

# **4CH H.264 Multiplex DVR**

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**User Manual**



This symbol is intended to alert the user to the presence of unprotected “Dangerous voltage” within the product’s enclosure that may be strong enough to cause a risk of electric shock.



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

## WARNING

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

**NOTE:** This equipment has been tested and found to comply with the limits for a class digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at ones own expense.



### **Disposal of Old Electrical & Electronic Equipment (Applicable in the European Union and other European countries with separate collection systems)**

This symbol on the product or on its packaging indicates that this product shall not be treated as household waste. Instead it shall be handed over to the applicable collection point for the recycling of electrical and electronic equipment. By ensuring this product is disposed of correctly, you will help prevent potential negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product. The recycling of materials will help to conserve natural resources. For more detailed information about recycling of this product, please contact your local city office, your household waste disposal service or the shop where you purchased the product.

**All the safety and operating instructions must be read before the unit is operated.**

- **Make sure to switch the power off before you install the DVR.**
- **There is the danger of an electric shock if the DVR is opened by an unqualified service engineer or installer.**
- **Avoid using the DVR outside of the reference temperature and humidity indicated in the specification.**
- **Avoid exposing the DVR to violent movement or vibration.**
- **Do not use or store the DVR in direct sunlight or near to any source of heat.**
- **Do not place any object into the holes used for air circulation.**
- **Always use the DVR in a well ventilated location to prevent overheating.**
- **Risk of explosion if battery is replaced by an incorrect type.**
- **Dispose of used batteries according to the instructions.**

## TABLE OF CONTENTS

Chapter 1 FEATURES .....	1
Chapter 2 MAIN MENU OPERATION .....	2
2.1 Quick Setup .....	2
2.2 Network Remote Instructions .....	4
2.3 Playback Mode .....	5
2.4 PTZ Mode .....	6
Chapter 3 INSTALLATION .....	8
3.1 System Configuration .....	8
3.2 Hard Disk Installation .....	9
Chapter 4 BASIC OPERATION and MENU SETUP .....	11
4.1 Main Menu Setup .....	11
4.2 Record Setup .....	12
4.3 Event Setup .....	14
4.4 Schedule Setup .....	17
4.5 Camera Setup .....	18
4.6 Account Setup .....	19
4.7 Network Setup .....	20
4.8 PTZ & RS-485 Setup .....	27
4.9 System Setup .....	28
4.10 Utility Setup .....	34
4.11 Diagnostic .....	35
Chapter 5 SEARCH & BACKUP .....	36
5.1 Search Setup .....	36
5.2 Backup Setup .....	39
Chapter 6 SPECIFICATION .....	40
Chapter 7 NETWORK SURVEILLANCE .....	42
7.1 Remote Connection .....	42
















The author assumes no responsibility for any errors or omissions that may appear in this document nor does the author make a commitment to update the information herein.















# Chapter 1 FEATURES

- Two USB ports (for mouse usage and backup).
- Dual streaming enhances the speed of network transmission
- Built-in VGA output up to 1024x768 resolution
- Individual setup of resolution, frame rate and video quality for each channel
- Still image snapshot
- AVI converter with time stamp
- H.264 compression ideal for saving HDD space
- Real time live display
- Live display, record, backup, playback and network access simultaneously
- Picture-in-picture monitoring and 2X to 8X digital zoom display
- Control Methods: front panel, USB mouse, IR remote controller, client viewer
- Intuitive GUI for easy configuration and menu driven operation
- Pan / Tilt / Zoom camera control
- Data backup: USB devices, network
- Event triggered with email notification: motion detection, alarm, video loss
- Supports Internet Explorer with same GUI as DVR site
- Multi-language OSD
- Central Management System (CMS)
- 3G/ GPRS mobile phone monitoring

# Chapter 2 MAIN MENU OPERATION

## 2.1 Quick Setup









Graphic Icons	
	<p>Resting the cursor on this icon will bring up the four (Main Menu/ Search/ Backup/ PTZ) menu icons.</p> <ul style="list-style-type: none"> <li> MAIN MENU.</li> <li> SEARCH SETUP.</li> <li> BACKUP.</li> <li> PTZ CONTROL.</li> </ul>
	<p>Turn On/Off recording.</p>
	<p>PLAYBACK</p>
	<p>Resting the cursor on this icon will bring up five (PAUSE/ PIP/ ZOOM/ AUTO SEQ/ LOCK) display icons.</p> <ul style="list-style-type: none"> <li> PAUSE, to pause LIVE image</li> <li> PIP, picture in picture</li> <li> ZOOM, zoom in / out the screen size</li> <li> AUTO-sequence</li> <li> LOCK, activate the key lock.</li> </ul>
	<p>Full screen display, multiple clicking to switch channels</p>
	<p>Quad display.</p>

GUI Hints and Tips	
	Recording is on
	Number represents the current selected LIVE audio channel
	Live Audio is off
	Motion detected on the channel
	Sensor triggered on the channel
	Video loss detected on the channel
	USB device detected
	DVR has been connected onto the Internet.
	AUTO-SEQ is on
	FREZZE is on, screen is frozen
	LOCK is on
	PTZ control is on
	Shows the current hard disk space used-up (99% means that the HDD space has been used up 99%, and the remaining HDD space is 1%)
	Current time which is used when providing the conversion of AVI files is shown on the bottom lower right of each DVR screen.

## 2.2 Network Remote Instructions










Same user and DVR-site interface, the only difference is network toolbar which is situated on the lower bottom right.



Icon	Description
 / 	Low Video Quality (LQ) High Video Quality (HQ) * Please refer to 4.7.2 HTTP setup
 / 	Full Screen
	Record
	Capture Image
	Record and captured files storage path settings
	Open / Close this tool bar









## 2.3 Playback Mode




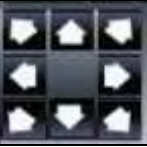



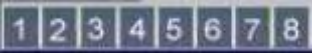

Playback – Quick Function Icon	
	Press 「◀◀ / ◀」 button to Fast Rewind Speed : 2x, 4x, 8x, 16x, 32x, 64x
	Press 「▶▶ / ▶」 button to Fast Forward Speed : 2x, 4x, 8x, 16x, 32x, 64x
	Press 「PLAY」 / 「  」 button to Play/ Pause Playback
	「▲ / SLOW」 slow playback Speed : 1/2x, 1/4x, 1/8x, 1/16x
	「▼ / ■」 stop playback Speed : 1/2x, 1/4x, 1/8x, 1/16x
	Playback channel by channel with snap shot display
	Full screen display
	Quad display
	Zoom in video image

## 2.4 PTZ Mode

PTZ – Remote Controller Control	
▲ / SLOW	Move PTZ up.
▼ / ■	Move PTZ down.
◀◀ / ◀	Move PTZ to the left.
▶▶ / ▶	Move PTZ to the right.
ZOOM +	PTZ zoom-in.
ZOOM -	PTZ zoom-out.
FOCUS +	PTZ focus-in.
FOCUS -	PTZ focus-out.
IRIS +	PTZ iris-open.
IRIS -	PTZ iris-close.
TOUR	Activate PTZ pre-set tour. *
PRESET + NUMBER	To save a preset location Press PRESET and a number key. DVR will save the current location.
PLAY + NUMBER	To go to a preset location Press PLAY and a number key. DVR will move to the preset location.
ZOOM	Set current PTZ location as the start of the line-scan. *
PIP	Set current PTZ location as the start of the line-scan. *
FREEZE	Activate line-scan. *

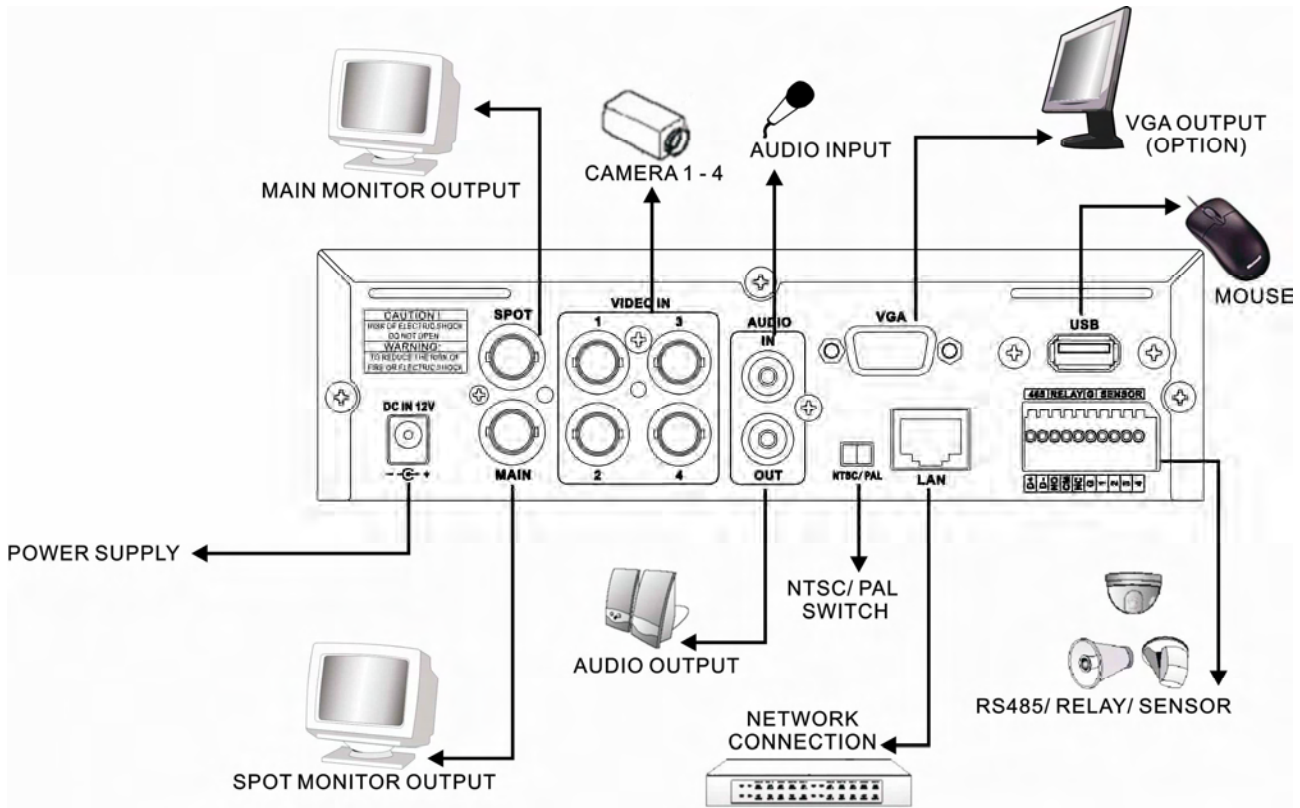
\*: Different brands of PTZ protocol sometimes may not be 100% compatible with each other. Therefore, these functions may not be applicable.

PTZ – Quick Function Icon	
	
	Exit PTZ Mode and back to the LIVE mode
	Preset number N. (1~64)
	Go to preset number N.
	Set current PTZ location at preset number N.
	[TOUR] icon, click to activate preset tour

	Same as [PIP]. Set current PTZ location as the starting point of the line-scan.
	Same as [FREEZE]. Activate line-scan.
	Same as [ZOOM]. Set current PTZ location as the ending point of the line-scan.
	To move PTZ in 360°
	PTZ zoom in or PTZ zoom out.
	PTZ focus in or PTZ focus out.
	PTZ IRIS open or PTZ IRIS closes.
Below functions needs support from specific PTZ. Please check the user manual of your PTZ manufacturer for detail.	
	AUX 1~8. [AUTO] + 「1」 ~ + 「8」
	[Backup] icon, click to customized function.

# Chapter 3 INSTALLATION

## 3.1 System Configuration



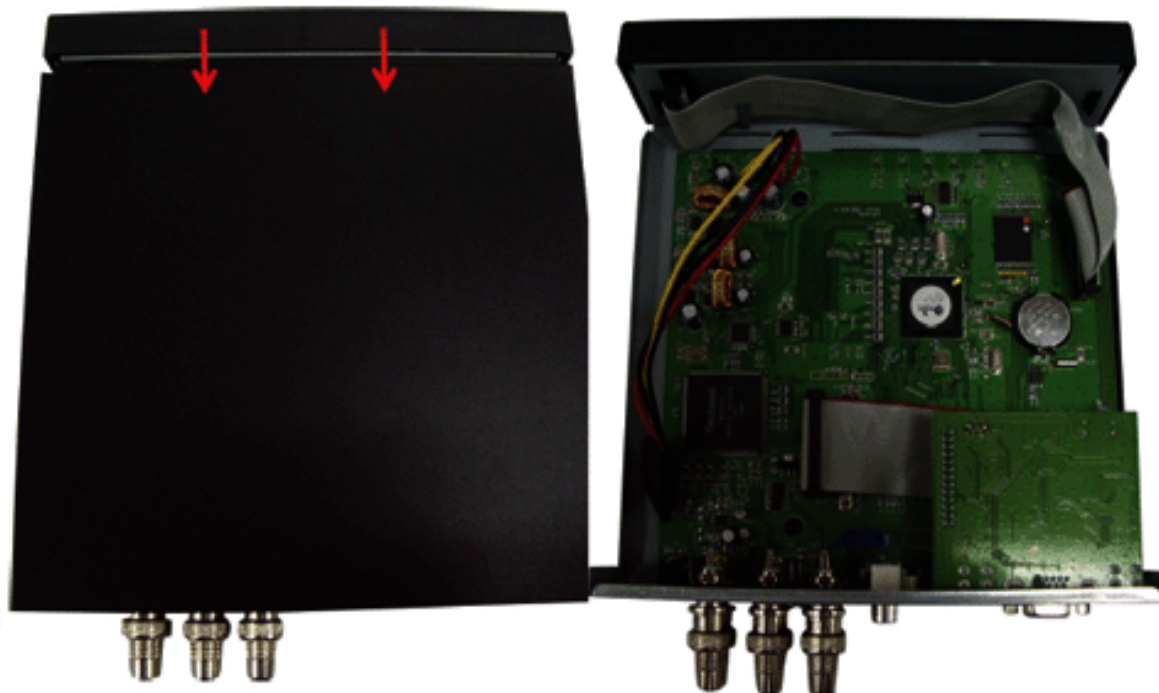
## 3.2 Hard Disk Installation

Step 1: Remove the 3 screws from DVR as cycled below (PIC 1).



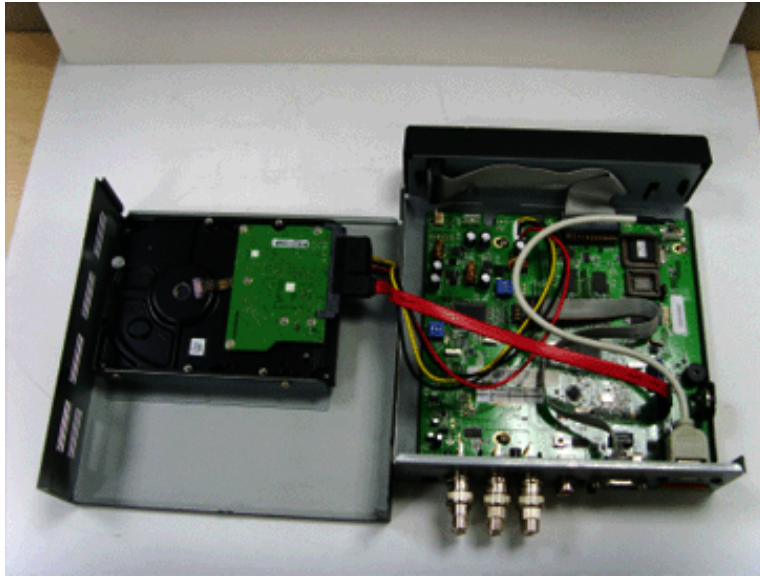
(PIC 1)

Step 2: Remove the front cover from DVR as indicated by the arrow (PIC 2).



(PIC 2)

Step 3: Place the HDD on the HDD plate and connect the power and the SATA cables (PIC 3).



(PIC 3)

Step 4: Screw the bottom of the DVR as indicated as cycled (PIC 4).



(PIC 4)

# Chapter 4 BASIC OPERATION and MENU SETUP

## 4.1 Main Menu Setup



To enter the main menu and setup the DVR, please log-in account and enter user password. The default password of the administrator is “123456”. Please refer to “Account Setup” for related setup of other log-in users.

Main Menu – Mouse Control (Right mouse click to enter Quick Setup Menu)	
	Switch between capital and small letters.
	Switch between numbers and letters.
	Press to cancel the setup, and re-choose the login account.
	Delete the last character.
	Enter to identify the password. It will enter the setup menu if the password is verified.
	Space key



**Main Menu – Remote Control ler and Front Pannel Control  
(Click MENU button to enter Quick Setup Menu )**

◀ ▶	Switch to different options under one item
▲ ▼	Switch to different items
MENU	Press to confirm setup (OK)
ESC	Press to cancel setup (CANCEL)
ENTER	Enter the menu, or display virtual keyboard

## 4.2 Record Setup





Item	Description
HDD FULL	Select STOP to stop recording or OVERWRITE to reuse the HDD when HDD is full. <b>[Stop]</b> : Stop Recording <b>[Overwrite]</b> : Start to overwrite beginning from the oldest data of HDD, and continue to record.
OSD Position X	Set time stamp of OSD position X
OSD Position Y	Set time stamp of OSD position Y
OSD Position Setup	OSD position time stamp setup
Video Preservation (Hours)	Information stored within the HDD is preserved for only a specified length of time.
Quality & Frame Rate Setup...	Setup the quality and frame rate for each channel under normal recording and event recording type.



Item	Description
<b>View Normal / View Event</b>	Setup resolution, quality and FPS separately for different record type.
<b>No.</b>	Check/ Uncheck the box will enable/ disable recording of that channel.
<b>Resolution</b>	Choose record resolution, this value will be used by each channel.
<b>Quality</b>	Choose from Below Basic / Basic/ Normal/ High/ Highest.
<b>FPS</b>	Choose recording frame rate (1~30).
<b>Auto</b>	The maximum recording frames available by the average distribution of each channel.

## 4.3 Event Setup



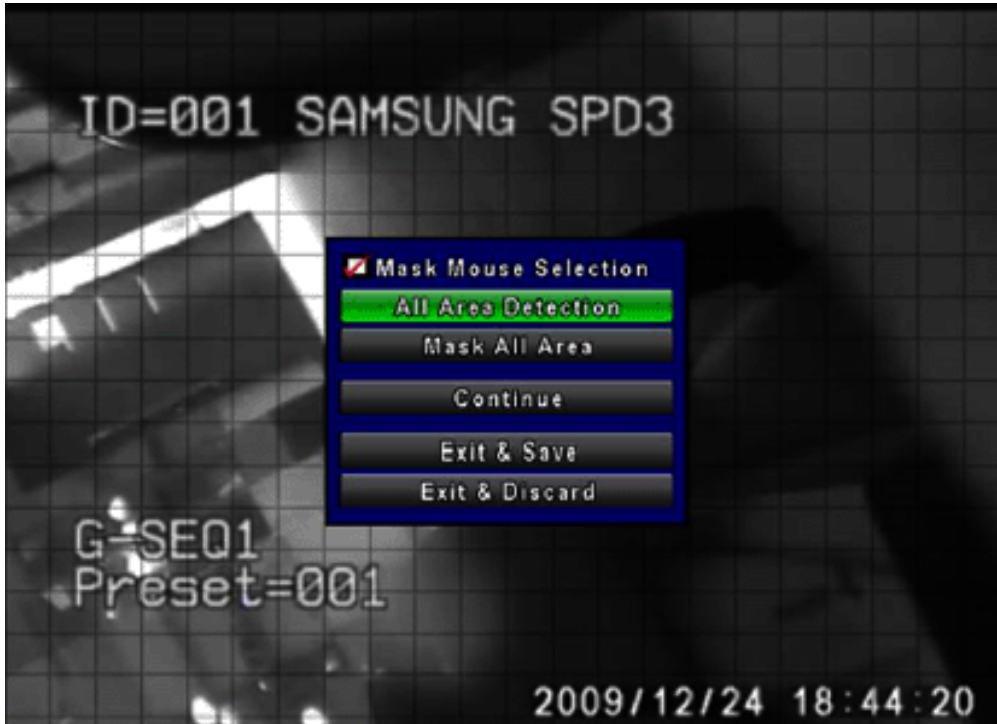
Item	Description
Motion Setup	Enter to set up motion detection
Sensor Setup	Enter to set up sensor detection

### 4.3.1 Motion Setup



Item	Description
<b>Alarm Duration(Seconds)</b>	Alarm duration time (1~60 seconds).
<b>Motion Popup</b>	Check the box to Enable/ Disable popup screen function for all channels. When motion is detected in LIVE mode, the detected channel image will popup in full screen display.
<b>Enable</b>	Check the box to Enable/ Disable motion detection for each channel.
<b>Sensitivity</b>	Drag the bar or press ◀▶ to set up Sensitivity from value 0 to 10 for each channel. The lower value you set the higher sensitivity it will be
<b>Motion Area Setup</b>	Enter to setup motion detection area

#### 4.3.1.1 Motion Area Setup



There are partitions in motion detection area. Under initializing status, motion detection area is in the entire screen. Red colored area is undetected; yet the detected area is transparent.

Item	Description
<b>Mask Mouse Selection</b>	Select to mask the mouse selected area.
<b>All Area Detection</b>	Select all the images as motion detection area.
<b>Mask All Area</b>	Cancel all motion detection images on the screen.
<b>Continue</b>	Continue setup.
<b>Exit &amp; Save</b>	Save setup and exit setup page.
<b>Exit &amp; Discard</b>	Cancel setup and exit setup page.

### 4.3.2 Sensor Setup



Item	Description
<b>Alarm Duration(Seconds)</b>	Alarm duration time (1~60 seconds).
<b>Sensor Popup</b>	Check the box to Enable/Disable popup screen function for all channels. When Sensor is detected in LIVE mode, the detected channel image will pop up in full screen display.
<b>Sensor Polarity</b>	Click or press ▼ to select between HIGH/ LOW voltage for triggering sensor detection or OFF to turn off polarity for each channel <b>Low</b> Polarity : Sensor has not been triggered. When connected, sensor will be turned on (N.O.→N.C.). <b>High</b> Polarity : Sensor has been triggered. When connected, sensor status will be turned off (N.C.→N.O.). <b>Off</b> : Sensor is deactivated, and will not be turned on/off.
<b>All off</b>	Set all sensors polarity to off.
<b>All Low</b>	Set all sensors polarity to low level.
<b>All High</b>	Set all sensors polarity to high level.

## 4.4 Schedule Setup



Apart from manual recording, you can also setup the recording time by weeks and schedule recordings include: normal, motion detection, and sensor detection.

Item	Description
Page	Click or press ▼ to select Page. Each page provides 10 schedules for setup. 5 pages in total.
Holiday Setup	Enter to setup holiday, maximum up to 50 days.
View Event Setup	View Normal/ Motion / Sensor Setup.

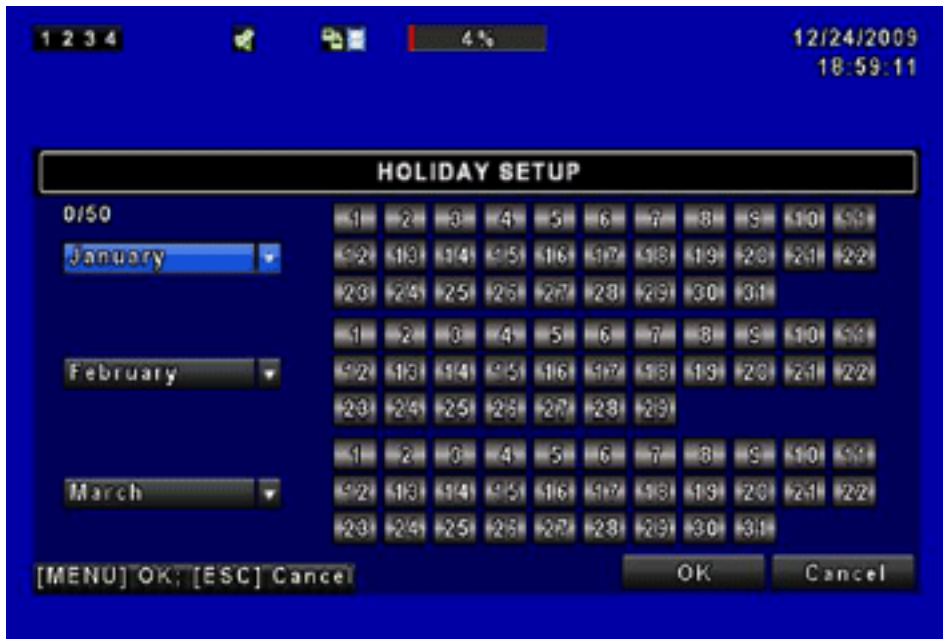
### 4.4.1 Schdule Record Setup



Click on the time icon on the left side. The setup menu will be displayed. You can have detail setup by dates, time and event.

Item	Description
Enable Schedule Record	Enables schedule recording according to the time schedule (shown below).
Enable Schedule Motion Detect	Enables schedule motion detection recording according to the time schedule (shown below).
Enable Schedule Sensor Trigger	Enables schedule sensor trigger recording according to the time schedule (shown below).

#### 4.4.2 Holiday Setup



Since holidays are different between countries and regions, you can setup the holiday of your location accordingly (Maximum Setup: 50).

#### 4.5 Camera Setup



Item	Description
Mask	Check the box to Enable/ Disable mask function for LIVE mode
Sharpness	Drag the white bar or press ◀▶ to adjust Sharpness of your camera from value 0 to 15. The default value is 1.
Brightness	Drag the white bar or press ◀▶ to adjust Brightness of your camera from value 0 to 255. The default value is 128.
Contrast	Drag the white bar or press ◀▶ to adjust Contrast of your camera from value 0 to 255. The default value is 100.
Chroma (U)	Drag the white bar or press ◀▶ to adjust Chroma (U) of your camera from value 0 to 255. The default value is 150.
Chroma (V)	Drag the white bar or press ◀▶ to adjust Chroma (V) of your camera from value 0 to 255. The default value is 150.
Hue	Drag the white bar or press ◀▶ to adjust Hue of your camera from value 0 to 255. The default value is 150. <b>(This function is ineffective in PAL system).</b>
Name	Set up name of each channel.
Volume	Select to adjust audio volume under LIVE mode and recording mode.

## 4.6 Account Setup



The Account Setup menu is used to provide role-based permission independently for each user (maximum of 4 users) to access the DVR over network. The default admin account is [admin] and password is “123456”.

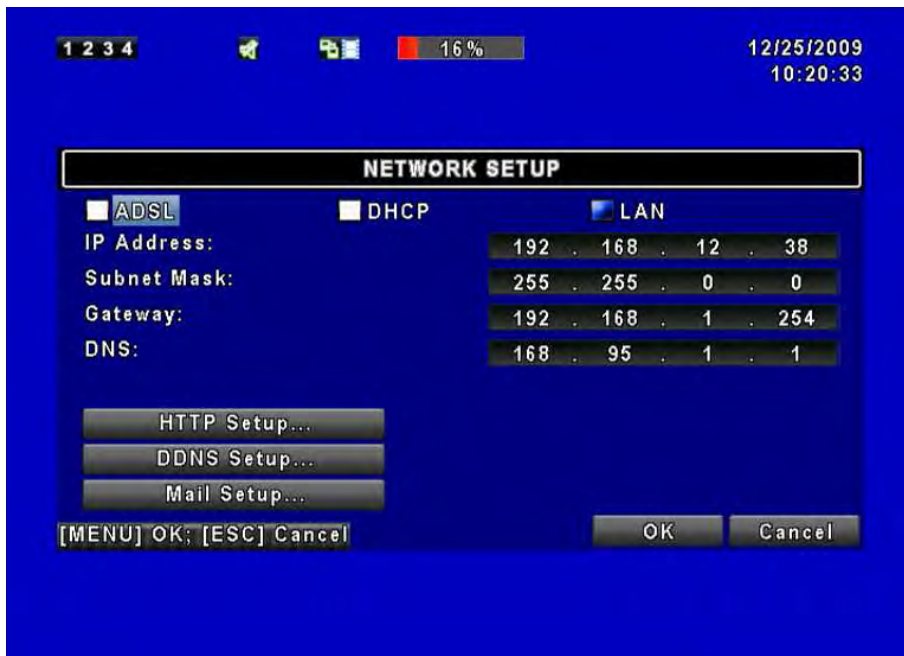
Item	Description
No.	Check to activate the user's account.
User Name	Edit the user name.
Password	Enter to set up password for each user.
Permissions	Enter to setup Permissions for each user.
Change	Change the ICON with a selected BMP file.
Change Admin Password	Enter to change administrator's password.

### 4.6.1 Permission Setup



The Account Setup is set to provide individual user (maximum of 4 users) role-based permissions, including access to Setup menu, Network operation, PTZ function, Playback, Utility, Backup and Mask on specific channels while playing back.

### 4.7 Network Setup





Item	Description
<b>Connect type</b>	Setup mode for network connection: <b>ADSL</b> 、 <b>DHCP</b> 、 <b>LAN</b> .
<b>HTTP Setup</b>	Enter to set up HTTP for remote access into DVR.
<b>DDNS Setup</b>	Enter to Enable/ Disable DDNS function and set up.
<b>Mail Setup</b>	Enter to Enable/ Disable Email notification and setup.

### 4.7.1 Networking Setup

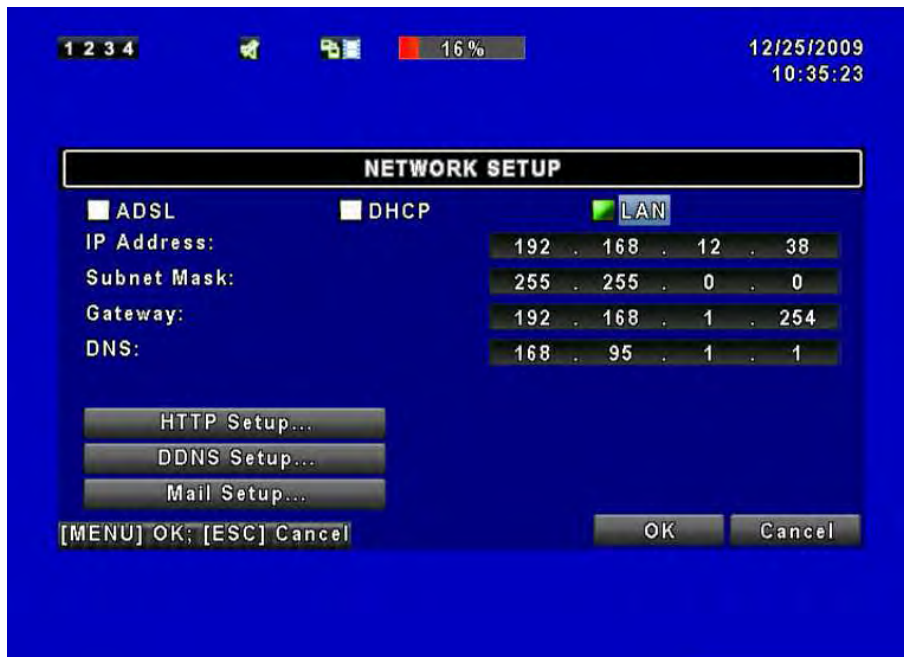
The DVR supports DHCP, LAN and ADSL access for network connection.

#### 4.7.1.1 DHCP



If the DHCP option is used for DVR network connection, an IP address is assigned by the DHCP server automatically.

#### 4.7.1.2 LAN



Select LAN for network connection, the following information is required.

Item	Description
<b>IP Address</b>	Enter IP address provided by ISP
<b>Subnet Mask</b>	Enter IP address of Subnet Mask provided by ISP
<b>Gateway</b>	Enter IP address of Gate way provided by ISP
<b>DNS</b>	Enter DNS address provided by ISP. (Note: The correct DNS address must be entered for DDNS function).

### 4.7.1.3 ADSL

Select ADSL for network connection, the following information is required.



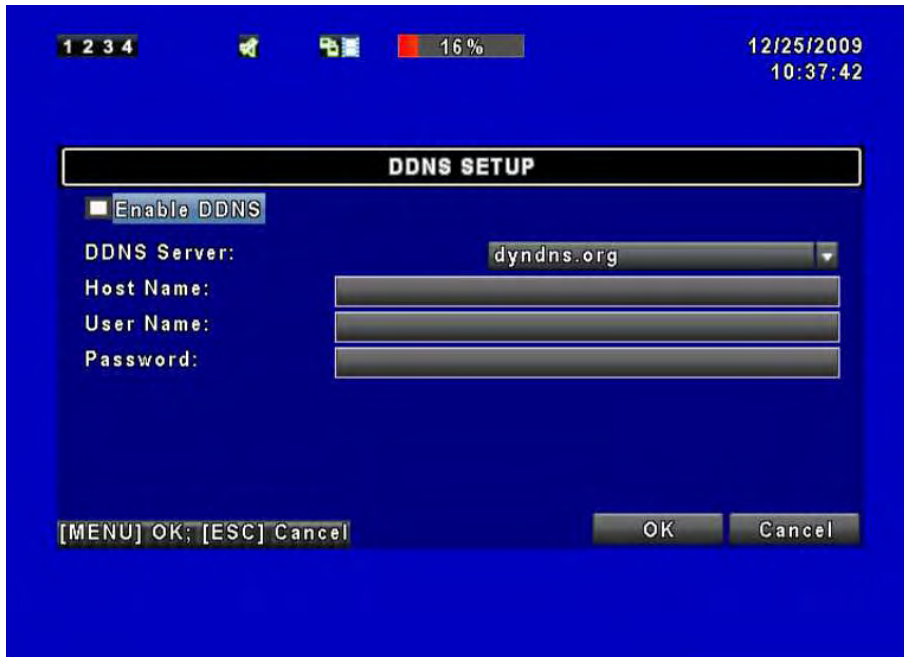
Item	Description
User Name	Enter user name provided by ISP
Password	Enter password provided by ISP

## 4.7.2 HTTP Setup



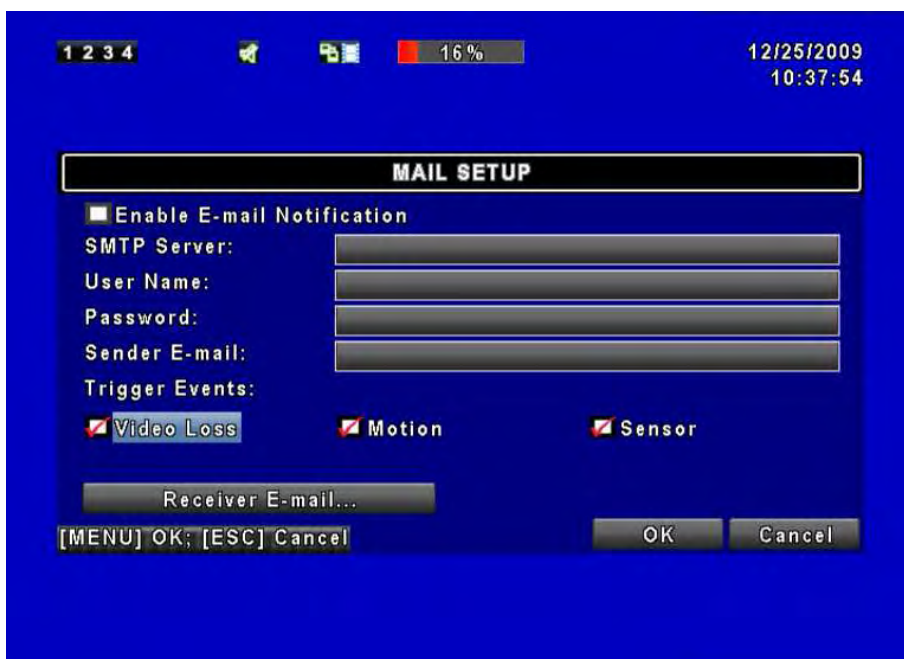
Item	Description
<b>Enable HTTP Server</b>	Check to enable HTTP server. Users can remotely access into the DVR over the network if the HTTP function is activated.
<b>Port</b>	Enter a valid port value from 1 up to 65535. The default value is 80.
<b>Quality and Frame Rate Setup for Network Transmission</b>	
<b>No.</b>	Check to activate the transmission of each camera.
<b>Quality</b>	Choose from Below Basic / Basic/ Normal/ High/ Highest.
<b>FPS</b>	Choose recording frame rate (1~30FPS).
<b>Auto</b>	The maximum recording frames available by the average distribution of each channel (totally 60FPS).
<p>This video streaming is used for network transmission; setting is LQ (low quality). Under a low bandwidth capacity, this stream can send out small picture and keep a good video quality and smooth display rate. If the bandwidth is large enough, it can be adjusted to HQ (high quality). Thus, the network streaming will be switched to the condition which this DVR is recording. Therefore, a larger video image can be sent to remote site.</p>	

### 4.7.3 DDNS Setup



Item	Description
Enable DDNS	Check/ Uncheck to Enable/ Disable DDNS function.
DDNS Server	Select the DDNS Server wanted.
Host Name	Enter the registered hostname.
User Name	Enter user name.
Password	Enter password.

### 4.7.4 Mail Setup





E-mail can be used as a form of notification when an event occurs (VLOSS, MOTION, and SENSOR).

Item	Description
<b>Enable E-mail Notification</b>	Check the box to enable/disable E-mail Notification function.
<b>SMTP Server</b>	Enter to set up SMTP Server name.
<b>User Name</b>	Enter to set up User Name.
<b>Password</b>	Enter to set up Password.
<b>Sender E-mail</b>	Enter to set up e-mail address of sender.
<b>Trigger Event</b>	Enter to select events to send out E-mail notifications when below circumstances happen: Motion, Sensor and Vloss (Video Loss).
<b>Receiver E-mail</b>	Enter to set up e-mail addresses for up to 10 receivers individually.

## 4.8 PTZ & RS-485 Setup



The DVR allows users to control PTZ functions of your camera. To enable PTZ function, the 485 cable should be connected to the RS-485 port of DVR.

Item	Description
<b>Enable PTZ</b>	Click the box to Enable/Disable PTZ function for each channel.
<b>Protocol</b>	Set up the protocol of PTZ cam.
<b>PTZ ID</b>	Click or press ◀ ▶ to set up PTZ ID. The valid ID value is from 1 to 64.
<b>Baud Rate</b>	Select Baud Rate for PTZ from 2400 、 4800 、 9600 、 19200
<b>RS-485 ID</b>	Reserved.
<b>RS-485 Baud Rate</b>	
<b>Keyboard</b>	

## 4.9 System Setup



Item	Description												
<b>DVR Name</b>	The name of DVR will be shown when users login from remote access.												
<b>DVR Location</b>	The location of DVR will be shown when users login from remote access												
<b>Language</b>	Click or press ▼ to select OSD language.												
<b>Auto-Seq Interval (Seconds)</b>	Click or press ◀ ▶ to set up duration time in seconds for the interval between channels under Auto-Seq mode.												
<b>Remote ID</b>	Preserved Function.												
<b>Auto Lock</b>	After one minute without any action, the DVR will switch to <i>LIVE</i> mode automatically. Auto lock can function differently according to the setting below. Button automatically Auto Lock: The front panel function keys are ineffective only until using the mouse and please re-enter the password again.												
	<table border="1"> <thead> <tr> <th>Setting \ Function</th> <th>Auto Logout</th> <th>Key Lock</th> </tr> </thead> <tbody> <tr> <td>Key lock</td> <td>○</td> <td>○</td> </tr> <tr> <td>Key unlock</td> <td>○</td> <td>✕</td> </tr> <tr> <td>Disable</td> <td>✕</td> <td>✕</td> </tr> </tbody> </table>	Setting \ Function	Auto Logout	Key Lock	Key lock	○	○	Key unlock	○	✕	Disable	✕	✕
	Setting \ Function	Auto Logout	Key Lock										
	Key lock	○	○										
Key unlock	○	✕											
Disable	✕	✕											
<b>Display Setup</b>	Enter to set up Display												
<b>Date/Time Setup</b>	Enter to set up Date/Time												
<b>Buzzer &amp; Relay Setup</b>	Enter to set up Buzzer & Relay												
<b>Spot Setup</b>	Enter to set up Spot												



## 4.9.1 Display Setup



Item	Description
<b>Auto-Seq Interval (Seconds)</b>	Click or press ◀ ▶ to set up duration time in seconds for the interval between channels under Auto-Seq mode (1~999 seconds).
<b>Show OSD</b>	Turn On / Off OSD display
<b>Show DVR Status</b>	Turn On / Off DVR illustration and record status display
<b>Show Date/Time</b>	Turn On / Off date and time display
<b>Show Channel Name</b>	Turn On / Off channel name display
<b>CRT</b>	Make the display more suitable for CRT monitor.
<b>Border Color</b>	Set up the color of border in LIVE , PLAYBACK mode. ( black, dark grey, light grey, and white )

## 4.9.2 Date/ Time Setup



Item	Description
Hour Format	12HOURS/ 24HOURS
Date Format	MM-DD-YY/DD-MM-YY/YY-MM-DD
Date/Time Position	Choose the position of Time and Date display
Change Date & Time	Setup time and date of DVR
Time Zone Setup	Set up GMT and Daylight Saving Time.
Internet Time Setup	Setup automatic synchronization with internet server

### 4.9.2.1 Change Date & Time

Users are allowed to setup date and time of the DVR.



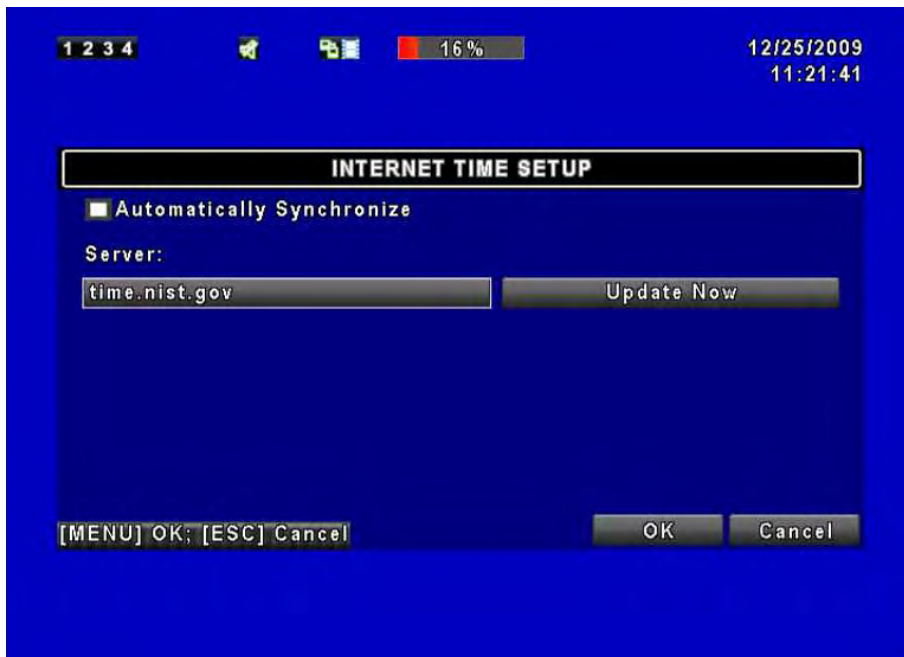
### 4.9.2.2 Time Zone Setup



In time zone setup, users can change the time zone and activate Daylight Saving Time function according to your DVR location.

Item	Description
Select Time Zone	Enter to modify GMT from GMT- 13 to GMT+ 13
Daylight Saving Time	Turn On/ Off Daylight Saving Time

### 4.9.2.3 Internet Time Setup



Synchronize your DVR time with internet time server.

Item	Description
<b>Automatic Synchronization</b>	Check to enable DVR automatic synchronization function. Select this option to enable the function, DVR will automatically synchronize the time upon rebooting or by every 24 hours after booting.
<b>Update Now</b>	Date and Time show on DVR will immediately correspond with those in internet server.

### 4.9.3 Device Setup



Item	Description
Mouse Speed	Adjust the mouse moving speed
Buzzer & Relay Setup	
Key Tone	Enable/ Disable keystrokes.
ALARM BUZZER	Enable/ Disable buzzer operation when the alarm is triggered for HDD error, sensor, motion and vloss (Video Loss).
ALARM RELAY	Enable/ Disable the signal to be sent to the RELAY OUT blocks when the alarm is triggered for HDD error, sensor, motion and vloss.

#### 4.9.4 Spot Setup



The DVR has two modes of video output; one is the main video output, the other is spot video output. SPOT setup is for controlling orders of channels that the system cycles through in SPOT mode. User can monitor every channel in the SPOT mode.

Item	Description
Auto-Seq. Interval (Seconds)	The duration interval time between channels is in seconds under SPOT mode (1~999 seconds).
Skip Video Loss Channel	Whether to skip channels without video signal.
Channels	Select which channels will be displayed in the sequence.

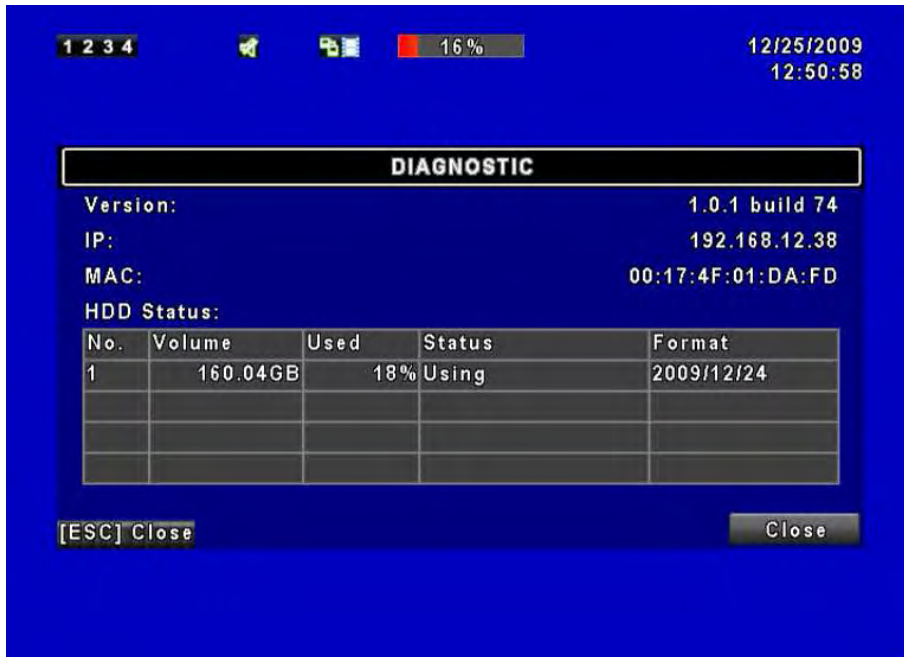
## 4.10 Utility Setup



Item	Description
<b>HDD Initialization</b>	Select to enter hard disk initialization menu. <b>Please stop recording before entering this menu.</b> Enter the menu, system will show all the data (model/ volume) of HDD that is installed in the DVR. Check the HDD you'd like to initialize, then press "Start". HDD initialization is successful when the status shows "Succeed".
<b>USB Initialization</b>	Clean up all data on USB. Enter USB initialization and press "YES" to clean up all data on your USB. The initialization is done when it shows "Succeed".
<b>System Recovery</b>	Restore system default values.
<b>Reset System Events</b>	Reset all the recording events in the DVR.
<b>Copy Setup to USB</b>	Copy configuration to a USB device. There will be a file named "sdvr.config" on your USB.
<b>Download Setup from USB</b>	Download configuration from a USB device into DVR.
<b>Upgrade</b>	Upgrade DVR through USB. Please stop recording and backup setup configuration before upgrading. <b>System will reboot automatically when the upgrade is completed.</b>

**NOTE ! DO NOT TURN OFF POWER OR UNPLUG USB DEVICE DURING THE UPGRADE as it may cause incomplete firmware upgrade and damage to the DVR.**

## 4.11 Diagnostic



Item	Description
<b>Version</b>	The current firmware version of DVR
<b>IP Address</b>	The connected IP address of DVR. If disconnected from network, the screen will display "NETWORK DISCONNECT".
<b>MAC Address</b>	MAC Address of DVR
<b>HDD Volume</b>	The capacity of HDD
<b>HDD Used Rate</b>	Percentage of space used on HDD.
<b>HDD Status</b>	Shows HDD status. <b>USING</b> means the HDD is now used for recording. <b>GOOD/ BAD</b> means the HDD has a known/ unknown format for the DVR. (Note: Please initialize your newly-installed HDD before using it, otherwise it can be recognized as BAD by the DVR).
<b>Format Time</b>	The latest format time of HDD

# Chapter 5 SEARCH & BACKUP

## 5.1 Search Setup




Item	Description
Event Search	Press to enter event search menu.
Time Search	Press to enter time search menu.

### 5.1.1 Event Search





The DVR automatically records events with type, time and channel information included. If there is recording data for an event, a yellow signal  icon will be shown on the left side of time information. Rest your cursor under the line and press “enter”, or left click your mouse to playback the recording data.

Item	Description
<b>Criteria</b>	Setup conditions of the event search function
<b>Page</b>	Convert pages of events
<b>Date/Time</b>	Date/ time when the event occurred.
<b>Event Type</b>	Event type, defined as following: <b>Motion</b> : Motion Detected <b>Sensor</b> : Sensor Detected <b>Video Loss</b> : Video Loss <b>Remote Login</b> : User log-in over the network <b>Remote Logout</b> : User log-out over the network <b>Power On</b> : System Rebooting <b>HDD Full</b> : HDD is FULL <b>HDD Error</b> : HDD is error <b>Reboot</b> : System reboot
<b>Channel</b>	The channel where the event occurred.

### 5.1.1.1 Criteria Setup for Event Search



The amount of events can be numerous. Therefore, you can facilitate event sorting by setting up “criteria”. Setup “start time” and “end time” for each event search, then the search result will be limited to this specific period of time. Only events and channels that are  checked will be sorted in event search as well.

### 5.1.2 Time Search



TIME SEARCH, you can search for a specific time of the recording data to playback. Dates with recording are shown by data marked with a red square [ □ ]. System will start playing back according to the date that you've selected. Calendar will be shown by using mouse to click on “year” and “month”.



Click “date” to display recording time of that specific date with time bar. You can change time (hour/ minute/ second) or click on a specific time of time bar by mouse then press “YES”. DVR will playback the selected recording data.

## 5.2 Backup Setup

User can back-up any segment of recorded data in a specified time frame. To do so, connect a USB flash driver to the DVR. The format of backup file is *IRF* file and a file player is also saved in the USB driver.



Item	Description
<b>From</b>	Backup file starting time
<b>To</b>	Backup file ending time
<b>Device</b>	Select USB as the backup device (From remote site, the device will be PC.)
<b>Free Space</b>	The available space in your backup device
<b>Refresh</b>	Recalculate the available space of backup device
<b>Required Space</b>	Calculate the required size of backup file
<b>Calculate</b>	Calculate the size of backup file
<b>Start</b>	Start backup operation. <b>Be sure to calculate the size of backup file BEFORE operating backup.</b>

**NOTE !** Do not unplug the USB device or turn off the DVR during the backup process to avoid unrecoverable error. When backup is completed, you need to re-plug in order to insure proper function.

# Chapter 6 SPECIFICATION

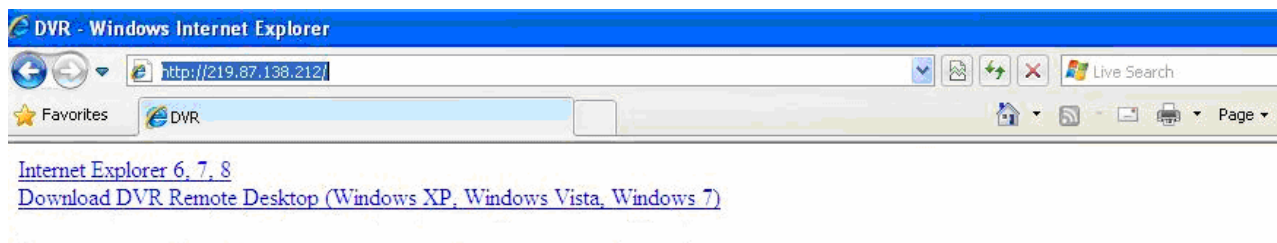
I/O	
Video System	NTSC / PAL switch
Video Input	4CH BNC
Video Input Level	1.0 Vp-p Composite, 75 Ohm Balanced
Video Output	1CH BNC
SPOT Output	1CH BNC
VGA Output	1024x768
Audio Input	1CH RCA
Audio Input Level	0.5~1.4 Vp-p @ 20K Ohm
Audio Output	1CH RCA
Audio Backup	YES
Sensor	4 input / 1 output
RS-485	Pan / Tilt / Zoom camera
USB Port	2 ports
Mouse	USB mouse
IR Remote Controller	YES
STORAGE	
HDD Support	SATA HDD x1 (Max. 1TB each)
OSD	
Display Division	1,4
GUI	YES
Title	14 characters
PIP	YES
Digital Zoom	2X ~ 8X
RECORDING	
Video Compression	H.264
Audio Compression	ADPCM
Resolution	720x480, 720x240, 360x240 (NTSC) 720x576, 720x288, 360x288 (PAL)
Frame Rate	60, 120, 120 (NTSC) 50, 100, 100 (PAL)
Quality	Highest, High, Normal, Basic, Below Basic
Record Mode	Manual, Schedule, Event(motion detection/sensor)
Pre-Alarm Recording	16MB (10 sec)

<b>Post-Alarm Recording</b>	1-60 sec
<b>Motion Detection</b>	22X18 (sensitivity 0~10)
<b>PLAYBACK</b>	
<b>Search Mode</b>	Time, Event
<b>Playback Speed</b>	fast forward/backward 2X/4X/8X/16X/32X/64X slow forward/backward 1/2X,1/4X,1/8X,1/16X play/pause
<b>Backup Mode</b>	USB flash driver / Network
<b>NETWORK</b>	
<b>Network Compression</b>	H.264
<b>Software</b>	YES
<b>Internet Explorer</b>	YES
<b>CMS</b>	YES
<b>3G Mobile Phone</b>	Support
<b>Network Users</b>	5
<b>Remote Notification</b>	Email message
<b>Service</b>	TCP/IP, SMTP, DHCP, DDNS, PPPoE
<b>OTHER</b>	
<b>Daylight Saving</b>	YES
<b>Password</b>	5 users including 1 administrator user authority selectable
<b>Event List</b>	10000
<b>Log List</b>	10000
<b>Watchdog</b>	software watchdog
<b>Recovery</b>	Auto-Reboot
<b>Key Lock</b>	YES
<b>Firmware Update</b>	USB device
<b>Dimension</b>	188mm (W) x 54mm (H) x 209mm (D)
<b>Power Source</b>	DC12V
<b>Operating Environment</b>	30 ~ 80% RH, 5°C ~ 40°C (41°F ~ 104°F)

# Chapter 7 NETWORK SURVEILLANCE

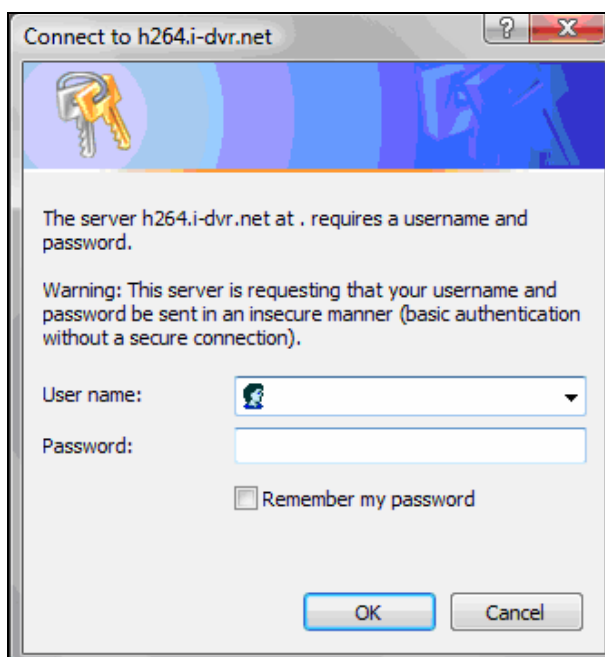
## 7.1 Remote Connection

**Step 1 :** Enter the IP address of the DVR in the IE browser.

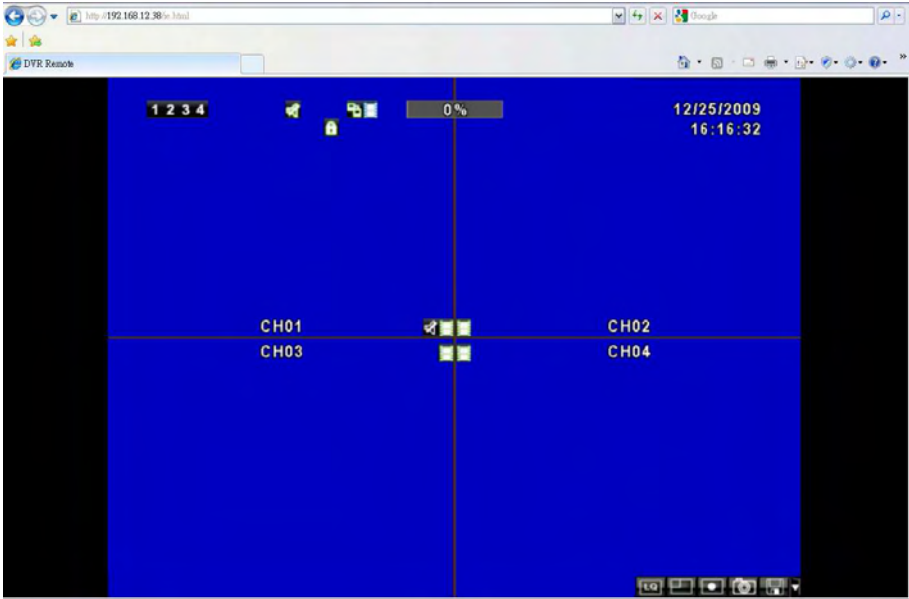


Provides two different ways of DVR connection, one is the use the Internet Explorer; the other to download and install the software to the PC.

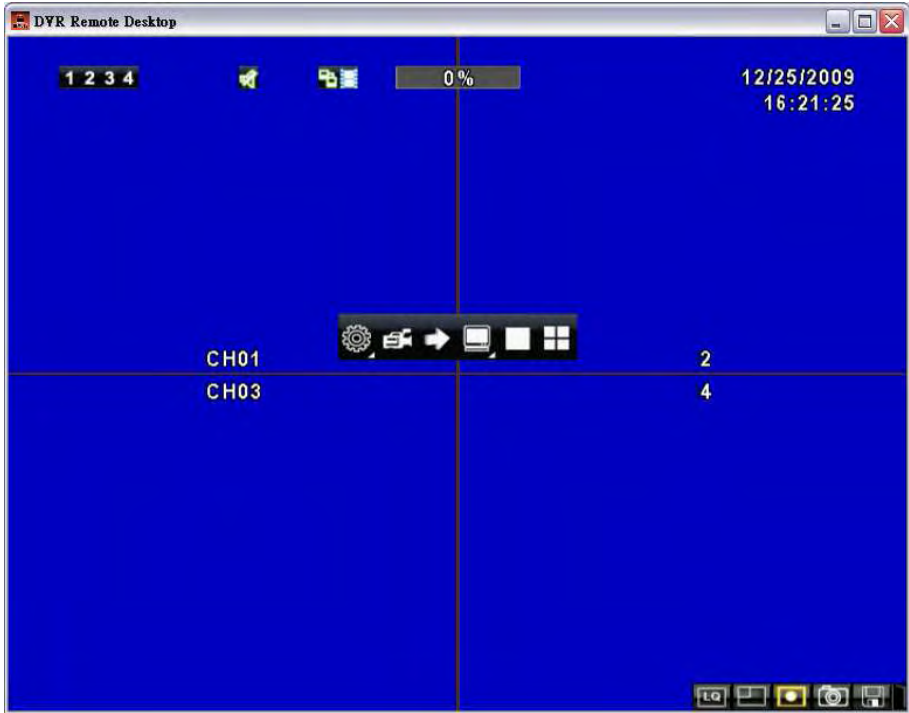
**Step 2:** A window will pop-up. Please enter the user name and password. Default user name is **admin** and password is **123456**. Other related setup about user account and password, please refer to section on "**Account Setup**".



**Step 3:** You've logged into the DVR



**Internet Explorer**



**Software Application**