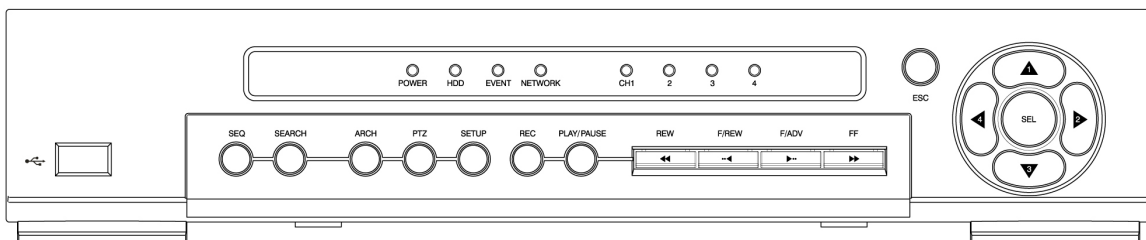


USER GUIDE

EDNS1000 - 4 CH 4 channel MPEG-4 Triplex DVR



3040-00065



Ernitec A/S

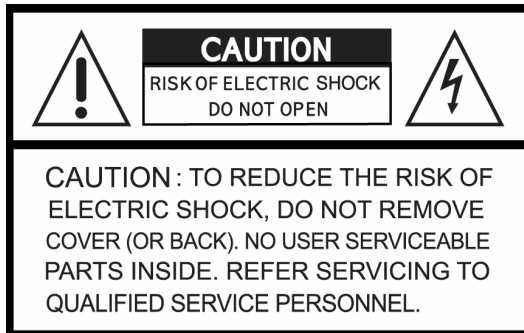
Hoerkaer 24, 2730 Herlev – Denmark

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www.ernitec.com

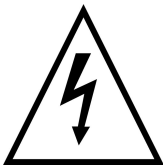
SAFETY PRECAUTIONS



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.

THE LIST OF CONTENTS

<p>DVR SET</p>	
<p>CLIENT SOFTWARE CD</p>	
<p>REMOTE CONTROLLER (OPTION)</p>	
<p>BATTERY (OPTION)</p>	
<p>ADAPTOR</p>	
<p>MANUAL</p>	
<p>RUBBER RINGS & SCREWS</p>	
<p>IDE HDD CABLE</p>	
<p>HDD BRACKETS</p>	
<p>POWER CABLE</p>	

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, The 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

SPECIFICATION

VIDEO	INPUT	4 composite BNC (NTSC/PAL) – 1.0Vp-p	
	OUTPUT	1 composite BNC (NTSC/PAL) – 1.0Vp-p	
		1 VGA	
AUDIO	INPUT & OUTPUT	4 Line In (RCA) 1 Line Out (RCA)	
ALARM	INPUT & OUTPUT	4 1	
OS		RTOS	
RECORD	COMPRESSION	MPEG-4	
	VIDEO FORMAT	NTSC	PAL
	RESOLUTION	360x240, 720x480	360x288, 720x576
	RECORD SPEED	120fps/4CH(360x240/CH) 30fps/4CH(720X480/CH)	100fps/4CH(360x288/CH) 25fps/4CH(720X576/CH)
	STILL IMAGE CAPTURE	720x480 / 360X240	720x576 / 360X288
	MODE	Manual, Motion, Sensor, and Schedule	
	METHOD	By Resolution, fps & Quality	
	MOTION DETECTION	Full or Partial Areas setup per each channel	
MULTI TASK	TRIPLEX	Record, playback and transfer	
CONTROL UNIT		IR Type Remote Control and Front keys	
SERIAL PORT	CONSOLE	1 RS-232C	
	CAMERA CONTROL	1 RS-485	
NETWORK	INTERFACE	ADSL, LAN	
	DYNAMIC IP	DDNS	
	LAN PORT	1 10/100-base T Ethernet	
	FUNCTIONS	Live, Search, P/T/Z/F	
HDD	CAPACITY	1EA Max. 250GB	
BACKUP	NETWORK	Still Image & Video data	
	USB STICK	Still Image & Video data	

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1. Front Panel

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

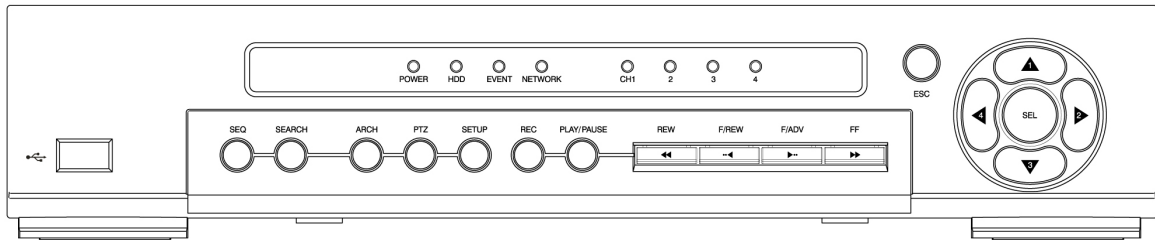











Figure 1.1 Front panel

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
	Press to rewind the footage at 1x, 2x, and 4x speed in playback mode.
	Jump/Step backward. – In playback mode, the playback position moves 60 seconds backward.
	Jump/Step forward – In playback mode, the playback position moves 60 seconds forward.
	Press to fast forward the footage at 1x, 2x, and 4x speeds in playback mode.
USB port	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. (USB 2.0 connector)

2. Rear Panel

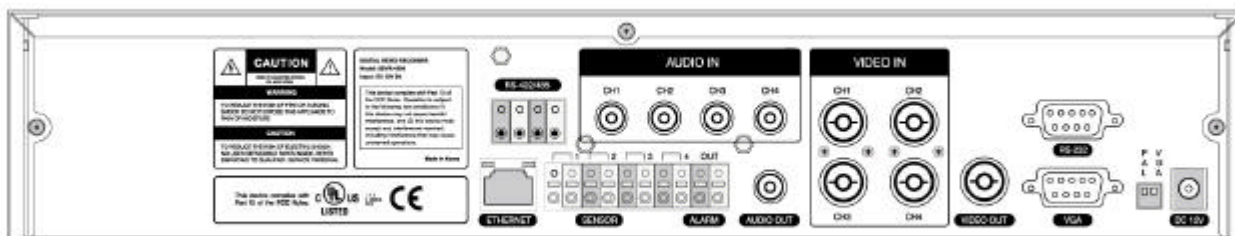


Figure 2.1. Rear Panel


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.

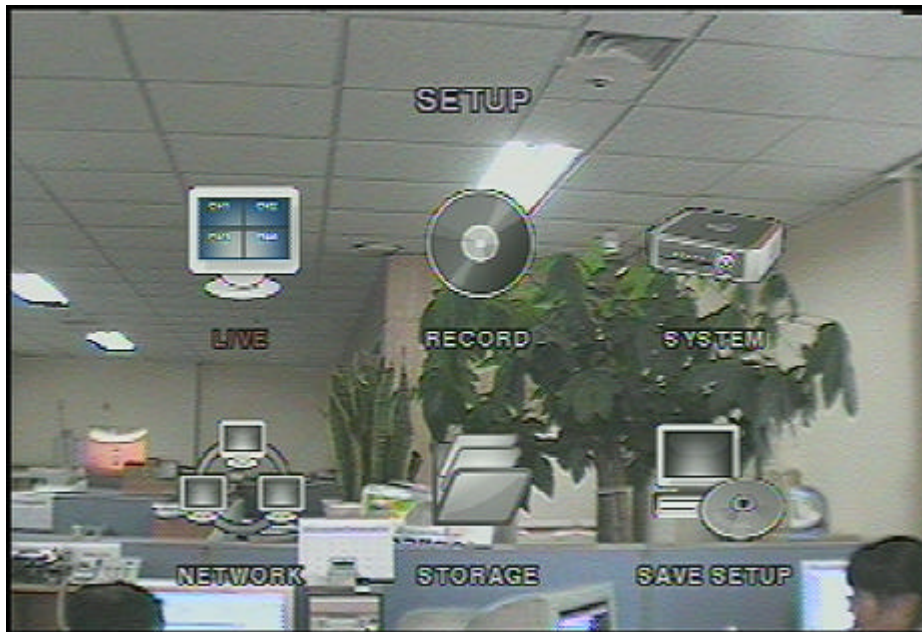


Figure 3.1.1. Setup menu screen

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 channel 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

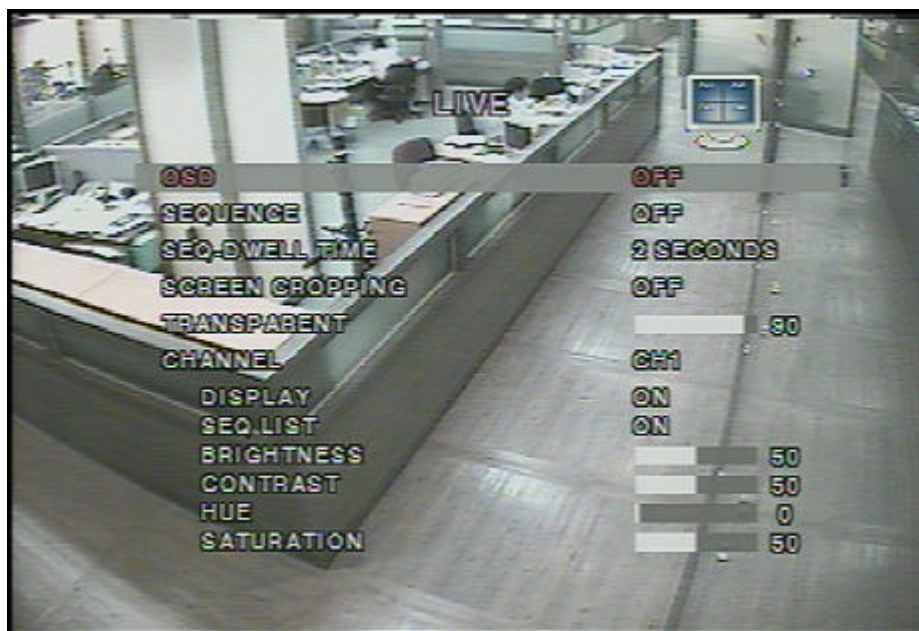


Figure 3.2.1. Live mode setup screen

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.

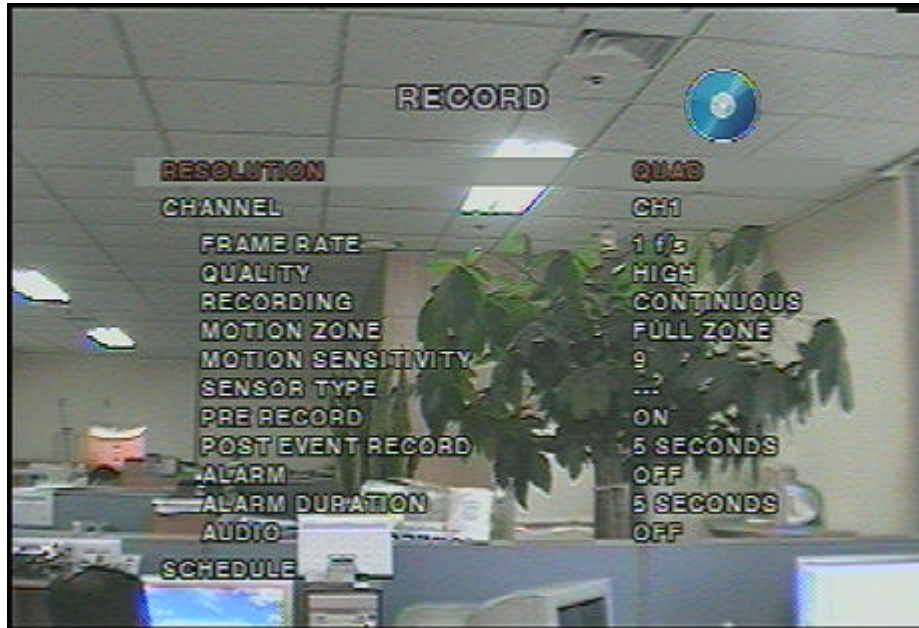


Figure 3.3.1. Recording mode setup screen

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

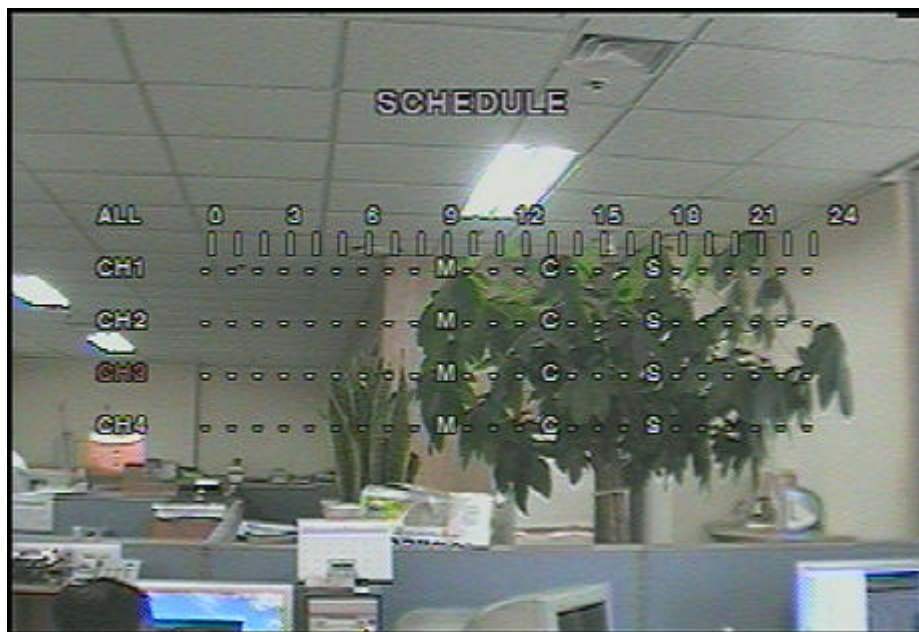
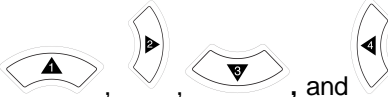
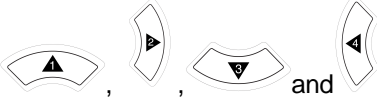


Figure 3.3.3. Schedule recording setup screen

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.  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.  , respectively. The default password is 1111.
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

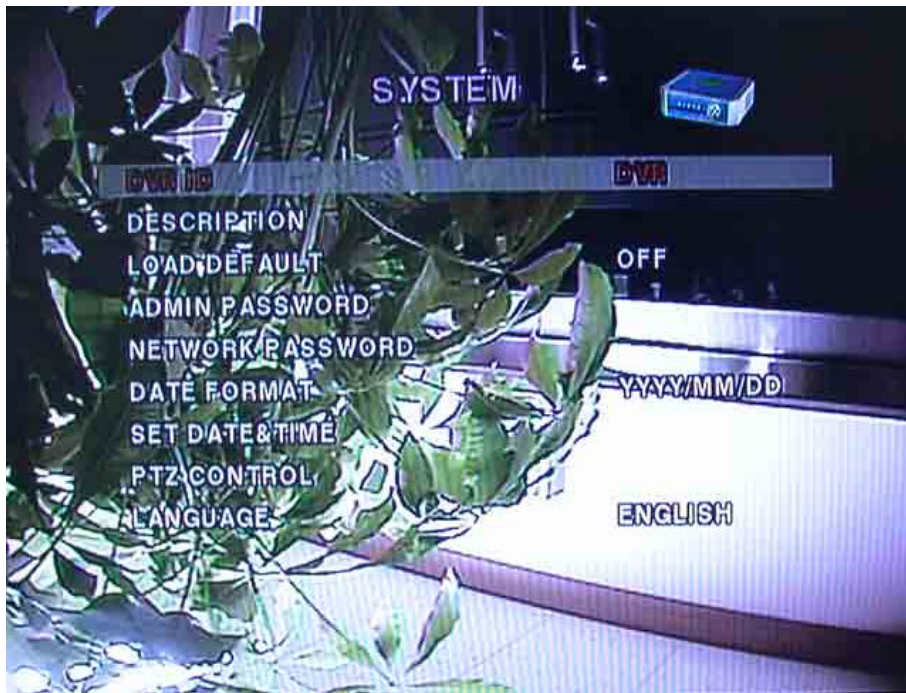


Figure 3.4.1. System setup screen



Figure 3.4.2. DVR ID setup screen

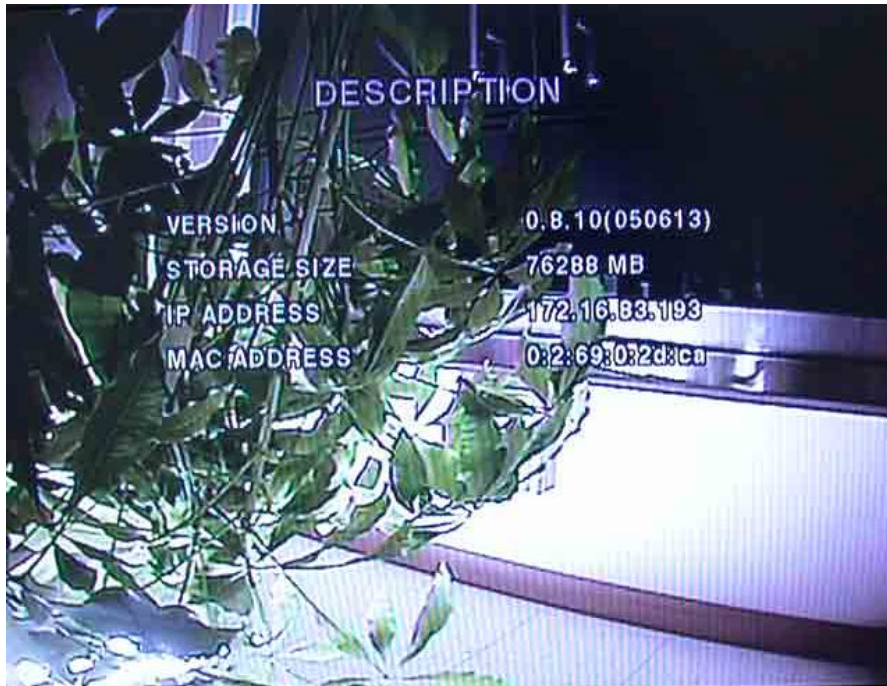


Figure 3.4.3. DVR information display screen



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
REMOTE 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 is <u>ns.standalone4ch.com</u> . (Do not change the sever name)
	<p>Registration>></p> <p>Check the MAC address of DVR from SETUP>SYSTEM>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>
SEND EMAIL	If the network is linked with DHCP, which support dynamic P 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	<u>211.174.110.134</u> is an address of Mail Server run by Manufacturer. 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.

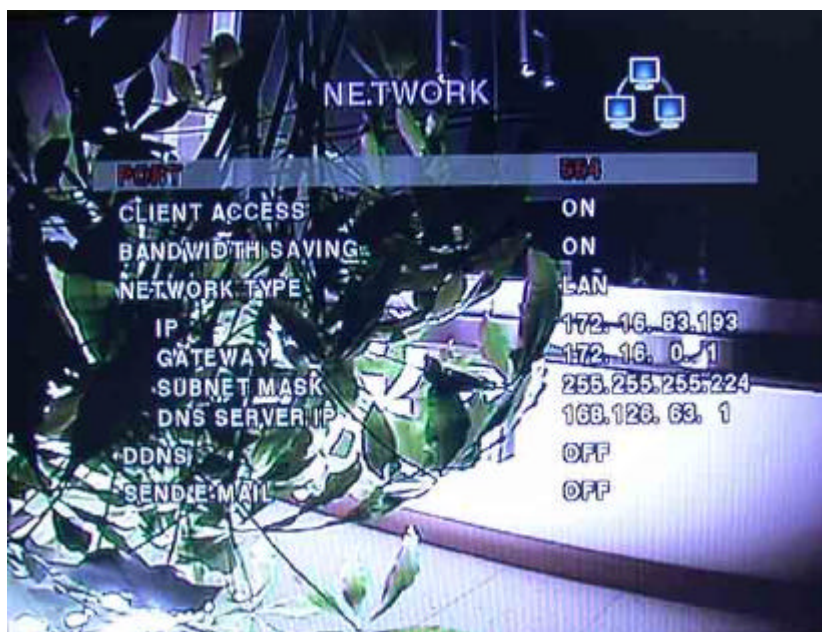


Figure 3.5.1. Network setup screen

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 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 4456 as bellow, user has to open 3 TCP ports (4456, 4457, & 4458).

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.

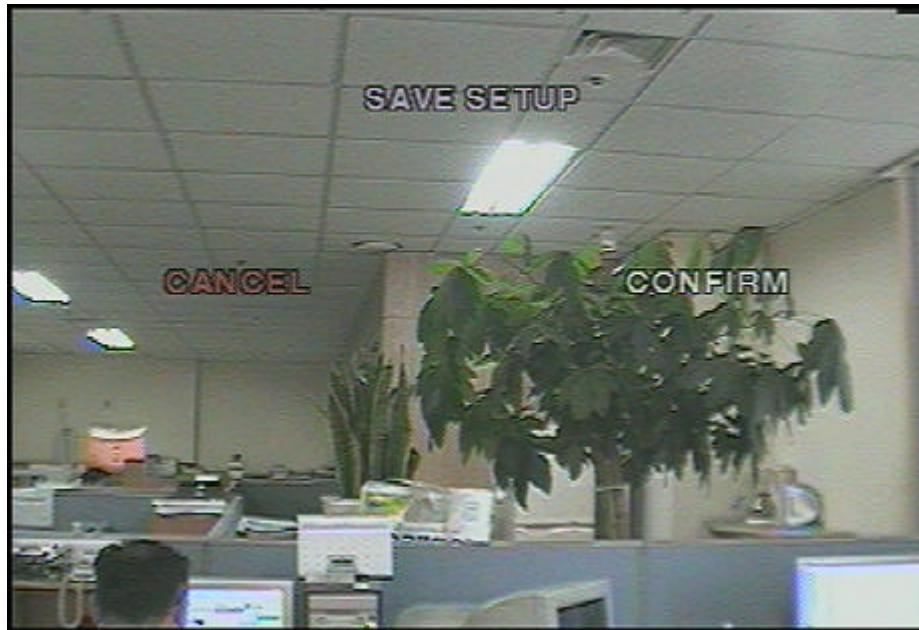


Figure 3.7.1. Save setup screen

4. LIVE & SEARCH

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.

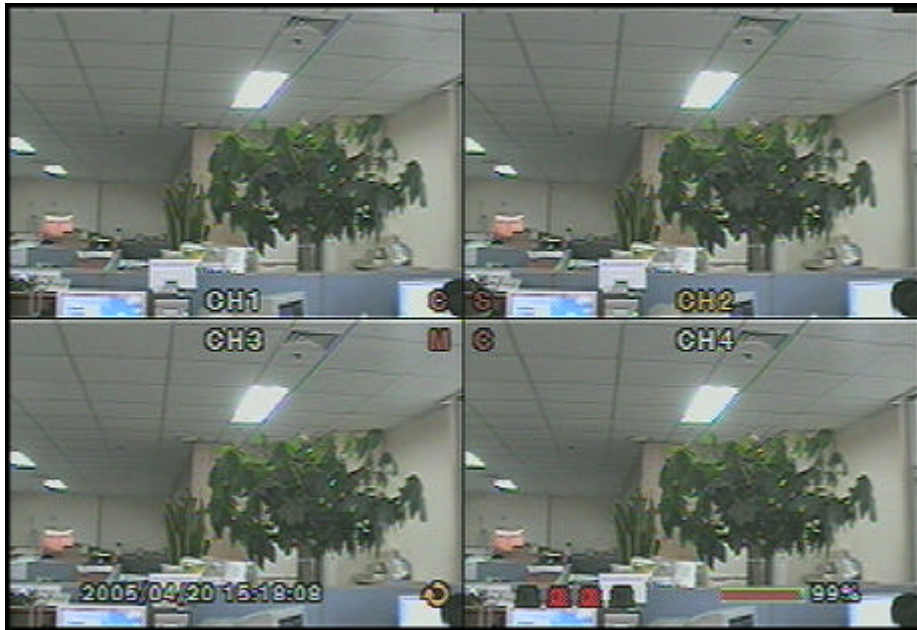


Figure 4.1.1. Live display screen

Table 4.1.1. Indicator ICONS in Live window

Indicator	Description
	Continuous recording in progress
	Manual recording in progress
	Sensor alarm recording in progress
	Motion alarm recording in progress
	Indicates no alarm event
	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.






	Indicates the HDD is being recycled
	Indicates the percentage of recorded data into HDD
	Indicates there is no video signal input

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.

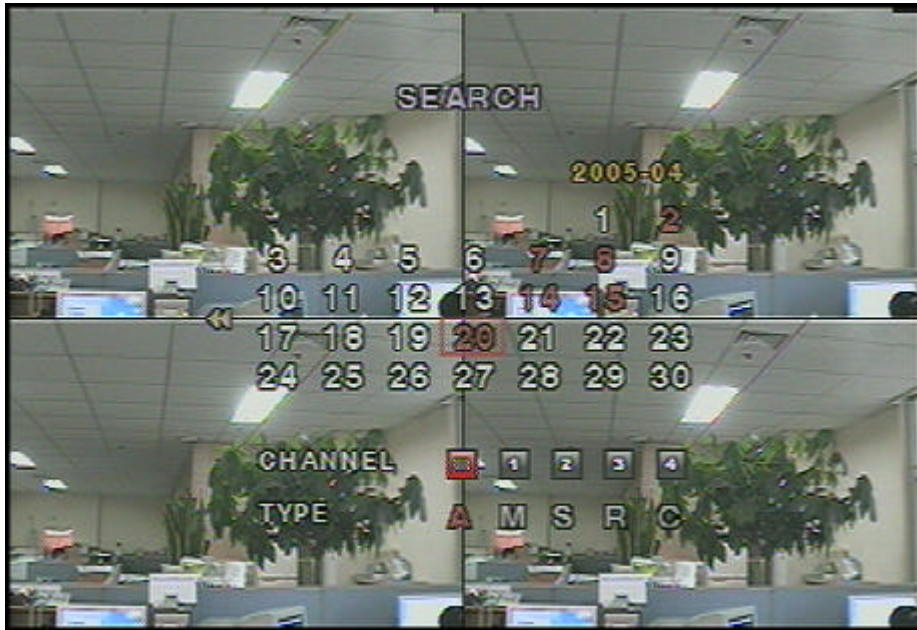


Figure 4.2.2. Event search screen

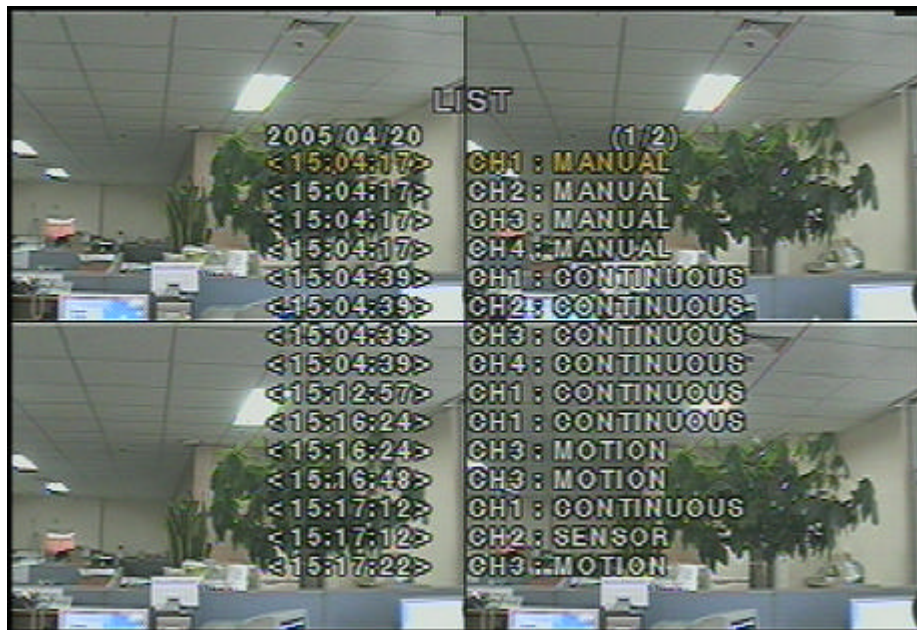


Figure 4.2.3. Event search list screen

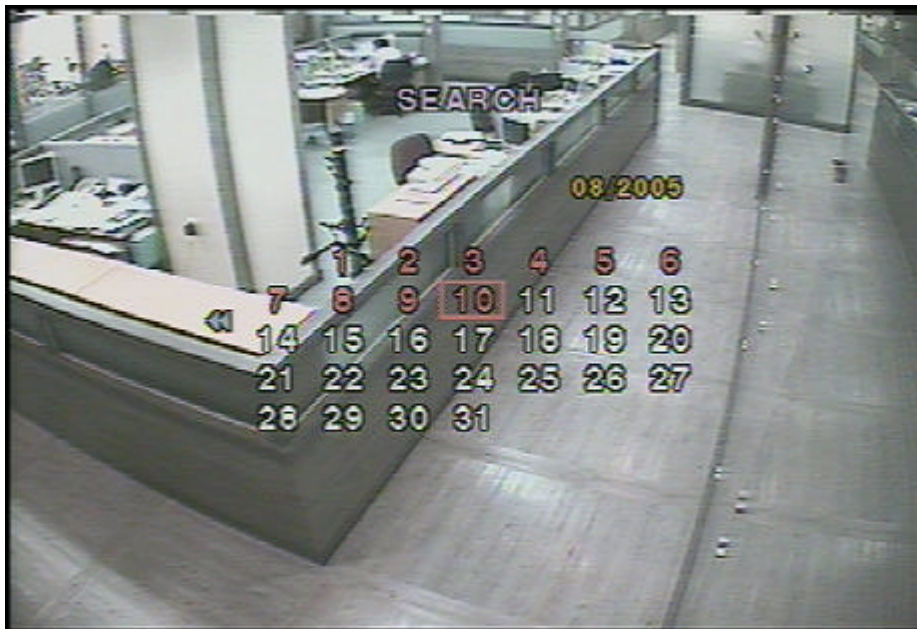
7. Use the UP and DOWN button to scroll through the onscreen listings.
8. Use the LEFT and RIGHT buttons to display events that happened previous to or after the current selection.

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

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

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 time line search window.
3. Use the LEFT or RIGHT button to select a time zone on the 24hours time table. Once you have selected the time zone, press the DOWN button to move to the 60 minutes time table and select all or each channel for playing back the recorded video.
4. Once you select the time zone, then move the time line select Bar(yellow) to the point you wish to start playing video (recorded video is indicated by a Red underline) by using the LEFT or RIGHT button.
5. Press the SEL button to playback the recorded video.
6. Press the ARCH button to archive the video into HDD.



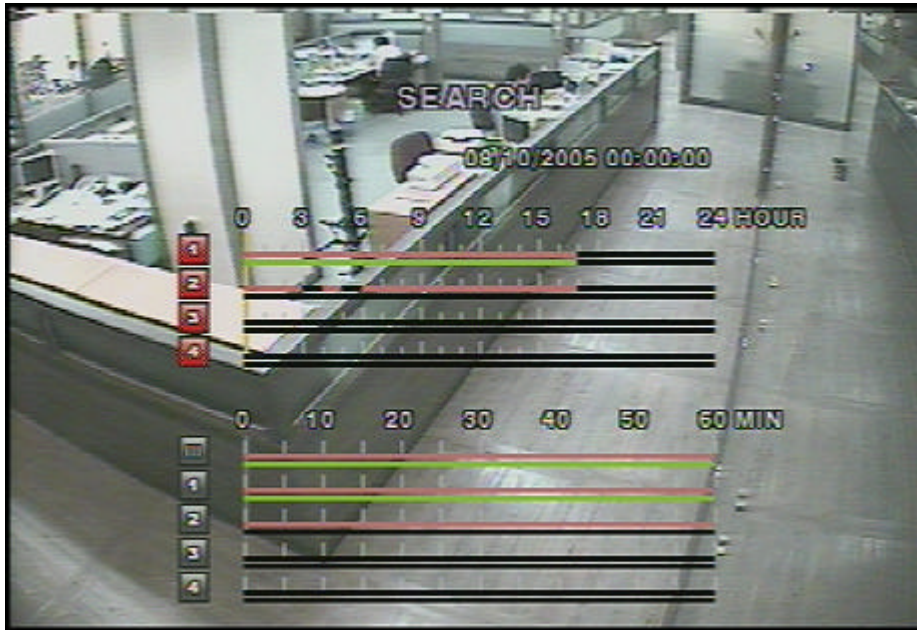


Figure 4.2.4. Time line search screen

4-2-3. GO TO

You can search for specified data by setting the time and date in this menu. Use the LEFT or RIGHT button to move from left to right in this menu. Use the UP or DOWN button to set the date and time.



Figure 4.2.5. GO TO search screen

4-2-4. GO FIRST

You can access to the first data which has been recorded into the HDD disk by pressing this menu.

4-2-5. GO LAST

You can access to the last data which has been recorded into the HDD disk by pressing this menu.

4-2-6. LOG List

User can see the log list by selecting this item.



Figure 4.2.6. Log list screen

4-2-7. ARCHIVE Search

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.
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.



Figure 4.2.7. Archive search screen



Figure 4.2.8. Archive search list screen

4-3. PTZF operation

To operate the PTZF functions, connect the controller to the RS-485 port on the rear panel.

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 or Right button.

The PTZ function button is found on the front panel. Once you press the PTZ button, the screen will appear as in figure 4.3.1. 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 4.3.1. for description.



Figure 4.3.1. PTZF control screen

Table 4.3.1. Button functions in PTZF control

Item	Description
PAN / TILT	Use the UP or DOWN button for TILT and LEFT or RIGHT button for PAN of the selected camera.
ZOOM / FOCUS	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.
INITIALIZE	Initialize the PTZ settings of the selected camera.

4-4. Playback 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. Playback starts in quad mode with channel 1 highlighted by default. If audio is enabled, it will only play from the highlighted channel.

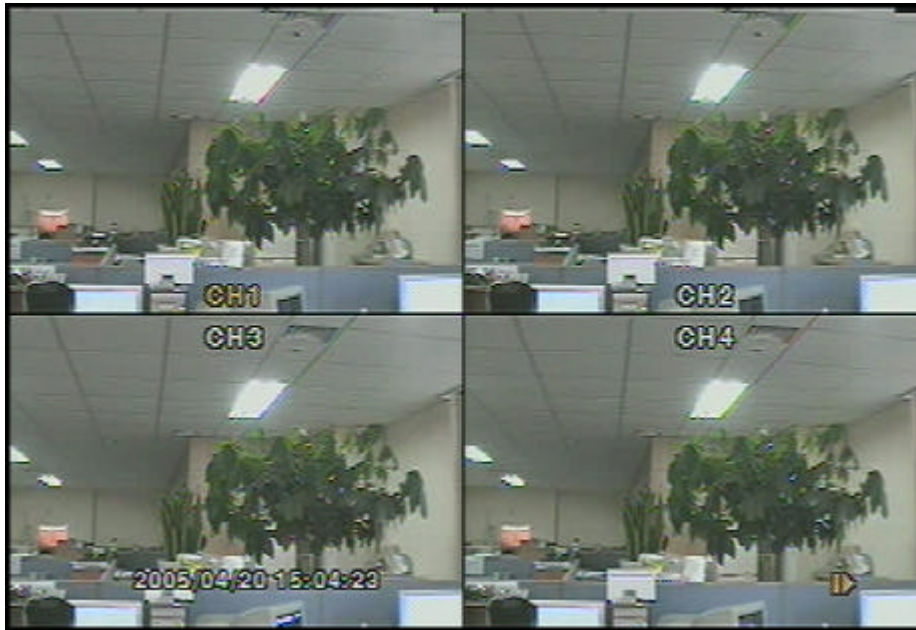







Figure 4.4.1. Playback mode screen

Table 4.4.1. 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 stick

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. Once you press the ARCH button, the screen will be displayed as shown in Figure 5.1.1.

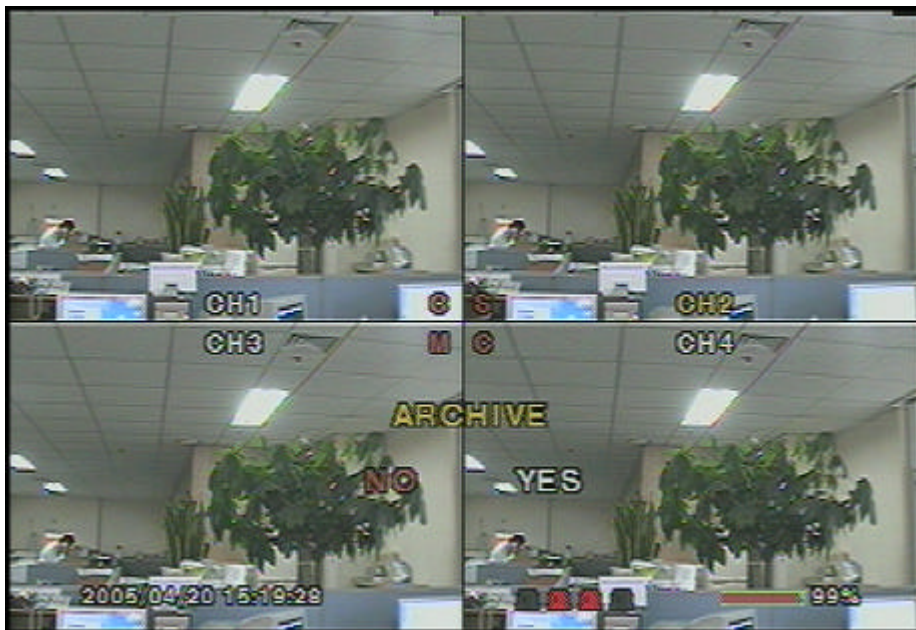


Figure 5.1.1. Archive mode screen

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 videos into USB memory stick

To begin transferring stored image or video into a USB memory stick, connect a USB memory stick. 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 videos.

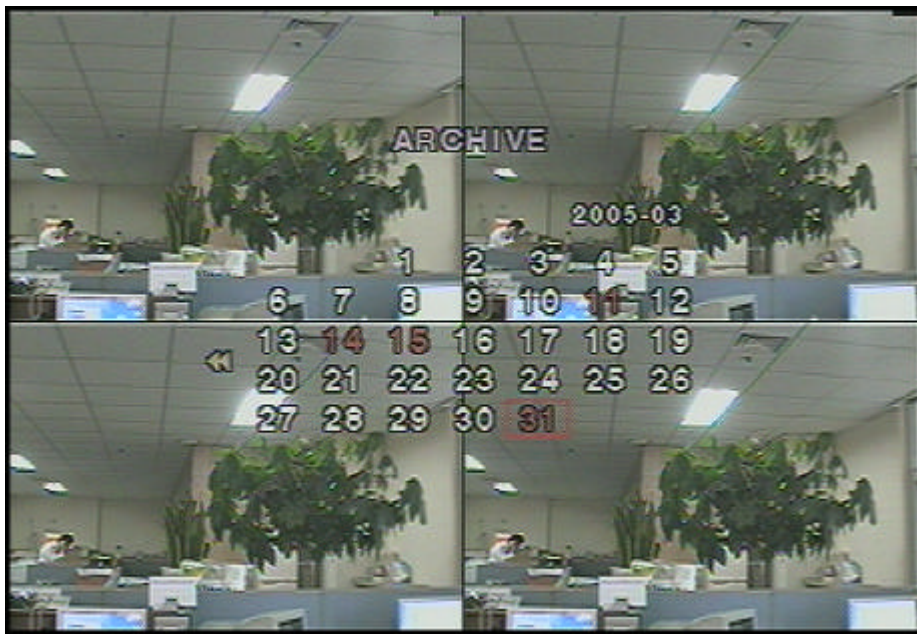


Figure 5.2.1. Archive search screen

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

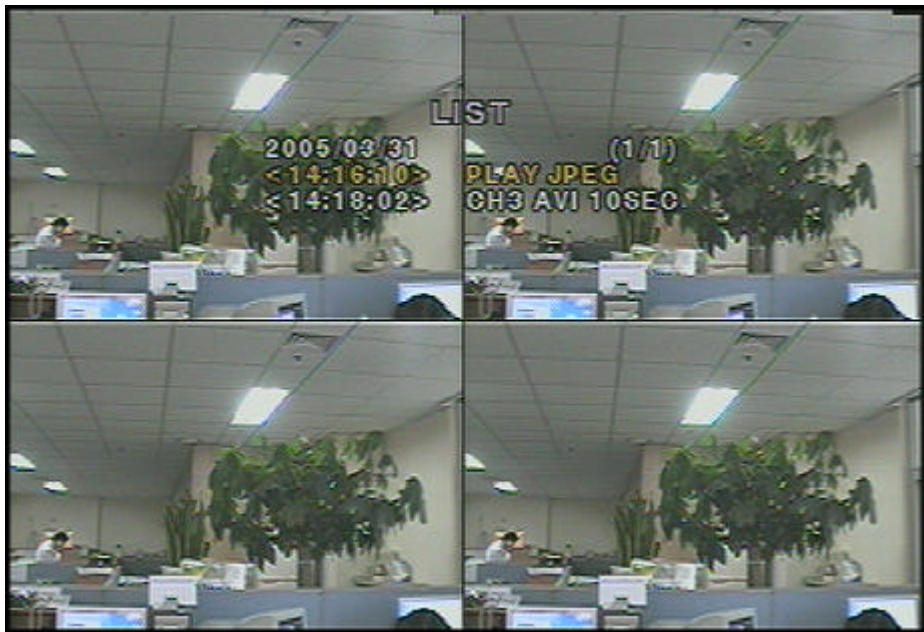


Figure 5.2.2. Archive search list screen

Select and display one of the files on the screen in the archived list by using the UP or DOWN button, and then press the ARCH button to transfer the data into the USB memory stick. If there is enough space for archiving, the DVR will start transferring the file. For video archiving, the file will be in AVI format, and a 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. Upgrading Firmware

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

In order to upgrade, the upgrade firmware must first be downloaded and copied into 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 and select the ADMIN PASSWORD.
3. Enter the password as 12341234, and press the SEL button.
4. The engineering mode screen “DVR DIAGNOSTICS” will appear.
5. Select USB UPGRADE, and then the upgrading will start automatically.
6. After the upgrade is completed, select BOOT APPLICATION to reboot DVR.

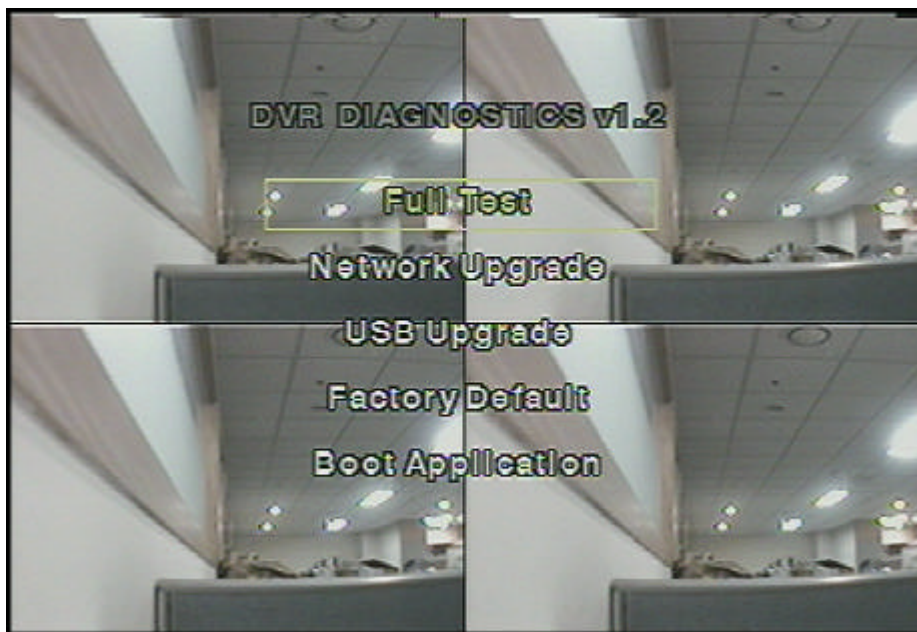


Figure 6.1. Engineering mode screen

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 configurations.

By installing the SDVR4500 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 ?	Intel Pentium ?
	500Mhz	2Ghz
Memory	128MB	256MB
VGA	16MB	64MB
Resolution	1024x768	1024x768
Disk space	10MB	10MB
OS	Windows 2000	Windows 2000, Professional, XP
Network	10/100Base T	10/100Base T
Others	Direct X 8.1	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 `network.exe` to start the installation process.

3. Follow the onscreen directions.



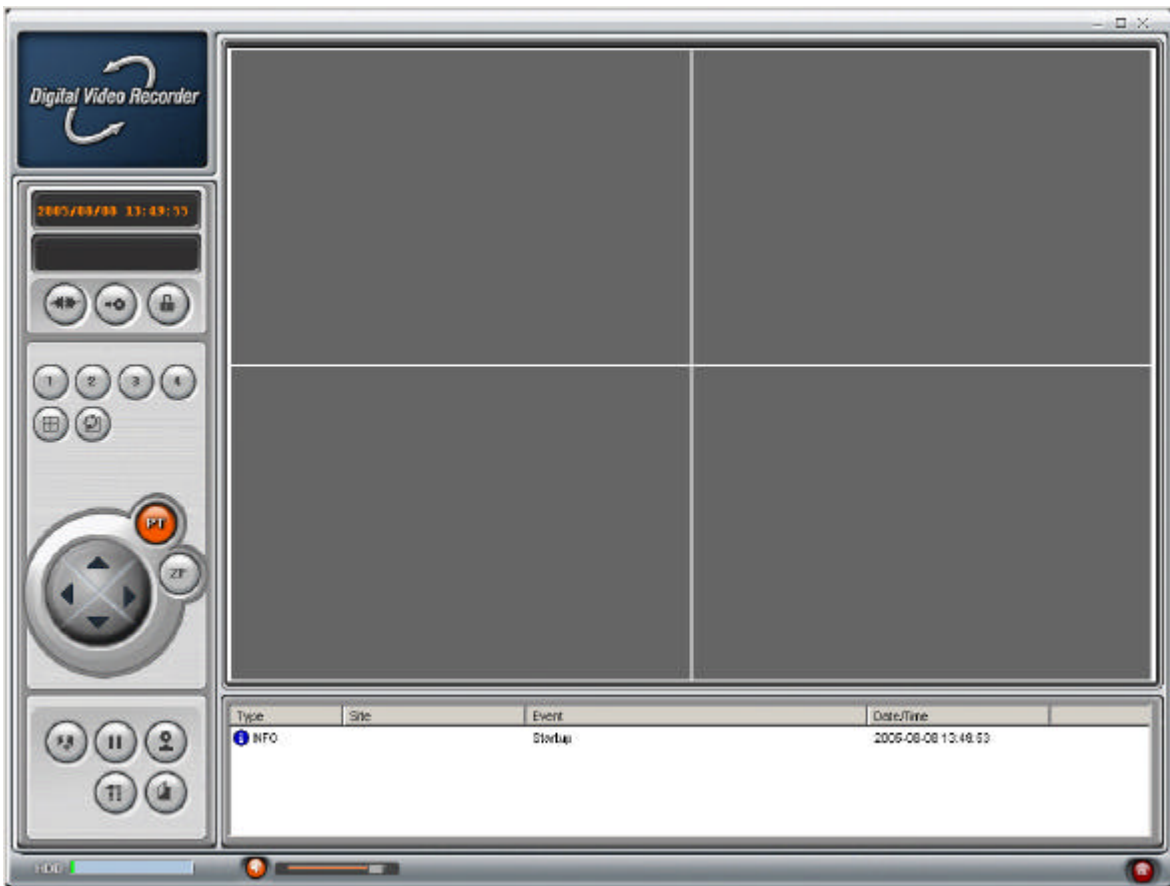
4. Double click the `Network Client` icon to start the program

7-4. Live viewer

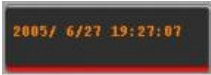

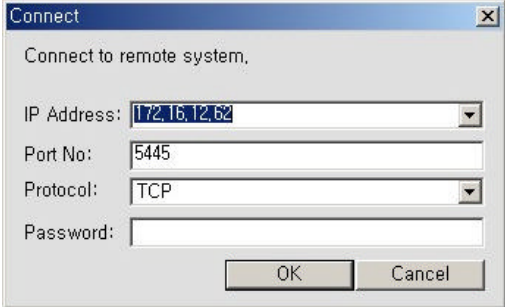







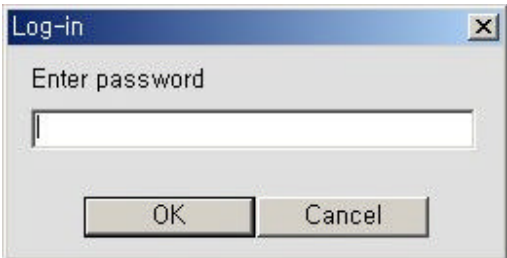









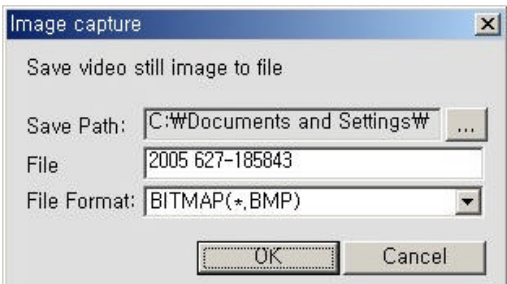

When installation is complete, double click the  icon on your desktop to start the program.









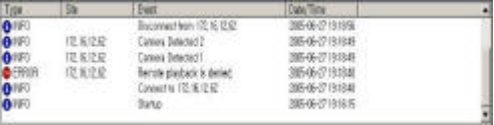


7-4-1. Main user interface



7-4-2. Main control panel

Button	Description
	<p>Displays the current date and time.</p>
	<p>Click this icon to connect to the DVR</p>
	<p>Once you click the connection icon, this pop up window appears. Enter the IP address and the port number. Then select the protocol type and enter the password.</p> <p>Caution:</p> <p>Port No: It should be same as the DVR's port No. Password: It should be same as the DVR's network password. (The default password is 1111)</p> <p>The Remote access should be set to on in the NETWORK setup menu on DVR.</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>Log-in dialog box with 'Enter password' text, a password input field, and 'OK' and 'Cancel' buttons.</p>	<p>Once you click the lock or 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>Icons for PT (Pan/Tilt), ZF (Zoom/Focus), and ZF (Zoom/Focus) controls.</p>	<p>User can control PAN/TILT & ZOOM FOCUS of the remote camera.</p> <p>  PAN left /right  TILT up/down  ZOOM in/out  FOCUS in/out </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>Image capture dialog box with 'Save video still image to file' text, 'Save Path' field (C:\Documents and Settings\W...), 'File' field (2005 627-185843), 'File Format' dropdown (BITMAP(*.BMP)), and 'OK' and 'Cancel' buttons.</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 client software.</p>

	<p>Click this icon to exit from the operations of client software.</p>
	<p>Full screen</p>
	<p>Quad screen</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. You can select the audio on or off by clicking the audio icon </p>
<p>HDD </p>	<p>HDD storage Indicator of DVR.</p>
	<p>It shows the client connection information.</p>
	<p>Max/Min/Exit of the client viewer</p>
	<p>The alarm output indicator lights up for 5 seconds if alarm output is activated on the DVR.</p>

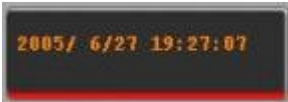

7-5. Search and Playback Viewer



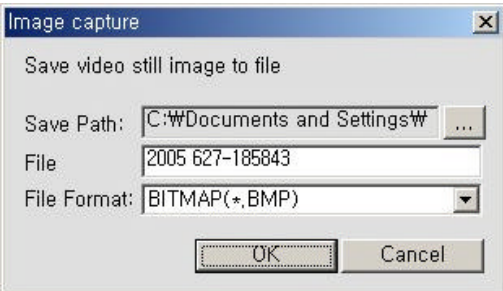




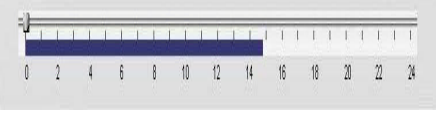

7-5-1. Main user interface




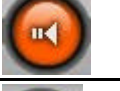


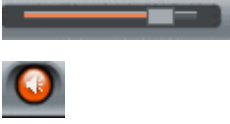

You can access to search window by clicking the search icon on the upper left of main user interface.



7-5-2. Main control panel

Button	Description
	Displays the recording time of the selected data by adjusting of scale in the middle of the bottom of the main user interface.
 LIVE	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. The still image is captured in either jpeg or 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>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>Click to play the recorded video.</p>

	Click to pause the displayed video.
	Click to fast forward the video at 2x and 4x speeds in playback mode.
	Click to rewind the video at 2x and 4x speeds in playback mode.
	Click to reverse 1 frame.
	Click to advance 1 frame.
	Quad screen
	Use the volume control bar to set the audio level. You can select the audio on or off by clicking the audio icon 

7-5-3. Back up

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

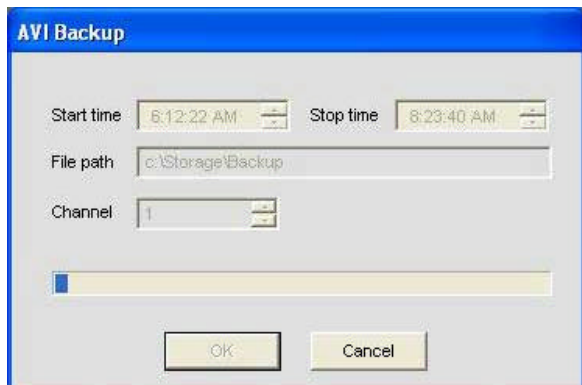
First you need to set the beginning time on the blue timeline by using the scale and clicking the mark in icon



. Then set the ending time on the blue timeline by using the scale and clicking the mark out



icon . Next, click the back up icon  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.

7-6. System configuration



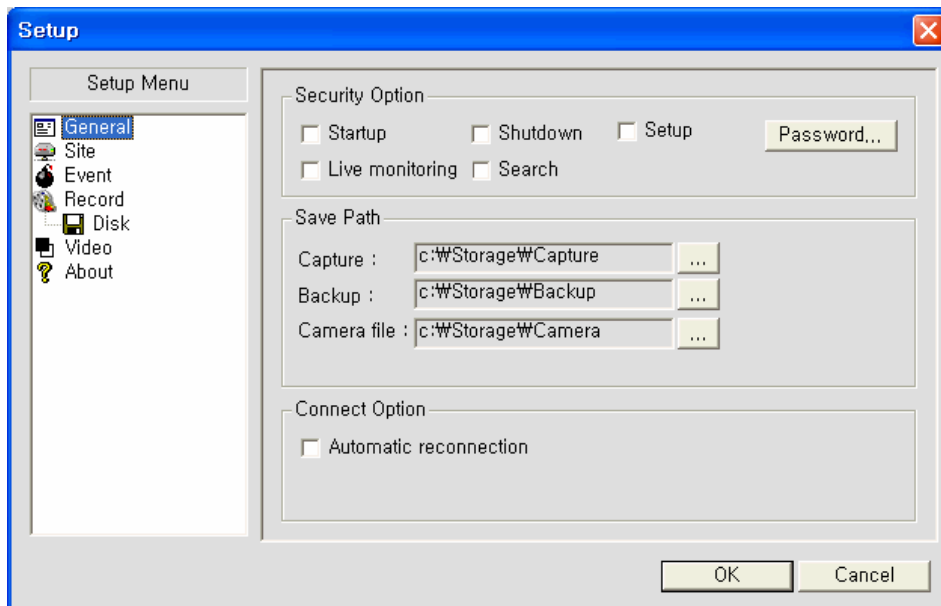
Click the setup icon to setup the configuration of DVR.

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

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

To prevent the network loss when you are on the network, you need to set this connection option. This function supports automatic reconnection of client viewer to the DVR in 30 seconds after the network loss occurred.

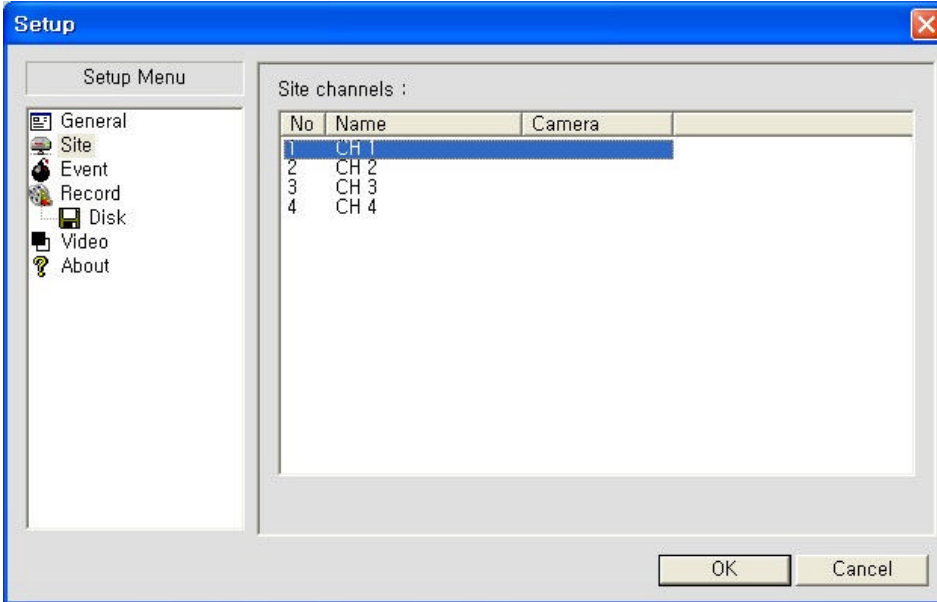


Set a password for security options.



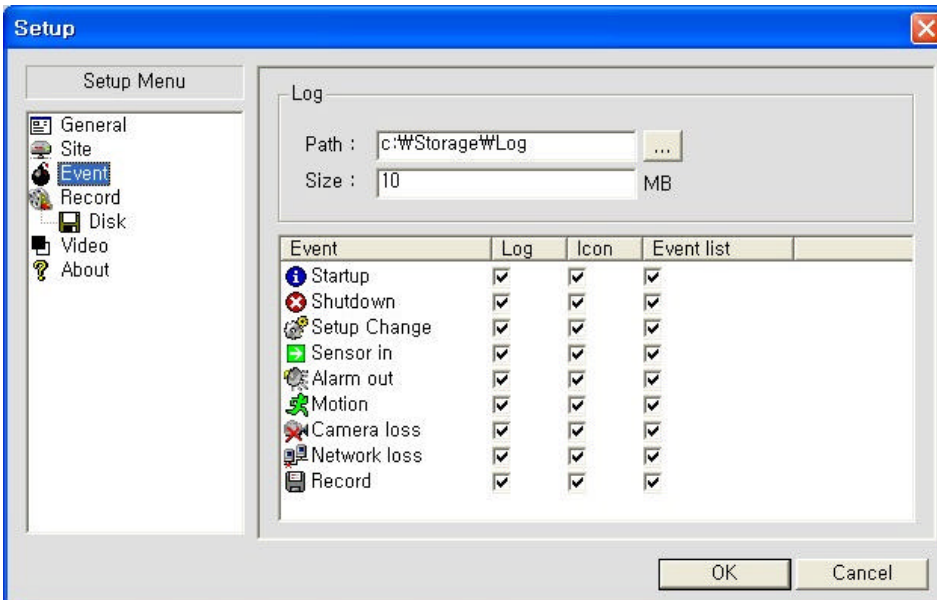
7-6-2. Site

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



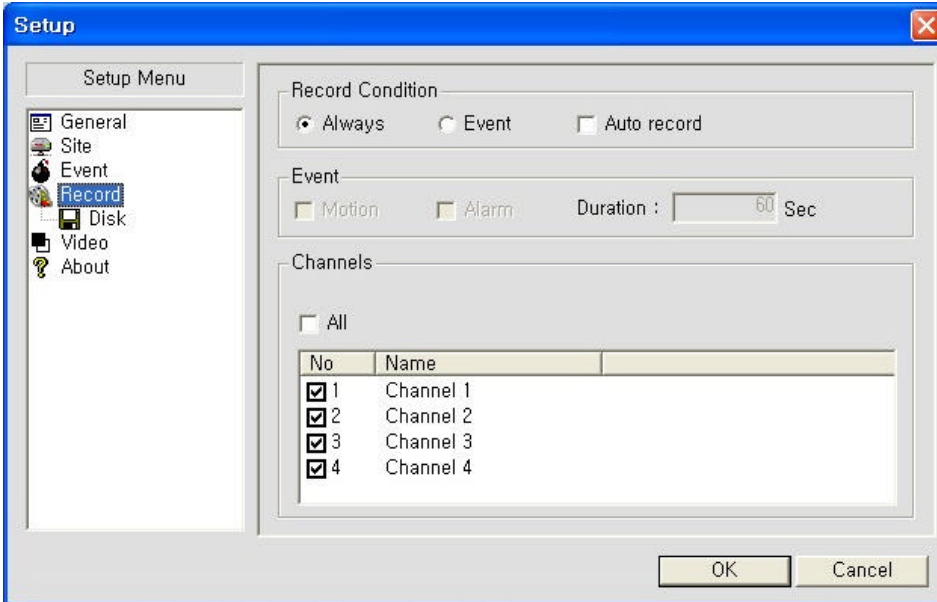
7-6-3. Event

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

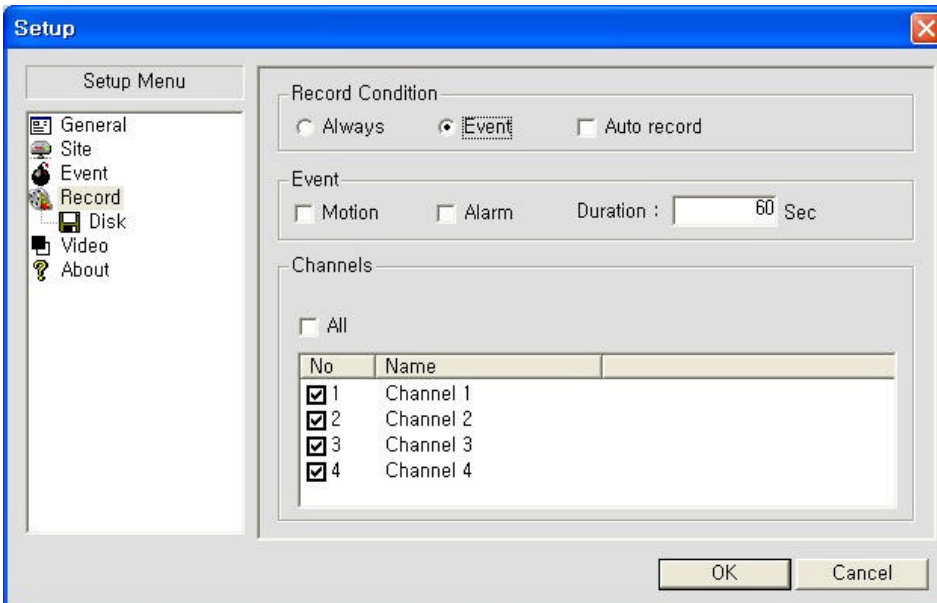


7-6-4. Record

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

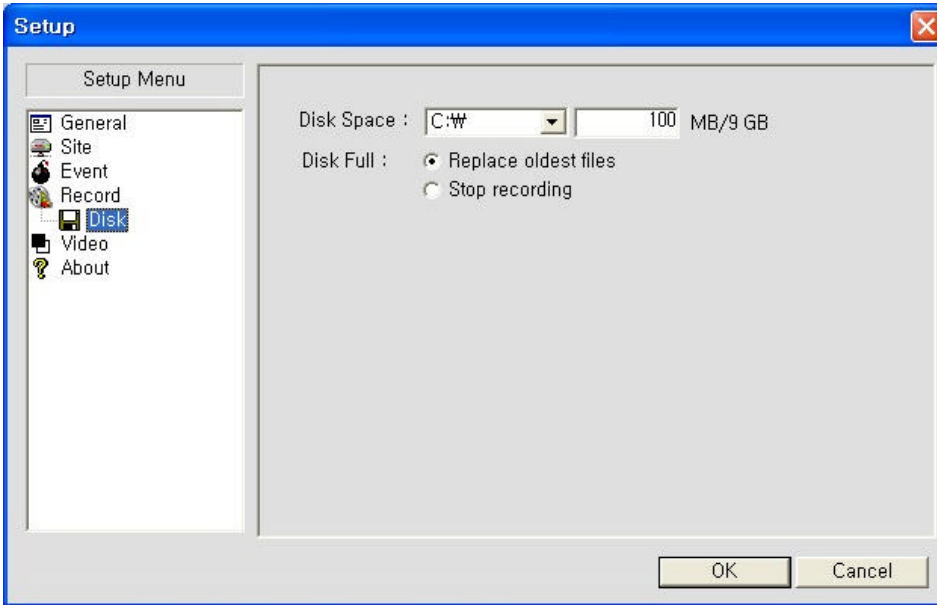


When you set the recording condition to event, you can set event for motion or alarm with duration. And you also can set each or all channels to record.



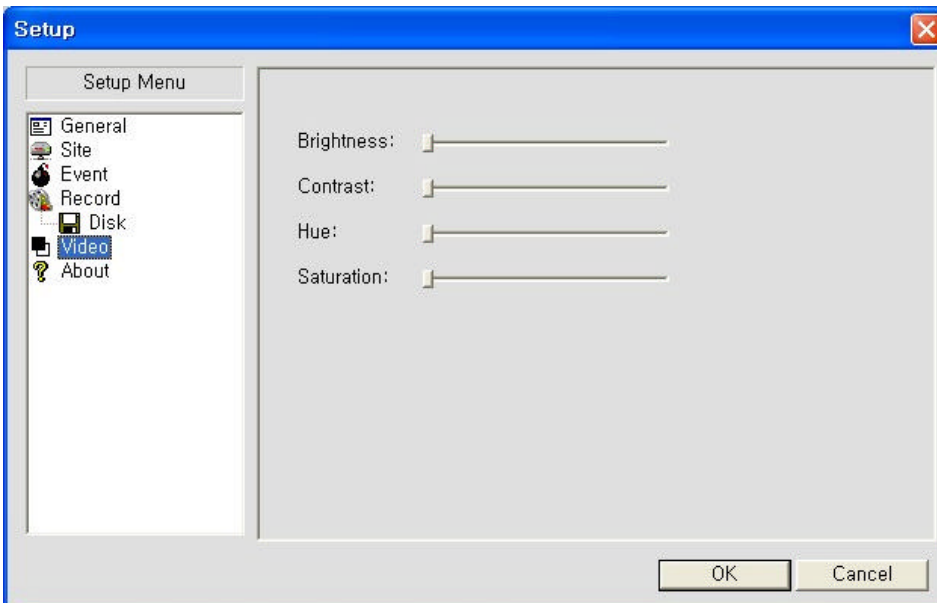
7-6-5. Disk

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.



7-6-6. Video

You can set the value of the Brightness, Contrast, Hue and Saturation for the viewer screen.



7-6-7. About

“About” provides network client version information.

