



User Manual

QGuard



Let's Make Things Safer!



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Preface

This document

This manual is intended for administrators and operators of a Guard Video Recorder and is applicable for QGuard/GuardNVR software version 6.0 and higher.

Safety Notices

Please observe all safety notes and instructions carefully when using this product.

Liability

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Legal considerations

Please check your local regional laws and regulations before using QGuard for surveillance purposes. Camera surveillance maybe prohibited by laws, which may vary from country to country.

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Support Services

Should you require any technical assistance, please contact your installer. If your questions cannot be answered immediately, your installer will forward your queries through the appropriate channels to ensure a fast response.

Introduction

QGuard is a unique digital video surveillance solution, which combines three major functions in one Network Video Recorder (NVR) or Digital Video Recorder (DVR): local digital recording, multiplexing and simultaneous transmission of the video via existing networks (TCP/IP). To a standard QGuard, up to 16 cameras can be permanently recorded while multiple operators at different locations on the network are accessing the QGuard device.



Being a networked device, QGuard utilizes two basic principles of the Internet/Intranet technology:

- QGuard works over the TCP/IP network protocol, which provides maximum connectivity. This means that the existing computer network infrastructure can be used eliminating extra installation expenses.
- QGuard uses a web-based user interface to view live images, recordings, etc. More specific it uses Microsoft **Internet Explorer**.

Remote and Local Monitoring

To remotely monitor the connected cameras, the QGuard uses Web Browser technology. To locally monitor video, the QGuard also provides a local interface via a PC monitor directly connected to the QGuard. This local interface allows an operator to see live video from the connected cameras without the need for additional client computers on a network.



Continuous Activity-Based Recording

By default, a QGuard continuously records all images from all the connected cameras based on activity detection. In this case, only movement is recorded. If there is no movement, no recording takes place. If necessary, the QGuard can be set to record continuously.

Intelligent Storage Option

QGuard uses a first-in/first-out (FIFO) overwrite principle. Once the disk is full, the oldest images are overwritten.

Semi-Continuous recording (recording based on activity detection) allows a QGuard to store pre- and post-alarm video. Pre- and Post-alarm images are often more important than the images at the time of the alarm event itself. Up to 5 minutes of pre- and post-alarm video can be stored.

QGuard makes a distinction between common activity recordings and pre/post alarm recordings. In the way that, alarm recordings have a higher storage priority and will not be overwritten by non-alarm recordings.



The QGuard is operational even when no live monitoring occurs. While the QGuard continuously records images from all the cameras, video is transmitted from the server to the client **only** when an Internet browser is connected to QGuard and someone is live-viewing images from one or more cameras.

Getting Started

This chapter provides information to get you started using your QGuard. It covers the following topics:

- Accessing QGuard via Internet Explorer.
- Accessing QGuard locally.
- Setting up QGuard application as default homepage.
- Add QGuard as a trusted site.

1.1 QGuard IIS Split

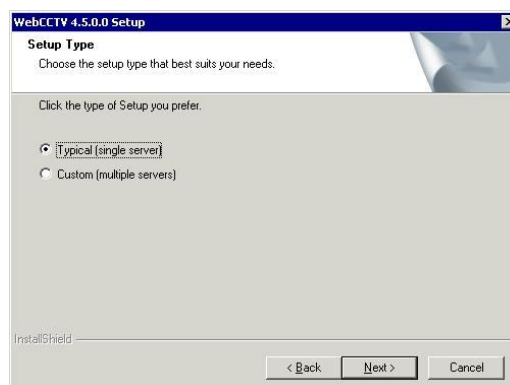
As stated before, the QGuard application is a real web application which increases the flexibility and connectivity considerably. This web application is managed by IIS (Internet Information Services) which is installed on a computer of choice which can run IIS.



Versions prior to version 4.0.8.0 only have the ability to install IIS on the Video Server itself.

By having the option to install the web application (by using IIS) onto a computer of choice, it is possible to simplify the connection and scalability of the global security installation as the server itself and the web application don't have to be installed on the same unit.

In the beginning of the installation, you will be able to choose whether to use the split functionality or not. You must choose one of the options: typical or custom. The **Typical (single server)** option will install the web application and the video server on the same machine.



Setup Type Selection Screen

If **Custom (multiple servers)** is selected, there will be three possible options:

- **Video Server with User Interface Server (default)** – Both the video server and the web application will be installed on the unit. Option **Typical (single server)** or first option in the Custom menu.

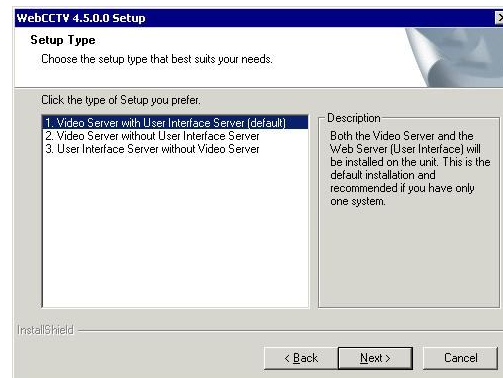


This is default installation and recommended if you have only one QGuard system.

- **Video Server without User Interface Server** – Only the Video Server is installed. This means you have installed the Web Application (User Interface) on another system. Option **Custom (multiple servers)**.
- **User Interface Server without Video Server** – Only the Web Application is installed. Ideally this web application will be used as the central web application for all the QGuard systems in your network. Option **Custom (multiple servers)**.

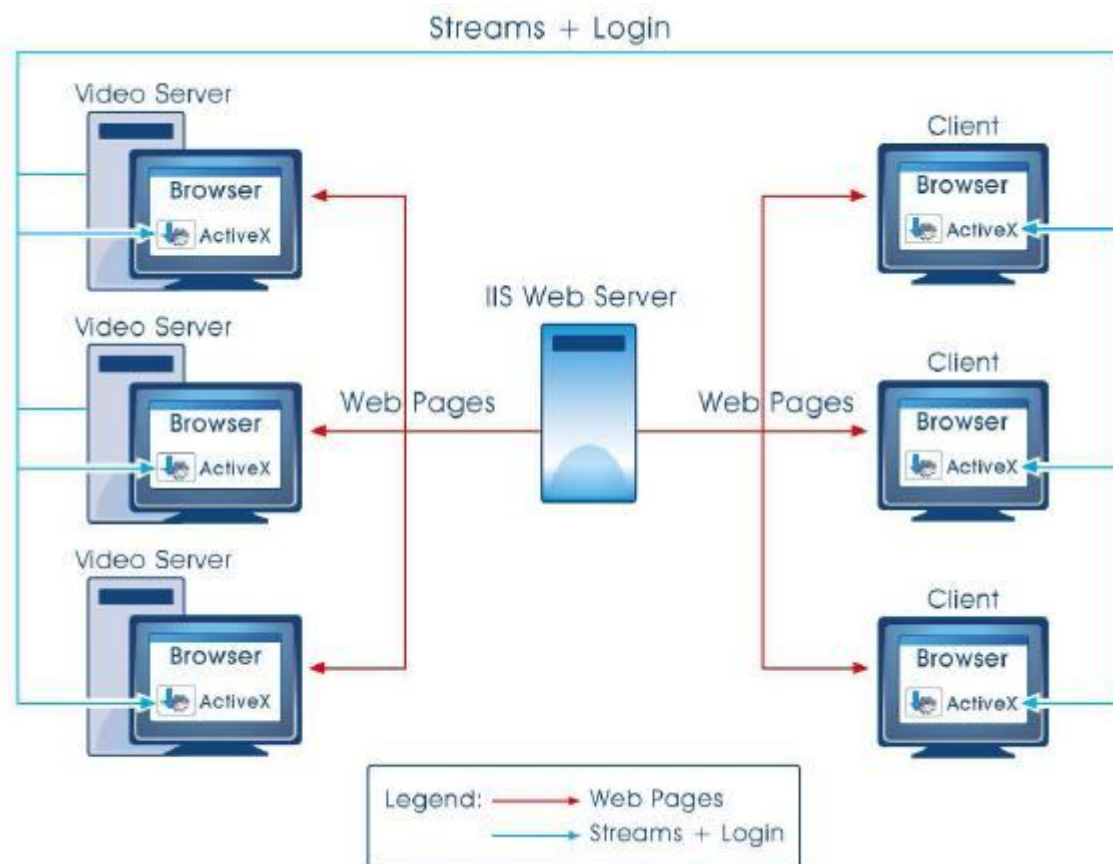


You can choose one of the three options during the installation of your system by selecting **Custom**. Ask your installer for more information if you didn't install the system yourself.

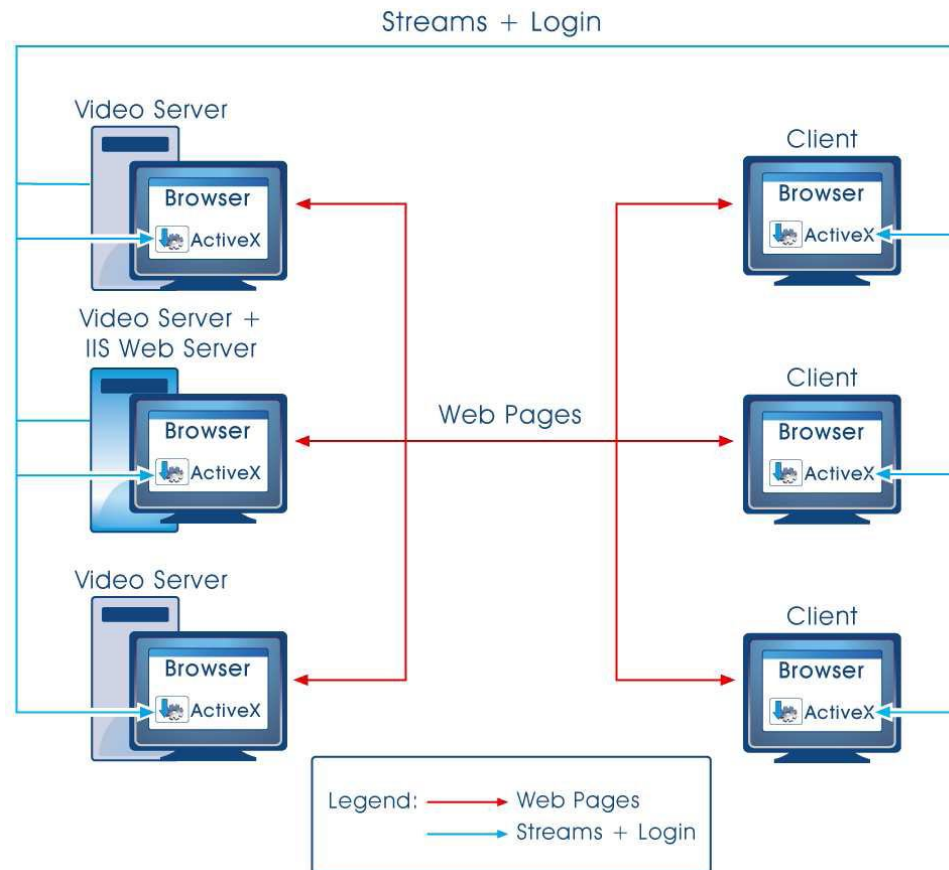


Setup Type Selection Screen

The following pictures give you an idea how it works:



Centralized IIS Server on separate unit



Centralized IIS Server on a Video Server

Let us explain how this works in reality!

If you have multiple Video Servers installed and have installed a centralized IIS server (On one of the Video Server or even on a separate PC), then you can connect to each Video Server by connecting first to the centralized Web Application by typing the IP of that unit. At that time you can choose which server you want to connect to in the network from the extended logon screen. In this case you only need to remember one IP address to connect to all your QGuard servers.

This means that when you connect to a Video Server that also has the Web Application installed you will need the basic logon screen shown below:

Basic Logon Screen

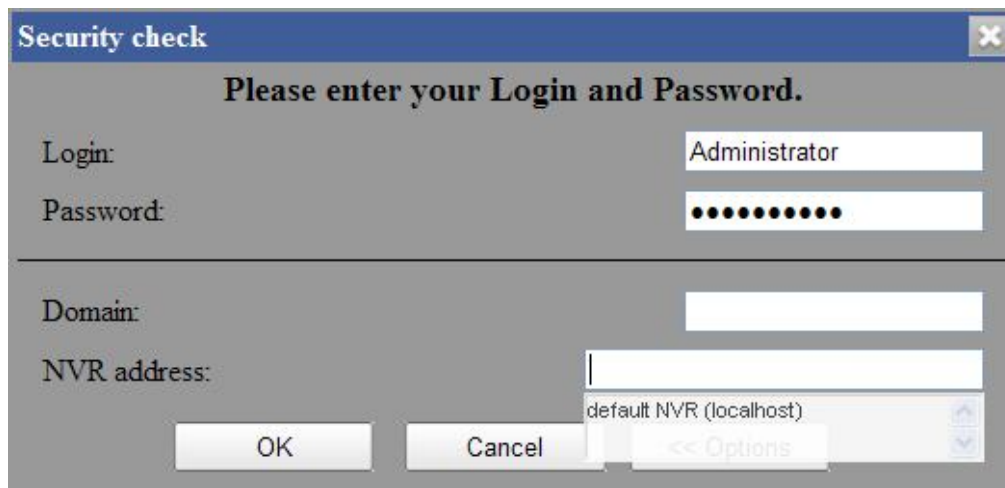
If you want to connect through the centralized Web Server, you have to use the extend logon screen by clicking **Options**. There you select or type the video server IP or DNS name:



For more information about the configuration of this setup, see chapter **3.3.7. Network Video Recorders** where you can define all servers which are reachable through a centralized Web Server.



You can choose which server you want to use as the default server to connect to. For more information, see chapter **3.3.7. Network Video Recorders**.



The image shows a 'Security check' dialog box with a blue title bar and a close button. The main text says 'Please enter your Login and Password.' There are four input fields: 'Login' with 'Administrator' entered, 'Password' with masked characters, 'Domain' (empty), and 'NVR address' (empty). Below the 'NVR address' field is a dropdown menu showing 'default NVR (localhost)'. At the bottom are 'OK', 'Cancel', and '<< Options' buttons.

Extended Logon Screen

1.2 Access QGuard via Internet Explorer



QGuard automatically starts recording the moment it is turned on and booted. The booting process takes about two minutes.



The QGuard can be accessed via Internet Explorer. This Internet Explorer browser can reside on three places:

1. A capable client LAN PC: This is a PC in the same network as the QGuard
2. A capable client WAN PC: This is a PC on the wide area network. Your router/firewall has to be configured properly in order to connect to QGuard.
3. The QGuard: On the desktop of the QGuard, you can click the video browser icon which will open the Internet Explorer browser on the QGuard itself automatically redirecting you to the QGuard server.



Only 'ActiveX' supporting Internet Browsers are designed to be used with the QGuard. Internet browsers like Netscape, Opera and other browsers that do not support 'ActiveX', are not suitable for use with QGuard.

To access the QGuard server via Internet Explorer, follow the steps below:

1. Obtain the exact IP address for the QGuard from your System Administrator and make note of it for future reference.



‘http://192.168.100.1/’ is the factory default IP-address for a QGuard. Please note that your installer could have changed it to fit the specifications of your own network.

2. Open Internet Explorer.



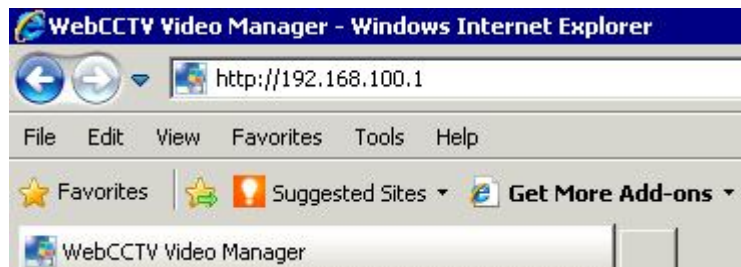
Click the **Start** button on your PC or QGuard and find **Internet Explorer** in the **All Programs** tab. An Internet Explorer link can often be found on the desktop.

3. Once Internet Explorer is opened, click on the address field and enter the IP-address as shown in the example below (without the quotes):

‘http://192.168.100.1/’



Make sure to include the **http** prefix into the IP-address. This is a protocol used for communication with a World Wide Web server. Since QGuard uses the same technology, the http prefix should be included.



QGuard IP-address



When you changed the TCP/IP communication port, you need to add the port in the IP-address. For example, if you changed the TCP/IP port to 81 (80 is default port), the IP-address becomes ‘http://192.168.100.1:81/’.



If you want to connect to a QGuard or GuardDVR, your IP-address becomes ‘http://192.168.100.1/QGuard’ or ‘http://192.168.100.1/guarddvr’.

If the QGuard is accessed for the first time with a client PC, you will need to install the ActiveX component. Follow the instructions on your screen.



Installation of the component is done (semi) automatically on the first connection to a QGuard. The installation only has to be done once.

1.3 Access QGuard locally

The QGuard Local User Interface allows you to view video footage in real time by connecting a monitor directly to QGuard while recording at the same time.



Compared to Internet Explorer access, accessing QGuard via the Local Interface has limited user functionality. The Local Interface access does not consume much CPU and memory. Accessing QGuard via Local Interface slightly increases image quality.

To access QGuard locally, please follow the steps below:

1. Connect a monitor, a keyboard and a mouse directly to the QGuard.
2. By default, a standard Windows Login window will appear on the screen. Login with administrative credentials.

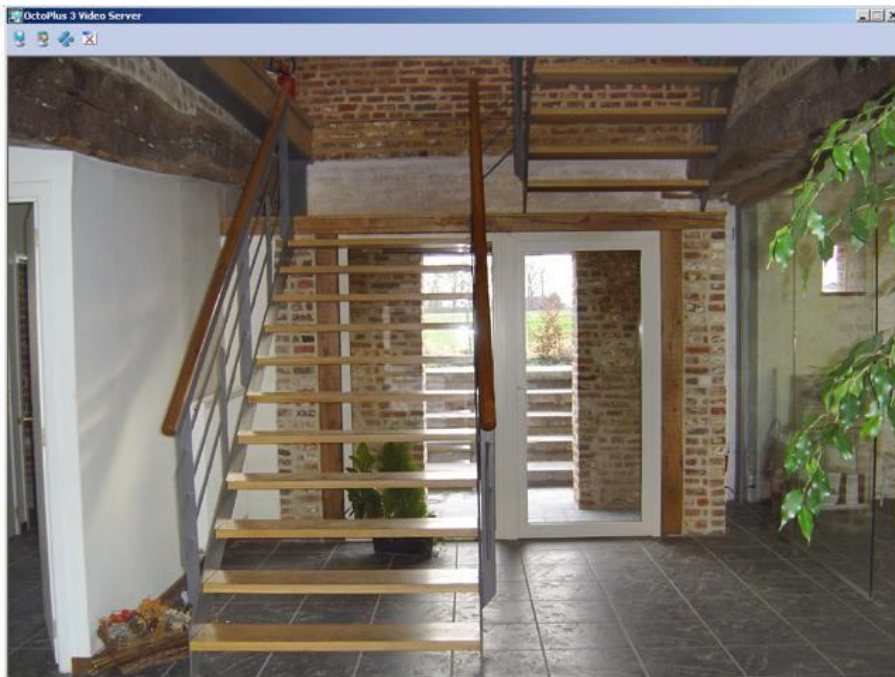


Please contact your installer for the correct details.

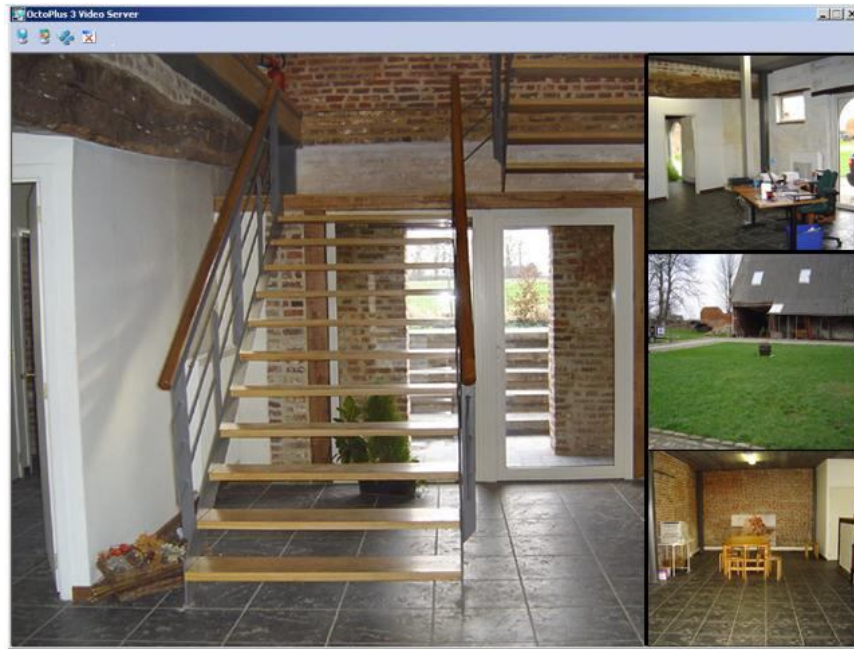
3. Depending on how you accessed the QGuard last time, you will see either a QGuard Local Interface directly on the screen or a QGuard Local Interface icon on the system tray in the right bottom corner.
4. Double click the Local Interface icon to restore the Local Interface.



It's possible to configure the QGuard not to show the Windows logon screen after a restart and go directly to the Local Interface. To achieve this double-click the icon "Operator Mode" on the QGuard desktop.



QGuard Local Interface Single View Screen



QGuard Local Interface Mosaic View Screen



QGuard Local Interface Control Panel



QGuard Local Interface provides basic Live view functionality (in Single or Mosaic View). For complete QGuard functionality including settings, recordings, exporting, and accessing the QGuard server via Internet Explorer.

QGuard Local Interface Buttons



Single View

Click on this button to access live view from a single camera.



Mosaic View

Click on this button to live view multiple cameras.



Full Screen Button

Click on this button to extend the application window to full screen view.



Close Child Windows Button

Click on this button to close all the windows on the screen



Change Mosaic View Button

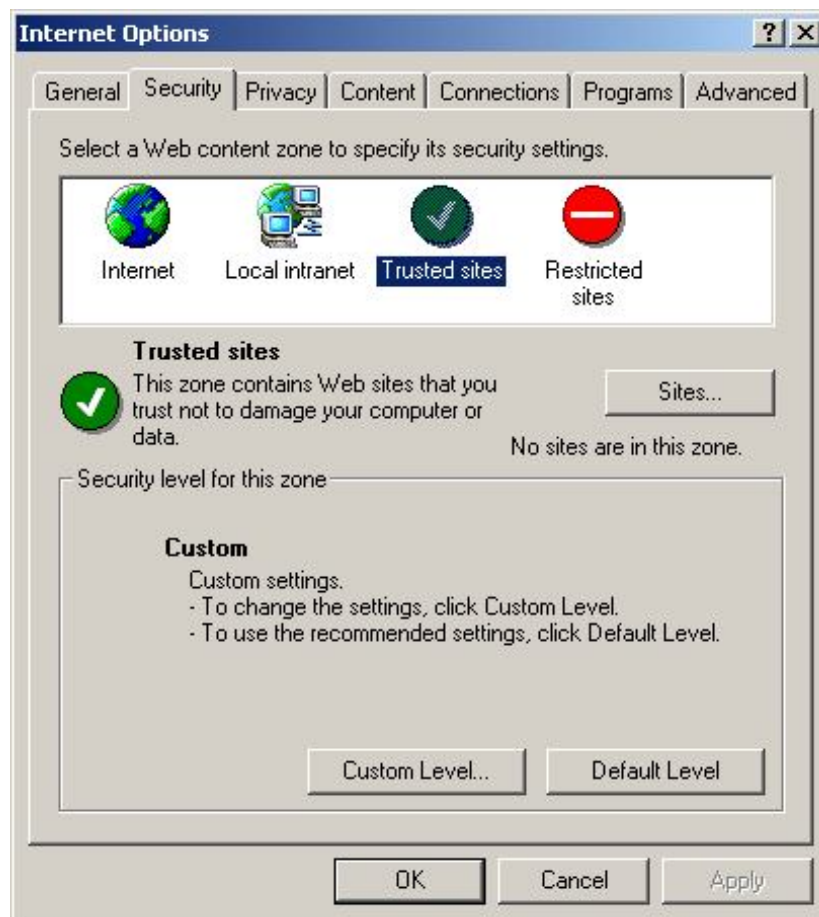
This button is applicable only if more than 4 cameras are connected; it allows you to jump from one mosaic view to another.

1.4 Add QGuard as trusted site

The trusted sites zone contains sites you trust; sites that you believe you can download or run files from without worrying about damage to your computer or data. The default security level for the trusted sites zone is Low, therefore, Internet Explorer will allow all cookies and ActiveX controls from Web sites in this zone to be saved on your computer and read by the Web site that created them. We recommend adding QGuard to the trusted sites zone.

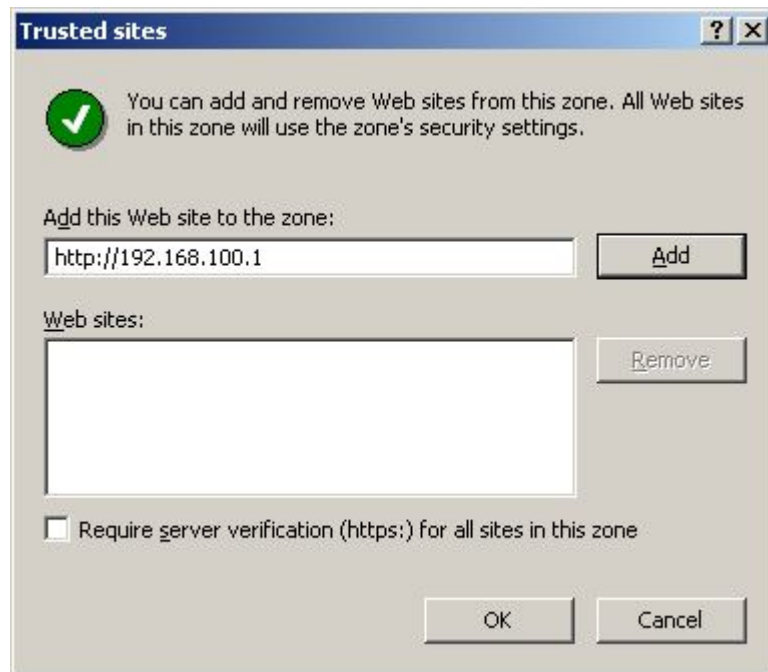
To add the QGuard application as a trusted site, follow the steps below:

1. Select **Tools** on the Internet Explorer menu bar.
2. Select **Internet Options**.
3. Go to the **Security** tab. Select **Trusted Sites** there.



Internet Options Screen

- Click the **Sites** button. In the window that appears deselect **Require server verification (https:) for all sites in this zone** check box.



Trusted Sites Screen

- Specify correct QGuard server address in the corresponding field and click **Add** button.
- Address you specified appears in the **Web sites** field.
- Click **OK**.

1.5 Add QGuard as default homepage

To make QGuard a default start page on a client PC, follow the steps below:

- Select **Tools** on the Internet Explorer menu bar.
- Select **Internet Options**.
- Select **General**.
- Click **Use Current** button or enter **http://192.168.100.1** IP-address (or the correct QGuard IP-address) as your new default homepage.

Video Manager

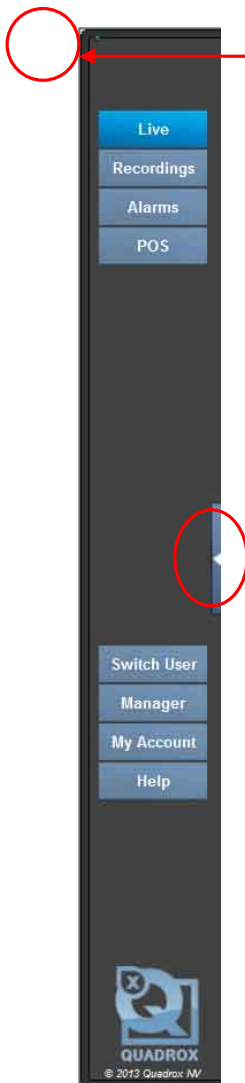


To log on to the Video Manager application, you need administrative rights.

This chapter provides an overview of the QGuard Video Manager Control Panel and the following QGuard functions:

- Users
- Server Settings
- General Server Information

1.6 Video Manager Control Panel



Users

Click this button to access the Users screens where you can add or delete users, give different user rights, check Connected Users and User Actions logs.

Settings

Click this button to change the QGuard settings to your requirements.

Info

Click this button to see general server information. This section also provides access to Network Diagnostics, System Downloads and the Server logs.

Hide Control Panel

Click this button to hide or retrieve the control panel.

Restart

Click this button to restart the video server. Usually there's no need to restart the server unless the Restart button becomes red.

Video

Click this button to open the Video Browser application.

Help

Click this button to access QGuard Online help.

Log Off

Click this button to change user.

Exit

Click this button to exit the QGuard application.

1.7 Users

This chapter provides an overview of the Users section of QGuard.

1.7.1 General Information

QGuard is a multi user system capable of supporting an unlimited number of users. Every registered user can have the following properties and user rights:

Property	Description	Limitation
Name	Is used for the identification of the user	Must be unique
Password	Password related to the user for login	No limitation
Language	Preferable language for the user	English, Dutch, French, Italian, German, Spanish, Russian, Ukrainian

User Rights	Description
Live	Access to live view
PTZ*	Access to PTZ controls
Recordings	Access to view the recorded video footage
Export	Access to the export menu
Alarms	Access to view alarms and related video footage
POS	Access to view POS transactions and related video footage
User management**	Access to change user privileges, view user actions log, view connected users
System configuration**	Access to modify system options
* setting presets are only available to users with administrator rights	
** only available to users with administrator rights	



Users with administrator rights can allow or block the viewing of certain cameras for non-administrative users.

By default QGuard has two user accounts:

- Operator Account
- Administrator Account



The default operator and administrator account can't be deleted.



QGuard Users management is fully integrated into the Windows Operating System users system, which results in very strong and safe access procedures.

1.7.1.1 The Operator/User Account

A non-administrative user can have different privileges and rights. He doesn't have access to the video manager application.



The default operator account can't be deleted.

1.7.1.2 The Administrator Account

A user with Administrator Rights can:

- Add new users
- Change passwords
- Delete users
- Set user privileges
- View User Actions Logs
- View Connected Users



The default administrator account can't be deleted.



A User name cannot be changed once it has been added. It can only be deleted. The only parameters that can be changed are User Type, User Password, User Language and User privileges.



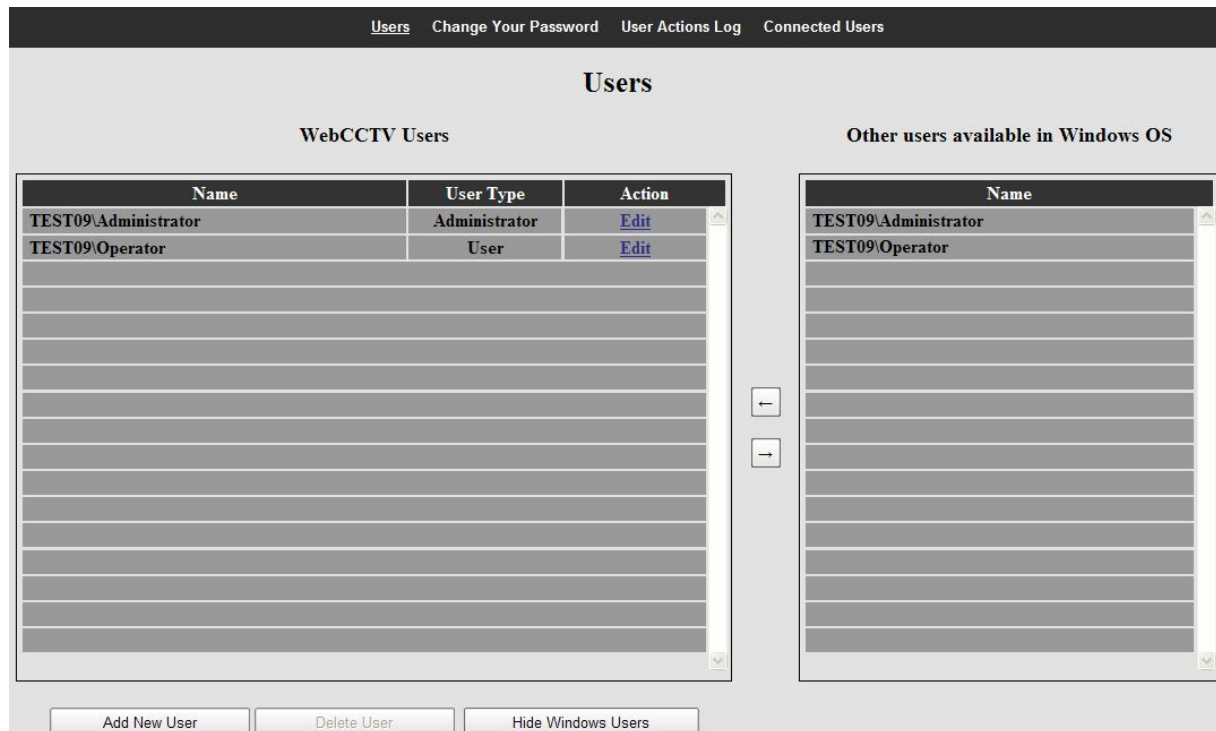
Only an Administrator can grant, limit and edit user rights.

The screen shown below is displayed when you click on the **Users** button (TEST09 here is the name of the PC; in new system it will be WEBCCTV):

Users Change Your Password User Actions Log Connected Users			
Users			
WebCCTV Users			
Name		User Type	Action
TEST09\Administrator		Administrator	Edit
TEST09\Operator		User	Edit

Users Screen

The screen shown below is displayed with available Windows Users:



Users Screen with Windows Users

The subsections of the users menu are:

- Users
- Change Your Password
- User Actions Log
- Connected Users

1.7.2 Users - Add New User

By clicking the Users button, you are automatically taken to the Users menu. Adding a user can be done in two ways:

- **Add an existing Windows user or domain user:**
 1. Click the **Show Windows Users** button
 2. Select the existing Windows or domain user in the right panel and click the left arrow. Your user is added as an Operator/User account. Click **Edit**. Go now to Step 3.
- **Add a totally new user:**
 1. Click the **Add New User** button
 2. Enter a **Name**. Go now to step 3.

3. Enter a Password.



If you added an existing user, the assigned default password is **videouser**. We strongly advise you to change the password.

4. Confirm the Password.
5. Select the interface language for the new user.
6. Define the ability for a user to change his password by (de)selecting the **User cannot change password** check box.
7. Select the **Password never expires** check box if you don't want the password to expire. Otherwise a user will be forced to change the password every 6 weeks.

The screenshot shows the 'General' tab of the 'WebCCTV Users Configuration Wizard' for a new user named 'TEST09\New_user'. The wizard prompts the user to configure general settings. It includes fields for Name, Password, and Password Confirmation. There are dropdown menus for Language (set to English) and User Type (set to User). At the bottom, there are checkboxes for 'User cannot change the password' (unchecked) and 'Password never expires' (checked). Navigation buttons at the bottom include '<< Previous', 'Next >>', 'Finish', and 'Cancel'.

General Screen

8. Select the privileges for the new user.

The screenshot shows the 'Functionality Access' tab of the 'WebCCTV Users Configuration Wizard' for the same user. It prompts the user to select the functionality the user will have access to. A list of permissions is shown with checkboxes: Live, PTZ, Recordings, Export, Alarms, and POS. All checkboxes are checked.

Functionality Access Screen

9. Define which cameras the user should be able to view on the **Camera Access** tab.

Users Change Your Password User Actions Log Connected Users

General Functionality Access Camera Access Sessions

WebCCTV Users Configuration Wizard - TEST09/New_user

Please select cameras the user will have access to...

Camera 1:	<input checked="" type="checkbox"/>
Camera 2:	<input checked="" type="checkbox"/>
Camera 3:	<input checked="" type="checkbox"/>
Camera 4:	<input checked="" type="checkbox"/>

Cameras Access Screen



By default, a newly-added user has access to all the cameras. You cannot limit access to any functionalities and cameras for the user with Administrator rights.

10. Define the session parameters in the **Sessions** tab:

- Session expires – Time after which the user will be disconnected from the application. The user can login again afterwards. Time is measured in minutes.
- Limit concurrent number of sessions – Number of sessions the user can open simultaneously.

Users Change Your Password User Actions Log Connected Users

General Functionality Access Camera Access Sessions

WebCCTV Users Configuration Wizard - TEST09/New_user

Please configure the user session settings...

<input checked="" type="checkbox"/> Session expires in	30	minutes.
<input checked="" type="checkbox"/> Amount of concurrent sessions is limited to	2	

Sessions Screen

11. Click **Finish** to apply the changes.

1.7.3 Change Your Password



Changing your password from time to time helps to protect your system from unauthorized access.

To change the password, follow the steps below:

1. Enter the old password.
2. Enter the new password.
3. Enter the password confirmation.
4. Click **Apply**. The new password should be set now.



QGuard has no specific minimum password length limitation. When choosing a password, try to take a password of at least 8 characters and use both capital and small letters, both letters and figures or other characters (at least one of each).



Change Your Password Screen

Click on **Cancel** if you want to reset your form.

1.7.4 User Actions Log

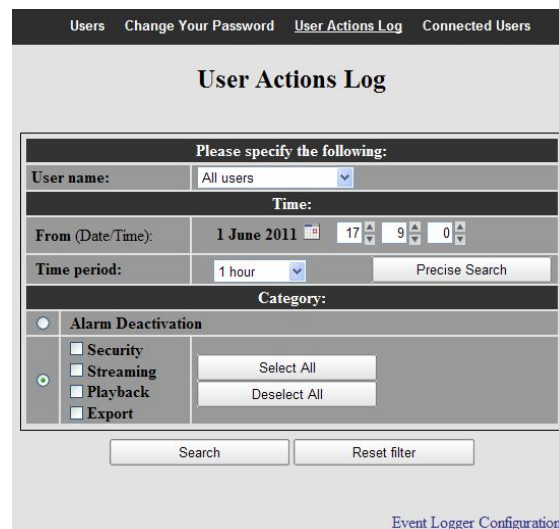
QGuard stores all user actions in its User Actions Log. Example of user actions are live views, recording views, user management changes, etc. This log is kept inside the Windows operating system itself. Technically, it is kept inside a specific QGuard event log container in the Windows event logging subsystem.



The amount of logged user actions (number of days contained in the log) depends on the defined size of the event viewer. In normal circumstances, the log is large enough to keep QGuard user logs for approximately 60 days.

1.7.4.1 Log Search

The search option allows you to retrieve all or specific actions that a certain user has performed.



Log Search Screen

All possible actions are described in the following table and can be found in the picture above.

Category	Description
Security	Activity of the user's actions related to users management.
Streaming	Activity of the cameras that have been watched in live view.
Recording View	Activity of viewing video footage.
Export	Activity of video footage files that were made for exporting.

To do a search, follow the steps below:

1. Specify the user for which you want to search (Optional).
2. Define the time frame in which you want to search.
3. Check the required categories checkboxes.
4. Click the **Search** button.

The figure below provides a sample overview of a User Actions Log (Security, Streaming, Playback, Export):

User Actions Log				
Type	Time	Category	User	Description
✓	01.06.2011 16:43:15	Streaming	Administrator	Created live stream from source Camera 1.
✓	01.06.2011 16:43:11	Security	Administrator	Successful logon from 127.0.0.1:3841. User used TEST09\Administrator name to login.
🔒	01.06.2011 16:30:54	Security	SYSTEM	Unsuccessful logon attempt made from 10.0.10.22:3071.
✓	01.06.2011 15:56:49	Streaming	Administrator	Created live stream from source Camera 1.
✓	01.06.2011 15:56:38	Streaming	Administrator	Created live stream from source {AB4A7C70-8BFF-496F-8075-5F45619F48A7}.
✓	01.06.2011 15:56:38	Security	Administrator	Successful logon from 10.0.10.22:2848. User used TEST09\Administrator name to login.
✓	01.06.2011 15:56:38	Security	Administrator	Successful logon from 10.0.10.22:2847. User used TEST09\Administrator name to login.
✓	01.06.2011 15:56:37	Security	Administrator	Successful logon from 127.0.0.1:3759. User used TEST09\Administrator name to login.
✓	01.06.2011 15:55:12	Streaming	Administrator	Created live stream from source Camera 1.
✓	01.06.2011 15:30:48	Streaming	Administrator	Created live stream from source Camera 4.
✓	01.06.2011 15:30:48	Streaming	Administrator	Created live stream from source Camera 3.
✓	01.06.2011 15:30:48	Streaming	Administrator	Created live stream from source Camera 2.
✓	01.06.2011 15:30:48	Streaming	Administrator	Created live stream from source Camera 1.
✓	01.06.2011 15:29:46	Security	Administrator	Successful logon from 10.0.10.22:2550. User used TEST09\Administrator name to login.
🔒	01.06.2011 15:29:40	Security	SYSTEM	Unsuccessful logon attempt made from 10.0.10.22:2548.
🔒	01.06.2011 15:29:36	Security	SYSTEM	Unsuccessful logon attempt made from 10.0.10.22:2545.
✓	01.06.2011 15:29:30	Streaming	Administrator	Created live stream from source Camera 1.
✓	01.06.2011 15:29:20	Security	Administrator	Successful logon from 10.0.10.22:2502. User used TEST09\Administrator name to login.
🔒	01.06.2011 15:29:13	Security	SYSTEM	Unsuccessful logon attempt made from 10.0.10.22:2499.
✓	01.06.2011 15:28:48	Security	Administrator	Successful logon from 127.0.0.1:3550. User used TEST09\Administrator name to login.
29 match(es) found				Page 1 2

New Search

User Actions Logbook Screen



User Actions Log allows you to check all user actions at all times.



In order to conduct a new log search, click on the **New search** button. The reset filter button will clear all the checked boxes so that you can make a new selection.

1.7.4.2 Event Logger Configuration

The Event Logger Configuration defines the priority levels for the recorded events. Depending on the selected option, QGuard will or will not store certain events.

Event Logger Configuration Screen

There are three Recorded Events levels:

- **Only Critical Events** – QGuard stores the most important system events that occur when proper QGuard performance is impossible, e.g. recording break, failure to detect a system component, etc.
- **Important Events** – QGuard stores system events labelled as “Only Critical Events” and system events that play a significant role in the QGuard operating, e.g. playback stream creating, system logging on, etc.
- **All Events** – QGuard stores all system events.

To apply new settings, click **Apply**.

To cancel your changes, click **Cancel**.

To go back to the Users Actions Log screen, click **Return**.



Event Logger Settings functionality is unique for both User Actions Log and Server Actions Log.

1.7.5 Connected Users

This screen enables you to observe specific information about connected users such as:

- **User Name** – Name of the connected user.
- **Client IP Address** – In the Client IP address column you can observe two parameters, which are separated by a colon. **IP address** is the IP address of the client computer from which a user is connected to the QGuard server. **Port** number is the TCP port of the client computer through which a user is connected to the QGuard server.
- **Action** – Click the **Disconnect** button to disconnect a user.



You can't disconnect your own administrator session.

Users Change Your Password User Actions Log <u>Connected Users</u>		
Connected Users		
User Name	Client IP Address	Action
TEST09\Administrator	10.0.10.22 : 2847	
TEST09\Administrator	127.0.0.1 : 3897	<input type="button" value="Disconnect"/>
TEST09\Administrator	10.0.10.22 : 3816	<input type="button" value="Disconnect"/>
<input type="button" value="Refresh"/>		

Connected Users Screen

In the Client IP address column you can observe two parameters, which are separated by a colon:

IP address is the IP address of the client computer from which a user is connected to the QGuard server.

Port number is the TCP port of the client computer from which a user is connected to the QGuard server.

Click the **Refresh** button to update the Connected Users list.

1.8 Settings

[Cameras](#) [Alarms](#) [POS](#) [Storage Manager](#) [Single View](#) [Mosaics](#) [Web Publishing](#) [Network Settings](#) [Network Video Recorders](#) [Certificate Management](#) [Time Synchronization](#)

Settings Control Panel

The System Settings enable the user to change the QGuard behavior and adapt it to the specific requirements. This chapter covers the following sections:

- Cameras
- Alarms
- POS
- Storage Manager
- Single View
- Mosaics
- Web Publishing
- Network Settings
- Network Video Recorders
- Certificate Management
- Time Synchronization



Use System Settings with extreme caution, some of them can seriously affect the QGuard performance and even stop proper functioning of the system.



Some of the System Settings require the QGuard to be rebooted for the settings to take effect. You will be informed to reboot the QGuard server by a red message on the screen. To restart the QGuard, click the **Restart** button which will turn red or click the **Restart now** link that appears at the end of the message. While restarting the server, you will get a message that the server is restarting. Once restarted, a successful reboot message will be displayed.

1.8.1 Cameras

The Cameras overview screen is automatically displayed, when entering Settings menu.

The QGuard supports both Analogue and Network cameras.



Analogue cameras can also be added and edited through a Network Video Server.

To **add a Network camera** click the **Add IP Camera** and follow the on-screen instructions in the **Camera Wizard** (See 3.3.1.1 Camera Wizard).

To **add a Network Video Server** click the **Add Network Video Server** and follow the on-screen instructions in the **NVS Wizard** (See 3.3.1.2 Network Video Server Wizard).

To **change Camera or Network Video Server settings**, click the **Edit** button to enter the **Camera** or **Network Video Server Wizard** which will guide you through the setting process for that camera or network video server.

To **directly access a Network camera** or a **Network Video Server**, click the **Go to** button. This function is available for IP-cameras only.

To **delete a Network camera**, click the **Delete** button.

To **delete a Network Video Server**, click the **Delete** button.

Cameras						
■	Enable/Disable	Name	Type	Action		
<input type="checkbox"/>	1	Axis M1031	Network Camera	Edit	Go to	Delete
<input type="checkbox"/>	2	Axis P3364	Network Camera	Edit	Go to	Delete
<input type="checkbox"/>	3	Sony SNC-CH210	Network Camera	Edit	Go to	Delete
<input type="checkbox"/>	4	Panasonic BB-HCE481	Network Camera	Edit	Go to	Delete
<input type="checkbox"/>	5	Axis M3027	Network Camera	Edit	Go to	Delete

Cameras Screen



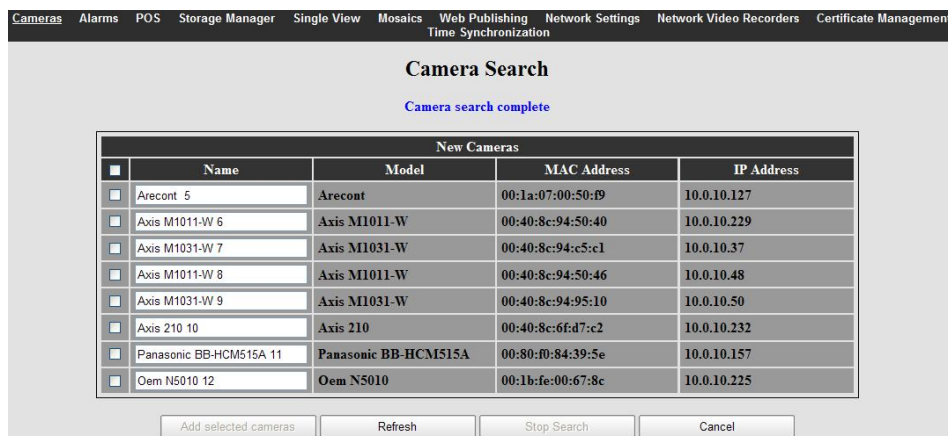
To disable or enable a camera click its number. The button will become red when the camera is disabled in the system.

1.8.1.1 Camera Search Wizard

To enter the Auto-configuration wizard, click the **Add IP Camera Automatically** button. The **Camera Search** screen will be opened and will start searching automatically for cameras in the Local Area Network (LAN).

Following vendors are supported by Camera Search:

- **Approtech:**
 - All models supported. (See supported camera list for all models)
- **Arecont:**
 - All models supported. (See supported camera list for all models)
- **Axis:**
 - AXIS 2XX video products with firmware versions 4.03/4.10 or higher
 - **Exceptions:** AXIS 205 / 230 / 250S / 262 / 292.
 - AXIS 1XXX, 3XXX, PXXXX and QXXXX series
- **IQEye:**
 - IQEye Sentinel Series
 - IQEye Alliance Series
 - IQEye 700/750 Series
 - IQEye 500 Series
 - IQEye HD1080p Series
- **Panasonic:**
 - BL-C1 / 10 / 20 / 30 / 101 / 111 / 121 / 131 / 140 / 160 / 210 / 230
 - BB-HCM311 / 331 / 371 / 381 / 403 / 511 / 515 / 527 / 531 / 547 / 580 / 581 / 701 / 705 / 715 / 735
 - BB-HCE481
- **Zavio:**
 - All models supported. (See supported camera list for all models)



Cameras Search Screen

To add a camera, specify the **name** you want to give to the camera (Optional), select the check box next to the camera and click the **Add selected cameras** button.



You don't have to wait till the search has stopped to start adding cameras.

The Camera Auto Configuration Wizard will open and has the following tabs:

- Authentication
- IP Address

1.8.1.1.1 Authentication

This screen allows you to enter the login credentials for your cameras. Select the radio button which is applicable for your cameras. There are two possibilities:

- Cameras with factory default settings – The cameras have factory default settings. Enter a password and confirm it. This password will be assigned to the Administrator account of the cameras.
- Cameras are pre-configured – The cameras have been configured in the past and are located in the correct network. Enter the user name and password that were used at that time. If preferred, you can assign a new password in the new password field, otherwise leave this field empty.



Quadrox recommends using one password for all the cameras for your convenience. This might however affect security. If the password leaks, all cameras are compromised. If you want a fully secured video network, manually assign different passwords to every camera after completing this configuration.

Authentication Screen

Click **Next** to enter the next **Camera Search** screen.

1.8.1.1.2 IP Address

In this screen you configure the **Starting IP Address** for the cameras you are adding.



Depending on the network settings of your computer (Subnet Mask), fields will be disabled in order to enforce that the camera is added in the correct network.

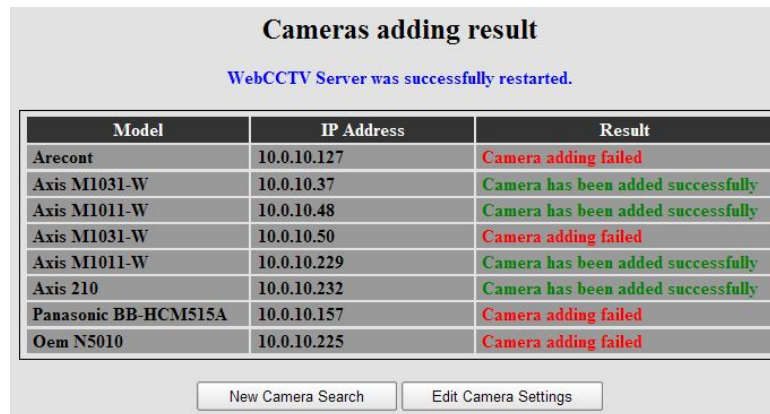


Each selected camera will be assigned a consecutive IP address, starting with the address which will be prompted. Only free addresses will be used. If the camera already has an IP address in the correct subnet, it will not be changed.



IP Address Screen

Click **Finish** to add the cameras. A **Camera Adding Result** screen will open with the results and the server will restart automatically if necessary. To start a new search, click the **New Camera Search** button.



Camera Adding Result Screen

Click **Cancel** to go back to the **Camera Search** screen.

You can always add cameras manually by clicking the **Add IP Camera Manually** button in the Cameras Screen.

1.8.1.2 Camera Wizard

To enter the Camera Wizard click the **Edit** or the **Add IP Camera Manually** button in the Cameras Screen. The Camera Wizard can consist of ten tabs with easy to follow instructions. Read this chapter to learn all about camera settings.

The following Camera Wizard tabs are described in this chapter:

- Name & Type
- Connection
- Video
- Activity
- VCA
- VCA Config
- PTZ
- Virtual Patrol
- Location
- Users
- Audio



By default, some of the settings are already selected. It is advisable to keep these settings to assure the best performance.



Depending on the camera type (network or analogue) and camera model, some tabs may not be present or may be disabled.



During the configuration, you may be asked to restart the server. This must be done first before finishing the configuration to assure the proper working of the QGuard server.

1.8.1.2.1 Name & Type

In this screen, you define the camera name, type and model of the camera.



Once the camera is added, you cannot change its type.

The screenshot shows the 'WebCCTV Camera Configuration Wizard - M3027' window. At the top, there is a menu bar with tabs: Cameras, Alarms, Storage Manager, Single View, Mosaics, Web Publishing, Network Settings, Network Video Recorders, Certificate Management, and Time Synchronization. Below this, there is a sub-menu bar with tabs: Name & Type, Connection, Video, Activity, VCA, VCAConfig, PTZ, Virtual Patrol, Location, Users, and Audio. The 'Name & Type' tab is selected. The main area contains the text 'Please enter the camera name and type ...' and three input fields: 'Name' (with value 'M3027'), 'Type' (with value 'Axis'), and 'Model' (with value 'M3027'). To the right of each field is a descriptive label: 'Please enter a descriptive name for the camera.', 'Select the IP-camera brand.', and 'Select the IP-camera model.' respectively.

Name & Type (Network camera) Screen

Click **Next** to enter each camera and go to the next Camera Wizard screen.

1.8.1.2.2 Connection



This tab is only available for network cameras. If you are adding an analogue camera, this screen will not appear.

This screen allows you to define the parameters needed for a network camera connection:

- Camera IP address or DNS name
- Port
- User name
- Password
- Unmask password



To obtain these parameters, contact your system administrator or read the user manual of the camera itself.



Use camera **Administrator** credentials in order to get all QGuard functionality.



A DNS name is a meaningful and easy-to-remember "handle" for an Internet address or IP address.

Cameras Alarms Storage Manager Single View Mosaics Web Publishing Network Settings Network Video Recorders Certificate Management Time Synchronization

Name & Type Connection Video Activity VCA VCAConfig PTZ Virtual Patrol Location Users Audio

WebCCTV Camera Configuration Wizard - M3027

You have selected the option IP-camera. Please enter the IP-address of the camera you wish to add.

IP-address: The IP-address of the camera is usually located on the IP-camera side. Each number should be between 0 and 255

OR

DNS name: Web Address (URL) of your camera if it uses Domain Name Service.

Port: The default port setting suitable in most cases.

User name: The user name can be found in the camera's documentation.

Password: The password used during a new camera configuration.

Unmask password: ☐ Display password characters.

Delivery mode: ☒ Unicast ☐ Multicast

Multicast IP-Address Port:

<< Previous Next >> Finish Cancel

Connection (Network camera) Screen

The delivery mode parameter is only available when the network camera supports MPEG streaming:

- **Unicast** – normal connection type of a camera. It is simple in organization and efficient when one connected client uses the camera. So if QGuard is the only user of the camera, please use this type.
- **Multicast** – this connection type is efficient when multiple applications use the cameras. This approach decreases the bandwidth usage. MPEG cameras allow sending the images to multicast IP addresses. These addresses are reserved in the IP protocol for multicast information distribution. To program a camera to send the images to a multicast address, you have to configure it in the camera's native software software. Specify the IP address on the Connection Screen of the camera wizard.



Multicast IP addresses are in the range 224.0.0.0 through 239.255.255.255.

Click **Next** to enter the next Camera Wizard screen.

1.8.1.2.3 Video



This tab is only available for network cameras. If you are adding an analogue camera, this screen will not appear.

This screen allows you to configure video streams and select which stream should be used for different purposes.

- 1) Enable/Disable – this checkbox enables or disables the stream.
- 2) Codec – set the image compression format based on camera's capabilities. Depending on the camera, can be set to JPEG, MPEG or H264.

- 3) Resolution – set the resolution of the stream depending on camera's capabilities. Resolution list is grouped by aspect ratio: 4:3 or 16:9.
- 4) FPS – set the framerate of the streams.

Please note that for **H264** streams framerate once and will be the same for Single View, Mosaic, AD/VCA and recordings! It will override the settings specified in Single View and Mosaic sections of Video Manager.



For **JPEG** streams framerate can be configured individually. This control sets the framerate used for Activity Detection/VCA. Single View and Mosaic framerates are configured in Single View and Mosaic sections of Video Manager, respectively. Recordings Framerate is configured in Record FPS control.

- 5) Single Views – defines which stream will be used for the Single View and 2x1 mosaics.
- 6) Mosaic – defines which stream will be used for Mosaics (2x2 and bigger).
- 7) Enable/Disable Activity Detection/VCA – if this checkbox is checked, recordings from this camera will be activity-based: only video with certain activity level will be recorded. Activity threshold can be configured in the next tab. If this checkbox is unchecked, camera will record all frames 24/7 regardless of whether any activity is present.
- 8) AD/VCA – defines which stream will be used for activity detection and VCA.
- 9) Record – defines if the stream should be recorded. Only Primary stream or both streams can be recorded: you cannot set Secondary stream to be recorded without recording Primary stream.
- 10) Record FPS – selects the framerate for recordings. Active only for JPEG streams; for H264 streams the value from FPS control will be used instead.

Stream	Enable	Codec	Resolution	FPS	Single View	Mosaic	AD/VCA	AD/VCA	Record	Record FPS
Primary	<input checked="" type="checkbox"/>	H264	1600x1200 [4:3]	10	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	10
Secondary	<input checked="" type="checkbox"/>	JPEG	320x240 [4:3]	5	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	5

Video (Network camera) Screen



Dual-streaming is a new feature that allows you to optimize your network and CPU load by using different streams from the same camera for different purposes. You can choose which of two streams should be used for Single View, Mosaics and Activity Detection, and which stream (or both) should be recorded. For best results we recommend using low-resolution (VGA or less) stream for AD/VCA and Mosaic, and high-resolution H264 stream for Live View and Recordings.

Click **Next** to enter the next Camera Wizard screen.

1.8.1.2.4 Activity

By enabling activity detection, only images where movement is above a certain threshold will be recorded. This significantly increases the ability to store more video footage. If you want to record at all time, uncheck the **AD/VCA** checkbox in the previous tab (Video).

If you use activity detection, you can always calculate activity on the server, but if the camera allows, you can configure the server to calculate activity on the camera instead of on the server:

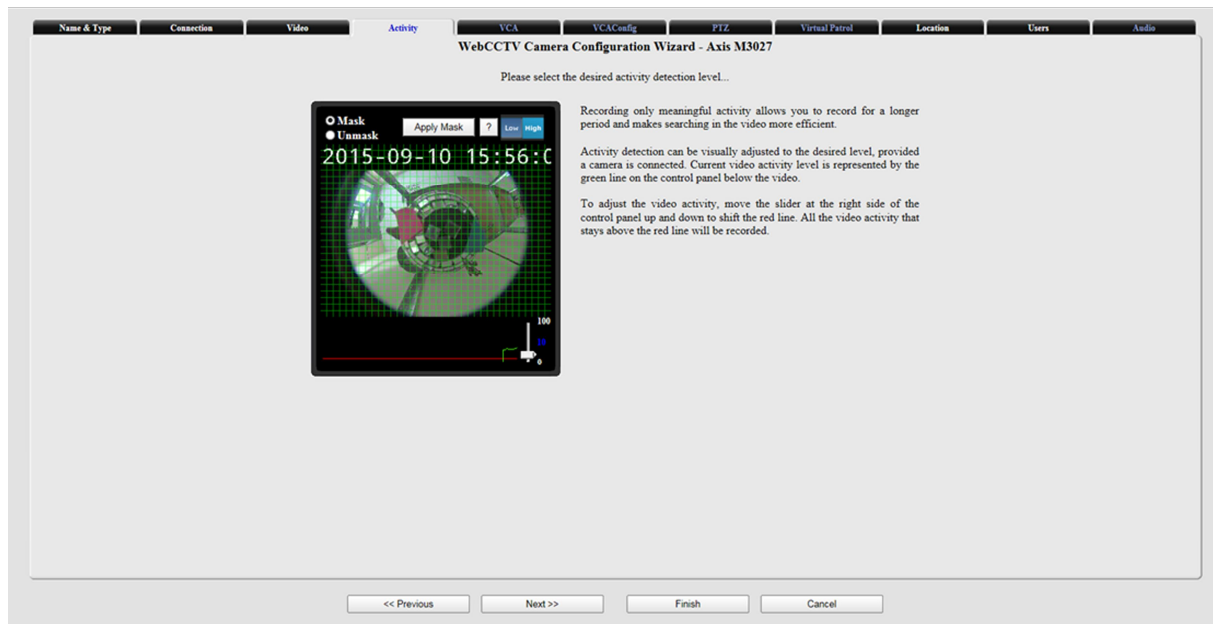
- **Server** – When activity is calculated on the server, this will result in *excellent recordings* but introduces a *higher load* on the server. Furthermore you're able to use the masking feature. By using the **Masking feature**, only activity in a specified area(s) will be recorded. This significantly increases the ability to store video footage.



When adding a network camera, the Masking and Activity functionality is only available after a server restart. This will be requested automatically by a notification.



The current activity level is represented by the green line on the control panel below the video. To adjust the activity detection threshold, move the slider on the right side of the control panel up and down to shift the red line. All the video activity that stays above the red line will be recorded.



Activity on Server (Analogue and Network camera) Screen



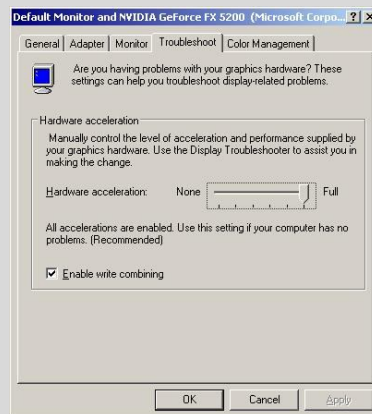
Masking makes it possible to disable the recording of activity in so called 'curtain areas'. 'Curtain areas' contain constant movement classified as not important for surveillance (e.g. moving trees in the wind, ceiling fan etc.).



The green grid, shown on the masking screen, divides the image into masking cells. Click on a cell and the activity detection in this cell will be disabled. Once disabled, a masking cell turns green. This means that activity occurring in this cell will not trigger recording.

When you access the Activity screen for the first time on a client PC, it may be that the green masking grid doesn't appear. In order to be able to draw the grid, the video card of the client PC has to have at least 16 MB of internal video memory and DirectX accelerations fully enabled. This can be done as follows:

1. Exit the camera wizard by clicking **Finish** or **Cancel**.
2. Go to Start/Settings/**Control Panel**.
3. Click on Display/ Settings/Advanced/**Troubleshoot**.
4. Set **Hardware acceleration** on full.



Troubleshoot Screen

Click **OK** and return to the Activity Screen in the Camera Wizard. The masking grid should be visible on your screen now.



The masking functionality does not depend on whether you can visualize it on a particular client PC or not. It is possible to set up masking on one client PC and use another client PC which is not able to show masking. The masking will stay applied.


To (un)mask the desired area, follow the steps below:

1. Click on the cell you wish to (un)mask.
2. Check the **Mask** or **Unmask** button depending on whether you want to mask or unmask.
3. Click the **Apply mask** button to activate the selection.



To mask multiple cells, left-click one cell and drag the cursor over the cells you would like to mask and release your mouse.



Click on the question mark icon  in the right hand corner of the masking screen to access on-screen masking instructions.



Low Bandwidth button – Low bandwidth mode is mostly used in very slow-speed LAN or Internet connections. When Low Bandwidth mode is enabled, the frame rate and the resolution of the images are extremely reduced. This leads to a reduced bandwidth usage for streaming. For the basis is taken the secondary stream which processed to the lower quality.

High

High Bandwidth button - High Bandwidth mode is used preferably on local computers (when the QGuard client is located on the same machine as the QGuard server), in local area networks or with high-speed Internet connections. When High Bandwidth mode is enabled, the frame rate and the resolution of the images is taken from the primary stream which usually has maximum value of these indicators. Click **Next** to enter the next Camera Wizard screen.

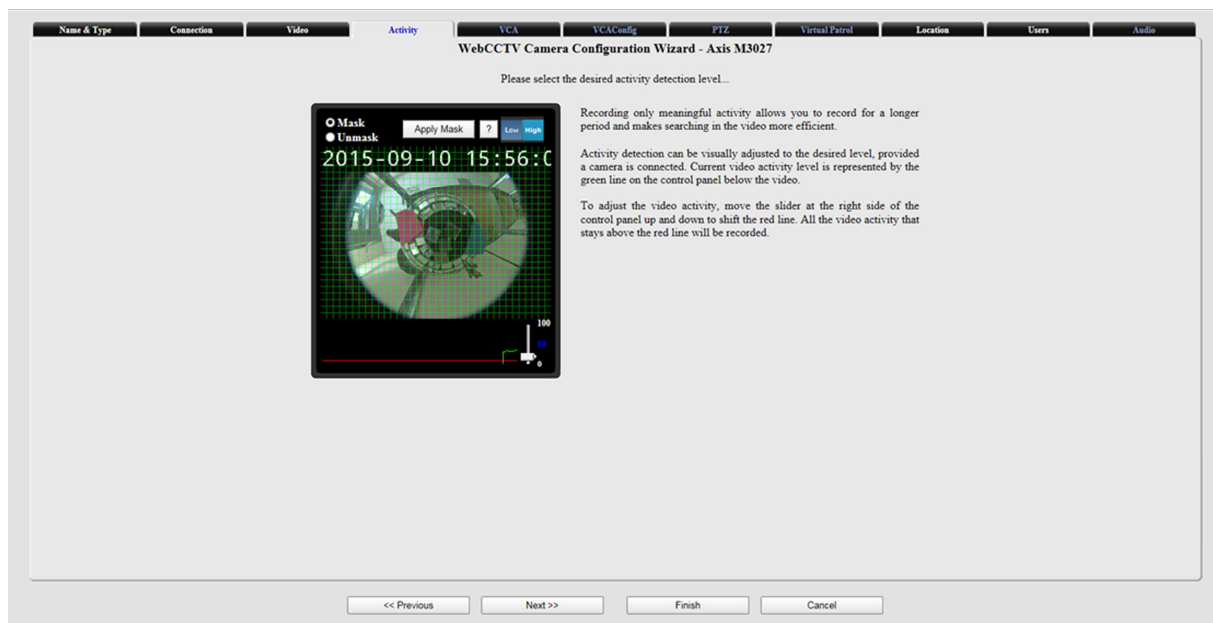
- **Camera** – When activity is calculated on the camera, this will result in *acceptable recordings* and a *lower load* on the server. The masking feature is disabled and has to be done on the camera. By default nothing has to be configured on the camera, nevertheless some models require configuration on the camera itself. See **Appendix C** for more information.



Activity calculated on camera is supported for most models of the following brands: **ACTi, Axis, Ernitec, IQEye.**



If activity is recorded or not depends on the camera activity detection algorithm. If you notice problems with recordings, please contact the **camera manufacturer** for support.



Activity on Camera (Network camera) Screen

Click **Next** to enter the next Camera Wizard screen.

1.8.1.2.5 VCA

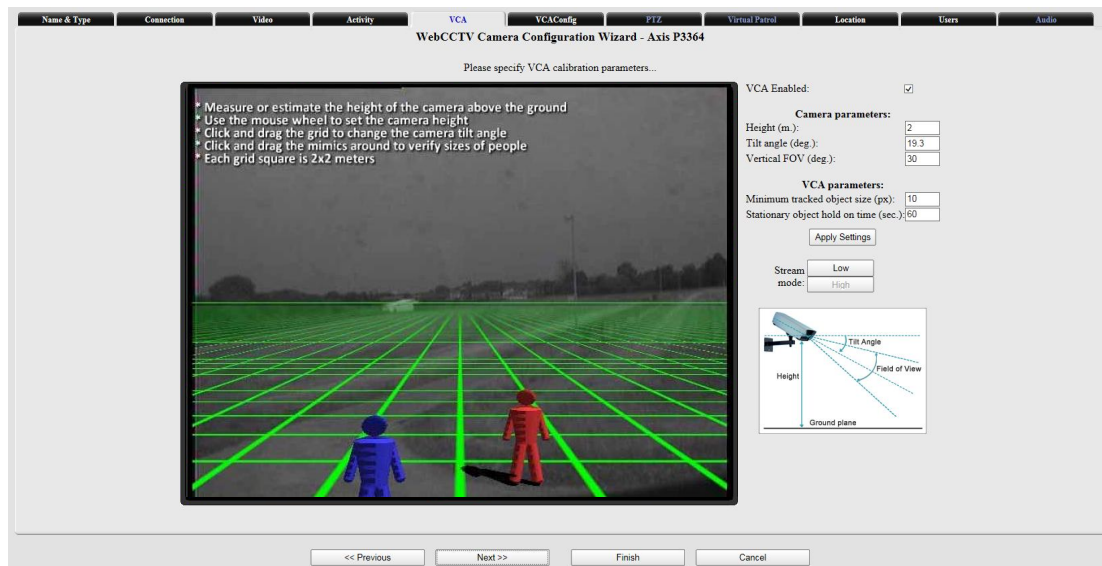
The **VCA Menu** allows you to activate and set up camera and VCA parameters.



To work with **VCA** you should have **VCA licence**.



If you still need to activate your VCA license, please contact Quadrox support for the activation of this license via support@quadrox.be or +32 (16) 582585.



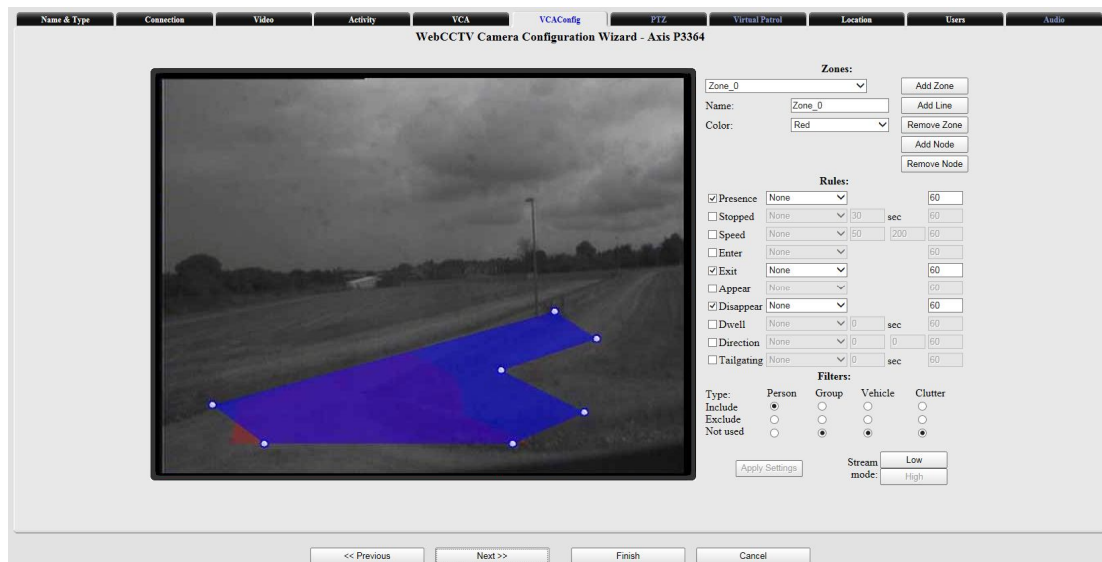
VCA Screen

For more detailed information see **VCA Installation and Configuration User Manual** for version 4.9.

Click **Next** to enter the next Camera Wizard screen.

1.8.1.2.6 VCA Config

The VCA Config Menu allows you to configure the zones in which the VCA needs to happen, and the rules you want to track.



VCA Configuration Screen

For more detailed information see **VCA Installation and Configuration User Manual** for version 4.9.

Click **Next** to enter the next Camera Wizard screen.

1.8.1.2.7 PTZ

This tab is present for both analogue and network PTZ cameras, however only **analogue PTZ cameras** can be configured




PTZ stands for Pan Tilt Zoom, or a "movable" camera. To enable the PTZ camera settings, select the PTZ camera checkbox.

- **PTZ camera** – check this if your camera is a PTZ camera
- **PTZ control protocol** – select the brand of the PTZ camera
- **Extended PTZ** – Some protocols have extended PTZ features; e.g. Pelco. By checking this, these extended features will be made available.
- **Communication port** – serial communication port used for PTZ communication.
- **Camera unique number** – most PTZ cameras require a unique serial number to be referred by.

Click **Next** to enter the next Camera Wizard screen.

1.8.1.2.8 Virtual Patrol

The Virtual Patrol screen allows you to configure a PTZ camera in several ways:

- **Use Home preset** – this functionality prevents the misplacement of the camera and ensures proper recordings after monitoring. If the **Home Preset** is enabled, the first preset position becomes automatically the **Home** status and looks like  in the **Live view**. When a user moves the PTZ camera, by manual manipulation or using preset positions, the camera will return to its Home Preset after the assigned **Recovery Time** has elapsed. By default this time is 300 seconds.
- **Use Virtual Patrol** – select one of the Virtual Patrols you previously created.
- **Manual PTZ Control** – check this radio button if you don't use either the Home Preset or the Virtual Patrol functionality.

WebCCTV Camera Configuration Wizard - Panasonic BB-HCE481

Please check the camera manufacturer's documentation as continuous movement of PTZ cameras might violate the camera's warranty. We strongly advise you to set the virtual patrol sequence time to a minimum of 120 seconds for cameras that move mechanically.

☐ Use Home Preset
☒ Use Virtual Patrol: Patrol 1
☐ Manual PTZ Control (not recommended)

Defined Virtual Patrols	
Patrol 1	Edit/Delete
Patrol 2	Edit/Delete
Patrol 3	Edit/Delete
Add Virtual Patrol	

Home Preset Settings	
Recovery time (seconds):	300

Virtual Patrol (Analogue and network camera) Screen



Only specially designed cameras designated by the manufacturer as "Continuous movement use", "Continuous duty cycle" or "24h duty cycle" can effectively utilize the Virtual Patrol feature. Using consumer-grade cameras with Virtual Patrol may cause premature failure and may invalidate the cameras warranty. We strongly advise customers to check the camera specifications before using the Virtual Patrol feature and strongly advise setting the virtual patrol sequence time to a minimum of 120 seconds for those cameras.

You can create multiple Virtual Patrols with different settings. Click the **Add Virtual Patrol** button to add a new Virtual Patrol.

To change or create the Virtual Patrol settings, click the **Edit** link.

WebCCTV Camera Configuration Wizard - Camera 1

General Settings			
Name	<input type="text" value="Patrol1"/>		
Preset queue	Sequence time	Sort	
Preset 1	120 s.	▲ ▼	Delete
Preset 2	120 s.	▲ ▼	Delete
Preset 3	120 s.	▲ ▼	Delete
Preset 4	120 s.	▲ ▼	Delete
<input type="button" value="Preset 1"/> <input type="button" value="Add Preset"/>			
<input type="button" value="Apply"/> <input type="button" value="Return"/>			

Virtual Patrol Configuring Screen

1. Specify a **Name** for the Virtual Patrol
2. Choose one of the available Presets from the drop-down list and click **Add Preset** button.

3. Specify the **Sequence time** for every Preset. This is the time after which the camera is switched to the next defined preset in the queue.
4. If necessary, use the **Sort** buttons to change the position of a Preset in the Virtual Patrol sequence.
5. Click **Apply** button.

You may delete any Preset from the Virtual Patrol sequence by clicking the **Delete** link.



Due to some technology designs of Panasonic cameras, it is recommended to use no more than 2-3 Panasonic cameras with virtual patrol configured at the same time, since this can cause server overloading.



Each time a user takes control over the PTZ camera manually (via the PTZ Camera Control Panel), the automatic Virtual Patrol is interrupted. Once the user stops his manual control, the QGuard resumes the Virtual Patrol after 30 seconds.

Click **Next** to enter the next Camera Wizard screen.

1.8.1.2.9 Location

In this tab you can specify following camera location parameters:

- Longitude – geographic coordinate that specifies the east-west position of a point on the Earth's surface
- Latitude – geographic coordinate that specifies the north-south position of a point on the Earth's surface
- Height – camera elevation above street level
- Direction – camera direction from North
- Tilt angle – camera tilt angle, that normally varies between -45^0 and $+45^0$
- Horizontal FOV – defines the width angle of the camera lens. Usual lenses have around $45-50^0$; a Tele lens has a smaller width and Wide angle lenses can have more

Cameras Alarms Storage Manager Single View Mosaics Web Publishing Network Settings Network Video Recorders Certificate Management Time Synchronization

Name & Type Connection Video Activity VCA VCAConfig PTZ Virtual Patrol **Location** Users Audio

WebCCTV Camera Configuration Wizard - Panasonic BB-HCE481

Please specify camera location parameters if necessary...

Longitude:	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> E	Camera longitude, preferably in DMS format.
Latitude:	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> N	Camera latitude, preferably in DMS format.
Height:	<input type="text"/> meters	Camera elevation above street level.
Direction:	<input type="text"/> degrees	Camera direction from North.
Tilt angle:	<input type="text"/> degrees	Camera tilt angle (optional).
Horizontal FOV:	<input type="text"/> degrees	Camera horizontal field of view (optional).

Location Configuring Screen

Click **Next** to enter the next Camera Wizard screen.

1.8.1.2.10 Users

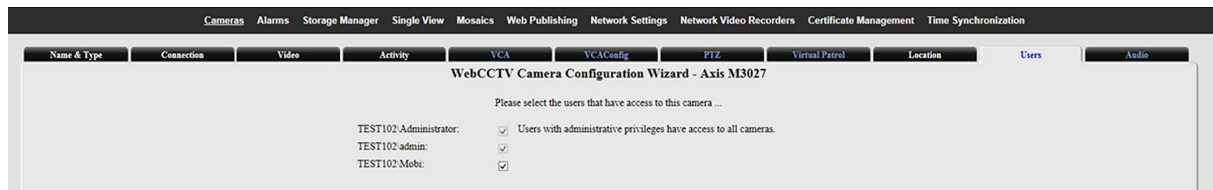
Select which users have access to the selected camera.



The Users functionality is only available after you have added the camera, and restarted the server. Follow the notification that will automatically be shown.



Users with Administrator rights have access to all cameras. Users with restricted rights can be denied access to certain cameras.



Users (Analogue and network camera) Screen

Click **Next** to enter the next Camera Wizard screen.

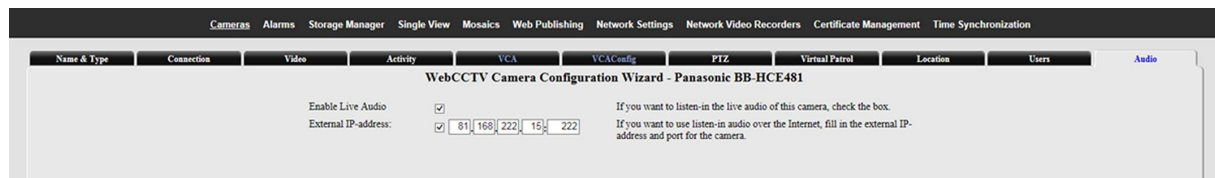
1.8.1.2.11 Audio



The audio tab is only available for network cameras that support audio. For more information about audio support, go to **4.2.1.10 Audio**.

This screen allows you to define the audio parameters for a network camera:

- **Live audio** – This enables live listen-in audio.
- **External IP-address** – Configure this if you want to enable remote live listen-in audio.



Audio (Network camera) Screen

Click **Finish** to save configuration of current camera. Camera is configured now.

1.8.1.3 Network Video Server Wizard

In this manual, we will refer to a **Network Video Server** as **NVS**.

To enter the Network Video Server Wizard, click the **Edit device** or **Add Network Video Server** link/button in the Cameras screen. The **Network Video Server Wizard** consists of three tabs with easy to follow instructions.

The following **Network Video Server Wizard** tabs are described in this chapter:

- Name & Type
- Connection
- Video Settings

If you need to change camera settings from cameras that are connected to the NVS, click the **Edit** link of the camera in the cameras screen which will display the Network Video Server

Cameras Wizard. The **Network Video Server Camera Wizard** consists of six tabs with easy to follow instructions.

The following **Network Video Server Camera Wizard** tabs are described in this chapter:

- Name
- Recordings
- Activity
- VCA
- VCA Config
- PTZ
- Virtual Patrol
- Location
- Users



You need to install the **Quadrox Codecs Pack** for proper NVS usage.



The NVS Wizard displays settings which are common for all cameras connected to the NVS. In the NVS Camera Wizard you are able to adjust the specific settings for an individual camera connected to the NVS.



By default, some of the settings are already selected. It is recommended that you keep these settings to ensure the best performance.

Cameras					
Enable/Disable	Name	Type	Action		
<input type="checkbox"/>	Camera 1	Network Camera	Edit	Go to	Delete
<input type="checkbox"/>	Camera 2	Network Camera	Edit	Go to	Delete
<input type="checkbox"/>	Camera 3	Network Camera	Edit	Go to	Delete
<input type="checkbox"/>	Camera 4	Network Camera	Edit	Go to	Delete
<input type="checkbox"/>	Network Video Server 1	Network Video Server	Edit	Edit device	Delete
<input type="checkbox"/>	Network Video Server 2		Edit		
<input type="checkbox"/>	Network Video Server 3		Edit		
<input type="checkbox"/>	Network Video Server 4		Edit		

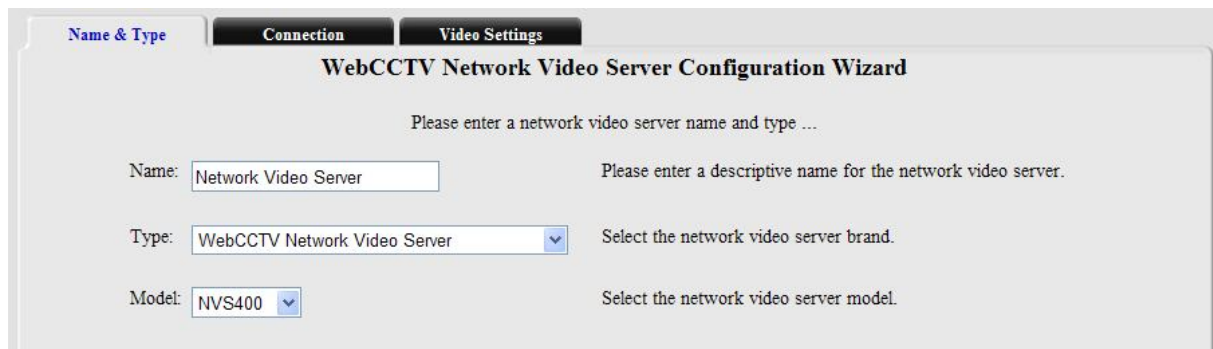
Cameras Screen (Network Video Server)

1.8.1.3.1 Name & Type

In this tab, you can adjust the NVS name, type and model. It's a part of the **Network Video Server Wizard**.



Choose a descriptive name for each NVS for easy future reference.



Name & Type | **Connection** | **Video Settings**

WebCCTV Network Video Server Configuration Wizard

Please enter a network video server name and type ...

Name: Please enter a descriptive name for the network video server.

Type: Select the network video server brand.

Model: Select the network video server model.

Name & Type (Network Video Server) Screen

Click **Next** to enter the next NVS Wizard screen.

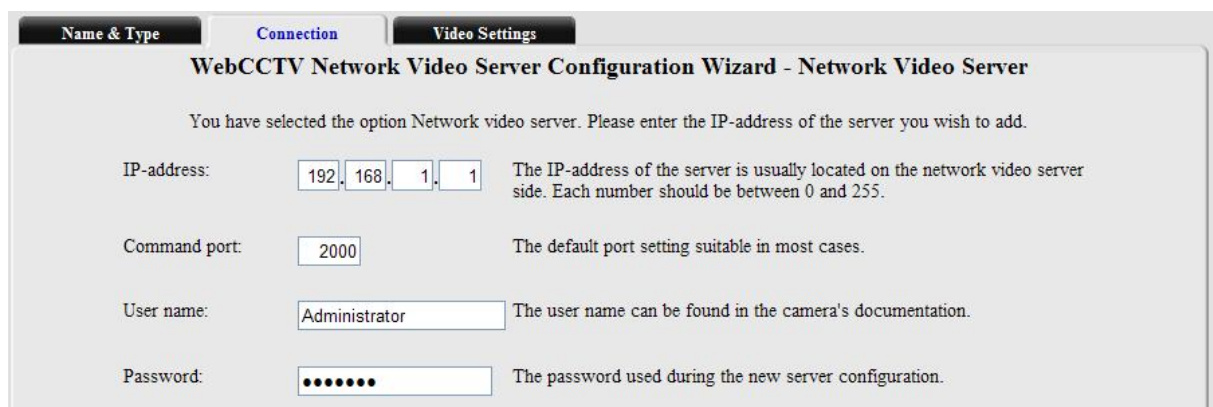
1.8.1.3.2 Connection

This tab allows you to define the parameters needed for the NVS connection. It's a part of the **Network Video Server Wizard**:

- NVS IP address
- User name
- Password



The Default Admin ID for the NVS400 series is 'admin' and the default Admin password is 'pass'. For the NVS1000/2000/4000 series the Admin ID becomes 'root' and the default Admin password is 'pass'.



Name & Type | **Connection** | **Video Settings**

WebCCTV Network Video Server Configuration Wizard - Network Video Server

You have selected the option Network video server. Please enter the IP-address of the server you wish to add.

IP-address: The IP-address of the server is usually located on the network video server side. Each number should be between 0 and 255.

Command port: The default port setting suitable in most cases.

User name: The user name can be found in the camera's documentation.

Password: The password used during the new server configuration.

Connection (Network Video Server) Screen

Click **Next** to enter the next NVS Wizard screen.

1.8.1.3.3 Video Settings

This tab is a part of the **Network Video Server Wizard** and allows configuring following settings:

- **Video format** – selection of the video standards format in which images are transmitted from the cameras. PAL video standard is used in Europe, NTSC video standard is used in the USA.
- **Image resolution** – a higher resolution gives a better quality image. A higher image resolution will lead to a lower frame rate.
- **Frame rate** – possible frame rates depend on the chosen image resolution.
- **Volume** – storage volume on which the camera is recorded. You can change the volume for each camera (see **3.3.4 Storage Manager**)



Settings you are adjusting in this screen are applied to all NVS cameras for live view and recordings.

WebCCTV Network Video Server Configuration Wizard - Network Video Server

Please choose the video settings...

Video format: ☒ PAL ☐ NTSC PAL colour video format is mostly used in Europe, NTSC video format is used in USA.

Image resolution: ☐ 704x576 ☒ 352x288

Frame rate: Most surveillance applications record 3-5 frames per second.

Volume: Volume the cameras connected to NVS record to.

Video Settings (Network Video Server) Screen

Complete the procedure by clicking **Finish** button and **Restart** the QGuard server.

1.8.1.3.4 Name

This tab is a part of the **Network Video Server Camera Wizard**. You can assign a **name** to the camera in this screen.

WebCCTV Camera Configuration Wizard - NVS 1

Please enter a camera name...

Name: Please enter a descriptive name for this camera.

Name (Network Video Server) Screen

Click **Next** to enter the next NVS Camera Wizard screen.

1.8.1.3.5 Recordings

This tab is a part of the **Network Video Server Camera Wizard**. The following parameters can be configured:

- **Record this camera** – the camera will be recorded if the box is checked.
- **Volume** – storage volume on which the camera is recorded. You can change the volume for each camera (see *3.3.4 Storage Manager*)



Recordings (Network Video Server) Screen

Click **Next** to enter the next NVS Camera Wizard screen.

1.8.1.3.6 Activity

This tab is a part of the **Network Video Server Camera Wizard**. The following parameters can be configured:



When adding a NVS, the Masking and Activity functionality is only available after server restart. This will be automatically requested by a notification.

- **Activity Detection** – by enabling Activity Detection, only images where movement is above a certain threshold will be recorded. This increases the ability to store more video footage significantly. If you want to record at all time, uncheck the **AD/VCA** checkbox in the Video tab.



Activity (Network Video Server) Screen



The current activity level is represented by the green line on the control panel below the video. To adjust the activity detection threshold, move the slider on the right side

of the control panel up and down to shift the red line. All the video activity that stays above the red line will be recorded.

- **Masking** – by using the masking feature, only activity in a specified area(s) will be recorded. This increases the ability to store more video footage significantly.
- **Calculate activity on** – Each method of activity detection processing has advantages and disadvantages. Activity detection processing on the QGuard server allows detecting the activity using the best accuracy, but consumes more CPU resources. Activity detection processing on QGuard NVS consumes fewer CPU resources, but operates inaccurately in low light conditions.



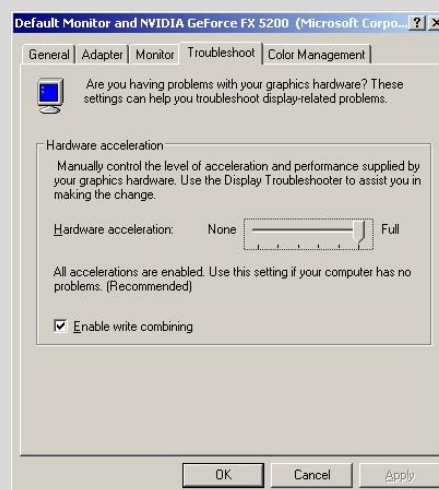
Masking makes it possible to disable the recording of activity in so called ‘curtain areas’. ‘Curtain areas’ contain constant movement classified as not important for surveillance (e.g. moving trees in the wind, busy parts of the road etc.).



The green grid, shown on the masking screen, divides the image into masking cells. Click on a cell and the activity detection in this cell will be disabled. Once disabled, a masking cell turns green. This means that activity occurring in this cell will not trigger recording.

When you access the Activity screen for the first time on a client PC, it may be that the green masking grid doesn’t appear. In order to be able to draw the grid, the video card of the client PC has to have at least 16 MB of internal video memory and DirectX accelerations fully enabled. This can be done as follows:

1. Exit the camera wizard by clicking **Finish** or **Cancel**.
2. Go to Start/Settings/**Control Panel**.
3. Click on Display/ Settings/Advanced/**Troubleshoot**.
4. Set **Hardware acceleration** on full.



Troubleshoot Screen

Click **OK** and return to the Activity Screen in the Camera Wizard. The masking grid should be visible on your screen now.



The masking functionality does not depend on whether you can visualize it on a particular client PC or not. It is possible to set up masking on one client PC and use

another client PC which is not able to show masking. The masking will stay applied.


To (un)mask the desired area, follow the steps below:

1. Click on the cell you wish to (un)mask.
2. Check the **Mask** or **Unmask** button depending on whether you want to mask or unmask.
3. Click the **Apply mask** button to activate the selection.



To mask multiple cells, left-click one cell and drag the cursor over the cells you would like to mask and release your mouse.



Click on the question mark icon  in the right hand corner of the masking screen to access on-screen masking instructions.

Click **Next** to enter the next NVS Camera Wizard screen.

1.8.1.3.7 VCA

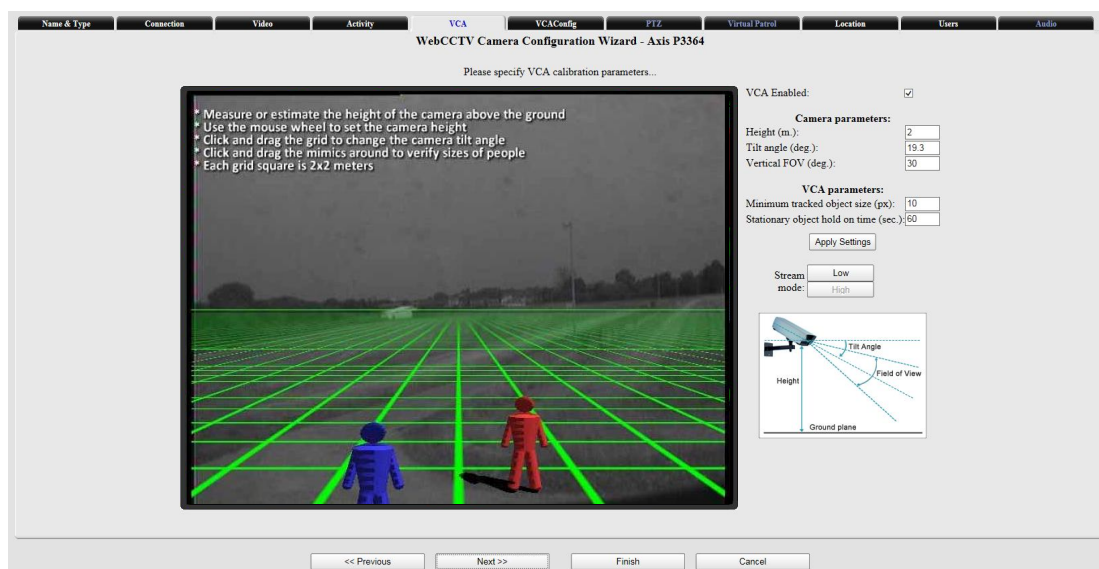
The **VCA Menu** allows you to activate and set up camera and VCA parameters.



To work with **VCA** you should have *VCA licence*.



If you still need to activate your VCA license, please contact Quadrox support for the activation of this license via support@quadrox.be or +32 (16) 582585.



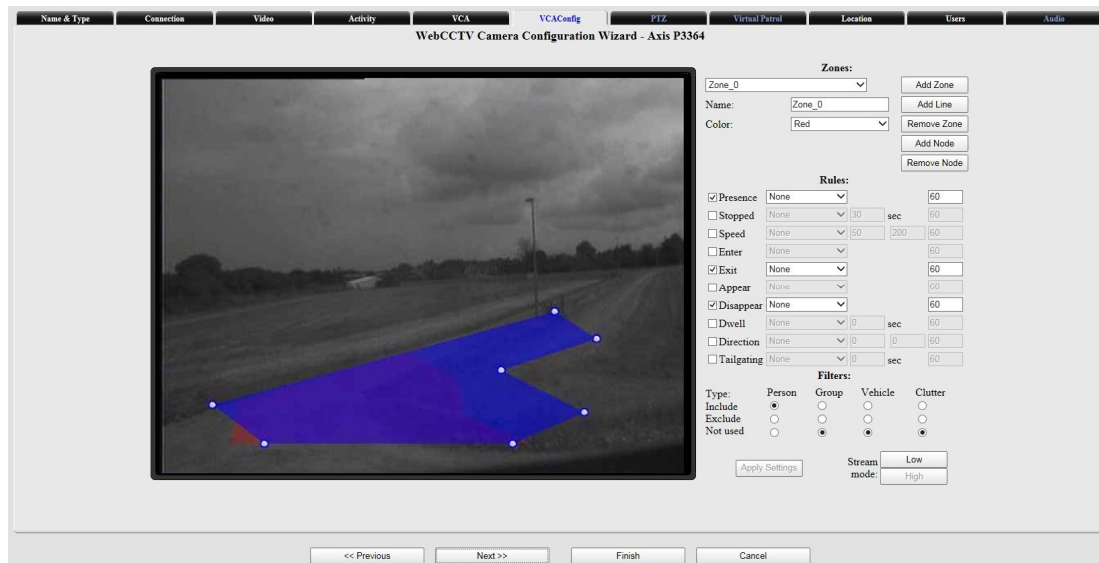
VCA Screen

For more detailed information see **VCA Installation and Configuration User Manual** for version 4.9.

Click **Next** to enter the next Camera Wizard screen.

1.8.1.3.8 VCA Config

The VCA Config Menu allows you to configure the zones in which the VCA needs to happen, and the rules you want to track.



VCA Configuration Screen

For more detailed information see **VCA Installation and Configuration User Manual** for version 4.9.

Click **Next** to enter the next Camera Wizard screen.

1.8.1.3.9 PTZ

This tab is a part of the **Network Video Server Camera Wizard**.



PTZ stands for Pan Tilt Zoom or movable camera. To enable PTZ camera settings, select the PTZ camera check box first.

- **PTZ camera** – select this if your camera is a PTZ camera.
- **PTZ control protocol** – select the brand of the PTZ camera.
- **Extended PTZ** – Some protocols have extended PTZ features, e.g. Pelco. By checking this, the features will be made available.
- **Camera unique number** – most PTZ cameras require a unique serial number to be referred by.

Cameras Storage Manager Single View Mosaics Web Publishing Network Settings Network Video Recorders Certificate Management Time Synchronization

Name Recordings Activity **PTZ** Virtual Patrol Location Users

WebCCTV Camera Configuration Wizard - NVS 1

Please select the used PTZ protocol, com-port, serial number and other parameters...

PTZ camera: ☒ Please check if the camera you selected is PTZ (Pan-Tilt-Zoom).

PTZ control protocol: WebCCTV Communication control protocol.

Extended PTZ: ☐ Enable the extended features of the selected PTZ control protocol.


Camera unique number: 412412376 Most PTZ cameras require a unique serial number to be referred to.

PTZ (Network Video Server) Screen

Click **Next** to enter the next NVS Camera Wizard screen.

1.8.1.3.10 Virtual Patrol

This tab is a part of the **Network Video Server Camera Wizard**. The Virtual Patrol screen allows you to configure a PTZ camera in several ways:

- **Use Home preset** – this functionality prevents the misplacement of the camera and ensures proper recordings after monitoring. If the **Home Preset** is enabled, the first preset position becomes automatically the **Home** status and looks like  in the **Live view**. When a user moves the PTZ camera, by manual manipulation or using preset positions, the camera will return to its Home Preset after the assigned **Recovery Time** has elapsed. By default this time is 300 seconds.
- **Use Virtual Patrol** – select one of the Virtual Patrol you previously created.
- **Manual PTZ Control** – check this radio button if you don't use either the Home Preset or the Virtual Patrol functionality.

Name Recordings Activity VCA VCAConfig **PTZ** **Virtual Patrol** Location Users

WebCCTV Camera Configuration Wizard - NVS 1

Please check the camera manufacturer's documentation as continuous movement of PTZ cameras might violate the camera's warranty. We strongly advise you to set the virtual patrol sequence time to a minimum of 120 seconds for cameras that move mechanically.

☐ Use Home Preset
☒ Use Virtual Patrol: Patrol 1
☐ Manual PTZ Control (not recommended)

Defined Virtual Patrols	
Patrol 1	Edit/Delete
Patrol 2	Edit/Delete
Patrol 3	Edit/Delete
Add Virtual Patrol	

Home Preset Settings	
Recovery time (seconds):	300

<< Previous Next >> Finish Cancel

Virtual Patrol (Network Video Server) Screen



Only specially designed cameras designated by the manufacturer as "Continuous movement use", "Continuous duty cycle" or "24h duty cycle" can effectively utilize the Virtual Patrol feature. Using consumer-grade cameras with Virtual Patrol may cause premature failure and may invalidate the cameras warranty. We strongly advise customers to check the camera specifications before using the Virtual Patrol feature and strongly advise to set the virtual patrol sequence time to a minimum of 120 seconds for those cameras.

You can create multiple Virtual Patrols with different settings. Click the **Add Virtual Patrol** button to add a new Virtual Patrol.

To change or create the Virtual Patrol settings, click the **Edit** link.

Virtual Patrol Configuring Screen

1. Specify a **Name** for the Virtual Patrol
2. Choose one of the available Presets from the drop-down list and click **Add Preset** button.
3. Specify the **Sequence time** for each Preset. This is the time after which the camera switches to the next defined preset in the queue.
4. If necessary, use the **Sort** buttons to change the position of a Preset in the Virtual Patrol sequence.
5. Click **Apply** button.

You may delete any Preset from the Virtual Patrol sequence by clicking the **Delete** link.



Due to some technology designs of Panasonic cameras it is recommended you use no more than 2-3 Panasonic cameras with virtual patrol configured at the same time, since this can cause server overloading.



Each time a user takes control over the PTZ camera manually (via the PTZ Camera Control Panel), the automatic Virtual Patrol is interrupted. Once the user stops his manual control, the QGuard resumes the Virtual Patrol after 30 seconds.

Click **Next** to enter the next NVS Camera Wizard screen.

1.8.1.3.11 Location

In this tab you can specify following camera location parameters:

- Longitude – geographic coordinate that specifies the east-west position of a point on the Earth's surface

- Latitude – geographic coordinate that specifies the north-south position of a point on the Earth's surface
- Height – camera elevation above street level
- Direction – camera direction from North
- Tilt angle – camera tilt angle, that normally varies between -45^0 and $+45^0$
- Horizontal FOV – defines the width angle of the camera lens. Usual lenses have around $45-50^0$; a Tele lens has a smaller width and Wide angle lenses can have more

WebCCTV Camera Configuration Wizard - NVS 1

Please specify camera location parameters if necessary...

Longitude:	<input type="text" value="0° 0' 0\"/>	Camera longitude, preferably in DMS format.
Latitude:	<input type="text" value="0° 0' 0\"/>	Camera latitude, preferably in DMS format.
Height:	<input type="text" value="0"/> meters	Camera elevation above street level.
Direction:	<input type="text" value="0"/> degrees	Camera direction from North.
Tilt angle:	<input type="text" value="0"/> degrees	Camera tilt angle (optional).
Horizontal FOV:	<input type="text" value="0"/> degrees	Camera horizontal field of view (optional).

Location Configuring Screen

Click **Next** to enter the next Camera Wizard screen.

1.8.1.3.12 Users

Select which users have access to the selected camera.



The Users functionality is only available after server restart when adding a new NVS. Follow the notification that automatically will be shown.



Users with Administrator rights have access to all the cameras. Users with restricted rights can be denied access to certain cameras.

WebCCTV Camera Configuration Wizard - NVS 1

Please select the users that have access to this camera ...

TEST102 Administrator:	<input checked="" type="checkbox"/>	Users with administrative privileges have access to all cameras.
TEST102 admin:	<input checked="" type="checkbox"/>	
TEST102 Mobi:	<input checked="" type="checkbox"/>	

Users (Network Video Server) Screen

Click **Finish** to save configuration of current camera. Camera is configured now.

1.8.2 Alarms

The **Alarms** chapter covers the handling and configuration of incoming alarms, alarm reactions and how to configure the actions linked to these incoming alarm events.

Input alarms can be generated through a physical alarm-input concentrator (screw-block to attach physical wires) attached on the back of the QGuard machine (together with a Picolo card), or through a PMD I/O Device (screw-block to attach physical wires) attached to the QGuard NVR via a USB cable.

The QGuard Alarm Component supports the OPC protocol; hence you are able to connect any OPC A&E compliant alarm server and OPC A&E compliant client as well to the QGuard Alarm Component. The origin of an alarm input can be an external infrared sensor, a reed contact, etc.

By default you get the alarms menu when clicking **Alarms** in the **Settings** menu. This menu allows you to **Add Quadrox I/O Device**, **Add PMD I/O Device**, **Add Alarm Device** and access the Alarms Configuration Wizard by clicking **Edit** or **Edit Device**.

This chapter covers the following topics:

- PMD I/O Device (Adding and Configuring)
- Generic Alarm Driver
- RedLight Driver
- Alarms Configuration Wizard

Cameras <u>Alarms</u> Storage Manager Single View Mosaics Web Publishing Network Settings Network Video Recorders Certificate Management Time Synchronization						
Alarms						
Enable	Name	Pin	Device	Type	Action	
<input checked="" type="checkbox"/>	Alarm M3027 2-1	1	Axis M3027	IP Camera	Edit	Edit Device
<input checked="" type="checkbox"/>	Alarm M3027 2-2 INTL	2			Edit	
<input checked="" type="checkbox"/>	Alarm Sony 2-1	1	Sony SNC-CH210	IP Camera	Edit	Edit Device
<input checked="" type="checkbox"/>	Alarm P3364 2-1	1	Axis P3364	IP Camera	Edit	Edit Device
<input checked="" type="checkbox"/>	Alarm P3364 2-2 INTL	2			Edit	
<input checked="" type="checkbox"/>	Alarm 1031 5-1 INTL	1	Axis M1031	IP Camera	Edit	Edit Device
<input type="button" value="Add Quadrox I/O Device"/> <input type="button" value="Add PMD I/O Device"/> <input type="button" value="Add Alarm Device"/>						

Alarms Screen

1.8.2.1 PMD I/O Device

The PMD I/O device has to be added manually. To do so, follow the steps below:

1. Attach the PMD I/O Device to one of the USB ports of your QGuard.



PMD I/O Device supports USB 2.0.

2. Click **Add PMD I/O Device** button.

Cameras Alarms Storage Manager Single View Mosaics Web Publishing Network Settings Network Video Recorders Certificate Management Time Synchronization						
Alarms						
Enable	Name	Pin	Device	Type	Action	
1	Alarm M3027 2-1	1	Axis M3027	IP Camera	Edit	Edit Device
2	Alarm M3027 2-2 INTL	2			Edit	
3	Alarm Sony 2-1	1	Sony SNC-CH210	IP Camera	Edit	Edit Device
4	Alarm P3364 2-1	1	Axis P3364	IP Camera	Edit	Edit Device
5	Alarm P3364 2-2 INTL	2			Edit	
6	Alarm 1031 5-1 INTL	1	Axis M1031	IP Camera	Edit	Edit Device

Alarms (PMD I/O Device) Screen

The **PMD I/O Device Configuration Wizard** will be opened for configuration.

1.8.2.1.1 Name

This screen shows basic information about the I/O Device. It contains two fields:

- **Device type** – general information about the type of I/O Device connected.
- **Serial Number** – enter the serial number of your I/O Device in this field.



To obtain the serial number of your PMD I/O Device, refer to PMD I/O Device documentation or use the special tool that is located in the Support folder to set a new serial number. (see **3.3.2.2.5 PMD I/O Serial Number**)

Name

Configuration

Outputs

WebCCTV IO Device Configuration Wizard

Please enter a Serial Number for the I/O device...

Device Type: PMD IO Device

Serial Number:

Name (PMD I/O Device) Screen

Click **Next** to enter the next I/O Device Configuration Wizard Screen.

1.8.2.1.2 Configuration

This screen allows you to configure your I/O Device lines as inputs or outputs for the alarm signals.



Configuration (PMD I/O Device) Screen



When the PMD I/O device is disconnected from the USB port and the server is restarting, the PMD device disappears from I/O Devices list. After being reconnected and subsequently restarting the server, it appears again.

The PMD I/O device has 3 ports and each port has 8 lines, however one port is divided in two parts, where every subpart has 4 lines. This makes 24 lines in total. Compared to the Pico I/O card, where every line can be configured separately, you need to configure a whole port as an input or output for the PMD I/O device. There are 4 drop-down lists and each of them corresponds to a certain port.

Value	Description
I	Configure line as input. This line receives an alarm signal from an external device.
O	Configure line as output. This line sends a control signal to the external device.

Click **Finish** button.

If you entered a correct PMD I/O Device serial number you should see the following screen:

Alarms						
The I/O device was successfully added						
Enable	Name	Pin	Device	Type	Action	
<input type="checkbox"/>	Alarm Camera 2 6-1 INTL	1	Camera 2	IP Camera	Edit	Edit Device
<input type="checkbox"/>	Alarm Camera 9 8-1	1	Camera 9	IP Camera	Edit	Edit Device
<input type="checkbox"/>	Alarm Camera 1 5-1 INTL	1	Camera 1	IP Camera	Edit	Edit Device
<input type="checkbox"/>	Alarm Camera 9 8-2	2	Camera 9	IP Camera	Edit	Edit Device
<input type="checkbox"/>	Alarm Camera 7 2-1	1	Camera 7	IP Camera	Edit	Edit Device
<input type="checkbox"/>	Alarm Camera 4 4-1	1	Camera 4	IP Camera	Edit	Edit Device
<input type="checkbox"/>	Alarm Camera 3 7-1 INTL	1	Camera 3	IP Camera	Edit	Edit Device
<input type="checkbox"/>	Alarm PMD 1-1	1	PMD with Serial Nr 1	PMD USB Device	Edit	Edit Device Delete Device
<input type="checkbox"/>	Alarm PMD 1-2	2			Edit	
<input type="checkbox"/>	Alarm PMD 1-3	3			Edit	
<input type="checkbox"/>	Alarm PMD 1-4	4			Edit	
<input type="checkbox"/>	Alarm PMD 1-5	5			Edit	
<input type="checkbox"/>	Alarm PMD 1-6	6			Edit	
<input type="checkbox"/>	Alarm PMD 1-7	7			Edit	
<input type="checkbox"/>	Alarm PMD 1-8	8			Edit	

Add PMD I/O Device
Add Alarm Device

Alarms (PMD I/O Device Added) Screen

Click **Edit Device** link. Go to the **Outputs** tab.

1.8.2.1.3 Outputs

This screen allows you to assign names to the lines you have configured as outputs.



The **Outputs** tab is not available in the WebCCTV (QGuard) PMD I/O Device Configuration Wizard when you are adding the PMD I/O Device. It becomes available after you add the device and click **Edit Device** link in the Alarms menu.

Name	Configuration	Outputs										
WebCCTV IO Device Configuration Wizard												
Please, choose the parameters for the outputs...												
<table border="1"> <thead> <tr> <th>Output</th> <th>Pin</th> </tr> </thead> <tbody> <tr> <td>Output PMD 1-1</td> <td>1</td> </tr> <tr> <td>Output PMD 1-2</td> <td>2</td> </tr> <tr> <td>Output PMD 1-3</td> <td>3</td> </tr> <tr> <td>Output PMD 1-4</td> <td>4</td> </tr> </tbody> </table>		Output	Pin	Output PMD 1-1	1	Output PMD 1-2	2	Output PMD 1-3	3	Output PMD 1-4	4	
Output	Pin											
Output PMD 1-1	1											
Output PMD 1-2	2											
Output PMD 1-3	3											
Output PMD 1-4	4											

Outputs (PMD I/O Device) Screen

Click the **Finish** button to apply the configuration.

1.8.2.1.4 Delete PMD I/O Device

If you want to delete your PMD I/O Device, execute the following steps:

1. While being in Alarms Menu, click the **Delete Device** link.

8	Alarm PMD 1-1	1	PMD with Serial Nr 1	PMD USB Device	Edit	Edit Device	Delete Device
9	Alarm PMD 1-2	2			Edit		
10	Alarm PMD 1-3	3			Edit		
11	Alarm PMD 1-4	4			Edit		
12	Alarm PMD 1-5	5			Edit		
13	Alarm PMD 1-6	6			Edit		
14	Alarm PMD 1-7	7			Edit		
15	Alarm PMD 1-8	8			Edit		

Alarms (Deleting PMD I/O Device) Screen

2. Click **OK** in the pop-up window.

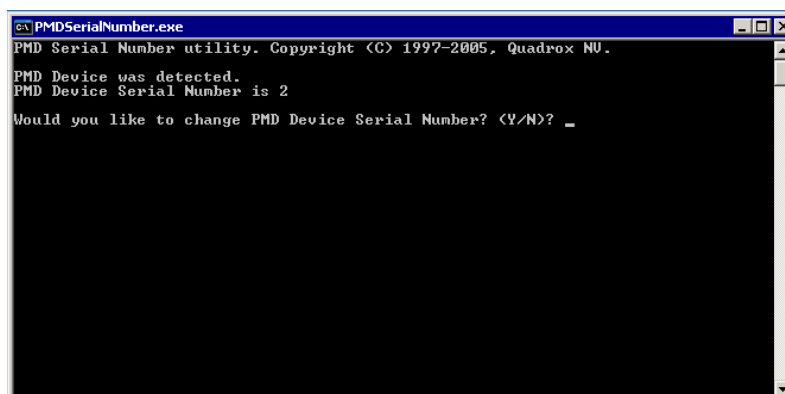


Confirmation (Deleting PMD I/O Device) Screen

1.8.2.1.5 PMD I/O serial number

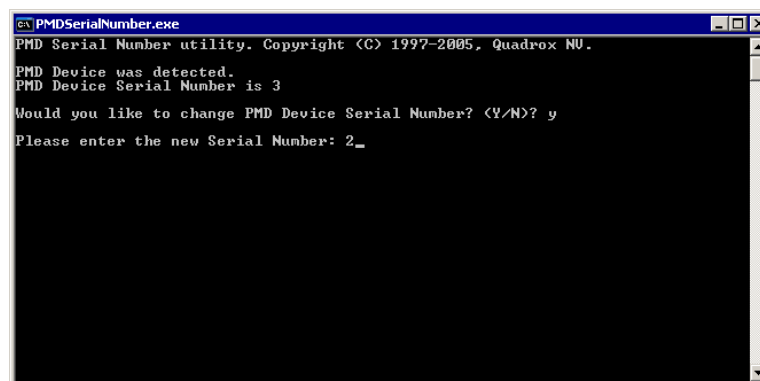
To assign the serial number to a PMD I/O Device, follow the steps below:

1. Connect your PMD I/O Device to the computer.
2. Go to **C:\Program Files\Quadrox**, find **pmdserialnumber.exe** and click on it.
3. A command prompt will appear.



Assigning PMD I/O Serial Number Screen 1

4. Specify **Y** and click **Enter** button.
5. **Please enter the new serial number** message will appear on the screen, specify new serial number. Click **Enter**.



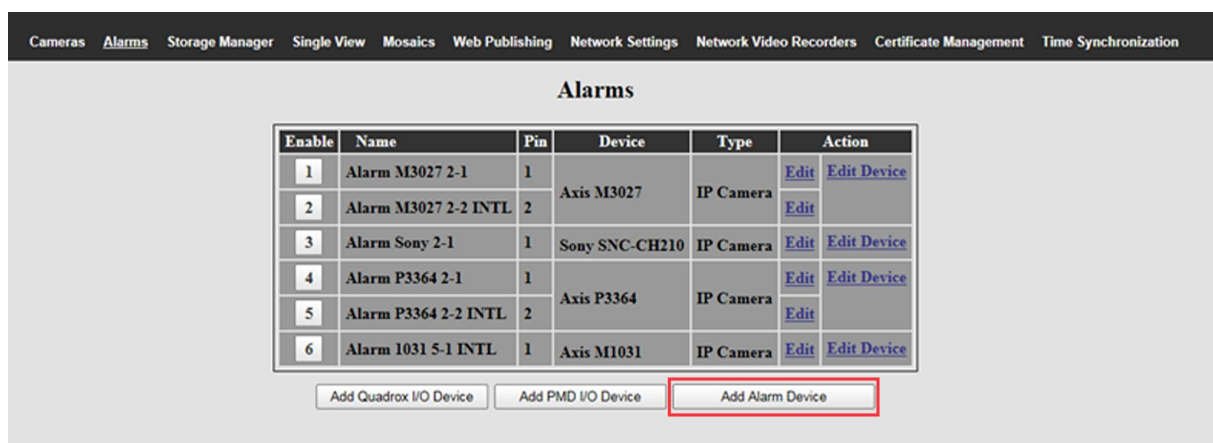
Assigning PMD I/O Serial Number Screen 2

6. As prompted, press any key to finish assigning the PMD I/O Device serial number.

1.8.2.2 Generic Alarm Driver

The Generic Alarm Driver makes it possible to generate alarms without needing a hardware device. Generating alarms is done by using the SDK (Software Development Kit). For more information about how to utilize the SDK Kit, contact SDK@quadrox.be.

To add the Generic Alarm Driver, click **Add Alarm Device** button.



Alarms Screen

The **Alarm Configuration Wizard** will be opened for configuration.

1.8.2.2.1 Name

This tab allows you to specify the **Device Name**.

The screenshot shows the 'Name' tab of the 'WebCCTV Alarm Configuration Wizard'. At the top, there are three tabs: 'Name' (selected), 'Protocol', and 'Connection'. Below the tabs, the title 'WebCCTV Alarm Configuration Wizard' is centered. Underneath, there is a label 'Device Name:' followed by a text input field containing the text 'Generic Alarm Driver'.

Name (Generic Alarm Driver) Screen

Click **Next** to enter the next Alarm Configuration Wizard Screen.

1.8.2.2.2 Protocol

In this tab, the protocol has to be selected

Select **Generic Alarm Driver** in the drop-down list.

The screenshot shows the 'Protocol' tab of the 'WebCCTV Alarm Configuration Wizard'. At the top, there are three tabs: 'Name', 'Protocol' (selected), and 'Connection'. Below the tabs, the title 'WebCCTV Alarm Configuration Wizard' is centered. Underneath, there is a prompt 'Please, specify the alarm device protocol.' followed by a label 'Protocol' and a drop-down menu. The drop-down menu is open, showing three options: 'RedLight Driver', 'Generic Alarm Driver' (which is highlighted in blue), and 'RedLight Driver'.

Protocol (Generic Alarm Driver) Screen

Click **Finish** button.



Depending on the drivers you installed together with the Alarm Component, it's possible some values are not present in the drop-down list.



If you entered the Alarm Configuration Wizard by clicking the **Edit Device** link in the Alarms Screen, you can't change the protocol anymore, but can only see which protocol has been selected.

1.8.2.2.3 Connection

This tab is not available for the Generic Alarm Driver Device. You don't have to configure it.

1.8.2.3 RedLight Alarm Driver

The RedLight Alarm Driver makes it possible to receive alarms for Red Light infractions.

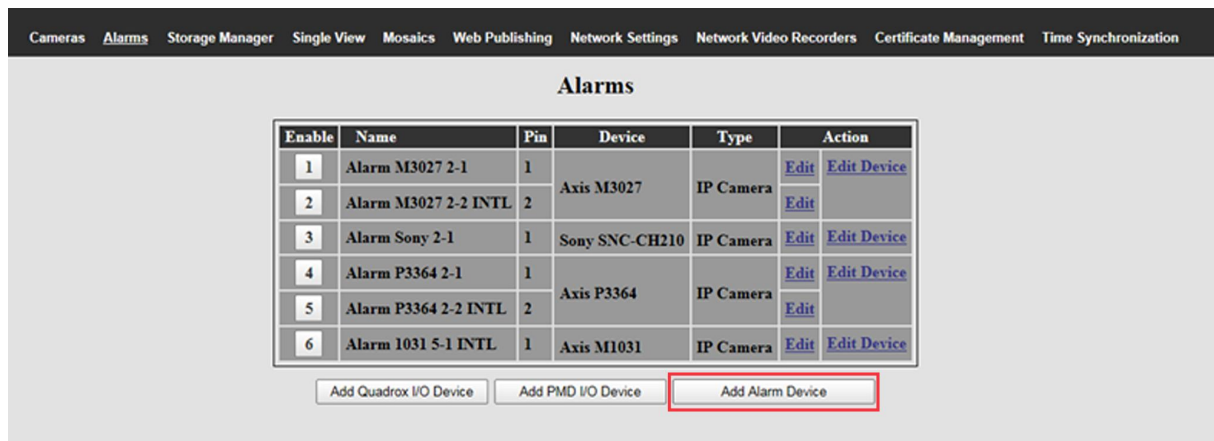


This driver may and can only be used in cooperation with Quadrox N.V. For more information, contact sales@quadrox.be.



You need extra add-on software to be able to receive alarms.

To add the RedLight Alarm Driver, click **Add Alarm Device** button.



Alarms Screen

The **Alarm Configuration Wizard** will be opened for configuration.

1.8.2.3.1 Name

This tab allows you to specify the **Device Name**.



Name (RedLight Alarm Driver) Screen

Click **Next** to enter the next Alarm Configuration Wizard Screen.

1.8.2.3.2 Protocol

In this tab, the protocol has to be selected

Select **RedLight Driver** in the drop-down list.



Protocol (RedLight Alarm Driver) Screen

Click **Next** to enter the next Alarm Configuration Wizard Screen.



Depending on the drivers you installed together with the Alarm Component, it's possible some values are not present in the drop-down list.



If you entered the Alarm Configuration Wizard by clicking the **Edit Device** link in the Alarms Screen, you can't change the protocol anymore, but can only see which protocol has been selected.

1.8.2.3.3 Connection

This tab allows for the configuration of the following settings:

- **Dispatcher IP** – IP address of the sender of the alarm events.
- **Dispatcher Port** – port used by dispatcher to send alarm events.
- **Client IP** – IP address of the client which accepts the alarm events. Basically this should be the QGuard server IP Address.
- **Client Port** – port used by client to receive alarm events.
- **Client Name** – unique name which identifies the client machine.

The screenshot shows the 'WebCCTV Alarm Configuration Wizard' with the 'Connection' tab selected. The form contains the following fields and descriptions:

- Dispatcher IP:** 127.0.0.1. Description: IP-address of the sender of the alarm events.
- Dispatcher Port:** 49152.
- Client IP:** 10.0.10.5. Description: IP-address of the client, accepting the alarm events. Basically this should be a WebCCTV server IP-address.
- Client Port:** 49155.
- Client Name:** WebCCTV. Description: A unique name, which should identify the current client machine. For example, this could be a WebCCTV server name.

Connection (RedLight Alarm Driver) Screen

1.8.2.4 Alarm Configuration Wizard

To enter the Alarm Configuration Wizard in order to configure the alarms itself, click one of the **Edit** links in the Alarms Menu. The Alarm Configuration Wizard consists of eight tabs with easy to follow instructions. Read this chapter to learn all about the alarms configuration.

The following Alarm Configuration Wizard tabs are described in this chapter:

- | | |
|--------------|----------------|
| ▪ Name | ▪ Notification |
| ▪ PTZ | ▪ Mail |
| ▪ Recordings | ▪ SMS |
| ▪ FTP | ▪ Schedule |
| ▪ Outputs | |



By default, some of the settings are already selected. It is recommended you keep these settings to ensure the best performance.



When configuring a hybrid QGuard, you are able to use 13 Input/Output lines (for Q16 model – 26 I/O lines if 2 Picolo Tetra cards are used) by means of Picolo I/O

Proxy. A PMD I/O Device gives you the ability to use 24 Input/Output lines. QGuard's manufactured after 2007 may be a different type of capture card on which I/O is not supported. Use a PMD I/O Device in this case.



A PMD I/O Device or Picolo I/O Proxy Device has a fixed amount of alarms available. For the RedLight and Generic Device, you can add as many alarms as you wish by clicking the **Add Alarm** link in the Alarms Screen.

1.8.2.4.1 Name

In this tab, you can define the alarm name; can see the device and pin to which the alarm is associated.



Choose a descriptive name for each alarm for future reference.

Name (Alarm – Generic / RedLight Alarm Driver) Screen

Click **Next** to enter the next Alarm Configuration Wizard Screen.

1.8.2.4.2 PTZ

You can choose the PTZ reaction for the incoming alarm, meaning if an alarm is triggered the specified camera will turn to the selected camera preset position. To configure this feature, follow the steps below:

1. Select the camera from the drop-down list.
2. Select the preferred preset position.
3. Click the **Add camera** button.



You are able to change the preset position for the camera only after it has been added. Settings presets is explained in the Video Browser manual.



If there are no PTZ camera configured in the system, the message “No PTZ cameras are available in the system” will be shown.

PTZ (Alarm) Screen

To delete the camera, click **Delete**.

Click **Next** to enter the next Alarm Configuration Wizard Screen.

1.8.2.4.3 Recordings

In this tab you are able to do the following:

- Add or delete cameras to record when an alarm occurs.



Multiple recordings can be assigned to one alarm. This way, an incident can be monitored from different cameras and angles.

- Set the recording time before and after an alarm has occurred. This is also called the pre and post alarm recording interval.



An alarm movie is labelled recorded footage from a camera you attached to the alarm, i.e. when an alarm comes in, the specific period of time recorded from a specified camera is labelled and saved. Once the recording is complete, it appears as an alarm movie. If there aren't any recordings (i.e. when there is no activity) for the period when the alarm occurs, you won't have an alarm movie. You can set a camera to record all the time via the Camera Configuration Wizard.

To add the camera to be recorded when an alarm is triggered, follow the steps below:

1. Select the camera from the drop-down list.
2. Select the pre and post alarm label interval for each camera.
3. Click the **Add camera** button.

Camera	Pre-alarm label interval	Post-alarm label interval	Action
Axis M1031	30 sec.	30 sec.	Delete
Axis P3364	30 sec.	30 sec.	Add Camera

Recordings (Alarm) Screen

To delete a camera, click **Delete**.

Click **Next** to enter the next Alarm Configuration Wizard Screen.

1.8.2.4.4 FTP

The FTP upload function enables automatic uploading of the movies and images, which were created based on an incoming alarm, onto a remote FTP server or to a local folder for further revision and storing. To configure FTP uploading, see **3.3.7.2 FTP Parameters**.



An alarm image is a snapshot captured at the moment the alarm is triggered.

To use this feature, select the corresponding checkbox.

FTP (Alarm) Screen

Click **Next** to enter the next Alarm Configuration Wizard Screen.

1.8.2.4.5 Outputs

This tab allows you to configure which outputs will send the signals to the external devices when an alarm is triggered.



The output tab is only available if some lines of the I/O device are set as output.

To configure outputs follow the steps below:

1. Select the output from the corresponding drop – down list.
2. Select the state to which the output will switch when an alarm is triggered.



By default the output is in Low State. This means that the voltage on the corresponding pin is 0 V. When an alarm is triggered, the output switches to the High State which corresponds to the voltage of 5 V.

3. Choose when the output will return to its previous state. There are two variants:
 - Output returns to its previous state in a time span you indicate.
 - Output returns to its previous state on the deactivation of the triggered alarm.
4. Click **Add Output** button.

Outputs (Alarm) Screen

Click **Next** to enter the next Alarm Configuration Wizard Screen.

1.8.2.4.6 Notification

This tab allows you to configure the sound notification for an incoming alarm. At the same time, it's possible to automatically switch to live view for an assigned camera.



To use the sound notification, speakers should be connected to QGuard server.

To get the sound notification signal when an alarm is triggered, select the **Play sound** checkbox.

To configure switching to Live View on a specific camera, follow the steps below:

1. Select **Switch to Live view from camera** checkbox.
2. Choose the desired camera from the drop-down list.

Notification (Alarm) Screen

Click **Next** to enter the next Alarm Configuration Wizard Screen.

1.8.2.4.7 Mail

This tab allows you to configure an email notification when an alarm is triggered. It means that you will be sent an e-mail giving you the basic information about the triggered alarm (by default). In order to activate the email notification feature, follow the steps below:

1. Select the **Send E-Mail Message** checkbox.
2. Select a mail profile from the drop-down list.



To create a mail profile, see **3.3.7.4 E-Mail Profile**.

3. Specify the **Message Subject** and **Message Body** in the corresponding fields. The message body can include macros that will be substituted based on the specific alarm properties. Following macros are supported:

- **%ALARM_ID%** – unique ID of the alarm.
- **%TIME%** – date and time on which the alarm was generated.

Mail (Alarm) Screen

Click **Next** to enter the next Alarm Configuration Wizard Screen.

1.8.2.4.8 SMS

This tab allows you to configure an SMS notification when an alarm is triggered. It means that you will be sent a SMS message giving you the basic information about the triggered alarm (by default).



You need a Clickatell account to use the SMS notification feature. Use the direct link http://www.clickatell.com/developers/api_http.php or use the link on the SMS page in order to create an account.



To configure your SMS account, see **3.3.7.3 SMS Account Parameters**.

SMS (Alarm) Screen

In order to use SMS Notification feature, execute the following steps:

1. Check **Send SMS Message** checkbox.
2. Enter the phone number you would like the SMS message to be sent to. Don't put the leading + or 0 when specifying the Country Code.
3. Edit the default or create a new message body text in a **Message Body** textbox. The message body can include macros that will be substituted based on the specific alarm properties. Following macros are supported:
 - **%ALARM_ID%** – unique ID of the alarm
 - **%TIME%** – date and time on which the alarm was generated

Click **Finish** to apply the settings.

1.8.2.4.9 Schedule

Schedule tab allow you to make a schedule for this particular alarm.

When you have configured the schedule, click **Finish** to save your settings for this alarm. Alarm is configured now.

1.8.3 POS

This chapter explains how to configure the QGuard POS (**Point of Sale**) functionality. The POS functionality is a part of the QGuard Alarm Component. It transforms POS printer transactions into QGuard alarms. In other words, when a ticket is generated by the POS terminal, an alarm is triggered within QGuard. This makes it possible to observe all transactions and recordings which are recorded based on the incoming transaction data into the QGuard system.

Following POS types (devices) are supported in QGuard:

- Generic POS
- NAMOS
- Quadrox POS printer
- Serial Port POS
- TP.Net

The POS device and its sources have to be added in QGuard in order to let QGuard process the incoming POS ticket information.

POS				
Enable/Disable	POS	Device	Action	
1	POS Printer Source 1	QPOS Printer	Edit / Delete	Edit Device / Delete Device / Add POS
2	Serial Port Source 1	Serial POS 1	Edit / Delete	Edit Device / Delete Device / Add POS
3	Serial Port Source 2		Edit / Delete	Add POS

POS Screen

To enter the POS Device Configuration Wizard, click the **Edit device** or **Add POS Device** link/button in the POS screen. The **POS Device Configuration Wizard** consists of four tabs with easy to follow instructions.

The following **POS Device Configuration Wizard** tabs are described in the corresponding subchapters of Serial Port POS, TP.Net and NAMOS:

- Name
- Protocol
- Connection
- Configuration

After you added a Serial Port POS Device, you have to add a POS printer by adding it as a source.

To configure or add POS sources, click the **Edit** or **Add POS** link in the POS screen which will lead you to the POS configuration Wizard. The **POS Configuration Wizard** consists of two tabs with easy to follow instructions.



When a POS device is added, the first POS source is added by default.



You can add several POS Sources (POS Printers) to a single POS Device.

The following **POS Configuration Wizard** tabs are described in the corresponding subchapters of Serial Port POS, TP.Net and NAMOS:

- Name
- Recordings



The POS functionality is a part of the QGuard Alarm Component. You need the Alarm Component installed before you can use the POS functionality.



When installing the Alarm Component, the Serial Port POS and Generic POS driver is installed by default. If you need the TP.Net or NAMOS driver, you need to select them in the custom menu which is available when installing the Alarm Component.

To delete a POS Device or source, click the **Delete** link.

1.8.3.1 Serial Port POS

Before you can add and configure a Serial Port POS Device and sources in QGuard, you need to:

1. Connect the POS printer you want to control by means of QGuard to the serial port (COM port) of any computer in your network.
2. Install the **QPOS Link** application and configure it. (See **QPOS Link Installation Manual** for version 4.5)

When all steps are completed, Remote POS Monitor will capture the transactions which come from the POS printer connected to the COM port and will send them to the QGuard server.

In order to add and configure your POS device, click the **Edit device** or **Add POS Device** link/button in the POS screen. The **POS Device Configuration Wizard** consists of four tabs with easy to follow instructions.

In order to configure the sources, click the **Edit** link of the source in the POS screen which will lead you to the POS configuration Wizard. The **POS Configuration Wizard** consists of two tabs with easy to follow instructions



The POS functionality is a part of the QGuard Alarm Component. You need the Alarm Component installed before you can use the POS functionality.

1.8.3.1.1 Device Name

In this tab, you can adjust the POS Device name. It's a part of the **POS Device Configuration Wizard**.

Name (Serial Port POS) Screen

Click **Next** to enter the next POS Device Configuration Wizard Screen.

1.8.3.1.2 Device Protocol

In this tab, the protocol has to be selected. It's a part of the **POS Device Configuration Wizard**.

Select **Serial Port POS** in the drop-down list.

Protocol (Serial Port POS) Screen

Click **Finish** button.



Depending on the drivers you installed together with the Alarm Component, it's possible some values are not present in the drop-down list.



If you entered the POS Device Configuration Wizard by clicking the **Edit Device** link in the POS Screen, you can't change the protocol anymore, but can only see which protocol has been selected.

1.8.3.1.3 Device Connection

This tab is not available for Serial Port POS Devices. You don't have to configure it.

1.8.3.1.4 POS Name

This tab is a part of the **POS Configuration Wizard**. The following parameters have to be configured:

- **Name** – specify the name of the POS source.
- **IP address** – specify the IP address of the computer on which the POS source is connected.



If the QGuard server is installed on the same machine the POS printer is connected to, do not use the 127.0.0.1 IP address, but fill in the real IP-address. You can check the real IP address in the TCP/IP properties of your machine.

Name (Serial Port POS) Screen

Click **Next** to enter the next POS Configuration Wizard Screen.

1.8.3.1.5 POS Recordings

This tab is a part of the **POS Configuration Wizard**. In this tab you are able to do the following:

- Add or delete cameras to record when a ticket is generated.



Multiple recordings can be assigned to one source. This way, a ticket can be monitored from different cameras and angles.

- Set the recording time before and after a ticket is generated. This is also called the pre and post ticket recording interval.



A ticket movie is labelled recorded footage from a camera you attached to the ticket, i.e. when a ticket comes in, the specific period of time recorded from a specified camera is labelled and saved. Once the recording is complete, it appears as a ticket movie. If there aren't recordings (i.e. when there is no activity) for the period when the ticket is generated, you won't have a ticket movie. You can set a camera to record all the time via the Camera Configuration Wizard.

To add the camera to be recorded when a ticket is generated, follow the steps below:

1. Select the camera from the drop-down list.
2. Select the pre and post ticket label interval for each camera.
3. Click the **Add camera** button.

Primary	Camera	Pre-event label interval	Post-event label interval	Action
<input checked="" type="radio"/>	Camera 1	30 sec.	30 sec.	Delete
<input type="radio"/>	Camera 2 ▼	30 sec.	30 sec.	Add Camera

Recordings (Serial Port POS) Screen

To delete a camera, click **Delete**.

Click **Finish** button.

1.8.3.2 Generic POS

The **Generic POS Device** makes it possible to generate transaction tickets without needing a POS Device. Generating tickets is done by using the SDK (Software Development Kit). For more information about how to use the SDK Kit, contact SDK@quadrox.be.

In order to add and configure your Generic POS device, click the **Edit device** or **Add POS Device** link/button in the POS screen. The **POS Device Configuration Wizard** consists of four tabs with easy to follow instructions.

In order to configure the sources, click the **Edit** link of the source in the POS screen which will lead you to the POS configuration Wizard. The **POS Configuration Wizard** consists of two tabs with easy to follow instructions.



The POS functionality is a part of the QGuard Alarm Component. You need the Alarm Component installed before you can use the POS functionality.

1.8.3.2.1 Device Name

In this tab, you can adjust the Generic POS device name. It's a part of the **POS Device Configuration Wizard**.

Name (Generic POS) Screen

Click **Next** to enter the next POS Device Configuration Wizard Screen.

1.8.3.2.2 Device Protocol

In this tab, the protocol has to be selected. It's a part of the **POS Device Configuration Wizard**.

Select **Generic POS** in the drop-down list.



Protocol (Generic POS) Screen

Click **Finish** button.



Depending on the drivers you installed together with the Alarm Component, it's possible some options are not present in the drop-down list.



If you entered the POS Device Configuration Wizard by clicking the Edit Device link in the POS Screen, you can no longer change the protocol.

1.8.3.2.3 Device Connection

This tab is not available for Generic POS Devices. You don't have to configure it.

1.8.3.2.4 POS Name

In this tab, you can adjust the Generic POS source name. It's a part of the **POS Configuration Wizard**.



Name (Generic POS) Screen

Click **Next** to enter the next POS Configuration Wizard Screen.

1.8.3.2.5 POS Recordings

This tab is a part of the **POS Configuration Wizard**. In this tab you are able to do the following:

- Add or delete cameras to record when a ticket is generated.



Multiple recordings can be assigned to one source. This way, a ticket can be monitored from different cameras and angles.

- Set the recording time before and after a ticket is generated. This is also called the pre and post ticket recording interval.



A ticket movie is labelled recorded footage from a camera you attached to the ticket, i.e. when a ticket comes in, the specific period of time recorded from a specified camera is labelled and saved. Once the recording is complete, it appears as a ticket movie. If there aren't recordings (i.e. when there is no activity) for the period when the ticket is generated, you won't have a ticket movie. You can set a camera to record all the time via the Camera Configuration Wizard.

To add the camera to be recorded when a ticket is generated, follow the steps below:

1. Select the camera from the drop-down list.
2. Select the pre and post ticket label interval for each camera.
3. Click the **Add camera** button.

WebCCTV POS Configuration Wizard - Generic POS Source 1

Please choose the recording parameters...

Primary	Camera	Pre-event label interval	Post-event label interval	Action
<input checked="" type="radio"/>	Camera 1	30 sec.	30 sec.	Delete
<input type="radio"/>	Camera 2	30 sec.	30 sec.	Add Camera

Recordings (Generic POS) Screen

To delete a camera, click **Delete**.

Click **Finish** button.

1.8.3.3 TP.Net

The TP.Net device has to be configured at both sides. This means at the TP.Net software side and at the QGuard side. We only discuss the QGuard side. For the TP.Net software side, consult the TP.Net documentation.

In order to add and configure your POS device, click the **Edit device** or **Add POS Device** link/button in the POS screen. The **POS Device Configuration Wizard** consists of four tabs with easy to follow instructions.

In order to configure the sources, click the **Edit** link of the source in the POS screen which will lead you to the POS configuration Wizard. The **POS Configuration Wizard** consists of two tabs with easy to follow instructions.



The POS functionality is a part of the QGuard Alarm Component. You need the Alarm Component installed before you can use the POS functionality.



You need to select the TP.Net driver in the custom menu when installing the Alarm Component. By default only the Serial Port POS and Generic POS driver is installed when installing the Alarm Component.

1.8.3.3.1 Device Name

In this tab, you can adjust the POS Device name. It's a part of the **POS Device Configuration Wizard**.

Name (TP.Net) Screen

Click **Next** to enter the next POS Device Configuration Wizard Screen.

1.8.3.3.2 Device Protocol

In this tab, the protocol has to be selected. It's a part of the **POS Device Configuration Wizard**.

Select **TP.NET** in the drop-down list.

Protocol (TP.Net) Screen

Click **Finish** button. You will end up in the **Connection** tab of the POS Device Configuration Wizard.



Depending on the drivers you installed together with the Alarm Component, it's possible some options are not present in the drop-down list.

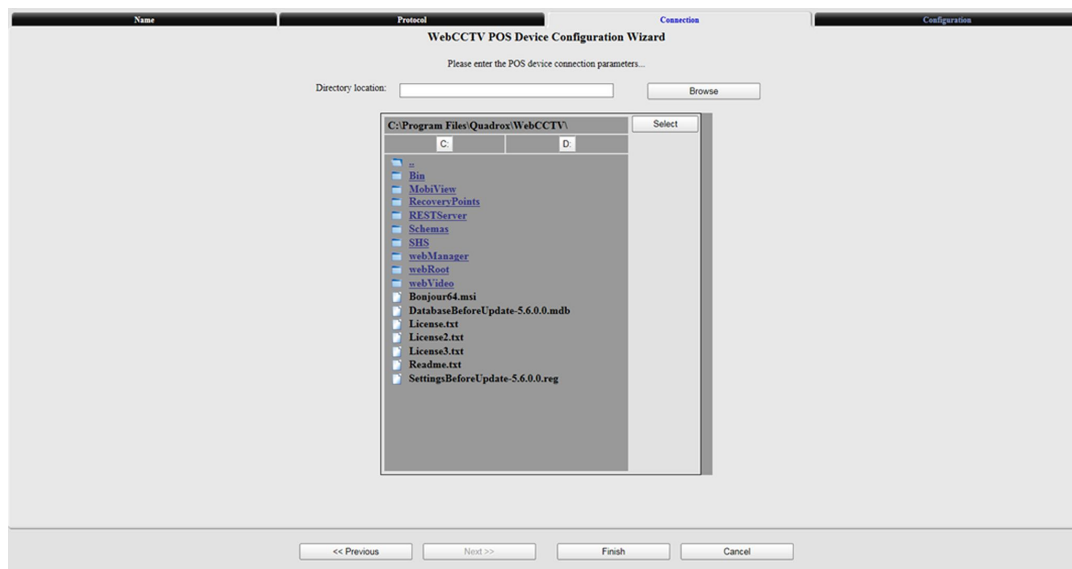


If you entered the POS Device Configuration Wizard by clicking the **Edit Device** link in the POS Screen, you can no longer change the protocol.

1.8.3.3.3 Device Connection

In this tab, the connection has to be established. It's a part of the **POS Device Configuration Wizard**.

Select the directory where the PosLog compliant .xml files are saved by clicking the **Browse** button and the **Select** button.



Connection (TP.Net) Screen

Click **Finish** button.

1.8.3.3.4 POS Name

This tab is a part of the **POS Configuration Wizard**. The following parameters have to be configured:

- **Name** – specify the name of the POS source.
- **Workstation ID** – specify the workstation ID.
- **Store ID** – specify the store ID.

WebCCTV POS Configuration Wizard - POS 1

Please enter a POS name...

Name:

Workstation ID:

Store ID:

Name (TP.Net) Screen

Click **Next** to enter the next POS Configuration Wizard Screen.

1.8.3.3.5 POS Recordings

This tab is a part of the **POS Configuration Wizard**. In this tab you are able to do the following:

- Add or delete cameras to record when a ticket is generated.



Multiple recordings can be assigned to one source. This way, a ticket can be monitored from different cameras and angles.

- Set the recording time before and after a ticket is generated. This is also called the pre and post ticket recording interval.



A ticket movie is labelled recorded footage from a camera you attached to the ticket, i.e. when a ticket comes in, the specific period of time recorded from a specified camera is labelled and saved. Once the recording is complete, it appears as a ticket movie. If there aren't recordings (i.e. when there is no activity) for the period when the ticket is generated, you won't have a ticket movie. You can set a camera to record all the time via the Camera Configuration Wizard.

To add the camera to be recorded when a ticket is generated, follow the steps below:

1. Select the camera from the drop-down list.
2. Select the pre and post ticket label interval for each camera.
3. Click the **Add camera** button.

WebCCTV POS Configuration Wizard - POS 1

Please choose the recording parameters...

Primary	Camera	Pre-event label interval	Post-event label interval	Action
<input checked="" type="radio"/>	Camera 3	30 sec.	30 sec.	Delete
<input type="radio"/>	Camera 1	30 sec.	30 sec.	Add Camera

Recordings (TP.Net) Screen

To delete a camera, click **Delete**.

Click **Finish** button.

1.8.3.4 NAMOS

The NAMOS device has to be configured at both sides. This means on the NAMOS software side and at the QGuard side. We only discuss the QGuard side. For the NAMOS software side, consult the NAMOS documentation.

In order to add and configure your POS device, click the **Edit device** or **Add POS Device** link/button in the POS screen. The **POS Device Configuration Wizard** consists of four tabs with easy to follow instructions.

In order to configure the sources, click the **Edit** link of the source in the POS screen which will lead you to the POS configuration Wizard. The **POS Configuration Wizard** consists of two tabs with easy to follow instructions.



The POS functionality is a part of the QGuard Alarm Component. You need the Alarm Component installed before you can use the POS functionality.



You need to select the NAMOS driver in the custom menu when installing the Alarm Component. By default only the Serial Port POS and Generic POS driver is installed when installing the Alarm Component.

1.8.3.4.1 Device Name

In this tab, you can adjust the POS Device name. It's a part of the **POS Device Configuration Wizard**.

Name (NAMOS) Screen

Click **Next** to enter the next POS Device Configuration Wizard Screen.

1.8.3.4.2 Device Protocol

In this tab, the protocol has to be selected. It's a part of the **POS Device Configuration Wizard**.

Select **NAMOS** in the drop-down list.

Protocol (NAMOS) Screen

Click **Finish** button.



Depending on the drivers you installed together with the Alarm Component, it's possible some options are not present in the drop-down list.



If you entered the POS Device Configuration Wizard by clicking the Edit Device link in the POS Screen, you can no longer change the protocol.

1.8.3.4.3 Device Connection

This tab is not available for NAMOS Devices. You don't have to configure it.

1.8.3.4.4 POS Name

This tab is a part of the **POS Configuration Wizard**. The following parameters have to be configured:

- **Name** – specify the name of the POS source.
- **Number** – specify the number.

The screenshot shows a web-based configuration wizard titled 'WebCCTV POS Configuration Wizard - Fuel Point 0'. There are two tabs: 'Name' (selected) and 'Recordings'. The 'Name' tab contains a text input field for 'Name' with the value 'Fuel Point 1' and a numeric input field for 'Number' with the value '6'. Above the input fields, there is a prompt 'Please enter a POS name...'. The interface is light gray with blue text for labels and tabs.

Name (NAMOS) Screen

Click **Next** to enter the next POS Configuration Wizard Screen.

1.8.3.4.5 POS Recordings

This tab is a part of the **POS Configuration Wizard**. In this tab you are able to do the following:

- Add or delete cameras to record when a ticket is generated.



Multiple recordings can be assigned to one source. This way, a ticket can be monitored from different cameras and angles.

- Set the recording time before and after a ticket is generated. This is also called the pre and post ticket recording interval.



A ticket movie is labelled recorded footage from a camera you attached to the ticket, i.e. when a ticket comes in, the specific period of time recorded from a specified camera is labelled and saved. Once the recording is complete, it appears as a ticket movie. If there aren't recordings (i.e. when there is no activity) for the period when

the ticket is generated, you won't have a ticket movie. You can set a camera to record all the time via the Camera Configuration Wizard.

To add the camera to be recorded when a ticket is generated, follow the steps below:

1. Select the camera from the drop-down list.
2. Select the pre and post ticket label interval for each camera.
3. Click the **Add camera** button.

WebCCTV POS Configuration Wizard - TP.NET POS 1

Please choose the recording parameters...

Primary	Camera	Pre-event label interval	Post-event label interval	Action
<input checked="" type="radio"/>	Camera 4	30 sec.	30 sec.	Delete
<input type="radio"/>	Camera 1	30 sec.	30 sec.	Add Camera

Recordings (NAMOS) Screen

To delete a camera, click **Delete**.

Click **Finish** button.

1.8.3.5 Quadrox POS Printer

The Quadrox POS Printer device allows receiving tickets from a software POS. There is no need anymore for physical cabling towards the Video Server as all data will be sent over the network. In order to make the Quadrox POS Printer work, the following actions have to be performed:

- The Quadrox POS Printer tool (driver) has to be installed on the QGuard or on the POS unit
- The POS software prints a ticket to the network printer that is installed automatically by the Quadrox POS Printer tool. By default it's called **Quadrox POS Printer**
- The automatically network Quadrox POS Printer has to be added and configured in the Video Manager. This will be explained below

In order to add and configure your Quadrox POS Printer device, click the **Add POS Printer**, **Add POS Printer Automatically** or **Edit device** link/button in the POS screen. If you choose the automatic option, it will find the installed network printers (Quadrox POS Printers). Give them an appropriate name; check the checkbox and click **Add selected POS printers**.

POS printer search

POS printers search complete

New POS printers		
	Name	POS MAC ID
<input checked="" type="checkbox"/>	Quadrox POS printer 1	00:0c:29:ce:d1:27

Automatically add POS Printer

The **POS Device Configuration Wizard** consists of three tabs with easy to follow instructions.

In order to configure the sources, click the **Edit** link of the source in the POS screen which will lead you to the POS configuration Wizard. The **POS Configuration Wizard** consists of two tabs with easy to follow instructions.



The POS functionality is a part of the QGuard Alarm Component. You need the Alarm Component installed before you can use the POS functionality.

1.8.3.5.1 Device Name

In this tab you can adjust the POS Device name. It's a part of the **POS Device Configuration Wizard**.

Name (Quadrox POS Printer) Screen

Click **Next** to enter the next POS Device Configuration Wizard Screen.

1.8.3.5.2 Device Protocol

In this tab the protocol has to be selected. It's a part of the **POS Device Configuration Wizard**.

Select **Quadrox POS printer** in the drop-down list.

Protocol (Quadrox POS Printer) Screen

Click **Finish** button.



If you entered the POS Device Configuration Wizard by clicking the Edit Device link in POS Screen, you can no longer change the protocol.

1.8.3.5.3 Device Connection

This tab is not available for NAMOS Devices. You don't have to configure it.

1.8.3.5.4 POS Name

This tab is a part of the **POS Configuration Wizard**. The following parameters have to be configured:

- **Name** – specify the name of the POS source
- **POS Mac ID** – specify the max address of the Quadrox POS Printer

Name (Quadrox POS Printer) Screen



If you added the Quadrox POS Printer automatically, the POS Mac ID will be filled in already.

Click **Next** to enter the next POS Configuration Wizard Screen.

1.8.3.5.5 POS Recordings

This tab is a part of the **POS Configuration Wizard**. In this tab you are able to do the following:

- Add or delete cameras to record when a ticket is generated.



Multiple recordings can be assigned to one source. This way, a ticket can be monitored from different cameras and angles.

- Set the recording time before and after a ticket is generated. This is also called the pre and post ticket recording interval.



A ticket movie is labeled recorded footage from a camera you attached to the ticket, i.e. when a ticket comes in, the specific period of time recorded from a specified camera is labeled and saved. Once the recording is complete, it appears as an alarm movie. If there aren't any recordings (i.e. when there is no activity) for the period when the alarm occurs, recordings still will be present as the recordings will be forced because an alarm was triggered and considered being high priority.

To add the camera to be recorded when a ticket is generated, follow the steps below:

1. Select the camera from the drop-down list.
2. Select the pre and post ticket label interval for each camera.
3. Click **Add camera** button.
4. Decide which camera will be the **primary** camera which will be shown when selecting a ticket.

WebCCTV POS Configuration Wizard - POS Printer Source 1

Please choose the recording parameters...

Primary	Camera	Pre-event label interval	Post-event label interval	Action
<input checked="" type="radio"/>	Camera 1	30 sec.	30 sec.	Delete
<input type="radio"/>	Camera 2	30 sec.	30 sec.	Delete
<input type="radio"/>	Camera 3	30 sec.	30 sec.	Delete
	Camera 4	30 sec.	30 sec.	Add Camera

Recordings (Quadrox POS Printer) Screen

To delete a camera, click **Delete**.

Click **Finish** button.

1.8.4 Storage Manager

This chapter describes the **Storage Manager** menu. This menu gives you the ability to manage the volumes the movies are recorded to. It provides detailed information about every volume and the recordings stored on it. It allows adding or deleting cameras from a certain volume, disabling volumes etc.

The following topics are discussed:

- Adding, configuring & deleting a volume
- Advanced Storage Settings
- Detailed Storage Information



You must be very careful while performing any manipulations of volumes as this may erase all the footage from the cameras assigned to the volumes being manipulated.

Cameras Alarms POS <u>Storage Manager</u> Single View Mosaics Web Publishing Network Settings Network Video Recorders Certificate Management Time Synchronization							
Storage Manager							
Volume	Location	Cameras	Space Available	Space Used	Oldest Movie	Actions	
1	D:\Movies\	Axis M7001 4 Panasonic BB-HCE481A 5 Panasonic BL-C10A 6 Axis M1031-W 7 Axis M1011-W 9 Panasonic BB-HCM515A 10 11 1 11 2 11 3 11 4	39.7 GB	26% (10.3 GB)	2 day(s)	Edit	Delete
<div> Add Volume Advanced Storage Settings Detailed Storage Information </div>							

Storage Manager Screen

1.8.4.1 Adding, configuring & deleting a Volume

Since QGuard supports multivolume recording, several volumes can be added to one server. To enter the Volume Configuration Wizard, click the **Edit** or **Add Volume** link/button in the Storage Manager screen. The **Volume Configuration Wizard** consists of three tabs with easy to follow instructions.

The following **Volume Configuration Wizards** tabs are described:

- Location
- Cameras
- Storage Parameters



You cannot delete all volumes added to your system. In case only one volume is left, the **Delete** link will be disabled. Furthermore you can't delete a volume if there are cameras assigned. First reassign all cameras to another volume.

To delete a volume, click the **Delete** link. Click **OK** on the screen that pops up.

1.8.4.1.1 Location

This tab allows you to select the location of the folder wherein you want to store your recordings.



Only one volume per partition can be created. For example, if you have your footage being recorded to **D:\Movies** folder, you cannot specify **D:\New_Movies** as a new volume. The partition letter has to be unique for each volume.

Location Screen

Enter the path and the name of the folder in the **Location** field that will be used to store recordings.



If you entered Volume Configuration Wizard by clicking the Edit link, you will not be able to change the location. You can choose the location only when adding a new volume.

Click **Browse** button to open a table. The following screen will appear:

Location (Browse) Screen

Browse the table and choose the folder you would like to use for storing recordings. Click the **Select** button to confirm your selection.



In case you enter the path and name of a folder which doesn't exist, it will be created automatically.

Click **Next** to enter the next Volume Configuration Wizard Screen.

1.8.4.1.2 Cameras

This tab allows you to assign cameras to a volume.

Cameras Screen



By default only one volume is created during installation and thus all the cameras added will be automatically assigned to this volume. If you add a volume after you added all the cameras to your system, you will have to reassign those cameras from the “old” volume to a newly created one which will erase all the recordings from these cameras on your previous volume. Therefore it is recommended to manage your volumes before you add cameras to your system.

To add a camera to a volume, follow the steps below:

1. Select a camera from the drop-down list.
2. Click **Add Camera** button.

When finished adding cameras to the volume, click **Next** to enter the next Volume Configuration Wizard Screen.

1.8.4.1.3 Storage Parameters

This tab gives you the ability to manage the disk space used by the recordings stored on the volume. Depending on whether you are adding or editing the volume, this tab will differ slightly.

When **adding** a volume, following parameters are present:

- **Use full disk space** – this option allows the recordings to use all free space available on the volume.
- **Allocate disk space for the recordings** – this option allows limiting the space used by recordings. In order to limit the space, select the corresponding radio button and enter an integer number (in gigabytes) that will be allocated for recordings.

Storage Parameters (Add) Screen

Click **Finish** button.

When editing a volume, the following parameters are present:

- **Available disk space for recordings** – shows the amount of disk space on the volume that is assigned for recordings.
- **Space used by recordings** – shows the amount of space on the volume that is currently used by recordings.
- **Free space left** – shows the amount of space on the volume that is left for recordings.
- **Estimated disk space usage** – shows the estimated amount of space that will be used for recordings for one day.
- **Estimated time of recording** – shows the estimated amount of days that can be recorded.
- **Oldest movie** – shows how old the oldest movie on the volume is.
- **Clean up** – shows when the backup functionality cleaned up the volume for the last time in order to make space for recordings. The oldest movies are deleted first when the backup functionality starts.
- **Use full disk space** – this option allows the recordings to use all free space available on the volume.
- **Allocate disk space for the recordings** – this option allows limiting the space used by recordings. In order to limit the space, select the corresponding radio button and enter an integer number (in gigabytes) that will be allocated for recordings.

The screenshot shows the 'Storage Parameters' tab of the 'WebCCTV Volume Configuration Wizard - D:\Movies\'. It displays the following information:

- Available disk space for recordings: 100 GB
- Space used by recordings: 96.8 GB
- Free space left: 3.2 GB (3%)
- With your current recordings configuration, you will use an estimated 47.9 GB per day on this volume.
- With the current limitations that you have set, you can record for an estimated 0 day(s).
- The oldest movie on this volume is 2 day(s) old.
- The last recordings cleanup was at: 6/14/2011 8:22:17 AM.
- Use full disk space: ☐
- Allocate disk space for the recordings: ☒ 100 GB

Storage Parameters (Edit) Screen

Click **Finish** button.

1.8.4.2 Advanced Storage Settings

Click the **Advanced Storage Settings** button in the Storage Manager screen to open the Advanced Storage Settings Wizard. This menu allows for the configuration of the movie lifetime parameters for all types of movies.

The following **Advanced Storage Settings Wizards** tabs are described:

- Movie Lifetime
- Alarms
- POS

1.8.4.2.1 Movie Lifetime

This tab allows you to configure the **Maximum lifetime of a movie**. It is a value set in hours, days or months which determines the amount of time the recorded movies will be kept on the hard disk.



Movie Lifetime Screen

In order to set a movies lifetime limitation, follow the steps below:

1. Check **Limit the maximum lifetime of a movie** checkbox.
2. Select the unit of time from the drop-down list (default unit is day(s)).
3. Enter an integer number indicating the period of time the movies will be kept (minimal value is 1).

Click **Next** to enter the next Advanced Storage Settings Wizard Screen.

1.8.4.2.2 Alarms

This tab allows you to configure two parameters:



This tab will not be available unless the Alarm Component is installed.

- **Minimum lifetime of alarm recordings** – integer value set in hours and determines the amount of time the alarm movies will be kept on the hard disk. Check the checkbox if you want to activate this parameter.
- **Minimum number of alarms to keep** – integer value indicating the minimum number of alarms to keep. Check the checkbox if you want to activate this parameter.

Alarms Screen



When there is not enough disk space to comply with the requirements, alarms with higher priority will be deleted last and at least 12 hours of non-alarm recordings will be maintained.

Click **Next** to enter next Advanced Storage Settings Screen.

1.8.4.2.3 POS

This tab allows you to configure two parameters:



This tab will not be available unless you have POS installed together with the Alarm Component.

- **Minimum lifetime of POS transaction recordings** – integer value set in hours and determines the amount of time the POS transaction movies will be kept on the hard disk. Check the checkbox if you want to activate this parameter.
- **Minimum number of POS transaction to keep** – integer value indicating the minimum number of POS transactions to keep. Check the checkbox if you want to activate this parameter.

POS Screen



When there is not enough disk space to comply with the requirements, POS transactions with higher severity will be deleted last and at least 12 hours of non-POS recordings will be maintained.

Click **Finish** button.

1.8.4.3 Detailed Storage Information

This menu gives you the detailed information about the space used by recordings from each camera on each volume.



The parameters shown here are measured in Megabytes.

The following info is available on a per camera basis in the **Detailed Used Storage Information** table:

- **Used space and % of total** – amount of disk space currently used by the recorded video footage from the particular camera in MB as well as the percentage used of the total available space.
- **Oldest movie (hours)** – age of oldest recorded video footage that belongs to this particular camera.
- **Days columns** – total size of recorded video footage from the particular camera for a particular day.
- **Total per volume** – storage space consumed by all cameras assigned to a particular volume for a particular day.
- **Total** – storage space consumed by all cameras for a particular day.

Detailed Used Storage Information

Detailed Used Storage Information (MB)															
Volume	Cameras	Used Space		Oldest Movie (hours)	Tue	Mon	Sun	Sat	Fri	Thu	Wed	Tue	Mon	Sun	10 days and older
		MB	%												
1	Camera 9	652	1	49	496	81	77	0	0	0	0	0	0	0	0
	Camera 3	38778	38	49	9456	19079	10245	0	0	0	0	0	0	0	0
	Camera 5	7654	7	49	1868	3784	2003	0	0	0	0	0	0	0	0
	Camera 7	30922	30	49	7603	15224	8097	0	0	0	0	0	0	0	0
	Camera 8	1087	1	49	251	509	328	0	0	0	0	0	0	0	0
	Camera 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Camera 1	8628	8	49	2342	4847	1440	0	0	0	0	0	0	0	0
	Camera 4	11802	12	49	2649	5707	3446	0	0	0	0	0	0	0	0
Camera 6	9	0	43	6	1	3	0	0	0	0	0	0	0	0	
Total per volume					24671	49232	25639	0	0	0	0	0	0	0	
Total					24671	49232	25639	0	0	0	0	0	0	0	
To see the Detailed Used Storage Information per day, click on the required day															
Return															

Detailed Used Storage Information Screen



12.5% of the total space amount is reserved by the Operating System for the Master File Table (MFT). If free space becomes less than 12.5%, MFT begins to fragment. This process makes the Operating System slow. Therefore the maximum disk space that might be occupied by recordings is 87.5% of total disk space.

To return to the Storage Manager Screen, click **Return**.

The headers of each column in the table represent a day and are clickable. When clicking on the link, the **Detailed Used Storage Information per Day** table is shown.



There are 10 days for which more precise hour-by-hour information is available by clicking on the applicable days link. All the rest of the days are shown as a combined value in the “Older” column. The present’s day data is displayed in the left column.



You can request the playback of a certain hour from a certain camera by clicking in the corresponding cell.

Detailed Used Storage Information

Detailed Used Storage Information per hour per camera for 6/14/2011 (MB)																									
Volume	Cameras	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	Camera 9	0	0	0	0	0	0	21	141	101	181	81	55	35	0	0	0	0	0	0	0	0	0	0	0
	Camera 3	823	823	802	802	802	802	782	802	822	822	822	822	377	0	0	0	0	0	0	0	0	0	0	0
	Camera 5	181	181	181	181	161	181	181	181	181	181	181	181	65	0	0	0	0	0	0	0	0	0	0	0
	Camera 7	642	662	662	662	642	662	662	662	642	662	662	642	309	0	0	0	0	0	0	0	0	0	0	0
	Camera 8	38	41	41	41	33	49	37	31	51	40	41	32	12	0	0	0	0	0	0	0	0	0	0	0
	Camera 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Camera 1	0	0	0	0	81	221	201	161	341	381	481	502	137	0	0	0	0	0	0	0	0	0	0	0
	Camera 4	141	141	121	81	161	201	281	321	341	341	341	361	165	0	0	0	0	0	0	0	0	0	0	0
	Camera 6	0	0	0	0	0	1	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Return

Detailed Used Storage Information (per Day) Screen



Requesting the **Detailed Used Storage Information** may take a few minutes. The QGuard server examines the disk on the first Detailed Information request only. Since it is cached internally, all requests within the next 10 minutes will produce the same result. A request made after 10 minutes, will restart the information collection process and delivers updated information.

To go back to the Detailed Used Storage Information Screen, click **Return**.

1.8.5 Single View

This menu allows you to configure the settings for the **single camera live viewing mode**. The **Single View** menu contains the following parameters:

- Frame rate
- Sequence

Single View Settings Screen

1.8.5.1 Frame rate

The frame rate set by this parameter is the frame rate for the live view visualisation. The possible **Frame Rate** ranges from 0.5 to 30 fps (frames per second). The real frame rate depends on the available network bandwidth and the camera model. In order to set a desired frame rate follow the steps below:

1. Select the frame rate value from the drop-down list.
2. Click **Apply** button.



It is recommended to test the various settings in order to choose the optimal Frame Rate and the desired quality of the image.



By default the live view frame rate is 12 fps.

1.8.5.2 Sequence

The **Camera Switching Sequence** allows you to create a sequence of cameras in which cameras will switch in a defined order after a certain time interval set for every camera independently.

You are able to create different sequences with different settings. To add a sequence, click **Add Sequence** button. The following screen will be opened:

Single View Sequence Settings Screen



Camera Switching Sequence setting allows the adding or removing of cameras at any time. This allows you to dynamically monitor the most significant areas.



The sequence time option defines the duration of the interval between each camera view.

To **edit** or **configure** a sequence, click the **Edit** link and follow the steps below:

Single View Sequence Settings

General Settings			
Name:	Sequence 2		
Frame rate:	15 fps		
Camera switching	Sequence time	Sort	
Camera 4	10 s.	▲ ▼	Delete
Camera 5	5 s.	▲ ▼	Delete
Camera 6	15 s.	▲ ▼	Delete
Camera 7	Add Camera		
Apply		Cancel	

Single View Sequence Settings Screen

1. Specify a **Name** for the sequence.
2. Select **Frame rate**.
3. Add cameras to the sequence:
 - a. Select camera from the drop-down list.
 - b. Click **Add Camera** button.
 - c. Specify **Sequence time** for every camera.



Sequence time for a camera is the time span during which QGuard shows this camera.

- d. Use **Sort** buttons to change the position of a camera in the sequence.

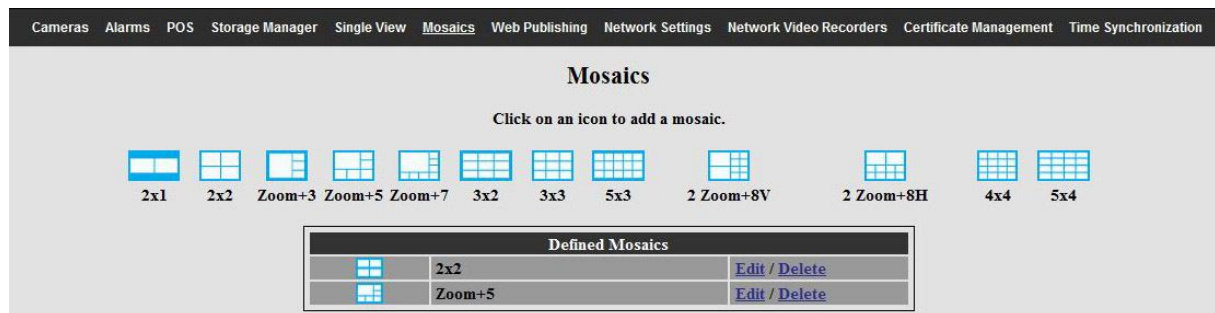


To delete a camera, click the **Delete** link.

- e. Click **Apply** button. You will return to the Single View Settings Screen.

1.8.6 Mosaics

This menu allows you to configure the settings for the **mosaics viewing mode** which provides enhanced surveillance capabilities as you can monitor video from several cameras on one screen simultaneously. This chapter explains how to add and configure the mosaic views in QGuard.



Mosaic Menu Screen

To **add** a mosaic, choose one of the 9 available mosaic views by clicking on the icon of the desired mosaic view. The mosaics view will be added to the list of **Defined Mosaics**.

There are **9** available **mosaic views**:



	2x2	A square with two images on top and two below.
	Zoom+3	One of the images appears large, and three others are small.
	Zoom+5	One of the images appears large, and five others are small.
	Zoom+7	One of the images appears large, and seven others are small.
	3x3	A square with three times three images.
	3x2	A square with two times three images.
	2 Zoom + 8V	Two of the images appear large, and 8 others are small at the left.
	2 Zoom + 8H	Two of the image appears large, and 8 others are small at the bottom.
	4x4	A square with four times four images.

To **Edit** or **configure** a mosaic view, click the **Edit** link and follow the steps below:

Mosaic View Settings Screen

1. Specify a **Name** for the mosaic.
2. Select **Frame rate**.
3. Configure **Sequence**:
 - a. Select cameras from the drop-down lists.
 - b. Specify a **Name** for the sequence (step).
 - c. Specify **Sequence time**.



Sequence time is the time (in seconds) that is used to switch between all sequences (steps). This is only relevant when two or more sequences (steps) are configured.

4. Add additional Sequences (optional).



Frame rate is the number of frames shown per second. This setting only applies to the focus view, the small views by default have 1 fps as frame rate.

5. Click **Apply** button.



By default each mosaic view is created with the number of steps needed to involve all available cameras.



You can delete a Step any time by clicking the **Close** button in upper right corner of the Sequence (step) section.

To go back to the Mosaics Screen, click **Cancel** button.

1.8.7 Web Publishing

Nowadays customers more and more want to see online real time images from their video surveillance systems. Web Publishing is one kind of communication that makes this possible by uploading images to an ftp server. These images can be used for multiple purposes such as visualizing the images on a website at regular intervals.

Camera	Publish	Image file name	Schedule
Camera 1	<input checked="" type="checkbox"/>	Image_-\$n-\$d_-\$hh\$mm\$ss.jpg	Edit
Camera 2	<input type="checkbox"/>	Image_-\$n-\$d_-\$hh\$mm\$ss.jpg	Edit
Camera 3	<input type="checkbox"/>	Image_-\$n-\$d_-\$hh\$mm\$ss.jpg	Edit
Camera 4	<input type="checkbox"/>	Image_-\$n-\$d_-\$hh\$mm\$ss.jpg	Edit
Camera 5	<input checked="" type="checkbox"/>	Image_-\$n-\$d_-\$hh\$mm\$ss.jpg	Edit
Camera 6	<input type="checkbox"/>	Image_-\$n-\$d_-\$hh\$mm\$ss.jpg	Edit
Camera 7	<input type="checkbox"/>	Image_-\$n-\$d_-\$hh\$mm\$ss.jpg	Edit
Camera 8	<input type="checkbox"/>	Image_-\$n-\$d_-\$hh\$mm\$ss.jpg	Edit
Camera 9	<input checked="" type="checkbox"/>	Image_-\$n-\$d_-\$hh\$mm\$ss.jpg	Edit

Web Publishing Screen

Following options are available:

- **Enable Web Publishing:** If not selected, Web Publishing is not active and will not upload images for any camera.
- **Resolution:** Resolution of the images that will be uploaded.
- **Interval (sec):** An image will be uploaded every X seconds where X is the Interval (sec) value.
- **FTP server:** Enter the address of the FTP server. Examples: localhost, ftp.QGuard.com...
- **User ID:** Enter the login name for the FTP server.
- **Password:** Enter the password for the FTP server.
- **Initial folder:** This is the directory where the images will be stored on your FTP server.
- **Camera:** Name of the camera which images you want to publish.
- **Publish:** When selected, this camera will upload images, otherwise nothing happens.
- **Image file name:** Each image will be build up based on the format you enter here.
- **Schedule:** Link which will open the Schedule screen where you can make a schedule for this particular camera.

Web Publishing Schedule - Camera 1

Schedule																							
<input checked="" type="radio"/> Monday			<input type="radio"/> Tuesday			<input type="radio"/> Wednesday			<input type="radio"/> Thursday			<input type="radio"/> Friday			<input type="radio"/> Saturday			<input type="radio"/> Sunday					
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23

Apply the current settings to: ☒ Selected Day ☐ Workdays ☐ Weekend ☐ Whole Week

Web Publishing Camera Schedule Screen

When you have configured the schedule, click **Apply**.

Click **Apply** in the Web Publishing screen to save your settings. Web Publishing is configured now.

1.8.8 Network Settings

This chapter explains how to change the QGuard server's network settings. The following parameters can be configured:

- **TCP Server Port** – port which is used to allow external users to receive alarms, control PTZ cameras, send commands, etc. This is called the QGuard control signal.
- **UDP Streaming Ports** – ports used to transmit video streams. QGuard chooses the necessary amount of ports from the range 4096 - 4224 to transmit video streams.

Network Settings	
TCP Server Port:	1518
UDP Streaming Ports:	4096 – 4607
Activation Code Renewal Settings	
Renew Activation Code Automatically:	<input checked="" type="checkbox"/>
Flexible Amount of Cameras:	<input checked="" type="checkbox"/>
Renewal Notification Timeout in days:	3
Company Code:	*****
Renewal Server URL:	http://server/license/api/activate
FTP Parameters	
FTP Server Address:	
FTP Directory:	
FTP Login Name:	
FTP Password:	
Firewall Mode:	<input type="checkbox"/>
SMS Account Parameters	
Clickatell API ID:	
Clickatell User Name:	
Clickatell Password:	
Defined E-Mail Profiles	
Add New Profile	
<input type="button" value="Apply"/> <input type="button" value="Cancel"/>	

Network Settings Screen



Don't change any parameter if unless you are absolutely sure.



The FTP Parameters, SMS account Parameters and Defined E-Mail Profiles sections are only visible when the QGuard Alarm Component is installed.

Click **Apply** button to save the settings.

1.8.9 Network Video Recorders

This menu allows you to define multiple QGuard units to enable simplified switching between units by using one centralized installed IIS server (Web Application User Interface).

See chapter 2.1 **QGuard IIS Split** for more information about this option.

In order to add and configure your network video recorders, click the **Edit** or **Add NVR** link/button in the Network Video Recorders screen. The **Network Video Record Wizard** consists of one tab with easy to follow instructions.



Network Video Recorders Screen

1.8.9.1 Network Video Recorder Wizard

The Network Video Recorder Wizard only has the Name tab on which you can configure the following parameters:

- **Name** – Friendly name for the unit.
- **LAN IP Address or DNS Name** – IP address or DNS name of the unit.
- **LAN TCP Port** – Control port of the unit.



By default the control port is **1518**.

- **WAN IP Address or DNS Name** – If you want to access your unit over the Internet, you need to specify the external/public IP address or DNS name of the unit.
- **WAN TCP Port** – Control port of the unit on the WAN side of the network.



By default the control port is **1518**.

- **Make default NVR** – This unit will be the default unit which is connected to when accessing the centralized Web Application User Interface.



Recommended for installations where only one network video recorder and IIS are installed.

The image shows a 'Network Video Recorder Configuration Wizard' dialog box. It has a tab labeled 'Name'. The title bar says 'Network Video Recorder Configuration Wizard'. Below the title bar, it says 'Please specify the NVR server settings...'. A note states: 'In case you will access the system from the internet, both the LAN and WAN addresses need to be filled in, even when the NVR and the user interface server (IIS) are in the same network.' There are input fields for 'Name:', 'LAN IP-address or DNS Name:', 'LAN TCP Port:' (with '1518' entered), 'WAN IP-address or DNS Name:', and 'WAN TCP Port:' (with '1518' entered). A checkbox is labeled: 'Make this server default for all users, connected through this IIS server. It is recommended for the installation with one Network Video Recorder and one IIS server.' At the bottom are 'Finish' and 'Cancel' buttons.

Network Video Recorder Wizard Screen

Click **Finish** to save the settings and exit the wizard.

Click **Cancel** to go back to the Network Video Recorders Screen.

In order to delete a unit from the list, click **Delete**.

1.8.10 Certificate Management

The **Certificate Management** section allows you to handle your certificates for exported movie signing.

Cameras Storage Manager Single View Mosaics Web Publishing Network Settings Network Video Recorders Certificate Management Time Synchronization		
Certificate Management		
Current Certificate Information		
Subject:	QTEST4 94CF49F9-DAB1E659-958370C2-F8624D61	
Issuer:	QTEST4 94CF49F9-DAB1E659-958370C2-F8624D61	
E-mail:	webcctv@quadrox.com	
Issued to:	QTEST4 94CF49F9-DAB1E659-958370C2-F8624D61, webcctv@quadrox.com, Belgium	
Issued by:	QTEST4 94CF49F9-DAB1E659-958370C2-F8624D61, webcctv@quadrox.com, Belgium	
Days before expiration:	36523	
Created:	Tue Jun 14 10:03:57 UTC+0300 2011	
Certificate Management		
Export an encoded certificate (*.cer)		Export
Generate a new self-signed certificate, using the specified parameters	E-mail:	webcctv@quadrox.com
	Location:	Belgium
		Generate
Import a new certificate (*.cer, *.pfx)	File on server:	Browse
		Import

Certificate Management Screen

The **Current Certificate Information** section consists of general information about the certificate which is currently used by QGuard for export movie signing, such as:

- Name of your certificate
- Certificate name of an issuer which signed your certificate
- Email you specified for certificates generating
- Complete information that identifies your certificate (including name, email and location)
- Complete information that identifies certificate of an issuer which signed your certificate (including name, email and location)
- Days left to your certificate expiration
- Date of your certificate generation



Subject/Issuer and **Issued to/Issued by** fields are the same if using a self-signed certificate.

1.8.10.1 Self-signed certificates

During the QGuard installation a self-signed certificate is created which has non-personalized information. It is recommended that you create a new certificate which will include your information as a signer. To do that, follow the steps below:

1. Specify your e-mail in the **E-mail** field.
2. Specify your location in the **Location** screen.
3. Click **Generate** button.

Your new self-signed certificate has been generated. From now on it is used for signing the export movie files.

To export this certificate for transmitting it to a remote location or other purposes, click the **Export** button and define the location to store.

Self-signed certificate have the following advantages and disadvantages:



Advantages:

- Certificate can be renewed at one's choosing
- Custom information (i.e. location of the recorder and contact email, etc.) can be added which is useful in court
- Certificate doesn't expire
- Certificate is free of charge

Disadvantages:

- Certificate is not verified by 3rd party, so it has limited trust.
- Certificate should be explicitly added to the trusted certificates list on each machine for the verification.

1.8.10.2 CA signed certificates

In spite of the self-signed certificates advantages, this approach is not the most secure. To improve your security, Quadrox recommends getting a certificate from a trusted certification authority (CA). There are Certification Authorities (CA) which are explicitly trusted worldwide so Microsoft pre-installed theirs certificates in the Windows Operating System. Hence those certificate authorities are trusted by all 3rd parties which use a Windows Operating System. If you get a certificate signed by the CA, you automatically become a trusted signer in the Windows environment.

To import the CA certificate in the QGuard system, follow the steps below:

1. Save the certificate on your QGuard server.
2. Specify the exact path to the certificate in the **File on server** field.
3. Click **Import** button.

Exported movie files will now be signed by the imported CA certificate. The main advantage is that you don't need to install it on each machine since this certificate is pre-installed there.

A certificate loses its "trust value" over time, because the longer it is in place, the higher chance it has of being compromised. It is recommended that certificates are renewed regularly and that the old certificate is allowed to expire.

CA certificates have the following advantages and disadvantages:



Advantages:

- Certificate is checked by trusted 3rd party for maximal security
- Certificate doesn't need to be explicitly added to trusted certificates list
- Certificate expires

Disadvantages:

- Certificate must be purchased

1.9 Info

The **Info** section gives you detailed information about QGuard Server. The following topics are described in this chapter:

- System info
- Network Diagnostics
- Load information
- Server Messages Log
- System Downloads

1.9.1 System Info

The System Info screen consists of two sections:

- System Configuration
- System Information

System Info			
System Configuration			
System settings	Export	Import	Overview
System Report	Generate		
System Information			
Logged User	Serega-test/Serega		
Activation Code	535EFD C9-B0C5957E-CE792367-BE8BCF80		
Allowed Cameras	5 cameras until Saturday, September 19, 2015		Upgrade
Allowed VCA Cameras	None		Upgrade
OS Version	Windows 10 Pro		
Setup Version	5.9.4.8		Update
Setup Path	C:\Program Files\Quadrox\QGuard		
Setup Date	Wednesday, September 09, 2015 5:04:26 PM		
Update Date	Friday, September 11, 2015 2:40:25 PM		
System Manufacturer	Gigabyte Technology Co., Ltd.		
Model Number	G31M-S2L		
WebCCTV © Quadrox 1997–2015			

System Info Screen

1.9.1.1 System Configuration

All system configurations can be backed up to an external xml file for backup purposes.



You need Microsoft .NET Framework 2.0 installed in order to Save/Restore your configuration. If the Microsoft .NET Framework 2.0 is not installed on your computer, the Save/Restore feature will be unavailable. You can install the standalone Save/Restore functionality from a stand-alone installation setup (refer to **3.4.5 System Downloads**).

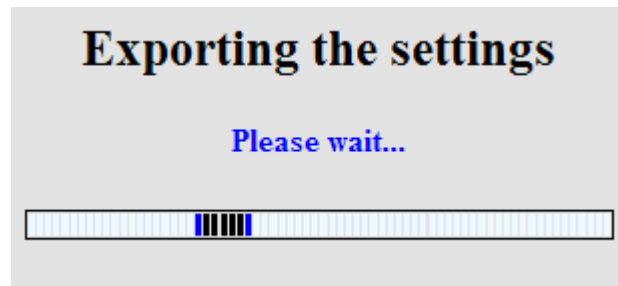


You can save and restore a configuration only if your old software version is 4.0.0.0 or higher. Previous versions can't be restored.

1.9.1.1.1 Saving Configuration

To save the configuration, follow the steps below:

1. Click the **Export** button. The Save/Restore functionality will collect all configuration information.



Saving Settings Screen

2. You will be asked to save an .xml configuration file. Select a directory of your choice and click **Save** button.



You need Microsoft .NET Framework 2.0 to be installed in order to Save your configuration.

1.9.1.1.2 Restoring Configuration

To restore a configuration, follow the steps below:

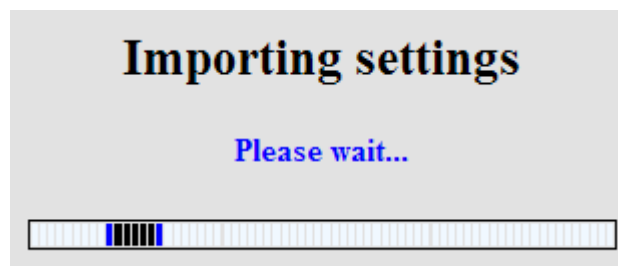


You need Microsoft .NET Framework 2.0 to be installed in order to Restore your configuration.

1. Click **Import** button.
2. Choose a saved .xml file with configurations.
3. Click **Open**.



While restoring a configuration the QGuard Server may restart several times. This is a normal behavior. Please be patient until the restoring process is finished.



Importing Settings Screen

When the restore process is finished, an overview will be given outlining the results of your restore action. In case a particular section was not (or partially) restored, it will be marked in yellow or red. Move the mouse cursor over the results in order to see the detailed information of that section.

System Info	
The import procedure has completed. Please position the mouse pointer over the results to see a detailed description:	
Cameras	-success
Mosaic	-success
Network Settings	-success
Single View	-success
Storage settings	-success
Time synchronization	-success
settings	-success
Users	-success

Restore Results Screen

1.9.1.2 System Information

The System Information section describes the following parameters:

- **Logged User** – user that is logged in.
- **Activation Code** – activation code based on the machine and number of allowed cameras.



When reinstalling or upgrading the QGuard software on the same machine, you can reuse the Activation Code as long as crucial components as CPU, Motherboard or Network Interface Card aren't replaced. The Hard disk is not a crucial component.



It's possible that the Activation Code is invalid if you have two different Network Interface Cards installed on your machine. The Activation Code is based on one NIC (Network Interface Card).



You can Upgrade your license in order to be able to monitor more cameras. Click the **Upgrade** button in the **Activation code** row. You will be redirected to the Activation page where you should specify the new key. To obtain this key, contact Quadrox or your installer.

- **Allowed Cameras** – specifies the number of cameras that may be connected to the system.



You can connect as many cameras as you like to the system, but only the number of allowed cameras will be active. The system automatically selects which cameras are active. At first, analogue slots will be replaced by network cameras if analogue cameras are present. If all cameras are network cameras, there will be a selection based on an internal mechanism.

- **OS Version** – version of operating system installed.

- **XPe Build Version** – build version of XPe operating system.
- **Setup Version** – QGuard software version installed.
- **Setup Path** – directory where the QGuard software is installed.
- **Setup Date** – date of installation.

1.9.2 Network Diagnostics

This section allows you to check the state of the ports (opened/closed) necessary for proper operation of the software. It consists of two diagnostic functionalities:

- Port Scanning
- Camera Scanning

The screenshot displays the 'Network Diagnostics' interface. At the top, there are navigation tabs: 'System Info', 'Network Diagnostics' (selected), 'Load', 'Server Messages Log', and 'System Downloads'. Below the tabs, the title 'Network Diagnostics' is centered. The interface is divided into two main sections: 'Port Scanning' and 'Camera Scanning'.

Port Scanning Section:

Ports	Results
HTTP port 80 (TCP):	Open
Control port 1518 (TCP):	Open
Video ports 4096-4223 (UDP):	All ports are open

Below the table are two buttons: 'Refresh' and 'Stop'.

Camera Scanning Section:

Cameras	Results
Camera 1	Online
Camera 2	Offline. (No connection could be made. The ping command timed out.)
Camera 3	Online
Camera 4	Online
Camera 5	Online
Camera 6	Online
Camera 7	Online
Camera 8	Online
Camera 9	Online

Below the table is a 'Refresh' button.

Network Diagnostics Screen

1.9.2.1 Port Scanning

The **Port Scanning** feature allows you to check the state of the **TCP** and **UDP** ports needed for a normal server operation. When entering the Network Diagnostics page, all ports are checked automatically.

Port Scanning	
Ports	Results
HTTP port 80 (TCP):	Open
Control port 1518 (TCP):	Open
Video ports 4096-4223 (UDP):	All ports are open
<input type="button" value="Refresh"/> <input type="button" value="Stop"/>	

Port Scanning Screen

These ports also have to be configured in your firewall(s) and router port forwarding if you want to connect to your server over the Internet.

Click **Refresh** button if you want to refresh the status of the ports.

1.9.2.2 Camera Scanning

The **Camera Scanning** feature allows you to check the connection status of the cameras connected to the system. When entering the Network Diagnostics page, all cameras are checked automatically.

Camera Scanning	
Cameras	Results
Camera 1	Online
Camera 2	Offline. (No connection could be made. The ping command timed out.)
Camera 3	Online
Camera 4	Online
Camera 5	Online
Camera 6	Online
Camera 7	Online
Camera 8	Online
Camera 9	Online
<input type="button" value="Refresh"/>	

Camera Scanning Screen

The camera can have two states:

- Online
- Offline



Only network cameras will be shown in the Camera Scanning list.

Click **Refresh** button if you want to refresh the status of the cameras.

1.9.3 Load

This section allows you to check the load on the QGuard. When entering this section, a table will be automatically generated that consists of parameters which may overload or influence the stability of your QGuard at that moment. If some parameter is overloaded or critical, an appropriate message will be shown with suggested corrective actions.

System Info Network Diagnostics Load Server Messages Log System Downloads

System Load

System load indicators updated.

System Load Indicators		
CPU	CPU Load	10 %
Memory	Physical Memory (RAM) used	40 %
	Server process load relative to 2GB process limit	23 %
Network	Network Load (1000 Mb/s)	1 %
Disk	Queue length	0.037
	Transfers per second	14
		Refresh

Load Screen

The following parameters are shown:

- **CPU** – This parameter shows how much the CPU is loaded.
- **Memory** – This parameter checks:
 - Physical memory usage (RAM) relative to the available memory
 - Server process load relative to the 2GB limit
- **Network** – This parameter checks the network load
- **Disk** – This parameter checks:
 - The queue length for each logical disk
 - Amount of transfers per second to each logical disk

1.9.4 Server Messages Log

QGuard stores all server actions in its Server Messages Log. Examples of server messages are capturing, recording, backup, etc. This log is kept inside the Windows operating system itself. Technically, it is kept inside a specific QGuard event log container in the Windows event logging subsystem.



The amount of logged server actions (number of days contained in the log) depends on the defined size of the event viewer. In normal circumstances, the log is large enough to keep QGuard server logs for approximately 60 days.

1.9.4.1 Log Search

The search option allows you to retrieve all or specific actions that have been performed on the server.

Server Messages Log Screen

All possible actions are described in the following table and can be found in the picture above.

Category	Description
Unknown	Actions and errors from an unknown source.
Server	Starting and stopping of the server.
Networking	Actions concerning the network connections.
Capturing	Actions concerning image acquisition.
Recording	Actions and errors concerning recordings.
Backup	Cleaning up of old video footage files.
Scripting	Script messages.
PTZ	Movements and settings from PTZ.
Input/Output	Changes in the in- and outputs settings.

To do a search, follow the steps below:

1. Specify the user for which you want to search (Optional).
2. Define the time frame in which you want to search.
3. Check the required categories checkboxes.
4. Click the **Search** button.

The figure below provides a sample overview of a Server Messages Log.

Server Messages Log				
Type	Time	Category	User	Description
	14.06.2011 13:29:13	Server	Quadrox	User requested restart of the service.
	14.06.2011 13:29:05	Server	SYSTEM	Server successfully stopped.
	14.06.2011 13:28:56	Server	Quadrox	User requested restart of the service.
	14.06.2011 13:28:48	Server	SYSTEM	Server successfully started.
	14.06.2011 13:28:36	Server	SYSTEM	Server successfully stopped.
	14.06.2011 13:28:34	Server	Quadrox	User requested restart of the service.
	14.06.2011 13:28:26	Server	SYSTEM	Server successfully started.
	14.06.2011 13:28:24	Server	SYSTEM	Server successfully stopped.
	14.06.2011 13:28:22	Server	Quadrox	User requested restart of the service.
	14.06.2011 13:28:16	Server	SYSTEM	Server successfully started.
	14.06.2011 13:28:14	Server	SYSTEM	Server successfully stopped.
	14.06.2011 13:28:12	Server	Quadrox	User requested restart of the service.
	14.06.2011 13:28:06	Server	SYSTEM	Server successfully started.
	14.06.2011 13:28:04	Server	SYSTEM	Server successfully stopped.
	14.06.2011 13:28:01	Server	Quadrox	User requested restart of the service.
	14.06.2011 13:27:31	Server	SYSTEM	Server successfully started.
	14.06.2011 13:27:20	Server	SYSTEM	Server successfully stopped.
	14.06.2011 13:27:08	Server	Quadrox	User requested restart of the service.
	14.06.2011 13:09:19	Recording	SYSTEM	Recording stream {CDFC0985-2297-439A-B576-2D78711F65BB} has been restarted!
	14.06.2011 13:09:12	Recording	SYSTEM	Source {CDFC0985-2297-439A-B576-2D78711F65BB} recording has failed the periodical check.
74 match(es) found				Page 1 2 3 4

Server Messages Log Result Screen



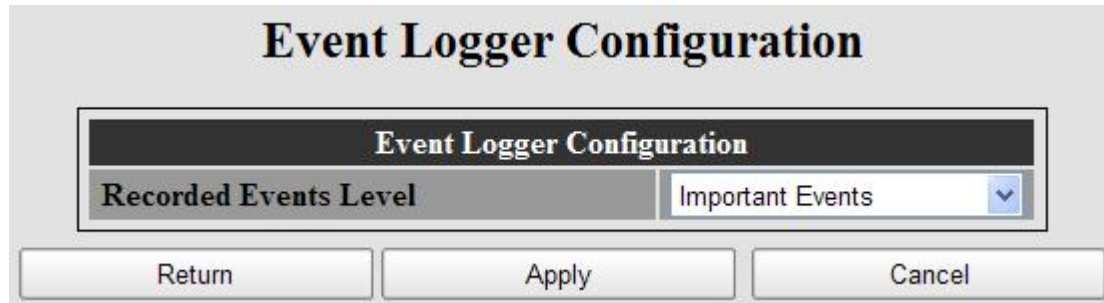
The Server Messages Log allows you to check all server related actions by users at all times.



In order to conduct a new log search, click on the **New search** button. The reset filter button will clear all the checked boxes so that you can make a new selection.

1.9.4.2 Event Logger Configuration

The Event Logger Configuration defines the priority levels for the recorded events. Depending on the selected option, QGuard will or will not store certain events.



Event Logger Configuration Screen

There are three Recorded Events levels:

- **Only Critical Events** – QGuard stores the most important system events that occur when proper QGuard performance is impossible, e.g. recording break, failure to detect a system component, etc.
- **Important Events** – QGuard stores system events labelled as “Only Critical Events” and system events that play a significant role in the QGuard operating, e.g. playback stream creating, system logging on, etc.
- **All Events** – QGuard stores all system events.

To apply new settings, click **Apply**.

To cancel your changes, click **Cancel**.

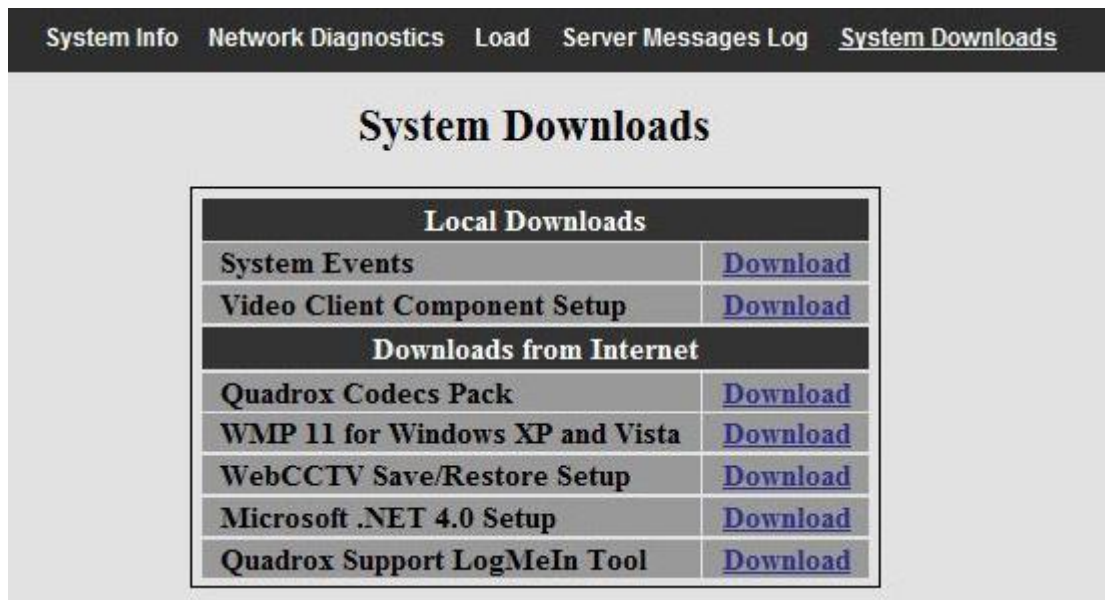
To go back to the Server Messages Log screen, click **Return**.



Event Logger Settings functionality is unique for both User Actions Log and Server Actions Log.

1.9.5 System Downloads

The **System Downloads** section allows you to download software or installation files that may be needed on your system depending on the functionalities you are using or want to use.



System Downloads Screen

The following items are downloaded from the QGuard Server (**Local Downloads**):

- **System Events** – all event logs. This can be requested for support purposes.

The following items are downloaded from the **Internet**:



You must be connected to the Internet.

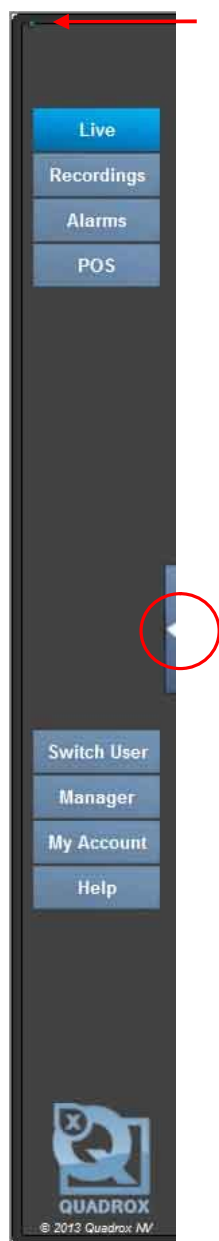
- **Video Client Component Setup** – installation setup which deletes “old” ActiveX’s and installs the one for your current QGuard installation.
- **Quadrox Codecs Pack** – enables you to view Live Streams and playback Recordings in MPEG 4 format created by the QGuard software.
- **WMP 9 for Windows 2000** – standard Windows 2000 player which may be needed in order to play exported movies.
- **WMP 11 for Windows 7 and VISTA** – latest version of Windows Media Player which is 7 and Vista compatible. May be needed in order to play exported movies.
- **QGuard Save/Restore Setup** – standalone installation setup for the QGuard Save/Restore functionality.
- **Microsoft .NET 2.0 Framework** – pack of libraries needed for some QGuard components (Alarms, Save/Restore etc.)

Video Browser

This chapter provides an overview of the QGuard Video Browser Control Panel and the following QGuard functions:

- Live
- Recordings
- Alarms
- POS

1.10 Video Browser Control Panel



Network status indicator

The green dot, in the top left corner, indicates a good network status. When the indicator is red, the QGuard is experiencing network problems which can result in slow response from the Web Application or no response at all.

Live

Click this button to access the Live View menu where you can see streaming from all your cameras and control PTZ cameras.

Recordings

Click this button to access the Recordings menu where you can export recorded movies or search recordings including alarm and POS transactions.

Alarms

Click this button to access the Alarms menu where all alarms are centralised together with their associated recordings including an export feature.

Hide Control Panel

Click this button to hide or retrieve the control panel

POS

Click this button to access the POS menu where all POS transactions are centralised together with their associated recordings including an export feature.

My Account

Click this button to change your password.

Manager

Click this button to open the Video Manager application.

Help

Click this button to access QGuard Online help.

Log Off

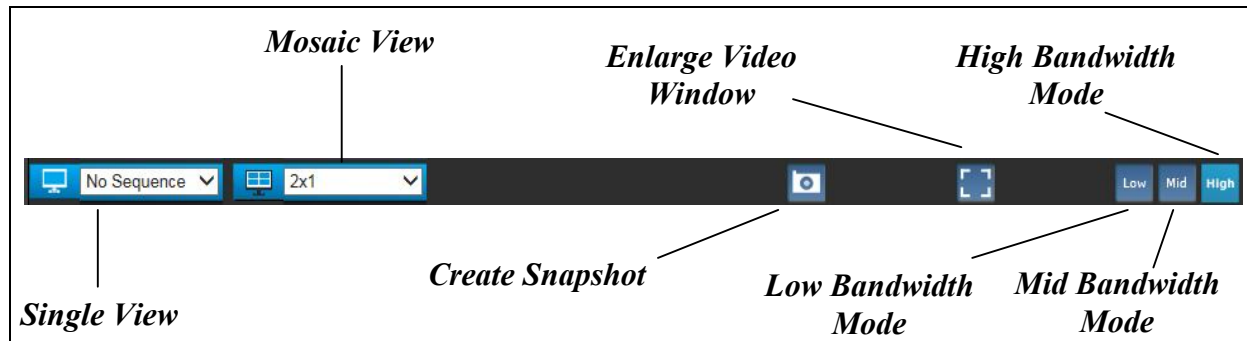
Click this button to change user.

Exit

Click this button to exit the QGuard application.

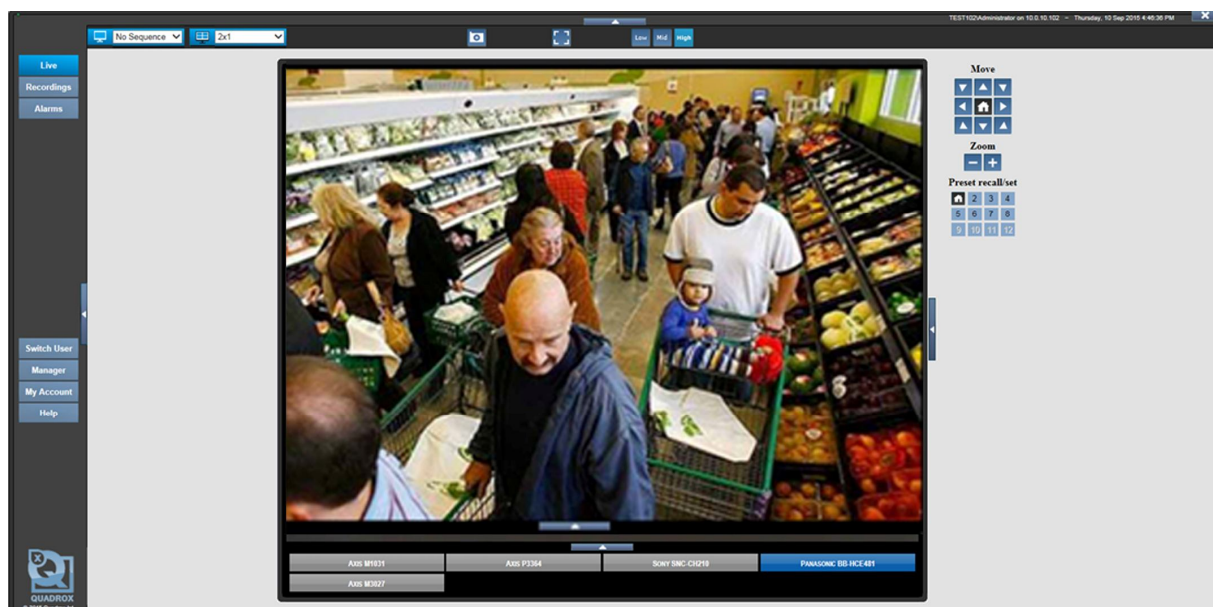
1.11 Live

The QGuard Video Browser application allows you to monitor cameras through a comprehensive and user-friendly interface.

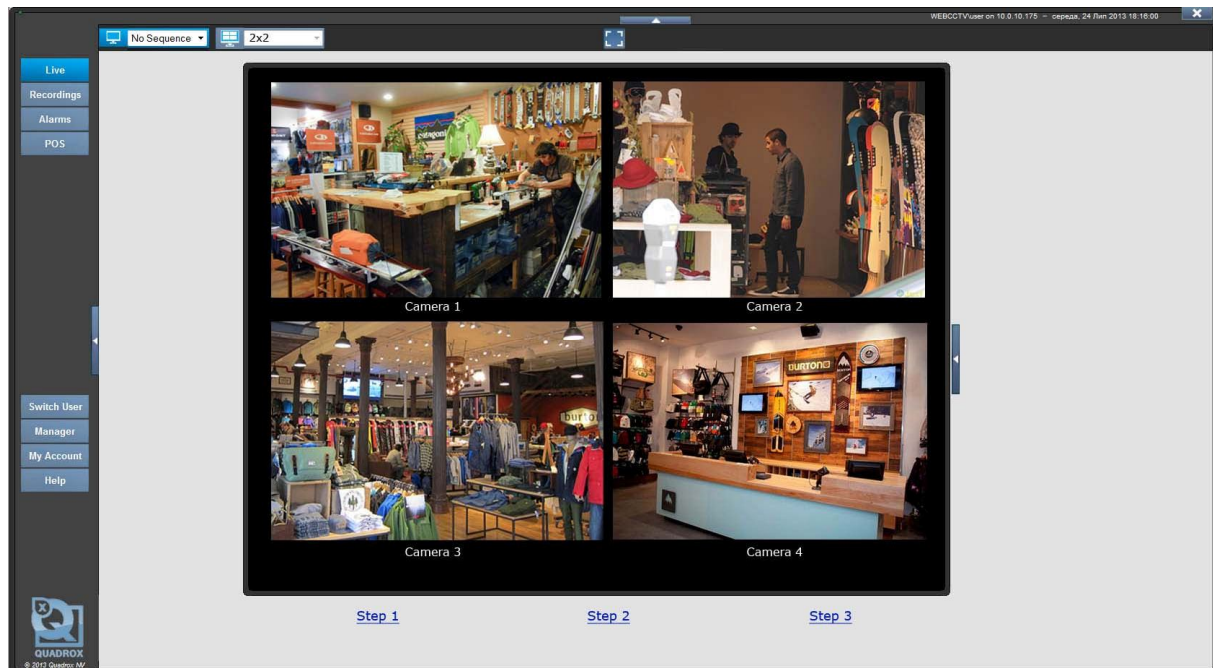


The following features are present in the **Live** menu:

- Single View
- Mosaic View
- Reduce/Enlarge Video Window
- Low/High Bandwidth Mode
- Create Snapshot
- PTZ (optional)
- Digital Zoom
- Audio



Live (Single View) Screen



Live (Mosaic View) Screen

1.11.1 Single View

When entering the **Live** menu, single view mode is automatically displayed. In single view one camera is displayed at a time. You can switch between cameras by clicking the corresponding camera buttons below the viewing window. The following features are available in the **Live View** screen:

- Selecting a sequence
- Selecting a mosaic
- Enlarging/Reducing video window
- Selecting high/low bandwidth streaming
- Creating a snapshot
- PTZ functions (optional)
- Digital Zoom
- Audio



Right-click on the video Window to get video streaming parameters such as actual frame rate and dimensions (resolution) of the image.



Use  and



buttons to hide the corresponding Single View panels.




The camera you see when accessing Live View is the camera you selected to view the last time you used Live View.



Single View Screen

1.11.1.1 Sequences

To select a Single View Sequence, select the sequence from the drop-down list and click the **Single View** button. If the preferred sequence is already selected in the drop-down list, you can click on  at the left of the drop-down list.



Creating sequences can be done in the Video Manager application.




Click on any camera button to stop automatic switching and revert to viewing cameras manually.



When manual switching is completed, automatic switching retakes after 30 seconds.

1.11.1.2 Mosaics

To select a Mosaic, select the mosaic from the drop-down list and click the **Mosaic View** button. If the preferred mosaic is already selected in the drop-down list, you can click on  at the left side of the drop-down list.



Creating mosaics can be done in the Video Manager application.




Note that after selecting a mosaic view, the user will automatically be switched to the Mosaic View mode. See **4.2.2 Mosaic View** for more information.


1.11.1.3 Low/Mid/High Bandwidth Mode

Low/High bandwidth mode allows you to decide if you want to have streaming video that consumes a reduced bandwidth. You can choose from:


- **High Bandwidth Mode** (Default) – High Bandwidth mode is used preferably on local computers (when the QGuard client is located on the same machine as the QGuard server), in local area networks or with high-speed Internet connections. When High Bandwidth mode is enabled, the frame rate and the resolution of the images is taken from the primary stream which usually has maximum value of these indicators.

Use the **High** () button to enable high bandwidth mode.

- **Mid Bandwidth Mode** – Mid bandwidth mode is mostly used in medium- or slow-speed LAN or Internet connections and in Mosaic view mode. When Mid Bandwidth mode is enabled, the frame rate and the resolution of the images is taken from the secondary stream which has lower value of these indicators than in High bandwidth mode. It reduces load on the network and server itself.


Use the **Mid** () button to enable middle bandwidth mode.

- **Low Bandwidth Mode** – Low bandwidth mode is mostly used in very slow-speed LAN or Internet connections. When Low Bandwidth mode is enabled, the frame rate and the resolution of the images are extremely reduced. This leads to a reduced bandwidth usage for streaming. For the basis is taken the secondary stream which processed to the lower quality.

Use the **Low** () button to enable low bandwidth mode.

1.11.1.4 Snapshots

This QGuard feature gives you the ability to make snapshots. To create a snapshot, follow the steps below:

1. Choose the frame you want to save and click the button with the camera symbol ()
2. Choose the desired location for storing images and click the **Save** button.



Snapshots are saved in .JPEG format.

1.11.1.5 PTZ

QGuard supports all standard PTZ functions. These functions are listed below:

Functions	Parameters
Move	left, right, up, down
Rotate	constant left, constant right
Zoom	in, out
Preset recall/Set	select, set
PTZ speed	higher, lower

- **Move** – Using these buttons you can move the camera in any direction you want. To move the camera, click on the button with the arrow pointing in the direction you want to move the camera to.
- **Rotate** – Using these buttons allows you to rotate a dome camera left or right without interruption.



The maximum rotation angle depends on the camera model. Some cameras have 360° rotation angle, some have less. Check the camera documentation.

- **Zoom** – Click the “+” or “-” buttons to zoom the image in or out.



Depending on the camera model the zoom function may or may not be present. Check the camera documentation.

- **Preset recall/set** – Using a preset button will instruct the dome camera to jump to a certain predefined position and zoom state. These presets are user-definable. To define a preset setting, move the camera to the position you want, zoom in or out if needed and click one of the buttons while holding the **Ctrl** button on your keyboard. The preset details will then be stored under that number and can be recalled by clicking it (without holding the CTRL key).



Setting presets is only possible if you have Administrator rights.

When **Home** Preset functionality is enabled, the first preset button is displayed as . This means the camera will return to its Home preset after 300 seconds of inactivity.

- **PTZ Speed** – Function to increase or decrease the camera movement speed.



PTZ Speed is not enabled for PTZ cameras that control the speed themselves.



Please note that use of PTZ functionality within both QGuard and the camera software concurrently can cause conflicts with PTZ functionality.

1.11.1.6 Digital Zoom

The Digital Zoom functionality is very useful when there are small details in the scene, but the camera doesn't support optical zoom and there's no way to visually enlarge those objects.

In order to use the Digital Zoom functionality, follow the steps below:

1. Click on the video window in order to set a focal point.

2. Use the mouse wheel to zoom the image in and out (a magnifying glass is shown).
3. When partially or totally zoomed in, click any point on the video screen in order to centralize the video window on this point. This also resets the zoom's focal point.



You cannot use the Digital Zoom functionality if your mouse doesn't have a mouse wheel.



You can use digital and optical zoom simultaneously. You will first zoom optically and switch to digital zoom when you can no longer zoom optically.

1.11.1.7 Audio

QGuard supports audio listening for the following brands:

- **Panasonic camera models:** BB-HCM311, BB-HCM311A, BB-HCM331, BB-HCM331A, BB-HCM371, BB-HCM371A, BB-HCM381, BB-HCM381A, KX-HCM110, BB-HCE481.
- **Axis – Listen in and speak:** M1031-W, M1054, P1311, P1343(-E), P1344(-E), P1346(-E), P3301(-V), P3304(-V), P3343(-V/VE), P3344(-V/VE), P5534, Q1755, Q1910(-E), Q7401.



QGuard only supports listening audio. Recording audio is not available.

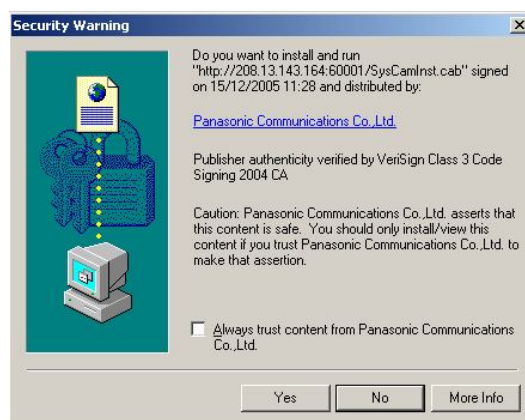


By default, audio is supported only for Axis Q7401. For the other models mentioned above, contact support as a small extra configuration is needed.

The audio component will be installed automatically the first time the camera is accessed in Live view.

*Audio Panel*

To be able to listen to audio, you need to install the **Audio Listening Component** from the camera itself the first time the camera is accessed in Live view. Click the **Yes** button in the dialogue window that appears.

*Audio Listening Component Installation Window*

After installation, the **Audio Controls** will appear.

Figure	Description
	This slider adjusts the volume of the speaker.
	This slider adjusts the volume of the microphone.
	Enable and disable speakers with this button.
	Enable and disable the microphone with this button.

1.11.1.8 Quick Playback

The Quick Playback function delivers easy access to recordings from the past 1, 5 and 15 minutes. Instead of going to the Recordings section and manually selecting this small time interval, you can just click a single button.

This function can be accessed with a Right-Click operation anywhere on the streaming video. After the mouse click, the following 3 buttons will appear in the top left corner of the video:

*Quick Playback Buttons*

Pressing a button will take you to the recordings of the currently streaming camera. The time interval is indicated on the button.



Right-clicking once more will hide the quick playback buttons.

1.11.1.9 Full Screen Mode

Full screen mode allows you to visualize video by using the full screen.



Full Screen mode is not the same as pressing F11 in Internet Explorer.

To enter the full screen mode, click the  icon.

To leave the full screen mode, click the  icon at the right top corner or press any key on the keyboard.

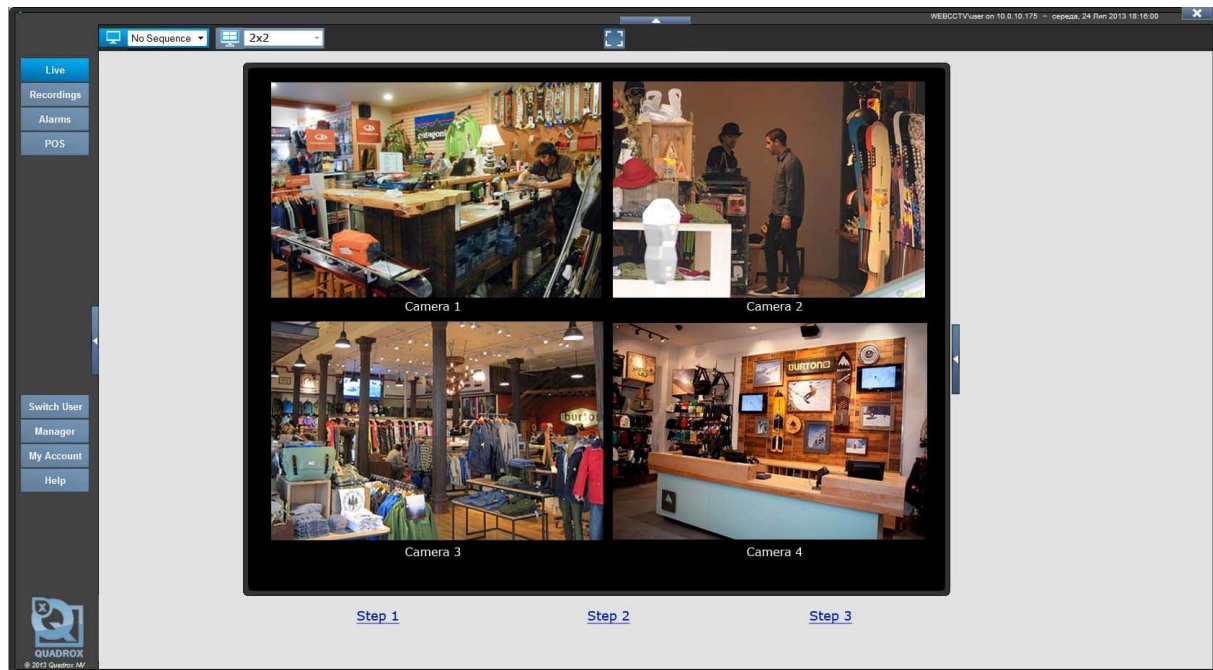


Full Screen Mode Screen

1.11.2 Mosaic View

Mosaic View allows you to view up to 16 cameras simultaneously on one screen. This provides enhanced surveillance opportunities and control of all available cameras for a user. The following features are available in the **Mosaic View** screen:

- Selecting a sequence
- Selecting a mosaic
- Enlarging/Reducing video window



Mosaic View Screen



Double click on the video window of a particular camera to switch to the Single View mode for this camera.




When you are using Zoom+3, Zoom+5 or Zoom+7 mosaic views, click on the small camera video windows to move them to the large/central video window. Double click on the central camera video window to switch to the Single View mode for this camera.



The **Snapshots**, **High/Low Bandwidth**, **Digital Zoom** and **Audio** functionalities are not available in Mosaic View.

1.11.2.1 Sequences

To select a Single View Sequence, select the sequence from the drop-down list and click the **Single View** button. If the preferred sequence is already selected in the drop-down list, you can click on  at the left of the drop-down list.



Creating sequences can only be done in the Video Manager application.



Click on any camera button to stop automatic switching and revert to viewing cameras manually.



When manual switching is completed, automatic switching resumes after 30 seconds.



Note that after selecting a sequence, the view will be automatically switched to Single View mode. See *4.2.1 Single View* for more information.

1.11.2.2 Mosaics

To select a Mosaic, select the mosaic from the drop-down list and click the **Mosaic View** button. If the preferred mosaic is already selected in the drop-down list, you can click on



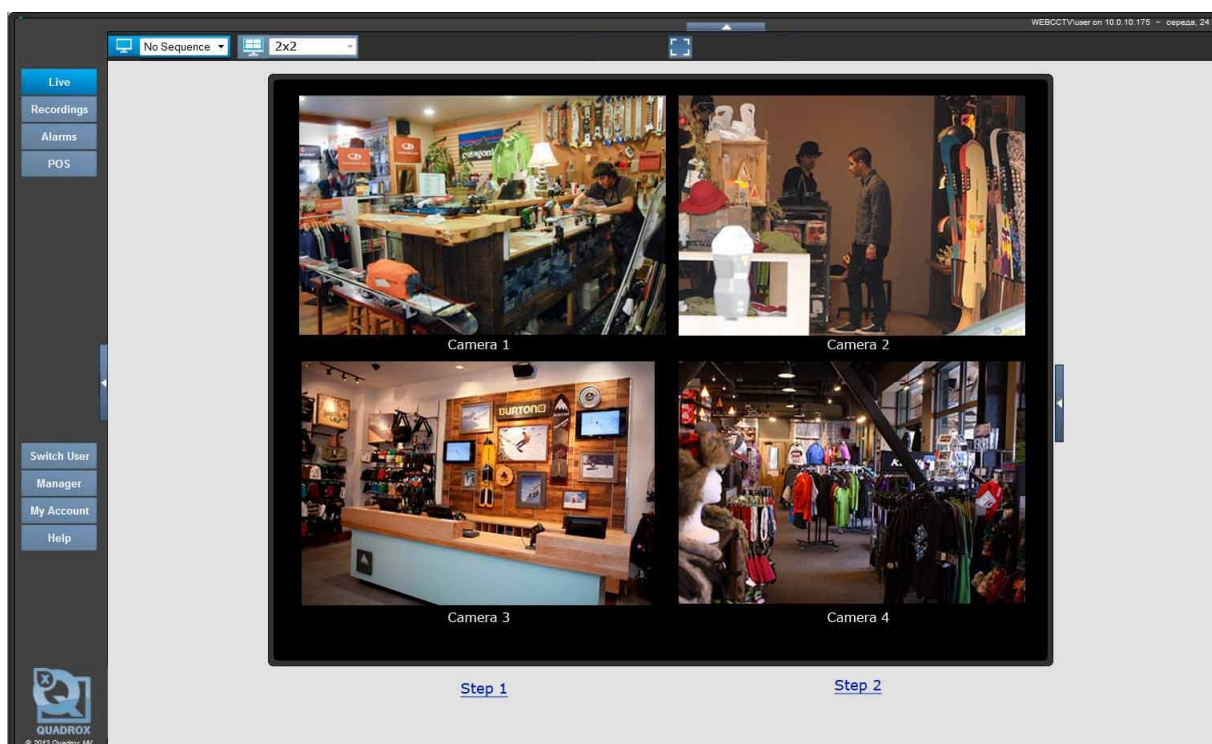
at the left side of the drop-down list.



Creating mosaics can only be done in the Video Manager application.



There are 9 predefined mosaic views available for configuration in the Video Manager application. By default, no mosaic view is available in the Video Browser application. In case video capture cards are installed, the respective mosaics will automatically be created and installed by QGuard.



Mosaic View Screen

1.12 Recordings

The **Recordings Menu** allows you to search and view recorded footage and export clips of this video footage.

The following sections are described:

- Select Time Period
- Single Playback
- Synchronized Playback
- Alarms
- POS
- Export



POS and Alarms are only available if the **Alarm Component** is installed.

Recordings Management

Please specify the following:

From (Date/Time):

14 June 2011

13

4

0

Time period:

1 hour

Precise Search

Single camera playback:

Synchronized playback:

Smart Search

Movie export:

Camera 1

Search

Recordings Screen

1.12.1 *Select Time Period*

Selecting the time period is needed for all possible recording requests as you need to search amongst all footage which has been recorded.

To select a **time period**, you have to specify time and date. There are two ways of specifying a certain time period:

1. Using a **From** date and a **Time span** interval: all recorded video footage between the **From** date plus the **Time period**, will be shown.

Please specify the following:			
From (Date/Time):	14 June 2011	13	4 0
Time period:	1 hour	Precise Search	

2. Using **Precise Search** with **From** and **To** date: all recorded video footage between these two points in time will be shown.

Please specify the following:			
From (Date/Time):	14 June 2011	13	4 0
To (Date/Time):	14 June 2011	14	4 0
Interval Search			

Click on the calendar icon to be able to choose the **From** or **To** date.



< « June 2011 » >						
M	T	W	T	F	S	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			
Close						



Click the **Interval search** button in order to return to **Time span** search.

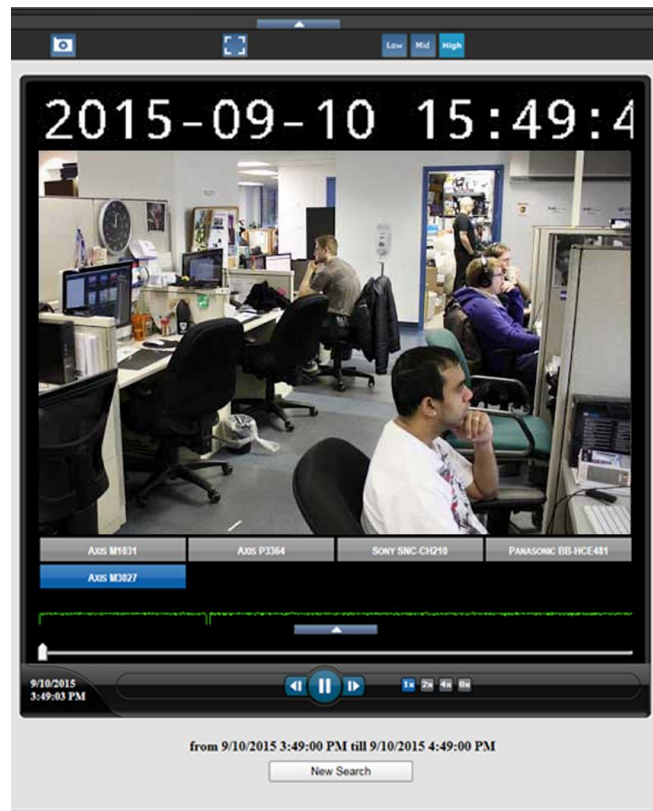


Note that in the **From/To** and the **Time span** modes, time and dates in the future cannot be specified. If a date in the future is selected, your time and date will be adjusted to the current date and time.

1.12.2 *Single Playback*

When using the **Single Playback** feature, you will search among all the recorded video footage for one particular camera. To do this, follow the steps below:

1. Select the time period (see *4.3.1 Select Time Period*).
2. Check the **Single camera playback** radio button.
3. Choose **camera** from the drop-down list.
4. Click **Search** button.
5. For new single playback recording search, click **New Search** button.



Recordings Single Playback Screen

When you have the recording mode open, the following functionality is available:

- Single playback controls
- Switching sources
- Activity level
- Slider
- Enlarging/Reducing video window
- Low/High Bandwidth mode
- Snapshots
- Digital Zoom

1.12.2.1 *Single Playback Controls*

You can use the Single Playback Control buttons in order to make the viewing process more flexible and controllable. The following **Single Playback Control** buttons are available:

- **Frame Backward** – allows you to view the recording in the ‘frame-by-frame’ mode in reverse direction.
- **Play/Pause** – start or pause the playback. After you press this button the slider is not automatically returned to its initial position.
- **Fast Forward** – increase the playback speed in order to skip the irrelevant information. You can choose from 2x, 4x or 8x speed by clicking on the button.
- **Frame Forward** – allows you to view the recording in the “frame-by-frame” mode.

1.12.2.2 *Switching sources*

You can switch between all cameras that are available on your system by clicking the corresponding camera buttons. By doing this, you will get the recording from that camera for the selected time period. Note that the slider position remains the same while switching between cameras.


1.12.2.3 *Activity Level*

The **Activity level** for the specified time period is displayed below the video for ease of use. When there is no green activity line drawn or if the green activity line is drawn below the red activity threshold line, no recorded video footage exists for these periods.

1.12.2.4 *Slider*


Use the **slider** to quickly look through the recording.

1.12.2.5 *Full Screen Mode*

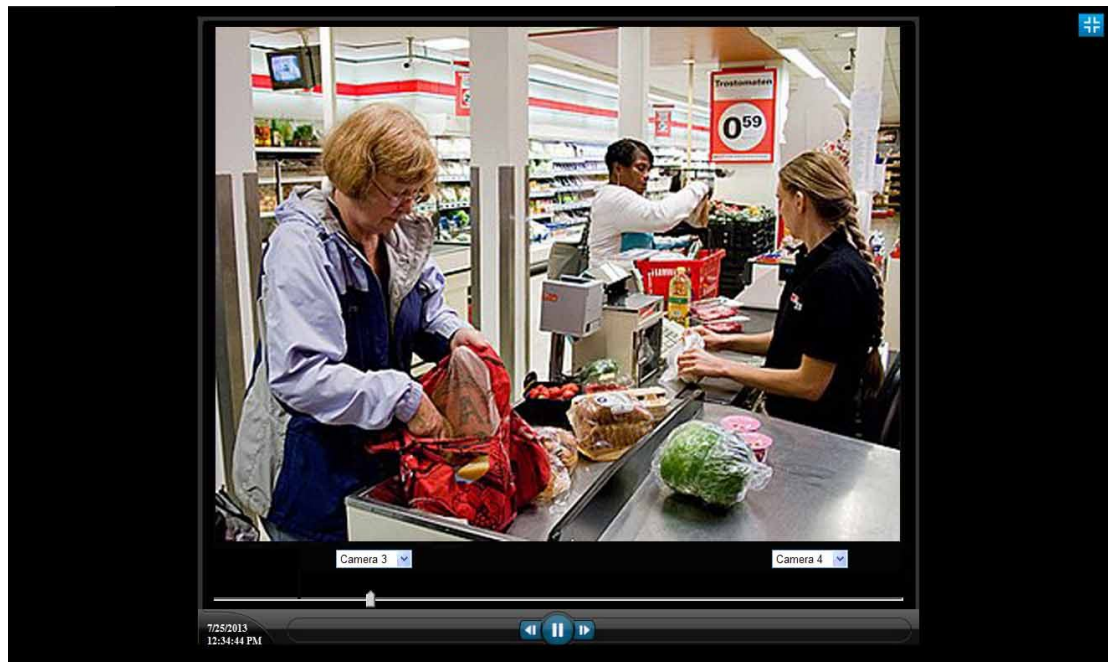
Full screen mode allows you to visualize video by using the full screen. When going to full screen the activity line and camera buttons are hidden by default. You can unhide them by clicking the  icon.



Full Screen mode is not the same as pressing F11 in Internet Explorer.

To enter the full screen mode, click the  icon.

To leave the full screen mode, click the  icon at the right top corner or press any key on the keyboard.




Full Screen Mode


1.12.2.6 Low/Mid/High Bandwidth Mode

Low/High bandwidth mode allows you to decide if you want to have streaming video that consumes a reduced bandwidth. You can choose between:


- **High Bandwidth Mode** (Default) – High Bandwidth mode is used preferably on local computers (when the QGuard client is located on the same machine as the QGuard server), in local area networks or with high-speed Internet connections. When High Bandwidth mode is enabled, the frame rate and the resolution of the images is taken from the primary stream which usually has maximum value of these indicators.

Use the **High** () button to enable high bandwidth mode.

- **Mid Bandwidth Mode** – Mid bandwidth mode is mostly used in medium- or slow-speed LAN or Internet connections and in Mosaic view mode. When Mid Bandwidth mode is enabled, the frame rate and the resolution of the images is taken from the secondary stream which has lower value of these indicators than in High bandwidth mode. It reduces load on the network and server itself.


Use the **Mid** () button to enable middle bandwidth mode.

- **Low Bandwidth Mode** – Low bandwidth mode is mostly used in very slow-speed LAN or Internet connections. When Low Bandwidth mode is enabled, the frame rate and the resolution of the images are extremely reduced. This leads to a reduced bandwidth usage for streaming. For the basis is taken the secondary stream which processed to the lower quality.

Use the **Low** () button to enable low bandwidth mode.

1.12.2.7 *Snapshots*

This QGuard feature gives you the opportunity to make snapshots. To create a snapshot, follow the steps below:

1. Choose the frame you want to save and click the button with the camera symbol ().
2. Choose the desired location for storing images and click the **Save** button.



Snapshots are saved in .JPEG format.

1.12.2.8 *Digital Zoom*

The Digital Zoom functionality is very useful when there are small details in the scene, but the camera doesn't support optical zoom and there's no way to visually enlarge those objects.

In order to use the Digital Zoom functionality, follow the steps below:

1. Click on the video window in order to set a focus point.
2. Use the mouse wheel to zoom the image in and out (a magnifying glass is shown).
3. When partially or totally zoomed in, click on any point of the video screen in order to centralize the video window on this point. This also resets the focus point for additional zooming in and out.



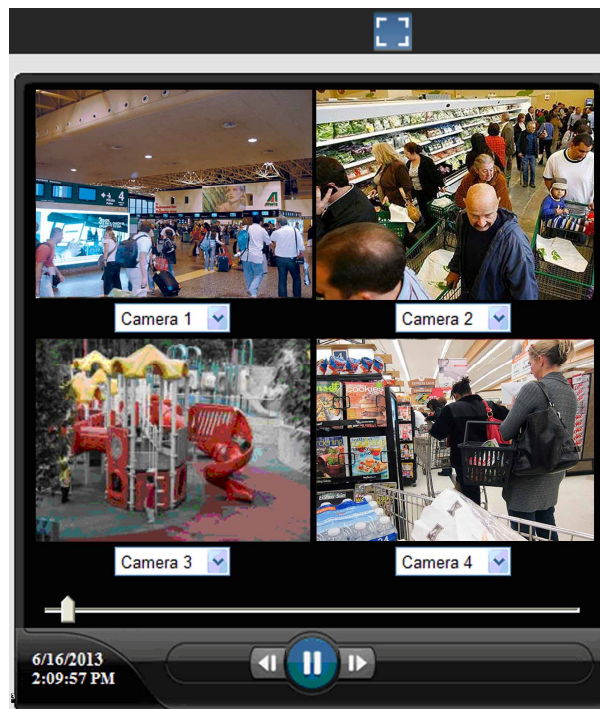
You cannot use the Digital Zoom functionality if your mouse doesn't have a mouse wheel.

1.12.3 *Synchronized Playback*

This feature allows you to view recorded footage simultaneously from up to four cameras. Playback from all four cameras is synchronized in time. The synchronized playback feature allows viewing the recorded video depending exclusively on time and not on video presence, i.e. it doesn't jump over the time spans without recordings.

To do a synchronized playback, follow the steps below:

1. Select the time period (see **4.3.1 Select Time Period**).
2. Check the **Synchronized playback** radio button.
3. Choose **four cameras** from the drop-down lists.
4. Click **Search** button.
5. For new synchronized playback recording search, click **New Search** button.



Recordings Synchronized Playback Screen

When you have the recording mode open, the following functionality is available:

- Synchronized playback controls
- Switching sources
- Slider
- Enlarging/Reducing video window



Double click on the video window of a camera in order to switch to single playback of this camera.



The **Snapshots**, **High/Low Bandwidth**, **Digital Zoom** and **Activity level** functionalities are not available in synchronized playback.

1.12.3.1 Synchronized Playback Controls

You can use the Synchronize Playback Control buttons in order to make the viewing process more flexible and controllable. The following **Synchronized Playback Control** buttons are available:

- **Frame Backward** – allows you to view the recording in the ‘frame-by-frame’ mode in reverse direction.
- **Play/Pause** – start or pause the playback. After you press this button the slider is not automatically returned to its initial position.
- **Frame Forward** – allows you to view the recording in the “frame-by-frame” mode.



Buttons **Frame Backward/ Forward** are not active in this mode. To use them you should switch to the **Single Playback** mode.

1.12.3.2 Switching sources

You can switch between all available cameras for every video window by selecting the camera from the drop-down list. By doing this, you will get the recording from that camera for the same time period. Note that the slider position remains the same while switching between cameras and that the slider has the same position synchronized in time for all four cameras.

1.12.3.3 Slider



Use the **slider** to quickly look through the recording.

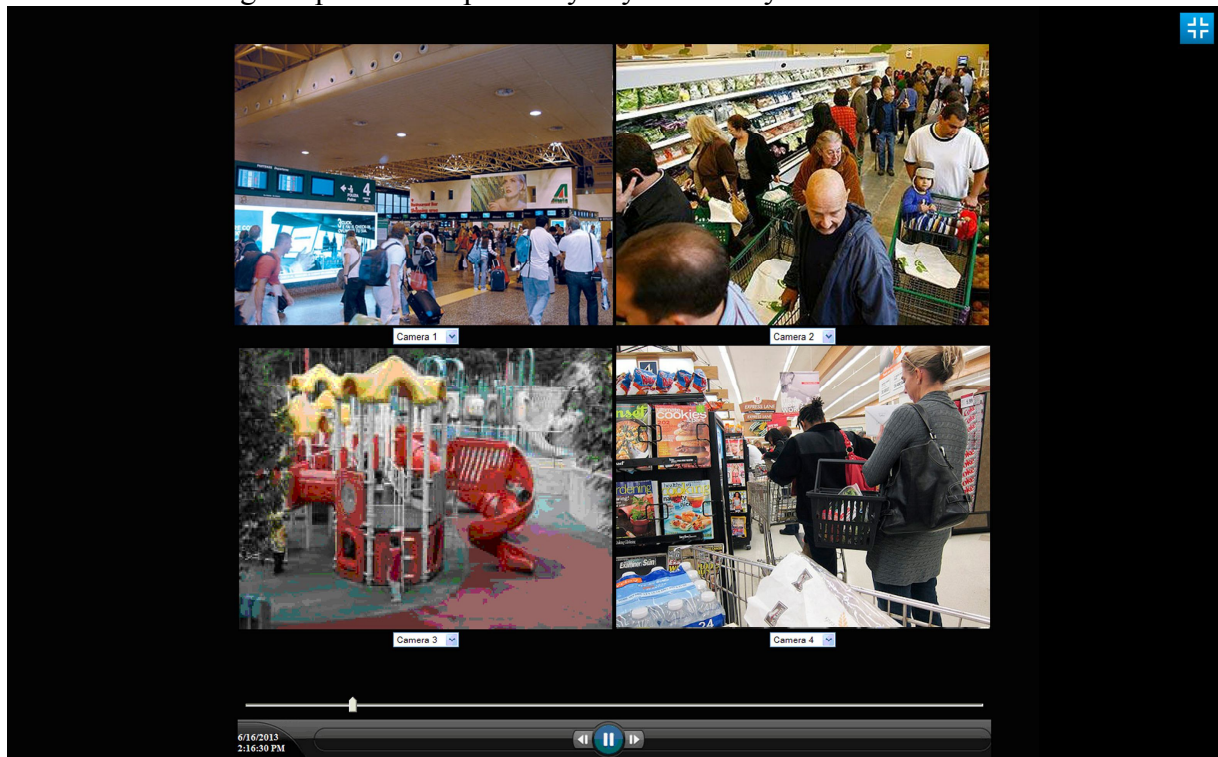
1.12.3.4 Full Screen Mode

Full screen mode allows you to visualize video by using the full screen.



Full Screen mode is not the same as pressing F11 in Internet Explorer.

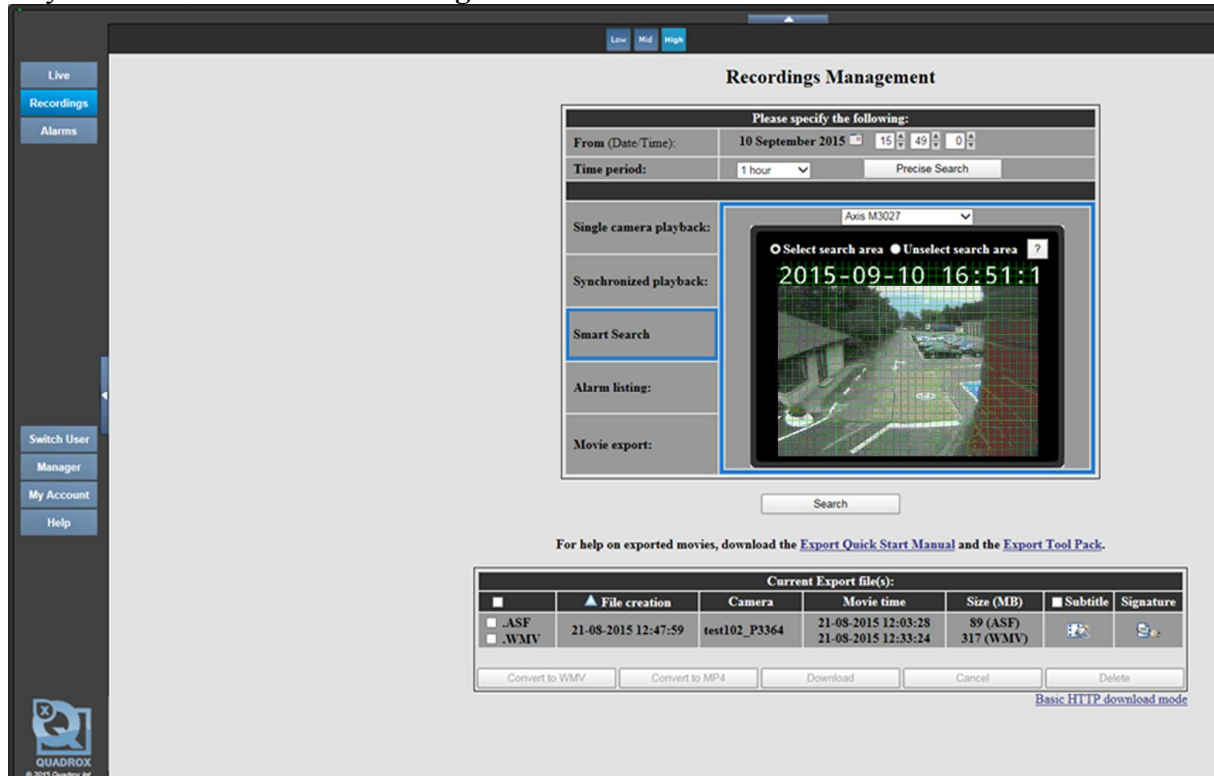
To enter the full screen mode, click the  icon. To leave the full screen mode, click the  icon at the right top corner or press any key on the keyboard.



Synchronized Playback Full Screen Mode

1.12.4 Smart Search

Smart Search is a solution to search for activity in a user-specified, dynamic region of interest and time interval. This feature allows you to look for activity recordings in a specified area. Smart Search is a dynamic solution because all the parameters can be adjusted for every search separately (including the area). You can navigate to the Smart Search in the following way: **Video Browser** → **Recordings** → **Smart Search** tab.

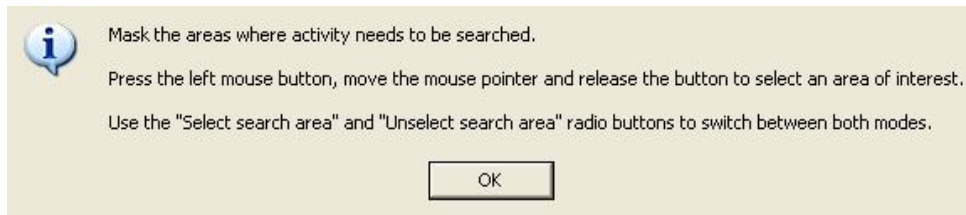


Smart Search Page

1.12.4.1 Smart Search Interface

Below are the main control buttons and options of the Smart Search page described:

- **Time period search field** – general parameter for playback search page. You can choose any time period you need. Note that the bigger the time period you choose the more time it might take to search for the recordings.
- **Camera name** – the name of the camera that is currently displayed on the screen below.
- **Select search area** radio button – if this button is checked, you can select the area where you want to perform Smart Search.
- **Unselect search** radio button – if this button is checked, you will Deselect the previously selected area.
- **Question mark button** ? - while pressing this button you will get the help window with information on how to select the area you want to search recordings for:

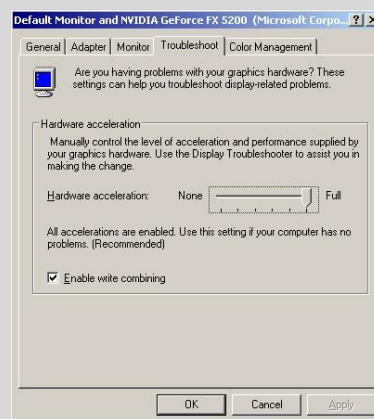


Help Message for Smart Search

- **Camera image** – live image of the camera that is currently selected for Smart Search. There you will see the image and green grid that will help you to select the proper area for your search.

It may be that the green masking grid doesn't appear. In order to be able to draw the grid, the video card of the client PC has to have at least 16 MB of internal video memory and DirectX accelerations fully enabled. This can be done as follows:

- Go to Start/Settings/**Control Panel**.
- Click on Display/ Settings/Advanced/**Troubleshoot**.
- Set **Hardware acceleration** on full.



Troubleshoot Screen

Click **OK** and return. The masking grid should be visible on your screen now.

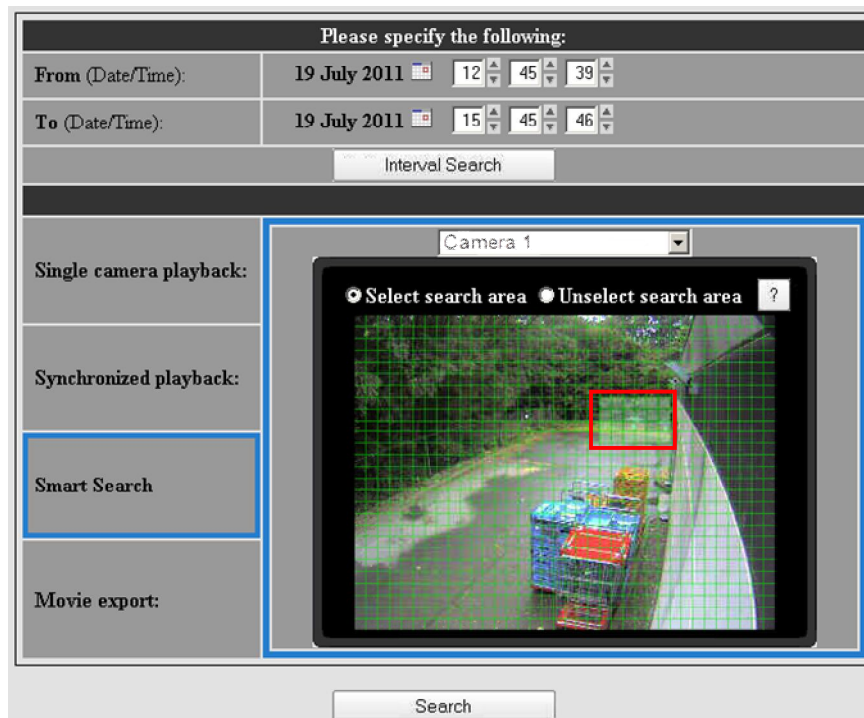


You cannot see the grid if you are connected to the machine remotely through RDC etc. You can only see the grid (and so perform Smart Search) if you are connected as a client (through IE) or locally on the server.

- **Low Bandwidth button** – Low bandwidth mode is mostly used in very slow-speed LAN or Internet connections. When Low Bandwidth mode is enabled, the frame rate and the resolution of the images are extremely reduced. This leads to a reduced bandwidth usage for streaming. For the basis is taken the secondary stream which processed to the lower quality.
- **Mid Bandwidth button** – Mid bandwidth mode is mostly used in medium- or slow-speed LAN or Internet connections and in Mosaic view mode. When Mid Bandwidth mode is enabled, the frame rate and the resolution of the images is taken from the secondary stream which has lower value of these indicators than in High bandwidth mode. It reduces load on the network and server itself.

- **High Bandwidth button** - High Bandwidth mode is used preferably on local computers (when the QGuard client is located on the same machine as the QGuard server), in local area networks or with high-speed Internet connections. When High Bandwidth mode is enabled, the frame rate and the resolution of the images is taken from the primary stream which usually has maximum value of these indicators.

To perform a search, define the area where you want to find activity for the specified period of time and press the **Search** button. The area will be coloured in a semi transparent light green colour:



Selected Area for Smart Search

The grid that you might find in **Activity** tab of camera **Edit** wizard in Video Manager and the **Smart Search** grid have a different origin. They look the same but have a different meaning.



In the masking image space in the **Activity** tab you choose the area where you do **not** want to record activity.

By selecting a search area in the **Smart Search** window, you choose the area where you search activity for. If you selected an area of image where the activity mask is applied, you will get a message on the playback page saying: “No recordings were found for the specified time period”.

If you press the **Search** button but did not select any area you will get the following message:



No Search Area Selected

After you set all the configurations, Smart Search will be performed and you will be redirected to the playback page.



Smart Search Playback Page

The **Activity level** for the specified time period is displayed below the video for ease of use. When there is no yellow activity line drawn no recorded video footage exists for these periods and the area that you have selected. Use the **slider** to quickly look through the recordings.

When you have the recording mode open, the following functionalities are available:


- Smart Search playback controls
- Enlarging/Reducing video window
- Low/Mid/High Bandwidth mode
- Snapshots
- Digital Zoom

1.12.4.2 Smart Search Playback Controls

You can use the Smart Search Playback Control buttons in order to make the viewing process more flexible and controllable. The following control buttons are available:


- **Frame Backward** – allows you to view the recording in the ‘frame-by-frame’ mode in reverse direction.
- **Play/Pause** – start or pause the playback. After you press this button the slider is not automatically returned to its initial position.
- **Fast Forward** – increase the playback speed in order to skip the irrelevant information. You can choose from 2x, 4x or 8x speed by clicking on the button.
- **Frame Forward** – allows you to view the recording in the “frame-by-frame” mode.

1.12.4.3 Full Screen Mode

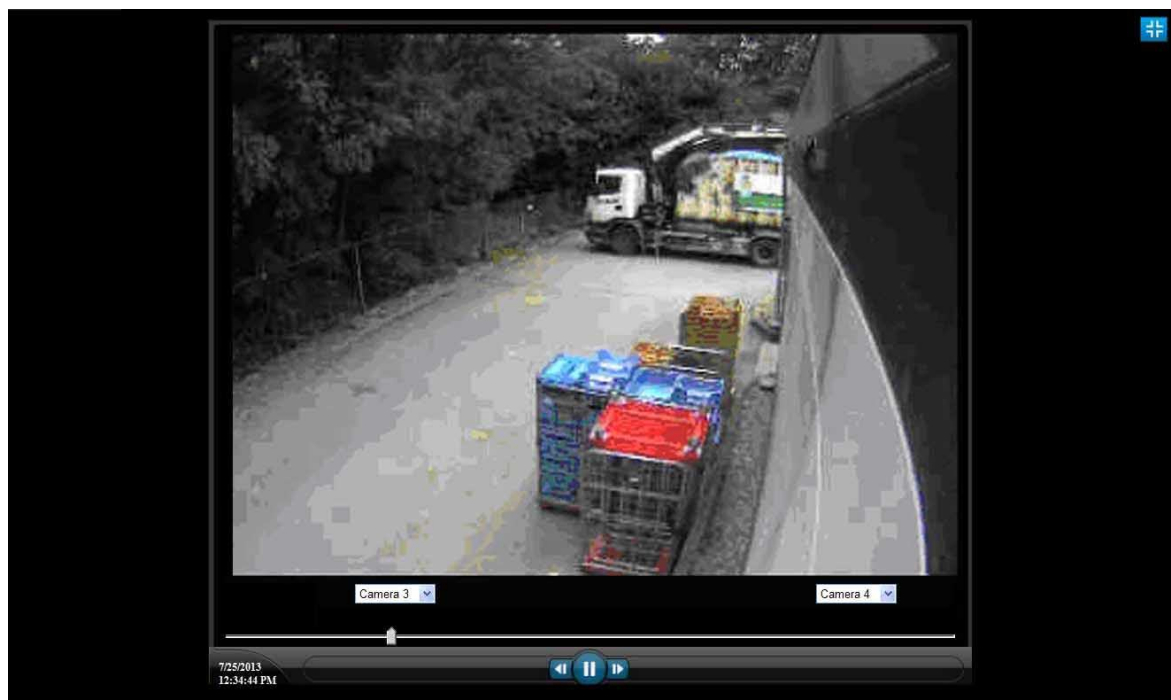
Full screen mode allows you to visualize video by using the full screen. When going to full screen the activity line and camera buttons are hidden by default. You can unhide them by clicking the  icon.



Full Screen mode is not the same as pressing F11 in Internet Explorer.

To enter the full screen mode, click the  icon.

To leave the full screen mode, click the  icon at the right top corner or press any key on the keyboard.




Full Screen Mode


1.12.4.4 Low/Mid/High Bandwidth Mode

Low/High bandwidth mode allows you to decide if you want to have streaming video that consumes a reduced bandwidth. You can choose between:


- **High Bandwidth Mode** (Default) – High Bandwidth mode is used preferably on local computers (when the QGuard client is located on the same machine as the QGuard server), in local area networks or with high-speed Internet connections. When High Bandwidth mode is enabled, the frame rate and the resolution of the images is taken from the primary stream which usually has maximum value of these indicators.

Use the **High** () button to enable high bandwidth mode.

- **Mid Bandwidth Mode** – Mid bandwidth mode is mostly used in medium- or slow-speed LAN or Internet connections and in Mosaic view mode. When Mid Bandwidth mode is enabled, the frame rate and the resolution of the images is taken from the secondary stream which has lower value of these indicators than in High bandwidth mode. It reduces load on the network and server itself.


Use the **Mid** () button to enable middle bandwidth mode.

- **Low Bandwidth Mode** – Low bandwidth mode is mostly used in very slow-speed LAN or Internet connections. When Low Bandwidth mode is enabled, the frame rate and the resolution of the images are extremely reduced. This leads to a reduced bandwidth usage for streaming. For the basis is taken the secondary stream which processed to the lower quality.

Use the **Low** () button to enable low bandwidth mode.

1.12.4.5 Snapshots

This QGuard feature gives you the opportunity to make snapshots. To create a snapshot, follow the steps below:

3. Choose the frame you want to save and click the button with the camera symbol ()
4. Choose the desired location for storing images and click the **Save** button.



Snapshots are saved in .JPEG format.

1.12.4.6 Digital Zoom

The Digital Zoom functionality is very useful when there are small details in the scene, but the camera doesn't support optical zoom and there's no way to visually enlarge those objects.

In order to use the Digital Zoom functionality, follow the steps below:

1. Click on the video window in order to set a focus point.

2. Use the mouse wheel to zoom the image in and out (a magnifying glass is shown).
3. When partially or totally zoomed in, click on any point of the video screen in order to centralize the video window on this point. This also resets the focus point for additional zooming in and out.



You cannot use the Digital Zoom functionality if your mouse doesn't have a mouse wheel.

1.12.5 *Movie Export*

This chapter provides an overview of the export capabilities of QGuard and covers the following topics:

- Creating movie export files
- Saving movie export files on your computer
- Saving movie export files to a CD / DVD disk.
- Checking the digital signature of movie export files.

Current Export file(s):						
<input type="checkbox"/>	File creation	Camera	Movie time	Size (MB)	Subtitle	Signature
<input type="checkbox"/> .ASF	16-06-2011	QTEST4_Camera 3	16-06-2011 15:41:56	29 (ASF)		
<input type="checkbox"/> .WMV	15:52:05		16-06-2011 15:51:55	12 (WMV)		
<input type="checkbox"/> .ASF	16-06-2011	QTEST4_Camera 1	16-06-2011 15:09:24	1 (ASF)		
<input type="checkbox"/> .WMV	15:51:47		16-06-2011 15:12:01	0.7 (WMV)		

[Basic HTTP download mode](#)

Recordings Export Screen

1.12.5.1 *Creating Export*

To create a movie export file, follow the steps below:

1. Select the time period (see *4.3.1 Select Time Period*).
2. Check the **Movie export** radio button.
3. Choose the **camera** from the drop-down list.
4. Click **Search** button.



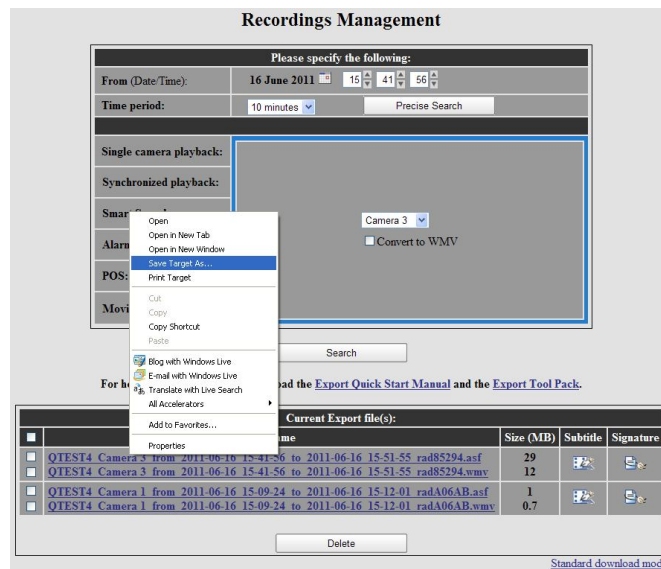
Specified time period should be within 1 minute to 1 hour range.

1.12.5.2 Saving Export Files to Hard Disk

After you clicked the **Search** button, your **Export files** will become visible beneath the **Recordings** screen.

To save an export file on your local disk, please follow the steps below:

1. **Right click** on the export file you want to save.
2. From the pop-up menu that appears, choose **Save Target As...**



Recordings Export Screen

3. Define destination and click the **Save** button.



To delete the export files, select the export files you want to delete and click the **Delete** button.

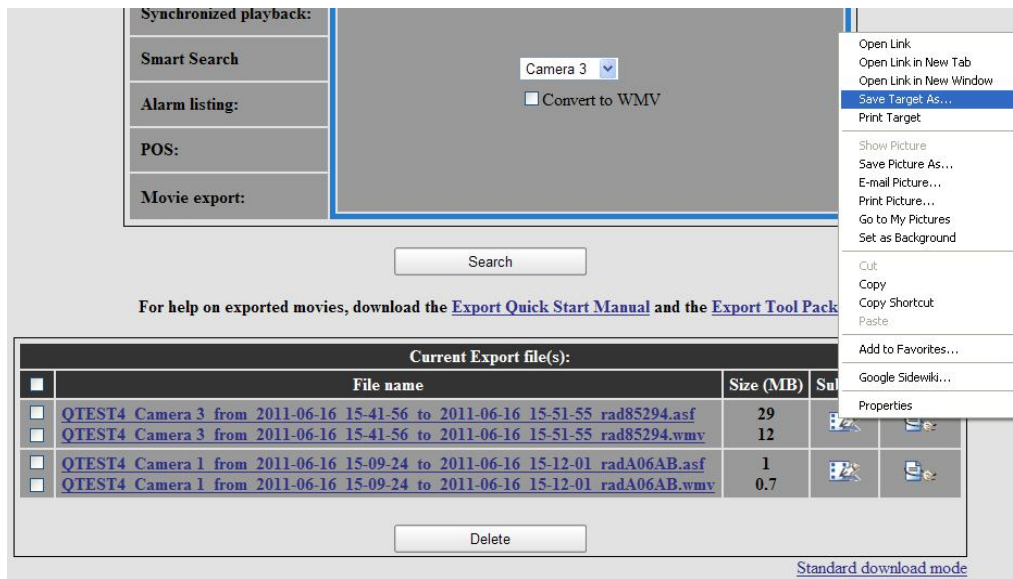


The Compression format (JPEG, MPEG) for recordings is defined in the Camera wizard during camera set-up in the Video Manager application.

1.12.5.3 Saving Export Files to CD

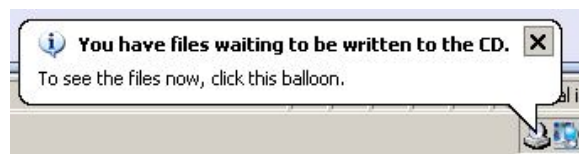
To save an exported movie file to the CD follow the steps below:

1. **Right click** on the export file you want to save.
2. From the pop-up menu that appears choose **Save Target As...**



Recordings Export Screen

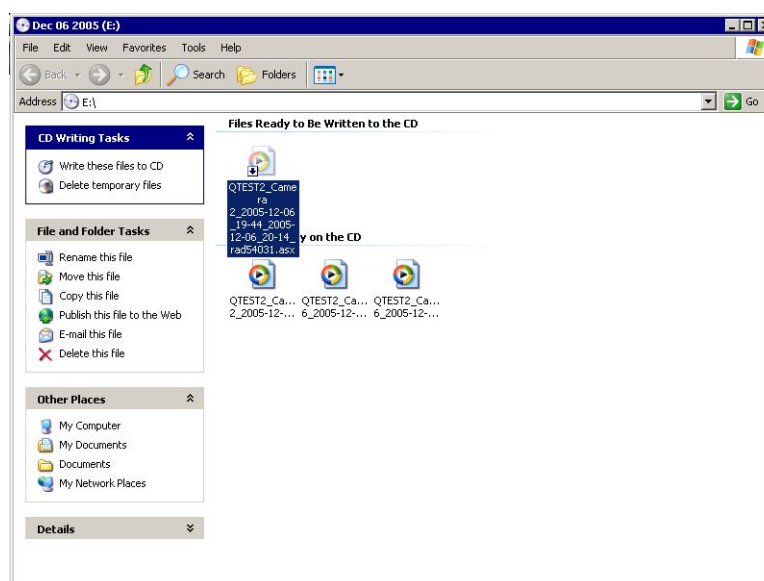
3. Choose your CD-RW drive as destination and click **Save**.
4. Wait until downloading is complete and click **Close**. At the bottom of your screen a message in your tray appears:



5. Click on the message. In the window that appears, select the shortcut to the file you want to save under the **Files Ready to Be Written to the CD** title.



This can also be done in File Explorer in the event notifications are disabled.



CD Explorer Screen

6. Click **Write this file to CD** in the left pane of the screen. The **CD Writing Wizard** screen appears.



CD Writing Wizard Screen

7. To begin the writing process, click the **Next** button.
8. After the writing process is complete, click the **Finish** button to close the CD Writing Wizard.

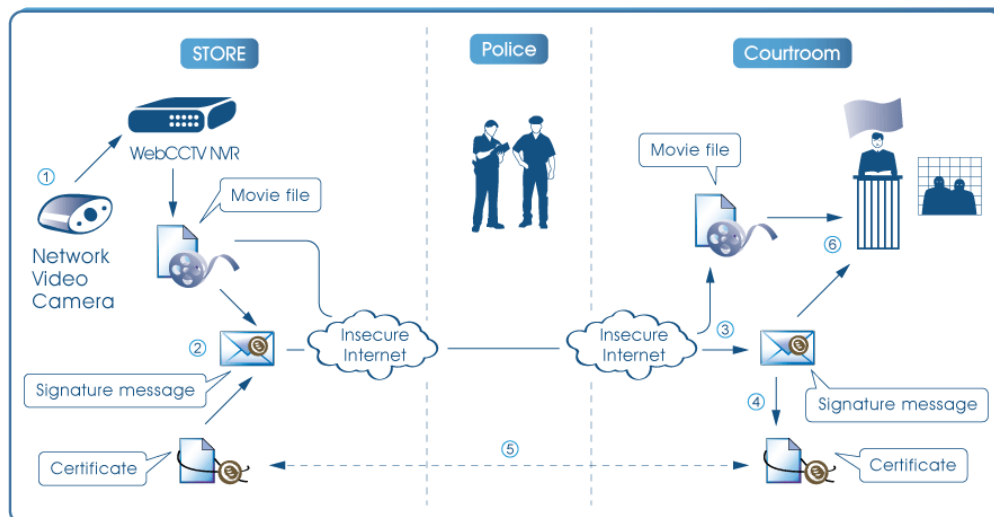
1.12.5.4 Checking Digital Signature

The latest generation of networked systems promises a much easier and faster way of moving video around (e.g. police, court room...), by simply sending it over the Internet. A public network like the Internet is not exactly the safest when talking about transport. However, digital video can be digitally secured and the possibility to trace the video back to its origin is now a reality. This technology is called **digitally signing** the video.

A **digital signature** is a cryptographically encoded text that contains information about the exported movie file that was signed and about the entity that created the signature. Each export file has its own signature.

A **certificate** is again a cryptographically protected text that contains the electronic key with which the owner of the certificate can sign digital documents or content. This certificate is only valuable if it is trusted by the authorities.

The following diagram shows how a digital timesignature is used in the video authentication process:



Video Authentication Process

Step 1 - Recording

Video from the camera is recorded in a standard ASF movie file.

Step 2 - Export

When a relevant piece of video is exported, information about that video (e.g. the timestamp, camera name, recorder information and the user who performed the export) is gathered in a signature message. This message is encrypted by the certificate, unique to each recorder, to form a digital signature.

QGuard supports two formats of digital signature:

- **.eml** – S/MIME standard message like used in digitally signed emails.
- **.p7m** – true PKCS #7 standard signature message. It can be opened by specialized viewers like Cryptigo's P7MViewer (<http://www.cryptigo.com>).



Quadrox has based all of these systems on the open standard technology to prevent any possibility of security holes or “back doors”. All algorithms that are used are well known and widely used cryptographic standards, like MD5, SHA-1 and RSA. They cannot be broken if the key is not known, not even by the people that implemented them. The certificate is standard (X.509, PKSC #12), as is the digital signature format (PKCS #7). Apart from the true signature standard that can be viewed by publicly available specialized viewers, we also provide the signature in a standard email format (S/MIME format) so that it can be viewed by common email clients like Outlook Express. Quadrox uses Microsoft's implementations of these formats and algorithms, which are validated and certified by the National Institute of Standards and Technology (NIST).

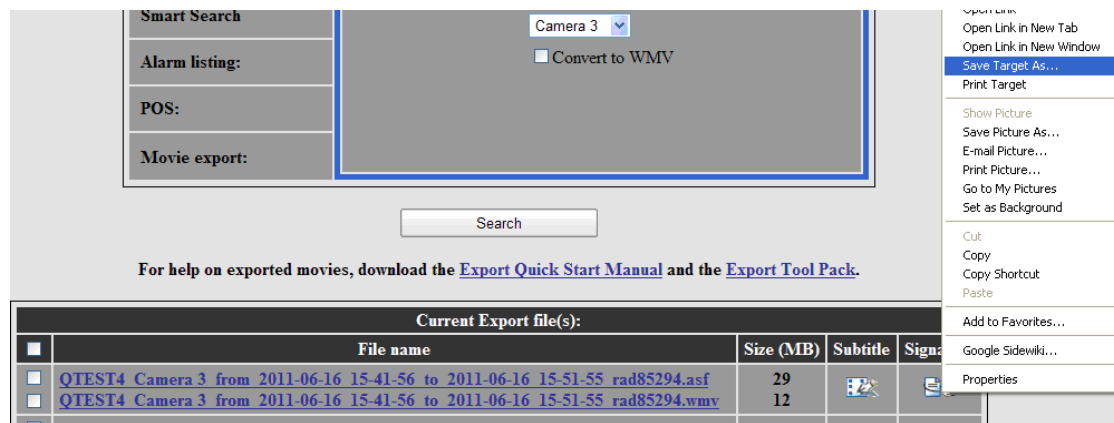
Step 3 – Signature and movie transportation

The movie file and the signature are transported to the courtroom. They don't necessarily have to travel together and the channel can be unsafe (e.g. they can be sent over the Internet).

To save the signature for further transportation, follow the steps below:

1. Right click on the signature you want to save.

2. From the pop-up menu that appears choose **Save Target As...** and define destination.



Saving Digital Signature Screen

Step 4 + Step 5 - Certificate transportation and trust

The certificate should be trusted by the court. By trusting the validity of a certificate (by manually checking that it is indeed what it claims to be), the court acknowledges explicitly that the certificate belongs to the machine on which the export was created.

The court expresses this trust by explicitly adding it to the list of trusted root certificates. When doing this, the system will ask to manually verify the certificate, e.g. by comparing the thumbprint of the certificate to the thumbprint of the certificate that is present on the recorder. The latter should be retrieved by physically going to the recorder, it should be done by the authorities and a proven track record should be available. Trusting the certificate has to be done only once per recorder (not for every movie) and doesn't have to necessarily happen at the moment of movie verification.



When using CA certificates, the trust in the certificate might come from trusting the CA that delivered the certificate. In that case, this procedure might not be necessary.

A copy of the certificate can be extracted from the signature by using the Digital Signature Verifier (available from the Quadrox website). The certificate can also get to the courtroom in a different way (by exporting it from the recorder) or can already be present because it was extracted from previous movies.

To extract and install the certificate from the signature itself using the Digital Signature Verifier, follow the steps below:



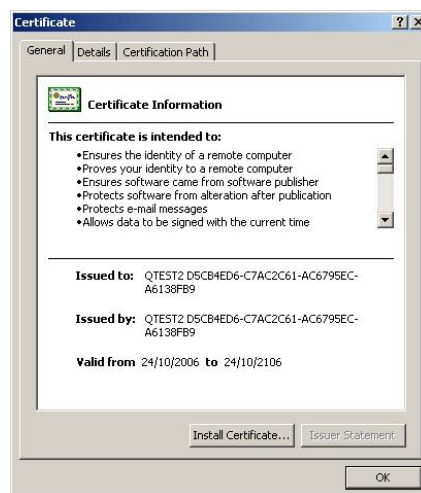
Digital Signature Verifier main screen

1. Open the Digital Signature Verifier tool.
2. Enter the locations of the movie and signature files and click the **Verify** button. If the certificate is not yet trusted, you will see the following screen.



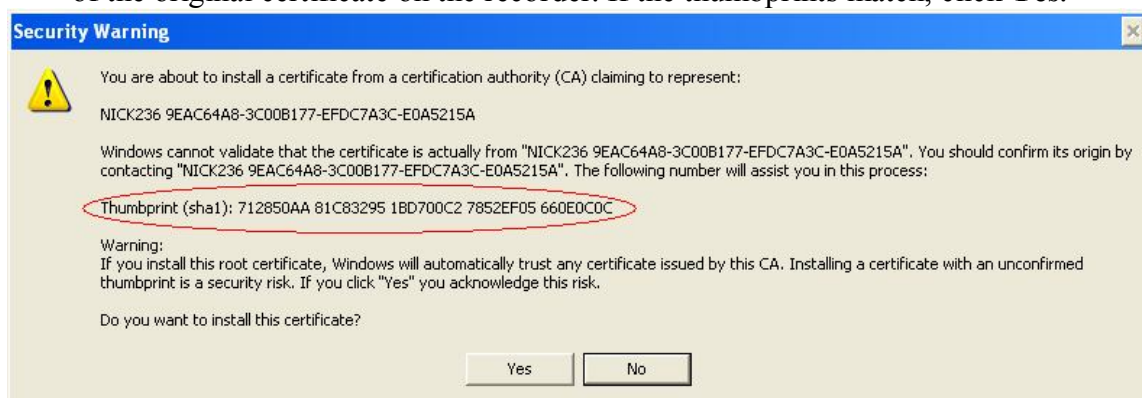
Not trusted certificate warning screen

3. Click the **Certificate** button.

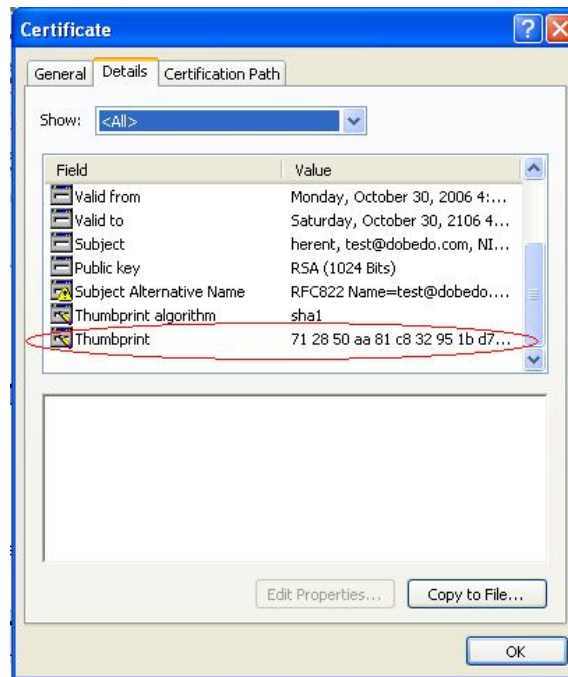


Certificate Information Screen

4. Click **Install Certificate** button and follow further instructions leaving all settings by default. A Security Warning window will appear.
5. To make sure that you are installing the exact certificate you need, find the **Thumbprint** line in the Security Warning window and compare it with the thumbprint of the original certificate on the recorder. If the thumbprints match, click **Yes**.



Security Warning Screen



Certificate Information Screen

6. Once your certificate is installed, repeat step 2 to verify the signature. See also “Step 6 – Checking the signature” below.

To install the certificate by exporting it from the recorder, follow the steps below:

1. Open QGuard web-client.
2. Go to **System-> Certificate Management** section.
3. Click **Export** button and define location to store the certificate.

Certificate Management		
Export an encoded certificate (*.cer)		Export
Generate a new self-signed certificate, using the specified parameters	E-mail:	webcctv@quadrox.com
	Location:	Belgium
		Generate
Import a new certificate (*.cer, *.pfx)	File on server:	Browse
		Import

Certificate Management Screen

4. Transport the exported certificate to the target machine and double click on it. The Certificate Information screen will appear.
5. Click **Install Certificate** button and follow further instructions leaving all settings by default. A Security Warning window will appear.
6. To make sure that you are installing the exact certificate you need, find the **Thumbprint** line in the Security Warning window and compare it with the thumbprint of the original certificate on the recorder. If the thumbprints match, click **Yes**.



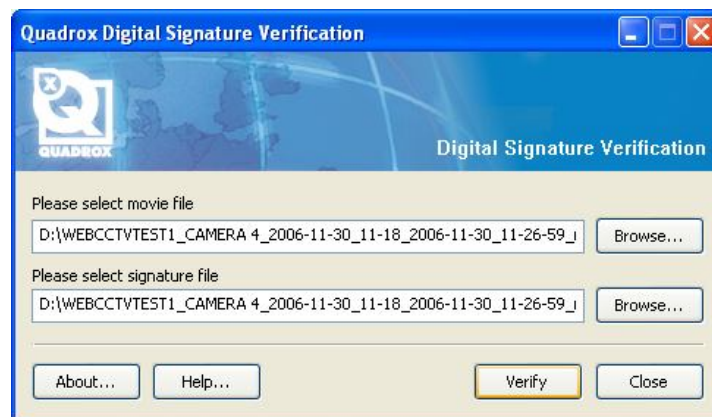
To learn advanced ways to make the certificate explicitly trusted, see **Appendix A**.

Step 6 – Checking the signature

Once the certificate is trusted, the signature message can be decoded. Because the certificate is trusted, we know that a) the information in the signature is correct (wasn't changed) and b) the signature was produced on the recorder from which the movie is claimed to have originated. If the signature was forged, the certificate will not decode it.

Inside the signature, a hash value links the certificate uniquely to the movie file. By recalculating the hash in the courtroom, we can be sure that a) this signature belongs to this particular movie and b) the movie hasn't changed since the signature was created. If the movie was forged, the hash value would be different and the signature invalid.

These actions are performed automatically by the Digital Signature Verifier tool.



Digital Signature Verifier main screen

1. Open the Digital Signature Verifier tool.
2. Enter the locations of the movie and signature files and click the **Verify** button.
3. If the signature can be decoded and the hash information matches the movie, the movie authenticity is proven and the following information screen will be shown. The displayed information is part of the digital signature and is likewise proven to be authentic.



Trusted signature information screen

4. If the signature cannot be trusted because either the signature or the movie was tampered with, the following screen will be shown.



Not trusted signature information screen



The Digital Signature Verifier was created by Quadrox to make your life easier. However, it is not crucial to verifying the digital signature. You are free to manually check the signature, or by a tool of your own choosing.

The tool is released as an open source tool under the BSD license. To make sure that the tool doesn't display false information, feel free to examine the source code and make your own compilation for maximum trust.

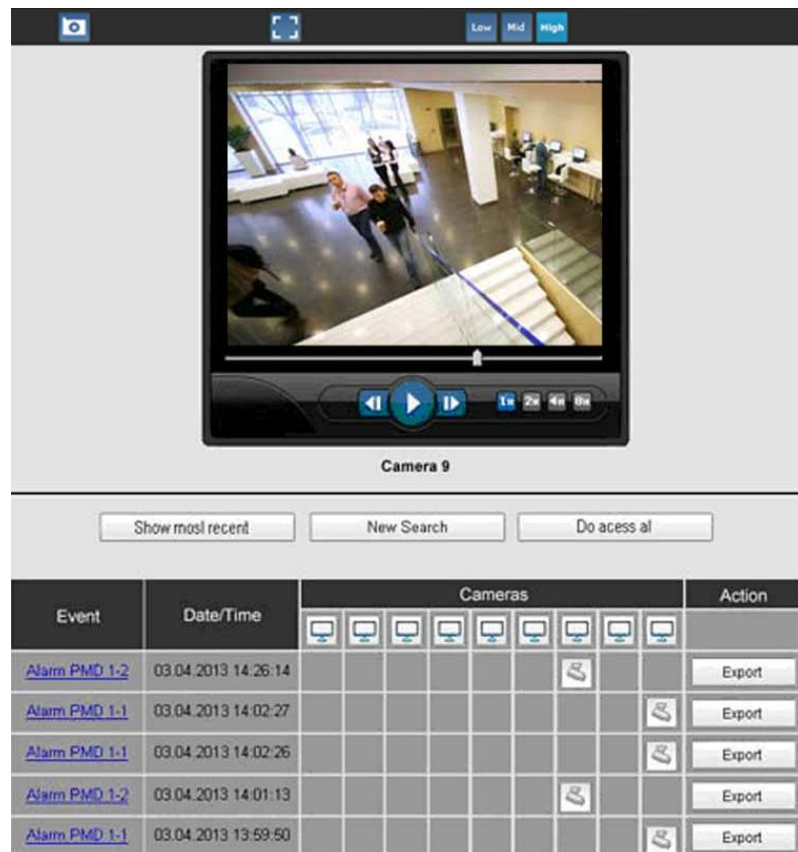


To learn how to manually verify the signature, see **Appendix B**.

1.12.6 Alarms listing

QGuard allows searching specifically for recordings from cameras associated with certain alarms. In order to search for alarms recordings, follow the steps below:

1. Select the time period (see [4.3.1 Select Time Period](#)).
2. Check the **Alarm listing** radio button.
3. Choose the **alarm** from the drop-down list.
4. Click **Search** button.
5. For new alarm recording search, click **New Search** button.



Recordings Alarms Screen

Click on the camera buttons or event links to see the recordings associated with the alarm events.

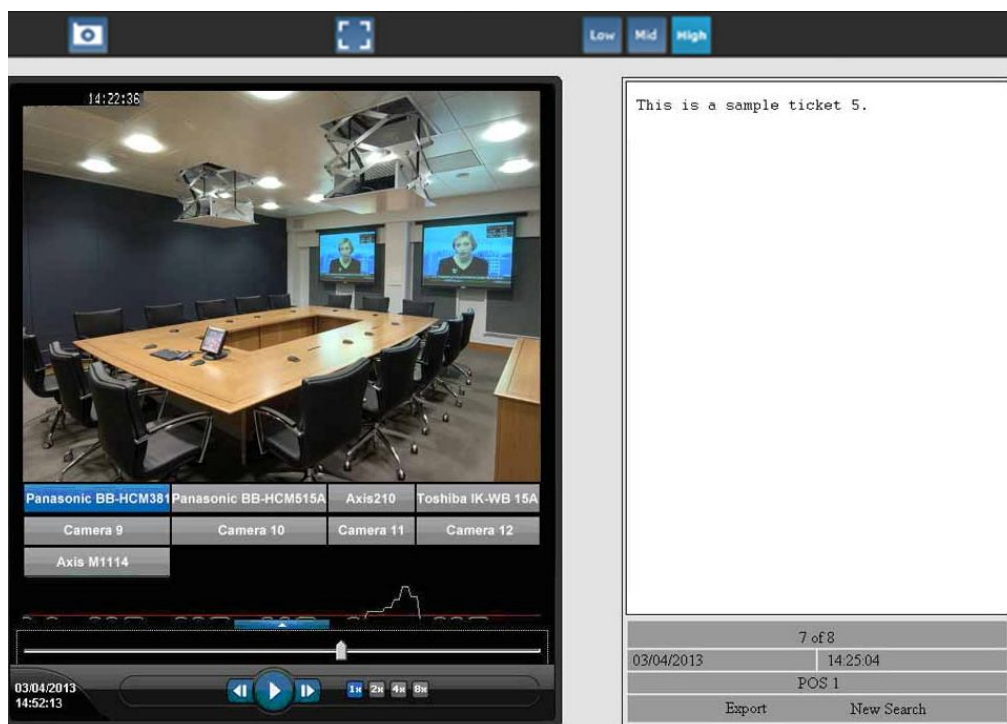
When you have the recording alarms screen open, this is identical to the one in the Alarms menu. The only difference is that you only have the alarms for the time period you requested.

For more explanation about all the functionalities you can use in this screen, see [4.4 Alarms](#).

1.12.7 POS

QGuard allows searching specifically for recordings from cameras associated with certain POS transactions. In order to search for POS transaction recordings, follow the steps below:

1. Select the time period (see *4.3.1 Select Time Period*).
2. Check the **POS** radio button.
3. Check a radio button out of three options:
 - a. **POS** – select the POS source from the drop-down list.
 - b. **Transaction ID** – fill in the ID of the transaction you wish to see.
 - c. **Transaction data** – fill in some data (e.g. cola) in order to get all transactions where that word is included.
4. Click **Search** button.
5. For new POS transaction recordings search, click **New Search** button.



POS Recordings Screen

Click on the camera buttons or event links to see the recordings associated with the transactions.

When you have the recording POS screen open, this is identical to the one in the POS menu. The only difference is that you only have the alarms for the time period you requested.

For more detailed information see **QPOS Link User Manual** for version 4.9.

1.13 Alarms

The **Alarms Menu** allows you to view and export recorded alarm events generated on incoming alarms.



The **Alarm Component** has to be installed to see the menu.

The following sections are described:



- View alarm movie
- Export alarm movie
- Slider
- Alarm playback controls
- Enlarging/Reducing video window
- Low/Mid/High Bandwidth mode
- Snapshots
- Digital Zoom

Event	Date/Time	Cameras										Action
		1	2	3	4	5	6	7	8	9	10	
Alarm PMD 1-2	03.04.2013 14:26:14											Export
Alarm PMD 1-1	03.04.2013 14:02:27											Export
Alarm PMD 1-1	03.04.2013 14:02:26											Export
Alarm PMD 1-2	03.04.2013 14:01:13											Export
Alarm PMD 1-1	03.04.2013 13:59:50											Export

Alarms Screen

1.13.1 *View Alarm Movie*

In the Alarm Screen, you get a list of all the alarms with their associated recordings. Furthermore you also get the **date** and **time** of each alarm event.

Each new incoming active alarm is highlighted in **red**. To view the alarm movie, click on the **alarm event link** and the movie of the first added camera will be displayed in the video window screen. When the alarm link is clicked, the alarm is deactivated and loses its red color. You can switch between all cameras that are associated with an alarm event, by clicking the corresponding camera icon . If you want to see the live view of the cameras, click on the following  icons.

The list is limited to the 5 most recent deactivated alarm events if all are in deactivated state. Activated alarms stay visible until deactivated, up to a maximum of 50.

Click the **Deactivate All** button if you want to deactivate all alarms.



When clicking on the alarm name, the recording of the first camera connected to that alarm is shown. If no recordings are connected to that alarm, you will see live view from the camera that is first in the camera list.



To extend the alarm pane, click on its upper board and move it to the top of the screen while holding the left mouse button.



A new alarm is called active and has a red colour. A previously viewed alarm is called de-activated and is shown in blue.



If you don't see your alarm event in the list, you can search it by clicking the **New Search** button which will redirect you to the recordings menu.

1.13.2 *Export Alarm Movie*

You can export alarm movies as .asf files while staying on the **Alarms** page. In order to export the alarm movie, click the **Export** button of the alarm event and wait while QGuard creates an export movie for each associated active camera(s) in the **Recordings Menu**.

1.13.3 *Slider*

Use the **slider** to quickly look through the recording.

1.13.4 *Alarm Playback Controls*

You can use the Alarm Playback Control buttons in order to make the viewing process more flexible and controllable. The following **Alarm Playback Control** buttons are available:


- **Stop button** – stops playback and returns the slider to its initial position.

- **Frame Backward** – allows you to view the recording in the ‘frame-by-frame’ mode in reverse direction.
- **Play/Pause** – start or pause the playback. After you press this button the slider is not automatically returned to its initial position.
- **Fast Forward** – increase the playback speed in order to skip the irrelevant information. You can choose from 2x, 4x or 8x speed by clicking on the button.
- **Frame Forward** – allows you to view the recording in the “frame-by-frame” mode.


1.13.5 *Low/Mid/High Bandwidth Mode*

Low/High bandwidth mode allows you to decide if you want to have streaming video that consumes a reduced bandwidth. You can choose out of:


- **High Bandwidth Mode** (Default) – High Bandwidth mode is used preferably on local computers (when the QGuard client is located on the same machine as the QGuard server), in local area networks or with high-speed Internet connections. When High Bandwidth mode is enabled, the frame rate and the resolution of the images is taken from the primary stream which usually has maximum value of these indicators.

Use the **High** () button to enable high bandwidth mode.

- **Mid Bandwidth Mode** – Mid bandwidth mode is mostly used in medium- or slow-speed LAN or Internet connections and in Mosaic view mode. When Mid Bandwidth mode is enabled, the frame rate and the resolution of the images is taken from the secondary stream which has lower value of these indicators than in High bandwidth mode. It reduces load on the network and server itself.


Use the **Mid** () button to enable middle bandwidth mode.

- **Low Bandwidth Mode** – Low bandwidth mode is mostly used in very slow-speed LAN or Internet connections. When Low Bandwidth mode is enabled, the frame rate and the resolution of the images are extremely reduced. This leads to a reduced bandwidth usage for streaming. For the basis is taken the secondary stream which processed to the lower quality.

Use the **Low** () button to enable low bandwidth mode.

1.13.6 *Snapshots*

This QGuard feature gives you the ability to take snapshots. To create a snapshot, follow the steps below:

1. Choose the frame you want to save and click the button with the camera symbol ().
2. Choose the desired location for storing images and click the **Save** button.



Snapshots are saved in .JPEG format.

1.13.7 *Digital Zoom*

The Digital Zoom functionality is very useful when there are small details in the scene, but the camera doesn't support optical zoom and there's no way to visually enlarge those objects.

In order to use the **Digital Zoom** functionality, follow the steps below:

1. Click on the video window in order to set a focus point.
2. Use the scroll wheel to zoom the image in and out (a magnifying glass is shown).
3. When partially or totally zoomed in, click on any point of the video screen in order to centralize the video window on this point. This also resets the focus point of further zooming in and out.



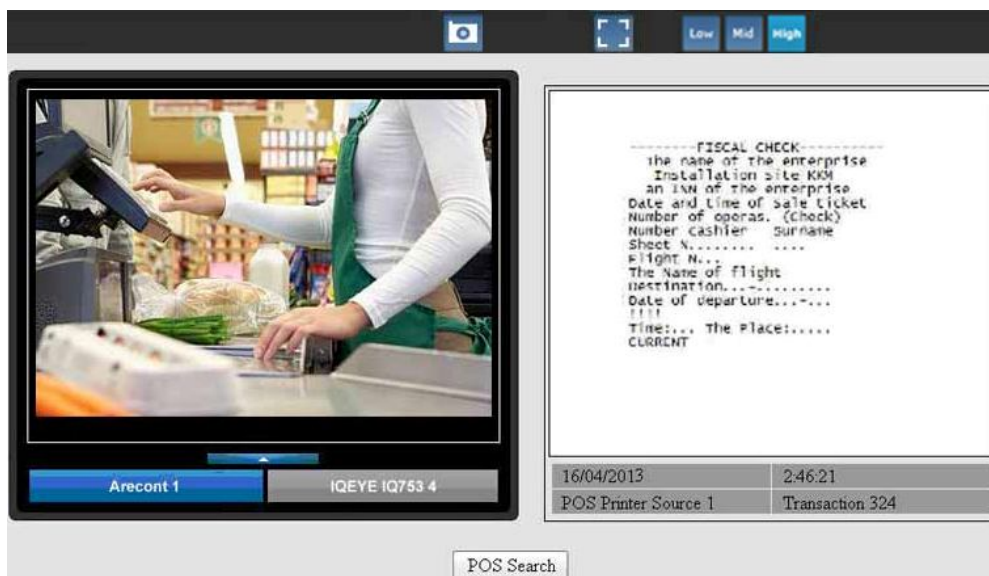
You cannot use the Digital Zoom functionality if your mouse doesn't have a scroll wheel.

1.14 POS

The **POS Menu** allows you to view recorded POS transaction movies and tickets and export the associated POS transaction movies.



The **Alarm Component** has to be installed to see the menu.



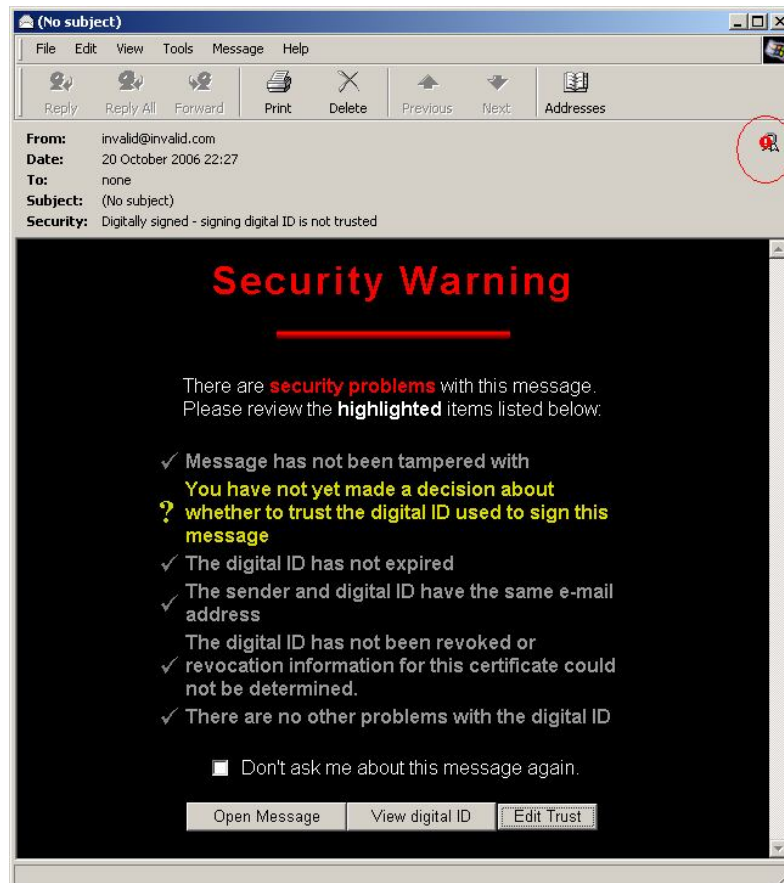
POS Screen

For more detailed information see **QPOS Link User Manual** for version 4.9.

Appendix A

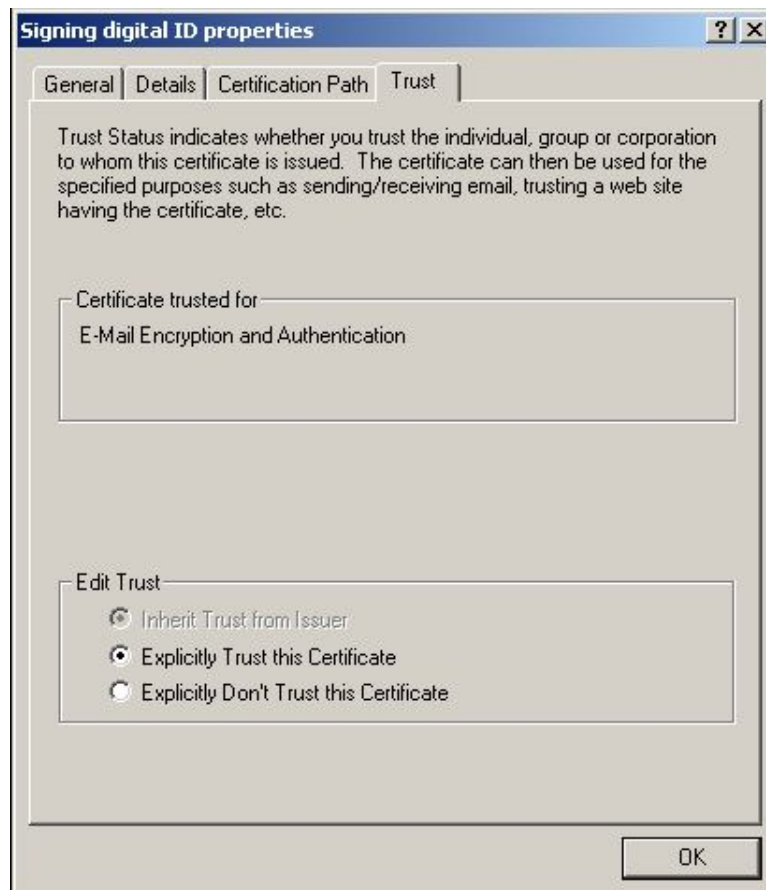
To make a certificate explicitly trusted by means of the Outlook Express email client, follow the steps below:

1. Save .eml signature on the target machine.
2. Double-click on it to open. You will see the following screen that means your certificate is not trusted on this machine.



MS Outlook Express Untrusted Signature Screen

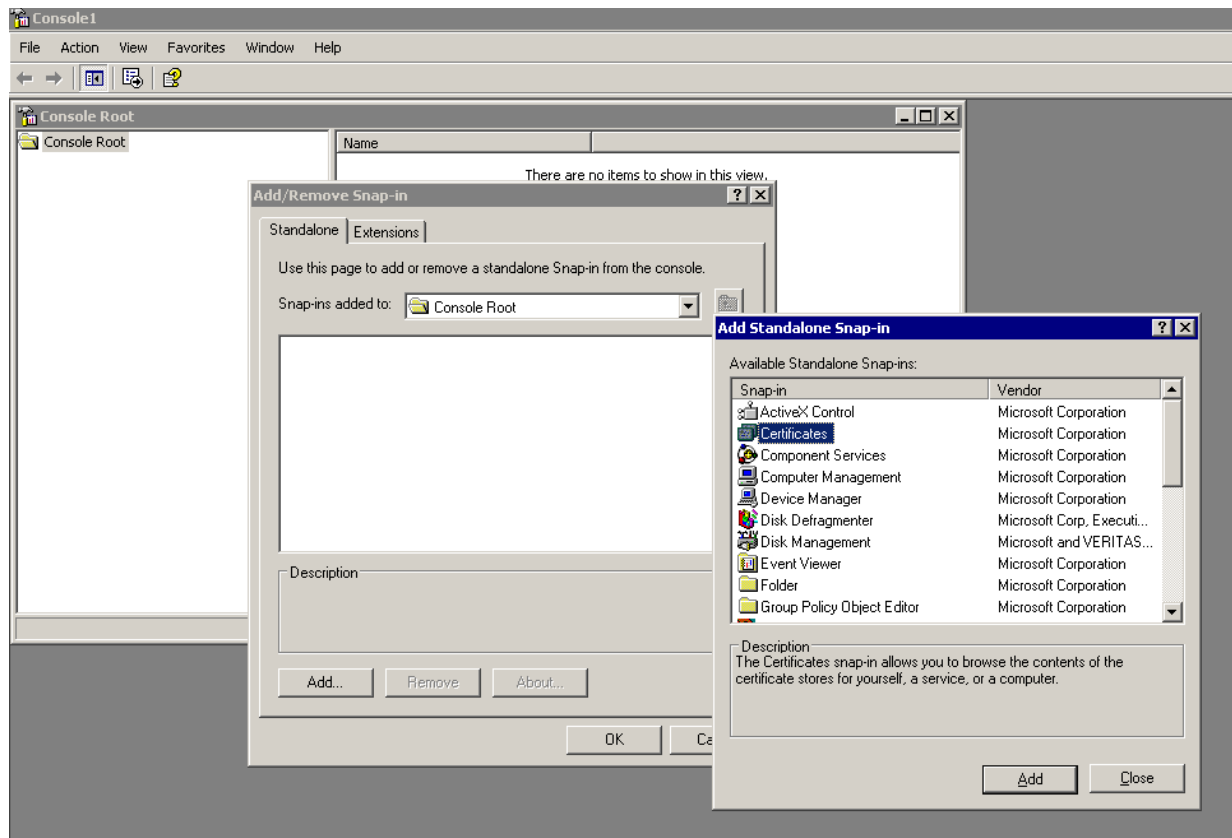
3. Click **Edit Trust** button.
4. In the screen that appears select **Explicitly Trust this Certificate** and follow further prompts.



Signing Digital ID Properties Screen

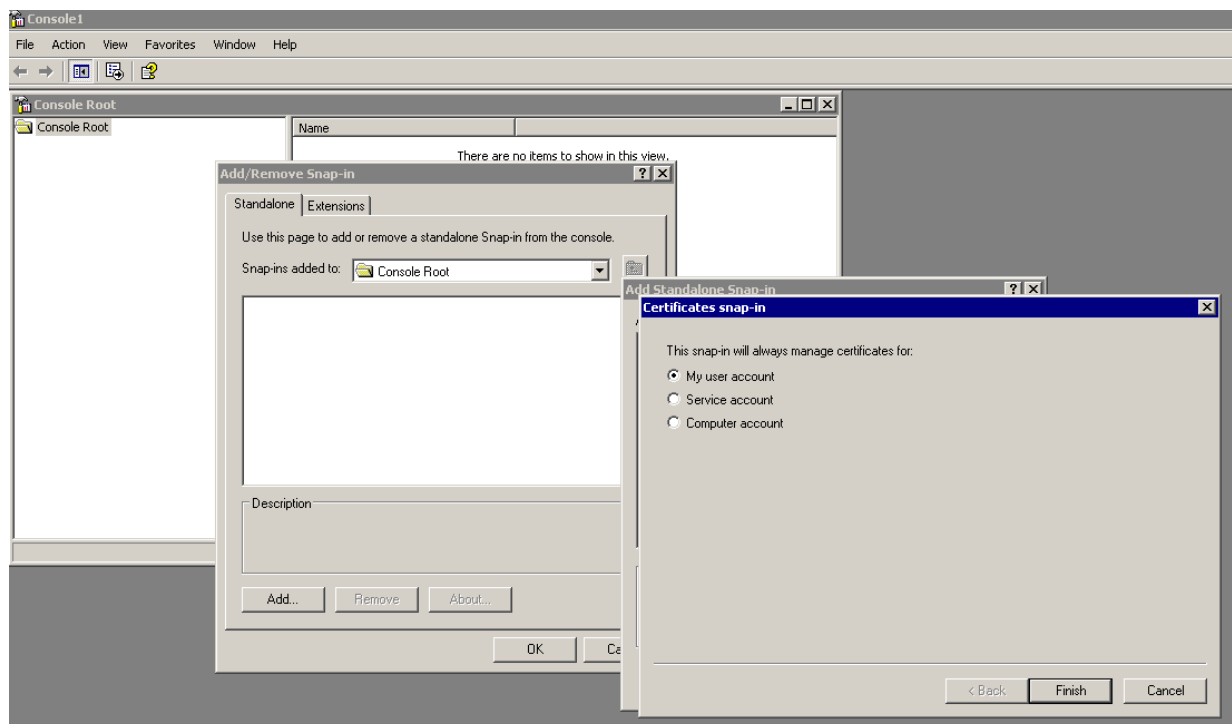
To make a certificate explicitly trusted by means of the Microsoft Management Console follow the steps below:

1. Go to **Start->Run** and specify **mmc** command.
2. In the window that appears, click **File** in the window menu and select **Add/Remove Snap-in**.
3. In the window that appears, click **Add** button.
4. In the next appeared window, choose **Certificates** and click **Add** button.



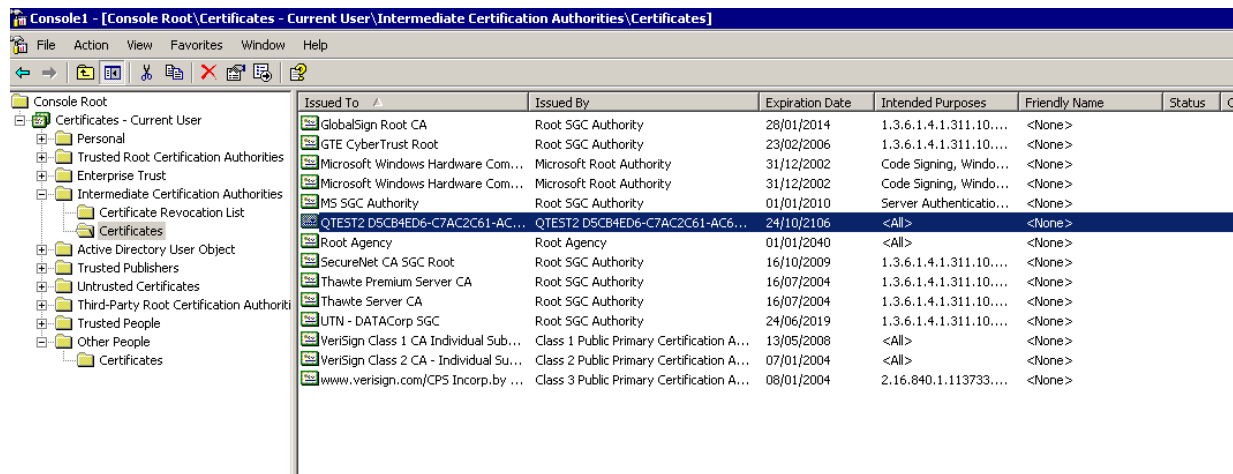
Microsoft Management Console Screen

5. Then select **My User account** item and click **Finish**.



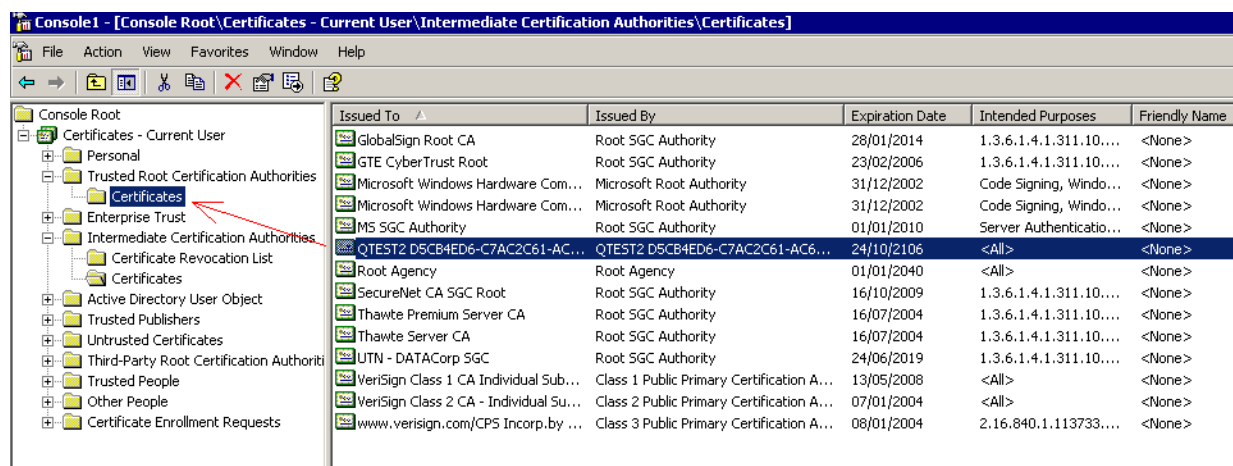
Microsoft Management Console Screen

6. Close all previously opened windows by pressing **Close** and **OK** buttons.
7. Finally you will get the list of all installed certificates.



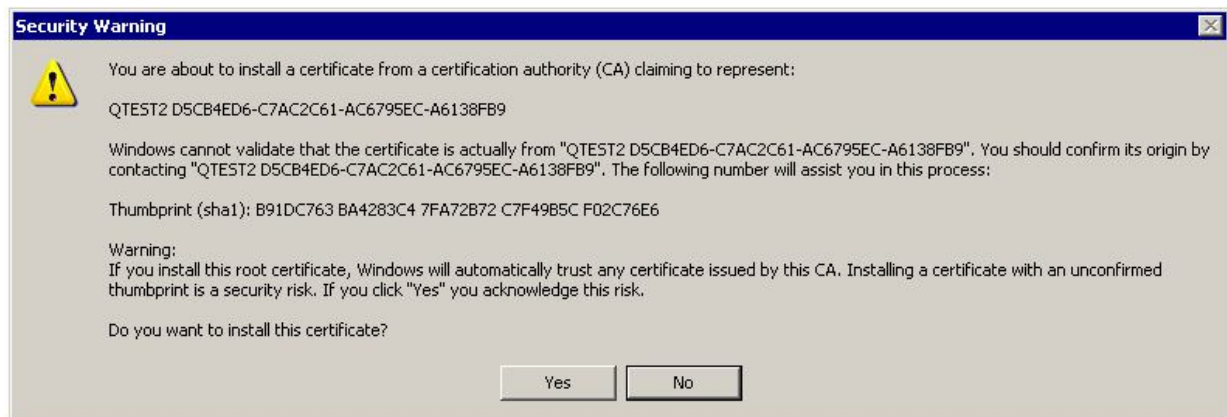
Microsoft Management Console Screen

8. After the certificate installation procedures, which were described above, the certificates are installed to the **Intermediate Certification Authorities** list (when certificate is extracted from the digital signature) or to the **Other People** list (when certificate is installed by exporting it from the recorder). Find your certificate in the corresponding list.
9. To make the certificate fully trusted, drag and drop your certificate to the **Trusted Root Certification Authorities** list.



Microsoft Management Console Screen

10. After verifying the thumbprint, click **Yes** in the screen that appears.

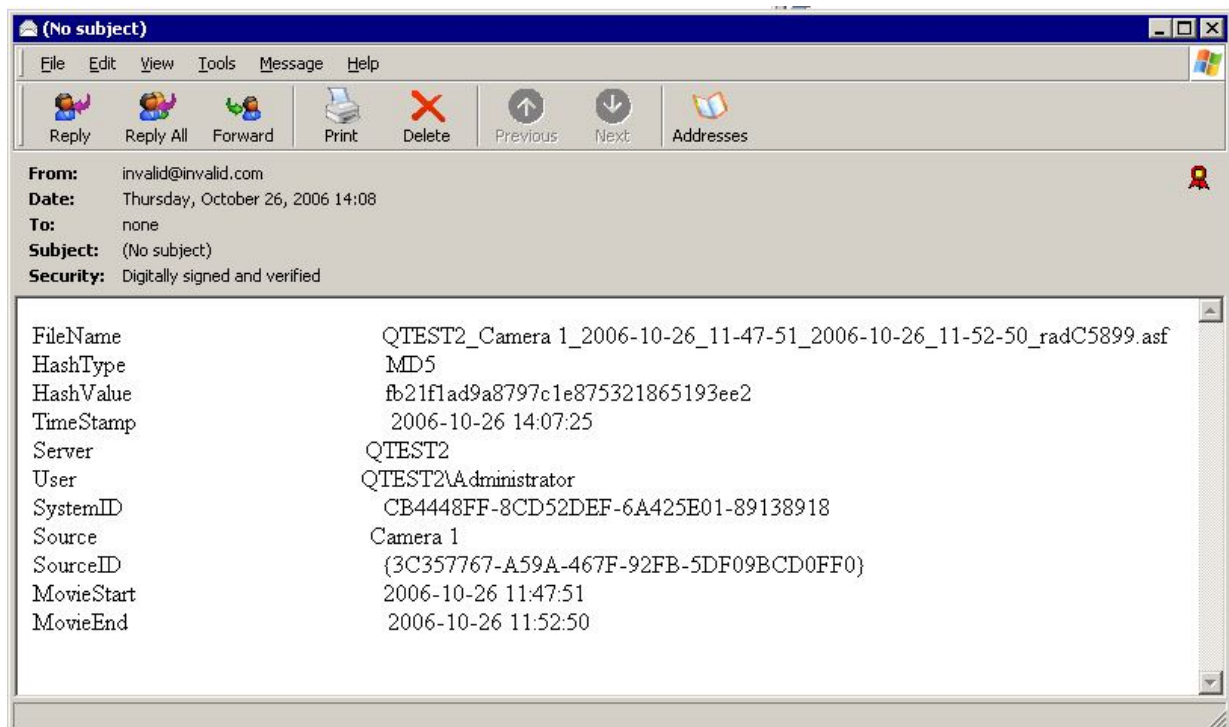


Security Warning Screen

Appendix B

You can manually verify the digital signature by using either the .eml or the .p7m format.

- Signatures in .eml format can be viewed by MS Outlook Express. To do that, double click on the .eml file you just saved, Outlook Express opens the signature and you will see the following screen.



Digital Signature Screen

- Signatures in .p7m format can be viewed by a p7mViewer or another relevant viewer (<http://www.cryptigo.com>). To do that, install the viewer and double click on the .p7m file you just saved. The p7mViewer opens the signature and you will see a screen, which is similar to the one that is above.

Being able to open a digital signature file and see the information inside it implies that it can be decoded (and thus was generated) by the certificate. This means that the signature file itself cannot have been tampered with.

The digital signature generated by Quadrox software contains the following information:



- The filename of the signed movie.
- Signed movie hash type and value. Together, filename and hash value indisputably link the signature to the movie file.
- The time at which the video was recorded.
- The name of the recorder where video was recorded and exported.
- The system user that created the movie export.
- The identifier of the recorder, which together with the certificate that

was used proves that the movie file was originally recorded on that particular system.

- The name of the camera that recorded the exported footage.
- The identifier of the camera that recorded the exported footage.
- The start time of the exported footage
- The end time of the exported footage.

A hash value or a checksum for a file is a short value, something like a fingerprint of the file. This feature can be useful both for comparing the files and their integrity control.

A hash is a mathematically calculated number that uniquely defines the original information. There are always several information strings that have the same hash as a result, but it is infeasible to find a “second original” based only on the hash. If you change a single bit in the original information, the hash will be different. Popular hashes used by the Quadrox software are MD5 and SHA-1.

The Hash value can be checked by using the special tools which are built upon the MD5 checksum algorithm which is used worldwide for checking the integrity of the files, for example FastSum application (<http://www.fastsum.com>).

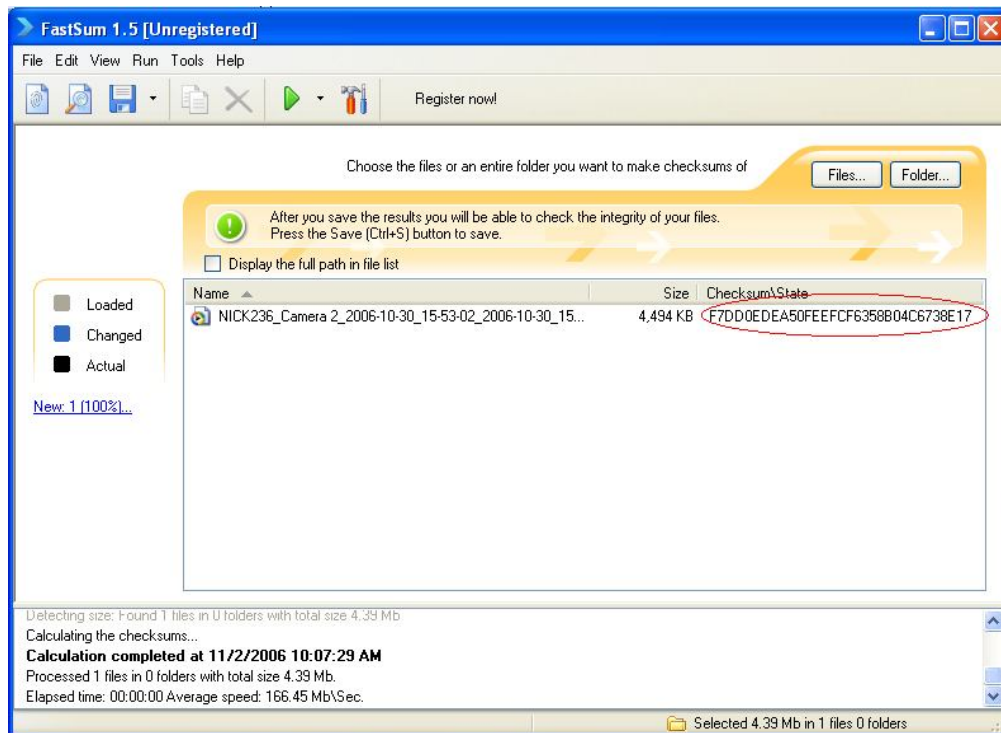
To calculate the movie’s hash value by means of the FastSum application, follow the steps below:

1. Download and install the **FastSum** application by using all the default settings.
2. Right-click on the export file and make the selection as shown on the following screen.

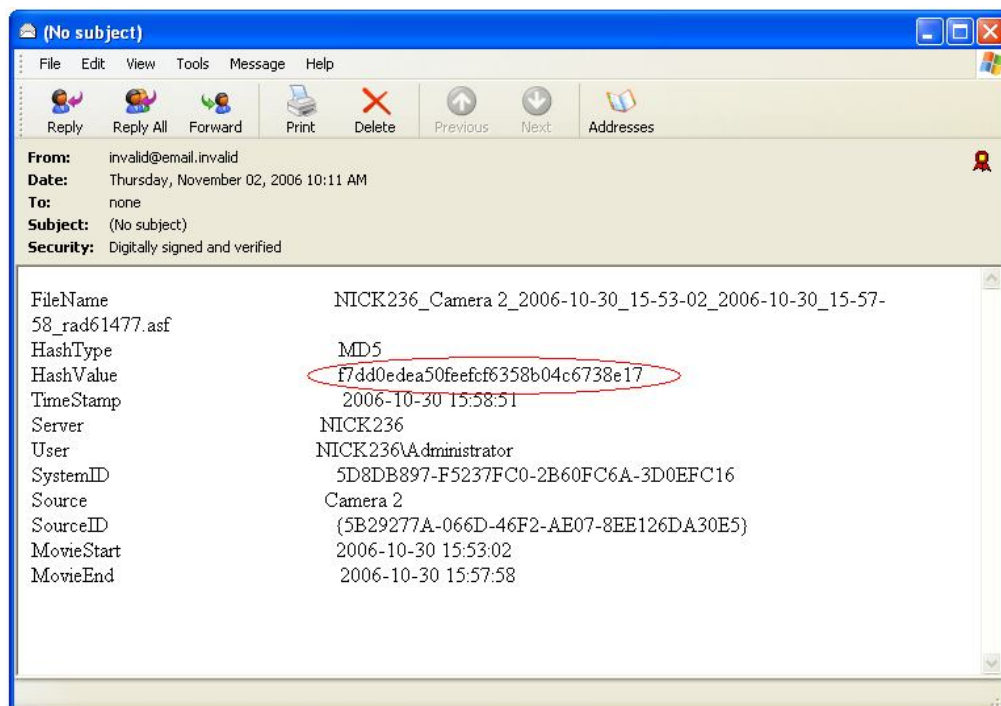


Create Checksum Selection Screen

3. Click **F9** button in the FastSum screen that appears to begin the calculation.
4. When the checksum is calculated by means of FastSum, compare it with the one from the digital signature.



FastSum Screen



Digital Signature Screen

If the checksums don't correspond with each other, this means the movie file is not valid and has been changed.

To check the hash value of an exported movie file by means of the FastSum application, follow the steps below:

1. Download and install the **FastSum** application (<http://www.fastsum.com>).
2. Create an empty text file with **.md5** extension.
3. Edit the file in the following way:

fb21flad9a8797c1e875321865193ee2 *QTEST2_Camera 1_2006-10-26_11-47-51_2006-10-26_11-52-50_radC5899.asf



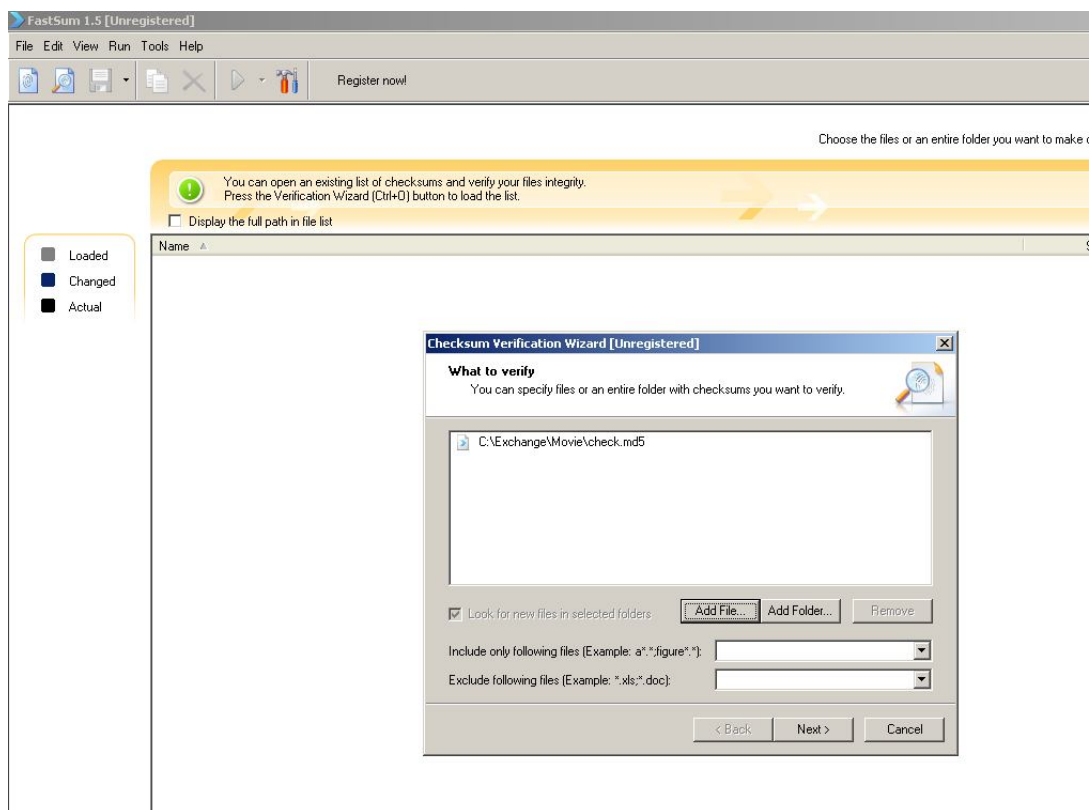
The string above is an example.

Assuming that

fb21flad9a8797c1e875321865193ee2 – is the hash value/checksum, which is taken from the digital signature of the exported movie file you want to validate.

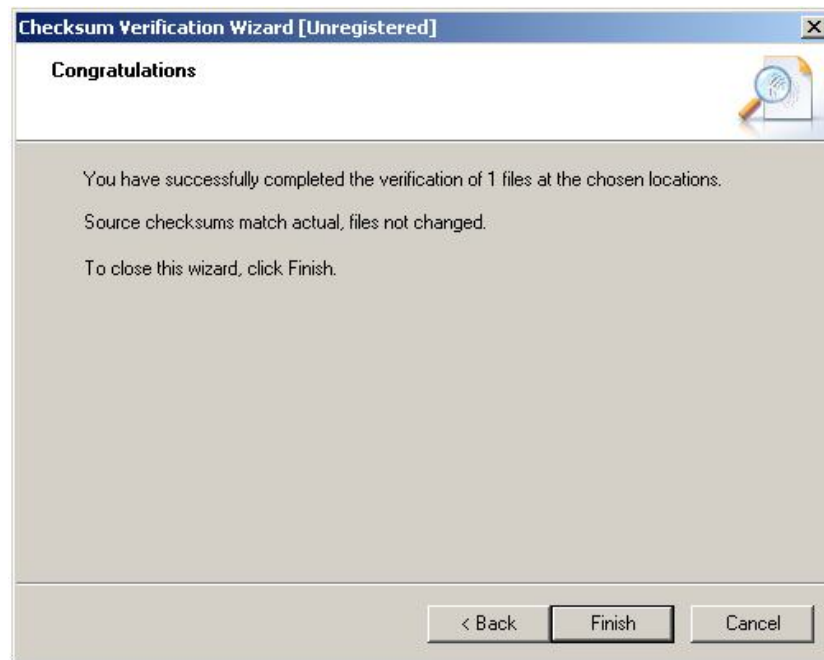
QTEST2_Camera 1_2006-10-26_11-47-51_2006-10-26_11-52-50_radC5899.asf – is the name of the exported movie file you want to validate.

4. Save the edited **.md5** file.
5. Put saved **.md5** file and export movie file to a one folder.
6. Launch **FastSum** application and go to **File -> Verification Wizard**.
7. Click **Add File** in the screen that appears and select **.md5** file you created.



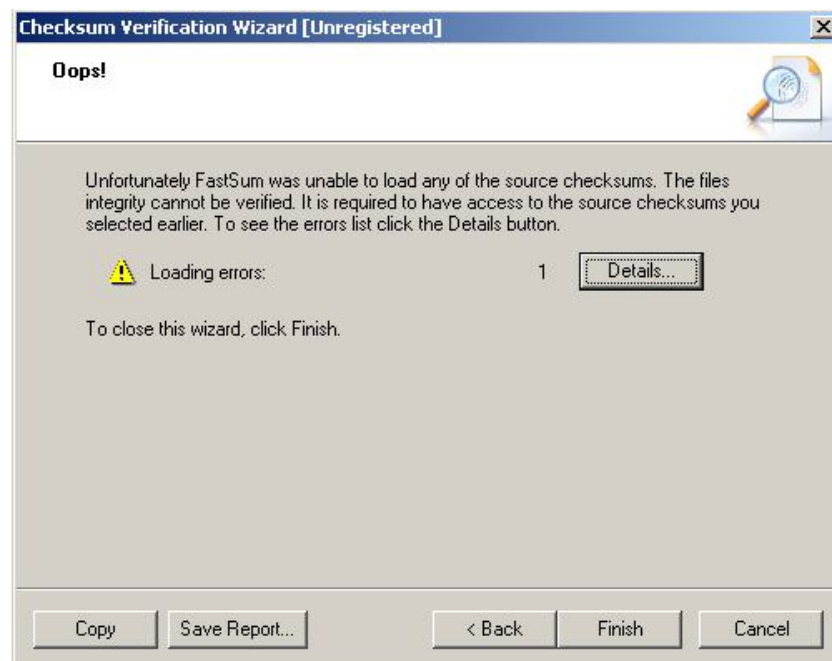
FastSum Application Screen

8. Click **Next** button.
9. If the movie file wasn't changed and the checksum corresponds to the movie file, you will see the following screen:



Checksum Verification Wizard Screen

10. If checksum doesn't correspond to the movie file, this means that the movie file is not valid and has been changed. You will see a screen denoting such an error:



Checksum Verification Wizard Screen

Glossary

The terms in this glossary cover topics related to the QGuard User's Manual.

A

Activation code – special collection of characters supplied with the software, used for the software registering.

ActiveX – is a set of technologies from Microsoft providing tools for linking desktop application to the World Wide Web. Also they are used in the interface and creating other software components.

Activity detection – is a function that enables recording only when movement occurs.

Application – a group of programs that together are used for a specific task such as accounting, financial planning, word processing, games etc.

B

Backup – a copy of a program or data from a computer onto a data-storage medium, usually one that may be removed to safe storage at a distance from the computer; it is used to preserve data for use in the contingency that the original data on the computer may be lost or become unusable.

Browser – is a computer program used for accessing sites or information on a network (as the World Wide Web).

Byte – is the representation of a single character. A sequence of eight bits treated as a single unit, also the smallest addressable unit within the system.

C

Camera Wizard – is a function for facilitation of the camera setting and editing.

Capturing – this option means image recording in a computer-readable form.

Check box – is an interface element that provides parameter or other data selection. When the user clicks a check box to select an option, a V appears in the box.

COM1, COM2 – the names assigned to the serial and communication ports.

Control panel – a collection of the functional buttons. Usually it is arranged at the bottom of the window.

CPU – is an abbreviation for Central Processing Unit. This is the portion of the computer that interprets and executes instructions.

CRT – is the abbreviation for Cathode Ray Tube. This is a vacuum tube in which beams are projected on a fluorescent screen-producing luminous spots. An example is the television set.

Cursor – is a small blinking rectangle or line that indicates the current position on the display screen.

Curtain areas – are areas of constant movement and are classified as not important for surveillance.

D

Data compression – process of reducing the amount of data needed for storage or transmission of a given piece of information (text, graphics, video, sound, etc.), typically by use of encoding techniques.

Default – is the parameter value automatically selected by the system when you or the program does not provide instructions. It is also called a preset value.

Delete – the removing of data from a disk or other data storage device.

Dialog box – an interface element that requires the user to provide further information, such as number of copies to print.

Differential transmission – an option allowing the decrease in the amount of data sent over the network, because only the differences between images are sent over the network when this option is enabled.

Display – CRT, plasma screen, LCD, or other image producing device used to view computer output.

DNS (Domain Name System) – is a database system that translates an IP address into a domain name. For example, a numeric address like 192.168.120.54 can become something like camerasite.com.

Driver – is a program that controls communication between a specific peripheral device and the computer.

Drop-down button (menu) – is a menu of options that appears below the item when the computer user clicks on it.

F

Fan (Cooler) – a device for hardware components cooling.

File – a collection of related information; a file can contain data, programs or both.

Folder – Windows element used to store documents or other folders.

Frame rate – an option used in the recordings setting for defining the number of frames recorded per second per camera.

G

Gigabyte (GB) – is a unit of information equal to one billion (1,073,741,824) bytes or 1024 megabytes.

H

Hard disk – a digital memory device consisting of a flat disk covered with a magnetic coating on which information is stored.

Hardware – the sum of all the physical objects, such as the electrical, mechanical, and electronic devices which comprise a computer system; as, the typical PC hardware suite consists of a mainboard and a number of peripherals such as hard drives and speakers, connected by adapter cards, but the input and output from users occurs mostly through the keyboard and monitor; contrasted with software which are the programs executed by the computer.

I

Icon – a small graphic image displayed on the screen or in the indicator panel. In Windows an icon represents an object that the user can manipulate.

Internet Explorer – Microsoft's free World Wide Web browser for Microsoft Windows and Macintosh.

Image refresh rate – an amount of images the camera sends per one second.

Infrared sensor – is a cable-less communication tool capable of accepting and reacting for infrared signals.

Interface – 1) Hardware and/or software components of a system used specifically to connect one device to another. 2) Physical connection of the one system or device to another for information exchanging. 3) The point of contact between user, the computer and the program.

IO device – equipment used to communicate with the computer and transfer data to and from it.

IP address – a number that uniquely identifies each computer on the Internet or local network (see PMD IO Device also).

IP camera – a camera that has its own IP address and captures, transmits images electronically rather than on film.

J

JPEG – is a standard format of the compression technology (see data compression).

M

Masking – with this feature activated, only images with relevant activity in specified area(s) will be recorded, which increases the recording time significantly.

Megabyte (MB) – is a unit of information equal to one million (1,048,576) bytes or 1024 kilobytes.

MPEG – is a standard format of the compression technology (see data compression).

N

NTSC (National Television Standards Committee or National Television Systems Committee) – the standard television video signal format used in the U.S. and Japan. In Europe the formats most often used are PAL and SECAM.

O

Operating system – is a group of programs that controls the basic operation of a computer. Operating system functions include interpreting programs, creating data files and controlling the transmission and receipt (input/output) of data to and from memory and peripheral devices.

P

PC – abbreviation for Personal Computer.

PAL (Phase Alternate Line or Phase Alternation Line) – the standard for colour television broadcast throughout much of Europe, which has good colour transmission and sends an analogue signal at 625 lines of resolution 25 interlaced frames a second.

Pan Tilt Zoom (PTZ) camera – camera with moveable lens.

Password – a unique string of characters used to identify a specific user. The computer provides various levels of password protection such as user, supervisor, and administrator.

Piccolo IO Proxy – equipment for alarm processing.

PMD IO Device – equipment for alarm processing.

Pop-up menu – a list displayed on the computer screen, by which a program provides the user with different options for processing by the program. It usually includes a mechanism, such as pointing by a mouse or selection by arrow keys, to select the desired option from those on the list.

Port – the electrical connection through which the computer sends and receives data to and from devices or other computers. This term means a part of IP logical connection also. For instance: <http://192.168.100.1:5000>. Where 5000 is a port number.

R

Radio buttons - a group of buttons on the computer screen of which only one can be selected at a time (by clicking on it). Radio buttons are commonly used with interactive forms on World Wide Web pages.

Reboot – resetting a computer without turning it off. There is a special button that allows the rebooting of a QGuard server when it is required.

Resolution – the number of pixels per square inch on a computer-generated display. The higher the resolution, the clearer the picture is.

S

Sequence time – an option for interval time defining. It is used in some QGuard functions.

Server – a computer in a network that is used to provide services (as access to files or shared peripherals or the routing of e-mail) to other computers in the network.

Slider – an interface element that provide the handling and changing of the certain parameter.

Snapshot – an image of a certain video moment.

Software – the set of programs, procedures and related documentation associated with a computer system. Specifically refers to computer programs that direct and control the computer system's activities.

Streaming – an option for activity detection of the cameras that have been watched in live view.

SVHS (Super Video Home System) – a high-quality video format that has higher resolution than normal VHS. It must be played on a videocassette recorder that supports the SVHS format, and to see the sharper image resulting from the higher resolution, it must be played on a high-resolution television set.

System configuration – the specific components in your system (such as the terminal, printer and disk drives) and the settings that define how your system works.

System downloads – a function that allows downloading QGuard concerned software.

T

TCP/IP – these two protocols were developed by the U.S. military to allow computers to talk to each other over long distance networks. IP is responsible for moving packets of data between nodes. TCP is responsible for verifying delivery from client to server. Nowadays these two protocols are used in the Internet for providing data transmitting mostly.

TCP Server Port – is used to allow external users to receive alarms, control PTZ cameras, send commands, etc.

U

UDP Streaming Ports – are used to transmit video streams. QGuard choose necessary amount of ports from range 4096-4224 and transmit video streams by means of them.

UDP Datagram – is the packet (datagram), on which video stream is divided for proper transmission through the network.

V

VHS (Video Home System) – the standard home videocassette format, which has 1/2" videotape and up to 160 minutes playing time.

Video card – a circuit board fitted to a computer, containing the necessary video memory and other electronics to provide a bitmap display. Adaptors vary in the resolution (number of pixels) and number of colors they can display, and in the refresh rate they support. The monitor attached to the adaptor also limits these parameters. A number of such display standards, e.g. SVGA, have become common and different software requires or supports different sets.

Video memory – an amount of the video card memory.

Virtual Patrol – this function allows camera inspecting of the different sites at the given times. It allows active 24 hour monitoring of a big area with only one camera.

W

Window – a portion of the screen that can display its own application or document. Often used to mean a Microsoft Windows window.

Windows 7 – an operating system based on the windows effect. Created by Microsoft Corporation.