NetGuard-EVS 4.6d

Video Client

User Manual

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Welcome

NetGuard-EVS provides you with extremely feature-rich remote access to the surveillance system. NetGuard-EVS must be installed locally on your computer.

- **What Can You Do with Your NetGuard-EVS?**

  Some of the following features may require certain user rights; some features may only be available if supported by the surveillance system to which you connect; see Surveillance System Differences.

  - View live video from cameras on the surveillance system.
  - Browse recordings from cameras on the surveillance system, with a selection of advanced navigation tools, including a highly intuitive timeline browser.
  - Use two-way audio: From NetGuard-EVS you can listen to live recordings from microphones attached to cameras, and talk live to audiences through loudspeakers connected to cameras. This way you can interact directly with your audiences. You can of course also listen to audio recordings when browsing recorded video.
  - Create and switch between an unlimited number of views, each able to display video from up to 64 cameras from multiple servers at a time (depending on the type of surveillance system you connect to). Views can be placed in *private* groups (only accessible by the user who created them) or in *shared* groups (shared with other users).
  - Use views—private as well as shared—on any computer that has a NetGuard-EVS installed.
  - Create special views for widescreen monitors.
  - Use multiple screens as well as floating windows for displaying different views simultaneously.
  - Quickly substitute one or more of a view's cameras with other cameras.
  - View video from several cameras, one after the other, in a single camera position (a so-called carousel).
  - View video from selected cameras in greater magnification and/or higher quality in a designated hotspot.
  - Manually make the surveillance system record if you see something important while viewing live video.
  - Receive and send NetMatrix video.
  - Include HTML pages and static images (e.g. maps or photos) in views.
  - Control PTZ (Pan/Tilt/Zoom) and IPIX (360° view) cameras.
  - Use digital zoom on live as well as recorded video.
  - Manually activate surveillance system events.
  - Manually activate external outputs (e.g. sirens or lights).
  - Use sound notifications for attracting attention to detected motion or system events.
  - Get quick overviews of video sequences with detected motion.
  - Get quick overviews of detected alerts or system events.
  - Quickly search selected areas of video recordings for motion (also known as *Smart Search*).
  - Skip gaps during playback of recordings.

- Configure and use several different joysticks.
- Print images, with optional comments.
- Copy images for subsequent pasting into word processors, e-mail, etc.
- Export recordings (e.g. for use as evidence) in AVI (movie clip), JPEG (still image), and surveillance system database formats. The AVI and database formats can include audio.
- Use pre-configured as well as customizable keyboard shortcuts to speed up common actions.
- Select between language versions, independent of the language used on the main surveillance system.

How Can User Rights Affect Your Use of NetGuard-EVS?

The rights of individual remote users are specified centrally by the surveillance system administrator. Your individual user rights will determine your ability to use NetGuard-EVS's features.

Basically, the surveillance system administrator is able to restrict individual users' rights to:

- Access NetGuard-EVS
- Access each of NetGuard-EVS's three main areas: the *Live* tab, the *Browse* tab, and the *Setup* tab
- Use specific features on NetGuard-EVS's tabs
- Create views (views determine the way in which video from one or more cameras is displayed)
- View video from specific cameras

The ability to use various features of NetGuard-EVS may therefore vary considerably from user to user. Ask your surveillance system administrator if in doubt about your user rights.

Installation

The following are *minimum* system requirements for running NetGuard-EVS:

Operating System	Microsoft® Windows® XP Professional (32 and 64* bit), Windows Server 2003 (32 and 64* bit), Windows Vista™ Business (32 bit or 64* bit), Windows Vista Enterprise (32 bit or 64* bit) or Windows Vista Ultimate (32 bit or 64* bit). * Running as a 32 bit application.
CPU	Intel® Core2™ Duo, minimum 2.4 GHz.
RAM	Minimum 512 MB (1 GB recommended for large views, 1 GB recommended on Microsoft Windows Vista).
Network	Ethernet, 100 Mbit or higher recommended.
Graphics Adapter	AGP or PCI-Express, minimum 1024×768 (1280×1024 recommended), 16 bit colors.
Hard Disk Space	100 MB free.
Software	Microsoft .Net 2.0 Framework and DirectX 9.0 or newer required.

Tip: To check which DirectX version is installed on a computer, click *Start*, select *Run...*, and type `dxdiag`. When you click *OK*, the *DirectX Diagnostic Tool* window will open; version information is displayed near the bottom of its *System* tab. Should the server require a DirectX update, the latest versions of DirectX are available from http://www.microsoft.com/downloads/.
NetGuard-EVS must be installed on your computer before you are able to use it.

Note: Surveillance system administrators can automatically get a NetGuard-EVS installed on the surveillance system server; this happens as part of the surveillance system server installation.

Typically, you download NetGuard-EVS from the surveillance system server, then install it on your computer. Alternatively, your surveillance system administrator may ask you to install NetGuard-EVS from a CD (see Installation from CD).

To download and install NetGuard-EVS from the surveillance system server, do the following:

1. Verify that your computer meets NetGuard-EVS's minimum system requirements.
2. Open an Internet Explorer browser (version 6.0 or later), and connect to the surveillance system server at the URL or IP address specified by your system administrator. When you are connected to the surveillance system server, you will see a welcome page.
3. On the welcome page, select your required language in the menu in the top right corner. Then go to the welcome page's *NetGuard-EVS Installers* section, and click the required NetGuard-EVS language version link.

    - On some welcome pages, go to NetGuard-*EVS* section, and click the *Download and Install NetGuard-EVS Locally* link.
    - On some welcome pages, simply click the *Install NetGuard-EVS* link.

4. Depending on your security settings, you may receive one or more security warnings (*Do you want to run or save this file?*, *Do you want to run this software?* or similar; exact wording depends on your browser version). When this is the case, accept the security warnings (by clicking *Run* or similar; exact button names depend on your browser version).

5. NetGuard-EVS setup wizard will start. In the wizard, click *Next*, and follow the installation instructions.

NetGuard-EVS must be installed on your computer before you are able to use it.

Typically, you download NetGuard-EVS from the surveillance system server, then install it on your computer (see Download and Installation from Server). Alternatively, your surveillance system administrator may ask you to install NetGuard-EVS from a CD.

To install NetGuard-EVS from a CD, do the following:

1. Verify that your computer meets NetGuard-EVS's minimum system requirements.

2. Insert the surveillance system software CD, wait for a short while, select required language, then click the *Install OnSSI NetGuard-EVS* link.

   Tip: Depending on your security settings, you may receive one or more security warnings (*Do you want to run or save this file?*, *Do you want to run this software?* or similar; exact wording depends on your browser version). When this is the case, accept the security warnings (by clicking *Run* or similar; exact button names depend on your browser version).

3. When the installation wizard starts, click *Next* to continue the installation and follow the steps in the installation wizard.

This information is relevant for surveillance system administrators only.

For surveillance system administrators, it is possible to deploy NetGuard-EVS to users' computers using tools such as Microsoft Systems Management Server (SMS).

Such tools let administrators build up databases of hardware and software on local networks. The databases can then—among other things—be used for distributing and installing software applications, such as NetGuard-EVS, over local networks.

For more information of silent installation (when available), see the separate documentation for your surveillance system server software.

Login & Logout

Logging in to NetGuard-EVS is very straightforward. So is the initial configuration of NetGuard-EVS upon your first login. In fact, configuration may in some cases not be required at all.

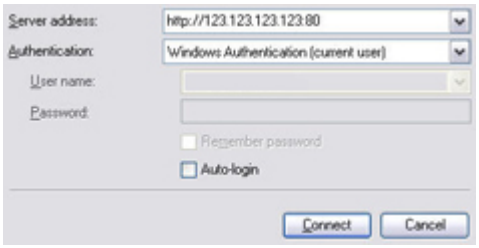
To log in to NetGuard-EVS, do the following:

1. Double-click NetGuard-EVS shortcut on your desktop.

   If no NetGuard-EVS desktop shortcut is available, select NetGuard-EVS from Windows' *Start* menu (exactly how you do this is determined by where and how you have installed NetGuard-EVS on your computer >).

2. A splash screen is displayed while NetGuard-EVS loads; this typically takes a few seconds only.

3. NetGuard-EVS login window appears.



4. Specify your login information in the following fields:

   - ***Server address*:** Type the URL or IP address of the surveillance system server, as specified by your surveillance system administrator. Internet connections may use different ports for different purposes; therefore, the URL or IP address may include a port number (example: *http://123.123.123.123:80*, where :80 indicates the port number). If you have logged in before, you may simply select the required server from the *Server address* list.

   - ***Authentication*:** Select between different methods of authentication (i.e. the process of verifying that you are who you claim you are):

     Note: Not all surveillance systems support the use of all three authentication methods; see Surveillance System Differences. Consult your surveillance system administrator if in doubt about which authentication method to use.

     - *Windows authentication (current user)*, with which you will be authenticated through your current Windows login, and do not have to specify any user name or password. This is NetGuard-EVS's default authentication method, i.e. the method which is automatically used unless you select another method.

     - *Windows authentication*, with which you will be authenticated through your Windows login, but you will need to type your Windows user name and password.

     - *Basic authentication*, which can only be used when connecting to selected surveillance systems.

   - ***User name*:** Only required if the authentication method *Windows authentication* or *Basic authentication* is selected. If using *Windows authentication*, type your Windows user name. If using *Basic authentication*, type the user name supplied by your surveillance system administrator. The user name is case-sensitive, i.e. there is a

difference between typing, for example, *amanda* and *Amanda*.

- ***Password*:** Only required if the authentication method *Windows authentication* or *Basic authentication* is selected. If using *Windows authentication*, type your Windows password. If using *Basic authentication*, type the password supplied by your surveillance system administrator.

- ***Remember password*:** Available when using *Windows authentication* or *Basic authentication*. Gives you the option of storing your password, in which case you can simply click *Connect* the next time you want to log in.

  Note: Depending on your type of organization and work environment, security restrictions may apply. Consult your surveillance system administrator if in doubt about whether it is safe to use this feature.

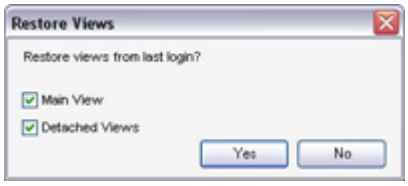
- ***Auto-login*:** If selected, you will automatically be logged in to NetGuard-EVS, when you log in to Windows. If using *Windows authentication*, *Remember password* must be selected in order for the auto-login feature to be available.

  Note: Depending on your type of organization and work environment, security restrictions may apply. Consult your surveillance system administrator if in doubt about whether it is safe to use this feature.

When ready, click *Connect*.

Tip: If a problem occurs during login, you will receive an error message; see Login Error Messages for more information.

5. ***Only relevant if you have logged in before; if logging in for the first time, move to step 6.*** NetGuard-EVS will ask you if you want to keep the view(s) you last used.



Your options are:

- ***Main View*:** If the check box is selected, the view you last used in NetGuard-EVS's main window will be restored. If check box is cleared, no view will initially be displayed, in which case you must select the required view yourself.

- ***Detached Views*:** Available when connecting to selected surveillance systems only, and only if you used views in detached windows the last time you were logged in on the computer in question (see Using Multiple Windows for more information). If check box is selected, the views you last used in detached windows will be restored.

6. After a short wait, NetGuard-EVS window will open. NetGuard-EVS window has three tabs: *Live*, *Browse* and *Setup*.

   The *Live* tab is used for viewing live video, the *Browse* tab is used for browsing recorded video, and the *Setup* tab is used for configuring NetGuard-EVS. Depending on your user rights, you may not be able to access all three tabs.

Determine Available Views

If you have logged in for the first time, you need to determine whether any views exist. Views determine how video is displayed, and are thus required in order to be able to use NetGuard-EVS.

One or more views may already have been created for you, or you may need to create views yourself. Read more about views—including how to determine if views have already been created for you—in Private and Shared Views.

Logging in on Different Computers

Your user settings are stored centrally on the surveillance system. This means that your login can be used on any computer that has a NetGuard-EVS installed.
If a problem or other issue occurs during login to NetGuard-EVS, you will see one of the following error messages:

- ***You do not have access to any part of the application (live, browse or setup). Please contact the system administrator.***
    - **Issue:** You currently have no access rights to any part of NetGuard-EVS, therefore you cannot log in with NetGuard-EVS.
    - **What to do:** Consult your surveillance system administrator, who will be able to change your access rights if required.

- ***Failed to connect. Please check the server address.***
    - **Issue:** It was not possible to connect to the surveillance system server at the specified server address.
    - **What to do:** Verify that you have typed the correct server address. Bear in mind that the *http://* prefix as well as a port number is typically required as part of the server address (example: *http://123.123.123.123:80*, where :80 indicates the port number). Consult your surveillance system administrator if in doubt.

- ***Failed to connect. Please check the username and password.***
    - **Issue:** It was not possible to log in with the specified user name and/or password.
    - **What to do:** Verify that you have typed your user name correctly, then re-type your password to ensure it does not contain errors. Bear in mind that user names as well as passwords may be case sensitive (i.e. there may be a difference between typing *Amanda* and *amanda*). Consult your surveillance system administrator if in doubt.

- ***Failed to connect. Maximum number of clients are already connected.***
    - **Issue:** The maximum number of remote access clients allowed to connect to the surveillance system server simultaneously has been reached.
    - **What to do:** If possible, wait for a while before connecting again. If access to the surveillance system is urgent, contact your surveillance system administrator who may be able to extend the allowed number of simultaneously connected clients.

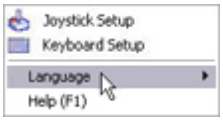
- ***New Client Available. Upgrade is recommended/required. The new version can be downloaded from ...***
    - **Issue:** A new version of NetGuard-EVS is available. This message is typically accompanied by information about whether an update is recommended or whether it is a requirement (for example because important new features will not work in your current NetGuard-EVS version). The message will typically also contain information about where to download the new version from.
    - **What to do:** Follow the advice given in the message. Consult your surveillance system administrator if in doubt.

In NetGuard-EVS, you are often able to select between different language versions.

Tip: If the language you require is not available, you may be able to install a language pack (only applies when connecting to selected surveillance systems; see Surveillance System Differences).

1. Click the *Show Application Menu* button in the right side of NetGuard-EVS's top bar.

2. From the menu that appears, select *Language*, then the required language.



3. NetGuard-EVS must be restarted in order for the change to take effect: Close your NetGuard-EVS, then log in again to use the new language version.

To log out of NetGuard-EVS, simply click the *Log Out* button in NetGuard-EVS's top bar.

Views

The way in which video from one or more cameras is displayed in NetGuard-EVS is called a view. A view may contain video from up to 64 cameras, depending on the surveillance system to which you connect. A NetGuard-EVS can handle an unlimited number of views, allowing you to switch between video from various collections of cameras.

In order to help you maintain an easy overview when you navigate between various views in your NetGuard-EVS, all views are placed in folders called *groups*. A group can contain any number of views and, if required, subgroups.

- ## Difference between Private and Shared Views

  Views can be private or shared:

  - ***Private*** views can only be accessed by the user who created them.
  - ***Shared*** views allow many NetGuard-EVS users to share the same views. This is possible since all views are stored on the surveillance system server. Depending on the type of surveillance system you connect to, shared views can simply be shared by all NetGuard-EVS users, or access to selected shared views can be given to selected groups of NetGuard-EVS users.

  Before you create any views, it is important that you are sure about the difference between private and shared views—not least because a number of shared views may already exist in your organization.

  If you already know that shared views exist, and that you have access to them, you can start using your NetGuard-EVS straight away (see Viewing Live Video and Viewing Recorded Video).

  When you have access to shared views, creating further views in your NetGuard-EVS will not be necessary unless you want to supplement the shared views with your own private views.

  If you want to create views yourself, NetGuard-EVS's *Setup* tab lets you create groups and views, and specify which cameras should be included in each view (see How to Create & Manage Views).

  Note: The way shared views work varies slightly depending upon which type of surveillance system you connect to; see Surveillance System Differences for details.

- ## How to Check if Shared Views are Available

  Typically, your surveillance system administrator will have told you if you have access to shared views. If not, you can quickly determine if any shared views are available to you:

  Note: This method requires that your user rights permit you to access NetGuard-EVS's *Live* tab and/or *Browse* tab. Most users will have access to at least one of these tabs.

  1. Go to NetGuard-EVS's *Live* or *Browse* tab.
  2. On the *Live* or *Browse* tab, look at the *Views* section.
  3. The *Views* section will always contain a top-level folder called *Private*. The *Private* top-level folder is for accessing private views; its content depends entirely upon which views—if any—you have created for yourself.

     Any other top-level folders in the *Views* section are for accessing shared views. The names of such other top-level folders depend entirely upon what has been configured on the surveillance system server.

The fact that the *Views* section contains one or more top-level folders for accessing shared views does not in itself guarantee that shared views are actually available. To verify if any shared views are available under the top-level folders, expand the folders.

Tip: You can use your views, private as well as shared, on any computer that has a NetGuard-EVS installed. This is because information about your views is stored centrally on the surveillance system server, as part of your user login information.

Setup of Views

You create and edit views on NetGuard-EVS's *Setup* tab. Particular user rights may be required in order to access the *Setup* tab. Depending on your user rights, you may be able to create and edit the following types of views:

- Private and shared
- Private, but not shared
- Shared, but not private
- Neither private, nor shared (in which case you simply rely on shared views created by others)

Typically only a few people in an organization are able to create and edit shared views. For this reason, particular user rights may be required in order to access the *Setup* tab. For example, the surveillance system administrator may create and maintain a number of shared views: When relevant NetGuard-EVS users log in, the shared views will automatically be available to them, and they will basically not need to create further views.

- ### Which Views Are You Able to Create and Edit?

  To quickly determine which of the *Views* section's top-level folders your user rights permit you to create and edit views in, do the following:

  1. Select any of NetGuard-EVS's tabs.
  2. Look at the *Views* section. You are able to create and edit views under top-level folders which are ***not*** marked by a padlock icon.

     If a top-level folder is marked by a padlock icon, it is protected: You can still use any views under the top-level folder, but you cannot create new views or edit existing views under it.

     Consult your surveillance system administrator if in doubt about your user rights.

- ### Creating Private Views

  To create your first private view, you first create a group under the *Private* top-level group, then create the required view within the group.

  If you have created private views before, you may create the new view in an existing group, or you may create a new group for the view.

Creating a Group

To create a group under the *Private* top-level folder, do the following on the *Setup* tab:

1. In the *Setup* tab's *Views* section, select the *Private* top-level folder.
2. Click the *Create New Group* button:

3. A new group is created. The new group is simply named New Group.
4. Overwrite the default name New Group with a group name of your choice. You are now able to create a view within the group.

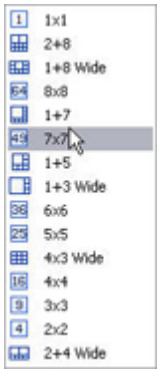
Creating a View within the Group

To create a view in a group, do the following:

1. In the Setup tab's Views section, make sure the group in which you want to create the view is selected.

2. Click the Create New View button:

3. Select the required layout for your new view.



You are able to select layouts for displaying up to 64 (8×8) cameras in a single view.

Tip: Some of the selectable view layouts are marked *Wide*. These view layouts are especially suitable for widescreen monitors.

4. A new view is created under the group you selected. The new view carries the default name New View plus an indication of the selected layout.

5. Overwrite the default name with a view name of your choice. You are now able to add cameras to the view.

Tip: A group can contain an unlimited number of views. You may also create any number of subgroups if required.

Tip: For information about adding content (cameras, etc.) to views, see How to Add Content to Views.

- **Creating Shared Views**

Note: When creating a shared view, bear in mind that, depending on their user rights, not all users may have access to all cameras on the surveillance system.

Note: Due to the large amount of new features in recent NetGuard-EVS versions, views created in NetGuard-EVS version 3.0 or later will not work in previous versions of NetGuard-EVS. If creating shared views, it is thus important that the users with whom you wish to share the views also use NetGuard-EVS version 3.0 or later.

To create a view under a shared top-level folder, you first create a group under the required shared top-level folder, then create the required view within the group.

If you have created shared views before, you may create the new view in an existing group, or you may create a new group for the view.

Creating a Group

To create a group under a shared top-level folder, do the following on the *Setup* tab:

1. In the Setup tab's Views section, select the required shared top-level folder (in this example, the required folder is simply called Shared).
2. Click the Create New Group button:

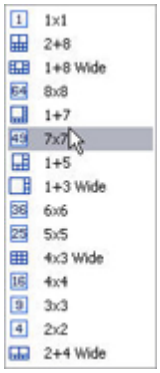
3. A new group is created. The new group is simply named New Group.
4. Overwrite the default name New Group with a group name of your choice. You are now able to create a view within the group.

Creating a View within the Group

To create a view in a group, do the following:

1. In the Setup tab's Views section, make sure the group in which you want to create the view is selected.
2. Click the Create New View button:

3. Select the required layout for your new view.



You are able to select layouts for displaying up to 64 (8×8) cameras in a single view.

Tip: Some of the selectable view layouts are marked *Wide*. These view layouts are especially suitable for widescreen monitors.

4. A new view is created under the group you selected. The new view carries the default name New View plus an indication of the selected layout.
5. Overwrite the default name with a view name of your choice.
6. You are now able to add cameras to the view.

Tip: A group can contain an unlimited number of views. You may also create any number of subgroups if required.

Tip: For information about adding content (cameras, etc.) to views, see How to Add Content to Views.

- ## Adding Cameras and Other Content to Views

  For information about adding content (cameras, etc.) to views, see How to Add Content to Views.

- ## Assigning Shortcut Numbers to Views

  Note: Your ability to edit views and groups depends on your user rights. Basically, if you are able to create the view or group, you are also able to edit it.

  On the *Setup* tab, you are able to assign shortcut numbers to views. Shortcut numbers allow users to select views using NetGuard-EVS's standard keyboard shortcuts.

  To assign a shortcut number to a view, do the following:

  1. In the *Setup* tab's *Views* section, select the required view.
  2. Specify the required shortcut number in the *Shortcut* field, and press ENTER on your keyboard.
  3. The specified shortcut number will now appear in brackets in front of the view's name.

     This will also be the case on the *Live* and *Browse* tabs, allowing users to quickly find a view's shortcut number.
  4. Repeat as necessary for other views.

- ## Renaming Views or Groups

  Note: Your ability to edit views and groups depends on your user rights. Basically, if you are able to create the view or group, you are also able to edit it.

  To rename a view or group, do the following on the *Setup* tab:

  1. Select the required view or group in the *Views* section.
  2. Click the *Rename* button:

     
  3. Overwrite the existing group name with a new name of your choice.

- **Deleting Views or Groups**

IMPORTANT: Deleting a group will delete all views and any subgroups within the group as well.

Note: Your ability to edit and delete views and groups depends on your user rights. Basically, if you are able to create the view or group, you are also able to edit and delete it.

To delete a view or group, do the following on the *Setup* tab:

1. Select the required view or group in the *Views* section.
2. Click the *Delete* button:

You will be asked to confirm that you want to delete the selected view or group.

- **Using Your Views on Different Computers**

Your user settings, including information about your views, are stored centrally on the surveillance system server.

This means that you are able to use your views, private as well as shared, on any computer that has a NetGuard-EVS installed, provided you log in to NetGuard-EVS with your own user name and password.

Note: From time to time your surveillance system administrator may make changes to camera or user properties on the surveillance system. When this is the case, such changes will take effect in NetGuard-EVS the first time you log in after the changes were made. Such changes may occasionally require you to re-create your views. Ask your system administrator if in doubt.

Once you have created views in NetGuard-EVS, you are able to add content to the views.

Note: Your ability to edit views—including adding content to the views—depends on your user rights. Basically, if you are able to create the view, you are also able to edit it.

Content can be video from individual cameras, *carousels* for viewing video from alternating cameras in a single view position, a *hotspot* for viewing selected video in high quality, static images (such as .gif, .jpeg, etc.), HTML pages, or NetMatrix-triggered video.

Adding Individual Cameras

To add a camera to a view, do the following:

1. In the *Setup* tab's *Views* section, select the required view. When you select a view, the layout of the selected view is outlined in the main section of NetGuard-EVS window.

2. In the *Setup* tab's *System Overview* section, click the plus sign ⊞ next to *Cameras*, then the plus sign ⊞ next to the required server to view a list of available cameras.

3. Select the required camera from the list, and drag the camera to the required position in the view.

When you have dragged a camera to a position in the view, an image from the camera will—provided a connection can be established—appear in the selected position. If a connection cannot be established, for example if the surveillance system's recording server is not running, the name of the camera will be displayed in the selected position.

4. When the camera position is selected, you are able to specify its properties (such as quality, frame rate, etc.) in the *Setup* tab's *Properties* section; see Adjusting Camera Properties for detailed information.

Repeat for each camera required in the view.

Tip: If you want to use all of the cameras under a server, you may simply drag the required server link to the view; this will automatically place all of the server's cameras in the view *from the selected position onwards*. Make sure a sufficient number of positions are available in the view.

Tip: You can easily change which cameras are included in your view: Either clear an individual camera position by clicking the clear button ⊠, then drag another camera to the cleared position, or simply overwrite a position by dragging a different camera to the position.

- ## Adding Carousels

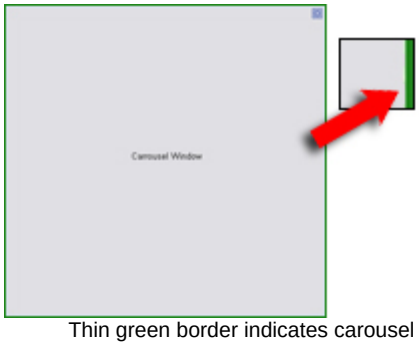
A carousel is used for displaying video from several cameras, one after the other, in a single view position. You are able to specify which cameras to include in the carousel as well as the interval between camera changes.

Note: IPIX cameras (special 360° view cameras) cannot be included in a carousel.

To add a carousel to a view, do the following on the *Setup* tab:

1. Drag the *System Overview* section's *Carousel* link to the required position in the view. When you release the mouse button over the required position, the *Carousel Setup* window opens.

   Tip: Note that the position gets a thin green border. The green border indicates that the position is used for a carousel; the green border will also be evident when using the view on the *Browse* and *Live* tabs.

   Thin green border indicates carousel

2. In the *Carousel Setup* window, specify which cameras to include in the carousel by selecting required cameras in the left part of the window, then clicking the *Add* button to add the selected cameras to the list in the right part of the window.

3. If required, move cameras up and down in the list to determine the sequence in which cameras will appear in the carousel.

4. Define the amount of time for which each camera should be displayed in the carousel; either with a common default, or individually for each camera.

5. Click *OK* to close the *Carousel Setup* window.

6. Make sure that the required position in the view is selected, then go to the *Properties* section in the left part of the *Setup* tab.

   In the *Properties* section, specify the following settings for the carousel:

   - ***Image Quality***: The setting—which will apply for all cameras included in the carousel—determines the video quality, but also affects bandwidth usage. If your NetGuard-EVS is used over the internet, over a slow network connection, or if for other reasons you need to limit bandwidth use, image quality can be reduced on the server side by selecting e.g. *Low* or *Medium*.

     When selecting a reduced image quality, video is re-encoded on the server to a JPEG format along the following lines:

     - *Full*: The default setting, providing the full quality of the original video.

- *SuperHigh (for megapixel)*: Re-encoding to an output width of 640 pixels (VGA) and a JPEG quality level of 25%.
- *High*: Re-encoding to an output width of 320 pixels (QVGA) and a JPEG quality level of 25%.
- *Medium*: Re-encoding to an output width of 200 pixels and a JPEG quality level of 25%.
- *Low*: Re-encoding to an output width of 160 pixels and a JPEG quality level of 20%.

Height will scale according to the width and the aspect ratio of the original video.

Your image quality selection will apply for JPEG as well as MPEG. For MPEG, however, only keyframes will be re-encoded.

Note: When viewing live video, you can double-click a carousel (or any other camera position in a view) to enlarge it (see Enlarging Camera Positions). When you do this, video from cameras included in the carousel is by default displayed in full quality, regardless of your image quality selection. This default cannot be overridden for carousels.

Note: While using a reduced image quality helps limit bandwidth use, it will—due to the need for re-encoding images—use additional resources on the surveillance system server.

- ***Frame Rate***: Lets you select a frame rate for the carousel. Select between *Unlimited* (default), *Medium*, or *Low*. The setting will apply for all cameras included in the carousel.

The effect of your selection can be illustrated by the following table:

Effect	Unlimited	Medium	Low
JPEG	Send all frames	Send every 4th frame	Send every 20th frame
MPEG (I-frame)	Send all frames	Send all frames	Send all frames
MPEG (P-frame)	Send all frames	Do not send any frames	Do not send any frames

Example: If you set the *Frame Rate* option to *Low* in your NetGuard-EVS, and your surveillance system administrator has configured a camera to feed JPEG images at a frame rate of 20 frames per second, you will experience an average of 1 frame per second when viewing video from the camera in the carousel. If your administrator had configured a camera with a feed as low as 4 frames per second, you would, with *Frame Rate* set to *Low* in your NetGuard-EVS, experience an average of 0,2 frames per second when viewing video from the camera in the carousel.

- ***Maintain Image Aspect Ratio*:** If check box is selected, the cameras' original image aspect ratio will be maintained; this will provide you with non-distorted images, but may lead to black bars appearing above/below images. If check box is cleared, images will be stretched to fit the carousel; this may lead to slightly distorted images, but you will avoid

any black bars appearing around the images. The setting will apply for all cameras included in the carousel.

Tip: If you later want to edit settings in the *Carousel Setup* window, select the required carousel position in the view, then click the *Properties* section's *Carousel Setup* button.

Tip: You are able to use several carousels in a single view.

- **Adding Hotspots**

With a hotspot, users will be able to select a camera in the view, and view enlarged and/or higher quality video from the selected camera in the view's hotspot.

For the hotspot you would usually select a one of the view's larger positions, for example the large position in a *1+7* view:

Advantages of Using a Hotspot

The fact that you can view enlarged video in the hotspot is not in itself what makes the hotspot useful; you can enlarge video from any camera in a view by double-clicking the required camera position.

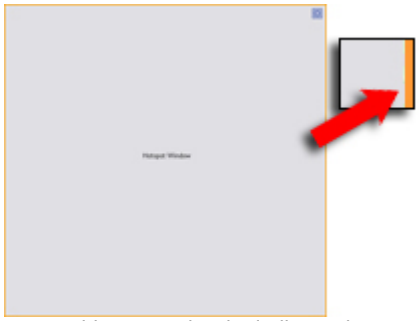
What makes the hotspot useful is that you can use a *low image quality and/or frame rate* for cameras in the view's regular positions and a *high image quality and/or frame rate* for the hot spot. Then, only when users select a camera for viewing in the hotspot will it be displayed in high quality and/or high frame rate. This can significantly help you save bandwidth on the remote connection.

Adding the Hotspot

To add a hotspot to a view, do the following on the *Setup* tab:

1. Drag the *System Overview* section's *Hotspot* link to the required position in the view, and release the mouse button over the required position.

   Tip: Note that the position gets a thin orange border. The orange border indicates that the position is used for a hotspot; the orange border will also be evident when using the view on the *Browse* and *Live* tabs.



Thin orange border indicates hotspot

2. When the hotspot position is selected, you are able to specify its properties in the *Setup* tab's *Properties* section:

- ***Image Quality*:** The setting determines the video quality, but also affects bandwidth usage.

  If your NetGuard-EVS is used over the internet, over a slow network connection, or if for other reasons you need to limit bandwidth use, image quality can be reduced on the server side by selecting e.g. *Low* or *Medium*.

  When selecting a reduced image quality, video is re-encoded on the server to a JPEG format along the following lines:

  - *Full*: The default setting, providing the full quality of the original video.
  - *SuperHigh (for megapixel)*: Re-encoding to an output width of 640 pixels (VGA) and a JPEG quality level of 25%.
  - *High*: Re-encoding to an output width of 320 pixels (QVGA) and a JPEG quality level of 25%.
  - *Medium*: Re-encoding to an output width of 200 pixels and a JPEG quality level of 25%.
  - *Low*: Re-encoding to an output width of 160 pixels and a JPEG quality level of 20%.

    Height will scale according to the width and the aspect ratio of the original image.

    Your image quality selection will apply for live as well as recorded video, and for JPEG as well as MPEG. For MPEG, however, only keyframes will be re-encoded when viewing live video, whereas all frames will be re-encoded when viewing recorded video.

    Note: When viewing live or recorded video, you can double-click a hotspot (or any other camera position in a view) to enlarge it (see Enlarging Camera Positions). When you do this, video from the camera displayed in the hotspot is by default displayed in full quality, regardless of your image quality selection. If you want to make sure that the selected image quality also applies when enlarged, select the *Keep when maximized* box, located immediately below the *Image Quality* setting.

    Note: While using a reduced image quality helps limit bandwidth use, it will—due to the need for re-encoding images—use additional resources on the surveillance system server.

- ***Frame Rate*:** Lets you select a frame rate for the hotspot. Select between *Unlimited* (default), *Medium*, or *Low*. The setting will apply for all cameras included in the hotspot.

  The effect of your selection can be illustrated by the following table:

Effect	Unlimited	Medium	Low
JPEG	Send all frames	Send every 4th frame	Send every 20th frame
MPEG (I-frame)	Send all frames	Send all frames	Send all frames
MPEG (P-frame)	Send all frames	Do not send any frames	Do not send any frames

  Example: If you set the *Frame Rate* option to *Low* in your NetGuard-EVS, and your surveillance system administrator has configured a camera to feed JPEG images at a frame rate of 20 frames per second, you will experience an average of 1 frame per second when viewing video from the camera in the hotspot. If your administrator had configured a camera with a feed as low as 4 frames per second, you would, with *Frame Rate* set to *Low* in your NetGuard-EVS, experience an average of 0,2 frames per second when viewing video from the camera in the hotspot.

- ***Maintain Image Aspect Ratio*:** If check box is selected, the cameras' original image aspect ratio will be maintained; this will provide you with non-distorted images, but may lead to black bars appearing above/below images. If check box is cleared, images will be stretched to fit the hotspot; this may lead to slightly distorted images, but you will avoid any black bars appearing around the images. The setting will apply for all cameras displayed in the hotspot.

Adding Static Images

Static images can be used in views for a variety of purposes: for company logos, for including floor plans or maps in the view, for including photos of wanted persons, etc.

To add a static image to a view, do the following on the *Setup* tab:

1. Drag the *System Overview* section's *Image* link to the required position in the view.
2. Release the mouse button over the required position. When you release the mouse button, you are able to select the required static image file.

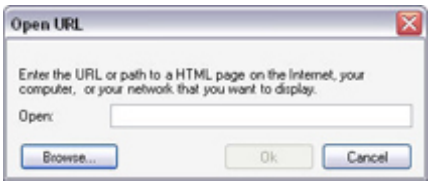
- **Adding HTML Pages**

HTML Pages can be used in views for a variety of purposes: for including company web pages, navigation pages, online map services, link collections, e-learning pages, etc.

Tip: When an imported HTML page contains links, it is highly recommended that the links have the `target='blank'` attribute (example: `<a href="otherwebpage.htm" target="blank">Link</a>`). This will make the links open in separate windows, which will help you avoid losing view of NetGuard-EVS window itself due to a link opening a web page in the same browser window as NetGuard-EVS.

To add an HTML page to a view, do the following on the *Setup* tab:

1. Drag the *System Overview* section's *HTML Page* link to the required position in the view. When you release the mouse button over the required position, the *Open URL* window opens.



2. In the *Open URL* window's *Open* field, type the location of the required HTML page (example: http://www.mywebsite.com/mywebpage.htm).

   - or -

   If the HTML page is stored locally on your computer, specify its location on your computer (example: C:\myfiles\mywebpage.htm), or click the *Browse...* button to browse for the required HTML page.

3. Click the *OK* button.

Changing the Properties of an HTML Page

Once an HTML page is added to a view, you are able to change its properties by doing the following:

4. On the *Setup* tab, select the imported HTML page in the view. Properties of the selected HTML page will appear in the *Setup* tab's *Properties* section.

2. Change the required property:

   - ***Url*:** Click the *New* button to specify a new URL or location of the required HTML page.
   - ***Scaling*:** Select the required scaling of the HTML page. The optimal scaling depends entirely on the content of the imported HTML page and how you want to display it.

     As a rule of thumb, with a high scaling value, e.g. 1280×1024, text on the HTML page will appear relatively small, and a considerable amount of content will be visible without the need for scrolling. With a low scaling value, e.g. 320×200, text on the HTML page will appear relatively large, and a relatively small amount of content can be displayed without the need for scrolling.

Examples of the same HTML page viewed with different scaling values

- ***Enable HTML scripting*:** Only select this feature if the HTML page is a custom-made HTML page to be used for navigating or triggering features inside NetGuard-EVS itself (see examples of such custom-made HTML pages in Using an HTML Page for Navigation).

  If selected, a client script required for navigating and controlling a number of features inside NetGuard-EVS will be added to the HTML page. For HTML pages which are not going to be used for such purposes, the client script cannot be used, and may even cause the HTML page to malfunction.

- ***Hide toolbar*:** By default, a simple navigation bar with is inserted above each imported HTML page. The navigation bar has four buttons; from left to right the buttons are *Back*, *Forward*, *Refresh* and *Home*:

  If you do not want the navigation bar, you can hide it by selecting *Hide toolbar*.

- **Adding NetMatrix Content**

Note: The ability to add NetMatrix content to views is available when connecting to selected surveillance systems only; see Surveillance System Differences.

NetMatrix is an integrated product that allows distributed viewing of video from any surveillance system camera to any monitor (known as a NetMatrix recipient) on a network. With a typical NetMatrix configuration, live video is automatically presented on the required NetMatrix recipient when defined events occur, for example when motion is detected, or when another user wishes to share important live video.

Provided NetMatrix has been configured on the surveillance system server, you are able to include NetMatrix content in your NetGuard-EVS views. Thus, when particular events occur, or another user wishes to share important occurrences with you, live video from particular cameras will automatically appear in your views' NetMatrix positions.

Which events or cameras are used in the NetMatrix setup depends entirely on the surveillance system server's NetMatrix configuration, or on what other users wish to share with you; you are not able to control this in NetGuard-EVS.

However, you are able to add NetMatrix content to as many view positions as required. This way you are able to watch live video from several NetMatrix-triggered sources at the same time.

If your view contains several NetMatrix positions, the positions are always ranked: One of the positions will be the primary NetMatrix position; another will be the secondary NetMatrix position, and so on.

When the first NetMatrix-triggered live video stream is received, it is automatically presented in the primary NetMatrix position in your view.

When the next NetMatrix-triggered video stream is received, a first-in-first-out principle begins to apply: the previously received video stream is quickly transferred to your view's secondary NetMatrix position, and the latest video stream is presented in your view's primary NetMatrix position, and so on.

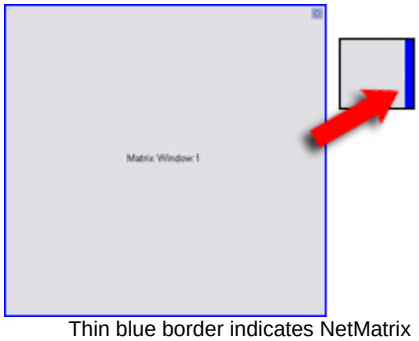
This way, you can always watch the latest video stream, while maintaining the last few previously received video streams in your view as well.

The positions' ranking is applied automatically: the first NetMatrix position you add to the view will automatically be the view's primary NetMatrix position, the next one you add will automatically be the secondary one, etc. If required, you can manually change the NetMatrix positions' ranking in the Setup tab's Properties section.

To add NetMatrix content to a view, do the following on the *Setup* tab:

1. Drag the *System Overview* section's *Matrix* link to the required position in the view, and release the mouse button over the required position.

   Tip: Note that the position gets a thin blue border. The blue border indicates that the position is used for NetMatrix content; the blue border will also be evident when using the view on the *Browse* and *Live* tabs.



Thin blue border indicates NetMatrix

2. When the NetMatrix position is selected, you are able to specify its properties in the *Setup* tab's *Properties* section:

   - ***Image Quality*:** The setting determines the quality of the video when viewed, but also affects bandwidth usage.

     If your NetGuard-EVS is used over the internet, over a slow network connection, or if for other reasons you need to limit bandwidth use, image quality can be reduced on the server side by selecting e.g. *Low* or *Medium*.

     When selecting a reduced image quality, images are re-encoded on the server to a JPEG format along the following lines:

     - *Full*: The default setting, providing the full quality of the original image.
     - *SuperHigh (for megapixel)*: Re-encoding to an image output width of 640 pixels (VGA) and a JPEG quality level of 25%.
     - *High*: Re-encoding to an image output width of 320 pixels (QVGA) and a JPEG quality level of 25%.
     - *Medium*: Re-encoding to an image output width of 200 pixels and a JPEG quality level of 25%.
     - *Low*: Re-encoding to an image output width of 160 pixels and a JPEG quality level of 20%.

       Height will scale according to the width and the aspect ratio of the original image.

       Your image quality selection will apply for live as well as recorded video, and for JPEG as well as MPEG. For MPEG, however, only keyframes will be re-encoded when viewing live video, whereas all images will be re-encoded when viewing recorded video.

Note: When viewing live or recorded video, you can double-click a NetMatrix position (or any other camera position in a view) to enlarge it (see Enlarging Camera Positions). When you do this, video from cameras included in the NetMatrix position is by default displayed in full quality, regardless of your image quality selection. If you want to make sure that the selected image quality also applies when enlarged, select the *Keep when maximized* box, located immediately below the *Image Quality* setting.

Note: While using a reduced image quality helps limit bandwidth use, it will—due to the need for re-encoding images—use additional resources on the surveillance system server.

- ***Frame Rate*:** Lets you select a frame rate for the NetMatrix position. Select between *Unlimited* (default), *Medium*, or *Low*. The setting will apply for all cameras included in the NetMatrix position.

  The effect of your selection can be illustrated by the following table:

Effect	Unlimited	Medium	Low
JPEG	Send all frames	Send every 4th frame	Send every 20th frame
MPEG (I-frame)	Send all frames	Send all frames	Send all frames
MPEG (P-frame)	Send all frames	Do not send any frames	Do not send any frames

  Example: If you set the *Frame Rate* option to *Low* in your NetGuard-EVS, and your surveillance system administrator has configured a camera to feed JPEG images at a frame rate of 20 frames per second, you will experience an average of 1 frame per second when viewing video from the camera in the NetMatrix position. If your administrator had configured a camera with a feed as low as 4 frames per second, you would, with *Frame Rate* set to *Low* in your NetGuard-EVS, experience an average of 0,2 frames per second when viewing video from the camera in the NetMatrix position.

- ***Maintain Image Aspect Ratio*:** If check box is selected, the cameras' original image aspect ratio will be maintained; this will provide you with non-distorted images, but may lead to black bars appearing above/below images. If check box is cleared, images will be stretched to fit the NetMatrix position; this may lead to slightly distorted images, but you will avoid any black bars appearing around the images. This setting will apply for all cameras displayed in the selected NetMatrix position.

- ***NetMatrix Window*:** Lets you change the NetMatrix position's ranking. *1* is the primary position in which video from the latest event is always shown, *2* is the secondary position in which video from the previously detected event is always shown, *3* is the tertiary position in which video from the event detected before the event in position *2* is always shown, and so on. The selected number cannot be higher than the total number of NetMatrix positions in the view: If the view only contains one NetMatrix position, the position must have number 1; if the view contains, for example, four NetMatrix positions, they must be numbered from 1 to 4.

- ***Connection Settings...*:** Button only available when the view's NetMatrix position *1* is selected; other NetMatrix positions in the view inherit the connection settings specified for

position *1*. Clicking the *Connection Settings...* button lets you specify the *TCP Port* and *Password* used when transferring NetMatrix-triggered video from the surveillance server to NetGuard-EVS view. By default, the TCP port used for NetMatrix is 12345; consult your surveillance system administrator if in doubt about which port number or password to use.

4. Repeat if more NetMatrix positions are required in the view.

- **Adding Other Content**

On some surveillance systems, you may be able to add more types of content to views in your NetGuard-EVS. Consult your surveillance system administrator if in doubt.

In the *Setup* tab's *Properties* section, you are able to adjust a number of settings for individual cameras. To adjust a camera's properties, select the required camera in the view (the selected position will be indicated by a bold border), then make the adjustments in the *Properties* section. Note that particular user rights may be required in order to access the *Setup* tab.

- **Camera Name**

The *Camera Name* field displays the name of the selected camera. The field is read-only.

- **Image Quality & Keep when Maximized**

The *Image Quality* setting determines the quality of video when viewed, but also affects bandwidth usage.

If your NetGuard-EVS is used over the internet, over a slow network connection, or if for other reasons you need to limit bandwidth use, image quality can be reduced on the server side by selecting e.g. *Low* or *Medium*.

When selecting a reduced image quality, images from the selected camera is re-encoded to a JPEG format on the surveillance system server before being sent to NetGuard-EVS. Re-encoding takes place along the following lines:

- ***Full*:** The default setting, providing the full quality of the original video.
- ***SuperHigh (for megapixel)*:** Re-encoding to an output width of 640 pixels (VGA) and a JPEG quality level of 25%.
- ***High*:** Re-encoding to an output width of 320 pixels (QVGA) and a JPEG quality level of 25%.
- ***Medium*:** Re-encoding to an output width of 200 pixels and a JPEG quality level of 25%.
- ***Low*:** Re-encoding to an output width of 160 pixels and a JPEG quality level of 20%.

Height will scale according to the width and the aspect ratio of the original video.

Your image quality selection will apply for live as well as recorded video, and for JPEG as well as MPEG. For MPEG, however, only keyframes will be re-encoded when viewing live video, whereas all frames will be re-encoded when viewing recorded video.

Note: While using a reduced image quality helps limit bandwidth use, it will—due to the need for re-encoding images—use additional resources on the surveillance system server.

Tip: You can quickly reduce the bandwidth usage for all cameras in the view by reducing the image quality for a single camera, then clicking the *Apply To All* button.

Keep When Maximized

When viewing live or recorded video, you can double-click a particular camera position in a view to enlarge it (see Enlarging Camera Positions). When you do this, video from the camera is by default displayed in full quality, regardless of your image quality selection.

If you want to make sure that the selected image quality also applies when enlarged, select the *Keep when maximized* box, located immediately below the *Image Quality* setting.

- **Frame Rate**

Lets you select a frame rate for the selected camera. Select between *Unlimited* (default), *Medium*, or *Low*.

The effect of your selection can be illustrated by the following table:

Effect	Unlimited	Medium	Low
JPEG	Send all frames	Send every 4th frame	Send every 20th frame
MPEG (I-frame)	Send all frames	Send all frames	Send all frames
MPEG (P-frame)	Send all frames	Do not send any frames	Do not send any frames

Example: If you set the *Frame Rate* option to *Low* in your NetGuard-EVS, and your surveillance system administrator has configured the camera to feed JPEG images at a frame rate of 20 frames per second, you will experience an average of 1 frame per second when viewing video from the camera on your NetGuard-EVS's *Live* tab. If your administrator had configured the camera with a feed as low as 4 frames per second, you would, with *Frame Rate* set to *Low* in your NetGuard-EVS, experience an average of 0,2 frames per second when viewing video from the camera on the *Live* tab.

- **IPIX Split Mode**

Available only if the selected camera is an IPIX camera. IPIX is a technology that allows creation and viewing of 360-degree panoramic images. NetGuard-EVS supports up to four different viewpoints from a single IPIX camera.

The IPIX Split Mode list lets you select the required spilt mode:

- ***One by One*** lets you view a single viewpoint.
- ***Two by Two*** lets you view four different viewpoints at a time.

When viewed on any of NetGuard-EVS's tabs, the IPIX camera will appear as specified, with either one or four viewpoints from the same image:

Tip: When viewing different viewpoints from an IPIX camera on the *Live* or *Browse* tabs, you are able to navigate each viewpoint independently by clicking inside each viewpoint, or by using the buttons in the *Live* or *Browse* tabs'*PTZ Control* sections.

- **Maintain Image Aspect Ratio**

  If check box is selected, video will not be stretched to fit the size of the camera position. Rather, video will be displayed with the aspect ratio (height/width relationship) with which it has been recorded.

  This may result in horizontal or vertical black bars appearing around the images from some cameras.

  If check box is cleared, video will be stretched to fit the position in the view; this may lead to slightly distorted video, but you will avoid any black bars appearing around the video.

  Example: The same image viewed with *Maintain Image Aspect Ratio* selected (left) and cleared (right)

- **Update on Motion**

  If selected, video from the selected camera will only be updated on NetGuard-EVS's *Live* tab when motion is detected.

  Depending on the motion detection sensitivity configured for the camera on the surveillance system server this can help reduce CPU usage significantly.

  If the video is only updated on motion, users will see the message *No motion* together with a still image in the camera's view position until motion is detected.

- **Sound on Motion Detection**

  When video from the camera is viewed on the *Live* tab, it is possible to get a simple sound notification when motion is detected.

  - ***Always off*:** Do not use sound notifications on detected motion.
  - ***Always on*:** Play a sound notification each time motion is detected on the camera.

  Will I receive lots of sound notifications? If you select *Always on*, the amount of motion-related sound notifications you are likely to receive will depend on the motion detection sensitivity of the camera in question. If motion detection for the camera is highly sensitive, you may at times receive very frequent sound notifications. The camera's motion detection sensitivity is configured on the surveillance system server; consult your surveillance system administrator if in doubt. If you select sound notifications for more than one camera, you may also hear more notifications—again depending on the cameras' motion detection sensitivity.

  Can I change the notification sound? By default, NetGuard-EVS uses a simple sound file for its sound notifications. The sound file, called *Notification.wav*, is located in NetGuard-EVS installation folder. If you want to use another .wav file as your notification sound, simply name the required file *Notification.wav* and place it in NetGuard-EVS installation folder instead of the original file. The file *Notification.wav* is used for

event as well as motion detection notifications; it is not possible to use different sound files for different cameras or to distinguish between event and motion detection notifications.

- **Sound on Event**

Note: This feature is only available if using your NetGuard-EVS with certain surveillance systems; see Surveillance System Differences. Even when using your NetGuard-EVS with a surveillance system supporting this feature, being able to use this feature requires that notifications on events have been configured on the surveillance system server. Consult your surveillance system administrator if in doubt.

When video from the camera is viewed on the *Live* tab, it is possible to get a simple sound alert when events related to the selected camera occur.

- ***Always off*:** Do not use sound alerts when events related to the camera occur.
- ***Always on*:** Play a sound alert each time an event related to the camera occurs.

What is an event? An event is a predefined incident occurring on the surveillance system. Depending on the surveillance system's configuration, events may be caused by input from external sensors connected to cameras, by detected motion, by data received from other applications, or manually through user input. Events are used by the surveillance system for triggering *actions*. Typically, most events on the surveillance system are generated automatically. For example, detected motion can be defined as an event which in turn triggers an action, such as recording on a camera.

Will I receive lots of sound notifications? If you select *Always on*, the amount of event-related sound notifications you are likely to receive will depend on the nature and number of events related to the camera in question. Events are configured on the surveillance system server; consult your surveillance system administrator if in doubt. If you select sound notifications for more than one camera, you may also hear more notifications—again depending on the surveillance system's event configuration.

Can I change the notification sound? By default, NetGuard-EVS uses a simple sound file for its sound notifications. The sound file, called *Notification.wav*, is located in NetGuard-EVS installation folder. If you want to use another .wav file as your notification sound, simply name the required file *Notification.wav* and place it in NetGuard-EVS installation folder instead of the original file. The file *Notification.wav* is used for event as well as motion detection notifications; it is not possible to use different sound files for different cameras or to distinguish between event and motion detection notifications.

- **Apply to All**

The *Apply To All* button lets you quickly apply the camera settings for the selected camera to all cameras in the view.

Live Video

You view live video on NetGuard-EVS's *Live* tab. When you select NetGuard-EVS's *Live* tab, your NetGuard-EVS will connect to the surveillance system server, and display live video from cameras in the selected view.

Note: Particular user rights may be required in order to access the *Live* tab. In order to view live video in NetGuard-EVS, the surveillance system's recording server must be running; consult your surveillance system administrator if in doubt. Depending on your user rights, access to viewing live video from some cameras may be restricted.

The *Live* tab offers you numerous features, including audio, carousels, hotspots, NetMatrix, camera shortcut menus, PTZ (Pan/Tilt/Zoom) control, digital zoom, events triggering, output triggering, and more.

Tip: NetGuard-EVS supports use of multiple windows when connected to selected surveillance systems. This is especially useful if your computer has more than one physical display attached, but from the *Live* and *Browse* tabs you can send individual views to separate windows as well. This way, you can watch more than one view at a time. See Using Multiple Windows for more information.

- **Live Video Is Not Necessarily Recorded**

  Even though you can see live video from a given camera, the video stream from the camera is not necessarily being recorded. This is actually one of the benefits of an IP-based digital surveillance system: Unlike old-style analog surveillance systems, where everything was recorded on a tape regardless whether it was relevant or not, an IP-based digital surveillance system allows much more targeted recording.

  Targeted recording frees security personnel, investigators, etc. from having to go through seemingly endless amounts of recordings in order to find a particular incident. Instead, the reduced amount of recordings—combined with NetGuard-EVS's advanced browsing and search features—allows recordings of particular incidents to be found quickly and effortlessly.

  Basically, live video streams from cameras pass through the surveillance system server. When required, the video stream is saved (recorded) on the server; when not required, the video stream is simply discarded. Video streams are typically saved on the server (recorded) either ...

  - according to a schedule (example: every morning from 10.00 to 11.30)

    - or/and -

  - whenever the surveillance system detects special events (examples: motion generated by a person entering a room; a sensor registering that a window is being opened; input from users).

  The surveillance system server's recording settings are determined by your surveillance system administrator. However, as a NetGuard-EVS user, you can also (provided you have the necessary user rights) start recording while viewing live video from a camera. See Recording when Viewing Live Video for more information.

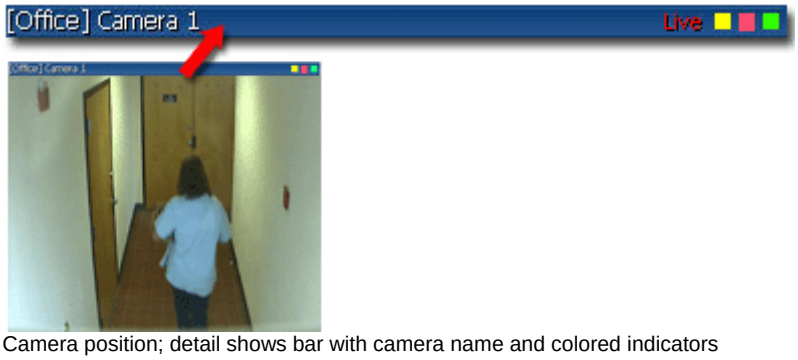
  Tip: When viewing live video on NetGuard-EVS's *Live* tab, you can quickly verify whether the video stream from a camera is being recorded: Look at the blue bar immediately above the camera's images. If the video stream from the camera is being recorded, the bar will display REC. Note that you may occasionally see the REC letters for short periods only. This is because cameras may have been configured to record only when there is motion, when a door is open, or similar, which can lead to many short periods of recordings.

Views and their Content

You are basically able to select a view in two ways:

- By selecting the required view in the *Live* tab's *Views* section.
- By selecting the required view from the *Views* list located in the upper part of the window.

Tip: If views have been assigned shortcut numbers (see How to Create & Manage Views), you will also be able to select a view by using keyboard shortcuts (see Using Standard Keyboard Shortcuts).
Each camera position in the *Live* tab's views is identified in a bar, located in the top of each camera position.



Camera position; detail shows bar with camera name and colored indicators

The bar displays the name of the camera as well as the name of the device to which the camera is connected. The device name is displayed first, in square brackets, followed by the camera name.

Each bar will display Live when live video is displayed, REC if video from the camera in question is being recorded, and Stopped if the camera is stopped and live viewing is not possible. A camera may be stopped for various reasons: Typically it is because the camera has been configured to only be available during certain hours of the day; other reasons may be camera or network maintenance, a change in configuration on the surveillance system server or similar. If all cameras display *Stopped*, it may indicate that the connection to the surveillance system server is lost. Consult your surveillance system administrator if in doubt.

The bar is dark blue. When you select a particular camera in the view, the bar of the selected camera position becomes a lighter blue.

Dark blue: camera is not selected

Light blue: camera selected

Colored Indicators

Each bar features three colored indicators:

- ***Event indicator*** (the leftmost of the three indicators, solid yellow): Lights up when specific events, defined by the surveillance system administrator, occur. Click anywhere inside the image to reset the event indicator. This indicator may appear black if event indication has not been specified for the camera in question, of if no specified events have occurred. Consult your surveillance system administrator if in doubt.

  Note: This feature is only available if using your NetGuard-EVS with certain surveillance systems; see Surveillance System Differences. Even when using your NetGuard-EVS with a surveillance system supporting this feature, being able to use the feature requires that notifications on events have been configured on the surveillance system server. Consult your surveillance system administrator if in doubt.

- ***Motion indicator*** (the indicator in the middle, solid red): Lights up when motion is detected in the image. Click anywhere inside the image to reset the motion indicator. This indicator may appear black if no motion has been detected.

- ***Online indicator*** (the rightmost of the three indicators, blinking green): Changes state every time a new image is received from the camera.

Tip: If configured (as part of individual cameras' properties on NetGuard-EVS's *Setup* tab), event ( ) and motion ( ) indications can be accompanied by sound notifications. See Adjusting Camera Properties for more information.
To enlarge video from a particular camera position in a view, double-click the camera position's blue bar. To return to normal view, simply double-click the blue bar again.

Double-clicking blue image bar enlarges view

Tip: Depending on configuration, video from the camera may be displayed in full quality when enlarged, even if reduced image quality has been selected for the camera on the *Setup* tab.
A carousel is used for displaying video from several cameras, one after the other, in a single view position. If a position in one of your views contains a carousel, you will be able to recognize it by the following characteristics:

- It displays video from different cameras, one after the other

- It is surrounded by a thin green border

You can enlarge a carousel by double-clicking the blue bar at the top of the carousel position.

Placing your mouse pointer over the blue bar at the top of a carousel position gives you access to buttons which let you pause the carousel as well as change the carousel's rotation direction:

Example: A carousel has been configured to display camera A, then camera B, then camera C, and so forth. By changing the direction, you can make the carousel display camera C, then camera, B, then camera A, etc.

Carousels are configured on NetGuard-EVS's *Setup* tab.
If a view contains a hotspot, you are able to select a camera in the view itself, or any other view you may have open, and view enlarged and/or higher quality video from the selected camera in the hotspot.

When a view contains a hotspot, the hotspot is usually—but not always—located in one of the view's larger positions, for example the large position in a *1+7* view: 

If a position in one of your views contains a hotspot, you will be able to recognize it by the following characteristics:

- When you select camera positions in the view, your selection is reflected in the hotspot
- It is surrounded by a thin orange border


Thin orange border indicates hotspot

How to Use a Hotspot

Note: To use the hotspot functionality, at least one of the views you are using must have a hotspot. If in doubt, look for the orange border indicating a hotspot position.

To use a hotspot, simply select a camera position in a view to automatically view video from the camera in the hotspot.

Advantages of Using a Hotspot

The fact that you can often view enlarged video in the hotspot is not in itself what makes the hotspot useful; you can enlarge video from any camera in a view by double-clicking the required camera position.

What makes the hotspot useful is that with a hot spot it is possible to use a *low image quality and/or frame rate* for cameras in the view's regular positions and a *high image quality and/or frame rate* for the hotspot. Then, only when you select a camera for viewing in the hotspot will video from the camera be displayed in high quality and/or high frame rate. This can really help save bandwidth on your remote connection.

Hotspots are configured on NetGuard-EVS's *Setup* tab.

Note: The ability to use NetMatrix content in views is available when connecting to selected surveillance systems only; see Surveillance System Differences.

NetMatrix is a feature in the surveillance system that allows distributed viewing of video from any surveillance system camera to any monitor (known as a NetMatrix recipient) on a network. With a typical NetMatrix configuration, video is automatically presented on the required NetMatrix recipient when defined events occur—for example when motion is detected—or when another user wishes to share important video.

Provided NetMatrix has been configured on the surveillance system server, and one or more special NetMatrix positions have been defined for your view, you are able to watch NetMatrix-triggered live video on NetGuard-EVS's *Live* tab: When particular events occur, or when other users wish to share important live video with you, live video from particular cameras will automatically appear in your views' NetMatrix positions.

Which events or cameras are used in the NetMatrix setup depends entirely on the surveillance system server's NetMatrix configuration, and on what other users wish to share with you; you are not able to control this in NetGuard-EVS.

If a position in one of your views contains NetMatrix content, you will be able to recognize it by the following characteristics:

- It automatically displays live video when predefined events occur, or when other users wish to share important live video with you
- It may display videos from different cameras, depending on which events have occurred or what other users wish to share with you
- It is surrounded by a thin blue border

As with other camera positions, you can enlarge a NetMatrix position by double-clicking the blue image bar above the image.

A view may contain several NetMatrix positions. This way you are able to watch live video from more than one NetMatrix-triggered source at the same time.

If your view contains several NetMatrix positions, the positions are always ranked: One of the positions will be the primary NetMatrix position; another will be the secondary NetMatrix position, and so on.

When the first NetMatrix-triggered live video stream is received, it is automatically presented in the primary NetMatrix position in your view.

When the next NetMatrix-triggered video stream is received, a first-in-first-out principle begins to apply: the previously received video stream is quickly transferred to your view's secondary NetMatrix position, and the latest video stream is presented in your view's primary NetMatrix position, and so on.

This way, you can always watch the latest video stream, while maintaining the last few previously received video streams in your view as well.

Which of the view's positions should be primary, secondary, etc. is determined on NetGuard-EVS's Setup tab.
By right-clicking inside one of a view's camera positions on the *Live* tab, you get access to a shortcut menu.

Note: Some of the shortcut menu's content may vary from camera to camera, depending on the configuration of the selected camera. Some features may require particular user rights; consult your surveillance system administrator if in doubt. Some of the features may only be available if supported by the surveillance system to which you connect; see Surveillance System Differences.

- ***Start Recordings for # Minutes*:** Lets you record video from the selected camera. Once started recording will continue for a number of minutes. Available for all cameras. See Recording when Viewing Live Video for more details.

- ***Copy*:** Lets you copy the displayed image to your clipboard. The copied image can then be pasted into other applications, such as word processors, etc. Available for all cameras. See Copying Single Images for more details.

- ***Camera*:** Lets you select another camera for display in the view position. This way you are able to switch between viewing video from different cameras in the same view position. Only available for single-camera positions; not for hotspots, carousels, or NetMatrix positions. See Switching Cameras in Camera Positions for more details.

- ***Sound Notifications*:** Lets you temporarily mute sound notifications. Only available for single-camera positions; not for hotspots, carousels, or NetMatrix positions. Only available if sound notifications (audible notifications triggered when events and/or motion occur) have been configured for the camera on NetGuard-EVS's *Setup* tab. See Handling Sound Notifications for more details.

- ***PTZ Presets*:** Lets you move a PTZ camera to its preset positions. Only available for single-camera positions, not for hotspots, carousels, or NetMatrix positions. Only available if the selected camera is a PTZ (Pan/Tilt/Zoom) camera. See Using PTZ for more details.

- ***NetMatrix*:** Lets you send video from the selected camera to a NetMatrix recipient. Only available for single-camera positions; not for hotspots or carousels. Only available if NetMatrix (an integrated product for distributed viewing of video, available with selected surveillance systems only) has been configured on your surveillance system, and you have the required user rights. See Sending Video to NetMatrix Recipients for more details.

- ***Send Camera*:** Lets you send video from the selected camera position to another single-camera position in an open view, including any views you may have open in floating windows or on secondary displays. Only available for single-camera positions; not for hotspots, carousels, or NetMatrix positions. See Sending Video between Views for more details.

Audio

Note: Audio is not supported by all surveillance systems; see Surveillance System Differences. Even on systems supporting audio, support for specific features may vary from system to system. Also, access to live audio, or certain live audio features, may be restricted depending on your user rights. Consult your surveillance system administrator if in doubt.

NetGuard-EVS supports both incoming and outgoing audio: From NetGuard-EVS you can listen to live recordings from microphones attached to cameras, and talk live to audiences through loudspeakers connected to cameras. If required, you can listen and talk simultaneously. This way you can interact directly with your audiences. Such two-way interaction requires that the involved cameras have microphones as well as speakers attached.

You can of course also use audio in cases where only microphones or speakers are attached to cameras. You handle audio in the *Live* tab's *Audio* section.

- ## Listening

  To listen to live audio, select the required microphone from the *Microphones* list.

  Tip: You can listen to audio independently of the views/cameras you are watching.

  Note: If the *Microphones* list displays *No microphone hardware*, your computer lacks the hardware required to play audio from the surveillance system; typically due to your computer not being equipped with an audio

card. If the list displays *No microphone sources*, your computer is able to play audio, but no microphones attached to cameras are available.

To temporarily mute the live audio, simply select *Mute*.

- **Talking**

To talk to audiences through speakers attached to cameras, do the following:

1. Select the required speakers from the *Speakers* list.

   Note: If the *Speakers* list displays *No speaker hardware*, your computer lacks the hardware required to use speakers on the surveillance system; typically due to your computer not being equipped with an audio card. If the list displays *No speaker sources*, your computer is able to use speakers, but no speakers attached to cameras are available.

2. Click the *Talk* button and keep it depressed whenever you need to talk. The fact that the button must be depressed—not unlike when using a walkie-talkie—gives you full control over what is actually transmitted through the speakers.

   Tip: When you talk, the level meter next to the *Talk* button will indicate the level of your voice. If deflection is very low, you may need to move closer to your microphone.

Example: Deflection on level meter

If the level meter shows no deflection at all, even when you move close to your microphone, verify that the microphone attached to your computer is correctly set up and connected.

Note: The surveillance system records incoming audio from microphones attached to cameras, even if no video is being recorded. However, outgoing audio transmitted through the camera's speakers is not recorded. Recordings therefore cannot be used to, for example, prove that a NetGuard-EVS operator gave an audience specific instructions through speakers.

Lock to Selected Speaker

If you select another camera or another view, your speaker selection will by default mirror this. This has the benefit that if you select another camera, which has speakers attached, you will immediately be able to talk through the new camera's speakers, without having to make a selection in the *Speakers* list.

However, if you want to talk through a particular camera's speakers even though you have selected another camera or another view, select *Lock to selected speaker*.

Example: You need to talk reassuringly to a crime victim through speakers attached to camera A, but you also need to watch cameras X, Y and Z, some of which are displayed in different views. By selecting *Lock to selected speaker*, you are able to talk to the victim on camera A while watching the other cameras.

Talking through Multiple Speakers Simultaneously

If your surveillance system has speakers attached to multiple cameras (and you have the necessary rights to access them), you are able to talk through all the speakers simultaneously: From the *Speakers* list select *All speakers*, then click the *Talk* button and keep it depressed whenever you need to talk.

- **Frequently Asked Questions about Live Audio**

Can I talk through multiple speakers simultaneously? Yes, if your surveillance system has speakers attached to multiple cameras (and you have the necessary rights to access them), you are able to talk through all the speakers simultaneously: From the *Speakers* list select *All speakers*, then click the *Talk* button and keep it depressed whenever you need to talk.

Can I adjust the recording volume of a microphone connected to a camera? NetGuard-EVS has no such feature, but it is very likely that you can adjust the recording volume either on the microphone itself or through the configuration interface of the camera device to which the microphone is attached. Consult your surveillance system administrator if in doubt.

Can I adjust the output volume of speakers connected to a camera? NetGuard-EVS has no such feature, although NetGuard-EVS's level meter—available when the *Talk* button is depressed—gives you an indication of the input level, which may in turn provide you with an idea of the output level. It is very likely that you can adjust the output volume either on the speakers themselves or through the configuration interface of the camera device to which the speakers are attached. Consult your surveillance system administrator if in doubt.

Will other NetGuard-EVS users be able to hear what I say through speakers? Under normal circumstances other NetGuard-EVS users will not be able to hear what you say. However, depending on the environment in which your organization operates, other users may be able to hear what you say if they listen to microphones which are physically located near the speakers through which you talk.

Will audio from microphones attached to cameras be recorded? The surveillance system records incoming audio from microphones attached to cameras, even if no video is being recorded.

Will what I say through speakers be recorded? The surveillance system can record incoming audio from microphones even if no video is being recorded. However, outgoing audio transmitted through speakers can only be recorded on some surveillance systems, and cannot be played back or exported. Recordings therefore cannot be used to, for example, prove that a NetGuard-EVS operator gave an audience specific instructions through speakers.

Digital Zoom

Digital zoom lets you enlarge a portion of a given image so you are able to have a closer look at the selected portion. Digital zoom is thus a useful feature for cameras which do not have their own optical zoom capabilities.

Your use of digital zoom will not affect any recording of the video; any recording will still take place in the camera's regular format. If you later wish to browse the recordings, you can use digital zoom on NetGuard-EVS's *Browse* tab as well.

- **Enabling & Disabling Digital Zoom**

  To enable digital zoom on the *Live* tab, select the *PTZ Control* section's *Digital Zoom* check box.

  To disable digital zoom, simply clear the *Digital Zoom* check box.

- **Digital Zoom Features**

  When digital zoom is enabled, you will see a small overview frame in the bottom right corner of each of the view's camera positions. Once you zoom in on an area of an image, the overview frame will help you maintain an overview of the complete image:

Overview frame inside image

To zoom in, click inside the required image and drag around the area you want to zoom in on. The area you select will be highlighted by a white border. When you release the mouse button, the zoom will take effect:

White border around zoom area

Even when you have zoomed in on an area, you are able to move to other areas of the image while maintaining your zoom level: simply drag the highlighted area in the overview frame to the required position:


Zoom area highlighted in overview frame

To get access to a slider for adjusting the zoom level, click inside the required image and move your mouse pointer up or down while pressing the SHIFT key on your keyboard:


Zoom level slider

Selecting a zoom level of *0%* lets you view the whole image again.

Tip: If you mouse has a scroll wheel, you can also use the scroll wheel to control the zoom level. On many mice, clicking the scroll wheel or middle mouse button quickly lets you view the whole image again.

What is the difference between optical and digital zoom? With optical zoom, a camera's lens elements physically move to provide the required angle of view without a loss of quality. With digital zoom, the required portion of an image is enlarged by cropping the image and then resizing it back to the pixel size of the original image—a process called interpolation. Digital zoom thus simulates optical zoom, but the digitally zoomed portion will have a lower quality than the original image.

Is digital zoom relevant for PTZ cameras? When viewing live video from PTZ (Pan/tilt/Zoom) cameras, you can use the PTZ cameras' own optical zoom features, so digital zoom is not highly relevant for PTZ cameras. You can, however, use the digital zoom feature with PTZ cameras too. This can occasionally be useful, for example if your user rights do not allow you to use the PTZ camera's own optical zoom features.

Events

If manual triggering of events has been defined on your surveillance system, you can trigger events on NetGuard-EVS's *Live* tab.

Note: Depending on your user rights, access to manually triggering events may be restricted.

What is an event? An event is a predefined incident occurring on the surveillance system. Events are used by the surveillance system for triggering *actions*. Depending on the surveillance system's configuration, events may be caused by input from external sensors connected to cameras, by detected motion, by data received from other applications, or manually through user input. Typically, most events on the surveillance system are generated automatically. For example, detected motion can be defined as an event which in turn triggers an action, such as recording on a camera. Events can be global or tied to a particular camera/device.

Depending on configuration, manually triggered events can be used for a wide variety of purposes, including triggering combinations of actions. For example, the manual triggering of an event could make a camera record with a particular frame rate, activate two different outputs, and send an e-mail alert to three different recipients.

Exactly what happens when you manually trigger an event is defined by your surveillance system administrator. Ask your surveillance system administrator if in doubt about using manually triggered events in your organization. Your surveillance system administrator may occasionally know manually triggered events under the names *event buttons* or *custom events*.

To manually trigger an event, select the required event in the *Event* section, and click the *Activate* button.

The list of selectable events is grouped by server and camera/device with which the event is associated. Hierarchically, global events will appear under the relevant server.

IPIX 360 Images

IPIX is a technology allowing creation and viewing of 360-degree panoramic images; it requires either a dedicated IPIX camera or a regular camera equipped with a special IPIX lens.

If IPIX cameras are included in the view, you are able to move to a specific position in the IPIX image, and then save that position by clicking the *Save* button under *IPIX PTZ Positions* in the *PTZ Control* section.

When you later want to return to the saved position, simply click the *Load* button.

Outputs

If external outputs have been defined on your surveillance system, for example for switching on lights or sounding a siren, such outputs can be triggered from NetGuard-EVS's *Live* tab.

Note: Depending on your user rights, access to triggering outputs may be restricted.

To trigger an output, select the required output in the *Output* section, then click *Activate* button.

The list of selectable outputs is grouped by server and camera/device to which the output is attached.

PTZ (Pan/Tilt/Zoom)

If your views contain PTZ (Pan/Tilt/Zoom) cameras, you can control the PTZ cameras with the *Live* tab's *PTZ Control* section.

Note: Depending on your user rights, access to PTZ controls from some cameras may be restricted.

Tip: You may be able to use a joystick for controlling your PTZ cameras. Joystick control can be customized; see Customizing Joystick Setup for further information. Even though joystick and point-and-click control is supported for a large number of PTZ cameras, not all PTZ cameras may be controlled this way. Refer to the release note for information about joystick and point-and-click support for PTZ cameras.

- **Point-and-Click**

  Many PTZ cameras may be controlled simply by pointing and clicking inside the images from the camera.

  If you see a set of crosshairs when placing your mouse pointer over the images from a PTZ camera, point-and-click control is supported for the camera.

  
  Crosshairs indicate point-and-click control.
  For some cameras, crosshairs may look different.

  For some cameras, crosshairs surrounded by a square may be displayed. When this is the case, you are able to zoom in on an area by dragging a square around the required area in the image.

  For such cameras, zoom level is controlled by holding down the SHIFT key on your keyboard while moving the mouse up or down; this will display a zoom level slider inside the image.

- **Zooming with Mouse Wheel**

  For PTZ and IPIX cameras, you are able to zoom in and out using the scroll wheel on your mouse, provided your mouse is equipped with a scroll wheel.

  Note: On individual mice, the scroll wheel may have been reserved for special purposes, in which case zooming may not be possible. Refer to your mouse configuration manual.

- ## PTZ Navigation Buttons

As an alternative to point-and-click control, use the navigation buttons in the *PTZ Control* section to move the selected PTZ camera.

The round middle button lets you quickly move the camera to its home (i.e. default) position. The *plus* and *minus* buttons lets you zoom in and out respectively.

Tip: If you mouse has a scroll wheel, you can also use the scroll wheel to control the zoom level. On many mice, clicking the scroll wheel or middle mouse button quickly lets you view the whole image again.

- ## PTZ Preset Positions

If preset positions have been defined for the selected PTZ camera, you are able to select such positions in two ways. Selecting a preset position from the list will make the PTZ camera move to the specified position.

- From the *PTZ Control* section's *Presets* list. Bear in mind that preset positions are defined by the surveillance system administrator; the *Presets* list will be empty if no preset positions have been defined for the selected PTZ camera.

- You can also move a PTZ camera to a preset position through a menu available when right-clicking on the required camera's position in a view on the *Live* tab:

    1. On the *Live* tab, select the required view.
    2. Right-click inside the required camera position; you now get access to a shortcut menu.
    3. In the menu, select *PTZ Presets*, then the required preset position.

    Selecting the preset position *Home* will move the camera to its default position.

- ## Stopping PTZ Patrolling

You can stop a patrolling PTZ camera (i.e. a PTZ camera which continuously moves between a number of preset positions according to a schedule) through a menu available when right-clicking on the required camera's position in a view on the *Live* tab:

Note: Only use this feature when there is an important reason to do so; PTZ patrolling schedules are often carefully planned in order to meet your organization's surveillance needs. If in doubt, consult your surveillance system administrator.

1. On the *Live* tab, select the required view.
2. Right-click inside the required camera position; you now get access to a shortcut menu.
3. In the menu, select *PTZ Presets* > *Stop PTZ Patrolling*.

To resume patrolling, either simply select the command again or close the view in which the PTZ camera is included.

Recorded Video

You view recorded video on NetGuard-EVS's *Browse* tab. When you select the *Browse* tab, NetGuard-EVS will connect to the surveillance system server, and display recorded video from the cameras in the selected view. This way, you are able to browse recorded video.

Note: Particular user rights may be required in order to access the *Browse* tab. Depending on your user rights, access to browsing video from some cameras may be restricted.

The *Browse* tab offers you numerous advanced features for browsing recorded video, including time navigation, a highly intuitive timeline browser, sequences browsing, alerts browsing, and smart search (which lets you search for motion in selected areas of recordings from a particular camera).

In addition to the video browsing features, the *Browse* tab also lets you listen to audio (when connected to selected surveillance systems only), use hotspots, use digital zoom, navigate IPIX images, print images, and export video evidence as AVIs (movie clips), JPEGs (still images) as well as database files.

Tip: NetGuard-EVS supports use of multiple windows when connected to selected surveillance systems. This is especially useful if your computer has more than one physical display attached, but from the *Live* and *Browse* tabs you can send individual views to separate windows as well. This way, you can watch more than one view at a time. See Using Multiple Windows for more information.

Views and their Content

You are basically able to select a view in two ways:

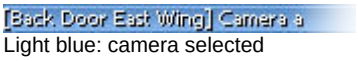
- By selecting the required view in the *Browse* tab's *Views* section.
- By selecting the required view from the *Views* list located in the upper part of the window.

Tip: If views have been assigned shortcut numbers (see How to Create & Manage Views), you will also be able to select a view by using keyboard shortcuts (see Using Standard Keyboard Shortcuts).
Each camera position in the *Browse* tab's views is identified by a bar, located in the top of each camera position.

The bar displays the name of the camera as well as the name of the device to which the camera is connected. The device name is displayed first, in square brackets, followed by the camera name. When video is displayed, the bar furthermore shows the date and time of the displayed video.

The bar is dark blue. When you select a particular camera in the view, the bar of the selected camera position becomes a lighter blue.

Dark blue: camera is not selected



Light blue: camera selected

Each bar features a recordings indicator, which is useful when browsing recordings. The indicator lights up green each time a new image is displayed.
To enlarge video from a particular camera position in a view, double-click the camera position's blue bar. To return to normal view, simply double-click the blue bar again.

Double-clicking blue image bar enlarges view

A carousel is normally used for displaying video from several cameras, one after the other, in a single view position.

When the selected view contains a carousel, the carousel will also appear when you are working on the *Browse* tab. A carousel, however, is only useful when working on the *Live* tab; not when working on the *Browse* tab. On the *Browse* tab, the carousel will simply list the name of the camera it was last displaying on the *Live* tab.

Like on NetGuard-EVS's other tabs, a carousel is indicated by a thin green border.
When the selected view contains a hotspot, the hotspot will also appear when you are working on the *Browse* tab.

Like on the *Live* tab, you are able to select a camera position in a view to automatically view the camera's video enlarged and/or in a higher quality in the hotspot.

You are of course able to browse the hotspot's video using the *Browse* tab's various navigation features.

Like on NetGuard-EVS's other tabs, a hotspot is indicated by a thin orange border.

Thin orange border indicates hotspot

Note: The ability to use NetMatrix content in views is available when connecting to selected surveillance systems only; see Surveillance System Differences.

NetMatrix is a feature in the surveillance system that allows distributed viewing of video from any surveillance system camera to any monitor (known as a NetMatrix recipient) on a network.

Provided NetMatrix has been configured on the surveillance system server, and one or more special NetMatrix positions have been defined for your view, you are able to browse NetMatrix-triggered video.

When the selected view contains one or more NetMatrix positions, the NetMatrix positions will also appear when you are working on the *Browse* tab.

On the *Browse* tab, the NetMatrix positions will simply display video from the cameras with which the NetMatrix positions were last used on the *Live* tab. You are of course able to browse this video using the *Browse* tab's various navigation features.

Like on NetGuard-EVS's other tabs, a NetMatrix position is indicated by a thin blue border.

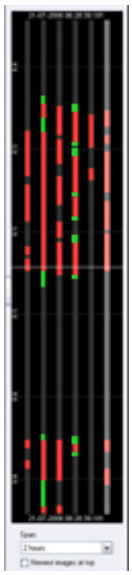
Thin blue border indicates NetMatrix

By right-clicking inside one of a view's camera positions on the *Browse* tab, you get access to a shortcut menu.

Note: Some of the following features may only be available if supported by the surveillance system; see Surveillance System Differences.

- ***Start Recording for # Minutes*:** Not available when browsing already recorded video on the Browse tab.
- ***Copy*:** Lets you copy the displayed image to your clipboard. The copied image can then be pasted into other applications, such as word processors, etc. Available for all cameras. See Copying Single Images for more details.
- ***Camera:*** Lets you select another camera for display in the view position. This way you are able to switch between viewing video from different cameras in the same view position. Only available for single-camera positions; not for hotspots, carousels, NetMatrix positions. See Switching Cameras in Camera Positions for more details.
- ***Sound Notifications*:** Not available when browsing already recorded video on the *Browse* tab.
- ***PTZ Presets*:** Not available when browsing already recorded video on the *Browse* tab.
- ***NetMatrix*:** Lets you send video from the selected camera to a NetMatrix recipient. Note that the *NetMatrix* command is not available if viewing the camera in a hotspot. Only available for single-camera positions; not for hotspots or carousels. Only available if NetMatrix (an integrated product for distributed viewing of video, available with selected surveillance systems only) has been configured on your surveillance system, and you have the required user rights. See Sending Video to NetMatrix Recipients for more details.
- ***Send Camera:*** Lets you send video from the selected camera position to another single-camera position in an open view, including any views you may have open in floating windows or on secondary displays. Only available for single-camera positions; not for hotspots, carousels, or NetMatrix positions. See Sending Video between Views for more details.

Video Browsing Features



The timeline browser displays an overview of periods with recordings from all cameras displayed in your current view.

The number of timelines displayed in the timeline browser reflects the number of cameras displayed in the view you are using. The timeline of the camera selected in the view is highlighted in a lighter color.

Timeline Browser's Colors

The timeline browser uses two colors:

- Red (●): Recordings with motion
- Green (●): Recordings without motion

The timeline browser prioritizes recordings with motion higher than recordings without motion: If there are recordings *with* as well as *without* motion within an interval of one minute, the timeline browser will treat the entire interval as an interval containing recordings with motion. This is why, depending on your individual camera settings, you will often see more red periods than green periods in the timeline browser.

Note: Administrator-defined prebuffered recording periods cannot be displayed in the timeline browser's timelines. The fact that these periods cannot be displayed in the timeline browser's timelines does not affect the recordings.

White Horizontal Line

The white horizontal line in the middle of the timeline browser indicates the point in time from which recordings are being displayed in the camera layout.

Time Span

Immediately below the timeline browser itself, you are able to specify which time span (1 hour, 2 hours, etc. up to 1 day) should be used in the timeline, and whether the newest recordings should be indicated at the top or at the bottom of the timeline.

How to Use the Timeline Browser

To browse recordings using the timeline browser, click inside the timeline browser, and move your mouse up or down without releasing the mouse button.

Tip: If your mouse has a scroll wheel, you can also use the scroll wheel for browsing the timelines. If using your mouse scroll wheel for browsing, you can quickly change the timeline browser's time span by pressing the CTRL key on your keyboard while scrolling.

Tip: Browsing is normally quite fast, but you are able to slow down the pace by pressing the CTRL key on your keyboard while browsing. Note that this does not apply if using your mouse's scroll wheel for browsing.

Tip: Double-click at any point within a timeline to quickly move to that point in time.

Hiding and Showing the Timeline Browser

The timeline browser is useful, but it takes up space in the view. When you do not need the timeline browser, you can hide it by clicking the small button in the left side of the timeline browser's border. The button is located near the timeline browser's white horizontal line:

To show the timeline browser, simply click the button again. When the timeline browser is hidden, the button will be available in the *Browse* tab's far right border.
The *Browse* tab's *Time Navigation* section provides you with controls for browsing and playing back recorded video from the camera selected in the view.

The area in the upper part of the *Time Navigation* section shows the master time and date of the recordings viewed. The master time is the time to which all the cameras viewed are tied.

This means that when you browse recordings, all the video you see in the view will, in principle, be from exactly the same point in time. Some cameras, however, may only record if motion is detected. Also, there may be no recorded video from one or more cameras in the view matching the specified point in time. When this is the case, the last image in the camera's database prior to the specified point in time will be displayed in the view.

The upper area also displays the current playback speed (example: 1.00x, indicating real-time).

- **Browse Buttons**

The *Time Navigation* section's browse buttons lets you manually navigate through recordings from the camera selected in the view.

	***Previous image*:** Moves to the image just before the one currently viewed
	***Next image*:** Moves to the image just after the one currently viewed
	***Previous sequence*:** Moves to the first image in the previous sequence
	***Next sequence*:** Moves to the first image in the following sequence
	***First image*:** Moves to the first image in the database for the selected camera
	***Last image*:** Moves to the last image in the database for the selected camera

- **Time Sliders**

The *Time Navigation* section's time sliders let you browse recordings simply by dragging the sliders' handles.

Drag to the left to move backwards in time; drag to the right to move forward in time.

Use the upper times slider for fine browsing within a limited period of time; use the lower slider for more coarse browsing within longer time spans.

- **Playback Slider and Buttons**

  The *Time Navigation* section's playback slider lets you specify the required playback speed. In the slider's middle position, playback speed is real-time (1.00x).

  Drag the slider to the left for a slower playback speed; drag to the right for a faster playback speed.

  An indication of the exact playback speed is displayed in the upper right corner of the *Time Navigation* section's *Master Time* area.

  Use the playback buttons to play back recordings:

	***Play reverse*:** Plays back recordings backwards in time
	***Play forward*:** Plays back recordings forward in time
	***Stop*:** Stops playback

  Tip: Dragging the playback slider to its leftmost position pauses playback.

- **Skip Gaps During Playback**

  To automatically skip gaps in recordings during playback, select the *Skip gaps during playback* check box.

  Such gaps are primarily evident when a camera has relatively few recordings.

  Note: The *Skip gaps during playback* feature is based on gaps in video only. As soon as there is a gap in video recordings, the feature will ensure that the gap is skipped even if there are audio recordings during the video gap. This means that if a recording contains video as well as audio, you may miss out on parts of the audio recordings if using this feature.

- **Quick Date and Time Navigation**

  The date and time fields in the lower part of the *Time Navigation* section let you quickly jump to a specific point in time.

  Specify required date in the first field and required time in the second field, then click the *Go To* button.

The *Browse* tab's *Sequences* section provides you with an overview of recorded sequences for the camera selected in the view.

To browse recordings using the *Sequences* section, select the required camera in the view, then click the *Sequences* section's *Get* Sequences button.

Clicking the *Get* Sequences button will retrieve a list of up to 40 sequences: 20 sequences prior to the point in time displayed in the view, and 20 sequences following the point in time displayed in the view.

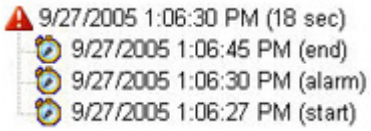
Each sequence will be listed with date and time as well as the length of the sequence.

Clicking a sequence in the list will move all video in the view to the time of the sequence.

If the *Preview* check box is selected, you are able to quickly preview each sequence by placing the mouse pointer over the required sequence in the list.

Clicking the *expand* icon ⊞ next to a sequence in the list will show you the exact date and time of the first and last image in the sequence as well as the exact date and time of the motion detection, event, etc. triggering the recording.

Sequences may often begin some seconds before a motion detection, event, etc. and end some seconds after. This so-called buffer allows you to be able to see what happens immediately before and after an incident; the buffer length is determined by the system administrator.



Expanded sequence indication. Date and time format may be different on your computer.

Note: The *Alerts* section is used for slightly different purposes, depending on which type of surveillance system you connect to; see Surveillance System Differences for details. Consult your surveillance system administrator if in doubt.

- **If You Are Connected to a NetEVS Surveillance System**

  The *Browse* tab's *Alerts* section lets you view a list of detected alerts.

  Alerts are short messages customized to suit your organization's needs. Examples of alerts: *Panic Button Pressed*, *Fire Exit 23 Open*, *Employee Clocking In*, etc. Alerts may be triggered for a variety of reasons; they are not necessarily related to system events, although that may often be the case.

  Listed alerts are clickable, allowing you to quickly jump to the time at which an alert occurred.

  To get a list of alerts, do the following:

  1. Select the required alert in the *Alerts* list.
  2. Click the *Get List* button. This will display a list of detected alerts. You are able to click the listed alerts to view recordings from the required alert in the view.

     Tip: To view what took place prior to and after the alert, use the *Time Navigation* controls to browse recordings from around the time of the alert.

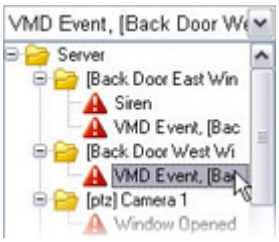
- **If You Are Connected to a NetDVMS, NetDVR or ProSight-SMB Surveillance System**

  The *Browse* tab's *Alerts* section lets you view a list of detected surveillance system events (occasionally known as alerts). Listed events are clickable, allowing you to quickly jump to the time at which an event occurred.

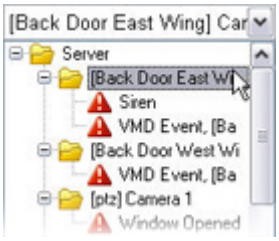
  To get a list of events, do the following:

  1. Select the required events in the *Alerts* list.

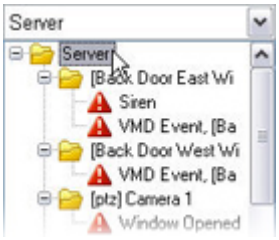
     You may either select a single event:

     Or all events on a particular camera:

     Or all events on a particular server:

  2. Click the *Get List* button. This will display a list of detected events. You are able to click the listed events to view recordings from the required event in the view.

     Tip: To view what took place prior to and after the event, use the *Time Navigation* controls to browse recordings from around the time of the event.

Smart search lets you search for motion in one or more selected areas of recordings from a particular camera.

Note: Smart search is only available when connecting to selected surveillance systems; see Surveillance System Differences. Smart search cannot be used for video from IPIX cameras. Depending on your user rights, access to smart search may be restricted.

To use smart search, do the following:

1. Select the *Browse* tab's *Smart Search* section.
2. Select the *Smart Search* section's *Show Grid* check box.
3. Select the required camera in the view. A blue grid overlay will appear on the image from the camera:

   This is the grid you selected in the previous step; the grid can be removed by clearing the *Show Grid* check box.

   Tip: For a better view, enlarge the camera image by double-clicking the blue bar above the image.

4. Click and drag inside the image to select the area in which you want to perform the smart search.

   Tip: You are able to select more than one area.

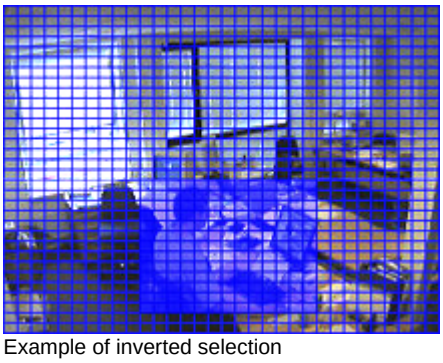
   The areas you select will become visible through the blue overlay. The blue overlay thus indicates areas to be *excluded* from the smart search:

   Example of selected area

   With the *Smart Search* section's *Include* and *Exclude* options, you are able to toggle between including/excluding areas when you drag.

   With the *Smart Search* section's *Invert* button, you are able to quickly invert your selection, if required.



Example of inverted selection

Tip: As an alternative to using the *Invert* button, simply press the SHIFT key on your keyboard while clicking/dragging to select an area.

5. Click the *Smart Search* section's *Save* button to save your search area settings.

   Tip: If you want to experiment with further changes to the search area, you can return to your saved search area settings by clicking the *Load* button.

6. In the *Smart Search* section, select required search sensitivity (*Very Low-Very High*) in the *Sensitivity* list.

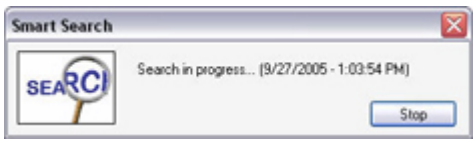
7. Select required image interval in the *Interval* list.

   If you select *All Images*, all images will be analyzed. If you select e.g. *10 seconds*, only one image per ten seconds of recordings will be analyzed. Selecting a long interval will greatly reduce the time required to complete the search. However, with a long interval, the search may not find motion sequences that are shorter than the specified interval.

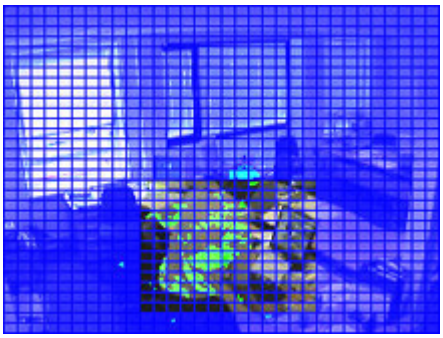
8. Click the *Next* (move forward in time) or *Previous* (move back in time) buttons to search through sequences with motion detected in the selected areas.

   Note: Smart search is always carried out from the time of the image you are viewing and forwards or backwards.

9. The smart search begins, and a progress window displays search progress.



   When a sequence with motion inside the selected area(s) is found, it will be displayed in the view. Motion will be highlighted:



Tip: The *Browse* tab's *Time Navigation* section control panel will show exact corresponding time information.

10. If required, click the *Next* or *Previous* button again to continue the smart search.

Audio

Note: Audio is not supported by all surveillance systems; see Surveillance System Differences. Even on systems supporting audio, support for specific features may vary from system to system. Also, access may be restricted depending on your user rights. Consult your surveillance system administrator if in doubt.

If one or more cameras have microphones attached, you are able to listen to recorded audio from a selected microphone when browsing recorded video on NetGuard-EVS's *Browse* tab.

To listen to recorded audio, select the required microphone in the *Audio* section's *Microphones* list.

To temporarily mute the recorded audio, simply select *Mute*.

Tip: You can listen to recorded audio independently of the views/cameras you are watching. However, the recorded audio you will hear will match the point in time you specify through the *Browse* tab's navigation features.

Note: If the *Microphones* list displays *No microphone hardware*, your computer lacks the hardware required to play audio from the surveillance system; typically due to your computer not being equipped with an audio card. If the list displays *No microphone sources*, your computer is able to play audio, but no microphones attached to cameras are available.

Why is the Speakers list not available? Some surveillance simply system do not support two-way audio; see Surveillance System Differences. Even on systems supporting two-way audio, outgoing audio from NetGuard-EVS is not recorded. Therefore, you are not able to listen to what was transmitted through speakers attached to cameras, and consequently you cannot select speakers from the list.

Digital Zoom

Just like on the *Live* tab, the *Browse* tab's *PTZ Control* section lets you use digital zoom on video from cameras displayed in a view. When viewing recorded video on the *Browse* tab, digital zoom is by default enabled, and you can use it for both regular cameras and PTZ (Pan/Tilt/Zoom) cameras.

If you have used digital zoom while viewing live video on the *Live* tab it will not have affected any recording; recording still takes place in the camera's regular format.

- **Digital Zoom Features**

  With digital zoom you will see a small overview frame in the bottom right corner of each of the view's camera positions. Once you zoom in on an area of an image, the overview frame will help you maintain an overview of the complete image:

Overview frame inside image

To zoom in, click inside the required image and drag around the area you want to zoom in on. The area you select will be highlighted by a white border. When you release the mouse button, the zoom will take effect:

White border around zoom area

Even when you have zoomed in on an area, you are able to move to other areas of the image while maintaining your zoom level: simply drag the highlighted area in the overview frame to the required position:


Zoom area highlighted in overview frame

To get access to a slider for adjusting the zoom level, click inside the required image and move your mouse pointer up or down while pressing the SHIFT key on your keyboard:


Zoom level slider

Selecting a zoom level of *0%* lets you view the whole image again.

Tip: If you mouse has a scroll wheel, you can also use the scroll wheel to control the zoom level. On many mice, clicking the scroll wheel or middle mouse button quickly lets you view the whole image again.

- ### Enabling & Disabling Digital Zoom

  On the *Browse* tab digital zoom is by default enabled. If you want to disable digital zoom, clear the *PTZ Control* section's *Digital Zoom* check box. To enable digital zoom again, simply select the *Digital Zoom* check box.

- ### Digital Zoom in Exported Evidence

  If you are going to export evidence in AVI or JPEG formats, you will be able to select whether to export the regular images or the digitally zoomed images. If exporting in the database format, it will not be necessary to make such a selection as recipients will be able to use digital zoom on the exported recordings.

- ### Digital Zoom in Printed Evidence

  If you print an image on which you have used digital zoom, the digitally zoomed area of the image will be printed.

What is the difference between optical and digital zoom? With optical zoom, a camera's lens elements physically move to provide the required angle of view. You cannot use optical zoom when viewing recorded video, simply because you cannot move the camera's lens retroactively. With digital zoom, the required portion of an image is enlarged by cropping the image and then resizing it

back to the pixel size of the original image—a process called interpolation. Digital zoom thus simulates optical zoom, but the digitally zoomed portion will have a lower quality than the original image. Digital zoom works equally well on live and recorded video.

IPIX 360 Images

IPIX is a technology allowing creation and viewing of 360-degree panoramic images; it requires either a dedicated IPIX camera or a regular camera equipped with a special IPIX lens

If your views include IPIX cameras, you can navigate recorded images from the IPIX cameras with the *Browse* tab's *PTZ Control* section.

Note: Use of IPIX cameras is not supported by all surveillance systems. Ask your surveillance system administrator if in doubt.

- **Navigation by Dragging inside IPIX Images**

  Many IPIX images may be navigated simply by dragging inside the images. If your mouse pointer changes to  when placed over the images from an IPIX camera, navigation by dragging is supported for the camera. Refer to the release note for information about supported features for individual IPIX cameras.

- **Navigation Buttons**

  As an alternative to navigation by dragging inside IPIX images, use the navigation buttons in the *PTZ Control* section to move around the view from the selected IPIX camera. The round middle button lets you quickly move the camera to its home (i.e. default) position. The *plus* and *minus* buttons lets you zoom in and out respectively.

  Tip: If you mouse has a scroll wheel, you can also use the scroll wheel to control the zoom level. On many mice, clicking the scroll wheel or middle mouse button quickly lets you view the whole image again.

- **Presets**

  The *Presets* list is not available for navigating IPIX images.

- **Defining a Favorite IPIX Position**

  You are able to move to a specific position in the IPIX image, and then save that position by clicking the *Save* button under *IPIX PTZ Positions* in the *PTZ Control* section. When you later want to return to the saved position, simply click the *Load* button.

PTZ (Pan/Tilt/Zoom)

Despite the fact that the *Browse* tab features a section named *PTZ Control*, you cannot use the section to control PTZ (Pan/Tilt/Zoom) cameras. This is due to the simple fact that the *Browse* tab is used for viewing already recorded video; you cannot control a PTZ camera retroactively.

Instead, the *Browse* tab's *PTZ Control* section is used for two purposes:

- For navigating IPIX images
- For using digital zoom on recorded video

Camera Messages

Message texts may under particular circumstances appear in white letters across one or more of a view's camera positions.

Example of camera message text

Possible messages (listed alphabetically) are:

- ***After Database End*:** Will appear on *Browse* tab only. Indicates that the time selected is after the time of the last recording in the camera's database. The last image in the camera's database will be shown in the camera position in order to indicate that recordings from the camera are available, but only from a time earlier than the selected time.

- ***Before Database Start***: Will appear on *Browse* tab only. Indicates that the time selected is before the time of the first recording in the camera's database. The first image in the camera's database will be shown in the camera position in order to indicate that recordings from the camera are available, but only from a time later than the selected time.

- ***Connected to [Device Name] [Camera Name] on [IP Address]:[Port Number]*:** Indicates that a connection to the camera has been established.

- ***Connecting to [Device Name] [Camera Name] on [IP Address]:[Port Number] ...***: Indicates that a connection to the camera is currently being established.

- ***Connection refused. Reason: ...*:** Indicates that connecting to the camera in question is not allowed, for example because your rights to access recordings from the camera have been changed by the surveillance system administrator. Consult your surveillance system administrator if in doubt.

- ***Connection to [Device Name] [Camera Name] on [IP Address]:[Port Number] lost!. Reconnecting ...*:** Indicates that connection to the camera has been lost, and that another connection attempt is currently being made.

- ***Connection to engine failed! Retrying ...*:** Indicates that a connection to the surveillance system server could not be established, and that another connection attempt is currently being made. This message may occur if connection to the surveillance system is temporarily lost. If your surveillance system consists of several interconnected servers, the message may also occur if the server from which you are requesting the camera's recordings is temporarily unavailable. If the problem persists, consult your surveillance system administrator.

- ***No images available for [Device Name] [Camera Name] on [IP Address]:[Port Number]. Database might be empty.*:** Will appear on *Browse* tab only. Indicates that it is not possible to show images from the camera; the very likely reason being that there are no recordings in the camera's database. Bear in mind that the settings determining when recordings from the camera are stored in the database are determined by the surveillance system administrator. Sometimes, the surveillance system administrator may specify that recordings should only be stored within particular time periods or when particular events occur. This may explain why you are perhaps able to view live video from the camera on NetGuard-EVS's *Live* tab, while at the same time you may find that no recordings have been stored for viewing on NetGuard-EVS's *Browse* tab.

- ***No motion*:** Indicates that motion is currently not detected in the camera's images; the images you see will not be updated until there is motion. This message will only appear if the surveillance system administrator has specified that images should only be updated when there is motion; a feature which can help reduce server load and bandwidth consumption. Consult your surveillance system administrator if in doubt.

- ***Not connected:*** Indicates that it is not possible to connect to the camera, for example because the camera itself is disconnected from the network. Consult your surveillance system administrator if in doubt.

- ***Not initialized:*** Indicates that the camera is not in an operative state. Consult your surveillance system administrator if the problem persists.

- ***The server is running out of disk space*:** Indicates that limited disk space is available on the surveillance system server. If more disk space is not made available on the surveillance system server, recording will be affected. Consult your surveillance system administrator.

- ***The server has encountered a database problem*:** Indicates that a database problem has occurred on the surveillance server. Consult your surveillance system administrator, who will have access to tools for diagnosing surveillance server database problems.

- ***The server has lost connection to the camera*:** Indicates that the surveillance server has lost connection to the camera. This may be a temporary issue, for example due to maintenance. Consult your surveillance system administrator if in doubt.

Surveillance System-Dependent Features

The majority of NetGuard-EVS's features are available regardless of which type of surveillance system you connect to. However, a few features will work differently depending on the type of surveillance system you connect to. Availability outlined in the following table refers to the latest version of each product.

Differences at a Glance	When NetGuard-EVS Is Used with a NetEVS Surveillance System	When NetGuard-EVS Is Used with a NetDVMS Surveillance System	When NetGuard-EVS Is Used with a NetDVR Surveillance System	When NetGuard-EVS Is Used with a ProSight-SMB Surveillance System
Login Authentication Methods	Windows authentication (current user). Windows authentication.	Windows authentication (current user). Windows authentication. Basic authentication.	Windows authentication (current user). Windows authentication. Basic authentication.	Windows authentication (current user). Windows authentication. Basic authentication.
Ability to connect to cameras from multiple servers	Available.	Available.	Not available.	Not available.
Shared Views	Shared views can be shared by all users or by selected users only. Shared views can be stored in more than one top-level folder. The folders can be visible for all users, or selected users only. Folders' names are determined by surveillance system administrator. Ability to edit shared views determined by user's role.	Shared views are shared by all users. All shared views always stored in a single top-level folder called *Shared*; the folder will be visible for all users. Ability to edit shared views determined by user's rights.	Shared views are shared by all users. All shared views always stored in a single top-level folder called *Shared*; the folder will be visible for all users. Ability to edit shared views determined by user's rights.	Shared views are shared by all users. All shared views always stored in a single top-level folder called *Shared*; the folder will be visible for all users. Ability to edit shared views determined by user's rights.
Smart Search	Available.	Available.	Available.	Not available.
Export formats	AVI, JPEG, Database.	AVI, JPEG, Database.	AVI, JPEG, Database.	AVI, JPEG.

Differences at a Glance	When NetGuard-EVS Is Used with a NetEVS Surveillance System	When NetGuard-EVS Is Used with a NetDVMS Surveillance System	When NetGuard-EVS Is Used with a NetDVR Surveillance System	When NetGuard-EVS Is Used with a ProSight-SMB Surveillance System
Audio (provided microphones/ speakers are available on surveillance system)	Two-way audio available. Incoming and outgoing audio can be recorded, but only incoming audio (from microphones) can be played back and exported.	Two-way audio available. Only incoming audio (from microphones) is recorded and can be included when exporting evidence in the database format.	One-way audio (recordings by microphones) available. Recorded audio can be included when exporting evidence in the database format.	One-way audio (recordings by microphones) available.
Event Indicator on Live Tab	Not available.	Available, provided notifications on events have been configured on the surveillance system server.	Available, provided notifications on events have been configured on the surveillance system server.	Available, provided notifications on events have been configured on the surveillance system server.
Sound on Event	Not available.	Available, provided notifications on events have been configured on the surveillance system server.	Available, provided notifications on events have been configured on the surveillance system server.	Available, provided notifications on events have been configured on the surveillance system server.
Alerts Section on Browse Tab	Used for browsing based on alerts. Alerts are short messages customized to suit your organization's needs. Examples of alerts: *Panic Button Pressed*, *Employee Clocking In*, etc. Alerts may be triggered for a variety of reasons; they are not necessarily related to system events, although that may often be the case.	Used for browsing based on system events.	Used for browsing based on system events.	Used for browsing based on system events.
Ability to use NetMatrix content in views.	Available, provided NetMatrix has been configured on the surveillance system	Available, provided NetMatrix has been configured on the surveillance system	Available, provided NetMatrix has been configured on the surveillance system	Not available.

Differences at a Glance	When NetGuard-EVS Is Used with a NetEVS Surveillance System	When NetGuard-EVS Is Used with a NetDVMS Surveillance System	When NetGuard-EVS Is Used with a NetDVR Surveillance System	When NetGuard-EVS Is Used with a ProSight-SMB Surveillance System
	server, and user has a role with necessary NetMatrix rights.	server.	server.	
Ability to Send Video to NetMatrix Recipients through NetGuard-EVS Shortcut Menu	Available, provided NetMatrix has been configured on the surveillance system server, and user has a role with necessary NetMatrix rights.	Available, provided NetMatrix has been configured on the surveillance system server.	Available, provided NetMatrix has been configured on the surveillance system server.	Not available.
Failover servers	Available, if configured on surveillance system. Failover servers can take over if recording servers become unavailable. You may experience a short break if viewing video when a failover server takes over from a recording server, or vice versa, as your views must be reloaded in your NetGuard-EVS.	Not available.	Not available.	Not available.
Multiple windows	Available.	Available.	Available.	Not available.
Language packs	Not available.	Available, if configured on surveillance system, when connecting to recent versions.	Not available.	Not available.
Surveillance systems welcome pages, from which you can download NetGuard-EVS Client, may look differently depending on the surveillance system version you connect to. Some versions provide extended features, such as the ability to view the welcome page in the language of your choice.				
Ask your surveillance system administrator if in doubt about which type of surveillance system you connect to.				

How to ...

Advanced Features

In addition to displaying video, NetGuard-EVS is able to display static images and HTML pages. Such HTML pages may be used for intuitively switching between different views in NetGuard-EVS.

For example, you may insert a clickable floor plan of a building, and you would be able to simply click a part of the floor plan to instantly switch to a view displaying video from the required part of the building.

In the following, you will see examples of HTML pages for NetGuard-EVS navigation: a simple HTML page with buttons, and a more advanced HTML page with a clickable image map. For surveillance system administrators wishing to create and distribute such HTML pages to NetGuard-EVS users, a check list outlining the tasks involved is also provided.

Tip: NetGuard-EVS is highly flexible when it comes to customizing navigation and other features. For advanced users it is possible to create approximately 100 different function calls in NetGuard-EVS. See Scripting for more information.

- **Example of an HTML Page with Button Navigation**

  A very quick solution is to create an HTML page with buttons for navigation. You are able to create a wide variety of buttons on the HTML page. In this example, we will just create two types of buttons:

  - **Buttons for switching between NetGuard-EVS's views**

    Required HTML syntax:

    ```
    <input type="button" value="Buttontext"
    onclick="SCS.Views.SelectView('Viewstatus.Groupname.Viewname');">
    ```

    Where *Viewstatus* indicates whether the view is shared or private (if the HTML page is to be distributed to several users, the view *must* be shared).

    Example from a real button:

    ```
    <input type="button" value="Go to Shared Group1 View2"
    onclick="SCS.Views.SelectView('Shared.Group1.View2');">
    ```

    This button would allow users to go to a view called *View2* in a shared group called *Group1*.

  - **Buttons for switching between NetGuard-EVS's three tabs: *Live*, *Browse* and *Setup***

    Bear in mind that, depending on their user rights, some users may not be able to access all three tabs.

    Required HTML syntax:

    ***Live* tab:**`<input type="button" value="Buttontext"
    onclick="SCS.Application.ShowLive();">`

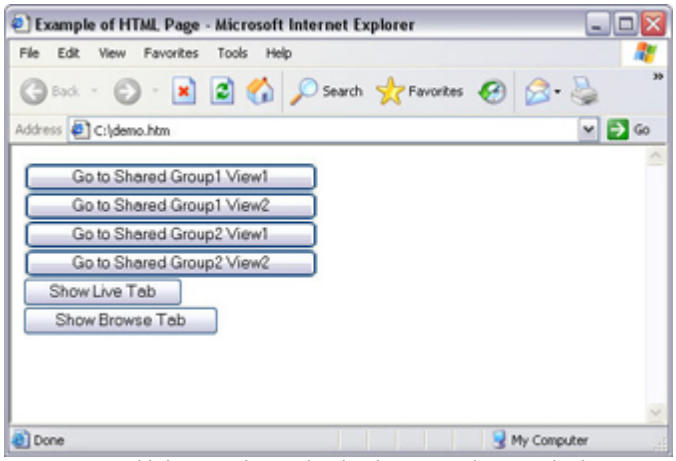
    ***Browse* tab:**`<input type="button" value="Buttontext"
    onclick="SCS.Application.ShowBrowse();">`

***Setup* tab:**
```
<input type="button" value="Buttontext"
onclick="SCS.Application.ShowSetup();">
```

Tip: For advanced users it is possible to create many other types of buttons using the approximately 100 different function calls available for NetGuard-EVS. See Scripting for more information.

In the following we have created two shared groups in NetGuard-EVS. We have called them *Group1* and *Group2*. Each group contains two views, called *View1* and *View2*.

We have also created an HTML page with buttons allowing users to switch between our four different views as well as between two of NetGuard-EVS's tabs, *Live* and *Browse*. When viewed in a browser, our HTML page looks like this:



HTML page with buttons for navigating between views and tabs

We have saved the HTML page locally, in this case on the user's C: drive. When the HTML page is to be used for navigation, saving the HTML page locally is necessary because of security features in Internet Explorer.

When saving the HTML page locally, save it at a location to which an unambiguous path can be defined, for example in a folder on the user's C: drive (example: C:\myfolder\file.htm). Saving the HTML page on the user's desktop or in the user's *My Documents* folder will not work properly due to the way Windows constructs the path to such locations.

We then imported the HTML page into the required NetGuard-EVS views. When importing the HTML page, we made sure to select *Enable HTML scripting* in the HTML page's *Properties* on the *Setup* tab.

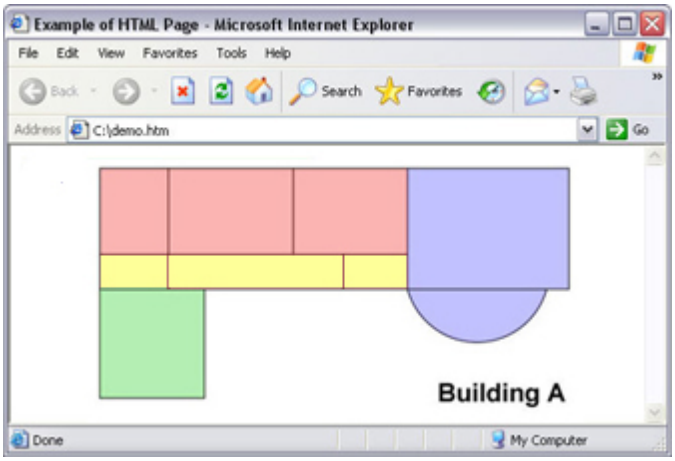
Selecting *Enable HTML scripting* ensures that the scripting required for the buttons to work is automatically inserted in the HTML page.

- **Example of an HTML Page with Image Map Navigation**

You may also create an HTML page with more advanced content, for example an image map allowing users to switch between views.

Note: How you structure and create an image map is highly individual. Providing sample HTML for you to work with would not be useful because the HTML page, the images, the coordinates, and the actions to take when users click the various areas of an image map are likely to be completely different for every implementation. This example thus outlines the use of image maps in general terms.

In the following example we have kept the two groups and two views from the previous example. Instead of using buttons, we have created an HTML page with an image of a floor plan, and created an image map based on the floor plan. Viewed in a browser, our HTML page looks like this:



HTML page with image map for navigating between views

For this example, we divided the floor plan into four colored zones, and defined an image map area for each zone. This way, users will be able to simply click a zone in order to go to the view displaying cameras from that zone.

For instance, the red zone on our image map mirrors the *Go to Shared Group2 View2* button from the previous example: When clicking inside the red zone, users will go to View2 in Group2.

- **Importing the HTML Page**

Importing a navigation HTML page into a view is in principle no different from importing any other type of HTML page into a view in NetGuard-EVS. The two important things to remember are:

- The HTML page should be stored locally on the user's PC
- You should make sure HTML scripting is enabled on the HTML page when importing it

To import the HTML page, do the following:

1. Go to NetGuard-EVS's *Setup* tab.
2. From the *Setup* tab's *System Overview* section, drag the *HTML Page* item to the required position in the required view.
3. This will open the *Open URL* dialog, in which you specify the required HTML page.

4. Having imported the HTML page, select its position in the view, and go to the *Setup* tab's *Properties* section.

5. In the *Properties* section, select *Enable HTML Scripting*.

   Selecting *Enable HTML Scripting* ensures that the scripting required for your buttons or other navigation features to work is automatically inserted in the HTML page.

6. Depending on the navigation features you have included on your HTML page, you may often want to import the HTML page into several views in order for the navigation to fully work.

- ## System Administrator's Check List

  Surveillance system administrators wishing to create and distribute navigation HTML pages to NetGuard-EVS users, do the following:

  1. **Create** the required HTML page. The navigation controls in the HTML page must match the views users see in their NetGuard-EVSs. For example, in order for a button leading to View1 to work, a view called View1 must exist in users' NetGuard-EVSs. If you intend to distribute the HTML page to a group of users, the views in which the HTML page will be used should be placed in shared groups.

  2. **Save** the HTML page locally on each computer on which it will be used. When saving the HTML page locally, save it at a location to which an unambiguous path can be defined, for example in a folder on the user's C: drive (example: C:\myfolder\file.htm). Saving the HTML page on the user's desktop or in the user's *My Documents* folder will not work properly due to the way Windows constructs the path to such locations.

  3. **Import** the HTML page into NetGuard-EVS views in which it will be used. Having imported the HTML page, select its position in the view, go to the *Setup* tab's *Properties* section, and verify that *Enable HTML Scripting* is selected.

  4. **Test** that the navigation controls on the imported HTML page work as intended.

  5. **Enjoy** simple and intuitive NetGuard-EVS navigation, tailored to meet your organization's needs.

- ## Troubleshooting

  If your HTML navigation page does not work as intended, consider the following:

  - Have you used the correct syntax in your HTML?

  - Have you selected *Enable HTML Scripting* after importing the HTML page?

  - Does the intended audience have the rights to required benefit from the HTML navigation page? Bear in mind that depending on their user rights, some users may not have access to certain cameras, views, features or tabs in their NetGuard-EVSs.

Audio

Note: Audio is not supported by all surveillance systems; see Surveillance System Differences. Even on systems supporting audio, support for specific features may vary from system to system. Also, access to live audio, or certain live audio features, may be restricted depending on your user rights. Consult your surveillance system administrator if in doubt.

NetGuard-EVS supports both incoming and outgoing audio: From NetGuard-EVS you can listen to live recordings from microphones attached to cameras, and talk live to audiences through loudspeakers connected to cameras. If required, you can listen and talk simultaneously. This way you can interact directly with your audiences. Such two-way interaction requires that the involved cameras have microphones as well as speakers attached.

You can of course also use audio in cases where only microphones or speakers are attached to cameras. You handle audio in the *Live* tab's *Audio* section.

- ## Listening

  To listen to live audio, select the required microphone from the *Microphones* list.

  Tip: You can listen to audio independently of the views/cameras you are watching.

  Note: If the *Microphones* list displays *No microphone hardware*, your computer lacks the hardware required to play audio from the surveillance system; typically due to your computer not being equipped with an audio card. If the list displays *No microphone sources*, your computer is able to play audio, but no microphones attached to cameras are available.

  To temporarily mute the live audio, simply select *Mute*.

- ## Talking

  To talk to audiences through speakers attached to cameras, do the following:

  1. Select the required speakers from the *Speakers* list.

     Note: If the *Speakers* list displays *No speaker hardware*, your computer lacks the hardware required to use speakers on the surveillance system; typically due to your computer not being equipped with an audio card. If the list displays *No speaker sources*, your computer is able to use speakers, but no speakers attached to cameras are available.

  2. Click the *Talk* button and keep it depressed whenever you need to talk. The fact that the button must be depressed—not unlike when using a walkie-talkie—gives you full control over what is actually transmitted through the speakers.

     Tip: When you talk, the level meter next to the *Talk* button will indicate the level of your voice. If deflection is very low, you may need to move closer to your microphone.

     Example: Deflection on level meter

If the level meter shows no deflection at all, even when you move close to your microphone, verify that the microphone attached to your computer is correctly set up and connected.

Note: The surveillance system records incoming audio from microphones attached to cameras, even if no video is being recorded. However, outgoing audio transmitted through the camera's speakers is not recorded. Recordings therefore cannot be used to, for example, prove that a NetGuard-EVS operator gave an audience specific instructions through speakers.

Lock to Selected Speaker

If you select another camera or another view, your speaker selection will by default mirror this. This has the benefit that if you select another camera, which has speakers attached, you will immediately be able to talk through the new camera's speakers, without having to make a selection in the *Speakers* list.

However, if you want to talk through a particular camera's speakers even though you have selected another camera or another view, select *Lock to selected speaker*.

Example: You need to talk reassuringly to a crime victim through speakers attached to camera A, but you also need to watch cameras X, Y and Z, some of which are displayed in different views. By selecting *Lock to selected speaker*, you are able to talk to the victim on camera A while watching the other cameras.

Talking through Multiple Speakers Simultaneously

If your surveillance system has speakers attached to multiple cameras (and you have the necessary rights to access them), you are able to talk through all the speakers simultaneously: From the *Speakers* list select *All speakers*, then click the *Talk* button and keep it depressed whenever you need to talk.

- **Frequently Asked Questions about Live Audio**

Can I talk through multiple speakers simultaneously? Yes, if your surveillance system has speakers attached to multiple cameras (and you have the necessary rights to access them), you are able to talk through all the speakers simultaneously: From the *Speakers* list select *All speakers*, then click the *Talk* button and keep it depressed whenever you need to talk.

Can I adjust the recording volume of a microphone connected to a camera? NetGuard-EVS has no such feature, but it is very likely that you can adjust the recording volume either on the microphone itself or through the configuration interface of the camera device to which the microphone is attached. Consult your surveillance system administrator if in doubt.

Can I adjust the output volume of speakers connected to a camera? NetGuard-EVS has no such feature, although NetGuard-EVS's level meter—available when the *Talk* button is depressed—gives you an indication of the input level, which may in turn provide you with an idea of the output level. It is very likely that you can adjust the output volume either on the speakers themselves or through the configuration interface of the camera device to which the speakers are attached. Consult your surveillance system administrator if in doubt.

Will other NetGuard-EVS users be able to hear what I say through speakers? Under normal circumstances other NetGuard-EVS users will not be able to hear what you say. However, depending on the environment in which your organization operates, other users may be able to hear what you say if they listen to microphones which are physically located near the speakers through which you talk.

Will audio from microphones attached to cameras be recorded? The surveillance system records incoming audio from microphones attached to cameras, even if no video is being recorded.

Will what I say through speakers be recorded? The surveillance system can record incoming audio from microphones even if no video is being recorded. However, outgoing audio transmitted through speakers can only be recorded on some surveillance systems, and cannot be played back or exported. Recordings therefore cannot be used to, for example, prove that a NetGuard-EVS operator gave an audience specific instructions through speakers.

Note: Audio is not supported by all surveillance systems; see Surveillance System Differences. Even on systems supporting audio, support for specific features may vary from system to system. Also, access may be restricted depending on your user rights. Consult your surveillance system administrator if in doubt.

If one or more cameras have microphones attached, you are able to listen to recorded audio from a selected microphone when browsing recorded video on NetGuard-EVS's *Browse* tab.

To listen to recorded audio, select the required microphone in the *Audio* section's *Microphones* list.

To temporarily mute the recorded audio, simply select *Mute*.

Tip: You can listen to recorded audio independently of the views/cameras you are watching. However, the recorded audio you will hear will match the point in time you specify through the *Browse* tab's navigation features.

Note: If the *Microphones* list displays *No microphone hardware*, your computer lacks the hardware required to play audio from the surveillance system; typically due to your computer not being equipped with an audio card. If the list displays *No microphone sources*, your computer is able to play audio, but no microphones attached to cameras are available.

Why is the Speakers list not available? Some surveillance simply system do not support two-way audio; see Surveillance System Differences. Even on systems supporting two-way audio, outgoing audio from NetGuard-EVS is not recorded. Therefore, you are not able to listen to what was transmitted through speakers attached to cameras, and consequently you cannot select speakers from the list.

Cameras

Once you have created views in NetGuard-EVS, you are able to add content to the views.

Note: Your ability to edit views—including adding content to the views—depends on your user rights. Basically, if you are able to create the view, you are also able to edit it.

Content can be video from individual cameras, *carousels* for viewing video from alternating cameras in a single view position, a *hotspot* for viewing selected video in high quality, static images (such as .gif, .jpeg, etc.), HTML pages, or NetMatrix-triggered video.

- **Adding Individual Cameras**

  To add a camera to a view, do the following:

  1. In the *Setup* tab's *Views* section, select the required view. When you select a view, the layout of the selected view is outlined in the main section of NetGuard-EVS window.

  2. In the *Setup* tab's *System Overview* section, click the plus sign ⊞ next to *Cameras*, then the plus sign ⊞ next to the required server to view a list of available cameras.

3. Select the required camera from the list, and drag the camera to the required position in the view.

When you have dragged a camera to a position in the view, an image from the camera will—provided a connection can be established—appear in the selected position. If a connection cannot be established, for example if the surveillance system's recording server is not running, the name of the camera will be displayed in the selected

position.

4. When the camera position is selected, you are able to specify its properties (such as quality, frame rate, etc.) in the *Setup* tab's *Properties* section; see Adjusting Camera Properties for detailed information.

Repeat for each camera required in the view.

Tip: If you want to use all of the cameras under a server, you may simply drag the required server link to the view; this will automatically place all of the server's cameras in the view *from the selected position onwards*. Make sure a sufficient number of positions are available in the view.

Tip: You can easily change which cameras are included in your view: Either clear an individual camera position by clicking the clear button , then drag another camera to the cleared position, or simply overwrite a position by dragging a different camera to the position.

- ## Adding Carousels

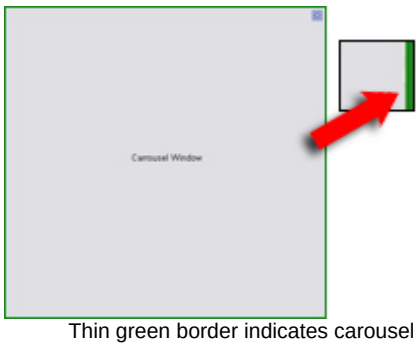
A carousel is used for displaying video from several cameras, one after the other, in a single view position. You are able to specify which cameras to include in the carousel as well as the interval between camera changes.

Note: IPIX cameras (special 360° view cameras) cannot be included in a carousel.

To add a carousel to a view, do the following on the *Setup* tab:

1. Drag the *System Overview* section's *Carousel* link to the required position in the view. When you release the mouse button over the required position, the *Carousel Setup* window opens.

   Tip: Note that the position gets a thin green border. The green border indicates that the position is used for a carousel; the green border will also be evident when using the view on the *Browse* and *Live* tabs.



Thin green border indicates carousel

2. In the *Carousel Setup* window, specify which cameras to include in the carousel by selecting required cameras in the left part of the window, then clicking the *Add* button to add the selected cameras to the list in the right part of the window.

3. If required, move cameras up and down in the list to determine the sequence in which cameras will appear in the carousel.

4. Define the amount of time for which each camera should be displayed in the carousel; either with a common default, or individually for each camera.

5. Click *OK* to close the *Carousel Setup* window.

6. Make sure that the required position in the view is selected, then go to the *Properties* section in the left part of the *Setup* tab.

   In the *Properties* section, specify the following settings for the carousel:

   - ***Image Quality***: The setting—which will apply for all cameras included in the carousel—determines the video quality, but also affects bandwidth usage. If your NetGuard-EVS is used over the internet, over a slow network connection, or if for other reasons you need to limit bandwidth use, image quality can be reduced on the server side by selecting e.g. *Low* or *Medium*.

     When selecting a reduced image quality, video is re-encoded on the server to a JPEG format along the following lines:

     - *Full*: The default setting, providing the full quality of the original video.
     - *SuperHigh (for megapixel)*: Re-encoding to an output width of 640 pixels (VGA) and a JPEG quality level of 25%.
     - *High*: Re-encoding to an output width of 320 pixels (QVGA) and a JPEG quality level of 25%.
     - *Medium*: Re-encoding to an output width of 200 pixels and a JPEG quality level of 25%.
     - *Low*: Re-encoding to an output width of 160 pixels and a JPEG quality level of 20%.

     Height will scale according to the width and the aspect ratio of the original video.

     Your image quality selection will apply for JPEG as well as MPEG. For MPEG, however, only keyframes will be re-encoded.

     Note: When viewing live video, you can double-click a carousel (or any other camera position in a view) to enlarge it (see Enlarging Camera Positions). When you do this, video from cameras included in the carousel is by default displayed in full quality, regardless of your image quality selection. This default cannot be overridden for carousels.

     Note: While using a reduced image quality helps limit bandwidth use, it will—due to the need for re-encoding images—use additional resources on the surveillance system server.

   - ***Frame Rate***: Lets you select a frame rate for the carousel. Select between *Unlimited* (default), *Medium*, or *Low*. The setting will apply for all cameras included in the carousel.

     The effect of your selection can be illustrated by the following table:

Effect	Unlimited	Medium	Low
JPEG	Send all frames	Send every 4th frame	Send every 20th frame
MPEG (I-frame)	Send all frames	Send all frames	Send all frames
MPEG (P-frame)	Send all frames	Do not send any	Do not send any

		frames	frames

Example: If you set the *Frame Rate* option to *Low* in your NetGuard-EVS, and your surveillance system administrator has configured a camera to feed JPEG images at a frame rate of 20 frames per second, you will experience an average of 1 frame per second when viewing video from the camera in the carousel. If your administrator had configured a camera with a feed as low as 4 frames per second, you would, with *Frame Rate* set to *Low* in your NetGuard-EVS, experience an average of 0,2 frames per second when viewing video from the camera in the carousel.

- ***Maintain Image Aspect Ratio*:** If check box is selected, the cameras' original image aspect ratio will be maintained; this will provide you with non-distorted images, but may lead to black bars appearing above/below images. If check box is cleared, images will be stretched to fit the carousel; this may lead to slightly distorted images, but you will avoid any black bars appearing around the images. The setting will apply for all cameras included in the carousel.

Tip: If you later want to edit settings in the *Carousel Setup* window, select the required carousel position in the view, then click the *Properties* section's *Carousel Setup* button.

Tip: You are able to use several carousels in a single view.

- **Adding Hotspots**

With a hotspot, users will be able to select a camera in the view, and view enlarged and/or higher quality video from the selected camera in the view's hotspot.

For the hotspot you would usually select a one of the view's larger positions, for example the large position in a *1+7* view: 

Advantages of Using a Hotspot

The fact that you can view enlarged video in the hotspot is not in itself what makes the hotspot useful; you can enlarge video from any camera in a view by double-clicking the required camera position.

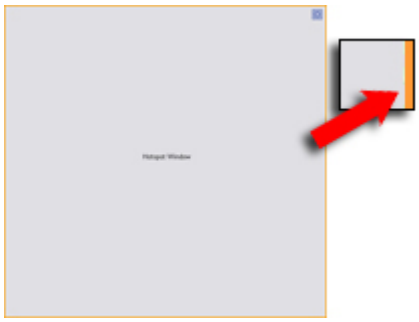
What makes the hotspot useful is that you can use a *low image quality and/or frame rate* for cameras in the view's regular positions and a *high image quality and/or frame rate* for the hot spot. Then, only when users select a camera for viewing in the hotspot will it be displayed in high quality and/or high frame rate. This can significantly help you save bandwidth on the remote connection.

Adding the Hotspot

To add a hotspot to a view, do the following on the *Setup* tab:

1. Drag the *System Overview* section's *Hotspot* link to the required position in the view, and release the mouse button over the required position.

   Tip: Note that the position gets a thin orange border. The orange border indicates that the position is used for a hotspot; the orange border will also be evident when using the view on the *Browse* and *Live* tabs.



Thin orange border indicates hotspot

2. When the hotspot position is selected, you are able to specify its properties in the *Setup* tab's *Properties* section:

   - ***Image Quality*:** The setting determines the video quality, but also affects bandwidth usage.

     If your NetGuard-EVS is used over the internet, over a slow network connection, or if for other reasons you need to limit bandwidth use, image quality can be reduced on the server side by selecting e.g. *Low* or *Medium*.

     When selecting a reduced image quality, video is re-encoded on the server to a JPEG format along the following lines:

     - *Full*: The default setting, providing the full quality of the original video.
     - *SuperHigh (for megapixel)*: Re-encoding to an output width of 640 pixels (VGA) and a JPEG quality level of 25%.
     - *High*: Re-encoding to an output width of 320 pixels (QVGA) and a JPEG quality level of 25%.
     - *Medium*: Re-encoding to an output width of 200 pixels and a JPEG quality level of 25%.
     - *Low*: Re-encoding to an output width of 160 pixels and a JPEG quality level of 20%.

       Height will scale according to the width and the aspect ratio of the original image.

       Your image quality selection will apply for live as well as recorded video, and for JPEG as well as MPEG. For MPEG, however, only keyframes will be re-encoded when viewing live video, whereas all frames will be re-encoded when viewing recorded video.

       Note: When viewing live or recorded video, you can double-click a hotspot (or any other camera position in a view) to enlarge it (see Enlarging Camera Positions). When you do this, video from the camera displayed in the hotspot is by default displayed in full quality, regardless of your image quality selection. If you want to make sure that the selected image quality also applies when enlarged, select the *Keep when maximized* box, located immediately below the *Image Quality* setting.

Note: While using a reduced image quality helps limit bandwidth use, it will—due to the need for re-encoding images—use additional resources on the surveillance system server.

- ***Frame Rate*:** Lets you select a frame rate for the hotspot. Select between *Unlimited* (default), *Medium*, or *Low*. The setting will apply for all cameras included in the hotspot.

  The effect of your selection can be illustrated by the following table:

Effect	Unlimited	Medium	Low
JPEG	Send all frames	Send every 4th frame	Send every 20th frame
MPEG (I-frame)	Send all frames	Send all frames	Send all frames
MPEG (P-frame)	Send all frames	Do not send any frames	Do not send any frames

  Example: If you set the *Frame Rate* option to *Low* in your NetGuard-EVS, and your surveillance system administrator has configured a camera to feed JPEG images at a frame rate of 20 frames per second, you will experience an average of 1 frame per second when viewing video from the camera in the hotspot. If your administrator had configured a camera with a feed as low as 4 frames per second, you would, with *Frame Rate* set to *Low* in your NetGuard-EVS, experience an average of 0,2 frames per second when viewing video from the camera in the hotspot.

- ***Maintain Image Aspect Ratio*:** If check box is selected, the cameras' original image aspect ratio will be maintained; this will provide you with non-distorted images, but may lead to black bars appearing above/below images. If check box is cleared, images will be stretched to fit the hotspot; this may lead to slightly distorted images, but you will avoid any black bars appearing around the images. The setting will apply for all cameras displayed in the hotspot.

• Adding Static Images

Static images can be used in views for a variety of purposes: for company logos, for including floor plans or maps in the view, for including photos of wanted persons, etc.

To add a static image to a view, do the following on the *Setup* tab:

1. Drag the *System Overview* section's *Image* link to the required position in the view.
2. Release the mouse button over the required position. When you release the mouse button, you are able to select the required static image file.

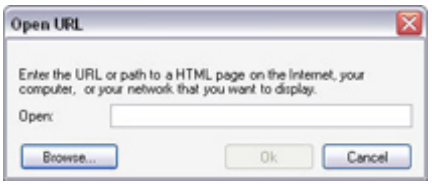
- **Adding HTML Pages**

HTML Pages can be used in views for a variety of purposes: for including company web pages, navigation pages, online map services, link collections, e-learning pages, etc.

Tip: When an imported HTML page contains links, it is highly recommended that the links have the `target='blank'` attribute (example: `<a href="otherwebpage.htm" target="blank">Link</a>`). This will make the links open in separate windows, which will help you avoid losing view of NetGuard-EVS window itself due to a link opening a web page in the same browser window as NetGuard-EVS.

To add an HTML page to a view, do the following on the *Setup* tab:

1. Drag the *System Overview* section's *HTML Page* link to the required position in the view. When you release the mouse button over the required position, the *Open URL* window opens.



2. In the *Open URL* window's *Open* field, type the location of the required HTML page (example: http://www.mywebsite.com/mywebpage.htm).

   - or -

   If the HTML page is stored locally on your computer, specify its location on your computer (example: C:\myfiles\mywebpage.htm), or click the *Browse...* button to browse for the required HTML page.

3. Click the *OK* button.

Changing the Properties of an HTML Page

Once an HTML page is added to a view, you are able to change its properties by doing the following:

4. On the *Setup* tab, select the imported HTML page in the view. Properties of the selected HTML page will appear in the *Setup* tab's *Properties* section.

2. Change the required property:

   - ***Url*:** Click the *New* button to specify a new URL or location of the required HTML page.
   - ***Scaling*:** Select the required scaling of the HTML page. The optimal scaling depends entirely on the content of the imported HTML page and how you want to display it.

     As a rule of thumb, with a high scaling value, e.g. 1280×1024, text on the HTML page will appear relatively small, and a considerable amount of content will be visible without the need for scrolling. With a low scaling value, e.g. 320×200, text on the HTML page will appear relatively large, and a relatively small amount of content can be displayed without the need for scrolling.

Examples of the same HTML page viewed with different scaling values

- ***Enable HTML scripting*:** Only select this feature if the HTML page is a custom-made HTML page to be used for navigating or triggering features inside NetGuard-EVS itself (see examples of such custom-made HTML pages in Using an HTML Page for Navigation).

  If selected, a client script required for navigating and controlling a number of features inside NetGuard-EVS will be added to the HTML page. For HTML pages which are not going to be used for such purposes, the client script cannot be used, and may even cause the HTML page to malfunction.

- ***Hide toolbar*:** By default, a simple navigation bar with is inserted above each imported HTML page. The navigation bar has four buttons; from left to right the buttons are *Back*, *Forward*, *Refresh* and *Home*:

  If you do not want the navigation bar, you can hide it by selecting *Hide toolbar*.

- **Adding NetMatrix Content**

Note: The ability to add NetMatrix content to views is available when connecting to selected surveillance systems only; see Surveillance System Differences.

NetMatrix is an integrated product that allows distributed viewing of video from any surveillance system camera to any monitor (known as a NetMatrix recipient) on a network. With a typical NetMatrix configuration, live video is automatically presented on the required NetMatrix recipient when defined events occur, for example when motion is detected, or when another user wishes to share important live video.

Provided NetMatrix has been configured on the surveillance system server, you are able to include NetMatrix content in your NetGuard-EVS views. Thus, when particular events occur, or another user wishes to share important occurrences with you, live video from particular cameras will automatically appear in your views' NetMatrix positions.

Which events or cameras are used in the NetMatrix setup depends entirely on the surveillance system server's NetMatrix configuration, or on what other users wish to share with you; you are not able to control this in NetGuard-EVS.

However, you are able to add NetMatrix content to as many view positions as required. This way you are able to watch live video from several NetMatrix-triggered sources at the same time.

If your view contains several NetMatrix positions, the positions are always ranked: One of the positions will be the primary NetMatrix position; another will be the secondary NetMatrix position, and so on.

When the first NetMatrix-triggered live video stream is received, it is automatically presented in the primary NetMatrix position in your view.

When the next NetMatrix-triggered video stream is received, a first-in-first-out principle begins to apply: the previously received video stream is quickly transferred to your view's secondary NetMatrix position, and the latest video stream is presented in your view's primary NetMatrix position, and so on.

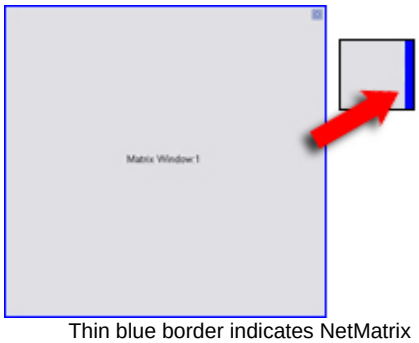
This way, you can always watch the latest video stream, while maintaining the last few previously received video streams in your view as well.

The positions' ranking is applied automatically: the first NetMatrix position you add to the view will automatically be the view's primary NetMatrix position, the next one you add will automatically be the secondary one, etc. If required, you can manually change the NetMatrix positions' ranking in the Setup tab's Properties section.

To add NetMatrix content to a view, do the following on the *Setup* tab:

1. Drag the *System Overview* section's *Matrix* link to the required position in the view, and release the mouse button over the required position.

   Tip: Note that the position gets a thin blue border. The blue border indicates that the position is used for NetMatrix content; the blue border will also be evident when using the view on the *Browse* and *Live* tabs.

   Thin blue border indicates NetMatrix

2. When the NetMatrix position is selected, you are able to specify its properties in the *Setup* tab's *Properties* section:

   - ***Image Quality*:** The setting determines the quality of the video when viewed, but also affects bandwidth usage.

     If your NetGuard-EVS is used over the internet, over a slow network connection, or if for other reasons you need to limit bandwidth use, image quality can be reduced on the server side by selecting e.g. *Low* or *Medium*.

     When selecting a reduced image quality, images are re-encoded on the server to a JPEG format along the following lines:

     - *Full*: The default setting, providing the full quality of the original image.
     - *SuperHigh (for megapixel)*: Re-encoding to an image output width of 640 pixels (VGA) and a JPEG quality level of 25%.
     - *High*: Re-encoding to an image output width of 320 pixels (QVGA) and a JPEG quality level of 25%.
     - *Medium*: Re-encoding to an image output width of 200 pixels and a JPEG quality level of 25%.

- *Low*: Re-encoding to an image output width of 160 pixels and a JPEG quality level of 20%.

  Height will scale according to the width and the aspect ratio of the original image.

  Your image quality selection will apply for live as well as recorded video, and for JPEG as well as MPEG. For MPEG, however, only keyframes will be re-encoded when viewing live video, whereas all images will be re-encoded when viewing recorded video.

  Note: When viewing live or recorded video, you can double-click a NetMatrix position (or any other camera position in a view) to enlarge it (see Enlarging Camera Positions). When you do this, video from cameras included in the NetMatrix position is by default displayed in full quality, regardless of your image quality selection. If you want to make sure that the selected image quality also applies when enlarged, select the *Keep when maximized* box, located immediately below the *Image Quality* setting.

  Note: While using a reduced image quality helps limit bandwidth use, it will—due to the need for re-encoding images—use additional resources on the surveillance system server.

- ***Frame Rate*:** Lets you select a frame rate for the NetMatrix position. Select between *Unlimited* (default), *Medium*, or *Low*. The setting will apply for all cameras included in the NetMatrix position.

  The effect of your selection can be illustrated by the following table:

Effect	Unlimited	Medium	Low
JPEG	Send all frames	Send every 4th frame	Send every 20th frame
MPEG (I-frame)	Send all frames	Send all frames	Send all frames
MPEG (P-frame)	Send all frames	Do not send any frames	Do not send any frames

  Example: If you set the *Frame Rate* option to *Low* in your NetGuard-EVS, and your surveillance system administrator has configured a camera to feed JPEG images at a frame rate of 20 frames per second, you will experience an average of 1 frame per second when viewing video from the camera in the NetMatrix position. If your administrator had configured a camera with a feed as low as 4 frames per second, you would, with *Frame Rate* set to *Low* in your NetGuard-EVS, experience an average of 0,2 frames per second when viewing video from the camera in the NetMatrix position.

- ***Maintain Image Aspect Ratio*:** If check box is selected, the cameras' original image aspect ratio will be maintained; this will provide you with non-distorted images, but may lead to black bars appearing above/below images. If check box is cleared, images will be stretched to fit the NetMatrix position; this may lead to slightly distorted images, but you will avoid any black bars appearing around the images. This setting will apply for all cameras displayed in the selected NetMatrix position.

- ***NetMatrix Window*:** Lets you change the NetMatrix position's ranking. *1* is the primary position in which video from the latest event is always shown, *2* is the secondary position

in which video from the previously detected event is always shown, *3* is the tertiary position in which video from the event detected before the event in position *2* is always shown, and so on. The selected number cannot be higher than the total number of NetMatrix positions in the view: If the view only contains one NetMatrix position, the position must have number 1; if the view contains, for example, four NetMatrix positions, they must be numbered from 1 to 4.

- ***Connection Settings...*:** Button only available when the view's NetMatrix position *1* is selected; other NetMatrix positions in the view inherit the connection settings specified for position *1*. Clicking the *Connection Settings...* button lets you specify the *TCP Port* and *Password* used when transferring NetMatrix-triggered video from the surveillance server to NetGuard-EVS view. By default, the TCP port used for NetMatrix is 12345; consult your surveillance system administrator if in doubt about which port number or password to use.

4. Repeat if more NetMatrix positions are required in the view.

- **Adding Other Content**

  On some surveillance systems, you may be able to add more types of content to views in your NetGuard-EVS.

  Consult your surveillance system administrator if in doubt.

In the *Setup* tab's *Properties* section, you are able to adjust a number of settings for individual cameras. To adjust a camera's properties, select the required camera in the view (the selected position will be indicated by a bold border), then make the adjustments in the *Properties* section. Note that particular user rights may be required in order to access the *Setup* tab.

- **Camera Name**

  The *Camera Name* field displays the name of the selected camera. The field is read-only.

- **Image Quality & Keep when Maximized**

  The *Image Quality* setting determines the quality of video when viewed, but also affects bandwidth usage.

  If your NetGuard-EVS is used over the internet, over a slow network connection, or if for other reasons you need to limit bandwidth use, image quality can be reduced on the server side by selecting e.g. *Low* or *Medium*.

  When selecting a reduced image quality, images from the selected camera is re-encoded to a JPEG format on the surveillance system server before being sent to NetGuard-EVS. Re-encoding takes place along the following lines:

  - ***Full*:** The default setting, providing the full quality of the original video.
  - ***SuperHigh (for megapixel)*:** Re-encoding to an output width of 640 pixels (VGA) and a JPEG quality level of 25%.
  - ***High*:** Re-encoding to an output width of 320 pixels (QVGA) and a JPEG quality level of 25%.
  - ***Medium*:** Re-encoding to an output width of 200 pixels and a JPEG quality level of 25%.
  - ***Low*:** Re-encoding to an output width of 160 pixels and a JPEG quality level of 20%.

  Height will scale according to the width and the aspect ratio of the original video.

Your image quality selection will apply for live as well as recorded video, and for JPEG as well as MPEG. For MPEG, however, only keyframes will be re-encoded when viewing live video, whereas all frames will be re-encoded when viewing recorded video.

Note: While using a reduced image quality helps limit bandwidth use, it will—due to the need for re-encoding images—use additional resources on the surveillance system server.

Tip: You can quickly reduce the bandwidth usage for all cameras in the view by reducing the image quality for a single camera, then clicking the *Apply To All* button.

Keep When Maximized

When viewing live or recorded video, you can double-click a particular camera position in a view to enlarge it (see Enlarging Camera Positions). When you do this, video from the camera is by default displayed in full quality, regardless of your image quality selection.

If you want to make sure that the selected image quality also applies when enlarged, select the *Keep when maximized* box, located immediately below the *Image Quality* setting.

- **Frame Rate**

Lets you select a frame rate for the selected camera. Select between *Unlimited* (default), *Medium*, or *Low*.

The effect of your selection can be illustrated by the following table:

Effect	Unlimited	Medium	Low
JPEG	Send all frames	Send every 4th frame	Send every 20th frame
MPEG (I-frame)	Send all frames	Send all frames	Send all frames
MPEG (P-frame)	Send all frames	Do not send any frames	Do not send any frames

Example: If you set the *Frame Rate* option to *Low* in your NetGuard-EVS, and your surveillance system administrator has configured the camera to feed JPEG images at a frame rate of 20 frames per second, you will experience an average of 1 frame per second when viewing video from the camera on your NetGuard-EVS's *Live* tab. If your administrator had configured the camera with a feed as low as 4 frames per second, you would, with *Frame Rate* set to *Low* in your NetGuard-EVS, experience an average of 0,2 frames per second when viewing video from the camera on the *Live* tab.

- **IPIX Split Mode**

Available only if the selected camera is an IPIX camera. IPIX is a technology that allows creation and viewing of 360-degree panoramic images. NetGuard-EVS supports up to four different viewpoints from a single IPIX camera.

The IPIX Split Mode list lets you select the required spilt mode:

- ***One by One*** lets you view a single viewpoint.
- ***Two by Two*** lets you view four different viewpoints at a time.

When viewed on any of NetGuard-EVS's tabs, the IPIX camera will appear as specified, with either one or four viewpoints from the same image:

Tip: When viewing different viewpoints from an IPIX camera on the *Live* or *Browse* tabs, you are able to navigate each viewpoint independently by clicking inside each viewpoint, or by using the buttons in the *Live* or *Browse* tabs' *PTZ Control* sections.

- **Maintain Image Aspect Ratio**

  If check box is selected, video will not be stretched to fit the size of the camera position. Rather, video will be displayed with the aspect ratio (height/width relationship) with which it has been recorded.

  This may result in horizontal or vertical black bars appearing around the images from some cameras.

  If check box is cleared, video will be stretched to fit the position in the view; this may lead to slightly distorted video, but you will avoid any black bars appearing around the video.

Example: The same image viewed with *Maintain Image Aspect Ratio* selected (left) and cleared (right)

- **Update on Motion**

  If selected, video from the selected camera will only be updated on NetGuard-EVS's *Live* tab when motion is detected.

  Depending on the motion detection sensitivity configured for the camera on the surveillance system server this can help reduce CPU usage significantly.

  If the video is only updated on motion, users will see the message *No motion* together with a still image in the camera's view position until motion is detected.

- **Sound on Motion Detection**

  When video from the camera is viewed on the *Live* tab, it is possible to get a simple sound notification when motion is detected.

  - ***Always off*:** Do not use sound notifications on detected motion.
  - ***Always on*:** Play a sound notification each time motion is detected on the camera.

Will I receive lots of sound notifications? If you select *Always on*, the amount of motion-related sound notifications you are likely to receive will depend on the motion detection sensitivity of the camera in question. If motion detection for the camera is highly sensitive, you may at times receive very frequent sound notifications. The camera's motion detection sensitivity is configured on the surveillance system server; consult your surveillance system administrator if in doubt. If you select sound notifications for more than one camera, you may also hear more notifications—again depending on the cameras' motion detection sensitivity.

Can I change the notification sound? By default, NetGuard-EVS uses a simple sound file for its sound notifications. The sound file, called *Notification.wav*, is located in NetGuard-EVS installation folder. If you want to use another .wav file as your notification sound, simply name the required file *Notification.wav* and place it in NetGuard-EVS installation folder instead of the original file. The file *Notification.wav* is used for event as well as motion detection notifications; it is not possible to use different sound files for different cameras or to distinguish between event and motion detection notifications.

- **Sound on Event**

Note: This feature is only available if using your NetGuard-EVS with certain surveillance systems; see Surveillance System Differences. Even when using your NetGuard-EVS with a surveillance system supporting this feature, being able to use this feature requires that notifications on events have been configured on the surveillance system server. Consult your surveillance system administrator if in doubt.

When video from the camera is viewed on the *Live* tab, it is possible to get a simple sound alert when events related to the selected camera occur.

- ***Always off*:** Do not use sound alerts when events related to the camera occur.
- ***Always on*:** Play a sound alert each time an event related to the camera occurs.

What is an event? An event is a predefined incident occurring on the surveillance system. Depending on the surveillance system's configuration, events may be caused by input from external sensors connected to cameras, by detected motion, by data received from other applications, or manually through user input. Events are used by the surveillance system for triggering *actions*. Typically, most events on the surveillance system are generated automatically. For example, detected motion can be defined as an event which in turn triggers an action, such as recording on a camera.

Will I receive lots of sound notifications? If you select *Always on*, the amount of event-related sound notifications you are likely to receive will depend on the nature and number of events related to the camera in question. Events are configured on the surveillance system server; consult your surveillance system administrator if in doubt. If you select sound notifications for more than one camera, you may also hear more notifications—again depending on the surveillance system's event configuration.

Can I change the notification sound? By default, NetGuard-EVS uses a simple sound file for its sound notifications. The sound file, called *Notification.wav*, is located in NetGuard-EVS installation folder. If you want to use another .wav file as your notification sound, simply name the required file *Notification.wav* and place it in NetGuard-EVS installation folder instead of the original file. The file *Notification.wav* is used for event as well as motion detection notifications; it is not possible to use different sound files for different cameras or to distinguish between event and motion detection notifications.

- **Apply to All**

The *Apply To All* button lets you quickly apply the camera settings for the selected camera to all cameras in the view.

Message texts may under particular circumstances appear in white letters across one or more of a view's camera positions.

Example of camera message text

Possible messages (listed alphabetically) are:

- ***After Database End*:** Will appear on *Browse* tab only. Indicates that the time selected is after the time of the last recording in the camera's database. The last image in the camera's database will be shown in the camera position in order to indicate that recordings from the camera are available, but only from a time earlier than the selected time.

- ***Before Database Start***: Will appear on *Browse* tab only. Indicates that the time selected is before the time of the first recording in the camera's database. The first image in the camera's database will be shown in the camera position in order to indicate that recordings from the camera are available, but only from a time later than the selected time.

- ***Connected to [Device Name] [Camera Name] on [IP Address]:[Port Number]*:** Indicates that a connection to the camera has been established.

- ***Connecting to [Device Name] [Camera Name] on [IP Address]:[Port Number] ...***: Indicates that a connection to the camera is currently being established.

- ***Connection refused. Reason: ...*:** Indicates that connecting to the camera in question is not allowed, for example because your rights to access recordings from the camera have been changed by the surveillance system administrator. Consult your surveillance system administrator if in doubt.

- ***Connection to [Device Name] [Camera Name] on [IP Address]:[Port Number] lost!. Reconnecting ...*:** Indicates that connection to the camera has been lost, and that another connection attempt is currently being made.

- ***Connection to engine failed! Retrying ...*:** Indicates that a connection to the surveillance system server could not be established, and that another connection attempt is currently being made. This message may occur if connection to the surveillance system is temporarily lost. If your surveillance system consists of several interconnected servers, the message may also occur if the server from which you are requesting the camera's recordings is temporarily unavailable. If the problem persists, consult your surveillance system administrator.

- ***No images available for [Device Name] [Camera Name] on [IP Address]:[Port Number]. Database might be empty.*:** Will appear on *Browse* tab only. Indicates that it is not possible to show images from the camera; the very likely reason being that there are no recordings in the camera's database. Bear in mind that the settings determining when recordings from the camera are stored in the database are determined by the surveillance system administrator. Sometimes, the surveillance system administrator may specify that recordings should only be stored within particular time periods or when particular events occur. This may explain why you are perhaps able to view live video from the camera on NetGuard-EVS's *Live* tab, while at the same time you may find that no recordings have been stored for viewing on NetGuard-EVS's *Browse* tab.

- ***No motion*:** Indicates that motion is currently not detected in the camera's images; the images you see will not be updated until there is motion. This message will only appear if the surveillance system administrator has specified that images should only be updated when there is motion; a feature which can help reduce server load and bandwidth consumption. Consult your surveillance system administrator if in doubt.

- ***Not connected:*** Indicates that it is not possible to connect to the camera, for example because the camera itself is disconnected from the network. Consult your surveillance system administrator if in doubt.

- ***Not initialized:*** Indicates that the camera is not in an operative state. Consult your surveillance system administrator if the problem persists.

- ***The server is running out of disk space*:** Indicates that limited disk space is available on the surveillance system server. If more disk space is not made available on the surveillance system server, recording will be affected. Consult your surveillance system administrator.

- ***The server has encountered a database problem*:** Indicates that a database problem has occurred on the surveillance server. Consult your surveillance system administrator, who will have access to tools for diagnosing surveillance server database problems.

- ***The server has lost connection to the camera*:** Indicates that the surveillance server has lost connection to the camera. This may be a temporary issue, for example due to maintenance. Consult your surveillance system administrator if in doubt.

Digital Zoom

Just like on the *Live* tab, the *Browse* tab's *PTZ Control* section lets you use digital zoom on video from cameras displayed in a view. When viewing recorded video on the *Browse* tab, digital zoom is by default enabled, and you can use it for both regular cameras and PTZ (Pan/Tilt/Zoom) cameras.

If you have used digital zoom while viewing live video on the *Live* tab it will not have affected any recording; recording still takes place in the camera's regular format.

- **Digital Zoom Features**

  With digital zoom you will see a small overview frame in the bottom right corner of each of the view's camera positions. Once you zoom in on an area of an image, the overview frame will help you maintain an overview of the complete image:

Overview frame inside image

To zoom in, click inside the required image and drag around the area you want to zoom in on. The area you select will be highlighted by a white border. When you release the mouse button, the zoom will take effect:


White border around zoom area

Even when you have zoomed in on an area, you are able to move to other areas of the image while maintaining your zoom level: simply drag the highlighted area in the overview frame to the required position:


Zoom area highlighted in overview frame

To get access to a slider for adjusting the zoom level, click inside the required image and move your mouse pointer up or down while pressing the SHIFT key on your keyboard:


Zoom level slider

Selecting a zoom level of *0%* lets you view the whole image again.

Tip: If you mouse has a scroll wheel, you can also use the scroll wheel to control the zoom level. On many mice, clicking the scroll wheel or middle mouse button quickly lets you view the whole image again.

- **Enabling & Disabling Digital Zoom**

On the *Browse* tab digital zoom is by default enabled.

If you want to disable digital zoom, clear the *PTZ Control* section's *Digital Zoom* check box.

To enable digital zoom again, simply select the *Digital Zoom* check box.

- **Digital Zoom in Exported Evidence**

  If you are going to export evidence in AVI or JPEG formats, you will be able to select whether to export the regular images or the digitally zoomed images.

  If exporting in the database format, it will not be necessary to make such a selection as recipients will be able to use digital zoom on the exported recordings.

- **Digital Zoom in Printed Evidence**

  If you print an image on which you have used digital zoom, the digitally zoomed area of the image will be printed.

What is the difference between optical and digital zoom? With optical zoom, a camera's lens elements physically move to provide the required angle of view. You cannot use optical zoom when viewing recorded video, simply because you cannot move the camera's lens retroactively. With digital zoom, the required portion of an image is enlarged by cropping the image and then resizing it back to the pixel size of the original image—a process called interpolation. Digital zoom thus simulates optical zoom, but the digitally zoomed portion will have a lower quality than the original image. Digital zoom works equally well on live and recorded video.

Events on Surveillance System

If manual triggering of events has been defined on your surveillance system, you can trigger events on NetGuard-EVS's *Live* tab.

Note: Depending on your user rights, access to manually triggering events may be restricted.

What is an event? An event is a predefined incident occurring on the surveillance system. Events are used by the surveillance system for triggering *actions*. Depending on the surveillance system's configuration, events may be caused by input from external sensors connected to cameras, by detected motion, by data received from other applications, or manually through user input. Typically, most events on the surveillance system are generated automatically. For example, detected motion can be defined as an event which in turn triggers an action, such as recording on a camera. Events can be global or tied to a particular camera/device.

Depending on configuration, manually triggered events can be used for a wide variety of purposes, including triggering combinations of actions. For example, the manual triggering of an event could make a camera record with a particular frame rate, activate two different outputs, and send an e-mail alert to three different recipients.

Exactly what happens when you manually trigger an event is defined by your surveillance system administrator. Ask your surveillance system administrator if in doubt about using manually triggered events in your organization. Your surveillance system administrator may occasionally know manually triggered events under the names *event buttons* or *custom events*.

To manually trigger an event, select the required event in the *Event* section, and click the *Activate* button.

The list of selectable events is grouped by server and camera/device with which the event is associated. Hierarchically, global events will appear under the relevant server.

Evidence Print & Export

With the *Browse* tab's *Print* section, you are able to print single recorded images. When you print an image, the image is automatically included in a small surveillance report, in which you are also able to include notes about the recorded incident.

To print an image, do the following:

1. Select the required camera in the view.
2. Select the required point in time, for example by using the controls in the *Time Navigation* section.
3. Click the *Print* section's *Print...* button. This will open NetGuard-*EVS Surveillance Report* window with a preview of the image to be printed as well as information about camera name, image capture time, print time and user name of the user printing the image.

   Tip: If you used digital zoom on the image, the digitally zoomed area of the image will be printed.
4. You are able to include a user's note, for example a description of the recorded incident.
5. **Optional:** If you want to change or verify paper size, source and orientation for the printout, click NetGuard-*EVS Surveillance Report* window's *Page Setup* button to open the *Page Setup* window.

   When ready, click the *Page Setup* window's *OK* button to return to NetGuard-*EVS Surveillance Report* window.
6. **Optional:** If you want to preview your printout, click NetGuard-*EVS Surveillance Report* window's *Preview* button.
7. Click the *Print* button to print the image and associated details.

With NetGuard-EVS you are able to quickly export evidence in the AVI (movie clip), JPEG (still image) and the surveillance system database formats.

With the AVI and database formats you can include video as well as audio in your exports.

Note: Export in the database format is available when connected to selected surveillance systems only; see Surveillance System Differences. Depending on your user rights, access to exporting evidence from some or all cameras may be restricted.

- **Exporting in AVI and JPEG Formats**

To export video evidence in the AVI or JPEG formats, do the following:

Note: Date and time formats used when browsing recorded video may vary depending on your computer's regional settings.

1. Select NetGuard-EVS's *Browse* tab.
2. In the *Browse* tab's *Export* section, specify when the period to be covered by the export should start. You do this by typing the required date in the first *Start Time* field and the time in the second field.

   Tip: Instead of manually specifying date and time, you may use the *Browse* tab's *Time Navigation* features to move to the required start point, then click the upper of the *Export* section's *Set* buttons. This will automatically set the date and time of the viewed image in the *Start Time* fields.

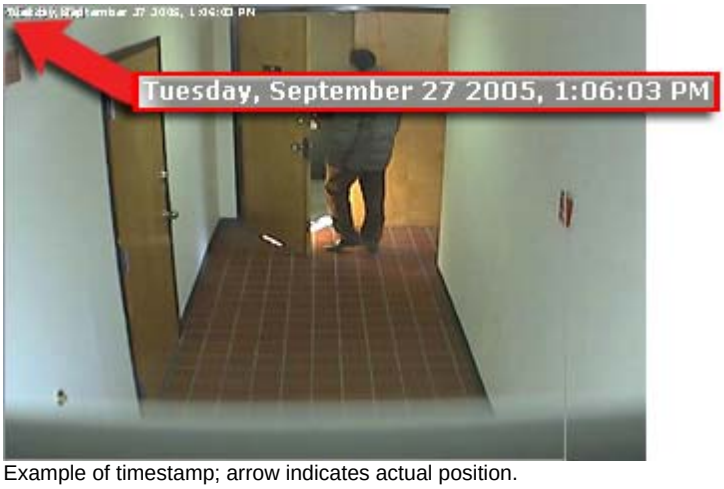
3. In the *End Time* fields, specify end date and time for the export. You may use the *Set* button as described above.
4. Select the required camera from the *Source* list. You must select an individual camera from the list as your source; the *Current View Sources* option only applies when exporting in the database format.

   Only relevant if you are going to export in AVI format:If the selected camera has a microphone attached—and the surveillance system supports audio—audio from the microphone will automatically be included in the export.

5. Click the *AVI/JPEG Export...* button. This will open a separate export dialog.
   The export dialog will list the specified start time, end time, and camera.

6. In the export dialog's *Export Type* section, select the required export format: *AVI* (movie clip) or *JPEG* (still images).

7. Select whether to add timestamps from the surveillance system to the exported images. If selected, small timestamps will appear in the corner of the images.



Example of timestamp; arrow indicates actual position.
Date and time format may be different on your computer.

8. ***This step applies for export in the AVI format only; if using the JPEG format, go to step 9***
Select required frame rate for the export. With the *Full* option, all images between the start and end times will be included in the export; with the *Half* option, only every second image will be included, yet still play back in real-time.

9. If you used digital zoom on the camera's images before exporting, you are able to export the digitally zoomed images rather than the regular images. Select *Yes* if you want to export the digitally zoomed images, select *No* if you want to export the camera's regular, non-zoomed, images.

If you did not use digital zoom before exporting, this option will not be available.

10. ***This step applies for export in the AVI format only; if using the JPEG format, go to step 11***
In the *AVI Codec* list, select required AVI codec. The list will contain the video codecs available on your PC.

Tip: A video codec is a particular compression/decompression technology used when generating video files. Your choice of codec will affect the quality and size of the AVI file. The Indeo® video 5.10 codec, if available on your PC, generally provides a very good compromise between quality and file size.

11. Specify export destination in the export dialog's *Export Destination* section.

- ***Desktop*:** If you select *Desktop*, your exported file will be saved in an automatically created *Exported Images* folder on the desktop of your PC.

- ***Path*:** If you select *Path*, you are able to specify a path yourself. The exported file will be saved in an automatically created *Exported Images* folder under the path you specify (example: If you specify a path like C:\My Stuff\My Files, the exported file will be saved in C:\My Stuff\My Files\Exported Images). When specifying a path this way, the folders you specify do not have to be existing ones; if they do not already exist, they will be created automatically.

12. ***This step applies for export in the AVI format only; if using the JPEG format, go to step 13***
By default, the AVI file will get a file name based on the export start time in the 24-hour format, along the structure yyyymmdd-hhmmss.avi (year, month, day, hour, minute, second; example: 20050927-130603 for a file with a start time of 13:06:03 on 27th September 2005). The name will automatically appear in the *AVI FileName* field.

The default file name format is independent of regional settings on your computer.

You are always able to change the default file name to a name of your choice, simply by overwriting the default file name.

13. Click the *Export* button to begin the export. The status bar in the upper part of the export dialog will display the status of the export.

Tip: If you are exporting very long sequences, export may—depending on your selected export settings—take a while. You can continue to use your NetGuard-EVS for other purposes while the export process is underway.

If the *Close On Completion* check box is selected (default), the export dialog will automatically close when the export is finished.

Upon completion, you are able to view and distribute the exported file.

- **Exporting in Database Format**

To export video evidence in the surveillance system database format, do the following:

Note: Date and time formats used when browsing recorded video may vary depending on your computer's regional settings.

1. Select NetGuard-EVS's *Browse* tab.
2. Select the view on which you want to base your export.

   Tip: You do not necessarily have to include all of the selected view's cameras in your export; later in the process you will be able to specify exactly what to include in the export.
3. In the *Browse* tab's *Export* section, specify when the period to be covered by the export should start. You do this by typing the required date in the first *Start Time* field and the time in the second field.

   Tip: Instead of manually specifying date and time, you may use the *Browse* tab's *Time Navigation* features to move to the required start point, then click the upper of the *Export* section's *Set* buttons. This will automatically set the date and time of the viewed image in the *Start Time* fields.
4. In the *End Time* fields, specify end date and time for the export. You may use the *Set* button as described above.
5. Select the required source from the *Source* list. You may select an individual camera, in which case only video from the selected camera will be included in the export, or *Current View Sources*, in which case the export will include video from all cameras in the current view for which you have database export rights.

   Tip: To quickly select an individual camera, you may also simply click the required camera slot in the view.
6. Click the *Database Export...* button. This will open a separate export dialog.

   The export dialog will list the specified start time, end time, and source.
7. If the surveillance system supports audio, and the selected camera(s) have microphones attached, you are able to include audio from the microphones (but not from any speakers attached to the cameras) in the export by selecting the Include Audio check box (if no microphones are available, the check box will not be available).
8. If you want to compress the exported database, select the Compress Exported Database check box.

   Compression can reduce the size of the exported database by approximately 10%. However, the database export process will take considerably longer when compression is used.
9. If you want to encrypt the exported database, select the Encrypt Exported Database check box.

   If you select encryption, specify a password for subsequent decryption of the exported databases, and remember to send the password to the recipient separately.

   Note that when encryption is used, the database export process as well as subsequent opening of the database in order to view its content will take considerably longer than when no encryption is used.

10. Specify export destination in the export dialog's Export Destination section.

    - ***Desktop*:** If you select *Desktop*, your exported file will be saved in an automatically created *Exported Images* folder on the desktop of your PC.

    - ***Path*:** If you select *Path*, you are able to specify a path yourself. The exported database will be saved in an automatically created *Exported Images* folder under the path you specify (example: If you specify a path like C:\My Stuff\My Files, the exported file will be saved in C:\My Stuff\My Files\Exported Images). When specifying a path this way, the folders you specify do not have to be existing ones; if they do not already exist, they will be created automatically.

11. If you want to include a stand-alone Viewer application in the database export, select the Include Viewer Program Files check box.

    If you include the Viewer application in the export, the exported databases can be viewed and browsed on any PC—no additional surveillance system software will be required. Read more about the Viewer application in Using the Standalone Viewer.

    Tip: A Viewer application included in a database export will, if possible, match the language version of your NetGuard-EVS. If the Viewer application is not available in a matching language version, an English language version of the Viewer application will be included.

12. Click the Export button to begin the export.

    The status bar in the upper part of the export dialog will display the status of the export:

    Tip: If you are exporting very large databases, export may take a while. You can continue to use NetGuard-EVS for other purposes while the export process is underway.

    If the *Close On Completion* check box is selected (default), the export dialog will automatically close when the export is finished.

    You are now able to distribute the content of the *Exported Images* folder.

    Tip: If you included the Viewer application in the export, double-clicking the file *Viewer.exe* in the *Exported Images* folder will open the Viewer application, ready for viewing and browsing the exported database content.

    Tip: If you included the Viewer application in your export, copying all files from the *Exported Images* folder to the root of a CD or DVD will make the Viewer start automatically when the recipient inserts the CD/DVD.

- **Frequently Asked Questions about Exporting**

Can I export audio too? When exporting in the AVI and database formats, you are—when the surveillance system supports audio—able to include audio recorded by microphones in the export. Outgoing audio from NetGuard-EVS to speakers can only be recorded by some surveillance systems, and cannot be included in exports. Also bear in mind that export in the database format is only available if connected to selected surveillance systems; see Surveillance System Differences. When exporting in the JPEG (still image) format, you cannot include audio.

Can I export digitally zoomed images? Yes. If you used digital zoom prior to exporting, you will, when exporting in the AVI or JPEG formats, be able to select whether to export the regular images or the digitally

zoomed images. When exporting in the database format, making this selection is not necessary because recipients will be able to use digital zoom on the exported recordings.

Can I export IPIX recordings? Yes, provided your surveillance system supports the use of IPIX cameras (i.e. cameras using a special technology for recording 360° images). When exporting recordings from an IPIX camera, be aware that it is only possible to export the "fisheye" view itself; not a flattened IPIX view, a 2×2 split IPIX view, or zoomed IPIX views.

Where can I learn more about the standalone Viewer? More information about using the standalone Viewer—a video viewing application which you are able to include with exported recordings in the database format—is available in Using the Standalone Viewer. Useful tips for people performing database exports in NetGuard-EVS—about making the standalone Viewer start up automatically, etc.—is also available under *Exporting in Database Format* previously in this topic.

When video evidence is exported in the database format from NetGuard-EVS (see Exporting Video Evidence), it is possible to include a standalone Viewer application with the exported evidence. The standalone Viewer allows recipients of video evidence (such as police officers, internal or external investigators, etc.) to browse and play back the exported recordings without having to install any surveillance software on their computers. The Viewer also lets recipients print images, and even further export all or parts of the recordings in a variety of formats.

Note: The standalone Viewer is only available for inclusion with an exported database, it is not an integral part of NetGuard-EVS. Database export, and thus access to the standalone Viewer, is not possible from all surveillance systems; see Surveillance System Differences.

The standalone Viewer contains its own targeted built-in help system, allowing recipients to use the Viewer without prior knowledge of how a surveillance system works.

Joysticks

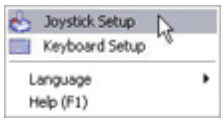
Note: Even though joystick control is supported for a large number of PTZ cameras, not all PTZ cameras may be joystick-controlled. Refer to the release note for information about joystick support for cameras.

When a new joystick is detected by NetGuard-EVS, a default PTZ (Pan/Tilt/Zoom) configuration for the joystick is added automatically. However, you are able to customize the setup for all joysticks attached to the computer running NetGuard-EVS.

- **Joystick Setup**

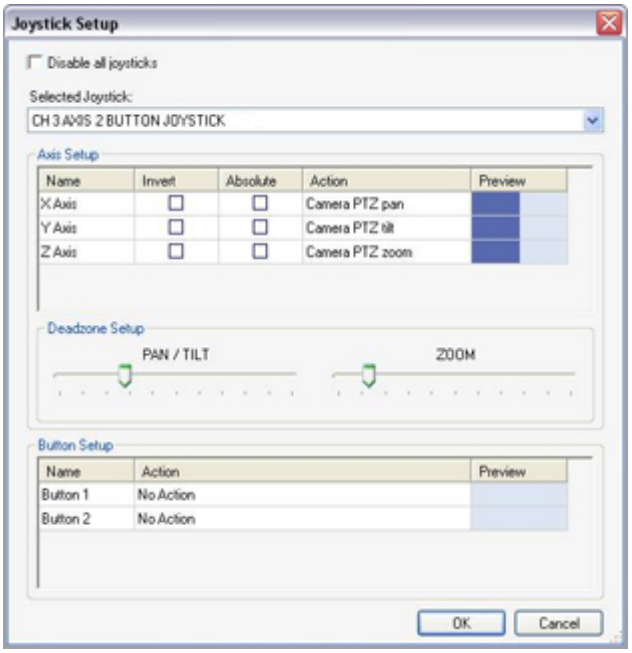
  To customize joystick setup, do the following:

  1. Click the *Show Application Menu* button in the right side of NetGuard-EVS's top bar.
  2. From the menu that appears, select *Joystick Setup*.



  The *Joystick Setup* window appears.

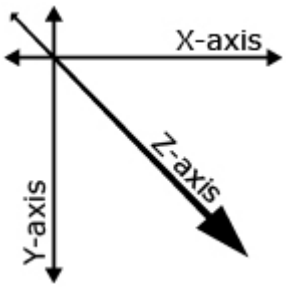
3. Select the required joystick in the *Selected Joystick* list. The axes and buttons available on the selected joystick will be listed in the *Axis Setup* and *Button Setup* sections respectively.



Joystick Setup window, displaying available axes and buttons on a selected joystick

4. In the *Axis Setup* section, specify settings for the available axes.

With a joystick, you are typically able to navigate camera images three-dimensionally, along three axes: an X-axis, a Y-axis, and a Z-axis, where the Z-axis typically refers to the depth (zoom) level:



Example: X-, Y-, and Z-axes

- ***Invert*:** By default, a PTZ camera will move to the right when you move the joystick to the right along the X-axis, move up when you move the joystick towards you along the Y-axis, etc. By selecting *Invert*, you are able to change this to the opposite. You are thus able to freely determine whether the camera should, for example, move up or down when you move the joystick towards you and away from you respectively.

- ***Absolute*:** By default, joystick control takes place based on a relative positioning scheme. This means that moving a joystick will move the joystick-controlled object based on the object's current position rather than based on any fixed position. By selecting *Absolute*, you are able to change this and use an absolute rather than a relative positioning scheme.

- ***Action*:** Lets you select the required function for an axis: *Camera PTZ Pan*, *Camera PTZ Tilt*, *Camera PTZ Zoom*, or *No action*.

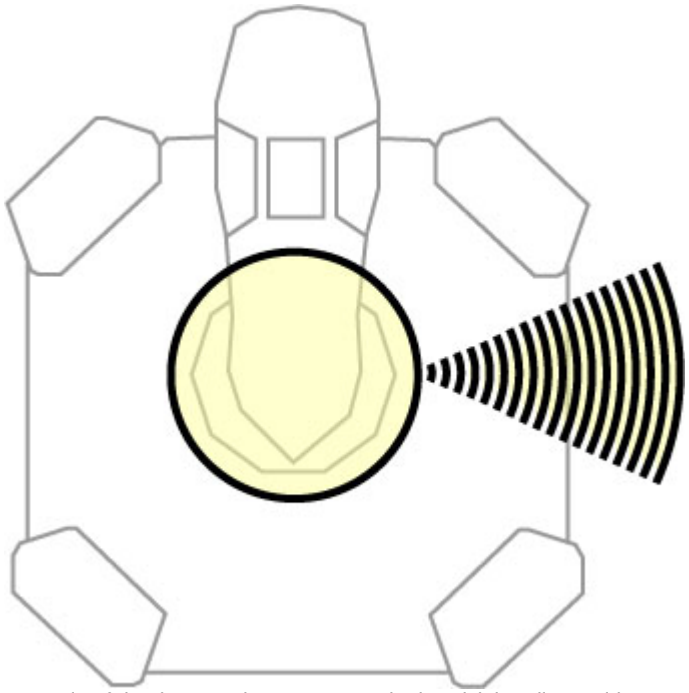
- ***Preview*:** Lets you quickly test the effect of your selections. When you have selected a function for the axis you want to test, simply move the joystick along the required axis to view the effect, indicated by a movement of the dark blue bar.

When previewing your selections, consider adjusting the joystick's deadzones. Deadzones determine how much the joystick handle should be allowed to move before information is sent to the camera. Ideally, a joystick handle should be completely vertical when not used, but many joystick handles lean at a slight angle. Without a deadzone, the slight slant could cause cameras to move when it is not required.

- ***PAN / TILT*:** Lets you specify required deadzone for the joystick's pan and tilt functions. The further you drag the slider to the right, the larger the deadzone becomes, and the more you will have to move the joystick handle before information is sent to the camera. Dragging the slider to its leftmost position will effectively disable the deadzone; typically recommended for high-precision joysticks only. Use the preview to test the effect of your deadzone settings.

- ***ZOOM*:** Lets you specify required deadzone for the joystick's zoom function. Works similarly to the *PAN / TILT* deadzone control.

View deadzone example illustration ...



Example of deadzone: When you move the joystick handle outside the deadzone, the PTZ camera will begin to move. The further out you move the handle, the quicker the camera typically moves.

2. In the *Button Setup* section, specify an action for each required joystick button. You select required actions in the *Action* column.

Tip: To quickly verify that you are configuring the required button, simply press the required button on the joystick. When the button is pressed, a dark blue color will appear in the *Button Setup* section's *Preview* column for the button in question.

- **Disabling Joystick Use**

  To disable the use of joysticks with your NetGuard-EVS, select the *Joystick Setup* window's *Disable all joysticks* check box.

- **Joystick Setup is Tied to User Login on Particular Computer**

  Unlike your views and custom keyboard settings, which are simply tied to your user login and can therefore be used on any computer with a NetGuard-EVS, your joystick setup will be tied to your user login *as well as* to the specific computer on which you configured the joystick setup.

  This means that your joystick setup will only work on the computer on which is has been configured. The simple reason for this is that different computers are likely to have different joysticks attached.

  If you want to use a joystick with NetGuard-EVS on more than one computer, you must configure NetGuard-EVS's joystick setup on each computer.

Keyboard Shortcuts

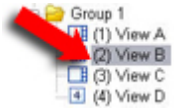
When working on NetGuard-EVS's *Live* and *Browse* tabs, a number of simple keyboard shortcuts are available.

Tip: In addition to the standard keyboard shortcuts, you are able to assign your own custom shortcut key combinations to particular actions in NetGuard-EVS. See Assigning Custom Keyboard Shortcuts.

NetGuard-EVS's standard keyboard shortcuts are:

Note: When using below listed shortcuts, do not actually press the + key. The plus sign is used to indicate “and then also press.” Example: For the keyboard shortcut */+ENTER*, you should thus press the / key and the *ENTER* key.

ENTER	Toggles maximized/regular display of the selected view position.
/+<camera shortcut number>+ENTER	Lets you change the camera displayed in the selected view position to the camera with the matching shortcut number. Example: If the required camera has the shortcut number *6*, you would press */+6+ENTER*. Note that camera shortcut numbers may not necessarily be used on your surveillance system. Camera shortcut numbers are defined on the surveillance system server; ask your surveillance system administrator if in doubt.
/+ENTER	Changes the camera displayed in the selected view position to the position's default camera.
/+/+ENTER	Changes the cameras displayed in all view positions to the positions' default cameras.
***+<view shortcut number>+ENTER**	Changes the selected view to the view with the matching shortcut number. Example: if the required view has the shortcut number *8*, you would press **+8+ENTER*.

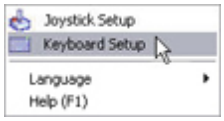
	Note that view shortcut numbers may not necessarily be used. If view shortcut numbers are used, you will be able to see them in the *Views* section, where they will appear in brackets before the views' names.  View shortcut numbers are defined on NetGuard-EVS's *Setup* tab; ask your surveillance system administrator if in doubt.
6 (numeric keypad only)	Moves the view position selection one step to the right.
4 (numeric keypad only)	Moves the view position selection one step to the left.
8 (numeric keypad only)	Moves the view position selection one step up.
2 (numeric keypad only)	Moves the view position selection one step down.
Note: Above listed shortcuts can be used when working with the following types of view positions: regular camera positions, hotspots, carousels, HTML pages. They cannot be used for view positions with NetMatrix content or static images.	

You are able to assign your own custom shortcut key combinations to particular actions in NetGuard-EVS.

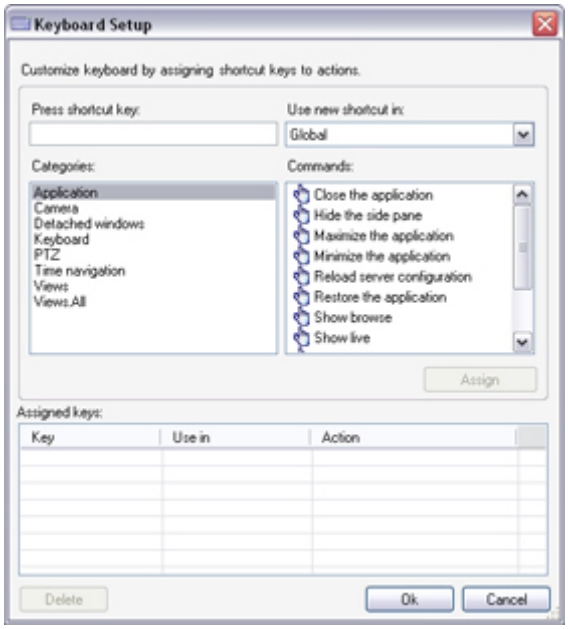
Tip: NetGuard-EVS also features a small number of standard keyboard shortcuts, immediately ready for use. See Using Standard Keyboard Shortcuts for more information.

To assign custom shortcut key combinations, do the following:

1. Click the *Show Application Menu* button in the right side of NetGuard-EVS's top bar.
2. From the menu that appears, select *Keyboard Setup.*



The *Keyboard Setup* window appears.



3. When the *Keyboard Setup* window appears, click inside the *Press shortcut key* field, then press the required key combination.

   Note: Custom key combinations must begin with CTRL or ALT. Example: CTRL+B (i.e. first pressing the CTRL key, then—while still pressing the CTRL key—pressing the B key).

   This will display the pressed key combination in the *Press shortcut key* field. Now you need to specify which command you want to associate with the key combination.

4. In the *Categories* list, select the required category of commands. Based on your selection, relevant commands will be displayed in the *Commands* list in the right part of the window.

   Example: Selecting *Application* will give you access to commands related to the behavior of NetGuard-EVS application, such as commands for minimizing and maximizing NetGuard-EVS window.

   Tip: The *Categories* list will contain category called *Views.All*. When you select this category, all your views will be listed in the *Commands* list. This allows you create very useful keyboard shortcuts for quickly accessing individual views.

5. In the *Commands* list, select the required command for the shortcut key combination.

   Note: Some commands will only work when the keyboard shortcut is used in certain contexts. For example, a keyboard shortcut with a PTZ-related command will only work when using a PTZ camera.

5. In the *Use new shortcut in* list, select when the shortcut key combination should apply:

   - ***Global*:** When working on any of NetGuard-EVS's three tabs (*Live*, *Browse*, and *Setup*).
   - ***Browse Mode*:** When working on NetGuard-EVS's *Browse* tab only.
   - ***Live Mode*:** When working on NetGuard-EVS's *Live* tab only.
   - ***Setup Mode***: When working on NetGuard-EVS's *Setup* tab only.

6. Click the *Assign* button. This will add the specified shortcut key combination to the *Assigned keys* list.

Key	Use in	Action
B, Control	Browse Mode	Browse Next Image
D, Control	Global	Toggle Side Pane
Delete, Alt	Global	Show keyboard setup
Q, Alt	Global	Close the application
Z, Control, Alt	Live Mode	Camera PTZ Zoom In

Example of user-defined keyboard shortcuts

7. Click *OK*.

Tip: Your shortcut key combinations are kept as part of your user settings on the surveillance system server. This means that you will be able to use your shortcut key combinations on any computer that has a NetGuard-EVS installed, provided you log in to NetGuard-EVS with your own user name and password.

Deleting a Shortcut Key Combination

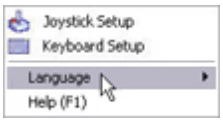
To delete an existing keyboard shortcut, simply select the unwanted shortcut in the *Assigned keys* list, then click the *Delete* button.

Language

In NetGuard-EVS, you are often able to select between different language versions.

Tip: If the language you require is not available, you may be able to install a language pack (only applies when connecting to selected surveillance systems; see Surveillance System Differences).

1. Click the *Show Application Menu* button in the right side of NetGuard-EVS's top bar.
2. From the menu that appears, select *Language*, then the required language.



3. NetGuard-EVS must be restarted in order for the change to take effect: Close your NetGuard-EVS, then log in again to use the new language version.

Login & Logout

Logging in to NetGuard-EVS is very straightforward. So is the initial configuration of NetGuard-EVS upon your first login. In fact, configuration may in some cases not be required at all.

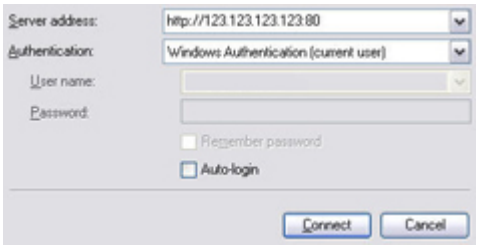
To log in to NetGuard-EVS, do the following:

1. Double-click NetGuard-EVS shortcut on your desktop.

   If no NetGuard-EVS desktop shortcut is available, select NetGuard-EVS from Windows' *Start* menu (exactly how you do this is determined by where and how you have installed NetGuard-EVS on your computer >).

2. A splash screen is displayed while NetGuard-EVS loads; this typically takes a few seconds only.

3. NetGuard-EVS login window appears.



4. Specify your login information in the following fields:

- ***Server address*:** Type the URL or IP address of the surveillance system server, as specified by your surveillance system administrator. Internet connections may use different ports for different purposes; therefore, the URL or IP address may include a port number (example: *http://123.123.123.123:80*, where :80 indicates the port number). If you have logged in before, you may simply select the required server from the *Server address* list.

- ***Authentication*:** Select between different methods of authentication (i.e. the process of verifying that you are who you claim you are):

  Note: Not all surveillance systems support the use of all three authentication methods; see Surveillance System Differences. Consult your surveillance system administrator if in doubt about which authentication method to use.

  - *Windows authentication (current user)*, with which you will be authenticated through your current Windows login, and do not have to specify any user name or password. This is NetGuard-EVS's default authentication method, i.e. the method which is automatically used unless you select another method.

  - *Windows authentication*, with which you will be authenticated through your Windows login, but you will need to type your Windows user name and password.

  - *Basic authentication*, which can only be used when connecting to selected surveillance systems.

- ***User name*:** Only required if the authentication method *Windows authentication* or *Basic authentication* is selected. If using *Windows authentication*, type your Windows user name. If using *Basic authentication*, type the user name supplied by your surveillance system administrator. The user name is case-sensitive, i.e. there is a difference between typing, for example, *amanda* and *Amanda*.

- ***Password*:** Only required if the authentication method *Windows authentication* or *Basic authentication* is selected. If using *Windows authentication*, type your Windows password. If using *Basic authentication*, type the password supplied by your surveillance system administrator.

- ***Remember password*:** Available when using *Windows authentication* or *Basic authentication*. Gives you the option of storing your password, in which case you can simply click *Connect* the next time you want to log in.

  Note: Depending on your type of organization and work environment, security restrictions may apply. Consult your surveillance system administrator if in doubt about whether it is safe to use this feature.

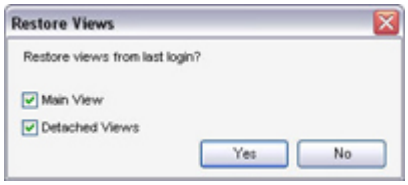
- ***Auto-login*:** If selected, you will automatically be logged in to NetGuard-EVS, when you log in to Windows. If using *Windows authentication*, *Remember password* must be selected in order for the auto-login feature to be available.

  Note: Depending on your type of organization and work environment, security restrictions may apply. Consult your surveillance system administrator if in doubt about whether it is safe to use this feature.

When ready, click *Connect*.

Tip: If a problem occurs during login, you will receive an error message; see Login Error Messages for more information.

5. ***Only relevant if you have logged in before; if logging in for the first time, move to step 6.*** NetGuard-EVS will ask you if you want to keep the view(s) you last used.



Your options are:

- ***Main View*:** If the check box is selected, the view you last used in NetGuard-EVS's main window will be restored. If check box is cleared, no view will initially be displayed, in which case you must select the required view yourself.

- ***Detached Views*:** Available when connecting to selected surveillance systems only, and only if you used views in detached windows the last time you were logged in on the computer in question (see Using Multiple Windows for more information). If check box is selected, the views you last used in detached windows will be restored.

6. After a short wait, NetGuard-EVS window will open. NetGuard-EVS window has three tabs: *Live*, *Browse* and *Setup*.

   The *Live* tab is used for viewing live video, the *Browse* tab is used for browsing recorded video, and the *Setup* tab is used for configuring NetGuard-EVS. Depending on your user rights, you may not be able to access all three tabs.

If You Log in for the First Time: Determine Available Views

If you have logged in for the first time, you need to determine whether any views exist. Views determine how video is displayed, and are thus required in order to be able to use NetGuard-EVS.

One or more views may already have been created for you, or you may need to create views yourself. Read more about views—including how to determine if views have already been created for you—in Private and Shared Views.

Logging in on Different Computers

Your user settings are stored centrally on the surveillance system. This means that your login can be used on any computer that has a NetGuard-EVS installed.
If a problem or other issue occurs during login to NetGuard-EVS, you will see one of the following error messages:

- ***You do not have access to any part of the application (live, browse or setup). Please contact the system administrator.***

- **Issue:** You currently have no access rights to any part of NetGuard-EVS, therefore you cannot log in with NetGuard-EVS.
- **What to do:** Consult your surveillance system administrator, who will be able to change your access rights if required.

- ***Failed to connect. Please check the server address.***
  - **Issue:** It was not possible to connect to the surveillance system server at the specified server address.
  - **What to do:** Verify that you have typed the correct server address. Bear in mind that the *http://* prefix as well as a port number is typically required as part of the server address (example: *http://123.123.123.123:80*, where :80 indicates the port number). Consult your surveillance system administrator if in doubt.

- ***Failed to connect. Please check the username and password.***
  - **Issue:** It was not possible to log in with the specified user name and/or password.
  - **What to do:** Verify that you have typed your user name correctly, then re-type your password to ensure it does not contain errors. Bear in mind that user names as well as passwords may be case sensitive (i.e. there may be a difference between typing *Amanda* and *amanda*). Consult your surveillance system administrator if in doubt.

- ***Failed to connect. Maximum number of clients are already connected.***
  - **Issue:** The maximum number of remote access clients allowed to connect to the surveillance system server simultaneously has been reached.
  - **What to do:** If possible, wait for a while before connecting again. If access to the surveillance system is urgent, contact your surveillance system administrator who may be able to extend the allowed number of simultaneously connected clients.

- ***New Client Available. Upgrade is recommended/required. The new version can be downloaded from ...***
  - **Issue:** A new version of NetGuard-EVS is available. This message is typically accompanied by information about whether an update is recommended or whether it is a requirement (for example because important new features will not work in your current NetGuard-EVS version). The message will typically also contain information about where to download the new version from.
  - **What to do:** Follow the advice given in the message. Consult your surveillance system administrator if in doubt.

To log out of NetGuard-EVS, simply click the *Log Out* button in NetGuard-EVS's top bar.

Multiple Windows

NetGuard-EVS supports use of multiple windows when connected to selected surveillance systems; see Surveillance System Differences.

This is especially useful if your computer has more than one physical display attached, but even when your computer has only one display you can send individual views to separate windows, while keeping NetGuard-EVS's main window in the background. This way, you can watch more than one view at a time.

You can send views to separate displays or windows from NetGuard-EVS's *Live* tab as well as its *Browse* tab.

- **Sending a View to Primary Display**

  Sending a view to *Primary Display* will show the view in a separate full-screen window on your computer's main display.

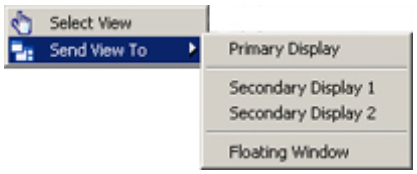
Example of a view sent to the *Primary Display*. While you are viewing the separate full screen window, the main NetGuard-EVS window will be hidden behind it.

  The separate full-screen window will only show the selected view, none of the *Live* or *Browse* tab's other features, and it can only show one view at a time.

  Any hotspots, carousels, NetMatrix positions, still images or HTML pages included in the view will work as usual.

  To send a view to *Primary Display*, do the following:

  1. In the *Live* or *Browse* tab's *Views* section, right-click the required view. This will bring up a menu.



  2. In the menu, select *Send View To >Primary Display*.

- **Sending a View to a Secondary Display**

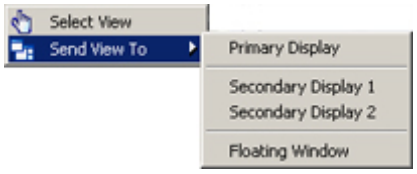
  Sending a view to a *Secondary Display* will show the view in a full-screen window on another physical display (if available).

  The other physical display will only show the selected view, none of the *Live* or *Browse* tab's other features, and it can only show one view at a time.

  Any hotspots, carousels, NetMatrix positions, still images or HTML pages included in the view will work as usual.

  To send a view to a *Secondary Display*, do the following:

  1. In the *Live* or *Browse* tab's *Views* section, right-click the required view. This will bring up a menu.

  2. In the menu, select *Send View To >Secondary Display*. If more than one secondary display is available, they will be numbered.

- **Sending a View to a Floating Window**

  Sending a view to a *Floating Window* will show the view in a small separate window on your main display.

  The floating window will only show the selected view, none of the *Live* or *Browse* tab's other features.

  A floating window can only show one view at a time, but you can use any number of floating windows.

  You are able to change the size of a floating window to suit your needs.

  Any hotspots, carousels, NetMatrix positions, still images or HTML pages included in the view will work as usual in a floating window.

  To send a view to a *Floating Window*, do the following:

  1. In the *Live* or *Browse* tab's *Views* section, right-click the required view. This will bring up a menu.

  2. In the menu, select *Send View To > Floating Window*.

- ## Closing Separate Windows

To close a separate view window, regardless whether it is shown on the *Primary Display*, as a floating window, or on a secondary display, simply click the *Close* button in the right corner of the window's blue top bar.

In order to allow the maximum possible viewing area, the blue top bar of a view sent to *Primary Display* or a *Secondary Display* is hidden. To show the top bar, and get access to the *Close* button, simply move your mouse pointer to the very top of the view.

- ## Multiple Window Setup is Stored for Next Login

If you have created a multiple window setup for your views, the setup will be saved when you log out of NetGuard-EVS. The next time you log in, you will be asked if you want to use your previous views again, including your multiple window setup.

Note, however, that this only applies if you log in to NetGuard-EVS on the computer on which you created your multiple window setup. Unfortunately, you cannot log in to a NetGuard-EVS on another computer and expect to use your multiple window setup on the other computer as well. The simple reason for this is that not all computers have extra displays attached.

If you want to use multiple windows with NetGuard-EVS on more than one computer, you must therefore configure your multiple window setup on each computer.

- ## Frequently Asked Questions about Multiple Windows

How many secondary displays can I use? In NetGuard-EVS there is no limitation as such. However, the number of secondary displays you are able to use is likely to depend on your hardware (display adapters, etc.) and your Windows version.

I want to close a view sent to *Primary Display* or a *Secondary Display*; where is the *Close* button? In order to allow the maximum possible viewing area, the blue top bar of a view sent to *Primary Display* or a *Secondary Display* is hidden. To show the top bar, and get access to the *Close* button, simply move your mouse pointer to the very top of the view.

I watch the same carousel in two different windows; why is it out of sync? A carousel changes cameras at a specific interval, configured on the *Setup* tab. Example: With an interval of 10 seconds, the carousel will show Camera 1 for 10 seconds, then Camera 2 for 10 seconds, etc. The timing begins when you start watching a view containing the carousel. When you later begin watching the same carousel in another view, perhaps even in another window or another display, the timing for that instance of the carousel begins. This is why the carousel appears to be out of sync: in reality, you are watching two separate instances of the carousel.

Output (Lights, Sirens, etc.)

If external outputs have been defined on your surveillance system, for example for switching on lights or sounding a siren, such outputs can be triggered from NetGuard-EVS's *Live* tab.

Note: Depending on your user rights, access to triggering outputs may be restricted.

To trigger an output, select the required output in the *Output* section, then click *Activate* button.

The list of selectable outputs is grouped by server and camera/device to which the output is attached.

PTZ (Pan/Tilt/Zoom)

If your views contain PTZ (Pan/Tilt/Zoom) cameras, you can control the PTZ cameras with the *Live* tab's *PTZ Control* section.

Note: Depending on your user rights, access to PTZ controls from some cameras may be restricted.

Tip: You may be able to use a joystick for controlling your PTZ cameras. Joystick control can be customized; see Customizing Joystick Setup for further information. Even though joystick and point-and-click control is supported for a large number of PTZ cameras, not all PTZ cameras may be controlled this way. Refer to the release note for information about joystick and point-and-click support for PTZ cameras.

- **Point-and-Click**

  Many PTZ cameras may be controlled simply by pointing and clicking inside the images from the camera.

  If you see a set of crosshairs when placing your mouse pointer over the images from a PTZ camera, point-and-click control is supported for the camera.

  Crosshairs indicate point-and-click control.
  For some cameras, crosshairs may look different.

  For some cameras, crosshairs surrounded by a square may be displayed. When this is the case, you are able to zoom in on an area by dragging a square around the required area in the image.

  For such cameras, zoom level is controlled by holding down the SHIFT key on your keyboard while moving the mouse up or down; this will display a zoom level slider inside the image.

- **Zooming with Mouse Wheel**

  For PTZ and IPIX cameras, you are able to zoom in and out using the scroll wheel on your mouse, provided your mouse is equipped with a scroll wheel.

  Note: On individual mice, the scroll wheel may have been reserved for special purposes, in which case zooming may not be possible. Refer to your mouse configuration manual.

- ## PTZ Navigation Buttons

As an alternative to point-and-click control, use the navigation buttons in the *PTZ Control* section to move the selected PTZ camera.

The round middle button lets you quickly move the camera to its home (i.e. default) position. The *plus* and *minus* buttons lets you zoom in and out respectively.

Tip: If you mouse has a scroll wheel, you can also use the scroll wheel to control the zoom level. On many mice, clicking the scroll wheel or middle mouse button quickly lets you view the whole image again.

- ## PTZ Preset Positions

If preset positions have been defined for the selected PTZ camera, you are able to select such positions in two ways. Selecting a preset position from the list will make the PTZ camera move to the specified position.

- From the *PTZ Control* section's *Presets* list. Bear in mind that preset positions are defined by the surveillance system administrator; the *Presets* list will be empty if no preset positions have been defined for the selected PTZ camera.

- You can also move a PTZ camera to a preset position through a menu available when right-clicking on the required camera's position in a view on the *Live* tab:

    1. On the *Live* tab, select the required view.
    2. Right-click inside the required camera position; you now get access to a shortcut menu.
    3. In the menu, select *PTZ Presets*, then the required preset position.

    Selecting the preset position *Home* will move the camera to its default position.

- ## Stopping PTZ Patrolling

You can stop a patrolling PTZ camera (i.e. a PTZ camera which continuously moves between a number of preset positions according to a schedule) through a menu available when right-clicking on the required camera's position in a view on the *Live* tab:

Note: Only use this feature when there is an important reason to do so; PTZ patrolling schedules are often carefully planned in order to meet your organization's surveillance needs. If in doubt, consult your surveillance system administrator.

1. On the *Live* tab, select the required view.
2. Right-click inside the required camera position; you now get access to a shortcut menu.
3. In the menu, select *PTZ Presets* > *Stop PTZ Patrolling*.

To resume patrolling, either simply select the command again or close the view in which the PTZ camera is included.

Removal

Note: If you are not a surveillance system administrator, it is highly recommended that you consult your surveillance system administrator before removing any surveillance system-related software.

To remove NetGuard-EVS from your computer, do the following:

1. In Windows' *Start* menu, select *Control Panel*, and select *Add or Remove Programs*. This will open the *Add or Remove Programs* window.

2. In the *Add or Remove Programs* window's list of currently installed programs, select *OnSSI NetGuard-EVS x.x* (where x.x refers to the version number).

3. Click the *Remove* button, and follow the removal instructions.

Video Viewing

You view live video on NetGuard-EVS's *Live* tab. When you select NetGuard-EVS's *Live* tab, your NetGuard-EVS will connect to the surveillance system server, and display live video from cameras in the selected view.

Note: Particular user rights may be required in order to access the *Live* tab. In order to view live video in NetGuard-EVS, the surveillance system's recording server must be running; consult your surveillance system administrator if in doubt. Depending on your user rights, access to viewing live video from some cameras may be restricted.

The *Live* tab offers you numerous features, including audio, carousels, hotspots, NetMatrix, camera shortcut menus, PTZ (Pan/Tilt/Zoom) control, digital zoom, events triggering, output triggering, and more.

Tip: NetGuard-EVS supports use of multiple windows when connected to selected surveillance systems. This is especially useful if your computer has more than one physical display attached, but from the *Live* and *Browse* tabs you can send individual views to separate windows as well. This way, you can watch more than one view at a time. See Using Multiple Windows for more information.

- **Live Video Is Not Necessarily Recorded**

  Even though you can see live video from a given camera, the video stream from the camera is not necessarily being recorded. This is actually one of the benefits of an IP-based digital surveillance system: Unlike old-style analog surveillance systems, where everything was recorded on a tape regardless whether it was relevant or not, an IP-based digital surveillance system allows much more targeted recording.

  Targeted recording frees security personnel, investigators, etc. from having to go through seemingly endless amounts of recordings in order to find a particular incident. Instead, the reduced amount of recordings—combined with NetGuard-EVS's advanced browsing and search features—allows recordings of particular incidents to be found quickly and effortlessly.

  Basically, live video streams from cameras pass through the surveillance system server. When required, the video stream is saved (recorded) on the server; when not required, the video stream is simply discarded. Video streams are typically saved on the server (recorded) either ...

  - according to a schedule (example: every morning from 10.00 to 11.30)

    - or/and -

- whenever the surveillance system detects special events (examples: motion generated by a person entering a room; a sensor registering that a window is being opened; input from users).

The surveillance system server's recording settings are determined by your surveillance system administrator. However, as a NetGuard-EVS user, you can also (provided you have the necessary user rights) start recording while viewing live video from a camera. See Recording when Viewing Live Video for more information.

Tip: When viewing live video on NetGuard-EVS's *Live* tab, you can quickly verify whether the video stream from a camera is being recorded: Look at the blue bar immediately above the camera's images. If the video stream from the camera is being recorded, the bar will display REC. Note that you may occasionally see the REC letters for short periods only. This is because cameras may have been configured to record only when there is motion, when a door is open, or similar, which can lead to many short periods of recordings.

You view recorded video on NetGuard-EVS's *Browse* tab. When you select the *Browse* tab, NetGuard-EVS will connect to the surveillance system server, and display recorded video from the cameras in the selected view. This way, you are able to browse recorded video.

Note: Particular user rights may be required in order to access the *Browse* tab. Depending on your user rights, access to browsing video from some cameras may be restricted.

The *Browse* tab offers you numerous advanced features for browsing recorded video, including time navigation, a highly intuitive timeline browser, sequences browsing, alerts browsing, and smart search (which lets you search for motion in selected areas of recordings from a particular camera).

In addition to the video browsing features, the *Browse* tab also lets you listen to audio (when connected to selected surveillance systems only), use hotspots, use digital zoom, navigate IPIX images, print images, and export video evidence as AVIs (movie clips), JPEGs (still images) as well as database files.

Tip: NetGuard-EVS supports use of multiple windows when connected to selected surveillance systems. This is especially useful if your computer has more than one physical display attached, but from the *Live* and *Browse* tabs you can send individual views to separate windows as well. This way, you can watch more than one view at a time. See Using Multiple Windows for more information.

Views

The way in which video from one or more cameras is displayed in NetGuard-EVS is called a view. A view may contain video from up to 64 cameras, depending on the surveillance system to which you connect. A NetGuard-EVS can handle an unlimited number of views, allowing you to switch between video from various collections of cameras.

In order to help you maintain an easy overview when you navigate between various views in your NetGuard-EVS, all views are placed in folders called *groups*. A group can contain any number of views and, if required, subgroups.

- ### Difference between Private and Shared Views

Views can be private or shared:

- ***Private*** views can only be accessed by the user who created them.
- ***Shared*** views allow many NetGuard-EVS users to share the same views. This is possible since all views are stored on the surveillance system server. Depending on the type of surveillance system you connect to, shared views can simply be shared by all NetGuard-EVS users, or access to selected shared views can be given to selected groups of NetGuard-EVS users.

Before you create any views, it is important that you are sure about the difference between private and shared views—not least because a number of shared views may already exist in your organization.

When you have access to shared views, creating further views in your NetGuard-EVS will not be necessary unless you want to supplement the shared views with your own private views.

If you want to create views yourself, NetGuard-EVS's *Setup* tab lets you create groups and views, and specify which cameras should be included in each view (see How to Create & Manage Views).

Note: The way shared views work varies slightly depending upon which type of surveillance system you connect to; see Surveillance System Differences for details.

- ### How to Check if Shared Views are Available

Typically, your surveillance system administrator will have told you if you have access to shared views. If not, you can quickly determine if any shared views are available to you:

Note: This method requires that your user rights permit you to access NetGuard-EVS's *Live* tab and/or *Browse* tab. Most users will have access to at least one of these tabs.

1. Go to NetGuard-EVS's *Live* or *Browse* tab.
2. On the *Live* or *Browse* tab, look at the *Views* section.
3. The *Views* section will always contain a top-level folder called *Private*. The *Private* top-level folder is for accessing private views; its content depends entirely upon which views—if any—you have created for yourself.

   Any other top-level folders in the *Views* section are for accessing shared views. The names of such other top-level folders depend entirely upon what has been configured on the surveillance system server.

   The fact that the *Views* section contains one or more top-level folders for accessing shared views does not in itself guarantee that shared views are actually available. To verify if any shared views are available under the top-level folders, expand the folders.

Tip: You can use your views, private as well as shared, on any computer that has a NetGuard-EVS installed. This is because information about your views is stored centrally on the surveillance system server, as part of your user login information.
You create and edit views on NetGuard-EVS's *Setup* tab. Particular user rights may be required in order to access the *Setup* tab. Depending on your user rights, you may be able to create and edit the following types of views:

- Private and shared
- Private, but not shared
- Shared, but not private
- Neither private, nor shared (in which case you simply rely on shared views created by others)

Typically only a few people in an organization are able to create and edit shared views. For this reason, particular user rights may be required in order to access the *Setup* tab. For example, the surveillance system administrator may create and maintain a number of shared views: When relevant NetGuard-EVS users log in, the shared views will automatically be available to them, and they will basically not need to create further views.

- **Which Views Are You Able to Create and Edit?**

To quickly determine which of the *Views* section's top-level folders your user rights permit you to create and edit views in, do the following:

1. Select any of NetGuard-EVS's tabs.
2. Look at the *Views* section. You are able to create and edit views under top-level folders which are ***not*** marked by a padlock icon.

   If a top-level folder is marked by a padlock icon, it is protected: You can still use any views under the top-level folder, but you cannot create new views or edit existing views under it.

   Consult your surveillance system administrator if in doubt about your user rights.

- **Creating Private Views**

To create your first private view, you first create a group under the *Private* top-level group, then create the required view within the group.

If you have created private views before, you may create the new view in an existing group, or you may create a new group for the view.

Creating a Group

To create a group under the *Private* top-level folder, do the following on the *Setup* tab:

1. In the Setup tab's Views section, select the Private top-level folder.
2. Click the Create New Group button:

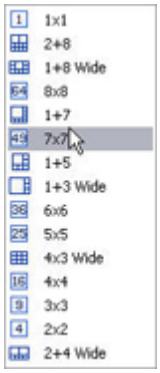
3. A new group is created. The new group is simply named New Group.
4. Overwrite the default name New Group with a group name of your choice.
5. You are now able to create a view within the group.

Creating a View within the Group

To create a view in a group, do the following:

1. In the Setup tab's Views section, make sure the group in which you want to create the view is selected.
2. Click the Create New View button:

3. Select the required layout for your new view.



   You are able to select layouts for displaying up to 64 (8×8) cameras in a single view.

   Tip: Some of the selectable view layouts are marked *Wide*. These view layouts are especially suitable for widescreen monitors.

4. A new view is created under the group you selected. The new view carries the default name New View plus an indication of the selected layout.

5. Overwrite the default name with a view name of your choice. You are now able to add cameras to the view.

Tip: A group can contain an unlimited number of views. You may also create any number of subgroups if required.

Tip: For information about adding content (cameras, etc.) to views, see How to Add Content to Views.

- ## Creating Shared Views

Note: When creating a shared view, bear in mind that, depending on their user rights, not all users may have access to all cameras on the surveillance system.

Note: Due to the large amount of new features in recent NetGuard-EVS versions, views created in NetGuard-EVS version 3.0 or later will not work in previous versions of NetGuard-EVS. If creating shared views, it is thus important that the users with whom you wish to share the views also use NetGuard-EVS version 3.0 or later.

To create a view under a shared top-level folder, you first create a group under the required shared top-level folder, then create the required view within the group.

If you have created shared views before, you may create the new view in an existing group, or you may create a new group for the view.

Creating a Group

To create a group under a shared top-level folder, do the following on the *Setup* tab:

1. In the *Setup* tab's *Views* section, select the required shared top-level folder (in this example, the required folder is simply called *Shared*).
2. Click the *Create New Group* button:

3. A new group is created. The new group is simply named New Group.
4. Overwrite the default name New Group with a group name of your choice. You are now able to create a view within the group.

Creating a View within the Group

To create a view in a group, do the following:

1. In the *Setup* tab's *Views* section, make sure the group in which you want to create the view is selected.
2. Click the *Create New View* button:

3. Select the required layout for your new view. You are able to select layouts for displaying up to 64 (8×8) cameras in a single view.

Tip: Some of the selectable view layouts are marked *Wide*. These view layouts are especially suitable for widescreen monitors.

4. A new view is created under the group you selected.

The new view carries the default name *New View* plus an indication of the selected layout.

5. Overwrite the default name with a view name of your choice.
   You are now able to add cameras to the view.

Tip: A group can contain an unlimited number of views. You may also create any number of subgroups if required.

Tip: For information about adding content (cameras, etc.) to views, see How to Add Content to Views.

- ## Adding Cameras and Other Content to Views

For information about adding content (cameras, etc.) to views, see How to Add Content to Views.

- ## Assigning Shortcut Numbers to Views

Note: Your ability to edit views and groups depends on your user rights. Basically, if you are able to create the view or group, you are also able to edit it.

On the *Setup* tab, you are able to assign shortcut numbers to views. Shortcut numbers allow users to select views using NetGuard-EVS's standard keyboard shortcuts.

To assign a shortcut number to a view, do the following:

1. In the *Setup* tab's *Views* section, select the required view.
2. Specify the required shortcut number in the *Shortcut* field, and press ENTER on your keyboard.
3. The specified shortcut number will now appear in brackets in front of the view's name.

   This will also be the case on the *Live* and *Browse* tabs, allowing users to quickly find a view's shortcut number.
4. Repeat as necessary for other views.

- ## Renaming Views or Groups

Note: Your ability to edit views and groups depends on your user rights. Basically, if you are able to create the view or group, you are also able to edit it.

To rename a view or group, do the following on the *Setup* tab:

1. Select the required view or group in the *Views* section.
2. Click the *Rename* button:

   
3. Overwrite the existing group name with a new name of your choice.

- ## Deleting Views or Groups

IMPORTANT: Deleting a group will delete all views and any subgroups within the group as well.

Note: Your ability to edit and delete views and groups depends on your user rights. Basically, if you are able to create the view or group, you are also able to edit and delete it.

To delete a view or group, do the following on the *Setup* tab:

1. Select the required view or group in the *Views* section.
2. Click the *Delete* button:

You will be asked to confirm that you want to delete the selected view or group.

- **Using Your Views on Different Computers**

  Your user settings, including information about your views, are stored centrally on the surveillance system server.

  This means that you are able to use your views, private as well as shared, on any computer that has a NetGuard-EVS installed, provided you log in to NetGuard-EVS with your own user name and password.

Note: From time to time your surveillance system administrator may make changes to camera or user properties on the surveillance system. When this is the case, such changes will take effect in NetGuard-EVS the first time you log in after the changes were made. Such changes may occasionally require you to re-create your views. Ask your system administrator if in doubt.

Once you have created views in NetGuard-EVS, you are able to add content to the views.

Note: Your ability to edit views—including adding content to the views—depends on your user rights. Basically, if you are able to create the view, you are also able to edit it.

Content can be video from individual cameras, *carousels* for viewing video from alternating cameras in a single view position, a *hotspot* for viewing selected video in high quality, static images (such as .gif, .jpeg, etc.), HTML pages, or NetMatrix-triggered video.

- **Adding Individual Cameras**

  To add a camera to a view, do the following:

  1. In the *Setup* tab's *Views* section, select the required view. When you select a view, the layout of the selected view is outlined in the main section of NetGuard-EVS window.

  2. In the *Setup* tab's *System Overview* section, click the plus sign ⊞ next to *Cameras*, then the plus sign ⊞ next to the required server to view a list of available cameras.

3. Select the required camera from the list, and drag the camera to the required position in the view.

When you have dragged a camera to a position in the view, an image from the camera will—provided a connection can be established—appear in the selected position. If a connection cannot be established, for example if the surveillance system's recording server is not running, the name of the camera will be displayed in the selected position.

4. When the camera position is selected, you are able to specify its properties (such as quality, frame rate, etc.) in the *Setup* tab's *Properties* section; see Adjusting Camera Properties for detailed information.

Repeat for each camera required in the view.

Tip: If you want to use all of the cameras under a server, you may simply drag the required server link to the view; this will automatically place all of the server's cameras in the view *from the selected position onwards*. Make sure a sufficient number of positions are available in the view.

Tip: You can easily change which cameras are included in your view: Either clear an individual camera position by clicking the clear button ⊠, then drag another camera to the cleared position, or simply overwrite a position by dragging a different camera to the position.

- ## Adding Carousels

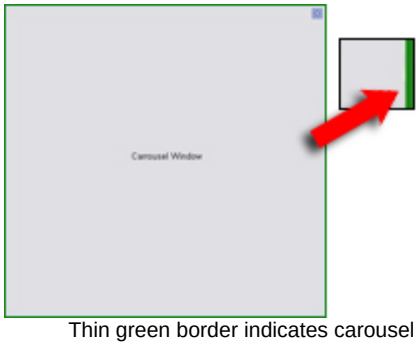
A carousel is used for displaying video from several cameras, one after the other, in a single view position. You are able to specify which cameras to include in the carousel as well as the interval between camera changes.

Note: IPIX cameras (special 360° view cameras) cannot be included in a carousel.

To add a carousel to a view, do the following on the *Setup* tab:

1. Drag the *System Overview* section's *Carousel* link to the required position in the view. When you release the mouse button over the required position, the *Carousel Setup* window opens.

   Tip: Note that the position gets a thin green border. The green border indicates that the position is used for a carousel; the green border will also be evident when using the view on the *Browse* and *Live* tabs.

   Thin green border indicates carousel

2. In the *Carousel Setup* window, specify which cameras to include in the carousel by selecting required cameras in the left part of the window, then clicking the *Add* button to add the selected cameras to the list in the right part of the window.

3. If required, move cameras up and down in the list to determine the sequence in which cameras will appear in the carousel.

4. Define the amount of time for which each camera should be displayed in the carousel; either with a common default, or individually for each camera.

5. Click *OK* to close the *Carousel Setup* window.

6. Make sure that the required position in the view is selected, then go to the *Properties* section in the left part of the *Setup* tab.

   In the *Properties* section, specify the following settings for the carousel:

   - ***Image Quality***: The setting—which will apply for all cameras included in the carousel—determines the video quality, but also affects bandwidth usage. If your NetGuard-EVS is used over the internet, over a slow network connection, or if for other reasons you need to limit bandwidth use, image quality can be reduced on the server side by selecting e.g. *Low* or *Medium*.

     When selecting a reduced image quality, video is re-encoded on the server to a JPEG format along the following lines:

     - *Full*: The default setting, providing the full quality of the original video.

- *SuperHigh (for megapixel)*: Re-encoding to an output width of 640 pixels (VGA) and a JPEG quality level of 25%.
- *High*: Re-encoding to an output width of 320 pixels (QVGA) and a JPEG quality level of 25%.
- *Medium*: Re-encoding to an output width of 200 pixels and a JPEG quality level of 25%.
- *Low*: Re-encoding to an output width of 160 pixels and a JPEG quality level of 20%.

Height will scale according to the width and the aspect ratio of the original video.

Your image quality selection will apply for JPEG as well as MPEG. For MPEG, however, only keyframes will be re-encoded.

Note: When viewing live video, you can double-click a carousel (or any other camera position in a view) to enlarge it (see Enlarging Camera Positions). When you do this, video from cameras included in the carousel is by default displayed in full quality, regardless of your image quality selection. This default cannot be overridden for carousels.

Note: While using a reduced image quality helps limit bandwidth use, it will—due to the need for re-encoding images—use additional resources on the surveillance system server.

- ***Frame Rate***: Lets you select a frame rate for the carousel. Select between *Unlimited* (default), *Medium*, or *Low*. The setting will apply for all cameras included in the carousel.

The effect of your selection can be illustrated by the following table:

Effect	Unlimited	Medium	Low
JPEG	Send all frames	Send every 4th frame	Send every 20th frame
MPEG (I-frame)	Send all frames	Send all frames	Send all frames
MPEG (P-frame)	Send all frames	Do not send any frames	Do not send any frames

Example: If you set the *Frame Rate* option to *Low* in your NetGuard-EVS, and your surveillance system administrator has configured a camera to feed JPEG images at a frame rate of 20 frames per second, you will experience an average of 1 frame per second when viewing video from the camera in the carousel. If your administrator had configured a camera with a feed as low as 4 frames per second, you would, with *Frame Rate* set to *Low* in your NetGuard-EVS, experience an average of 0,2 frames per second when viewing video from the camera in the carousel.

- ***Maintain Image Aspect Ratio*:** If check box is selected, the cameras' original image aspect ratio will be maintained; this will provide you with non-distorted images, but may lead to black bars appearing above/below images. If check box is cleared, images will be stretched to fit the carousel; this may lead to slightly distorted images, but you will avoid

any black bars appearing around the images. The setting will apply for all cameras included in the carousel.

Tip: If you later want to edit settings in the *Carousel Setup* window, select the required carousel position in the view, then click the *Properties* section's *Carousel Setup* button.

Tip: You are able to use several carousels in a single view.

- **Adding Hotspots**

With a hotspot, users will be able to select a camera in the view, and view enlarged and/or higher quality video from the selected camera in the view's hotspot.

For the hotspot you would usually select a one of the view's larger positions, for example the large position in a *1+7* view: 

Advantages of Using a Hotspot

The fact that you can view enlarged video in the hotspot is not in itself what makes the hotspot useful; you can enlarge video from any camera in a view by double-clicking the required camera position.

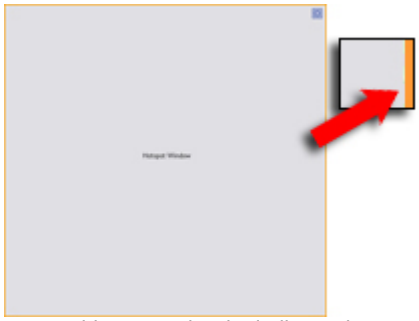
What makes the hotspot useful is that you can use a *low image quality and/or frame rate* for cameras in the view's regular positions and a *high image quality and/or frame rate* for the hot spot. Then, only when users select a camera for viewing in the hotspot will it be displayed in high quality and/or high frame rate. This can significantly help you save bandwidth on the remote connection.

Adding the Hotspot

To add a hotspot to a view, do the following on the *Setup* tab:

1. Drag the *System Overview* section's *Hotspot* link to the required position in the view, and release the mouse button over the required position.

   Tip: Note that the position gets a thin orange border. The orange border indicates that the position is used for a hotspot; the orange border will also be evident when using the view on the *Browse* and *Live* tabs.

   Thin orange border indicates hotspot

2. When the hotspot position is selected, you are able to specify its properties in the *Setup* tab's *Properties* section:

   - ***Image Quality*:** The setting determines the video quality, but also affects bandwidth usage.

If your NetGuard-EVS is used over the internet, over a slow network connection, or if for other reasons you need to limit bandwidth use, image quality can be reduced on the server side by selecting e.g. *Low* or *Medium*.

When selecting a reduced image quality, video is re-encoded on the server to a JPEG format along the following lines:

- *Full*: The default setting, providing the full quality of the original video.
- *SuperHigh (for megapixel)*: Re-encoding to an output width of 640 pixels (VGA) and a JPEG quality level of 25%.
- *High*: Re-encoding to an output width of 320 pixels (QVGA) and a JPEG quality level of 25%.
- *Medium*: Re-encoding to an output width of 200 pixels and a JPEG quality level of 25%.
- *Low*: Re-encoding to an output width of 160 pixels and a JPEG quality level of 20%.

Height will scale according to the width and the aspect ratio of the original image.

Your image quality selection will apply for live as well as recorded video, and for JPEG as well as MPEG. For MPEG, however, only keyframes will be re-encoded when viewing live video, whereas all frames will be re-encoded when viewing recorded video.

Note: When viewing live or recorded video, you can double-click a hotspot (or any other camera position in a view) to enlarge it (see Enlarging Camera Positions). When you do this, video from the camera displayed in the hotspot is by default displayed in full quality, regardless of your image quality selection. If you want to make sure that the selected image quality also applies when enlarged, select the *Keep when maximized* box, located immediately below the *Image Quality* setting.

Note: While using a reduced image quality helps limit bandwidth use, it will—due to the need for re-encoding images—use additional resources on the surveillance system server.

- ***Frame Rate*:** Lets you select a frame rate for the hotspot. Select between *Unlimited* (default), *Medium*, or *Low*. The setting will apply for all cameras included in the hotspot.

The effect of your selection can be illustrated by the following table:

Effect	Unlimited	Medium	Low
JPEG	Send all frames	Send every 4th frame	Send every 20th frame
MPEG (I-frame)	Send all frames	Send all frames	Send all frames
MPEG (P-frame)	Send all frames	Do not send any frames	Do not send any frames

Example: If you set the *Frame Rate* option to *Low* in your NetGuard-EVS, and your surveillance system administrator has configured a camera to feed JPEG images at a frame rate of 20 frames per second, you will experience an average of 1 frame per second when viewing video from the camera in the hotspot. If your administrator had configured a camera with a feed as low as 4 frames per second, you would, with *Frame Rate* set to *Low* in your NetGuard-EVS, experience an average of 0,2 frames per second when viewing video from the camera in the hotspot.

- ***Maintain Image Aspect Ratio*:** If check box is selected, the cameras' original image aspect ratio will be maintained; this will provide you with non-distorted images, but may lead to black bars appearing above/below images. If check box is cleared, images will be stretched to fit the hotspot; this may lead to slightly distorted images, but you will avoid any black bars appearing around the images. The setting will apply for all cameras displayed in the hotspot.

• Adding Static Images

Static images can be used in views for a variety of purposes: for company logos, for including floor plans or maps in the view, for including photos of wanted persons, etc.

To add a static image to a view, do the following on the *Setup* tab:

1. Drag the *System Overview* section's *Image* link to the required position in the view.
2. Release the mouse button over the required position. When you release the mouse button, you are able to select the required static image file.

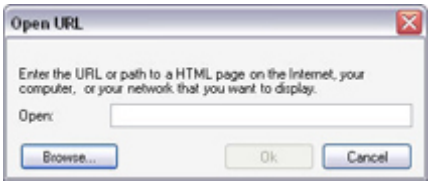
• Adding HTML Pages

HTML Pages can be used in views for a variety of purposes: for including company web pages, navigation pages, online map services, link collections, e-learning pages, etc.

Tip: When an imported HTML page contains links, it is highly recommended that the links have the `target='blank'` attribute (example: `<a href="otherwebpage.htm" target="blank">Link</a>`). This will make the links open in separate windows, which will help you avoid losing view of NetGuard-EVS window itself due to a link opening a web page in the same browser window as NetGuard-EVS.

To add an HTML page to a view, do the following on the *Setup* tab:

1. Drag the *System Overview* section's *HTML Page* link to the required position in the view. When you release the mouse button over the required position, the *Open URL* window opens.



2. In the *Open URL* window's *Open* field, type the location of the required HTML page (example: http://www.mywebsite.com/mywebpage.htm).

   - or -

   If the HTML page is stored locally on your computer, specify its location on your computer

(example: C:\myfiles\mywebpage.htm), or click the *Browse...* button to browse for the required HTML page.

3. Click the *OK* button.

Changing the Properties of an HTML Page

Once an HTML page is added to a view, you are able to change its properties by doing the following:

4. On the *Setup* tab, select the imported HTML page in the view. Properties of the selected HTML page will appear in the *Setup* tab's *Properties* section.

2. Change the required property:

- ***Url*:** Click the *New* button to specify a new URL or location of the required HTML page.
- ***Scaling*:** Select the required scaling of the HTML page. The optimal scaling depends entirely on the content of the imported HTML page and how you want to display it.

  As a rule of thumb, with a high scaling value, e.g. 1280×1024, text on the HTML page will appear relatively small, and a considerable amount of content will be visible without the need for scrolling. With a low scaling value, e.g. 320×200, text on the HTML page will appear relatively large, and a relatively small amount of content can be displayed without the need for scrolling.

Examples of the same HTML page viewed with different scaling values

- ***Enable HTML scripting*:** Only select this feature if the HTML page is a custom-made HTML page to be used for navigating or triggering features inside NetGuard-EVS itself (see examples of such custom-made HTML pages in Using an HTML Page for Navigation).

  If selected, a client script required for navigating and controlling a number of features inside NetGuard-EVS will be added to the HTML page. For HTML pages which are not going to be used for such purposes, the client script cannot be used, and may even cause the HTML page to malfunction.

- ***Hide toolbar*:** By default, a simple navigation bar with is inserted above each imported HTML page. The navigation bar has four buttons; from left to right the buttons are *Back*, *Forward*, *Refresh* and *Home*:

  If you do not want the navigation bar, you can hide it by selecting *Hide toolbar*.

- **Adding NetMatrix Content**

Note: The ability to add NetMatrix content to views is available when connecting to selected surveillance systems only; see Surveillance System Differences.

NetMatrix is an integrated product that allows distributed viewing of video from any surveillance system camera to any monitor (known as a NetMatrix recipient) on a network. With a typical NetMatrix configuration, live video is automatically presented on the required NetMatrix recipient when defined events occur, for example when motion is detected, or when another user wishes to share important live video.

Provided NetMatrix has been configured on the surveillance system server, you are able to include NetMatrix content in your NetGuard-EVS views. Thus, when particular events occur, or another user wishes to share important occurrences with you, live video from particular cameras will automatically appear in your views' NetMatrix positions.

Which events or cameras are used in the NetMatrix setup depends entirely on the surveillance system server's NetMatrix configuration, or on what other users wish to share with you; you are not able to control this in NetGuard-EVS.

However, you are able to add NetMatrix content to as many view positions as required. This way you are able to watch live video from several NetMatrix-triggered sources at the same time.

If your view contains several NetMatrix positions, the positions are always ranked: One of the positions will be the primary NetMatrix position; another will be the secondary NetMatrix position, and so on.

When the first NetMatrix-triggered live video stream is received, it is automatically presented in the primary NetMatrix position in your view.

When the next NetMatrix-triggered video stream is received, a first-in-first-out principle begins to apply: the previously received video stream is quickly transferred to your view's secondary NetMatrix position, and the latest video stream is presented in your view's primary NetMatrix position, and so on.

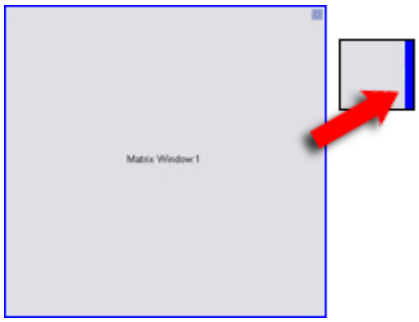
This way, you can always watch the latest video stream, while maintaining the last few previously received video streams in your view as well.

The positions' ranking is applied automatically: the first NetMatrix position you add to the view will automatically be the view's primary NetMatrix position, the next one you add will automatically be the secondary one, etc. If required, you can manually change the NetMatrix positions' ranking in the Setup tab's Properties section.

To add NetMatrix content to a view, do the following on the *Setup* tab:

1. Drag the *System Overview* section's *Matrix* link to the required position in the view, and release the mouse button over the required position.

   Tip: Note that the position gets a thin blue border. The blue border indicates that the position is used for NetMatrix content; the blue border will also be evident when using the view on the *Browse* and *Live* tabs.



Thin blue border indicates NetMatrix

2. When the NetMatrix position is selected, you are able to specify its properties in the *Setup* tab's *Properties* section:

   - ***Image Quality*:** The setting determines the quality of the video when viewed, but also affects bandwidth usage.

     If your NetGuard-EVS is used over the internet, over a slow network connection, or if for other reasons you need to limit bandwidth use, image quality can be reduced on the server side by selecting e.g. *Low* or *Medium*.

     When selecting a reduced image quality, images are re-encoded on the server to a JPEG format along the following lines:

     - *Full*: The default setting, providing the full quality of the original image.
     - *SuperHigh (for megapixel)*: Re-encoding to an image output width of 640 pixels (VGA) and a JPEG quality level of 25%.
     - *High*: Re-encoding to an image output width of 320 pixels (QVGA) and a JPEG quality level of 25%.
     - *Medium*: Re-encoding to an image output width of 200 pixels and a JPEG quality level of 25%.
     - *Low*: Re-encoding to an image output width of 160 pixels and a JPEG quality level of 20%.

     Height will scale according to the width and the aspect ratio of the original image.

     Your image quality selection will apply for live as well as recorded video, and for JPEG as well as MPEG. For MPEG, however, only keyframes will be re-encoded when viewing live video, whereas all images will be re-encoded when viewing recorded video.

     Note: When viewing live or recorded video, you can double-click a NetMatrix position (or any other camera position in a view) to enlarge it (see Enlarging Camera Positions). When you do this, video from cameras included in the NetMatrix position is by default displayed in full quality, regardless of your image quality selection. If you want to make sure that the selected image quality also applies when enlarged, select the *Keep when maximized* box, located immediately below the *Image Quality* setting.

Note: While using a reduced image quality helps limit bandwidth use, it will—due to the need for re-encoding images—use additional resources on the surveillance system server.

- ***Frame Rate*:** Lets you select a frame rate for the NetMatrix position. Select between *Unlimited* (default), *Medium*, or *Low*. The setting will apply for all cameras included in the NetMatrix position.

  The effect of your selection can be illustrated by the following table:

Effect	Unlimited	Medium	Low
JPEG	Send all frames	Send every 4th frame	Send every 20th frame
MPEG (I-frame)	Send all frames	Send all frames	Send all frames
MPEG (P-frame)	Send all frames	Do not send any frames	Do not send any frames

  Example: If you set the *Frame Rate* option to *Low* in your NetGuard-EVS, and your surveillance system administrator has configured a camera to feed JPEG images at a frame rate of 20 frames per second, you will experience an average of 1 frame per second when viewing video from the camera in the NetMatrix position. If your administrator had configured a camera with a feed as low as 4 frames per second, you would, with *Frame Rate* set to *Low* in your NetGuard-EVS, experience an average of 0,2 frames per second when viewing video from the camera in the NetMatrix position.

- ***Maintain Image Aspect Ratio*:** If check box is selected, the cameras' original image aspect ratio will be maintained; this will provide you with non-distorted images, but may lead to black bars appearing above/below images. If check box is cleared, images will be stretched to fit the NetMatrix position; this may lead to slightly distorted images, but you will avoid any black bars appearing around the images. This setting will apply for all cameras displayed in the selected NetMatrix position.

- ***NetMatrix Window*:** Lets you change the NetMatrix position's ranking. *1* is the primary position in which video from the latest event is always shown, *2* is the secondary position in which video from the previously detected event is always shown, *3* is the tertiary position in which video from the event detected before the event in position *2* is always shown, and so on. The selected number cannot be higher than the total number of NetMatrix positions in the view: If the view only contains one NetMatrix position, the position must have number 1; if the view contains, for example, four NetMatrix positions, they must be numbered from 1 to 4.

- ***Connection Settings...*:** Button only available when the view's NetMatrix position *1* is selected; other NetMatrix positions in the view inherit the connection settings specified for position *1*. Clicking the *Connection Settings...* button lets you specify the *TCP Port* and *Password* used when transferring NetMatrix-triggered video from the surveillance server to NetGuard-EVS view. By default, the TCP port used for NetMatrix is 12345; consult your surveillance system administrator if in doubt about which port number or password to use.

4. Repeat if more NetMatrix positions are required in the view.

- **Adding Other Content**

  On some surveillance systems, you may be able to add more types of content to views in your NetGuard-EVS.

  Consult your surveillance system administrator if in doubt.

In the *Setup* tab's *Properties* section, you are able to adjust a number of settings for individual cameras. To adjust a camera's properties, select the required camera in the view (the selected position will be indicated by a bold border), then make the adjustments in the *Properties* section. Note that particular user rights may be required in order to access the *Setup* tab.

- **Camera Name**

  The *Camera Name* field displays the name of the selected camera. The field is read-only.

- **Image Quality & Keep when Maximized**

  The *Image Quality* setting determines the quality of video when viewed, but also affects bandwidth usage.

  If your NetGuard-EVS is used over the internet, over a slow network connection, or if for other reasons you need to limit bandwidth use, image quality can be reduced on the server side by selecting e.g. *Low* or *Medium*.

  When selecting a reduced image quality, images from the selected camera is re-encoded to a JPEG format on the surveillance system server before being sent to NetGuard-EVS. Re-encoding takes place along the following lines:

  - ***Full*:** The default setting, providing the full quality of the original video.
  - ***SuperHigh (for megapixel)*:** Re-encoding to an output width of 640 pixels (VGA) and a JPEG quality level of 25%.
  - ***High*:** Re-encoding to an output width of 320 pixels (QVGA) and a JPEG quality level of 25%.
  - ***Medium*:** Re-encoding to an output width of 200 pixels and a JPEG quality level of 25%.
  - ***Low*:** Re-encoding to an output width of 160 pixels and a JPEG quality level of 20%.

  Height will scale according to the width and the aspect ratio of the original video.

  Your image quality selection will apply for live as well as recorded video, and for JPEG as well as MPEG. For MPEG, however, only keyframes will be re-encoded when viewing live video, whereas all frames will be re-encoded when viewing recorded video.

  Note: While using a reduced image quality helps limit bandwidth use, it will—due to the need for re-encoding images—use additional resources on the surveillance system server.

  Tip: You can quickly reduce the bandwidth usage for all cameras in the view by reducing the image quality for a single camera, then clicking the *Apply To All* button.

Keep When Maximized

When viewing live or recorded video, you can double-click a particular camera position in a view to enlarge it (see Enlarging Camera Positions). When you do this, video from the camera is by default displayed in full quality, regardless of your image quality selection.

If you want to make sure that the selected image quality also applies when enlarged, select the *Keep when maximized* box, located immediately below the *Image Quality* setting.

- **Frame Rate**

Lets you select a frame rate for the selected camera. Select between *Unlimited* (default), *Medium*, or *Low*.

The effect of your selection can be illustrated by the following table:

Effect	Unlimited	Medium	Low
JPEG	Send all frames	Send every 4th frame	Send every 20th frame
MPEG (I-frame)	Send all frames	Send all frames	Send all frames
MPEG (P-frame)	Send all frames	Do not send any frames	Do not send any frames

Example: If you set the *Frame Rate* option to *Low* in your NetGuard-EVS, and your surveillance system administrator has configured the camera to feed JPEG images at a frame rate of 20 frames per second, you will experience an average of 1 frame per second when viewing video from the camera on your NetGuard-EVS's *Live* tab. If your administrator had configured the camera with a feed as low as 4 frames per second, you would, with *Frame Rate* set to *Low* in your NetGuard-EVS, experience an average of 0,2 frames per second when viewing video from the camera on the *Live* tab.

- **IPIX Split Mode**

Available only if the selected camera is an IPIX camera. IPIX is a technology that allows creation and viewing of 360-degree panoramic images. NetGuard-EVS supports up to four different viewpoints from a single IPIX camera.

The IPIX Split Mode list lets you select the required spilt mode:

- ***One by One*** lets you view a single viewpoint.
- ***Two by Two*** lets you view four different viewpoints at a time.

When viewed on any of NetGuard-EVS's tabs, the IPIX camera will appear as specified, with either one or four viewpoints from the same image:

Tip: When viewing different viewpoints from an IPIX camera on the *Live* or *Browse* tabs, you are able to navigate each viewpoint independently by clicking inside each viewpoint, or by using the buttons in the *Live* or *Browse* tabs' *PTZ Control* sections.

- **Maintain Image Aspect Ratio**

If check box is selected, video will not be stretched to fit the size of the camera position. Rather, video will be displayed with the aspect ratio (height/width relationship) with which it has been recorded.

This may result in horizontal or vertical black bars appearing around the images from some cameras.

If check box is cleared, video will be stretched to fit the position in the view; this may lead to slightly distorted video, but you will avoid any black bars appearing around the video.

Example: The same image viewed with *Maintain Image Aspect Ratio* selected (left) and cleared (right)

- **Update on Motion**

If selected, video from the selected camera will only be updated on NetGuard-EVS's *Live* tab when motion is detected.

Depending on the motion detection sensitivity configured for the camera on the surveillance system server this can help reduce CPU usage significantly.

If the video is only updated on motion, users will see the message *No motion* together with a still image in the camera's view position until motion is detected.

- **Sound on Motion Detection**

When video from the camera is viewed on the *Live* tab, it is possible to get a simple sound notification when motion is detected.

  - ***Always off*:** Do not use sound notifications on detected motion.
  - ***Always on*:** Play a sound notification each time motion is detected on the camera.

Will I receive lots of sound notifications? If you select *Always on*, the amount of motion-related sound notifications you are likely to receive will depend on the motion detection sensitivity of the camera in question. If motion detection for the camera is highly sensitive, you may at times receive very frequent sound notifications. The camera's motion detection sensitivity is configured on the surveillance system server; consult your surveillance system administrator if in doubt. If you select sound notifications for more than one camera, you may also hear more notifications—again depending on the cameras' motion detection sensitivity.

Can I change the notification sound? By default, NetGuard-EVS uses a simple sound file for its sound notifications. The sound file, called *Notification.wav*, is located in NetGuard-EVS installation folder. If you want to use another .wav file as your notification sound, simply name the required file *Notification.wav* and place it in NetGuard-EVS installation folder instead of the original file. The file *Notification.wav* is used for event as well as motion detection notifications; it is not possible to use different sound files for different cameras or to distinguish between event and motion detection notifications.

- **Sound on Event**

  Note: This feature is only available if using your NetGuard-EVS with certain surveillance systems; see Surveillance System Differences. Even when using your NetGuard-EVS with a surveillance system supporting this feature, being able to use this feature requires that notifications on events have been configured on the surveillance system server. Consult your surveillance system administrator if in doubt.

  When video from the camera is viewed on the *Live* tab, it is possible to get a simple sound alert when events related to the selected camera occur.

  - ***Always off*:** Do not use sound alerts when events related to the camera occur.
  - ***Always on*:** Play a sound alert each time an event related to the camera occurs.

  What is an event? An event is a predefined incident occurring on the surveillance system. Depending on the surveillance system's configuration, events may be caused by input from external sensors connected to cameras, by detected motion, by data received from other applications, or manually through user input. Events are used by the surveillance system for triggering *actions*. Typically, most events on the surveillance system are generated automatically. For example, detected motion can be defined as an event which in turn triggers an action, such as recording on a camera.

  Will I receive lots of sound notifications? If you select *Always on*, the amount of event-related sound notifications you are likely to receive will depend on the nature and number of events related to the camera in question. Events are configured on the surveillance system server; consult your surveillance system administrator if in doubt. If you select sound notifications for more than one camera, you may also hear more notifications—again depending on the surveillance system's event configuration.

  Can I change the notification sound? By default, NetGuard-EVS uses a simple sound file for its sound notifications. The sound file, called *Notification.wav*, is located in NetGuard-EVS installation folder. If you want to use another .wav file as your notification sound, simply name the required file *Notification.wav* and place it in NetGuard-EVS installation folder instead of the original file. The file *Notification.wav* is used for event as well as motion detection notifications; it is not possible to use different sound files for different cameras or to distinguish between event and motion detection notifications.

- **Apply to All**

  The *Apply To All* button lets you quickly apply the camera settings for the selected camera to all cameras in the view.

You are basically able to select a view in two ways:

- By selecting the required view in the *Live* tab's *Views* section.
- By selecting the required view from the *Views* list located in the upper part of the window.

Tip: If views have been assigned shortcut numbers (see How to Create & Manage Views), you will also be able to select a view by using keyboard shortcuts (see Using Standard Keyboard Shortcuts).