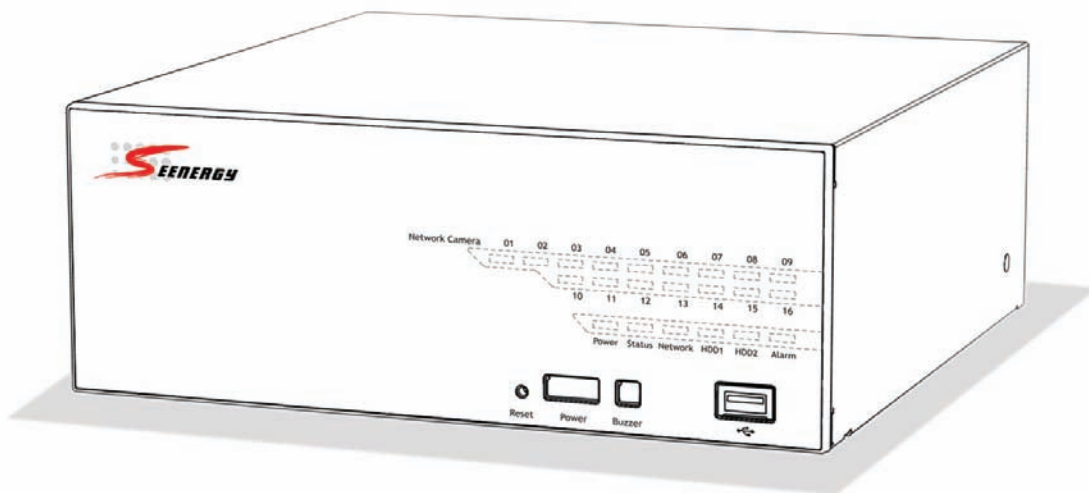




# Network Video Recorder

## User's Manual v1.0.2

Model: **SVR-504/508/516/516+**



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### ***Disclaimer***

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SEEnergy reserves the right to make adjustments without prior notification.

All names of people and organizations used in this document's examples are fictitious. Any resemblance to any actual organization or person, living or dead, is purely coincidental and unintended.



## System Requirements

The following are minimum system requirements for the system to operate Embedded Network Video Recorder (ENVR):

### Operating System

Microsoft® Windows® XP Professional SP2, Windows Vista, Windows 7, Windows® 2003 Server, or Windows® 2008 Server

### Browser

Microsoft Internet Explorer 7 or above

### CPU

Minimum Intel® Pentium® 4 2.4 GHz or higher (Dual Core is recommended)

### RAM

Minimum 1 GB of RAM, 2GB or above is recommended

### Network

Minimum 10/100 Ethernet (Gigabit Ethernet is recommended)

### Graphics Adapter

AGP or PCI-Express, minimum 1024×768, 16 bit colors.

(We highly recommend to work above the 1024 x 768 resolution to get the full experience of the software)

- ***Make sure your display DPI setting is set to default at 96DPI***
- ***To set DPI value, right-click on desktop, choose "Settings" tab >> "Advanced" >> "General"***

## Contents Inside the Installation CD

- Adobe Acrobat Reader
- Smart Device Search Utility
- Pi-Vu Central Basic CMS software
- NVR Media Player
- User's Manual
- Quick installation Guide
- Datasheet

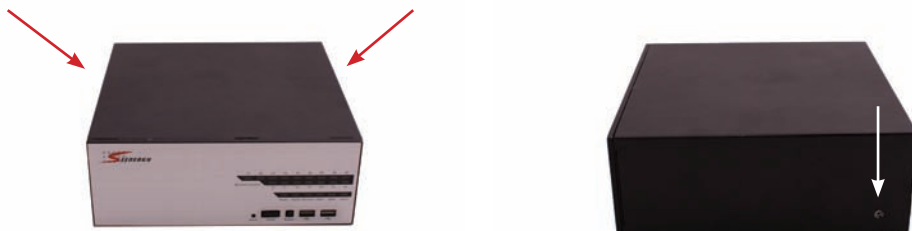
## Product Description

The Embedded Network Video Recorder is designed for use within a surveillance system, and performs recordings and playbacks pictures from network cameras in the system. It is a recording device using a hard disk drive to record camera pictures instead of using video tapes so that pictures recorded by repeated overwriting will not experience deterioration of the recorded picture quality. Up to 4 (for SVR-504) or 8 (for SVR-508) or 16 (for SVR-516) cameras can be connected via a network and it is possible to record their camera pictures. It is possible to perform the settings or operate the NVR using a web browser installed on a PC connected to a network, or remote controller. Recorded video can be played back from remote site by a PC. Up to 4 PCs (web browsers) can access this unit concurrently and it is possible to perform the settings and operate this unit. The NVR is compatible with most major brand cameras and its ability to automatically search and find the available cameras on the network can greatly reduce the user effort when expanding the system.

- **Advance PTZ Control**
- **Various Types Event Alerts**
- **Pure Web Based Administration**
- **Linux-embedded Operating System**
- **Support Dual Stream**
- **Export Recorded Videos to AVI**
- **Compatible with Major Brand Cameras**
- **High Quality Live/Playback Videos**
- **Smart Camera Search**
- **Support UPS System**

## Install Hard Disk

Start by removing the screws on the side:



Push the top housing forward.

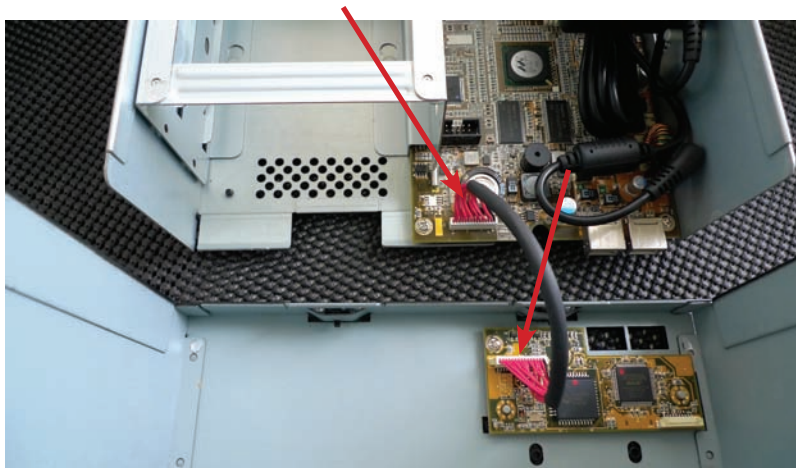


Then lift it up.

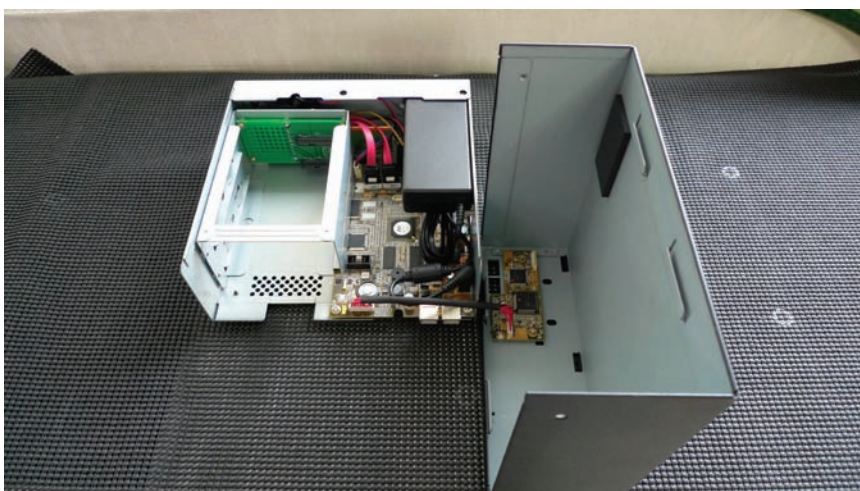


- The NVR supports SATA I or SATA II hard disks.
- The NVR supports max. 3TB per hard disk and it supports total of 2 hard disks (6TB).

There is a cable connected between the front LED board and the main board.



You can remove it from the main board or simply put the top housing on the side like shown below.



Next, slide the hard drive into the tray.



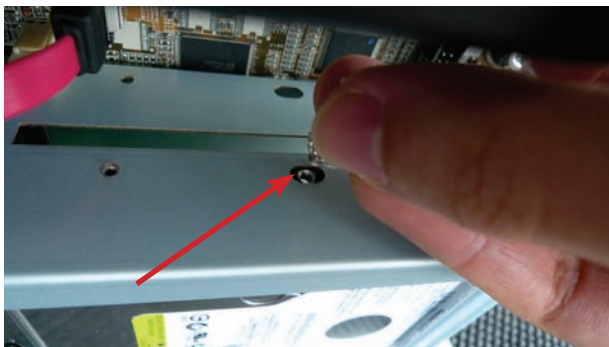
## SVR-500 Series

### Network Video Recorder

Make sure the SATA connectors are correctly aligned with each other.



Secure the hard drive with the tool-less screw provided in the box.

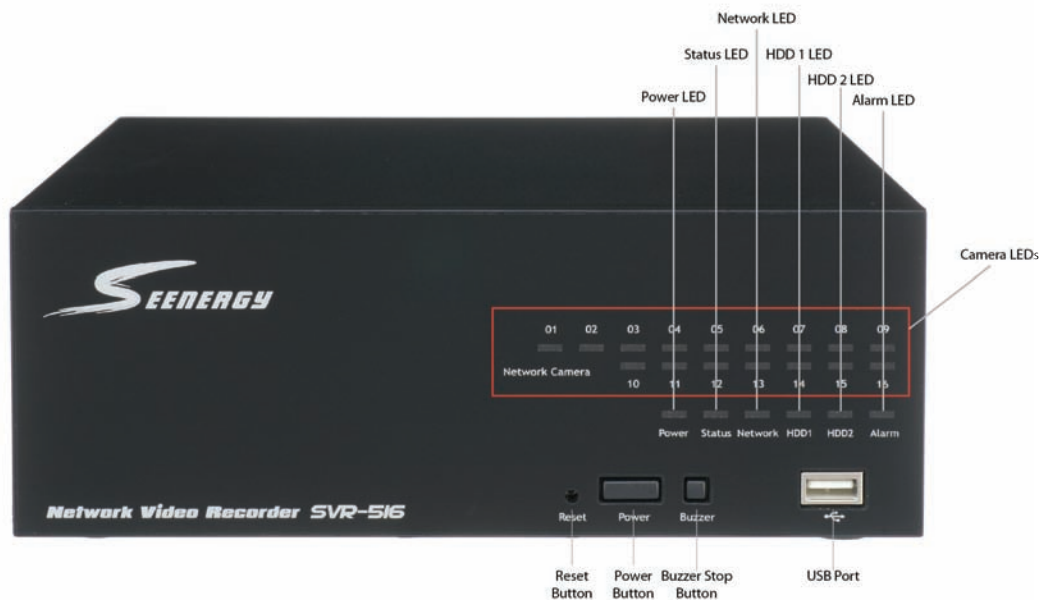


Place the top housing back and secure it with the bottom housing.





## Hardware Illustration (Front)



## LEDs Definition

HDD x 2	Green	Solid green when the hard disk is mounted and being accessed.
	Red	Solid red for disk fail.
	Amber	Solid amber when recording is in process. Blinking when recycling.
Network	Amber	Solid amber for activity on a 1G bps network.
	Green	Solid green for activity on a 10/100 Mbps network.
Status	Amber	Blinking during firmware upgrade.
	Green	Shows solid green for normal operation. Blinking green when firmware upgrade is done.
	Red	Flashes red for failed firmware upgrade.
Power	Green	Normal operation.
	Red	System off (power adapter remains plugged in).
	Amber	Blinking amber indicating device is initializing.
Alarm	Red	Blinking when an alarm occurs.
	None	When alarm is reset.

Camera LED	Green	Solid green, live connected with no event or recording activity.
	Amber	Blinking amber, manual or event recording is being performed.
	Amber	Solid amber, schedule or continuous recording is being performed.
	Red	Recording is set but no video from camera.

## I/O Ports and RS-485 (Rear)

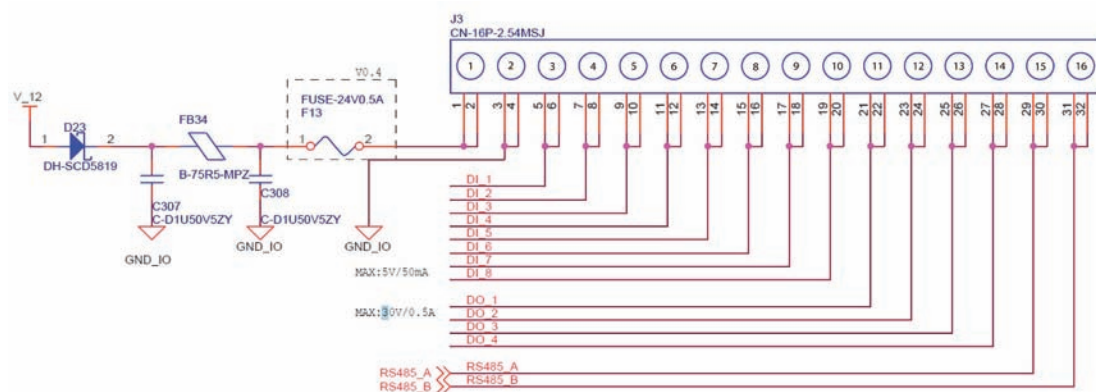
SVR-504/508/516



SVR-516+







Pin	Signal
1	12V DC
2	GND
3~10	Alarm input
11	Out1
12	Out2
13	Out3
14	Out4
15	RS485+
16	RS485-

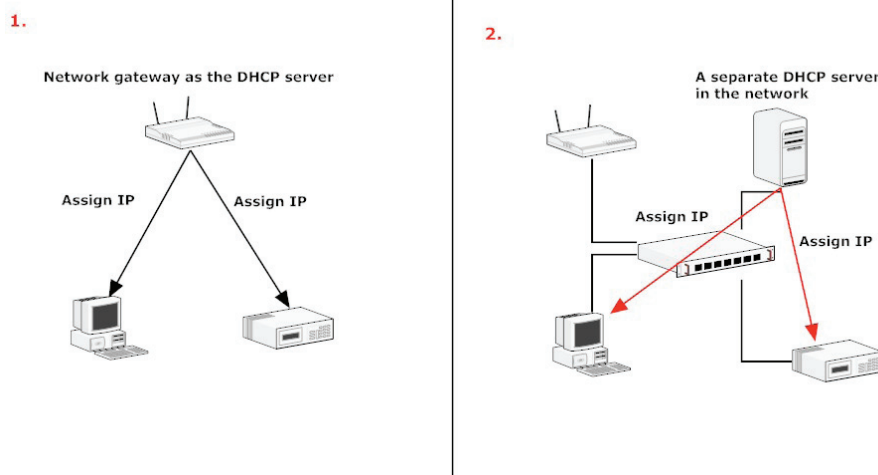
## Connect to the NVR

There are various ways you can connect to the NVR and below are the suggested methods for different network setup:

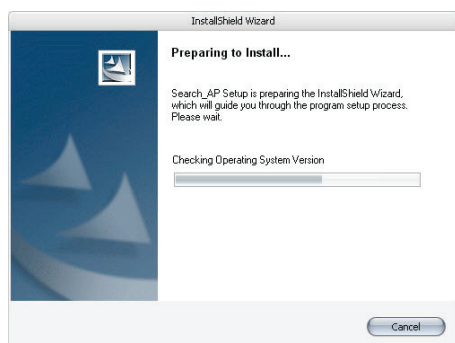
- The NVR is placed in a network with a DHCP server: Connect to the NVR by using **"SEEnergy Device Search" Utility**
- The NVR is placed in a network without DHCP server (or you are connecting to it directly): **Access NVR with its default IP**

### Use SEEnergy Device Search Utility

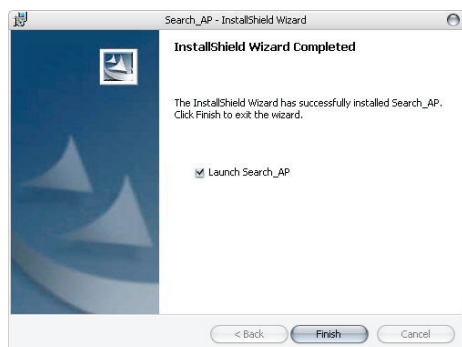
When the NVR is on a corporate network, or a local area network where a DHCP server is already present. Run the "SEEnergy Device Search" utility from a computer which is also on the same network and locate the NVR via its IP address assigned by the top-level DHCP server.



To begin, launch the "SEEnergy Device Search" utility from the CD and proceed with the installation:



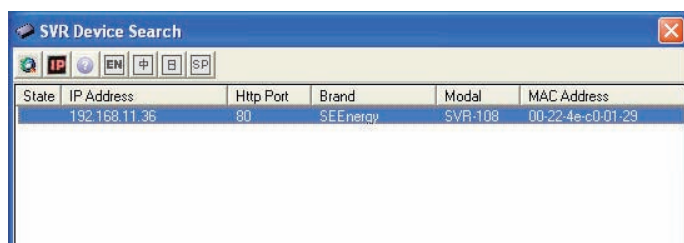
Once the installation is complete, check the "Launch the Search AP" option and click "Finish":



The search should start automatically and its status should be displayed:



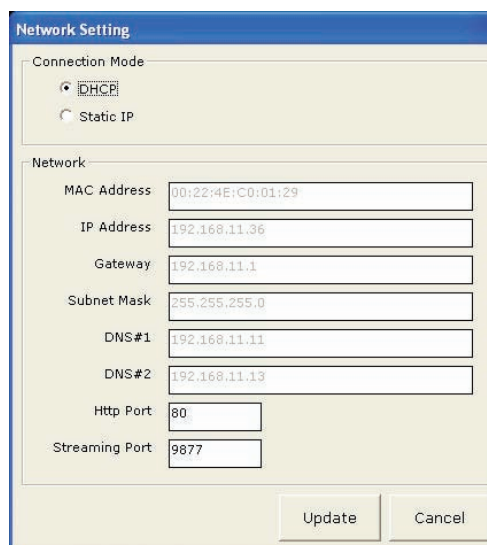
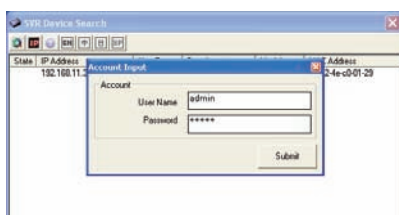
The NVR should be located and its IP address should be displayed: Double-click on it and the program should automatically access the NVR's web administration page from your default browser



You may change NVR's IP address by click on the button highlighted below.



You will be prompted for the NVR's login information before proceeding to change device's IP address.



You may click on the button highlighted below to perform search again. Or double-click on any of the search results to access NVR's web administration page



perform search again

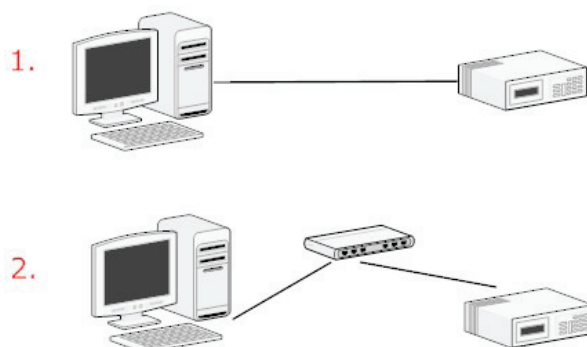
access NVR's web administration page

You should be prompted for the NVR's username and password. Enter its default username "**admin**" and password "**admin**" and then click "OK" to enter the system

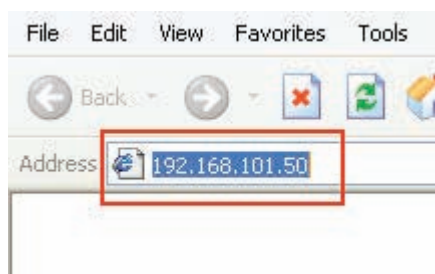


### Access NVR with its default IP address

The NVR comes with a pre-configured static IP "**192.168.101.50**". However, it is only used when there is no DHCP server presented in the network. The NVR will turn on its DHCP server function and act as the DHCP server in the network. To connect to the NVR, use a PC that is on the same network over a switch or hub, or connect the PC directly to the NVR using a crossover CAT5 Ethernet cable.



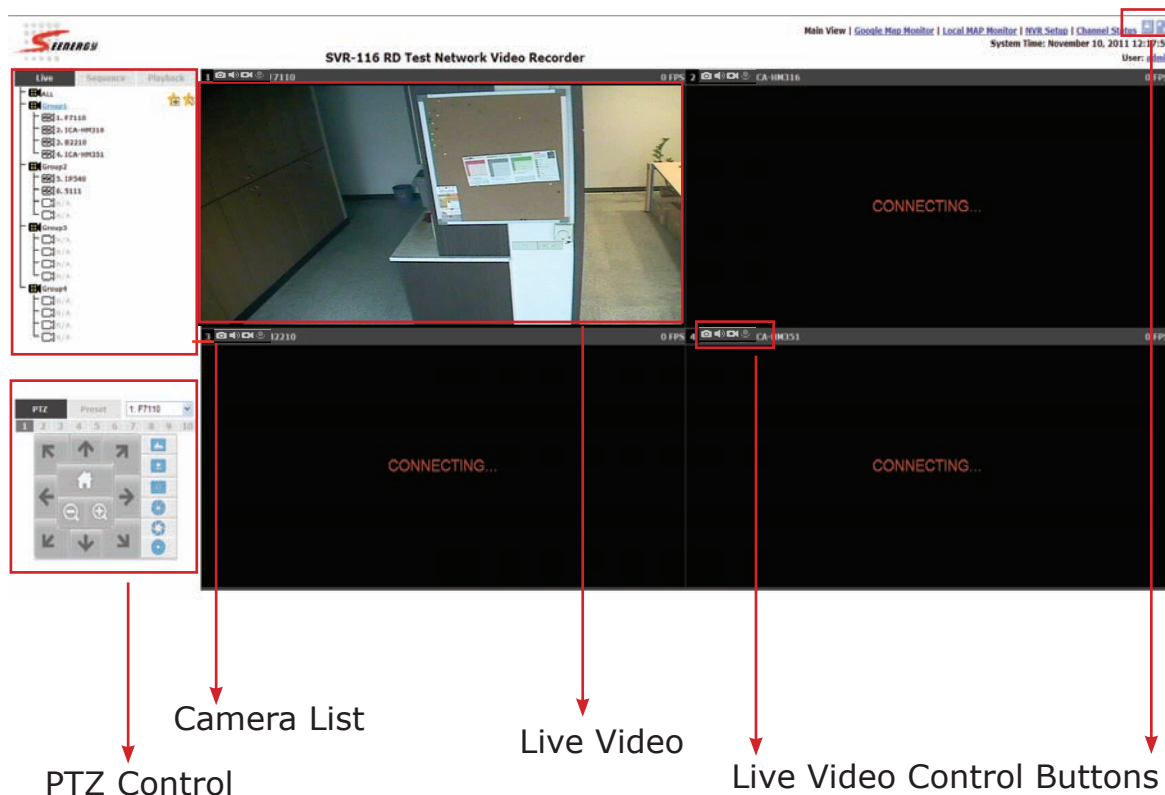
The PC that is connected directly to the NVR (or within the same local area network) should receive an IP from it. Simply access the NVR from your web browser with its IP address



Again, you should be prompted for the username and password. Enter its default username "**admin**" and password "**admin**" and then click "OK" to enter the system



## 1. Live View SVR-516/516+



## SVR-508



The 8 channel NVR comes with a 8-video split window view with one video displays on a larger window. Select a channel from the drop-down menu to display its video on the larger split window. You can also double-click on any of the smaller one to display its video to the larger window.



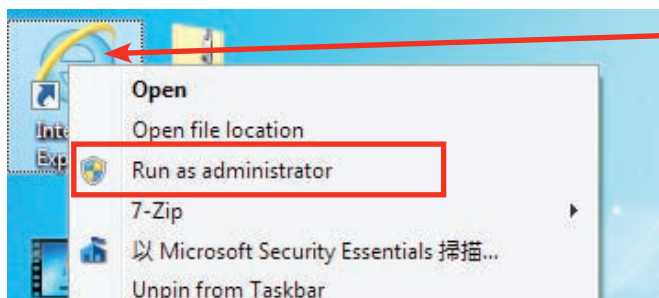
### SVR-504



The "Live View" page provides the following functions:

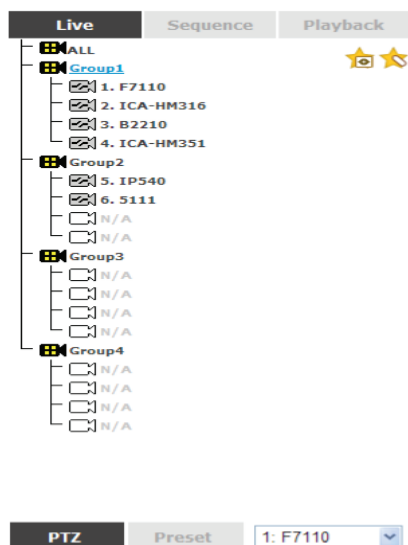
- Retrieve camera's video stream
- Retrieve camera's status
- Perform Live Sequence Viewing
- PTZ Control
- Perform PTZ Preset Sequence viewing
- Perform manual recording
- Take snapshot
- Receive audio of a video stream
- Send audio
- Control "Buzzer"
- Change web UI display language

**If you are using Windows Vista or Windows 7, please make sure you open Internet Explorer with the "Administrator" privilege or log in to Windows with "Administrator" account.**



Right-click Internet Explorer

## 1.1 Retrieve camera's video stream



The camera list is expanded and displayed on the Live View page.

- Click "All" to display videos in the 8-video mode (SVR-108) or 16-video mode (SVR-116)
- Click on a "Group" (ex. Group 1) to display videos from cameras under that group in quad view
- Click on any camera to display video in single-view mode

## 1.2 Retrieve camera's status

The camera list can show each camera's current status. Each status is represented with different colors and their meanings are explained on the left



Camera is connected



Camera is NOT connected



This channel has event triggered and is recording event



Camera is current performing recording



This channel has NOT been configured with any camera



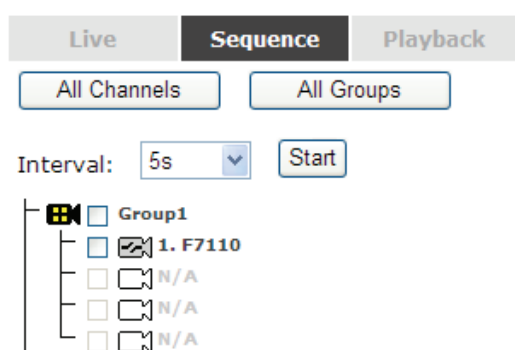
### 1.3 Perform Sequence Viewing

Sequence view is a function that allows you to view multiple video streams from certain cameras in sequence automatically without having to select them one by one.

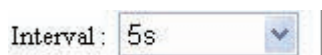
To perform sequence view, select "SEQ View" from the upper-left hand corner



Next, select one or more camera(s) or camera group(s) for sequence viewing



Then select dwell interval from the drop-down menu



Finally click "Start" to start sequence viewing

*\* Click "All Channels" to quickly select all available channels and start sequence view in single-view mode.*

*Click "All Groups" to quick select all available groups and start sequence view in quad-view mode*

*Or simply select the desired channels and press "Start" to start sequence view*

*The "All Group" button is not available in 4Ch NVR as it only has one group*

### 1.4 PTZ Control

PTZ control provides functions to pan, tilt, zoom a PTZ camera as well as the ability to adjust camera focus and iris



Camera(s) that are currently being selected for live viewing will be listed in the PTZ drop-down menu. Simply select a camera then use the PTZ control panel to control the camera



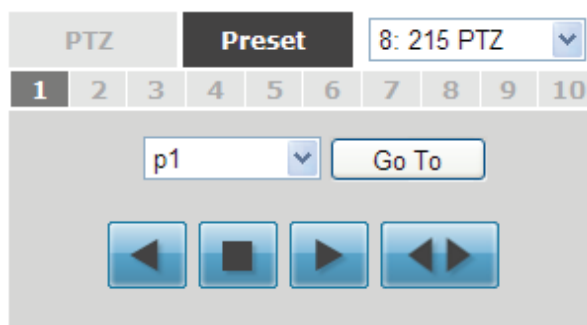
The bar shown below allows you to control the pan/tilt speed



## 1.5 Perform PTZ Preset Viewing

There are three functions provided in the "Preset" section:

- Perform preset point viewing of a particular camera
- Auto pan a particular camera
- Perform preset point sequence viewing

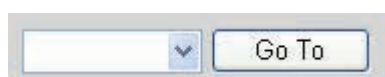


### Preset Point Viewing

Start by selecting a PTZ camera from the drop-down list:



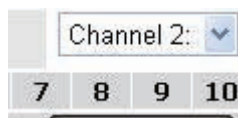
Its available PTZ preset points will be listed in the drop-down list shown below:



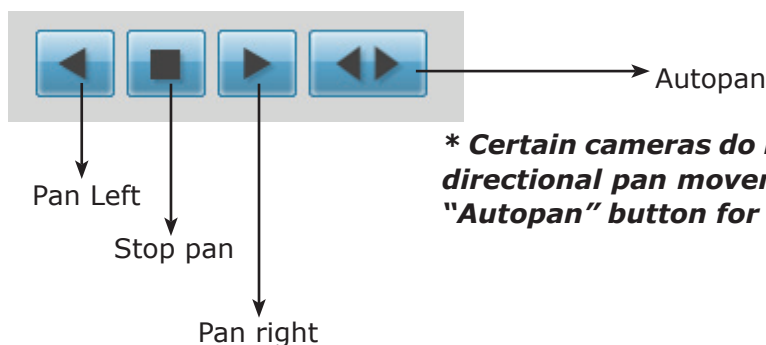
Select a preset position from the drop-down list and click "Go to" to move the live view to that position

## Auto Pan Viewing

Start by selecting a PTZ camera from the drop-down list:



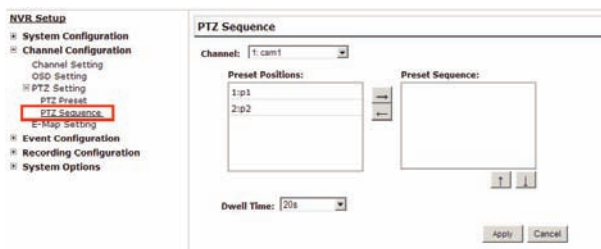
Use the Auto Pan control buttons to pan right, left and stop auto pan



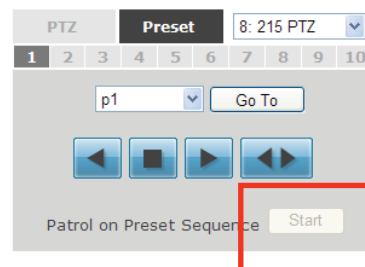
*\* Certain cameras do not support bi-directional pan movements. Use the "Autopan" button for such cameras*

## Preset Point Sequence Viewing

This function allows you to view multiple preset points from a video of a camera without having to select them one by one. Once you have defined the preferred preset points in "**Channel Configurations**" >> "**PTZ Setting**" >> "**PTZ Sequence**" under the "**Setup**" menu, click "Start" in the lower-left hand corner in Live View under "Preset" and the recorder will begin to display videos from those preset points in sequence automatically until you click "Stop"



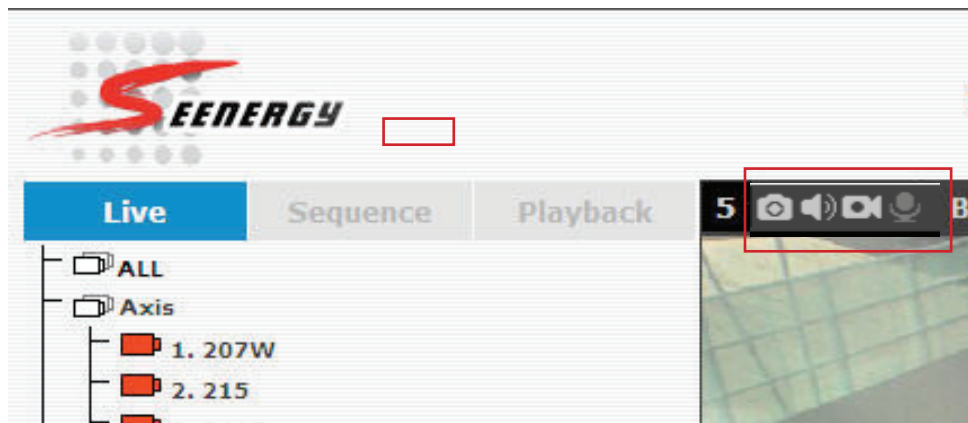
"In the Setup page"







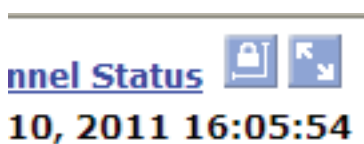
In the Live View




## 1.6 Live Video Control Buttons

Each live video window comes with control buttons with functions described below:




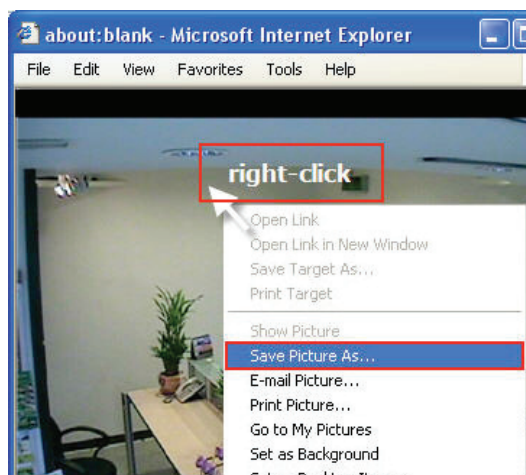
-  Take a snapshot of a live video
-  Turn on/off audio of a live video
-  Start/stop recording of a live video (manual recording)
-  Audio post function



-  Full screen view of a live video
-  Keep aspect ratio and true size
-  Keep aspect ratio

## Take a snapshot of a live video

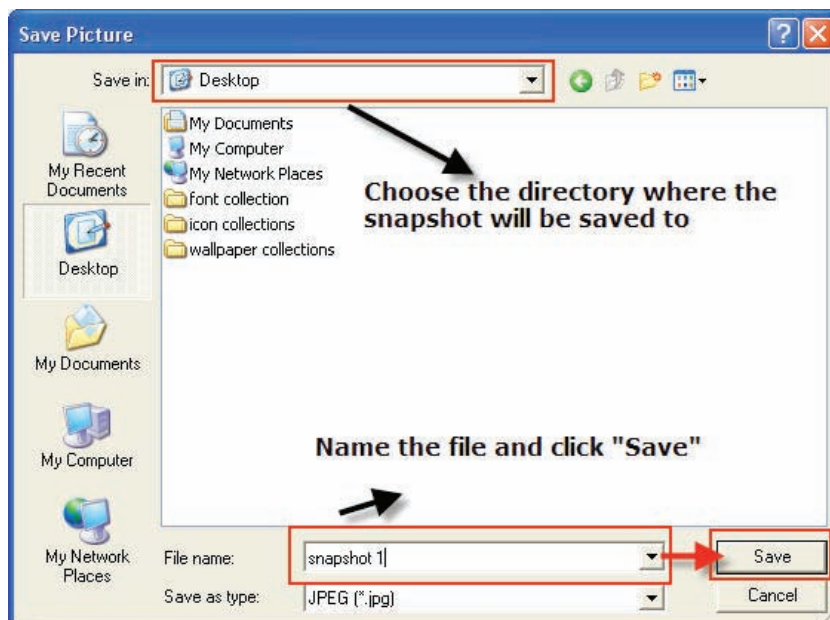
To take a snapshot of a live video, click the  button and the snapshot of the video will be displayed in a pop up window shown like below




*\* If you are running Windows Vista or 7, please make sure IE is run with the "Administrator" privilege in order for this function to work properly.*

Right-click anywhere on the image and select "Save Image as" from the pull-down menu


In the pop up dialog, name the image file and choose which directory the image will be saved to and click "Save"




### Full Screen View of a Live Video


To view a video in full screen, click the  button. To exit full screen video, double-click anywhere on the video.


### Turn On/Off Audio of a Live Video

You can retrieve audio from a particular camera. Simply click the  button to do so.

The button will show in different color once the audio is turned on.  Click on it again to turn off audio.

### Start/Stop Recording of a Live Video

You can manually start or stop recording of a live video by using the  button.

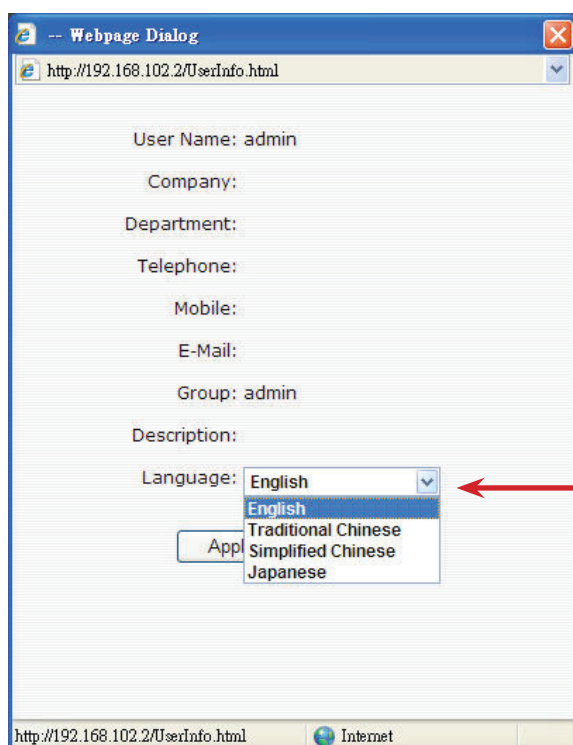
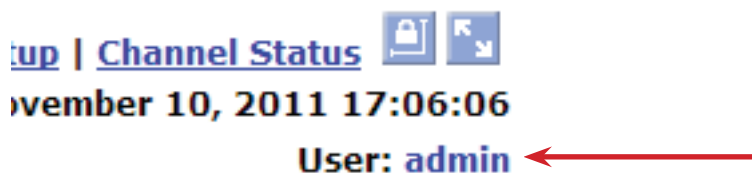
The button will show in different color once the recording is started manually.  Click on it again to stop recording.

### Audio post

This function allows user to speak from a PC through a microphone and the audio can be played at the camera side if it has a speaker connected to it.

## 1.7 Change Web UI Display Language

You can change the web UI display language from the current login username link located at the upper-right hand corner. Click on the link opens up a new window which displays detail information about the user as well as a drop-down menu which lets you change the display language.





## 1.8 Live View through iPhone

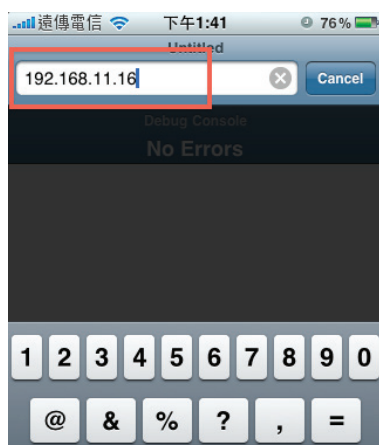
You can use iPhone and perform single channel live view to the NVR by using its Safari browser. To be able to view the live video through the Safari browser, make sure "javascript" is on under "Settings" >> "Safari" >> "Javascript"



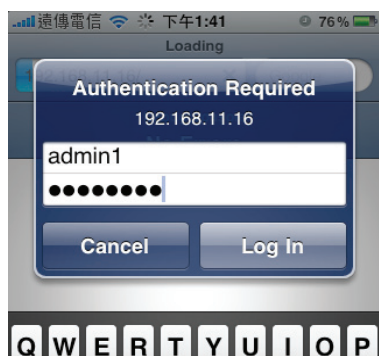
Once Javascript is enabled, click the "Home" button on the iPhone to go back to the home screen and open the Safari browser



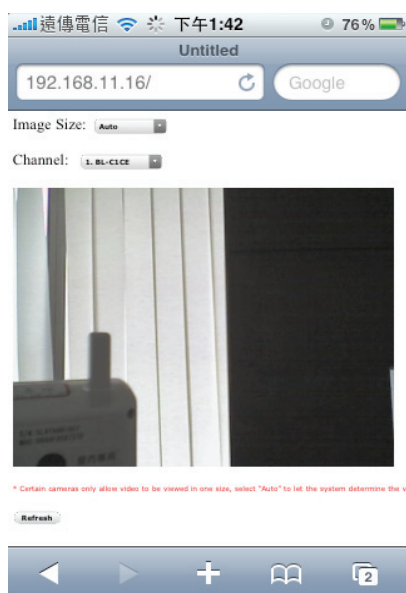
Type in the IP address of the NVR in the address bar



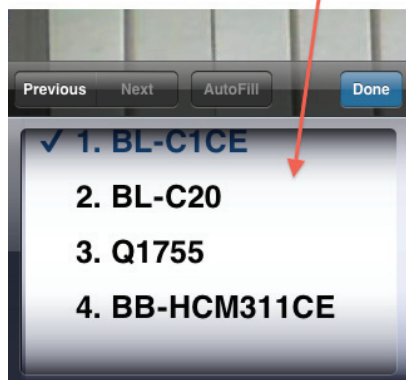
You should be prompted to enter the username and password to access the NVR



Upon successful login, you should see the live view video of the first channel



Click on the "Channel" drop-down menu to select other cameras



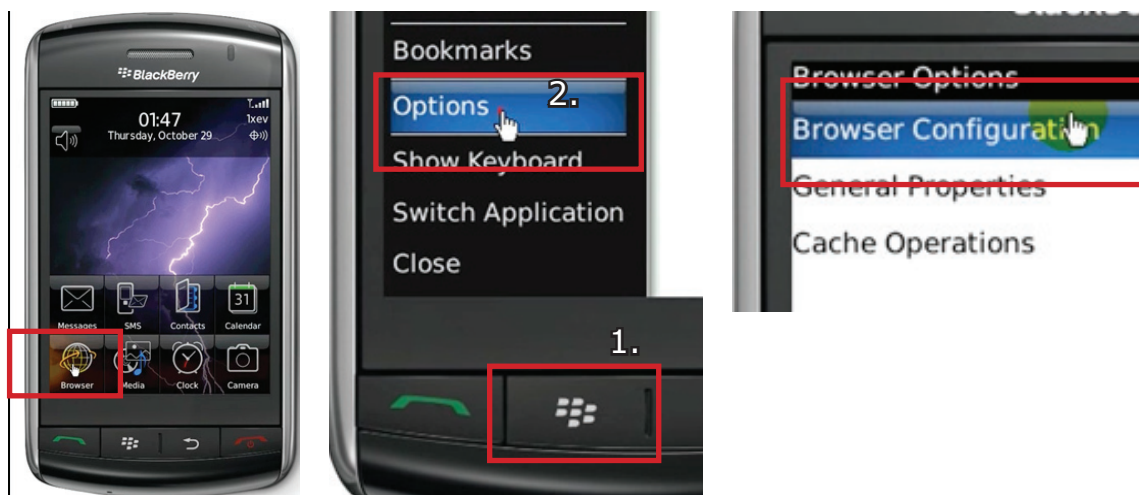
If a PTZ camera is selected, the corresponding control buttons will display (control PT only)



*\* Please note that this function is camera dependent and is not available to all cameras. Certain cameras do not allow adjusting image size and the selection "Auto" will be used.*

### 1.9 Live View through Blackberry Phones

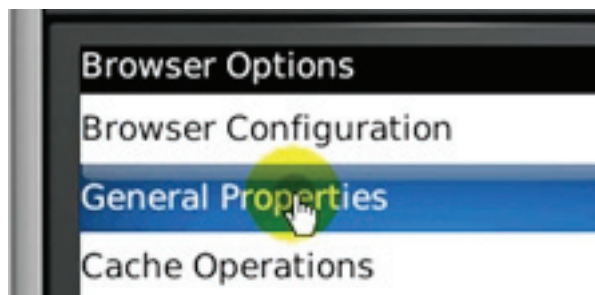
You can use Blackberry and perform single channel live view to the NVR by using its Safari browser. To be able to view the live video through its browser, make sure "javascript" is enabled under "Browser" >> "Menu button" >> "Options" >> "Browser Configuration"



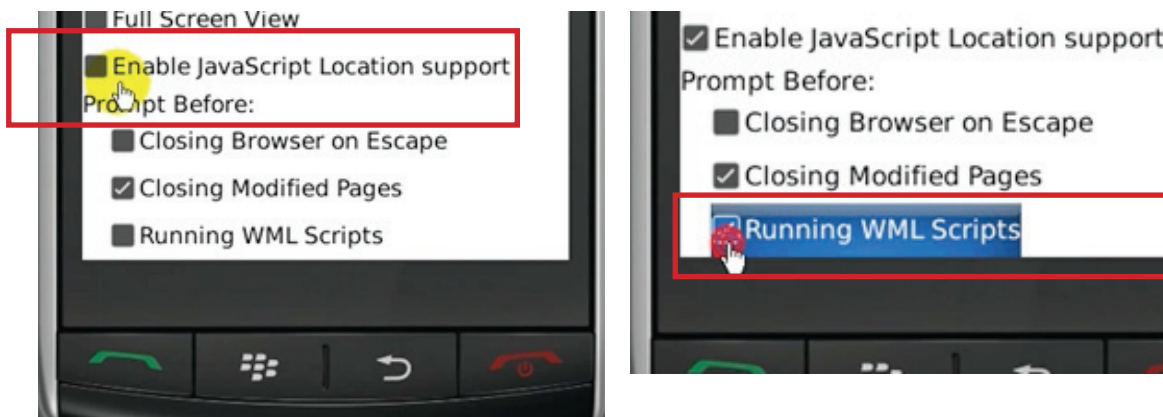
Enable the "Support Javascript" option and click the menu button and click "Save Options"



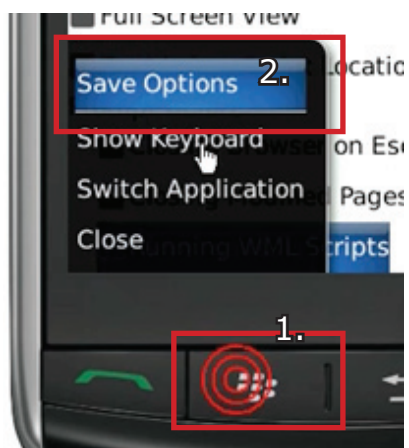
Go to "General Properties"



Make sure two options illustrated below are enabled



Press the menu button and click the "Save Options" to save settings



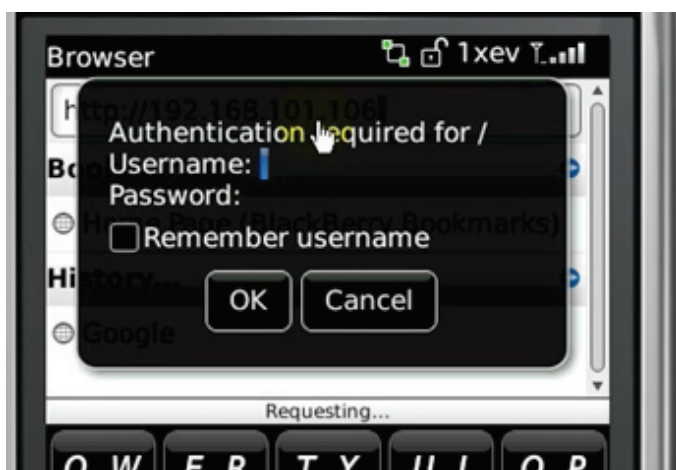
Press the button highlighted below to go back to the browser



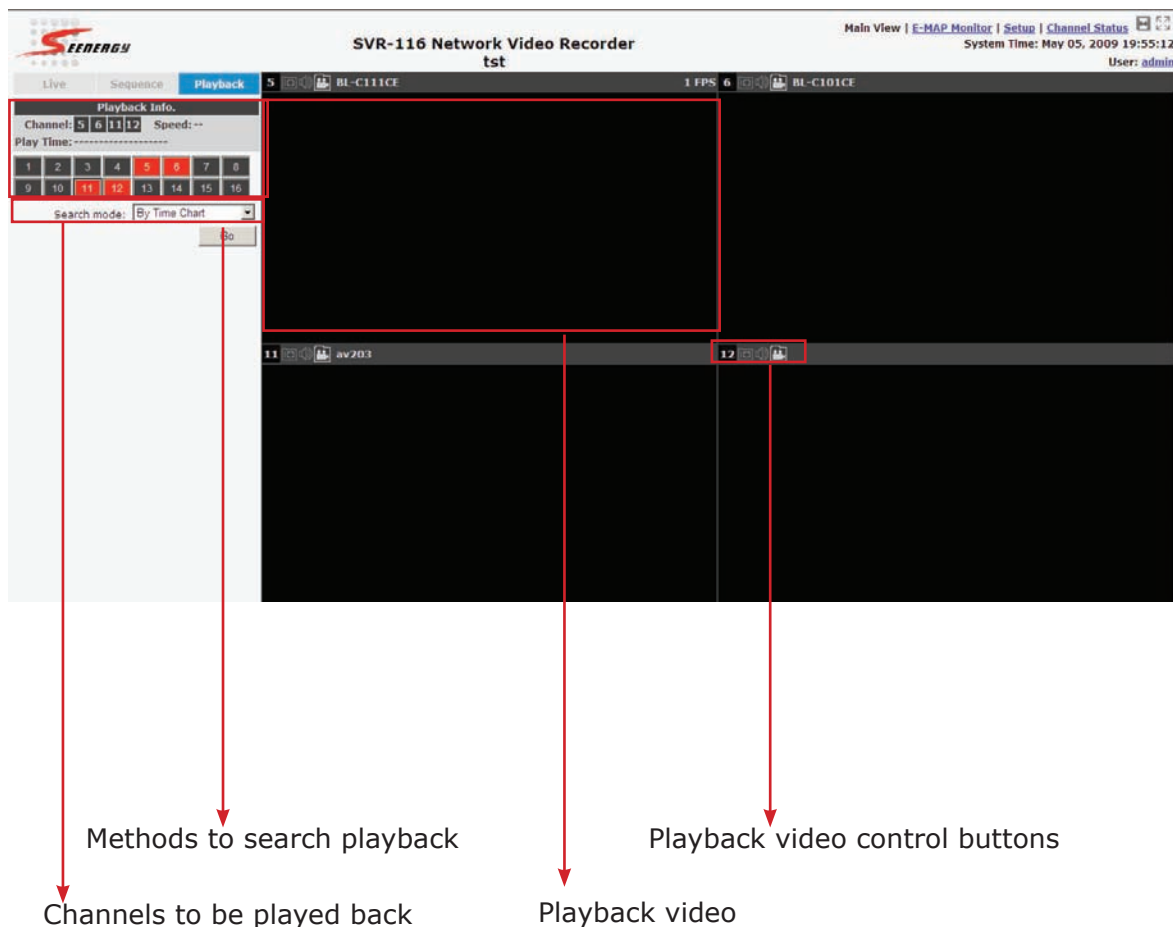
Type in the IP address of the NVR in the address bar



You should be prompted to enter its username and password for access



## 2. Playback



Playback is a function that allows you to play one or more videos that were previously recorded by a chosen recording method or due to an event trigger. The NVR offers synchronized playback from up to 4 channels and various types of search methods are provided to help you find the footage you need quickly.

You can turn on or off the audio of a recorded video at your choice if audio was also recorded during the recording of the video.

Playback video can be viewed in full screen and snapshots can be taken and saved during a video playback.



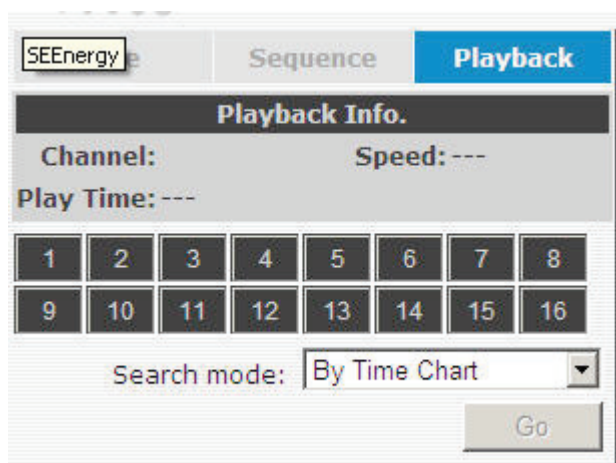
## 2.1 Methods to Search Playback Videos

The NVR offers three methods to quickly help users find videos that were previously recorded:

- Search by time: *Specify a time range and search videos recorded within that range*
- Search by event: *Find videos that were recorded due to event triggers*
- Play by start time: *Enter a specific time a video was recorded to start playing back the video*

### Search by time chart

- Start by selecting which channel(s) you would like to perform a search on:



\* Selected channels will be marked in red



- Select "Search by time chart" from the "Search Method" drop-down list and click "Go" to start the search:



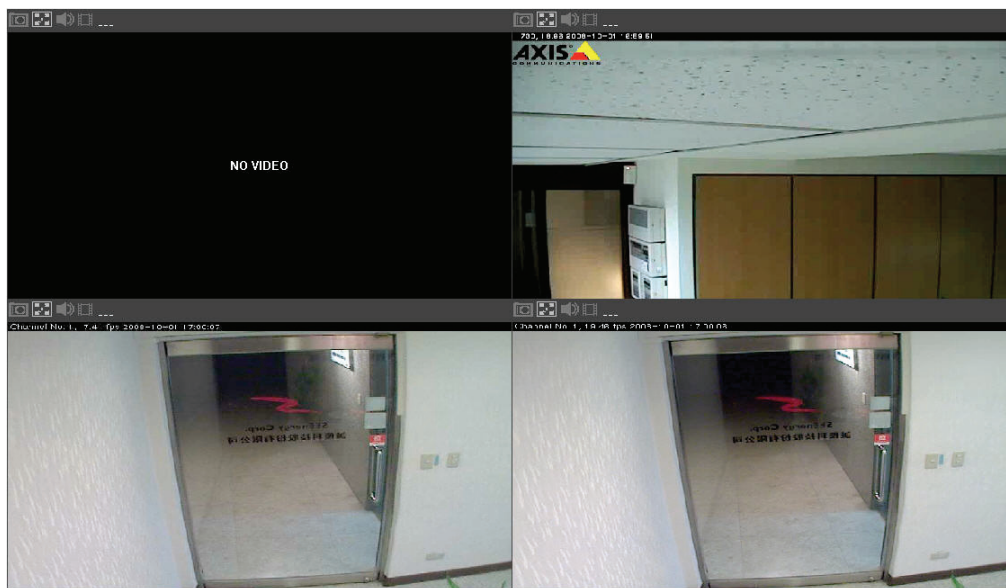


- Date:
- |  | CH1 | Ch2 | CH3 | CH4 |    |
|--|-----|-----|-----|-----|----|
|  |     |     |     |     | 1  |
|  |     |     |     |     | 2  |
|  |     |     |     |     | 3  |
|  |     |     |     |     | 4  |
|  |     |     |     |     | 5  |
|  |     |     |     |     | 6  |
|  |     |     |     |     | 7  |
|  |     |     |     |     | 8  |
|  |     |     |     |     | 9  |
|  |     |     |     |     | 10 |
|  |     |     |     |     | 11 |
|  |     |     |     |     | 12 |
|  |     |     |     |     | 13 |
|  |     |     |     |     | 14 |
|  |     |     |     |     | 15 |
|  |     |     |     |     | 16 |
|  |     |     |     |     | 17 |
|  |     |     |     |     | 18 |
|  |     |     |     |     | 19 |
|  |     |     |     |     | 20 |
|  |     |     |     |     | 21 |
|  |     |     |     |     | 22 |
|  |     |     |     |     | 23 |
|  |     |     |     |     | 24 |
|  |     |     |     |     | 25 |
|  |     |     |     |     | 26 |
|  |     |     |     |     | 27 |
|  |     |     |     |     | 28 |
|  |     |     |     |     | 29 |
|  |     |     |     |     | 30 |
|  |     |     |     |     | 31 |

- | CH1 | CH2 | CH3 | CH4 |    |
|-----|-----|-----|-----|----|
|     |     |     |     | 1  |
|     |     |     |     | 2  |
|     |     |     |     | 3  |
|     |     |     |     | 4  |
|     |     |     |     | 5  |
|     |     |     |     | 6  |
|     |     |     |     | 7  |
|     |     |     |     | 8  |
|     |     |     |     | 9  |
|     |     |     |     | 10 |
|     |     |     |     | 11 |
|     |     |     |     | 12 |
|     |     |     |     | 13 |
|     |     |     |     | 14 |
|     |     |     |     | 15 |
|     |     |     |     | 16 |
|     |     |     |     | 17 |
|     |     |     |     | 18 |
|     |     |     |     | 19 |
|     |     |     |     | 20 |
|     |     |     |     | 21 |
|     |     |     |     | 22 |
|     |     |     |     | 23 |
|     |     |     |     | 24 |

# English

- Click on the cell box again will start playing back the videos if you have reached the end of search results:



- Videos found from other cameras that were recorded at the same time will also be played.

### Search by event

- Start by selecting which channel(s) you would like to perform a search on:



\* Selected channels will be marked in red

Live		Sequence		Playback			
Playback Info.							
Channel:		3	5	6	13	Speed: ---	
Play Time:---							
1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16

- Select "Search by event" from the "Search Method" drop-down list and click "Go" to start the search:
- Results will then be listed like what is shown below (displays the oldest record top down). Click on a particular result to start the playback:



\* You can click "Next Search" to display the next 15 results.

- You may also specify a new start time to search and display results from then on. You can restrict the number of results to be displayed at once (max. 30) and perform the search again

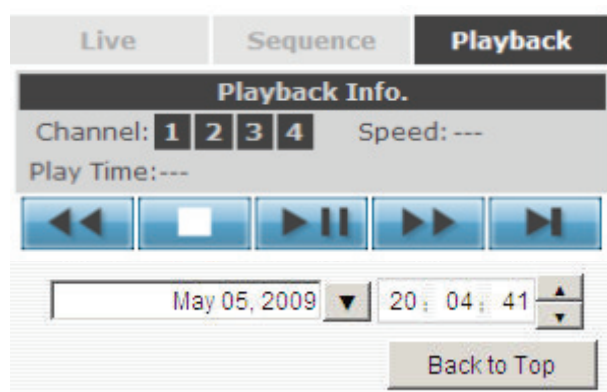


### Play by specific time

If you know when a recording was taken place, you may choose the "Play by start time" from the "Search Method" drop-down list



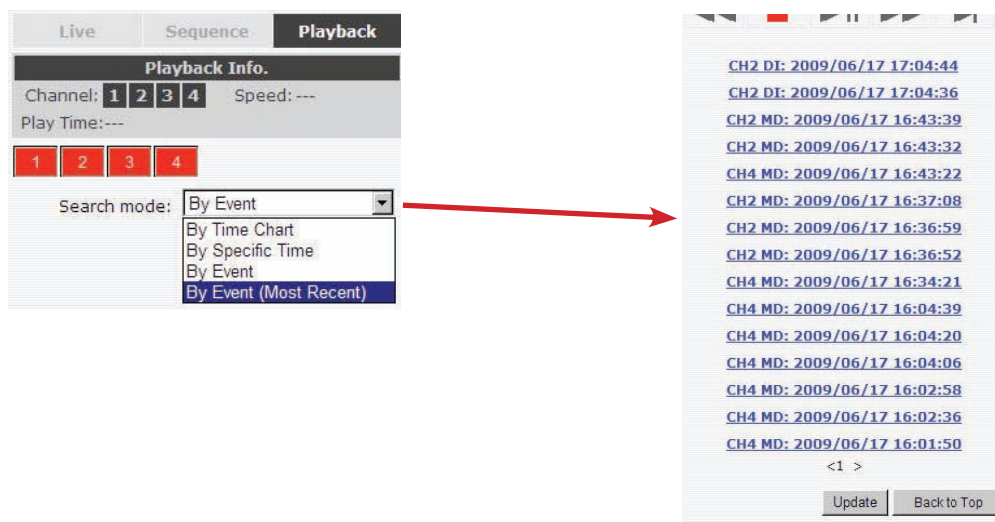
Then you will be prompted to enter a specific time and date for the recorded video.



Use the  button to select month, date, and year

## Search by event (Most Recent)

This function quickly displays the most recent event recordings from the selected channels, displaying the most recent result top down. You may click "Update" to update the list to display the most recent result



## 2.2 Export Playback Videos to AVI Files

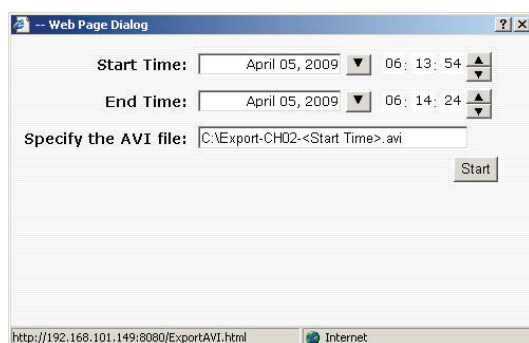
User can export the recorded playback videos stored on SVR-116 to a local computer and save them in AVI file format. The files can then be played on the PC by a 3rd party media player such as VLC player or Windows Media player.


Once you locate the recorded videos with steps described in the previous section, hit the "Export AVI" button on a video window of the video you wish to export.

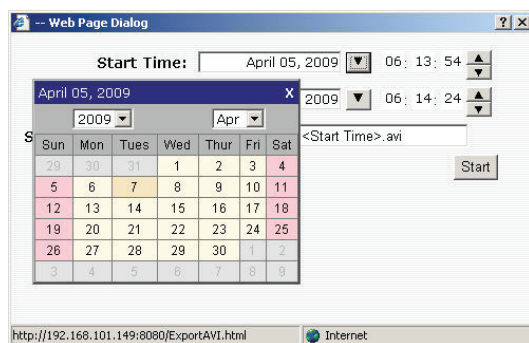


*\* If you are running Windows Vista or 7, please make sure IE is run with the "Administrator" privilege in order for this function to work properly.*

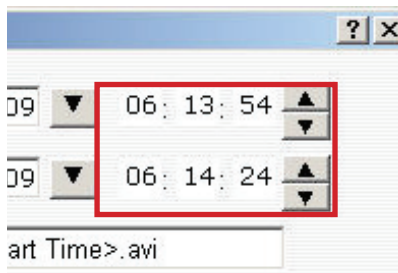
A new dialog will pop up and allows you to specify the time frame (or length) of the video you wish to export



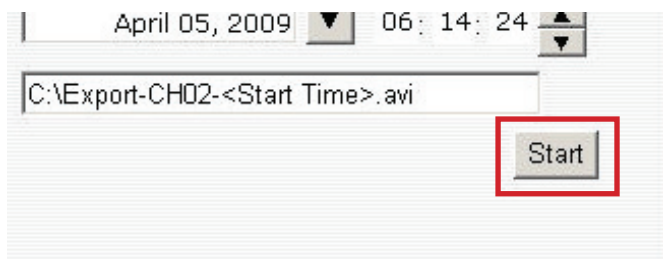
Click the  button to pull down the calendar to help you specify the month, date and the year



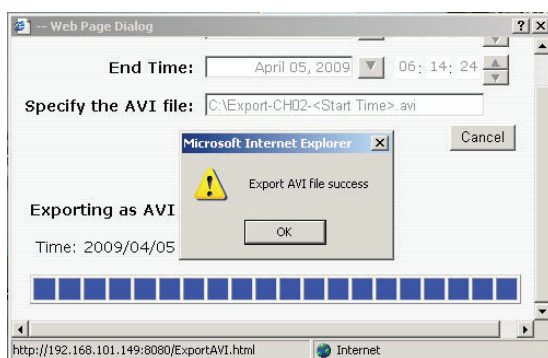
Specify the starting and ending hours of the video by entering numbers in the text boxes



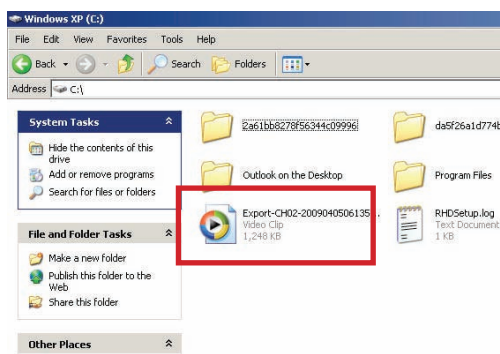
Hit the "Start" button to start exporting. The file will be automatically named and saved under the C:\ partition



You will be notified once the process is completed successfully



The exported AVI file will be saved under the C partition



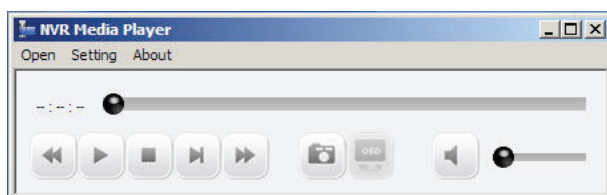
\* *ffdshow* is required in order to play the exported AVI file with Windows Media Player. You can get it at "<http://sourceforge.net/projects/ffdshow-tryout/>" to download the "ffdshow\_beta6\_rev2527\_20081219.exe".



## 2.3 Play Exported Playback Videos with NVR Media Player

You can also use the NVR Media Player to play the exported AVI files. This can save you the trouble of installing third-party media player or codecs when playing the exported AVI videos.

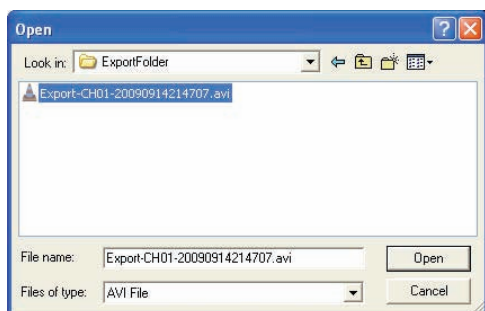
The NVR Media Player will be automatically installed after the CMS software is installed. You can launch the player under "Start" >> "All Programs" >> "IVS" >> "IVS Central Basic" >> "NVR Media Player"



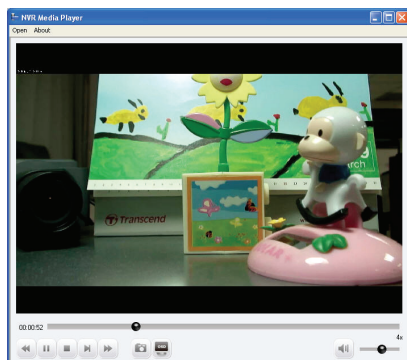
Click "Open" >> "AVI File"

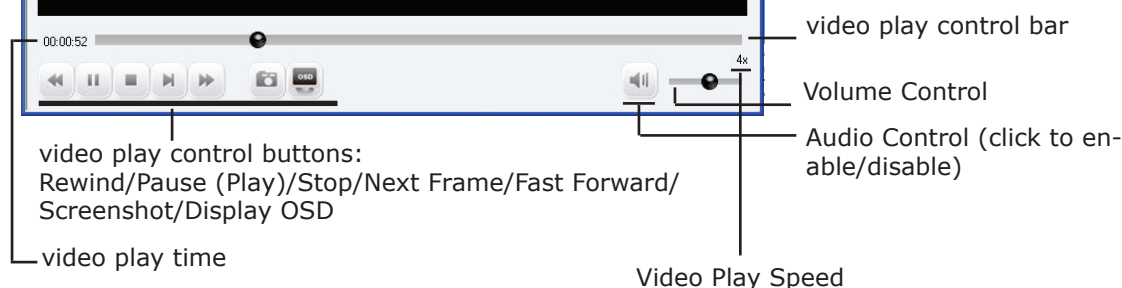
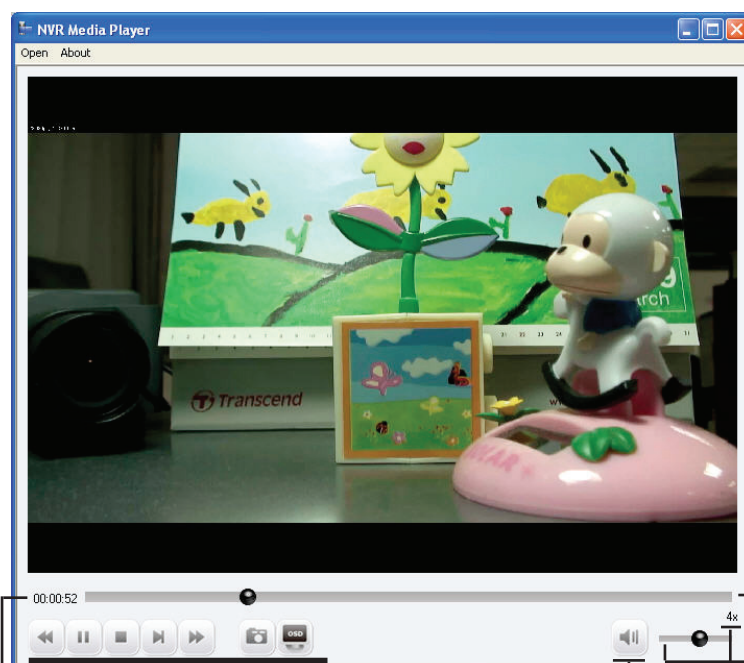


Locate the exported AVI file, and click "open". (normally under "C:\ExportFolder")



The video will then start playing

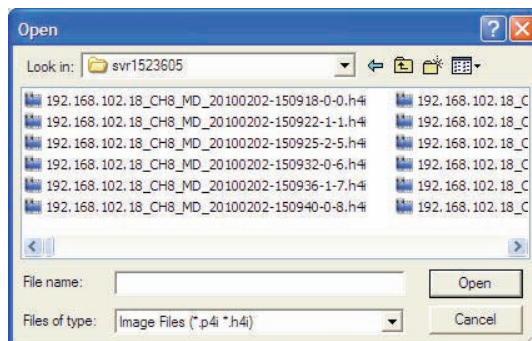
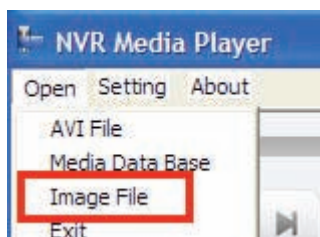




## 2.4 Open Event Snapshot images with NVR Media Player

The NVR sends snapshots that are taken when an event occurs to a destined FTP server or mail recipient. These type of snapshot images are saved in a proprietary image file format, h4i or p4i, and can only be opened by the NVR media player.

To do so, Select "Open" from the top menu then select "Image File". A new dialog should be displayed which lets you locate the image file.



## 3. System Setup

### 3.1 System Configurations

The "System Configurations" page provides users options to setup the device quickly and properly. After properly configuring all settings in all the sub-pages, users should expect a fully working network video recorder that is ready to manage cameras on the network. We will start by configuring its network settings to make sure it works correctly in your network. Next, we will help you adjust the system time so videos will be recorder with correct timestamp. To better secure the system for unwanted disturbance, we will guide you on setting up user's account and privileges to prevent settings gets altered by users other than the system administrator. Lastly, we will tell you what you should expect after installing a hard disk and how to prepare the hard disk for the video recording.

#### 3.1.1 Network Settings

The screenshot shows the 'Setup' page with a left sidebar containing a tree view of configuration options: System Configuration (selected), Network Setup, Time and Date, Users Account, Group Privilege, and Disk Setup. Under System Configuration, there are sub-items: Channel Configuration, Event Configuration, Recording Configuration, and System Options. The main content area is titled 'Network Setting' and contains the following fields and controls:


- Connection Type: DHCP (dropdown menu)
- IP Address: 192.168.102.2
- Subnet Mask: 255.255.252.0
- Gateway: 192.168.101.1
- DNS1: 192.168.11.11
- DNS2: 192.168.11.13
- HTTP Port: 80
- Streaming Port: 9877
- UPnP Port Forwarding: ☐ External Port: 6000 [Test] [Force Change]

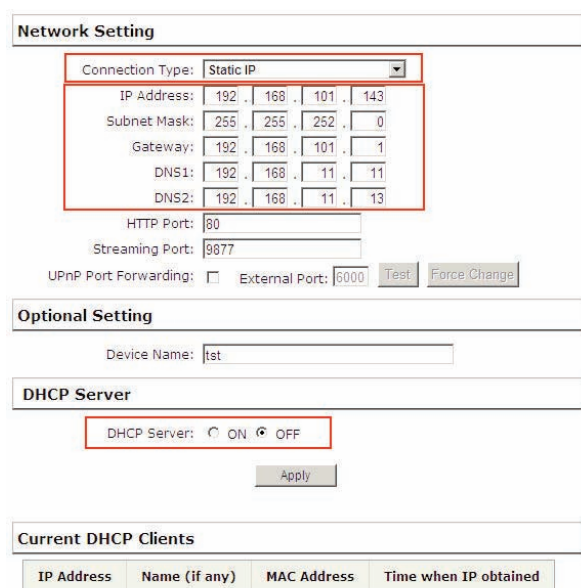
Below the Network Setting section is an 'Optional Setting' section with a 'Device Name' field containing 'tst' and an 'Apply' button at the bottom.

You need to adjust settings in this page for the device to work properly in your network. It is critical that settings here are configured correctly based on your network configurations so that the recorder can be administered through the local area network and cameras can be connected from it.

By default, the recorder is set to obtain IP address from DHCP server, it should be sufficient in most network environments, and most likely you should not need to alter anything in this page. To locate the recorder, simply use the SEEnergy IP Utility with steps described in page 12.

If you wish to set the recorder to use a static IP address in your local area network,

1. Choose "Static IP" from the "Connection Type" drop-down menu
2. Enter the IP address, subnet mask, default gateway address and DNS server address for the recorder
3. Enable "DHCP Server" under "DHCP Server" if you wish to use the recorder as a DHCP server, or leave it disabled if there is already a DHCP server in the network 
4. Click Apply for the settings to take effect



**Network Setting**

Connection Type: **Static IP**

IP Address: 192 . 168 . 101 . 143

Subnet Mask: 255 . 255 . 252 . 0

Gateway: 192 . 168 . 101 . 1

DNS1: 192 . 168 . 11 . 11

DNS2: 192 . 168 . 11 . 13

HTTP Port: 80

Streaming Port: 9877

UPnP Port Forwarding: ☐ External Port: 6000

**Optional Setting**

Device Name: tst

**DHCP Server**

DHCP Server: ☐ ON ☒ OFF

**Current DHCP Clients**

IP Address	Name (if any)	MAC Address	Time when IP obtained
------------	---------------	-------------	-----------------------



The recorder can detect the presence of a DHCP server upon startup. It sets itself to use static IP address if there is no DHCP server currently presented in the network. Its DHCP server function is also turned on at the same time to assign IP addresses to cameras that are later connected to the network

You can manually turn off the DHCP server function if you wish to use a separate DHCP server



Change the recorder's IP address would require the recorder to restart. Restart the device under "system Options" >> "Maintenance" for the settings to take effect.

### 3.1.1.2 DDNS Service

DDNS, which stands for "Dynamic DNS", is a method, protocol, or network service that provides the capability for a networked device, such as a router or computer system (in this case, the NVR) using the Internet Protocol Suite, to notify a domain name server to change, in real time, the active DNS configuration of its configured hostnames, addresses or other information stored in DNS.

A popular application of dynamic DNS is to provide a residential user's Internet gateway that has a variable, often changing, IP address with a well known hostname resolvable through standard DNS queries.

This is useful if the NVR is placed on the Internet with a dynamic public IP, which once the DDNS is properly setup, users can access the NVR remotely with the DDNS domain name without worrying if the IP has changed or not.

#### NVR Setup

- [-] System Configuration
  - Network Setup
  - DDNS Service
  - Time and Date
  - Users Account
  - Group Privilege
  - Disk Setup
- [+] Channel Configuration
- [+] Event Configuration
- [+] Recording Configuration
- [+] System Options

#### Dynamic DNS Service

☐ Enable DDNS Service

Server Address:

Domain Name:

User ID:

Password:

Connection Status: Disconnected



Please make sure a valid DNS server has been configured under the "Network Setting" page in order for this function to work properly.



The NVR currently only works with free DDNS service provided by "DynDNS". For more information, please go to [www.dyndns.com](http://www.dyndns.com)



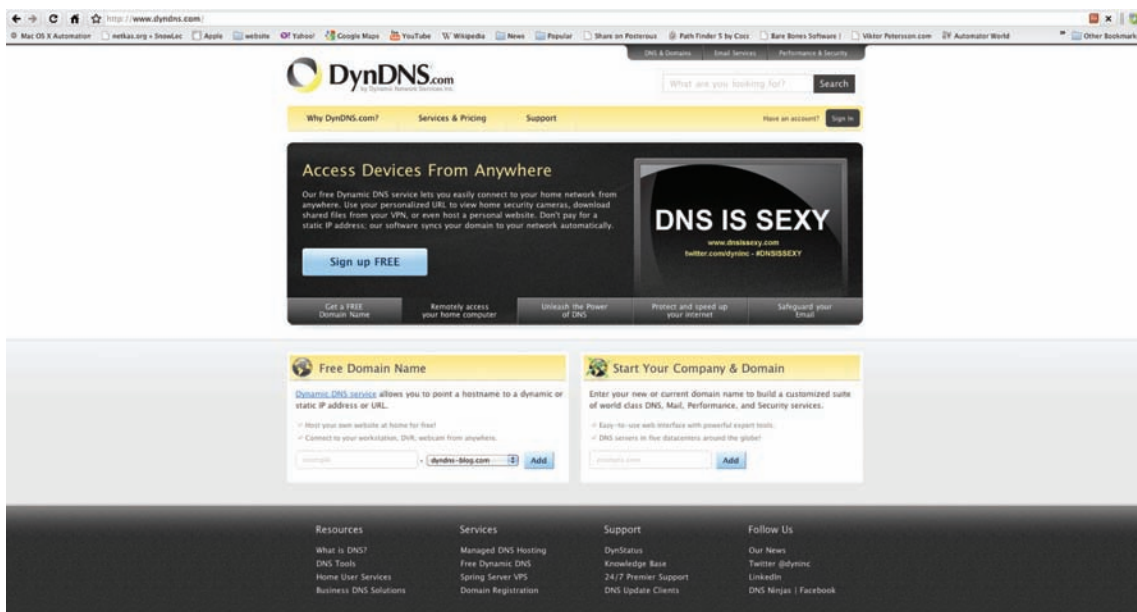
If the NVR is placed behind a router or Internet gateway, please make sure port forwarding for port 80 is configured on the router or the gateway in order for the DDNS function to properly register with the service. **It's often suggested to use the DDNS function in the router/gateway for such case instead.**



Once you have the DDNS function successfully up and running, please DO NOT forget to configure port forwarding for the NVR web port (default 80) and the streaming port (default 9877) in the router/gateway for remote viewing. You can then type in <http://yourddnsdomain> in the browser to access the NVR remotely for live view.



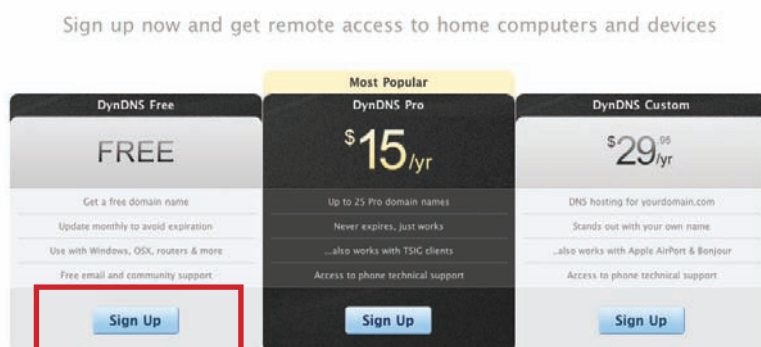
In order to properly configure the DDNS service function, please register a free DDNS domain name and account from DynDNS first. Go to [www.dyndns.com](http://www.dyndns.com) from the browser to do so.



Click on the "Signup FREE" button to begin



Choose the FREE service on the left



Fill in the necessary fields as illustrated below:

Add New Hostname

[↑ Host Services](#)

Note: You currently don't have any active [Dynamic DNS Pro](#) in your account. You cannot use some of our Host Service features. Paying for an Dynamic DNS Pro will make this form fully functional and will add several other features.

Hostname:

myddns

dyndns.org

Wildcard Status:

Disabled

[Want Wildcard support?](#)

Service Type:

☒ Host with IP address [?](#)  
☐ WebHop Redirect [?](#)  
☐ Offline Hostname [?](#)

IP Address:

60.250.139.170

[Your current location's IP address is 60.250.139.170](#)  
TTL value is 60 seconds. [Edit TTL.](#)

Mail Routing:

☐ Yes, let me configure Email routing. [?](#)

What do you want to use this host for?

Select services and devices you would like to use with this hostname.

Work From Home Office or VPN:

vpn

remote file access

remote desktop

mail server

web server

chat server

ftp backup

ssh

database

voip

Hosting and Design For Web Sites and Blogs:

blog

gallery

wiki

portfolio

ecommerce

web page

Remote Access For Devices:

dvr

webcam

data storage

cctv

printer

alarm and security

thermostat

weather station

game server

home automation

Add To Cart

Enter a desired hostname here

Select a desired sub-domain from the drop-down menu

Click here to automatically fill in the current public IP in the "IP Address field"

Pick one or more options here (any is fine)

Click to go to the next step

The page will check whether the hostname you entered has been used by another user or not as soon as you click the "Add to Cart" button. If you see below message, simply enter a different and click "Add to Cart" again

Hostname:

myddns

dyndns.org

This hostname already exists. It may be in use by another customer.

English

50



Once you get to the next page, fill in the necessary fields as illustrated below

Shopping Cart

Host [seenergy88.dyndns.org](#) added to cart. Finish FREE checkout to activate.

Your cart contains **free services only**. You will not be asked for credit card information.

⚡ Upgrade Options

Free accounts allow only five Dynamic DNS hosts.

- To add more and enjoy [additional benefits](#) for only \$15.00 per year, [purchase Dynamic DNS Pro](#).
- To get Dynamic DNS for **your own domain**, use [Custom DNS](#).

Dynamic DNS Hosts

<a href="#">seenergy88.dyndns.org</a>	-	<a href="#">remove</a>	\$0.00
---------------------------------------	---	------------------------	--------

Have a coupon? [Log in.](#)

Sub-Total:

\$0.00

Order Total:

\$0.00

Create account or log in to continue

Create an username and a password here. This will be used in the NVR's configuration. Enter a valid email address as well.

Username:

Password:

Confirm password:

Email:

Confirm email:

Subscribe to:

☐ DynDNS.com newsletter (1 or 2 per month)

☐ Dyn Inc. press releases

☐ Remove HTML formatting from email

Security Image:

Enter the numbers from the above image:

☒ I agree with the [acceptable use policy \(AUP\)](#) and [privacy policy](#).

[Create Account](#)

Already Registered?

Username

Password

[Log in](#)

[Forgot your password?](#)

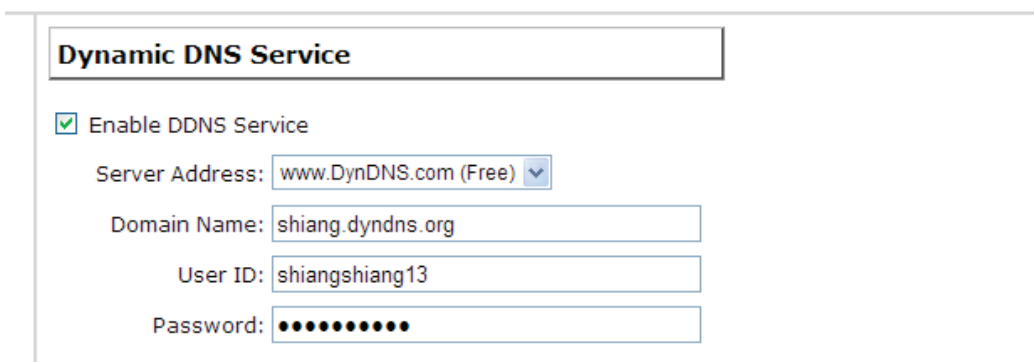
Enter the security code

Check to agree the license

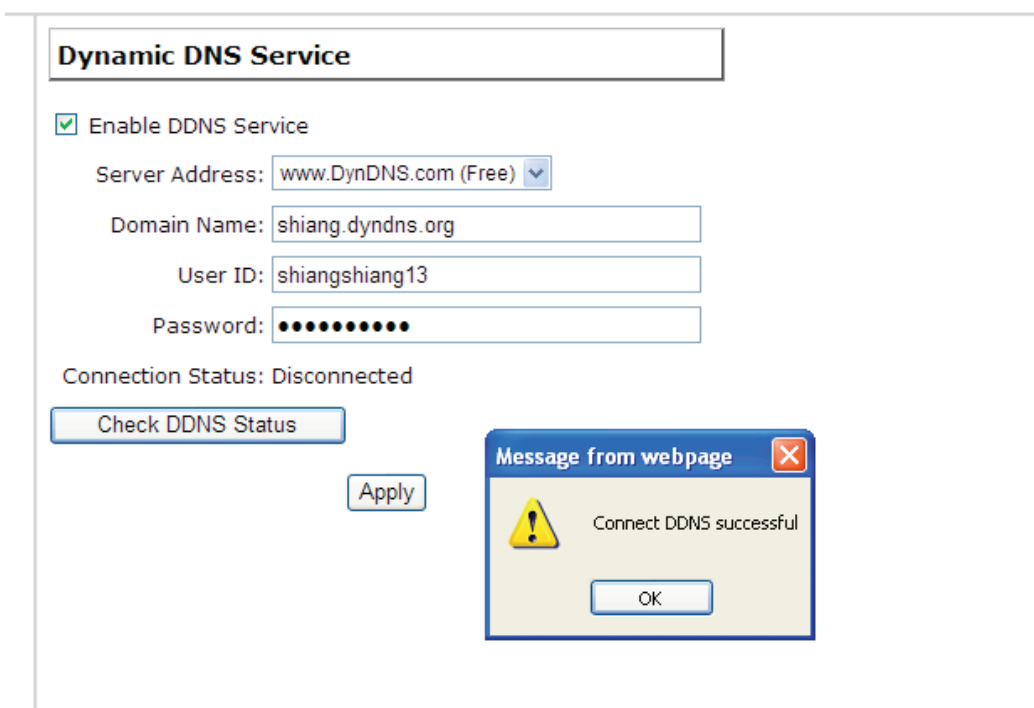
Click to finish creating the account

Go back to the NVR's DDNS service configuration page under "Setup" >> "System Configuration" >> "DDNS Service".

Fill in the domain name you picked during the registration in the "Domain Name" field and the username/password you created in the "User ID" and "Password" field and click "Apply" to finish



You can click the "Check DDNS Status" button to check the DynDNS service status. If you are getting a "Disconnected" message, it means that DDNS service server is down or the NVR is not connected to the Internet. If everything is ok normally, you should be prompted with a success message

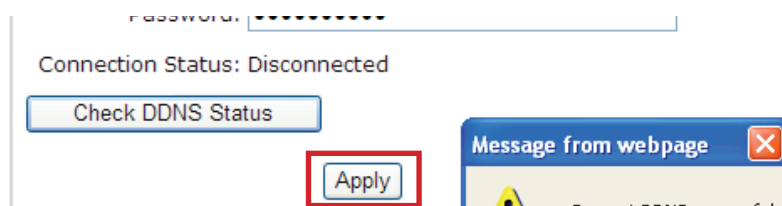


Notice the "Connection Status" displays the status of whether the NVR has been able to successfully update its current public IP address to the DynDNS server



User ID: shiangshiang13  
Password: ●●●●●●●●  
Connection Status: Disconnected  
Check DDNS Status

The NVR will automatically check with the DynDNS server once every hour and update its latest public IP to the server. The "Apply" button does the same thing which if you are see the "Disconnected" status, you can use it to manually check with the server without waiting for the NVR to update itself in the next hour. **However, it is advised not to do so too often as DynDNS disallow repetitive updates within a short period of time and the account will be banned if such action is detected.**



Password: ●●●●●●●●  
Connection Status: Disconnected  
Check DDNS Status  
Apply  
Message from webpage  
Connect DDNS successful

### 3.1.3 Time and Date

Set the time and date by selecting the time zone according to your location. It is imperative that you set the recorder's time correctly to avoid the following errors:

- Incorrect display time for playback videos
- Inconsistent display time of event logs and when they actually occur

After selecting the time zone, choose an option below to set the recorder time

- **Manual** – Use the drop-down list and configure the time manually
- **Sync with NTP server** – enter the hostname or IP address of a valid NTP server and set how often the recorder should synchronize the time with it by using the "Update interval" drop-down menu
- **Sync with PC** – Check this option to synchronize the recorder time with the PC that you are currently using to access the recorder

### 3.1.4 User Account

The recorder can be accessed by multiple users simultaneously. You can add, remove, and edit users by using options provided in this page to keep user information organized. Each recorder comes with a built-in "admin" account with password "admin". It's highly recommended to change the password upon your initial login.

User Name	Group	Description
admin	admin	
guest	sc	sc
joser	supervisor	eng
hunt	sc	sc
view1	VIEWER	japan

**Add User**

User Name:  Only A-Z, a-z, 0-9 and \_ are allowed

Password:

Confirm Password:

Company:  (Optional)

Department:  (Optional)

Telephone:  (Optional)

Mobile:  (Optional)

E-Mail:  (Optional)

Group:

Language:  (Optional)

Description:

#### To change the password of the "admin" account:

1. Click and highlight the "admin" account in the account list and click "Edit"
2. Its information should be displayed in "User Account Information"
3. Enter a new password in the "Password" field and enter it again in "Confirm Password"

**User Account Setting**

Username	Group	Description
admin	admin	This is the admin account

**Edit** **Remove**

**User Account Information**

Username:

Password:

Confirm Password:

Company:  (optional)

Department:  (optional)

#### To add a new user:

- Enter a username and password in "User Account Information". All other fields are optional for your own reference.
- Select a group from the "Group" drop-down menu to assign the new user to a particular group
- Enter a short description for the account if you wish
- Click "Apply" to finish configuration

### 3.1.5 Group Privilege

Group Privilege is where you can create multiple customized access policies for situations if you need the recorder to be accessed by users other than the administrator. You can do so by creating a group, and then remove access privileges for certain configuration pages or cameras. Users that are created and assigned to this group will have limited access instead of full administration rights.

The recorder comes with seven built-in groups and five built-in privilege profiles, except the “admin” and the “guest” accounts; the other five groups are fully customizable or you can simply assign a group with one of the default privilege profiles. You can, however, assign more than one users to the “admin” account if you wish to do so. The guest account comes with a “view-only” privilege in the “Live View” page, and users in this group do not have the power to make any changes in the “Live View” page or have access to pages other than the “Live View” page.

To create a group, select a group from the “Group” drop-down

You can change the group name by clicking the “Change Group Name” button. A text box will be displayed for you to enter the new group

Choose what type of privilege you would like this group to have from the "Privilege Type" drop-down menu

Group:

Privilege Type:

Its access privilege will then be displayed. You can alter its settings by allowing or denying access to other cameras using the checkboxes instead of accepting the defaults

**Group Privilege Setting**

Group:

Account Type:

Live:

<input checked="" type="checkbox"/> CH1 <input checked="" type="checkbox"/> Audio	<input checked="" type="checkbox"/> CH2 <input checked="" type="checkbox"/> Audio	<input checked="" type="checkbox"/> CH3 <input checked="" type="checkbox"/> Audio	<input checked="" type="checkbox"/> CH4 <input checked="" type="checkbox"/> Audio	<input checked="" type="checkbox"/> CH5 <input checked="" type="checkbox"/> Audio	<input checked="" type="checkbox"/> CH6 <input checked="" type="checkbox"/> Audio	<input checked="" type="checkbox"/> CH7 <input checked="" type="checkbox"/> Audio	<input checked="" type="checkbox"/> CH8 <input checked="" type="checkbox"/> Audio
<input checked="" type="checkbox"/> CH9 <input checked="" type="checkbox"/> Audio	<input checked="" type="checkbox"/> CH10 <input checked="" type="checkbox"/> Audio	<input checked="" type="checkbox"/> CH11 <input checked="" type="checkbox"/> Audio	<input checked="" type="checkbox"/> CH12 <input checked="" type="checkbox"/> Audio	<input checked="" type="checkbox"/> CH13 <input checked="" type="checkbox"/> Audio	<input checked="" type="checkbox"/> CH14 <input checked="" type="checkbox"/> Audio	<input checked="" type="checkbox"/> CH15 <input checked="" type="checkbox"/> Audio	<input checked="" type="checkbox"/> CH16 <input checked="" type="checkbox"/> Audio

Playback:

<input checked="" type="checkbox"/> CH1 <input checked="" type="checkbox"/> Audio	<input checked="" type="checkbox"/> CH2 <input checked="" type="checkbox"/> Audio	<input checked="" type="checkbox"/> CH3 <input checked="" type="checkbox"/> Audio	<input checked="" type="checkbox"/> CH4 <input checked="" type="checkbox"/> Audio	<input checked="" type="checkbox"/> CH5 <input checked="" type="checkbox"/> Audio	<input checked="" type="checkbox"/> CH6 <input checked="" type="checkbox"/> Audio	<input checked="" type="checkbox"/> CH7 <input checked="" type="checkbox"/> Audio	<input checked="" type="checkbox"/> CH8 <input checked="" type="checkbox"/> Audio
<input checked="" type="checkbox"/> CH9 <input checked="" type="checkbox"/> Audio	<input checked="" type="checkbox"/> CH10 <input checked="" type="checkbox"/> Audio	<input checked="" type="checkbox"/> CH11 <input checked="" type="checkbox"/> Audio	<input checked="" type="checkbox"/> CH12 <input checked="" type="checkbox"/> Audio	<input checked="" type="checkbox"/> CH13 <input checked="" type="checkbox"/> Audio	<input checked="" type="checkbox"/> CH14 <input checked="" type="checkbox"/> Audio	<input checked="" type="checkbox"/> CH15 <input checked="" type="checkbox"/> Audio	<input checked="" type="checkbox"/> CH16 <input checked="" type="checkbox"/> Audio

Allow use of PTZ:

<input checked="" type="checkbox"/> CH1	<input checked="" type="checkbox"/> CH2	<input checked="" type="checkbox"/> CH3	<input checked="" type="checkbox"/> CH4	<input checked="" type="checkbox"/> CH5	<input checked="" type="checkbox"/> CH6	<input checked="" type="checkbox"/> CH7	<input checked="" type="checkbox"/> CH8
<input checked="" type="checkbox"/> CH9	<input checked="" type="checkbox"/> CH10	<input checked="" type="checkbox"/> CH11	<input checked="" type="checkbox"/> CH12	<input checked="" type="checkbox"/> CH13	<input checked="" type="checkbox"/> CH14	<input checked="" type="checkbox"/> CH15	<input checked="" type="checkbox"/> CH16

System Configuration:

<input checked="" type="checkbox"/> System Configuration	<input checked="" type="checkbox"/> Channel Configuration	<input checked="" type="checkbox"/> Event Configuration
<input checked="" type="checkbox"/> Recording Configuration	<input type="checkbox"/> System Options	



### 3.1.6 Disk Setup (SVR-504/508/516 ONLY)

Once you install a hard disk to the recorder, you would need to initialize it so that it can be ready for recording. You can obtain basic information about the disk you installed in this page

To initialize it, simply click the "Format" button

#### NVR Setup

##### [-] System Configuration

Network Setup  
Time and Date

Users Account  
Group Privilege

Disk Setup

##### [+] Channel Configuration

##### [+] Event Configuration

##### [+] Recording Configuration

##### [+] System Options

#### Hard Disk Setting

Disk ID	Disk Type	Capacity	Disk Status	Format
1	Internal	142GB	Online	<button>Format</button>

You can also connect external USB thumb drive to the recorder for firmware upgrade.



*For instructions to install a hard disk to the recorder, refer to page 9*

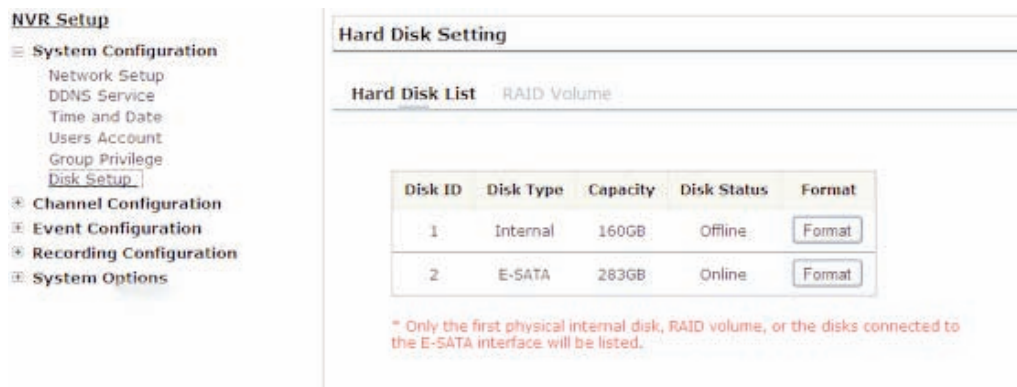


*To obtain detail information about the disk, go to "System Options" >> "Disk Status"*

### 3.1.7 Disk Setup (SVR-516+ ONLY)

Once you install a hard disk to the recorder, you would need to initialize it so that it can be ready for recording. You can obtain basic information about the disk you installed in this page

To initialize it, simply click the "Format" button



**NVR Setup**

- System Configuration
  - Network Setup
  - DDNS Service
  - Time and Date
  - Users Account
  - Group Privilege
  - Disk Setup
- Channel Configuration
- Event Configuration
- Recording Configuration
- System Options

**Hard Disk Setting**


Hard Disk List RAID Volume

Disk ID	Disk Type	Capacity	Disk Status	Format
1	Internal	160GB	Offline	Format
2	E-SATA	283GB	Online	Format

\* Only the first physical internal disk, RAID volume, or the disks connected to the E-SATA interface will be listed.

You can also connect external USB thumb drive to the recorder for firmware upgrade.

 For instructions to install a hard disk to the recorder, refer to page 9

 To obtain detail information about the disk, go to "System Options" >> "Disk Status"

To bring a disk online, click "Format"

If one or more disks you installed are not shown in the Disk Setup page, it means it could be a disk that is out of order or check the cable and see if it's well connected.

### Create RAID 0 Volume

To create a RAID 0 volume, two internal disks must be presented in the system. Click on the "RAID Volume" tab and make sure there are two disks under the "Internal Hard Disk List"

Hard Disk Setting

Hard Disk List RAID Volume

RAID Volume

Disk ID	Disk Type	Capacity	Disk Status
1	Internal	160GB	Offline
2	Internal	2000GB	Offline

Internal Hard Disk List

Disk ID	Disk Type	Capacity	Disk Status
1	Internal	160GB	Offline
2	Internal	2000GB	Offline

Disk Actions: Create RAID 0

It is required to format the RAID volume after creating a new volume or converting to a different RAID type. The format option can be found under the "Hard Disk List" tab.

Apply

Select "Create RAID 0" from Disk Actions drop-down menu

Hard Disk List RAID Volume

RAID Volume

Disk ID	Disk Type	Capacity	Disk Status
1	Internal	160GB	Offline
2	Internal	2000GB	Offline

Internal Hard Disk List

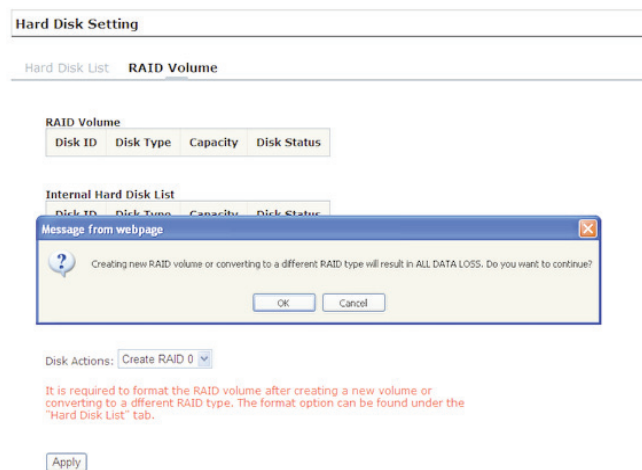
Disk ID	Disk Type	Capacity	Disk Status
1	Internal	160GB	Offline
2	Internal	2000GB	Offline

Disk Actions: Create RAID 0

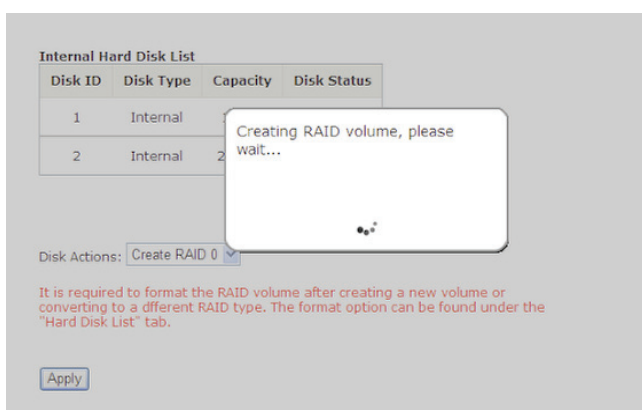
It is required to format the RAID volume after creating a new volume or converting to a different RAID type. The format option can be found under the "Hard Disk List" tab.

Apply

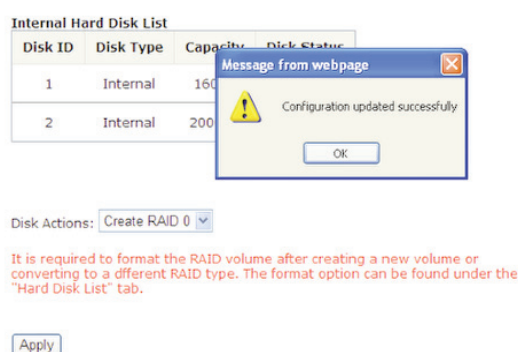
A warning message will be displayed to confirm the action as creating a RAID volume or converting to a different RAID volume will result in ALL DATA LOSS



The process will begin and wait for the screen to refresh



You should be prompted with below message once the process is finished successfully



After the RAID 0 volume is successfully created, it should be listed under the "RAID Volume" table with the status "Offline"

Hard Disk List RAID Volume

### RAID Volume

Disk ID	Disk Type	Capacity	Disk Status
1	RAID 0	319GB	Offline

### Internal Hard Disk List

Disk ID	Disk Type	Capacity	Disk Status
1	Internal	159GB	Offline
2	Internal	159GB	Offline

Disk Actions: Create RAID 1

It is required to format the RAID volume after creating a new volume or

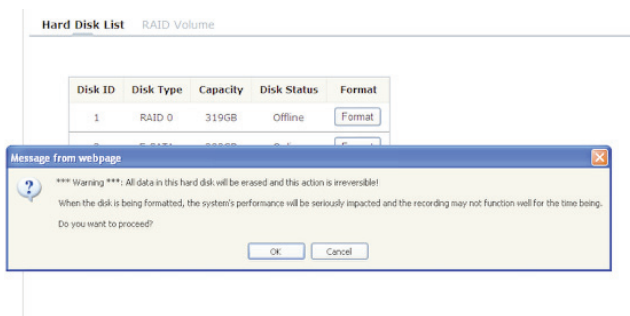
To bring the RAID volume online, go to the "Hard Disk List" which you should now see the RAID volume as Disk ID 1, simply click "Format"

Hard Disk List RAID Volume

Disk ID	Disk Type	Capacity	Disk Status	Format
1	RAID 0	319GB	Offline	Format
2	E-SATA	283GB	Online	Format

\* Only the first physical internal disk, RAID volume, or the disks connected to the E-SATA interface will be listed.

A warning message should be displayed notifying such action will erase all data on the disk (RAID volume), simply click "OK" to continue



The status should be displayed



You should re-directed to the Hard Disk List page after the process is done. You should now see the status of the RAID volume to be online

Hard Disk List   RAID Volume

Disk ID	Disk Type	Capacity	Disk Status	Format
1	RAID 0	283GB	Online	<a href="#">Format</a>
2	E-SATA	283GB	Online	<a href="#">Format</a>

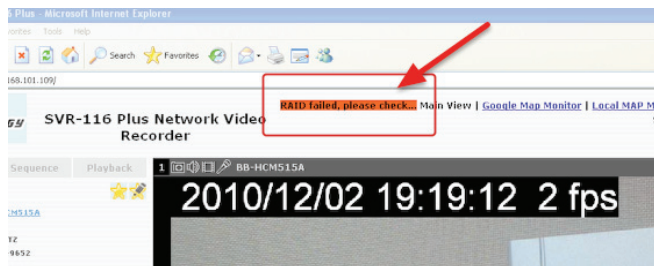
\* Only the first physical internal disk, RAID volume, or the disks connected.

**Note:**

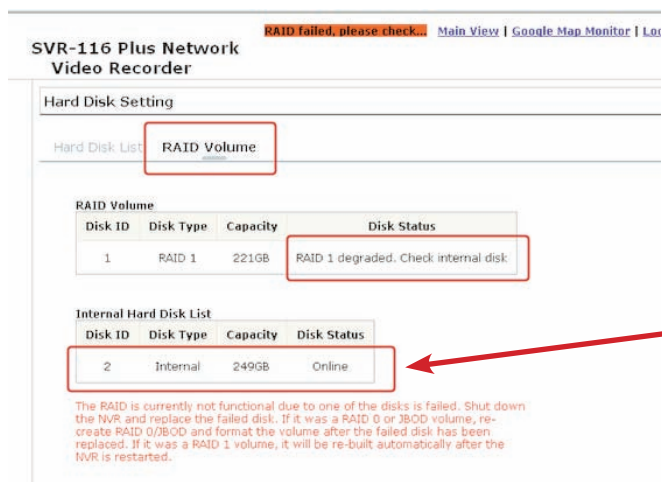
1. This procedure applies to creating RAID 0/RAID 1/JBOD volume.
2. You can convert to another RAID type or JBOD volume at anytime after a RAID volume has been created.
3. Converting to a different RAID type or delete RAID will result in ALL DATA LOSS.
4. Once a RAID volume is deleted, both disks will be come offline and only the first internal disk will be listed in the Hard Disk List page and only this disk can be formatted.
5. If there are multiple partitions presented in the first internal disk, only the first partition will be detected and listed in the Hard Disk List as DISK 1.

## When RAID Volume Failed

RAID volume fails when one of the internal disks fails. You should the warning message at the top of the NVR web UI



Click on the warning message should direct you to the "Disk Setup" page, click on the "RAID Volume" tab to see more details



\* Only Disk 2 is presented in the "Internal Hard Disk List". It means Disk 1 is failed



## 3.2 Channel Configurations

### 3.2.1 Add a Camera

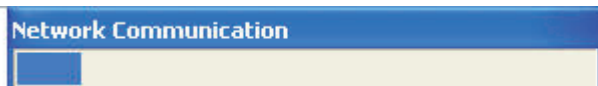
The NVR provides two options for adding a new camera. Users have the option to let the recorder automatically find the cameras or it is possible to enter camera's information and add it manually.

### Automatic Search:

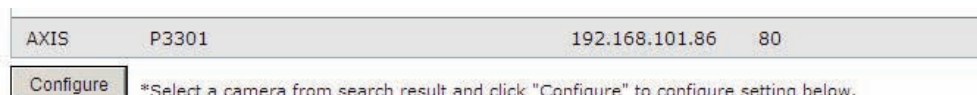
1. Click the "Search" button to perform the camera search. You should be prompted to install Active Control component in order for the search to function properly. Go ahead and click "Install"



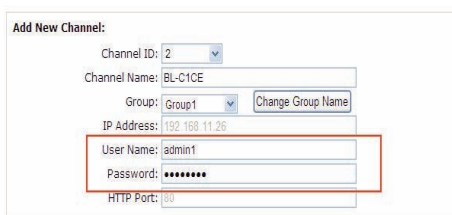
2. After that, the search should begin and its status should be displayed:



3. Found cameras should be listed and simply select a camera from the list and press "Configure"



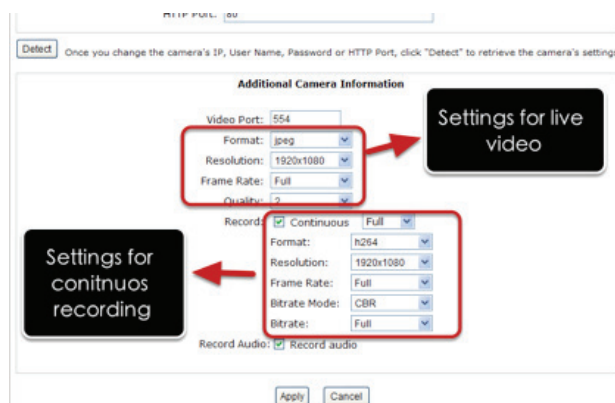
4. Its corresponding information should be displayed in the "Camera Information" section. Enter its username and password and select the channel ID and name the camera.



5. Once the camera's settings are polled and displayed, you can also enable "continuous" recording and adjust its recording quality settings before adding the camera.

Some cameras are capable of multiple streaming profiles, in which different video codecs are used for different purposes.

You will be able to use different video format for continuous recording if it's a multi-stream capable camera.





If cameras are marked with "\*" in the search result, it means those cameras are already configured and connected to the NVR.

1. Add a new camera by manually entering camera's setting in the "Camera

	IP Address	HTTP Port	Installed
	192.168.101.40	80	
	192.168.101.42	80	
	192.168.101.41	80	
	192.168.101.47	80	
	192.168.101.43	80	
	192.168.101.23	80	*
	192.168.101.46	80	

There are two types of fps settings here, one is the fps that NVR sets back to the camera, and this is the fps NVR will be receiving from the camera. The other is recording fps, which will be limited by the live fps. (ex. if the live fps is set to 10, choosing "Full" in the recording fps meaning it will only record at 10fps maximum.

For MPEG/H.264, only i frame or full (i+p frame) can be selected for recording fps.

Quality: 2

Record: ☒ Continuous

Format: Full

Resolution: Full

Frame Rate: Full

Bitrate: Full

Bitrate: Full

Record Audio: ☒ Record audio

recording fps

live fps

For single stream camera, only the recording fps can be adjusted.

Once you change the camera's IP, User Name, Password or HTTP Port, click "Detect" to retrieve the camera's settings

**Additional Camera Information**

Video Port: 554

Format: jpeg

Resolution: 4CIF

Frame Rate: 20

Quality: 1

Record: ☒ Continuous 1FPS

Record Audio: ☒ Record audio

### Add a camera manually

Simply follow the instruction described above but instead of using the "Search" function, enter the camera's IP address and credential in the "Camera Information" manually, then follow step 5 ~6 described above.

**Add New Channel:**

Channel ID: 3

Channel Name: cam3

Group: Group1 [Change Group Name](#)

IP Address: 192.168.101.20

User Name: root

Password: ....

HTTP Port: 80

**1.**

**2.**

[Detect](#)

Once you fill out above information, click "Detect" to retrieve camera setting

Enter manually

### 3.2.2 OSD Settings

The OSD (On Screen Display) allows users to add informational text message and embed it onto the video. By default, this function is turned off. To add texts to one or more videos,

1. Select a camera you would like to add text to and choose "Display OSD"

2. Choose one or more display options if you would also like the recorder to automatically embed the system time or the frame rate for you. Or simply choose to display a custom message of your own

3. Next, define where the text will be displayed by either entering an X/Y coordinate or use the system pre-defined position from the drop-down menu

4. Click on the "Preview" button to see the preview of your setting and click "Apply" to save the configuration

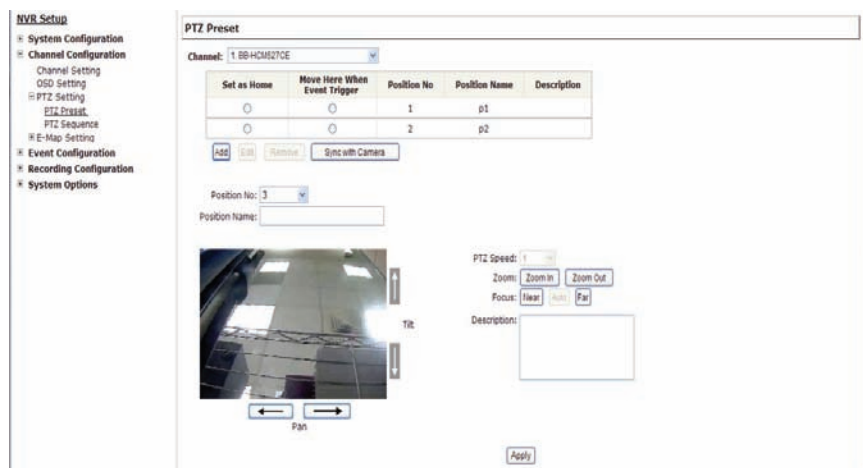


\* Click this button to see a preview of your OSD settings

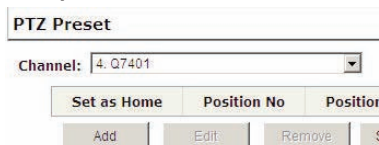
- The texts can be further adjusted with changes to different size, color or font so they can be more visible on the video

### 3.2.3 PTZ Preset Settings

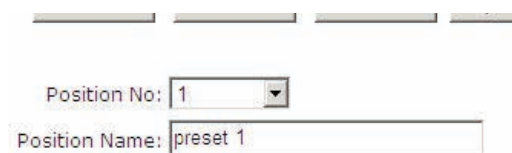
The recorder supports PTZ cameras and can set multiple preset points or retrieve and manage preset points that are set in the camera. This is helpful if you need to monitor multiple spots in one area from a particular camera.



1. To set up PTZ preset points, select a camera from the "Camera" drop-down menu and click "Add"



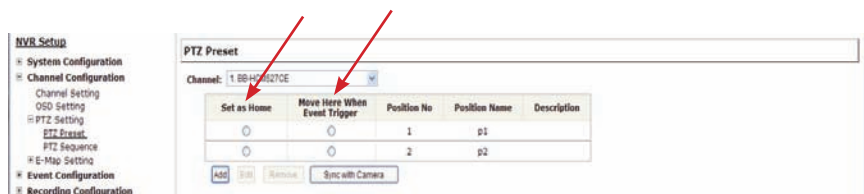
2. Select a position number for the preset point from the "Position Number" drop-down menu and fill in a name in the "Position Name" field for easier identification



3. Use the PTZ control provided in the configuration page to set the preset point



Ultimately, you can choose to make this preset point a “Home” point among all other preset points, as well as making the camera to move to this particular point when an event is triggered.

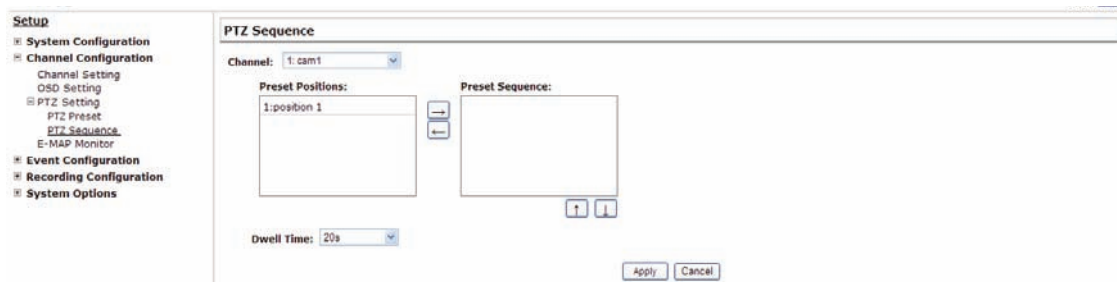


- “Move Here when Event Trigger”: In order for this function to work properly, please also complete configuration in “Event Configuration” >> “Event Trigger”



### 3.2.4 PTZ Preset Sequence

Once you have multiple preset points defined for a camera, it is convenient for monitoring to set up the sequencing viewing among those preset point and let the recorder automatically switch between them for you.



To configure preset sequence for a camera, select a channel from the "Channel" drop-down menu

The available preset points should be listed in "Camera Presets" section

Pick the ones you like for sequence viewing and press the "->" button to move them to the "Preset Sequence" section, then use the up and down buttons to adjust their sequencing positions.

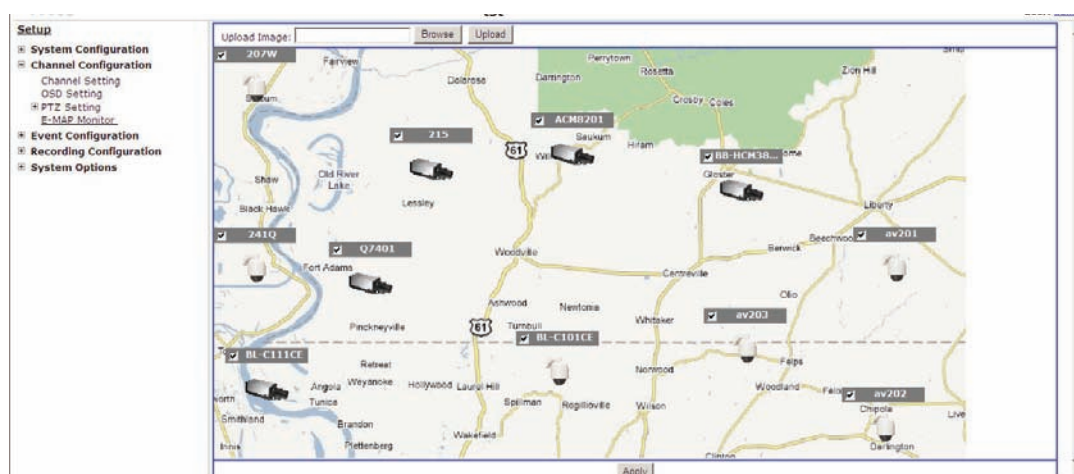
Finally, select a dwell time from the drop-down menu and click "Apply" to save the configuration

- To start preset sequence viewing, check page 21 for instructions

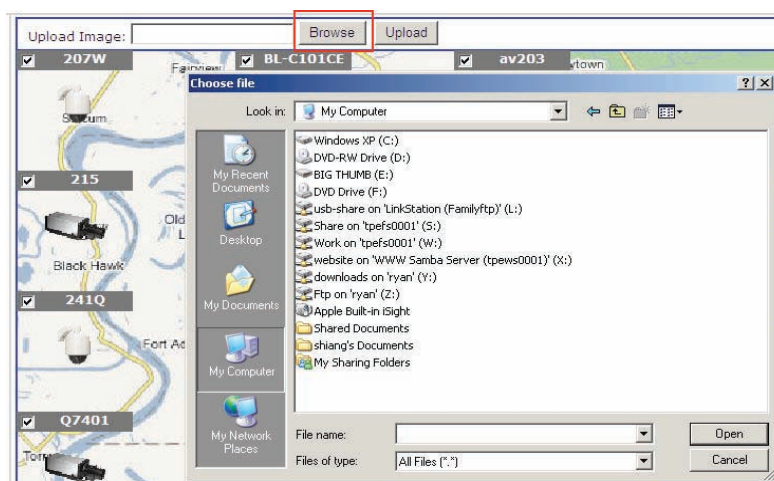
### 3.2.5 E-Map Setting

#### 3.2.5.1 Local Map Setting

E-Map monitor is a function that alerts users whenever there is an event triggered (e.g. motion detected) from a camera with a geographical perspective. With this function, users can quickly identify which camera has detected an unusual event and where this event is happening. This function works by incorporating the event detection function as well as the recording function, which, as a result, helps users take all the necessary actions when an unusual event occurs.

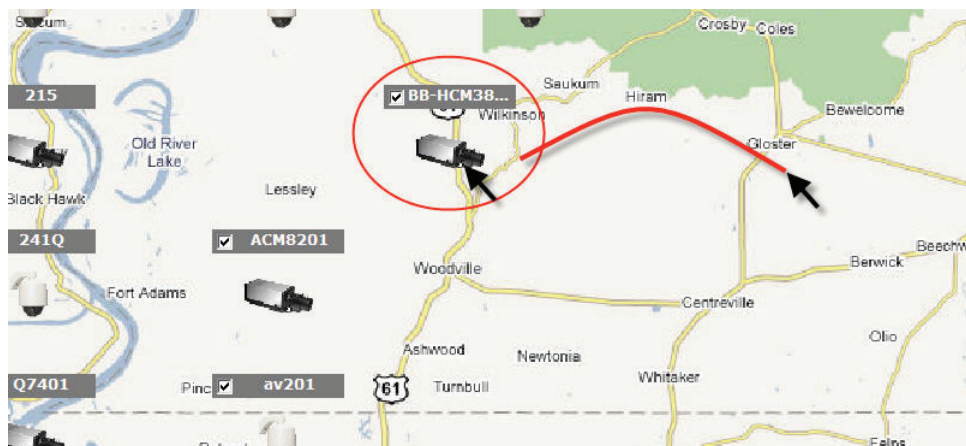


To replace the map, click "Browse" button to locate the new map image file from the local PC and then click "Upload"

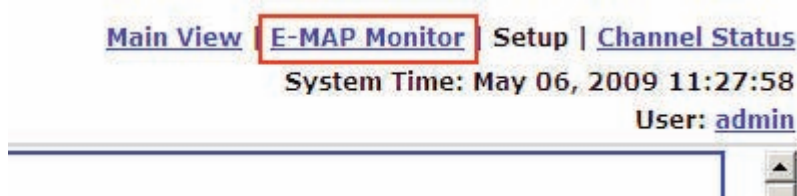


- Only JPG, PNG, and GIF file formats are supported with file size under 100KB

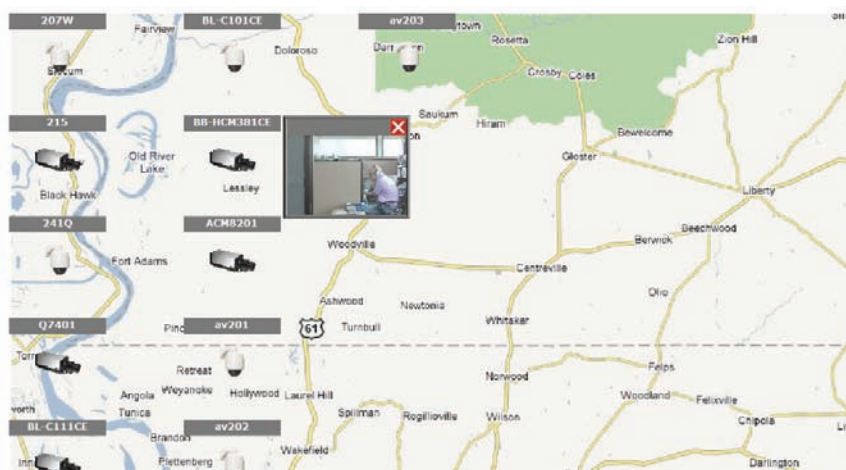
Then click and drag the camera icon to move the camera to define its location.



Access the E-Map Monitor page from the upper-right hand corner menu



When the NVR receives an event triggered from any of the cameras, their videos will be displayed on the E-Map and you can double-click on the video to enlarge it



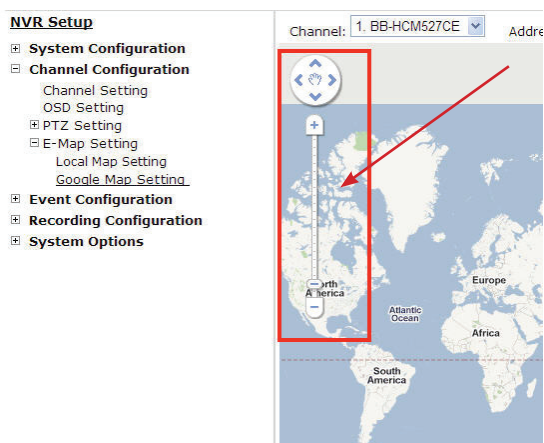
### 3.2.5.2 Google Map Setting

The Google Map monitor is a similar function to the aforementioned E-Map monitor. It is useful if you are managing multiple cameras from different locations.

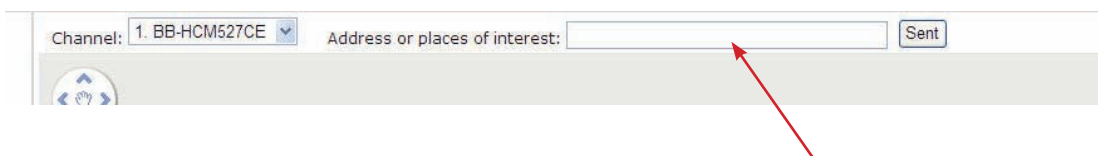


To configure locations of each camera, first determine the location you'd like to place the camera to on the map. You can do so by:

1. Zoom in to a smaller area by using the zoom control bar on the map
2. Zoom in to a smaller area by using the mouse scroll button



You can also go to a specific place on the map by entering its address or the name of the place in the "Address or places of interest" field:



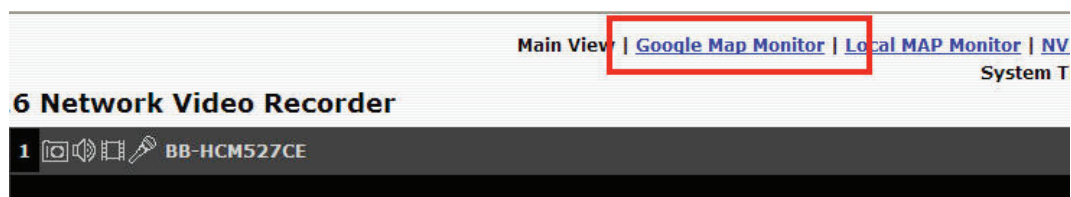
Once the location has been determined, click and drag the camera icon to move it to the desired location:



*\* Click and drag the icon to re-arrange its location*

- The Google Map Monitor requires active Internet connection and can not be used in conjunction with the regular E-Map monitor function.
- You can click anywhere on the map and hold down the mouse left button then drag to move the map itself

You can then access the Google Map Monitor from the top menu:



### 3.3 Event Configurations

The “Event Configurations” section allows users to define conditions that constitute an event, its corresponding trigger action and when it will be triggered. Such setting can reduce the management overhead and notify the administrator only when it's necessary.

#### 3.3.1 General Settings

The general settings section can help you quickly configure when an event is triggered, how often events are triggered and the corresponding actions when events are triggered.

Start the event configuration by defining the general settings:

#### Define when an event will be triggered

- Choose “Always” or “Only during...” under “Event Trigger Duration”
- For the “Only during...” option, choose the days by using the checkbox and then define the time range in those days in the “Start Time” and “End Time” fields that you would like the event trigger function to be enabled.

#### How often an event is triggered

- Set a time interval under “Event Trigger Interval” to define how often events are triggered



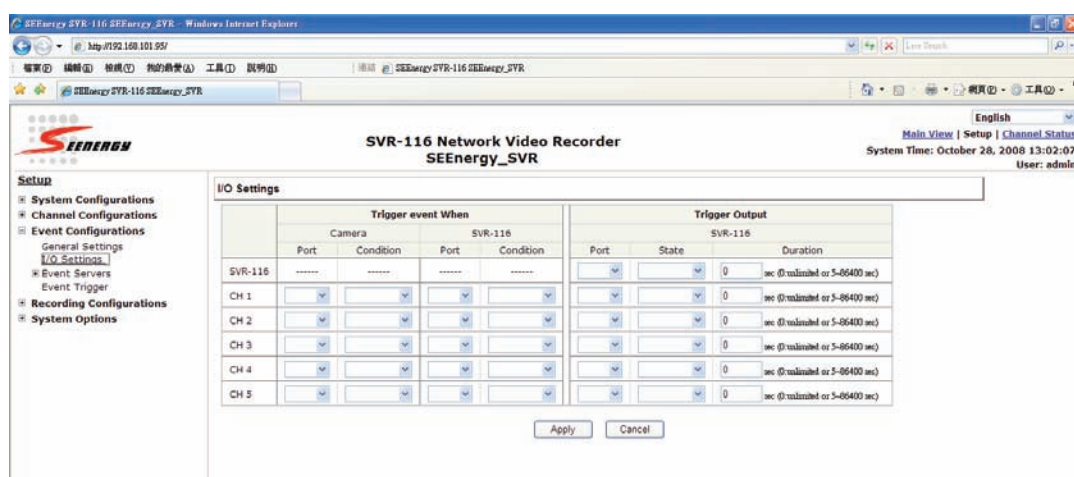
## Trigger action

Now that you have the event trigger duration and interval defined, choose what action to be taken during an event trigger:

- You can choose to have the recorder send out the first few frames of the video recorder upon an event is triggered
- You can also choose to have the recorder send out a warning message in e-mail or in txt file format and upload it to an destined FTP server


### 3.3.2 I/O Settings


This function allows users to manage camera's digital input and output ports right from the recorder. You can setup the recorder to receive triggers from a particular camera's input port and trigger a device, such as an alarm that is connected to the recorder or camera's output port. Cameras that do not have built-in digital input/output port can also be configured to pair with the recorder's DI/DO ports.





1. For cameras that come with physical digital input ports, their ports will be listed in the far left drop-down menu.
2. Pick the desired channel for I/O mapping, and then select the camera's input port from the drop-down menu.
3. Select the trigger condition from the "Condition" drop-down menu.
4. Select the recorder's input port if you would also like to use the recorder's input port for event trigger. And then select the trigger condition as well.
5. Next, select the recorder's output port and define its trigger state
6. Finally, define the trigger duration.



 The recorder does not control camera's input or output ports in a way to let you pair recorder itself with a camera's input or output port for event receiving or triggering.

 The recorder only acts as a medium for pairing up input/output ports between cameras and the recorder.

 Only connected cameras will be displayed in the list.

 Some cameras only allow one trigger source be configured at a time, e.g.: if the camera has the motion detection function turned on, its digital input will be disabled and vice versa. Under such circumstance, if you set to use camera's digital input port as the event trigger source, you will not be able to select motion detection as the trigger source for this camera under "Event Configurations" >> "Event Trigger" setup page.

\* The image(s) that are uploaded to the destined FTP server or emailed to a destined mail recipient are in their own proprietary image file format (.h4i or .p4i), which can only be opened by the NVR media player. For details, please refer to page 40.

### 3.3.3 Event Servers

Event servers are to be used with event trigger actions. In case of unusual motion detected by the camera or a disk failure, the recorder can send notification with the acceptable format (image/txt) to a destined event server according to the configuration.

#### Configuring an FTP server

FTP Servers Setting				
Name	Network Address	Port	Passive Mode	Enabled
<div>Edit Remove</div>				
<b>FTP Server</b>				
Name:	<input type="text"/>			
Network Address:	<input type="text"/>		*Enter host name or IP address	
Port:	<input type="text" value="21"/>			
<b>Login Information</b>				
User Name:	<input type="text"/>			
Password:	<input type="password"/>			
<b>Passive Mode</b>				
<input type="checkbox"/> Use Passive Mode				
<b>Test</b>				
<div>Test</div> *Click "Test" to test the connection to the FTP server				
<div>Add</div>				

To add an FTP server,

1. Start by giving a name to the server that you are adding to the recorder
2. Enter the FQDN or the IP address of the FTP server
3. Enter the communication port of the FTP server (usually port 21)

#### FTP Server

Name:

Network Address:  \* Enter host name or IP address

Port:

4. Enter the username and password of the FTP server if it's required
5. Check "Use Passive Mode" if it's required or leave it unchecked to use active mode

**Login Information**

Username:

Password:


**Passive Mode**

☐ Use Passive Mode

6. Click "Test" to verify if all information is entered correctly and the connection to the FTP server can be established successfully
7. Click "Add" for the settings to take effect

**Test**

"Click "Test" to test the connection to the FTP server:"

 If you wish to edit/remove/enable/disable an FTP server, click to highlight one from the profile list and choose the corresponding action button/checkbox

Name	Network Address	Port	Passive Mode	Enabled
test	ftp.test.com	21	No	<input checked="" type="checkbox"/>
<input type="button" value="Edit"/>	<input type="button" value="Remove"/>			

## Configuring an SMTP server

**SMTP Servers Setting**

**SMTP Server 1**

Network Address:  \*Enter host name or IP address

Port:

Sender's Name:

Sender's E-mail:

☐ Enable Authentication:

User Name:

Password:

**Test**

Send Test Email To:

**SMTP Server 2**

Network Address:  \*Enter host name or IP address

Port:

Sender's Name:

Sender's E-mail:

☐ Enable Authentication:

User Name:

Password:

**Test**

Send Test Email To:

1. Enter the hostname or the IP address of the SMTP server
2. Enter the port of the SMTP server
3. Specify the sender's name in the "Sender's name" field
4. Enter the sender's e-mail address
5. Check "Enable Authentication" and enter the username and password of the SMTP server if it requires authentication
6. Click "Apply" to save the configuration

\* The NVR supports SMTP servers that use base64 or MD5 authentication methods.

\* 3rd party free E-mail services such as Gmail, Hotmail, or Yahoo mail are not supported.

### 3.3.4 Event Triggers

We have finished defining how an event will be triggered and which servers will be receiving notifications in the previous two sections, now we can finish up the event configuration by setting:

- which channels will have event trigger function enabled
- What is considered to be an event
- Where the warnings will be sent to and how they will be sent

Event Handling Setting																
When Channel is triggered by																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
I/O Input	<input type="checkbox"/>					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>								
Motion Detection	<input type="checkbox"/>					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>								
Custom Event	<input type="checkbox"/>					<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								

\*Please make sure you have properly enabled and configured motion detection region in the camera's web configuration UI before enabling motion detection in the NVR. The NVR only supports single region detection, and only the first region will be used even if you set multiple motion detection regions in the camera.

When NVR is triggered by	
<input type="checkbox"/> Recycled	<input type="checkbox"/> When NVR Start Up
<input type="checkbox"/> Disk Full	<input type="checkbox"/> When NVR System Configuration Changed
<input type="checkbox"/> Disk Fail	<input type="checkbox"/> When Channel's Configuration Changed
<input type="checkbox"/> When Camera Connection Status Changed	

Trigger Actions	
<input type="checkbox"/> E-Mail:	E-Mail Addresses: <input type="text"/> "use "," to separate e-mails
<input type="checkbox"/> FTP	Upload Path: <input type="text"/>
<input type="checkbox"/> Trigger I/O Output	
<input type="checkbox"/> Buzzer	
<input type="checkbox"/> Move to particular preset points	

### Select Channels to Enable Event Trigger and which type of event should be triggered

- Use the checkbox to enable event trigger on the desired channels

Event Handling Setting																
When Channel is triggered by																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
I/O Input	<input type="checkbox"/>					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>								
Motion Detection	<input type="checkbox"/>					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>								
Custom Event	<input type="checkbox"/>					<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>								

\*Please make sure you have properly enabled and configured motion

\* Once motion detection is enabled in this page, please configure the motion area and enable motion detection in the corresponding channels (cameras). The NVR only detects the first motion area set in the camera. The NVR recognizes the first motion area by its ID number set in the camera.

\* Enabling the "custom event" option allows the NVR to receive events from the CMS software and start recording; events such as the intelligent video detection in the CMS.

- Define which system events should trigger the recorder to send out notifications

When SVR-116 is Triggered by

- |   |   |
|---|---|
| <input type="checkbox"/> Recycle                | <input type="checkbox"/> When SVR-116 Shuts down            |
| <input type="checkbox"/> Disk Full              | <input type="checkbox"/> When SVR-116 Configuration Changed |
| <input type="checkbox"/> Disk Fail              | <input type="checkbox"/> Camera Configuration Changed       |
| <input type="checkbox"/> When SVR-116 Starts up |   |

- Define how the notifications will be sent and where they will be sent to

Trigger Actions

- |                          |   |  |                              |
|--------------------------|---|--|------------------------------|
| <input type="checkbox"/> | <b>E-Mail:</b>                          | E-Mail Addresses: <input type="text"/> | *use "," to separate e-mails |
| <input type="checkbox"/> | <b>FTP</b>                              | Upload Path: <input type="text"/>      |                              |
| <input type="checkbox"/> | <b>Trigger I/O Output</b>               |  |                              |
| <input type="checkbox"/> | <b>Buzzer</b>                           |  |                              |
| <input type="checkbox"/> | <b>Move to particular preset points</b> |  |                              |

Apply

*\* Event trigger may not work for cameras that are placed outside of your local network or on the Internet until the "UPnP Port Forwarding" is enabled in both the NVR and the router.*

### 3.4 Recording Configurations

The "recording configurations" gives users the overall control of how and when a recording is performed and the quality of different types of recordings performed on each channels. It can help the recorder to operate with sufficient system resource by performing recording only when it's necessary with adjustable recording frame rate.

#### 3.4.1 General Settings

- You can define the following in "General Settings":
  - Pre-Alarm/Post-Alarm recording length
  - Recording frame rate
  - Define to always keep a number of days of previously recorded data
  - Enable/disable different recording types on different cameras
  - Enable/disable audio recording

Pre-Alarm Buffer: 0 Seconds  
Post-Alarm Buffer: 5 Seconds

**Recording Frame Rate**

Channel: Channel 1-8

	1	2	3	4	5	6	7	8
Format	Same as Live	Same as Live	Same as Live	Same as Live	Same as Live	Same as Live	Same as Live	Same as Live
Continuous	Full	Full	Full	Full	Full	Full	Full	Full
Schedule	Full	Full	Full	Full	Full	Full	Full	Full
Event	Full	Full	Full	Full	Full	Full	Full	Full
Manual	Full	Full	Full	Full	Full	Full	Full	Full

**Keep Video**

☐ Keep the previous days of recorded videos

**Camera Recording Setting**

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Continuous	<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"/>
Schedule	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Event	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Continuous	<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"/>
Schedule	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Event	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Record Audio**

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Record audio	<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"/>

	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Record audio	<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"/>



The "recording buffer" allows user to define "pre-alarm" and "post-alarm" time for event recordings. The "pre-alarm" time sets the NVR to record in advance when an event is triggered. The "post-alarm" time sets the NVR to continue recording for a period of time after an event trigger is finished.

#### Recording Buffer

Pre-alarm Buffer:  sec

Post-alarm Buffer:  sec

\* The "Pre-alarm" function only works when the "Continuous" recording is also activated.

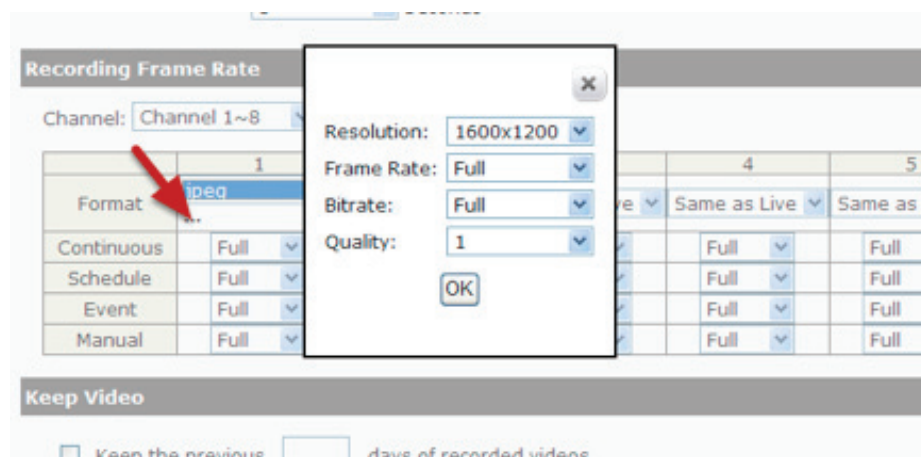
Recording frame rate allows you to set different frame rate for different types of recording instead of recording at one frame rate only. Use the drop-down menu and select one of the pre-defined frame rates for a particular recording type

	1	2	3	4
Format	Same as Live	Same as Live	Same as Live	Same as Live
Continuous	Full	Full	Full	Full
Schedule	Full	Full	Full	Full
Event	Full	Full	Full	Full
Manual	Full	Full	Full	Full

You are able to use the same video format for recordings or you can choose other formats for different recording purposes if it's a multi-stream capable camera.

If you chose to use a different video format for recording, you are able to adjust its detail settings by clicking on the "...".

A new dialog will pop out for further detail configurations. Noticing the "Frame rate" in this dialog represents the live fps that will be set back to the camera for this particular video format. You can configure the recording fps for different types of recordings individually.



Users can also set to keep a previous number of days of recording data by enabling the option below. This is quite often used in application such as banking which certain countries requires to always keep a minimum previous number of days of recording data.

Keep Video

☐ Keep the previous  days of recorded videos

*\* If this option is enabled, once the hard drive is full, the recycle function will then start but it will ensure that the number of days of recording data defined here will stay in hard drive instead of wiping out 20GB of data at a time.*

*\* If the hard drive is not full, the NVR re-calculates twice a day (each at 2:30am and 2:30pm) to keep the defined number of days of recording data from these two particular point of time backward.*

The "Camera Recording Setting" section allows you to turn on or off a particular recording type on any channels.

### Camera Recording Setting

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Continuous	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>											
Schedule	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>											
Event	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>											

The section at the bottom of the page allows you to disable audio recording (record video only) of particular channels.

### Record Audio

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Record audio	<input type="checkbox"/>															

## 3.4.2 Schedule Recording

Here you can define the time range of the schedule recording for all channels.

The screenshot shows the 'Schedule Recording Settings' page for 'SVR-116 Network Video Recorder SEEnergy\_SVR'. The interface includes a sidebar with 'Setup' options: System Configurations, Channel Configurations, Event Configurations, Recording Configurations (General Settings, Schedule Recording Settings, System Options), and System Options. The main area has a 'Channel' dropdown set to '1. Camera\_Ch1'. Below it is a 'Schedule Table' with rows for Sunday through Saturday and columns for hours 0 to 23. A 'Clear' button is next to the table. Below the table is a 'Quick Configuration' section with 'Days' (Sun, Mon, Tue, Wed, Thu, Fri, Sat, All) and 'Duration' (All day, During) options. The 'During' option is selected, showing 'Start Time' and 'End Time' dropdowns. An 'Add' button is at the bottom right of the quick configuration section. At the very bottom, there is a 'Copy Schedule To Channel:' dropdown.

### To configure a schedule recording:

1. Use the "Channel" drop-down menu and select a camera first

Channel:

2. You can use the schedule table to set the time range. Click the cell boxes then move horizontally lets you set what hours to perform recording during a day. Click and move vertically lets you set what days to perform recording at a specific time.

Schedule Table																								
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Sunday																								
Monday																								
Tuesday																								
Wednesday																								
Thursday																								
Friday																								
Saturday																								

Clear

\* Each cell box represents 15 minutes of time. Click one or more boxes to omit consecutive recording

3. You can also use the “Quick Configuration” to define recording time range instead of clicking cell boxes one by one on the time table. Simply check what days you would like to perform recording and specify the recording duration by either choosing “All Day” or enter a start and end time for specific recording duration.

**Quick Configuration**

Days

☐ Mon. ☐ Tue. ☐ Wed. ☐ Thur. ☐ Fri. ☐ Sat. ☐ Sun.

Duration

☒ All day

☐ During Start Time: 00:00 End Time: 00:00

4. Select the “Copy to” option if you would like to set the same recording schedule to another camera.

☒ During Start Time: 00:00 End Time: 00:00

Copy Schedule To Channel:

Apply

## 3.5 System Options

System Options gives users a glance of the overall system status and allows users to perform maintenance tasks such as upgrading firmware, restore/backup device settings or reboot device ....etc.

### 3.5.1 Device Information

The "Device Information" provides the general information of the device such as firmware version and system time. It also provides information of the current network settings and status.

<b>Setup</b>	<b>General Information</b>
System Configuration	Device Name: tst
Channel Configuration	Model Name: SVR-116
Event Configuration	Firmware Version: 1.2.0.30014714
Recording Configuration	Device Time: Up 0 days 16:56:55, since May 05 2009 18:56:23
System Options	
Device Information	<b>Network Information</b>
System Logs	Network Type: DHCP
Maintenance	Device IP: 192.168.102.2
DO Status	HTTP Port: 80
Disk Status	Streaming Port: 9877
UPS Configuration	MAC Address: 00:28:68:78:31:03
	DHCP Server: Disabled
	UPnP Port Forwarding: Disabled
	<b>Current DHCP Clients</b>

## 3.5.2 Logs and Reports

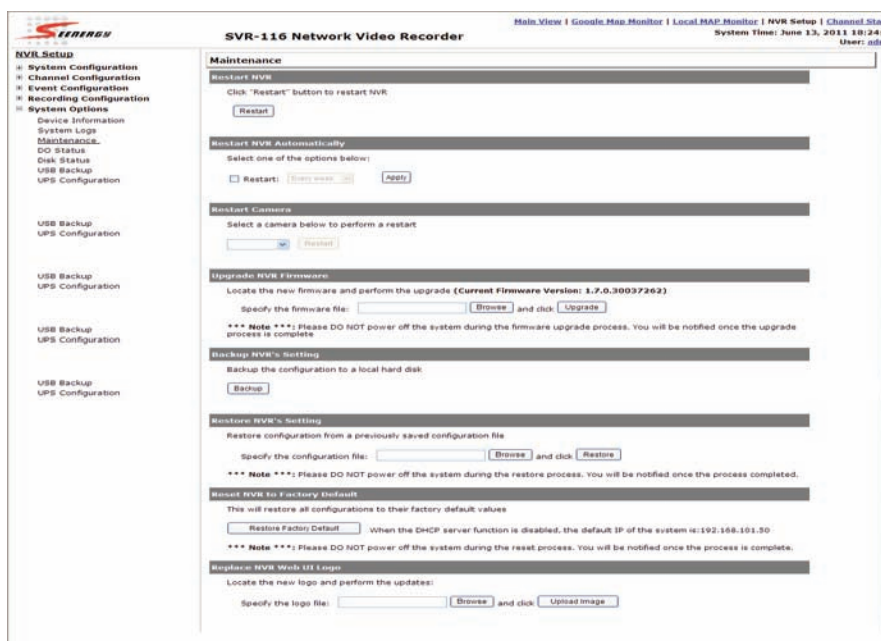
"Logs and Reports" keeps a record of what's been happening to the device and provides basic information for troubleshooting



## 3.5.3 Maintenance

"Maintenance" provides functions for users to:

- Reboot the NVR when necessary
- Reboot cameras directly from the NVR
- Perform Firmware Upgrade
- Backup the NVR's settings to a local hard drive
- Restore the NVR's settings from a previously saved configuration file
- Reset the NVR's settings to their factory default values



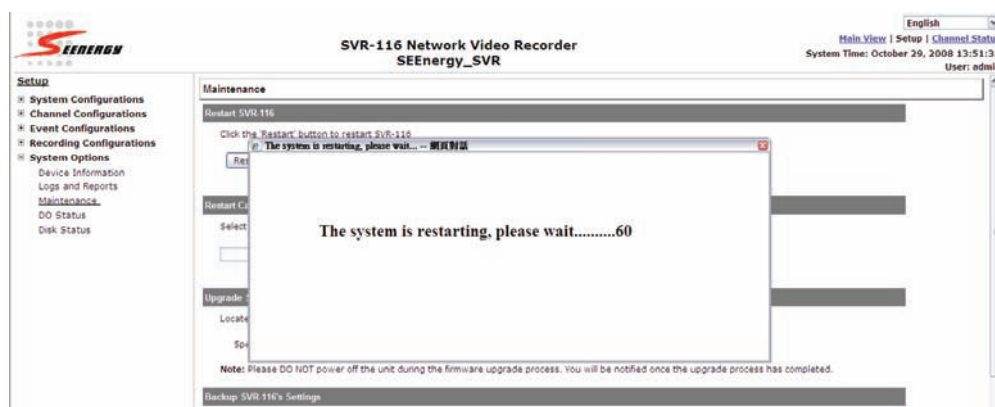
### Reboot the NVR

Reboot the NVR after you upload a new firmware. You would need to manually reboot the system for the new firmware to take effect. Such process would prevent a recording from getting interrupted because the system would not automatically reboot itself after the new firmware is loaded onto the recorder.

Simply click "Restart" to begin the reboot process and confirm the action:



The restart process should be displayed and you should be prompted back to the "Maintenance" page after it is complete:





## Reboot the NVR at a specific time automatically

You can also configure the NVR to restart automatically by using the options given in the web UI. You can set the NVR to restart at a particular hour of a specific day during a week or a month.

### Restart NVR Automatically

Select one of the options below:

☒ Restart: Every week ▾ Monday ▾ 00:00 ▾ Apply

### Restart NVR Automatically

Select one of the options below:

☒ Restart: Every month ▾ 4 ▾ 03:00 ▾ Apply

### Firmware Upgrade

The firmware can be upgraded through web UI or USB. Before upgrading firmware, please backup current configuration first.

**\*\* the firmware file comes with a ".tar.gz" file extension, please use the file as is, DO NOT unzip it. It's normal that you may only see ".tar" as the the ".gz" file extension is hidden by default in Windows. You will get "incorrect file format" error message if the file extension is altered. Certain personal firewall may also cause such problem.**

#### A. Upgrade through Web UI

1. Login into NVR's web management UI. Go to "Setup" page and go to "System Options"->"Maintenance"

+ **Recording Configuration**

- **System Options**

Device Information

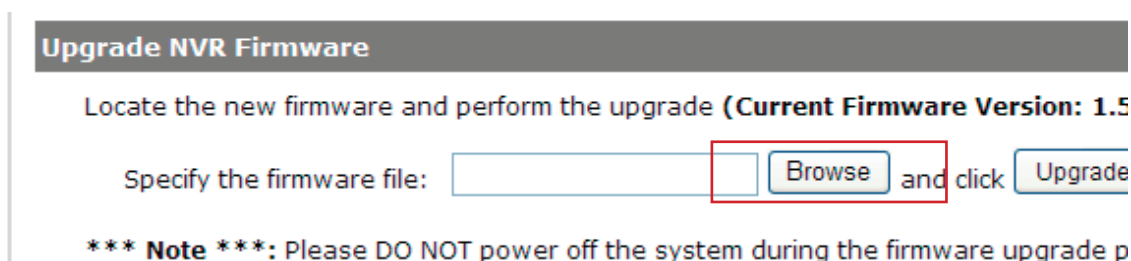
System Logs

**Maintenance**

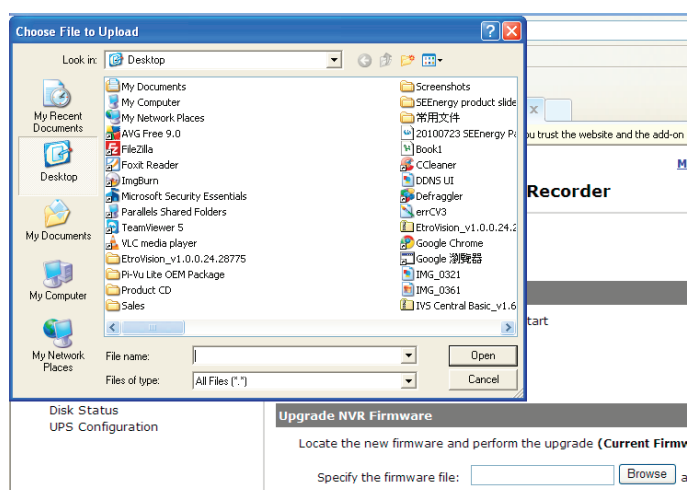
DD Status

Disk Status

2. On "Upgrade NVR's Firmware" section, click "Browse" and select new firmware file



3. A new dialog should display and let you choose the location of the firmware file



- When done, click "Upgrade"



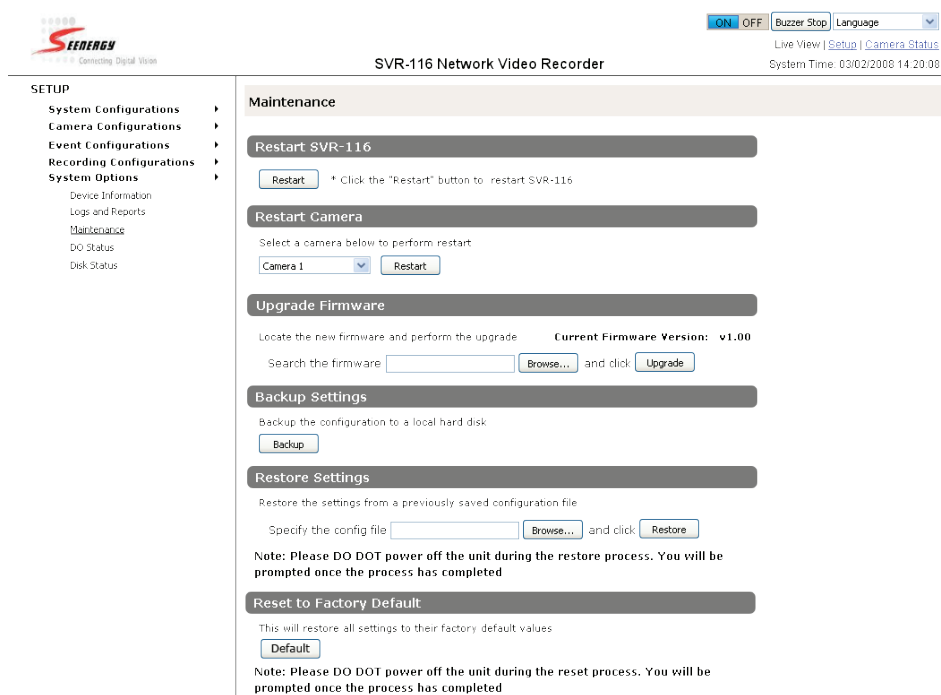
- Follow the on screen instruction and wait for the process to finish (After upgrade, the system will reboot automatically, it's part of the process)

#### B. Upgrade through USB

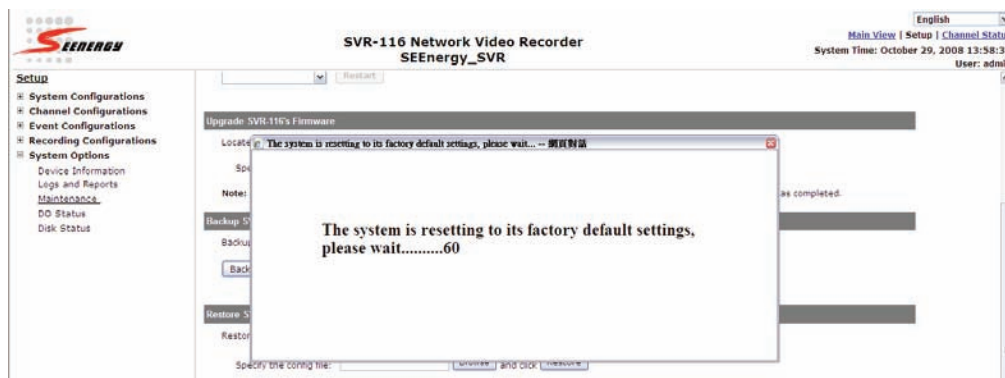
- Prepare a USB flash disk and format with FAT or FAT32 format
- Place the firmware in the USB flash disk and make sure it's placed at the top-level directory. Please do not place the file in a folder. **(make sure to change the firmware file name to "firmware" and leave its file extension ".tar.gz" as is before placing the file to the USB disk)**
- Plug USB flash disk into USB port on the NVR
- The Status LED on the NVR will start to flash in amber. This indicates firmware upgrade is in process
- \*\*\* Warning \*\*\* Please wait until upgrade process finished, interrupt the upgrade process may cause system not work anymore
- Wait until Status LED flashes in green. This indicates firmware upgrade is finished
- Power off the NVR and remove the USB disk the power the unit back on again
- Restore configuration file back if needed

## Reset the NVR to Factory Default

To reset the recorder back to its factory default, click "Default" button and begin the process:

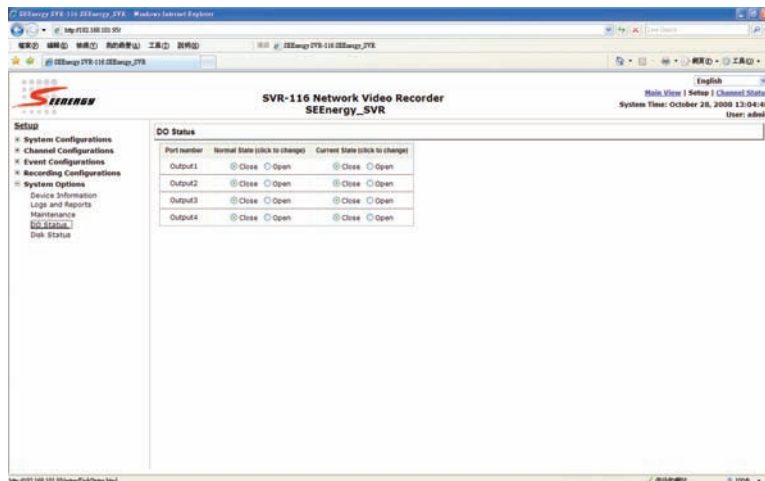


The process should be displayed and you should be prompted back to the "Live View" page after it is complete:



## 3.5.4 DO Status

This is where you can get the current status of the NVR's digital output ports. You can also change their status from this page.



## 3.5.5 Disk Status

"Disk Status" gives you a more detailed information of the hard drive that is currently installed in the NVR.



### 3.5.6 USB Backup

It's a function that allows users to backup the recording data in its database file format (not AVI) to the externally connected USB hard disk.

#### NVR Setup

- ☒ System Configuration
- ☒ Channel Configuration
- ☒ Event Configuration
- ☒ Recording Configuration
- ☒ System Options
  - Device Information
  - System Logs
  - Maintenance
  - DO Status
  - Disk Status
  - USB Backup
  - UPS Configuration

#### USB Backup

USB HDD:  \* Please format the HDD to FAT32 on a V

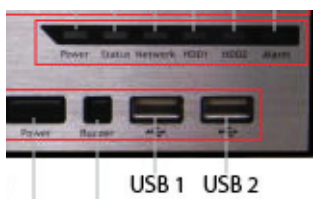
Channel:
 ☐ LN24001 ☐ LNE3003 ☐ LNE1001  
☐ Channel 5 ☐ v1.0.0.5-2 ☐ Channel 7  
☐ Channel 9 ☐ Channel 10 ☐ Channel 11  
☐ Channel 13 ☐ Channel 14 ☐ Channel 15

Start Time:  August 12, 2010  14:46:33

End Time:  August 12, 2010  14:46:33

Backup

Insert a USB hard disk that has more than 100MB free space to the NVR



You can check the "Disk Status" page under "System Options" to see if the USB disk has been detected by the NVR

#### Disk Status

Disk ID	Status	Capacity	Remaining Disk Space	Remaining	Online Time	
HDD 1	Online	222GB	216GB	97%	Aug 12 2010 11:21:12	Ma
USB HDD 1	Online	1935MB	553MB	28%		Au

Once it's detected, go back to the "USB Backup" page and it should be available for further configuration

**USB Backup**

**USB HDD:** USB HDD 1, 553MB available ▼ \* Please format the HDD

**Channel:**

<input checked="" type="checkbox"/> LNZ4001	<input checked="" type="checkbox"/> LNE3003
<input type="checkbox"/> Channel 5	<input type="checkbox"/> v1.0.0.5-2
<input type="checkbox"/> Channel 9	<input type="checkbox"/> Channel 10
<input type="checkbox"/> Channel 13	<input type="checkbox"/> Channel 14

**Start Time:** May 21, 2010 ▼ 16 : 52 : 02 ▲▼

**End Time:** May 21, 2010 ▼ 16 : 52 : 02 ▲▼

Backup

The USB hard disk(s) will be listed in the drop-down menu displaying the remaining disk space. Make your selection from the drop-down menu if you have more than one disks connected to the NVR

**USB Backup**

**USB HDD:** USB HDD 1, 553MB available ▼ \* Please format the HDD

**Channel:**

<input checked="" type="checkbox"/> LNZ4001	<input checked="" type="checkbox"/> LNE3003
<input type="checkbox"/> Channel 5	<input type="checkbox"/> v1.0.0.5-2

Next, select channels which you would like to backup the recording data from. Maximum 4 channels can be selected at once.

**USB HDD:** USB HDD 1, 553MB available ▼ \* Please format the HDD

**Channel:**

<input checked="" type="checkbox"/> LNZ4001	<input checked="" type="checkbox"/> LNE3003
<input type="checkbox"/> Channel 5	<input type="checkbox"/> v1.0.0.5-2
<input type="checkbox"/> Channel 9	<input type="checkbox"/> Channel 10
<input type="checkbox"/> Channel 13	<input type="checkbox"/> Channel 14

Configure the start and end time of the recording data you would like to backup and click the "Backup" button to begin

**Start Time:** May 21, 2010 ▼ 16 : 52 : 02 ▲▼

**End Time:** May 21, 2010 ▼ 16 : 52 : 02 ▲▼

Backup



## **Things to pay attention to with the USB Backup function:**

### Limitation:

- It does not support USB Hub extend the number of HDD connected to the NVR
- Only one backup process can be performed at a time
- Maximum 4 channels can be selected for backup
- Only FAT32 USB hard disk is supported for backup
- The USB hard disk needs to have more than 100MB remaining space
- If multiple partitions are presented in one disk, only the first partition will be detected and used for backup

### Process:

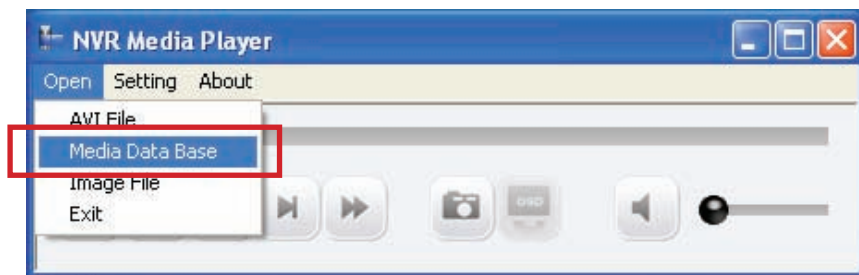
- Progress will be displayed on the UI
- If the backup process gets interrupted, which the process stops at a point of time that is before the "END Time" user defined, such time will be displayed on the UI
- A folder will be automatically created in the USB hard disk with a name format like 0028687831\_20100610151515\_20100605110010\_20100606110010 (MAC\_backupbuttonclicktime\_starttime\_endtime)

### Note:

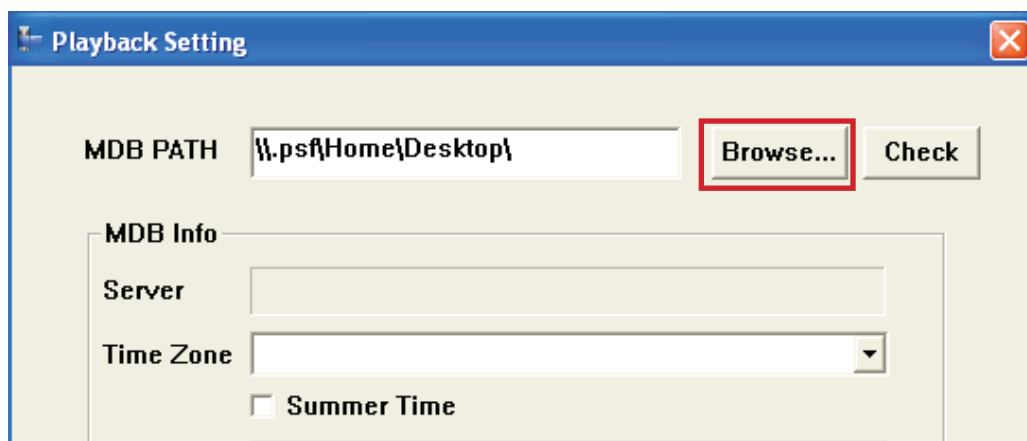
- Please plug in the USB HDD only after the NVR is fully started, or the HDDs will be incorrenctly mounted.

## Play the backup file with the NVR Media Player

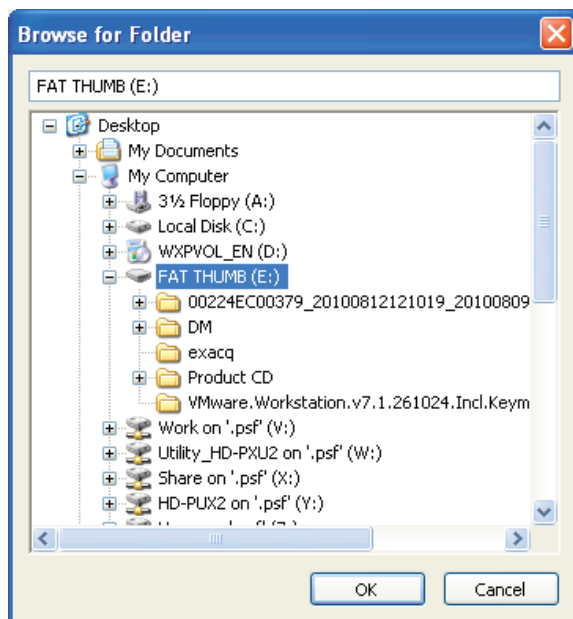
The backup files can be played with the NVR media player. To do, open the player and select "Open" >> "Media Database"



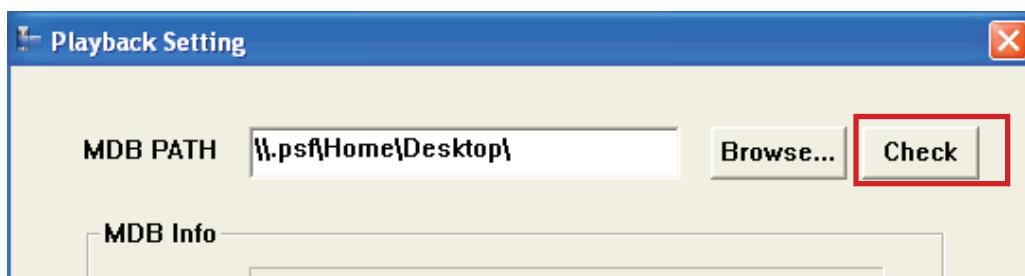
Click "Browse..." to select the file from the USB disk



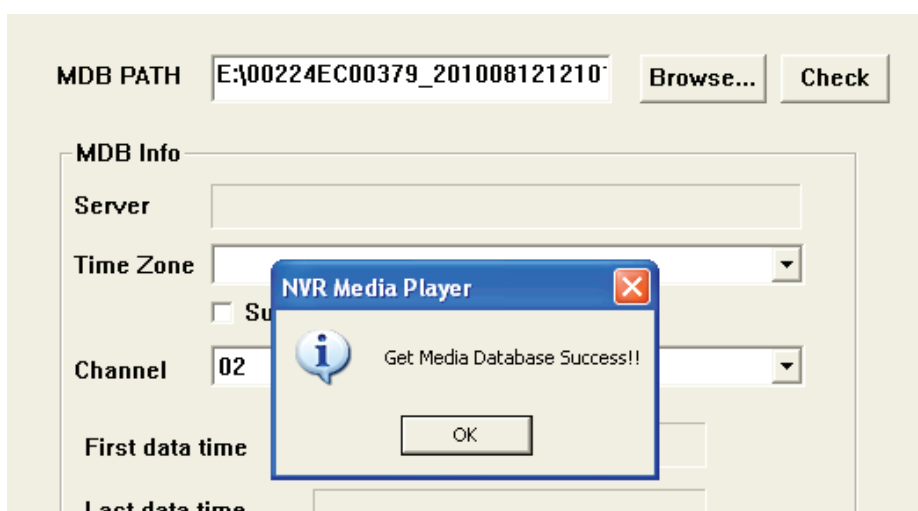
A new dialog should be prompted for you to select the file location



When done, click "Check" to validate the file



Once the file has been successfully verified, you should be prompted with the message shown below

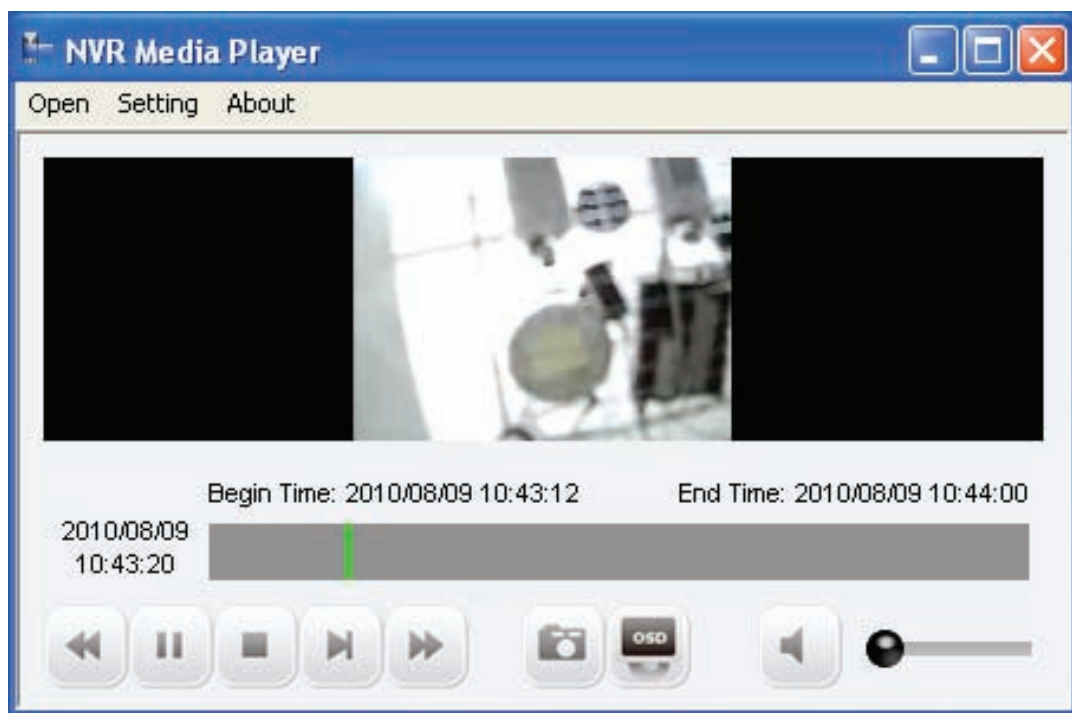


Select the time zone according to your current location



Finally, click "OK" to begin playing

The player should now play the backed up file



### 3.5.7 UPS Configuration

Connect the UPS to the NVR's USB port for sending and receiving signals between the UPS and the NVR. The NVR can receive signal from the UPS when there is a power failure and shut down itself automatically within a period of time. You can enable UPS support to prevent data loss when an unexpected power failure occurs.

#### NVR Setup

- System Configuration
- Channel Configuration
- Event Configuration
- Recording Configuration
- System Options
  - Device Information
  - System Logs
  - Maintenance
  - DO Status
  - Disk Status
  - USB Backup
  - UPS Configuration

#### UPS Settings

Connecting to a compatible USB UPS device can prevent data loss during a power failure. You are able to set a time period to properly shut down the NVR as soon as a power failure occurs.

#### Reminder:

Please make sure you have plugged in NVR's power cord to one of the outlets on the UPS device. It is normal that the UPS battery information is not presented as not all UPS can provide it. In this case, it is suggested to set the shutdown time as short as possible to prevent from unexpected power failure.

☒ Enabled UPS Support

Time before UPS shuts down after a power failure: 30 seconds ▼

UPS Device Information: UPS is connected

Manufacturer:	American Power Conversion
Model:	Smart-UPS 750
Status:	On line
Battery:	100%
Estimated battery time:	16200 seconds

Apply

### To enable local UPS support (NVR acting as UPS server):

1. Connect the compatible USB UPS to the NVR
2. Turn on the NVR
3. Go to "NVR Setup" >> "System Options" >> "UPS Configurations", and check "Enable UPS Support" option.

Please make sure you have plugged in NVR's power cord to one of the outlets on the UPS device. It is normal that the UPS battery information is not presented as not all UPS can provide it. In this case, it is suggested to set the shutdown time as short as possible to prevent from unexpected power failure.

☒ Enabled UPS Support

Time before UPS shuts down after a power failure: 30 seconds ▼

You can adjust how long the UPS stays on to provide backup electricity to the NVR after a power failure by choosing one of the options from the drop-down shown below:

☒ Enabled UPS Support

Time before UPS shuts down after a power failure: 30 seconds ▼

**\* Currently only APC Smart-UPS 750 is supported (05282012)**

The UPS information should be obtained and displayed at the bottom of the page after the settings are applied:

Time before UPS shuts down after a power failure:

UPS Device Information: [UPS is connected](#)

Manufacturer:	American Power Conversion
Model:	Smart-UPS 750
Status:	On line
Battery:	100%
Estimated battery time:	16200 seconds

### To enable network UPS support (NVR acting as UPS slave):

1. Go to "NVR Setup" >> "System Options" >> "UPS Configurations", and check "Enable UPS Support" option.
2. Enter the IP address of the **NVR running as UPS server. (The NVR with USB UPS physically attached to)**

You are able to set a time period to properly shut down the NVR as soon as a power failure occurs.

#### Reminder:

Please make sure you have plugged in NVR's power cord to one of the outlets on the UPS.

You will see "No UPS server is connected" if the connection to the UPS server is lost.

☒ Enabled UPS Support

UPS Server IP:

\* Please make sure both NVRs (UPS server and slave) are on the same local network to ensure the communication between the two.

\* Please make sure both NVRs are plugged into the outlets that connect to the UPS.

**SEEnergy Corp.**

4F, No.61, Dongsing RD.,  
Taipei 110, Taiwan, R.O.C.

Tel: 886-2-8768-1518

Fax: 886-2-8787-8560

E-mail: [sales@seenergy.com.tw](mailto:sales@seenergy.com.tw)

[www.seenergy.com.tw](http://www.seenergy.com.tw)