



## **User's Guide (Ver. 1.6)**

**Models:**           Desktop - D8DS/D16DS  
                  Wall Mount - D8WDS/D16WDS

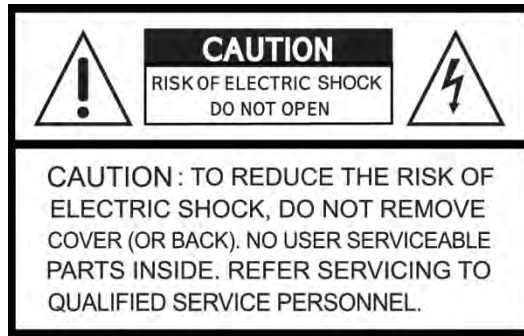
## **8/16 Channel Digital Video Recorder with 960H Resolution**



### **About This User's Guide**

Before operating the unit, please read this user's guide thoroughly and retain it for future reference.

# Cautions



## Explanation of Graphical Symbols



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



This symbol indicates the presence of “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock, property damage, personal injury, or death.

### **WARNING**

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

### **CAUTION**

Changes or modifications not approved by the manufacture will void the warranty of the product.

Using an incompatible battery may increase the risk of fire or explosion.

Replace only with the same or equivalent type battery recommended by the manufacture.

Discard used batteries according to manufacturer’s instructions.

## These precautions **MUST** be followed for safety reasons



### **Warning**

- Do not use if the unit emits smoke.
- Do not disassemble the unit.
- Do not place any heavy or sharp objects on the unit.
- Do not place on uneven surface.
- Do not expose to shock or vibration.
- Do not move the unit when the unit is powered on.
- Do not block, and allow dust to accumulate in the air vents.
- Do not restrict airflow of the unit; doing so can damage the unit.
- Only qualified and experienced personnel should perform installation and servicing.
- Turn off the power of the DVR when connecting Cameras, Audio or Sensor Cables.
- The manufacturer is not responsible for any damage caused by improper use of the product or failure to follow instructions for the product.
- The manufacturer is not responsible for any problems caused by or resulting from the user physically opening the DVR for examination or attempting to repair the unit.

## Product Components

Please make sure the following components are included as specified below.

DVR Unit Desktop: D8DS / D16DS Wall Mount: D8WDS / D16WDS	
Remote Control	
Battery 1.5V (AAA x2)	
Quick Setup Guide	
Quick User Guide	
USB Mouse	
Software & Manual CD	
Rack mount (x 2) & Screw (x 6)	
Adaptor (DC12V 5A) & AC Power cable (110V or 220V)	
Audio Cable	

# Specifications

ITEM				D16DS/D16WDS		D8DS/D8WDS	
Video	Input	Channel, Input Level		16CH Composite, 1.0Vp-p, 75ohm		8CH Composite, 1.0Vp-p, 75ohm	
		Signal Format		NTSC/PAL			
		Video Loss Check		Yes			
	Output	HDMI		1 HDMI (1280x720, 1920x1080)			
		VGA		1 VGA (1024x768, 1280x1024)			
		CVBS		1 BNC			
		SPOT		1 BNC			
Audio	Input & Output			16 CH input & 1 CH output		8 CH input & 1 CH output	
	Audio Codec			G.711			
Sensor/ Alarm	Sensor Input			4 (NC / NO Selectable)			
	Alarm Out			1 Alarm Out by Sensor, Motion and Video Loss			
Record	Compression			H.264			
	Multi-operation			QUADPLEX (Playback/Record/Network/Backup)			
	Resolution	NTSC	960H	480fps		240fps	
			D1	480fps		240fps	
			CIF	480fps		240fps	
		PAL	960H	400fps		240fps	
			D1	400fps		240fps	
			CIF	400fps		240fps	
	Recording quality grade			LEVEL1 (L) ~ LEVEL5 (H)			
	Recording Mode			Continuous/Schedule/Motion/Manual/Sensor			
	Motion Detection			Motion detection setup by Grid			
	Recording by individual channel's Resolution			Yes			
	Pre Recording			1 fps for up to 20minutes before an event			
	Post Recording			10 seconds to 3 minutes after an event			
Display	Frame Rate (/Sec)			NTSC: 30fps/CH, 60 fields / PAL: 25fps/CH, 50 fields			
Playback	Multi-Decoding			1, 4, 9, 16		1, 4, 8	
	Playback Speed	Single channel		×2, 4, 8, 16, 32, 64			
		Multi-channels		×2, 4, 8, 16, 32			
	Search Mode			Timeline, Event, Archive, EZ Search, Log			
Storage	HDD	Interface Type		Serial ATA			
		Max Capacity of 1 HDD		3 TB			
		Internal HDD No.		2 (3: w/o DVDRW)			

	eSATA port (Storage Extension)		1	
	USB Port		3 (Front - 2, Rear - 1)	3 (IR Board - 2, Main Board - 1)
	Backup	USB Flash	Video & Still Image	
		Network	Video & Still Image	
		Huge Backup	Yes (up to 24 hours at a time)	
User I/F	Menu Display		GUI	
	Input Method		Front buttons, Remote control, Mouse	
RS-485	PTZ control		1 RS-485	
Network	Dynamic DNS		Yes (Free DDNS)	
	Network Interface		10/100/1000 base-TX Ethernet (RJ-45)	
	Max. Network Streaming		CIF 480fps/16CH QCIF 480fps/16CH	CIF 240fps/8CH QCIF 240fps/8CH
Network Access	Web Viewer (1:1)		Live, Search, Backup, Remote Setup, PTZ control	
	Mobile Phone Viewer (1:1)		Live, Search, PTZ control	
	Multi-sites Monitoring SW		Live, Search, Backup, Remote Setup, PTZ control	
Features	DLS (Day Light Saving)		Yes	
	EZSearch		Thumbnail Preview	
	Time Stamp over AVI Backup		Yes	
	EZRecord		Yes	
	EZSetup		Yes	
	EZNetwork		Yes	
	S.M.A.R.T		Yes	
	Digital Deterrent		Yes	
	Internal Beep		By Video Loss, HDD Error, S.M.A.R.T	
	Multi-Language		Yes	
	S/W Upgrade		USB Flash drive, Remote S/W Upgrade	
	NTP		Yes	
	Mac Viewer		Yes	
Power Source	Power Supply Voltage		DC 12V 5A	
Allowable operating temperature		5°C - 40°C, During storage: -10°C - +50°C		
Allowable operation humidity		20 % - 80 %		
Weight	Desktop Unit (Gross weight)		Approximately 11 lbs	
	Wall Mount (Gross Weight)		Approximately 16 lbs	
Dimension	Desktop Unit (W x H x D)		14.90" x 13.38" x 2.83"	
	Wall Mount Unit (W x H x D)		13.5" x 17" x 3.5"	

Please note that specifications and unit exterior designs are subject to change without notification.

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# 1. Main Features

- Easy Record, Copy and Setup
- Easy Search by Thumbnail Preview
- Easy Copy
- Easy Network
- Recording Rate: D16DS: 480fps @ 960H, D8DS: 240fps @ 960H
- Digital Deterrent, audio message output upon event
- H.264 High Profile compression saves HDD space
- Simultaneous live view/playback while continuing to record/network transfer or backup
- Remote monitoring/recording/playback/configuration and control via internet
- Wi-Fi access point for remote viewing and configuration
- Audio Recording: D16DS/D16WDS:16 Channels; D8DS/D8WDS:8 Channels

**NOTE:** Under federal law, The Fourth Amendment to the U.S. Constitution, Title III of the Omnibus Crime Control and Safe Streets Act of 1968, as amended by the Electronic Communications Privacy Act of 1986 (18 U.S.C. § 2510, *et seq.*), and the Foreign Intelligence Surveillance Act of 1978 (50 U.S.C. 1801, *et seq.*) permit government agents, acting with the consent of a party to a communication, to engage in warrantless interceptions of telephone communications, as well as oral and electronic communications.

- Automatic camera detection (Plug & Play)
- Covert camera operation provides enhanced security and administrator control
- Dynamically programmable recording priority, motion detection, alarms and scheduling
- Simple and Easy Graphic User Interface
- Simple Schedule Recording
- HDMI Output
- VGA Output
- Password to secure installation authorization
- Network software supports 10/100Mbps
- USB 2.0 port for video clip exporting and easy firmware upgrade via USB Flash Drive
- Exclusive File Format Backup and Player
- Variety of Ways Network Access via CMS Network Client Software, Web-Viewer, and Mobile Viewer
- S.M.A.R.T. (**S**elf-**M**onitoring, **A**nalysis, and **R**eporting **T**echnology for HDD)

## 2. Initial Boot-up Process

### 2-1. Initial Boot up and Basic Time Setup

1. During the first boot up, the following logo will be displayed.



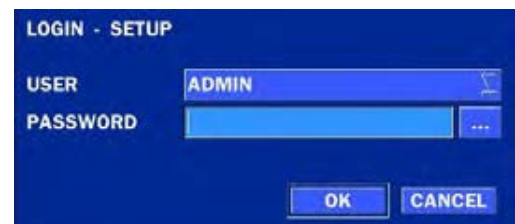
2. After the logo, select the language and set date and time as specified below.



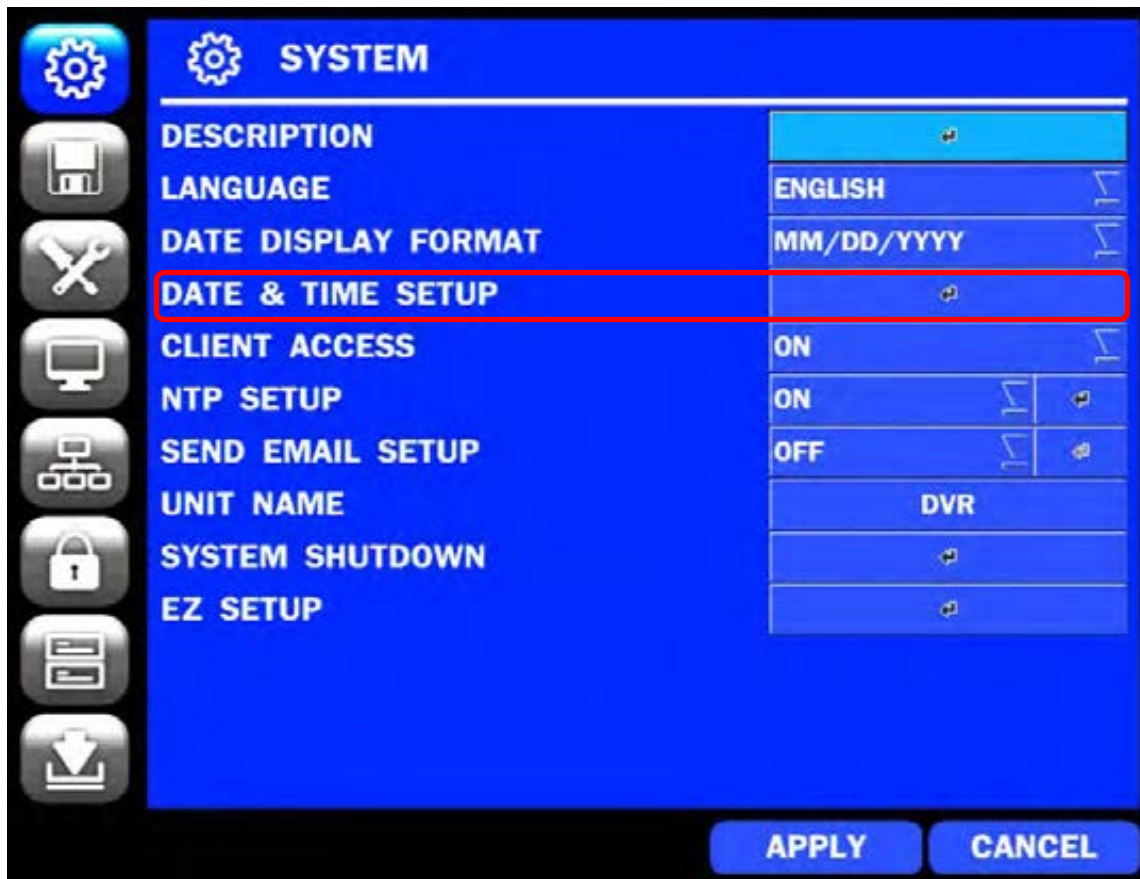
### 2-2. Setting Daylight Saving Time

To enable Daylight Saving feature/NTP synchronization, take the following steps.

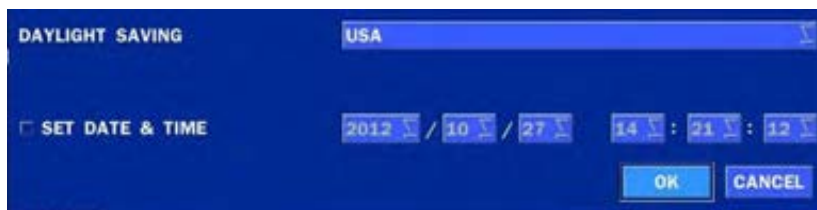
1. Enter the SETUP mode. The default Username is "ADMIN" and Password is "1111".



2. Go to SETUP > SYSTEM > DATE & TIME SETUP



3. Select ON from the DAYLIGHT SAVING dropdown menu.



## 2-3. Setting NTP (Network Time Protocol)

1. SETUP > SYSTEM > NTP SETUP > ON



2. Select the proper TIME ZONE time.

The screenshot shows a configuration window with the following fields:

- PRIMARY NTP SERVER: Pool.ntp.org
- SECONDARY NTP SERVER: Time.nist.gov
- TIME ZONE: GMT +0:00 (Lisbon/London/Monaco)
- CONNECTION MODE: TIME
- CONNECTION PERIOD: 03:00 AM

Buttons for OK and CANCEL are at the bottom right.

**Table2.3.1. GMT Time Zone**

	State	Standard Time	Daylight-Saving Time
AL	Alabama	GMT-6	GMT-5
AK	Alaska	GMT-9	GMT-8
AK	Alaska (Aleutian Islands)	GMT-10	NA
AZ	Arizona	GMT-7	NA
AZ	Arizona (Navajo)	GMT-7	GMT-6
AR	Arkansas	GMT-6	GMT-5
CA	California	GMT-8	GMT-7
CO	Colorado	GMT-7	GMT-6
CT	Connecticut	GMT-5	GMT-4
DC	District of Columbia	GMT-5	GMT-4
DE	Delaware	GMT-5	GMT-4
FL	Florida	GMT-5	GMT-4
FL	Florida (W)	GMT-6	GMT-5
GA	Georgia	GMT-5	GMT-4
HI	Hawaii	GMT-10	NA
ID	Idaho (N)	GMT-8	GMT-7
ID	Idaho (S)	GMT-7	GMT-6
IL	Illinois	GMT-6	GMT-5
IN	Indiana	GMT-5	GMT-4
IN	Indiana (SW / NW)	GMT-6	GMT-5
IA	Iowa	GMT-6	GMT-5
KS	Kansas	GMT-6	GMT-5
KS	Kansas (W)	GMT-7	GMT-6
KY	Kentucky (E)	GMT-5	GMT-4
KY	Kentucky (W)	GMT-6	GMT-5
LA	Louisiana	GMT-6	GMT-5
ME	Maine	GMT-5	GMT-4
MD	Maryland	GMT-5	GMT-4
MA	Massachusetts	GMT-5	GMT-4
MI	Michigan	GMT-5	GMT-4

MI	Michigan (W)	GMT-6	GMT-5
MN	Minnesota	GMT-6	GMT-5
MS	Mississippi	GMT-6	GMT-5
MO	Missouri	GMT-6	GMT-5
MT	Montana	GMT-7	GMT-6
NE	Nebraska	GMT-6	GMT-5
NE	Nebraska (W)	GMT-7	GMT-6
NV	Nevada	GMT-8	GMT-7
NH	New Hampshire	GMT-5	GMT-4
NJ	New Jersey	GMT-5	GMT-4
NM	New Mexico	GMT-7	GMT-6
NY	New York	GMT-5	GMT-4
NC	North Carolina	GMT-5	GMT-4
ND	North Dakota	GMT-6	GMT-5
ND	North Dakota (W)	GMT-7	GMT-6
OH	Ohio	GMT-5	GMT-4
OK	Oklahoma	GMT-6	GMT-5
OR	Oregon	GMT-8	GMT-7
OR	Oregon (E)	GMT-7	GMT-6
PA	Pennsylvania	GMT-5	GMT-4
RI	Rhode Island	GMT-5	GMT-4
SC	South Carolina	GMT-5	GMT-4
SD	South Dakota (E)	GMT-6	GMT-5
SD	South Dakota (W)	GMT-7	GMT-6
TN	Tennessee (E)	GMT-5	GMT-4
TN	Tennessee (W)	GMT-6	GMT-5
TX	Texas	GMT-6	GMT-5
TX	Texas (W)	GMT-7	GMT-6
UT	Utah	GMT-7	GMT-6
VT	Vermont	GMT-5	GMT-4
VA	Virginia	GMT-5	GMT-4
WA	Washington	GMT-8	GMT-7
WV	West Virginia	GMT-5	GMT-4
WI	Wisconsin	GMT-6	GMT-5
WY	Wyoming	GMT-7	GMT-6



**NOTE:** If you want the unit to automatically synchronize the local time, the Time Zone must be properly set according to your local time zone.

## 3. Front and Rear Panels

### 3-1. Front Panel



DS Desktop Front




DS Wall Mount Front






**Figure 3.1.1. DVR Front panels**

**Table 3.1.1. Front LED and Ports of Desktop Models (D16DS/D8DS)**

Name	Description
<b>POWER</b>	LED light is on when power is applied to the system.
<b>HDD</b>	LED light is on when the system is recording video data.
<b>USB Port</b>	This USB port for archiving footage into a USB device. (USB 2.0 connector)

**Table 3.1.2. Front Buttons (D16DS/D8DS)**

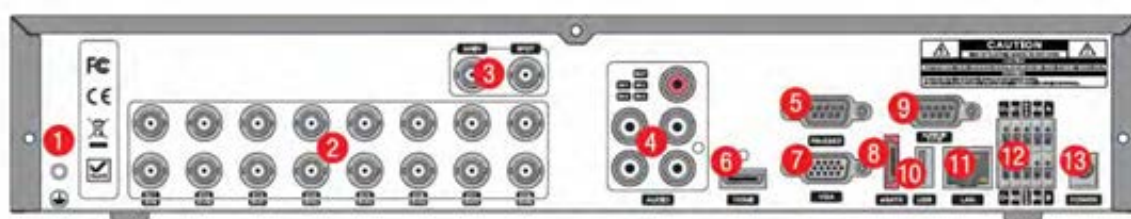
Name	Description
<b>Buttons 1~16</b>	Select a channel from CH1 to CH16
	Buttons from 9 to 16 is used as function keys on PTZ control mode To escape out of PTZ mode, press the ESC button.
<b>MENU</b>	Goes into the Setup window
<b>COPY</b>	Takes a Screenshot on Live View and Goes into Backup during Playback
<b>ALARM</b>	Activates the external alarm device
<b>SEQ</b>	Enables the sequence mode on Live
<b>ESC</b>	Exit the current mode or cancels current operation
<b>PLAYBACK</b>	Goes into search mode
<b>PTZ</b>	Activates the Pan, Tilt and Zoom menu
<b>MODE</b>	Toggles between the available display modes (1x1, 2x2, 3x3, 4x4)
<b>POWER</b>	Will initiate system shut down

	LIVE mode – Moves Up SEARCH mode – Skips 1min ahead on playback and 1 frame ahead on pause
	LIVE mode – Moves Right SEARCH mode - Control the play speed (Fast Forward)
	LIVE mode – Moves Down SEARCH mode - Skips 1min back on playback and 1 frame back on pause
	LIVE mode – Moves Left SEARCH mode- Select the play speed (Rewind)
	LIVE mode – Select (Center) SEARCH mode - Play & Pause

### 3-2. Rear Panel Connectors



- Do not power this system on before all the connections are attached.
- Make sure all the connections are properly secured. Faulty connection may result in the system being damaged.



D16DS



D8DS

**Figure 3.2.1. Connectors**

- ① Ground: Use for ground port.
- ② VIDEO IN: Video input port.(For Analog & 960H cameras)
- ③ VIDEO OUT: MAIN – Composite Video Output / SPOT – Spot Monitor
- ④ AUDIO IN & OUT: Four connectors for audio input and one connector for audio output.
- ⑤ RS-232C: For engineering use only.
- ⑥ HDMI: HDMI output port. Connectors to the HDMI Monitor
- ⑦ VGA: VGA (Video Graphics Array) output port. Connects to the PC VGA monitor.
- ⑧ E-SATA: External SATA port for extension storage.
- ⑨ AUDIO IN: Audio inputs connections for channels 5-8 or 5-16 through external cable
- ⑩ USB: USB terminal for video export or firmware upgrade



- ⑪ ETHERNET: Network terminal
- ⑫ SENSOR IN, ALARM OUT, RS-485: External sensor terminal, External alarm out terminal & RS-485 for PTZ Camera control
- ⑬ POWER: DC12V input

### 3-3. Remote Control



**Typical Remote Control**

- ① ID: To set the remote control ID.
- ② REC: To start and stop manual recording
- ③ SEARCH: To go to SEARCH menu.
- ④ F/ADV:
  - During playback – To move the playback position 60 seconds forward .
  - During Pause – To move the playback position moves 1 frame forward
- ⑤ F/REW:
  - During playback – To move the playback position 60 seconds back.
  - During Pause – To move the playback postion 1 frame back.
- ⑥ FF: To fast forward the recording.
- ⑦ PLAY/PAUSE: To play or to pause the recording in playback mode
- ⑧ REW: To rewind the recording.
- ⑨ ESC:
  - During setup – To retun to the preivous menu screen.
  - During Playback – To exit playback mode
  - System lock – To lock a system when pressing ESC button for 5 seconds.
  - System unlock – To unlock a system when pressing ESC button for 5 seconds.
- ⑩ SETUP: To open the SETUP menu.
- ⑪ Direction buttons: To move menu items or select a channel.
- ⑫ SEQ: To start auto sequencing the screen in full screen mode. (Toggle)
- ⑬ BACKUP: To start a backup operations in live or playback mode
- ⑭ 0~9: To select channel (1,2,3,..) or to enter a DVR ID number or use as number key.

# 4. Setting up the DVR

The following sections detail the initial setup of the DVR.



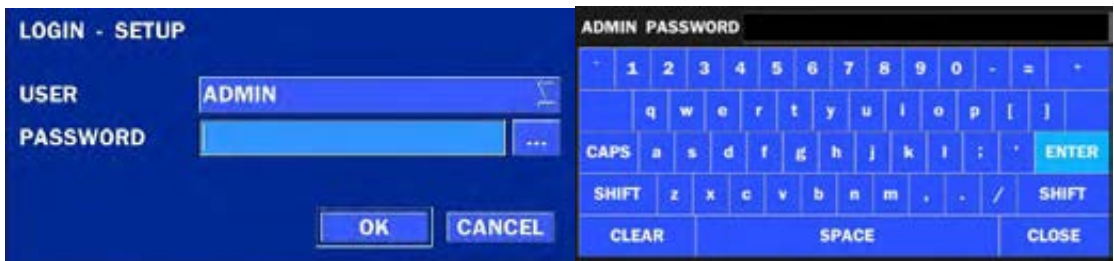
Menu screen will close if user response is not received in 5 minutes.

## 4-1. Setup – Main Live Screen

To enter the setup menu, right click on the mouse and select setup from the submenu or press the setup button on the remote control.



Table 4.1.1. Live Screen and Quick Operation Window



When the DVR prompts the LOG-IN window, enter the PASSWORD using the virtual keyboard, or the front panel, or the remote control. The factory default password is 1111. It is highly recommended to assign a new password to protect the system. User can assign a new password in SECURITY setup menu.

## 4-2. Setup – SYSTEM

In the SETUP menu, select the SYSTEM tab. Then, the SYSTEM menu is displayed as pictured below. Navigate through the menu items using the mouse or the remote control and change the value of the menu.



Figure 4.2.1. SYSTEM Setup Screen

Table 4.2.1. Menu Items in SYSTEM Setup Screen

Item	Description
<b>DESCRIPTION</b>	Press the button to view the system information. (Software Version, Storage Size, IP Address, MAC Address and DDNS Status)



<b>LANGUAGE</b>	Select the display language using the mouse or the remote control. Once a language is selected, the display language will change.
<b>DATE DISPLAY FORMAT</b>	Select the date display format using the mouse or the remote control. Options are: MM/DD/YYYY, YYYY/MM/DD, DD/MM/YYYY, YYYY-MM-DD, MM-DD-YYYY, DD-MM-YYYY
<b>DATE&amp;TIME SETUP</b>	Select the display date and time using the mouse or the remote control and press OK button to set the present date and time.

Select DAYLIGHT SAVING using the mouse or the remote control and select the appropriate daylight saving time zone. The available options are:

**OFF:** Daylight saving is turned off.

**USA:** Applies the USA daylight saving time.

**EU:** Applies the EU daylight saving time.

- Select the GMT AREA using the mouse or the remote control.
- Set the time difference with the standard time using the mouse or the button.

**OTHERS:** If the time zone is neither USA nor EU, set the date and time of the daylight saving period.

- Select BEGIN or END using the remote and press the SEL button.

#### Caution

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



## CLIENT ACCESS

Enable/Disable remote access through the network.

## NTP SETUP

NTP (Network Time Protocol) which synchronizes the time of the computer systems over variable-latency data networks.

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

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

**TIME ZONE:** NTP synchronizes with GMT (Greenwich Mean Time) regardless of geography, user must set their own time difference.

**CONNECTON MODE:** Select the NTP time-server connection mode from TIME, INTERVAL, and ONCE.

#### CONNECTION PERIOD

- **TIME** – Refresh the time at the designated time (e.g. 1AM)
- **INTERVAL** – Every 1 hour ~ 24 hours
- **ONCE** – Synchronizes time only once. NTP will not synchronize unless the Connection Mode is changed.





**DVR sends E-MAIL Notification when the NTP server time is faster than the system time with bellow message.**

“NTP server time is faster than the system time.

In this case, NTP server time is ignored to protect the user data.

User must set the time manually.

SYSTEM TIME: Mon Oct 10 13:46:49 2011

SERVER TIME: Mon Oct 10 13:33:12 2011

DVR ID: DVR

IP ADDRESS: 172.16.2.46”

## SEND EMAIL

TRANSMISSION MODE	VIDEO	
IP NOTIFICATION	OFF	
MAIL BY SENSOR	OFF	
MAIL BY MOTION	OFF	
MAIL BY VIDEO LOSS	OFF	
MAIL BY S.M.A.R.T.	OFF	
MAIL BY STATUS	ON	...
SERVER TYPE	MANUAL	
MAIL SERVER		...
MAIL PORT	25	...
SECURE OPTION	NONE	
ID		...
PASSWORD		...
MAIL TO		...
MAIL FROM		...
		OK CANCEL

**TRANSMISSION MODE:** Select the mail transmission mode (TEXT or VIDEO).

- On VIDEO mode, AVI video file is attached when the motion is detected.
- The AVI file contains the 1~2 second(s) pre-record and 1 second post record.

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

**MAIL BY SENSOR:** Enable/disable sending e-mail when the sensor is detected.

**MAIL BY MOTION:** Enable/disable sending e-mail when the motion is detected.

**MAIL BY SENSOR:** Enable/disable sending e-mail when sensor input is received.

**MAIL BY VIDEO LOSS:** Enable/disable sending e-mail when the video loss is detected.

**MAIL BY S.M.A.R.T.:** Enable/disable sending e-mail when S.M.A.R.T. is triggered.

**MAIL BY STATUS:** Enable/disable sending periodical e-mail of the system status.

PERIOD	DAILY		
FIRST	SUN	0 H	
			OK CANCEL

**SERVER TYPE:** Select GMAIL, HOTMAIL, AOL, YAHOO or MANUAL

**MAIL SERVER:** Enter the appropriate mail server information.

**MAIL PORT:** Assign Mail Port number.

**SECURE OPTION:** Select the secure mail server connection method. (SSL or TLS)

**ID:** Enter the appropriate mail server ID.

**PASSWORD:** Enter the appropriate mail server PASSWORD

**MAIL TO:** Enter the desired email address to receive e-mail reports.

**MAIL FROM:** To set the email address sent to the destination host.

<b>UNIT NAME</b>	Name the DVR (e.g. Factory, Library, Store, Location etc) This is to used to identify the name of each DVR under the same network.
<b>EZ SETUP</b>	Helps user to easily setup RECORDING and NETWORK.

#### 4.2.1 EZ SETUP

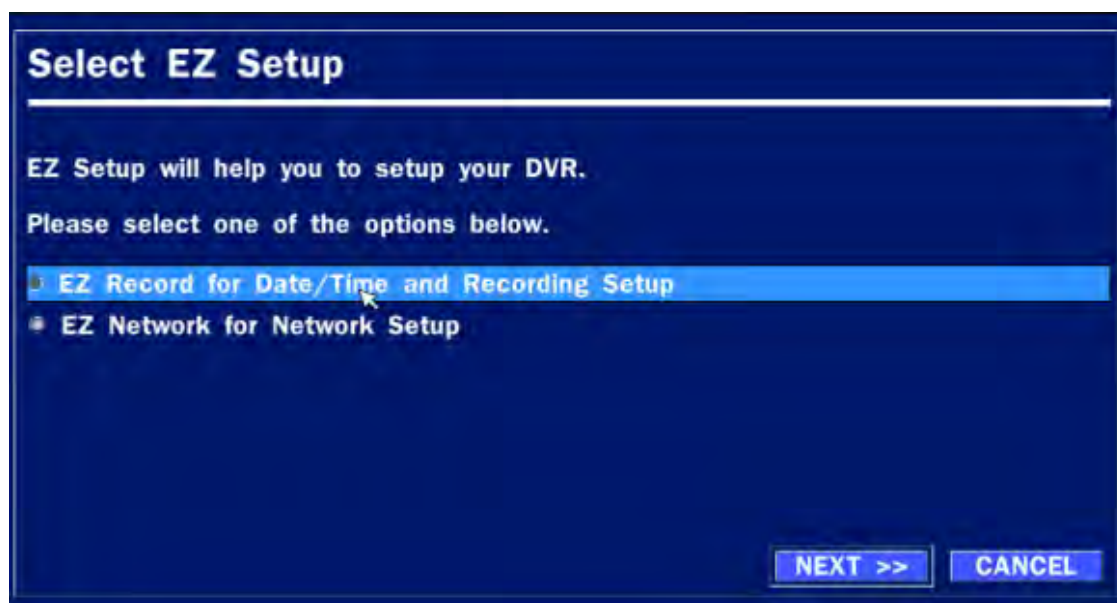


Figure 4.2.2. EZ Setup Screen

#### 4.2.1.1 Help user to setup DATE & TIME, RECORDING.

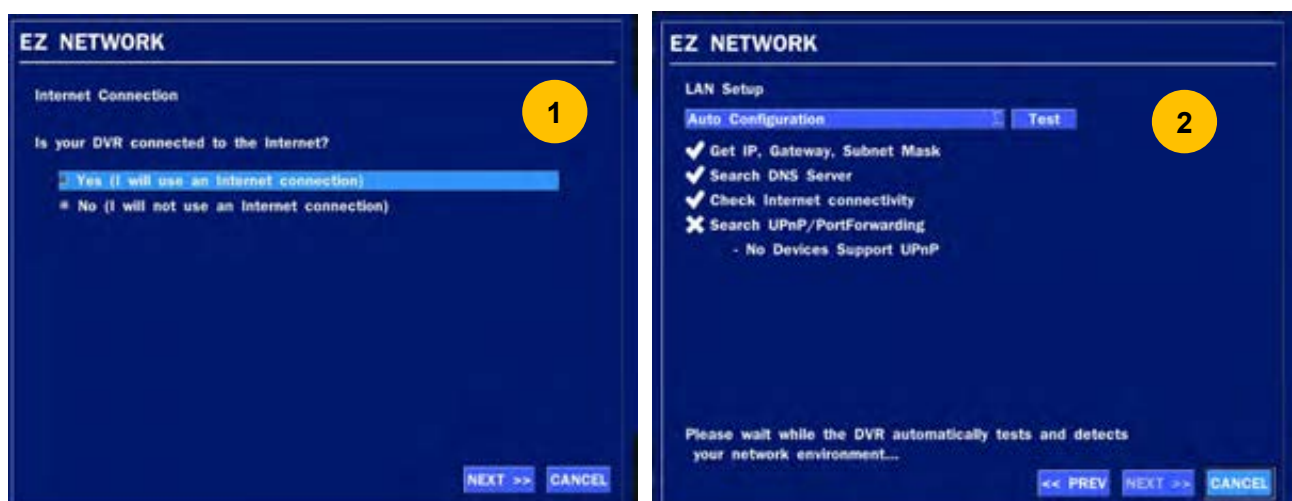


The figure consists of five screenshots of the EZ Record setup interface, numbered 1 through 5. Each screenshot has a yellow circle with its number in the top right corner.

- Screen 1:** Titled "EZ Record". It says "You are about to start EZ Record." and "EZ Record will guide you through:". It lists the steps: Date/Time Setup, Recording Mode Setup, Recording Video Quality Setup, and Network Setup (Optional). It instructs the user to click the "NEXT" button to start EZ Record. Buttons at the bottom are "NEXT >>" and "CANCEL".
- Screen 2:** Titled "EZ Record". It shows the "DATE/TIME SETUP" section. Fields include "DATE DISPLAY FORMAT" (YYYY/MM/DD), "DAYLIGHT SAVING" (USA), "SET DATE & TIME" (2012 / 11 / 5 16 : 4 : 11), and "TIME ZONE" (GMT -5:00 (Montreal/New York)). Buttons at the bottom are "<< PREV", "NEXT >>", and "CANCEL".
- Screen 3:** Titled "EZ Record". It shows the "RECORDING MODE SETUP" section. Options are "CONTINUOUS" and "MOTION". Buttons at the bottom are "<< PREV", "NEXT >>", and "CANCEL".
- Screen 4:** Titled "EZ Record". It shows the "RECORD VIDEO QUALITY SETUP" section. Options are "Best Video Quality (960H, 30FPS, L5)", "Standard Recording (D1, 20FPS, L3)", and "Best Recording Time (CIF, 10FPS, L1)". Buttons at the bottom are "<< PREV", "NEXT >>", and "CANCEL".
- Screen 5:** Titled "EZ Record". It says "You have now completed the setup for basic operation." and instructs the user to click the "FINISH" button to finish EZ Record, or the "GO TO EZ NETWORK" button to start the network setup. Buttons at the bottom are "GO TO EZ NETWORK", "FINISH", and "CANCEL".

Figure 4.2.3. EZ Record Setup Procedure

#### 4.2.1.2 Help user to setup NETWORK setting (Using an internet connection)



The figure consists of two screenshots of the EZ NETWORK setup interface, numbered 1 and 2. Each screenshot has a yellow circle with its number in the top right corner.

- Screen 1:** Titled "EZ NETWORK". It shows the "Internet Connection" section. It asks "Is your DVR connected to the Internet?" and provides two options: "Yes (I will use an Internet connection)" and "No (I will not use an Internet connection)". Buttons at the bottom are "NEXT >>" and "CANCEL".
- Screen 2:** Titled "EZ NETWORK". It shows the "LAN Setup" section. It has a dropdown menu set to "Auto Configuration" and a "Test" button. It lists several checked items: "Get IP, Gateway, Subnet Mask", "Search DNS Server", and "Check Internet connectivity". It also shows an unchecked item: "Search UPnP/PortForwarding" with a sub-item "No Devices Support UPnP". At the bottom, it says "Please wait while the DVR automatically tests and detects your network environment..." and has buttons "<< PREV", "NEXT >>", and "CANCEL".

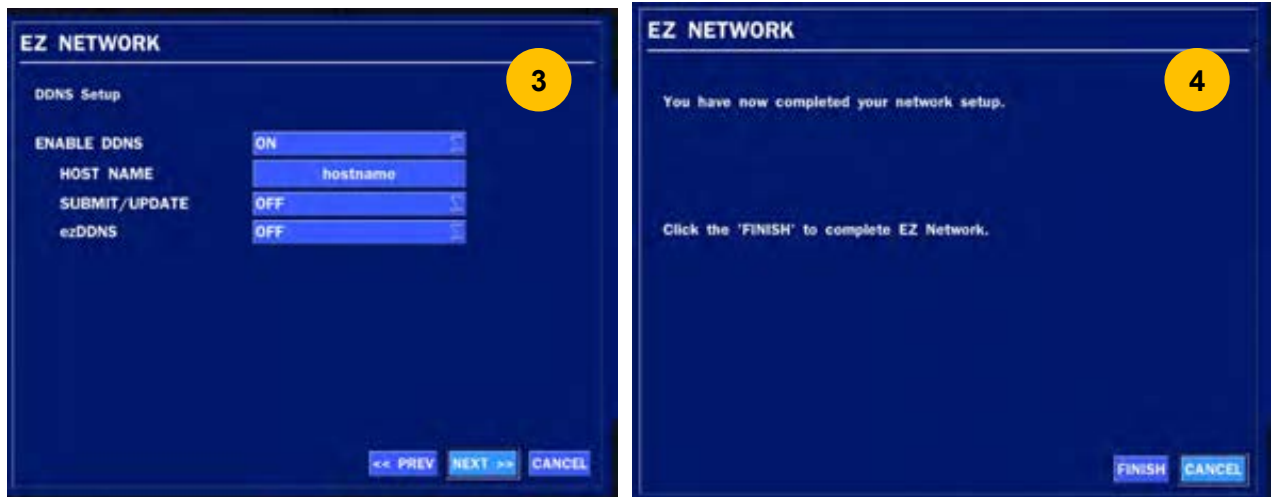


Figure 4.2.4. EZ NETWORK Setup Procedure

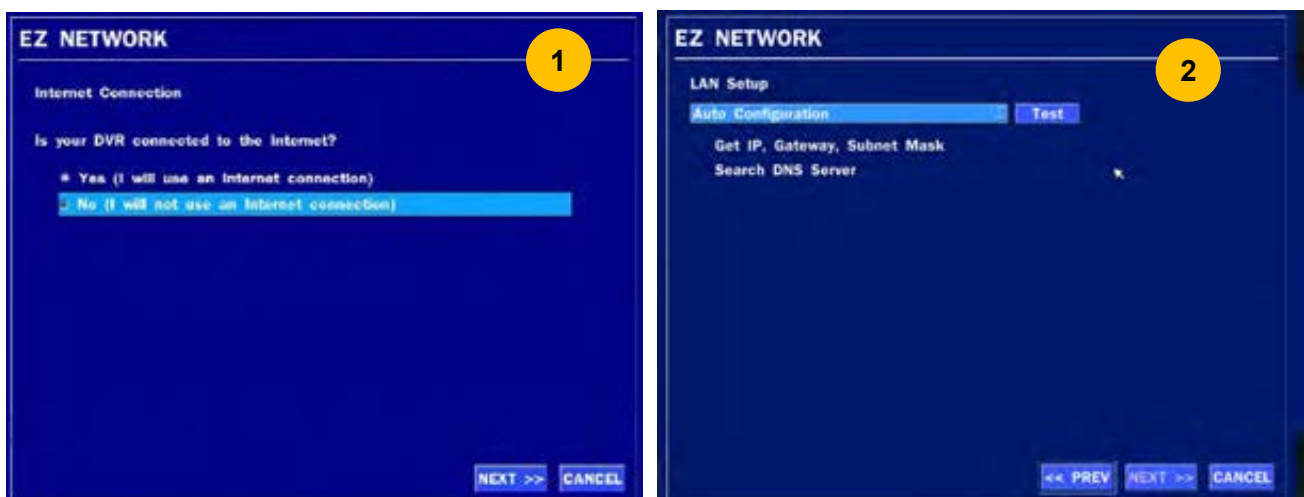
- ① Select YES in case of setting the network using an internet connection.
- ② Select Auto Configuration or Manual Configuration and then click TEST button.



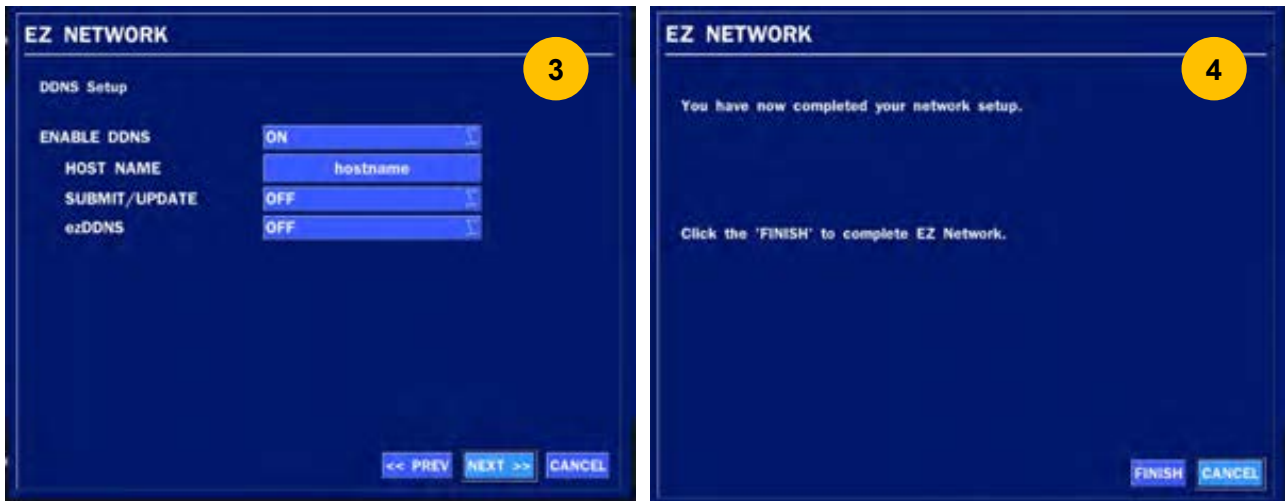
Figure 4.2.5. EZ NETWORK Setup – Manual Configuration Screen

- ③ Setup DDNS setting. (Refer to “4.6.2 DDNS”)
- ④ Finish

#### 4.2.1.3 Help user to setup NETWORK setting (Not using an internet connection)







**Figure 4.2.6. EZ NETWORK Setup – Manual Configuration Screen**

- ① Select NO in case internet connection is not being utilized.
- ② Select Auto Configuration or Manual Configuration and then click TEST button.
- ③ Select OFF for ENABLE DDNS and click NEXT button.
- ④ Finish


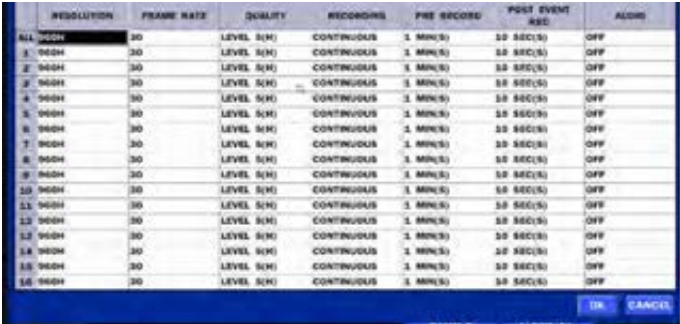
4-3. Setup – RECORD Mode

In the SETUP menu, select the RECORD tab. Then, the RECORD menu is displayed as pictured below. Navigate through the menu items or change the settings using the mouse or the remote control.



Figure 4.3.1. RECORD Setup Screen

Table 4.3.1. Menu Items in RECORD Setup Screen

Menu Item	Description
SITE	Select a channel for applying the following settings using the mouse or the remote control. To change the values of all channels, take the following steps: Select the following  to change the values of all channels.
	
RESOLUTION	Select 960H, D1 or CIF using the mouse or the remote control..
FRAME RATE	Set the frame rate for the specified channel. The sum of the frame rate values from each channel cannot exceed the maximum frame rates for a specific recording resolution.
QUALITY	Select the recording quality for the selected channel. Options are:

	Level 1 (Low), Level 2, Level 3, Level 4, and Level 5 (High)
<b>RECORDING MODE</b>	Assign the recording mode for the selected channel. Options are: Continuous, Motion, Schedule or Disable.
<b>SENSOR RECORDING</b>	Select the sensor settings for the selected channel.
<b>PRE RECORD</b>	Enable/disable pre-event recording. Pre-event recording is limited to 20 minutes.
<b>POST EVENT RECORD</b>	Set the post event recording time duration for the specified channel. (10~30 seconds)
<b>AUDIO</b>	Enable/disable audio recording for the specified channel.
<b>SCHEDULE</b>	Set the recording schedule.
<b>EZRECORD</b>	Set the recording by EZRecord feature.

The EZRECORD has a higher priority than other setting values on RECORD. User can change the setting value such as resolution, frame rate, quality and recording type. By the setting value, the DAYS TO RECORD will change accordingly.



<b>RESOLUTION</b>	960H
<b>FRAME RATE</b>	25 FPS
<b>QUALITY</b>	LEVEL 5(H)
<b>RECORDING</b>	CONTINUOUS
<b>DAYS TO RECORD</b>	18 DAY(S) 8 HOUR(S)

**APPLY** **CLOSE**

### 4-3-1. Recording Schedules

To setup a recording schedule, select SCHEDULE in the RECORD menu. Navigate through the menu items or change the settings using the mouse or the remote control.

Select CHANNEL > select NONE, CONTINUOUS or MOTION > HIGHLIGHT AREA

To copy a schedule to a different channel, select the channel from the COPY SCHEDULE menu.

CHANNEL 1

NONE CONTINUOUS MOTION SENSOR CLEAR

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
SUN																								
MON																								
TUE																								
WED																								
THU																								
FRI																								
SAT																								

COPY SCHEDULE

☐ CH 1 ☐ CH 2 ☐ CH 3 ☐ CH 4 ☐ ALL

☐ CH 5 ☐ CH 6 ☐ CH 7 ☐ CH 8

☐ CH 9 ☐ CH 10 ☐ CH 11 ☐ CH 12

☐ CH 13 ☐ CH 14 ☐ CH 15 ☐ CH 16

COPY

OK CANCEL

Figure 4.3.2. Schedule Recording Setup Screen

- **NONE:** Disable recording (Displayed in White)
- **CONTINUE:** CONTINUOUS recording (Highlighted in Green)
- **MOTION:** MOTION recording (Highlighted in Yellow)
- **SENSOR:** SENSOR recording (Highlighted in Red)

#### 4-4. Setup – DEVICE Mode

In the SETUP menu, select the DEVICE tab. Then, the device menu is displayed as pictured below. Navigate through the menu items or change the settings using the mouse or the remote control.



Figure 4.4. DEVICE Setup Screen

Table 4.4. Menu Items in DEVICE Setup Screen

Item	Description
ALARM OUT	Set the sensor, motion, and video loss for triggering alarm relay HDD Error and Video Loss can trigger beeping.
DIGITAL DETERRENT	Setup schedule and audio recordings for Digital Deterrent.
CONTROLLER & PTZ	Set the PTZ baud rate, protocol, and ID.
SPOT-OUT	Display the channels triggered by an event (Refer to 4.4.4)
SITE	Select specified channel for motion zone setup.
MOTION ZONE	Select either Full Zone or Partial Zone for motion detection.
MOTION SENSITIVITY	Set the motion sensitivity for the selected channel. Control the motion sensitivity from 1 to 9. (9 – Highest sensitivity, 1 – Lowest sensitivity)
KEY TONE	Enable/disable key tone from front panel usage.
REMOTE CONTROL ID	Set the remote control ID. 1. Select ID. 2. Input the remote control ID number. 3. An icon will indicate on the Live Screen if the remote control ID is synchronized. The options are from 0 to 99



<b>SENSOR</b>	Select the type of each sensor. Option is Off, Normal Open or Normal Close.
---------------	--

#### 4-4-1. Alarm-Out

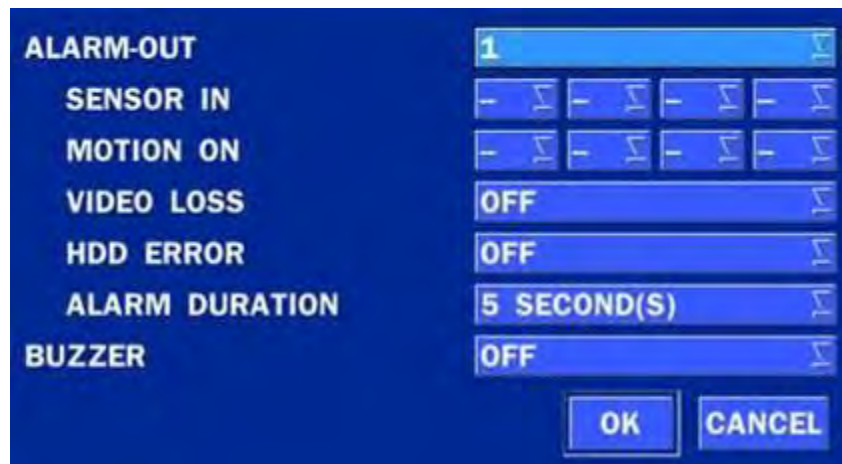


Figure 4.4.1. ALARM-OUT Setup Screen

Table 4.4.1. Item for ALARM-OUT Setup Screen

Item	Description
<b>ALARM OUT</b>	Only one Alarm-out is available.
<b>SENSOR IN</b>	Sensor input from 1 to 4.
<b>MOTION ON</b>	Camera motion detection from 1 to 4.
<b>VIDEO LOSS ON</b>	Camera video loss detection from 1 to 4.
<b>HDD ERROR</b>	HDD Failure or Error
<b>ALARM DURATION</b>	Set alarm dwell time from 5 to 60 seconds.
<b>BUZZER</b>	Set the error type for the alarm activation. The options are OFF, ALL, HDD ERROR and VIDEO LOSS.

#### 4-4-2. Digital Deterrent

Trigger audio message via motion detection or sensor.



Figure 4.4.2. Digital Deterrent setup screen

Table 4.4.2. Item for Digital Deterrent Setup Screen

Item	Description
<b>IMPORT FROM USB</b>	Import up to 8 sound files from USB.
<b>EXPORT TO USB</b>	Export the sound file to USB
<b>RECORD</b>	Select a channel and set up the date and the duration. Select START to export audio to Digital Deterrent. Select the play button to hear message after export.

CHANNEL: CH 1

FROM: 11 / 6 / 2012 15 : 7 : 56

TO: 11/06/2012 15:08:06

DURATION: 10 SECOND(S)

FILE NAME: sound\_1

START CLOSE

<b>SCHEDULE</b>	Schedule the sound file considering the expected situation.
-----------------	---

CHANNEL 1

NONE DEFAULT SOUND\_1 SOUND\_2 SOUND\_3 SOUND\_4  
SOUND\_5 SOUND\_6 SOUND\_7 SOUND\_8 CLEAR

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
SUN	D	D	1	1	1	2	2	2	3	3	3	4	4	4	4	5	5	6	6	6	7	7	8	8
MON	D	D	1	1	1	2	2	2	3	3	3	4	4	4	4	5	5	6	6	6	7	7	8	8
TUE	D	D	1	1	1	2	2	2	3	3	3	4	4	4	4	5	5	6	6	6	7	7	8	8
WED	D	D	1	1	1	2	2	2	3	3	3	4	4	4	4	5	5	6	6	6	7	7	8	8
THU	D	D	1	1	1	2	2	2	3	3	3	4	4	4	4	5	5	6	6	6	7	7	8	8
FRI	D	D	1	1	1	2	2	2	3	3	3	4	4	4	4	5	5	6	6	6	7	7	8	8
SAT	D	D	1	1	1	2	2	2	3	3	3	4	4	4	D	5	5	6	6	6	7	7	8	8

COPY SCHEDULE

☐ CH 1 ☐ CH 2 ☐ CH 3 ☐ CH 4 ☐ ALL  
☐ CH 5 ☐ CH 6 ☐ CH 7 ☐ CH 8  
☐ CH 9 ☐ CH 10 ☐ CH 11 ☐ CH 12  
☐ CH 13 ☐ CH 14 ☐ CH 15 ☐ CH 16

COPY

OK CANCEL

### 4-4-3. Keyboard Controller & PTZ Setup

To control the PTZ functions of the camera, connect the PTZ controller to the RS-485 port on the back of the chassis with CAT5 (or equivalent) cable.

- ① Connect the RS-485 cables of PTZ camera to the RS-485 port on the rear panel.

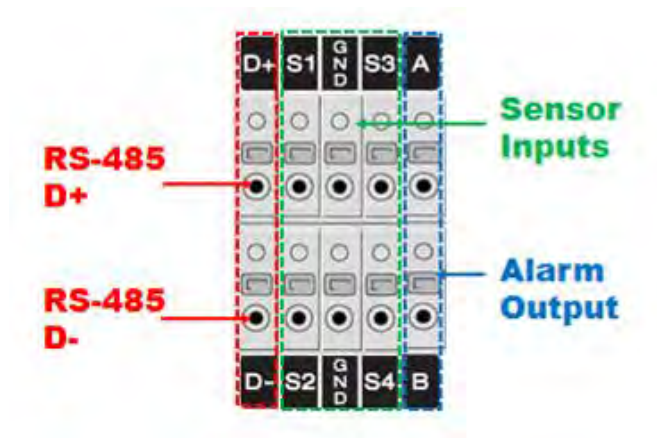


Figure 4.4.3.1. Device Mode Setup Screen



Figure 4.4.3.2. Device Mode Setup Screen

- ② Open the PTZ sub menu by selecting the submenu button.



Figure 4.4.3.3. PTZ Control Setup Screen

**Note:** Connect PTZ cameras that support RS-485 directly to the RS-485 port. If the camera is controlled through an RS-232C interface, use an RS-232C to RS-485 to RS-232C signal converter.



Use the PTZ setup screen to select the following options for the camera PTZ controller:

- **CHANNEL:** Channel connected to a PTZ device
- **CAMERA:** Protocol Type
- **SPEED:** 19200, 14400, 9600, 4800, 2400 (Baud rate)
- **ID:** 0-63

**Controller (Keyboard Controller):** If a PTZ controller is used, select a controller protocol from Controller menu. Set SPEED (Baud Rate) and ID number.



Figure 4.4.3.4. Controller Selection Screen

#### 4-4-4. Spot Out

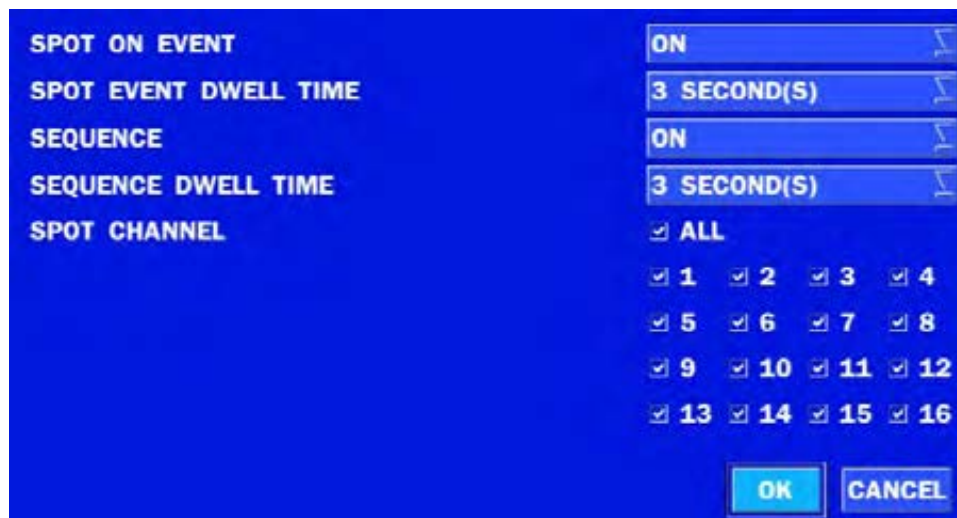


Figure 4.4.4. SPOT-OUT Setup Screen

Table 4.4.4. Menu Item in SPOT-OUT Setup Screen

Item	Description
<b>SPOT ON EVENT</b>	Enable/disable channel change if an event occurs on a channel.
<b>SPOT EVENT DWELL TIME</b>	Set the dwell time for the display of the event activated channel. (1-10sec)
<b>SEQUENCE</b>	Enable/disable sequential display of spot channel in full screen. If select ON, the selected channel will be displayed on the monitor periodically.

<b>SEQUENCE</b>	Set the dwell time for the spot channel display. (1-10sec)
<b>DWELL TIME</b>	
<b>SPOT CHANNEL</b>	Select a channel for spot monitoring using the mouse or the remote control and press OK button.

#### 4-4-5. Motion Zone Setup

Select MOTION ZONE using the mouse or the remote control and select either PARTIAL ZONE or FULL ZONE using the mouse control. The default value is FULL ZONE.

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

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

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

Select the motion detection position using the mouse or the remote control. Then left click on the mouse or left click and drag the mouse pointer to select or deselect the area. Highlighted area indicates the partial motion detection zone. Press the ESC button or right click on the mouse to return to the previous menu.

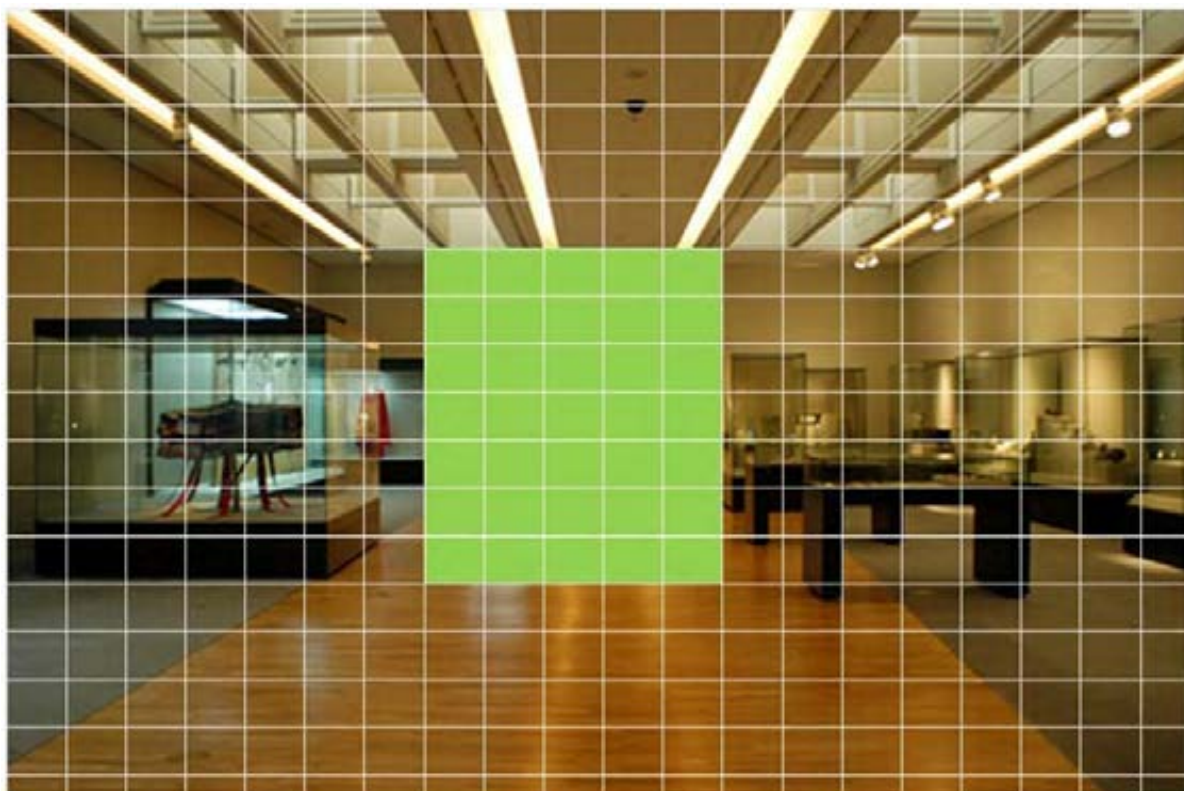


Figure 4.4.5. Motion Zone Grid Screen

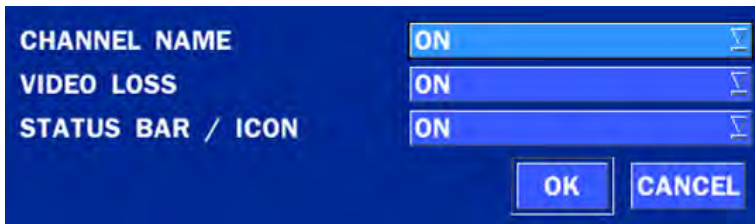
## 4-5. Setup – DISPLAY Mode

In the SETUP menu, select the DISPLAY tab. Then, the DISPLAY menu is displayed as pictured below. Navigate through the menu items or change the settings using the mouse or the remote control. To return to the previous setup menu screen, press the ESC button.



Figure 4.5. DISPLAY Setup Screen

Table 4.5. Menu Items in DISPLAY Setup Screen

Item	Description
<b>OSD</b>	Enable/disable on-screen-display. (Channel Name, Video Loss, Status Bar/ Icon)
	
<b>OSD CONTRAST</b>	Set the transparency level of the On Screen Display (OSD) (0~100)
<b>MAIN MONITOR SEQUENCE</b>	Enable/disable sequential display of video in full screen mode.
<b>SEQUENCE DWELL TIME</b>	Set the dwell time of each, single channel display in sequential display mode (3~60seconds)
<b>SITE</b>	Select a channel to apply the name and covert settings change using the mouse or the remote control. Select a channel to apply the following settings using the mouse.
<b>NAME</b>	Set the channel name. Press the right square button and set the channel name and select OK using the mouse. The name can be made up to 36 characters.
<b>COVERT</b>	Enable/disable display of the specified video channel in live display.
<b>VIDEO OUTPUT</b>	Select 1280x720 or 1920x1080.

## 4-6. Setup – NETWORK Mode

Select the NETWORK tab. Then, the network menu is displayed as pictured below. Navigate through the menu items or change the settings using the mouse or the remote control.

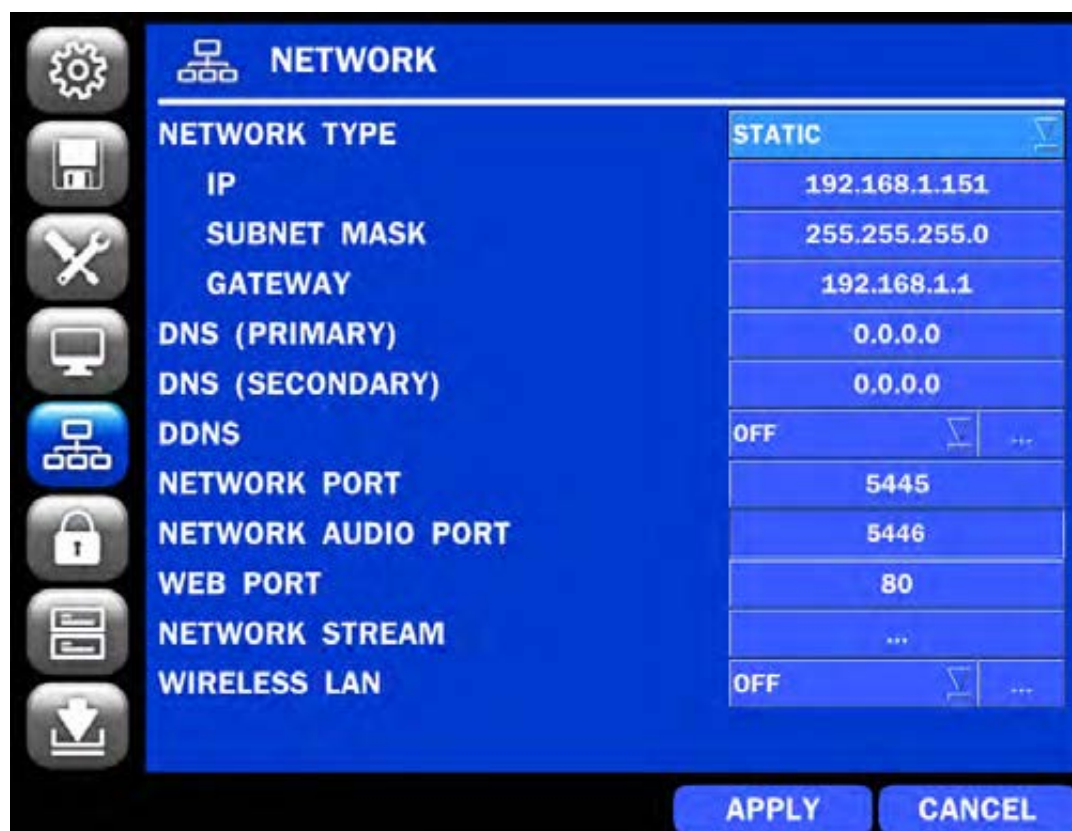


Figure 4.6. NETWORK Setup Screen

Table 4.6. Menu Items in NETWORK Setup Screen

Item	Description
<b>NETWORK TYPE</b>	<b>DHCP:</b> DVR will automatically retrieve an IP address. <b>STATIC:</b> Network information must be manually configured.
<b>IP</b>	When in Static: Enter IP address that is assigned for the DVR
<b>SUBNET MASK</b>	When in Static: Enter Subnet Mask that is assigned for the DVR
<b>GATEWAY</b>	When in Static: Enter Gateway that is assigned for the DVR.
<b>DNS (PRIMARY)</b>	When in Static: Enter Primary DNS address that is assigned for the DVR
<b>DNS (SECONDARY)</b>	When in Static: Enter Secondary DNS address assigned for the DVR
<b>DDNS</b>	Dynamic Domain Name System (DDNS) allows a DNS name to be constantly synchronized with a dynamic IP address. In other words, it allows using a dynamic IP address to be associated with a static domain name so others can connect to it by the static name. Enable/disable using domain name address through DDNS server.
<b>NETWORK PORT</b>	Enter the port number. (Default 5445)
<b>NETWORK AUDIO PORT</b>	Display the network audio port (NETWORK PORT + 1).



<b>WEB PORT</b>	Enter the port number for connection using web.
<b>NETWORK STREAM</b>	Sets the camera display settings for network streaming.
<b>WIRELESS LAN</b>	<ol style="list-style-type: none"> <li>1. Connect USB Wifi Dongle to USB connector on DVR.</li> <li>2. Load the application on your smart phone or PC and enter the WIFI IP ADDRESS.</li> <li>3. Find the WIFI SSID and enter the password. (shown in image below)</li> <li>4. Then, the remote viewing and configuration can be used.</li> </ol> <div data-bbox="469 479 1430 714" data-label="Form"> </div> <p>* There is a distance limitation for the Wireless LAN.</p>

## 4-6-1. Network Types

### 4-6-1-1. DHCP

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

### 4-6-1-2. STATIC

IP address, Subnet Mask, Gateway, and DNS are manually assigned by the user.

- IP ADDRESS: The fixed IP address of the DVR unit.
- SUBNET MASK: The subnet mask for the LAN.
- GATEWAY: The IP address of the Gateway.
- DNS (PRIMARY) The primary address of Domain Name Server
- DNS (SECINDARY): The secondary address of Domain Name Server



#### NOTE

Unless DNS is properly set, the DDNS and the e-mail features will not work.

## 4-6-2. DDNS

DDNS (Dynamic Domain Name System) allows a DNS name to be constantly synchronized with a dynamic IP address. It allows using a dynamic IP address to be associated with a static domain name.

Once the setting is completed, the DDNS address will be:

<http://hostname.ddns.specoddns.net>

For example, if you enter the host name as "D16DS", then the address will be:

<http://D16DS.ddns.specoddns.net>

Select NETWORK>DDNS. The menu displays as below.



Figure 4.6.3. NETWORK Setup Screen – DDNS

Table 4.6.2. DDNS

Item	Description
<b>HOST NAME</b>	This item allows the user to setup a domain name manually, using virtual keyboard displays as shown.
<b>SUBMIT/UPDATE</b>	When manual host name input is done, move the cursor to this item and select ON to submit the settings.
<b>ezDDNS</b>	Enable/disable ezDDNS to register the host name automatically.

### 4-6-3. Network Port and Web Port

Connecting DVR/DVRs through a common IP sharing device, each DVR must be assigned a unique TCP port number for access from outside the LAN. This port number is displayed on NETWORK>NETWORK PORT Setup MENU.



**NOTE:**

If you access the DVR only within the same LAN, the TCP port number does not need to be changed.

#### Network access beyond a router

To access DVR beyond a router (firewall), you must open the proper TCP ports for live/playback streaming, for commands, for remote backup, and for audio streaming. If these ports are not opened properly, you can't access the DVR beyond a router.



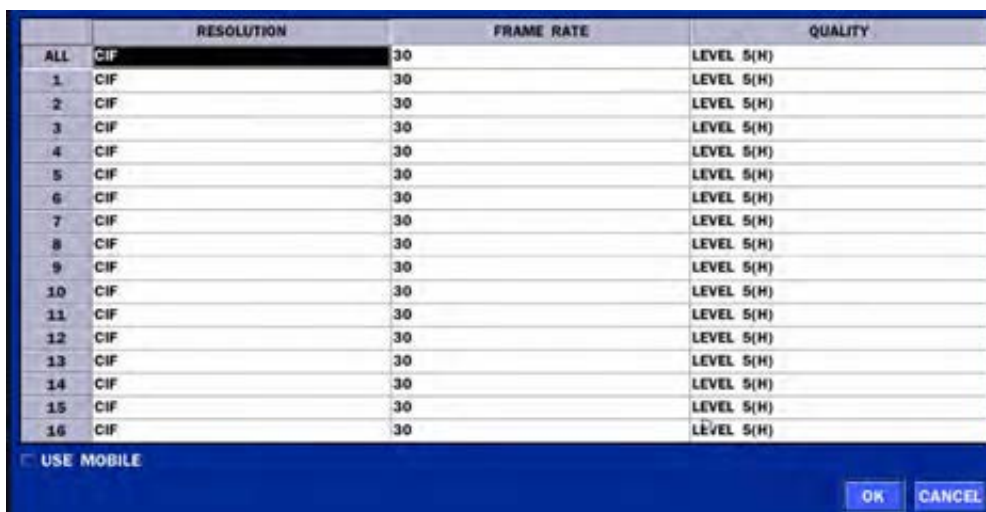
- **For live/playback streaming, for commands, for remote backup:** Open the port number on NETWORK>NETWORK PORT menu. The default port number is 5445.
- **For bi-directional audio:** Open the port number on NETWORK AUDIO PORT. The default port number is [NETWORK PORT number + 1].
- **For web-viewer downloading and remote firmware upgrading:** Open the port number on NETWORK>WEB PORT menu. The default port number is 80.

### 4-6-4. Network Stream

User can set the RESOLUTION, FRAME RATE, and the QUALITY for the network stream.

- D16DS/D16WDS: Up to 480 fps @CIF for 16 channels.
- D8DS/D8WDS: Up to 240 fps @CIF for 8 channels.

<Note> Individual Channels can be set with different RESOLUTION, FRAME RATE, and QUALITY.

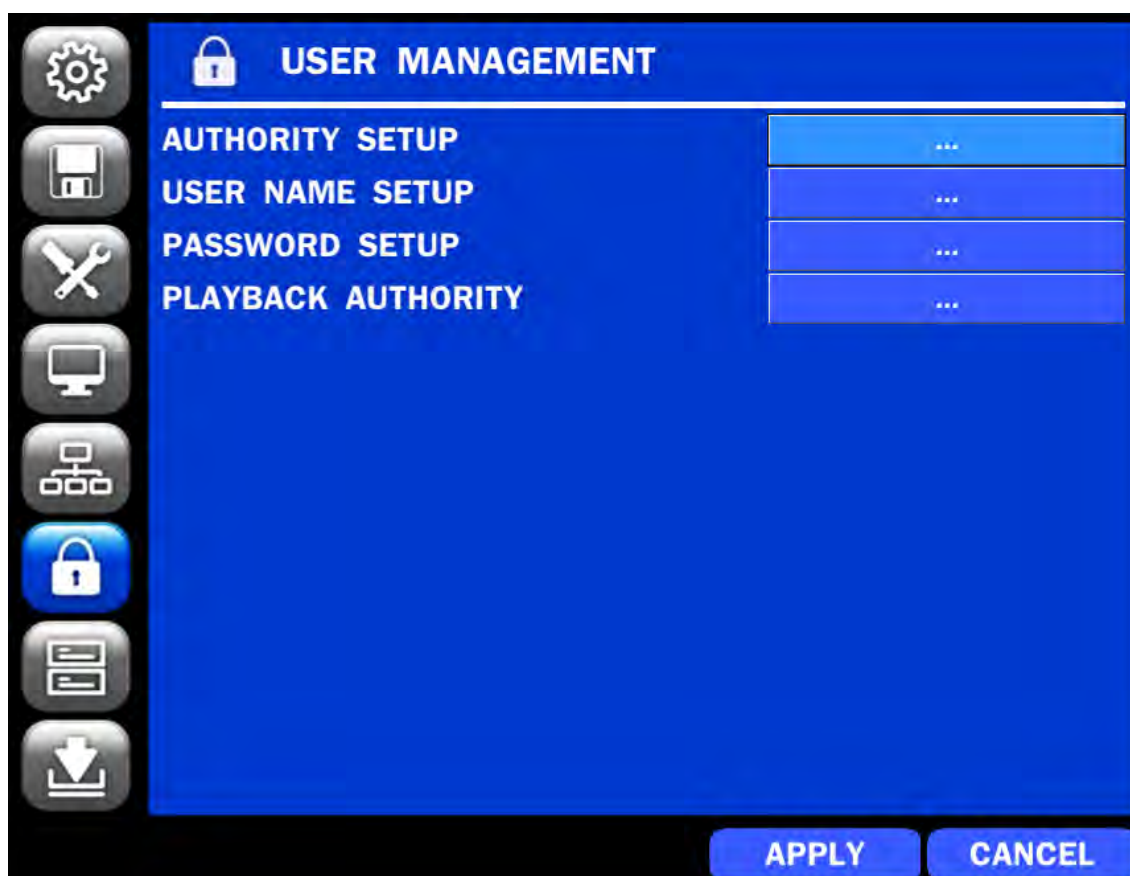


**Figure 4.6.4. NETWORK Setup Screen – Network Stream**

<TIP> USE MOBILE: When this function is enabled, the frame rate is limited to 15fps@CIF and the video quality is limited to LEVEL 2 for better remote viewing on the mobile phone.

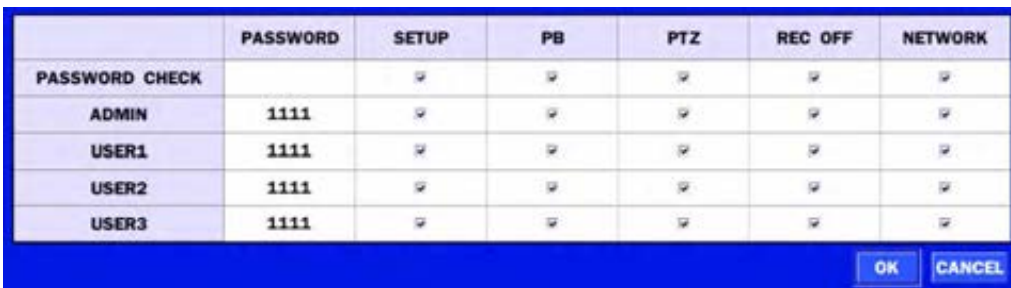

#### 4-7. Setup – USER MANAGEMENT Mode

In the SETUP menu, select the USER MANAGEMENT tab. Then, the USER MANAGEMENT menu is displayed as pictured below. Navigate through the menu items or change the settings using the mouse or the remote control.



**Figure 4.7. USER MANAGEMENT Setup Screen**

**Table 4.7. Menu Items in USER MANAGEMENT Setup Screen**

Item	Description
<b>AUTHORITY SETUP</b>	<p>Only the Admin will have access to the menu.</p> <p><b>PASSWORD CHECK:</b> Select the Checkbox to enable the functions or leave the Checkbox blank to disable the functions.</p> <ul style="list-style-type: none"> <li>• <b>SETUP:</b> Enable/Disable of access to Setup</li> <li>• <b>PB:</b> Enable/Disable of access to Playback</li> <li>• <b>PTZ:</b> Enable/Disable of access to PTZ Control</li> <li>• <b>REC OFF:</b> Enable/Disable of manual Record</li> <li>• <b>NETWORK:</b> Enable/Disable of access to Network</li> </ul> <p>Selected Checkbox: The DVR will ask for a password when the given function is selected for all users.</p> <p>Blank Checkbox: The DVR will not ask for a password when the given function is selected for all users.</p>
	 <p><b>ADMIN, USER1, USER2, USER3:</b></p> <p>Selected Checkbox: The user can access the function.</p> <p>Blank Checkbox: The user can not access the function.</p>
<b>USER NAME SETUP</b>	<p>Change the name of USER1, USER2 and USER3.</p> <ul style="list-style-type: none"> <li>• Click "ENTER" after naming.</li> </ul>
<b>PASSWORD SETUP</b>	<p>Options are ADMIN, USER1, USER2 and USER3.</p> <p>Select USER PASSWORD using the mouse or the remote control and press SEL button. Select user type and enter the current password. And, enter a new password, enter the same password again to confirm and select OK. Then the message "PASSWORD CHANGED" is displayed.</p> <p>The factory default password is <b>1111</b>.</p> <p><b>It is highly recommended to assign a new password to protect the system.</b></p>
	
<b>AUTHORITY OF PLAYBACK</b>	<p>Set authority level of playback on each user.</p> <p><b>Checked box:</b> authorized to playback. <b>Blank check box:</b> no authority.</p>

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
ADMIN	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
USER1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
USER2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
USER3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>



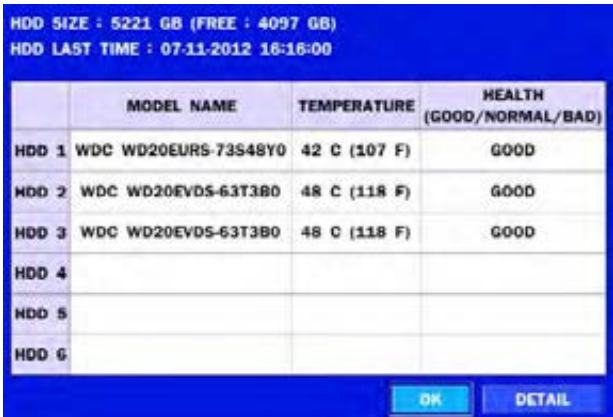
## 4-8. Setup – STORAGE Mode

In the SETUP menu, select the STORAGE tab. Then, the STORAGE menu is displayed as pictured below. Navigate through the menu items or change the settings using the mouse or the remote control.

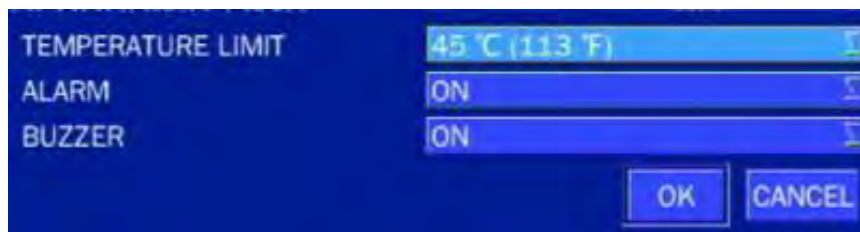


Figure 4.8. STORAGE Setup Screen

Table 4.8. Menu Items in STORAGE Setup Screen

Item	Description
OVERWRITE	When enabled, the DVR will continue recording and overwrite the oldest existing recorded data once the hard drive is full. When disabled, recording will stop once the hard drive is full.
DISK FORMAT	You will have an option of YES or NO for formatting the Hard Drive. After formatting HDD, the DVR will reboot. <b>Caution: It is recommended to archive any data that you may need in the future before formatting the hard drive.</b>
DISK INFO	Hard drive information. Displays the following information; 

<b>RECORDING LIMIT</b>	Enable/disable recording limit.
<b>RECORDING LIMIT DAYS</b>	Set the recording limit days. (1- 90 days) If the RECORDING LIMIT DAYS are set to 1, the data will be overwritten after 24 hours.
<b>S.M.A.R.T</b>	Set the alarm and beep by setting the HDD temperature limit. Alarm will trigger alarm output. Buzzer will trigger beeping from the internal speaker.



#### 4-9. Setup - CONFIG Mode

In the SETUP menu, select the CONFIG tab. Then, the configuration menu is displayed as pictured below. Navigate through the menu items or change the settings using the mouse or the remote control.



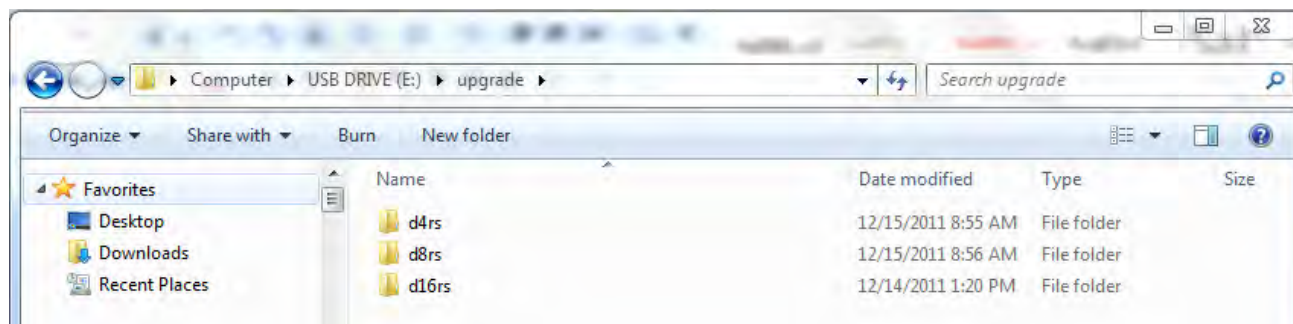
Figure 4.9.1. CONFIGURATION Setup Screen

**Table 4.9.1. CONFIGURATION Setup**

Item	Description
<b>EXPORT TO USB</b>	User can save the current configuration (Setting values) of the DVR to the USB flash drive. Plug in the USB flash on the front panel and press the button to start the saving process.
<b>IMPORT FROM USB</b>	User can upload the configuration of the DVR to another DVR using the USB Flash drive. Plug in the USB flash drive on the front panel and press the button to start the loading process.
<b>LOAD DEFAULT</b>	Press the button to reset the system to the default settings. The following settings such as <b>Language, DVR ID, Security User Authentication, Security User P/W, Date format, DLS settings, Network settings, HDD overwrite, Limit recording, HDD serial number, and HDD ERROR time</b> will not be included.
<b>LOAD FACTORY DEFAULT</b>	Press the button to reset the system to the factory default settings.
<b>SOFTWARE UPGRADE</b>	Upgrade software to the latest version. After connecting USB flash drive to USB port on the DVR, click SEARCH. It will automatically find the upgrade file.

#### 4-9-1. Firmware Upgrade

1. Create a new folder named “upgrade” in the USB flash drive root directory.
2. Create sub-folder for each model under “upgrade” folder and copy each firmware.
  - For D16DS/D16WDS Models:
    - Folder name – “d16ds”
    - File name – “main\_D16DS\_speco\_\*.\*)\_201\*\*\*\*”.bin
  - For D8DS/D8WDS Models:
    - Folder name – “d8ds”
    - File name – “main\_D8DS\_speco\_\*.\*)\_201\*\*\*\*”.bin



3. Plug in the USB flash drive on the rear panel.
4. Navigate to CONFIG menu of SETUP.
5. Select SOFTWARE UPGRADE.
6. Follow the procedure from Figure 4.9.2 to Figure 4.9.4.

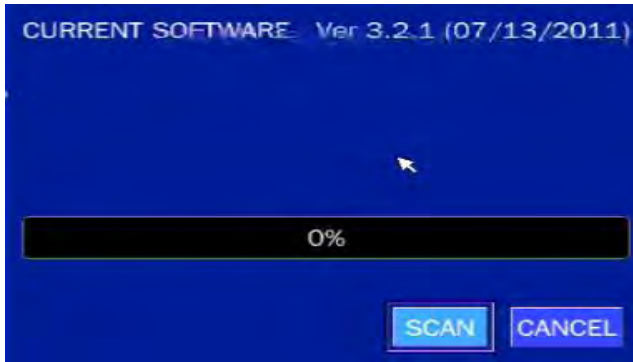


Figure 4.9.2

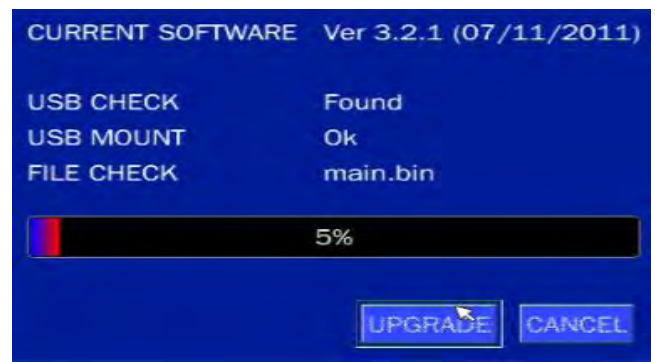


Figure 4.9.3

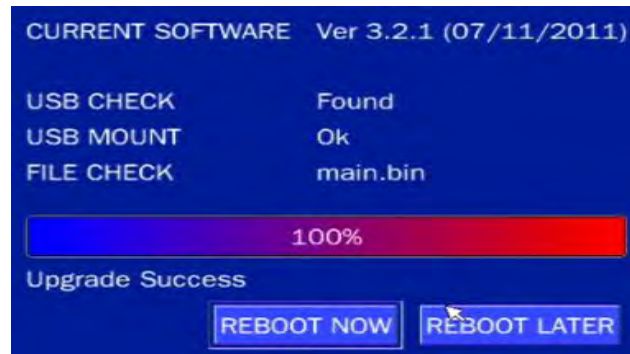


Figure 4.9.4

#### NOTICE



1. If selecting REBOOT LATER, the upgraded software will not be applied until the system reboots.
2. If selecting REBOOT NOW when the USB flash drive is plugged, the following message will pop up. Remove the USB flash drive and select OK.

## 5. Live, Search and Playback








### 5-1. Live View

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









Figure 5.1.1. Live Screen and Quick Operation Window

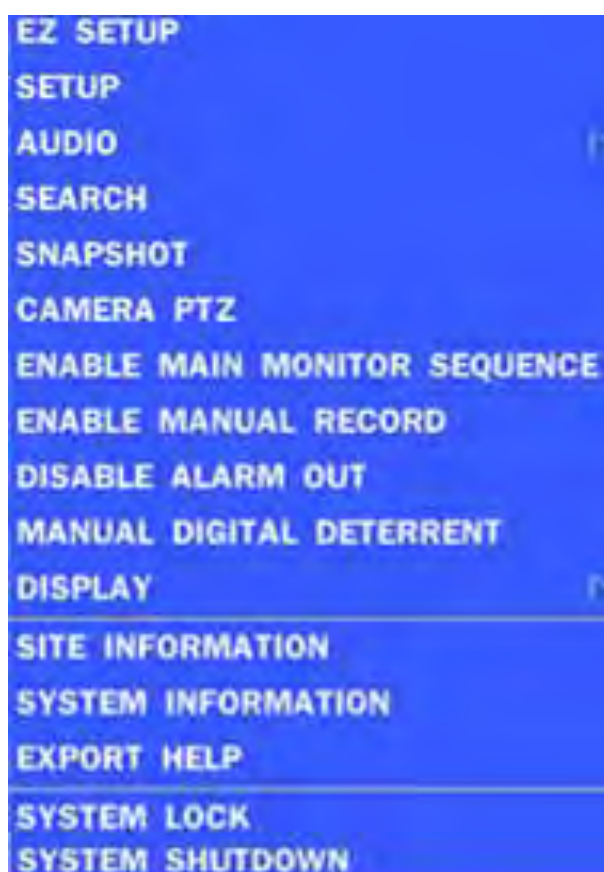
Table 5.1.1. Status Indicator Icons in Live Viewing Screen

Icon	Description
	Indicates the DVR is locked. Note) to unlock, right click on the live view screen and click on Unlock.
	Audio mute. To select audio output, press the Audio after click the right button on the mouse. Toggle from Audio 1 to 4, mute in order.
	Indicates that alarm is set. To set the alarm function, press the Alarm button on the front panel.
	Indicates that alarm output is activated.
	Event indicator. When there is an event (motion recording, video loss, HDD fail, S.M.A.R.T), this icon will be highlighted.
	Indicates that a network client is connected to the DVR.
	Indicates that sequencing mode is enabled.
2009/04/14 17:23:40	Displays the current date and time.
RC: ALL	Remote control ID display. If a remote ID is not set, the message "ALL" is displayed.



 15%	Displays the amount of recording on the hard disk from 0-99%.
	Indicates that HDD is recycled.
	Continuous recording in progress.
	Manual recording in progress. To set the Manual recording mode, press the Record button on the front panel.
	Motion alarm recording in progress.
	Sensor recording in progress.




Right click the mouse, and the quick operation window will be displayed as below.

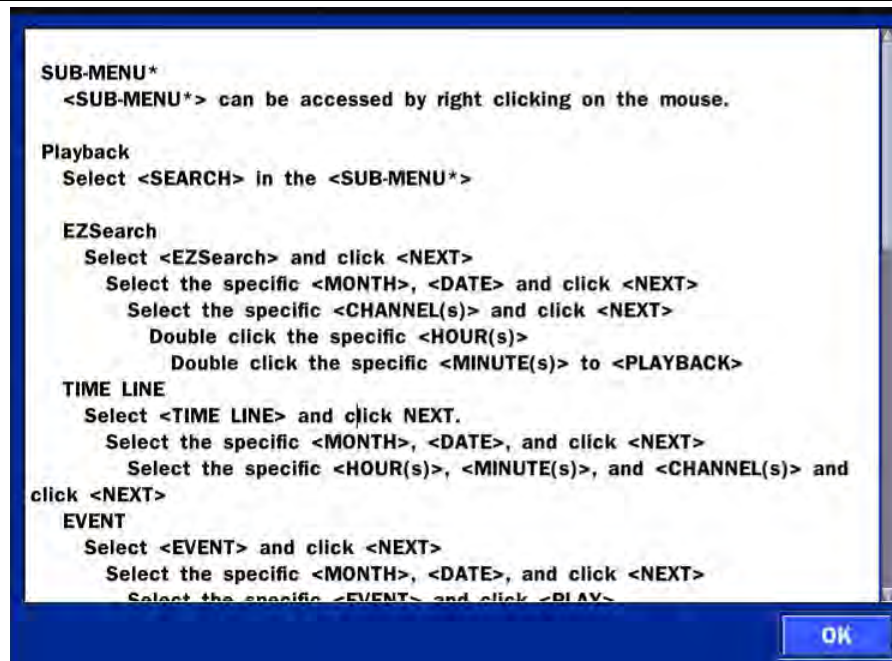


**Figure 5.1.2. Quick Operation Window**

**Table 5.1.2. Menu Items in Quick Operation Window**

Icon	Description
EZ SETUP	Select this option to enter the EZ Setup menu.
SETUP	Select this option to enter the Setup menu.
AUDIO	Select this option to set an audio channel to output;

	D16DS: (Channel 1 through 16, Audio Mute). D8DS: (Channel 1 through 8, Audio Mute).
SEARCH	Select this option to enter the Search menu.
SNAPSHOT	Click this option to create a snapshot of selected channel image. (JPEG STILL IMAGE)
CAMERA PTZ	Select this option and the PTZ user interface will appear.
ENABLE MAIN MONITOR SEQUENCE	Select this option to enable/disable sequence function.
ENABLE MANUAL RECORD	Manual Record button. Click this button to enable manual recording. Also known as Panic Record.
DISABLE ALARM OUT	Select this option to enable/disable Alarm outputs
MANUAL DIGITAL DETERRENT	Window where use can manually trigger the digital deterrent audio. 
DISPLAY	Display layout. Select between different multiview display formats. Available formats: D8DS/D8WDS: 1x1, 2x2, 3x3; D16DS/D16WDS: 1x1, 2x2, 3x3, 4x4
SITE INFORMATION	Press the button to view the record setting of a selected channel. 
SYSTEM INFORMATION	Press the button to view the system information. 
EXPORT HELP	Press the button to view the brief manual for major function.



---

SYSTEM	Lock/Unlock Setup button.
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LOCK
------

---

SYSTEM	Click this button to shutdown system.
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SHUTDOWN
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## 5-1-1. PTZ Control

**Table 5.1.3. Menu Items in PTZ Control Window**

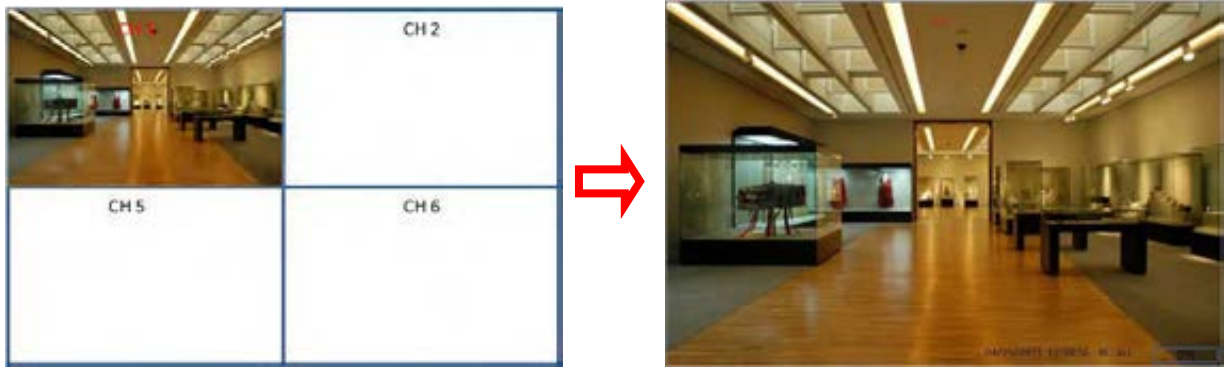
Item	Description
INITIALIZE	Initialize the PTZ settings of the selected camera
PAN/TILT	Select PAN/TILT using the ▲▼◀ and ▶ button, then press <b>SEL</b> . Adjust the tilt (UP/DOWN)/pan (LEFT/RIGHT) position using the ▲▼◀ and ▶ buttons.
ZOOM/FOCUS	Select ZOM/FOCUS using the ▲▼◀ and ▶ buttons, then press <b>SEL</b> . Adjust the zoom (UP/DOWN)/ focus (LEFT/RIGHT) position using the ▲▼◀ and ▶ buttons.
OSD	Select OSD to enter the menu. Control keys are Right, Left, UP, Down, Select, Far (REW KEY), and Near (FF KEY). Press the <b>ESC</b> button to return to the previous menu. Press the <b>PTZ</b> button to close the OSD menu.
AUTOSCAN	Press the right key (▶) to start auto scan. Press the left key (◀) to stop auto scan.
PRESET	Select PRESET, then press the left key (◀). A number input window will appear. Set the number (3digits) using the number key, then press the SEL to confirm the preset number for the current position. Press the right key (▶) and enter the number (3digits) to go to the preset position.
TOUR	Select TOU and press the right (▶) key. A number input window will open. Select a number (1digit) using a number key, then press SEL to start the tour. Press the left (◀) key to stop the tour. Preset the number of the tour group in the OSD menu.
NUMBER	For the TOUR and PRESET menu.
	Press ESC to return to the main menu



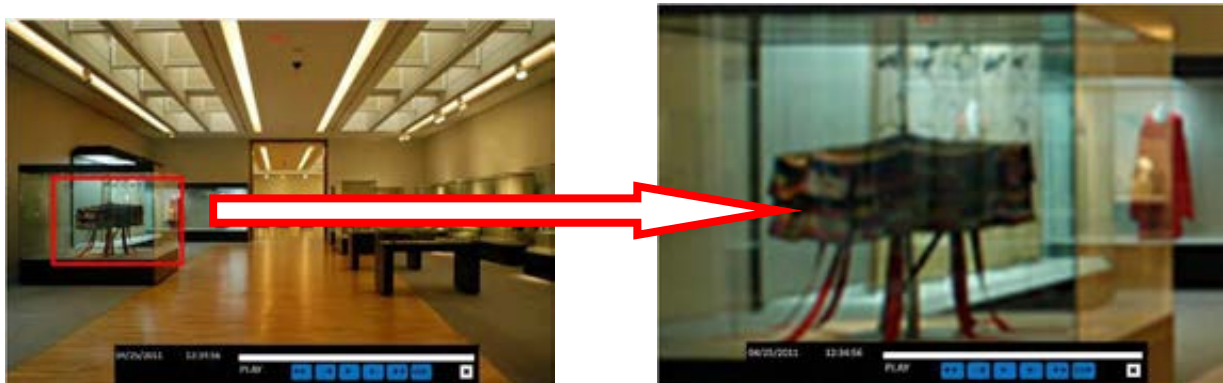
## 5-2. Digital Zoom in Live and Playback Screen

DS series supports Digital Zoom feature during live and playback mode.

1. Double click the target channel.

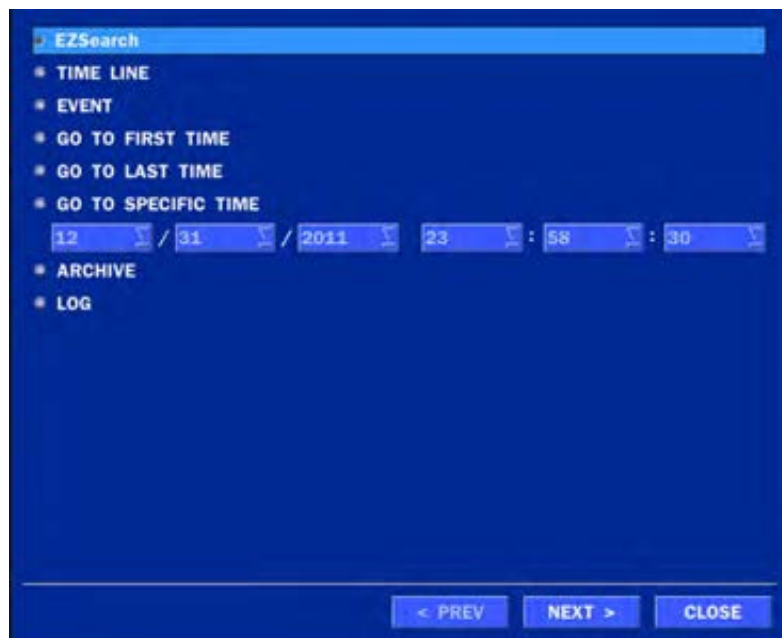


2. Click the left button of the mouse and drag to make rectangular shape.



### 5-3. SEARCH Screen

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



**Figure 5.3. Search Screen**

There are 7 ways of search menu such as EZSEARCH, TIME LINE (Calendar), EVENT, GO TO FIRST TIME, GO TO LAST TIME, GO TO SPECIFIC TIME, ARCHIVE LIST, and LOG LIST on the screen.

### 5-3-1. EZSearch

The EZSearch window is used to find stored video with ease using the thumb nail playback screen.



Figure 5.3.1.1. Calendar Screen

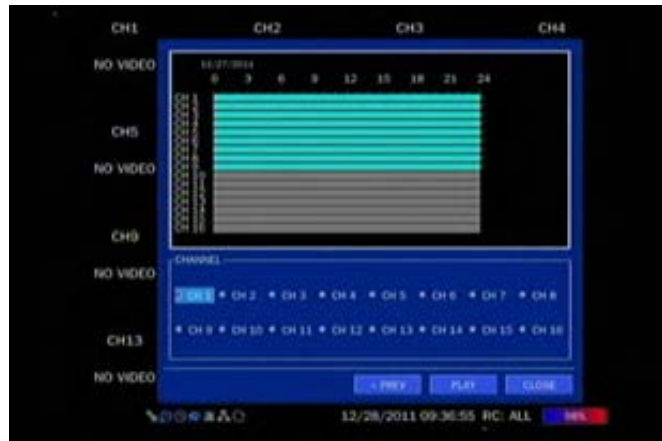


Figure 5.3.1.2. Channel Selection Screen



Figure 5.3.1.3. 24 Hourly Thumbnail Screen

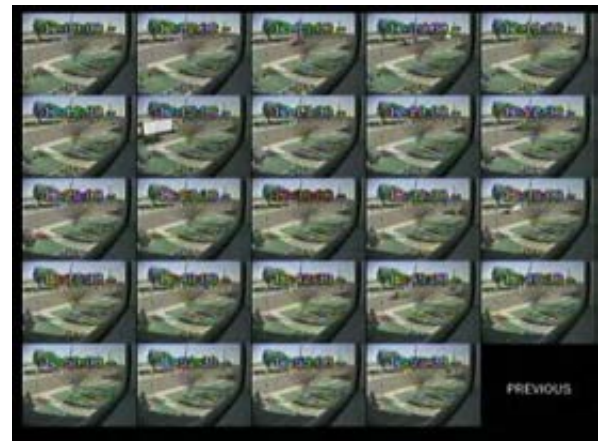


Figure 5.3.1.4. Minute Thumbnail Screen



Figure 5.3.1.5. Play Mode Screen

1. When the EZSearch menu is selected, the user can see a calendar, which displays recorded dates with highlights. Select a specific date on a calendar.
2. Select a channel from Channel Selection Screen. Then, 24 Hourly Thumbnail Search screen displays.
3. Select the hourly thumbnail. Then, Minute Thumbnail Search screen displays.
4. Select the thumbnail of minutes that you want to playback.



### 5-3-2. Time Line Search

The CALENDAR Search window is used to find the stored video by using the time line bar.



Figure 5.3.2.1. Calendar Screen

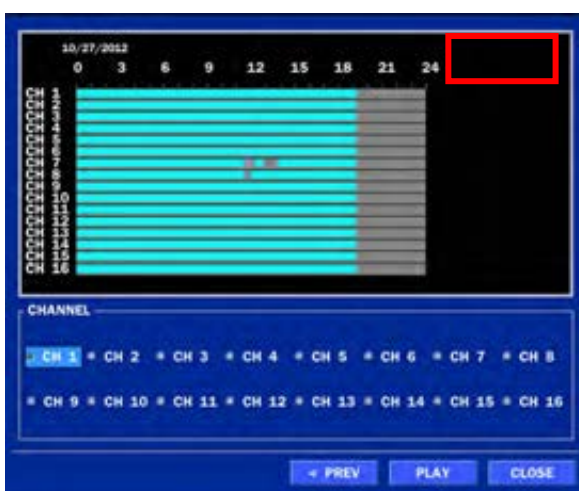


Figure 5.3.2.2. Time-Line Search Screen

When the Timeline menu is selected, the user can see a calendar, which displays recorded dates with highlights. Select a specific date and time. Click and drag the red time indicator bar to the desired hour. User can select a specific minutes using a button in the above red box. Press the PLAY button after selecting the specific time. Press the PREV to return to the SEARCH window.

### 5-3-3. Event Search

The Event Search window is used to find stored video.

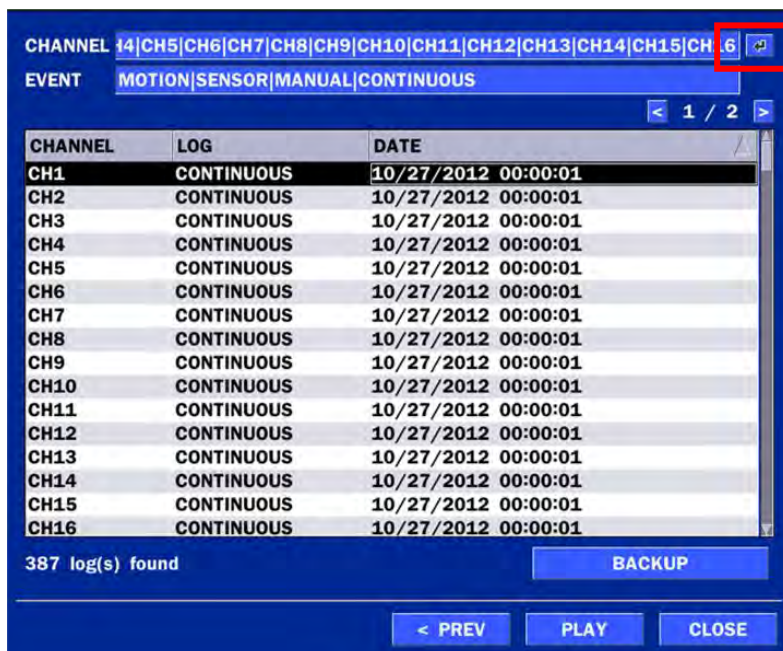


Figure 5.3.3.1. Event Search Screen

When the Event menu is selected, the user can see a calendar, which has recorded data. Select a specific date and the event log will be displayed. Press the PLAY button to playback the data or the SAVE button to save the data after selecting the specific data. User can find a data of the specific channel and event using a button in the above red box as following Figure 5.3.10. Press the PREV to return to the SEARCH window.



**Figure 5.3.3.2. Event Search Screen**

#### 5-3-4. Go To First Time

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

#### 5-3-5. Go To Last Time

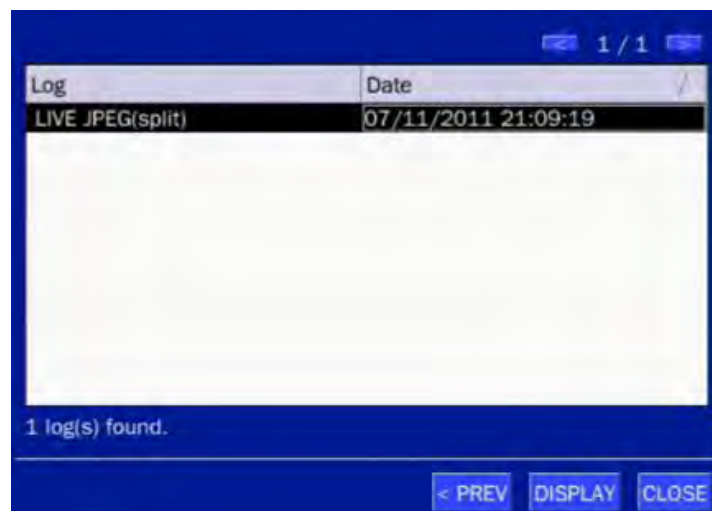
You can access from the last minute recorded data on the DVR hard drive by selecting GO TO LAST TME on the SEARCH window. Press the PREV to return to the SEARCH window.

#### 5-3-6. Go To Specific Time

User can search for video data from a specific instance by setting the date and time in the GO TO SPECIFIC TIME menu. Use the mouse or the remote control to change the date and time value and press the PLAY button after setting. If there is no video data in the set date and time, No Data Exist message displays.

#### 5-3-7. Archive List

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



**Figure 5.3.7. Archive Search Screen**

When the Archive menu is selected, the user can see a calendar, which has recording data. Select a specific date and then the archived data will be displayed. Press the Display button to view the still image or the first frame of the selected video, then the user can save the selected data.

5-3-8. Log List

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



Figure 5.3.8. Log List Screen

When the Log menu is selected, the user can see a calendar, which has a log data. Select a specific date and press NEXT button, and then the log data will be displayed. Press the SAVE button to save the data and then the data is saved as a text file format.

5-4. Play Mode

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











Figure 5.4.1. Play Mode Screen

The following status bar hides automatically and appears again if a mouse pointer is positioned to the bottom of the screen.

Table 5.4.1. Button Functions in PLAY Mode

Button	Description
	• 2x, 4x, 8x,16x, 32x speeds at 4 split screen
	• 2x, 4x, 8x,16x at 9 split screen
	• 2x, 4x, 8x at 16 split screen
	• Single Channel backward playback speed 1x, 2x, 4x, 8x, 16x, 32x, 64x

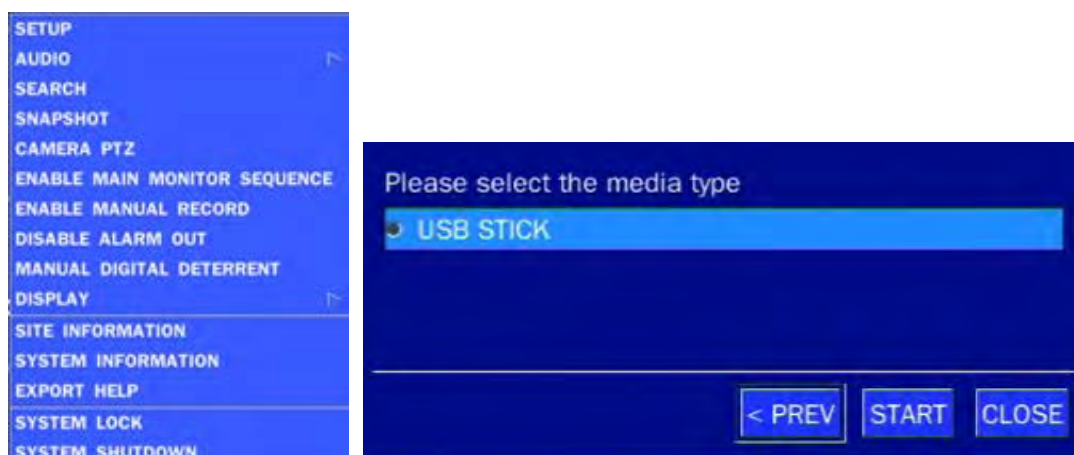
	Jump/Step backward. The playback position moves 60 seconds backward.
	Press to play or pause recorded video.
	Jump/Step forward. Playback position moves 60 seconds forward.
	<ul style="list-style-type: none"> <li>• 2x, 4x, 8x, 16x, 32x speeds at 4 split screen</li> <li>• 2x, 4x, 8x, 16x at 9 split screen</li> <li>• 2x, 4x, 8x at 16 split screen</li> </ul> Single Channel forward playback speed 1x, 2x, 4x, 8x, 16x, 32x, 64x
	Slow Mode play. Forward playback speed x1/4, x1/2
	Press to backup the video.
	EZCopy button.
	Return to the previous menu screen, search window, or exit from the Menu.

## 6. Back Up

### 6-1. Still Image Backup onto USB Flash Drive

Still images can be captured and archived onto a USB flash drive or an USB external hard drive in live mode or while playing back recorded video.

1. Select a specific channel, which wants to backup on live screen.
2. When you press SNAPSHOT button on Quick operation window, the media selection window screen will display.



3. Once you press START button, the system will capture a still image and archive onto a USB flash drive.




#### NOTICE

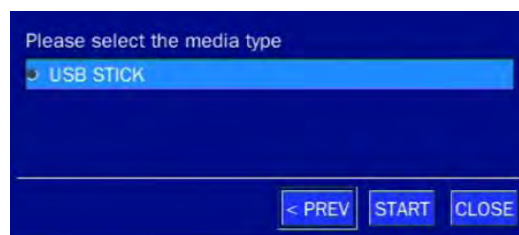
USB Flash Drive must be in FAT32 file format.



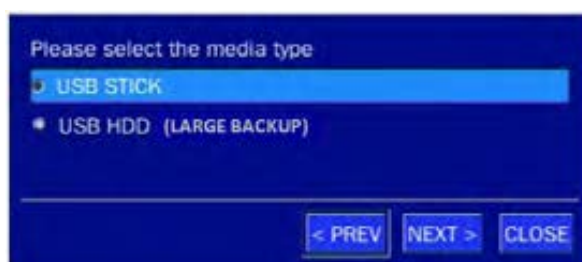
## 6-2. Video Backup onto USB Flash Drive during playback

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

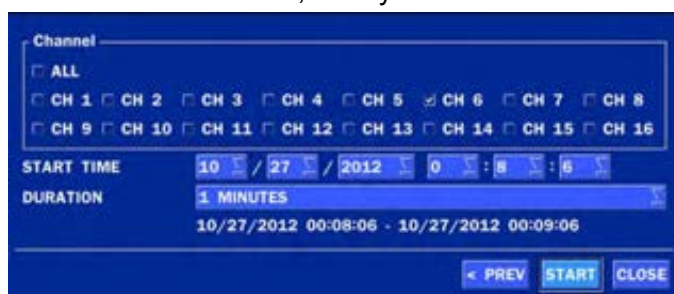
1. When you press  BACKUP button on the selected channel or all channels, the DVR will ask whether to archive a Still Image, a NSF or AVI and select the proper media type.



2. Select USB STICK (Flash Drive) to back up less than an hour.  
Select USB HDD (Large Backup) to back up from 1 hour to 24 hours.



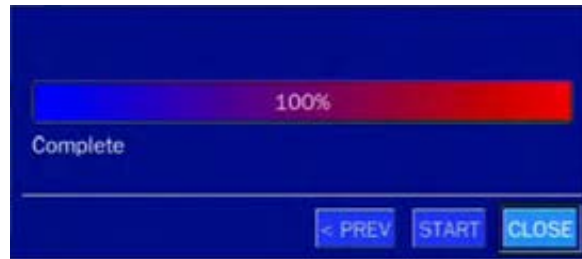
3. Once you select the channel and duration, the system will start to archive the data to the USB drive.



4. The following image shows the progress of archiving the data.



5. The following shows the image to complete the backup. Select lose to return to the previous screen.

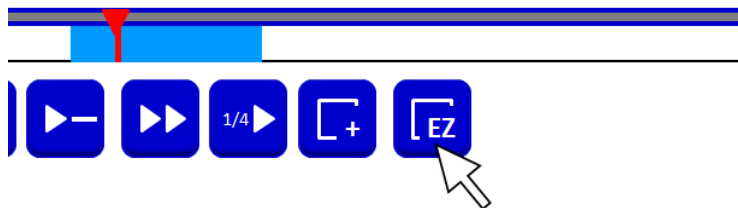


### 6-3. EZCopy: Video Backup onto USB Flash Drive during playback

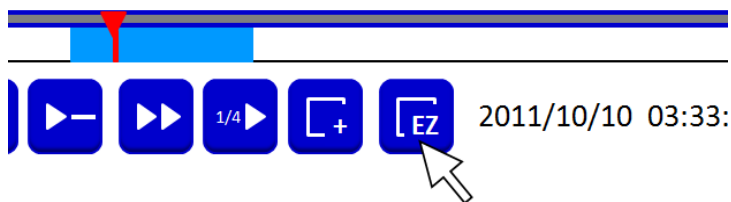
Using EZCopy feature, Video can be easily archived onto the USB flash drive or a hard drive.


In playback mode, press the  **EZCOPY** button to launch the backup function.

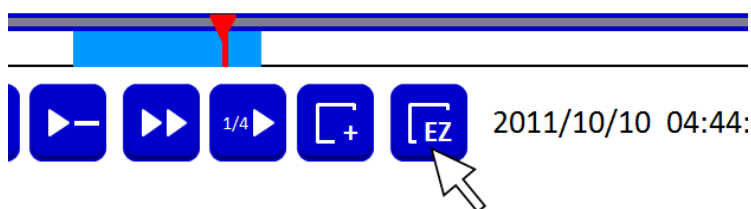
1. Press EZCOPY button on the selected channel or all channels.



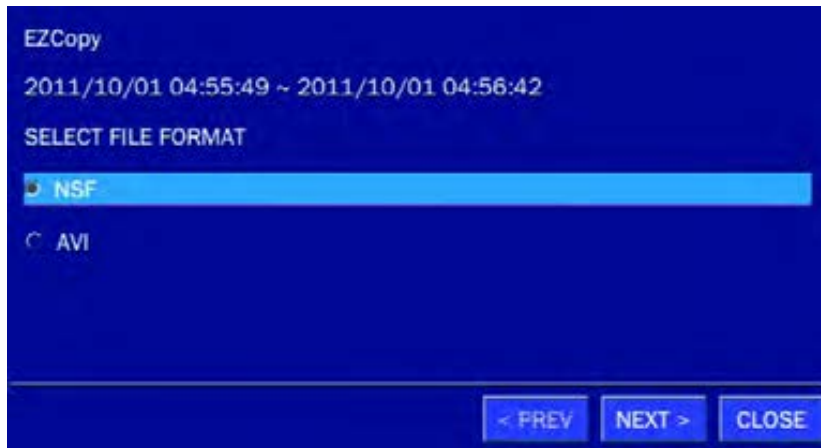
2. Then, EZCOPY START time will display.



3. Move  time bar cursor to the time of end of backup and press EZCOPY button. Then, EZCOPY STOP time will display.



4. EZCOPY window will display. The DVR will ask whether to archive a Still Image, a NSF or AVI.



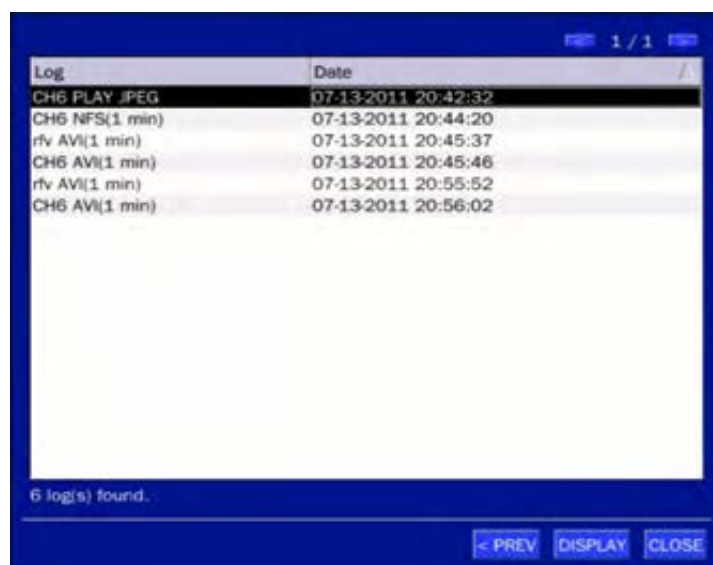
5. After backup format is selected, also select media type and channel(s) to archive the data to the media.

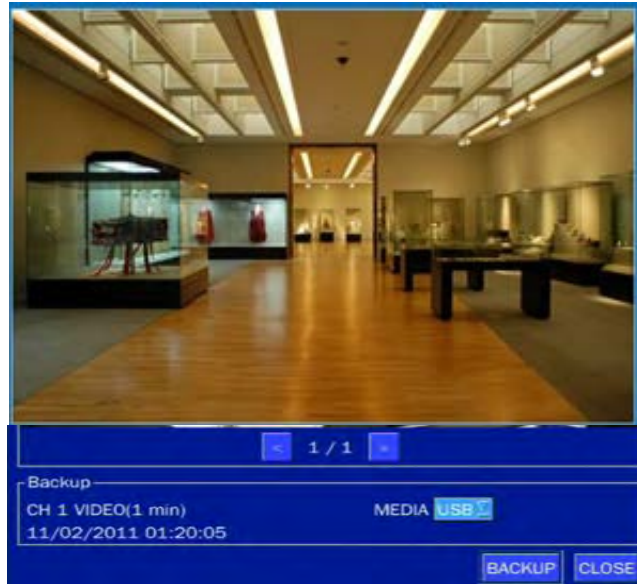
#### 6-4. Transferring Still Images or Video from the ARCHIVE List

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

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

1. Select the date to begin searching and navigate through the days using the mouse or the remote control.
2. Once you have selected the date, press the NEXT button to open the list of stored data.
3. Use the mouse or the remote control to scroll through the archive list.
4. Select a list of stored events in the archive list.
5. Once the desired event has been selected, press the DISPLAY button to view the still image or the first frame of the selected video.
6. Press the BACKUP button to launch the archiving function in playback mode.
7. Press the CLOSE button to return to the SEARCH window.





**Figure 6.3.1. Archive Search Screen**

## **6-5. Playback of Backup Video**

### **6-5-1. AVI Format**

AVI format: AVI format video can be played back by Window Media Player™ or other media player that is compatible with AVI format video.

1. Please install the UMSTDecoderFilter that the DVR copies “DvrPlayer” folder on USB flash drive with the video. UMSTDecoderFilter is exported to the “/DvrPlayer” folder of the USB drive.



2. Otherwise, the video and time stamp over video can't be properly played back and displayed on Window Media Player™.



#### **Timestamp On AVI. The subtitle is embedded to the video clip file.**

The subtitle is embedded to the AVI file. To display a subtitle, user should install a special filter called “UMSTDecoderFilter”.

## 6-5-2. NSF Format



NSF format: NSF format video can be played back using the HDPlayer that the DVR copies to “DvrPlayer” folder on USB flash drive with video. Use the mouse scroll to use digital zoom in and out feature.



## 7. Network Access Using the Multi-Sites Network Viewer

### 7-1. Overview

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

The program displays up to 16 DVRs and supports dual monitors.

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

### 7-2. PC Requirements

#### Minimum PC Requirements

CPU	Intel Core i3
	1.8Ghz
Memory	2GB DDR2
VGA	512MB
Resolution	1280x720
Disk Space	1GB
OS	Windows 2000, XP Professional, XP Home, Vista, 7 (NOTE: Not all versions of Vista and 7 are supported)
Network	10/100Base T
Others	Direct X 9.0c or Higher

#### Recommended PC Requirements

CPU	Intel Core i5
	2Ghz or higher.
Memory	4GB DDR3 or higher.
VGA	512MB or higher.
Resolution	1920x1080
Disk Space	1GB
OS	Windows 2000, XP Professional, XP Home, Vista, 7 (NOTE: Not all versions of Vista and 7 are supported)
Network	10/100/1000Base T
Others	Direct X 10 or higher.

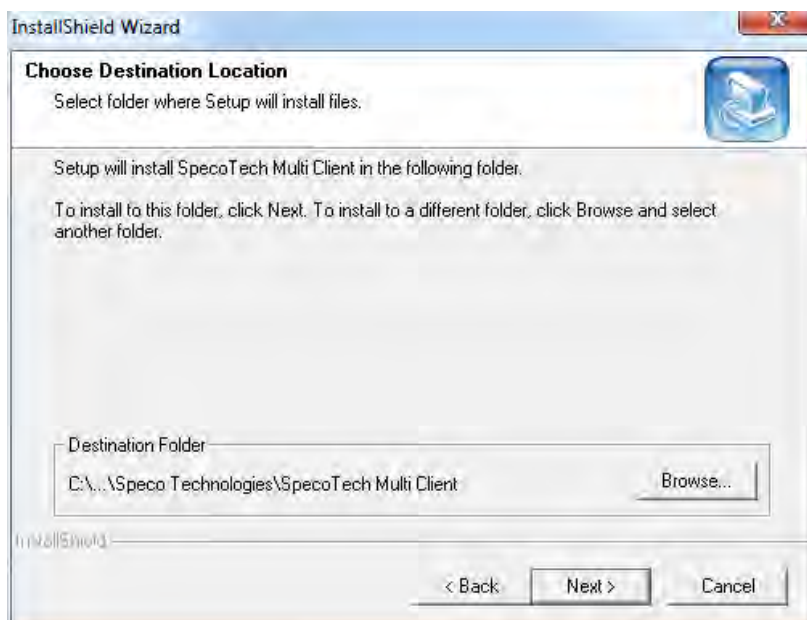
Before installing the program, check the PC specifications. The DVR remote software may not perform correctly if the PC does not meet the minimum requirements.

### 7-3. Installation of the Program

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



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



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



4. The installation status screen is displayed.
5. After the installation is completed, “**SpecoTech Multi Client**” icon displays on the desktop screen.

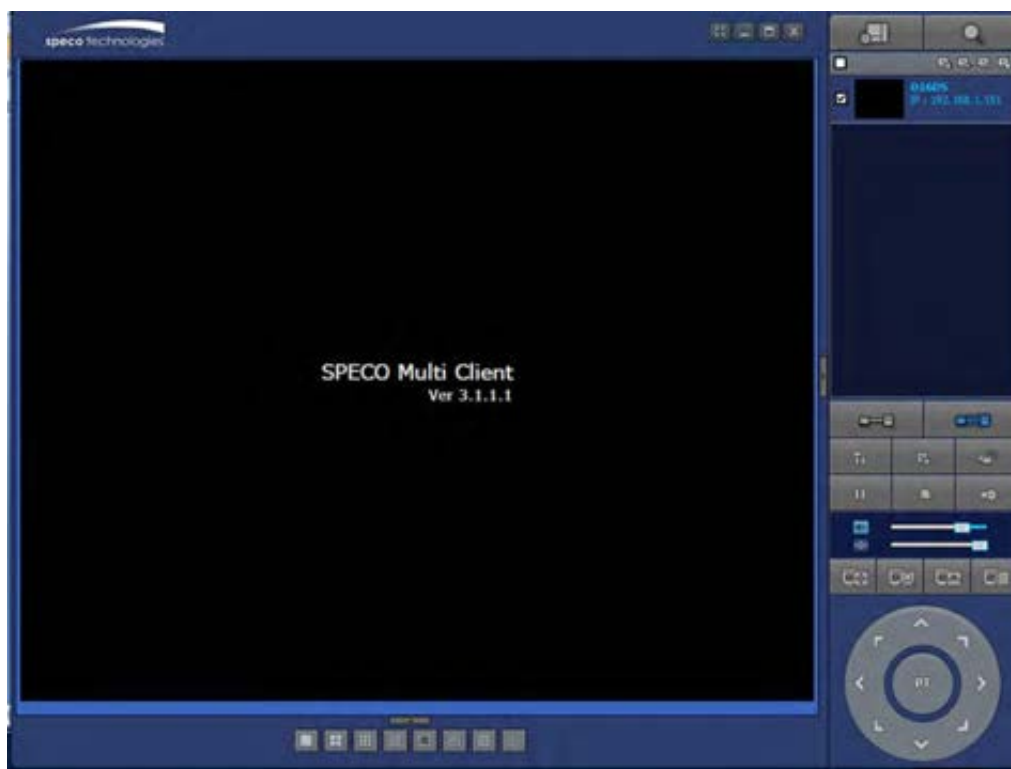






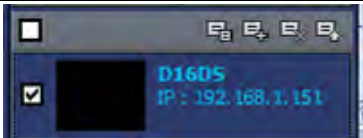






## 7-4. Live Window









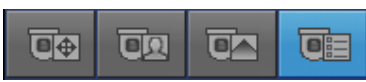


When installation is completed, double click the “**SpecoTech Multi Client**” icon on your desktop to start the program.

### 7-4-1. Main User Interface



### 7-4-2. Control Buttons

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

 SETUP	Click this icon to setup configuration of UMS MULTI CLIENT.
 CAPTURE	Click this icon to capture a still image.
 EVENT LIST	Opens list of events logged by the UMS Multi Client.
 PAUSE	Click this icon to play/pause live video.
 ALARM ON	Click this icon to turn on/off alarm outputs.
 RECORD ON	Enable or disable recording of live video to local disk, which has set in setup menu.
 AUDIO	Use the volume control bar to set the audio level.
 MIC	Use the microphone volume control bar to set the micro phone level.
 PRESET/TOUR/SCAN/MENU	User can control PRESET/TOUR/SCAN/MENU
 CHANNEL SPLIT	To select the numbers of display channel/channels (Single, quad, 9 channels, and 16 channels) of highlighted site.
 DVR SITE SPLIT	To select the numbers of DVR/DVRs (1 DVR, 4 DVRs, 9 DVRs, 16 DVRs) on main display screen.



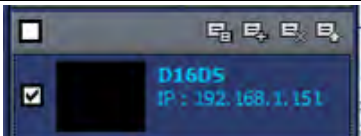















## 7-5. Search and Playback Window


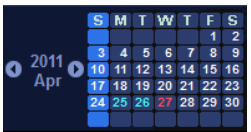



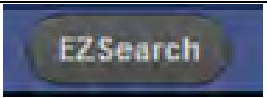

### 7-5-1. Main User Interface

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



## 7-5-2. Main Control Panel

Button	Description
 LOCAL PLAYBACK	Click this icon to run a playback window to search and play videos that are recorded in the local PC.
 REMOTE PLAYBACK	Click this icon to run a playback window to search and play videos that are recorded in the remote DVR.
	 THUMBNAIL REFRESH: Click this icon to refresh and renew thumbnail image of the connected sites.  SITE ADDITION: Click this icon to open „Site Addition’ window.  SITE DELETE: Click this icon to delete site from the index window, after disconnect a site.  NET FINDER: Select the site from the index window and click this icon to modify the information of specific site.
 CONNECT	Click this icon to connect the selected site/sites.
 DISCONNECT	Click this icon to disconnect the selected site/sites.
 SETUP	Click this icon to setup configuration of SpecoTech Multi Client.
 CAPTURE	Click this icon to capture a still image.
 EVENT LIST	Opens list of events logged by the UMS Multi Client.
 EZCopy Start	Click this icon to set the beginning time for backup of the recorded video in AVI format.
 EZCopy End	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.
 AUDIO	Use the volume control bar to set the audio level.
	To select the numbers of DVR/DVRs (1 DVR, 4 DVRs, 9 DVRs, 16 DVRs) on main display screen.
	To select the numbers of display channel/channels (Single, quad, 9 channels, and 16 channels) of highlighted site.

	To select the channel to playback.
	The calendar shows dates with recorded video in color.
	To display the recorded data of selected channel or all channels on a time line scale.
	To change a timeline scale from 24 hours to 60 minutes. The timeline shows recorded data in color on the bar. You can adjust the timeline scale and move it to the time you wish to playback. Then click the play icon to display the recorded video.
	Playback buttons.
	Thumbnail search over the network. - List the thumbnail 24images from 00:00 to 23:00. - Select one of 24 images every 150sec for an hour. - Then play the tile * Click the "PREVIOUS" button to go the previous step.
	Digital Zoom Window in Live and Playback. (Only available in Single Channel Viewing)

## 7-6. Setup of SpecoTech Multi Client



Click the setup icon to setup the configuration of UMS Multi Client software. The SETUP window is displayed as below.

### 7-6-1. General

**Security Option:** Set a password for security options. Select security options and set a password.

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

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

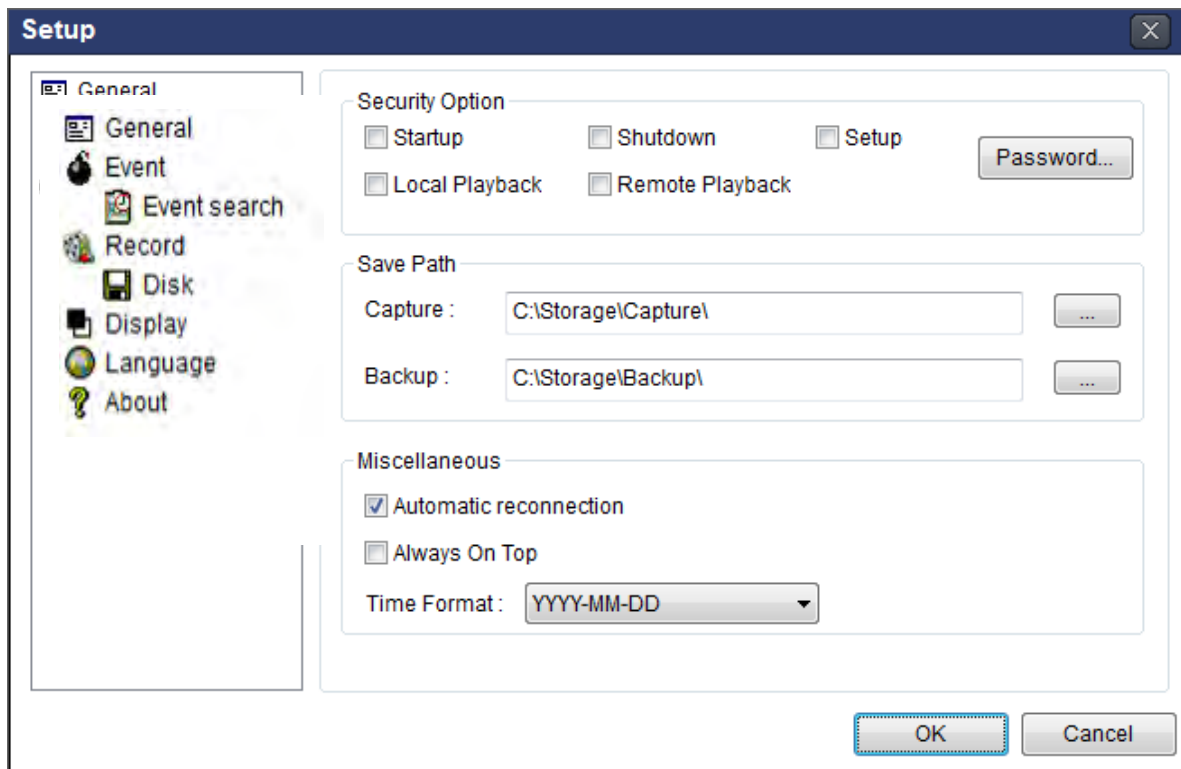
**Save Path:** Specify the location to save captured still image for Capture and Backup data.

#### Miscellaneous

**Automatic Reconnection:** If enabled, the software will automatically try to reconnect to the last successful IP address. But, when CLIENT ACCESS is OFF on the DVR, the software will not try to reconnect even if it is enabled.

**Always On Top:** If enabled, the software display will be continuously on the top of other windows.

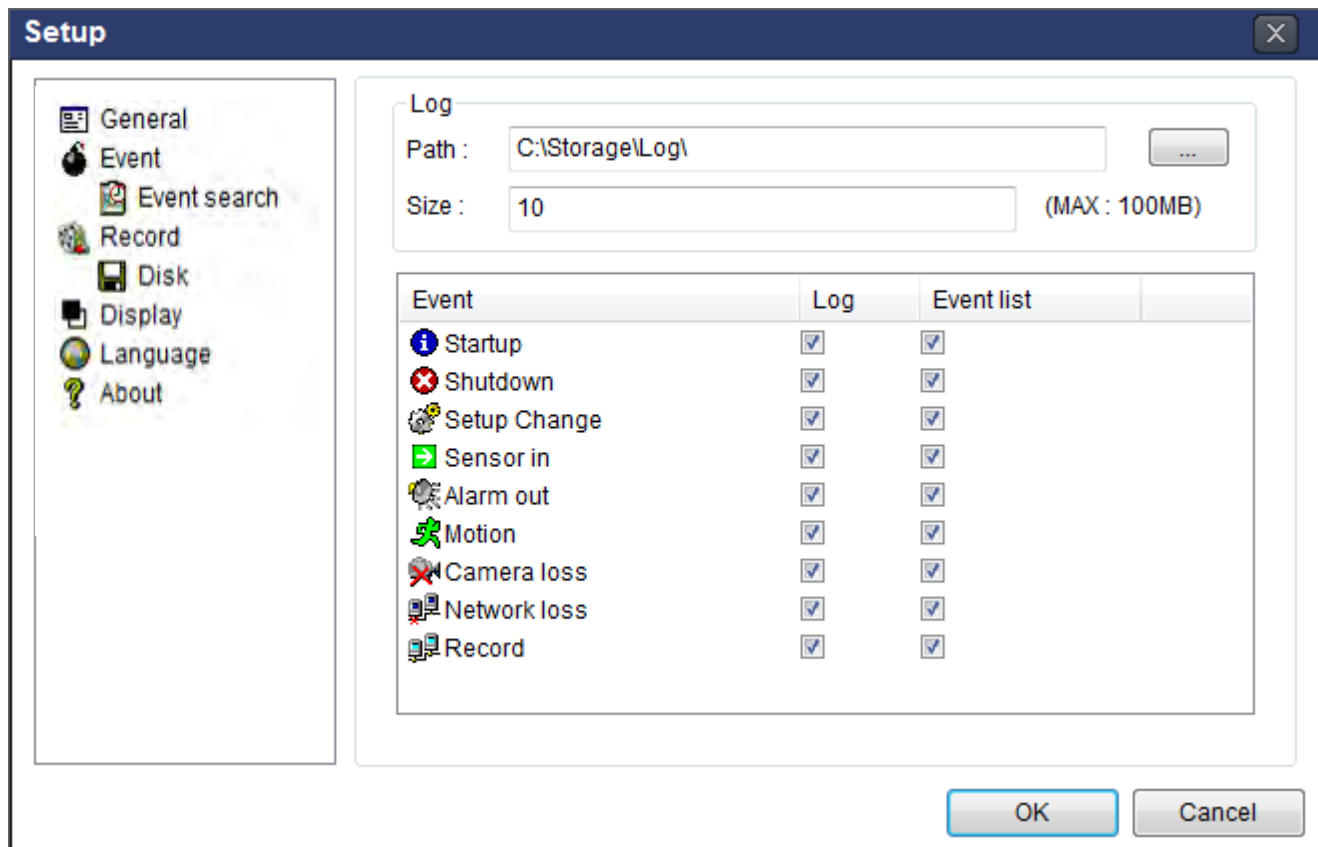
**Time Format:** Change the way the Client software displays the time.



## 7-6-2. Event

Event log can be archived and searched.

**Event Log:** Specify the location to save event logs and select event to archive.



**Event Search:** Event log can be searched from the selected time.

**Setup**

General  
Event  
**Event search**  
Record  
Disk  
Display  
Language  
About

From : ☐ First 2011-04-26 12:00:00 AM  
To : ☐ Last 2011-04-26 7:48:54 PM  
Path : C:\Storage\Log\

Find  
Browse  
Save  
OK  
Cancel

Type	Site	Address	Event	Date/Time
------	------	---------	-------	-----------

### 7-6-3. Record

**Record Setup:** You can set the recording conditions as the following; Always, Event, or Auto record. And you can also select target DVR/DVRs and channel/channels. When you set the recording condition to event, you can set event for motion or alarm with duration.

**Setup**

General  
Event  
Event search  
**Record**  
Disk  
Display  
Language  
About

**Record Condition**  
☒ Always ☐ Event ☐ Auto record

**Event**  
☐ Motion ☐ Alarm Duration : 5 Sec

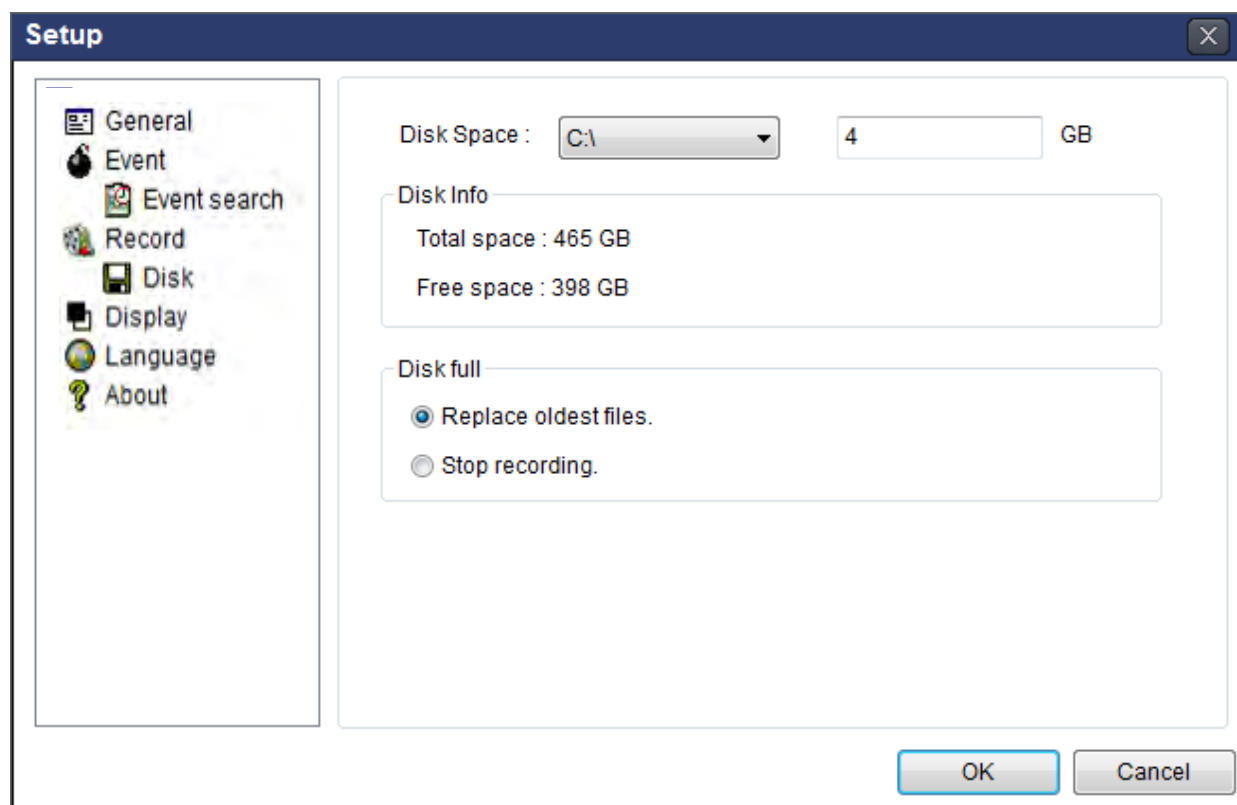
**Channel**  
Site : Site 1 ☐ All site  
☐ All

NO.	CH
<input type="checkbox"/> 1	Channel 1
<input type="checkbox"/> 2	Channel 2
<input type="checkbox"/> 3	Channel 3
<input type="checkbox"/> 4	Channel 4
<input type="checkbox"/> 5	Channel 5
<input type="checkbox"/> 6	Channel 6

OK  
Cancel



**Record Local Storage Setup:** You can select the local disk to record 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.



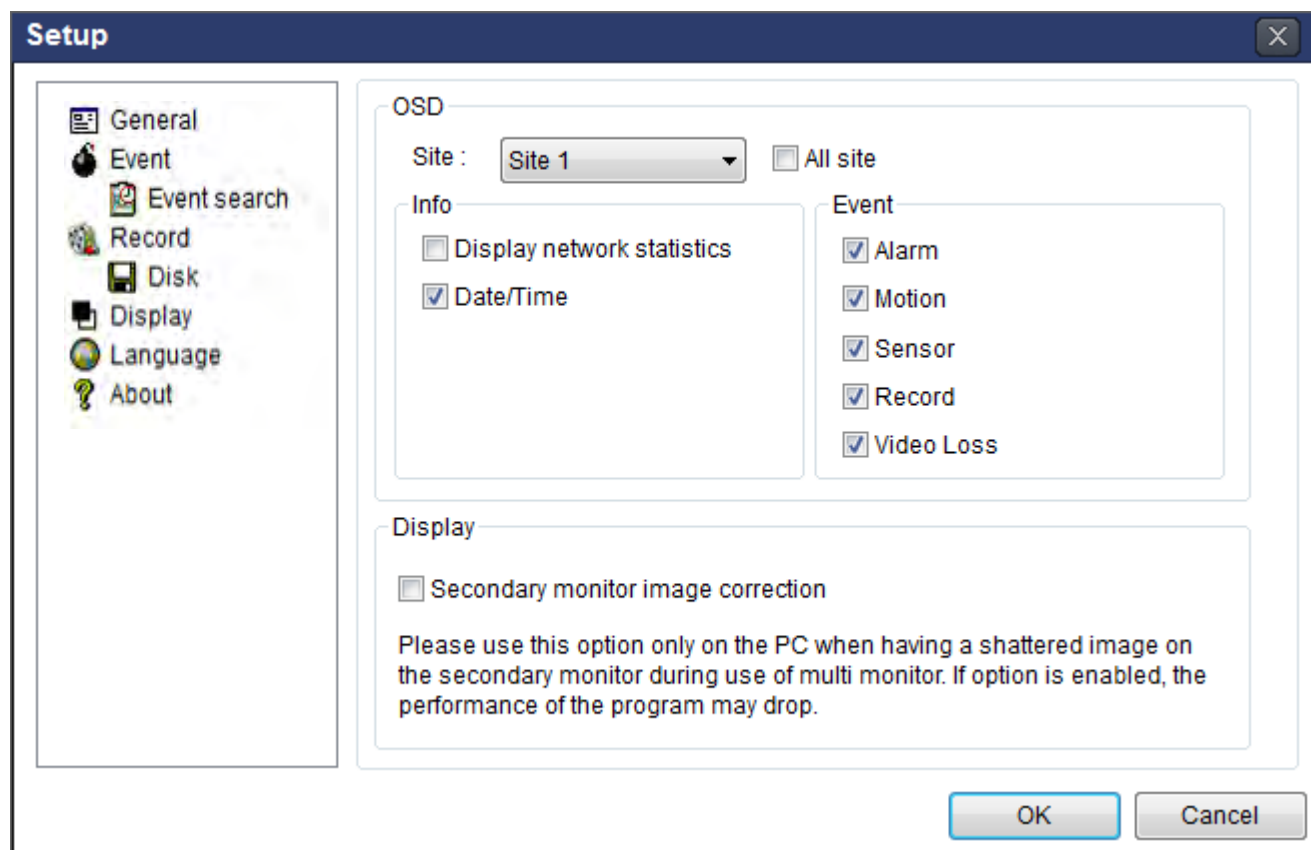
The screenshot shows the 'Setup' dialog box with the 'Disk Space' tab selected. On the left is a sidebar with icons for General, Event, Event search, Record, Disk, Display, Language, and About. The main area contains the following settings:

- Disk Space :** A dropdown menu showing 'C:\' and a text box with the value '4', followed by 'GB'.
- Disk Info** (grouped box):
  - Total space : 465 GB
  - Free space : 398 GB
- Disk full** (grouped box):
  - ☒ Replace oldest files.
  - ☐ Stop recording.

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

#### 7-6-4. Display

You can select the OSD (On Screen Display) to be displayed.



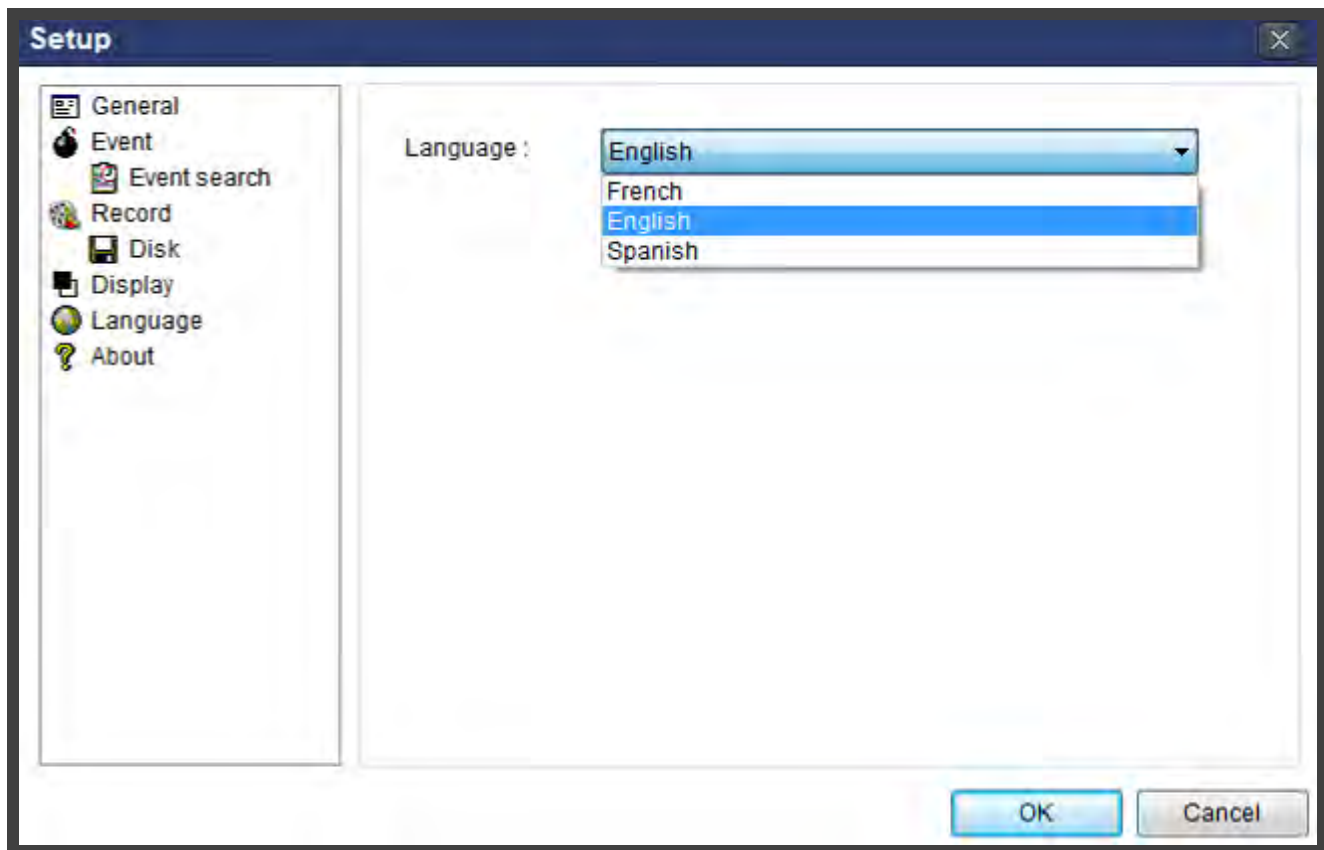
The screenshot shows the 'Setup' dialog box with the 'Display' tab selected. The sidebar on the left is the same as in the previous screenshot. The main area contains the following settings:

- OSD** (grouped box):
  - Site :** A dropdown menu showing 'Site 1' and an unchecked checkbox for 'All site'.
  - Info** (grouped box):
    - ☐ Display network statistics
    - ☒ Date/Time
  - Event** (grouped box):
    - ☒ Alarm
    - ☒ Motion
    - ☒ Sensor
    - ☒ Record
    - ☒ Video Loss
- Display** (grouped box):
  - ☐ Secondary monitor image correction
  - Below the checkbox, a text box contains the instruction: "Please use this option only on the PC when having a shattered image on the secondary monitor during use of multi monitor. If option is enabled, the performance of the program may drop."

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

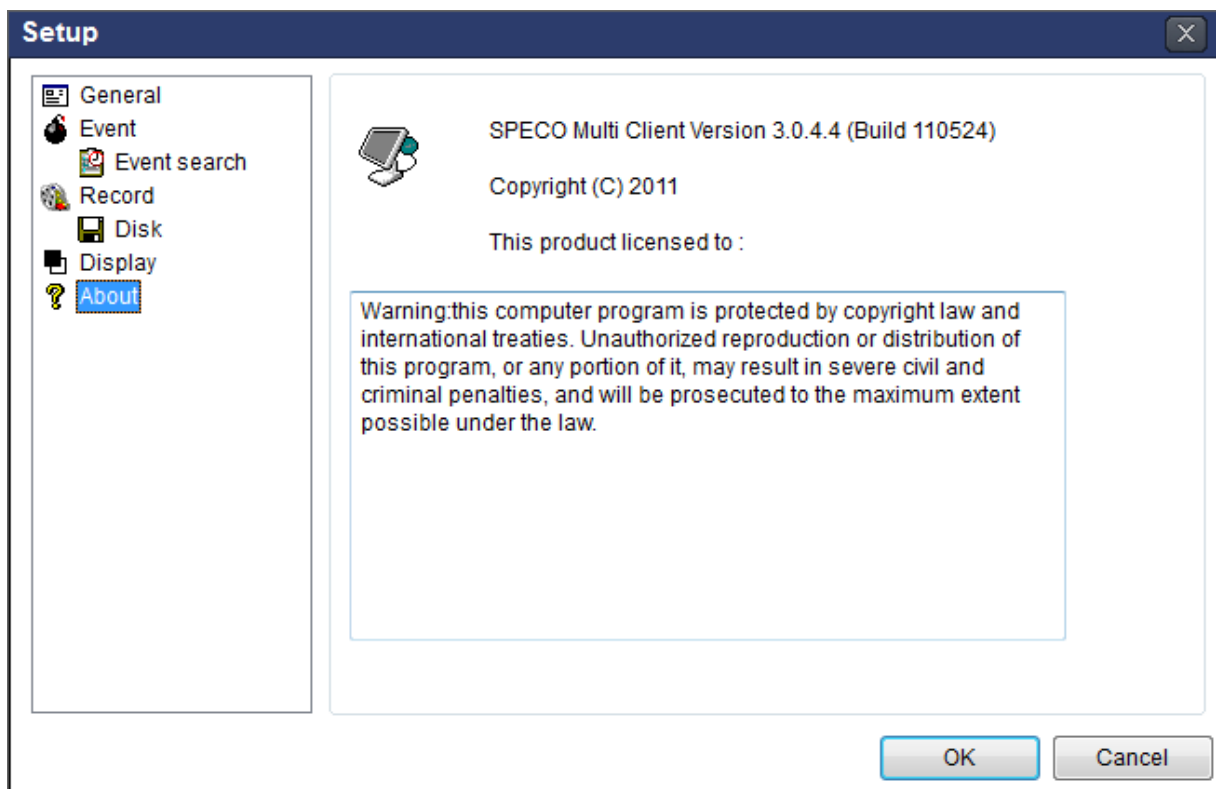
### 7-6-5. Language

English, French and Spanish is selectable.



### 7-6-6. About

“About” provides network client version information.



## 7-7. Remote Setup

The menu settings for the DVR unit can be set over network.

Put the cursor of the mouse on the channel, which is connected to the site and right click on the mouse to open the submenu. Then the following window is displayed as below. Select the **REMOTE SETUP**.



Then the setup window is displayed. The specified menu screen is displayed on the upper left of the screen.

Enter the password of the DVR when prompted. (NOTE: The default password is 1111)

Setting is the same as with the DVR menu setting. Refer to the corresponding pages for details on the setting items.



### NOTICE

Web Setup is prohibited when DVR is in local Setup Menu.



## 7-7-1. System

Select **System** to set system and time settings.

The screenshot shows the 'SYSTEM' tab selected in a menu bar at the top. The settings are organized into several sections: DATE DISPLAY FORMAT (MM/DD/YYYY), CLIENT ACCESS (ON/OFF), NTP SETUP (ON), PRIMARY SNTP SERVER (Pool.ntp.org), SECONDARY SNTP SERVER (Time.nist.gov), TIME ZONE (GMT -5:00 (Montreal/New York)), CONNECTION MODE (TIME), CONNECTION PERIOD (03:00 AM), SEND EMAIL SETUP (OFF), TRANSMISSION MODE (TEXT), IP NOTIFICATION (ON), MAIL BY SENSOR (ON), MAIL BY MOTION (ON), MAIL BY VIDEO LOSS (ON), MAIL BY S.M.A.R.T. (ON), MAIL BY STATUS (ON), PERIOD (24:00), SERVER TYPE (MANUAL), MAIL SERVER, MAIL PORT (25), SECURE OPTION (OFF), ID, PASSWORD, MAIL TO, MAIL FROM, and UNIT NAME (DVR).

- **DATE DISPLAY FORMAT:** Select the date display format.
- **CLIENT ACCESS:** Enable/Disable remote access through network client software.
- **NTP SETUP:** Sets whether to synchronize the time using NTP server or not.
  - **Primary SNTP Server:** Input the NTP primary server address.
  - **Secondary SNTP Server:** Input the NTP secondary server address.
  - **Time Zone:** Select the time zone.
  - **Connection Mode:** Select the connection mode to NTP time server.
- **SEND E-Mail SETUP:** Sets whether to enable/disable e-mail sending function.
  - **TRANSMISSION MODE:** Select the mail transmission mode (TEXT or VIDEO).
  - **IP NOTIFICATION:** Enable/disable sending e-mail when the IP address is changed.
  - **MAIL BY SENSOR:** Enable/disable sending e-mail reports when an alarm event is triggered.
  - **MAIL BY MOTION:** Enable/disable sending e-mail when the motion is detected.
  - **MAIL BY VIDEO LOSS:** Enable/disable sending e-mail when the video loss is detected.
  - **MAIL BY S.M.A.R.T.:** Enable/disable sending e-mail reports when S.M.A.R.T. is triggered
  - **MAIL DVR STATUS:** Enable/disable sending periodical e-mail of the system status.
  - **MAIL PORT:** Mail port setting.
  - **SECURE OPTION:** Select a secure mail server connection. (**SSL or TLS**)
  - **MAIL TO:** Input the appropriate email address to enable sending e-mail reports
  - **MAIL SERVER:** Input the SMTP server name as well as the user ID and password.
  - **MAIL FROM (Return Mail Address):** Set the source e-mail address to be notified to the destination.
- **USER NAME:** Name the DVR

## 7-7-2. Record

Select **RECORD** tab to set the recording conditions.

The screenshot displays the 'RECORD' tab of a system configuration interface. The top navigation bar includes tabs for SYSTEM, RECORD, DEVICE, DISPLAY, NETWORK, USER MANAGEMENT, STORAGE, UPGRADE, and INFORMATION. The main configuration area is divided into two sections: 'Main Settings' and 'EZRecord'.

**Main Settings:**

- SITE: CH1
- RESOLUTION: 960H
- FRAME RATE: 30 FPS
- QUALITY: LEVEL 5(H)
- RECORDING MODE: CONTINUOUS
- SENSOR RECORDING: ON
- PRE RECORD: 1 MINUTE(S)
- POST EVENT RECORD: 10 SECOND(S)
- AUDIO: ON
- SCHEDULE: CONTINUOUS

**Schedule Grid:**

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
SUN					C	C																		
MON							C																	
TUE								C																
WED																								
THU																								
FRI																								
SAT																								

**EZRecord:**

- RESOLUTION: 960H
- FRAME RATE: 30 FPS
- QUALITY: LEVEL 5(H)
- RECORDING: CONTINUOUS
- DAYS TO RECORD: 8 DAY(S) 9 HOUR(S)

An 'APPLY EZRecord' button is located to the right of the EZRecord settings.

These settings apply to the specified channel only.

- **Recording Setup**
  - **RESOLUTION:** Sets the resolution for the recordings. The set value applies to an individual channel.
  - **FRAME RATE:** Sets the recording rate.
  - **QUALITY:** Sets the image quality in 5 levels.
  - **RECORDING:** Sets the recording mode.
  - **RECORDING MODE:** CONTINUOUS, SCHEDULE, MOTION
  - **PRE RECORD:** Sets whether to perform or not pre recording.
  - **POSE EVENT RECORD:** Sets the duration of the event recording.
  - **AUDIO:** Sets whether to perform or not audio recording.
  - **SECHDULE:** Sets the schedule recording.

These settings apply to all channels.

- **EZRECORD**
  - **RESOLUTION:** Sets the resolution for the recordings. The set value applies to an individual channel.
  - **FRAME RATE:** Sets the recording rate.
  - **QUALITY:** Sets the image quality in 5 levels.
  - **RECORDING MODE:** Sets the recording mode.
  - **RECORD DAYS:** By the setting value, the Recording Days will change accordingly.

### 7-7-3. Device

Select **Device** to set Spot Out, Enable/Disable CVBS Out, motion zone.

The screenshot shows the 'DEVICE' configuration page. At the top, there are tabs for SYSTEM, RECORD, DEVICE (selected), DISPLAY, NETWORK, USER MANAGEMENT, STORAGE, UPGRADE, and INFORMATION. The main content area is divided into several sections:

- ALARM-OUT:** Includes settings for SENSOR IN, MOTION ON, VIDEO LOSS, HDD ERROR, ALARM DURATION, and BUZZER.
- DIGITAL DETERRENT:** Includes a schedule table for days of the week (SUN to SAT) and hours (0 to 23), and an 'UPLOAD' button.
- CONTROLLER:** Includes settings for SPEED, ID, PTZ, CHANNEL, CAMERA, and SPEED.
- PTZ:** Includes settings for CHANNEL, CAMERA, SPEED, and ID.
- SPOT OUT:** Includes settings for SPOT ON EVENT, SPOT EVENT DWELL TIME, SEQUENCE, and SEQUENCE DWELL TIME.
- MOTION:** Includes settings for SITE, MOTION ZONE, MOTION SENSITIVITY, KEY TONE, REMOTE CONTROLLER ID, SENSOR, and TYPE.
- SENSOR:** Includes settings for SENSOR and TYPE.

- **ALARM OUT:** Set the sensor, motion, and video loss for triggering alarm relay HDD Error and Video Loss can trigger beeping.
- **DIGITAL DETERRENT:** Set the schedule of digital deterrent function and upload the sound file to DVR.
- **CONTROLLER:** Set the controller baud rate and ID.
- **PTZ:** Set the PTZ baud rate, protocol, and ID.
- **MOTION: Setup the motion detection area and the sensitivity.**
  - **SITE:** Select the channel
  - **MOTION ZONE:** FULL Zone or PARTIAL Zone
  - **MOTION SENSITIVITY:** 1~9 (High sensitivity level)
- **KEYTONE:** Sets On or Off of Key Tone.
- **REMOTE CONTROLLER ID:** Sets an ID number on the supplied remote control for its identification.
- **SENSOR:** Select the type of each sensor.



## 7-7-4. Display

Select the **DISPLAY** tab to set the DISPLAY conditions.

The screenshot shows a configuration menu with a top navigation bar containing tabs: SYSTEM, RECORD, DEVICE, DISPLAY (selected), NETWORK, USER MANAGEMENT, STORAGE, UPGRADE, and INFORMATION. The main area lists various display settings:

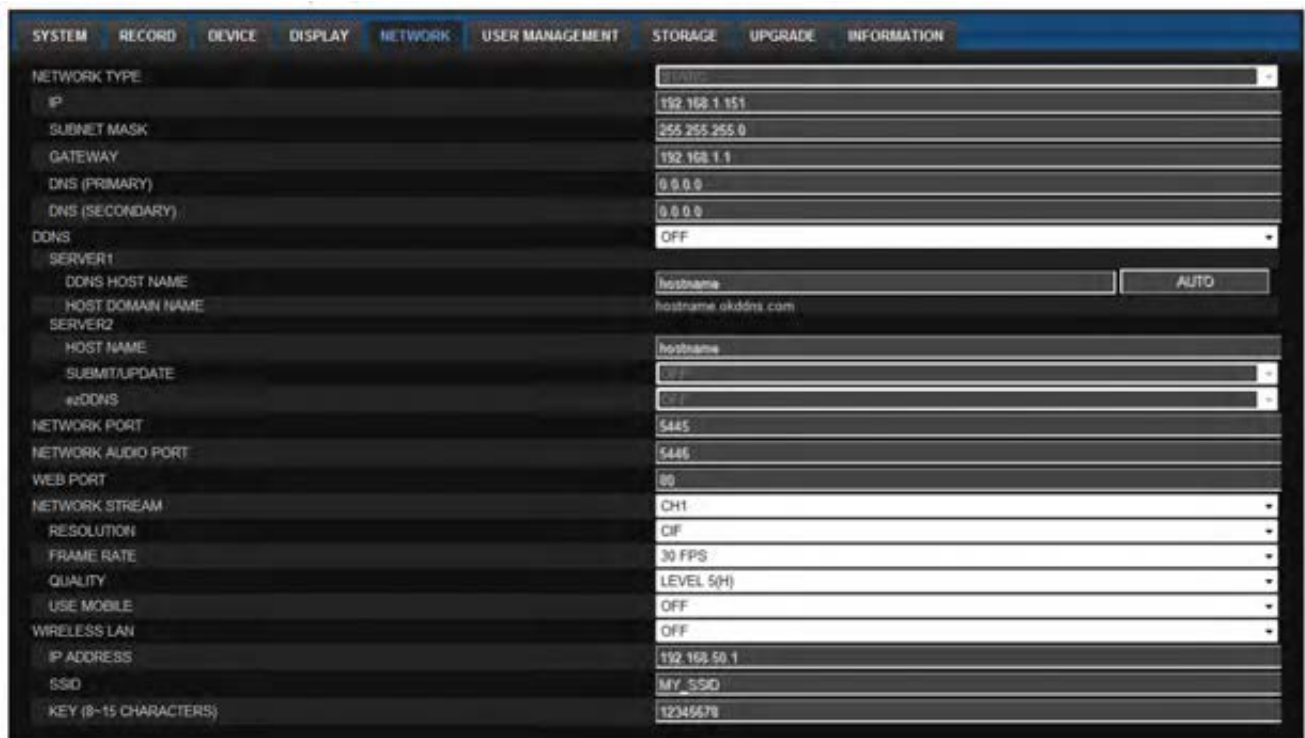
Setting	Value
OSD	<input checked="" type="radio"/> ON <input type="radio"/> OFF
CHANNEL NAME	<input checked="" type="radio"/> ON <input type="radio"/> OFF
VIDEO LOSS	<input checked="" type="radio"/> ON <input type="radio"/> OFF
STATUS BAR / ICON	<input checked="" type="radio"/> ON <input type="radio"/> OFF
OSD CONTRAST	100
MAIN MONITOR SEQUENCE	<input checked="" type="radio"/> ON <input type="radio"/> OFF
SEQUENCE DWELL TIME	3 SECOND(S)
SITE	CH1
NAME	CH1
COVERT	OFF
BRIGHTNESS	50
CONTRAST	50
HUE	50
SATURATION	55

These settings apply to all channels.

- **OSD**: Sets whether to display or not date and time as well as channel number on the screen.
- **OSD CONTRAST**: Adjust the character contrast on the screen.
- **MAIN MONITOR SEQUENCE**: Setting for automatically switching the displayed video.
- **SEQUENCE DWELL TIME**: Sets the interval for automatically switching the screens.
- **SITE**: Name, Covert, Brightness, Contrast, Hue, Saturation

These settings apply to the specified channel only.

## 7-7-5. Network



NETWORK TYPE	
IP	192.168.1.151
SUBNET MASK	255.255.255.0
GATEWAY	192.168.1.1
DNS (PRIMARY)	0.0.0.0
DNS (SECONDARY)	0.0.0.0
DDNS	OFF
SERVER1	hostname
DDNS HOST NAME	hostname
HOST DOMAIN NAME	hostname.okdms.com
SERVER2	hostname
HOST NAME	hostname
SUBMIT/UPDATE	OFF
ezDDNS	OFF
NETWORK PORT	5445
NETWORK AUDIO PORT	5446
WEB PORT	80
NETWORK STREAM	CH1
RESOLUTION	CIF
FRAME RATE	30 FPS
QUALITY	LEVEL 5(H)
USE MOBILE	OFF
WIRELESS LAN	OFF
IP ADDRESS	192.168.50.1
SSID	MY_SSID
KEY (8-15 CHARACTERS)	12345678

- **NETWORK TYPE ( Cannot be altered remotely )**
  - **STATIC:** The address setting mode is manual. Input IP, Gateway, Subnet Mask, and DNS IP.
  - **DHCP:** The address setting mode is automatic.
- **DDNS:** Set whether to use DDNS service or not
  - **HOST NAME:** Allows the user to setup a domain name manually
  - **SUMBIT/UPDATE:** Select ON to submit the settings
  - **ezDDNS:** Enable ezDDNS to register the host name automatically
- **NETWORK PORT:** When connecting multiple DVRs to the network, set a unique port number.
- **NETWORK AUDIO PORT:** Display the network audio port (NETWORK PORT + 1).
- **WEB PORT:** Set a web server port number.
- **NETWORK STREAM:** Set the Resolution, Frame Rate, and the Quality.
- **WIRELESS LAN:** Set the IP Address, SSID and KEY (PASSWORD).

## 7-7-6. User Management

Select the **USER MANAGEMENT** tab to set the DISPLAY conditions.

The screenshot displays the 'USER MANAGEMENT' tab with the following sections:

- AUTHORITY SETUP**: A table for user permissions.
- USER NAME SETUP**: Fields for 'NEW USER NAME' (USER1) and 'NEW PASSWORD' (ADMIN).
- PASSWORD SETUP**: Fields for 'CHANGE' (KEEP) and 'CONFIRM PASSWORD'.
- PLAYBACK AUTHORITY**: A table for playback permissions.

	PASSWORD	SETUP	PB	PTZ	R/OFF	NETWORK
PASSWORD CHECK		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ADMIN	****	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
USER1	****	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
USER2	****	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
USER3	****	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
ADMIN	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
USER1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
USER2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
USER3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

## 7-7-7. Storage

Select **Storage** to configure continued recording settings by overwriting the hard disk and the storage period for the recording data.

The screenshot displays the 'STORAGE' tab with the following sections:

- OVERWRITE**: Radio buttons for ON and OFF.
- DISK INFO**: Fields for HDD SIZE (2610 GB), HDD LAST TIME (01/01/1970), and HDD 1 details (MODEL NAME, TEMPERATURE, HEALTH, REALLOCATED SECTORS, CURRENT PENDING SECTORS, UNCORRECTABLE SECTORS, SPIN RETRY SECTORS).
- RECORDING LIMIT**: A dropdown menu set to OFF.
- S.M.A.R.T.**: Fields for RECORDING LIMIT DAYS (NO LIMIT), TEMPERATURE LIMIT (50°C 140°F), ALARM (ON), and BUZZER (ON).

- **OVERWRITE**: Select on to continue recording by overwriting when the hard disk becomes full.
- **RECORD LIMIT**: Sets whether to limit or not the recording data storage period.
- **S.M.A.R.T.**: Sets the TEMPERATURE LIMIT of the Hard Disk to trigger the ALARM and the BUZZER.

## 7-7-8. Remote Upgrade

Model Name : D16DS  
Current Software : Ver 3.6.5\_20121105

Browse...

UPGRADE

RELOAD APPLY

**Shows the current Firmware version installed on DVR.**


- **Browse:** Select BROWSE to locate the firmware file.
- **Upgrade:** Select UPGRADE to upgrade the firmware of the DVR.

SYSTEM	RECORD	DEVICE	DISPLAY	NETWORK	USER MANAGEMENT	STORAGE	UPGRADE	INFORMATION
MODEL NAME							D16DS	
SOFTWARE VERSION							Ver 3.6.3_20121006	
STORAGE SIZE							2610 GB	
NETWORK TYPE							STATIC	
IP ADDRESS							192.168.1.151	
MAC ADDRESS							00:02:59:06:EB:4D	
DVR ID							DVR	
REMOTE CONTROLLER ID							0	

## 7-8. Operation

### 7-8-1. Addition, Delete, and Modify of DVR Sites

#### 7-8-1-1. Addition of Sites

1. Click  SITE ADDITION button. And then the following window will be displayed as below.



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

- Site name:
- Site address:
- Port number:
- ID:
- Password:

Buttons: OK, Cancel


- **Site Name:** Input a name that properly describes a site.
  - **IP Address:** Input IP address (Public IP address of a router that DVR is connected.) or Domain name
  - **Port Number:** Default Port Number is “5445”.
  - **ID:** Input ID of DVR. Default ID is “admin”.
  - **Password:** Input network password of DVR. Default Password is “1111”.
2. Click OK button. And then the registered site is added on the directory window.



#### 7-8-1-2. Deleting a Site

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




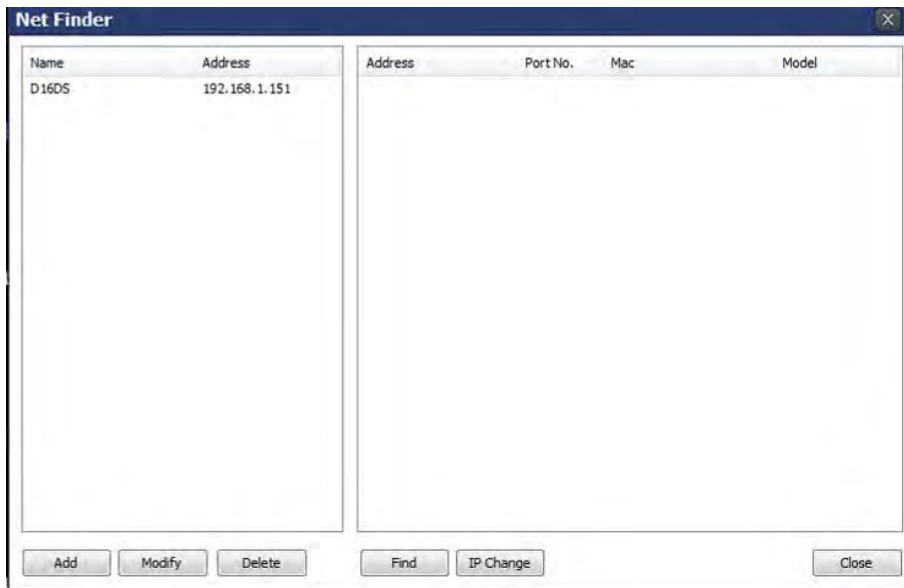
2. Click  SITE DELETE button. And then the selected site/sites is/are deleted.

### 7-8-1-3. Modify of Sites

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



2. Click  NET FINDER button. And then the following window will be displayed as below.



3. Click MODIFY button. And then the modified information is displayed as below.






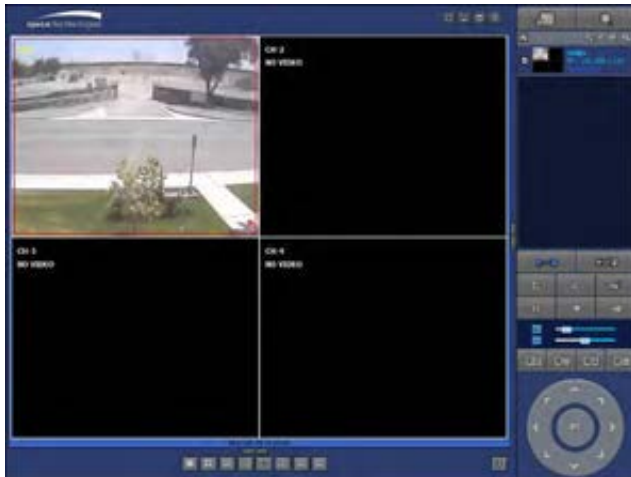
## 7-8-2. Connect and Disconnect

### 7-8-2-1. Connect

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




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



### 7-8-2-2. Disconnect

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

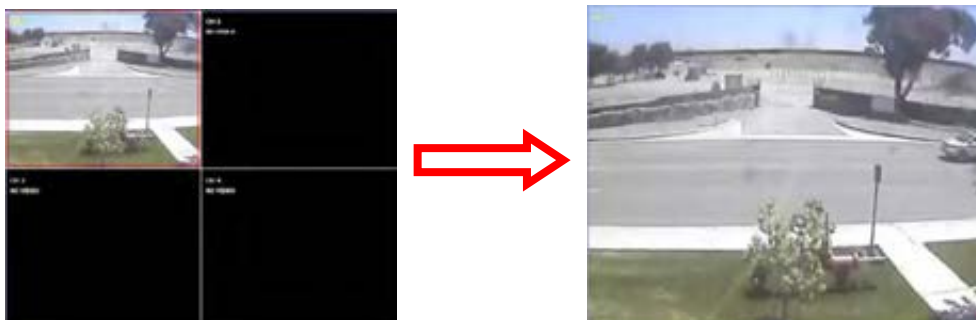


2. Click  DISCONNECT button, and then selected site/sites disconnected.

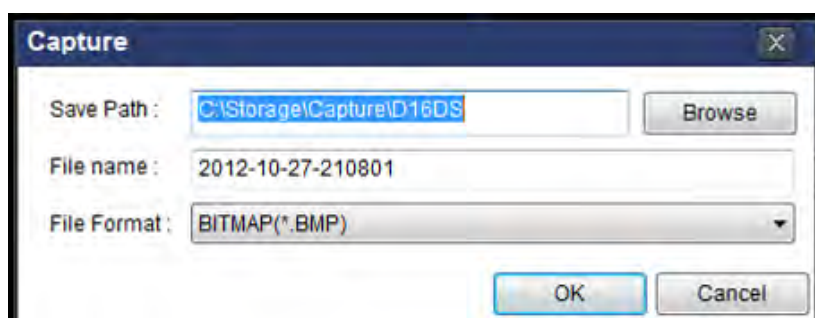


### 7-8-3. Still-image Capture During Live

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




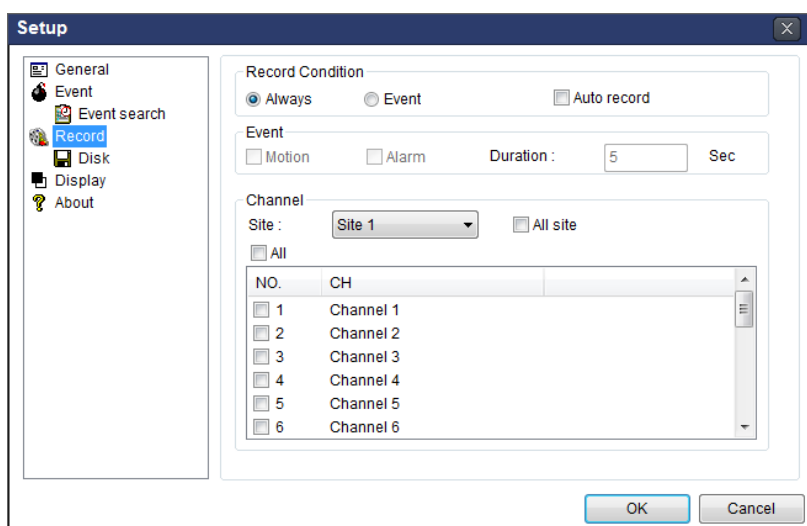
2. Click  CAPTURE button. And then a Capture window will be displayed as below.



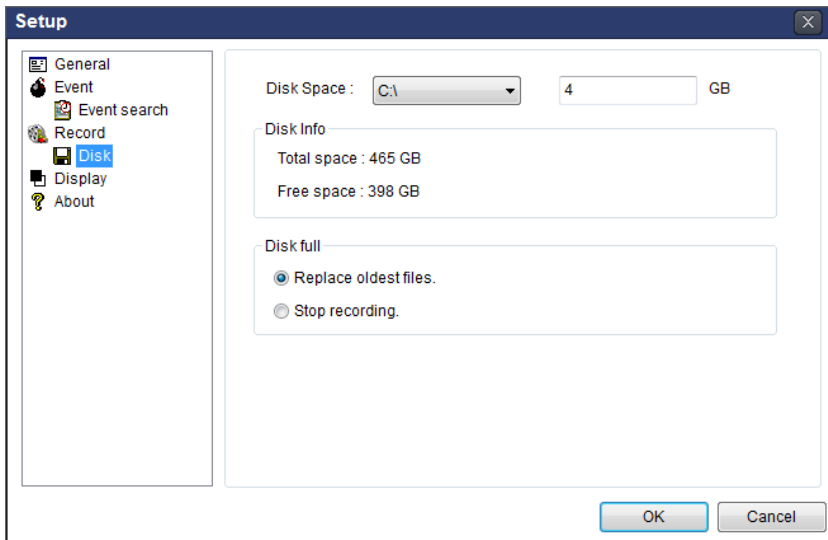
3. Set Save Path, File Name, and File Format. And then click OK button.
4. Still image is saved as set in Capture window.

### 7-8-4. Recording Video on Local PC During Live

1. Click  SETUP button. And then a setup window will be displayed as below.
2. Select Record and set the values.

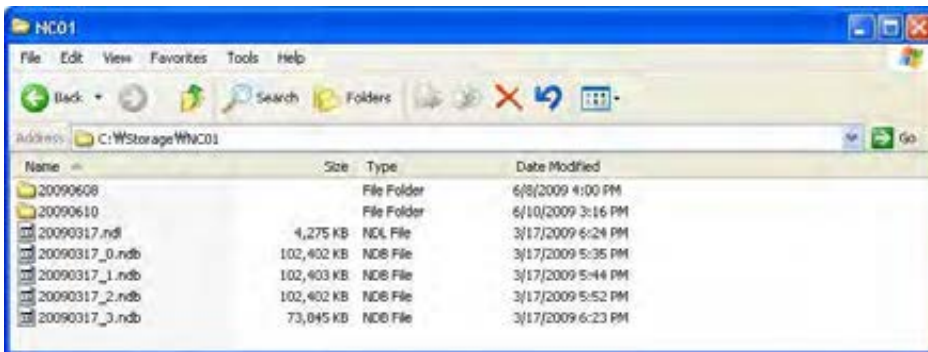


3. Select Disk and set the values.




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

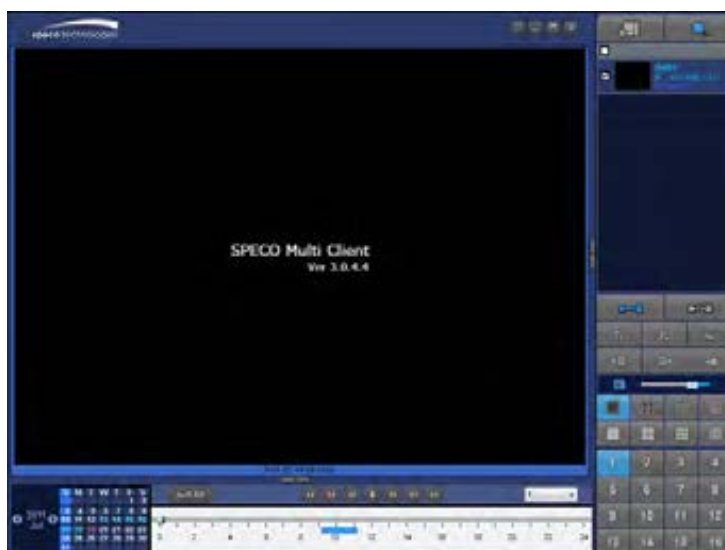
5. Live video data is recorded as set in Record and Disk setup. These video data can be searched and play-backed with Local Playback.



## 7-8-5. Local Playback and Remote Playback

### 7-8-5-1. Playback of Recorded Video on a Local PC

1. Click  LOCAL PLAYBACK. And then Playback Window will be displayed over the Live Window.



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



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



6. Move the marker on the timeline scale to where there is video data and press the **PLAY** button.




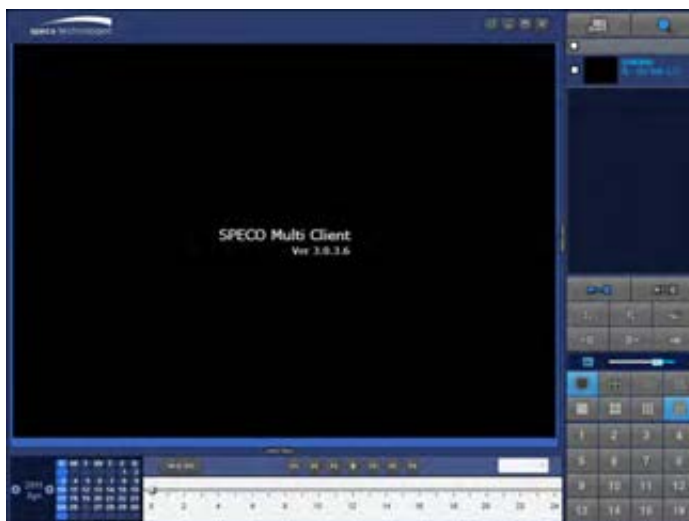
7. Video data that is recorded on local PC will be play-backed.




8. Use the mouse scroll to digitally zoom in and out from a single channel display.

## 7-8-5-2. Playback of Recorded Video on Remote DVR

1. Click  **REMOTE PLAYBACK**. And then Playback Window will be displayed over the Live Window.



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

3. Click  CONNECT. And then Green bar displays on Search calendar and timeline scale window.



4. Move the marker on the timeline scale to where there is video data and press the PLAY button.



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



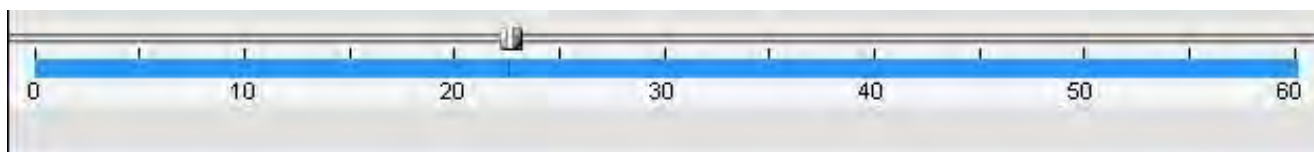
### 7-8-6. AVI Backup during Playback


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

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

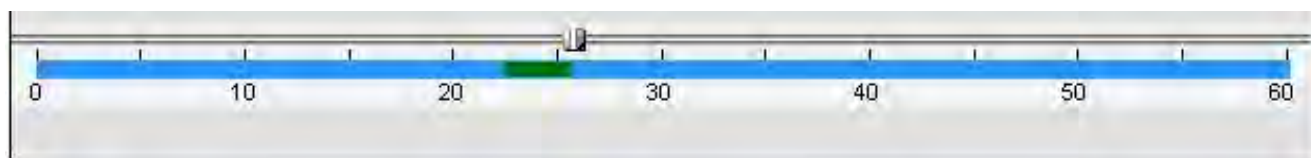



3. Click  EZCOPY START button on the timeline scale to select the beginning point of the backup.



4. Click  EZCOPY END button on the timeline scale to select the ending point of the backup. Then,

the selected starting point and the ending point on the timeline scale bar will be marked in green.



5. Click  BACKUP. And then the BACKUP window will be displayed as below.

The 'Backup' window is shown with a dark blue title bar and a close button. It contains two main sections: 'Select Channels' and 'Setting'. In 'Select Channels', checkboxes for CH-1, CH-2, CH-3, CH-4, and 'All' are all checked. The 'Setting' section includes 'Start Time' (01:17:18), 'End Time' (01:19:43), 'File Path' (C:\Storage\Backup\), and 'File format' (AVI). A progress bar at the bottom shows 0.0% completion. 'OK' and 'Cancel' buttons are at the bottom right.

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

The 'Backup' window is shown in the same state as the previous screenshot, but the progress bar now shows 7.6% completion, with a small blue segment at the beginning.



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



## 8. Network Access Using the Web-Browser Viewer

The DVR provides a live remote monitoring feature by web-browser viewer. (NOTE: Web-Browser is only available for Internet Explorer)

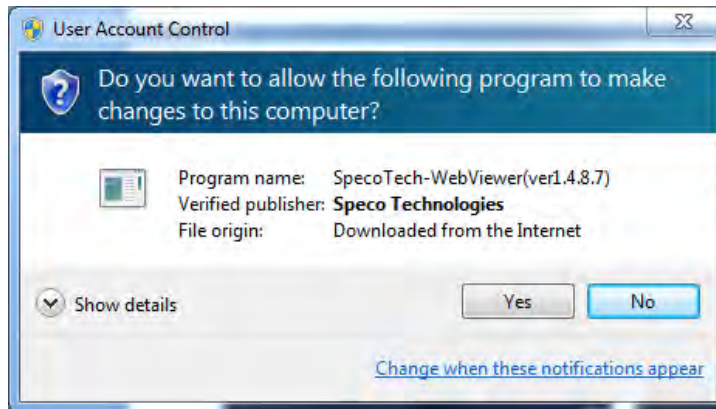
1. Check the IP address of the DVR from SETUP>SYSTEM>DESCRIPTION>IP ADDRESS or
2. Input the IP address or Domain name address that you pre-registered.



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



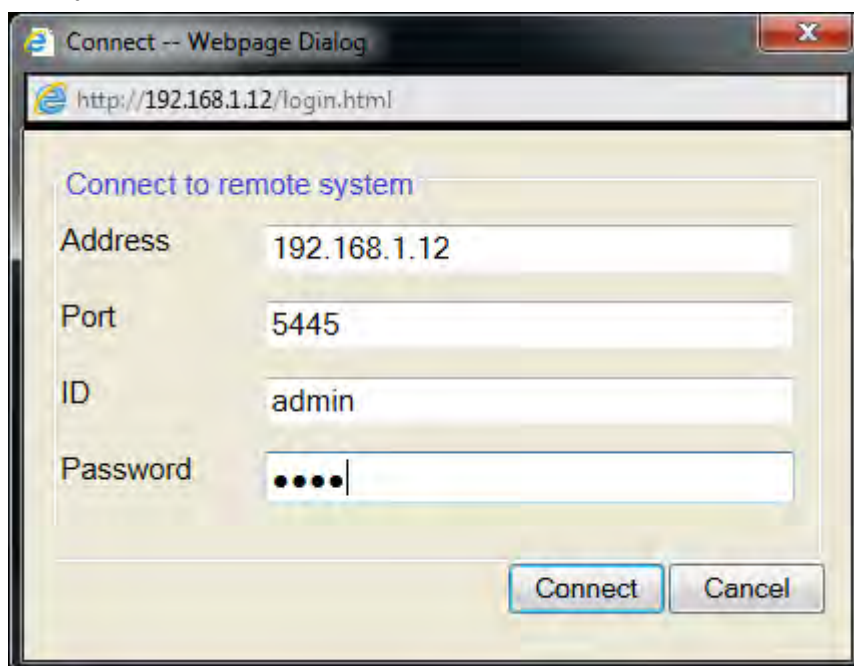
4. Click "Install" to download and install the ActiveX control.



5. The Web Browser Viewer will be displayed as below after the ActiveX installation



6. Click the CONNECT button on the Left upper corner of web-viewer. Then "Connect" dialog is displayed.



- **Site Name:** Input a name that properly describes a site.
  - **IP Address:** Input IP address (Public IP address of a router that DVR is connected.) or Domain name
  - **Port Number:** Default Port Number is “5445”.
  - **ID:** Input ID of DVR. Default ID is “admin”.
  - **Password:** Input network password of DVR. Default Password is “1111”.
7. Then the cameras connected to the DVR are displayed on the screen.
  8. Use mouse scroll to digitally zoom in and out from a single channel display.



## 9. Network Access Using the Smart Phone Viewer



### Notice

Data Usage applied without Wi-Fi connection. Please check with your Phone Carrier.

### 9-1. App Viewer for iPhone

1. Enter the Apple App Store.




2. Search “Speca Player” in the App Store.



### Notice

SPECO Player is for the DS, RS, WRS and HD series DVRs. SPECO VIEWER is not compatible with the T Series DVR's (TH, TN or TL) or the PC Series DVR's.

## 9-1-1. Live

1. Open the installed "Speco Player" App and click  button to add a remote device.



2. Enter the site name, IP or DDNS address, Network Port number (default 5445), ID(default admin) and Password (default 1111). Then, click "Save" button.

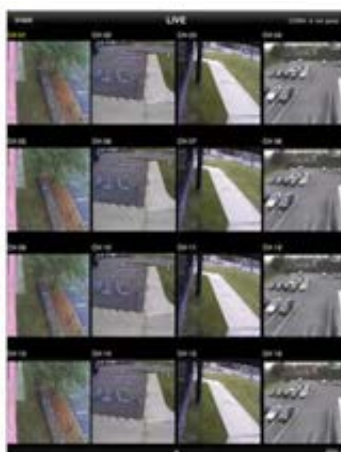


\* Note: Network Port and Web Port must be forwarded before adding a new site.

3. Select a registered device and select LIVE. Then click "CONNECT" button.



4. The app will display the selected channel(s). Double tap the channel screen to switch 1 channel display to 4, 8, 10, 16 channels split display depending on the DVR.





5. To select the display mode(1, 4, 9, 10 or 16 split display), tap the arrow menus button



6. Drag and drop channels  
Touch and drag one channel to the other channel to swap the channel location. To swap the channel, drag a channel to another channel.
7. Digital Zoom In-Out  
Double tap on the desired channel to view in 1channel mode. Then use the iPhone zoom feature using two fingers to pinch the screen to zoom in or out on the video image. User can also move the zoomed image around by touching the desired spot and dragging the zoom image.

## 9-1-2.PTZ Control

To control the PTZ functions of the camera, tap the menu button. Then PTZ menu icons will display. Using the PTZ icon on the screen, control PTZF control.



## 9-1-3. Playback

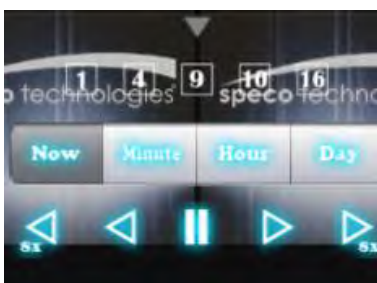
1. Select Mode as 'Playback'  and click 'CONNECT' button. Then select Date & Time and click PLAY button.



- The app will display the selected channel(s). Double tap the channel screen to switch 1 channel display to 4, 8, 10, 16 channels split display depending on the DVR.



- Tap the menu button. Then Playback menu icons will display.



## 9-2. App Viewer for Android Phone

- Enter the Android Market.



- Search "Speco Player" in the Android Market and install the "Speco Player" app.



### Notice

SPECO Player is for the DS, RS, WRS and HD series DVRs. SPECO VIEWER is not compatible with the T Series DVR's (TH, TN or TL) or the PC Series DVR's.



### 9-2-1. Live

1. Open the installed “Speco Player” App and select the Live Preview. Then click the menu button of the phone to add a remote device.
2. Select the registered device and select LIVE VIEW and select up to 4 channels to monitor. Then click START button.



3. The app will display the selected channel(s). Double tap the channel screen to switch 1 channel display to 4 channels split display.



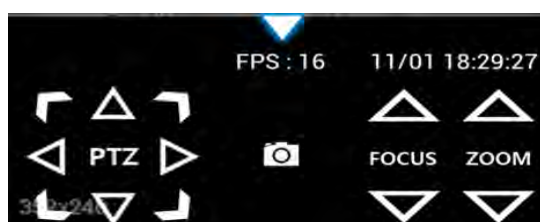
### 9-2-2. Playback

1. Select the registered device and select PLAYBACK and select up to 4 channels to search. Then click START button.
2. The app will display the selected channel(s). Double tap the channel screen to switch 1 channel display to 4 channels split display.

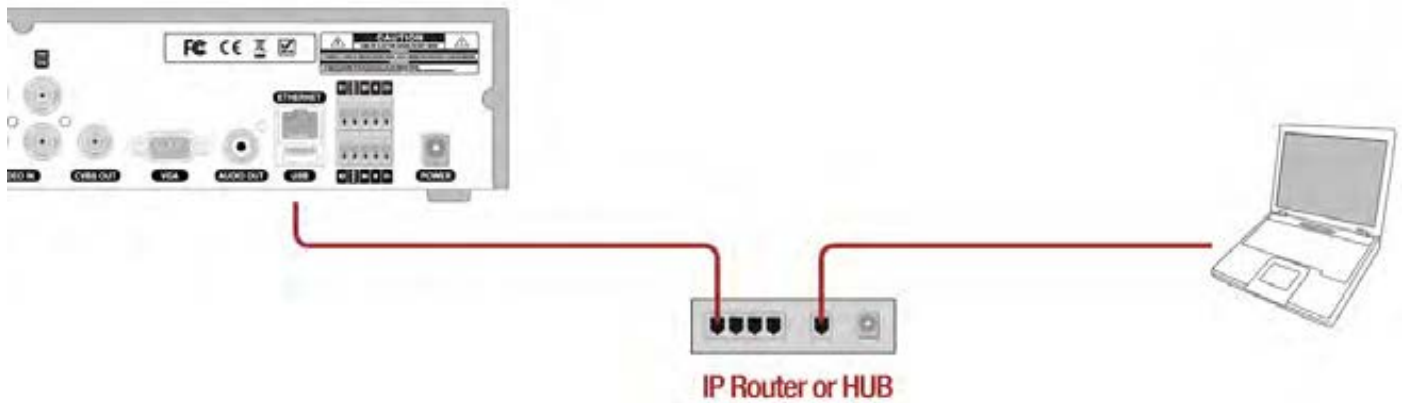


### 9-2-3.PTZ Control

To control the PTZ function of the camera, tap the channel screen, then the channel name will be highlighted in Yellow. Using the PTZ menu icons on the screen, control PTZF.



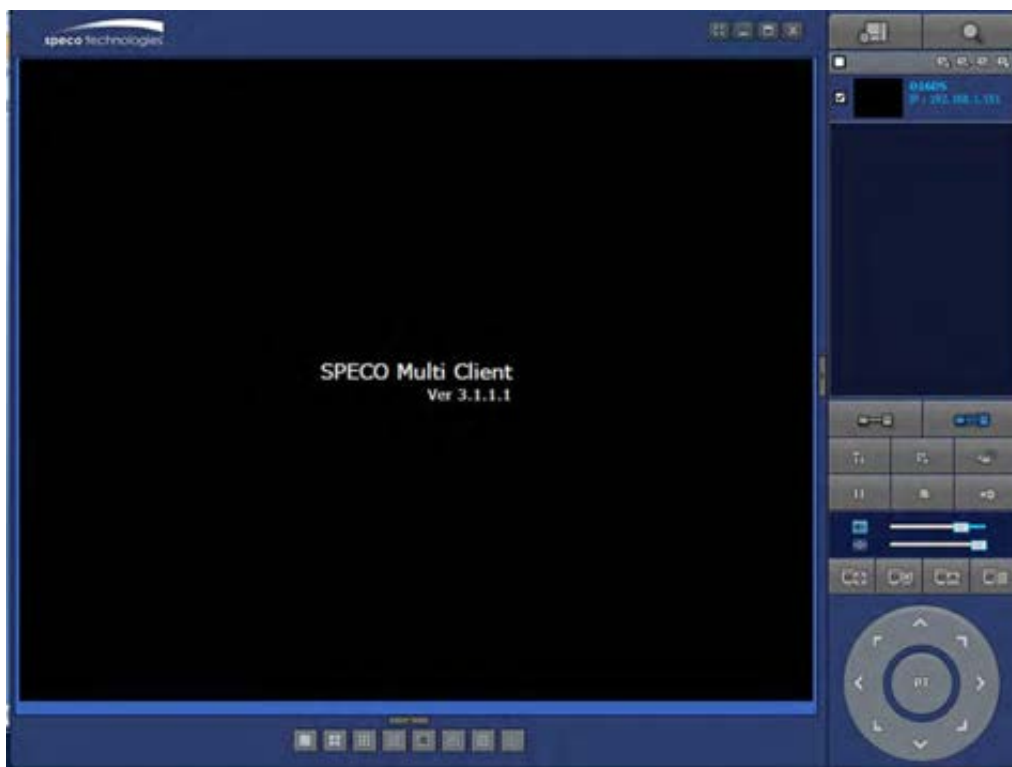
## APPENDIX: Network Connection - LAN

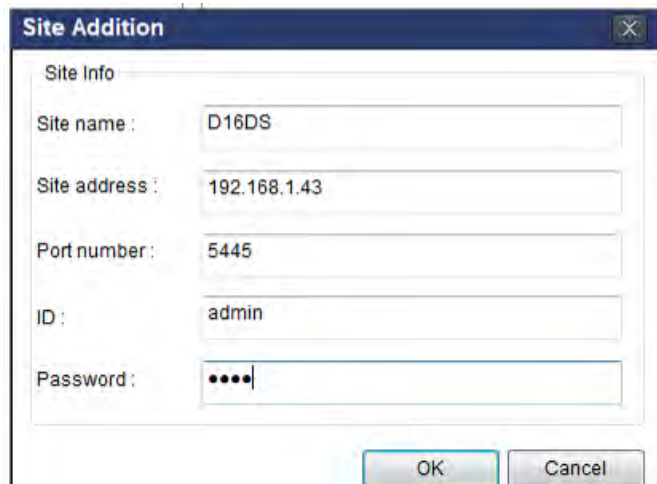


1. Install the network client software from the supplied CD.
2. Check the IP address from SETUP > SYSTEM > DESCRIPTION or SETUP>NETWORK of DVR.



3. Run the network client software.





**Site Addition**

Site Info

Site name : D16DS

Site address : 192.168.1.43

Port number : 5445

ID : admin

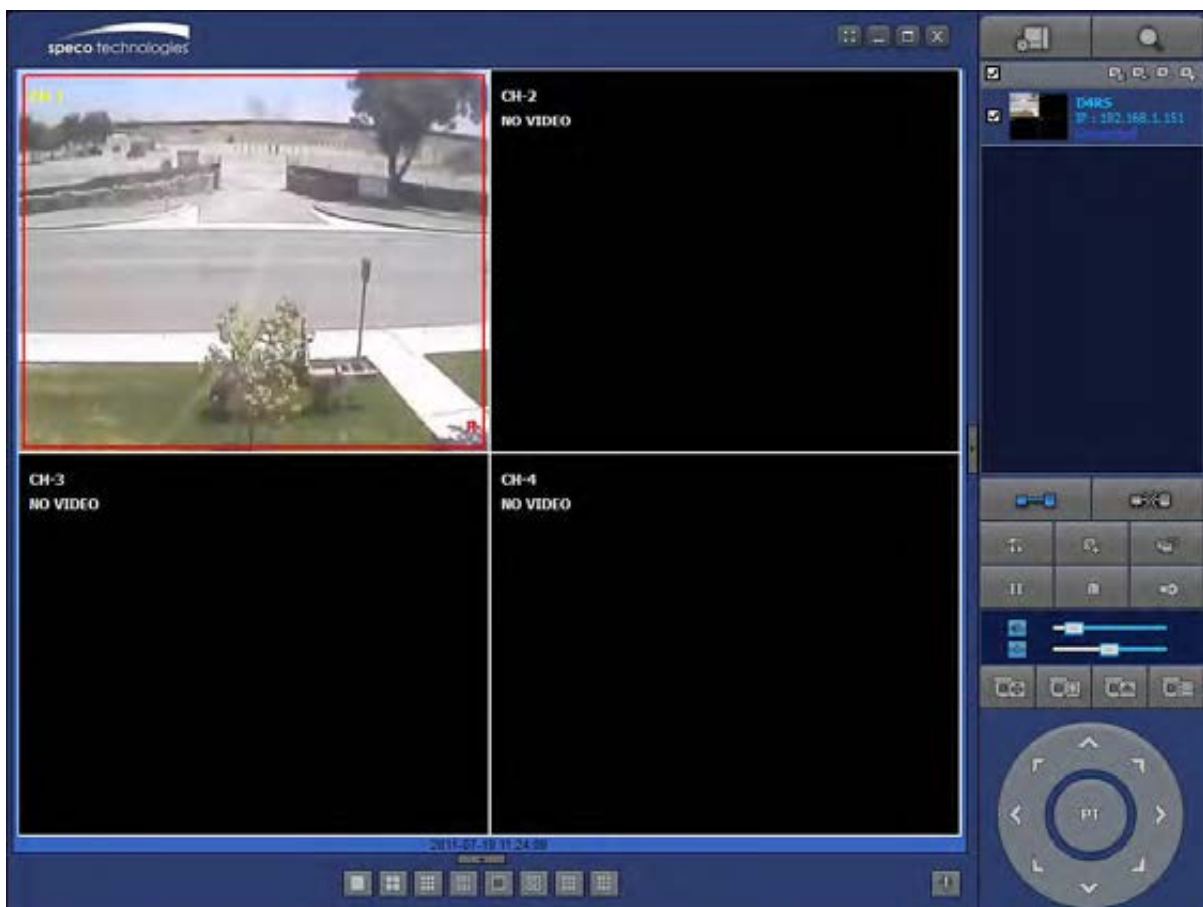
Password : ••••

OK Cancel

4. Input Site Name, Site Address (IP address), Port Number, and Password on the connect window.

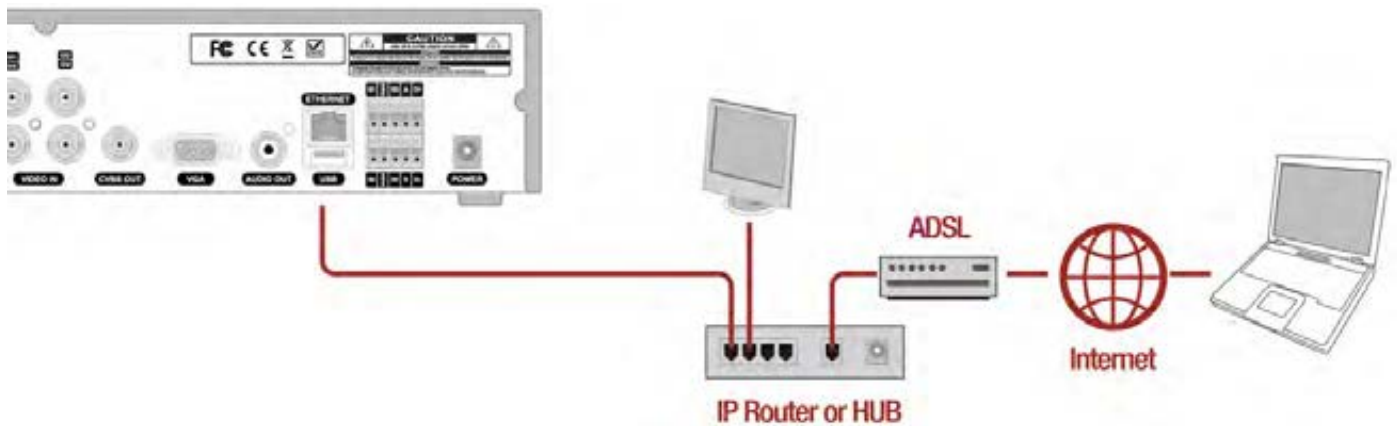
- **Site Name:** Input a name that properly describes a site.
- **IP Address:** Input IP address
- **Port Number:** Default Port Number is “5445”.
- **ID:** Input ID of DVR. Default ID is “admin”.
- **Password:** Input network password of DVR. Default Password is “1111”.

5. Select a site by checking the box, and Press  button to connect to the site.



## APPENDIX: Network Connection – Internet and DDNS

Dynamic Domain Name System (DDNS) allows a domain name to be constantly synchronized with a dynamic IP address. A current dynamic IP address is being associated with a static domain name.



1. Go to SETUP>NETWORK>DDNS and set the DDNS SERVER to ON.

HOST NAME	hostname
SUBMIT/UPDATE	OFF
ezDDNS	OFF
<b>APPLY</b> <b>CLOSE</b>	

If you set **ezDDNS** to ON, the host name is automatically generated and registered.

2. Go to SETUP>NETWORK>DDNS>HOST NAME. Manually enter a domain name using the virtual keyboard and click ENTER button.

HOST NAME	hostname														
~	1	2	3	4	5	6	7	8	9	0	-	=	←		
	q	w	e	r	t	y	u	i	o	p	[	]			
CAPS	a	s	d	f	g	h	j	k	l	;	'	ENTER			
SHIFT	z	x	c	v	b	n	m	,	.	/	SHIFT				
CLEAR		SPACE										CLOSE			



- When a manual host name is completed, Go to SETUP>NETWORK>DDNS>SUBMIT/UPDATE and select ON to submit the settings on the SPECO DDNS.

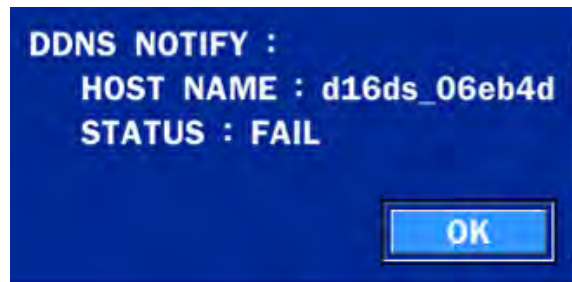
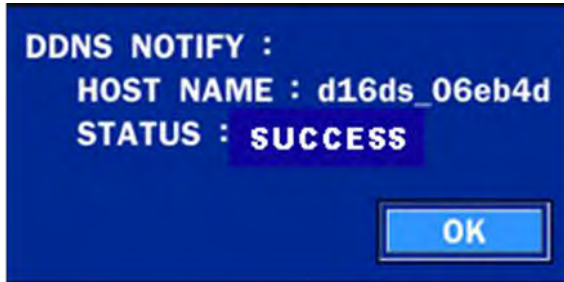
Once the setting is completed, the DDNS address will be:

<http://hostname.ddns.specoddns.net>

For example, if you enter the host name as "D16DS", then the address will be:

<http://d16ds.ddns.specoddns.net>

- When DDNS setting is done, click the APPLY button. Otherwise DDNS setting will not be applied.
- When you exit SETUP menu, DDNS NOTIFY window will pop up.



- DDNS registration status can be checked from SYSTEM INFORMATION or SETUP>SYSTEM>DESCRIPTION>DDNS STATUS



- Check the NETWORK PORT (Default: 5445), WEB PORT (Default: 80), and the IP Address of the DVR from SETUP>NETWORK.



NETWORK	
NETWORK TYPE	STATIC
IP	192.168.1.151
SUBNET MASK	255.255.255.0
GATEWAY	192.168.1.1
DNS (PRIMARY)	0.0.0.0
DNS (SECONDARY)	0.0.0.0
DDNS	OFF
NETWORK PORT	5445
NETWORK AUDIO PORT	5446
WEB PORT	80
NETWORK STREAM	---
WIRELESS LAN	OFF

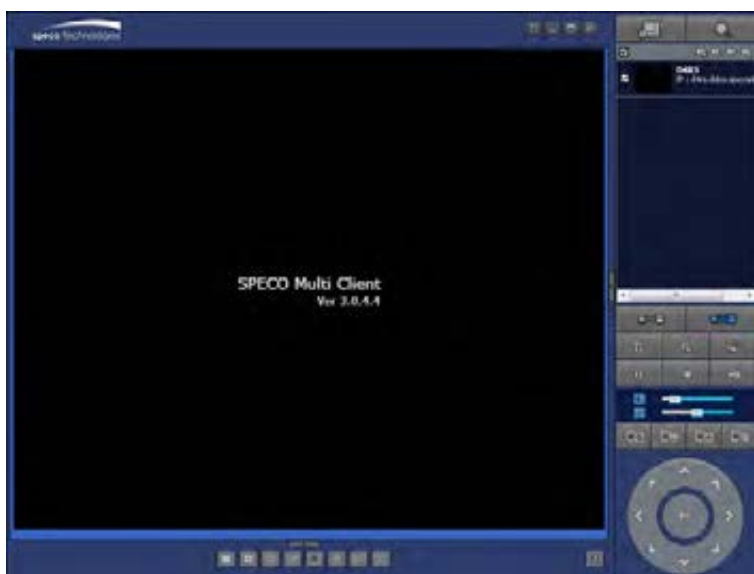
APPLY CANCEL

8. Port forward the NETWORK PORT (Default: 5445) and WEB PORT (Default: 80) of the private IP Address of the DVR on the network router.



Please refer to the user manual and guide for the detailed steps for port forwarding for specific router model.

6. Run the network client software.



Site Addition	
Site name :	D1608
Site address :	192.168.1.43
Port number :	5445
ID :	admin
Password :	****

OK Cancel

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

- **Site Name:** Input a name that properly describes a site.
- **IP Address:** Domain name or Public IP address of a router that DVR is connected.
- **Port Number:** Default Port Number is “5445”.
- **ID:** Input ID of DVR. Default ID is “admin”.
- **Password:** Input network password of DVR. Default Password is “1111”.

8. And select the OK button. Then, press  button after checking the left check box.



## APPENDIX: E-SATA CONNECTION



**Please read the following instructions before using the E-SATA port.  
Failure to do so may cause serious damage to the recorded video.  
SPECO is not responsible for data loss caused by improper usage.**

- Use **ONLY** a new HDD or a HDD that is approved for the unit.
- Turn off the DVR before plugging the E-SATA HDD.
- **DO NOT** disconnect the E-SATA port while the DVR power is on.
- The purpose of the E-SATA port is to extend recording capacity.
- Once connected, **DO NOT** remove or disconnect the E-SATA port from the DVR.
- The E-SATA port is does not support the hot swappable function.