



ESV16

## User's Manual

16CH Network Video Recorder with Local Display

**surveillix**

Version 1.0.0

## Table of Contents

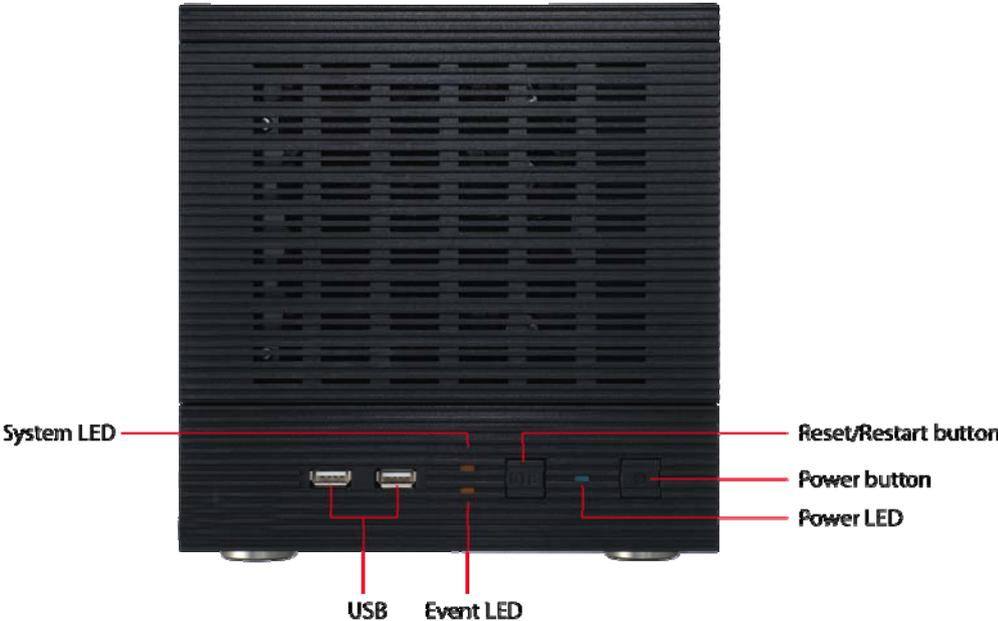
<b>System Overview</b> .....	<b>5</b>
Front View .....	5
Rear View .....	5
LED Status .....	6
<b>Installation</b> .....	<b>7</b>
<b>HDD Installation</b> .....	<b>7</b>
<b>Connecting to the NVR</b> .....	<b>10</b>
Using NVR Device Search Utility .....	10
Accessing the NVR with its default IP address.....	15
Password Setup .....	16
<b>Camera Installation</b> .....	<b>18</b>
Adding a Camera -- Automatic Search.....	18
Adding a camera manually .....	20
<b>Live View</b> .....	<b>22</b>
Retrieve camera's video stream.....	23
Retrieve camera's status .....	23
Perform Sequence Viewing .....	24
PTZ Control .....	26
Perform PTZ Preset Viewing.....	28
Preset Point Viewing .....	28
Auto Pan Viewing .....	29
Preset Point Sequence Viewing.....	30
Live Video Controls.....	31
Display ratio and full screen.....	31
Take a snapshot of a live video .....	32
Perform Digital PTZ .....	38
Adjust Brightness for the Live Video.....	41
Adjust Contrast For the Live Video.....	42
Change Web UI Display Language .....	43
Live View through iPhone Safari Browser .....	44
Live View through Blackberry Phones .....	49
<b>Playback</b> .....	<b>55</b>
Methods to Search Playback Videos .....	55
Search by time chart .....	56
Search by event.....	58
Play by specific time .....	61
Search by event (Most Recent) .....	62
Certain functions you can perform to the playback video.....	64
Take a snapshot of a playback video .....	65
Adjust Brightness for the Playback Video .....	71
Adjust Contrast For the Playback Video .....	72
Export Playback Videos to AVI Files.....	73
Export Playback Videos to JPEG images .....	75
Play Exported Playback Videos with NVR Media Player .....	78

Open Event Snapshot images with NVR Media Player.....	80
<b>NVR Setup -- System Configurations .....</b>	<b>82</b>
<b>Network Setup .....</b>	<b>82</b>
Network Settings .....	82
DHCP Server .....	84
DDNS Service .....	85
<b>Time and Date .....</b>	<b>91</b>
<b>User Account .....</b>	<b>92</b>
Add a new user .....	93
Change the password of the "admin" account .....	94
<b>Group Privilege.....</b>	<b>95</b>
<b>Disk Setup .....</b>	<b>97</b>
Build RAID Volume .....	98
Deleting RAID.....	103
Notes for RAID function.....	103
<b>NVR Setup -- Channel Configurations .....</b>	<b>105</b>
<b>Add a camera .....</b>	<b>105</b>
Automatic Search.....	105
Add a camera manually.....	111
<b>OSD Settings .....</b>	<b>112</b>
<b>PTZ Setting.....</b>	<b>115</b>
PTZ Preset Settings .....	115
PTZ Preset Sequence .....	117
<b>Local-Map Setting.....</b>	<b>119</b>
Local-Map Setting .....	119
Google Map Setting .....	122
<b>NVR Setup -- Event Configurations.....</b>	<b>124</b>
<b>Event Configuration.....</b>	<b>124</b>
General Settings .....	124
<b>I/O Settings .....</b>	<b>125</b>
<b>Event Servers .....</b>	<b>127</b>
Configuring an FTP server.....	127
Configuring an SMTP server .....	129
<b>Event Triggers .....</b>	<b>130</b>
<b>NVR Setup -- Recording Configurations.....</b>	<b>132</b>
<b>General Settings.....</b>	<b>132</b>
<b>Schedule Recording .....</b>	<b>136</b>
To configure a schedule recording.....	137
<b>NVR Setup -- System Options .....</b>	<b>139</b>
<b>Device Information.....</b>	<b>139</b>
<b>Logs and Reports.....</b>	<b>140</b>
<b>Maintenance .....</b>	<b>141</b>
Reboot the NVR at a specific time automatically.....	142
Firmware Upgrade.....	142
Through the web interface .....	142

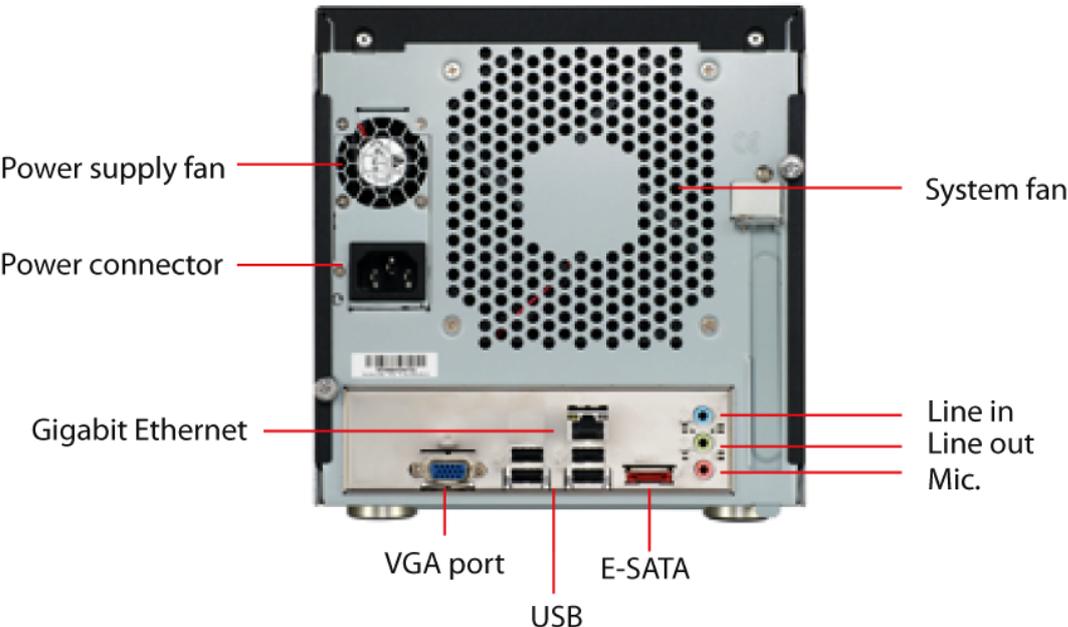
Upgrade through USB thumb drive .....	145
Reset the NVR to Factory Default.....	145
<b>Disk Status .....</b>	<b>146</b>
<b>USB Backup .....</b>	<b>147</b>
Things to pay attention to the USB Backup function .....	149
Play the backup file with the NVR Media Player .....	150
<b>Live View (VGA output Interface) .....</b>	<b>154</b>
<b>Live View .....</b>	<b>154</b>
Video Area .....	164
Snapshot .....	168
Digital PTZ .....	171
Keep Ratio .....	174
<b>NVR Configuration (VGA output Interface) .....</b>	<b>176</b>
<b>System Configuration .....</b>	<b>176</b>
Service .....	176
Display .....	177
Network.....	178
User Account -- User setting .....	180
User Account -- User group setting .....	182
Disk .....	185
Channel Configurations -- Add a camera (Automatic Search) .....	187
Channel Configurations -- Add a camera (Add manually).....	192
Local-Map .....	194
Add new Local-map .....	195
Change Local-map Image.....	196
Schedule Recording .....	203
Record Buffer .....	205
Event Handling .....	206
General Setting.....	207
DI Setting .....	210
FTP Servers.....	212
SMTP Servers .....	213
System Log .....	215
Maintenance.....	216
<b>Playback (VGA output Interface).....</b>	<b>221</b>
<b>Playback.....</b>	<b>221</b>
<b>Local-Map Monitor .....</b>	<b>225</b>
<b>Local-Map Monitor .....</b>	<b>225</b>
<b>Event Monitor .....</b>	<b>231</b>
<b>Event Monitor .....</b>	<b>231</b>
History Event Monitor .....	234
<b>Specifications .....</b>	<b>235</b>
<b>Technology License Notice .....</b>	<b>237</b>

# System Overview

## Front View



## Rear View

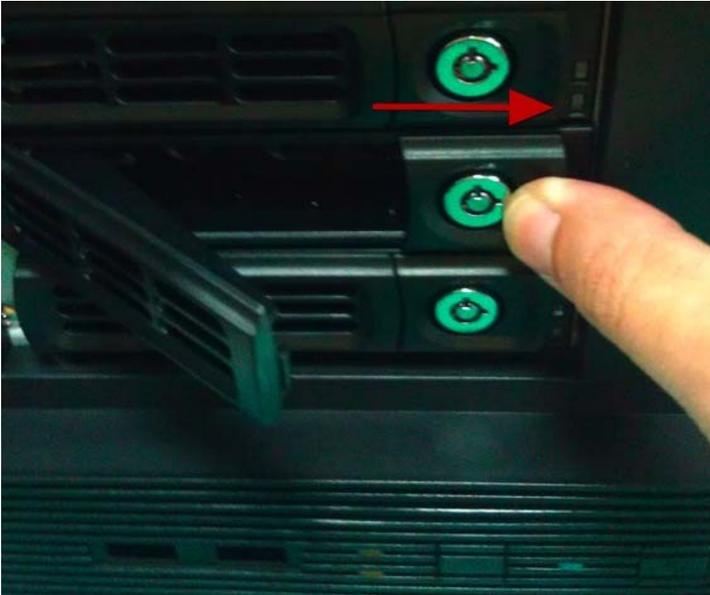


## LED Status

Buttons	
Power	
Reset/Restore default	<ul style="list-style-type: none"> <li>• Press and release for restart</li> <li>• Press and hold for 3 seconds then release for restore to default, when 3 seconds is reached, <b>System</b> LED blinks until release of the button</li> </ul>
LEDs	
Restore default	<ul style="list-style-type: none"> <li>• System LED blinks during the process</li> <li>• Power LED stays solid</li> </ul>
Restart	<ul style="list-style-type: none"> <li>• Power LED stays solid</li> <li>• System LED off</li> </ul>
Power	<ul style="list-style-type: none"> <li>• Blue</li> <li>• During power on/restart/reset to default/OS fail: stays solid</li> </ul>
System	<ul style="list-style-type: none"> <li>• Amber</li> <li>• During firmware upgrade: blinking</li> <li>• System failure (AP fail): off</li> <li>• System Normal: Solid</li> </ul>
Event	<ul style="list-style-type: none"> <li>• Amber</li> <li>• During event recording: solid</li> <li>• No event: off</li> </ul>

## Installation

### HDD Installation



Release the HDD tray by pulling the lock to the right.



Pull the HDD tray out of the case.

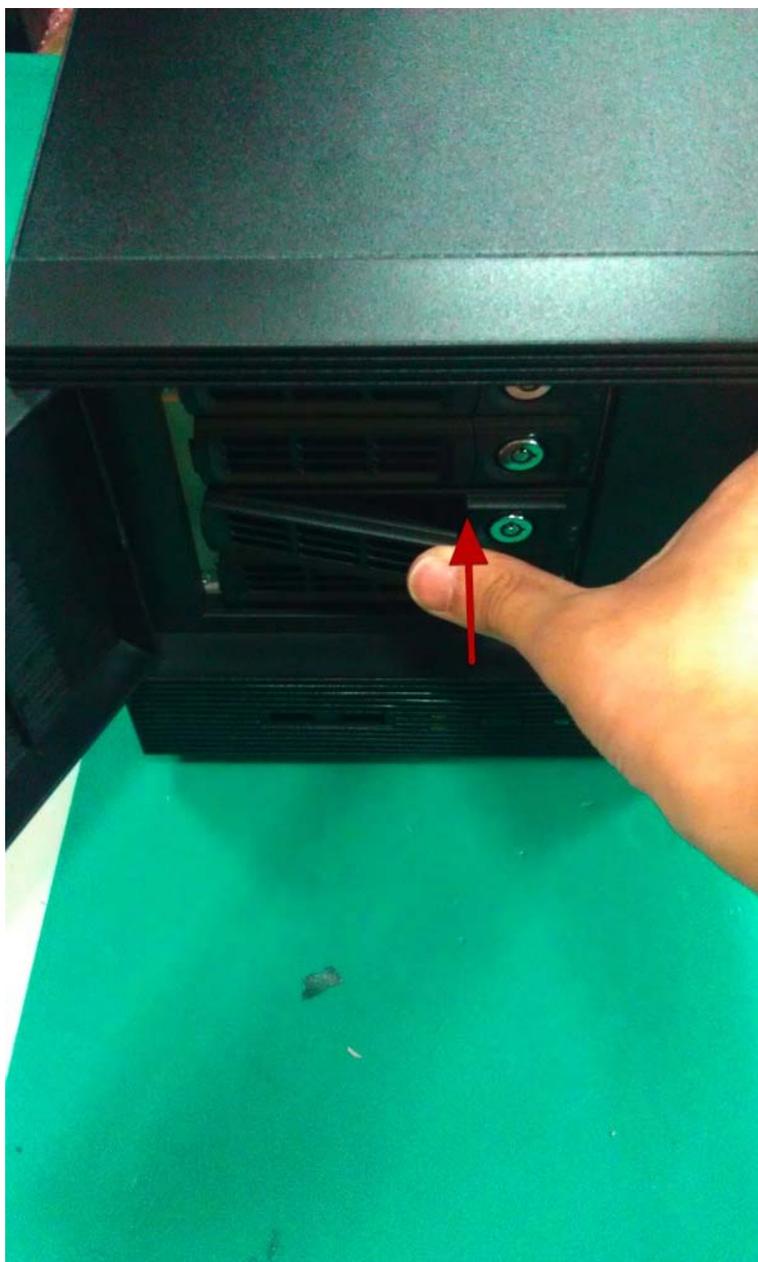


Place the HDD in the tray and secure it with three flat head screws at the bottom of the tray.



Put the HDD tray back in the case.

NOTE: Maximum capacity of each HDD is 3TB.



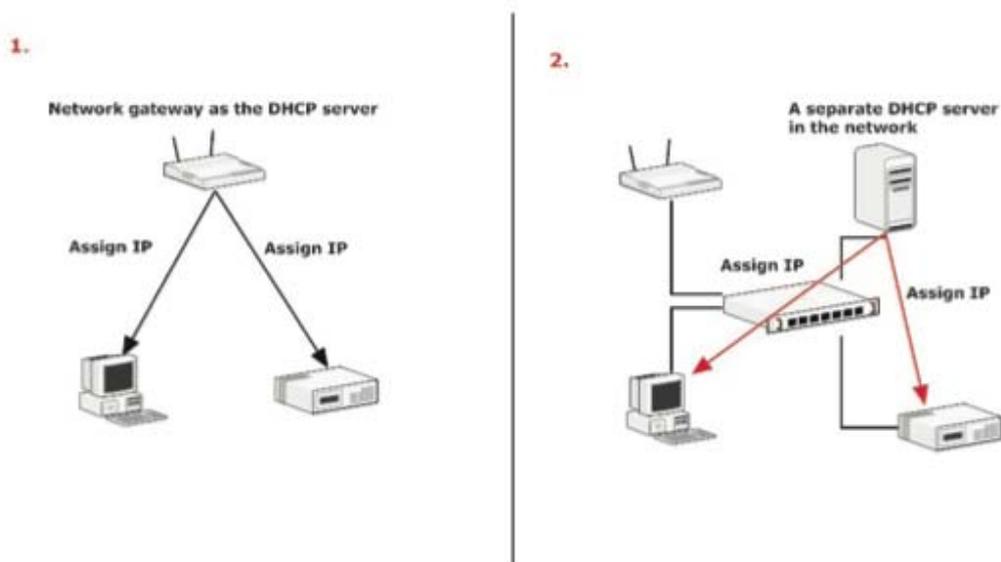
Push the tray door back to the case to secure it.

## Connect to the NVR

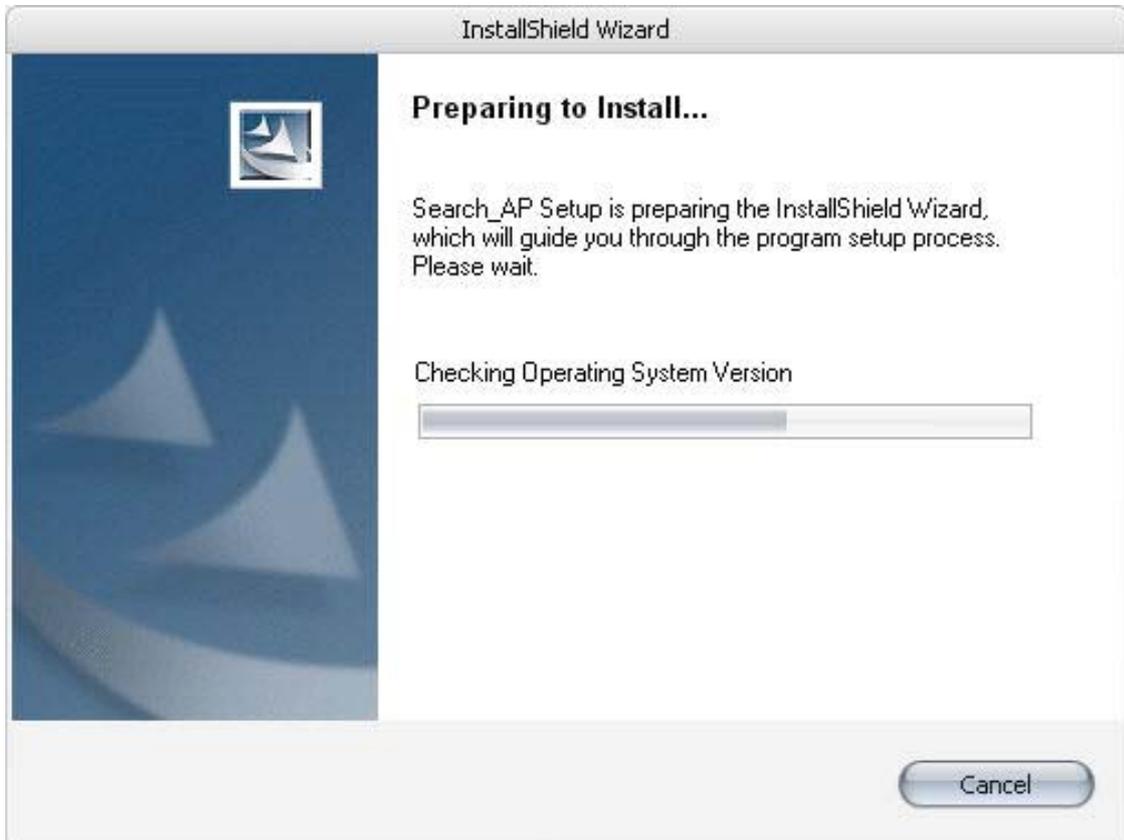
There are various ways you can connect to the NVR and below are the suggested methods for different network setup:

- The NVR is placed in a network with a DHCP server: Connect to the NVR by using **“NVR 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**

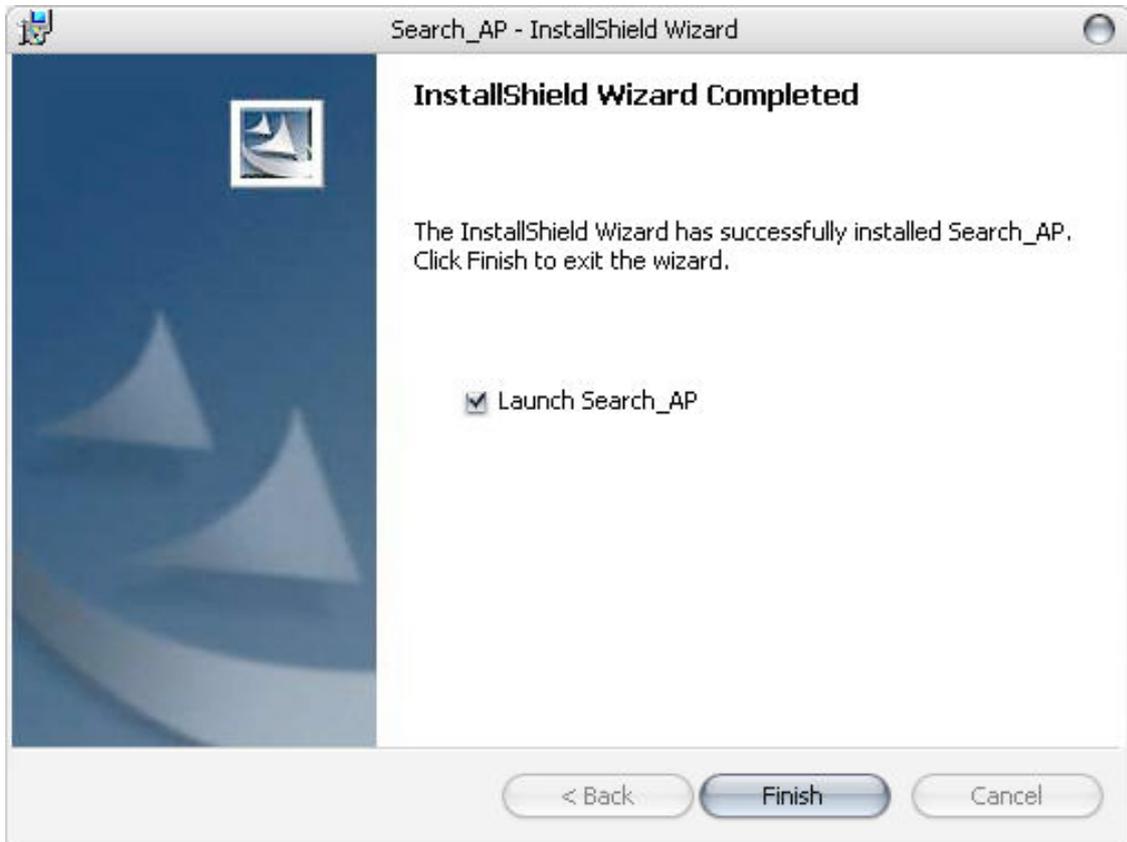
### Using NVR Device Search Utility



If the NVR is placed in a corporate network or a local area network where a DHCP server is already presented, run the “NVR 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.



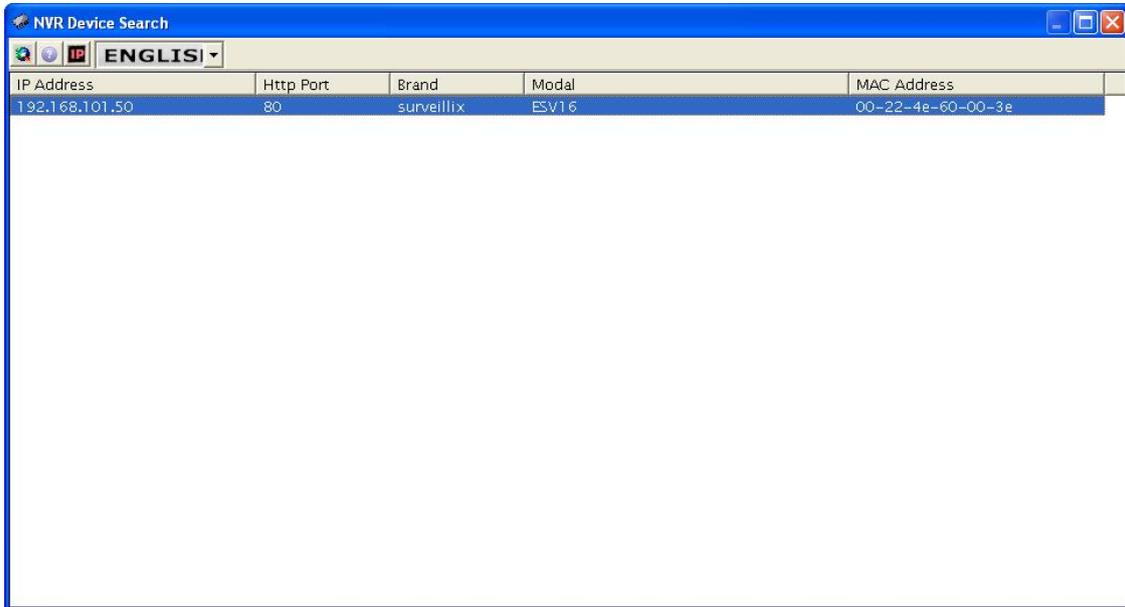
To begin, launch the "NVR Device Search" utility from the CD and proceed with the installation:



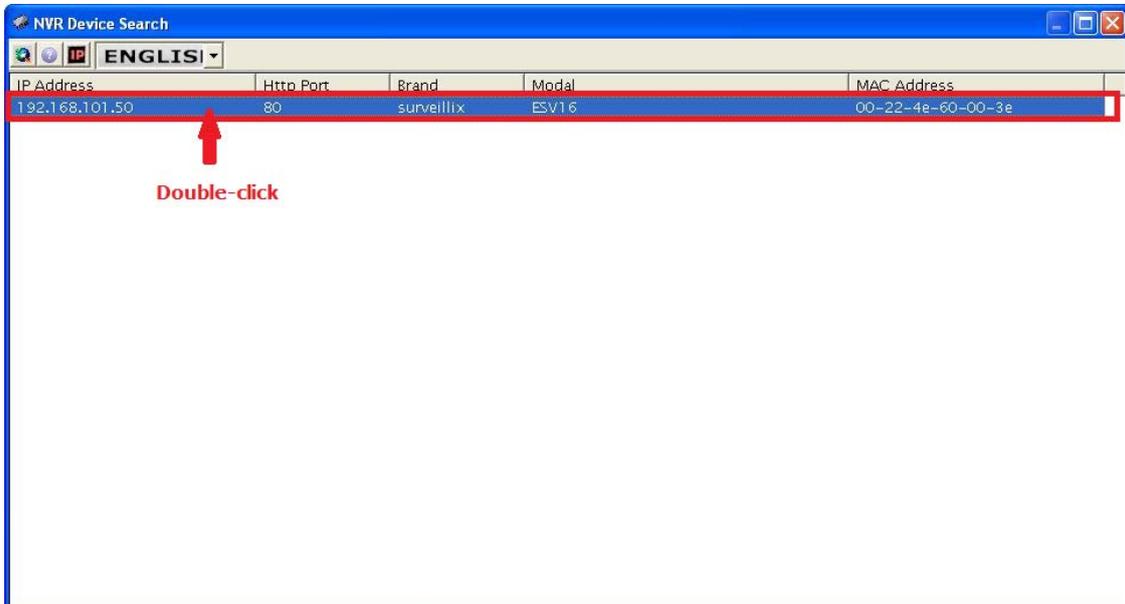
Once the installation is complete, check the "Launch the Search AP" option and click "Finish".



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



The NVR should be located and its IP address should be displayed.

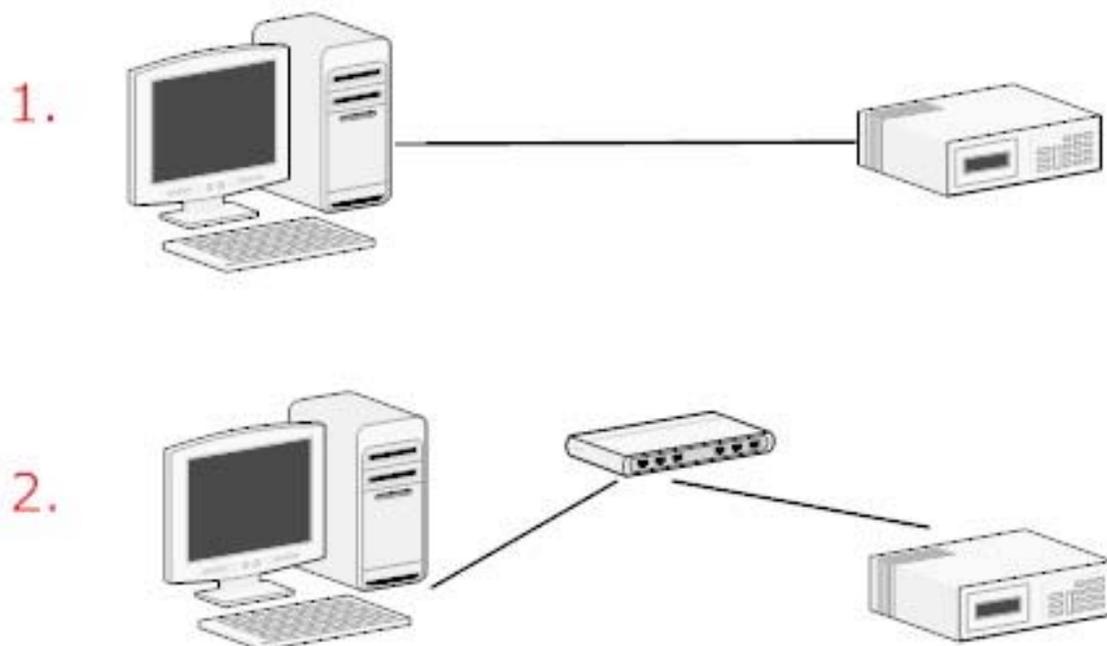


Double-click on an NVR and the search program should automatically access the NVR's web administration page from your default browser.

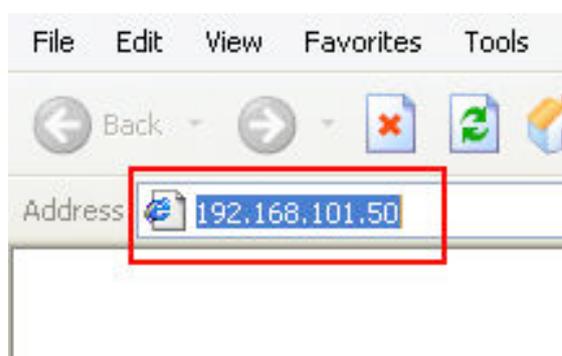


You will be prompted for the NVR's username and password. Enter **its default username "admin" and password "admin"** and then click "OK" to enter the system

### Access 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.

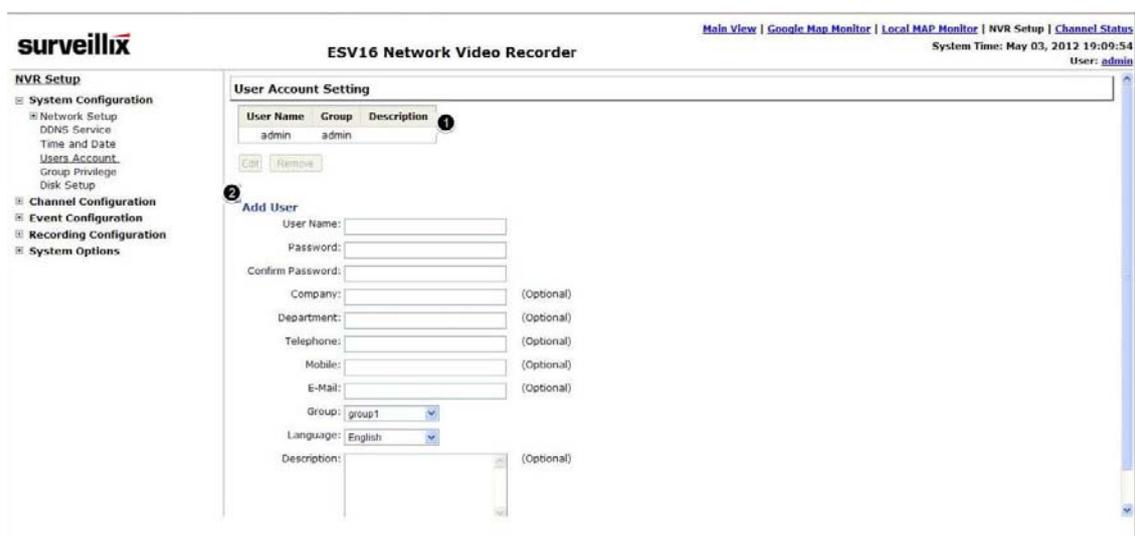


The PC that is connected directly to the NVR (or within the same local area network) should receive an IP from the NVR. Simply access the NVR from your web browser with its IP address



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

## Set up Password



---

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

## Camera Installation

### Add a Camera -- Automatic Search

Click Search to Add:

\* You may skip this step and add a new camera by manually entering camera's settings in the "Camera Information" section

Brand	Model	IP Address	HTTP Port
AVTech	FIX	192.168.101.25	80
Panasonic	BB-HCM515A	192.168.101.23	80
Axis	215 PTZ	192.168.101.21	80
Axis	212 PTZ	192.168.101.24	80
Axis	Q7401	192.168.101.28	80
Axis	207W	192.168.101.20	80
SONY	SNC-RX550N	192.168.101.27	80
SONY	SNC-RZ25N	192.168.101.26	80

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

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



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

## Network Communication

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

Click Search to Add:

\* You may skip this step and add a new camera by manually entering camera's settings in the "Camera Information" section

Brand	Model	IP Address	HTTP Port
AVTech	FIX	192.168.101.25	80
Panasonic	BB-HCM515A	192.168.101.23	80
Axis	215 PTZ	192.168.101.21	80
Axis	212 PTZ	192.168.101.24	80
Axis	Q7401	192.168.101.28	80
Axis	207W	192.168.101.20	80
SONY	SNC-RX550N	192.168.101.27	80
SONY	SNC-RZ25N	192.168.101.26	80

1

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

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

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

**Add a new Camera:**

Channel ID:

Camera Name:

Group:

IP Address:

User Name:

Password:

HTTP Port:

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

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.

**Detect** ← Once you fill out above information, click "Detect" to retrieve camera settings

**Additional Camera Information**

Audio Port:

Video Port:

Live video Format:

Live Video Frame Rate:

Live Video Resolution:

Live Video Quality:

Click on "Detect" to establish connection between the recorder and the camera. If a connection is established successfully, the camera's detailed information will be displayed as below.

Adjust its video format, frame rate, resolution or bitrate...etc if you wish and then click "Add" to finish adding the camera

### Adding a camera manually

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

**Add a new Camera:**

Channel ID:

Camera Name:

Group:

IP Address:

User Name:

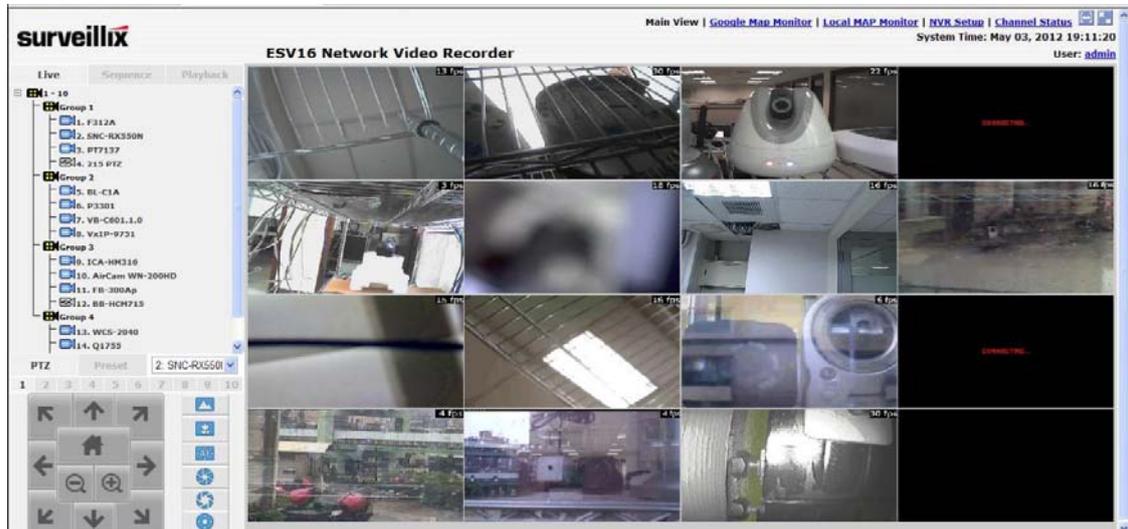
Password:

HTTP Port:

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

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

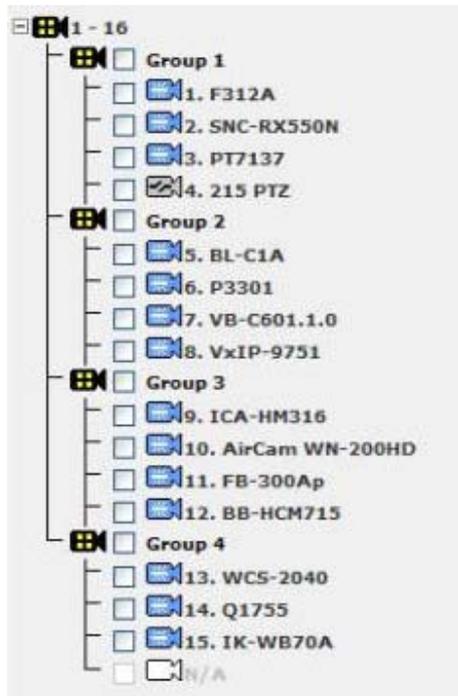
## Live View



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

## Retrieve camera's video stream



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

- Click "All" to display videos of all 16 channels
- 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:

Blue: Connected

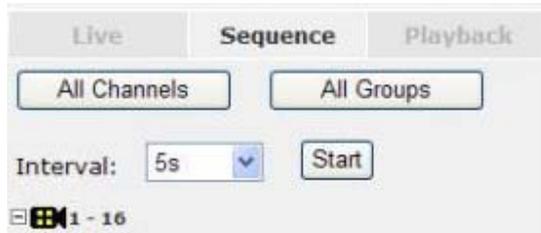
Gray: Disconnected

Red: Performing event recording

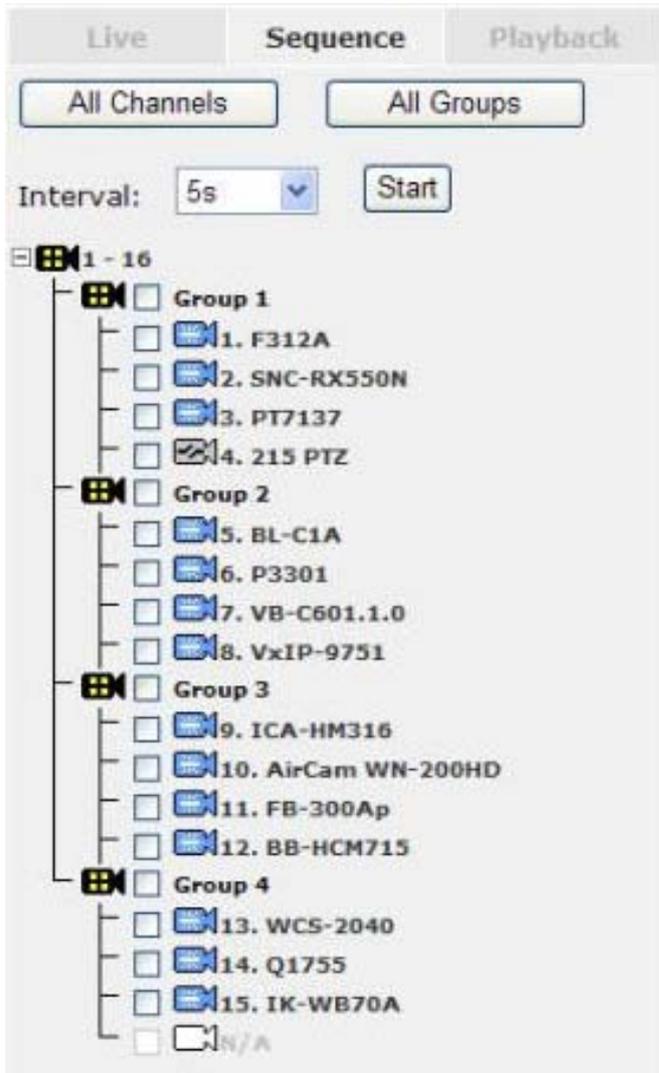
Green: Recording (manual/continuous/schedule)

White: This channel is not configured with any camera

## Perform Sequence Viewing



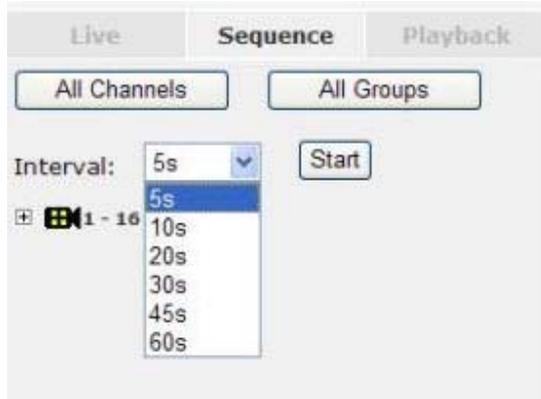
Sequence view is a function that allows you to view multiple video streams from certain cameras in sequence automatically without having to select them one by one. To perform sequence view, select "SEQ View" from the upper-left hand corner



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

Select "Group(x)" to start sequence viewing in quad view

Select "cameras" to start sequence viewing in single video view



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

### 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.

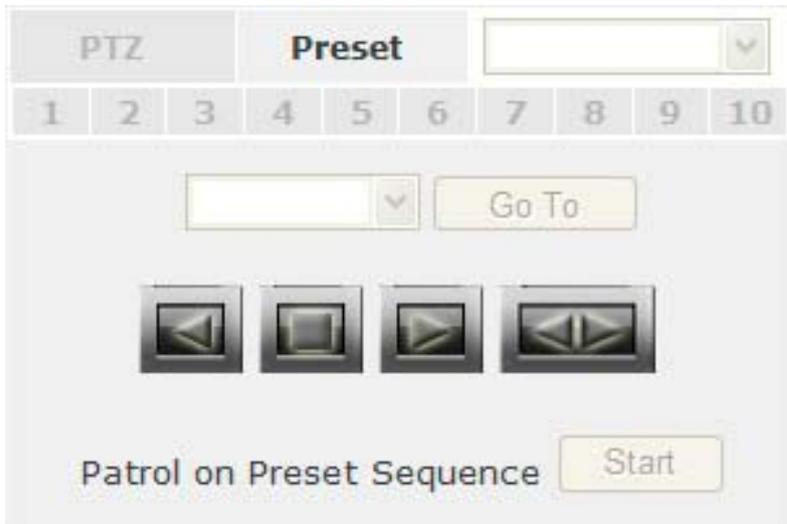


Only PTZ capable cameras will be listed in the drop-down menu



The bar highlighted above controls the moving angle. Larger number means bigger movement angle.

## Perform PTZ Preset Viewing

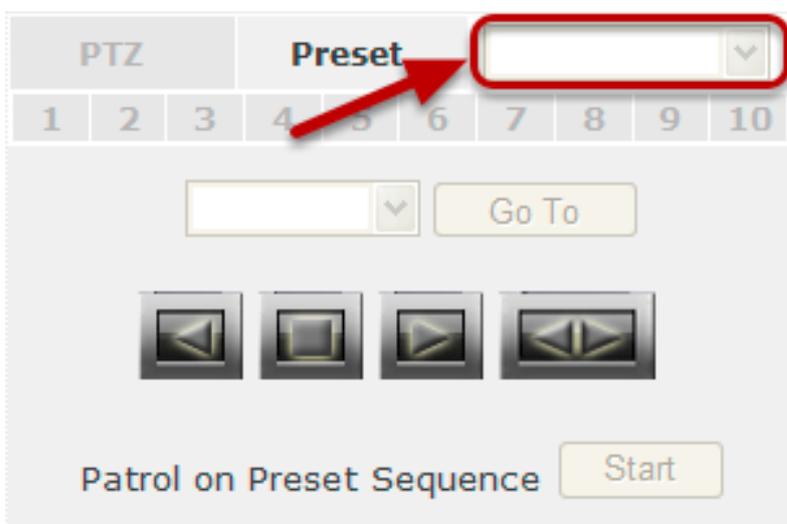


There are three functions provided in the "Preset" section:

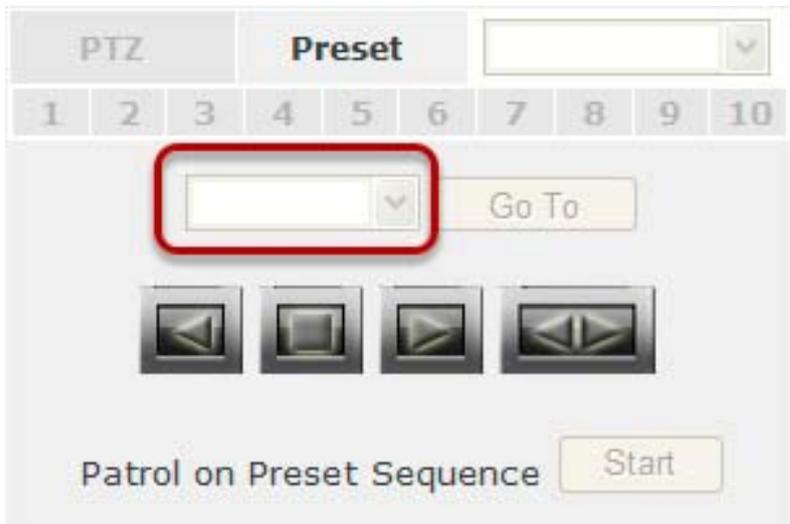
- Perform preset point viewing of a particular camera
- Auto pan a particular camera
- Perform preset point sequence viewing

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

## Preset Point Viewing

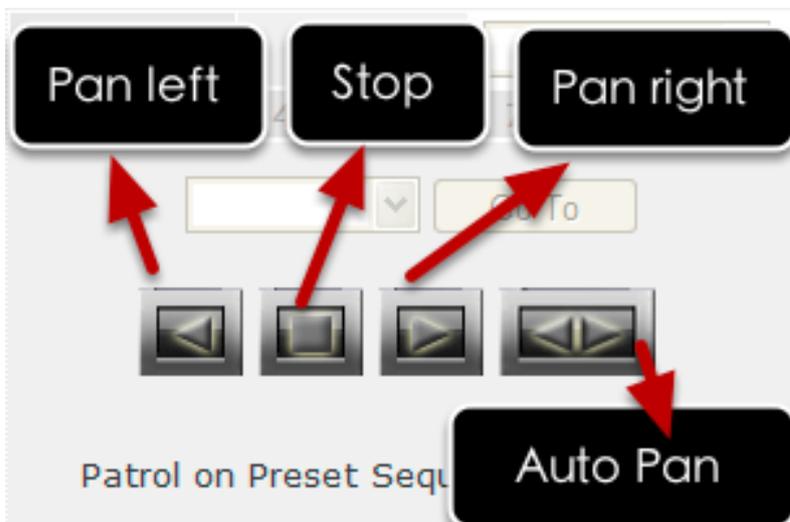


Start by selecting a PTZ camera from the drop-down list



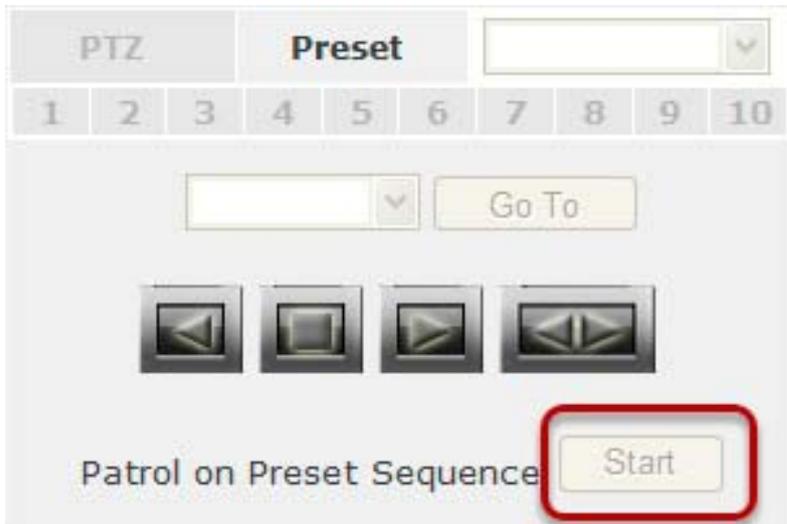
Its available PTZ preset points will be listed in the drop-down list shown below. Click "Go to" to move to the selected position.

### Auto Pan Viewing



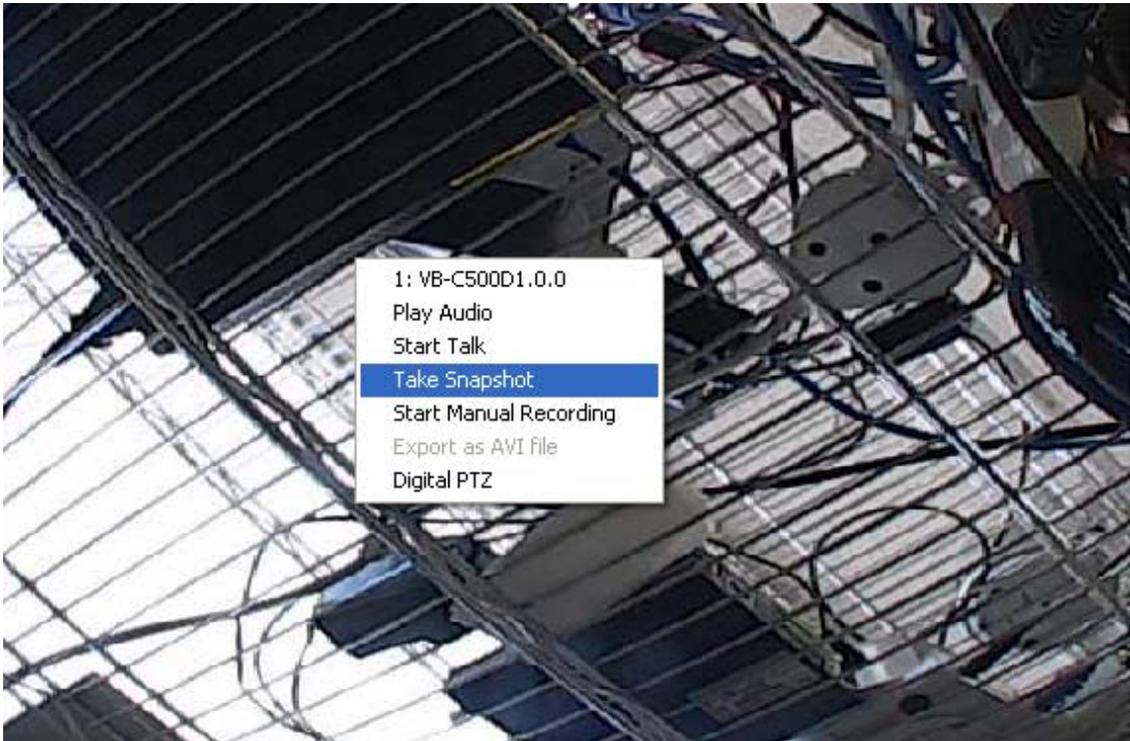
Use the Auto Pan control buttons to pan right, left and stop auto pan  
*\* Certain cameras do not support bi-directional pan movements. Use the "Autopan" button for such cameras*

## Preset Point Sequence Viewing



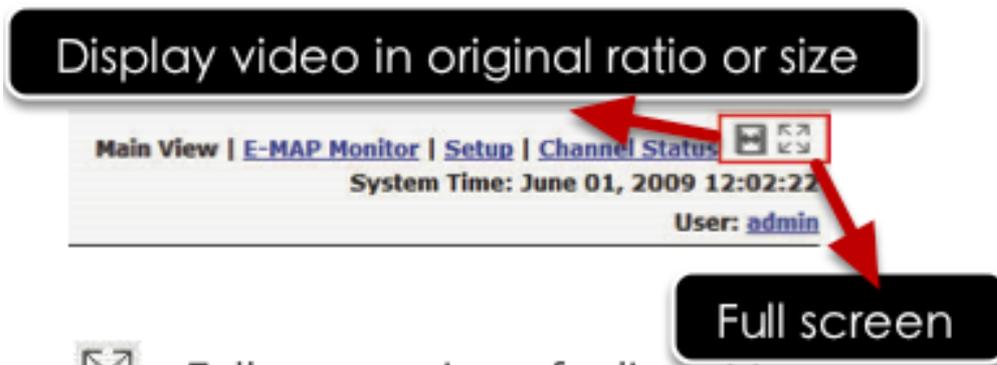
This function allows you to view multiple preset points from a video of a camera without having to select them one by one. Once you have defined the preferred preset points in **"Channel Configurations"** >> **"PTZ Setting"** >> **"PTZ Sequence"** under the **"Setup"** menu, click "Start" in the lower-left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

### Live Video Controls



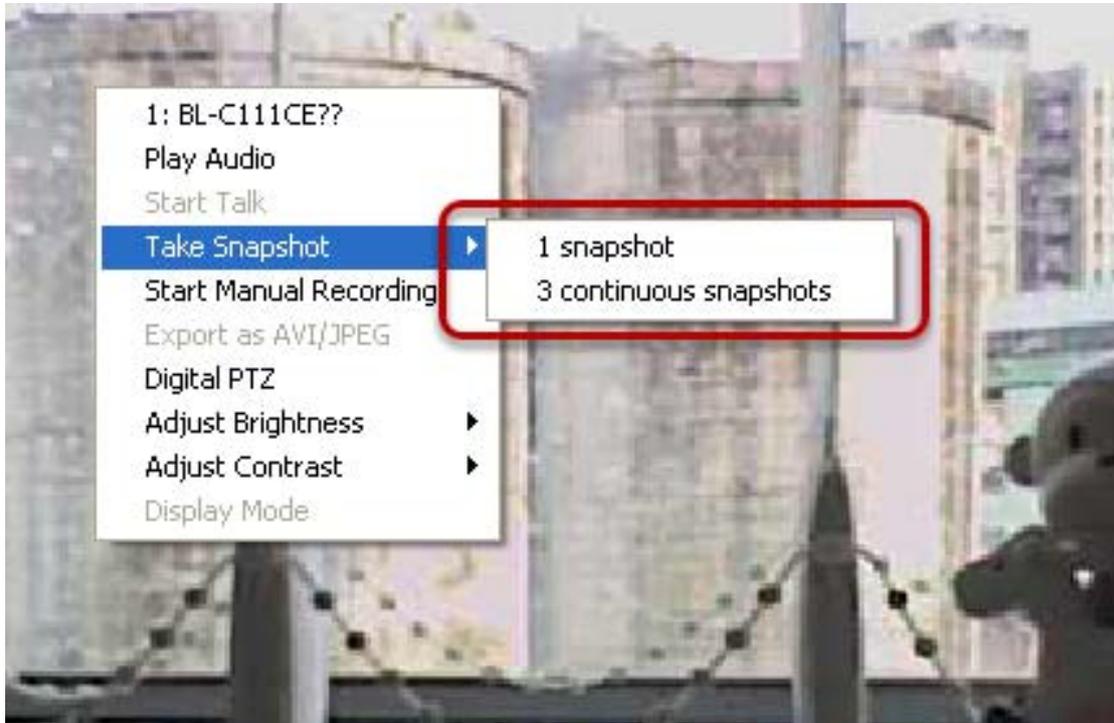
Users can perform certain functions to a live view video. They can be accessed by right-clicking on a video.

### Display ratio and full screen

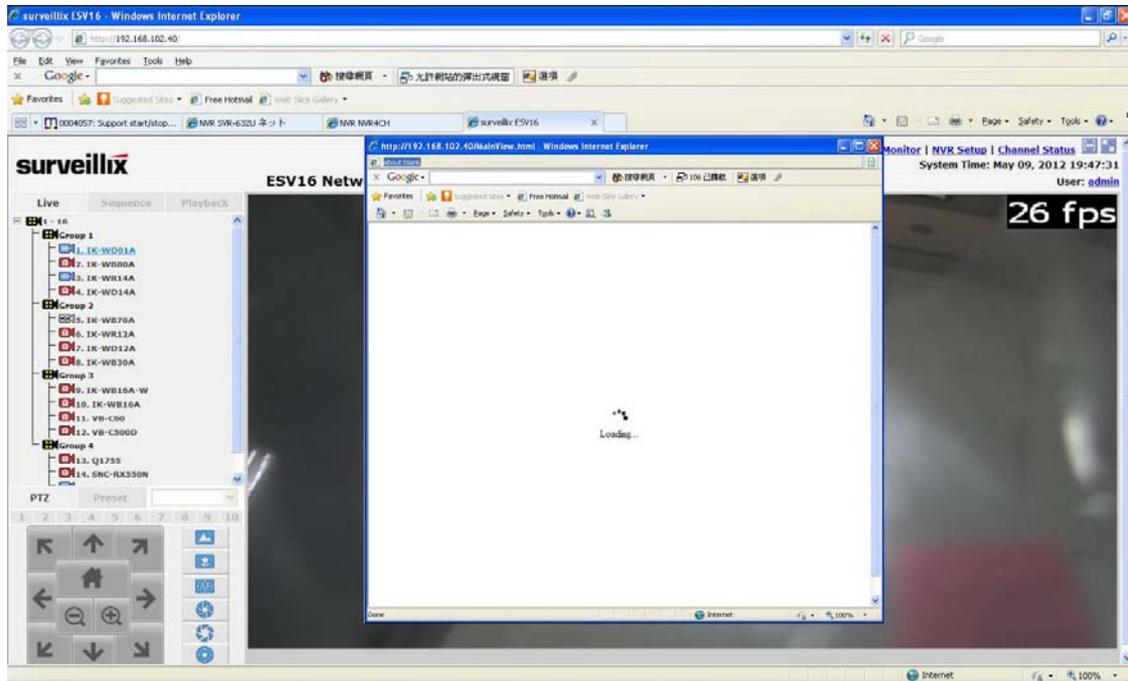


By default, the videos are set to fill the whole video window, to display its original size or ratio, use the button in the upper-right hand corner.

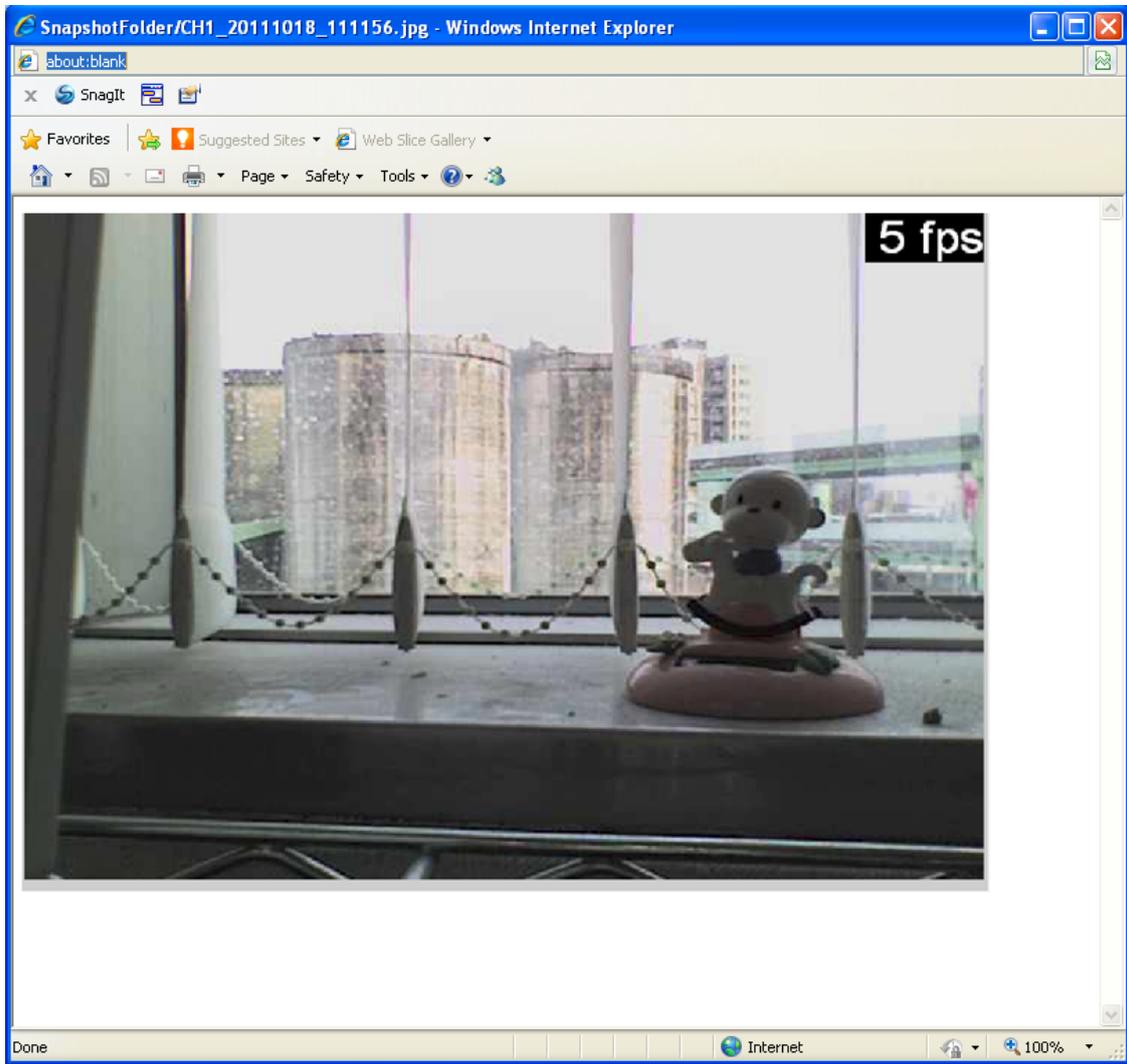
## Take a snapshot of a live video



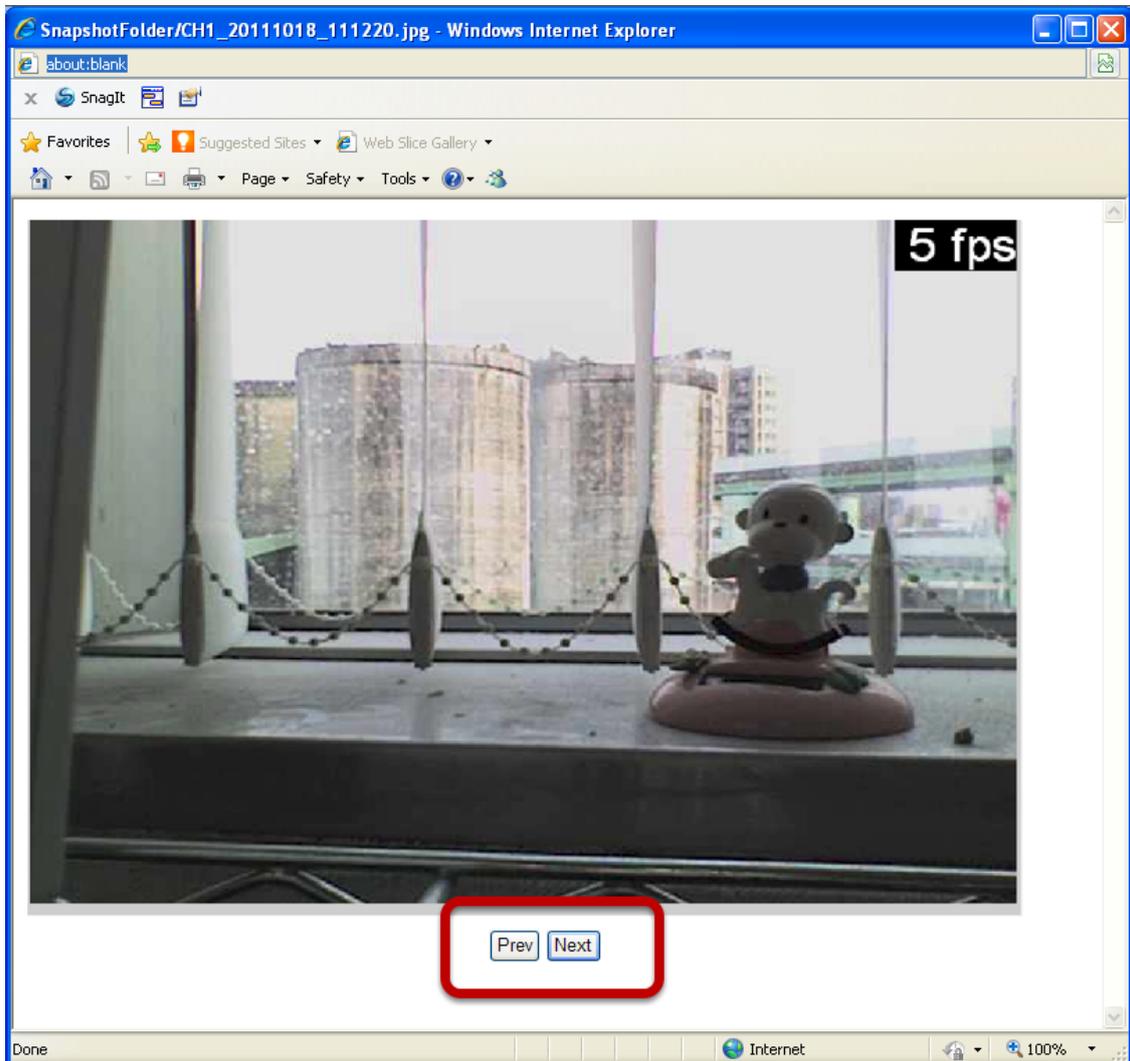
To take a snapshot of a live video, right-click on the video and select "Take Snapshot". You are given options to take 1 snapshot or 3 continuous snapshots.



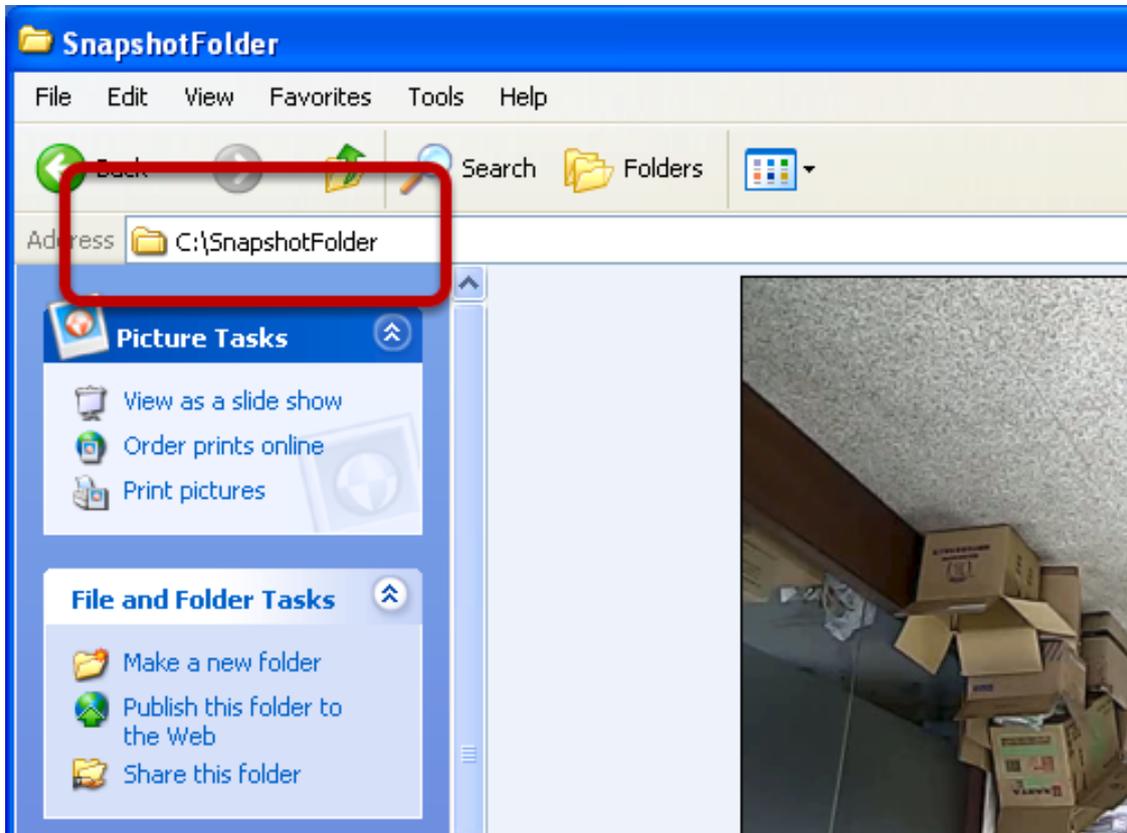
A new window should display and load the snapshot image.



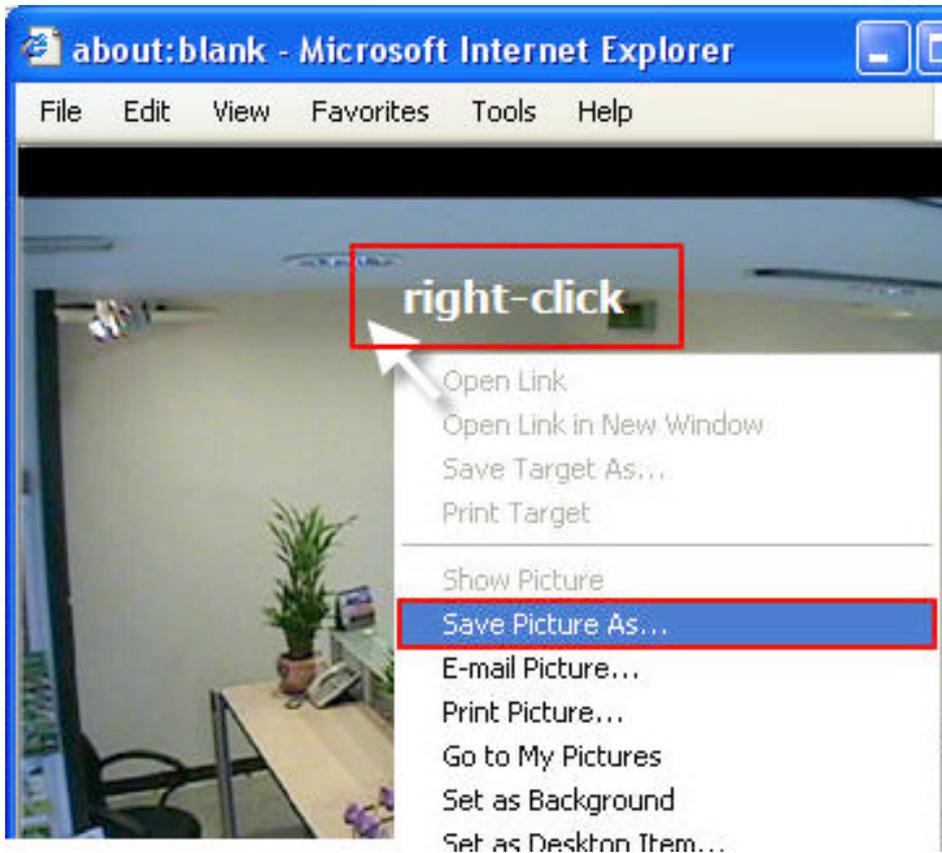
The new window displays the snapshot.



If the "3 continuous snapshots" option is chosen, the new window displays snapshots and lets you view them individually by using the "Prev", "Next" buttons shown above.

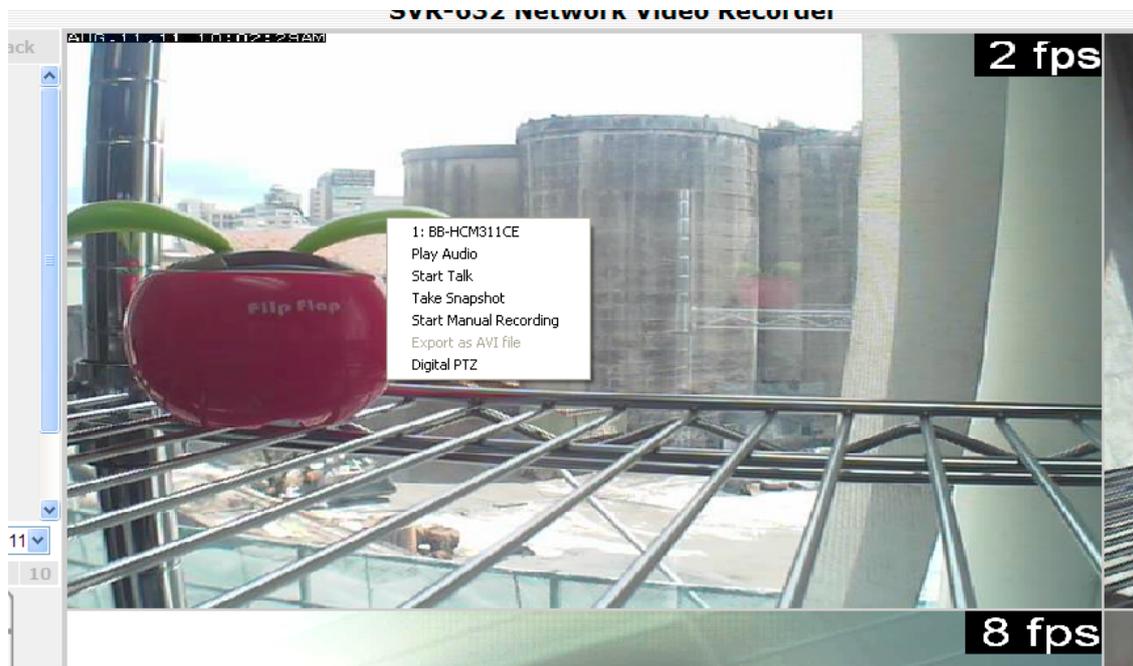


However, as soon as a snapshot selection is made, the snapshots are automatically saved to x:\SnapshotFolder ("x" represents the partition where Windows is installed, e.g.: C:\)

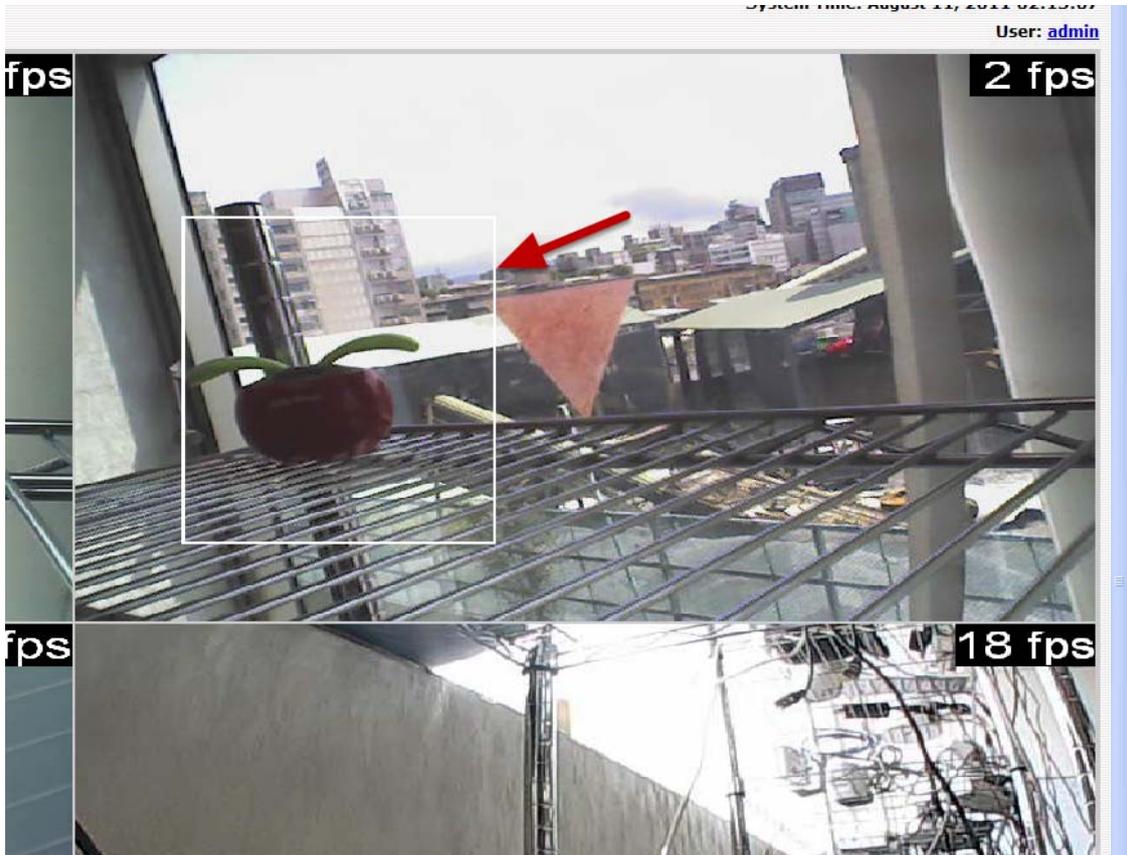


You can right-click anywhere on the image and select "Save Picture As..." to save the images somewhere else if you wish.

## Perform Digital PTZ



To perform digital PTZ on a particular channel, right-click anywhere on its video and select "Digital PTZ".

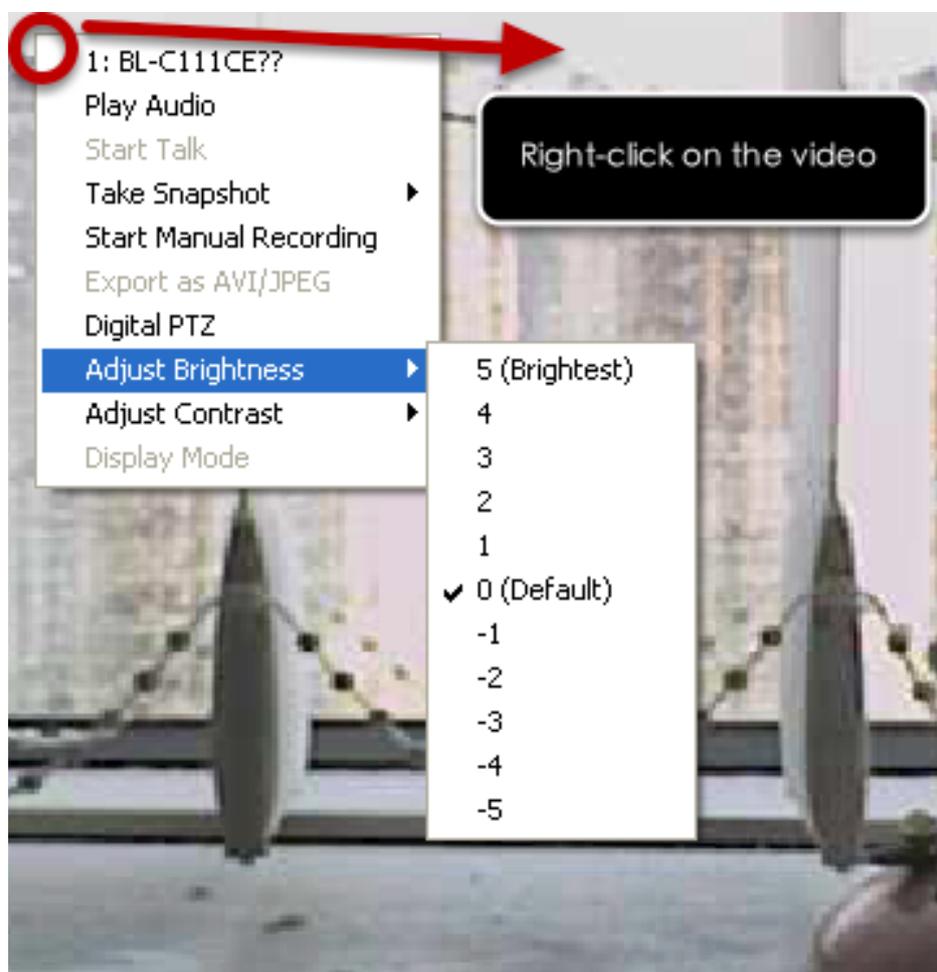


Next, hold the mouse left button and draw a square on the video to specify the zoom in area



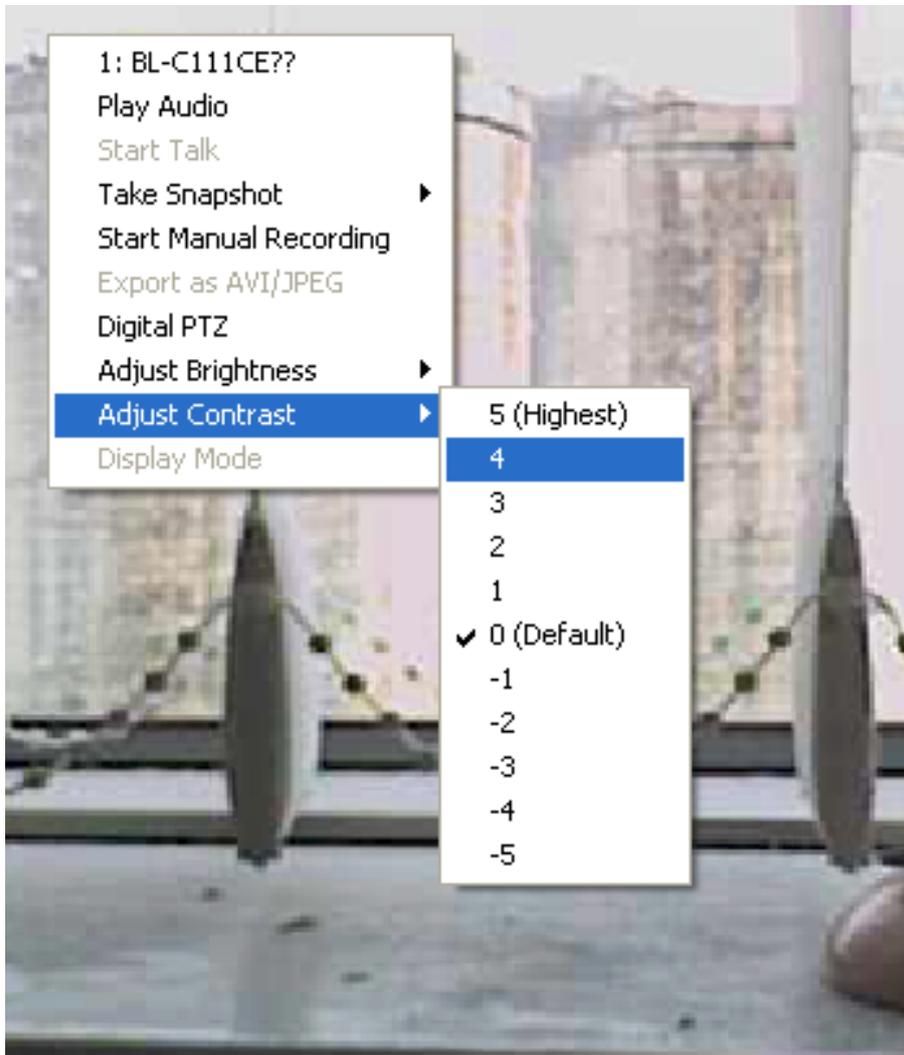
Once the image is digitally zoomed in, use the mouse scroll button to further zoom on or zoom out the image. Hold and left-click on the image and move the mouse to move the zoomed in video.

## Adjust Brightness for Live Video



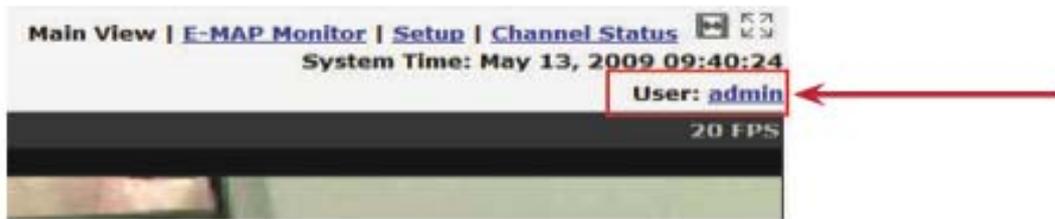
You are able to adjust brightness of the live video from the right-click menu.

## Adjust Contrast For Live Video



Same thing as the brightness, you can set the contrast for the live video from the right-click menu as well.

## 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 that lets you change the display language.

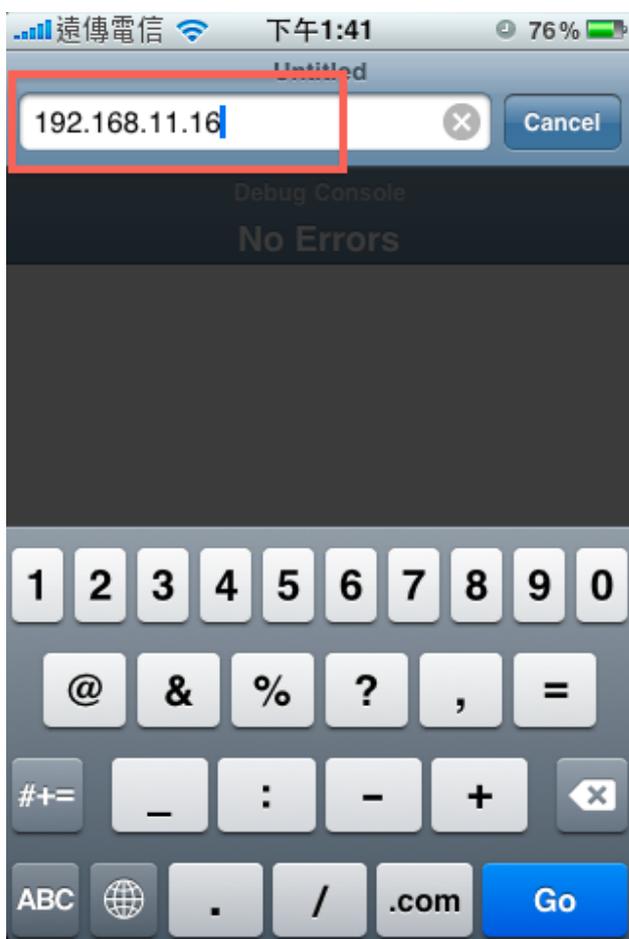
## Live View through iPhone Safari Browser



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"



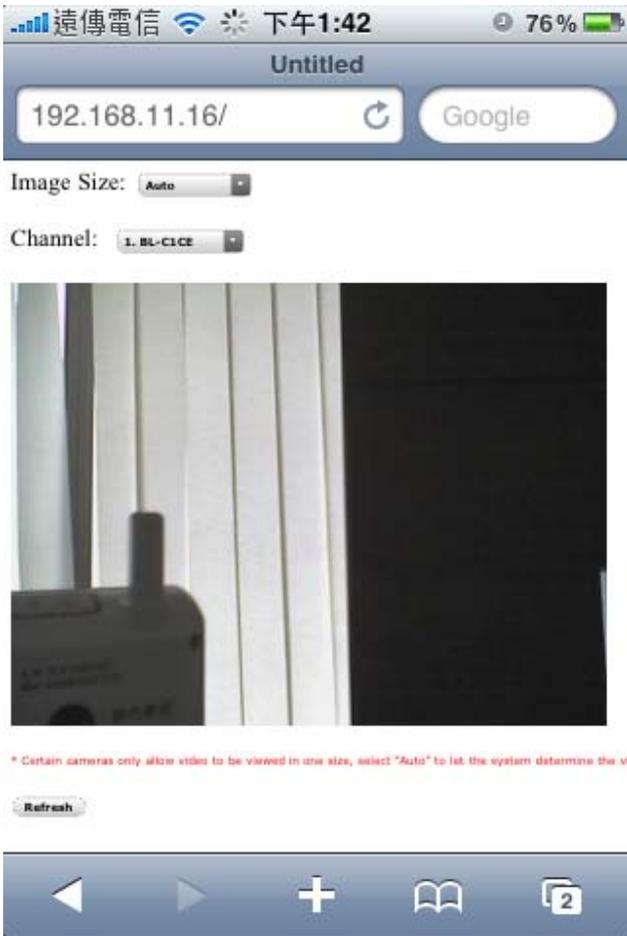
Once Javascript is enabled, click the "Home" button on the iPhone to go back to the home screen and open the Safari browser



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



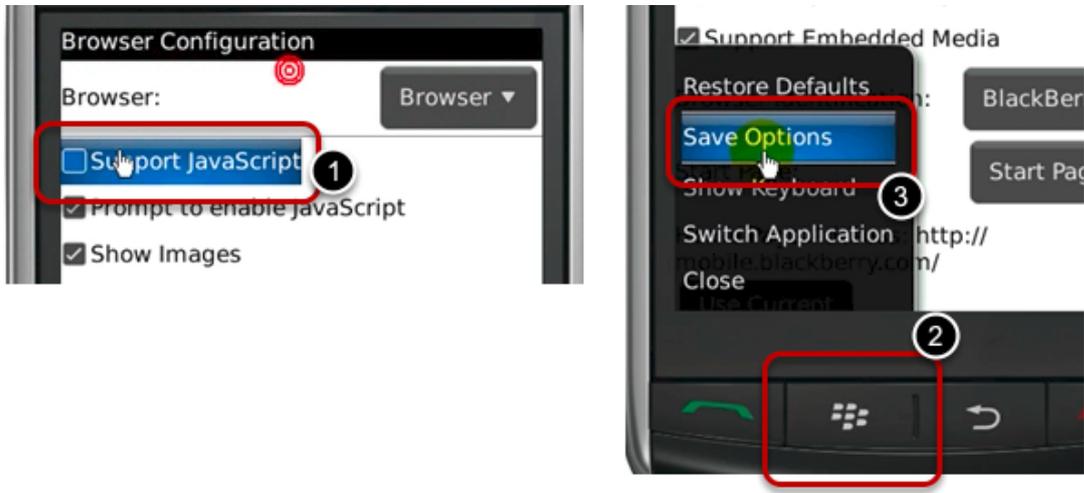
If a PTZ camera is selected, the corresponding control buttons will display (control PT only)

*\* 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.*

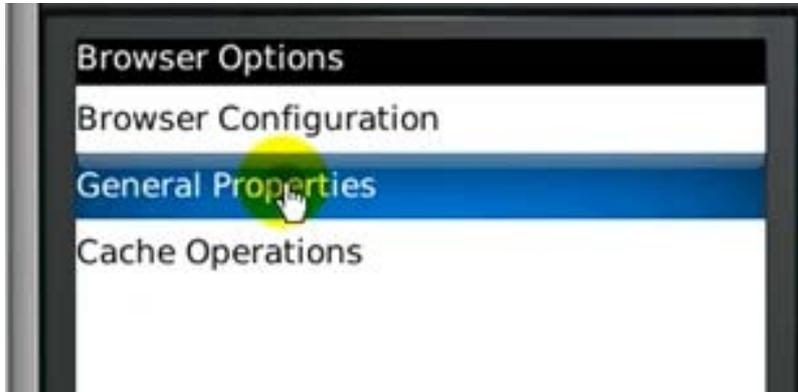
### Live View through Blackberry Phones



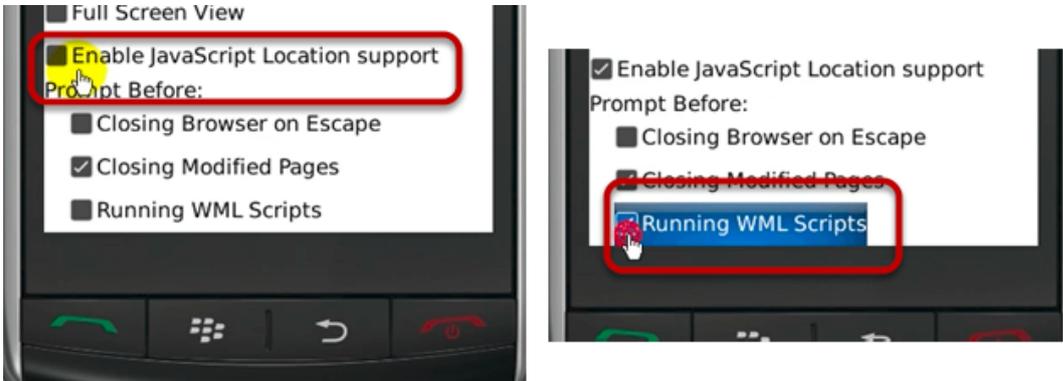
You can use Blackberry and perform single channel live view to the NVR by using its Safari browser. To be able to view the live video through its browser, make sure "javascript" is enabled under "Browser" >> "Menu button" >> "Options" >> "Browser Configuration"



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



Go to "General Properties"



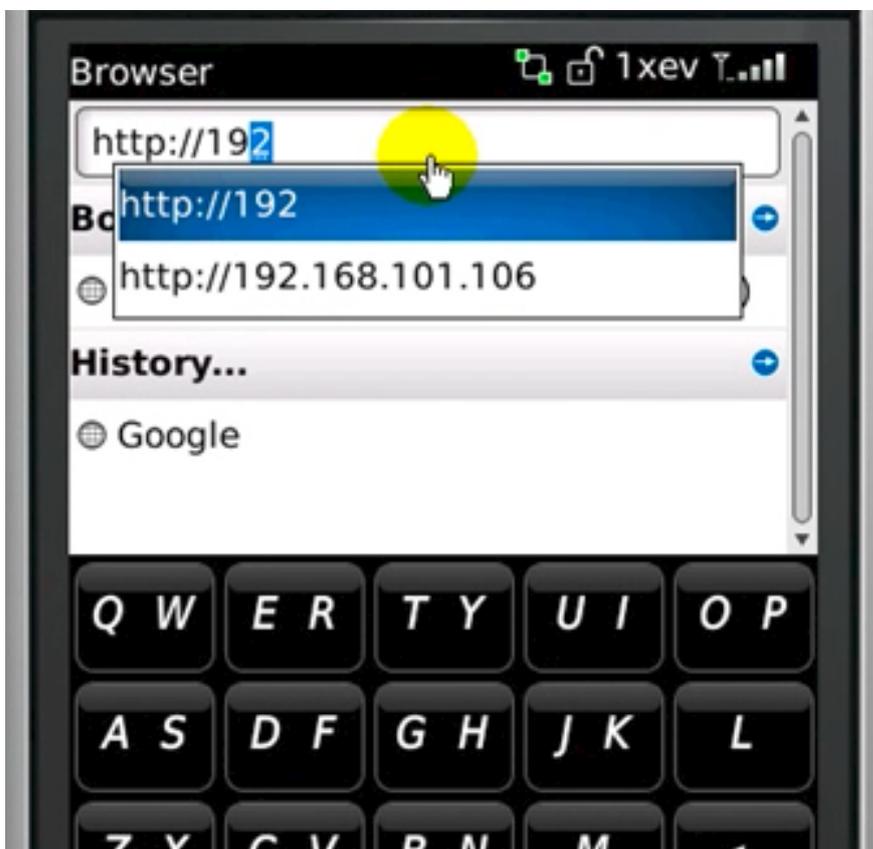
Make sure two options illustrated above are enabled



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



Press the button highlighted above to go back to the browser

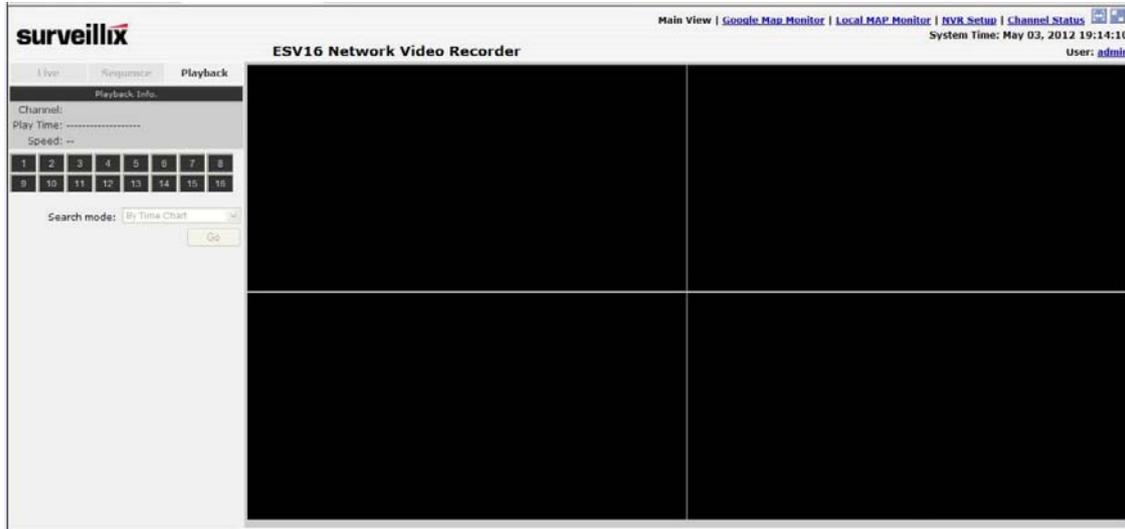


Type in the IP address of the NVR in the address bar



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.

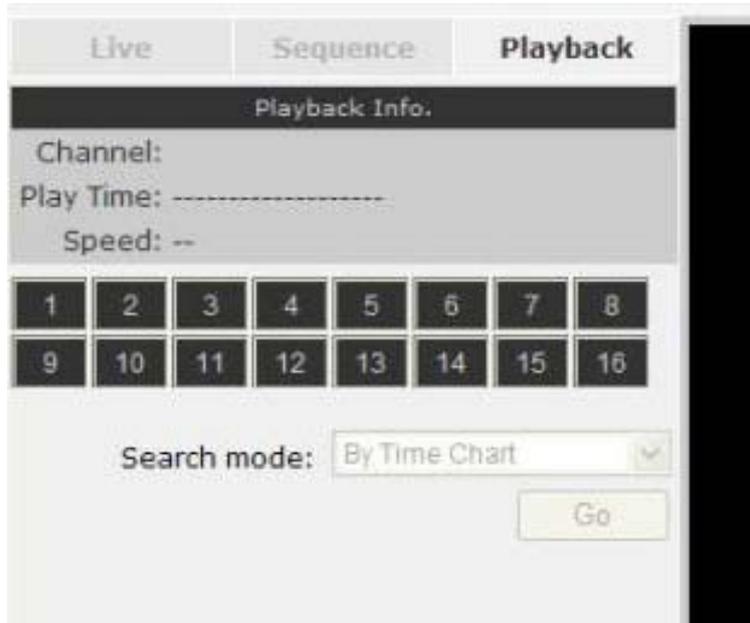
Playback video can be viewed in full screen and snapshots can be taken and saved during a video playback.

### Methods to Search Playback Videos

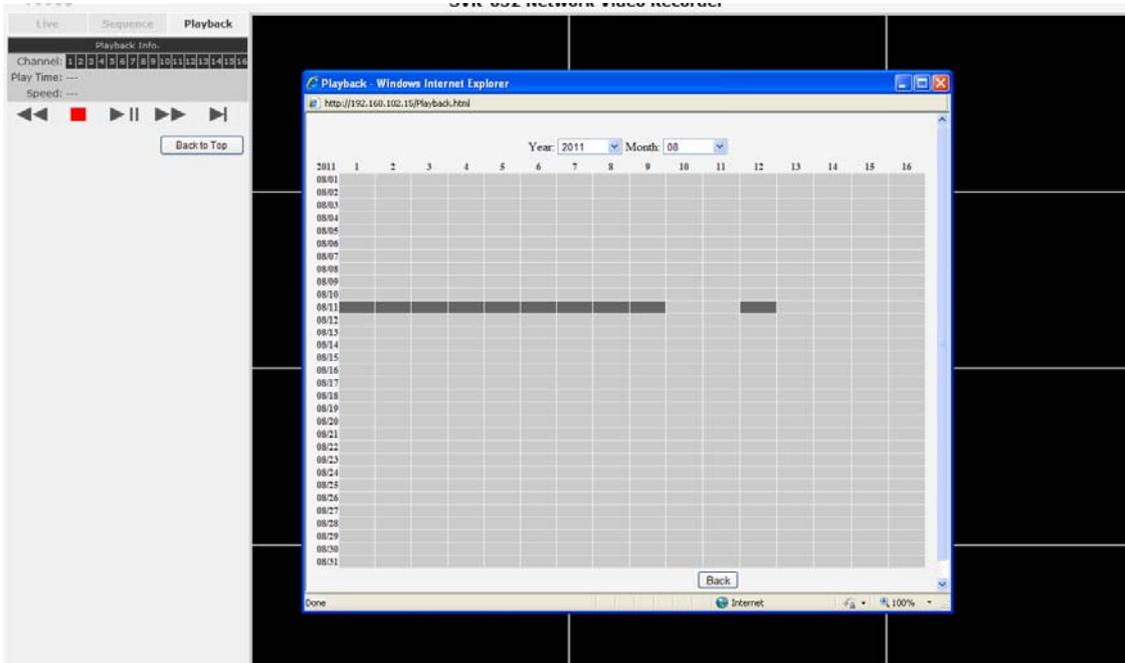
The NVR offers three methods to quickly help users find videos that were previously recorded:

- **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*
- **Most Recent Events:** *Displays the most recent 15 events*
- **Play by start time:** *Enter a specific time a video was recorded to start playing back the video*

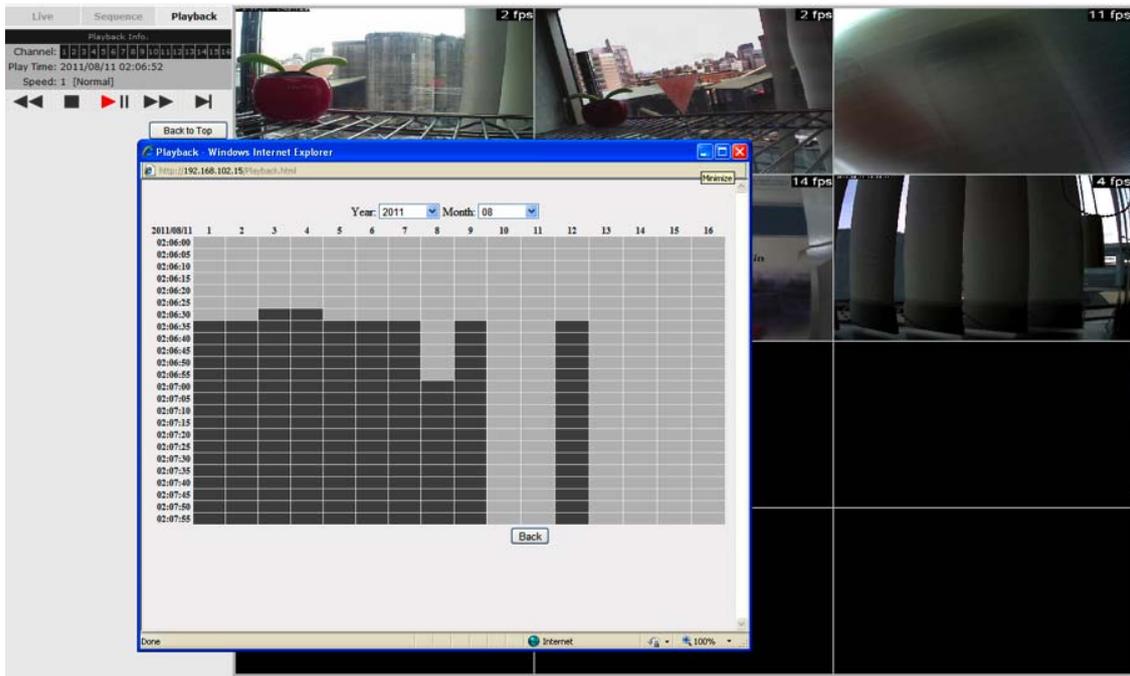
## Search by time chart



1. Start by selecting which channel(s) you would like to perform a search on.
  2. Select "Search by time chart" from the "Search Method" drop-down list and click "Go" to start the search
- \* *Selected channels will be marked in red*



Results will then be displayed in a new dialog with a "Month/Channel" table and boxes marked in dark gray represent videos found in those dates. (\* Videos from other cameras that are recorded on the same date will also be displayed)



Clicking on a cell box marked with gray will take you to the "day" view of the selected month. Repeating the same step will eventually take you to the "second" view (5sec per cell box). Right-click anywhere or the "Back" button on the table will take you back to the previous view.

Click on the play button at anytime will start playing videos from the beginning of the current time view (ex. if the table is in the "month" view, click play will start playing from the first available clip of that month)

### Search by event

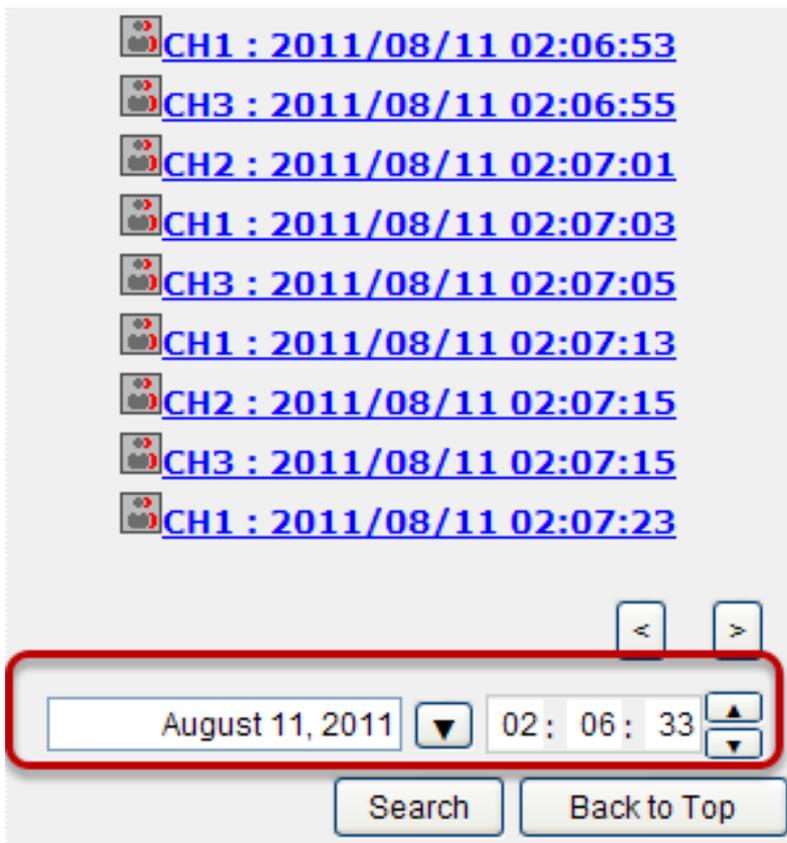


Start by selecting which channel(s) you would like to perform a search on.

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

Live	Sequence	Playback
Playback Info.		
Channel: <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/> 8 <input type="checkbox"/> 9 <input type="checkbox"/> 10 <input type="checkbox"/> 11 <input type="checkbox"/> 12 <input type="checkbox"/> 13 <input type="checkbox"/> 14 <input type="checkbox"/> 15 <input type="checkbox"/> 16		
Play Time: -----		
Speed: --		
<ul style="list-style-type: none"> <li> <a href="#">CH3 : 2011/08/11 02:06:35</a></li> <li> <a href="#">CH1 : 2011/08/11 02:06:36</a></li> <li> <a href="#">CH2 : 2011/08/11 02:06:39</a></li> <li> <a href="#">CH1 : 2011/08/11 02:06:43</a></li> <li> <a href="#">CH3 : 2011/08/11 02:06:45</a></li> <li> <a href="#">CH2 : 2011/08/11 02:06:50</a></li> <li> <a href="#">CH1 : 2011/08/11 02:06:53</a></li> <li> <a href="#">CH3 : 2011/08/11 02:06:55</a></li> <li> <a href="#">CH2 : 2011/08/11 02:07:01</a></li> <li> <a href="#">CH1 : 2011/08/11 02:07:03</a></li> <li> <a href="#">CH3 : 2011/08/11 02:07:05</a></li> <li> <a href="#">CH1 : 2011/08/11 02:07:13</a></li> <li> <a href="#">CH2 : 2011/08/11 02:07:15</a></li> <li> <a href="#">CH3 : 2011/08/11 02:07:15</a></li> <li> <a href="#">CH1 : 2011/08/11 02:07:23</a></li> </ul>		
<input style="margin-right: 10px;" type="button" value=" &lt; "/> <input style="margin-right: 10px;" type="button" value=" &gt; "/>		
<input type="text" value="August 11, 2011"/> <input style="margin-left: 5px;" type="button" value=" v "/> <input type="text" value="02 : 06 : 33"/> <input style="margin-left: 5px;" type="button" value=" ^ "/> <input style="margin-left: 5px;" type="button" value=" v "/>		
<input style="margin-right: 20px;" type="button" value="Search"/> <input type="button" value="Back to Top"/>		

Results will then be listed like what is shown below (displays the oldest record top down). Click on a particular result to start the playback. (\* You can click "Next Search" to display the next 15 results.)

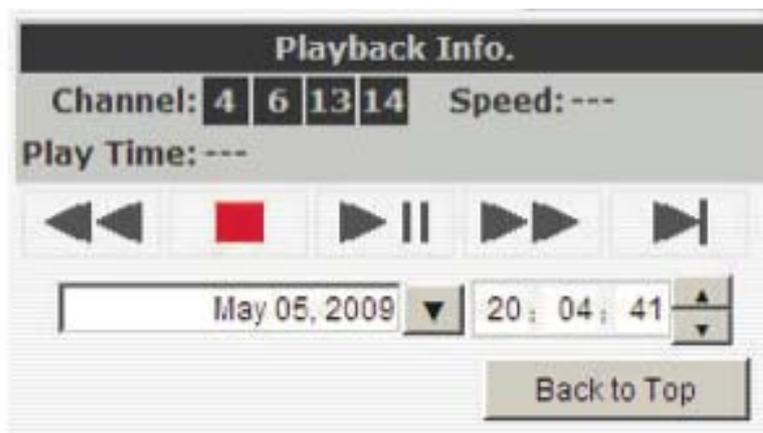


You may also specify a new start time to search and display results from then on. You can restrict the number of results to be displayed at once (max. 30) and perform the search again

## Play by specific time

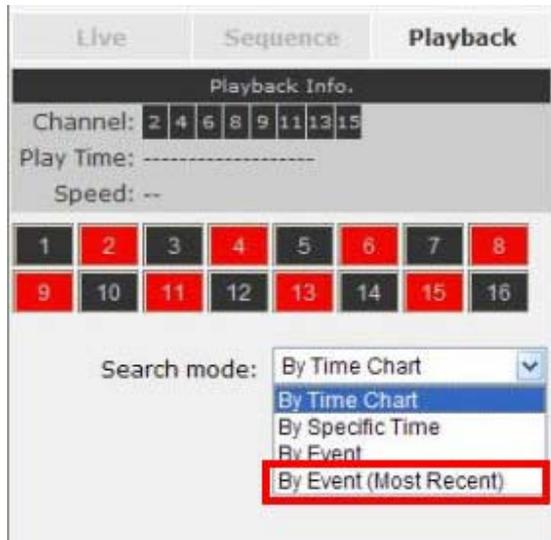


If you know when a recording was taken place, you may choose the "Play by start time" from the "Search Method" drop-down list



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

### Search by event (Most Recent)

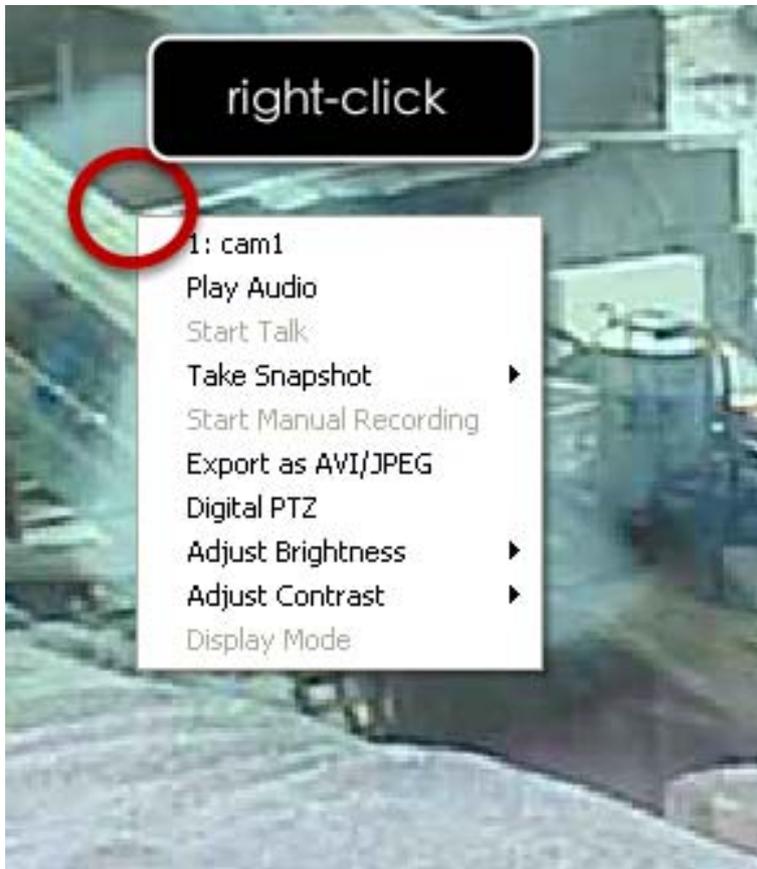


This function quickly displays the most recent event recordings from the selected channels, displaying the most recent result top down.

The screenshot displays a software interface for video playback. At the top, there are three tabs: "Live", "Sequence", and "Playback", with "Playback" being the active tab. Below the tabs is a section titled "Playback Info." containing a "Channel:" label followed by a row of 16 numbered buttons (1-16). Below this are fields for "Play Time: -----" and "Speed: --". A control bar contains several icons: a left arrow, a red square, a play/pause icon, a right arrow, and a double right arrow. The main area lists 14 entries, each with a small icon and a blue hyperlink: "CH3 : 2011/08/11 02:22:02", "CH1 : 2011/08/11 02:22:01", "CH2 : 2011/08/11 02:21:56", "CH3 : 2011/08/11 02:21:52", "CH1 : 2011/08/11 02:21:50", "CH2 : 2011/08/11 02:21:46", "CH3 : 2011/08/11 02:21:41", "CH1 : 2011/08/11 02:21:39", "CH2 : 2011/08/11 02:21:34", "CH3 : 2011/08/11 02:21:31", "CH1 : 2011/08/11 02:21:29", "CH2 : 2011/08/11 02:21:23", "CH3 : 2011/08/11 02:21:21", "CH1 : 2011/08/11 02:21:19", and "CH2 : 2011/08/11 02:21:12". At the bottom, there are two buttons: "Update" and "Back to Top".

You may click "Update" to update the list to display the most recent results.

## Certain functions you can perform to the playback video



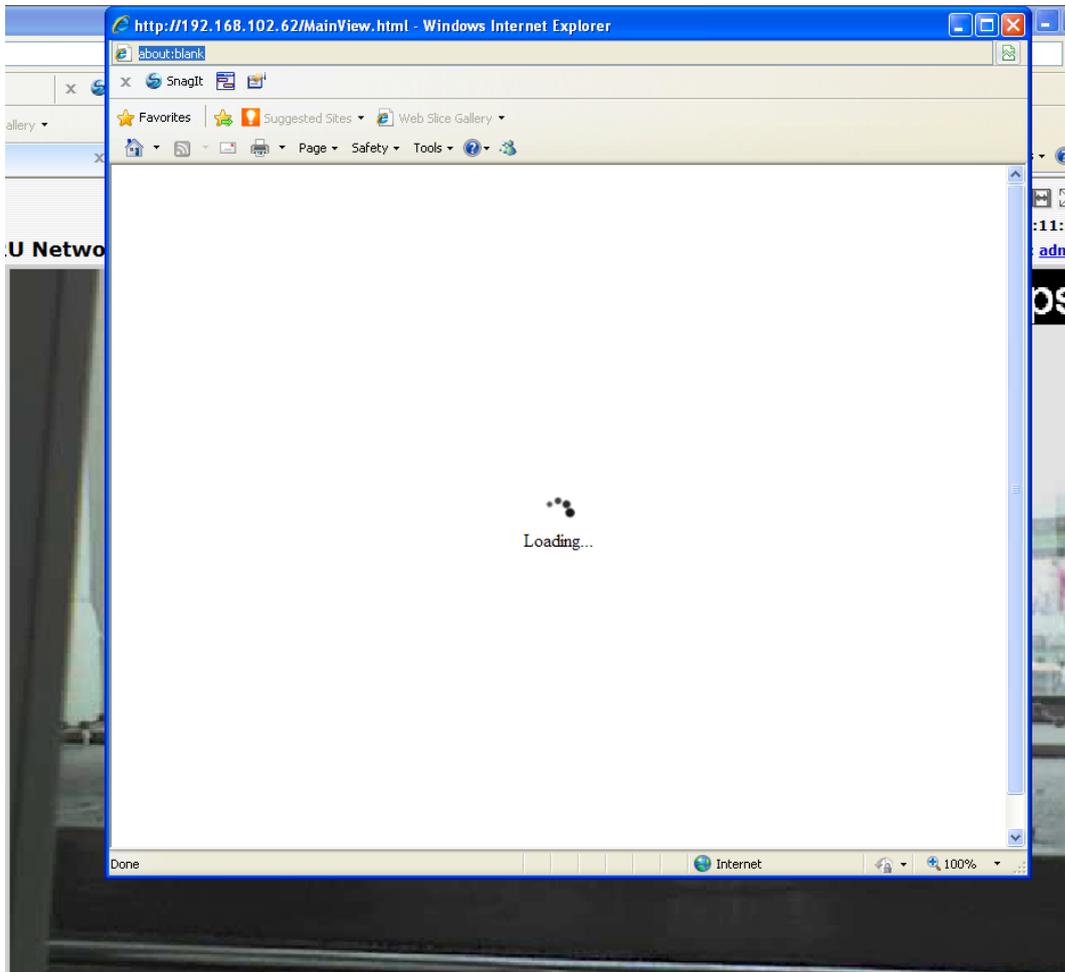
You can do the followings by right-clicking on the playback video:

1. Play Audio
2. Snapshot
3. Export as AVI file
4. Digital PTZ
5. Adjust Brightness
6. Adjust Contrast

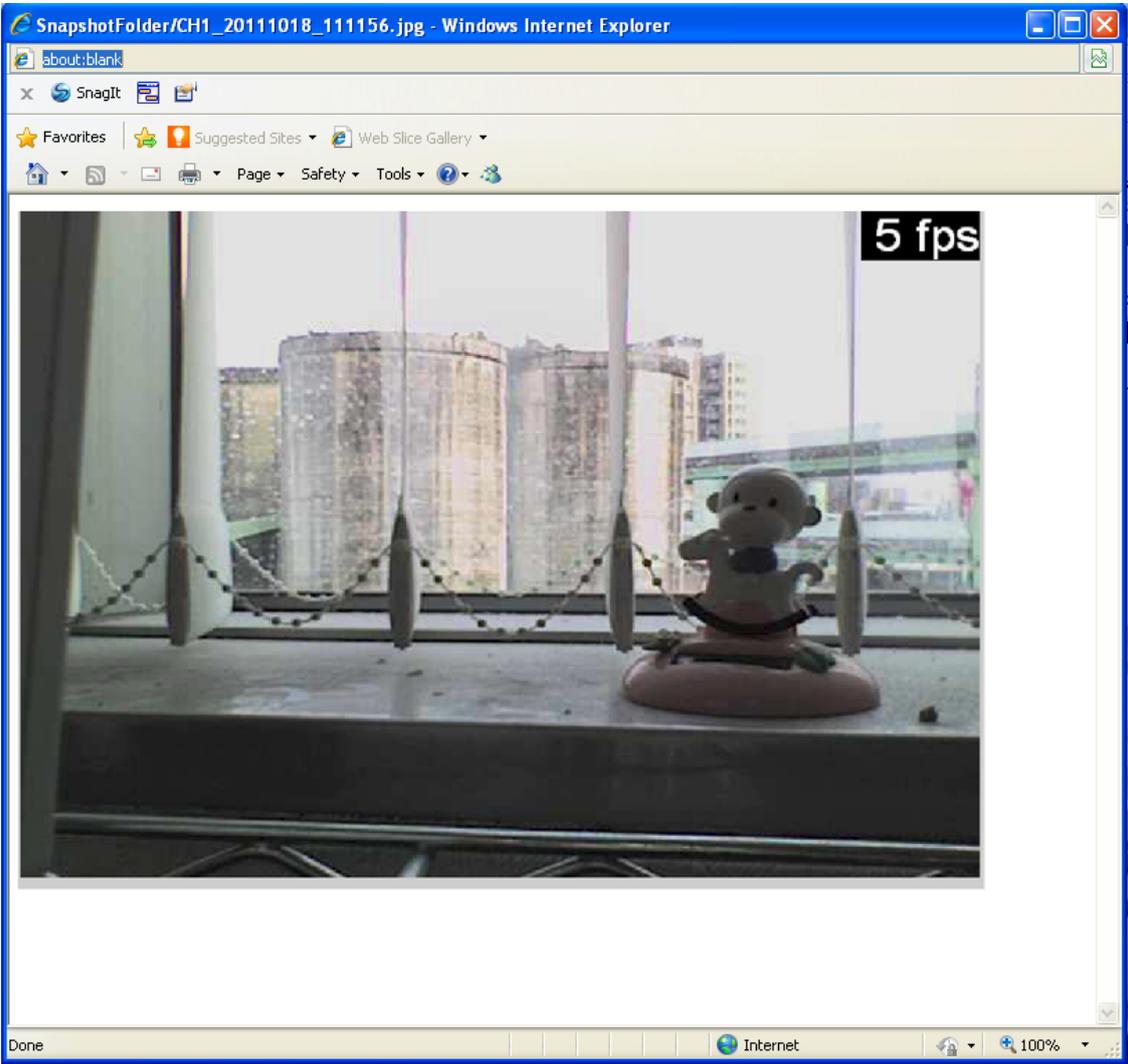
## Take a snapshot of a playback video



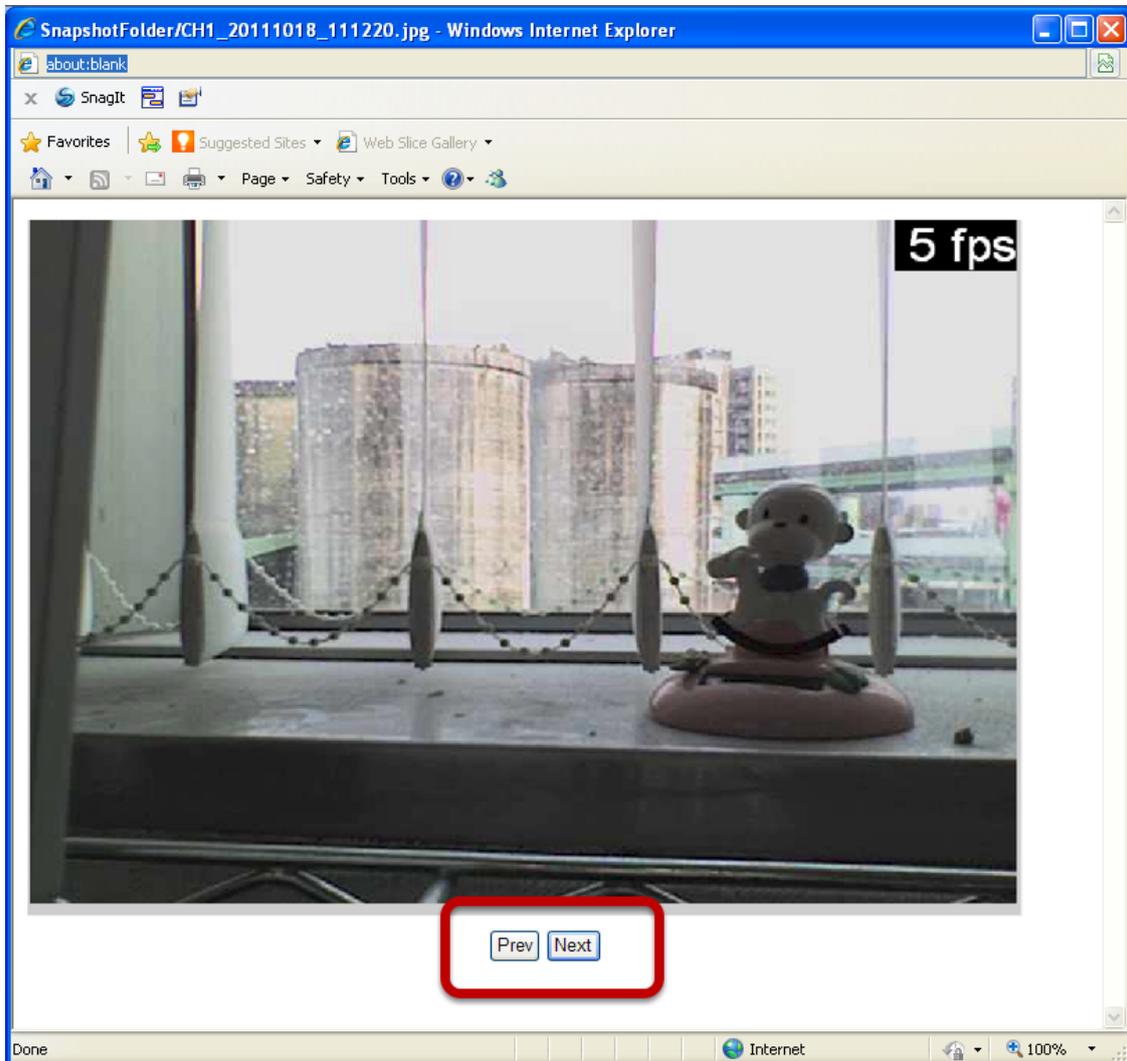
To take a snapshot, right-click on the video and select "Take Snapshot". You are given with options to take 1 snapshot or 3 continuous snapshots.



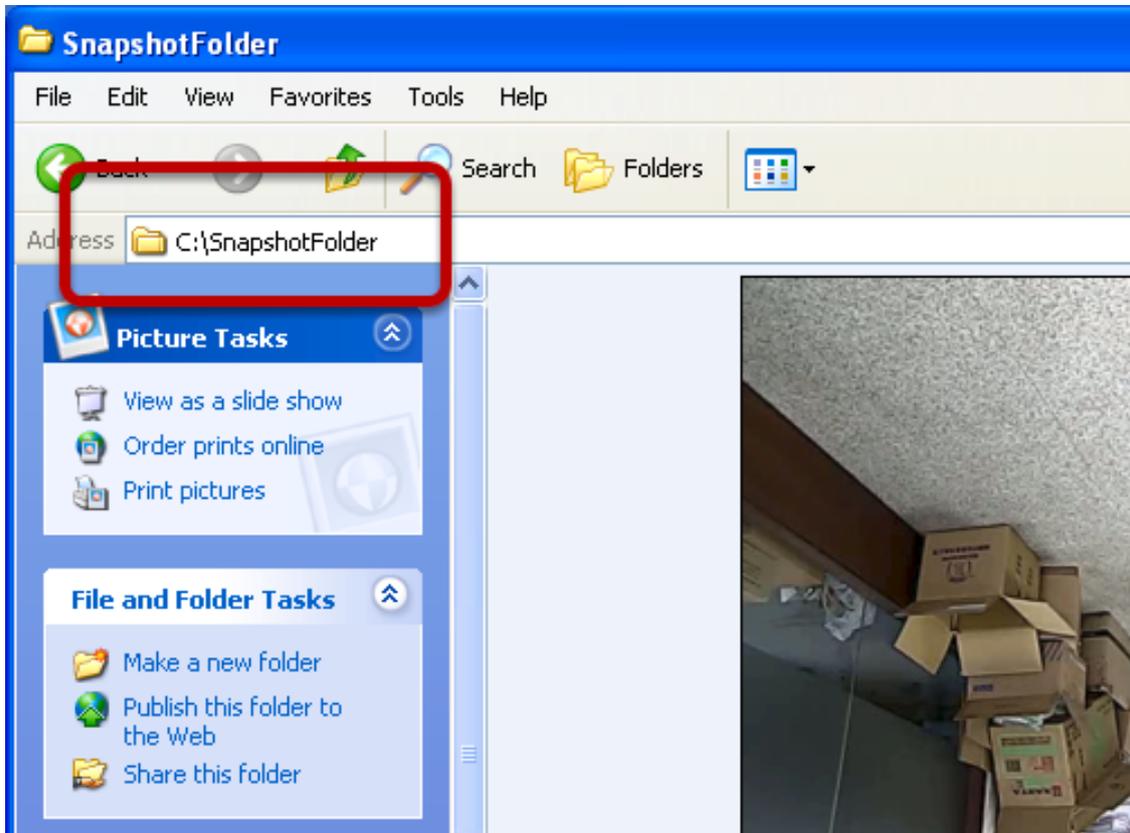
A new window should display and load the snapshot image.



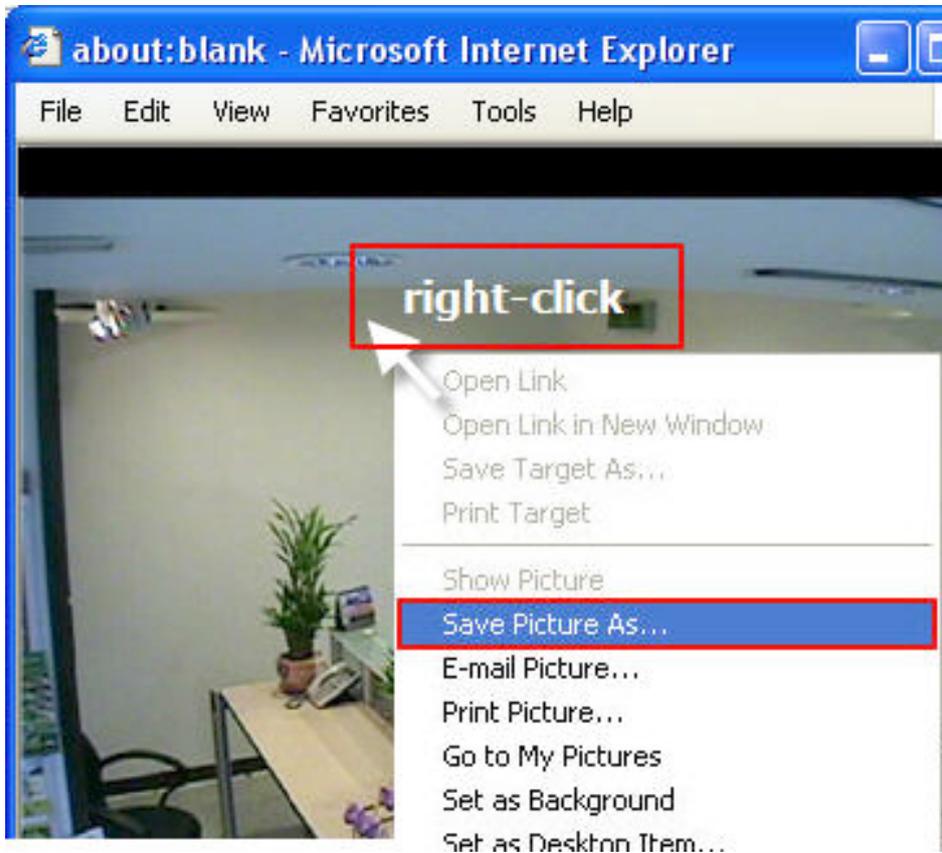
The new window displays the snapshot.



If the "3 continuous snapshots" option is chosen, the new window displays snapshots and lets you view them individually by using the "Prev", "Next" buttons shown above.

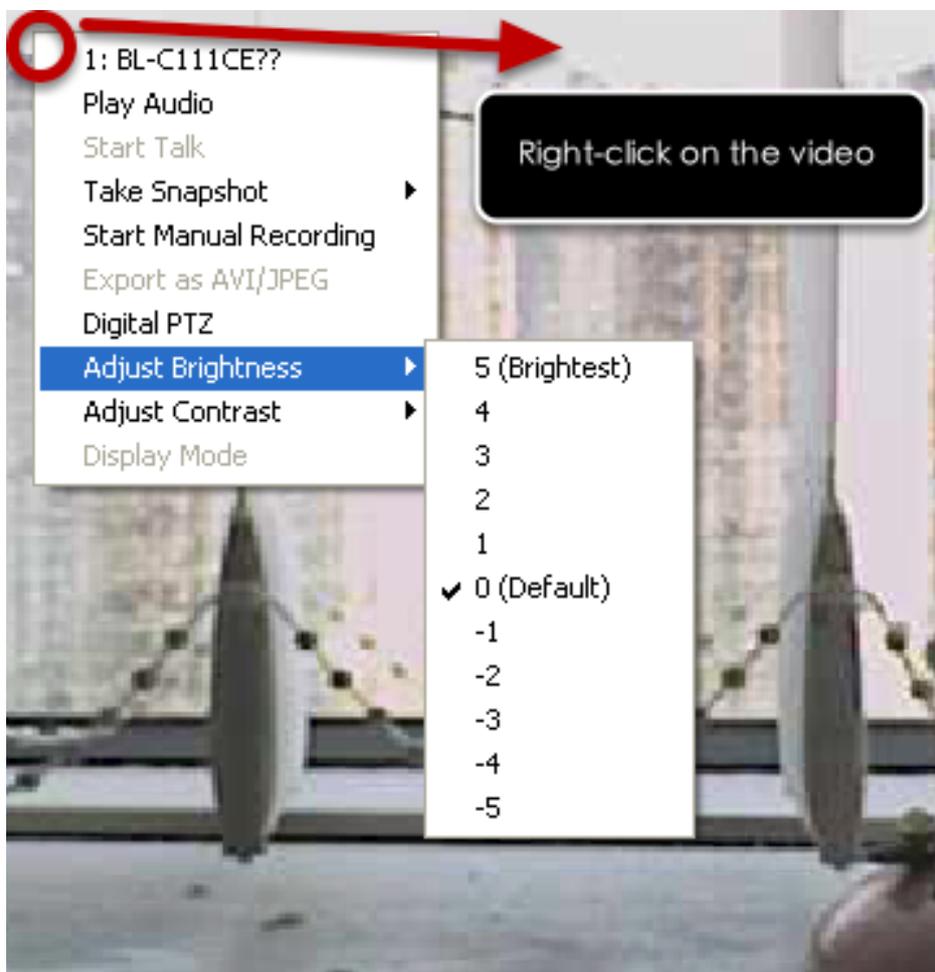


However, as soon as a snapshot selection is made, the snapshots are automatically saved to x:\SnapshotFolder ("x" represents the partition where Windows is installed, e.g.: C:\)



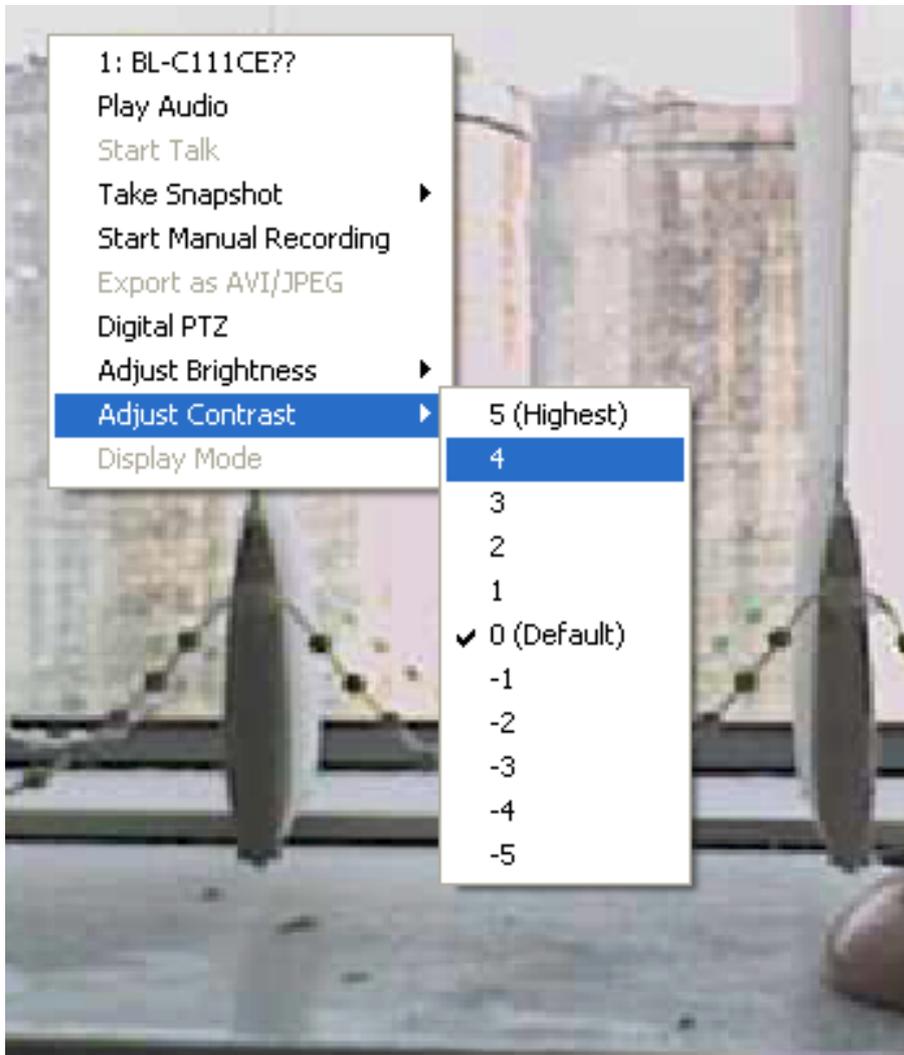
You can right-click anywhere on the image and select "Save Picture As..." to save the images somewhere else if you wish.

## Adjust Brightness for the Playback Video



You are able to adjust brightness of the playback video from the right-click menu.

## Adjust Contrast For Playback Video



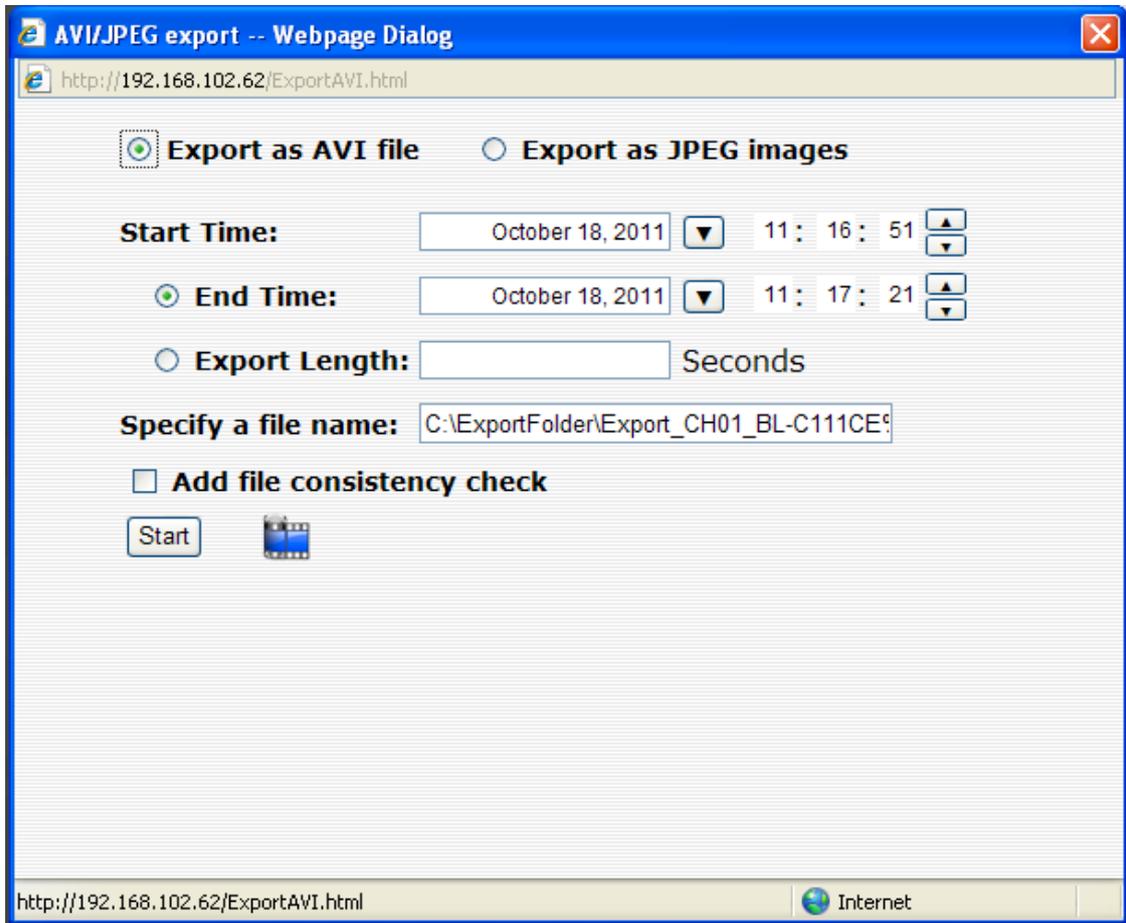
Same thing as the brightness, you can set the contrast for the playback video from the right-click menu as well.

## Export Playback Videos to AVI Files



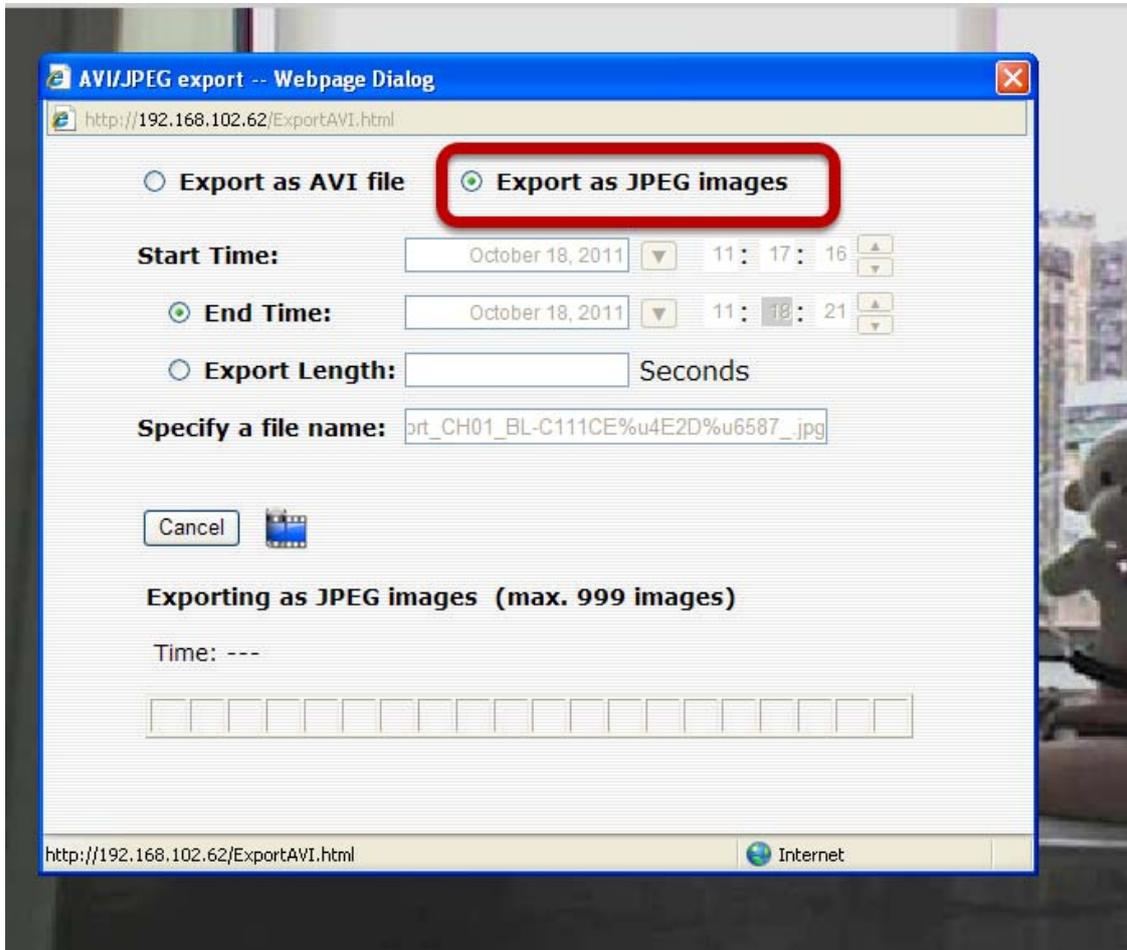
User can export the recorded playback videos stored on the NVR to a local computer and save them in AVI file format. A 3rd party media player such as VLC player or Windows Media player can then play the files on the PC.

Once you locate the recorded videos with steps described in the previous section, select "Export as AVI file"



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

## Export Playback Videos to JPEG images

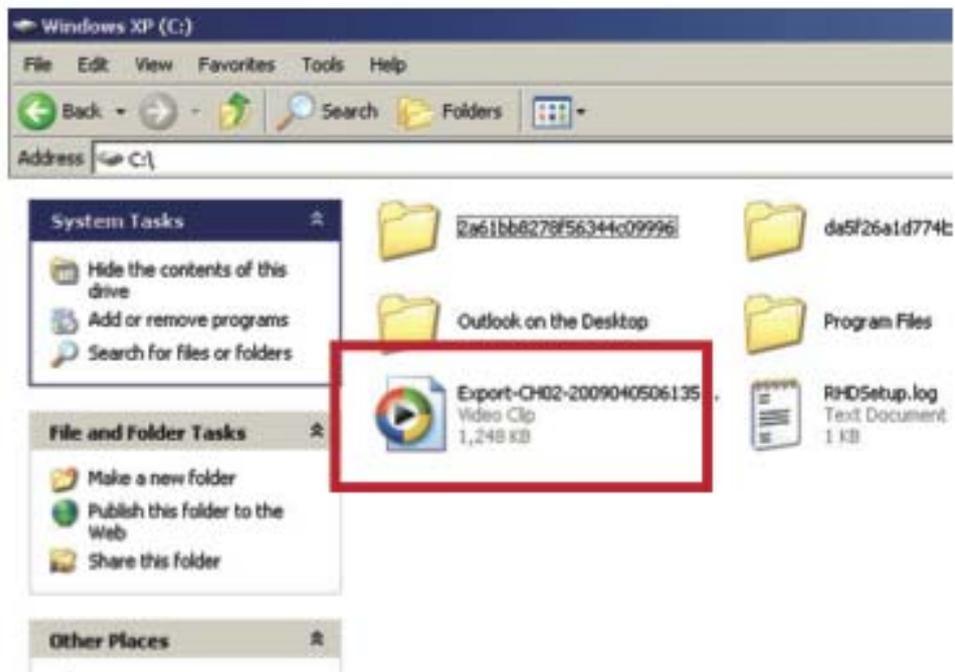


You can alternatively choose to export the recorded video to JPEG images by choosing the "Export as JPEG images" option.



Specify the Start time/End time (or export length) and click "Start" to begin exporting.

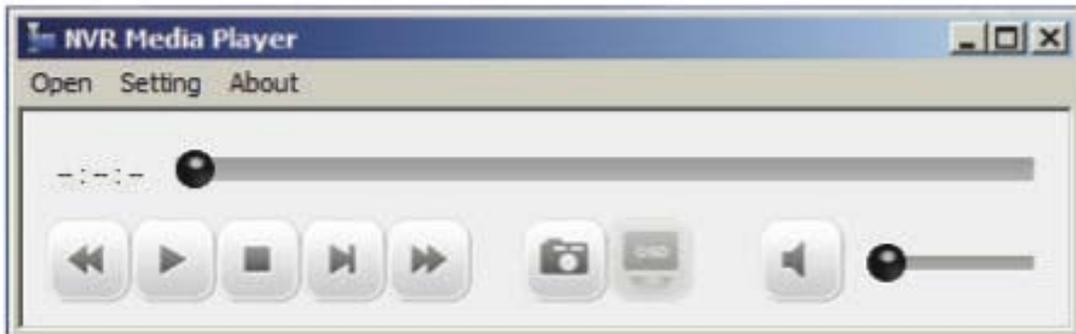
You will be notified once the process is completed successfully



The exported AVI file will be saved under the C partition (or the partition where Windows is installed)

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

## Play Exported Playback Videos with NVR Media Player

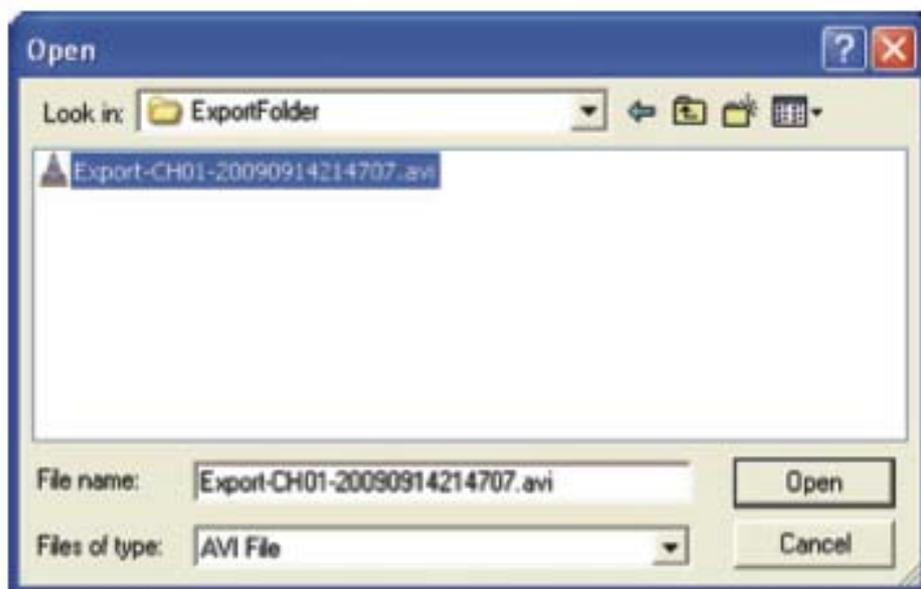


You can also use the NVR Media Player to play the exported AVI files. This can save you the trouble of installing third-party media player or codecs when playing the exported AVI videos.

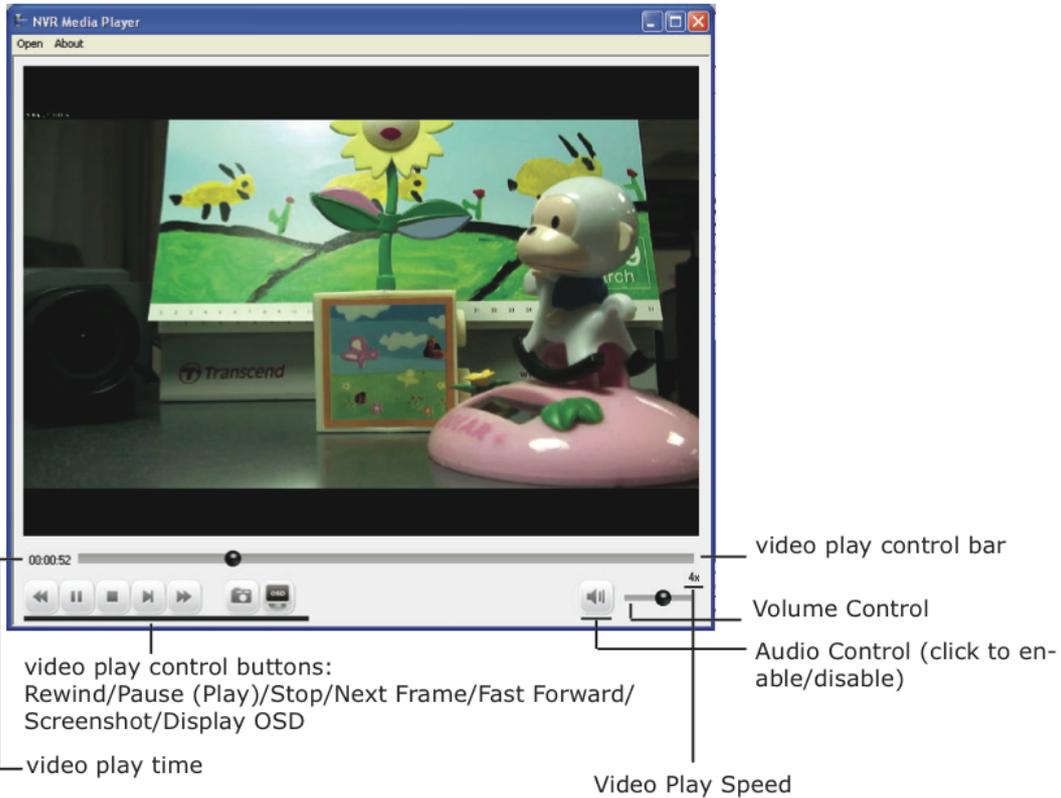
The NVR Media Player will be automatically installed after the CMS software is installed. You can find it in the Windows Start menu.



Click "Open" >> "AVI File"

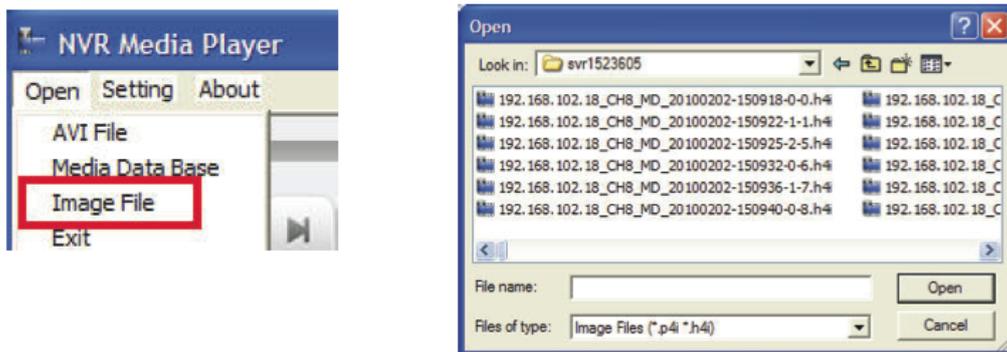


Locate the exported AVI file, and click "open". (Normally under "C:\ExportFolder")



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 types 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.

## NVR Setup -- System Configurations

### Network Setup

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

#### 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

Network Setting	
Connection Type:	<input type="text" value="DHCP Client"/>
Status:	IP obtained from DHCP Server
IP Address:	192.168.102.62
Subnet Mask:	255.255.248.0
Gateway:	192.168.101.1
DNS 1:	192.168.101.1
DNS 2:	192.168.101.11
HTTP Port:	<input type="text" value="80"/>
Streaming Port:	<input type="text" value="9877"/>
UPnP Port Forwarding:	<input type="checkbox"/> External Port: <input type="text" value="6000"/> <input type="button" value="Test"/>

Optional Setting	
Device Name:	<input type="text"/>

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 NVR 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** 1

IP Address: 192 . 168 . 101 . 143 2  
 Subnet Mask: 255 . 255 . 252 . 0  
 Gateway: 192 . 168 . 101 . 1  
 DNS1: 192 . 168 . 11 . 11  
 DNS2: 192 . 168 . 11 . 13

HTTP Port: 80  
 Streaming Port: 9877

UPnP Port Forwarding:  External Port: 6000 Test Force Change

**Optional Setting**

Device Name: tst

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

\* *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

**NVR Setup**

- System Configuration
  - Network Setup
    - Device Network Setting
      - DHCP Server**
      - DDNS Service
      - Time and Date
      - Users Account
      - Group Bridge

**DHCP Server**

DHCP Server:  ON  OFF

Max. DHCP Client:  ( Max. 30 clients )

Apply

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 turned on/off manually.

## DDNS Service

### NVR Setup

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

### Dynamic DNS Service

Enable DDNS Service

Server Address:  ▼

Domain Name:

User ID:

Password:

Connection Status: Disconnected

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.

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

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

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

*\*Once you have the DDNS function successfully up and running, please **DO NOT** forget to configure port forwarding for the NVR web*

port (default 80) and the streaming port (default 9877) in the router/gateway for remote viewing. You can then type in `http://yourddnsdomain` in the browser to access the NVR remotely for live view.

Support Cart Sign In

What are you looking for?

About Blog

## DynDNS Free

Free DNS for 10 years and counting.

[GET IT NOW](#)

Home » Managed DNS: Rock Solid, Scalable, Reliable » DynDNS Free

- Managed DNS
  - DynECT Managed DNS
  - DynECT Managed DNS Lite
  - Dyn Standard DNS
  - DynDNS Pro
  - DynDNS Free**
  - Secondary DNS
- Domain Registration
- DNS Case Studies
- Support
- Contact Sales

[Already a user? Sign In](#)

### Free DNS When You Need It

Dyn's legendary free DNS service allows you to create a hostname that points to your home or office IP address, providing a easy URL for you to remember anywhere you have internet access.

Dyn also provides update mechanisms for making hostnames work with your dynamic IP address, delivery of your DNS records to five DNS servers in five Tier 1 bandwidth datacenters around the world, fast propagation/reliable static IP caching for DNS TTL values and more.

### Query volume

Get up to 648,000 queries per month.

### Free service

Get two domains in 18 available hostnames like DynDNS.org, DynDNS-home.com and more.

### Uptime when you're down

When you're offline, forward web requests or mark your host servers offline.

## DynDNS Free

[GET IT NOW](#)

### Additional & Add-on Features

WebHop

In order to properly configure the DDNS service function, please register a free DDNS domain name and account from DynDNS first. Go to <http://dyn.com/dns/dyndns-free/> from the browser to do so.

**Add New Hostname** ↑ Host Services

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

Hostname:  · dyndns.org ↓ *Enter a desired hostname here*

Wildcard Status: Disabled [\[Want Wildcard support?\]](#) *Select a desired sub-domain from the drop-down menu*

Service Type:  Host with IP address [\[?\]](#)  
 WebHop Redirect [\[?\]](#)  
 Offline Hostname [\[?\]](#)

IP Address:   
Your current location's IP address is 60.250.139.170  
TTL value is 60 seconds. [Edit TTL.](#) *Click here to automatically fill in the current public IP in the "IP Address field"*

Mail Routing:  Yes, let me configure Email routing. [\[?\]](#)

**What do you want to use this host for?**  
 Select services and devices you would like to use with this hostname.

Work From Home Office or VPN: *Pick one or more options here (any is fine)*

vpn remote file access remote desktop mail server web server  
 chat server ftp backup ssh database voip

Hosting and Design For Web Sites and Blogs:  
 blog gallery wiki portfolio ecommerce web page

Remote Access For Devices:  
 dvr webcam data storage cctv printer alarm and security  
 thermostat weather station game server home automation

Add To Cart *Click to go to the next step*

Fill in the necessary fields as illustrated above

Hostname:  · dyndns.org ↓

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

The page will check whether or not another user has used the hostname you entered as soon as you click the "Add to Cart" button. If

you see below message, simply enter a different and click "Add to Cart" again

### Shopping Cart

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

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

**Upgrade Options**

Free accounts allow only five Dynamic DNS hosts.

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

**Dynamic DNS Hosts**

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

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

**Sub-Total: \$0.00**

**Order Total: \$0.00**

---

Create account or log in to continue

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

**Username:**

**Password:**

**Confirm password:**

**Email:**

**Confirm email:**

Subscribe to:  DynDNS.com newsletter (1 or 2 per month)  
 Dyn Inc. press releases  
 Remove HTML formatting from email

**Security Image:**



Enter the numbers from the above image:

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

**Already Registered?**

**Username:**

**Password:**

[Forgot your password?](#)



*Enter the security code*

*Check to agree the license*

*Click to finish creating the account*

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

### Dynamic DNS Service

Enable DDNS Service

Server Address:  ▼

Domain Name:

User ID:

Password:

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

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

### Dynamic DNS Service

Enable DDNS Service

Server Address:

Domain Name:

User ID:

Password:

Connection Status: Disconnected

Message from webpage

 Connect DDNS successful

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

## Time and Date

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

- Incorrect display time for playback videos
  - Inconsistent display time of event logs and when they actually occur
- After selecting the time zone, choose an option below to set the recorder time
- **Manual** – Use the drop-down list and configure the time manually
  - **Sync with NTP server** – enter the hostname or IP address of a valid NTP server and set how often the recorder should synchronize the time with it by using the “Update interval” drop-down menu
  - **Sync with PC** – Check this option to synchronize the recorder time with the PC that you are currently using to access the recorder

## User Account

**Setup**

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

---

▣ Recording Configuration

- ▣ System Options

### User Account Setting

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

#### Add User

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

Password:

Confirm Password:

Company:  (Optional)

Department:  (Optional)

Telephone:  (Optional)

Mobile:  (Optional)

E-Mail:  (Optional)

Group:

Language:

Description:  (Optional)

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 "admin" account with password "admin". It's highly recommended to change the password upon your initial login.

## 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)

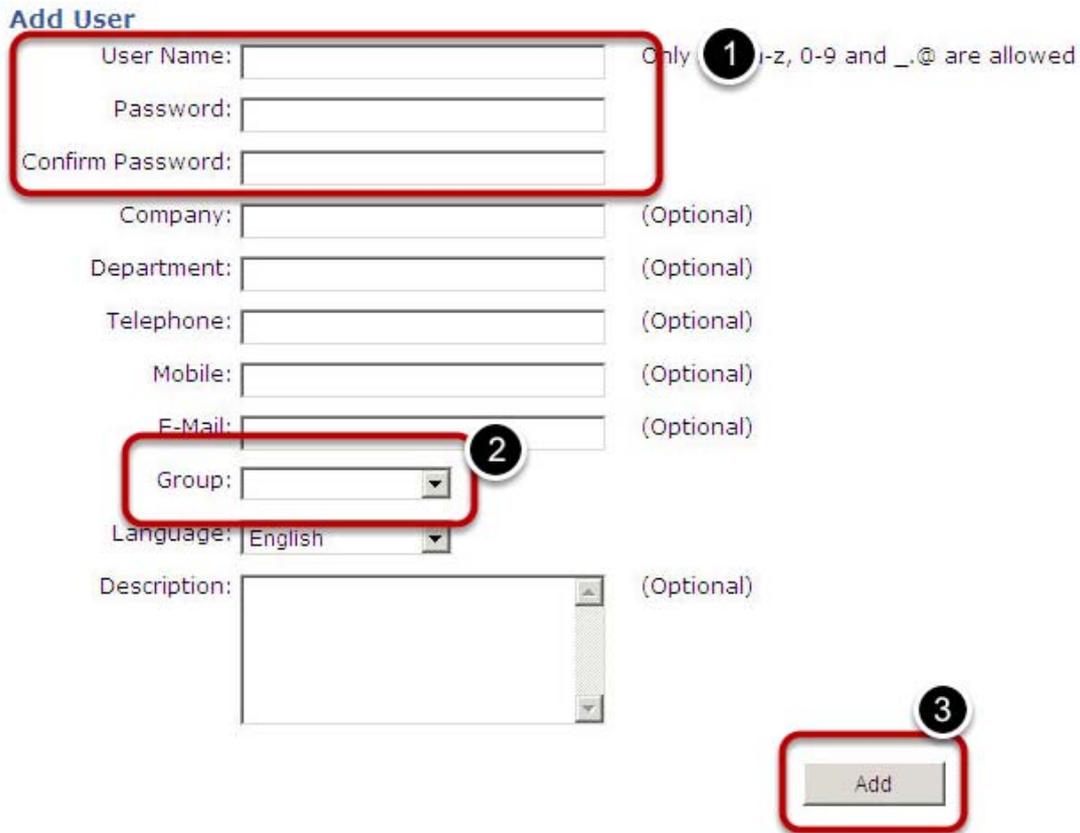
E-Mail:  (Optional)

Group:  **2**

Language:  (Optional)

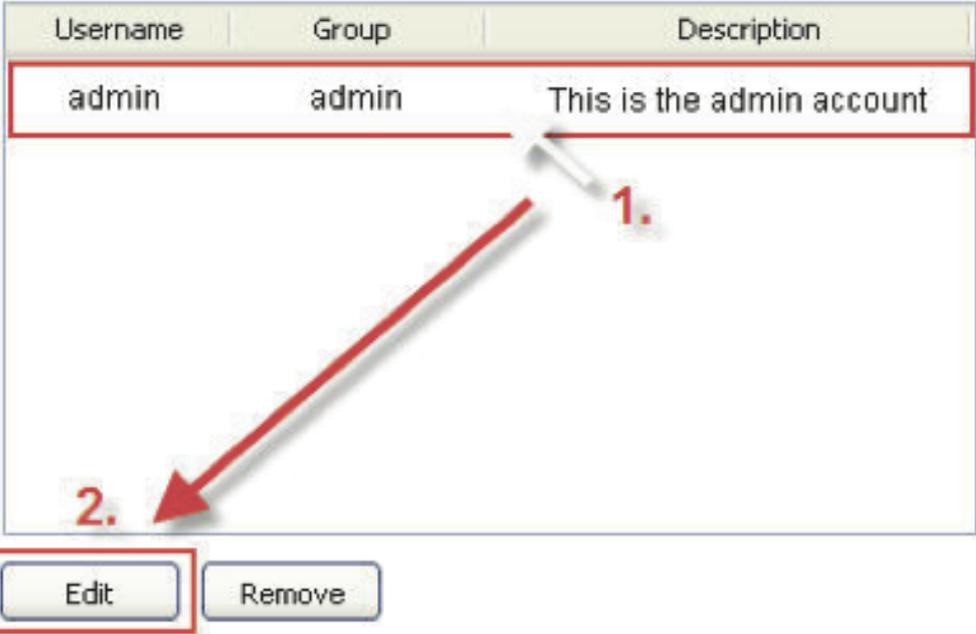
Description:  (Optional)

**3** Add



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

## Change the password of the "admin" account



The screenshot shows a table with three columns: Username, Group, and Description. The first row is highlighted with a red border and contains the text 'admin', 'admin', and 'This is the admin account'. A red arrow labeled '1.' points to the 'admin' account row. Below the table, there are two buttons: 'Edit' and 'Remove'. The 'Edit' button is highlighted with a red border and a red arrow labeled '2.' points to it.

Username	Group	Description
admin	admin	This is the admin account

User Account Information

Username:

Password:

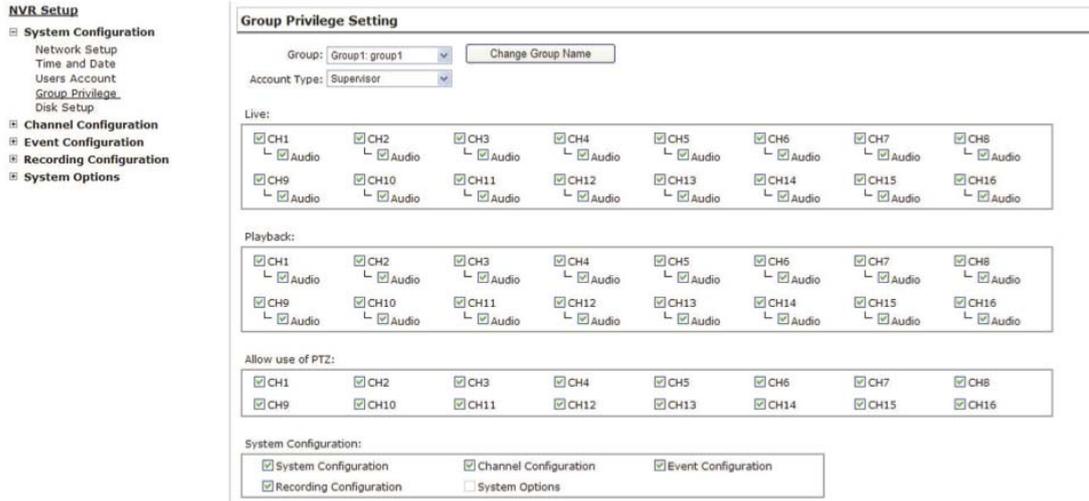
Confirm Password:

Company:  (optional)

Department:  (optional)

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

## Group Privilege



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

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



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

Group:

Privilege Type:

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.

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	

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

## Disk Setup

**NVR Setup**

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

**Hard Disk Setting**

Hard Disk List RAID Volume

Disk ID	Disk Type	Capacity	Disk Status	Format
1	Internal	459GB	Online	<input type="button" value="Format"/>
2	Internal	2000GB	Offline	<input type="button" value="Format"/>
3	Internal	500GB	Offline	<input type="button" value="Format"/>

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.

*\*This page will list the Internal disks (or RAID volumes), and the E-SATA disk only. The HDD will be formatted in EXT3 file system.*

*\*Due to the chipset limitation, "Hotswap" is NOT supported for E-SATA HDD. Please make sure to power on the E-SATA external HDD and plug it in to the NVR before the NVR is turned on.*

**NOTE: Maximum capacity of each E-SATA HDD is 2TB.**

*\*The USB HDDs will only be listed in the "USB Backup" and "Hard Disk Status" pages in "System Options". The USB HDDs have to be formatted in advance in FAT16/FAT32 or EXT3 file system. (FAT32 is recommended)*

## Build RAID Volume

**NVR Setup**

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

**Hard Disk Setting**

Hard Disk List: **RAID Volume** 1

**RAID Volume**

Disk ID	Disk Type	Capacity	Disk Status
--	1	459GB	Normal
--	2	2000GB	Fail
--	3	500GB	Fail

**Internal Hard Disk List**

RAID ID	Disk ID	Disk Type	Capacity	Disk Status
--	1	Internal	459GB	Normal
--	2	Internal	2000GB	Fail
--	3	Internal	500GB	Fail

Disk Actions: **Create RAID 0** 2

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

**Apply** 3

The internal HDDs can be used for RAID. To do so, go to "RAID Volume" in Disk Setup and choose the available disk action.

RAID Type	HDD #	Allow Failed HDD	Capacity
RAID 0	2-4	0	(HDD#) x (Smallest HDD size)
RAID 1	2-4	(HDD #) - 1	Smallest HDD Size
RAID 5	>=3	1	(HDD# - 1) x (Smallest HDD size)
RAID 10	>=4	1 HDD within each RAID 1 group	(HDD# / 2) x (Smallest HDD size)

The "Disk Actions" drop-down menu displays available actions based on how many HDDs are installed in the NVR. For detail, please refer to the table above.

RAID Volume			
Disk ID	Disk Type	Capacity	Disk Status
--	1	Internal	459GB
--	2	Internal	2000GB
--	3	Internal	500GB

Internal Hard Disk List				
RAID ID	Disk ID	Disk Type	Capacity	Disk Status
--	1	Internal	459GB	Normal
--	2	Internal	2000GB	Fail
--	3	Internal	500GB	Fail

Disk Actions:

**Message from webpage**

Creating new RAID volume will result in ALL DATA LOSS. Do you want to continue?

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

Select a disk action and click "Apply" to proceed. A warning dialog will be displayed as creating RAID volume will erase all existing data on the HDDs. Click "OK" to continue.



Please wait for a few moments while the NVR is creating the RAID volume.



You will be prompted once the action is completed successfully.

Hard Disk List **RAID Volume**

**RAID Volume**

Disk ID	Disk Type	Capacity	Disk Status
1	RAID-0	3001GB	Offline

**Internal Hard Disk List**

RAID ID	Disk ID	Disk Type	Capacity	Disk Status
1	1	Internal	500GB	Normal
1	2	Internal	2000GB	Normal
1	3	Internal	500GB	Normal

Disk Actions:

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

Once the RAID volume is created, it will be listed in the "RAID volume list with the status of "Offline"

**Hard Disk List** RAID Volume

Disk ID	Disk Type	Capacity	Disk Status	Format
1	RAID-0	3001GB	Offline	<input type="button" value="Format"/>

Go back to the "Hard Disk List" page and the RAID volume should be in the list. Click "Format" to bring the RAID volume online.

**Hard Disk List** RAID Volume

Disk ID	Disk Type	Capacity	Disk Status	Format
1	Internal	500GB	Offline	Formatting...0%
2	Internal	2000GB	Offline	<input type="button" value="Format"/>
3	Internal	500GB	Offline	<input type="button" value="Format"/>

The status will be displayed just as if you were formatting any internal HDDs

## Deleting RAID

**RAID Volume**

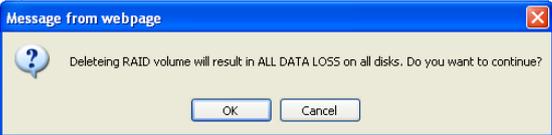
Disk ID	Disk Type	Capacity	Disk Status
1	RAID-0	3001GB	Offline

**Internal Hard Disk List**

RAID ID	Disk ID	Disk Type	Capacity	Disk Status
1	1	Internal	500GB	Normal
1	2	Internal	2000GB	Normal
1	3	Internal	500GB	Normal

Disk Actions:



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

Once a RAID volume is created, it can be deleted at anytime by choosing the "Delete RAID" action in the RAID volume page. All existing data will be removed after the RAID volume is deleted.

All internal disks that were originally used for RAID volume will have to be formatted again after the RAID volume is deleted.

### Notes for RAID function

- \* Once a RAID volume is created, the "Delete RAID" option should be presented in the "Disk Action" drop-down menu. (Regardless the RAID volume has been formatted or not)
- \* Only RAID1 and RAID 5 have repair function
- \* The recording should continue even when RAID 1 or RAID 5 volume fails or is rebuilding.
- \* The replacement hard drive size must be larger or equal to the size of the smallest disk in the volume.
- \* The internal disks do not need to be formatted prior to creating RAID volume.
- \* Create RAID with an existing RAID volume is not allowed.

\* Once a RAID volume is deleted, all internal disks within that RAID should become offline and need to be formatted again before they can be used individually.

\* All internal disks (or RAID volumes) need to be formatted before they can be used.

# NVR Setup -- Channel Configurations

## Add a camera

**Setup**

- System Configuration
- Channel Configuration
  - Channel Setting
  - OSD Setting
  - PTZ Setting
  - E-MAP Monitor
- Event Configuration
- Recording Configuration
- System Options

**Channel Setting**

Channel	Channel Name	Group	IP Address	Format	Resolution
1	cam1	Group1	192.168.101.21	MJPEG	4CIF

**Click here to search camera:**

\* You may skip this step and add a new camera manually by entering camera's setting in the "Camera Information" section

**Add New Channel:**

Channel ID:

Channel Name:

Group:

IP Address:

User Name:

Password:

HTTP Port:

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

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

### Automatic Search

Channel	Channel Name	Group	IP Address	Format	Resolution
1	cam1	Group1	192.168.101.21	MJPEG	4CIF

**Click here to search camera:**

\* You may skip this step and add a new camera manually by entering camera's setting in the "Ca

**Add New Channel:**

Channel ID:

Channel Name:

Group:

IP Address:

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



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

### Network Communication

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

AXIS	P3301	192.168.101.86	80
------	-------	----------------	----

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

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

**Add New Channel:**

Channel ID: 2

Channel Name: BL-C1CE

Group: Group1 Change Group Name

IP Address: 192.168.11.26

User Name: admin1

Password: ●●●●●●

HTTP Port: 80

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.

**Additional Camera Information**

Video Port: 554

Format: MPEG4

Resolution: 640x480

Frame Rate: Full

Bitrate: Full

Record:  Continuous

Record Audio:  Record audio



Preview

Add Cancel

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.

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.

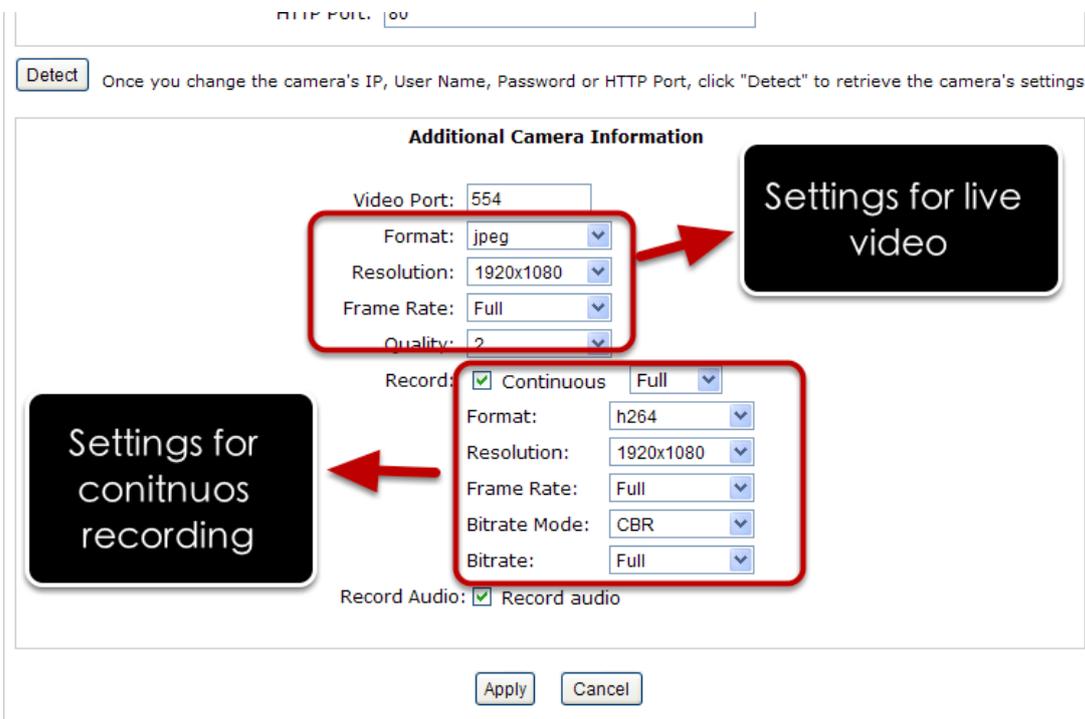
Click "Add" to finish adding the camera

l 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	



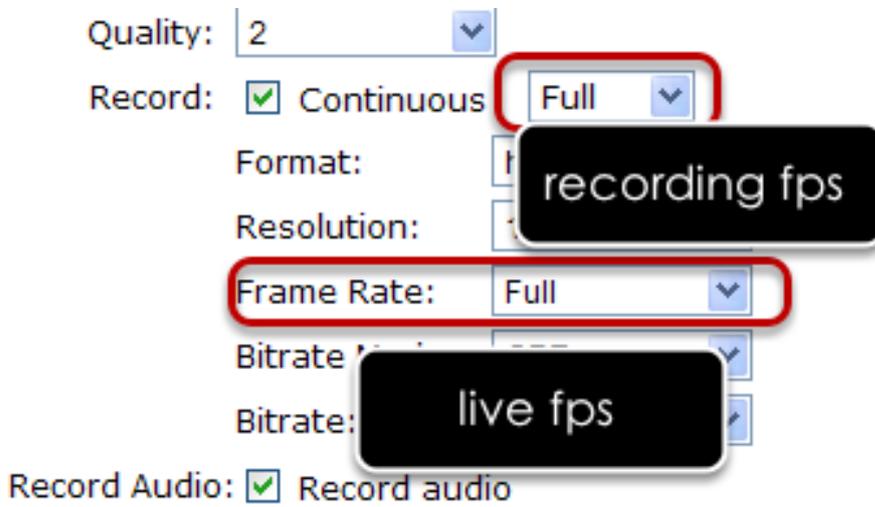
*\*If cameras are marked with "\*" in the search result, it means those cameras are already configured and connected to the NVR.*



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

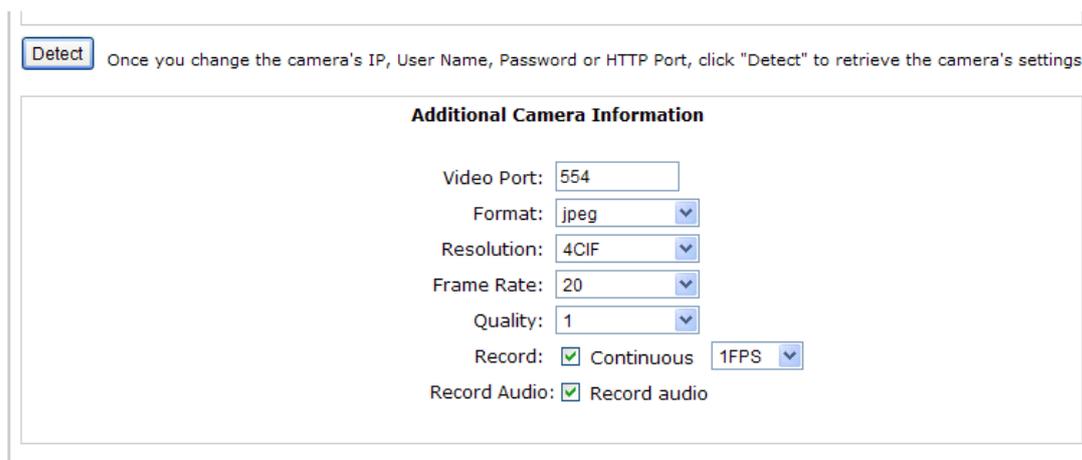
Some cameras are capable of multiple streaming profiles, in which different video codec are used for different purposes.

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



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

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



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

### Add a camera 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's setting

Enter 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.

## 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:  ▼

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

- Display OSD at the coordinates X  Y
- Display OSD at

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



\* 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:  

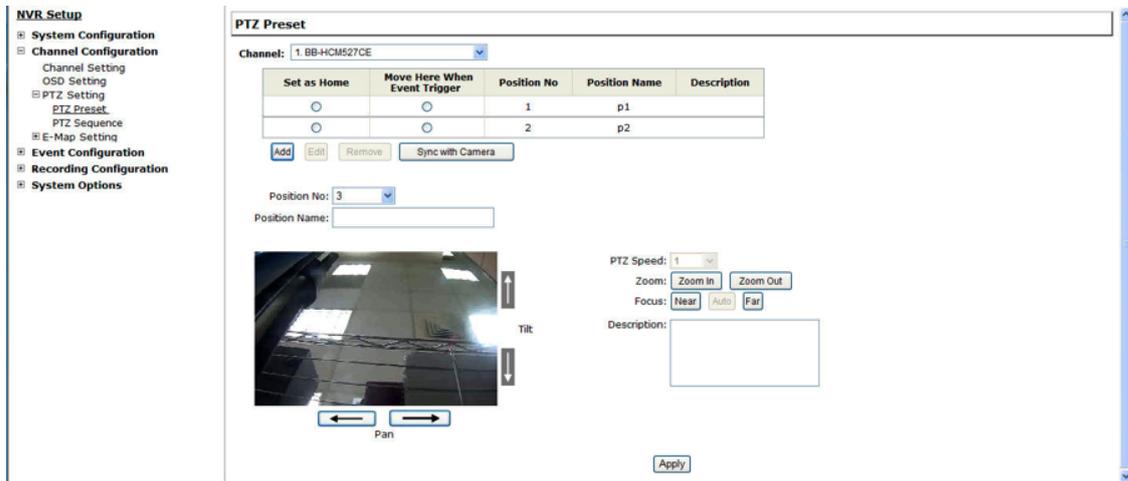
Font:  ▼

Text Background Color:  Auto  
 Self-defined  

*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.

**PTZ Preset**

Channel: 1. BB-HCM527CE

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	

Add Edit Remove Sync with Camera

Position No: 3

Position Name:



Pan

PTZ Speed: 1

Zoom: Zoom In Zoom Out

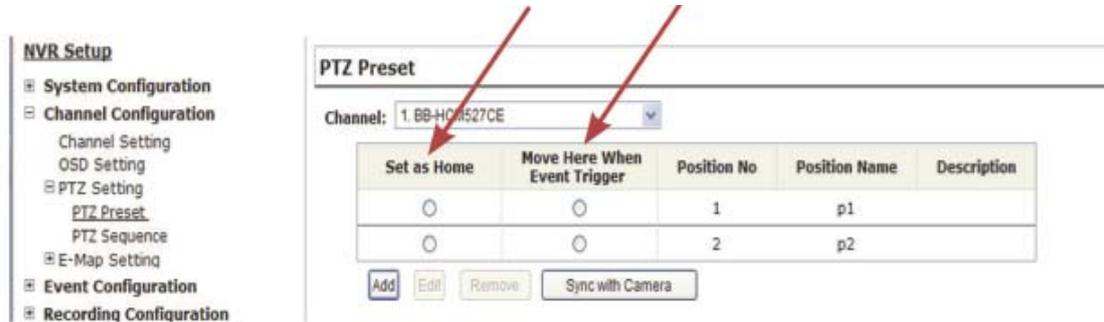
Focus: Near Auto Far

Description:

Apply

To set up PTZ preset points:

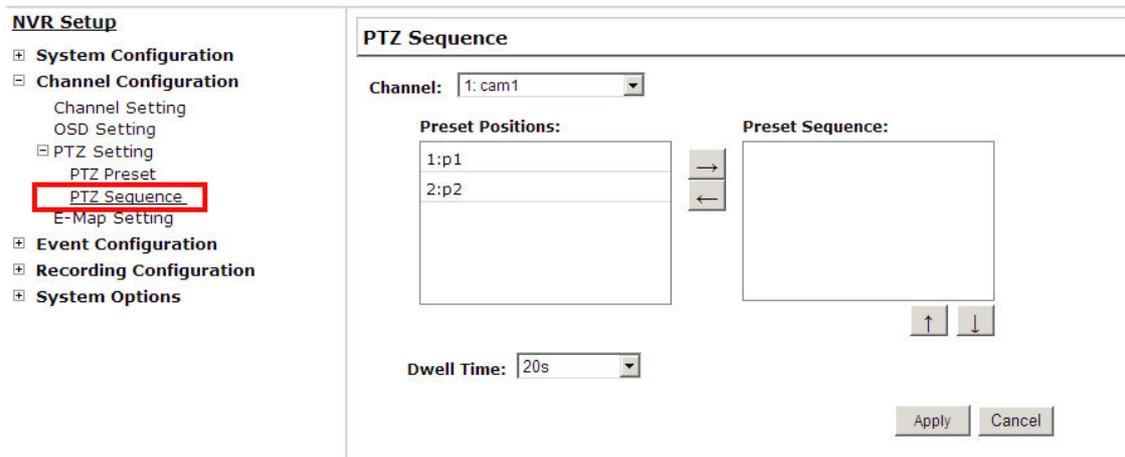
1. Select a camera from the "Camera" drop-down menu and click "Add".
2. Select a position number for the preset point from the "Position Number" drop-down menu and fill in a name in the "Position Name" field for easier identification.
3. Use the PTZ control provided in the configuration page to set the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



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



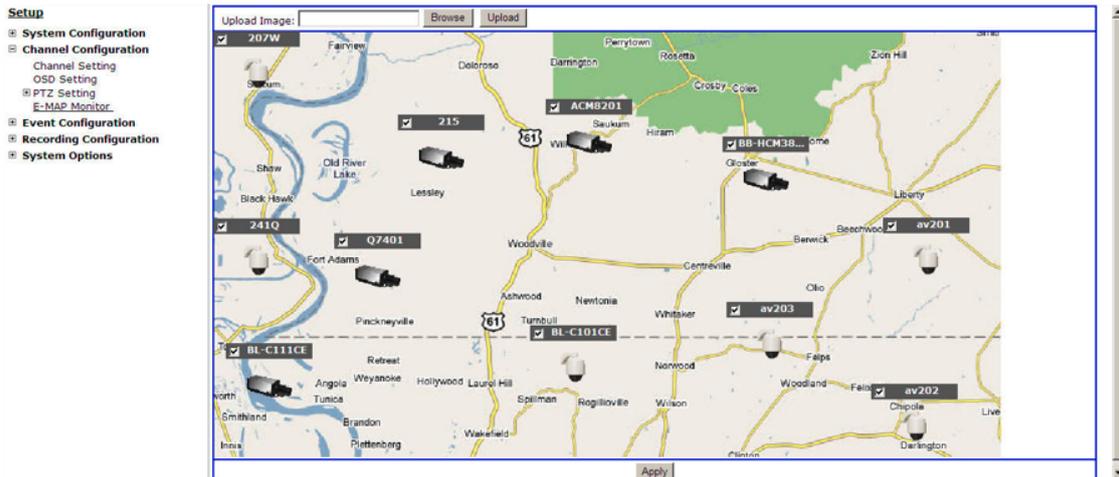
Once you have multiple preset points defined for a camera, it is convenient for monitoring to set up the sequencing viewing among those preset point and let the recorder automatically switch between them for you.

The screenshot displays a configuration window for a camera. At the top left, there is a 'Channel:' label followed by a dropdown menu showing '1: cam1', with a circled '1' next to it. Below this, on the left, is a 'Preset Positions:' section containing a list box with two entries: '1:p1' and '2:p2'. To the right of this list box are two buttons: a right-pointing arrow and a left-pointing arrow, with a circled '2' next to them. To the right of the list box is a larger empty box labeled 'Preset Sequence:'. Below this box are two buttons: an up arrow and a down arrow, with a circled '3' next to them. At the bottom left, there is a 'Dwell Time:' label followed by a dropdown menu showing '20s', with a circled '4' next to it. At the bottom right, there are two buttons: 'Apply' and 'Cancel'.

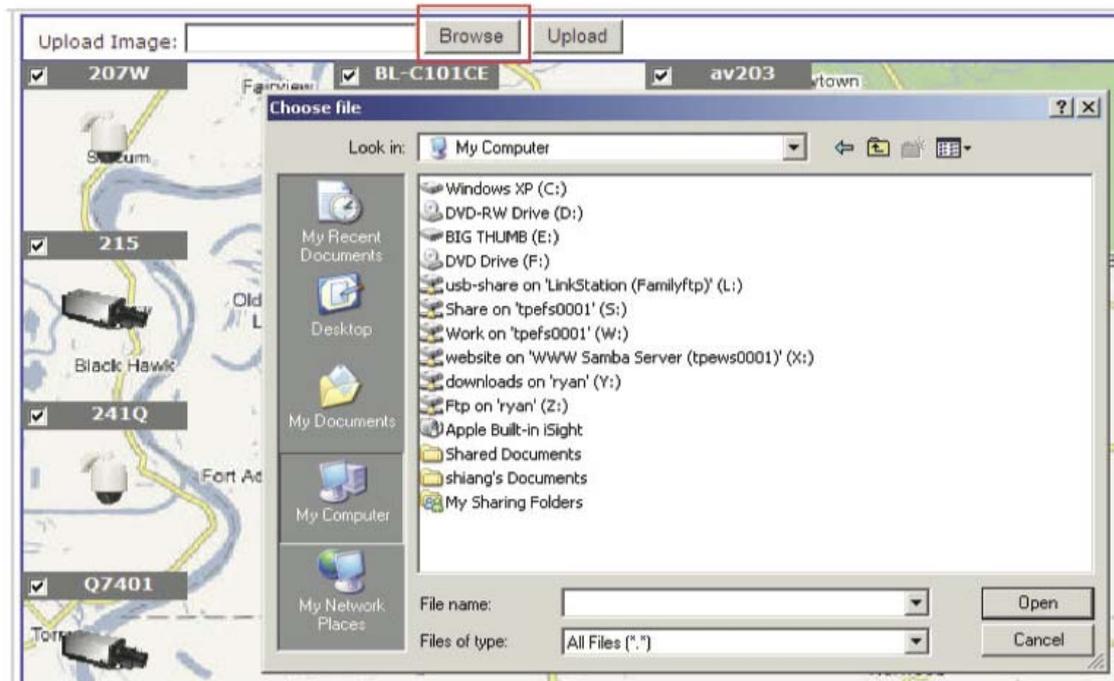
- To configure preset sequence for a camera,
1. Select a channel from the "Channel" drop-down menu. The available preset points should be listed in "Camera Presets" section.
  2. Pick the ones you like for sequence viewing and press the "->" button to move them to the "Preset Sequence" section, then
  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

## Local-Map Setting

### Local-Map Setting



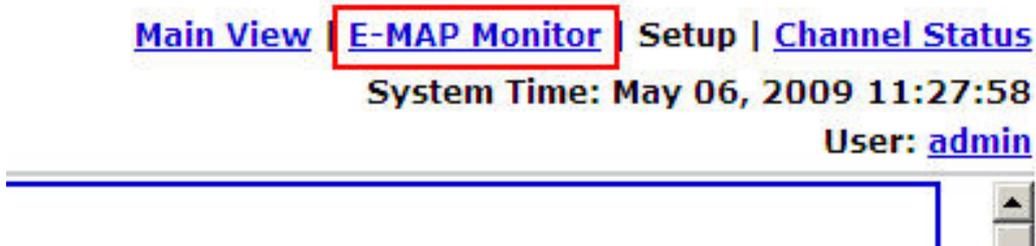
Local-Map monitor is a function that alerts users whenever there is an event triggered (e.g. motion detected) from a camera with a geographical perspective. With this function, users can quickly identify which camera has detected an unusual event and where this event is happening. This function works 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 sizes under 100KB.*



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

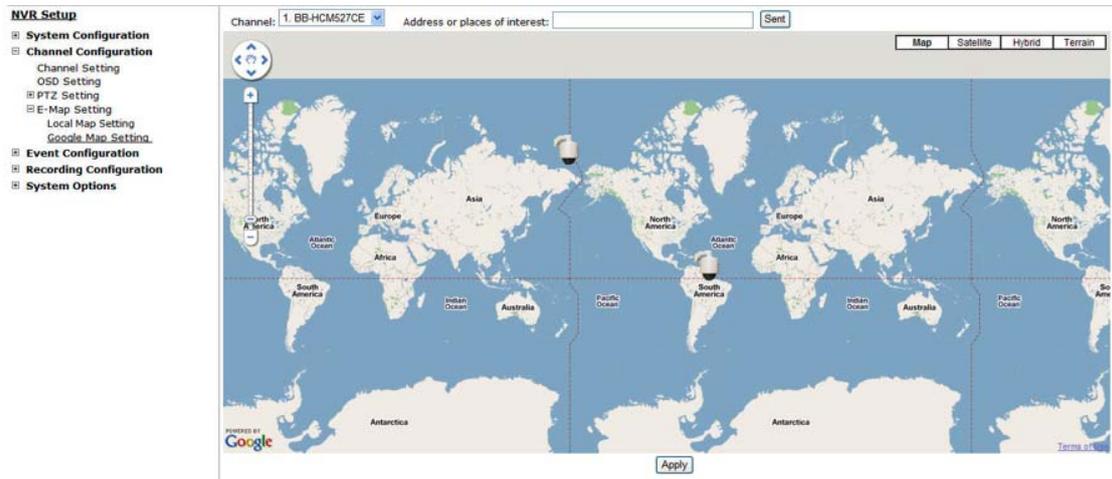


Access the Local-Map Monitor page from the upper-right hand corner menu.



When the NVR receives an event triggered from any of the cameras, their videos will be displayed on the Local-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 Local-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 Local-Map monitor function.*

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

Start the event configuration by defining the general settings:

#### Define when an event will be triggered

- Choose “Always” or “Only during...” under “Event Trigger Duration”

- For the "Only during..." option, choose the days by using the checkbox and then define the time range in those days in the "Start Time" and "End Time" fields that you would like the event trigger function to be enabled.

### **How often an event is triggered**

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

### **Trigger action**

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

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

## **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.

**NVR Setup**

- ⊕ System Configuration
- ⊕ Channel Configuration
- ⊖ Event Configuration
  - General Setting
  - DI Setting
  - ⊕ Event Servers
  - Event Trigger
- ⊕ Recording Configuration
- ⊕ System Options

**DI Setting**

	Trigger Event When	
	IP Camera	
	Port	Condition
CH 1	<input type="text" value=""/>	<input type="text" value=""/>
CH 2	<input type="text" value=""/>	-----
CH 3	<input type="text" value=""/>	-----
CH 4	<input type="text" value=""/>	<input type="text" value=""/>
CH 5	<input type="text" value=""/>	<input type="text" value=""/>
CH 6	-----	-----
CH 7	-----	-----
CH 8	<input type="text" value=""/>	<input type="text" value=""/>
CH 9	<input type="text" value=""/>	<input type="text" value=""/>

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.

*\*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 des- tined 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

### Configuring an FTP server

**NVR Setup**

- ⊞ System Configuration
- ⊞ Channel Configuration
- ⊞ Event Configuration
  - General Setting
  - DI/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:

Network Address:  \*Enter host name or IP address

Port:

**Login Information**

User Name:

Password:

**Passive Mode**

Use Passive Mode

**Test**

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

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.

**NVR Setup**

- [-] System Configuration
- [-] Channel Configuration
- [-] Event Configuration
  - General Setting
  - DI/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** Enter 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.



*\*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.*

motion detection regions in the camera.

**When NVR is triggered by**

Disk Fail
  Recycled  
 When NVR Start Up
  When NVR System Configuration Changed  
 When Channel's Configuration Changed

**Trigger Actions**

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:   
 **Warning Sound**  
 **Move to particular preset points**

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

- *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.*

# NVR Setup -- Recording Configurations

## General Settings

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.

**Recording General Settings**

---

**Recording Buffer**

Pre-Alarm Buffer:  Seconds

Post-Alarm Buffer:  Seconds

---

**Recording Frame Rate**

Channel:

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

---

**Keep Video**

Keep the previous  days of recorded videos

---

**Camera Recording Setting**

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Continuous	<input checked="" type="checkbox"/>															
Schedule	<input type="checkbox"/>															
Event	<input checked="" type="checkbox"/>															
	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Continuous	<input checked="" type="checkbox"/>															
Schedule	<input type="checkbox"/>															
Event	<input checked="" type="checkbox"/>															

---

**Record Audio**

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Record audio	<input checked="" type="checkbox"/>															
	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Record audio	<input checked="" type="checkbox"/>															

You can define the following in “General Settings”:

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

**Recording Buffer**

Pre-Alarm Buffer:  Seconds (0~10)

Post-Alarm Buffer:  Seconds (5~60)

**Recording Frame Rate**

Channel:

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.*

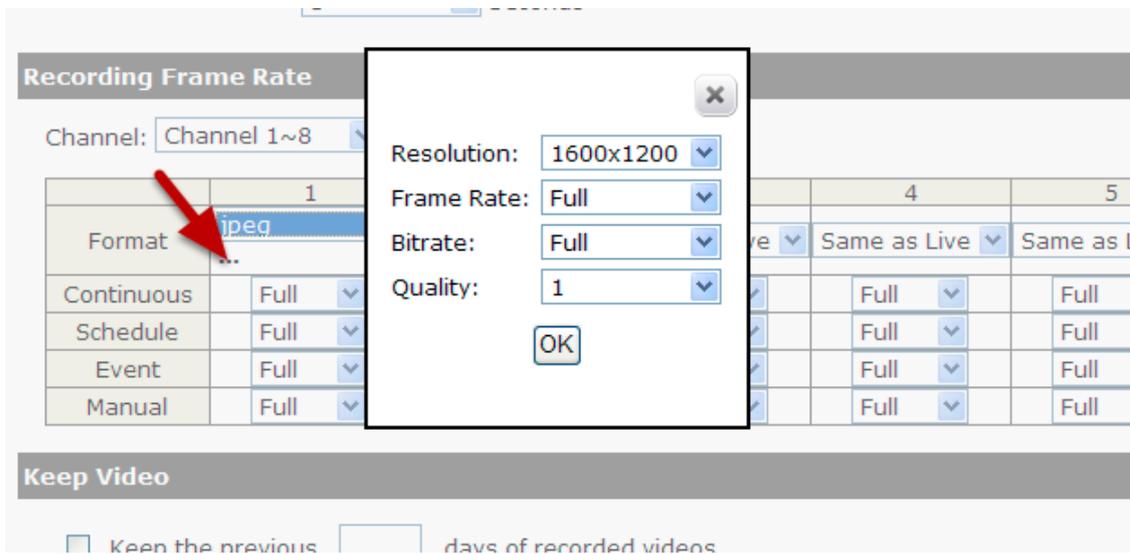
**Recording Frame Rate**

Channel:

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

**Keep Video**

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"/>									
	17	18	19	20	21	22	23	24	25	26
Record audio	<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**

**Schedule Recording Settings**

Channel:

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
<b>Sunday</b>																								
<b>Monday</b>																								
<b>Tuesday</b>																								
<b>Wednesday</b>																								
<b>Thursday</b>																								
<b>Friday</b>																								
<b>Saturday</b>																								

**Quick Configuration**

Days:

Sun
  Mon
  Tues
  Wed
  Thur
  Fri
  Sat
  All

Duration:

All day
   
 During
 Start Time:  : 
 End Time:  :

Copy Schedule To Channel:

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

To configure a schedule recording

### Schedule Recording Settings

Channel:  ▼

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.*

**Quick Configuration**

Days:

Sun
  Mon
  Tues
  Wed
  Thur
  Fri
  Sat
  All

Duration:

All day
  During
 Start Time:  : 
 End Time:  :

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 portion of a software interface. At the top, there are two sections: "Recording" and "Event timer". Each section contains a dropdown menu and two input fields. Below these is a horizontal line. Underneath the line, the text "Copy Schedule To Channel:" is followed by a dropdown menu with a downward arrow. At the bottom right, there are two buttons: "Save" and "Cancel".

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

## NVR Setup -- System Options

### Device Information

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.

<p><b>NVR Setup</b></p> <ul style="list-style-type: none"> <li>▣ System Configuration</li> <li>▣ Channel Configuration</li> <li>▣ Event Configuration</li> <li>▣ Recording Configuration</li> <li>▣ System Options             <ul style="list-style-type: none"> <li><u>Device Information</u></li> <li>System Logs</li> <li>Maintenance</li> <li>Disk Status</li> <li>USB Backup</li> </ul> </li> </ul>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p><b>General Information</b></p> <p>Device Name: _____            Model Name: <b>SVR-632</b>            Firmware Version: <b>1.0.0.39090</b>            Device Time: <b>July 18, 2011 17:51:10</b></p> </div> <div style="border: 1px solid black; padding: 5px;"> <p><b>Network Information</b></p> <p>Network Type: <b>DHCP</b>            Device IP: <b>192.168.102.48</b>            HTTP Port: <b>80</b>            Streaming Port: <b>9877</b>            MAC Address: <b>00:19:0f:07:39:5a</b>            UPnP Port Forwarding: <b>Disabled</b></p> </div>
---	--

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

System Logs							
ID	Time	Type	Sub-type	CH	AP	IP	User
1	July 19, 2011 10:15:07	User	User login		Web		admin
2	July 19, 2011 09:47:20	User	User login		Web		admin
3	July 19, 2011 08:56:19	Recording	Stop recycling HDD space				
4	July 19, 2011 08:55:23	Recording	Start recycling HDD space				
5	July 18, 2011 20:21:40	User	User logout		TestClient	192.168.102.21	admin
6	July 18, 2011 20:20:38	User	User logout		TestClient	192.168.101.178	admin
7	July 18, 2011 19:54:46	User	User login		Web		admin
8	July 18, 2011 19:50:35	User	User login		Web		admin
9	July 18, 2011 19:45:14	Linux	Format hard disk				
10	July 18, 2011 19:44:55	Linux	Format hard disk				
11	July 18, 2011 19:44:33	Linux	Format hard disk				
12	July 18, 2011 19:44:15	Linux	Format hard disk				
13	July 18, 2011 19:43:59	Linux	Format hard disk				
14	July 18, 2011 19:43:38	Linux	Format hard disk				
15	July 18, 2011 19:41:06	Channel	Camera connected	31			
16	July 18, 2011 19:41:06	Channel	Camera connected	21			
17	July 18, 2011 19:41:05	Channel	Camera connected	18			
18	July 18, 2011 19:41:05	Channel	Camera connected	19			
19	July 18, 2011 19:41:05	Channel	Camera connected	17			
20	July 18, 2011 19:41:05	Channel	Camera connected	16			
21	July 18, 2011 19:41:05	Channel	Camera connected	15			
22	July 18, 2011 19:41:05	Channel	Camera connected	13			
23	July 18, 2011 19:41:05	Channel	Camera connected	14			
24	July 18, 2011 19:41:05	Channel	Camera connected	12			
25	July 18, 2011 19:40:45	Channel	Camera connected	33			

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

## Maintenance

**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

**Maintenance**

---

**Restart NVR**

Click "Restart" button to restart NVR

---

**Restart NVR Automatically**

Select one of the options below:

Restart:  Every week  Every month

---

**Restart Camera**

Select a camera below to perform a restart

---

**Upgrade NVR Firmware**

Locate the new firmware and perform the upgrade (**Current Firmware Version: 1.6.0A.30028874**)

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:192.168.101.50

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

"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:

### 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 file extension in Windows as the OS hide the known file extension by de-fault.**

## Through the web interface

⊕ **Recording Configuration**

⊖ **System Options**

Device Information

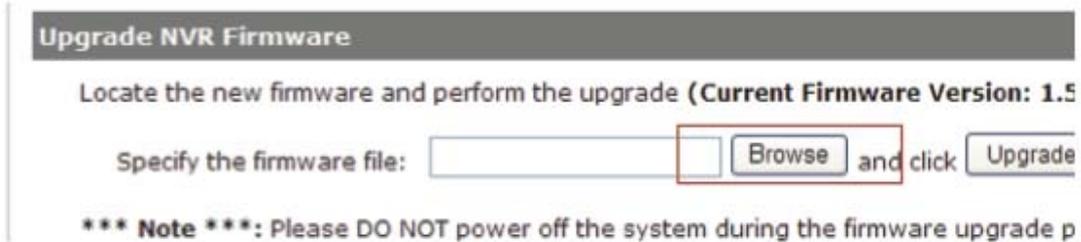
System Logs

**Maintenance**

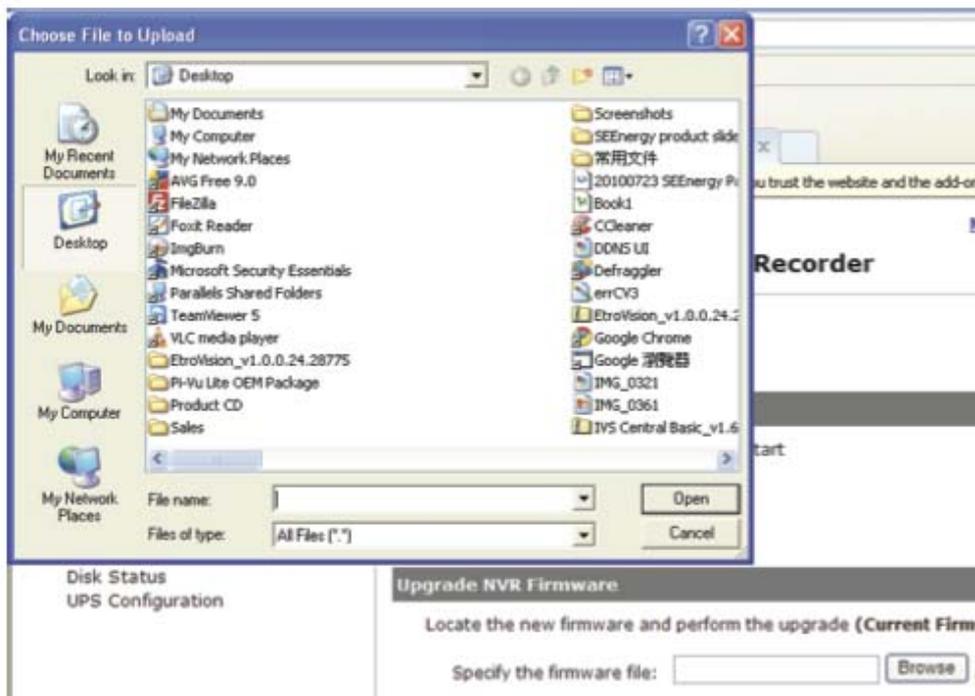
DO Status

Disk Status

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



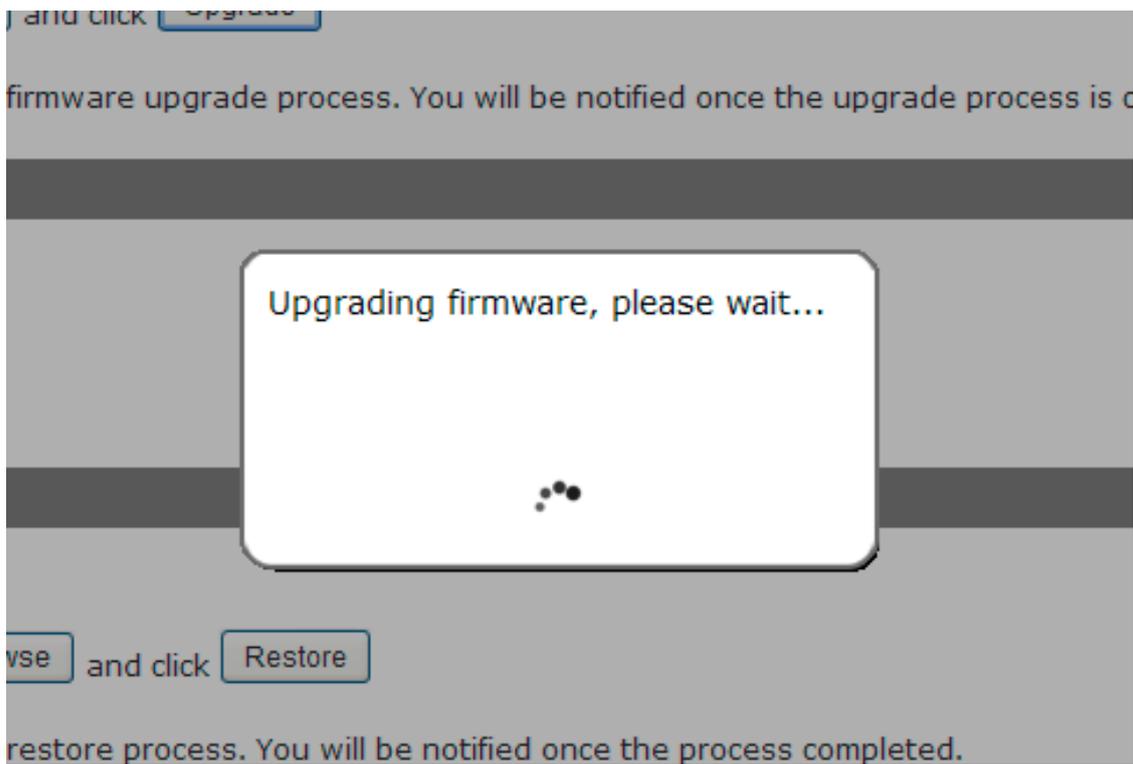
On "Upgrade NVR's Firmware" section, click "Browse" and select new firmware file



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



When done, click "Upgrade".



Follow the on screen instruction and wait for the process to finish (After upgrade, the system will reboot automatically)

### 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

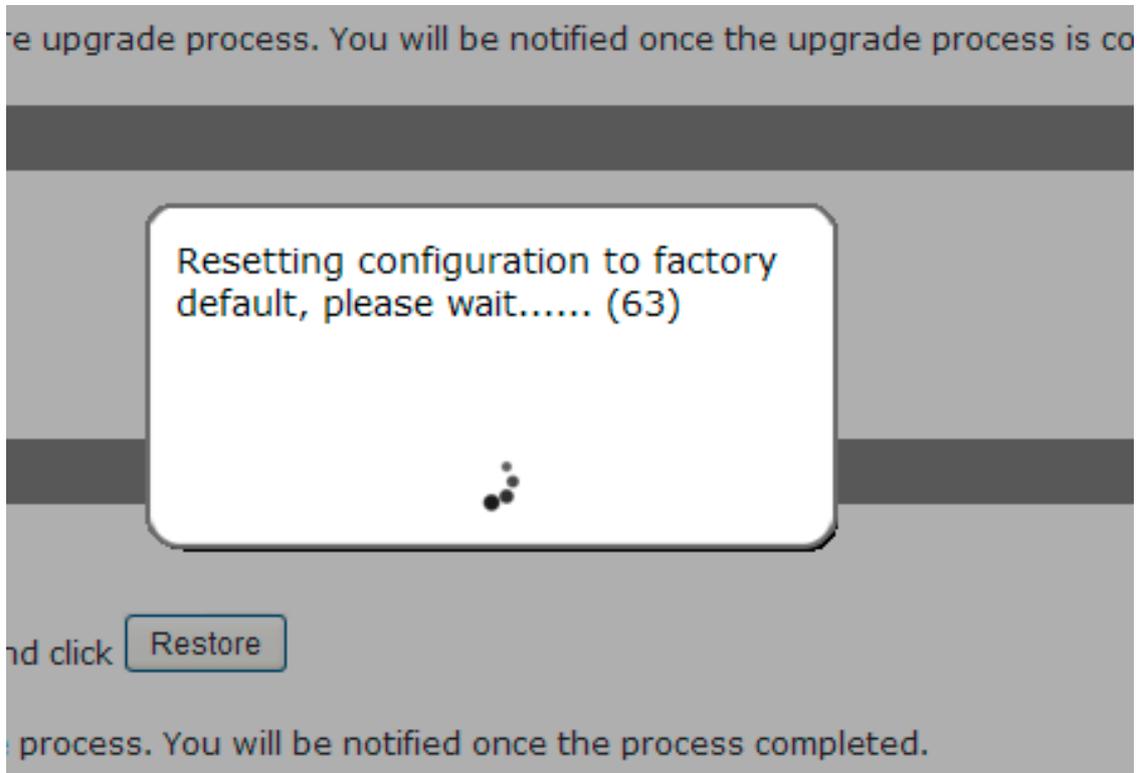
#### Reset NVR to Factory Default

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.

## Disk Status

Setup							
<ul style="list-style-type: none"> <li>System Configuration</li> <li>Channel Configuration</li> <li>Event Configuration</li> <li>Recording Configuration</li> <li>System Options <ul style="list-style-type: none"> <li>Device Information</li> <li>System Logs</li> <li>Maintenance</li> <li>DO Status</li> <li><u>Disk Status</u></li> </ul> </li> </ul>	Disk Status						
Disk ID	Status	Capacity	Remaining Disk Space	Remaining	Online Time	Recording Period	Est. Remaining Time
1	Offline	500GB	0GB	0%	--	--	--
2	Online	160MB	0MB	0%	May 05 2009 16:56:23	--	--

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

## USB Backup

**NVR Setup**

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

**USB Backup**

USB HDD:   \* Please format the HDD to FAT32 on a Windows PC before using it for backup

LNZ4001     LNE3003     LNE1001     cam4  
 Channel 5     v1.0.0.5-2     Channel 7     Channel 8  
 Channel 9     Channel 10     Channel 11     Channel 12  
 Channel 13     Channel 14     Channel 15     Channel 16

Start Time: August 12, 2010 14:48:33

End Time: August 12, 2010 14:48:33

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 HDC

**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 HDC

LNZ4001       LNE3003

Channel 5       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:**   \* 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:**

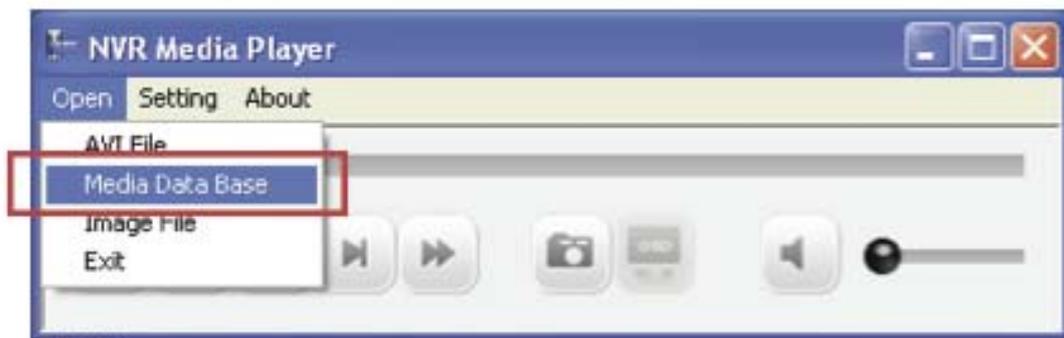
- It does not support USB Hub extend the number of HDD connected to the NVR
- Only one backup process can be performed at a time
- Maximum 4 channels can be selected for backup
- Only FAT32 USB hard disk is supported for backup
- The USB hard disk needs to have more than 100MB remaining space
- If multiple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

**Process:**

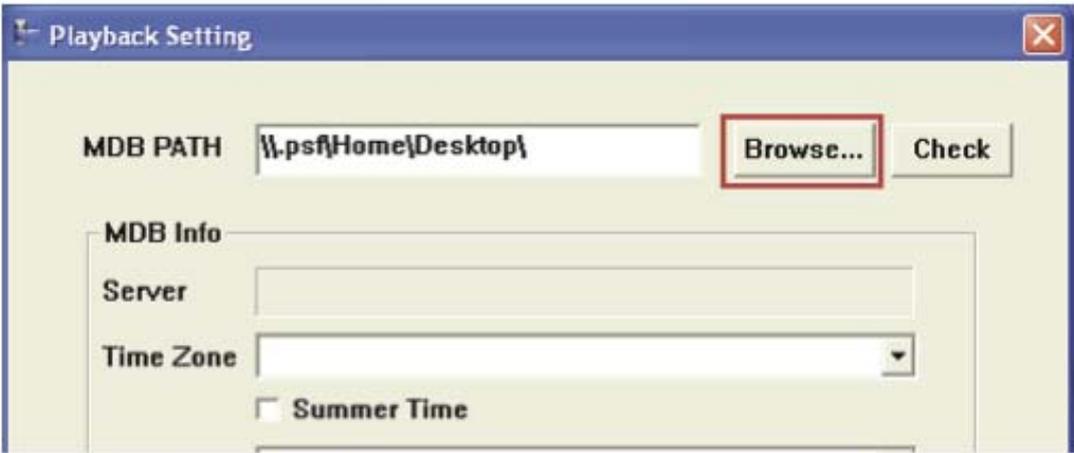
- Progress will be displayed on the UI
- If the backup process gets interrupted, which the process stops at a point of time that is before the "END Time" user defined, such time will be displayed on the UI
- A folder will be automatically created in the USB hard disk with a name format like 0028687831\_20100610151515\_20100605110010\_20100606110010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

**Note:**

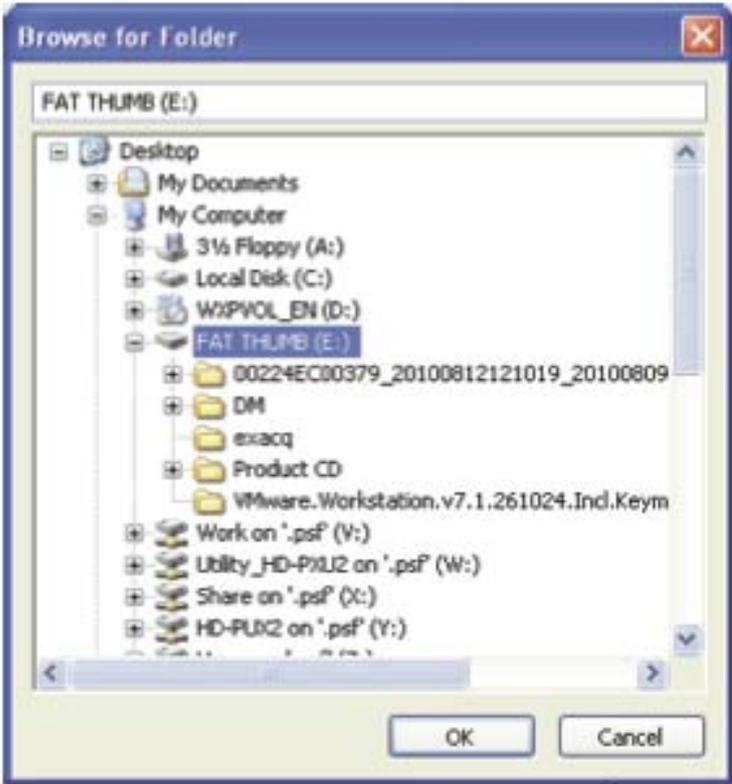
- Please plug in the USB HDD only after the NVR is fully started, or the HDDs will be incorrectly mounted.

**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.



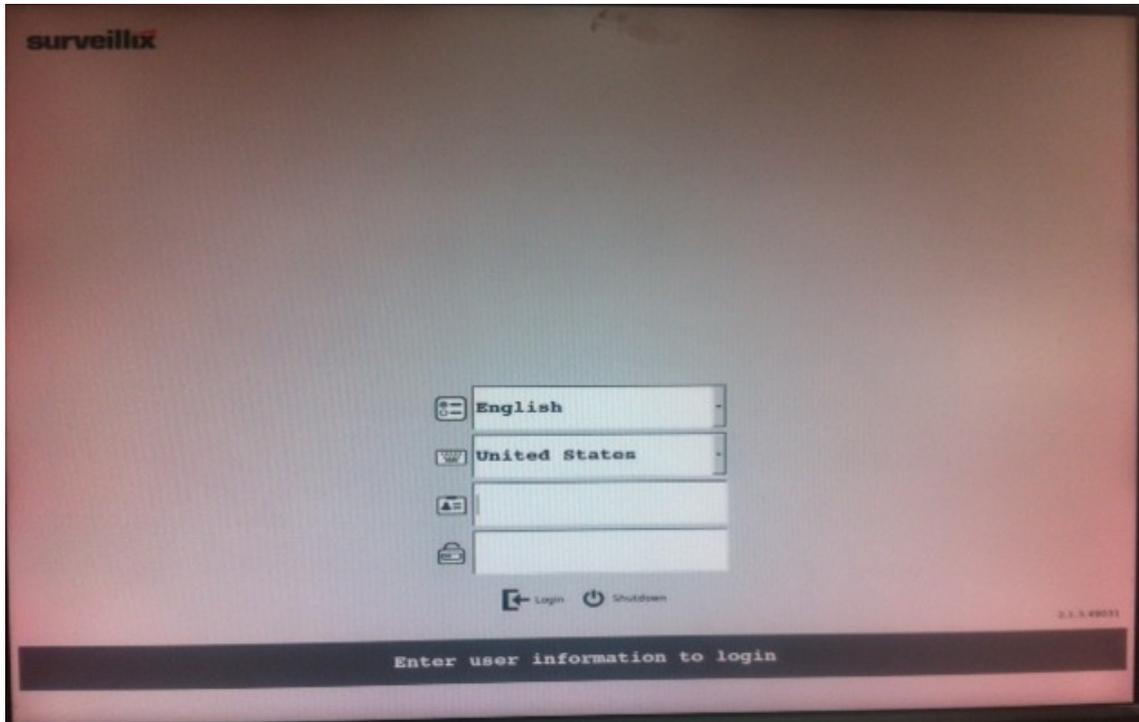
Select the time zone according to your current location.



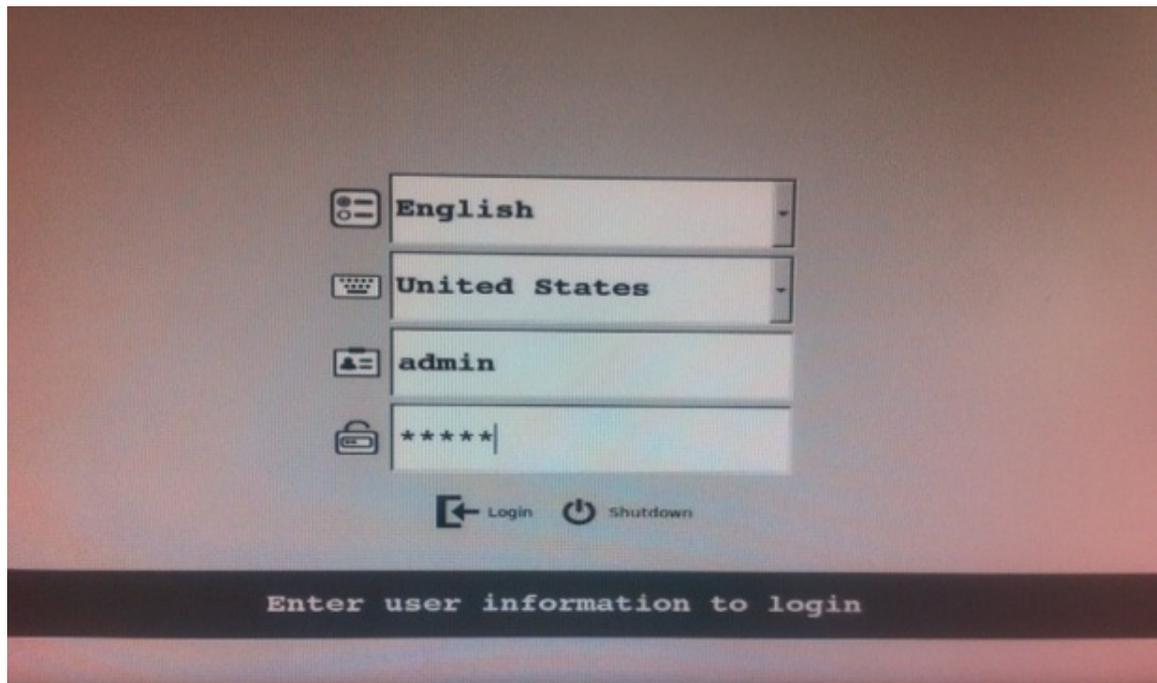
Finally, click "OK" to begin playing. The player should now play the backed up file.

## Live View (VGA output Interface)

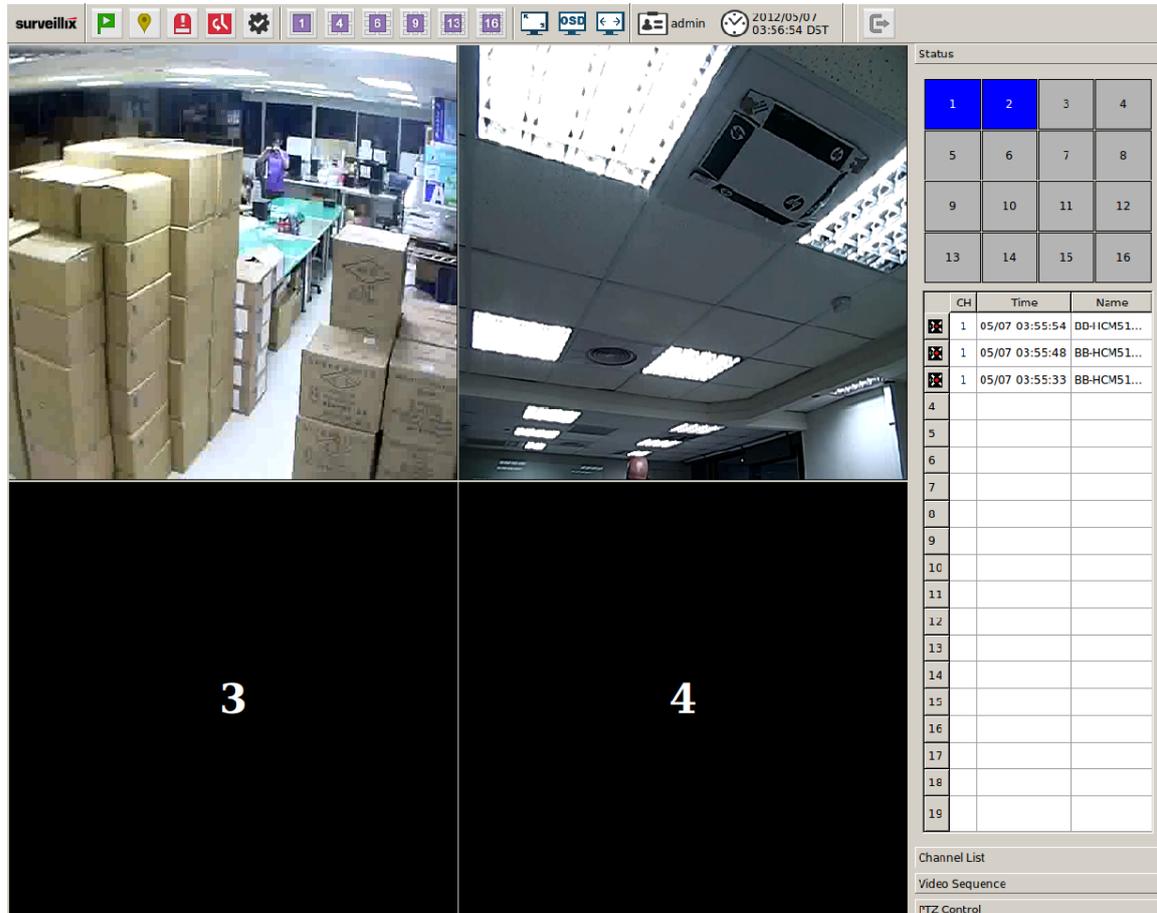
### Live View



The NVR can be operated directly by attaching a USB keyboard and mouse and a monitor with VGA input. Once the NVR is fully started, you should be prompted with the login screen as shown above.



Type in the default username: **admin**, and password: **admin** to log in.



You will see the Live View interface once logged in. And it's essentially divided into three sections:

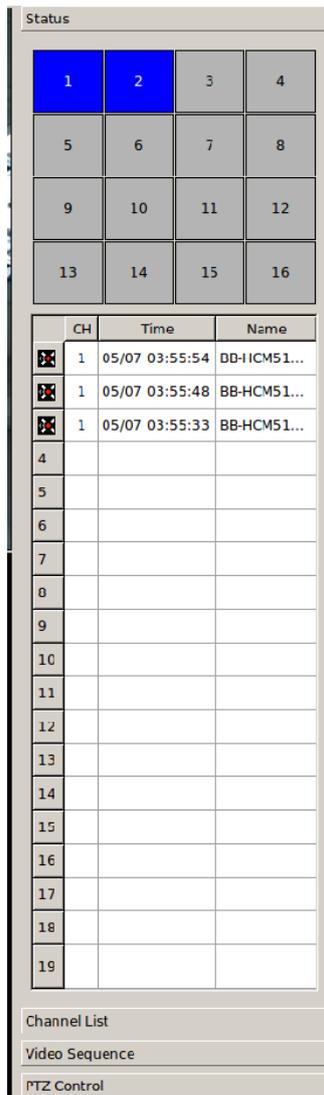
1. Main menus
2. Video area
3. Side menus



The main menu on the top provides functions described below: (from left to right)

1. Playback
2. Local-Map Monitor
3. Live Event Monitor
4. History Event Monitor
5. Configuration
6. Screen layout selections

7. Full screen
8. Display OSD
9. Display video in its original aspect ratio
10. Current logged in user
11. Logout



The side menu provides the following information and functions:

1. Display channel status
2. Live events in list view
3. Cameras added to the NVR in list view
4. Sequence view control
5. PTZ control

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

The channel status is shown in different color:

Green: Recording

Blue: Connected but not recording

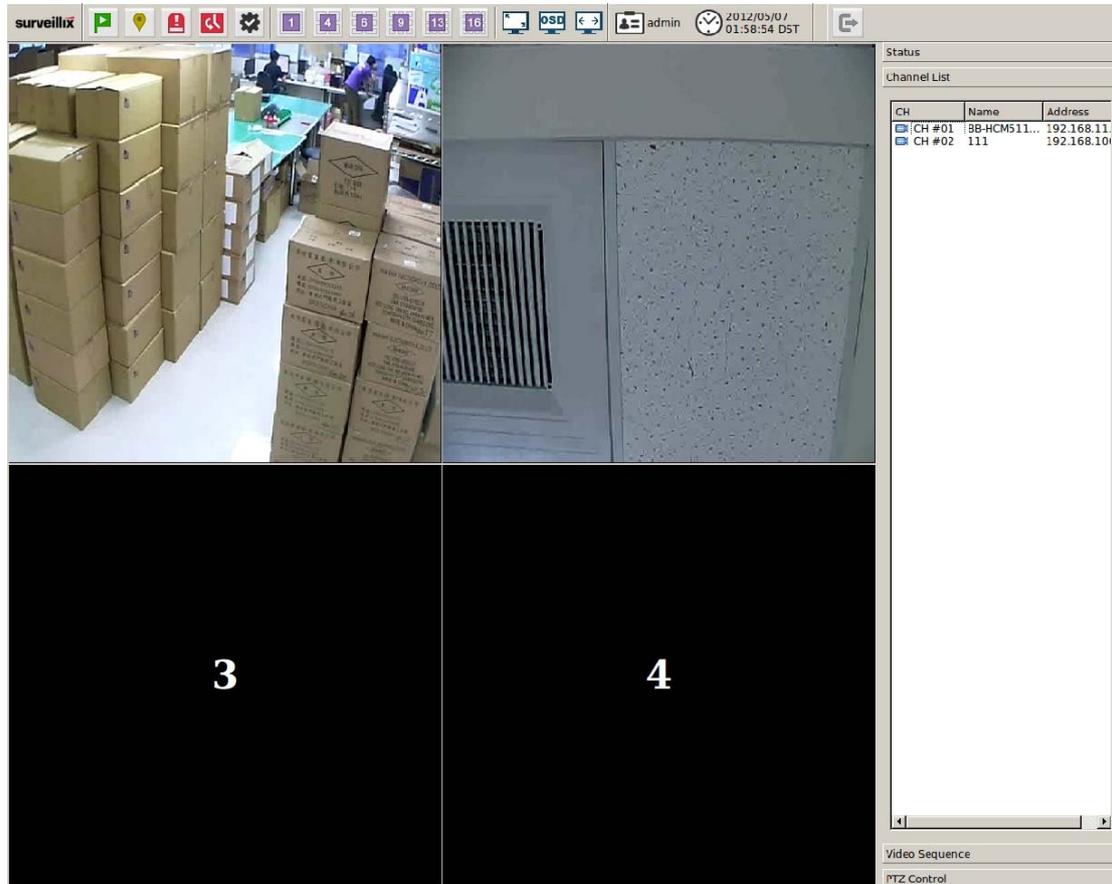
Gray: no camera is configured

White: Disconnected

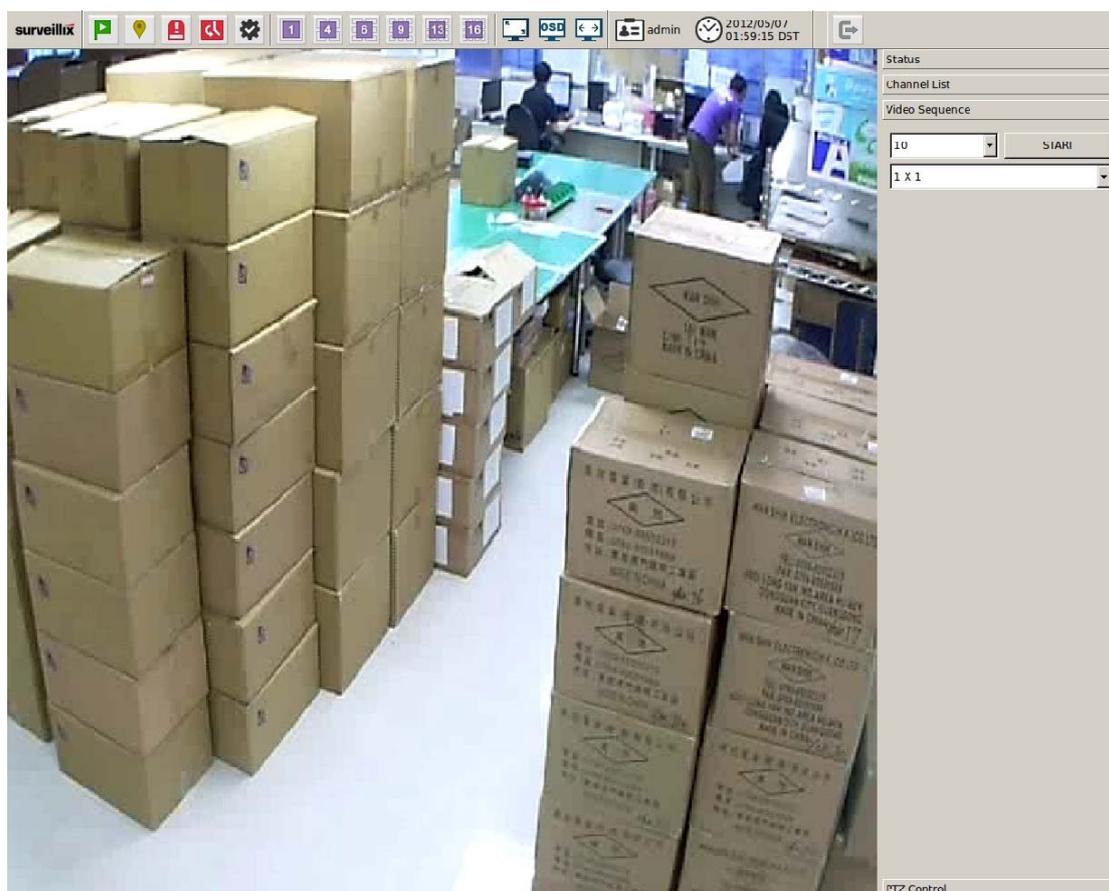
Red: Event triggered and recording

	CH	Time	Name
	1	05/07 03:55:54	DD-HCM51...
	1	05/07 03:55:48	BB-HCM51...
	1	05/07 03:55:33	BB-HCM51...
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			

Live events are listed in the side menu along with the time information.



The "Channel List" lists all cameras that are currently added to the NVR. You can drag one from the list and drop it to any video area to display its video.

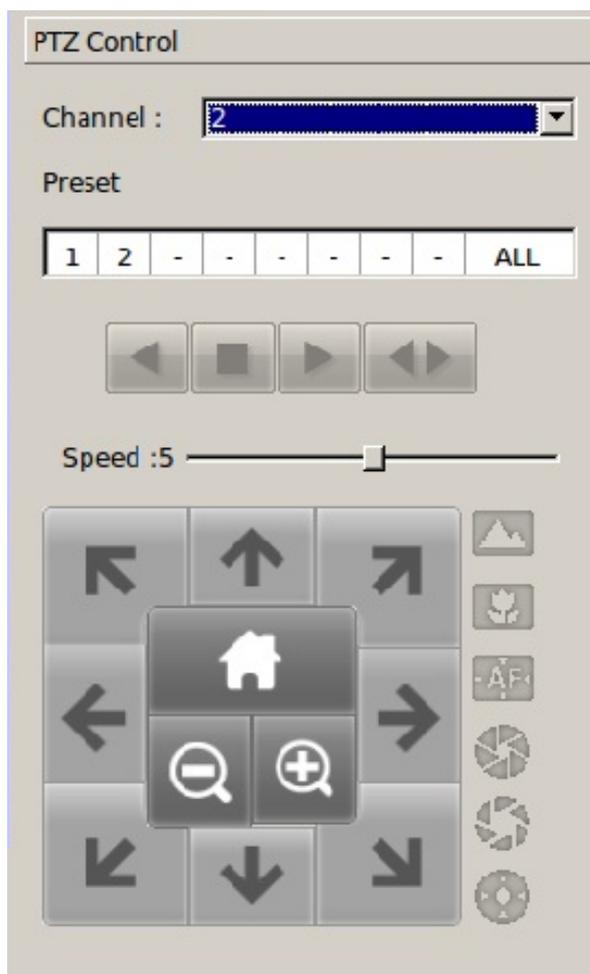


Video Sequence is a function that displays videos of the selected channels (or favorites) and they are switched automatically with definable interval.

The screenshot shows a control panel with the following elements:

- A "Status" label at the top.
- A "Channel List" label below it.
- A "Video Sequence" label below that.
- A dropdown menu showing the number "10".
- A "START" button to the right of the dropdown.
- A second dropdown menu showing "1 X 1" below the first one.

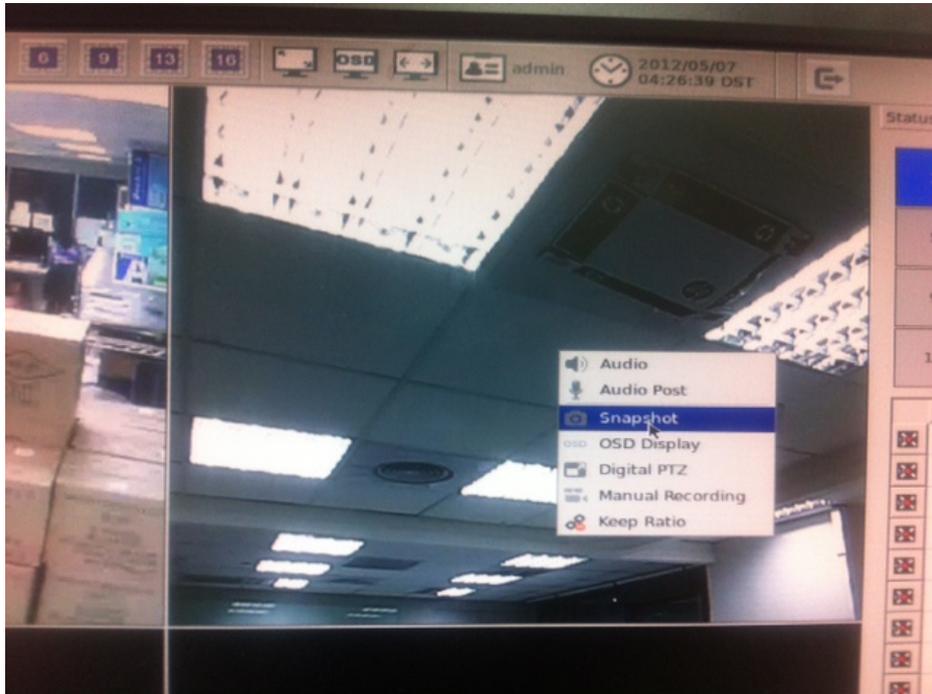
1. Simply choose how many channels you would like to view at once by choosing an option from the drop-down menu.
2. Select a time interval for the sequence viewing
3. Click "Start" to begin



The PTZ Control provides the following functions:

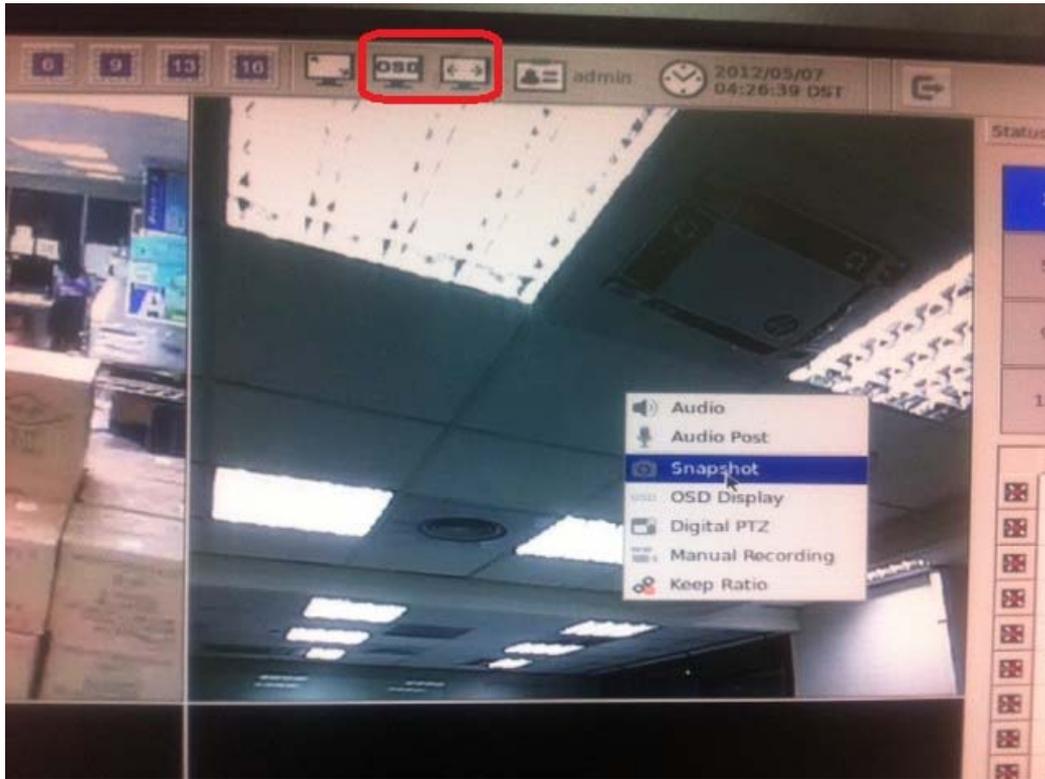
1. List of PTZ-capable cameras currently added to the NVR
2. Preset point selections (You need to add preset points in the configuration page first)
3. Start/stop automatic sequence between preset points
4. Pan left, pan right, stop pan, auto 360-degree pan (from left to right)
5. Adjust PTZ speed
6. PTZ control, move to preset home point, zoom in/out
7. Auto focus, focus far, focus near, auto iris, reduce iris, increase iris (from top down)

## Video Area

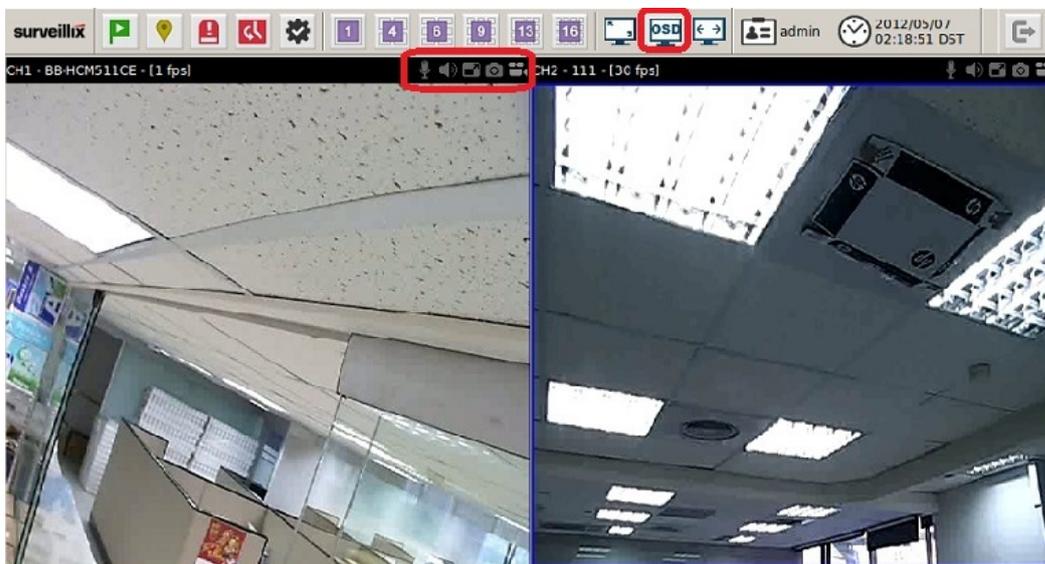


The video area essentially provides viewing purpose for the live video. It also provides certain functions, which you can access quickly that enhance the monitoring experience. Simply right-click anywhere on the video to access these functions:

1. Turn on/off audio (default off)
2. Start/stop transmitting audio (default off)
3. Take a snapshot of the live video
4. Display OSD (default off)
5. Turn on/off digital PTZ (default off)
6. Start/stop manual recording (default off)
7. Display video in its original aspect ratio (video fill up the entire video area by default)



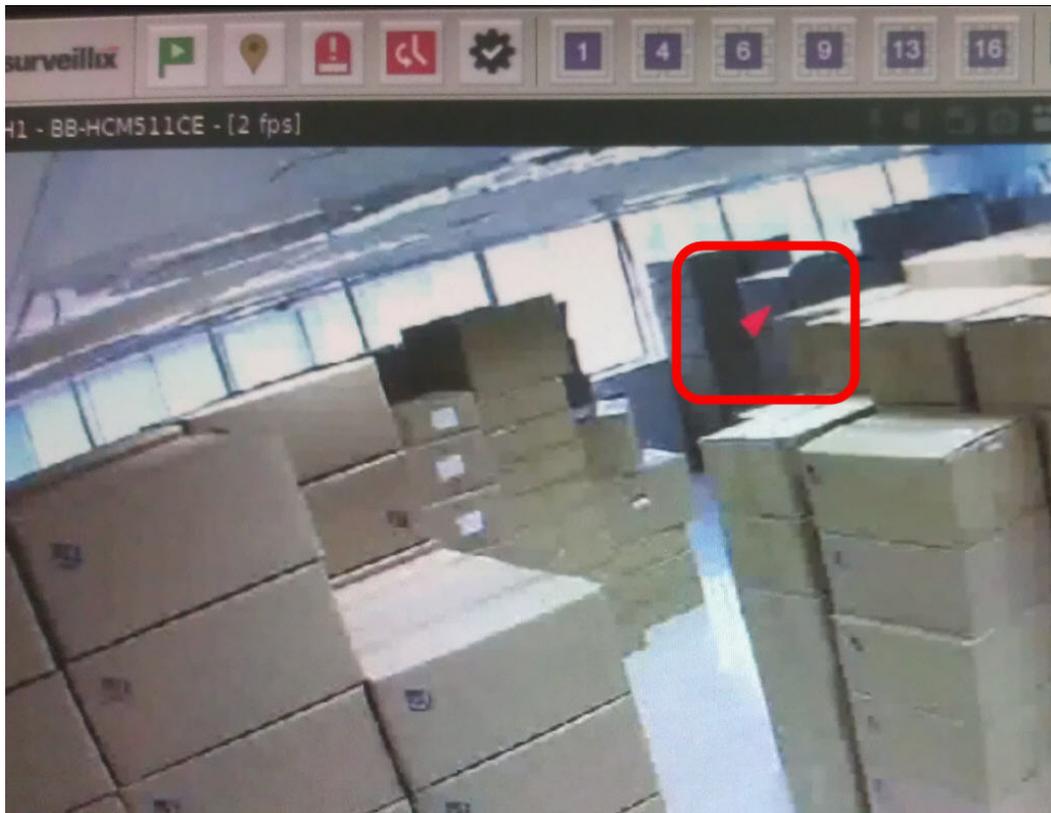
The OSD display and keep ratio can also be turned on/off from the top main menu.



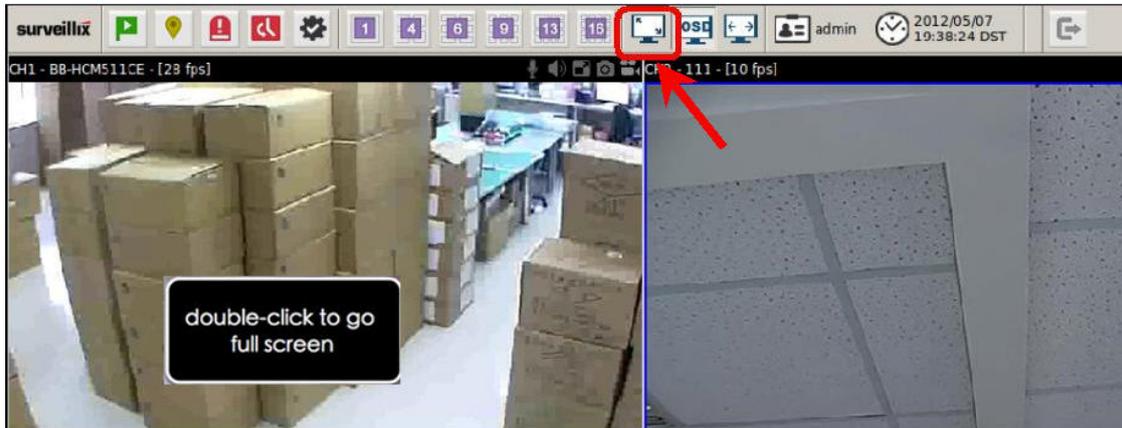
Pressing down the "OSD" button from the top menu not only displays OSD but also displays the functions of those that can be accessed from the right-click menu at the top of the video.



Video window surrounded with blue color means it's currently selected.

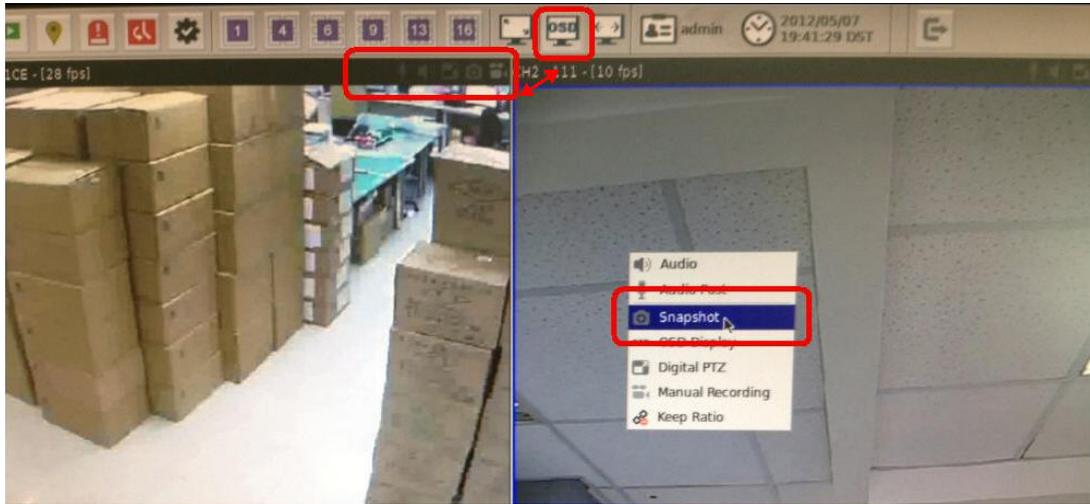


A red arrow head is shown when hovering the mouse over to a particular video area representing it's a PTZ-capable camera.



Full screen view can be enabled from the top main menu bar, or by double-clicking anywhere on the video. To exit full screen view, double-click anywhere on the video again.

## Snapshot

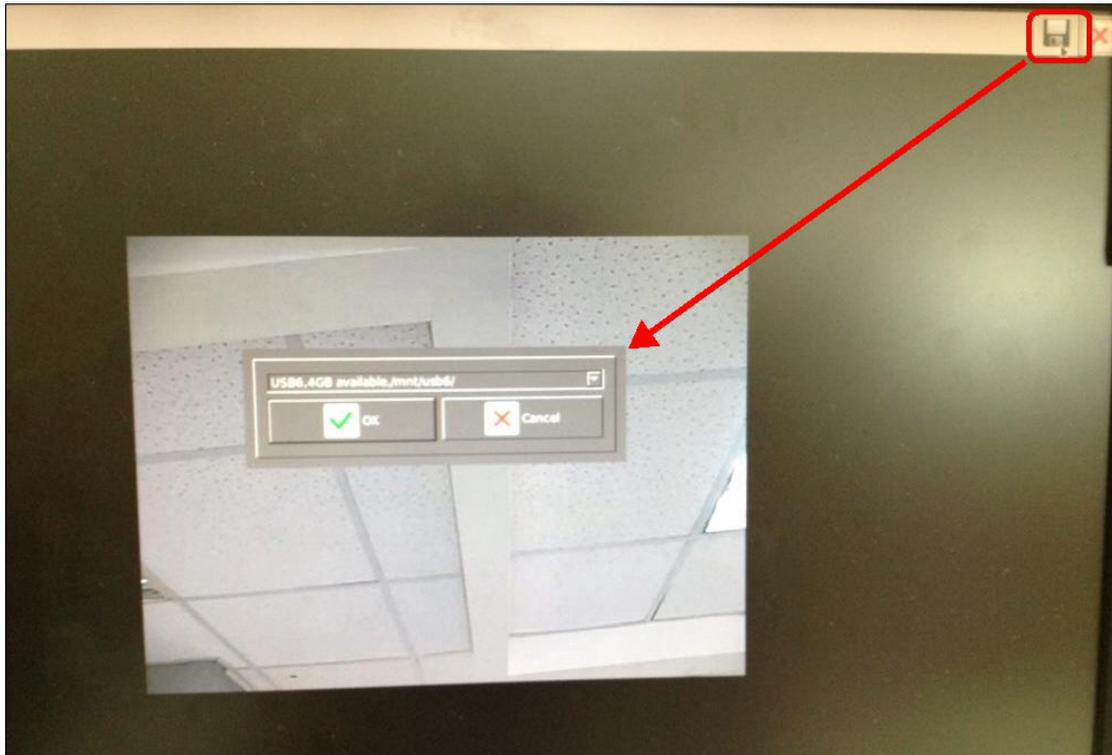


The snapshot function can be accessed from the right-click drop-down menu or the top of the video if OSD display is enabled.

**\*\* Please do connect an USB disk drive formatted in FAT32 in advance before using the snapshot function from the VGA output interface. Please connect the USB disk while the NVR is turned off. The USB disk will not be presented if it's connected while the NVR is on.**

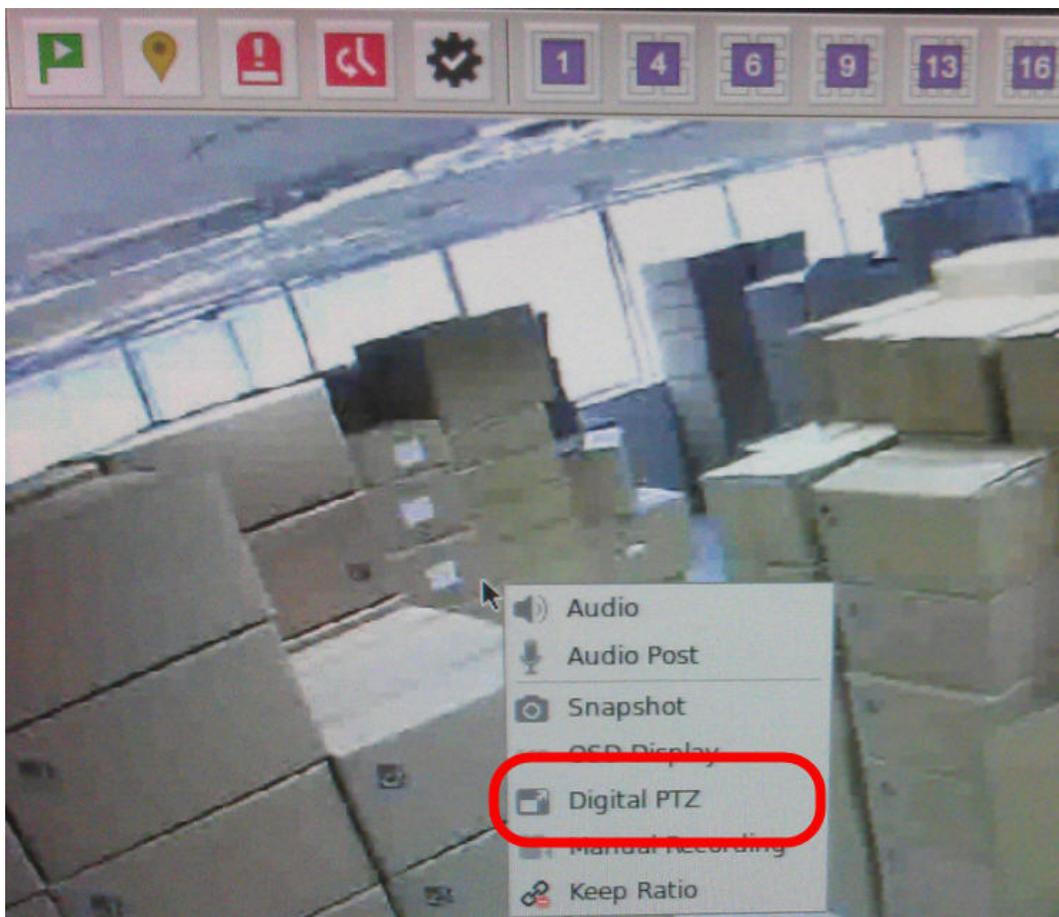


The snapshot of the video will be displayed on a pop-up window.

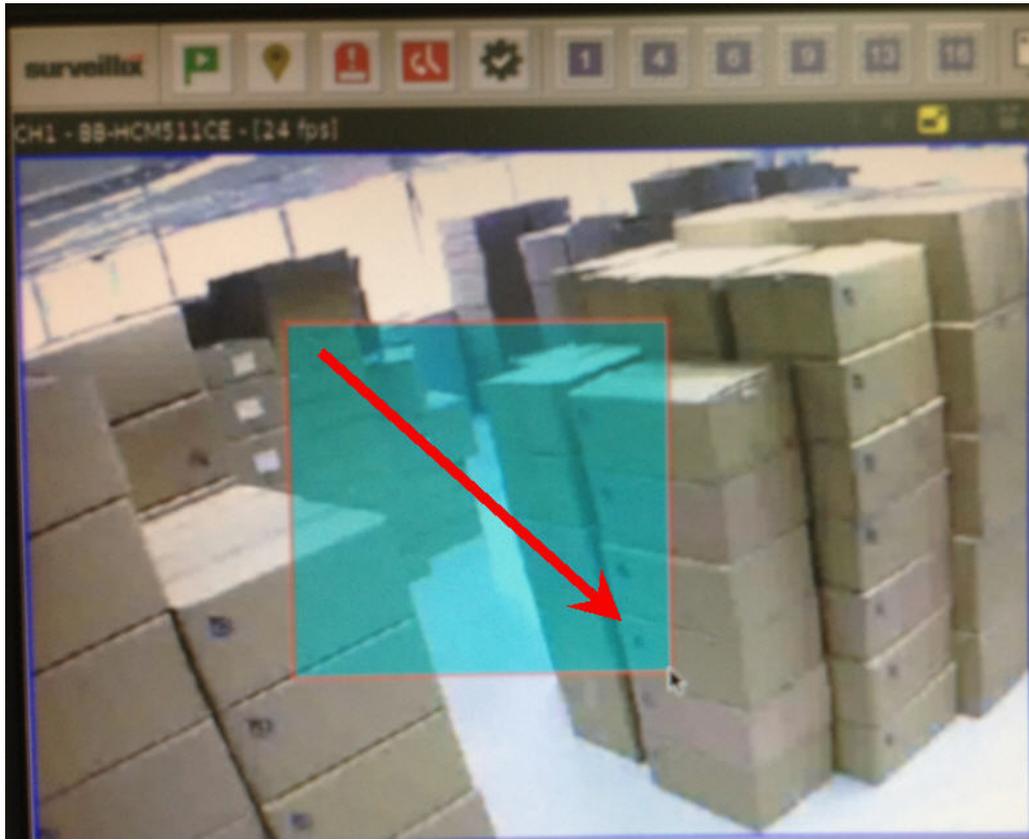


Click the "Save" button, which opens up a new dialog that lets you choose which USB disk to save the snapshot to.

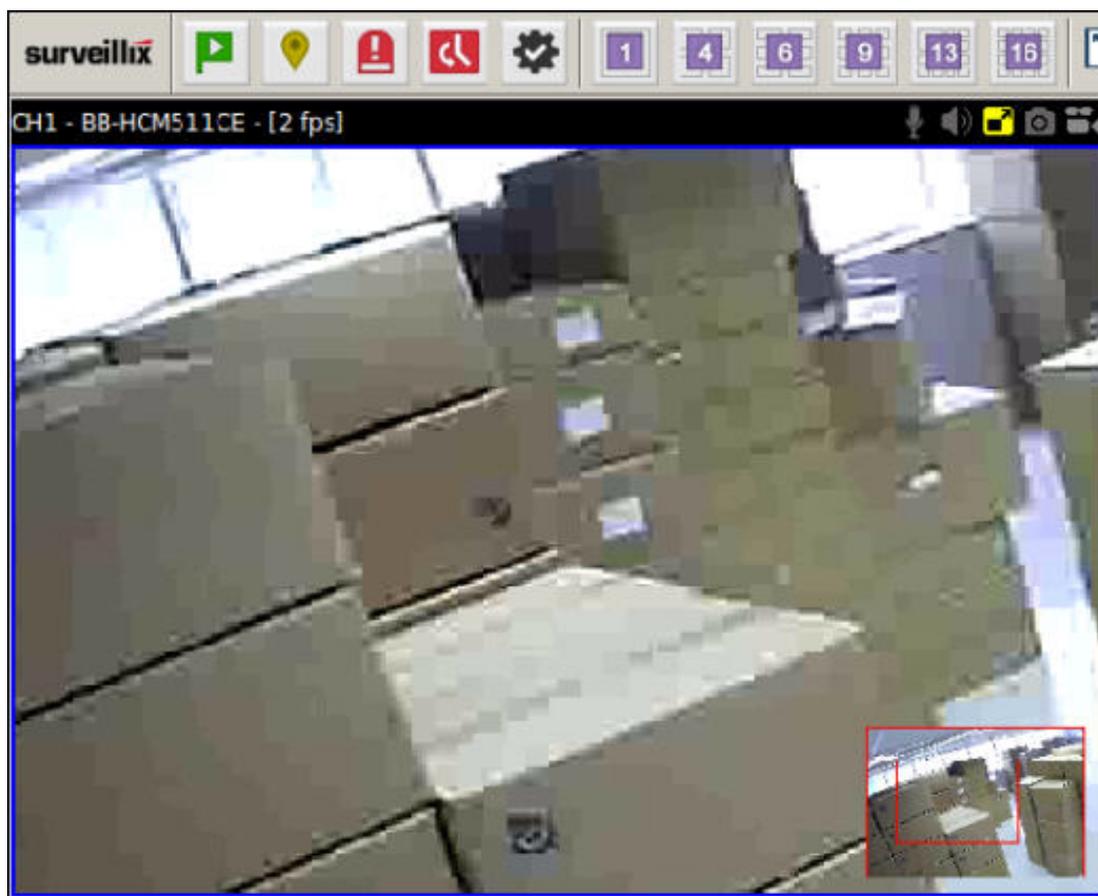
## Digital PTZ



To use digital PTZ, enable the function from the right-click menu, or the top of the video window if OSD is enabled.



Click and drag the mouse diagonally on an area in which you would like to zoom in to.



Once the video is zoomed in, click and drag the video to move within the zoomed area. Use the scroll button on the mouse to zoom in further or zoom out. Right-click on the video to exit the digital PTZ mode.

## Keep Ratio



By default, the video fills up the entire video window. You can change this and display the video in its original aspect ratio by using the "Keep ratio" function from the right-click menu, or the top of the video



You can change this and display the video in its original aspect ratio by using the "Keep ratio" function from the right-click menu, or the top of the video if OSD is enabled. This will make the video of that particular channel to be displayed in its original aspect ratio.



The "Keep Ratio" button on the top main menu allows you to change aspect ratio of all channels at once.

## NVR Configuration (VGA output Interface)

### System Configuration

#### Service

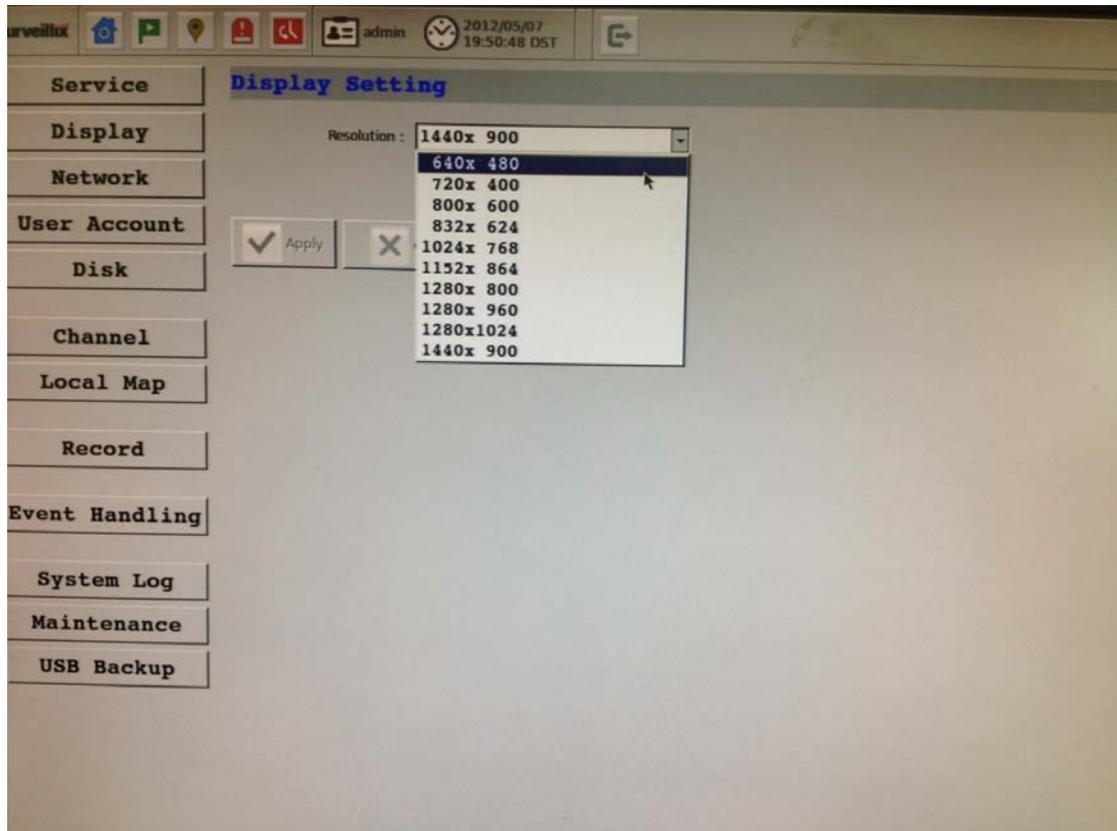
The screenshot shows the 'Service' configuration page in the NVR's web interface. The top status bar displays 'surveillix', 'admin', and the date '2012/05/07 19:50:05 DST'. The left sidebar contains navigation buttons: Service, Display, Network, User Account, Disk, Channel, Local Map, Record, Event Handling, System Log, Maintenance, and USB Backup. The main content area is titled 'Service' and contains three sections:

- Server**: A 'Device Name' text input field.
- Time and Date**: Includes a 'Time Zone' dropdown menu (set to 'GMT-07 (Calgary, Denver, Salt Lake City)'), a 'Summer time' checkbox, a 'Manual' checkbox, and a 'Sync With NTP Server' checkbox. Below these are fields for 'NTP Server' (set to 'ntp.ucsd.edu'), 'Update Interval' (set to '24 hr'), and 'Last sync' (2012/05/07 19:31:26, Status: Success).
- DDNS**: Includes an 'Enable DDNS Service' checkbox, a 'Server' dropdown menu (set to 'Dyndns'), and text input fields for 'Domain Name', 'User Name', and 'Password'. The 'Connection Status' is shown as 'Disconnected', with a 'Check DDNS Status' button below it.

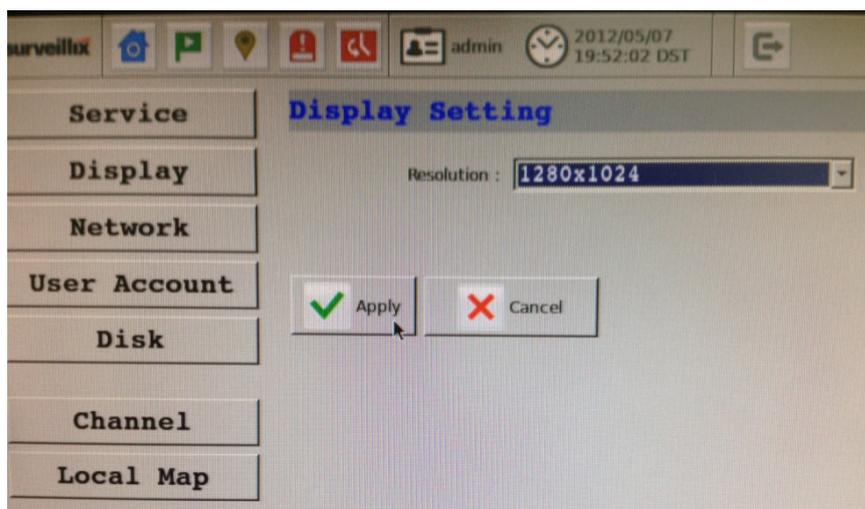
At the bottom right of the configuration area, there are 'Apply' and 'Cancel' buttons.

You will see the "Service" configuration page first when visiting the Configuration page. You are able to set a unique device name, set system time and configure DDNS in this page.

## Display



The "Display" configuration page allows you to choose the most optimized display resolution for the monitor that's used with NVR, as there will be circumstances that the incorrect resolution may be used when the system first boots up.



You will be asked to confirm the new setting. Simply click "Yes" to finish.

## Network

The screenshot shows the 'Network' configuration page in the surveillix interface. The sidebar on the left contains the following menu items: Service, Display, Network (highlighted), User Account, Disk, Channel, Local Map, and Record. The main content area is titled 'Network' and contains the following settings:

- Connection Type: Auto Mode
- IP Address: 192 . 168 . 11 . 45
- Subnet Mask: 255 . 255 . 255 . 0
- Gateway: 192 . 168 . 11 . 1
- DNS 1: 192 . 168 . 101 . 11
- DNS 2: . . . .
- HTTP Port: 80 \* 1 - 65535, 6000 is not allowed
- Streaming Port: 9877
- UPNP Port Forwarding
- External Port: 6000 Test
- DHCP Server

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 the DHCP server. And you can locate the NVR by using the NVR 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**.

*\* 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 at the bottom of this page.*

**Network**

Connection Type : Auto Mode

IP Address : 192 . 168 . 11 . 45

Subnet Mask : 255 . 255 . 255 . 0

Gateway : 192 . 168 . 11 . 1

DNS 1 : 192 . 168 . 101 . 11

DNS 2 : . . . .

HTTP Port : 80 \* 1 ~ 65535. 6000 is not allowed

Streaming Port : 9877

UPnP Port Forwarding

External Port : 6000

DHCP Server

The built-in DHCP Server function is **NOT** always configurable and is greatly dependent to the connection type that is used:

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 if "Static IP", the DHCP server function is configurable and can be turn on/off manually.

## User Account -- User setting

The screenshot shows the 'User Setting' page in the surveillix application. The interface includes a sidebar with navigation options and a main content area. The main content area has a table with the following data:

User Name	Group	Description
1 admin	admin	

Below the table, there are input fields for the following fields:

- User Name :
- Password :
- Confirm Password :
- Company :  (Optional)
- Department :  (Optional)
- Telephone :  (Optional)
- Mobile :  (Optional)
- E-Mail :  (Optional)
- Group :
- Description :  (Optional)

At the bottom of the form, there are buttons for 'Add', 'Remove', 'Apply', and 'Cancel'.

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 "admin" account with password "admin". It's highly recommended to change the password upon your initial login.

The screenshot shows a user creation form with the following fields and buttons:

- User Name :** [Text Field] Only A-z,0-9 and \_@ are allowed
- Password :** [Text Field]
- Confirm Password :** [Text Field]
- Company :** [Text Field] (Optional)
- Department :** [Text Field] (Optional)
- Telephone :** [Text Field] (Optional)
- Mobile :** [Text Field] (Optional)
- E-Mail :** [Text Field] (Optional)
- Group :** [Dropdown Menu] (Optional)
- Description :** [Text Field] (Optional)
- Buttons:** Add (with a red cross icon), Remove, Apply (with a checkmark icon), and Cancel (with an X icon).

Four red boxes with circled numbers highlight key elements: 1. The 'Add' button; 2. The 'User Name', 'Password', and 'Confirm Password' fields; 3. The 'Group' dropdown menu; 4. The 'Apply' button.

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

### User Account -- User group setting

**Live**

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

**Playback**

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

**System Configuration**

System Configuration   
  Channel Configuration   
  Event Configuration  
 Recording Configuration   
  System Options

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

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



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



You can change the group name by typing in a new group name and click the “Change Group Name” button to finish.

**Live**

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

**functions**      **channels**      **check to grant privi...**

**Playback**

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

**System Configuration**

System Configuration   
 Channel Configuration   
 Event Configuration  
 Recording Configuration   
 System Options

Use the check boxes to allow or deny access to certain functions/channels. You can also restrict access on certain system wise configuration pages.

## Disk

The screenshot displays the 'surveillix' interface. On the left is a navigation menu with buttons for Service, Display, Network, User Account, Disk, Channel, Local Map, Record, Event Handling, System Log, Maintenance, and USB Backup. The main content area is divided into two sections:

**Disk Status**

Disk ID	Status	Capacity	Remaining Disk Space	Remaining	Online Time	Recording Period	Est. Remaining Time
1	Normal	4 GB	4 GB	99%	2012/05/07 19:29:50	--	--

**Hard Disk Setting**

Internal | E-SATA

Raid ID	Disk ID	Type	Capacity	Status

Disk Action:

Go to the Internal page and select a desired Disk action from the drop-down menu.

Once you install a new hard disk to the recorder, it will be listed in this page and shown status "offline. 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.

*\*This page will list the Internal disks (or RAID volumes), and the E-SATA disk only. The HDD will be formatted in EXT3 file system.*

*\*The USB HDDs will only be listed in the "USB Backup" page. The USB HDDs have to be formatted in advance in FAT16/FAT32 or EXT3 file system. (FAT32 is recommended)*

*\* The internal disks that are formatted in EXT3 or FAT32 elsewhere will be listed in this page and shown as "Online" after they are installed to the NVR. It's highly recommended that it's formatted by the NVR, which will be formatted to EXT3 file system to ensure best performance. FAT32 can be used but will result in a performance slowdown.*

*\* HDDs formatted in file systems other than EXT2/3, or FAT32 will not be listed, and therefore cannot be used.*

The screenshot displays the surveillanceix web interface. At the top, the status bar shows the user 'admin', the date '2012/05/08', and the time '02:47:56 DST'. A sidebar on the left contains navigation buttons for Service, Display, Network, User Account, Disk, Channel, Local Map, Record, Event Handling, System Log, Maintenance, and USB Backup. The main content area is divided into two sections: 'Disk Status' and 'Hard Disk Setting'.

**Disk Status**

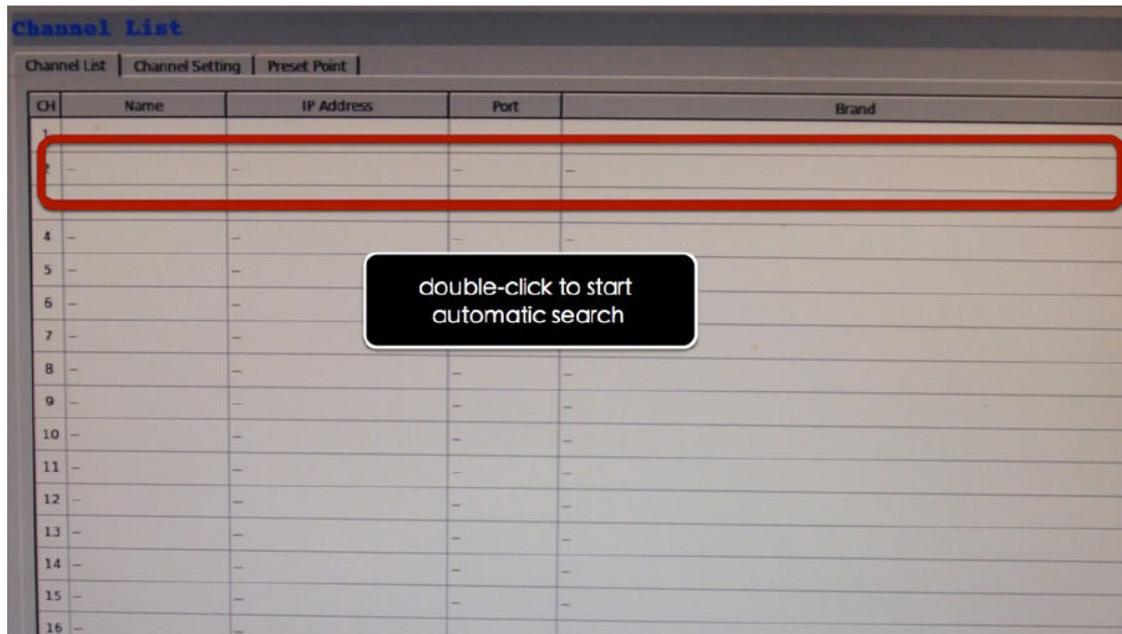
Disk ID	Status	Capacity	Remaining Disk Space	Remaining	Online Time	Recording Period	Est. Remaining Time
1	USB 6	Normal	4 GB	4 GB	99%	2012/05/07 19:29:50	--

**Hard Disk Setting**

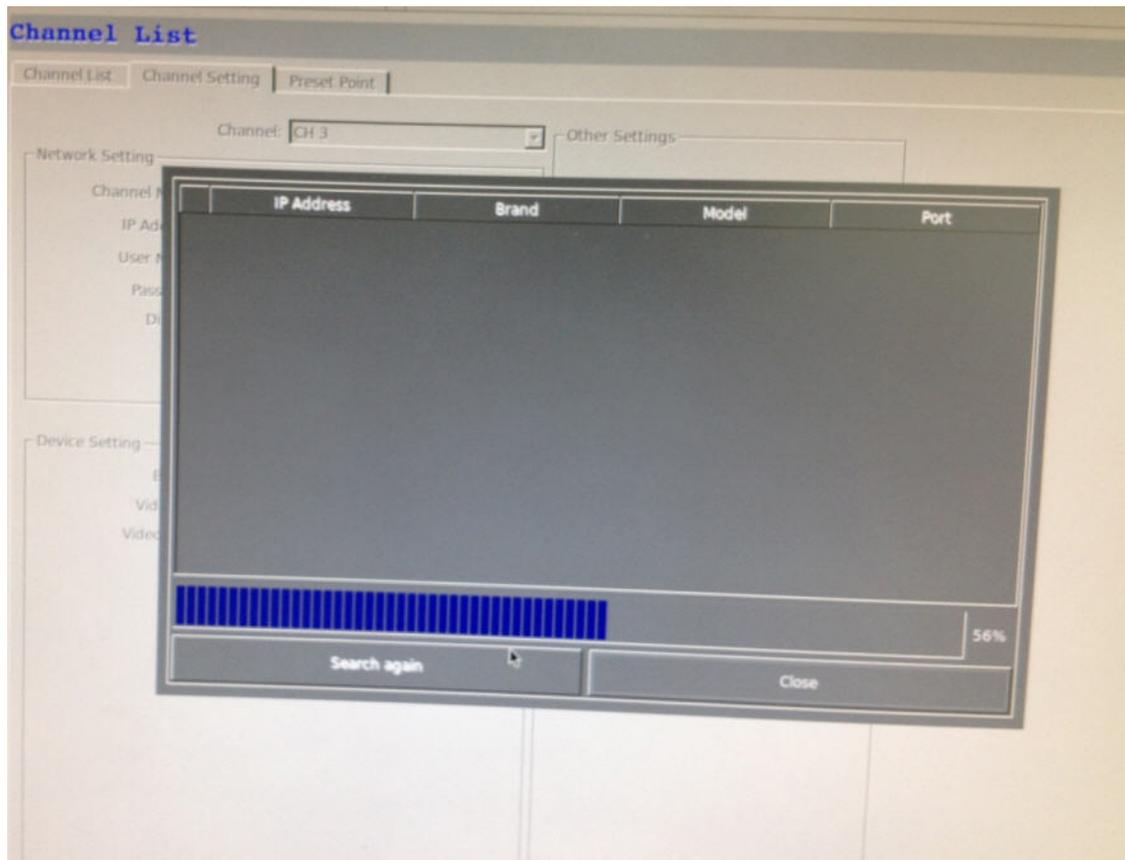
Internal | E-SATA

Disk ID	Type	Capacity	Status
---------	------	----------	--------

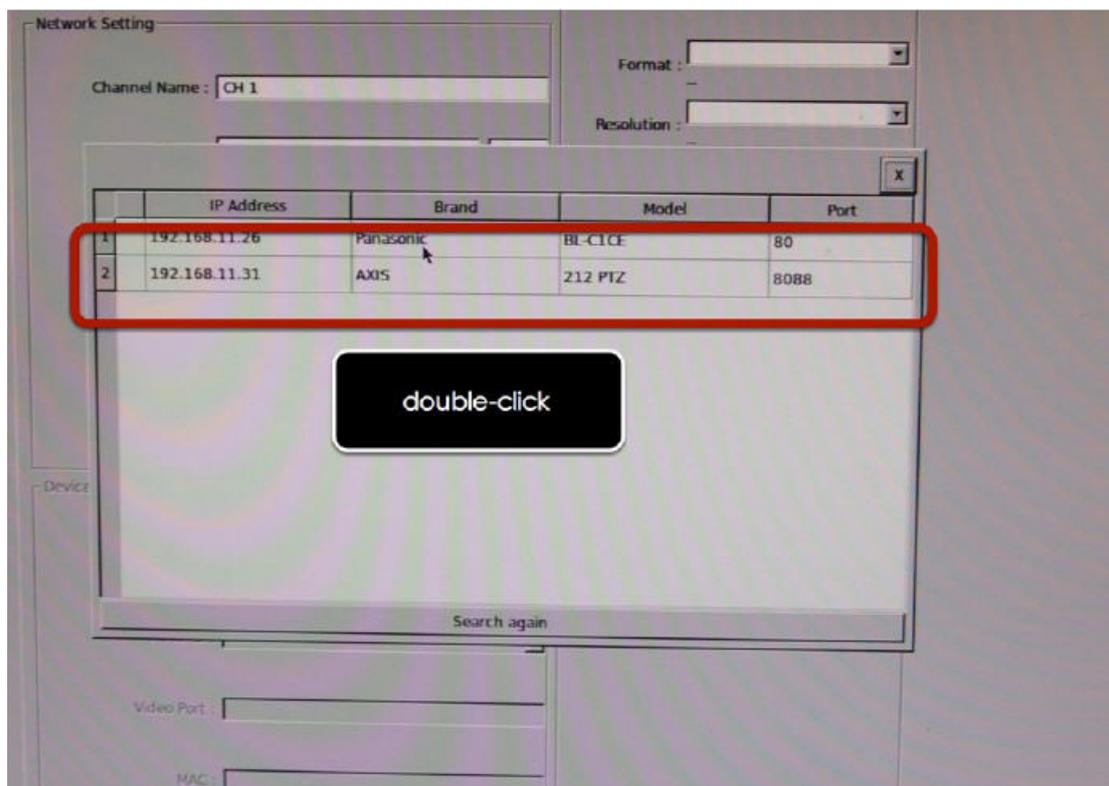
## Channel Configurations -- Add a camera (Automatic Search)



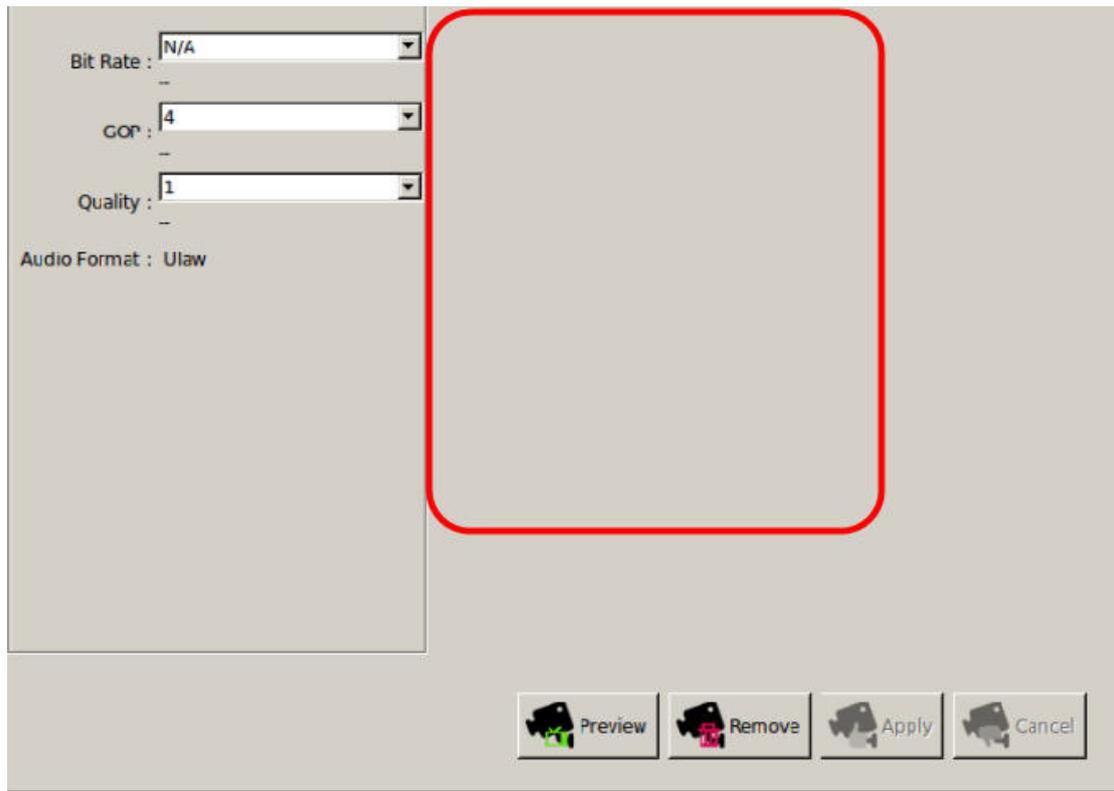
The NVR provides two options for adding a new camera. Users have the option to let the recorder automatically find the cameras or it is possible to enter camera's information and add it manually. You will be greeted with the "Channel List" page when you first enter the "Channel" configuration page. Simply double-click on any channel in the list to start automatic search and add camera to that channel.



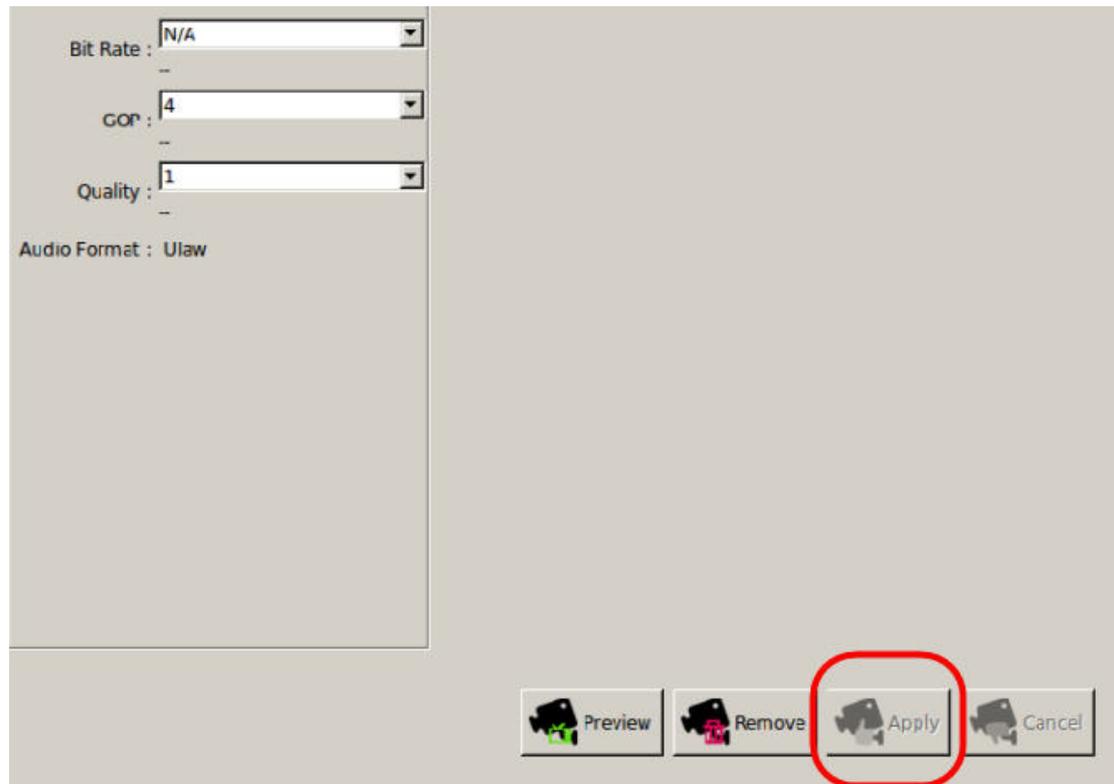
The progress will be displayed, and you will be switched to the "Channel setting" page for more configurations.



Double-click on one from the search result to add it and for more detail configurations

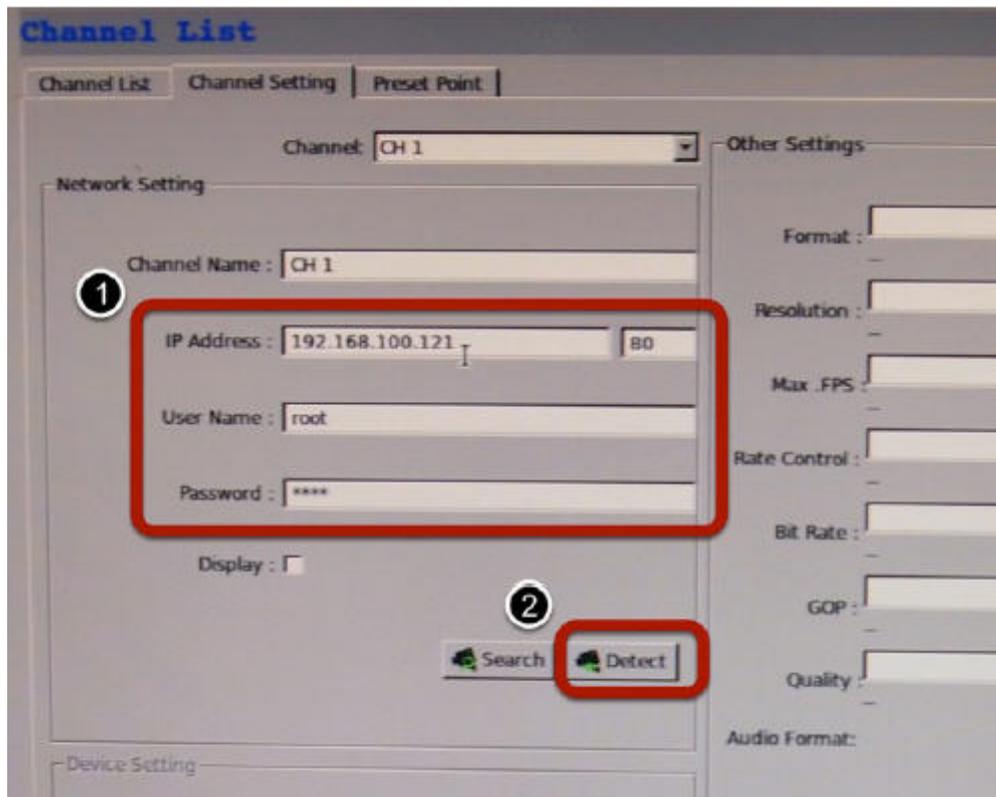


The camera's current settings will be displayed on the right and you can adjust settings such as "Format", "Resolution" or "FPS" before adding it to the NVR.

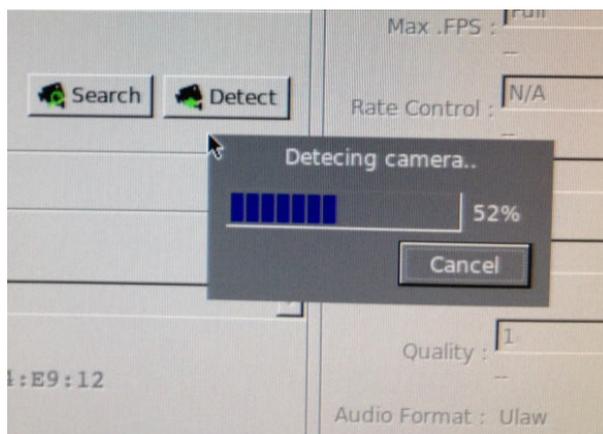


Click "Apply" to finish and save the settings.

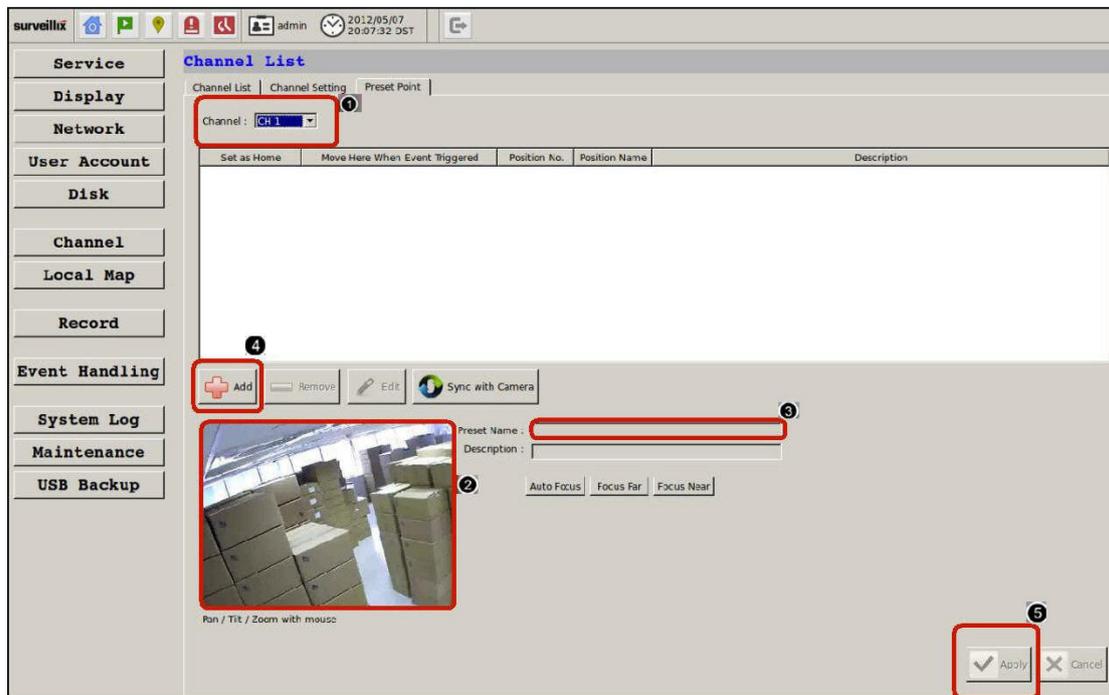
## Channel Configurations -- Add a camera (Add manually)



To add a camera manually, go directly to the "Channel Setting" page, and enter the camera's IP address, HTTP port, username and password. Click "Detect" to retrieve camera's settings.



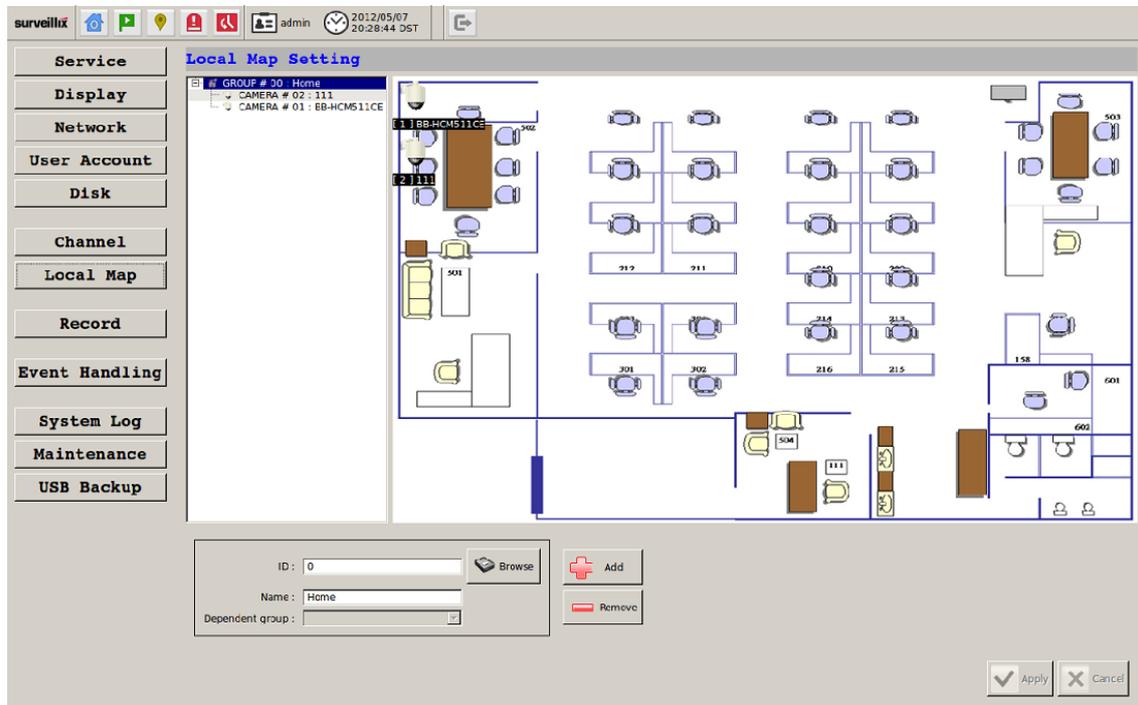
The progress will be displayed. Once it's successfully detected, follow the procedures described in the previous section to finish configuring and adding camera to the NVR.



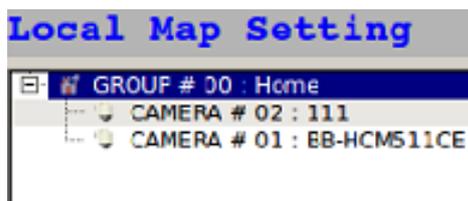
You can create up to 8 preset points for each channel if it's a PTZ-capable camera. To add a preset point:

1. Select a channel from the "Channel" list and its video will be displayed at the lower-left hand corner.
2. Click on the video to change its pointing direction.
3. Assign a name to this preset position.
4. Click "Add" to add it.
5. Click "Apply" to save the settings.

## Local-Map

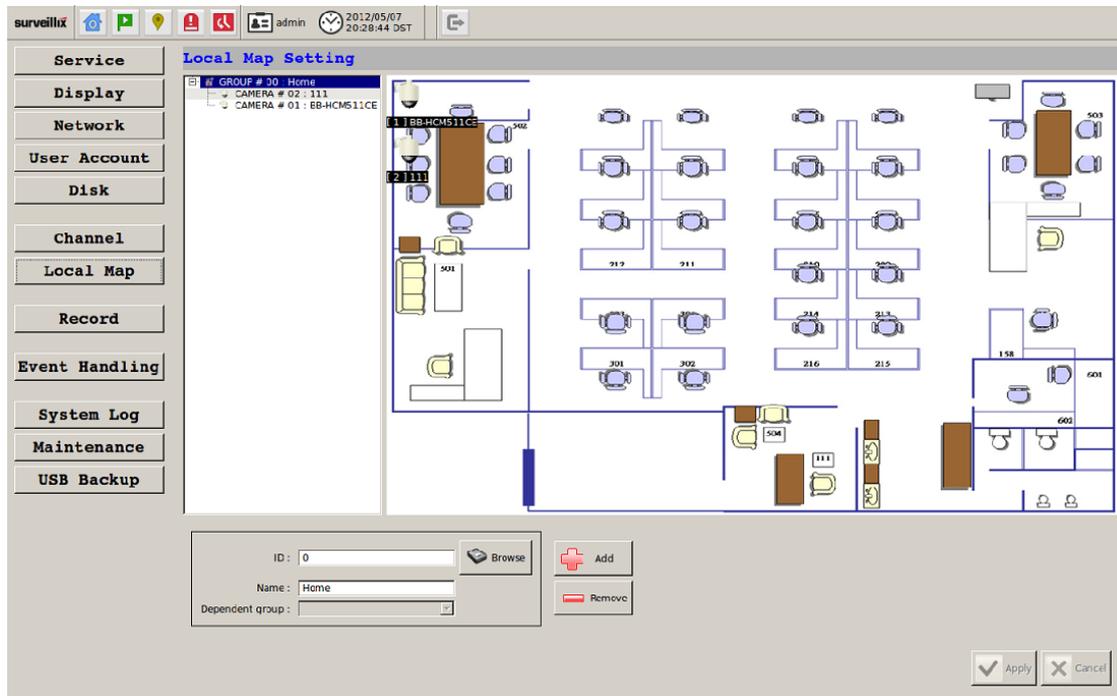


Local-Map monitor is a function that alerts users whenever there is an event triggered (e.g. motion detected) from a camera with a geographical perspective. With this function, users can quickly identify which camera has detected an unusual event and where this event is happening. This function works 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.



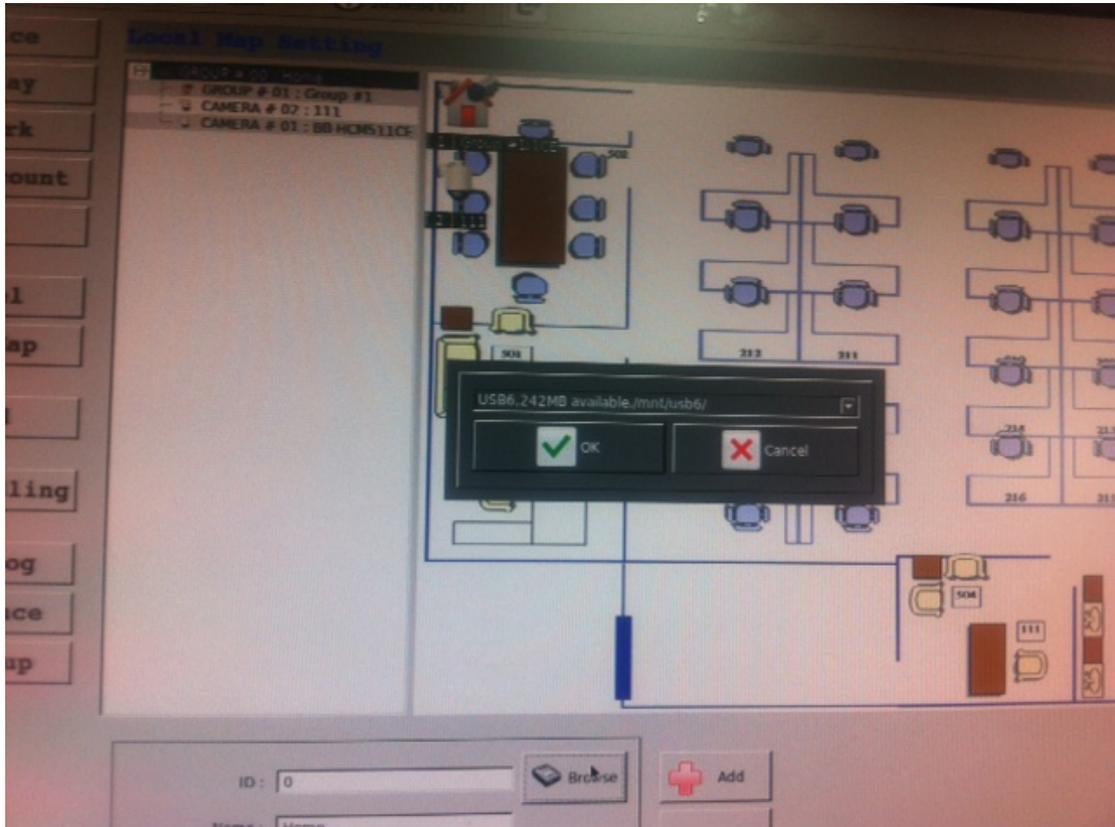
By default, all cameras are placed in the "Home" Local-map group.

## Add new local-map

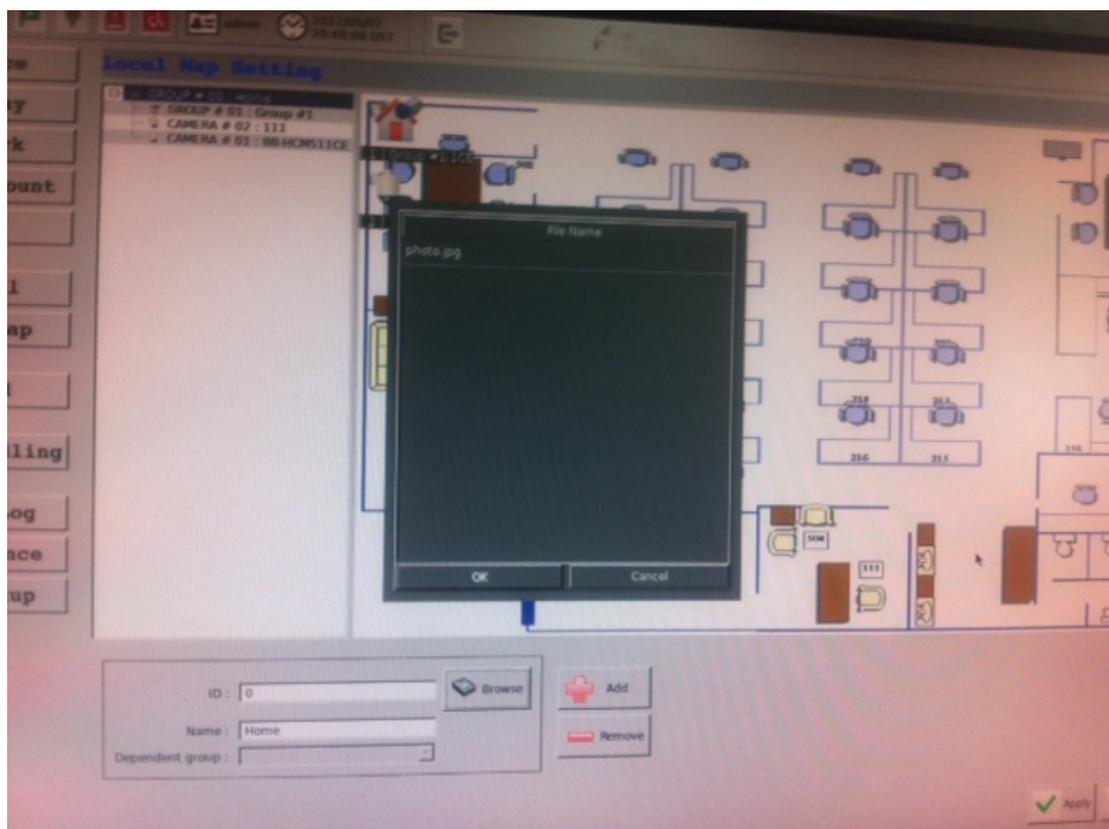


You are able to create unlimited number of "sub-groups" within the Home group, or a sub-group. To do so, select a group first from the list and click "Add". It will add a new sub-group within the group you selected.

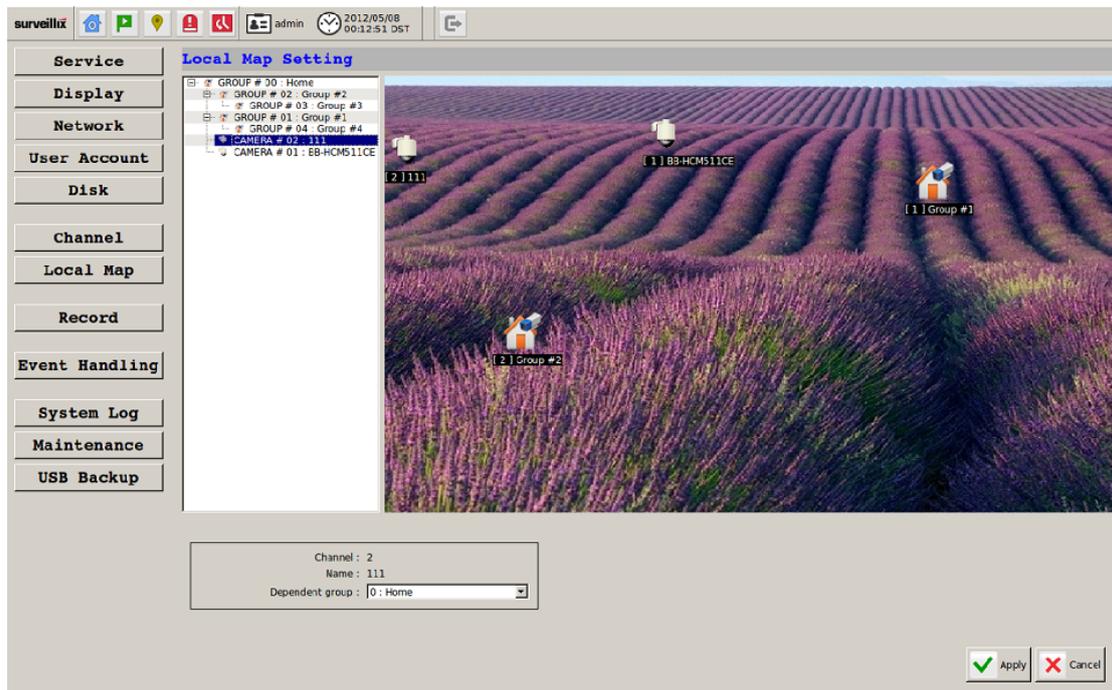
## Change Local-map Image



To change the map image, place your own image on a USB disk and plug it into one of the USB ports on the NVR. Click "Browse" button and select the USB disk when prompted.



Locate the image file (.jpg) and click "Open" to finish.

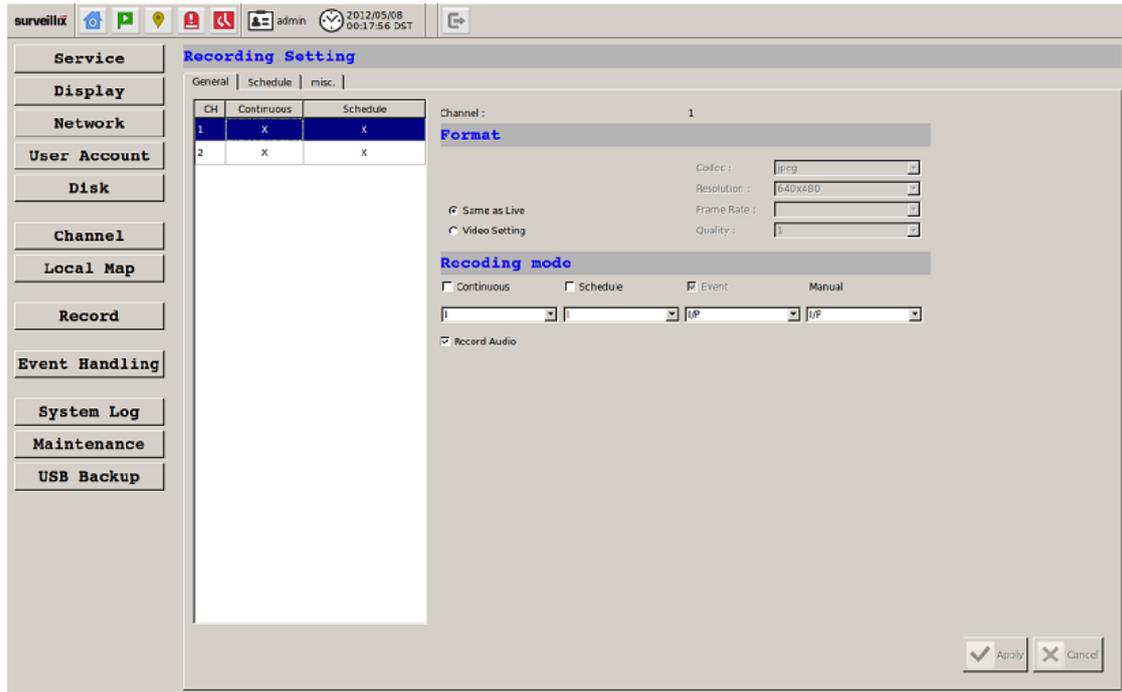


Above is an example once the background image is replaced and multiple Local-map groups are created.

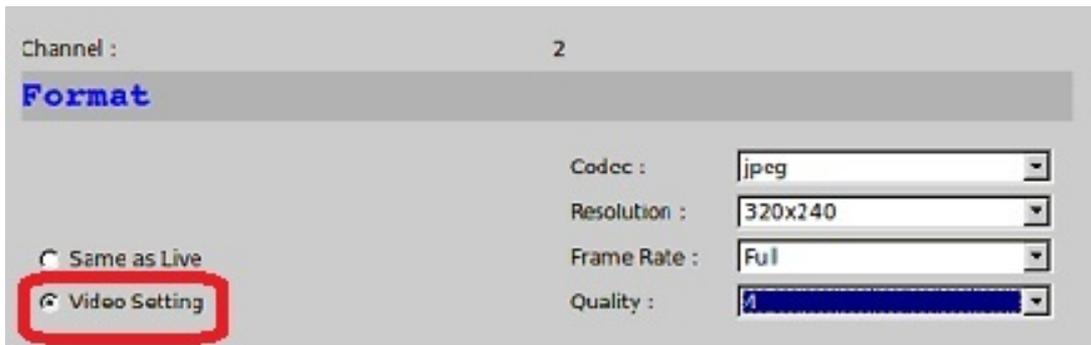
You can quickly re-arrange the groups/cameras by dragging one from the list and drop it to a new group.



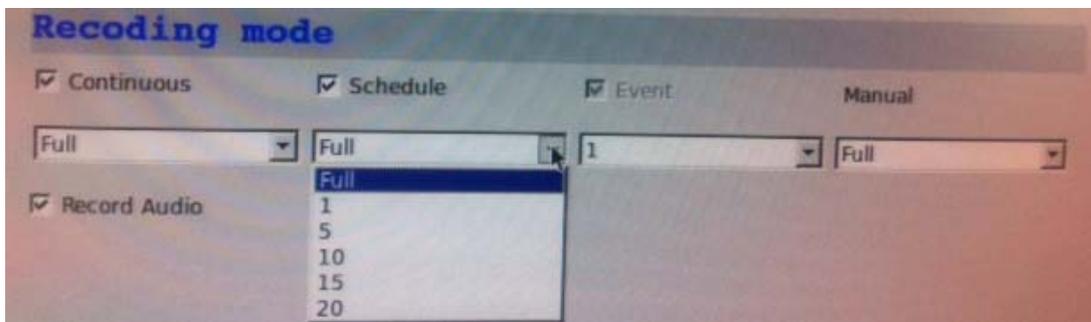
Or you can move a camera or a sub-group to a new one by using the "Dependent group" option at the bottom.



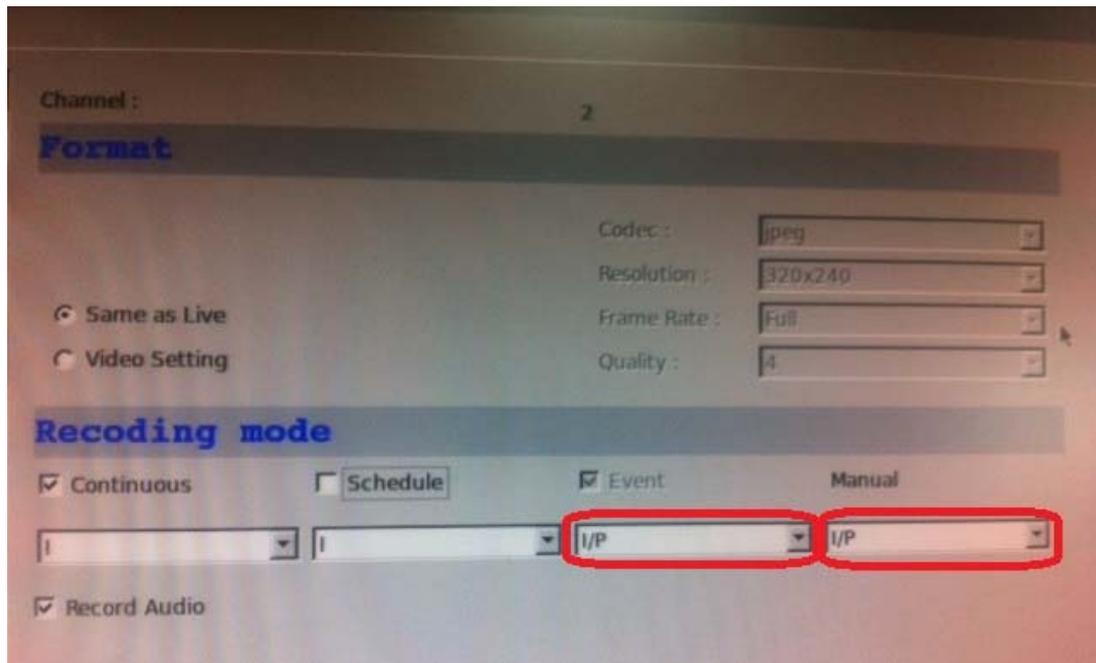
The "recording configurations" gives users the overall control of how and when a recording is performed and the quality of different types of recordings that will be performed on each channel. It can help the NVR to operate with sufficient system resource by performing recording only when it's necessary with adjustable recording frame rate. The NVR supports displaying live video and recording with different video quality settings or format if camera supports outputting multiple video streams.



You can tell that you are configuring a multi-stream capable camera if the "Video setting" option is available.

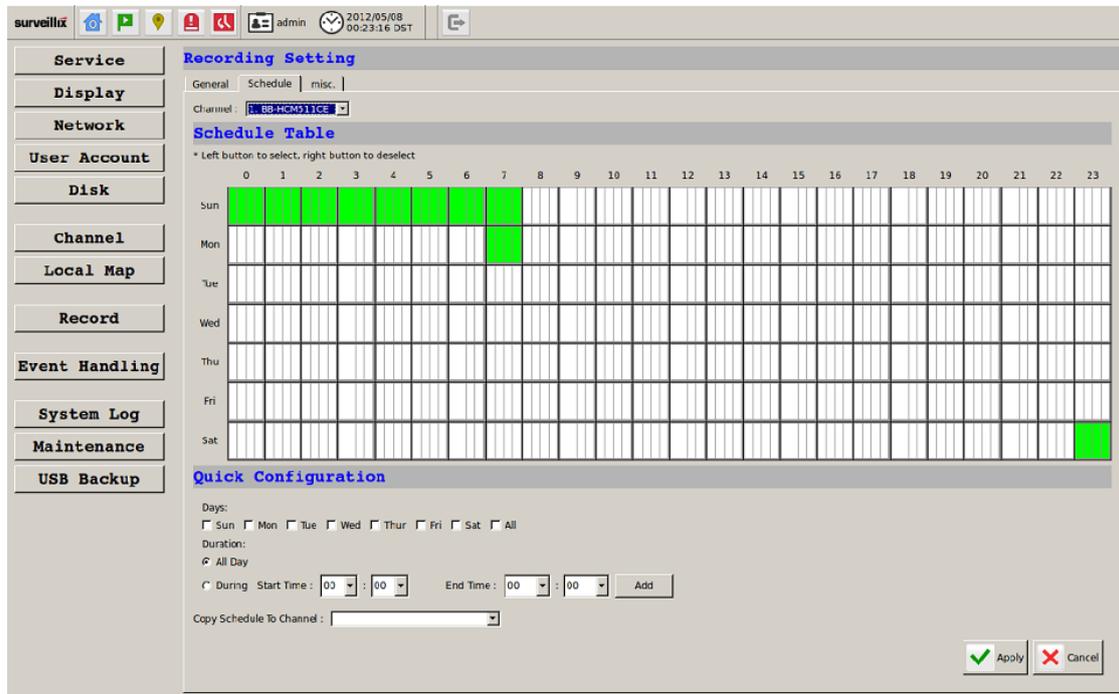


You can further configure the recording frame rate for different types of recording, and choose whether to recording audio or not.

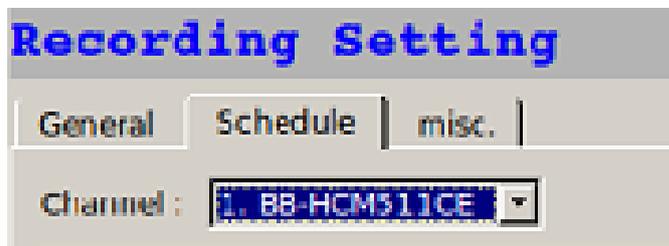


You will be given with options to record i frame only or i+p frames if the recording format is MPEG4 or H.264.

## Schedule Recording



In the "Schedule" page, you are able to configure the NVR to recording during a particular time frame for each channel.



Start by selecting a channel for configuration from the upper-right hand corner.

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Sun	█	█	█	█	█	█	█	█																
Mon								█																
Tue																								
Wed																								
Thu																								
Fri																								
Sat																								█

Use the schedule table to define recording time frame. Each cell box represents 15 minutes. You can click one to select or click and hold down the mouse left button and drag horizontally to select consecutive hours of a particular day, or drag vertically to select a particular hour for multiple days.

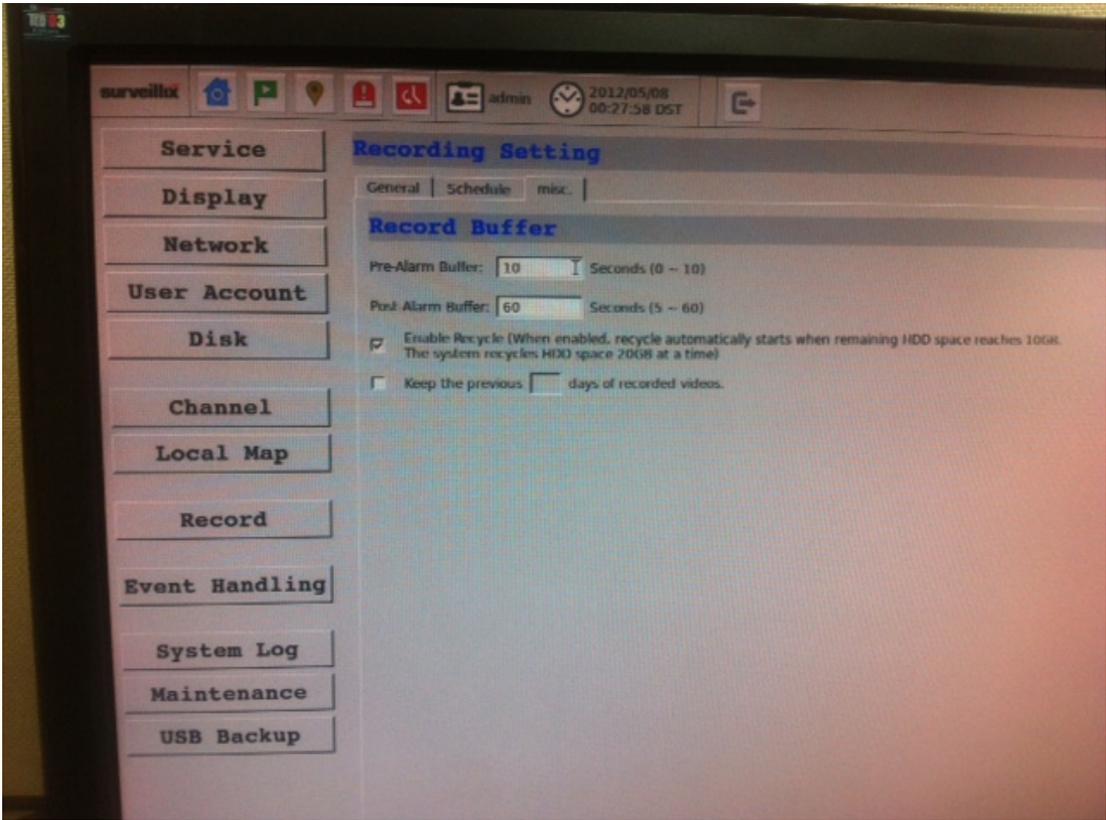
The screenshot displays a software interface with a schedule table and a "Quick Configuration" dialog box. The schedule table shows a recording period from approximately 18:00 on Wednesday to 00:00 on Saturday. The "Quick Configuration" dialog box is highlighted with a red border and contains the following options:

- Days:  Sun  Mon  Tue  Wed  Thur  Fri  Sat  All
- Duration:  All Day
- During Start Time: 00 : 00 End Time: 00 : 00 Add
- Copy Schedule To Channel: [dropdown menu]

Buttons for "Apply" and "Cancel" are visible at the bottom right of the dialog box.

You can also use the options in the "Quick Configuration" section to quickly define the recording time frame without using the schedule table.

### Record Buffer



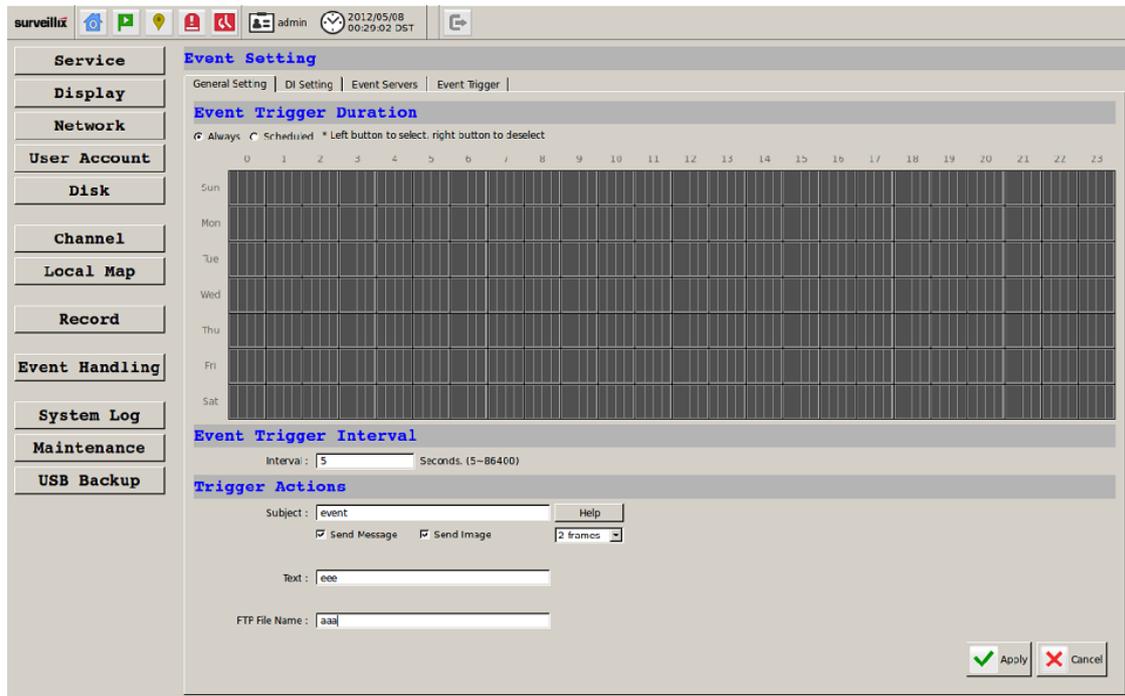
The record buffer allows you to set the NVR to start recording with a certain period of time before and after an event trigger.

## Event Handling

The screenshot displays the 'Event Setting' configuration page in the surveillix application. The left sidebar contains a menu with 'Event Handling' highlighted. The main panel is divided into several sections: 'Event Trigger Duration' with 'Always' selected, a calendar grid for the week of May 6-12, 2012, 'Event Trigger Interval' set to 5 seconds, and 'Trigger Actions' with 'event' as the subject, 'Send Message' and 'Send Image' checked, '2 frames' selected, and 'Text' set to 'eee'. The 'FTP File Name' is 'aaa'. 'Apply' and 'Cancel' buttons are at the bottom right.

The “Event Handling” 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. 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.

## General Setting



Start the configuration by defining the general settings:

### Define when an event will be triggered

- Choose "Always" or "Scheduled" under "Event Trigger Duration"

The screenshot displays the 'Event Setting' configuration page in the surveillix application. The interface is divided into a left sidebar and a main content area. The sidebar contains navigation buttons for various system settings. The main content area is titled 'Event Setting' and includes several sub-sections:

- Event Trigger Duration:** A 7x24 grid where rows represent days of the week (Sun to Sat) and columns represent hours (0 to 23). Green cells indicate selected time slots. The 'Scheduled' option is selected.
- Event Trigger Interval:** A text input field showing 'Interval: 5 Seconds. (5-86400)'.
- Trigger Actions:** A section for configuring actions triggered by events, including a 'Subject' field, checkboxes for 'Send Message' and 'Send Image', a 'From' dropdown menu, a 'Text' field, and an 'FTP File Name' field.

At the bottom right of the main content area, there are 'Apply' and 'Cancel' buttons.

- For the "Scheduled" option, use the table to define a range of time if you would like events to trigger corresponding actions only during a certain period of time.

- \* Use the mouse left button to select and the right button to deselect.

- \* You can click and hold down the left button and drag horizontally to quickly select consecutive hours of a particular day, or drag vertically to select same time for multiple days. Drag diagonally to select consecutive hours/days at once.

- \* Each cell box represents 15 minutes of time.

The screenshot shows a software interface for configuring event triggers. At the top, there is a calendar grid with 'Sat' visible. Below the calendar, the 'Event Trigger Interval' section has a text input field containing '5' and the label 'Seconds. (15-86400)'. The 'Trigger Actions' section includes a 'Subject' field with 'event', a 'Help' button, and two checked checkboxes: 'Send Message' and 'Send Image'. To the right of these checkboxes is a dropdown menu showing '2 frames'. Below this, there is a 'Text' field containing 'eee' and an 'FTP File Name' field containing 'aaa'.

### How often an event is triggered

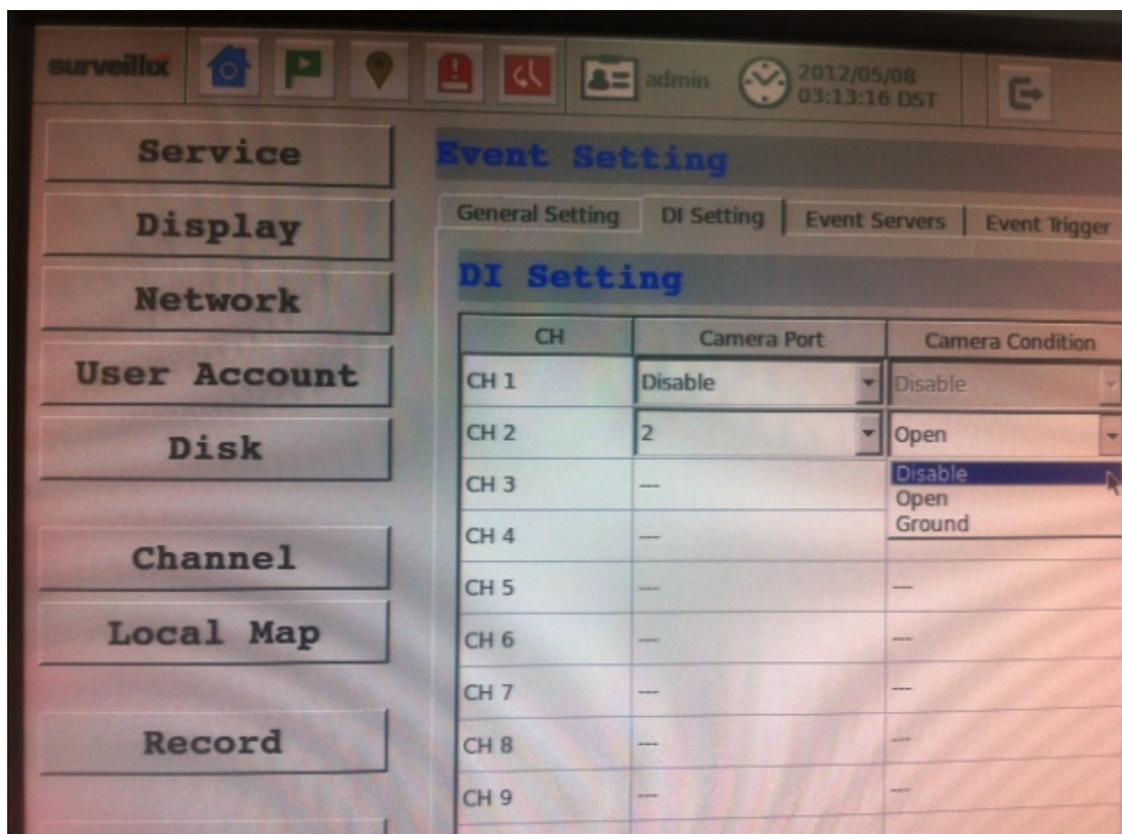
- Set a time interval under “Event Trigger Interval” to define how often events are triggered

### 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 a destined FTP server

## DI Setting



This function allows users to use camera's digital input port from the recorder as source of an event. You can setup the recorder to receive events from a particular camera's input port and then triggers the NVR to start recording.

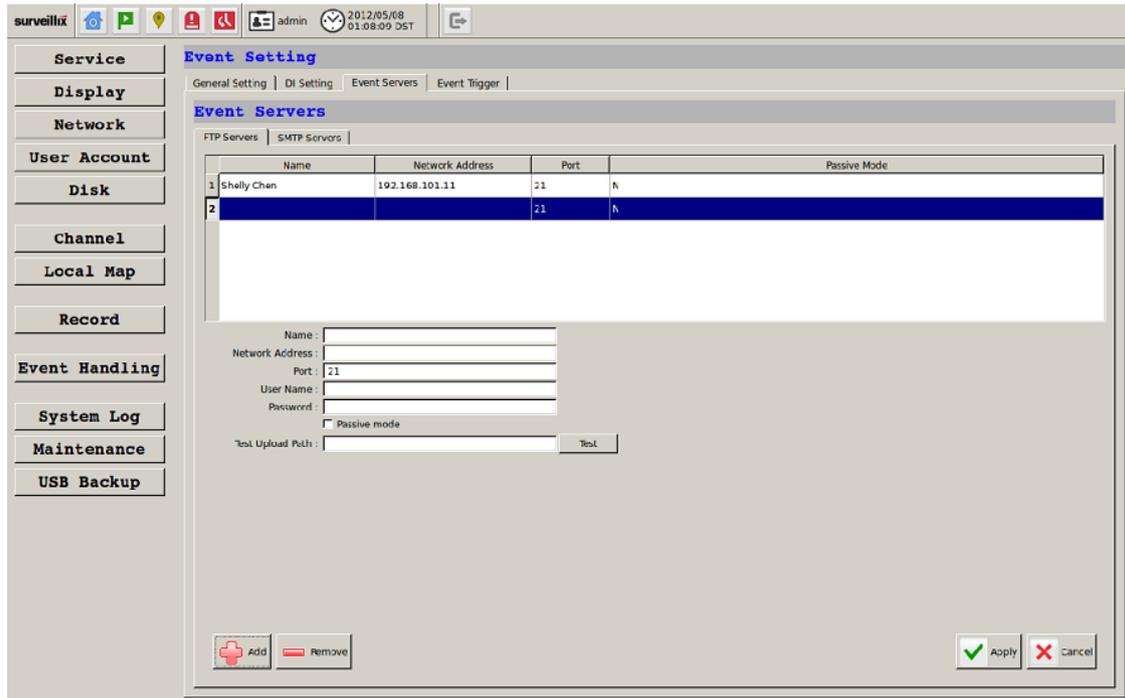
*\*The recorder only acts as a medium for pairing up input/output ports between cameras and the recorder.*

*\*Only connected cameras will be displayed in the list.*

*\*Some cameras only allow one trigger source be configured at a time, e.g.:*

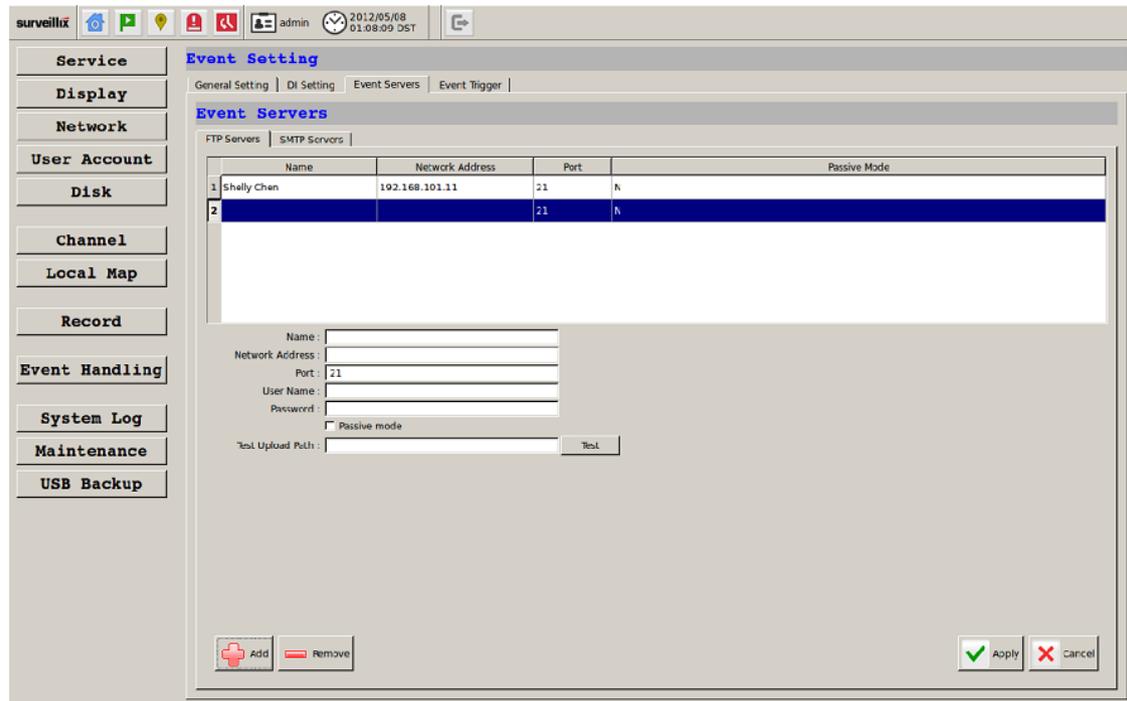
*if the camera has the motion detection function turned on, its digital input will be disabled and vice versa. Under such circumstance, if you set to use camera's digital input port as the event trigger source, you will not be able to select motion detection as the trigger source for this camera under "Event 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 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.

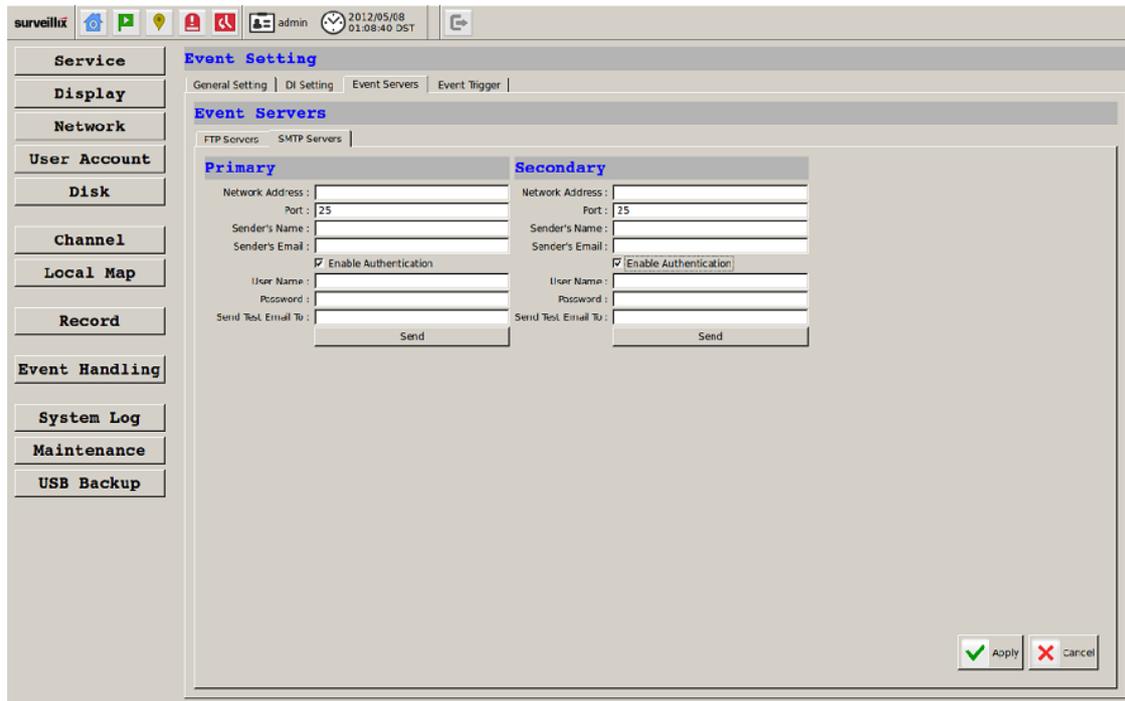
## FTP Servers



To add an FTP server,

1. Click "Add" to begin:
2. Start by giving a name to the server that you are adding to the recorder
3. Enter the hostname or the IP address of the FTP server
4. Enter the communication port of the FTP server (usually port 21)
5. Enter the username and password of the FTP server if it's required
6. Check "Use Passive Mode" if it's required or leave it unchecked to use active mode
7. Click "Test" to verify if all information is entered correctly and the connection to the FTP server can be established successfully
8. Click "Apply" for the settings to take effect

## SMTP Servers



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.



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
- Add system events if you will

- Where the warnings will be sent to and how they will be sent.

**Event Setting**

General Setting | DI Setting | Event Servers | **Event Trigger**

**When Channel is triggered by**

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

\* Grayed out checkboxes represent the function is either not available on the camera, or the event notification method used in the camera is not supported by the NVR.

\* Enabling "Custom Event" allows events from the CMS software to trigger the NVR to start recording.

**When NVR is triggered by**

Disk Fail  Recycled

When NVR Start Up  When NVR System Configuration Changed

When Channel Configuration Changed  When camera connection status changed

When remaining HDD space is lower than  GB (min. 2GB when HDD recycle function is disabled)

When system temperature is too high

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

### Trigger Actions

E-Mail : E-Mail Addresses :  \*use ", " to separate  
 FTP : Upload Path :   
 Warning Sound  
 Move to particular preset points

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

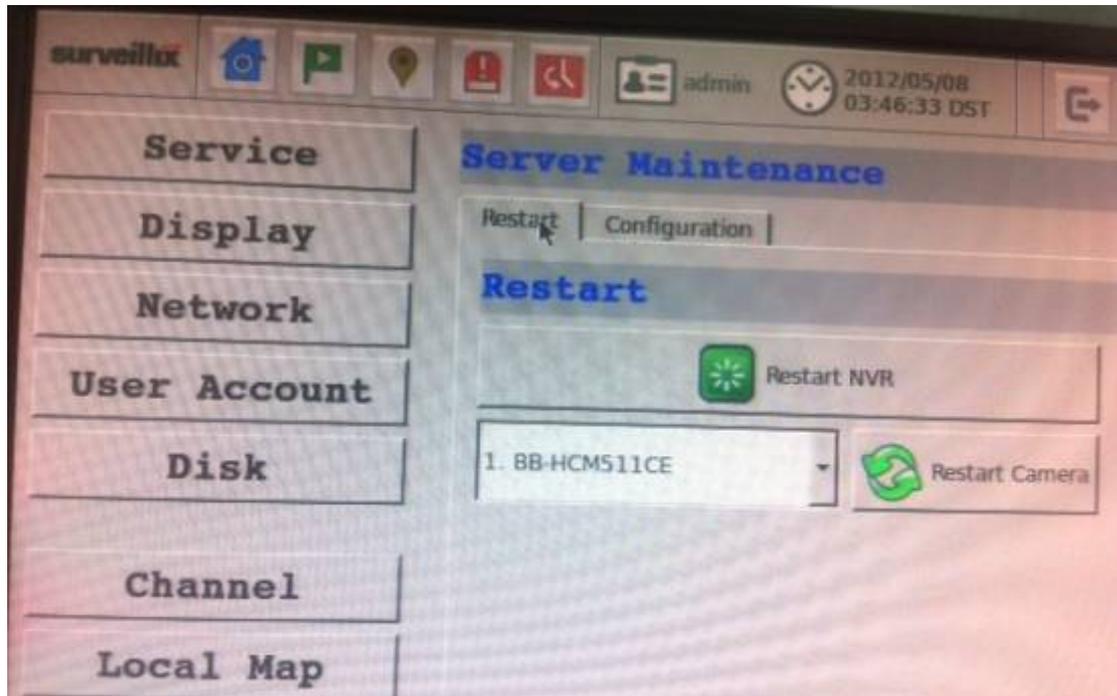
- *Event trigger may not work for cameras that are placed outside of your local network or on the Internet until the "UPnP Port Forwarding" is enabled in both the NVR and the router.*

### System Log

ID	Time	Type	SubType	Channel	SourceIP	User
1	2012/05/08 01:07:44	Service	Reload configuration			
2	2012/05/08 00:40:35	Channel	Channel connect	2		
3	2012/05/08 00:40:02	Channel	Channel disconnect	2		
4	2012/05/08 00:38:36	Channel	Channel connect	2		
5	2012/05/08 00:38:03	Channel	Channel disconnect	2		
6	2012/05/08 00:13:13	Channel	Channel connect	2		
7	2012/05/08 00:12:40	Channel	Channel disconnect	2		
8	2012/05/07 20:14:49	User logon	User logout		Web Event Receiver	
9	2012/05/07 20:12:30	User logon	User login		Web Event Receiver	
10	2012/05/07 20:11:38	User logon	User login		Web	admin
11	2012/05/07 19:45:28	Camera Action	Stop PTZ control	1	NVR UI	
12	2012/05/07 19:45:18	Camera Action	Start PTZ control	1	NVR UI	
13	2012/05/07 19:44:40	Camera Action	Stop PTZ control	1	NVR UI	
14	2012/05/07 19:44:30	Camera Action	Start PTZ control	1	NVR UI	
15	2012/05/07 19:38:21	Camera Action	Stop PTZ control	2	NVR UI	
16	2012/05/07 19:38:11	Camera Action	Start PTZ control	2	NVR UI	
17	2012/05/07 19:38:07	Camera Action	Stop PTZ control	1	NVR UI	
18	2012/05/07 19:38:03	Camera Action	Stop PTZ control	2	NVR UI	
19	2012/05/07 19:37:57	Camera Action	Start PTZ control	1	NVR UI	
20	2012/05/07 19:37:53	Camera Action	Start PTZ control	2	NVR UI	
21	2012/05/07 19:36:25	Camera Action	Stop PTZ control	2	NVR UI	
22	2012/05/07 19:36:20	Camera Action	Stop PTZ control	1	NVR UI	
23	2012/05/07 19:36:13	Camera Action	Start PTZ control	2	NVR UI	

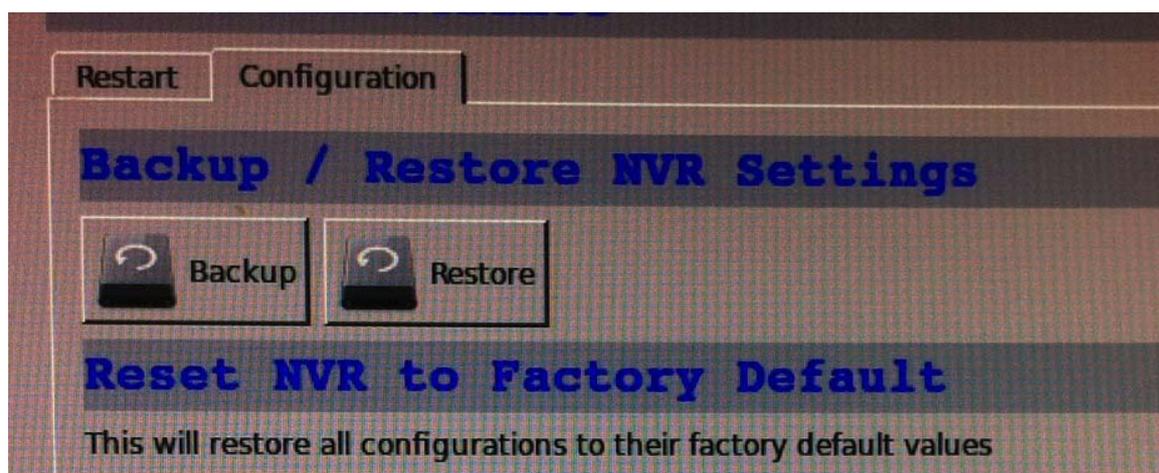
"System Log" keeps a record of what's been happening to the device and provides basic information for troubleshooting.

## Maintenance



"Maintenance" provides functions for users to:

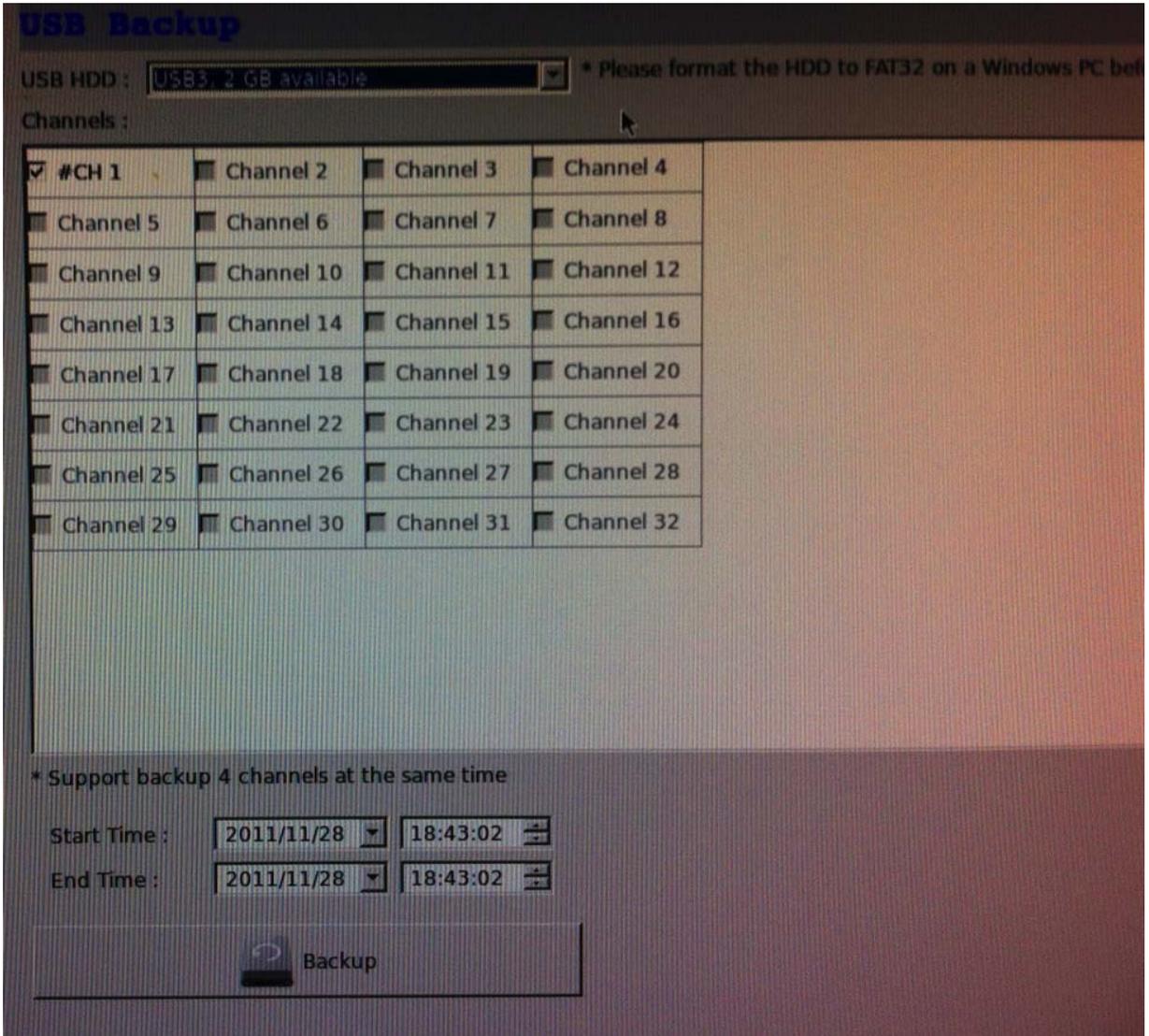
- Reboot the NVR when necessary
- Reboot cameras directly from the NVR
- Perform Firmware Upgrade
- Backup the NVR's settings to a local hard drive
- Restore the NVR's settings from a previously saved configuration file
- Reset the NVR's settings to their factory default values



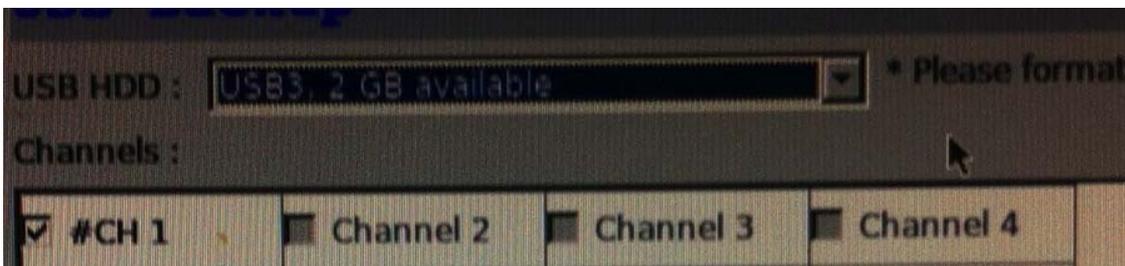
The configuration can be backed up to or restore from a USB disk. It is required to plug in a USB disk formatted in FAT32, EXT3, or EXT4 prior to using the backup and restore functions.



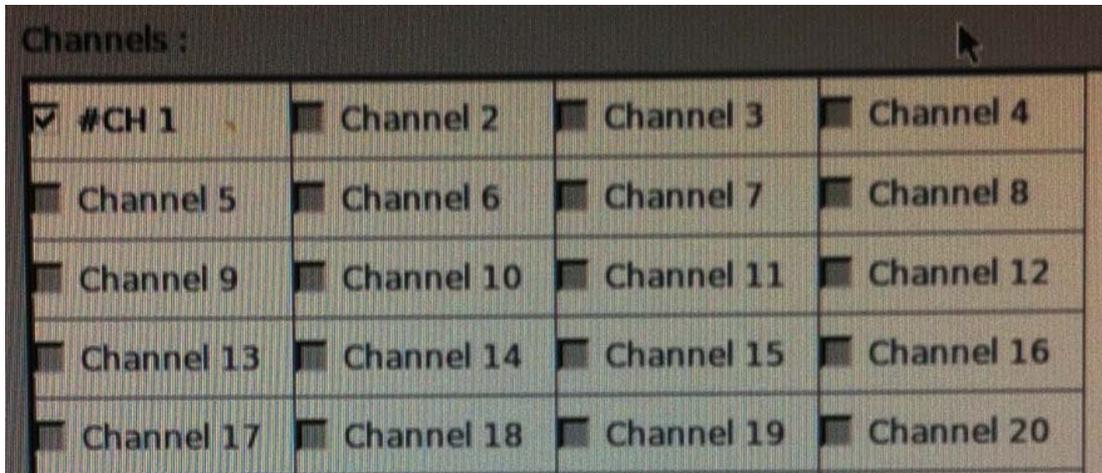
To reset the recorder back to its factory default, click “Restore Factory Default” button and begin the process.



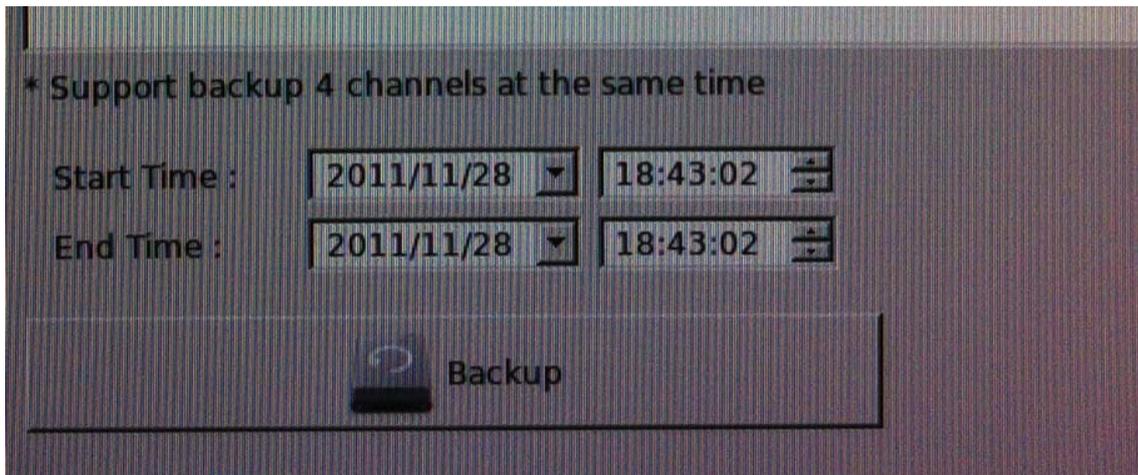
It's a function that allows users to backup the recording data in its database file format (not AVI) to the externally connected USB hard disk.



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.



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



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:**

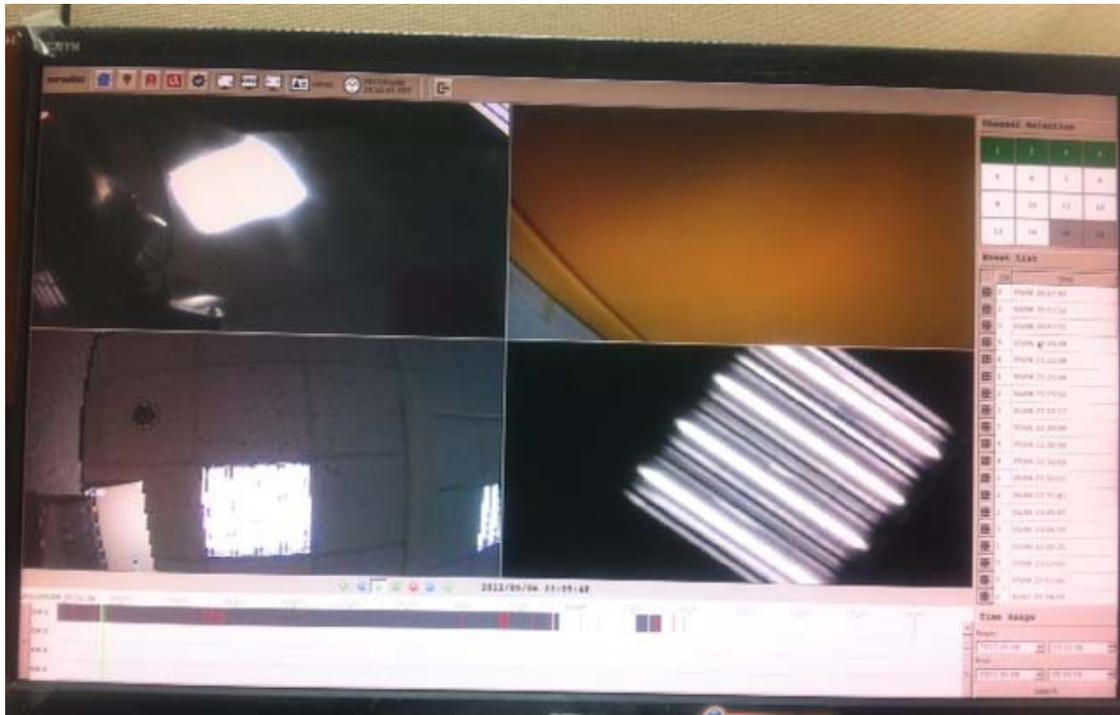
- Progress will be displayed on the UI
- If the backup process gets interrupted, which the process stops at a point of time that is before the "END Time" user defined, such time will be displayed on the UI
- A folder will be automatically created in the USB hard disk with a name format like 0028687831\_20100610151515\_20100605110010\_20100606110010 (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 backed up files using the NVR media player.

## Playback (VGA output Interface)

### 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.

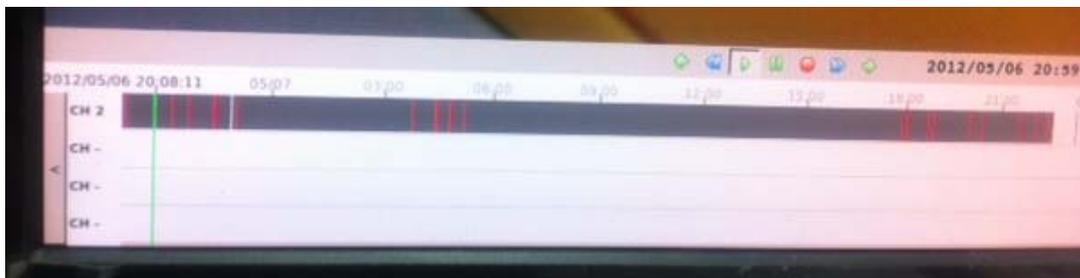
#### Methods to Search Playback Videos

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*
- **Most Recent Events:** *Displays the most recent 15 events*
- **Play by start time:** *Enter a specific time a video was recorded to start playing back the video*



Start by selecting channels to search playback data first.



Recording data will be displayed at the bottom. Red means event recordings.

	CH	Time
☒	2	05/06 20:15:12
☒	2	05/06 20:57:42
☒	2	05/06 20:57:52
☒	2	05/06 21:25:50
☒	2	05/06 21:52:11
☒	2	05/06 22:30:00
☒	2	05/06 22:31:42
☒	2	05/06 23:05:07
☒	2	05/07 03:46:13
☒	2	05/07 04:22:32
☒	2	05/07 04:23:08
☒	2	05/07 04:25:47
☒	2	05/07 04:46:15
☒	2	05/07 04:47:27
☒	2	05/07 04:47:44
☒	2	05/07 05:09:32
☒	2	05/07 17:55:55
☒	2	05/07 18:04:00
☒	2	05/07 18:42:16

Event only recordings will also be listed on the side. Double-click to start playing.

**Time Range**

Begin: 2012-05-06 20:08:11

End: 2012-05-08 20:13:32

Search

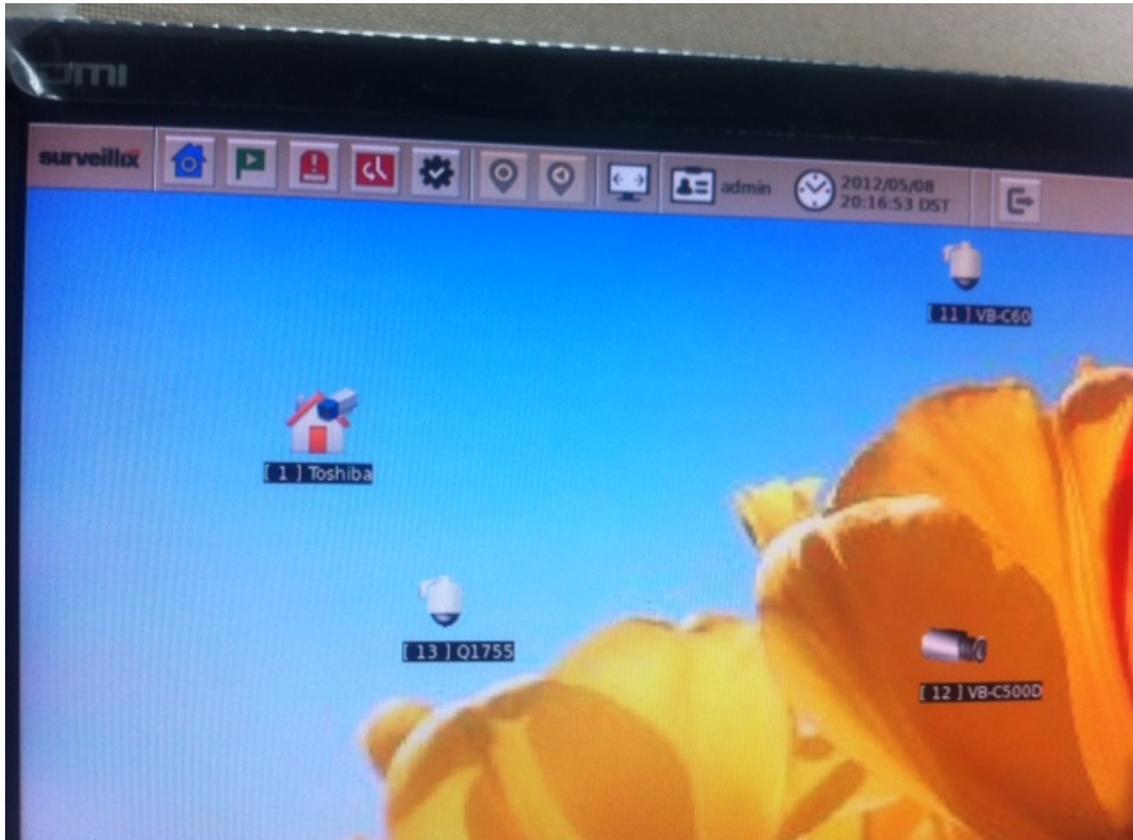
You can define a range of time to narrow down the search result.



You can do the followings to the playback video by right clicking anywhere on the video:

1. Choose to listen to the recorded audio or not
2. Take snapshots of the recorded video (required USB disk)
3. Digital PTZ





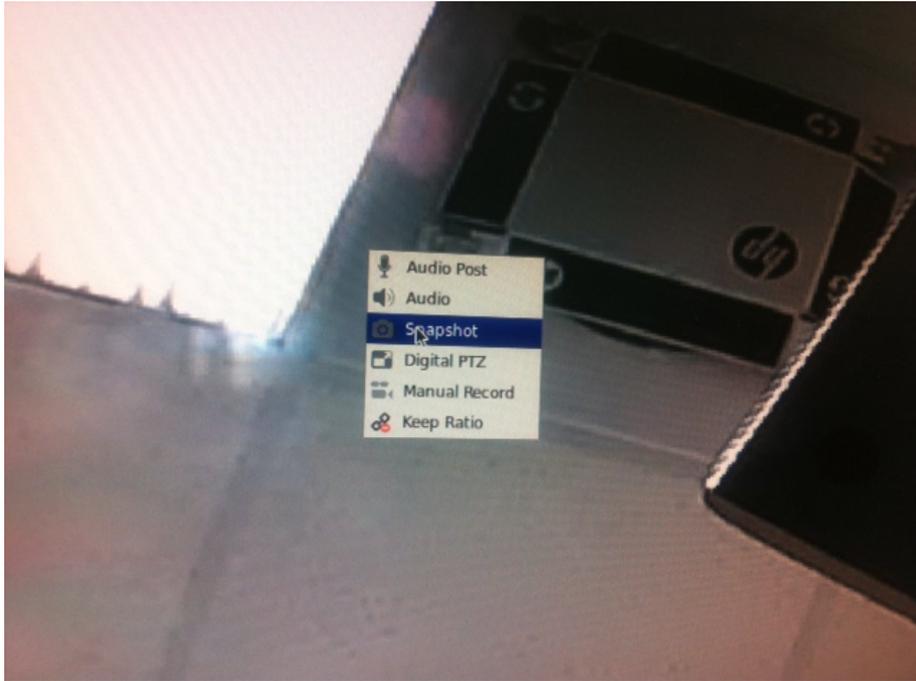
The Local-Map Monitor displays the top layer of Local-map by defaults. Double-click on the camera group icon to go down a layer and enter the Local-map of the camera group.



When there is an event going on, the camera icon (or the camera group icon) will be surrounded with red square flashes on the map. Its live video will also be displayed on a small pop-up window. You can double-click on the video to enlarge it.

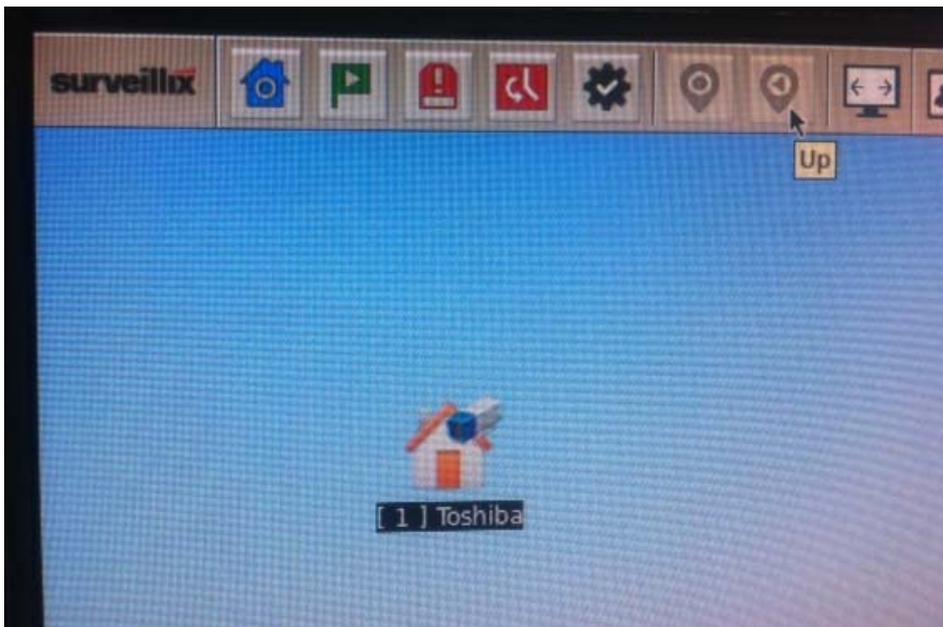


You can double-click on the video again to go back to the Local-map view.



Or you can right-click on the enlarged video to perform the following tasks:

1. Take snapshot
2. Digital PTZ
3. Start/stop manual recording
4. Display video in its original aspect ratio



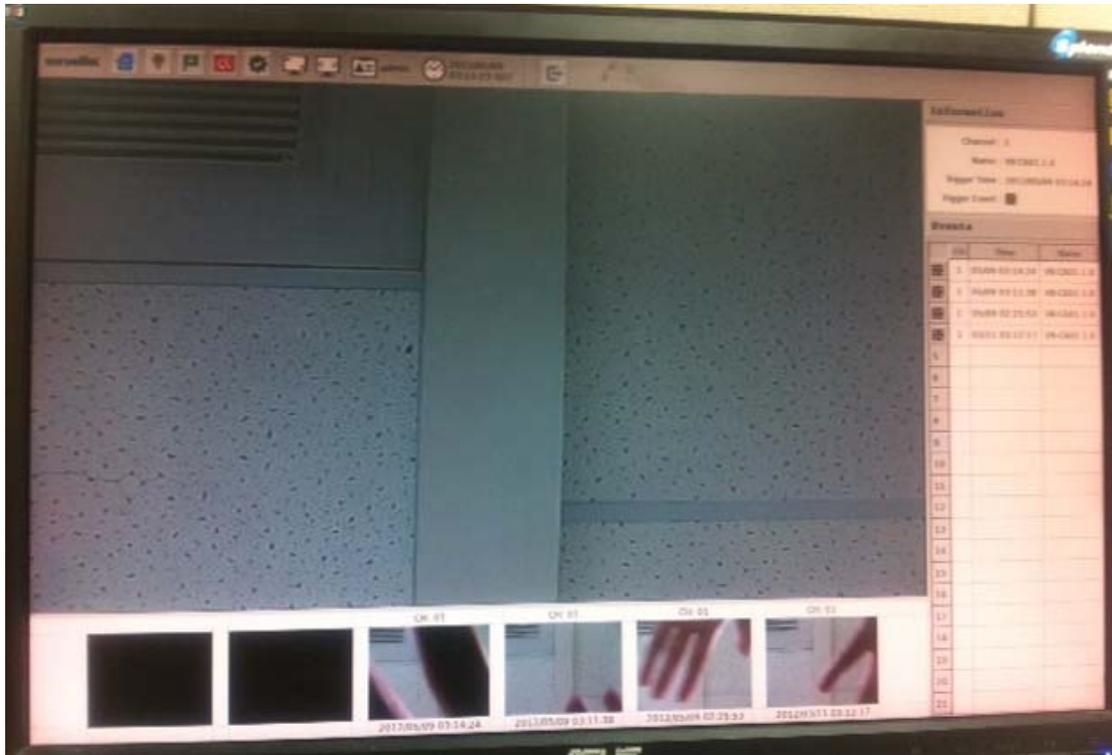
You can always go back to the previous layer of Local-map whenever you are taken to a sub-layer Local-map.



Alternatively, you can click the "Home" button to go back to the top layer of Local-map directly.

# Event Monitor

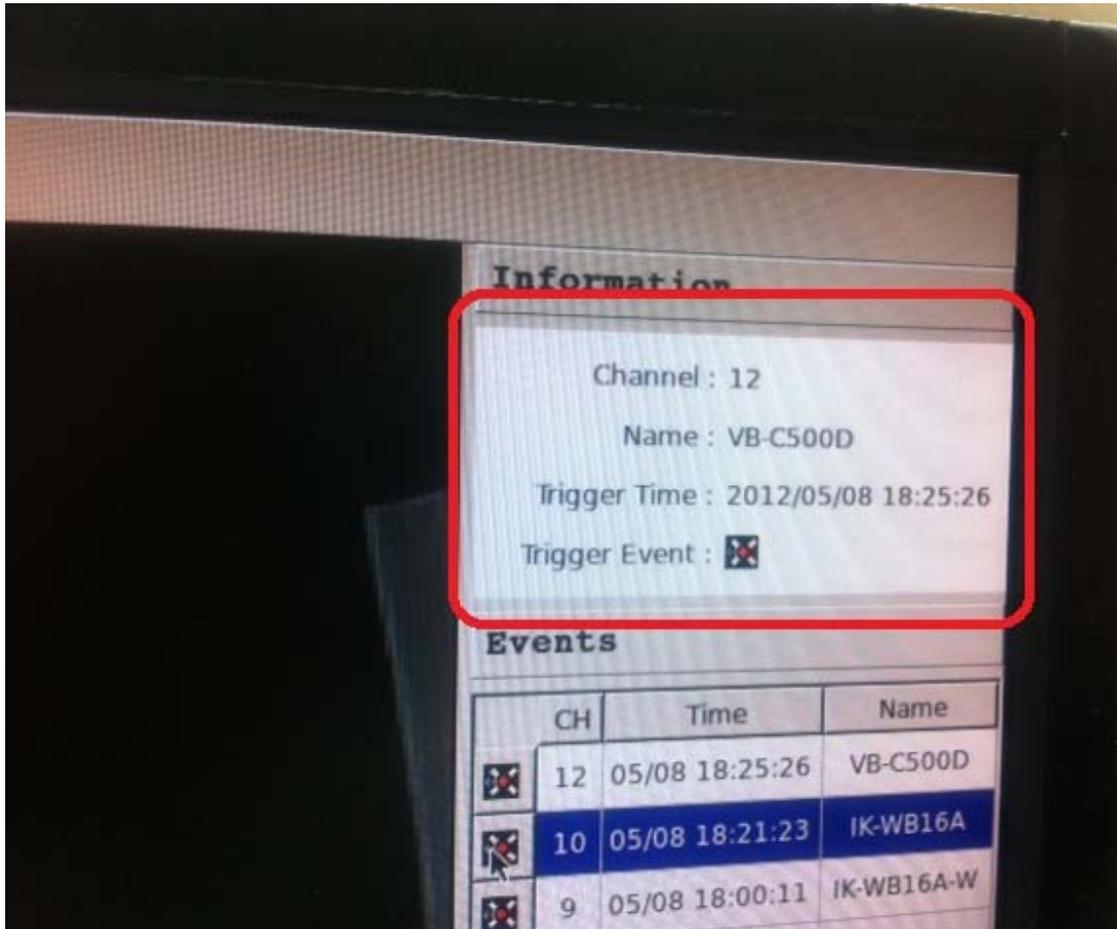
## Event Monitor



Event Monitor is a function that plays back “event only” videos. It’s a convenient tool that allows users to play through a list of event recordings that are happening at the moment.



Events will be listed on the side bar and double-clicking on any one of them will instantly play back the recording.

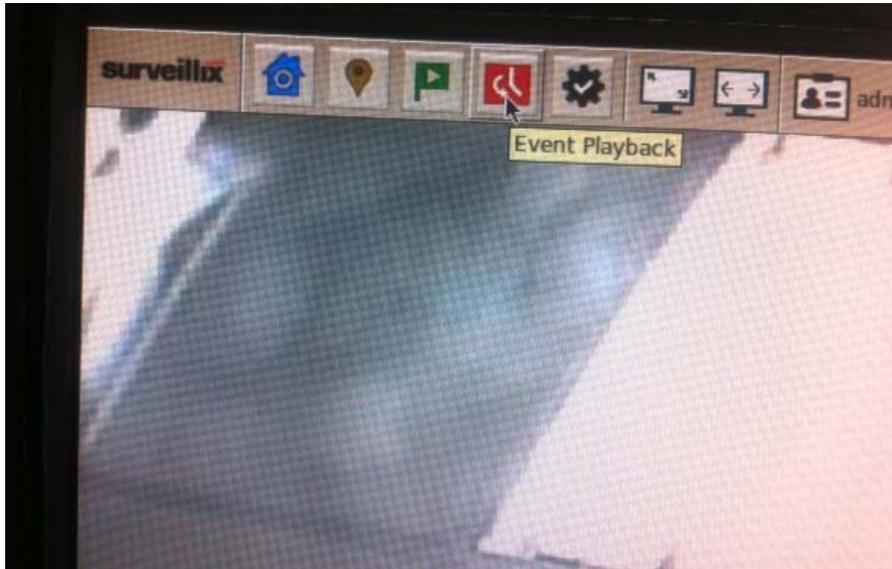


The channel information and contact information of that particular channel will also be displayed on the side bar.

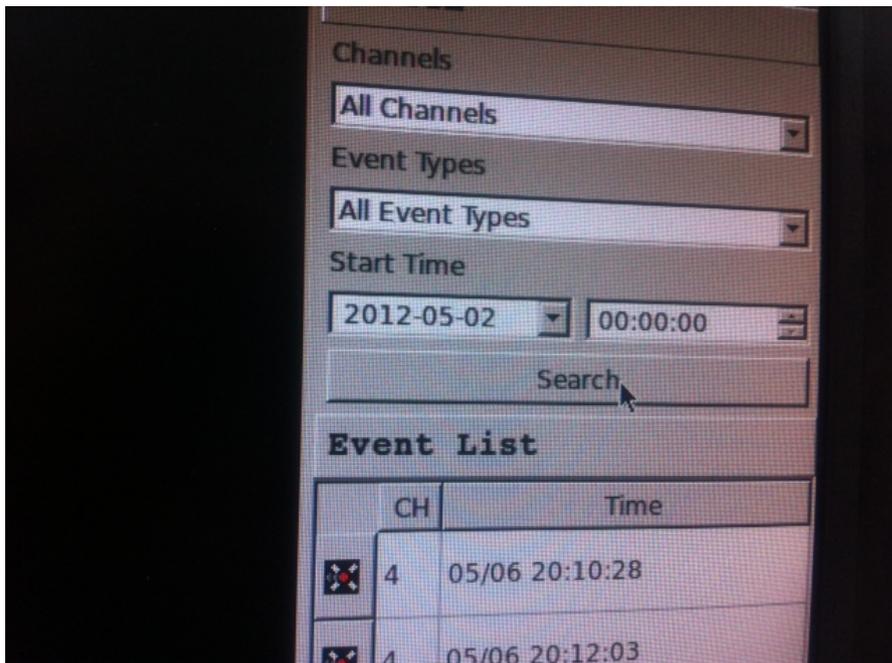


The software also displays thumbnail images of the most recent events. The images get replaced whenever there are new events coming in. Double-clicking on a thumbnail will start playing back the event-recorded video.

## History Event Monitor



You can switch to the history event monitor mode to search for event only data from a much earlier time frame.



You can define search conditions to look for specific types of events that were recorded at a specific time.

## Specifications

<b>Hardware</b>	
CPU & Memory	ATOM D525/2GB DDR2 RAM
Ethernet	10BaseT/100BaseTX/1000Base-T and half duplex/full duplex auto-negotiation
Built in HDD (HDD is NOT supplied.)	SATA HDD Slot*4 (SATA I or SATA II) Max. Capacity: 3TB each
External HDD port (HDD is NOT supplied.)	eSATA*1 Max. Capacity:8TB (2TB each*4HDDs)
LED indicator	Power/System/Event
Switches	Reset/Power
Connectors	USB*6, eSATA*1, Audio (line-in, line-out, microphone-in), VGA
Power unit	200W ATX power supply INPUT:100-240V 3.5A
Dimensions	318*198*25mm
Weight	6.5kg (14.3 lb)
Operating temperature and Humidity	32 to 104 deg K (0 to 40 deg C) 0% to 80% , non-condensing
Storage temperature and Humidity	-4 to 140 deg K ( -20 to 60 deg C) 5% to 90% , non-condensing
Radio Standard	(Radio) FCC Class A
<b>Software</b>	
Camera search	Manual/AUTO (Smart Camera Search supports measure camera brands.)
Camera setup items	Name, IP address(Build in DHCP server to assign IP address to cameras automatically), video format, resolution, fps
Max. Camera number	16 CH
Camera status display	fps, resolution, bandwidth, IP address
<b>Video</b>	
Compliant codec system	MJPEG/MPEG-4/H.264
Max. Resolution	5 MP
Max. Recording Frame Rate	480 FPS ( Full-HD, H.264)
Max. Bitrate	Max. 250Mbps, (Avg. 200Mbps)
<b>Audio</b>	
Direction	Two-way audio
<b>Live View</b>	
Display Mode	Live View/Sequence/Playback
Split Screen	(web) 1/4/16 / (local) 1/4/6/9/13/16
PTZ Camera Support	Virtual PTZ Panel/Auto Pan/Preset Point/Preset Sequence/Digital PTZ
Video Snapshot	JPEG format
Camera status display	Connection / Recording / Event
Map function	Local-Map / Google Map
Mobile Device support	Live image (JPEG) and P/T control

<b>Playback</b>	
Split Screen	(web) 1/4/16 / (local) 1/4
Search Method	Time/Date, Event
Playback Controls	Play/Pause/Stop/Forward/Reverse/Speed Adjust/Frame by Frame
Export video format	AVI / MJPEG
Video Snapshot	JPEG format
<b>Recording</b>	
Recording Mode	Manual / Continuous / Scheduling / Event
Type of Scheduling	Manual Select / Profile-based / Weekly Mode
Recording fps	H.264 & MPEG4: I frame / FULL frame MJPEG: 1/5/10/15/20/FULL frames
Storage period	1~365 days
<b>Network</b>	
Protocols	HTTP/SMTP/DHCP/ARP/NTP/DNS/UPnP/FTP
DDNS	DynDNS
<b>User Management</b>	
Management	User / Group
Number of Groups	7 (Administrator/Guest/User Define*5)
Privileges	Live View/Playback/System Configurations/Camera Configurations/Recording Configuration/Event Configuration/PTZ/System Options
<b>Trigger &amp; Events</b>	
Events	System Events -- System Start, System Settings modified, Camera Settings Modified, Start Recycle, Disk Fail, camera status, HDD remaining space Camera Events -- Motion/Sensor Detection
Event Actions	Mail / FTP / Buzzer / Record
Event Recording	Pre / Post Event Settings
<b>Bundle software</b>	
Central Management SW	Free bundled (256CH "CMS Basic")
NVR search SW	Free bundled (NVR search)
<b>Log</b>	
Log Types	Service / Camera PTZ / Recording / Camera Connection / Backup / Restore
<b>Systems</b>	
Minimum Requirements	CPU: Intel® Core™ 2 Duo : 2.4GHz or higher RAM: 2GB Network: 100 Megabit Network Interface or above Microsoft® Internet Explorer® version 8 or above
<b>General</b>	
Language	(web) English / Trad. Chinese / Simp. Chinese / Japanese / Italian / Spanish / Portuguese / German / Danish / Czech / Polish / French / Russian / Slovenky / Hungarian / Turkey / Finnish / Hebrew / Dutch (local) English / Japanese
Package contents	ESV16 NVR (without HDD), CD-ROM, QIG, Warranty Card, Power code, LAN Cable, Screws(pan head x8, flat head x 12), Key*4

- Designs and specifications may change without prior notice for better improvement.
- Screens, photos, illustrations and other diagrams contained in this user's manual may slightly change from actual ones.

---

## Technology license Notice

### About the software

This product contains a piece of software licensed to TOSHIBA CORPORATION (hereafter TOSHIBA) by a third party. The copyright and other intellectual property rights of the software are held by this third party or the licensor. The software is protected by the Copyright Law, Universal Copyright Convention, and other intellectual property laws and agreements. The permission of Toshiba and the third party must therefore be obtained before the software can be reproduced. Contact Toshiba if you need it for more information at <http://www.toshibasecurity.com/support/firmware.jsp>.

## **End-user License Agreement on Free Software Components Used in the Network Video Recorder**

### **GNU GENERAL PUBLIC LICENSE**

Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.  
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

#### **Preamble**

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Lesser General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all. The precise terms and conditions for copying, distribution and modification follow.

### **GNU GENERAL PUBLIC LICENSE**

#### **TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION**

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion

of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".)

Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

- a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.
- b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.
- c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and those users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, does not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

- a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

- b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,
- c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable. If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a

whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns. Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

### NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

## END OF TERMS AND CONDITIONS

### How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>

Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA

02110-1301 USA

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author

Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.

This is free software, and you are welcome to redistribute it under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, the commands you use may be called something other than `show w' and `show c'; they could even be mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the program, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program

`Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989

Ty Coon, President of Vice

This General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Lesser General Public License instead of this License.