



**NVR-0204/0208/0216**

**4/8/16-CH Network Video Recorder**

User's Manual v2.0.0



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The manufacturer reserves the right to make adjustments without prior notification.

All names of people and organizations used in this documents 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 the Network Video Recorder:

### 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"*

## Package Contents

- Network Video Recorder
- RJ-45 Ethernet LAN cable
- Power cord
- Quick Installation Guide
- CD Manual/Utility

## Default Settings

<b>IP Address</b>	<b>DHCP address</b>
<b>Username</b>	<b>root</b>
<b>Password</b>	<b>root</b>

If the NVR detects no DHCP server on the LAN environment, then the NVR's IP will be static IP [192.168.101.50]

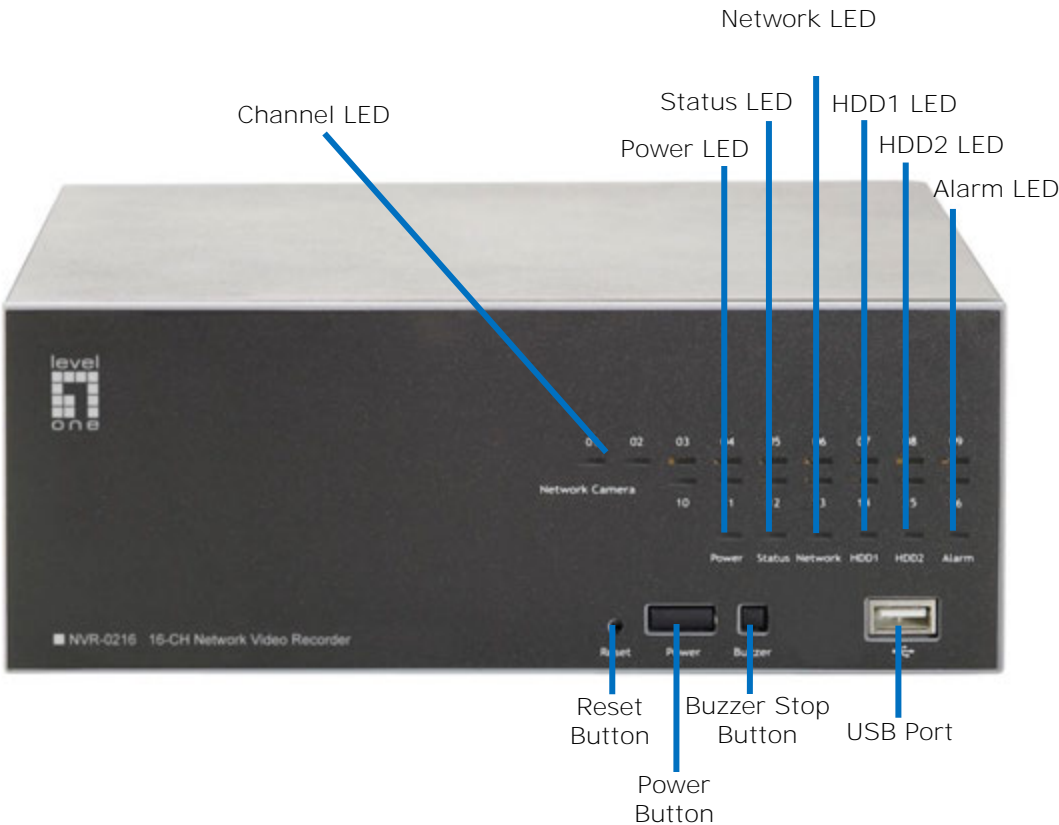
## Product Description

The 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 or 8 or 16 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. 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 available cameras on the network can greatly reduce the user effort when expanding the system.



# System Overview

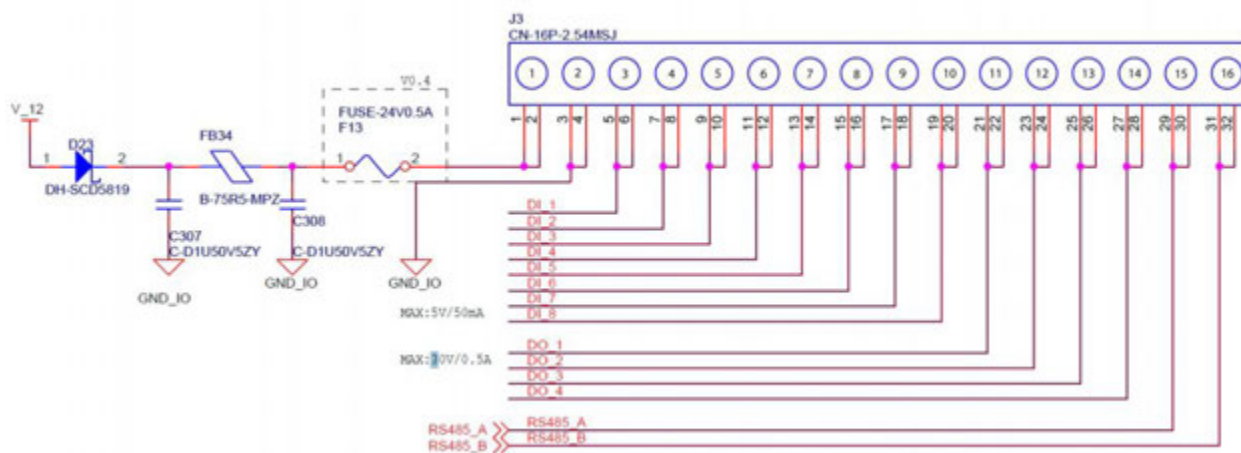
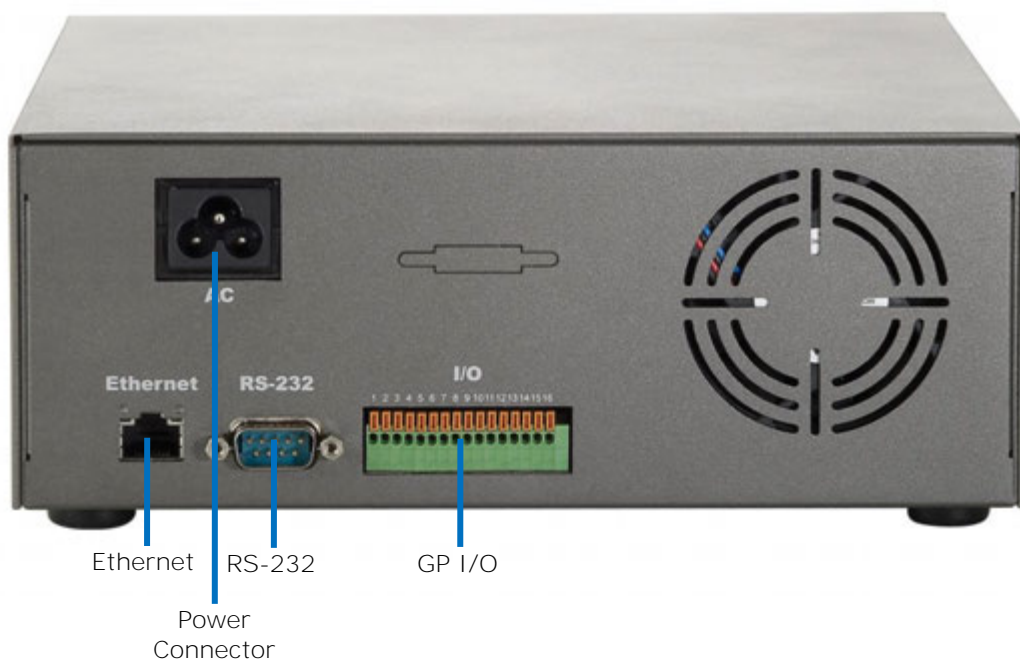
## Front View



## LED Definition

HDD	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.

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



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

## Installation

### HDD Installation

Start by removing the screws on the side:



Push the top housing forward.



Then lift it up.

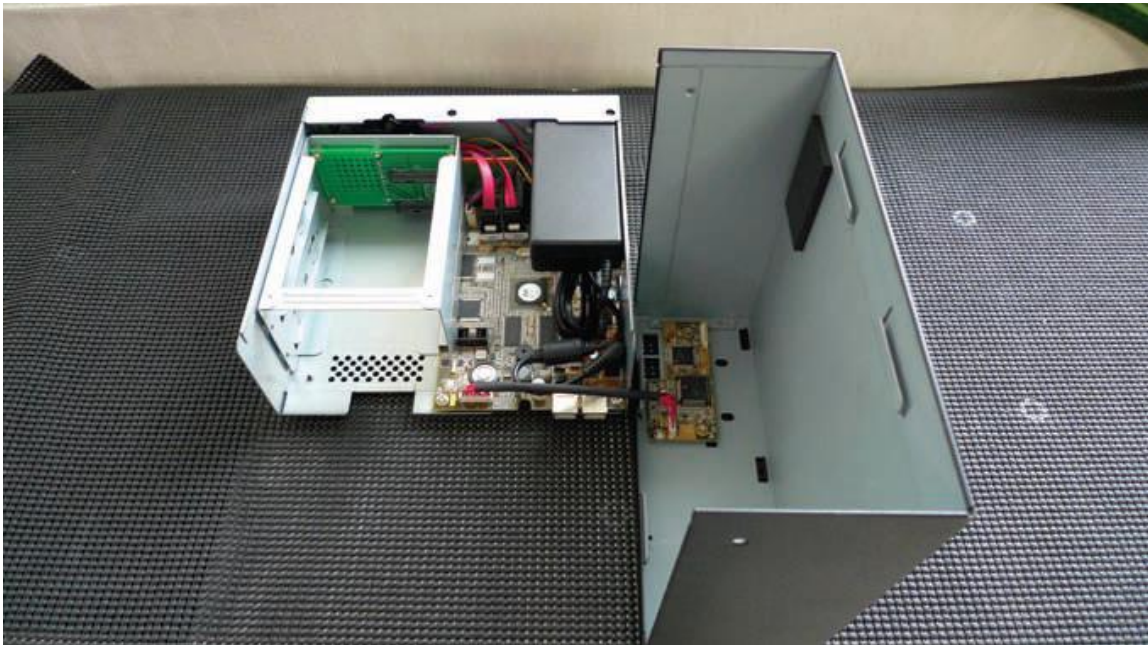


- The NVR supports SATA I or SATA II hard disks.
- The NVR supports max. 3TB per hard disk and it supports total of 2 hard disks (6TB).

There is a cable connected between the from the 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.



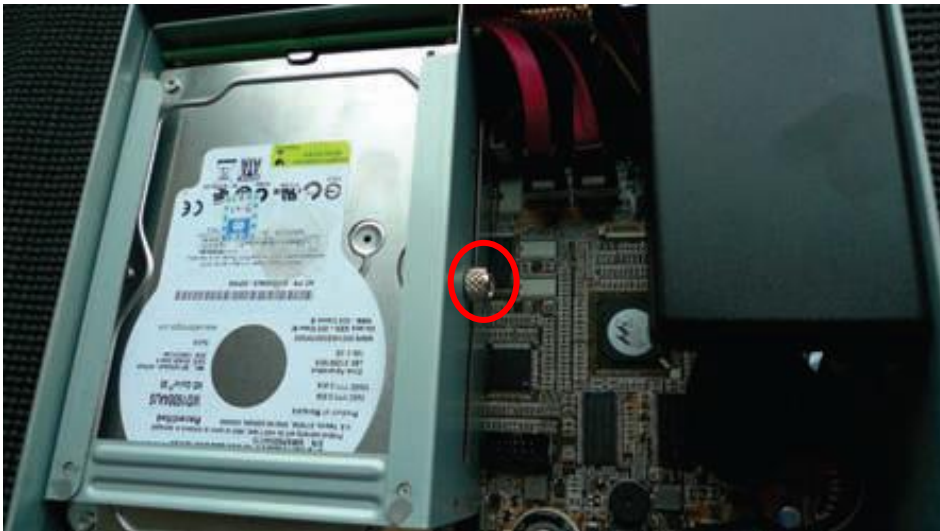
Next, slide the hard drive into the tray.



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.

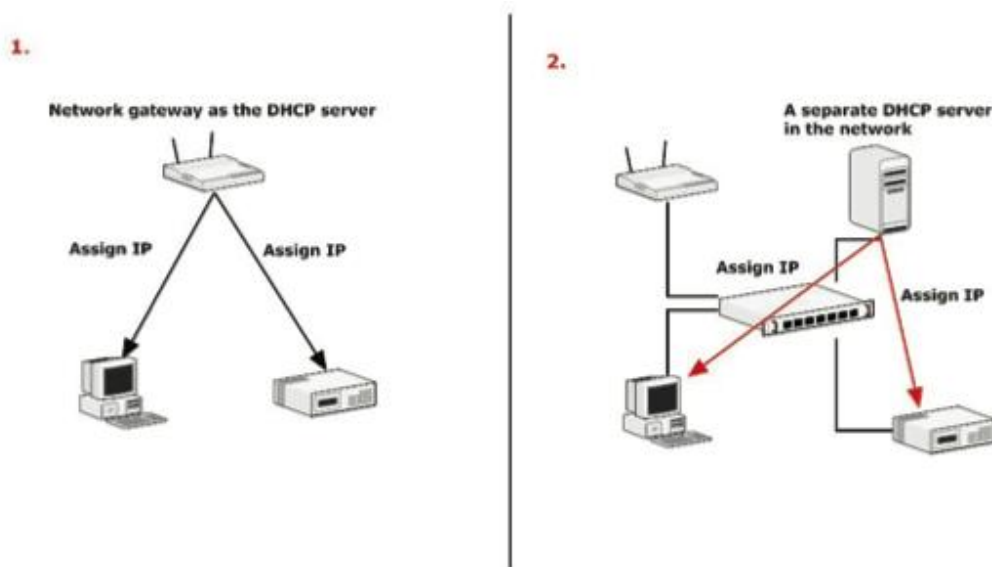


## Connect to the NVR

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

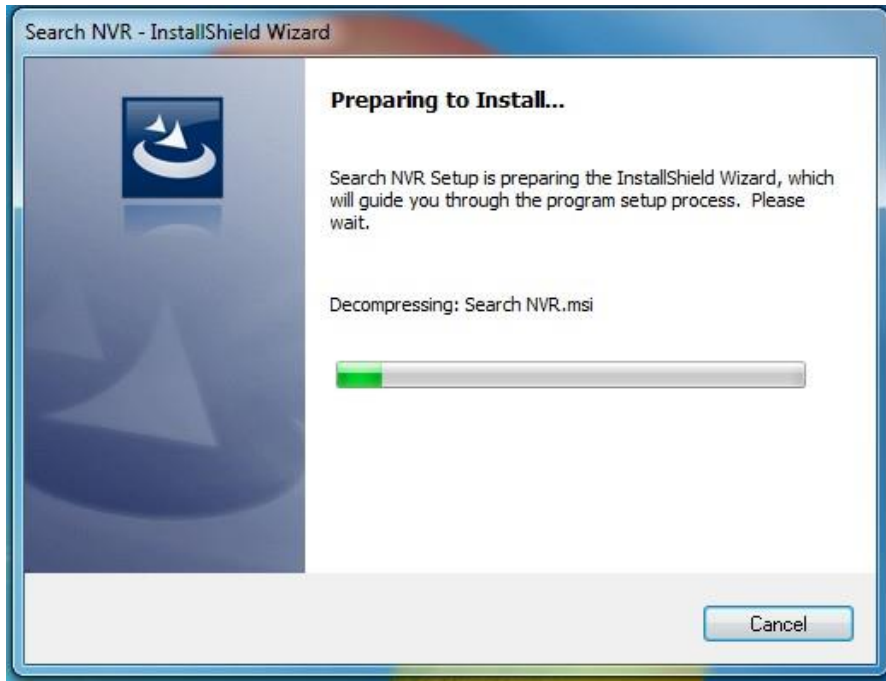
### Use LevelOne Device Search Utility



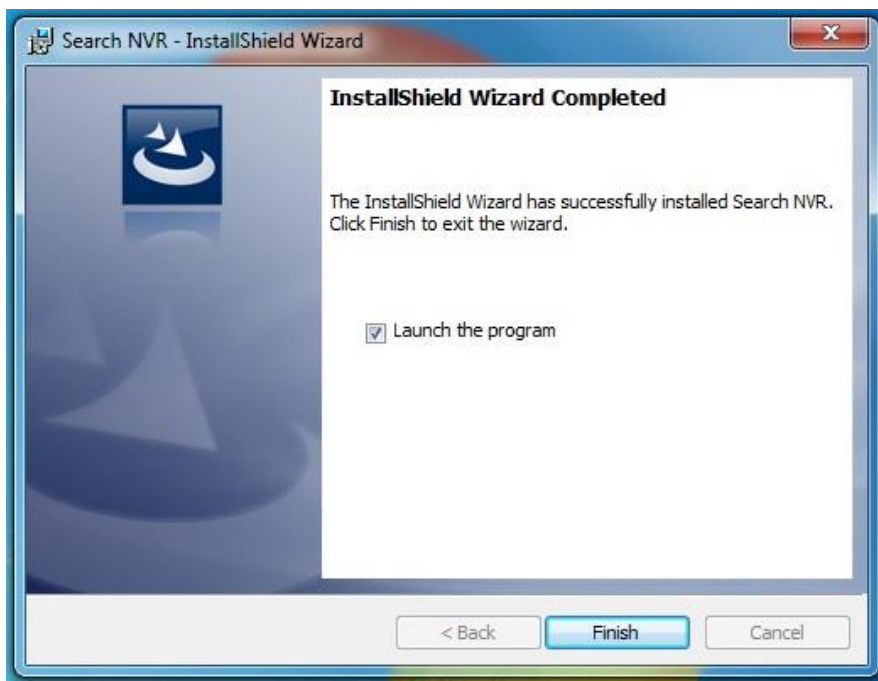
If the NVR is placed in a corporate network or a local area network where a DHCP server is already presented, run the "LevelOne Device Search" utility from a computer that is on the same network and locate the NVR with its IP address that is assigned by the top-level DHCP server.



To begin, launch the “LevelOne Device Search” utility from the CD and proceed with the installation:



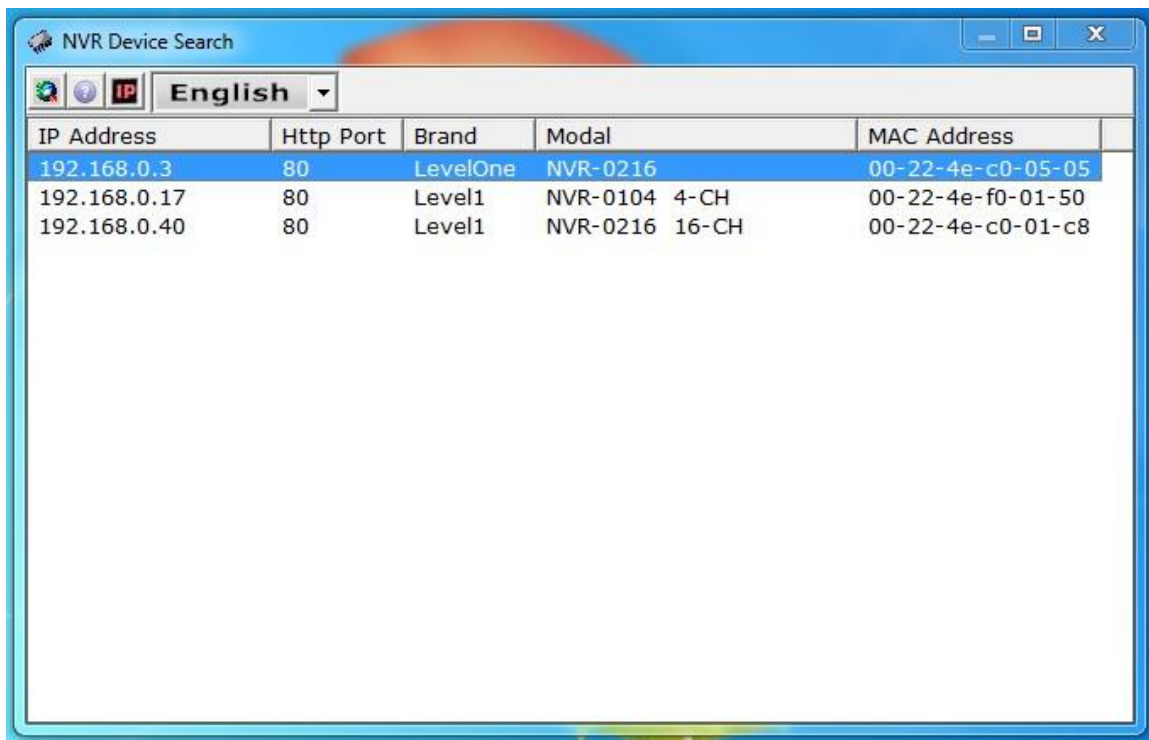
Once the installation is complete, check the “Launch the program” option and click “Finish”.



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



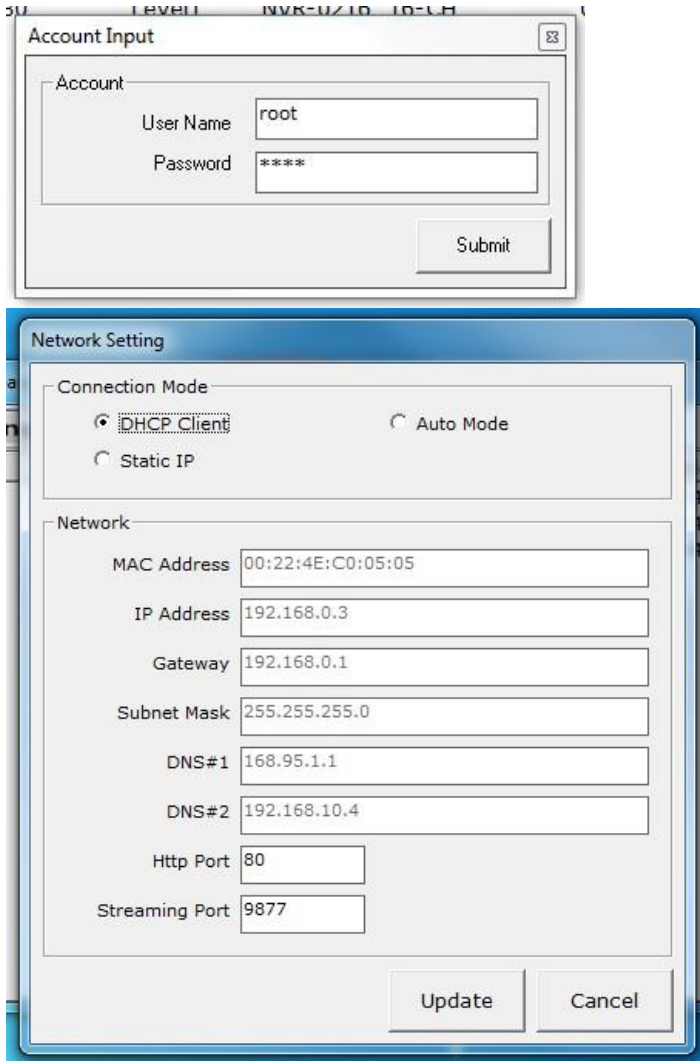
The NVR should be located and its IP address should be displayed: Double-click on it and the program should automatically access the NVR's web administration page from your default browser.



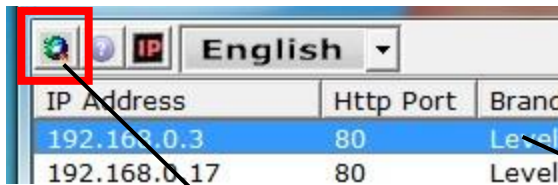
You may change NVR's IP address by click on the button highlighted below.



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.



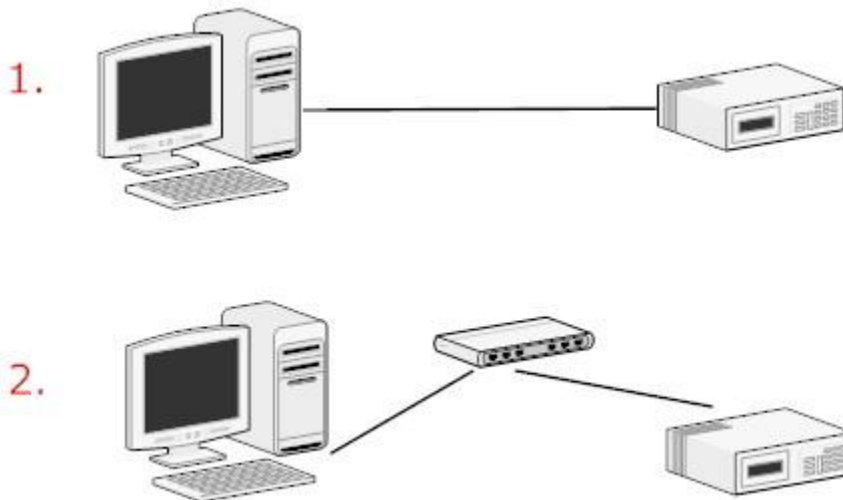
perform search again

access NVR's web administration page

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



### Access the 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 the NVR. 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 "root"** and **password "root"** and then click **"OK"** to enter the system



## Set up Password

The screenshot displays the 'User Account Setting' interface. On the left, a sidebar menu shows 'System Configuration' expanded to 'User Account'. The main area features a table of users and a form to edit a user.

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

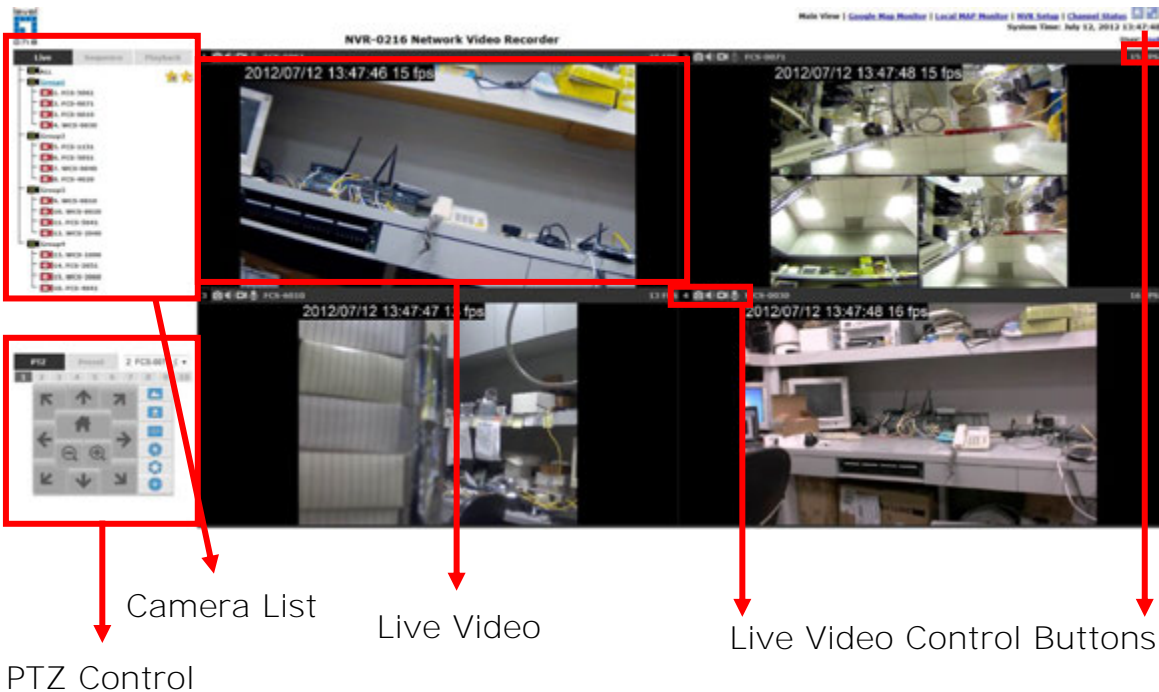
Below the table are 'Edit' and 'Remove' buttons. A circled '1' is placed over the 'admin' row. Below the table is a 'Add User' section with the following fields:

- 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: English
- Description:  (Optional)

A circled '2' is placed over the 'Add User' section.

The default login username and password is root/root. To change the password of the root account, go to "Setup" --> "System Configurations" --> "User Account", click on the "root" account in the account list then press the "edit" button to change its password. Finally, click "Apply" to save the change.

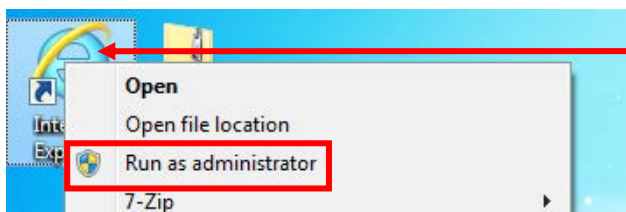
## Live View



### The "Live View" page provides the following functions:

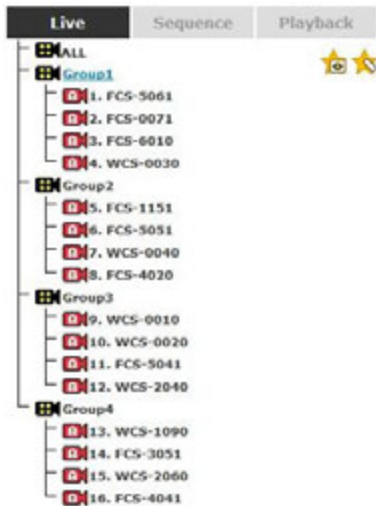
- Retrieve camera's video stream
- Retrieve camera's status
- Perform Live Sequence Viewing
- PTZ Control
- Perform PTZ Preset Sequence viewing
- Perform manual recording
- Take snapshot
- Receive audio of a video stream
- Send audio
- Control "Buzzer"
- Change web UI display language

**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

## 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 or 16-video mode.
- 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

## 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 recording
-  This channel has NOT been configured with any camera



## 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.

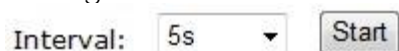
To perform sequence view, select "SEQ View" from the upper-left hand corner



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



Then, select dwell interval from the drop-down menu and click "Start" to begin



- 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

## PTZ Control

PTZ control provides functions to pan, tilt, and 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. Only PTZ capable cameras will be listed in the drop-down menu.



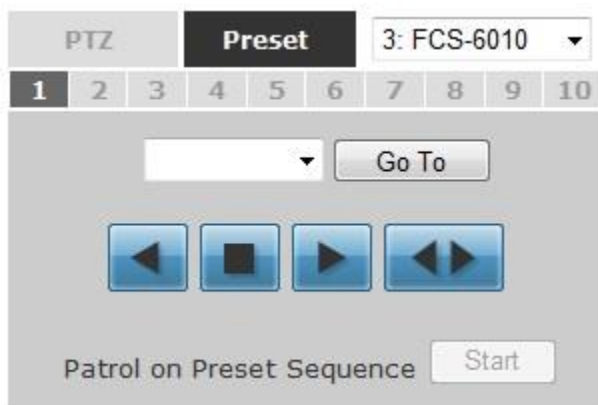
The bar shown below allows you to control the pan/tilt speed. Larger number means bigger movement angle.



## 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



*(In order to use this function, one must configure camera's preset points in "NVR Setup" >> "Channel Configurations" >> "PTZ Preset" first)*

## Preset Point Viewing

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



Its available PTZ preset points will be listed in the dropdown list shown below:



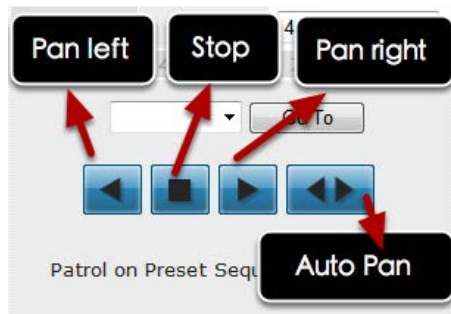
Select a preset position from the drop-down list and click "Go to" to move the live view to that position.

## Auto Pan Viewing

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



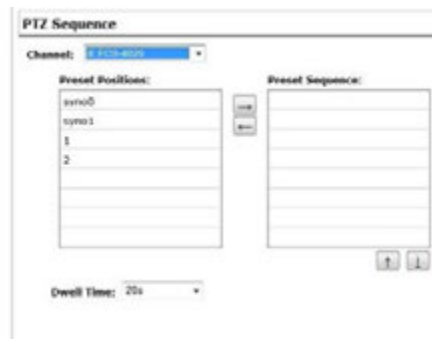
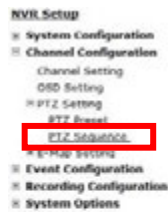
Use the Auto Pan control buttons to pan right, left and stop auto pan



**\* Certain cameras do not support bi-directional pan movements. Use the "Auto pan" 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"**.



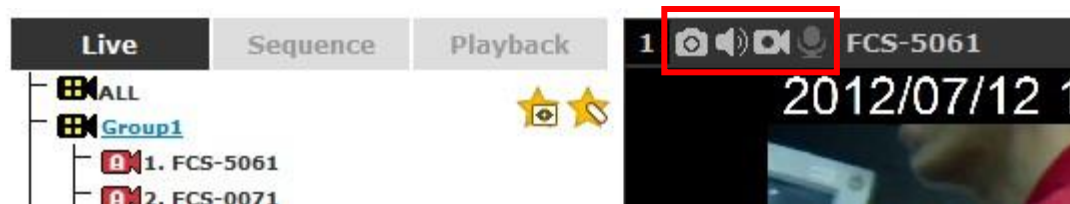
In the Setup menu







In the Live view




## Live Video Controls Buttons

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




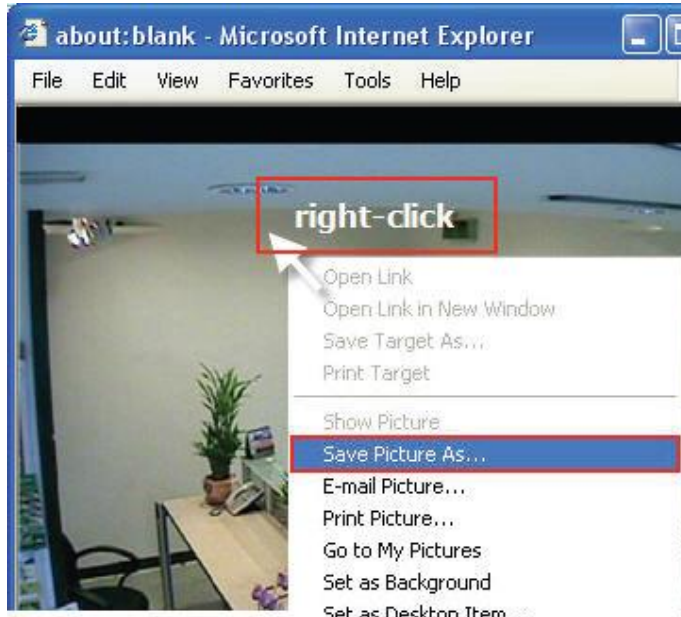
-  Take a snapshot of a live video
-  Turn on/off audio of a live video
-  Start/stop recording of a live video (manual recording)
-  Audio post function



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

## Take a snapshot of a live video

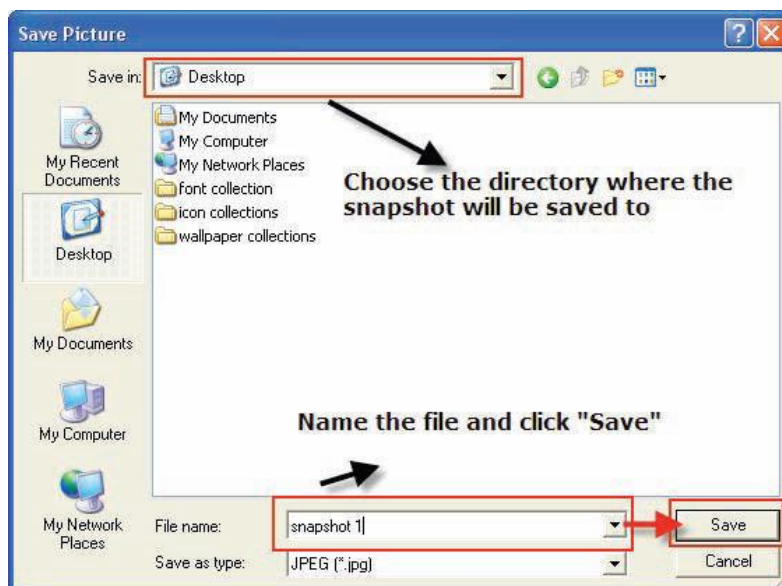
To take a snapshot of a live video, click the  button and the snapshot of the video will be displayed in a pop up window.




*\* If you are running Windows Vista or 7, please make sure IE is executed 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.

### 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.



## Live View through iPhone Safari Browser

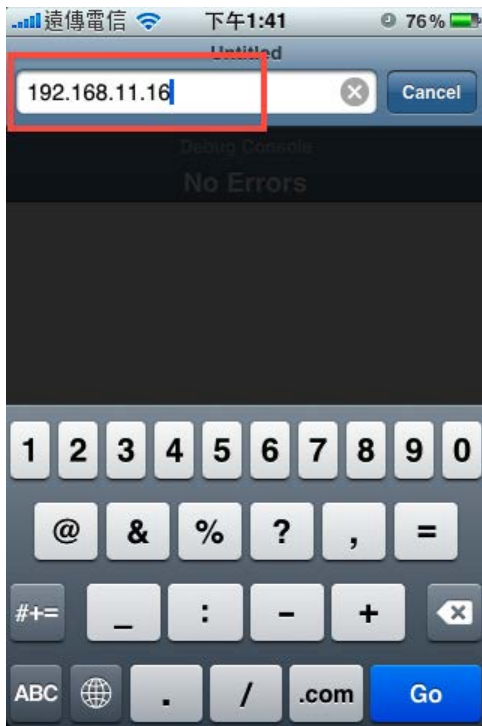


You can use iPhone and perform single channel live view to the NVR by using its Safari browser. To be able to view the live video through the Safari browser, make sure "javascript" is on under "Settings" >> "Safari" >> "Javascript"



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

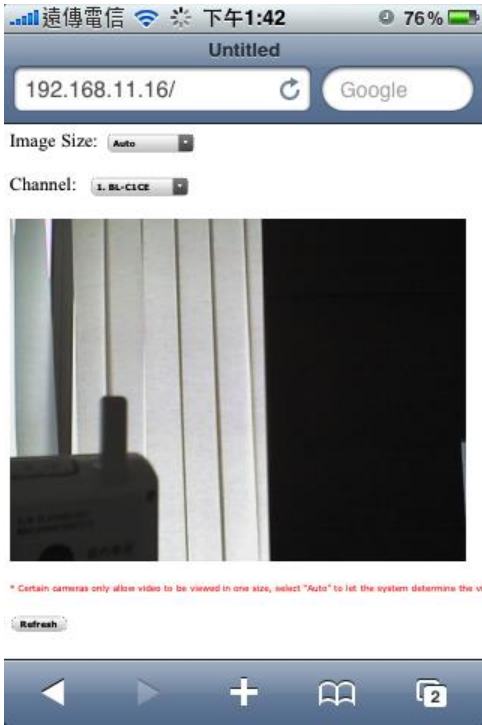




Type in the IP address of the NVR in the address bar



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



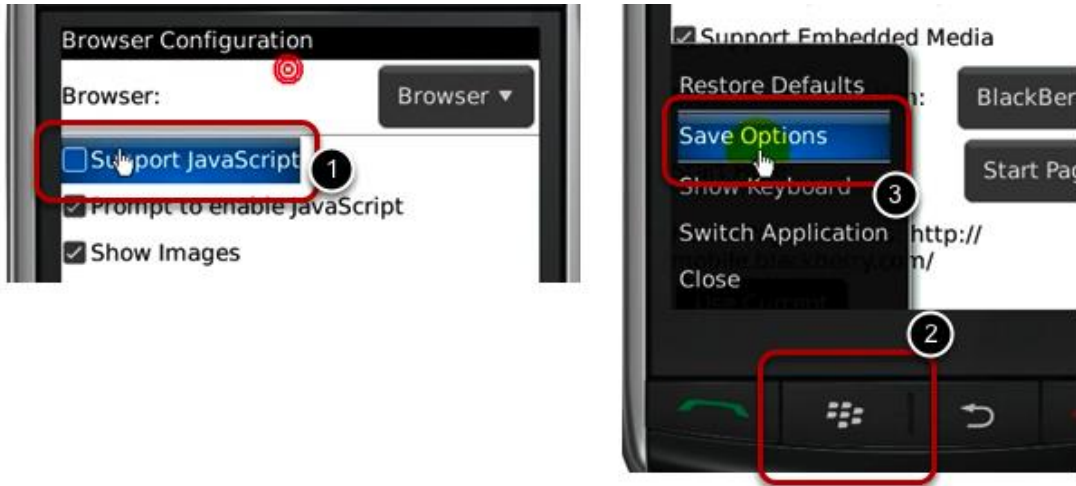
If a PTZ camera is selected, the corresponding control buttons will display (control PT only)

*\* 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.*

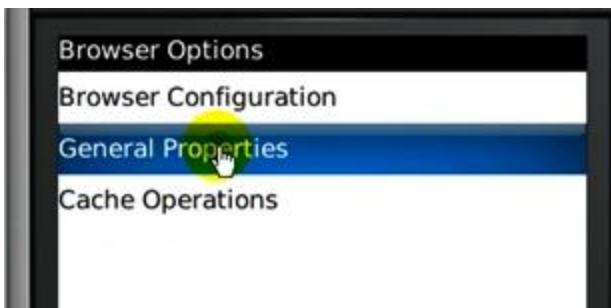
## Live View through Blackberry Phones



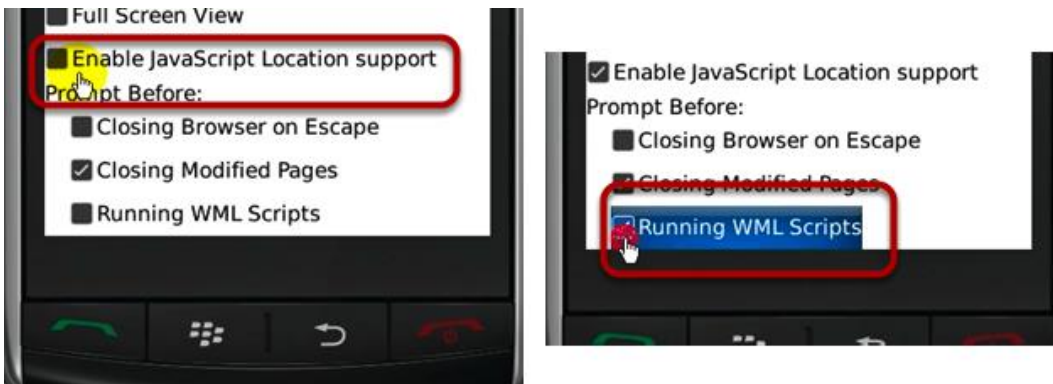
You can use Blackberry and perform single channel live view to the NVR by using its Safari browser. To be able to view the live video through its browser, make sure "javascript" is enabled under "Browser" >> "Menu button" >> "Options" >> "Browser Configuration"



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



Go to "General Properties"



Make sure two options illustrated above are enabled



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



Press the button highlighted above to go back to the browser

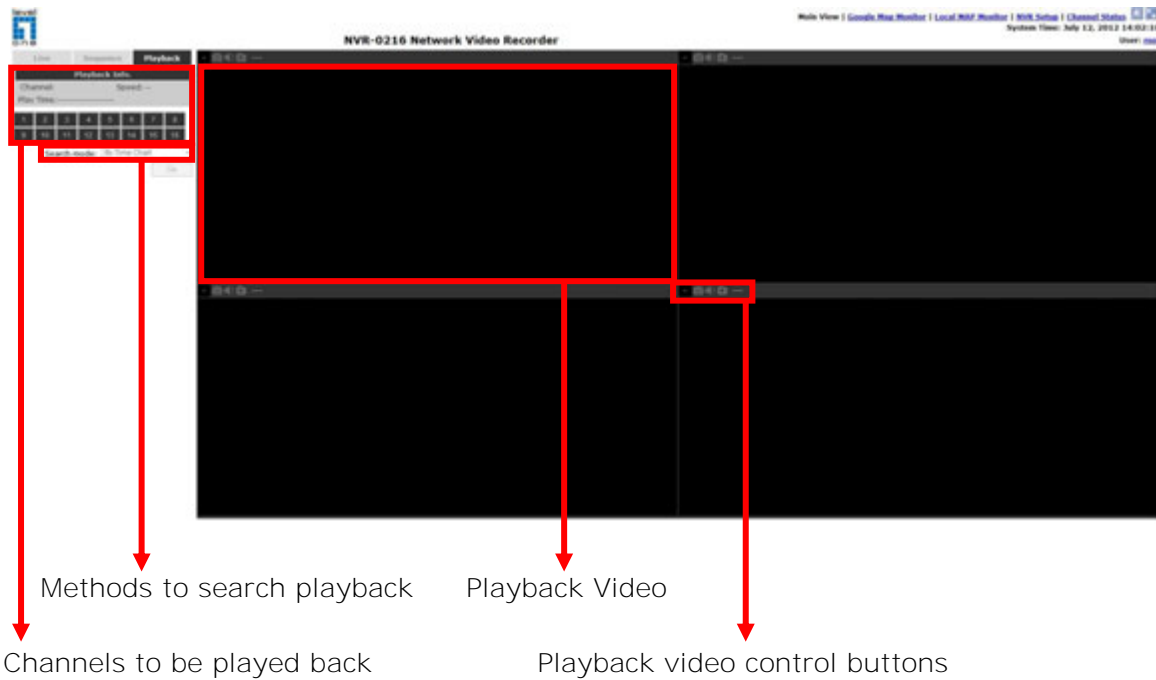


Type in the IP address of the NVR in the address bar



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

## 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.

### 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:

Live		Sequence		Playback			
<b>Playback Info.</b>							
Channel:				Speed: --			
Play Time:-----							
1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16
Search mode:				By Time Chart			
<input type="button" value="Go"/>							

Selected channels will be marked in red:

Live		Sequence		Playback			
<b>Playback Info.</b>							
Channel: 4 7 12 14				Speed: --			
Play Time:-----							
1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16
Search mode:				By Time Chart			
<input type="button" value="Go"/>							

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

9	10	11	12	13	14	15	16
Search mode:				By Time Chart			
<input type="button" value="Go"/>							



Results will then be displayed in a "Date/Channel" table and boxes marked in color represent videos found in those dates:

2012	4	7	12	14
07/01				
07/02				
07/03				
07/04				
07/05				
07/06				
07/07				
07/08				
07/09				
07/10				
07/11				
07/12				
07/13				
07/14				
07/15				
07/16				
07/17				
07/18				
07/19				
07/20				
07/21				
07/22				
07/23				
07/24				
07/25				
07/26				
07/27				
07/28				
07/29				
07/30				
07/31				

Click on any colored cell box should direct you to the hour/channel table if there were multiple videos recorded during that date:

2012	4	7	12	14
07/01				
07/02				
07/03				
07/04				
07/05				
07/06				
07/07				
07/08				
07/09				
07/10				
07/11				
07/12				
07/13				
07/14				
07/15				
07/16				
07/17				
07/18				
07/19				
07/20				
07/21				
07/22				
07/23				
07/24				
07/25				
07/26				
07/27				
07/28				
07/29				
07/30				
07/31				

## Search by event

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

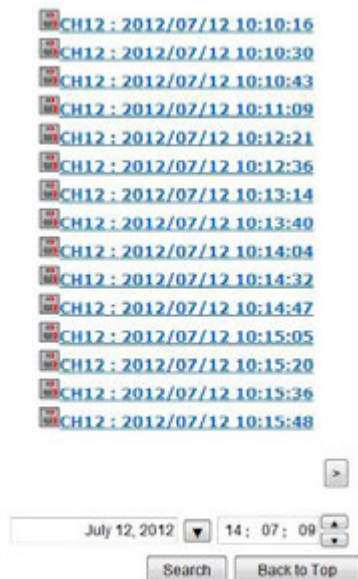


Selected channels will be marked in red:

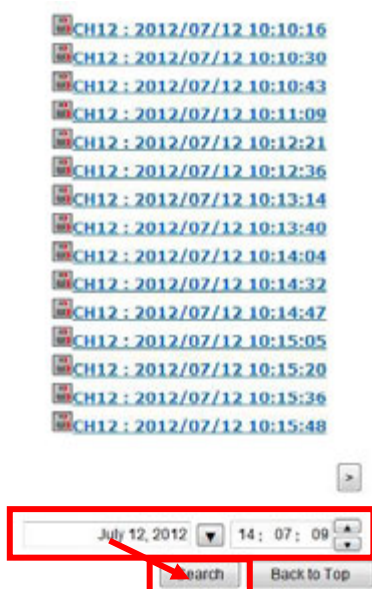


Select "Search by event" from the "Search Method" drop-down list and click "Go" to start the search.

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 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.



 [CH12 : 2012/07/12 14:08:33](#)  
 [CH12 : 2012/07/12 14:08:23](#)  
 [CH12 : 2012/07/12 14:08:13](#)  
 [CH12 : 2012/07/12 14:08:03](#)  
 [CH12 : 2012/07/12 14:07:49](#)  
 [CH7 : 2012/07/12 14:07:44](#)  
 [CH12 : 2012/07/12 14:07:38](#)  
 [CH12 : 2012/07/12 14:06:28](#)  
 [CH12 : 2012/07/12 13:58:50](#)  
 [CH12 : 2012/07/12 13:57:52](#)  
 [CH12 : 2012/07/12 13:54:56](#)  
 [CH12 : 2012/07/12 13:53:03](#)  
 [CH12 : 2012/07/12 13:52:26](#)  
 [CH12 : 2012/07/12 13:52:12](#)  
 [CH12 : 2012/07/12 13:50:16](#)

Update

Back to Top

## Export Playback Videos to AVI Files

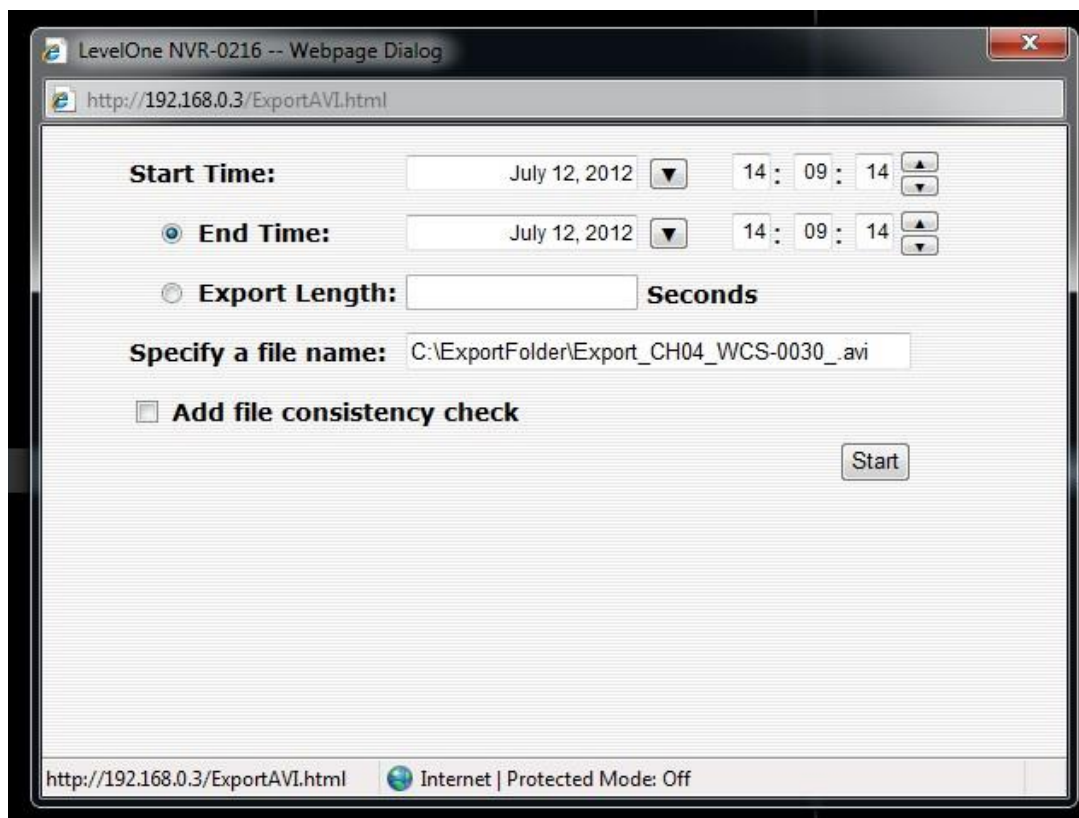
User can export the recorded playback videos stored on the NVR to a local computer and save them in AVI file format. The files can then be played on the PC by a 3rd party media player such as VLC player or Windows Media player.


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.

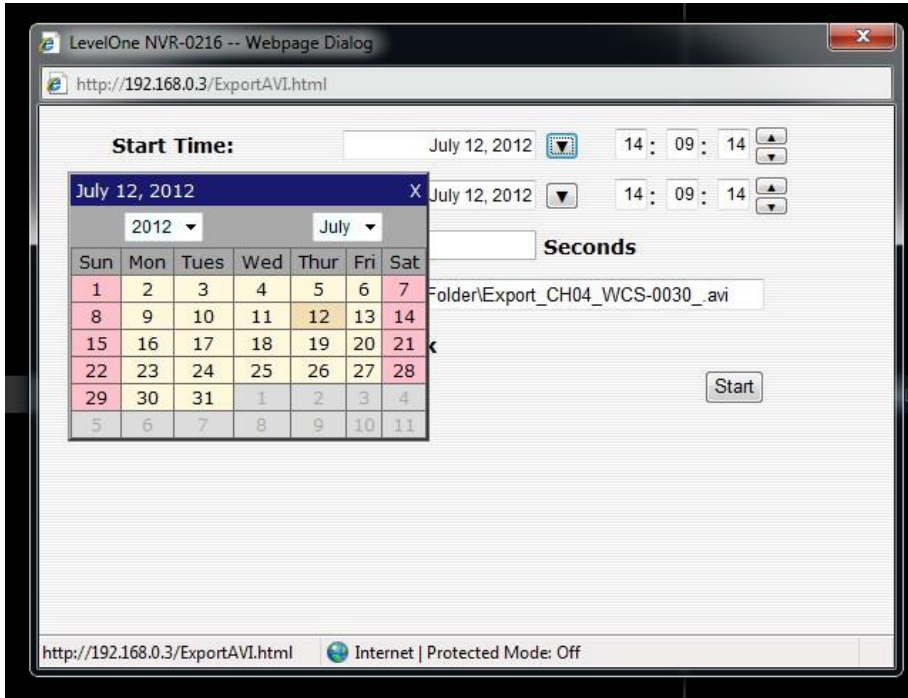


*\* If you are running Windows Vista or 7, please make sure IE is executed with the "Administrator" privilege in order for this function to work properly.*

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



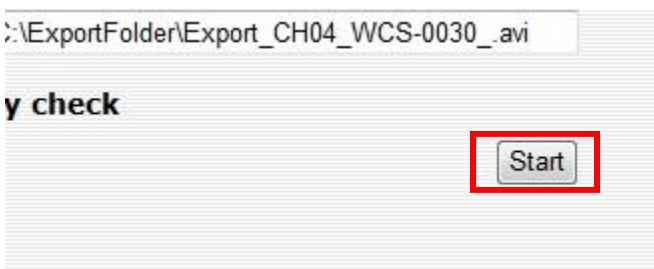
Click the  button to pull down the calendar to help you specify the month, date and the year



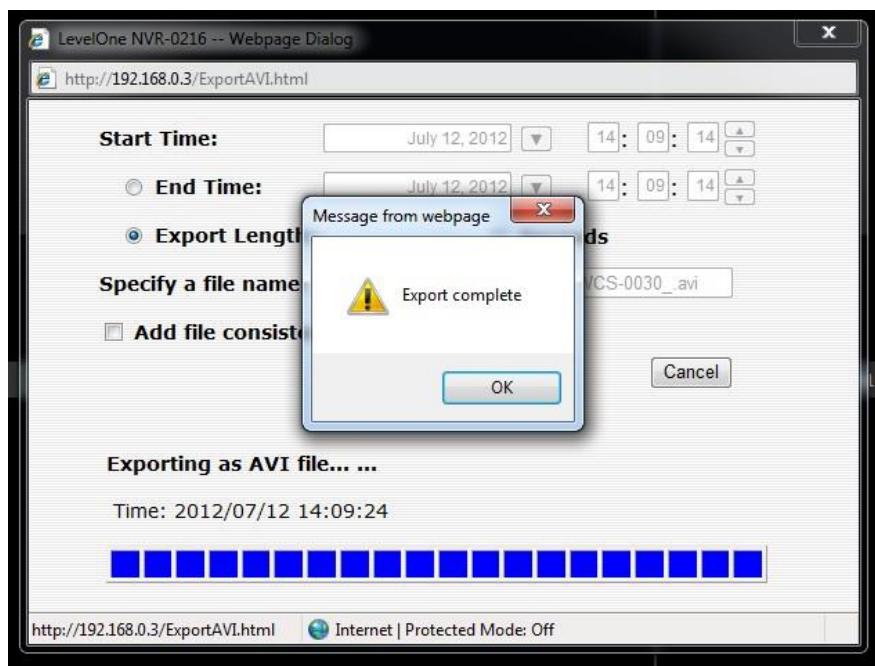
Specify the starting and ending hours of the video by entering numbers in the text boxes



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

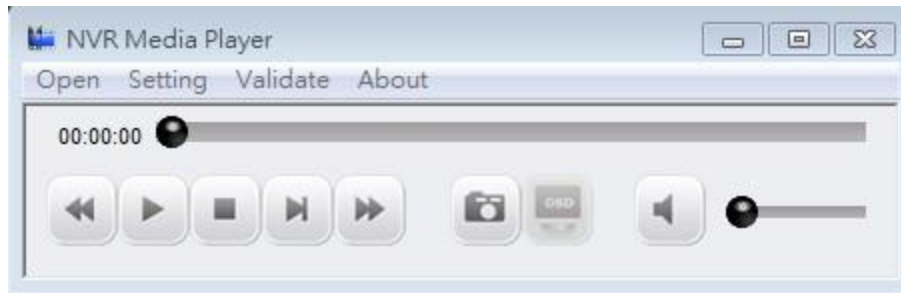


\* ffdshow is required in order to play the exported AVI file with Windows Media Player.

## 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.

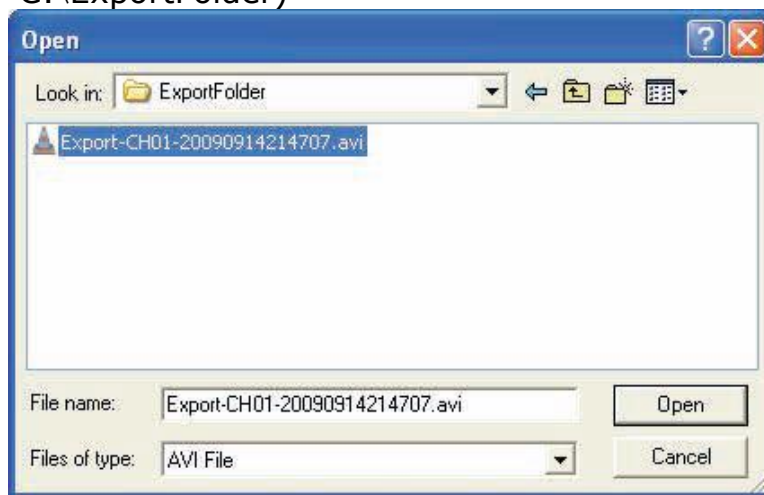
The NVR Media Player will be automatically installed after the CMS software is installed. You can launch the player under "Start" >> "All Programs" >> "LevelOne" >> "NVR Management Software" >> "NVR Media Player".



Click "Open" >> "AVI File"



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



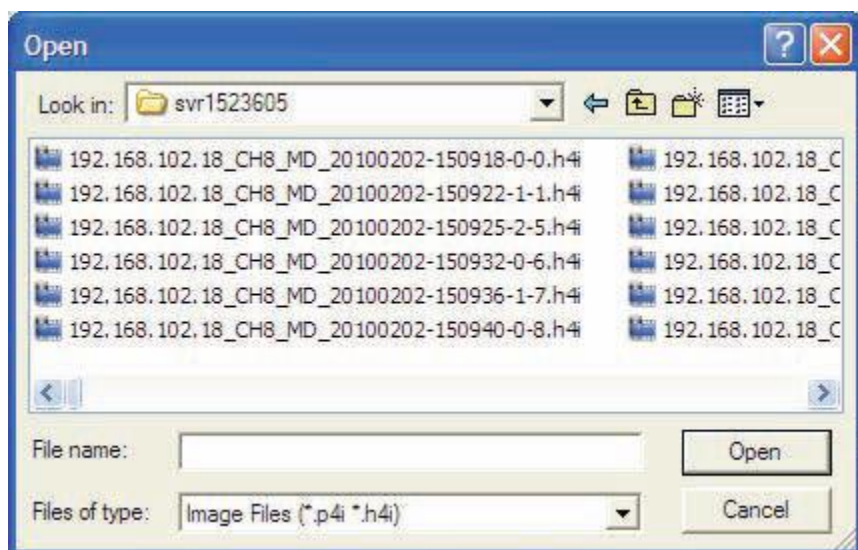
The video will then start playing



## 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.



# System Setup

## 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.

## Network Settings

The screenshot displays the web interface for the NVR-0216 Network Video Recorder. On the left is a navigation menu with the LevelOne logo and the following items: NVR Setup, System Configuration (expanded), Network Setup (expanded), Device Network Setting (selected), DHCP Server, DNS Service, Time and Date, Users Account, Group Privilege, Disk Setup, Channel Configuration, Event Configuration, Recording Configuration, and System Options. The main content area is titled "NVR-0216 Network Video Recorder" and is divided into two sections: "Network Setting" and "Optional Setting".

**Network Setting**

- Connection Type: DHCP Client
- Status: IP obtained from DHCP Server
- IP Address: 192.168.0.3
- Subnet Mask: 255.255.255.0
- Gateway: 192.168.0.1
- DNS 1: 168.95.1.1
- DNS 2: 192.168.10.4
- HTTP Port: 80
- Streaming Port: 9877
- UPnP Port Forwarding:  External Port: 8000

**Optional Setting**

- Device Name:
- 

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 "Auto Mode" which if there's a DHCP server in the same local network, the NVR can obtain IP address from DHCP server, and you can locate the NVR by using the LevelOne Device Search utility.

If there's no DHCP server in the network, and the NVR is set to use "Auto Mode", it will use its own default static IP 192.168.101.50.

### Network Setting

Connection Type: **DHCP Client** ▼  
 Status: **Auto Mode**  
 IP Address: **DHCP Client**  
**Static IP**

The NVR supports three connection types that can be configured depends on how the network is setup.

**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:

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

*\* 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 or you can manually turn off the DHCP server function from "System Configurations" >> "Network Setup" >> "DHCP Server" if you wish to use a separate DHCP server*

## DHCP Server

**DHCP Server**

DHCP Server:  ON  OFF

Max. DHCP Client:  ( Max. 30 clients )

The built-in DHCP Server function is NOT always configurable and is greatly dependant to the connection type that is set to use in "Device Network Setting":

1. If the connection type is "Auto Mode", the DHCP server function is NOT configurable. It will be ON if the NVR doesn't obtain an IP from a DHCP server in the local network and uses its own default static IP 192.168.101.50
2. If the connection type is "Auto Mode", the DHCP server function is NOT configurable. It will be OFF if the NVR obtains an IP from a DHCP server in the local network.
3. If the connection type is "DHCP Client", the DHCP server function is NOT configurable. It will be OFF if the NVR obtains an IP from a DHCP server in the local network.
4. If the connection type is "DHCP Client", the DHCP server function is NOT configurable. It will be ON if the NVR doesn't obtain an IP from a DHCP server in the local network and uses its own default static IP 192.168.101.50
5. If the connection type is "Static IP", the DHCP server function is configurable and can be turn on/off manually.

## 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.

The screenshot shows the web interface for the NVR-0216 Network Video Recorder. On the left is a navigation menu with the following items: NVR Setup, System Configuration (expanded), Network Setup (expanded), Device Network Setting, DHCP Server, DDNS Service (selected), Time and Date, Users Account, Group Privilege, and Disk Setup. Below these are Channel Configuration, Event Configuration, Recording Configuration, and System Options. The main content area is titled 'Dynamic DNS Service' and contains the following elements: an 'Enable DDNS Service' checkbox (checked), a 'Server Address' dropdown menu set to 'www.DynDNS.com', three input fields for 'Domain Name', 'User Name', and 'Password', a 'Connection Status' indicator showing 'Disconnected', a 'Check DDNS Status' button, and an 'Apply' button.

*\*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".*

*\*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.*

## Time and Date

The screenshot shows the web interface for an NVR-0216 Network Video Recorder. On the left is a navigation menu under 'NVR Setup' with categories: System Configuration, Channel Configuration, Event Configuration, Recording Configuration, and System Options. The 'Time and Date' option is selected under System Configuration. The main content area is titled 'Time and Date Setting'. It features a 'Time Zone' dropdown menu set to 'GMT+08 (Beijing, Hong Kong, Shanghai, Taipei)' and a 'Summer time' checkbox. Two radio buttons are present: 'Manual' (unselected) and 'Sync with NTP Server' (selected). The 'Manual' section contains dropdown menus for Year (2012), Month (07), date (12), Hour (14), Minute (15), and Second (01). The 'Sync with NTP Server' section includes an 'NTP Server' text input field with 'ntp.ucsd.edu' and an 'Update Interval' dropdown menu set to '24 hr'. Below these fields, it shows 'Last sync: July 12, 2012 13:33:37. Status: Success'. At the bottom, there is a radio button for 'Sync with PC' with the timestamp 'July 12, 2012 14:16:00' and an 'Apply/Save' button.

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

## User Account

Multiple users can access the recorder 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 **“root”** account with password **“root”**. It's highly recommended to change the password upon your initial login.

The screenshot displays the web interface for the NVR-0216 Network Video Recorder. On the left is a navigation menu with the 'level one' logo and the following categories: NVR Setup, System Configuration, Channel Configuration, Event Configuration, Recording Configuration, and System Options. The 'System Configuration' category is expanded, showing sub-items like Network Setup, Device Network Setting, DHCP Server, DDNS Service, Time and Date, Users Account, Group Privilege, and Disk Setup. The main content area is titled 'User Account Setting' and contains a table with columns for User Name, Group, and Description. The table lists a user named 'root' in the 'admin' group. Below the table are 'Edit' and 'Remove' buttons. The 'Add User' section includes input fields for User Name, Password, and Confirm Password. It also has optional fields for Company, Department, Telephone, Mobile, and E-Mail. There are dropdown menus for Group (set to 'group1') and Language (set to 'English'), and a text area for Description. An 'Add' button is located at the bottom right of the form.

**level one**

**NVR-0216 Network Video Recorder**

**NVR Setup**

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

**User Account Setting**

User Name	Group	Description
root	admin	

Edit Remove

**Add User**

User Name:

Password:

Confirm Password:

Company:  (Optional)

Department:  (Optional)

Telephone:  (Optional)

Mobile:  (Optional)

E-Mail:  (Optional)

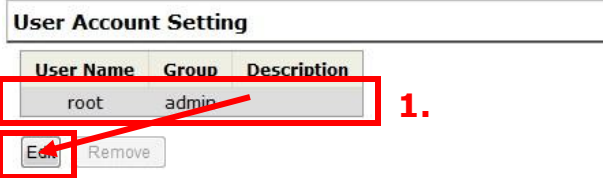
Group: group1

Language: English

Description:  (Optional)

Add

## Changing the password of the "root" account



**User Account Setting**

User Name	Group	Description
root	admin	

1. **Edit** Remove

**Modify User**

User Name: root

Password: ●●●●●●

Confirm Password:

Company:  (Optional)

Department:  (Optional)

Telephone:  (Optional)

Mobile:  (Optional)

E-Mail:  (Optional)

Group: admin

Language: English

Description:  (Optional)

1. Click and highlight the "root" 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"



## Add a new user

**Add User**

User Name:  Only **1** a-z, 0-9 and \_.@ are allowed

Password:

Confirm Password:

Company:  (Optional)

Department:  (Optional)

Telephone:  (Optional)

Mobile:  (Optional)

E-Mail:  (Optional)

Group:  **2**

Language:  (Optional)

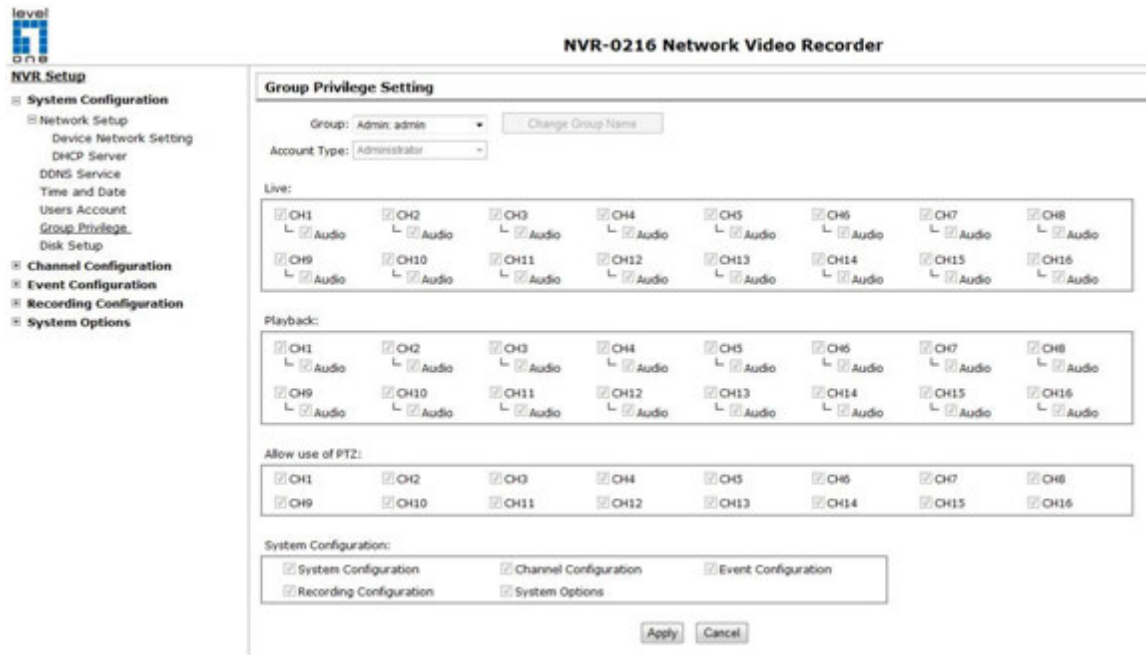
Description:  (Optional)

**3**

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

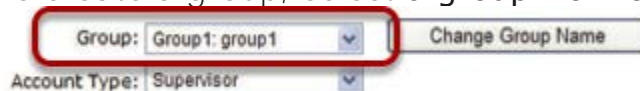
## Group Privilege

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 "root" 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 "root" 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 menu



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.

Group:

Privilege Type:

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

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

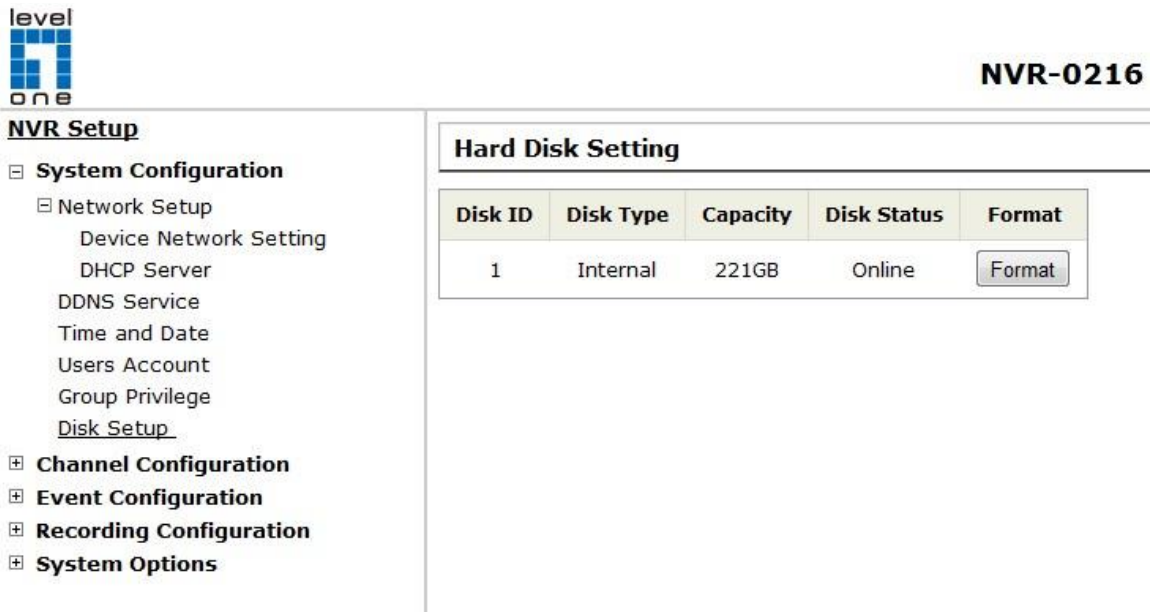
System Configuration:

<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	

## Disk Setup

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.



**level**  
one

**NVR-0216**

**NVR Setup**

- [-] **System Configuration**
  - [-] Network Setup
    - Device Network Setting
    - DHCP Server
    - DDNS Service
    - 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	221GB	Online	<input type="button" value="Format"/>

## Channel Configurations

### 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.

The screenshot shows the web interface for the NVR-0216 Network Video Recorder. On the left is a navigation menu under "NVR Setup" with options: System Configuration, Channel Configuration (selected), Event Configuration, Recording Configuration, and System Options. Under "Channel Configuration", "Channel Setting" is selected. The main area is titled "Channel Setting" and features a table with columns: Channel, Channel Name, Group, IP Address, Format, and Resolution. Below the table are "Remove" and "Edit" buttons. A "Search" button is next to the text "Click here to search camera:". A note below states: "\* You may skip this step and add a new camera manually by entering camera's setting in the 'Camera Information' section". Below this is a form titled "Add New Channel:" with fields for Channel ID (dropdown), Channel Name (text), Group (dropdown), IP Address (text), User Name (text), Password (text), and HTTP Port (text, default 80). A "Change Group Name" button is next to the Group dropdown. At the bottom of the form is a "Detect" button and the instruction: "Once you fill out above information, click 'Detect' to retrieve camera setting". At the very bottom are "Add" and "Cancel" buttons.

### Automatic Search

Click the "Search" button to perform the camera search.

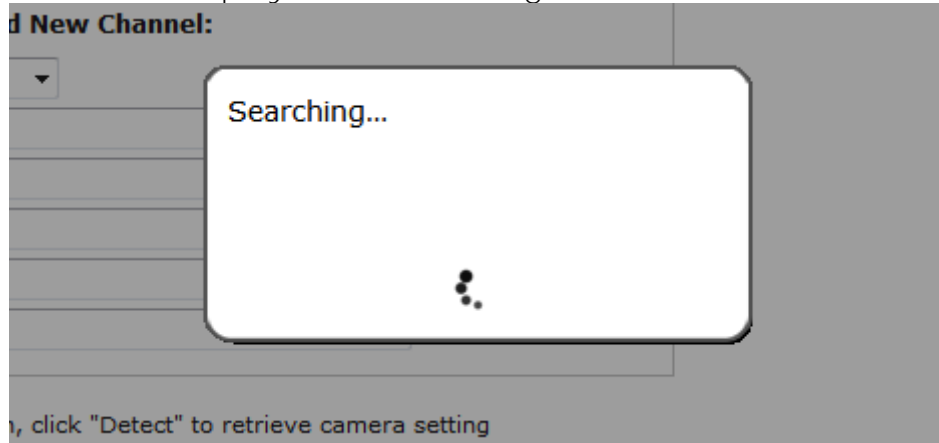
Click here to search camera:

\* You may skip this step and add a new camera manual

You should be prompted to install Active Control component in order for the search to function properly. Go ahead and click "Install"



Once you have the ActiveX component installed, the search status should be displayed after clicking "Search"



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

Level One	FCS-6010	192.168.0.155	80
LevelOne	FCS-0071	192.168.0.156	80
LevelOne	FCS-5061	192.168.0.159	80
LevelOne	WCS-6020	192.168.0.210	80

\*Select a camera from search result and click "Configure" to configure setting below.

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.

**Add New Channel:**

Channel ID:

Channel Name:

Group:

IP Address:

User Name:

Password:

HTTP Port:

Click on "Detect" to establish connection between the recorder and the camera. If connection establishes successfully, camera's detailed information should be polled and displayed as below.

**Additional Camera Information**

Video Port:

Format:


Resolution:

Bitrate Mode:

Bitrate:

Record:  Continuous

Record Audio:  Record audio



Adjust its video format, frame rate, resolution or bitrate...etc if you wish. You can also click on the "Preview" to preview the live video of the camera.

Click "Add" to finish adding the camera

1 a new camera by manually entering camera's setting in the "Came

	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	

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

## 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.

**Add New Channel:**

**2.** Channel ID: 3  
Channel Name: cam3  
Group: Group1

**1.** IP Address: 192.168.101.20  
User Name: root  
Password: ●●●●  
HTTP Port: 80

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

Enter manually



## 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:



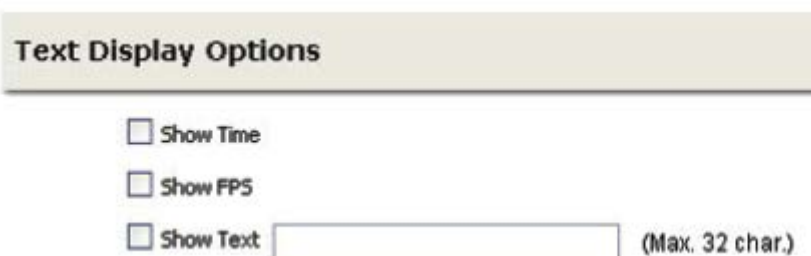
**OSD Settings**

Camera: Camera 1

Do Not Display OSD

Display OSD

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



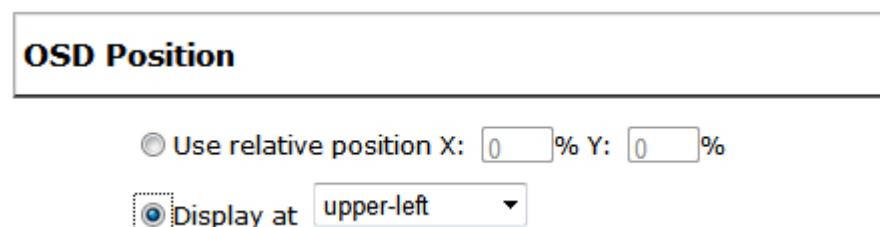
**Text Display Options**

Show Time

Show FPS

Show Text  (Max. 32 char.)

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.



**OSD Position**

Use relative position X: 0 % Y: 0 %

Display at upper-left

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



Preview

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

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

#### Customize OSD Text and Background

Text Size:  Auto  
 Self-defined 9

Text Color:  Customize

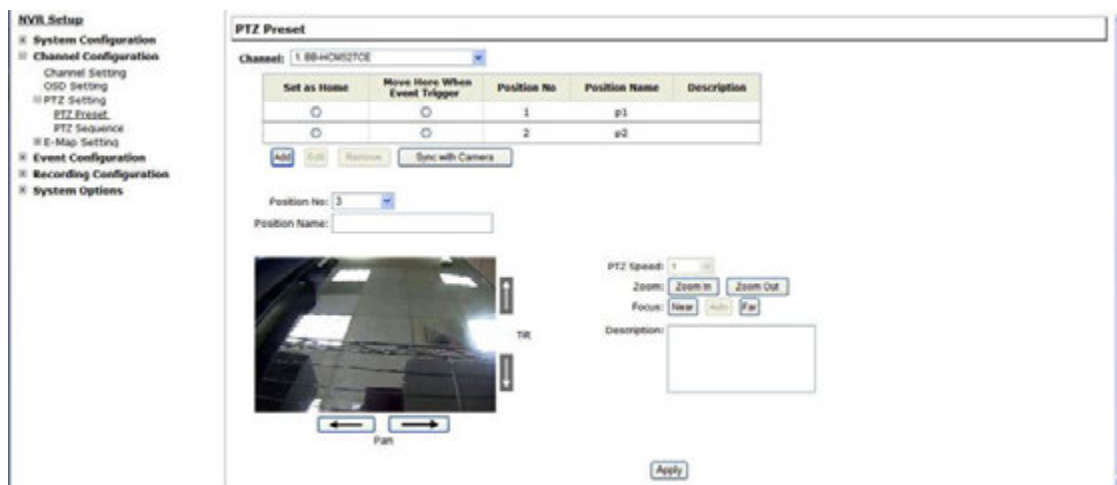
Font: Arial

Text Background Color:  Auto  
 Self-defined  Customize

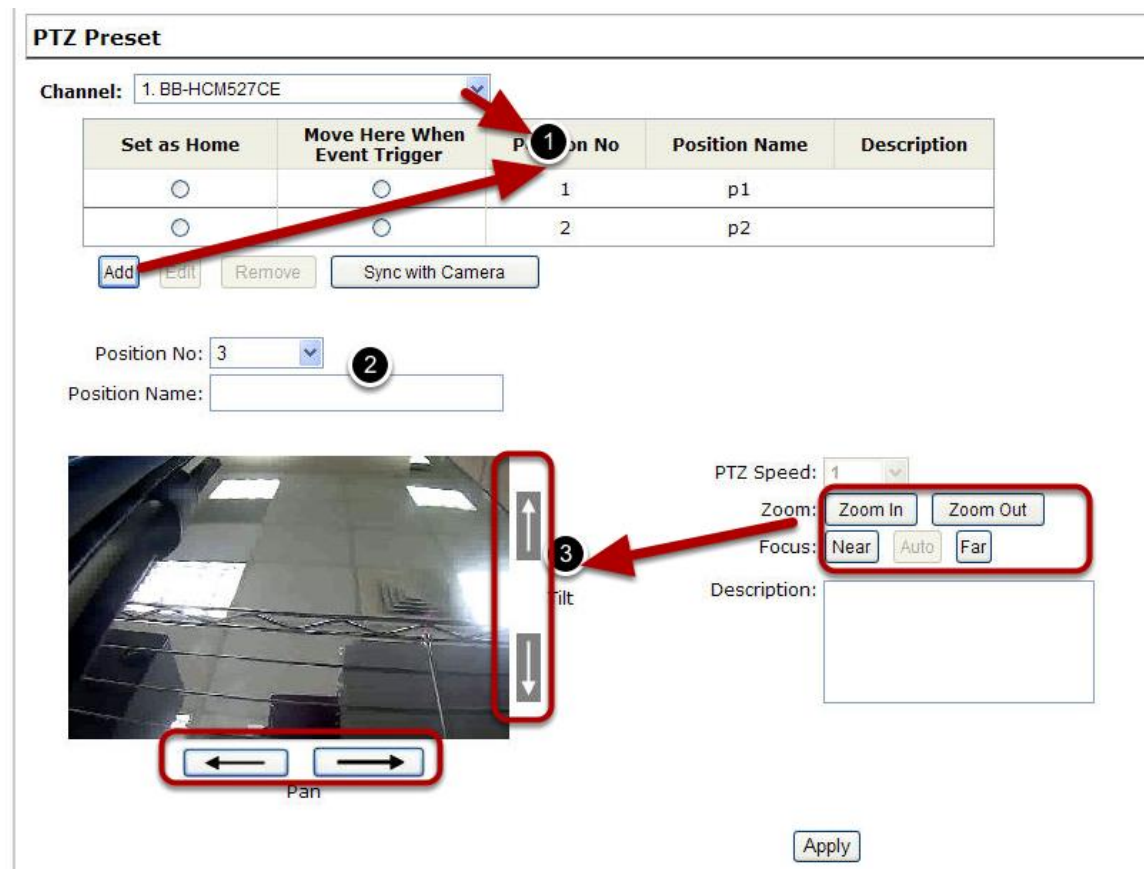
*The texts can be further adjusted with changes to different size, color or font so they can be more visible on the video.*

## PTZ Setting

### 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.



To set up PTZ preset points:

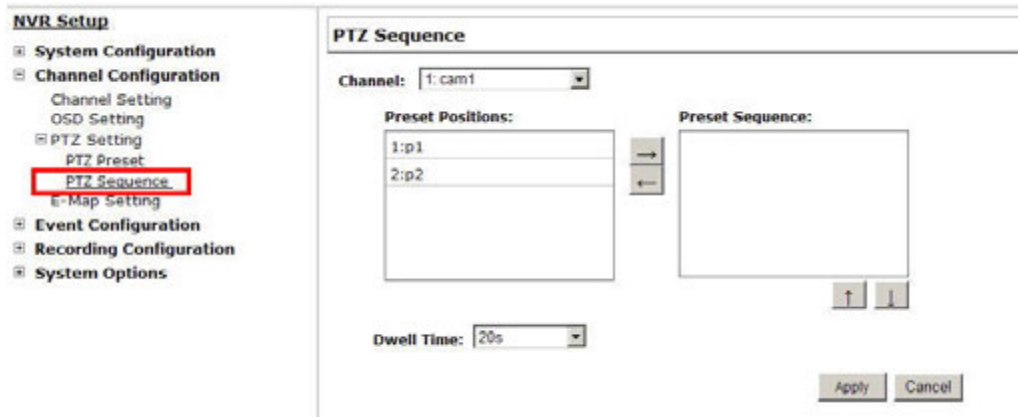
1. Select a camera from the "Camera" drop-down menu and click "Add".
2. Select a position number for the preset point from the "Position Number" drop-down menu and fill in a name in the "Position Name" field for easier identification.
3. Use the PTZ control provided in the configuration page to set the preset point

Set as Home	Move Here When Event Trigger	Position No	Position Name	Description
<input type="radio"/>	<input type="radio"/>	1	p1	
<input type="radio"/>	<input type="radio"/>	2	p2	

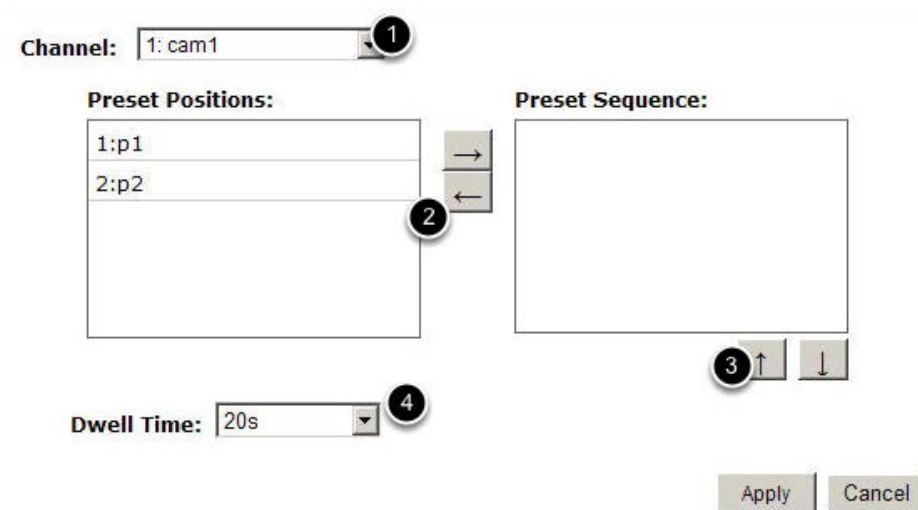
Ultimately, you can choose to make this preset point a "Home" point among all other preset points, as well as making the camera to move to this particular point when an event is triggered.

\* *"Move Here when Event Trigger": In order for this function to work properly, please also complete configuration in "Event Configuration" >> "Event Trigger"*

## 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,

1. Select a channel from the "Channel" drop-down menu. The available preset points should be listed in "Camera Presets" section.

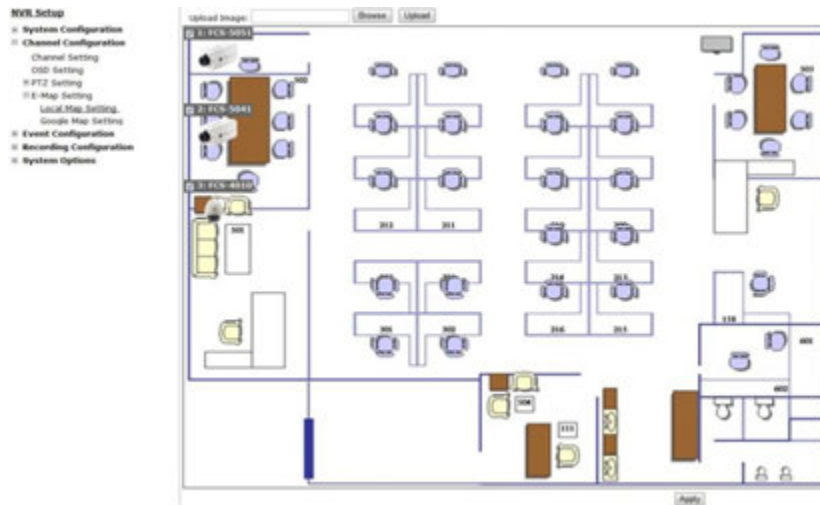
2. Pick the ones you like for sequence viewing and press the "->" button to move them to the "Preset Sequence" section, then

3. use the up and down buttons to adjust their sequencing positions.

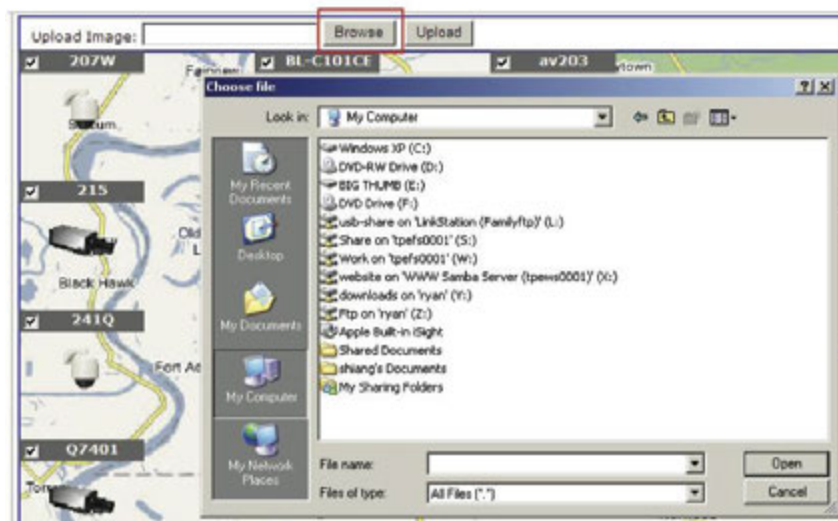
4. Finally, select a dwell time from the drop-down menu and click "Apply" to save the configuration

## E-Map Setting

### 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 Local 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.

## 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

*\* The Google Map Monitor requires active Internet connection and cannot be used in conjunction with the regular Map monitor function.*

## Event Configurations

### Event Configuration

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.

### General Settings

The screenshot displays the web interface for the NVR-0216 Network Video Recorder. On the left is a navigation menu with the following items: NVR Setup, System Configuration, Channel Configuration, Event Configuration (with sub-items: General Setting, DI/DO Setting, Event Servers, Event Trigger), Recording Configuration, and System Options. The main content area is titled "General Setting" and contains three sections:

- Event Trigger Duration:** Includes a radio button for "Always" (selected) and a group of radio buttons for "Only during:" with checkboxes for Sun, Mon, Tues, Wed, Thur, Fri, and Sat. Below these are checkboxes for "All day" and two time selection fields for "Start Time" and "End Time", each showing "00" in the hour and minute positions.
- Event Trigger Interval:** A text input field containing "5" followed by the label "Seconds. (5~86400)".
- Trigger Actions:** A "Subject:" field with the placeholder text "<TIME> : <CH> <TRIGGER> from <IP>". Below it is a checked checkbox for "Send Message" with a "Text:" label and a large empty text area. Further down is an "FTP File Name:" field with the placeholder "<IP>\_<CH>\_<TRIGGER>\_<TIME>". At the bottom of this section is a checked checkbox for "Send Image" with a "1" in a dropdown menu and the label "Frames," followed by a "File Name:" field.

At the bottom right of the configuration area are "Apply" and "Cancel" buttons.

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 check-box 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

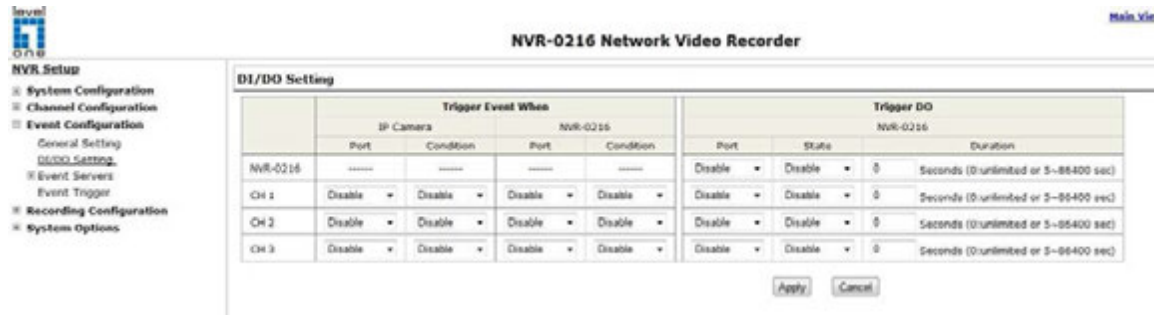
### **Trigger action**

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

## 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.*

## 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

**NVR Setup**

- System Configuration
- Channel Configuration
- Event Configuration
  - General Setting
  - D1/DO Setting
  - Event Servers
    - FTP Servers**
    - HTTP Servers
    - SMTP Servers
    - Event Trigger
- Recording Configuration
- System Options

**FTP Servers Setting**

Name	Network Address	Port	Passive Mode	Enabled
<input type="button" value="Edit"/> <input type="button" value="Remove"/>				

**FTP Server**

Name:  **1**

Network Address:  **2** or host name or IP address

Port:  **3**

**Login Information**

User Name:  **4**

Password:  **4**

**Passive Mode**

Use Passive Mode **5**

**Test**

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

**7**

To add an FTP server,

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

## 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.*

## Event Triggers

**Event Handling Setting**

When Channel is triggered by

**Reminder:**  
\*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.

	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"/>													
Motion Detection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>													
Custom Event	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>													

When NVR is triggered by

Recycled  When NVR start up  
 Disk Full  When NVR system configuration changed  
 Disk Full  When channel's configuration changed  
 When camera(s) disconnected

Trigger Actions

E-Mail: E-Mail Addresses:  \*use ";" to separate e-mails  
 FTP: Upload Path:   
 Trigger I/O Output  
 Buzzer  
 Move to particular preset points

Apply

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

**Reminder:**  
\*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.

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

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

**\*Once motion detection is enabled in this page, please configure the motion area and enable motion detection in the corresponding channels (cameras) from camera's own web UI.** 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.**

**When NVR is triggered by**

- Recycled
- Disk Full
- Disk fail
- When camera(s) disconnected
- When NVR start up
- When NVR system configuration changed
- When channel's configuration changed

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

**Trigger Actions**

- E-Mail:** E-Mail Addresses:  "use "," to separate e-mails
- FTP:** Upload Path:
- Trigger I/O Output**
- Buzzer**
- Move to particular preset points**

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

*\* 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.*



## 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.

### General Settings

**Recording General Settings**

**Recording Buffer**

Pre-Alarm Buffer: 0 Seconds (0~5)

Post-Alarm Buffer: 5 Seconds (5~30)

**Recording Frame Rate**

	1	2	3	4	5	6	7	8
Normal	Same as Live	H.264	MPEG4					
Continuous	1 Only	Full	1 Only					
Schedule	1 Only	1 Only	1 Only					
Event	Full	Full	Full					
Manual	Full	Full	Full					

	9	10	11	12	13	14	15	16
Normal								
Continuous								
Schedule								
Event								
Manual								

**Keep Video**

Keep the previous 0 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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>													
Schedule	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>													
Event	<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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>													

Apply Cancel

You can define the following in “General Settings”:

- Pre-Alarm/Post-Alarm recording length
- Recording frame rate
- Turn on/off HDD recycle function
- Define to always keep a number of days of previously recorded data
- Enable/disable different recording types on different cameras
- Enable/disable audio recording

### Recording General Settings

#### Recording Buffer

Pre-Alarm Buffer: 0 Seconds (0~5)

Post-Alarm Buffer: 5 Seconds (5~30)

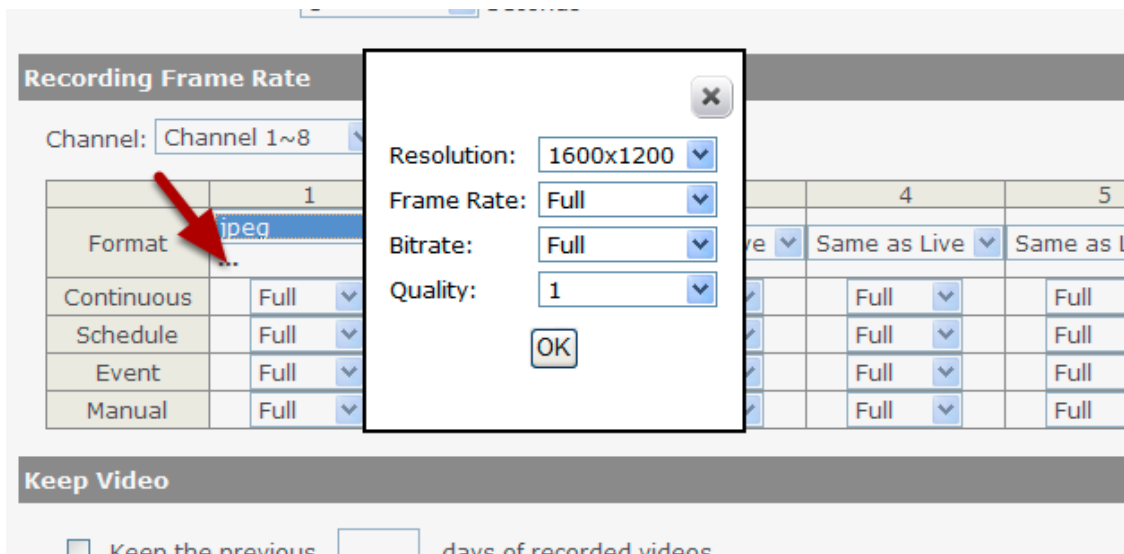
The “recording buffer” allows user to define “pre-alarm” and “post-alarm” time for event recordings. The “pre-alarm” time sets the NVR to record in advance when an event is triggered. The “post-alarm”

time sets the NVR to continue recording for a period of time after an event trigger is finished.

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

	1	2	3	4
Format	Same as Live	H.264 ...	MPEG4 ...	
Continuous	I Only	Full	I Only	
Schedule	I Only	I Only	I Only	
Event	Full	Full	Full	
Manual	Full	Full	Full	

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



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.



**Record Audio**

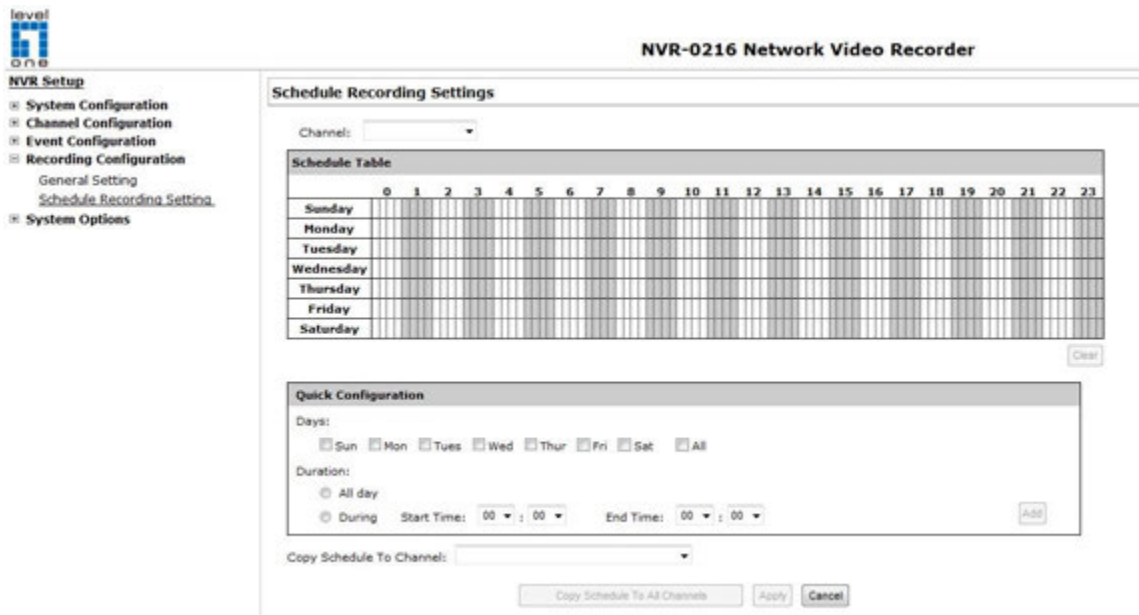
	1	2	3	4	5	6	7	8	9	10
Record audio	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

	17	18	19	20	21	22	23	24	25	26
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"/>

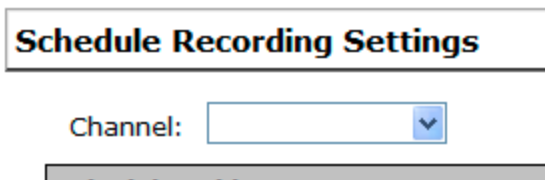
The section at the bottom of the page allows you to disable audio recording (record video only) of particular channels.

## Schedule Recording



You can define the time range of the schedule recording for all channels in this page.

### To configure a schedule recording

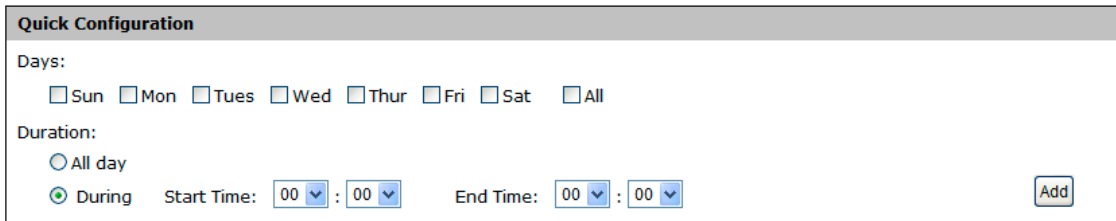


Use the “Channel” drop-down menu and select a camera first.

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																								

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.

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



The screenshot shows a "Quick Configuration" window with the following elements:

- Days:** A row of checkboxes for Sun, Mon, Tues, Wed, Thur, Fri, Sat, and All.
- Duration:** Two radio buttons: "All day" and "During".
- Start Time:** Two dropdown menus showing "00" and "00".
- End Time:** Two dropdown menus showing "00" and "00".
- Add:** A button in the bottom right corner.

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.**



The screenshot shows a "Copy Schedule To Channel" interface with the following elements:

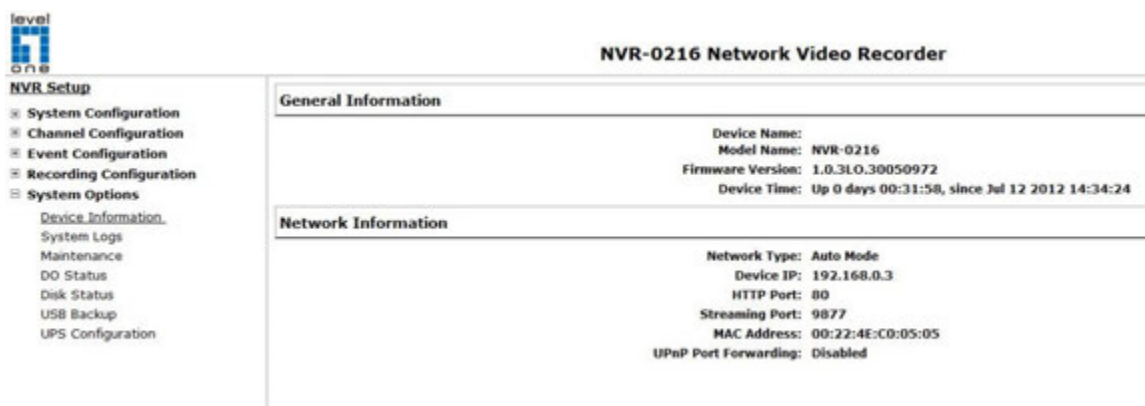
- Copy Schedule To Channel:** A dropdown menu.
- Save:** A button.
- Cancel:** A button.

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

## System Options

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

### Device Information



The screenshot displays the web interface for an NVR-0216 Network Video Recorder. On the left is a navigation menu with the following items: **NVR Setup**,  **System Configuration**,  **Channel Configuration**,  **Event Configuration**,  **Recording Configuration**,  **System Options**, Device Information, System Logs, Maintenance, DO Status, Disk Status, USB Backup, and UPS Configuration. The main content area is titled "NVR-0216 Network Video Recorder" and is divided into two sections: "General Information" and "Network Information".

General Information	
Device Name:	
Model Name:	NVR-0216
Firmware Version:	1.0.3LO.30050972
Device Time:	Up 0 days 00:31:58, since Jul 12 2012 14:34:24

Network Information	
Network Type:	Auto Mode
Device IP:	192.168.0.3
HTTP Port:	80
Streaming Port:	9877
MAC Address:	00:22:4E:C0:05:05
UPnP Port Forwarding:	Disabled

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.

## Logs and Reports



### 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

### NVR-0216 Network Video Recorder

#### System Logs

Below time is expressed in Coordinated Universal Time (UTC)

```

2012/06/02 19:19:25.854 Server start success
2012/06/03 08:44:22.048 System power off
2012/06/05 09:42:22.715 Server start success
2012/06/14 02:31:57.234 System power off
2012/06/18 03:34:33.895 Server start success
2012/06/18 03:39:15.888 admin login from 192.168.200.118
2012/06/18 03:39:56.288 Firmware upgraded by admin(192.168.200.118)
2012/06/18 03:40:00.568 System restarting...
2012/06/18 03:40:32.153 Server start success
2012/06/18 03:40:53.695 admin login from 192.168.200.118
2012/06/18 03:49:06.205 System power off
2012/06/25 06:08:24.422 Server start success
2012/06/25 08:45:53.272 admin login from 192.168.0.48
2012/06/25 08:46:01.812 admin login from 192.168.0.48
2012/06/25 08:47:22.972 Channel(1) added by admin(192.168.0.48)
2012/06/25 08:50:57.152 Channel(2) added by admin(192.168.0.48)
2012/06/25 08:53:56.532 Channel(3) added by admin(192.168.0.48)
2012/06/25 08:57:03.972 Channel(4) added by admin(192.168.0.48)
2012/06/25 09:00:53.002 Channel(5) added by admin(192.168.0.48)
2012/06/25 09:34:25.883 Channel(6) added by admin(192.168.0.48)
2012/06/25 09:36:18.453 Channel(7) added by admin(192.168.0.48)
2012/06/25 09:42:37.173 Channel(8) added by admin(192.168.0.48)
2012/06/25 09:47:46.134 Channel(9) added by admin(192.168.0.48)
2012/06/25 09:58:04.364 Channel(10) added by admin(192.168.0.48)
2012/06/25 10:00:00.754 Channel(11) added by admin(192.168.0.48)
2012/06/25 10:02:51.424 Channel(12) added by admin(192.168.0.48)
2012/06/25 10:06:55.454 Channel(13) added by admin(192.168.0.48)
2012/06/25 10:07:54.164 Disk 1 formatted by admin(192.168.0.48)
2012/06/25 10:09:26.834 admin login from 192.168.0.48
2012/06/25 10:11:38.554 Channel(14) added by admin(192.168.0.48)
2012/06/25 10:23:02.935 Channel(15) added by admin(192.168.0.48)
2012/06/25 10:24:49.965 Channel(16) added by admin(192.168.0.48)
2012/06/25 10:41:50.826 Channel(11) image setting changed by admin(192.168.0.48)
2012/06/25 10:41:52.023 General recording setting changed by admin(192.168.0.48)
2012/06/26 00:25:39.431 Hard disk 1 Start recycle totalGB=227 FreeGB=9
2012/06/26 01:37:39.143 Hard disk 1 Start recycle totalGB=227 FreeGB=9
2012/06/26 01:50:13.163 admin login from 192.168.0.48
2012/06/26 02:37:53.474 admin login from 192.168.0.14
2012/06/26 02:38:03.154 admin login from 192.168.0.14
2012/06/26 02:38:05.874 admin login from 192.168.0.14
2012/06/26 02:38:10.904 admin login from 192.168.0.14
2012/06/26 02:45:14.604 admin login from 192.168.0.14
2012/06/26 02:45:17.154 admin login from 192.168.0.14
2012/06/26 02:49:39.155 Hard disk 1 Start recycle totalGB=227 FreeGB=9
2012/06/26 03:54:20.726 admin login from 192.168.0.48
2012/06/26 04:12:39.208 Hard disk 1 Start recycle totalGB=227 FreeGB=9
2012/06/26 05:40:39.191 Hard disk 1 Start recycle totalGB=227 FreeGB=9
2012/06/26 07:12:39.042 Hard disk 1 Start recycle totalGB=227 FreeGB=9
2012/06/26 08:23:39.042 Hard disk 1 Start recycle totalGB=227 FreeGB=9

```

“Logs and Reports” keeps a record of what’s been happening to the device and provides basic information for troubleshooting.



## Maintenance

**level**  
ONVIF

**NVR Setup**

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

**NVR-0216 Network Video Recorder**

**Maintenance**

**Restart NVR**

Click "Restart" button to restart NVR.

**Restart NVR Automatically**

Select one of the options below:

Restart:

**Restart Camera**

Select a camera below to perform a restart:

**Upgrade NVR Firmware**

Upload the new firmware and perform the upgrade (Current Firmware Version: 1.0.310.30250972)

Specify the firmware file:   and click

\*\*\* Note \*\*\*: Please DO NOT power off the system during the firmware upgrade process. You will be notified once the upgrade process is complete.

**Backup NVR's Setting**

Backup the configuration to a local hard disk:

**Restore NVR's Setting**

Restore configuration from a previously saved configuration file:

Specify the configuration file:   and click

\*\*\* Note \*\*\*: Please DO NOT power off the system during the restore process. You will be notified once the process is completed.

**Reset NVR to Factory Default**

This will restore all configurations to their factory default values:

When the DHCP server function is disabled, the default IP of the system is: 192.168.100.50

\*\*\* Note \*\*\*: Please DO NOT power off the system during the reset process. You will be notified once the process is complete.

**Replace NVR Web UI Logo**

Upload the new logo and perform the update:

Specify the logo file:   and click

“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 at a specific time automatically

### Restart NVR Automatically

Select one of the options below:

Restart:

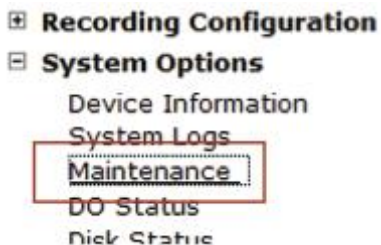
You can configure the NVR to restart automatically by using the options given in the web UI. You can set the NVR to restart at a particular hour of a specific day during a week or a month.

## Firmware Upgrade

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

**\*\* 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.**

## Through the web interface



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

### Upgrade NVR Firmware

Locate the new firmware and perform the upgrade (**Current Firmware Version: 1.0.3LO.30050972**)

Specify the firmware file:   and click

**\*\*\* Note \*\*\*:** Please DO NOT power off the system during the firmware upgrade process. You will be notified

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

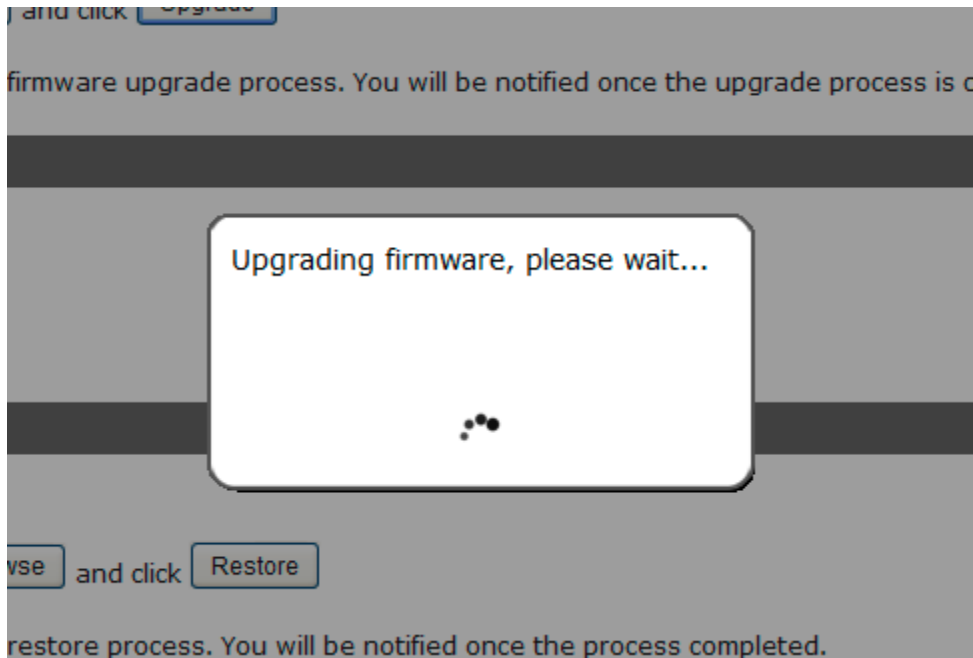


A new dialog should display and let you choose the location of the firmware file.



System during the firmware upgrade process

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)

### Upgrade through USB thumb drive

1. Prepare a USB flash disk and format with FAT or FAT32 format
2. 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)**
3. Plug USB flash disk into USB port on the NVR
4. The System LED on the NVR will start to flash in amber. This indicates firmware upgrade is in process
5. \*\*\* Warning \*\*\* Please wait until upgrade process finished, interrupt the upgrade process may cause system not work anymore
6. Wait until System LED remains solid in amber. This indicates firmware upgrade is finished
7. Power off the NVR and remove the USB disk the power the unit back on again
8. Restore configuration file back if needed

## Reset the NVR to Factory Default

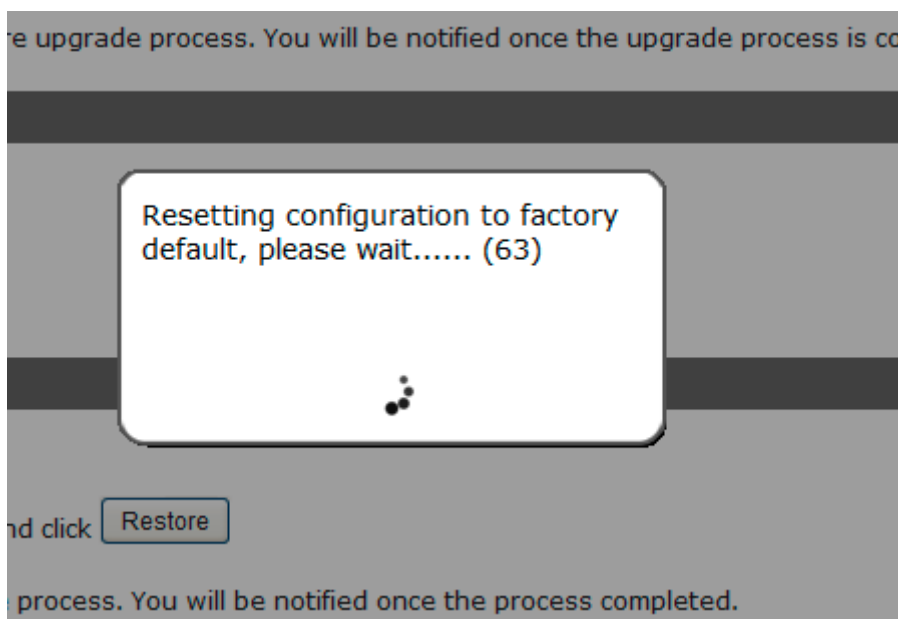
### Reset NVR to Factory Default

This will restore all configurations to their factory default values

**Restore Factory Default** When the DHCP server function is disabled, the default IP of the system is:192.168.101.50

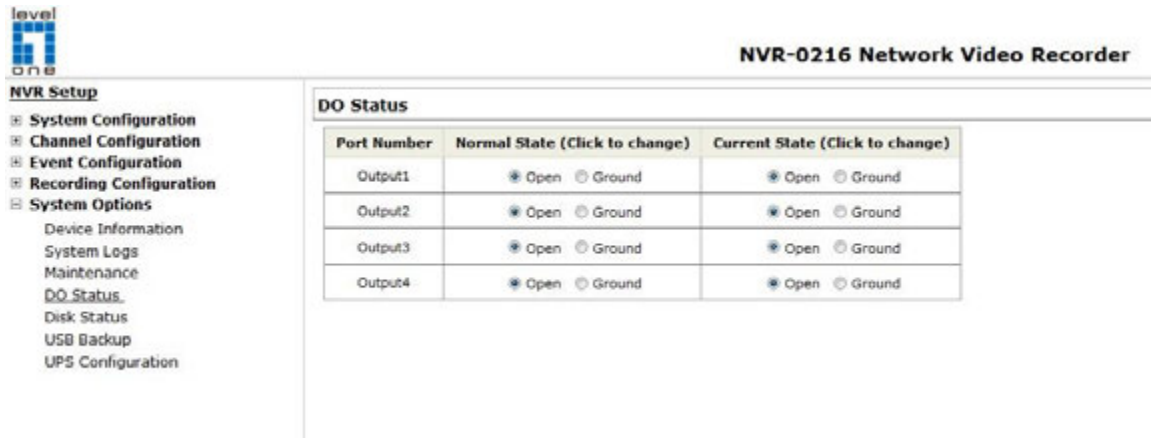
\*\*\* **Note** \*\*\*: Please DO NOT power off the system during the reset process. You will be notified once the process is complete.

To reset the recorder back to its factory default, click “Restore Factory 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.

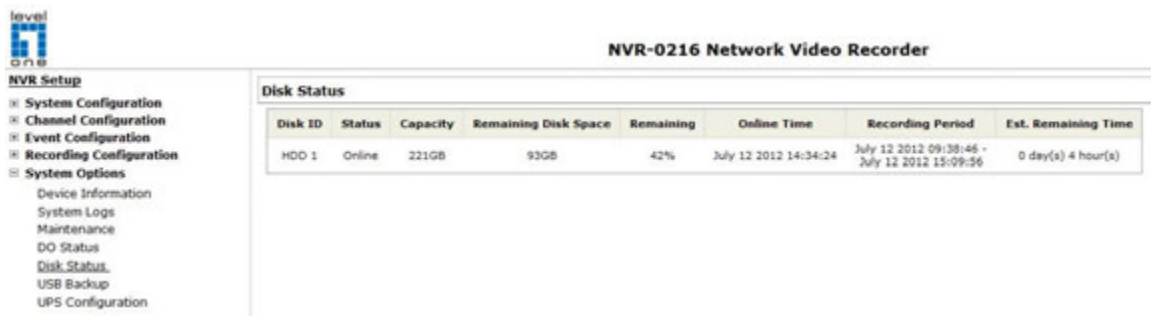
## DO Status



Port Number	Normal State (Click to change)	Current State (Click to change)
Output1	<input checked="" type="radio"/> Open <input type="radio"/> Ground	<input checked="" type="radio"/> Open <input type="radio"/> Ground
Output2	<input checked="" type="radio"/> Open <input type="radio"/> Ground	<input checked="" type="radio"/> Open <input type="radio"/> Ground
Output3	<input checked="" type="radio"/> Open <input type="radio"/> Ground	<input checked="" type="radio"/> Open <input type="radio"/> Ground
Output4	<input checked="" type="radio"/> Open <input type="radio"/> Ground	<input checked="" type="radio"/> Open <input type="radio"/> Ground

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.

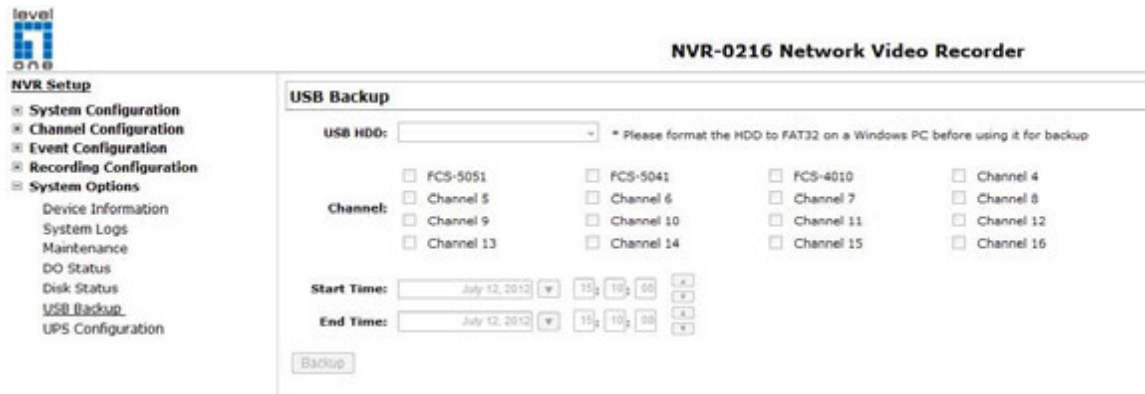
## Disk Status



Disk ID	Status	Capacity	Remaining Disk Space	Remaining	Online Time	Recording Period	Est. Remaining Time
HDD 1	Online	221GB	93GB	42%	July 12 2012 14:34:24	July 12 2012 09:38:46 - July 12 2012 15:09:56	0 day(s) 4 hour(s)

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

## 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.

Disk Status							
Disk ID	Status	Capacity	Remaining Disk Space	Remaining	Online Time	Recording Period	Est. Remaining Time
HDD 1	Online	222GB	216GB	97%	Aug 12 2010 11:21:12	May 21 2010 16:52:02 - Aug 12 2010 12:07:12	2980 day(s) 21 hour (s)
USB HDD 1	Online	1935MB	553MB	28%		--	--

You can check the "Disk Status" page under "System Options" to see if the USB disk has been detected by the NVR. If it's available, it will also be in the USB HDD drop-down menu in the USB backup page.

\* It needs a USB disk containing free space larger than 100MB.

### 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

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

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 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



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

**Start Time:**    :  :

**End Time:**    :  :

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

### Things to pay attention to 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 incorrectly mounted.

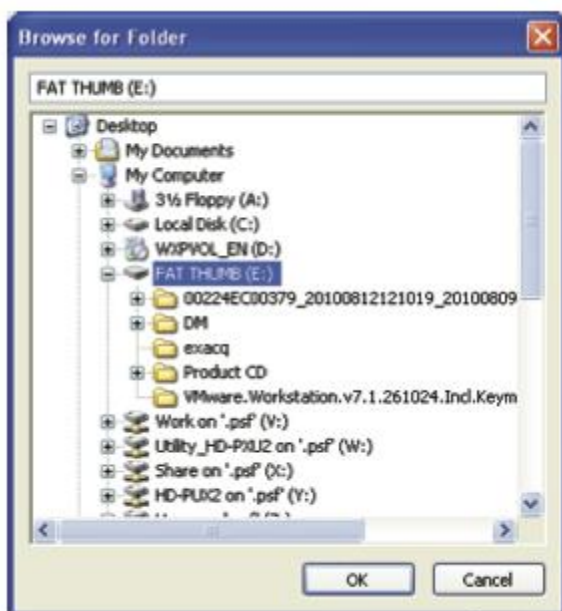
## Play the backup file with the NVR Media Player



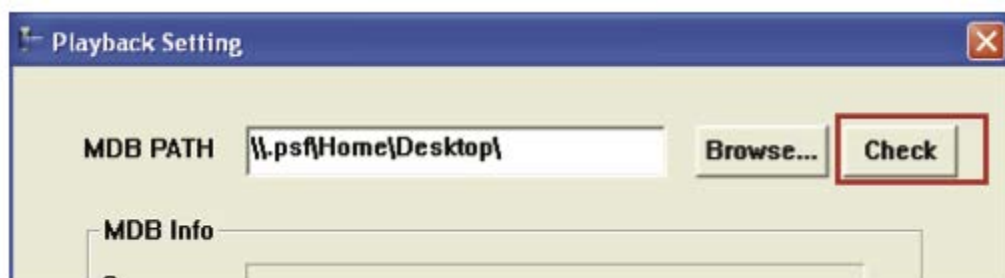
The backup files can be played with the NVR media player. To do, open the player and select "Open" >> "Media Database"



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.



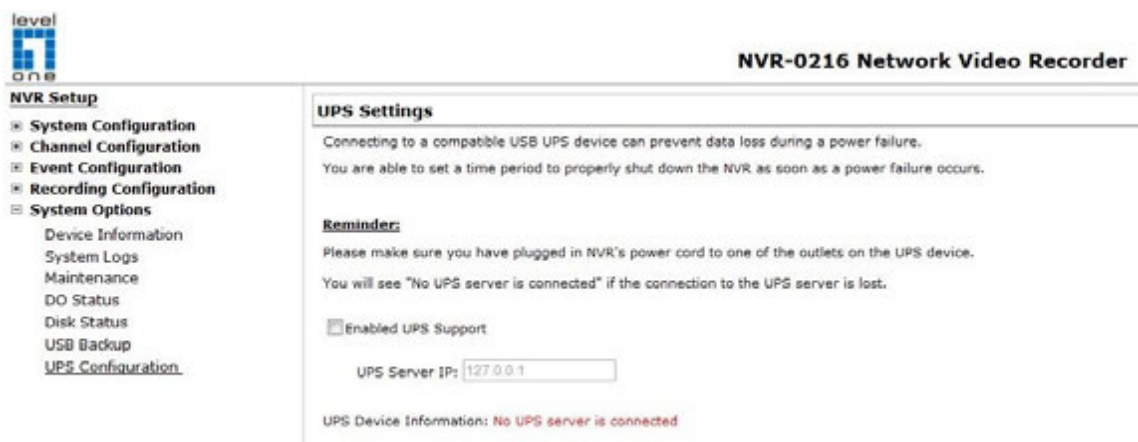
Select the time zone according to your current location.



Finally, click "OK" to begin playing. The player should now play the backed up file.

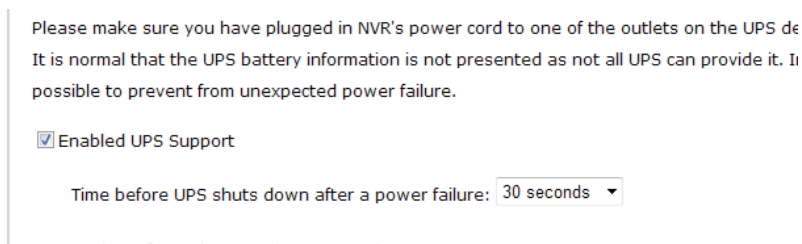
## UPS Configuration

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.

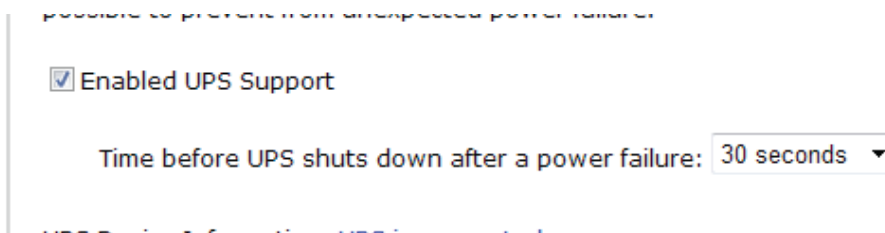


To enable local UPS support (NVR acting as UPS server):

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.



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:



**\* 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: 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

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

**Reminder:**

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

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.*

## Camera Setup Wizard - Complete Setup

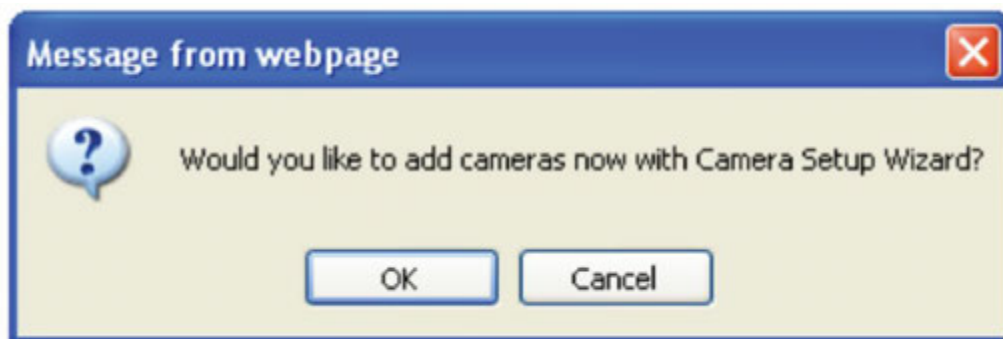
### Function overview

The Camera Setup wizard offers two ways of setting up cameras:

1. Complete setup: step-by-step guided process that sets up live video stream, recording quality, scheduling and events.
2. AutoSetup: An automated process that adds multiple cameras at once without dealing with detailed settings.

### Upon login

As soon as you log into the NVR that hasn't been configured with any cameras, a message will pop up and ask you whether you'd like to add cameras with the Camera Setup Wizard. Click "OK" to continue.



### Choose a method

Then you'd be given with two options for setting up cameras, Complete camera setup and AutoSetup. Choose "Complete camera setup" and click "Next" to continue.

For instructions of using AutoSetup, please refer to page

\*\* If you see a pop-up dialog asking you to install the ActiveX component,

follow the on screen instructions and install it first. The wizard will

not run without the ActiveX.

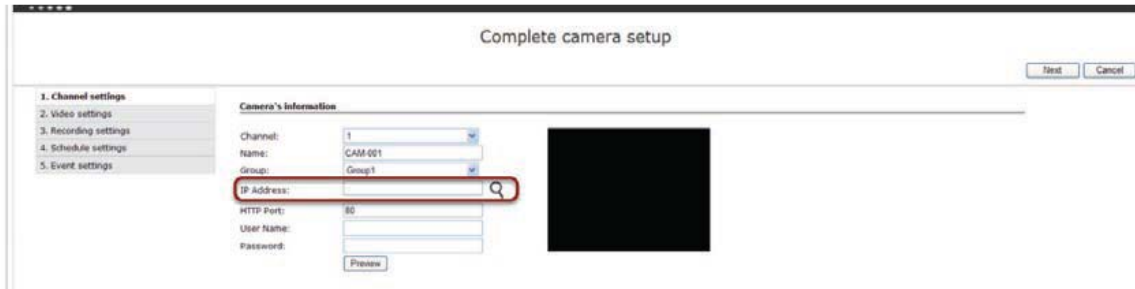


## Add camera

In the first step, the wizard will ask you to add a camera. You can add one by manually entering camera's IP address, its HTTP port, username

and password, or click the "Magnifier" icon to let the wizard

search cameras on the network.



## Searching cameras on the network

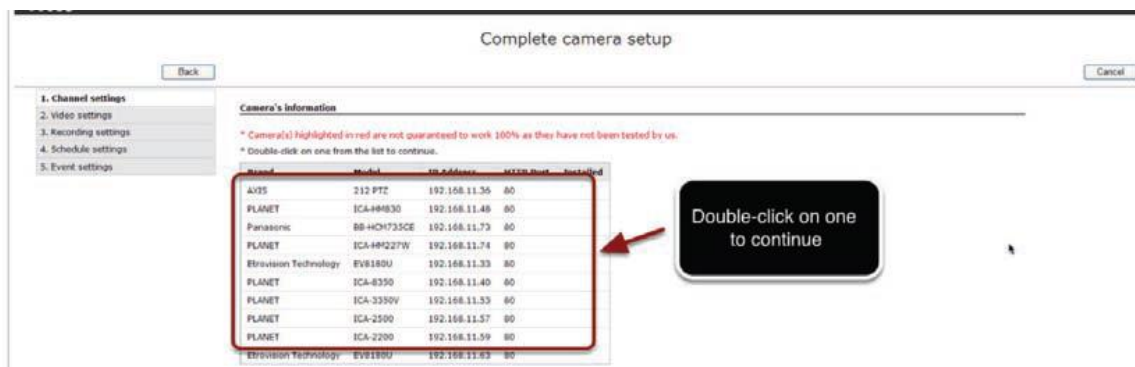
If you chose to let the wizard search cameras on the network for you, wait while it's performing the search process and the results will be

displayed automatically once it's done.



## Search result

Once the search result is displayed. Double-click on a camera you wish to add to continue.





### Enter username and password

After you picked a camera from the search result list, you will be directed

back to the first step, in which now the "Name", "IP address", and "HTTP port" will be filled for you.

You can change which channel this camera will be added to by using the "Channel" drop-down menu and change its group by using the "Group" drop-down menu. (4 channels forms a group) Alternatively, you can change the channel name by re-typing a desired name in the "Name" field.

Lastly, type in the camera's username and password and click "Next" to continue.

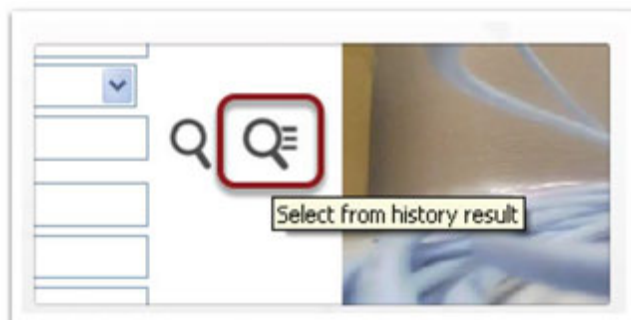
### Show previous search result

Notice an additional icon is displayed next to the "Magnifier" icon and this only appears after the camera search has been performed.

Clicking

this icon will display the previous search result, which you can use to add additional cameras later on without running the search process

again.



## Basic mode and Advance mode

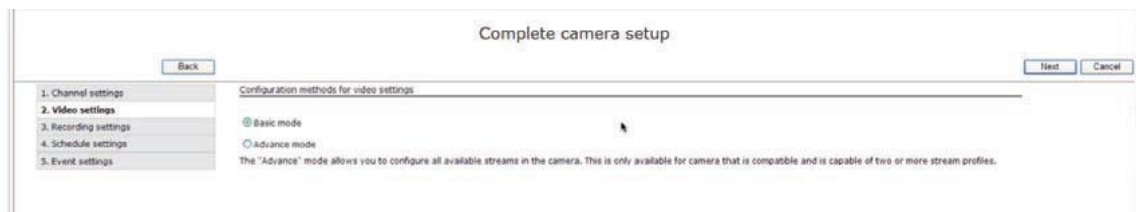
If the detected camera is capable of delivering multiple streams and is compatible with the NVR, you will be given with two options to configure the camera.

1. Basic mode: which adds the camera and record video by using its first and second stream profiles. Other stream profiles will not be used nor configured.

2. Advance mode: You will be able to configure settings of each available stream profiles and pick which one will be used for live, record, or mobile view.

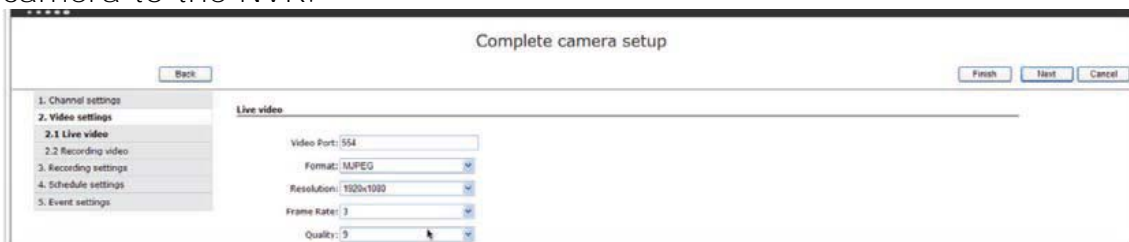
\*\* You will not see this page if the detected camera is a single-stream only camera.

\*\* If you configure a multi-stream capable camera with Basic mode, only the first two stream profiles will be used. Select H.264/MPEG4 will use settings of first stream profile from the camera, select MJPEG will use the second stream profile from the camera.



## Configuring Live video settings (Basic mode)

Once the camera is successfully detected, the next step should display its current settings. You can alter them in this step before adding the camera to the NVR.



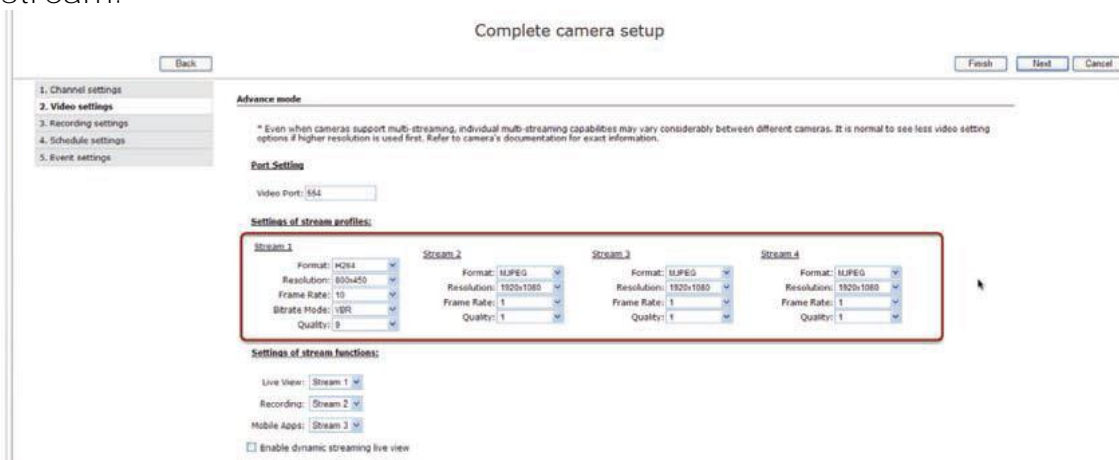
## Configuring recording video settings

You are able to choose a different video format for recording if you are configuring a multi-stream capable camera with Basic mode. You will not see the page shown below if you are configuring a single-stream only camera.



## Video settings (Advance mode)

Configuring camera with advance mode allows you to configure all available stream profiles from the camera. Use the drop-down menu and configure preferred settings for each stream.



## Video settings (Advance mode)

You can then assign different stream profiles for different functions.

### Settings of stream profiles:

<p><b>Stream 1</b></p> <p>Format: H264</p> <p>Resolution: 800x450</p> <p>Frame Rate: 10</p> <p>Bitrate Mode: VBR</p> <p>Quality: 9</p>	<p><b>Stream 2</b></p> <p>Format: MJPEG</p> <p>Resolution: 1920x1080</p> <p>Frame Rate: 1</p> <p>Quality: 1</p>	<p><b>Stream 3</b></p> <p>Format: MJPEG</p> <p>Resolution: 1920x1080</p> <p>Frame Rate: 1</p> <p>Quality: 1</p>
--	---	---

### Settings of stream functions:

Live View: Stream 1

Recording: Stream 2

Mobile Apps: Stream 3

Enable dynamic streaming live view

## Video settings - Dynamic streaming (Advance mode)

Enabling dynamic streaming will overwrite settings for live views as the NVR will automatically select the best fit stream settings based on the live video viewing layout.

### Settings of stream functions:

Live View: Stream 1

Recording: Stream 2

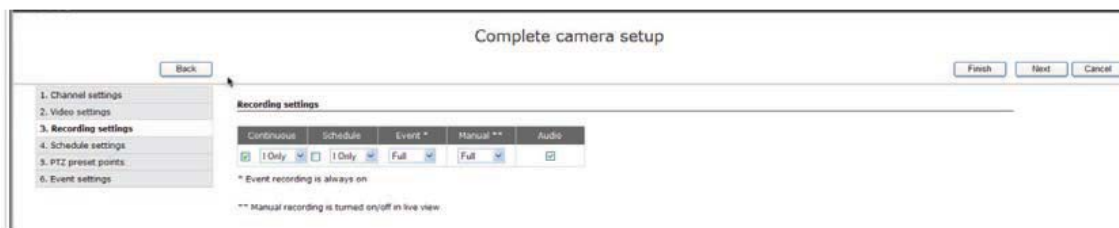
Mobile Apps: Stream 3

Enable dynamic streaming live view

## Configuring recording video quality

Next, you can configure recording frame rates for each different types of recordings.

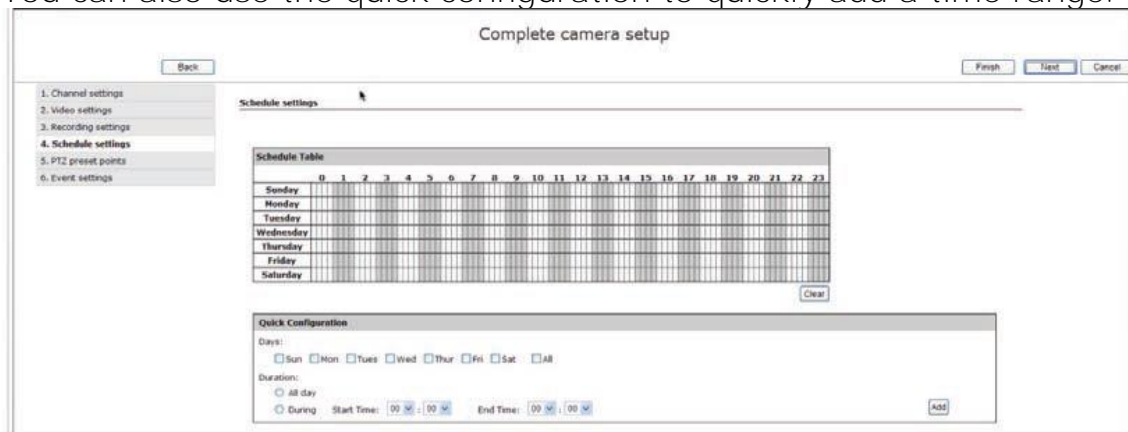
\*\* When the chosen format for recording is MPEG4, or H.264, the available frame options for recordings will be "i only" and "Full". (i only = i frame only, Full = i+p frames)



## Configuring scheduling for recording

If scheduling recording is enabled in the previous step, the scheduling settings page allows you to configure the schedule. Click on the schedule table to select the desired time ranges.

You can also use the quick configuration to quickly add a time range.



## Add PTZ preset points

You will be presented with this page if you are adding a camera that supports PTZ function. Click on the video to simulate the pan and tilt movements, use the scroll button to zoom in/out the video. Click the **"Add"** button to add the current position as a preset point.

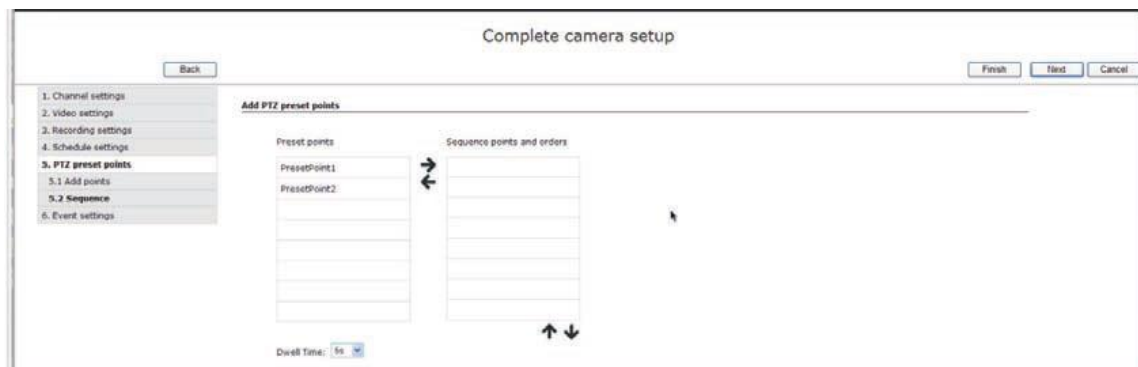
**Alternatively, you can click on the "Sync with Camera" button to synchronize**

preset points setting from the camera.



## Configuring PTZ preset point sequence

Next, you can pick the previously added preset points and set your own preferred order for automatic sequence view.



## Configuring camera events

There are two types of camera events you can configure with the wizard:

1. Events from camera's digital input ports (this option will not be available if the configuring camera doesn't have built-in digital input ports)
2. Camera's motion detection

When done, click "Next" to continue.

The screenshot shows the 'Complete camera setup' wizard. On the left is a navigation menu with items: 1. Channel settings, 2. Video settings, 3. Recording settings, 4. Schedule settings, 5. PTZ preset points, 6. Event settings, 6.1 Camera events, 6.2 NVR's digital input, 6.3 CMS events, and 6.4 Event action. The main content area is titled 'Configure event triggered by camera' and contains two sections. The first section, 'Enable event trigger from camera's digital input (DI)', has a checked checkbox, a 'From port:' dropdown set to '1', and a 'When port condition is:' dropdown set to 'Open'. The second section, 'Enable event trigger from camera's motion detection \*', has a checked checkbox and a note: 'Go to this camera's web UI: <http://192.168.1.72> for motion detection configuration.' Below this is a disclaimer: '\*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.' At the top of the wizard are 'Back', 'Finish', 'Next', and 'Cancel' buttons.

## Event settings - NVR's digital input

If the NVR comes with built-in digital input ports, you will be presented with this page, which allows you to use NVR's digital input port as an event trigger source. This is useful if the configuring camera doesn't have built-in digital input ports.

**\*\* You will not see this page if the NVR doesn't have built-in digital input ports.**

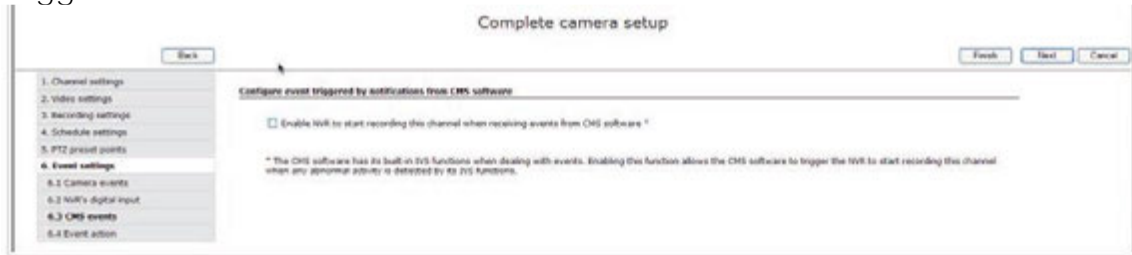
The screenshot shows the 'Complete camera setup' wizard. The navigation menu on the left is the same as in the previous screenshot, but '6.2 NVR's digital input' is highlighted. The main content area is titled 'Configure event triggered by NVR's digital input' and contains two sections. The first section, 'From port:', has a dropdown menu set to 'Disable'. The second section, 'When port condition is:', has a dropdown menu set to 'Disable'. Below these sections is a note: '\* You can pair an NVR's digital input with this channel and set it for event trigger. This is useful if the camera you are using doesn't come with digital input ports.' At the top of the wizard are 'Back', 'Finish', 'Next', and 'Cancel' buttons.

## Event settings - CMS events

Next, you can enable NVR to receive events from the CMS software, which will then triggers the NVR to start recording.

\*\* The CMS has its own analytic functions, once they are configured,

the CMS will send notifications to the NVR as soon as they are triggered.



## Event settings - Event action

You will be presented with this page if the NVR comes with built-in digital output ports. You can then configure which output port to be triggered when any of the previously configured events are triggered.



## Finish

Once you finish, you will be prompted with a message asking whether you'd like to configure another camera with the setup wizard.





## Camera Setup Wizard - AutoSetup

### Launch Setup Wizard in Live view

You can launch the setup wizard in the upper-right hand corner in live view.



### AutoSetup

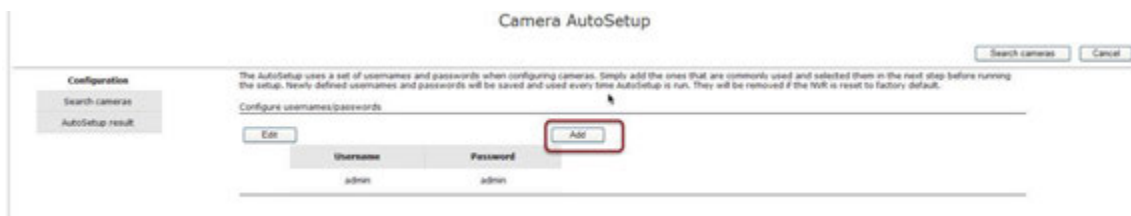
Once the wizard is launched, choose "AutoSetup" and click "Next" to continue.



### Add cameras' usernames/passwords

The first step will allow you to add multiple usernames/passwords that are commonly used for cameras on your network. You can add up to 10

of them and the wizard will use them to add cameras.



Enter the desired username/password and click "OK" to add it. Click "Done" when done.

Configure usernames/passwords

Username	Password
admin	admin
admin1	seenergy
root	root

Done

Username: test Password: 123 OK

### Search camera

After entering usernames/passwords, click "Search cameras" to begin searching cameras on the network.

Camera AutoSetup

Search cameras Cancel

Configuration

The AutoSetup uses a set of usernames and passwords when configuring cameras. Simply add the ones that are commonly used and selected them in the next step before running the setup. Newly defined usernames and passwords will be saved and used every time AutoSetup is run. They will be removed if the tool is reset to factory default.

Configure usernames/passwords

Edit Add

Username	Password
admin	admin

### Search result

The found cameras will be displayed, use the "Username/Password" drop-down menu to select desired username/password that were added in the previous step for each camera.

Click "Start" to begin the AutoSetup process.

Camera AutoSetup

Back Search Again Start Cancel

Configuration

Search cameras

AutoSetup result

By default, the AutoSetup uses a set of usernames and passwords when configuring cameras. You can run it with the default, or use the one defined in the previous step for each camera before running the setup. Check off the ones you don't want to add to the list with AutoSetup. Click "Start" to begin the process.  
 \* Cameras highlighted in red are not guaranteed to work 100% as they have not been tested by us.

Cameras found on the network

Brand	Model	IP Address	HTTP Port	Username/Password	Status
AXIS	212 PTZ	192.168.11.36	80	admin/admin	
PLANET	ICA-HP820	192.168.11.48	80	admin/admin	
PLANET	ICA-HP827W	192.168.11.74	80	admin/admin	
Etravision Technology	EVS180V	192.168.11.33	80	admin/admin	
PLANET	ICA-8330	192.168.11.40	80	admin/admin	
PLANET	ICA-3330V	192.168.11.53	80	admin/admin	
PLANET	ICA-2350	192.168.11.57	80	admin/admin	
PLANET	ICA-2200	192.168.11.59	80	admin/admin	
Etravision Technology	EVS180V	192.168.11.63	80	admin/admin	

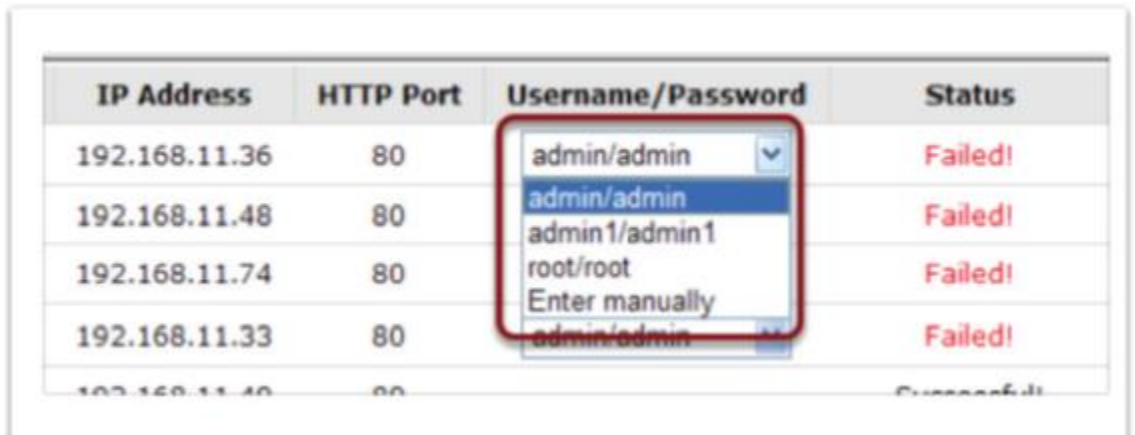
### AutoSetup result list

You can see the status of the process and the results in the "Status" column. You will be prompted when the process is done.



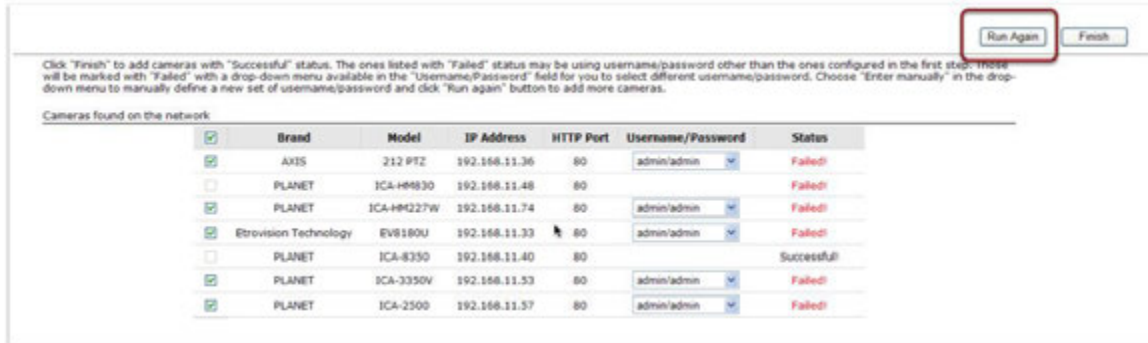
### Re-configure failed cameras

If the "Username/Password" drop-down menu is available for the failed camera, it means the username/password entered were not correct. You can use the drop-down menu to choose different set of username/password, or choose "Enter manually" to enter a new one.



## Run AutoSetup wizard

You can then click "Run again" to run the AutoSetup again.



Click "Finish" to add cameras with "Successful" status. The ones listed with "Failed" status may be using username/password other than the ones configured in the first step; those will be marked with "Failed" with a drop-down menu available in the "Username/Password" field for you to select different username/password. Choose "Enter manually" in the drop-down menu to manually define a new set of username/password and click "Run again" button to add more cameras.

Cameras found on the network:

<input checked="" type="checkbox"/>	Brand	Model	IP Address	HTTP Port	Username/Password	Status
<input checked="" type="checkbox"/>	AXIS	212 PTZ	192.168.11.36	80	admin/admin	Failed
<input type="checkbox"/>	PLANET	ICA-HM830	192.168.11.48	80		Failed
<input checked="" type="checkbox"/>	PLANET	ICA-HM227W	192.168.11.74	80	admin/admin	Failed
<input checked="" type="checkbox"/>	Etrvision Technology	EV8180U	192.168.11.33	80	admin/admin	Failed
<input type="checkbox"/>	PLANET	ICA-8350	192.168.11.40	80		Successful
<input checked="" type="checkbox"/>	PLANET	ICA-3350V	192.168.11.53	80	admin/admin	Failed
<input checked="" type="checkbox"/>	PLANET	ICA-2500	192.168.11.57	80	admin/admin	Failed