ID	The name of the system. Press the SEL button and move through the position for each alphanumeric character by pressing the LEFT and RIGHT buttons. UP/DOWN buttons are used to change character for each location.
DESCRIPTION	Press SEL to see system information.
LOAD DEFAULT	Choose OFF or ON. If selecting ON, press the SEL button to load defaults.
ADMIN PASSWORD	Set the password for the administrator. Once this menu is selected, the DVR will ask you current password and new password. Follow the procedure provided by the DVR. The password numbers (1,2,3,4) can be input by using direction keys.

	, , , and respectively. The default password is 1111.
NETWORK PASSWORD	Set the password of network client. Once this menu is selected, the DVR will ask you current password and new password. The DVR will guide you through the entire process of setting up the user password. The password numbers (1,2,3,4) can be input by using direction keys. , , , and , respectively.
DATE FORMAT	Select the preferred date and time display
SET DATE & TIME	Set the present date and time
PTZ CONTROL	Set the camera speed, number, type and ID
LANGUAGE	Select a language

Figure 3.4.1. System setup screen

Figure 3.4.2. DVR ID setup screen

Figure 3.4.3. DVR information display screen

Figure 3.4.4. Date & Time setup screen.

Figure 3.4.5. PTZ Control setup screen.

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 using Left/Right buttons.

3-5. Network

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 3.5.1. Menu items in Network Setup screen

Item	Description
PORT	RTSP port number
CLIENT ACCESS	Enable/Disable network client access
BANDWIDTH SAVING	Enable/Disable only-key frame transmission. This feature is useful when network bandwidth is not enough for live video streaming.
NETWORK TYPE	Select a type of network connection (LAN, DHCP, or ADSL)
DDNS SERVER NAME	The DDNS sever name will be edited this line.
	Registration>> Check the MAC address of DVR from SETUP>SYSTEM>DESCRIPTION. In order to register your own domain.(i.e. **entel.esthub.co.kr**) Please use MAC address and Registration number on Label. Http://www.esthub.co.kr As a result of success registration, User can access to DVR using own domain without IP address.
SEND E-MAIL	If the network is linked with DHCP, which support dynamic IP address, DVR can send out the assigned dynamic IP address to the e-mail which is already set by user.
MAIL ADDRESS	User can set an email address for receiving of dynamic IP address assigned by the DHCP server.
MAIL SERVER IP	IP address is an address of Mail Server. To receive assigned dynamic IP address to e-mail which is already set by user on DVR, User has to apply this mail sever IP address on DVR.

Figure 3.5.1. Network setup screen

3-5-1. 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 use 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).

3-5-2. 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 3.5.2. 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 SERVER IP	Set the DNS server 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 3.5.3. ADSL

Item	Description
ID	The user ID for ADSL connection
PASSWORD	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.

3-6. Storage

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

Table 3.6.1. storage setup

Item	Description
OVERWRITE	Overwrite existing material when hard disk drive is full
FORMAT	Format hard disk drive

Figure 3.6.1. Storage setup screen

3-7. Saving Setup

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

Figure 3.7.1. Save setup screen

4. LIVE & SEARCH

There are 5 application windows:

① **Live**
② **Search**
③ **Play**
④ **Setup**
⑤ **Record**

4-1. Live Window

In the Live window, video inputs from the cameras are displayed on the configuration of the live setup. Figure 4.1.1 shows the layout of the live screen. 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 display screen

Table 4.1.1. Indicator ICONS in Live window

Key	Description
C	Continuous recording in progress
R	Manual recording in progress
S	Sensor alarm recording in progress
M	Motion alarm 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
	Select channel to be displayed in full screen mode.
	Switch between full screen and quad display mode.
SEQ	Press to start auto sequencing of the screen in full screen mode. (Toggle)
RECORD	Press to start and stop manual recording.
SEARCH	Press to go to the search menu. Event search /Time line search /Log /Archive search
ARCH	Press to capture a still image. The still image will be stored into hard drive. It can be transferred to the USB device.
PTZ	Press to control PTZ operation
SETUP	Press to launch SETUP menu.
ESC	Press for temporal storage of the changed value or to return to the previous menu screen.

4-2. SEARCH window

Press the MISC (SEARCH) button in live mode to enter SEARCH window.

The screen will appear as in figure 4.2.1.

Figure 4.2.1. Search window

4-2-1. EVENT Search

The EVENT SEARCH window is used to find the stored video. 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.

Searching for an event:

1. Select the date of the video to begin searching, Use the LEFT or RIGHT button to navigate through the day. Use the UP or DOWN button to change the values.
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 four 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, CONTINUOUS.
6. Once you have selected the type of recording to search for, press the SEL button to produce a list of instances that fit the search criteria.

Figure 4.2.2. Event search screen

Figure 4.2.3. Event search list screen

7. Use the UP and DOWN button to scroll through the onscreen listings.
8. Use the LEFT and RIGHT buttons to display events that happened previous to or after the current selection.
9. Once the desired event has been selected, press the SEL button to playback the selected video.

10. Press the ARCH button to archive the video into HDD.

4-2-2. TIME LINE Search

Figure 4.2.4. Time line search screen

The TIME LINE SEARCH window is used to find the stored video by using time line scale.

1. Select the date of the video to begin searching by using the LEFT or RIGHT button to navigate through the day.
2. Once you have selected the date, press the SEL button to move to the CHANNEL selector. Use the UP and DOWN button to select ALL or each channel.
3. Adjust the time line scale by using the LEFT or RIGHT button.
4. Press the SEL button to playback the recorded video
5. Press the ARCH button to archive the video into HDD.

4-2-3. LOG List

User can see the log list by selecting this item.

Figure 4.2.5. Log list screen

4-2-4. ARCHIVE Search

Figure 4.2.6. Archive search screen

The ARCHIVE SEARCH window is used to find the stored video.

1. Select the date of the video to begin searching by using the LEFT or RIGHT button to navigate through the day.
2. Once you have selected the date, press the SEL button to move to the list of recording data.

Figure 4.2.7. Archive search list screen

3. Use the UP and DOWN button to scroll through the onscreen listings.
4. Use the LEFT and RIGHT buttons to display events that happened previous to or after the current selection.
5. Once the desired event has been selected, press the SEL button to playback the selected video.
6. Press the ARCH button to archive the video into USB memory stick.

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 SEARCH LIST by pressing the ESC button. Playback starts in quad mode with channel 1 highlighted by default. If audio is enabled, it will only play from the highlighted channel.

Figure 4.3.1. Play mode screen

Table 4.3.1. Button functions in Playback mode

Button	Description
ESC	Return to the previous menu screen, search list, or exit menu
◀◀ REW	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.
••◀ F/REW	Jump/Step backward. – The playback position moves 60 seconds backward.
PLAY/PAUSE	Press to play or pause recorded video.
F/ADV ▶••	Jump/Step forward –Playback position moves 60 seconds forward.

FF ▶▶	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.
	Select channel 1 to be highlighted.
	Select channel 2 to be highlighted.
	Select channel 3 to be highlighted.
	Select channel 4 to be highlighted.
	Switch view between quad and full screen mode displaying highlighted channel.
ARCH	Press the ARCH button to archive the video into HDD.

5. Archiving Video into USB memory

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

5-1. Capturing images or video

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

Figure 5.1.1. Archive mode screen

In playback mode, the DVR will ask whether to store still image or video. If the user selects still image or video, it will store captured image or video into the HDD. User can find the list of archived data in ARCHIVE search menu.

5-2. Transferring still images or video into USB

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

Figure 5.2.1.Archive search screen

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

Figure 5.2.2. Archive search list screen

Select one of the files in the archived list using the UP and DOWN buttons, and then press the ARCH button to transfer to the USB storage device. When there is enough space for archiving, the DVR will start transferring the file. In the case of video, the DVR will change the video and audio into AVI format while transferring the video file into the USB storage device. This will allow the video to be played back in

programs such as Windows Media Player.

DivX codec should be installed for proper playback of the video archived into the USB storage device. DivX codec may be downloaded from:

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

6. Upgrading Firmware

The DVR is designed to be upgraded through firmware updates. Firmware upgrades can be initiated in engineering mode. To start diagnostics mode, do the following:

Figure 6.1. Diagnostics mode(To

Figure 6.2. Diagnostics mode(To reboot)

In order to the upgrade, the upgrade firmware must first be downloaded and copied on to the USB device. Create a new folder in the USB device and copy the upgrade firmware “app.bin” into the folder. The folder name should be “upgrade”.

After the upgrade firmware is copied into the USB device, do the following:

1. Press the SETUP button and enter the ADMIN PASSWORD.
2. Go to the SYSTEM menu and select the ADMIN PASSWORD menu item.
3. Enter the password as 12341234, and press the SEL button.
4. The diagnostics mode named “DVR DIAGNOSTICS” menu will be appeared.
5. Select USB UPGRADE, and the UPGRADE will start automatically.(Figure 6.1)
6. After the upgrade is completed, select BOOT APPLICATION to reboot DVR.(Figure 6.2)

7. 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.

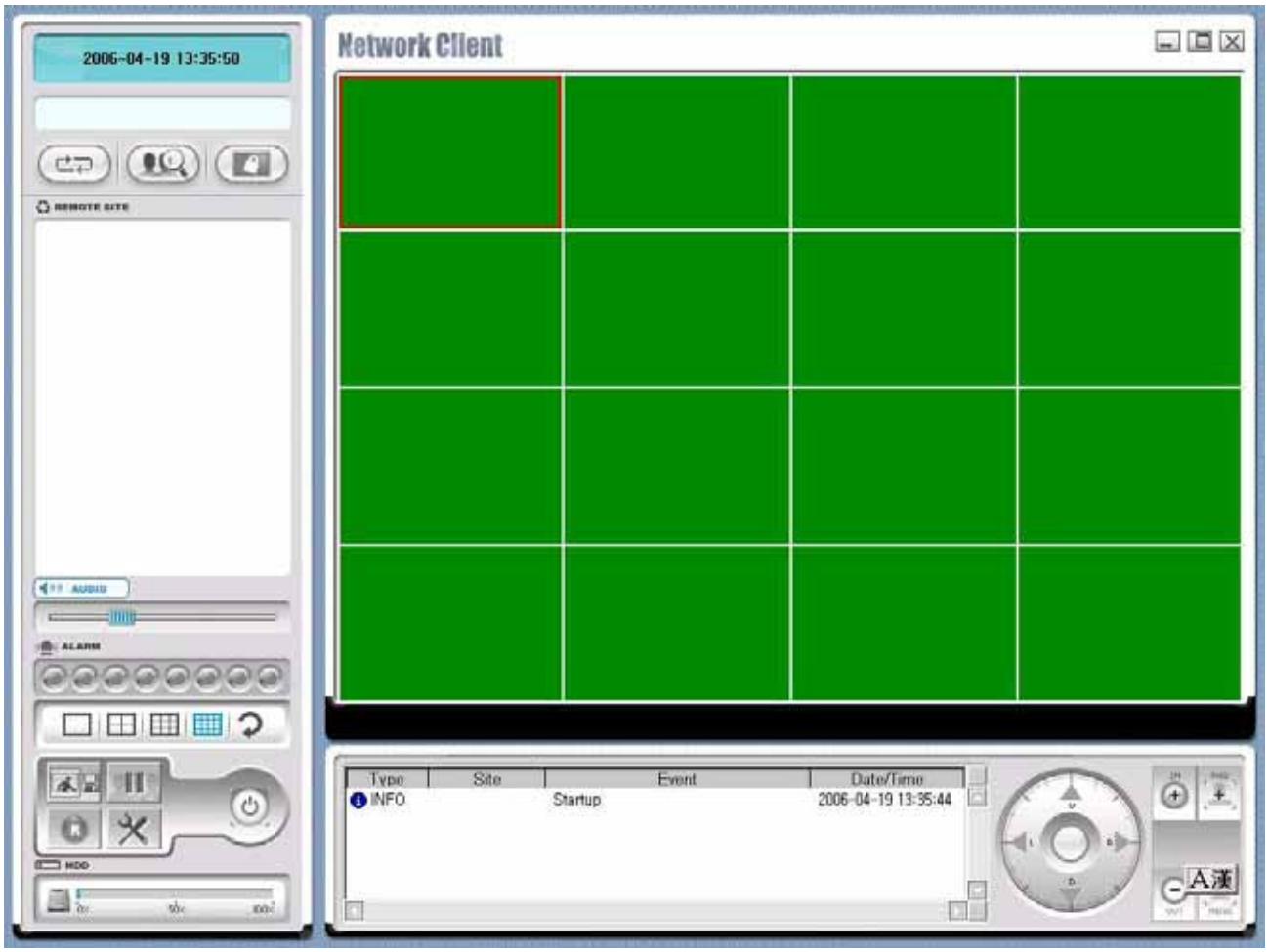


Figure 7.1. Main user interface

7-1. Overview

The remote software supports remote live viewing, search, playback and system configuration

By installing the DVR remote software on a Window 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.

7-2. Minimum PC requirements

	Minimum	Recommended
CPU	Intel Pentium III	Intel Pentium IV
	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 DVR remote software may not perform correctly if the PC does not meet the minimum requirements.

7-3. Installing the program

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

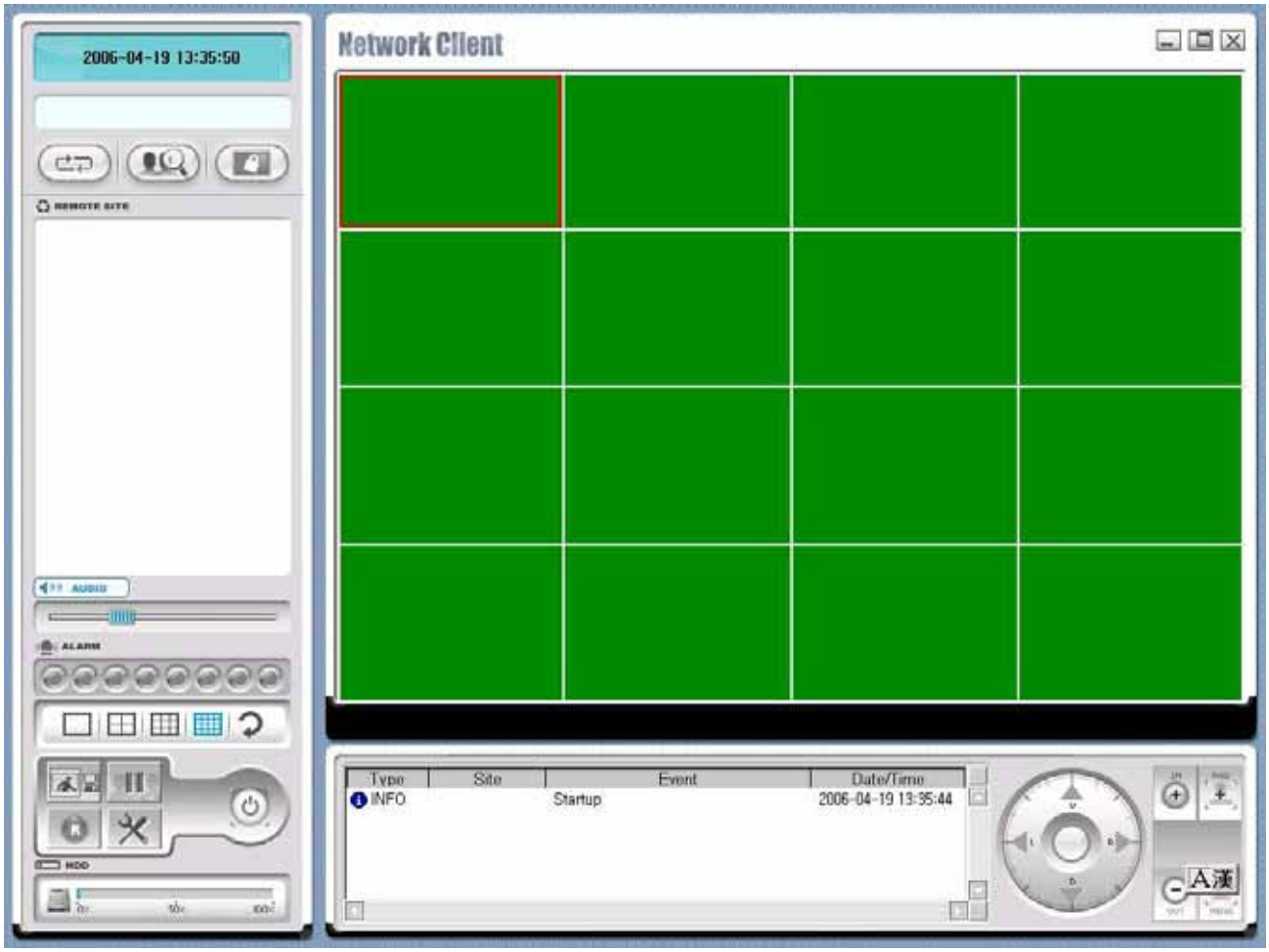
to start the installation process.
3. Follow the onscreen directions.
4. Double click the 

icon to start the program

7-4. Live viewer

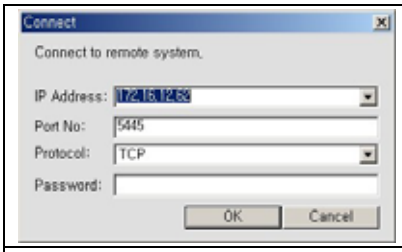
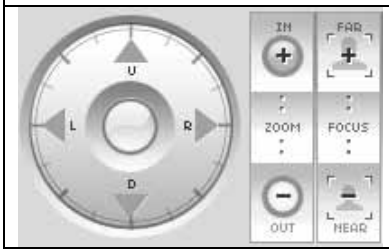
When installation is complete, double click the icon on your desktop to start the program.

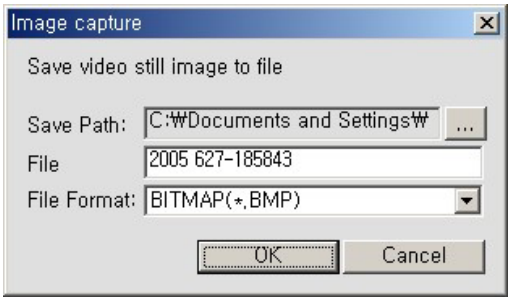
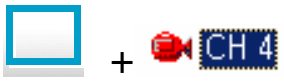
7-4-1. Main user interface

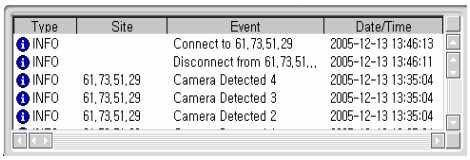


7-4-2. Main control panel

Button	Description
	Display of current time.
	Display of current connected IP address
 CONNECT	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.
 DISCONNECT	Click this icon to disconnect to the DVR
 SEARCH	Click this icon to search for recorded videos.
 LIVE	Click this icon to see a live video.
 LOCK	Click this icon to lock all operations of client software
 UNLOCK	Click this icon to unlock all operations of client software.
	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.
	User can control PAN/TILT & ZOON FOCUS of remote camera.
 PLAY	Click this icon to play live video.
 PAUSE	Click this icon to pause live video.

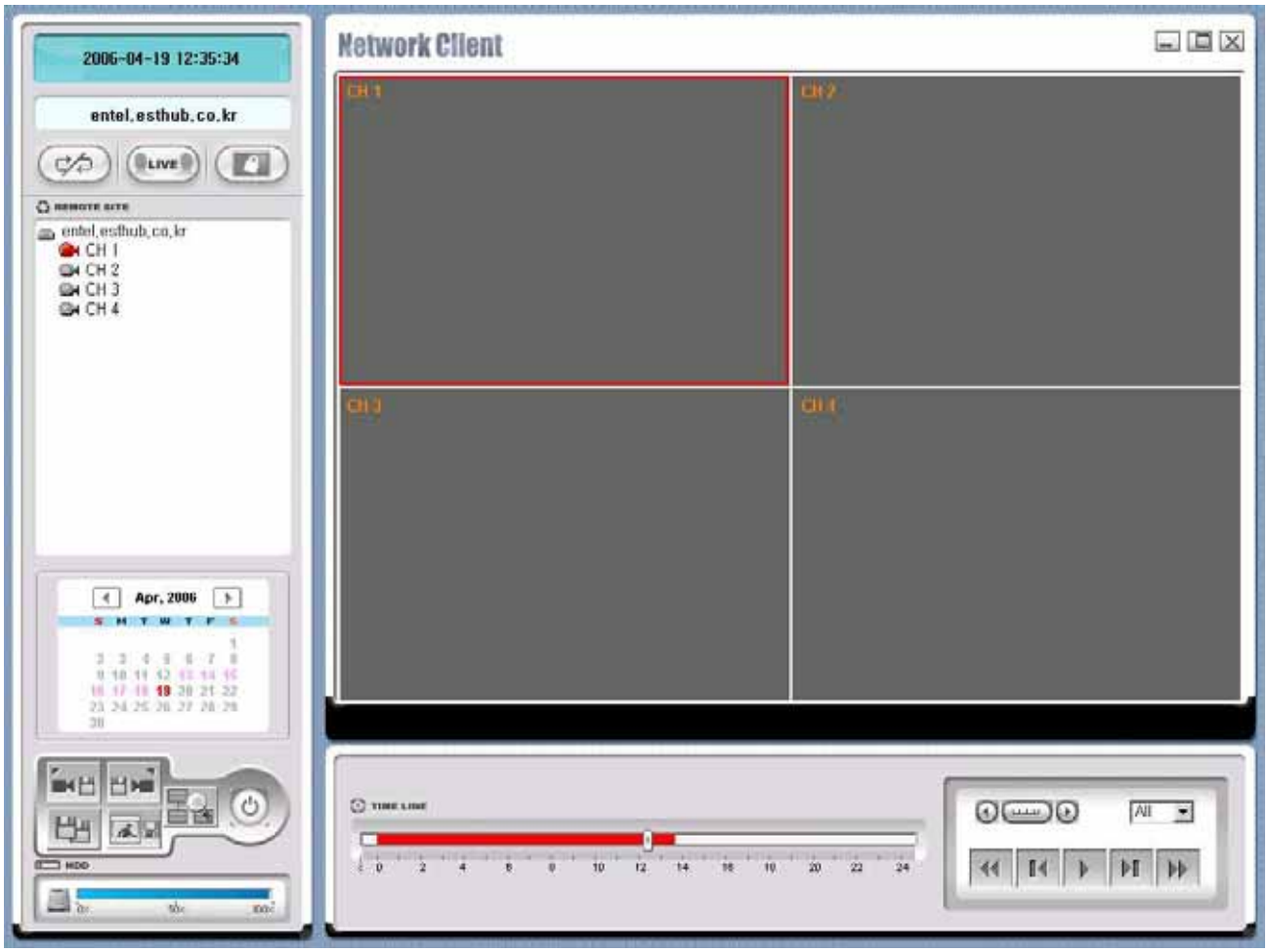
 RECORD	Enable or disable recording of live video to local disk which has set in setup menu
 CAPTURE	Click this icon to capture a still image
	Once you click the capture icon, this pop up window appears. A still image is captured in bmp file format.
 SETUP	Click this icon to setup configuration of client software.
 TERMINATE S/W	Click this icon to terminate client software.
	Alarm indicators for each channels. Alarm relay can be controlled with this button (1 time)
	Full screen Click 1ch division mode and camera channel in a row
	Division screen 4 Division/ 9 Division/ 16 Division
 ROTATE CH	Click this icon for Sequential display of each channel in full screen mode.
	Use the volume control bar to set the audio level.
	HDD storage Indicator of DVR

	It shows information of client connection.
	Maximize /Minimize /Exit of the client viewer

7-5. Search and Playback Viewer

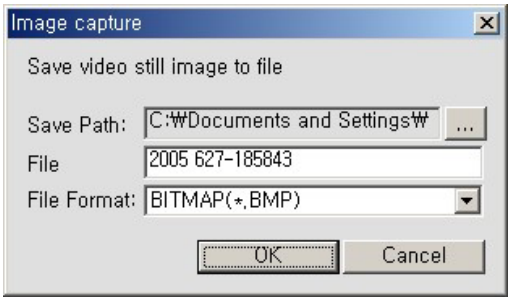
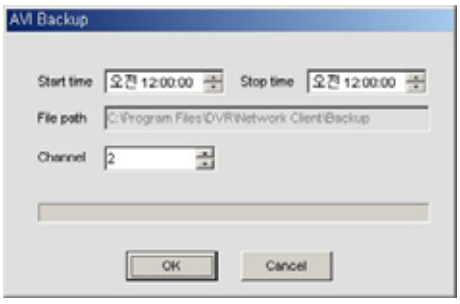
7-5-1. Main user interface

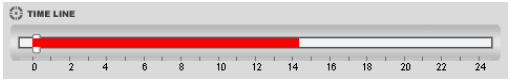
You can access to search window by clicking the search icon on the upper left of main user interface.



7-5-2. 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
 LIVE	Click this icon to see live videos.

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

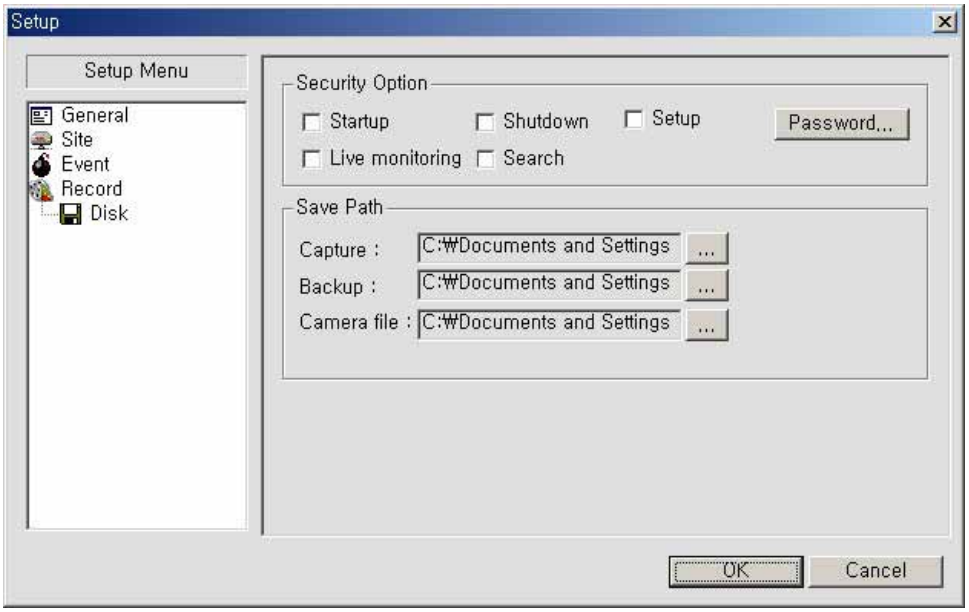
	It shows the recorded data in green bar. You can adjust the time line scale and click the play icon to display the recorded video
	Click this icon to play the recorded video
	Click to pause/stop the displaying video
	Click to fast forward the displaying
	Click to rewind the displaying
	Click to backward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

7-6. System configuration

Click the setup icon  to setup the configuration of DVR.

7-6-1. General

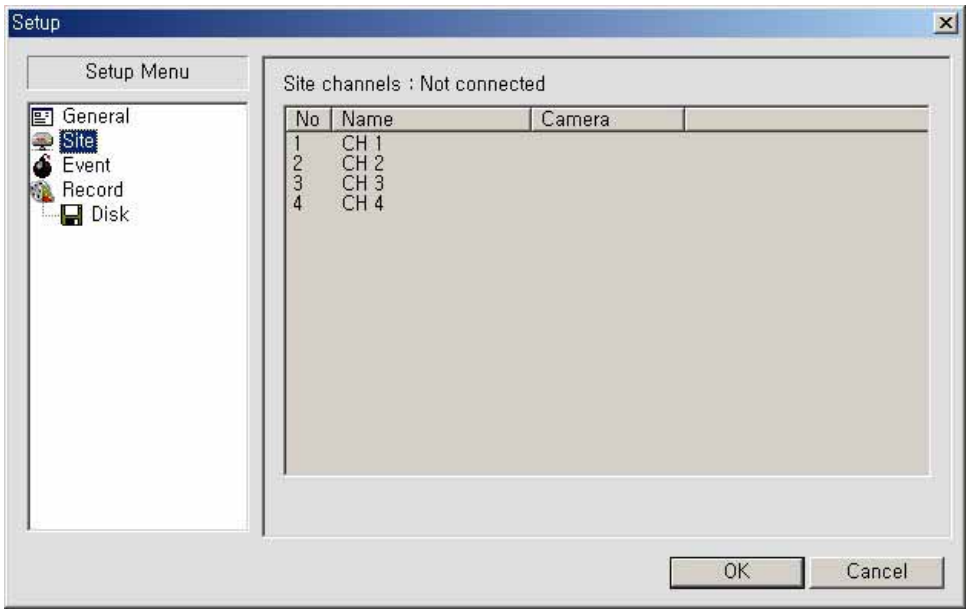
Once you click the setup icon, this pop up window appears. Select security options and set a password. Then when you access to the functions you have set, you need to enter the password which has set in setup menu. You can set the save path for capturing, backup and camera files.



Set a password for security options.

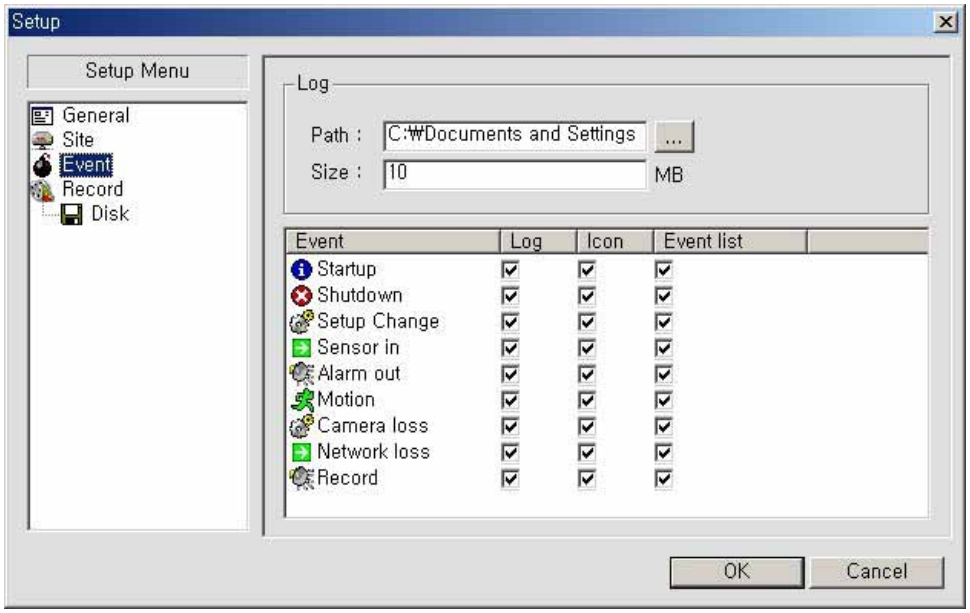
7-6-2. Site

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



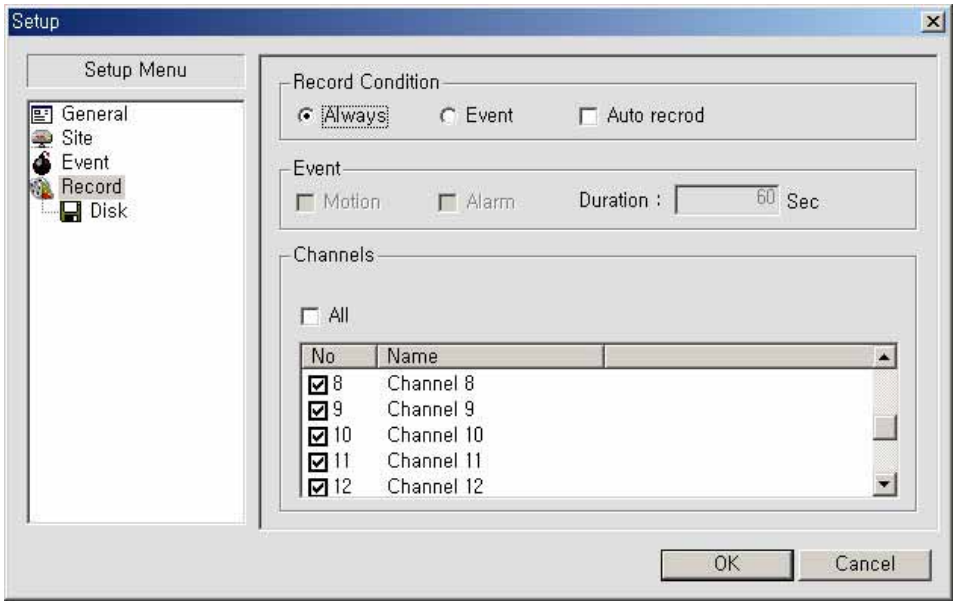
7-6-3. Event

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



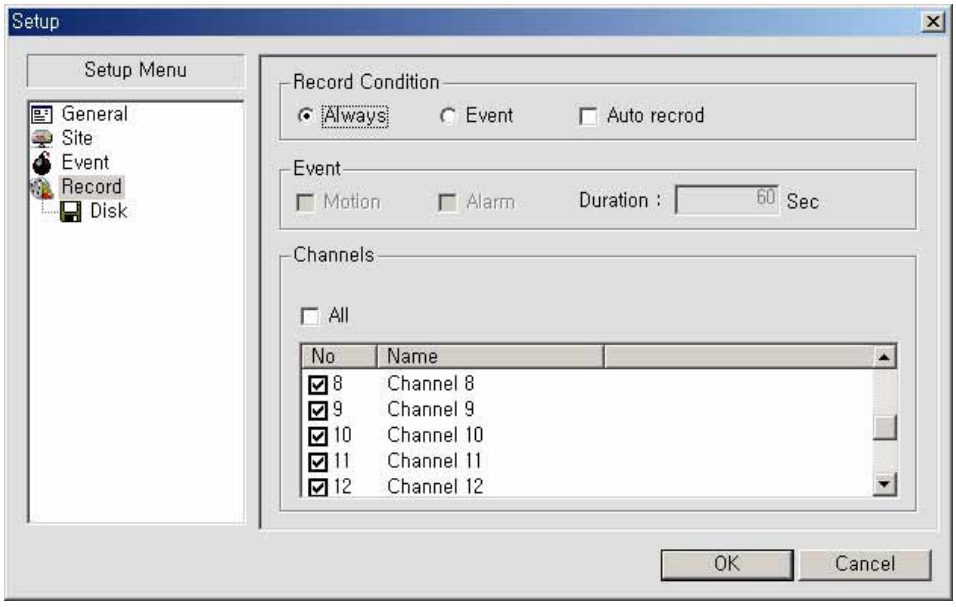
7-6-4. Record

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.

8. Using DDNS

8-1. DDNS Registration Procedure

[Step 1]

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

Member Join [Click]

[Step 2]

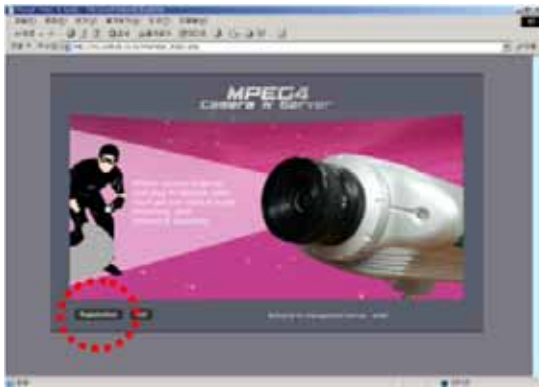
. Input ID, Password, Name, E-Mail

. OK [Click]

[Step 3]

. Start registration Procedure.

. Registration [Click]



[Step 4]

. Input MAC Address, Registration No. ,

Domain Name. OK [click]

.MAC Address : Label means the Mac Address of DVR

e.g) 000269003B24

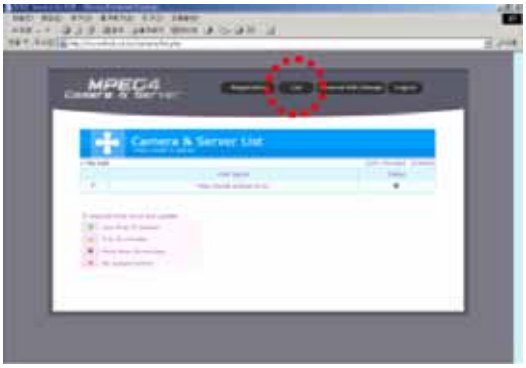
.Registration No. : Each MAC Address has its own Registration number.

.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.

8-2. 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 and save DVR then it will be reboot automatically.

8-3. Using Client Program

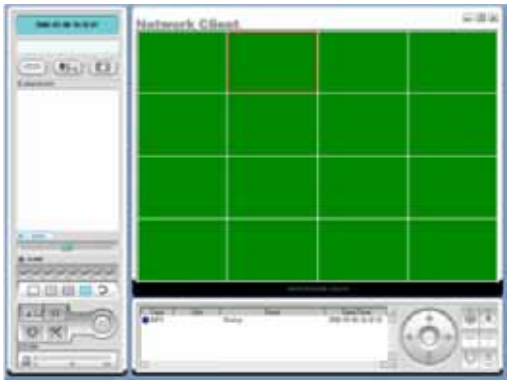
[Step 1]

. Execute the Program.

. xxxxx.exe in desktop [Click]

[Step 2]

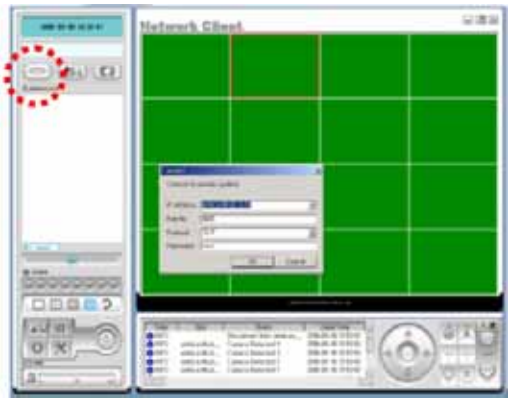
. Program will be executed.



[Step 3]

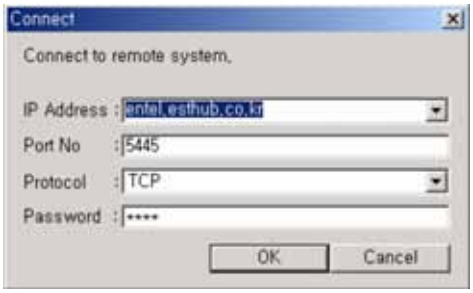
. Program will be executed.

. [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)

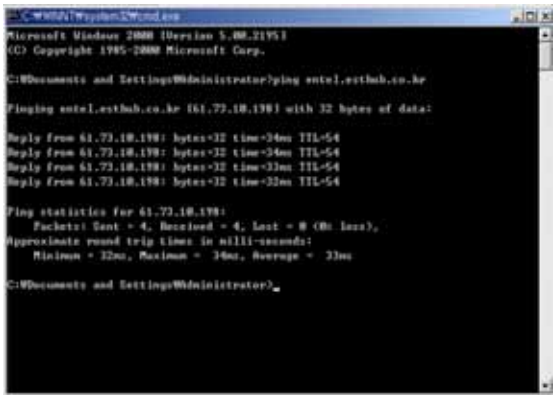
[Step 5]

. In Desktop of Windows. Follow the step below.

Start -> Run -> CMD [Enter] , then DOS window is popped up like step 6.

[Step 6]

. In order to check the status is normal, Use PING Test



. Ping entel.esthub.co.kr [Enter]

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

. Therefore, it is able to use domain address (entel.esthub.co.kr) instead of IP address.