XX128-33-01

KollectorPro XG

Network Digital Video Recorder

Software Manual

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Thank you for selecting Vicon systems and products for your video needs.

Since Vicon's beginning in 1967, our only business has been the design, engineering, and production of the highest quality video systems and equipment for use in a wide variety of security, safety, control, surveillance, and communication applications.

We stand behind the quality and dependability of every product with an industry leading Beneficial Use warranty.

If you are not satisfied with a Vicon product or service, I would like to know. Your complete satisfaction is the mission of every Vicon employee.

Sincerely,

Kenneth M. Darby
President

Important Notice

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Φ This Manual contains proprietary information belonging to Vicon. Such information is supplied solely for the purpose of assisting explicitly and properly authorized users of the ViconNet system.

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Φ The text and graphics are for the purpose of illustration and reference only. The specifications on which they are based are subject to change without notice.

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Φ Information in this Manual is subject to change without notice. Corporate and individual names and data used in examples herein are fictitious unless otherwise noted.

About This Manual

The Kollector Pro Software Manual is comprised of the following chapters:

Φ **Chapter 1, Introducing ViconNet**, introduces the main concepts and system architecture of the ViconNet system.

Φ **Chapter 2, Getting to Know ViconNet**, describes the main ViconNet application windows and their functionality.

Φ **Chapter 3, Configuring the ViconNet System**, describes all available configuration functions in the ViconNet system, including system setup and creating macros and schedules.

Φ **Chapter 4, Viewing Live Video**, describes the mandatory and optional tasks involved in viewing live video.

Φ **Chapter 5, Recording Live Video**, describes the manual and automatic processes for recording live video.

Φ **Chapter 6, Playing Back Recorded Video**, describes the process for playing back recorded video.

Φ **Chapter 7, Managing Macros and Schedules**, describes how manage and work with macros and schedules in the ViconNet system.

Φ **Chapter 8, Generating Reports**, describes how to generate different types of reports available in the ViconNet system.

Φ **Chapter 9, Printing/Exporting Frames and Creating AVI Files**, describes how to print out or export selected frames from Playback, and to create AVI files from selected playback segments.

Φ **Appendix A, Configuring your Personal Firewall**, describes how to configure your firewall to protect your ViconNet system.

Φ **Appendix B**, **Configuring the Network**, describes how to configure network adaptors and DHCP.

Φ **Appendix C**, **Setting Up a VPN Service**, presents an example of how to setup a Virtual Private Network (VPN) service (server and client) for the ViconNet application.

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Introducing ViconNet

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- **What Is ViconNet?**, page 2, provides a brief overview of the ViconNet system.

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What Is ViconNet?

Today, sites that contain security cameras can access data from those cameras only where monitors are physically located. The sophistication of the system determines whether all video can be transmitted to these locations, as well as how many cameras can be viewed simultaneously on each monitor. In addition, viewing recorded data can be performed only after the videocassette is played back on the operator's monitor.

The ViconNet system, simply put, enables full digital live and recorded audio and video surveillance over an Ethernet network (using different types of transmission), from any connected computer. This includes surveillance of all installed cameras and microphones from each Workstation.

Each Workstation can manage up to sixteen simultaneous camera and microphone displays, for the Kollector Elite and Pro (selected models). (By default, the Kollector Net Server does not support audio input.) Both live and recorded audio and video can be viewed concurrently. In addition, audio and video can be recorded on any or all Workstations connected to the ViconNet system.

The ViconNet system offers full flexibility within the video and audio surveillance scheme. For example, a company with many sites can be merged into one ViconNet system, enabling viewing and recording capabilities specific for each site. The ViconNet system also operates through the Internet. This enables video to be viewed on any Workstation with Internet access.

What Is the Kollector Pro?

The Kollector Pro is a 16-channel digital video recorder powered by a software platform called ViconNet, which allows each Kollector Pro recorder to video from local analog inputs and provide video to other Kollector Pro recorders and Workstations over the network.

ViconNet also powers each Kollector Pro recorder with the ability to be remotely configured by Kollector Elite recorders and Workstations on the network. Changes to camera titling, macro programming and scheduling, as well as frame rate manipulation, are all possible from one or more recorders or workstations on the system.

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  Driver version 908 contains Vicon, Pelco (D Protocol), Ernitec, Samsung, Sensormatic, Kalatel and Philips (Bosch), Pelco P Protocol, Panasonic, Elbex (Ver. 0.77), Elbex (Ver 0.91).

  > **NOTE:** *Vicon strongly recommends bench testing Kollector Pro recorders with any PTZ, prior to final installation.*

System Components

This section provides a brief description of the main components in the ViconNet system, as follows:

- **Recorder:** The Kollector Elite, Kollector Pro and Kollector Network Server, which have up to 16 camera and microphone inputs (only the Kollector Elite supports audio input by default). Recorders can perform local and remote video recording, local and remote video playback and archive of video/audio data to a SCSI-connected RAID device.

- **Workstation:** The VN-NVR Workstation or the ViconNet software loaded onto a computer meeting the minimum hardware and software requirements. Workstations can remote-view live and playback video from networked recorders, servers and other Workstations. In addition, Workstations can handle alarms sent from recorders and servers.

- **KN Server:** This video server with up to sixteen camera inputs. Recorders and Workstations can view and record live video from this networked server. This server has a GUI for configuration purposes only. No video can be viewed locally. This server cannot see other network attached devices but can support alarms and automatically recorded video.

- **Nucleus:** A Recorder or Workstation assigned the task of a central data station (CDS) to connect all recorders and Workstations currently running ViconNet applications in the system.

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- **ViconNet Application:** The ViconNet application is installed on all Recorders, Workstations and Servers, providing users with full control of the ViconNet system.

> **NOTES:**
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> *It is strongly recommended that the Nucleus and backup Nucleus (if necessary), whenever possible, should run on dedicated Workstations.*
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> - *Small system – Less then 5 sites*
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>   *In a small system, the Nucleus can be on any of the recorders or Workstations.*
>
>   *A backup Nucleus should only be configured if deemed necessary.*
>
>   ***NOTE:** If the Nucleus is configured on a recorder and the recorder is heavily loaded with recording and transmissions, then the Nucleus should be moved to a dedicated Workstation.*
>
> - *Medium/Large system – More then 5 sites*
>
>   *In a medium/large system the Nucleus and backup Nucleus should run on a dedicated Workstation only.*

ViconNet Application Options

The software options that are available depend on the component on which the ViconNet application is installed. The applicable component type appears at the top of the application window.

Application	Application Options Available
Kollector Elite	The Kollector Elite can connect to any IP camera or Recorder in the system (Kollector Elite, Kollector Pro or Kollector Net Server) and can utilize any of their devices.
Kollector Pro	The Kollector Pro operates on a standalone basis and can only be seen by other Recorders and Workstations on the network. It can access only its own local cameras and microphones.
	For more details, refer to the Kollector Pro Software Manual, XX128-3X.
Kollector Network	The Kollector Network is a server that can be accessed by all other devices to view and record its cameras.
	The Kollector Network can be connected to a network via a network hub or switch directly into a Recorder or Workstation by using a crossover cable. It has 16 cameras, and 4 sensors.
Workstation	Workstations can connect to any Recorder (Kollector Elite or Kollector Pro) or Server (Kollector Net Server) and can utilize any of their cameras.
	For more details, refer to the Workstation Software Manual, XX113-0X.
IP Cameras	There are four types of IP cameras, as described below:
	1. **SurveyorVFT** (IP dome): A PTZ camera with 360 degree rotation and digital zoom facility, which is also a transmitter. It can be connected straight to the network like a Kollector. If it is connected to a ViconNet network, the SurveyorVFT appears in the site list. Using this camera can save buying Kollectors, for example, as you can have one Kollector, 16 regular cameras and a number of SurveyorVFT cameras connected directly to the network.
	2. **VN-755IP**: A regular camera with a ViconNet IP card installed, which can be connected directly to a network (and therefore it does not need a Kollector). The VN-755IP has three more inputs for analog cameras and acts like a server. The internal compression card outputs digital video.
	3. **VN-301T** (Single channel): A small server that contains a video compression card. It is connected to a network and supports one analog camera input.
	4. **V910** (Roughneck): Like an IP dome, but without movement (rotation) capabilities, and does not provide an indication of the direction in which it is pointing. It can be connected directly to the network.
Viewer	The *Viewer* is a limited-functionality version of the *ViconNet* application that operates on your PC prior to registration.
	For more details, refer to the *ViconNet Workstation Software Manual.*

System Requirements

Vicon requires the use of Uninterruptible Power Supply (UPS) systems in the electrical power service. Failure to comply with this will void the unit warranty.

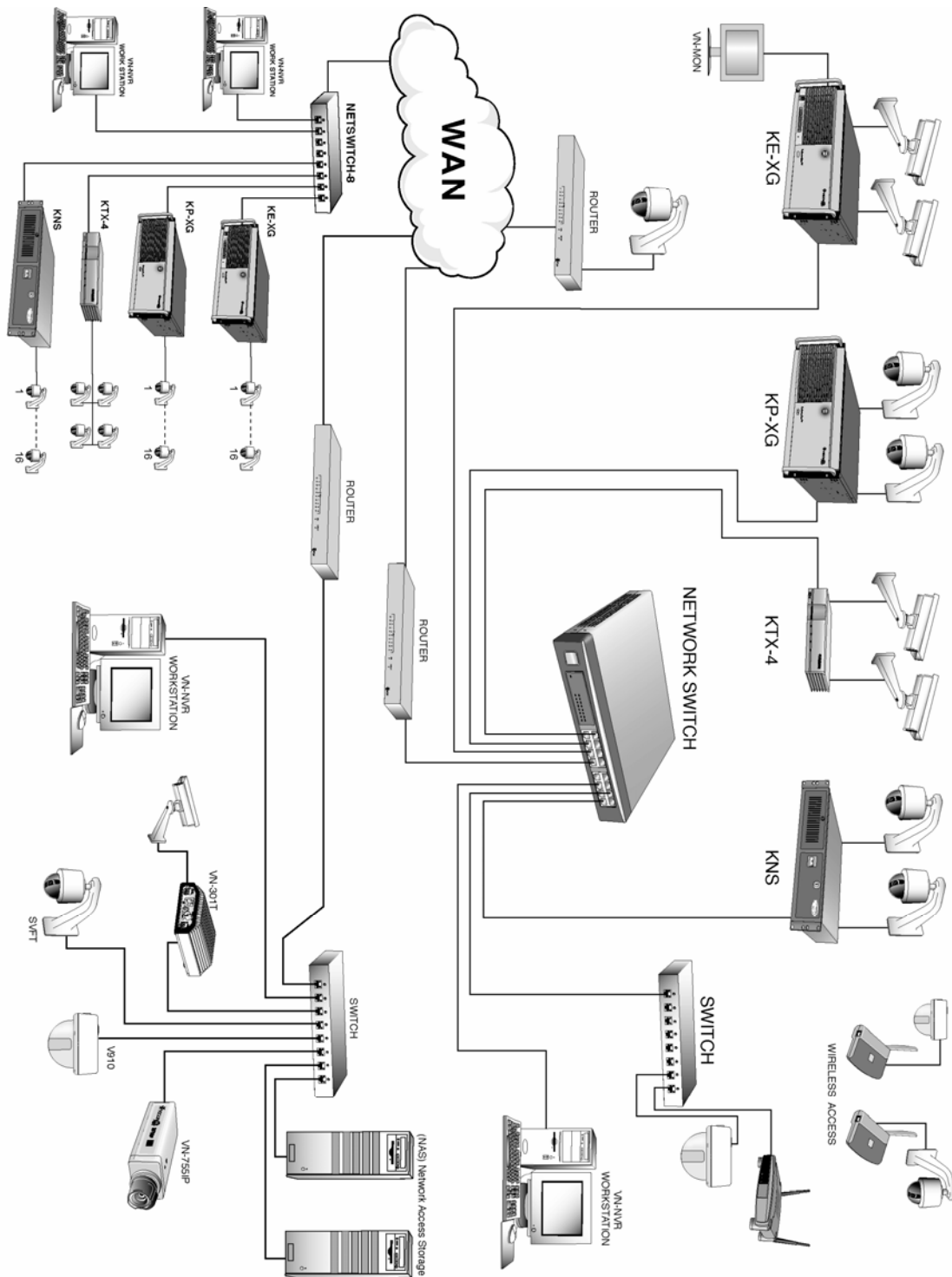Use the following minimum UPS requirements:

- Capacity: 1000 VA/600 W
- Maximum operation time:
    - 16 cameras recording/displaying with a typical 15" CRT monitor): 18 minutes
    - 16 cameras recording/displaying with a typical 17" CRT monitor): 5 minutes
- Input:
    - Voltage: 115 VAC/230 VAC
    - Voltage Range: ±30% (with a 4-step AVR)
    - Frequency: 47 – 63 Hz (auto detection)

- Output:
    - Voltage: 115 VAC/230 VAC
    - Voltage Reduction (bat. mode): ±10%

NOTES:

It is required that external devices (such as RAID units, backup drives or external DVD units) be connected to the power source via UPS when used with the ViconNet system.

System Architecture

The diagram shown below illustrates a ViconNet system structure that incorporates the Nova 1500 system with different ViconNet transmitters.

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>   *A backup Nucleus should only be configured if deemed necessary.*
>
>   ***NOTE:** If the Nucleus is configured on a recorder and the recorder is heavily loaded with recording and transmissions, then the Nucleus should be moved to a dedicated Workstation.*
>
> - *Medium/Large system – More then 5 sites*
>
>   *In a medium/large system the Nucleus and backup Nucleus should run on a dedicated Workstation only.*

ViconNet Application Options

The software options that are available depend on the component on which the ViconNet application is installed. The applicable component type appears at the top of the application window.

Application	Application Options Available
Kollector Elite	The Kollector Elite can connect to any IP camera or Recorder in the system (Kollector Elite, Kollector Pro or Kollector Net Server) and can utilize any of their devices.
Kollector Pro	The Kollector Pro operates on a standalone basis and can only be seen by other Recorders and Workstations on the network. It can access only its own local cameras and microphones. For more details, refer to the Kollector Pro Software Manual, XX128-3X.
Kollector Network	The Kollector Network is a server that can be accessed by all other devices to view and record its cameras. The Kollector Network can be connected to a network via a network hub or switch directly into a Recorder or Workstation by using a crossover cable. It has 16 cameras, and 4 sensors.
Workstation	Workstations can connect to any Recorder (Kollector Elite or Kollector Pro) or Server (Kollector Net Server) and can utilize any of their cameras. For more details, refer to the Workstation Software Manual, XX113-0X.
IP Cameras	There are four types of IP cameras, as described below: 1. **SurveyorVFT** (IP dome): A PTZ camera with 360 degree rotation and digital zoom facility, which is also a transmitter. It can be connected straight to the network like a Kollector. If it is connected to a ViconNet network, the SurveyorVFT appears in the site list. Using this camera can save buying Kollectors, for example, as you can have one Kollector, 16 regular cameras and a number of SurveyorVFT cameras connected directly to the network. 2. **VN-755IP**: A regular camera with a ViconNet IP card installed, which can be connected directly to a network (and therefore it does not need a Kollector). The VN-755IP has three more inputs for analog cameras and acts like a server. The internal compression card outputs digital video. 3. **VN-301T** (Single channel): A small server that contains a video compression card. It is connected to a network and supports one analog camera input. 4. **V910** (Roughneck): Like an IP dome, but without movement (rotation) capabilities, and does not provide an indication of the direction in which it is pointing. It can be connected directly to the network.
Viewer	The *Viewer* is a limited-functionality version of the *ViconNet* application that operates on your PC prior to registration. For more details, refer to the *ViconNet Workstation Software Manual.*

System Requirements

Vicon requires the use of Uninterruptible Power Supply (UPS) systems in the electrical power service. Failure to comply with this will void the unit warranty.

Use the following minimum UPS requirements:

- Capacity: 1000 VA/600 W
- Maximum operation time:
    - 16 cameras recording/displaying with a typical 15" CRT monitor): 18 minutes
    - 16 cameras recording/displaying with a typical 17" CRT monitor): 5 minutes
- Input:
    - Voltage: 115 VAC/230 VAC
    - Voltage Range: ±30% (with a 4-step AVR)
    - Frequency: 47 – 63 Hz (auto detection)

- Output:
    - Voltage: 115 VAC/230 VAC
    - Voltage Reduction (bat. mode): ±10%

NOTES:

It is required that external devices (such as RAID units, backup drives or external DVD units) be connected to the power source via UPS when used with the ViconNet system.

System Architecture

The diagram shown below illustrates a ViconNet system structure that incorporates the Nova 1500 system with different ViconNet transmitters.

Chapter 2
Getting to Know ViconNet

This chapter describes the ViconNet application and familiarizes you with its components and functionality. This chapter contains the following sections:

- **Logging In**, page 12, describes how to log in to the ViconNet application.

- **Main Window**, page 13, describes all the elements in the ViconNet *Main* window that provide access to the basic functions required to operate the system.

- **Navigator Window**, page 34, describes all the elements in the ViconNet *Navigator* window that provide access to all playback functionality.

- **Alarm Window**, page 48, describes the popup window displayed when an alarm event occurs in the system.

- **Logging Out, Exiting or Shutting Down**, page 51, describes how to log out without closing the ViconNet application, to close the ViconNet application and exit to the operating system, or to shut down or restart the ViconNet unit.

- **Watchdog**, page 52, describes the Watchdog feature, which acts as a safety mechanism in cases of unforeseen incidents such as temporary power failures.

Logging In

Logging in to the ViconNet application is performed using your assigned user name and password. The allowed system operations are dependent on your assigned authorization rights (refer to *Chapter 3, Configuring the ViconNet System*, for additional details).

The full functionality of the ViconNet system is available only after the system is registered. Before registration is performed, the system will function with limited *Viewer* functionality only. Refer to the *Registering Your System* section in *Chapter 3, Configuring the ViconNet System* for further information.

A ViconNet Administrator user can configure the system to automatically log in selected users. Then, each time the user starts the application, he/she will be presented with the ViconNet *Main* window without having to enter a user name and password. Refer to the *Configuring Auto Login* section in *Chapter 3, Configuring the ViconNet System*.

NOTES:
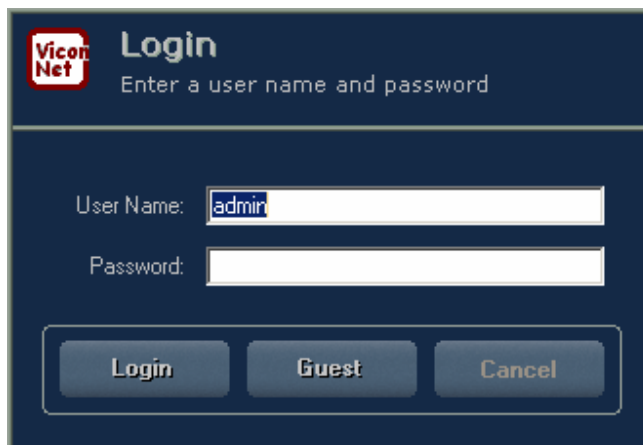
Before you log in to the ViconNet application, verify that the hardware components are properly installed and functional. For additional details, refer to the hardware manual.

To log in to the ViconNet application:

1. At your Kollector Pro, double-click the ViconNet icon on your Windows desktop,

    -OR-

    Select **Start→ViconNet**. The ViconNet *Login* window appears, displaying the name of the last logged in user.

NOTE: *If you restart your Kollector Pro, the ViconNet application automatically starts up with the Login window open.*

---

2. In the **User Name** field, enter your assigned user name. If you are an administrator entering for the first time, enter **admin**. If you are a guest, enter **guest**.

3. In the **Password** field, enter your assigned password.

> ***NOTES:***
> *If you are a guest, you do not need to enter a password.*
>
> *If you are an administrator entering the application for the first time, you do not need a password. After logging in as **admin**, it is recommended to assign yourself a password, as described in Chapter 3, Configuring the ViconNet System.*

4. Click [Login]. The ViconNet *Main* window is displayed, as shown in the following section.

Main Window

After logging in to the ViconNet application, the *Main* window is displayed, as shown on the following page, enabling you to:

- Configure the ViconNet system.

- View live video.

- Record live video.

- Play back recorded video.

- Create and manage macros and schedules.

- Control video images.

- Control devices.

- Generate reports.

- Print or export image frames.

- Configure an external control device.

- Use system utilities.

Each of the above tasks is described in detail in the subsequent chapters of this manual.

> **NOTE:** *The allowed operations depend on each user's assigned site authorization. Refer to Chapter 3, Configuring the ViconNet System, for additional details about configuring site authorization.*

The following example illustrates the elements and options in the ViconNet *Main* window:
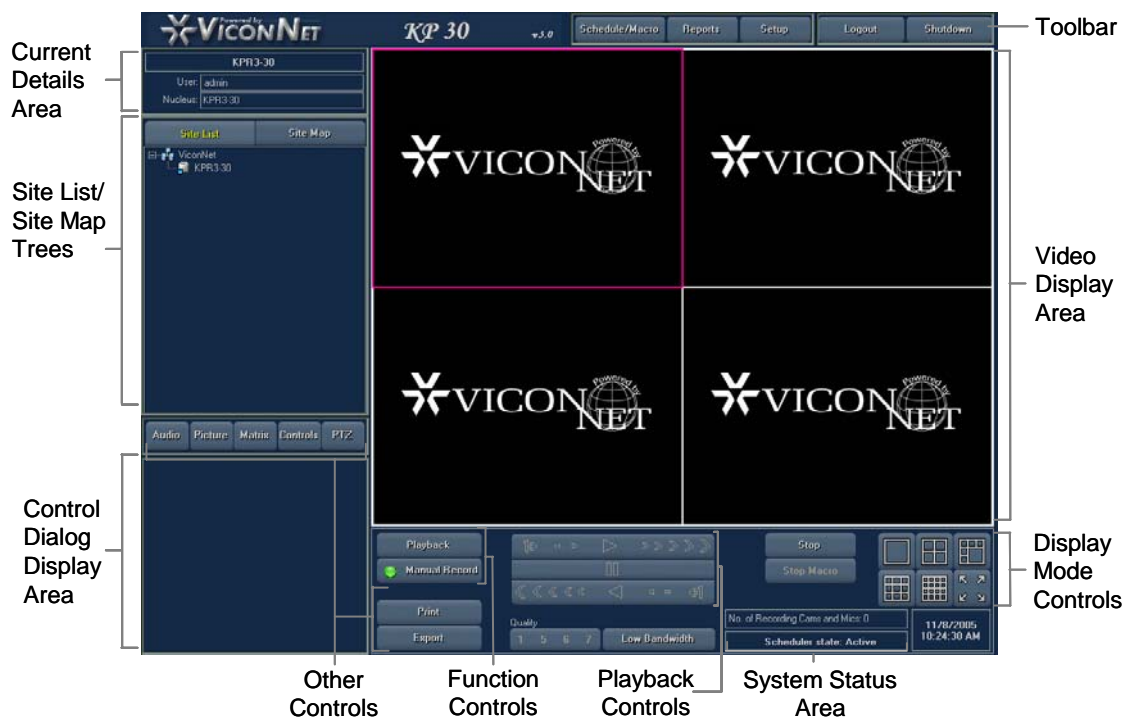
The window shown above provides access to all the basic functionality required to operate the system and contains the following elements:

- **Main Window Toolbar**, page 15

- **Video and Recording Elements**, page 17, which include:
    - System Status Area
    - Site List/Site Map Trees
    - Current Details Area
    - Video Display Area
    - Display Mode Controls
    - Function Controls
    - Control Dialog Display Area

- **Playback Controls**, page 31

- **Other Controls**, page 33, which include the following buttons:

  - Audio (This is not functional in the Kollector Pro)

  - Picture

  - Matrix

  - Controls

  - PTZ

  - Print

  - Playback

  - Export

Main Window Toolbar

The ViconNet *Main* window toolbar provides quick access to all the major functionality of the ViconNet application, as well as all configuration and report generation options.

The ViconNet *Main* window toolbar appears at the top of the window and contains five buttons, as follows:

| Schedule/Macro | Reports | Setup | Logout | Shutdown |
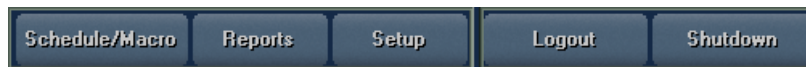
The following is a brief description of each toolbar button and its function:

Button	Description
Schedule/Macro	This option enables you to manage and work with macros that have been configured in the system. Macros are used for recording video according to preconfigured schedules and preconfigured alarm events, as well as for performing sequence sessions.
	Refer to *Chapter 3, Configuring the ViconNet System*, and *Chapter 7, Managing Macros and Schedules*, for detailed configuration and management procedures.
Reports	This option enables you to view and generate the following types of reports:
	• **Device Status:** Displays the current activity state of all currently configured devices.
	• **Alarm History:** Displays all the alarm events that have occurred in the system.
	• **Recording Status:** Displays an estimate of the recording time remaining, according to the database capacity and current data rate (BPS/frame), as well as a total of devices that are currently recording.
	• **Audit Log:** Provides a basic log of operations performed in the system, which is useful for history and debugging purposes. Information is accumulated continuously. 8,000 record lines can be accumulated, and removed thereafter on a first-in-first-out basis.
	• **RVS Log:** Provides a basic log of recording errors in sites that have been verified.
	• **CFN Log:** Provides a basic log of all failures that generated central failure notifications. This report is only available from the nucleus.
	Refer to *Chapter 8, Generating Reports*, for detailed report generation procedures.
Setup	Enables you to close the application and redisplay the operating system by clicking the **Exit to O.S.** button, available from the *Setup Site Selection* window.
	This option also enables you to configure the ViconNet system, which includes:
	• Registering your system.
	• Modifying the system configuration, including configuring:
	• Network setup.
	• Cameras, sensors and relays.
	• PTZ controls.
	• Site information.
	• Other RS232/422/485 controls.
	• Configuring system authorizations, including:
	• Defining groups.
	• Defining users.
	NOTE: Users and Groups are defined on the Nucleus unit.
	• Configuring automatic login.
	• Configuring site authorization.

Button	Description

	• Configuring storage database utilities, including:
	    • Configuring storage locations.
	    • Clearing storage locations.
	• Configuring system authentication.
	• Configuring manual recording.
	• Configuring automatic recording.
	• Enable the picture quality manual override buttons.
	• Creating, editing, and deleting macros.
	• Setting Video priority, including:
	    • Picture quality and FPS priority.
	• Creating sequence sessions. (This option will be functional in future versions.)
	• Configuring alarm events, including:
	    • Defining alarm setup links.
	    • Setting pre/post alarms.
	• Creating and modifying schedules.
	• Copying an existing configuration from one transmitter to another. (This option will be functional in future versions.)
	• Restoring and backing up system settings from/to any network location.
	• Configuring a control box.
	• Recording Verification System (RVS) continually monitors the recording performed by a scheduled macro or autorecord. It ensures continuous recording by notifying users of any recording errors.
	• Auto/Manual FPS – Manual FPS distribution of each camera per DSP, so that you know exactly how many FPS are recorded and displayed per camera.
	• Language Translation Utility (LTU)
	• Central Failure Notification (CFN) continually sends notification, to specified sites, of errors that occur in the system.
	• Map sets – enables you to map your working environment in terms of where ViconNet systems are physically located on your premises.
	• Settings summary – provides a summary of all the settings configured in a specific site.
	• Reset nucleus – resets the list of sites appearing in the RVS, CFN and Macro Editor Send Alarm site lists. Clears all history of disconnected sites. Disconnected sites appear with the following icon:
	Refer to *Chapter 3, Configuring the ViconNet System*, for detailed configuration procedures.

Logout	This option enables you to log out without closing the ViconNet application. You can then log in as a different user.
Shutdown	This option closes the *ViconNet* application and shuts down the local computer on which it is running.
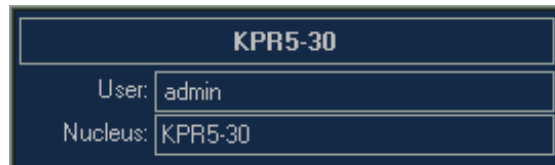
Video and Recording Elements

The ViconNet system enables you to view and record live video and play back recorded video by selecting devices and displaying their contents, as required. You can view and record the contents of selected devices using the following video and recording elements:

- **Current Details Area**, page 18

- **System Status Area**, page 18

- **Site List**, page 19

- **Site Map**, page 21

- **Video Display Area**, page 22

- **Display Mode Controls**, page 26

- **Function Controls**, page 30

- **Control Dialog Display Area**, page 31

Current Details Area

The **Current Details** area displays the name of the currently logged in user and the name of the master nucleus:
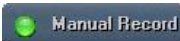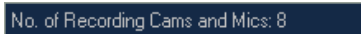
System Status Area

The **System Status** area provides the following information about the current state of system resources:

Number of Devices Recording

When the button is clicked, the selected device starts recording and the following information display is updated:

- **No. of Recording Cams and Mics:** The combined total of cameras and microphones that are currently recording.

A few moments are required for the information to be generated.

Scheduler State

The current operational state of the Macro Scheduler is displayed:

For details about the Macro Scheduler, refer to *Chapter 7, Managing Macros and Schedules*.

Site List

The ViconNet *Site List* is a hierarchical tree that displays the Kollector Pro and devices in the system. This tree can be navigated using standard tree expand and collapse functionality. Each storage location contains the devices that are available for viewing and recording live video segments, and each transmitter and device list is correlated to a specific storage location.

The following five device types can be configured to accommodate your individual and organizational requirements:
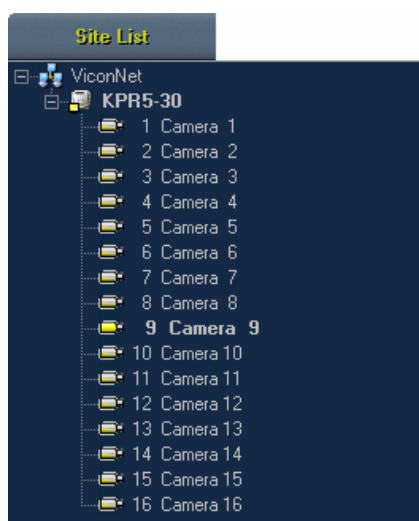
Device Type	Description
Video ⬛ or ⬛	Camera (Cam)
Audio ⬛	Microphone (Mic) (Kollector Pro does not currently support Audio.)
Detector	Sensor (Sen)
Relay	Relay (Rel)
Speaker	Speaker (Spk) (Kollector Pro does not currently support Speakers.)

NOTES:

*The cameras that appear in the Site List are automatically detected by the system during startup. If a camera is not physically connected to the system, it will not appear in the list. If the camera is disconnected after startup, a red **X** icon (⊗) is displayed next to the relevant camera in the Site List, and a blank screen appears in the **Video Display** area.*

Selecting a device starts that device's Video transmission and enables you to perform all viewing, and recording operations.

Using the *Site List*, you can select or deselect cameras for viewing and recording, as follows:

To view a camera:

- Select a camera in the tree **or** drag and drop it from the tree to the **Video Display** area. The following occurs:

    - The icon appears highlighted in yellow.

    - The live video transmission begins and is displayed in the selected location in the **Video Display** area.

    - The pink border in the **Video Display** area automatically moves to the next available display location.

To reverse a selection:

Select the device in the tree again. The following occurs:

- The icon is not highlighted in the tree (it is gray).

- The live video transmission is stopped. The video appears static in the **Video Display** area.

To view all cameras from a specific transmitter:

Drag and drop the transmitter from the tree to the Video Display area. The following occurs:

- All camera icons are highlighted in the tree.

- The live video transmission for all cameras connected to the transmitter begins and is displayed in the **Video Display** area.

NOTES:

When you select a video display location that contains an active display, a pink border is displayed around the relevant device in the Site List.

*You can also click the **STOP** button to stop all video transmission immediately, if required.*

For the Kollector Pro, the maximum number of cameras that can be selected simultaneously is sixteen, depending on the current display mode. If you select more than the maximum number, you will be prompted to remove a camera to make room for another one.

A total of 16 cameras can be selected simultaneously on the Kollector Pro.

You can also change the maximum number and location of the cameras you want to view and record, as described in *Video Display Area*, page 22, and *Display Mode Controls*, page 26. Refer to *Chapter 4, Viewing Live Video*, and *Chapter 5, Recording Live Video*, for detailed procedures using the *Site List*.

Site Map

In the Kollector Pro, the ViconNet **Site Map** provides you with the ability to define the location of cameras on a map of the physical environment/premises. Maps can be grouped into map sets. The map set you are currently working on is called the working set. The Working Set site maps can be viewed by clicking on **Site Map** in the left hand panel of the Main window. The *Site Map* can be navigated in the same way as the tree (in the *Site List*). However, the devices in the Site Map tree are organized by maps and map sets, not by site (meaning, by physical location of devices as opposed to by device name).

You can define your maps and map sets by selecting *Map Sets* from the *System Settings* window. The image in the lower-left panel changes according to the object selected in the site map. The picture can be dragged to the middle of the editing space, and then expanded or navigated, and so on, as described below.
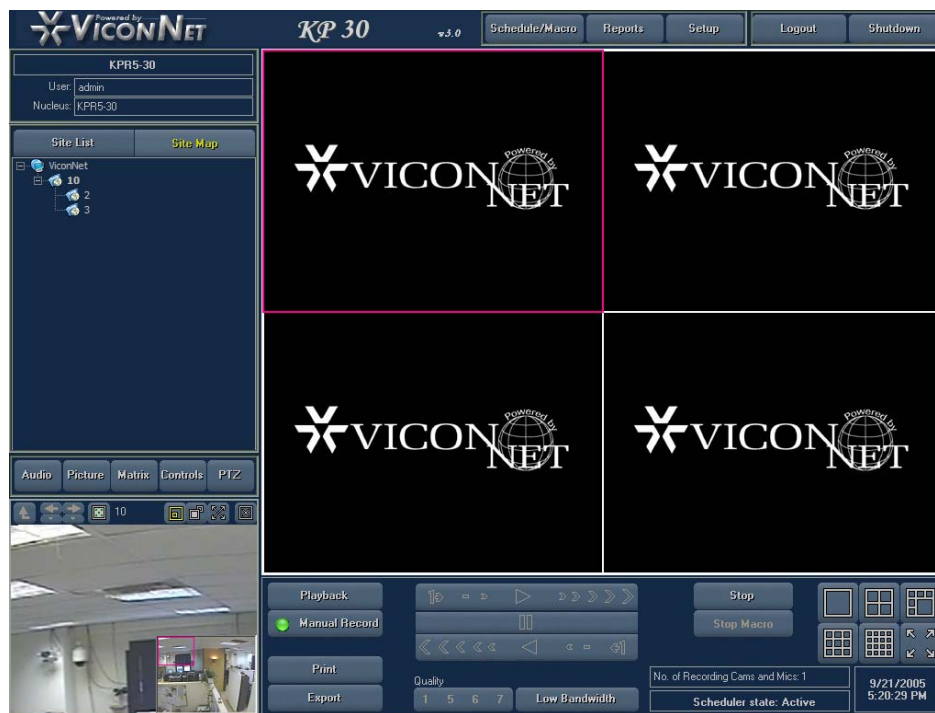
The following options are available for working with the selected map in the map set:

Button	Description
	Enables you to navigate to the parent map.
	Enables you to navigate to other maps in the map set.
	Enables you to remove text labels from the map.
	Enables you to expand the picture.
	Enables you to return the map to its previous state (expansion).
	Enables you to maximize the map to fit the entire screen.
	Enables you to close the map image. The Site List tab is redisplayed in the left-hand panel.

Devices (cameras, servers, and so on) can be added to a site map by dragging them directly to where they are located on the map of the physical location.

To activate or deactivate a camera, click the camera icon on the map. If the camera icon is flashing, it is deactivated. If it is steady, it is active.

For more details about site maps, see *Chapter 3, Configuring the ViconNet System*.

Video Display Area

The ViconNet **Video Display** area is a viewer for viewing and recording live video and playing back recorded video. You can view both live video, as well as recorded segments from up to sixteen different cameras simultaneously in the video display locations in this area, as required.

You can display a camera's video in this area in one of the following ways:

- By selecting the camera from the *Site List* (the camera is displayed in yellow). The video is automatically displayed in the **Video Display** area.

- By dragging and dropping a camera from the *Site List* to the **Video Display** area.

- By selecting a recorded camera in the *Navigator* window and then displaying its video in the **Video Display** area, as described in *Navigator Tree*, page 36.

The following example shows nine live video transmissions displayed in the **Video Display** area, with the name of each camera located at the top of each video display location.

The selected location (indicated by the pink border) then becomes the active location, and its video transmission is affected by the display mode controls (page 26), playback controls (page 31) and other controls (page 33).

NOTE: *The camera currently displayed in the active video display location is also indicated by a pink border around its icon in the Site List.*

When a camera's video is displayed in one of the video display locations, its related information is also displayed, such as the following:

- **Live**, **Playback** or **Recording** indications, according to the function currently being performed.

- The camera name during recording operations

- The recording time and date during playback operations.

- **P** (Primary) or **S** (Secondary) status of the site relative to this camera. The first site to operate a camera (whether locally or remotely) acquires Primary status relative to it. Any other site that accesses the camera while it is already being operated acquires Secondary status relative to that camera. If the Primary site disconnects from a camera that currently has Secondary sites associated with it, the site that connected earliest automatically acquires Primary status relative to that camera.

- The picture quality and refresh mode during Live and Playback operation. For example, **5N** indicates the quality 5 at the Normal refresh mode. (For details, refer to the *About Picture Quality and Refresh Mode* section, page 28.

If you want to enlarge the size of an image in one of the video display locations, double-click the required location. The selected image is maximized to fill the entire **Video Display** area. You can click the image again to restore it to its previous size.

You can also change cameras from one video display location to another within the **Video Display** area, as required, for example, when viewing live and recorded segments simultaneously. The default location for all the display modes is the top left, but you can change it by clicking in a different location. The pink border moves and indicates the new active location.

Right-clicking anywhere in a camera that is currently recording displays a shortcut menu with five options, as shown.
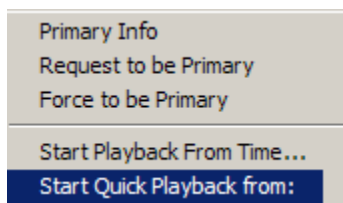
NOTE: *If the selected camera is live, all five options are displayed. If the selected camera is not live, only the **Start Playback From Time** option is displayed.*

- **Primary Info:** Displays the *Primary Information For* window, which shows details regarding the Kollector that currently has Primary status relative to this camera.
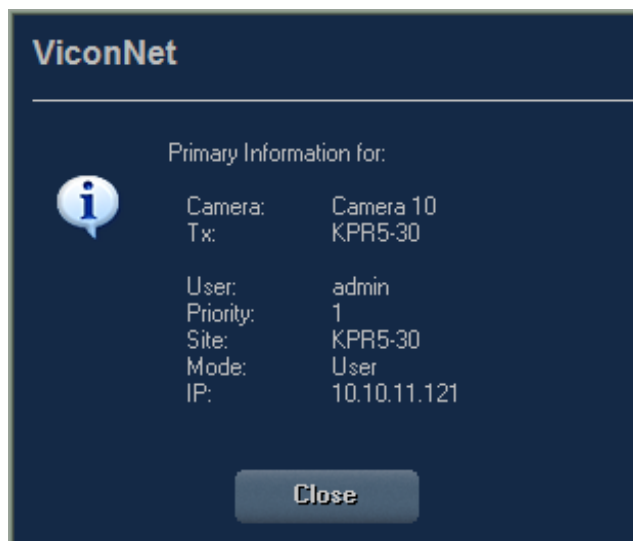
- **Request to be Primary:** Enables you to send a request to the current primary user to take control and become the primary user. If you request to be the primary user, a message is displayed on the current primary user's display.
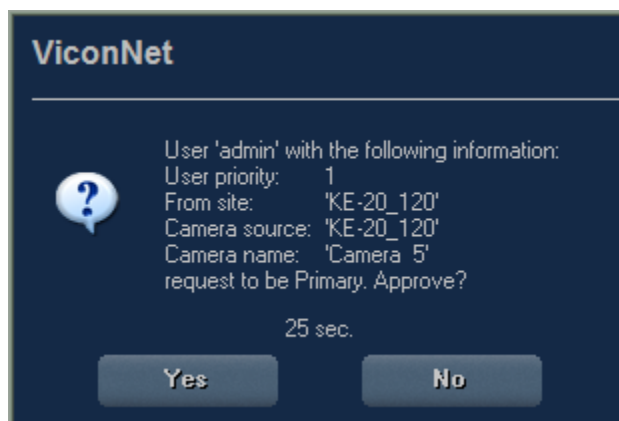
- The current primary user will select **Yes** or **No**.
- When you have higher priority, you can request or force. It is recommended to force.

*NOTE: In the Quality and FPS Priority window, selecting the checkbox on the lower-right side (default = checked) sets the response to automatically accept the **Request to be Primary** if 30 seconds pass with no response from the primary user.*

- **Force to be Primary:** Enables you to force yourself to be the primary user, providing that you have higher user priority than the current primary user (as defined in the *User and Group Management* window). If you force yourself to be the primary user, the P in the corner of the display on the current primary users display changes to S, and the S in the corner of your display changes to P.

  If the user is already the Primary user, the **Force to be Primary** option is disabled.

  If the user has lower priority than the current primary, and selects **Force to be Primary**, the message "Request to be primary was not approved" will be displayed.

- **Start Quick Playback From:** Enables you to play video back from that camera (in an adjacent camera display location), without interrupting the recording process. This avoids having to remove one's eyes from the current live video while playing back to investigate suspicious activity, as would be the case if Playback is initiated from the *Navigator* window.
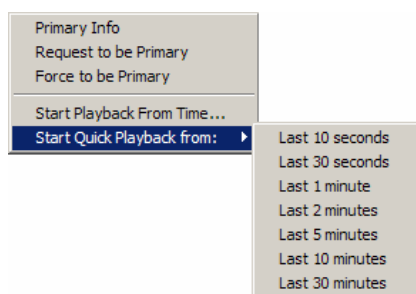
  For details about how to perform Quick Playback, refer to *Quick Playback* in *Chapter 6, Playing Back Recorded Video*.

- **Start Playback From Time:** Enables you to play video back from a live camera (in an adjacent camera display location). When **Start Playback From Time** is selected, calendar and time boxes are displayed.
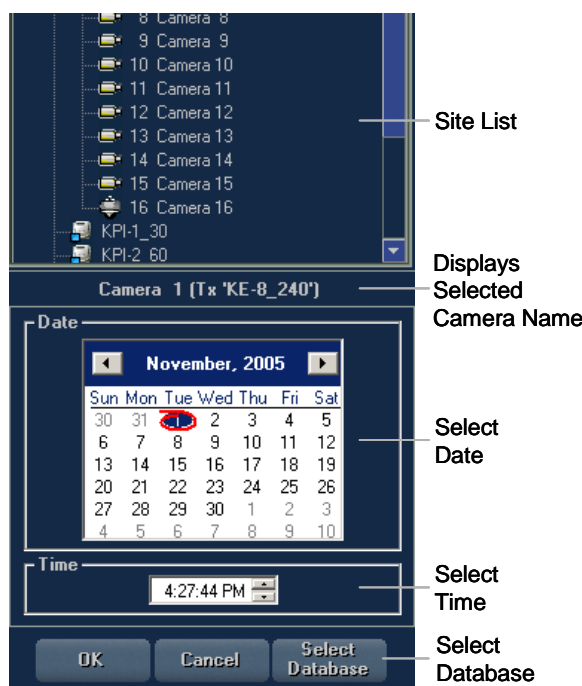
To select the database to be played back, click **Select Database.** A site list with local Audio Video Databases (AVDB) is displayed in the lower-left panel. If there is no data in the database, a message is displayed.

If there is data in the database, the playback image is displayed in the cell adjacent to the camera recording and it waits for you to press **Play**. If the selected database is the local database, you can either run it from here, or by pressing **Playback** in the Navigator window. The advantage of activating the playback from the *Main* window, as opposed to from the *Navigator* window, is that all *Main* window functionality is still displayed.

To activate **Start Quick Playback From** and **Start Playback From Time,** right-click the live camera (meaning, a camera which is currently recording) or right-click the camera in the site-list. If a camera is off, or if it is not live, the only option is **Start Playback From Time**.

Display Mode Controls

The ViconNet display mode controls enable you to select and modify the number of video display locations that are displayed simultaneously in the **Video Display** area by clicking the required icon. In the display modes with more than one video display location, you can use all or only some of the locations to view, record and play back video, as required.

For example, if you want to record video from seven cameras, you would select display mode **Nine** and have two blank video display locations and seven active ones. Refer to *Chapter 6, Playing Back Recorded Video*, for detailed procedures for recording video.

When performing viewing and playback operations, you can change the display mode during the operation without affecting the currently displayed video. Refer to *Chapter 4, Viewing Live Video*, for detailed procedures for viewing and playing back video.

The ViconNet system provides the following display modes, which enable you to select the number of cameras from which to view or record video in the **Video Display** area of the *Main* window:

Display Mode	Description
	Single: Enables you to view or record from one camera.
	Two-by-two matrix (Quad): Enables you to view or record from up to four cameras simultaneously.
	Hexa (Six): Enables you to view or record from up to six cameras simultaneously.
	Three-by-three matrix (Nine): Enables you to view or record from up to nine cameras simultaneously.
	Four-by-four matrix (Sixteen): Enables you to view or record from up to sixteen cameras simultaneously.
	Full Screen: Enables you to **maximize** a selected video display location to fit the entire screen (including the *Site List*). To restore the maximized screen to its previous size, click the icon in the top right corner or right-click in the screen and click . You can also click **<ESC>**.

NOTES:

*The upper left video display location in all of the display modes is the default video display location for the first camera that you select for display in the **Video Display** area, unless otherwise allocated.*

Refer to Chapter 4, Viewing Live Video, Chapter 5, Recording Live Video, and Chapter 6, Playing Back Recorded Video, for additional details about selecting cameras and video display locations.

In addition, double-clicking a video display location in the **Video Display** area enlarges the selected location to full video display size, which is the same as the **Single** display mode, described on page 27. To return the **Video Display** area back to its previous display mode, double-click the full display again.

TIP: The display mode can also be changed from the Navigator window, if required, as described in the Changing the Display Mode section, page 45.

About Picture Quality and Refresh Mode

The notation at the bottom-left of each camera view indicates the picture quality and the refresh mode of the image in the view.

Picture Quality and Refresh Mode

For example, **5N** indicates the quality 5 at the Normal refresh mode. These concepts are described in the sections below.

Picture Quality

Picture quality (also known as resolution) refers to the compression level of the video images. The following qualities are available for recording purposes:

Quality	Type	Properties
1	Frame	Better picture quality, but slower data transmission.
2		
3	Field	
4		
5	CIF	Less clear picture quality, but faster data transmission.
6		
7	HCIF	
8		

The quality and refresh mode in which video was recorded is displayed during the first five seconds of playback.

The recorded video quality is determined according to the configuration settings for Manual Recording, Auto Record, Macro Creation and Pre/Post-Alarm. For additional details, refer to the relevant sections in *Chapter 3, Configuring the ViconNet System*.

When different recording options are requested concurrently, the recorded picture quality that applies is determined according to prioritization settings. For details, refer to the *Picture Quality and FPS Priority* section in *Chapter 3, Configuring the ViconNet System*.

In order to improve transmission speed, the maximum quality of live images is set automatically according to the selected display mode, as follows:

Display Mode	Max Display Quality
Single	1
Two-by-two matrix	5
Hexa (Six)	5
Three-by-three matrix (Nine)	6
Four-by-four matrix (Sixteen)	7

The Single mode is assigned the highest available resolution, while other modes are assigned lesser resolutions, in proportion to their number of views. This is because the smaller views (for example, 3x3 or 4x4) generally do not benefit from higher resolutions and are equally legible in a lower resolution.

When the buttons in the *Main* window **Function Controls** area are enabled, you can manually override the display mode-determined live picture quality for the currently selected camera. The qualities 1, 5, 6 and 7 are available for this purpose. The quality and refresh mode of the live video is displayed during the first five seconds following the manual Quality change. (For information about enabling the buttons, refer to the *Configuring Manual Recording and Picture Quality* section in *Chapter 3, Configuring the ViconNet System*.)

Refresh Mode

The refresh mode refers to whether all the frame data (Full mode, represented by an **F** in the bottom-left of the camera view) is displayed each time or only changes that occur in the frames (Normal mode, represented by an **N** in the bottom-left of the camera view) are displayed. The view image is automatically played back in the refresh mode in which it was recorded.

The refresh mode of the recorded image is determined according to the configuration settings for Manual Recording, Auto Record, Macro Creation and Pre/post Alarm. For additional details, refer to the relevant sections in *Chapter 3, Configuring the ViconNet System*.

Function Controls

The ViconNet function controls enable you to record or stop the live video currently displayed in the **Video Display** area, as well as stop the macros currently running in the system, if required.

Option	Description
Manual Record	Records all video currently displayed in all the video display locations in the **Video Display** area and stores the recorded data into the predefined local storage location. To stop recording, click the **Manual Record** button again. Refer to *Chapter 5, Recording Live Video*, for detailed recording procedures.
Stop	Stops the transmission of all video currently displayed in the **Video Display** area. To begin recording again, you must re-select the required cameras, as described in *Chapter 5, Recording Live Video*.
Stop Macro	Stops all macros currently running independently within the system or as a result of the scheduler. Macros control operations such as: • Preconfigured schedules. • Preconfigured alarm events. • Sequence sessions. • Manual macro execution. Refer to *Chapter 3, Configuring the ViconNet System*, and *Chapter 7, Managing Macros and Schedules*, for additional details.
Quality 1 5 6 7	When these buttons are enabled, you can manually override the live picture quality for the currently selected camera, as required. The qualities 1, 5, 6 and 7 are available for this purpose. (For information about enabling the buttons, refer to the *Configuring Manual Recording and Picture Quality* section in *Chapter 3, Configuring the ViconNet System*.)
Low Bandwidth	Enables ViconNet system to work in a low bandwidth network. When this button is pressed, the scale factor of the compression changes. The higher the compression, the lower the quantity of data (kB). In this case, smaller frames are transmitted, but more frames per second (FPS) are sent over the network. Low bandwidth functionality is subject to video priority settings.

> *NOTE:* *If there are multiple users watching the same camera, from two locations, the low bandwidth is activated according to the settings in the Quality and FPS Priority window, and according to the priority of the user who selects it, as described in Chapter 3, Configuring the ViconNet System.*
>
> *__For example__: If one user has 1 Normal and the other user has 5 Normal priority, and Highest Requested Quality is checked in Quality and FPS Priority window, then:*
>
> *If 5 Normal requests low bandwidth, it is not activated.*
>
> *If 1 Normal requests low bandwidth, it is activated on both users (that is, it is forced on the other user).*

Option	Description
	Low bandwidth can also be configured by checking the **Low bandwidth** checkbox in the *Macro Editor* window (in the quality area).

No museum search for low bandwidth

To increase the maximum FPS available when working in low bandwidth, you can define that there is no museum search for low bandwidth, as follows:

1. From Windows Explorer, navigate to
   C:\viconnet\vndata\settings\config

   (or *path of your application***vndata\settings\config**)

2. Double-click the file **TxSettings.ini**.

3. Set the flag **SendMuseumSearchBlockMapOnLb=1** to 0
   (**SendMuseumSearchBlockMapOnLb=0**)

4. Restart the application.

> *Note: If you configure the application as described above, you will **not** be able to perform a museum search.*

Control Dialog Display Area

The **Control Dialog Display** area changes and provides access to different functionality according to the currently selected control in the **Other Controls** area. For example, if you click the ⬚ Picture button, the **Control Dialog Display** area displays additional controls specific to controlling the picture. Refer to the *Other Controls* section, page 33, for additional details about the controls that affect this area.

Playback Controls

The ViconNet system enables you to play back one or multiple recorded segments in the **Video Display** area.

The playback controls are enabled when selected video is played back in the **Video Display** area. (Playback is started by clicking ⬚ Playback to access the *Navigator* window, from which camera and time interval selections are made, and then clicking the ⬚ Play button to redisplay the ViconNet *Main* window, in which the playback can be viewed.)

The playback start time for the recorded segment(s) depends on the start time that you defined in the *Navigator* window when choosing which segment(s) to play back. Refer to *Playback Start Time Selector*, page 42, and *Chapter 6, Playing Back Recorded Video*, for additional details.
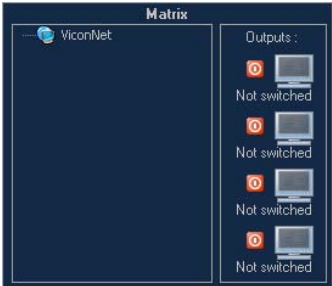
You can then use the playback controls, to navigate the selected recorded segment during playback, as follows:

Option	Description
▷	**Forward:** Plays the recorded video segment.
	This control also enables you to restart playback of a recorded video segment that has been stopped automatically due to an alarm event.
	NOTE: Refer to Chapter 3, Configuring the ViconNet System, for additional details about configuring alarm events.
	Fast Forward: Fast-forwards the recorded segment at the following speeds (related to the normal speed): 1/4, 1/2, x2, x5, x10, x50, and x100.
	NOTE: Place the mouse cursor over a button to view its related fast forward speed.
◁	**Backward:** Rewinds the recorded video segment.
	Fast Rewind: Fast rewinds the recorded segment at the following speeds (related to the normal speed): 1/4, 1/2, x2, x5, x10, x50, and x100.
	NOTE: Place the mouse cursor over a button to view its related fast rewind speed.
❚❚	**Stop/Pause:** Stops/pauses the current playback of the recorded segment.
←1	**Prev:** Displays the previous frame in the recorded segment.
1→	**Next:** Displays the next frame in the recorded segment.

Other Controls

The **Other Controls** area provides functions that affect one selected device at a time and are active only if a relevant device type is selected. As you select each of these controls, additional controls or information, relevant to the selected control, are displayed in the **Control Dialog Display** area.

The **Other Controls** area provides the following functions:

Function	Description
Audio	This function is not active in the Kollector Pro
Picture	This button displays controls in the **Control Dialog Display** area for modifying the color, brightness, and contrast of the displayed video images.
	Changing the picture settings is irreversible (meaning that after the settings have been changed, the previous settings are lost).
	NOTE: The last saved picture settings can only be restored by selecting **Restore** from the System Settings window, However, this restores ALL the last backed-up system settings. Refer to the *Step 3: Controlling the Picture* section in *Chapter 4, Viewing Live Video*, for additional details.
Matrix	This button displays controls in the **Control Dialog Display** area (lower-left panel) for viewing the four analog outputs made available by the new Kollector Pro rear panel. The matrix feature enables four digital streams to be converted back to analog from the Kollector Pro, and servers such as analog monitors or TVs can be used to view the output.
	If there are no sites with the relevant hardware, the message: *"No site supporting the switching matrix exists"* appears.
PTZ	This button enables you to display video from a PTZ camera in the **Video Display** area. This option also automatically displays a driver-specific interface for PTZ-enabled cameras in the **Control Dialog Display** area and on the screen.
	Refer to the *Operating a PTZ Camera* section in *Chapter 4, Viewing Live Video*, for additional details.
Controls	This button displays buttons in the **Control Dialog Display** area by which system functions can be configured to operate via external device commands.
	This button is operational only when an external control box has been configured on your system. Refer to the *Configuring a Control Box* section in *Chapter 3, Configuring the ViconNet System*, for additional details.
Print	This button enables you to print out the *Main* window **Video Display** area panel, showing the frames currently being displayed.
	Refer to *Chapter 9, Printing/Exporting Frames and Creating AVI Files* for additional details.

Function	Description
Playback	This button displays the *Navigator* window, enabling you to select recorded video segments for playback viewing. Refer to *Navigator Window*, page 34, and *Chapter 6, Playing Back Recorded Video*, for additional details.
Export	This button enables you to save a selected single frame or group of consecutive frames being viewed in playback to any network destination as JPEG images. Refer to *Chapter 9, Printing/Exporting Frames and Creating AVI Files* for additional details.

Navigator Window

The *Navigator* window, which is accessed by clicking the **Playback** button in the ViconNet *Main* window, displays a visual mapping of the storage location, enabling you to:

- Select recorded video segments.

- Change the *Main* window display location.

- Select the playback time interval.

- Select the playback start time.

- Display and play back recorded video content in the *Main* window.

- Create or remove archives of recorded video segments.

- Link related audio and video.

- Synchronize multiple playback segments.

- Search for unique recorded segments.

- Create AVI files.

Each of the above tasks, which are available for playing back recorded video, is described in detail in *Chapter 6, Playing Back Recorded Video*.

The following example illustrates the elements and options in the *Navigator* window:

The *Navigator* window provides access to all playback functionality and contains the following elements:
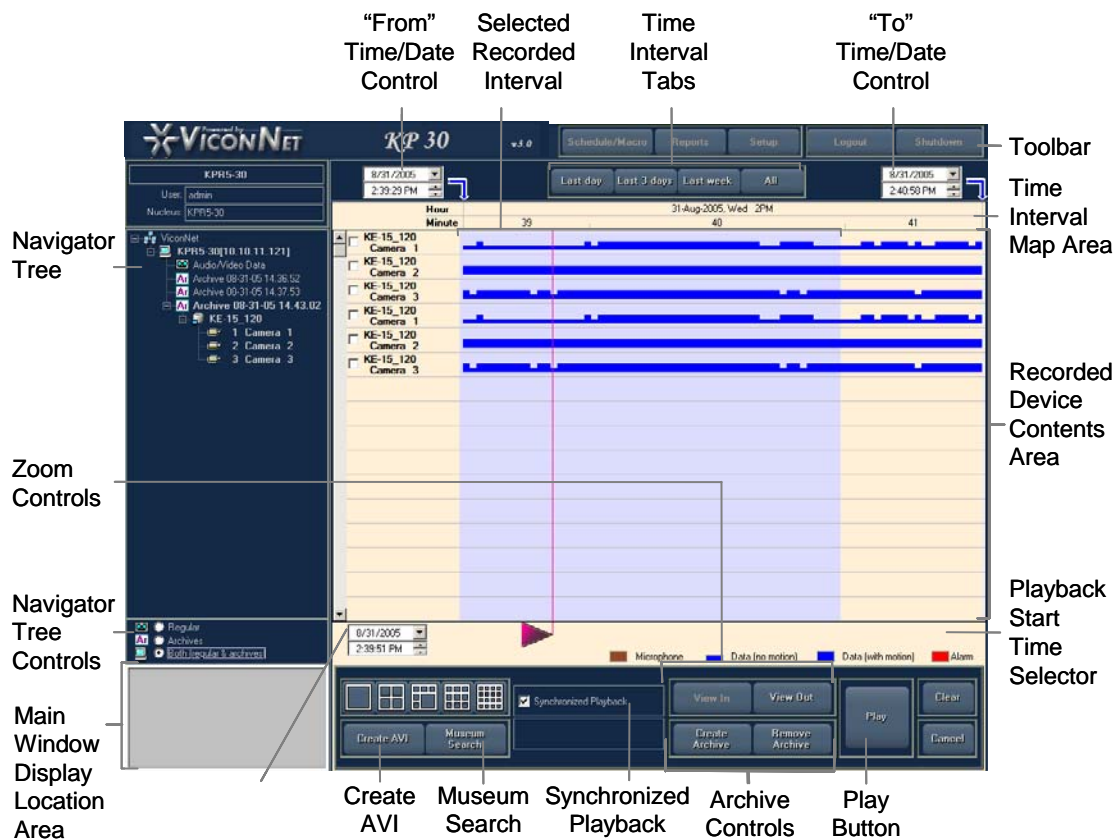
- **Navigator Window Toolbar**, page 36

- **Navigator Area**, page 36, which includes the following elements:

  - Navigator Tree

  - Navigator Tree Controls

- **Recorded Device Contents**, page 39, which includes:

  - Recorded Device Contents Area

  - Time Interval Tabs

  - "From" and "To" Date/Time Controls

  - Time Interval Map Area

  - Playback Start Time Selector

  - Playback Start Date/Time Control

  - Selected Recorded Interval

  - Zoom Controls

- **Main Window Display Location Area**, **page** 44

- **Functions and Settings**, page 45, which includes the following elements:

  - Museum Search

  - Synchronized Playback

  - Archive Controls

  - Create AVI

  - Play Button

  - Clear and Cancel Buttons

Navigator Window Toolbar

The *Navigator* window toolbar is an extension of the ViconNet *Main* window toolbar, featuring identical options and functionality, as described in *Main Window Toolbar*, page 15.

Navigator Area

The window elements by which you can navigate and select the system devices are described in the following sections:

- **Navigator Tree**, page 36

- **Navigator Tree Controls**, page 38

Navigator Tree

The *Navigator* tree displays a hierarchical tree of the current storage location sources, transmitters and devices configured in the system, as well as any currently defined archives. The *Navigator* tree can be navigated using standard tree expand and collapse functionality.
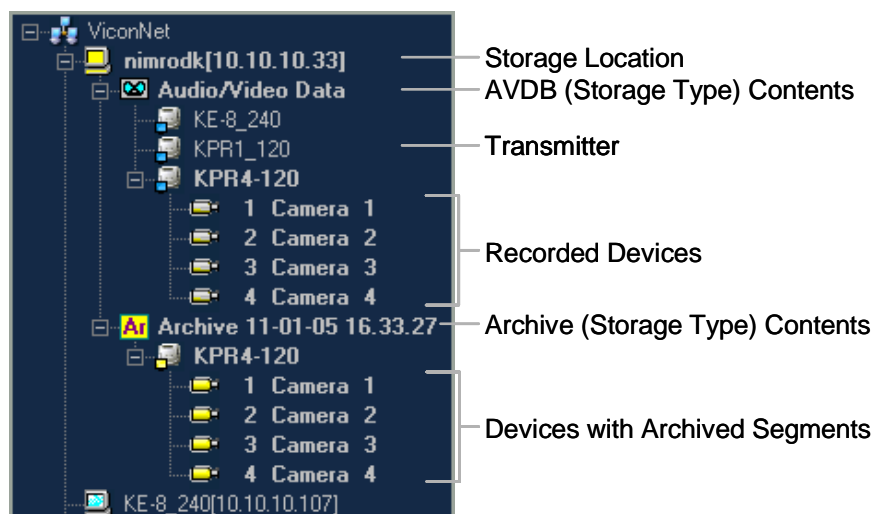
Each storage location (represented by a site name plus its IP address) contains the contents of all recorded devices available for viewing and playing back recorded video segments.

For the Kollector Pro, each transmitter and camera list is correlated to a specific storage location, within a storage type – **AVDB** (Audio and Video Database) or **Archive**. The AVDB contains all saved (recorded) video data, while the Archive contains the previously archived video data. Data from both storage types is available for playing back.

Using the *Navigator* tree, you can select or remove recorded cameras for viewing, as follows:

To view recorded contents:

Drag and Drop a camera from the Tree to the Main Window

– OR –

Drag and Drop a camera from the Tree to the Recorded Device Contents Area
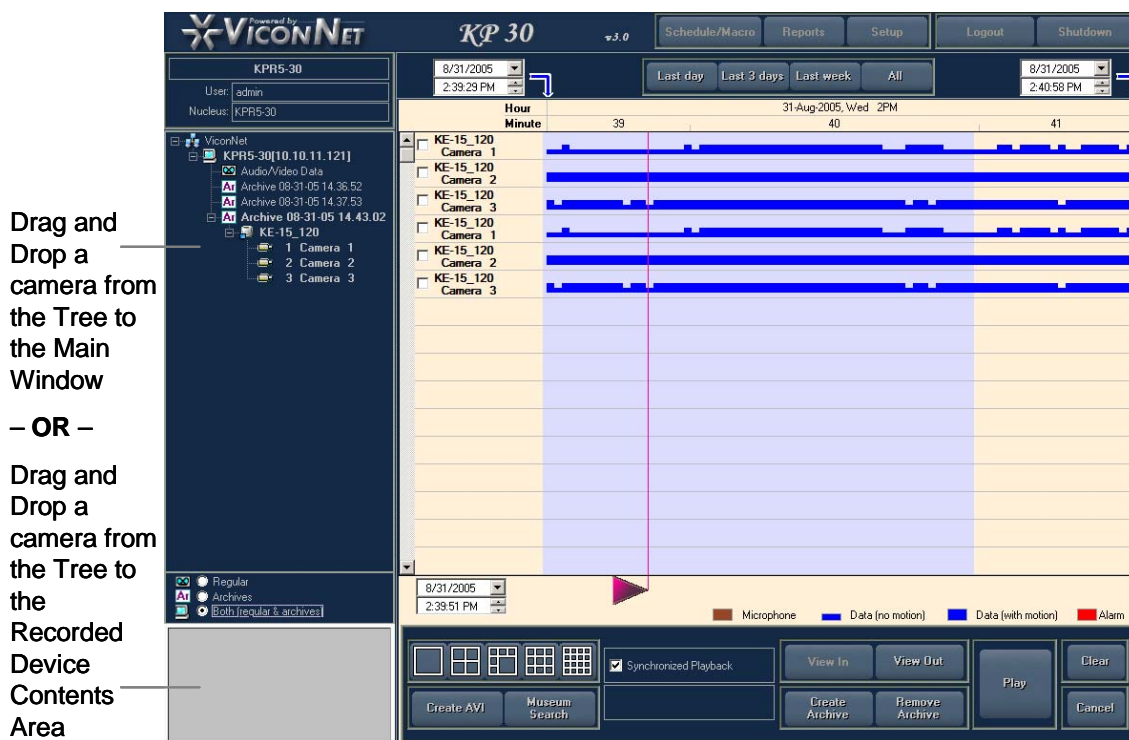
The following occurs:

- The icon appears highlighted in yellow.

- An automatic scan for the device's recorded contents in the storage location is performed.

- The camera name appears selected in the **Recorded Device Contents** area, and its recorded contents are displayed.

- The name of the camera appears in the next default video display location in the **Main Window Display Location** area.

To reverse a selection:

- Select the camera in the tree again. The following occurs:

    - The icon is not highlighted in the tree.

    - The camera information is removed from both the **Main Window Display Location** area and the **Recorded Device Contents** area.

To remove the camera from the Main Window Display Location area but still view its recorded contents:

- Deselect the camera in the **Recorded Device Contents** area. The following occurs:

    - The icon is not highlighted in the tree.

    - The camera name is removed from the **Main Window Display Location** area.

    - The camera name appears as deselected ☑ KPR5-30 Camera 1 in the **Recorded Device Contents** area, but its recorded contents are still displayed.

For the Kollector Pro, the maximum number of cameras that can be displayed simultaneously is sixteen, depending on the current display mode. If you select more than the maximum number, you will be prompted to remove a camera to make room for another one. You can also change the maximum number and location of the recorded cameras viewed and play back, as described in *Main Window Display Location Area*, page 44.

Navigator Tree Controls
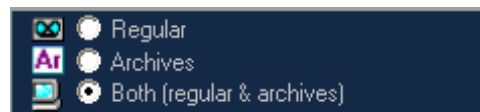
The Navigator tree controls, displayed at the bottom of the Navigator tree, enable you to define what is displayed in the Navigator tree, as follows:

Regular: Displays only the regular databases that contain recorded video segments. Refer to *Chapter 5, Recording Live Video* for additional details about recording live video.

Archives: Displays only the archives (and their relevant devices) that have been created in the system. Refer to *Chapter 6, Playing Back Recorded Video* for additional details about creating archives and playing back recorded/archived video.

Both (regular & archives): Displays both the regular databases (and their relevant devices) and all current archives (and their relevant devices).

Recorded Device Contents

The recorded devices selected for playback and other purposes are managed within the **Recorded Device Contents** area, and are managed using the elements described below:

- **Recorded Device Contents Area**, page 39

- **Time Interval Tabs**, page 40

- **"From" and "To" Date/Time Controls**, page 41

- **Time Interval Map Area**, page 41

- **Playback Start Time Selector**, page 42

- **Playback Start Date/Time Control**, page 42

- **Selected Recorded Interval**, page 42

- **Zoom Controls**, page 43

Recorded Device Contents Area

The **Recorded Device Contents** area appears as follows:
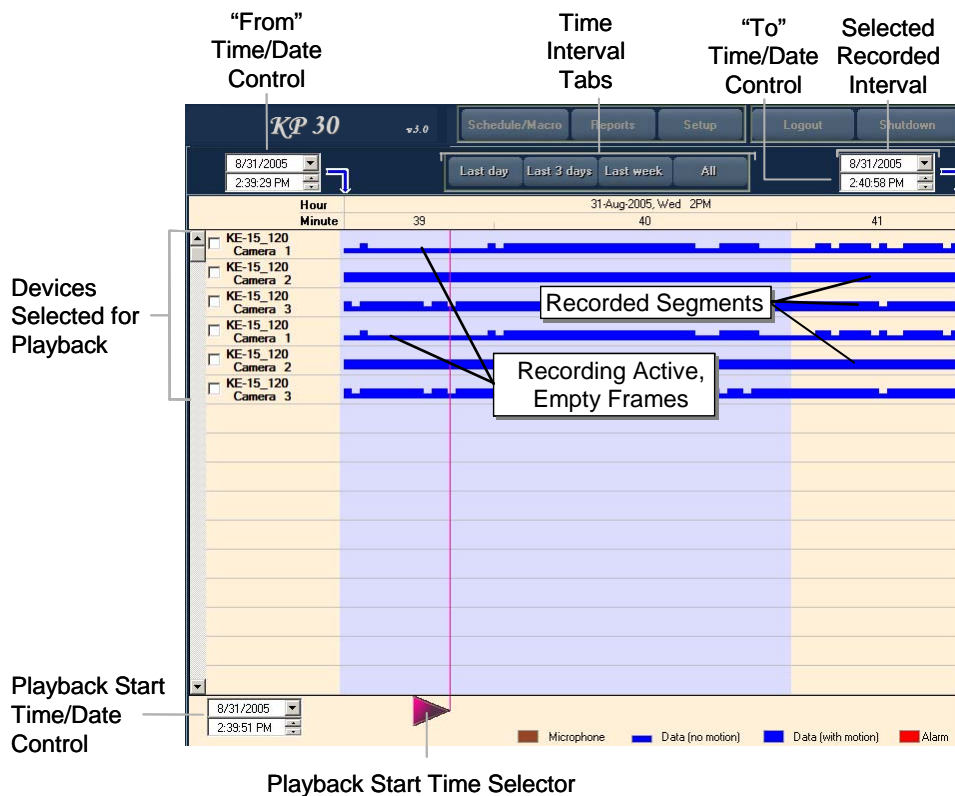
The **Recorded Device Contents** area displays a list of the cameras that have been selected for viewing and playing back their recorded contents, as described in *Navigator Tree*, page 36.

The list in this area displays the name of each selected camera, as well as a graphical representation of the recorded contents, which appears as a horizontal bar with the following indications:

- Blue indicates a recorded segment.

- Half-height blue line indicates a recording where no data was found (empty frames).

- Red above a recorded segment indicates an alarm event.

- Brown indicates an audio recording.

In addition, a legend for the currently displayed information is displayed at the bottom of the **Recorded Device Contents** area, as shown in the following example:
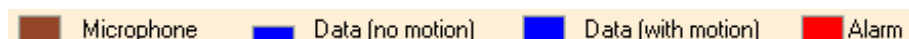
NOTES:
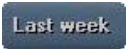
The recorded contents that are displayed depend on the playback time interval you select, as described in Time Interval Tabs, below, and Date/Time Controls, page 41.

*You can also zoom the recorded segments in the **Recorded Device Contents** area, as described in Zoom Controls, page 43.*

Next to each camera in the list is a checkbox, enabling you to select and deselect it as an active viewing camera for display in the *Main* window. You can select up to sixteen cameras (depending on the selected display mode) at one time from which to view and play back recorded video, as described in *Navigator Tree*, page 36.

Time Interval Tabs
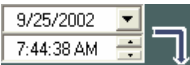
The time interval tabs enable you to quickly select the range of time for the recorded segment(s) that you want to view and play back in the **Recorded Device Contents** area, as follows:

Tab	Description
Last day	Displays all recorded segments for the selected cameras during the **last 24 hours** (from the current time). This option is the default.
Last 3 days	Displays all recorded segments for the selected cameras during the **last 72 hours** (from the current time).
Last week	Displays all recorded segments for the selected cameras during the **last 7 days** (from the current time).
All	Displays all recorded segments for the selected cameras regardless of when the recording occurred.

When you select a time interval tab, the **Time Interval Map** area changes to reflect your selection, as described below. The display of the recorded contents of the selected device is also updated, as described in *Recorded Device Contents Area*, page 39.

Refer to the following section for an alternate time interval selection method.

Date/Time Controls

The **From** and **To** Date/Time controls in the **top-left** and **top-right** of the window enable you to specify an exact start (**From**) and end (**To**) date and time for the recorded segment(s) that you want to view and play back in the **Recorded Device Contents** area.

This alternate time interval selection method (used instead of the time interval tabs) lets you fine-tune the time interval period. Using the time interval controls, you can select a specific:

- Date range by selecting To and From dates for the recorded segment(s) you want to view (using a popup calendar).

- Time range (hour, minutes and seconds) for the recorded segment(s) you want to view by specifying the required start and end time.

After you select a date range and/or time range, you must click the **View In** button to implement the selection. The **Time Interval Map** area is automatically updated according to the dates and times specified, as described below. In addition, all the video segments recorded during the date and time range are displayed, as described in *Recorded Device Contents Area*, page 39.

> **NOTE:** *The time interval controls are used in the Selecting Payback Time Interval procedure in Chapter 6, Playing Back Recorded Video.*

Time Interval Map Area

The **Time Interval Map** area displays a graph with the current range of time specified by the selected time interval tab or controls, as follows:

When you modify the time interval, as described in *Time Interval Tabs*, page 40, or *Time Interval Controls*, above, the **Time Interval Map** area automatically changes and reflects the new time interval.

Playback Start Time Selector

The playback start time selector is a scrollable pink arrow with a vertical line running the length of the **Recorded Devices Content** area. You can move the arrow to indicate the location in the recorded segment where the playback will begin when it is played back in the *Main* window.

When you click on the pink arrow, a tooltip appears, displaying the date and time of its current location in the recorded segment. This enables you to move the arrow and pinpoint the exact playback start time, if required.

For detailed procedures for using the playback start time indicator, refer to the *Selecting the Playback Start Time* section in *Chapter 6, Playing Back Recorded Video.*

Playback Start Date/Time Control

You can also set the playback start time by using the Start Date/Time control | 3/12/2003 ▼ | 5:02:34 PM ⬍ | on the **bottom-left** side of the window.
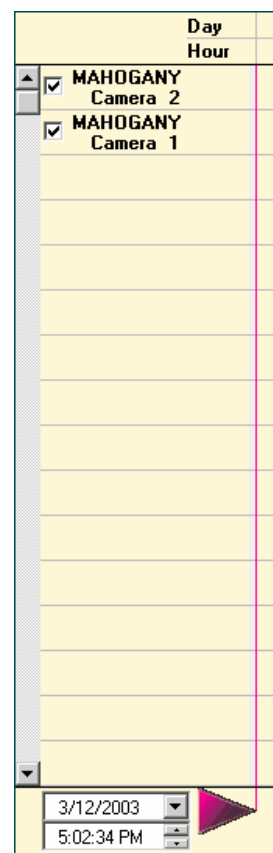
Selected Recorded Interval

Recording time segments must be selected in order to implement various procedures, for example, to Zoom within a select a time frame. (For details regarding the Zoom feature, refer to the *Zoom Controls* section, page 43.)

To select a recorded segment:
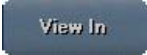
- In the **Recorded Devices Content** area, hold down the left mouse button at the required starting point of the segment and drag the mouse pointer to the required ending point. Blue shading covers the selected segment, as shown in this example:
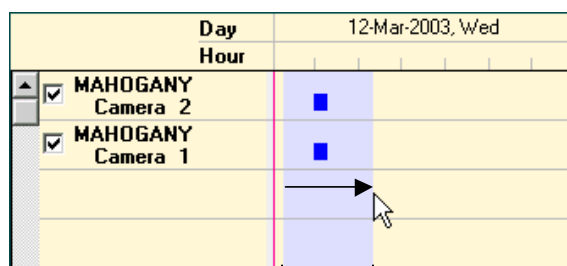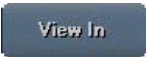
Blue Shading Indicates Selected Segment

Zoom Controls

The zoom controls enable you to zoom in and out of a selected segment in the **Recorded Device Contents** area to make it easier to view. This provides you with the option to fine-tune your view of a selected segment and view only the required portion, which makes it easier to select a specific playback start time, as described in both *Time Interval Tabs*, page 40 and *Date/Time Controls*, page 41.

Option	Description
View In	Zooms in on the selected segment in order to fine-tune the selection capability and simultaneously updates the *Time Interval Map* accordingly.
	This option is also used to implement the selections you make in the Date/Time controls, as described on page 41.
View Out	Zooms out of the selected segment, returning the **Time Interval Map** area to its previous display status. This option is available according to the number of "zooms in" that were triggered.

To zoom in on a selected time segment:

1.   Select the required segments, as described in the *Selected Recorded Interval* section, page 42.

2.   Click the ▭ View In ▭ button. The **Time Interval Map** area time line is changed according to the indicated zoom.
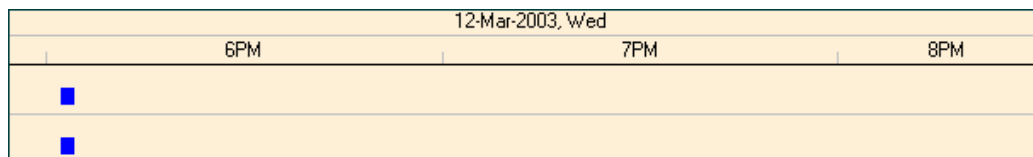
3.   To redisplay the time line before the Zoom action, click the ▭ View Out ▭ button.

The Zoom feature in used in the *Step 4: Zooming the Video Display* section in *Chapter 4, Viewing Live Video*.

Main Window Display Location Area

The **Main Window Display Location** area is a small graphical representation of the **Video Display** area in the *Main* window.

This area enables you to choose where each selected device in the **Recorded Device Contents** area will be displayed in the *Main* window for viewing and playback operations.

The relevant device name is displayed in the next default location when you perform any one of the following actions:

- Select a device in the *Navigator* tree.

  -OR-

  Select a deselected device in the **Recorded Device Contents** area.

  -OR-

  Drag and drop a camera from the Navigator tree:

  - To the **Recorded Device Contents** area.

    -OR-

  - To the Main Window Display Location area.
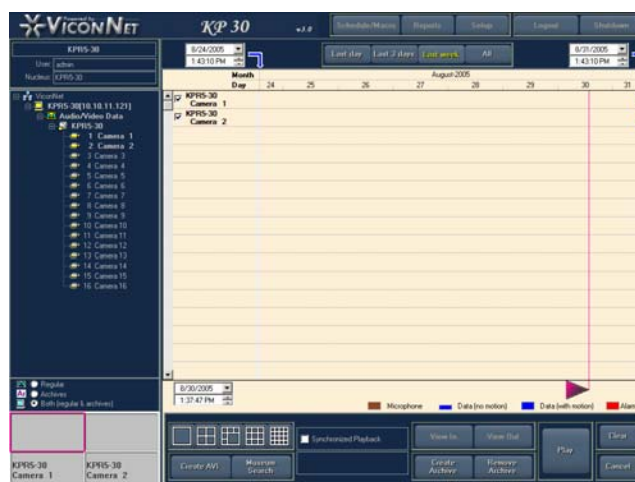
NOTES:

The current default video display location is indicated by the pink border and can be changed by clicking on a different location.

*Only one camera can be placed in each video display location. For example, if display mode **Quad** is selected, only four cameras can be selected in the **Recorded Device Contents** area and, therefore, displayed in the **Main Window Display Location** area.*

Changing the Display Mode

The number of video display locations in the currently selected display mode determines the number of cameras that can be selected at one time (up to a maximum of sixteen). The first time you access the *Navigator* window, the *Main* window display location (**Quad**) is displayed.

The display mode can be changed from the *Navigator* window by clicking the required Display Mode icon (located next to the **Main Window Display Location** area).

Thereafter, when the **Play** button is selected, the devices in the **Main Window Display Location** area are displayed in their respective locations in the *Main* window, ready for viewing and playing back.
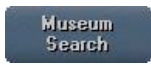
> *TIP: The display mode can also be changed from the Main window, if required, as described in Display Mode Controls, page 26.*

Functions and Settings

The functions and settings provided by the *Navigator* window are described in the following sections:

- **Museum Search**, below

- **Synchronized Playback**, page 46

- **Create AVI**, page 46

- **Archive Controls**, page 46

- **Play Button**, page 47

- **Clear Button**, page 47

- **Cancel Button**, page 47

Museum Search

The button enables you to search for a specific camera's data within a defined region of the database, saving you having to review the whole database. You can locate all the video segments that include a specific difference, for example, a main door opening, or a car being moved. (For details, refer to the *Museum Search* section in *Chapter 6, Playing Back Recorded Video.*)

Synchronized Playback
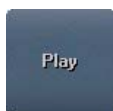
When you select the [Play] button, the *Navigator* window is replaced by the *Main* window, enabling you to view and play back the selected recorded cameras in that window's **Video Display** area, as described in the previous sections.

The *Main* window playback controls [controls image] (refer to page 31) then enable you to view and play back the recorded segments for the selected cameras according to the selected time interval, playback start time, display mode and video display location.

When the [□ Synchronized Playback] checkbox is selected, prior to selecting the **Play** button, the *Main* window playback controls will apply simultaneously to all the selected devices.

If **Synchronized Playback** is **not selected**, then the playback controls will apply to only one selected camera at a time. That camera is selected by clicking its block in the **Main Window Display Location** area (the selected block will have a pink border). The *Main* window playback controls then apply only to the selected camera.

This option is used in the *Displaying Video Content* procedure in *Chapter 6, Playing Back Recorded Video*.

> NOTE: The **Synchronized Playback** checkbox must be selected before clicking the **Play** button. The synchronization of devices only applies to Playback mode.

Create AVI
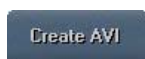
The [Create AVI] button enables you to create an AVI file from a selected playback segment, which can then be viewed using any AVI viewer. For details, refer to *Chapter 9, Printing/Exporting Frames and Creating AVI Files*.

Archive Controls

The archive controls enable you to create or remove archives that contain specific recorded data from specific devices:

Option	Description
Create Archive	Enables you to create a new archive, which includes specifying the archive location, name, and contents.
Remove Archive	Enables you to remove an archive and all its contents.

The archives are included in the navigator site list together with other databases, and can be selected for viewing, or any other file operations, as required.
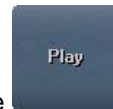
All playback functions can be performed on the archived data in the same way as regular recorded data, as described beginning from the *Selecting Recorded Video* section in *Chapter 6, Playing Back Recorded Video.*

You can archive directly to a CD or DVD. CD or DVD archives can be played on any PC, from an automatically started "Player" version of the ViconNet application. (The ViconNet application does not have to be installed on the PC.)

If the System Authentication feature is configured, an authentication status is added to the archive, which enables verification that live or played-back ViconNet-produced videos were not tampered with. Refer to the *Configuring System Authentication* section in *Chapter 3, Configuring the ViconNet System* for more details.

Play Button
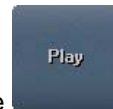
After a camera and recorded time interval is selected, clicking the [Play] button displays the ViconNet *Main* window, in which the playback can be viewed in the **Video Display** area.

Clear Button

The [Clear] button clears the current *Navigator* window settings.

Cancel Button

The [Cancel] button closes the *Navigator* window and reinstates the *Main* window.

Alarm Window

Whenever an alarm event occurs in the system, regardless of the window in which you are currently working, the *Alarm* window is displayed as a popup window on top of your current window.

The *Alarm* window displays the current alarm (indicated by a red icon), as well as all recently alarmed devices (indicated by a green icon).

The **Mute** checkbox enables you to mute the alarm siren. While this is selected, you can still view the video from the device on which the alarm event occurred.

The siren is auto-enabled (the **Mute** checkbox is automatically deselected) after each new alarm.

The *Alarm* window contains the following information:

Column	Description
Detector Name	The name of the device on which the alarm event occurred.
	When you click the device's icon, the alarm history for that device is displayed, as shown in the following example:
	NOTE: The ☑ checkbox is provided for your optional use, for example, to remind yourself which alarms you have already viewed.
Alarm Type	The type of alarm.
Local Time	The local time of the alarm, translated from the local time zone where the alarm event occurred.

Column	Description
Remote Time	The time at the remote location where the alarm event occurred.

> *NOTES:*
>
> - *If the alarm occurred locally or at a site in the same time zone, the local time and remote time will be identical.*
>
> - *If the alarm occurred at a remote site in a different time zone, the local time will display the local time zone translation of the remote time.*
>
> *Example:*
>
> *If the alarm occurred in London at 0700, and the display you are looking at (the nucleus) is in Eastern US, the remote time displayed is 0700 and the local time is 0200.*

Column	Description
Site Name	The name of the Kollector Pro.
Activations Number	Indicates the number of times an alarm has been activated on the specific device within a specific time period. Each time the alarm is activated, another alarm event line is added to the alarm history for that device (except in the case of a re-activation, as described below). In cases where the alarm was activated and then re-activated within a very short period of time afterwards, the re-activation of the alarm is **not** displayed in the alarm history.
Unite Alarms which occur within …	The time interval that passes after an initial alarm, in which movement will not trigger a new alarm, but will cause an increment of +1 in the **Number of Activations** field. This is useful if there is a lot of movement, and you do not want to continuously activate new alarms.

> *NOTE:*
>
> *In the Alarm Setup window, the value in the field* ***Min time between alarms*** *field determines how much time must pass after the first and subsequent alarms before a new alarm is generated (for a specific camera).*
>
> *The difference between* ***Min time between alarms*** *and the* ***Unite Alarms which occur within…,*** *is that the* ***Min time between alarms*** *field defines that an alarm is not generated within a certain time, where as the* ***Unite Alarms which occur within…*** *field determines which alarms are combined as additional activations of the last alarm.*
>
> *Example:*
>
> ***Minimum time between alarms*** *= 1 minute*
>
> ***Unite alarms which occur within*** *= 2 minutes*
>
> *If alarms are continuously being generated, a new line only appears in the Alarms pop up screen after one minute has passed. If an alarm occurs between one and two minutes after the former alarm, it is added to the previous alarm's data (existing row) as an additional activation. If* ***Unite alarms which occur within...*** *is smaller than* ***Minimum time between alarms,*** *the number of activations is always one, and each alarm generates a new row (alarm.)*

In order for the *Alarm* window to pop up during an alarm event, the specific device must be configured in the *Active Detectors and Associated Macros* window, as described in *Chapter 3, Configuring the ViconNet System.*

NOTES:

When an alarm event occurs in the system, you will notice that the relevant red LED on the Kollector Pro's front panel blinks. Refer to the Front Panel Indications section in Chapter 1, Introducing ViconNet.

When a macro is running as a result of an alarm event, the following is applicable:

- *If the macro is performing **display operations**, all functions in the ViconNet Main window, except for the **Stop Macro**, **Schedule/Macro**, and **Shutdown** buttons, are disabled.*

- *If the macro is performing **all other recording operations**, all functions in the ViconNet Main window remain operational.*

You can also generate an Alarm History report that contains all the alarms that occurred in the system, as described in *Chapter 8, Generating Reports.*

Logging Out, Exiting or Shutting Down

Logging Out

Logging out is performed when you want to exit from the ViconNet application but need the application to remain open, for example, to log in as a different user.

To log out of the ViconNet application:

1. Click [Logout] in the Main window toolbar. The following message is displayed:
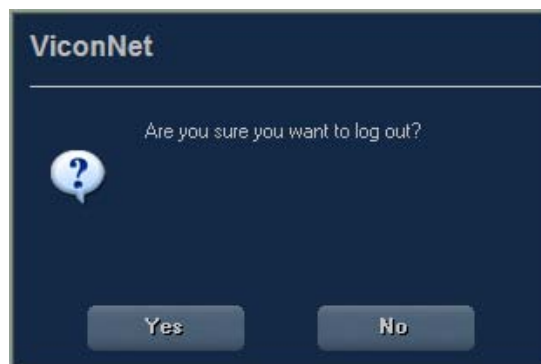
2. Click **Yes**. The ViconNet *Login* window is redisplayed, as described in *Logging In*, page 12.

> **NOTE:** *If the user is not authorized to logout, a **Change User** button replaces the **Logout** button. Once **Change User** has been pressed, the Login window appears, with the **Cancel** button enabled (in case the user regrets trying to log out).*
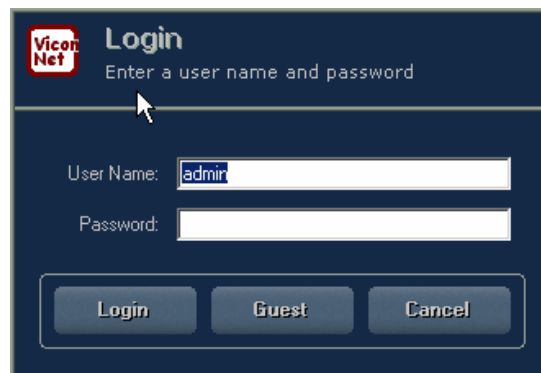
Exiting ViconNet

Exiting is performed when you want to exit the ViconNet application and close the application.

To close ViconNet and exit to the operating system:

1. Click the [Setup] to display the Setup Site Selection window. (For details about this window, refer to the *Activating the Configuration Functions* section in *Chapter 3, Configuring the ViconNet System*.)

2. Click the **Exit to O.S.** button.

Shutting Down or Restarting

To shut down or restart the ViconNet unit:

1. Click [Shutdown] in the *Main* window toolbar. The following window is displayed:
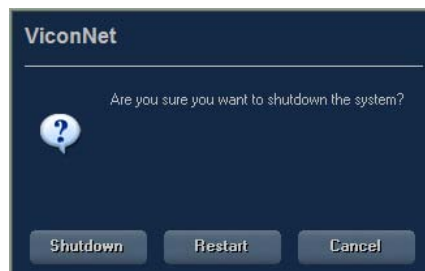
2. Either:

   Click **Shutdown** to shut down the unit.

   - OR -

   Click **Restart** to restart the unit.

Watchdog

The Watchdog feature is provided for recovery purposes and acts as a safety mechanism in cases of unforeseen incidents such as temporary power failures.

If the application "locks up", the ViconNet application is restarted automatically after approximately one minute and a half. This is useful, for example, if a scheduled macro was running during the night and there was a power failure. In this case, the application will automatically restart and resume running the macro.

Chapter 3
Configuring the ViconNet System

This chapter describes all the configuration functions available in the ViconNet system and contains the following sections:

- **Accessing the Configuration Functions**, page 57, describes how to access the *System Settings* window, which enables you to start to perform configuration functions for a selected site.

- **Modifying the System Configuration**, page 59, describes how to modify all ViconNet default system configurations, including network setup.

- **Using Reset Nucleus**, page 75, describes how to remove all disconnected sites from all site lists and sub-lists in the Central Failure Notification and Recording Verification System features of the ViconNet system.

- **Using the Central Failure Notification (CFN) Mechanism**, page 76, describes how to receive notifications indicating that certain applications have failed, for example, macro, recording and database failures.

- **Configuring System Authorizations**, page 78, describes how to categorize users into groups according to the system operations that you want them to access.

- **Configuring Site Authorization**, page 84, describes how to define the system operations that can be accessed by each group of users.

- **Configuring Auto Login**, page 88, describes how to configure the system to automatically log in selected users.

- **Configuring Storage Database Utilities**, page 89, describes how to set up video storage locations for storage purposes.

- **Configuring System Authentication**, page 94, describes how to activate the display of system authentication results.

- **Configuring Manual Recording and Picture Quality**, page 95, describes how to configure the picture quality and refresh rate that applies to manually initiated recording.

- **Configuring Automatic Recording**, page 97, describes how to instruct the system to perform recording as soon as the ViconNet application starts.

- **Configuring Auto/Manual FPS**, page 100, describes how to select automatic or manual configuration of the FPS per DSP.

- **Using the Recording Verification System (RVS)**, page 103, describes how to configure the system to ensure continuous recording (by notifying users of any recording errors).

- **Creating Macros**, page 108, describes how to create sets of instructions that cause the system to perform specific tasks in a specific order. (Information about scheduling of macros is provided in the *Creating Schedules* section, page 137.)

- **Setting Video Priority**, page 118, describes how to define the video settings that will be used when different viewing/recording functions are requested concurrently.

- **Configuring Alarm Events**, page 122, describes how to define alarm setup links and how to set pre alarms and post alarms.

- **Creating Schedules**, page 137, describes how to create schedules that instruct the system about when to run specific macros.

- **Restoring and Backing Up System Settings**, page 142, describes the ViconNet system restore and backup features.

- **Configuring an External Control**, page 143, describes how to enable system operation via buttons on an external control box.

- **Defining Site Maps and Map Sets**, page 147, describes how to receive notifications indicating that certain applications have failed, for example, macro, recording and database failures.

- **Using the LTU**, page 155, describes how to set up and install a translation of all the user interface terminology for use by non-English speakers.

- **Viewing the Settings Summary**, page 159, describes how to view all the settings for a specified site in one place, without navigating through all the windows of that site.

- **Limited Recording**, page 160, describes how to limit the time period for which recorded material can be stored and viewed.

Accessing the Configuration Functions

The configuration functions are performed via the *System Settings* window applicable to a selected site.
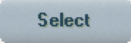
To access the *System Settings* window:
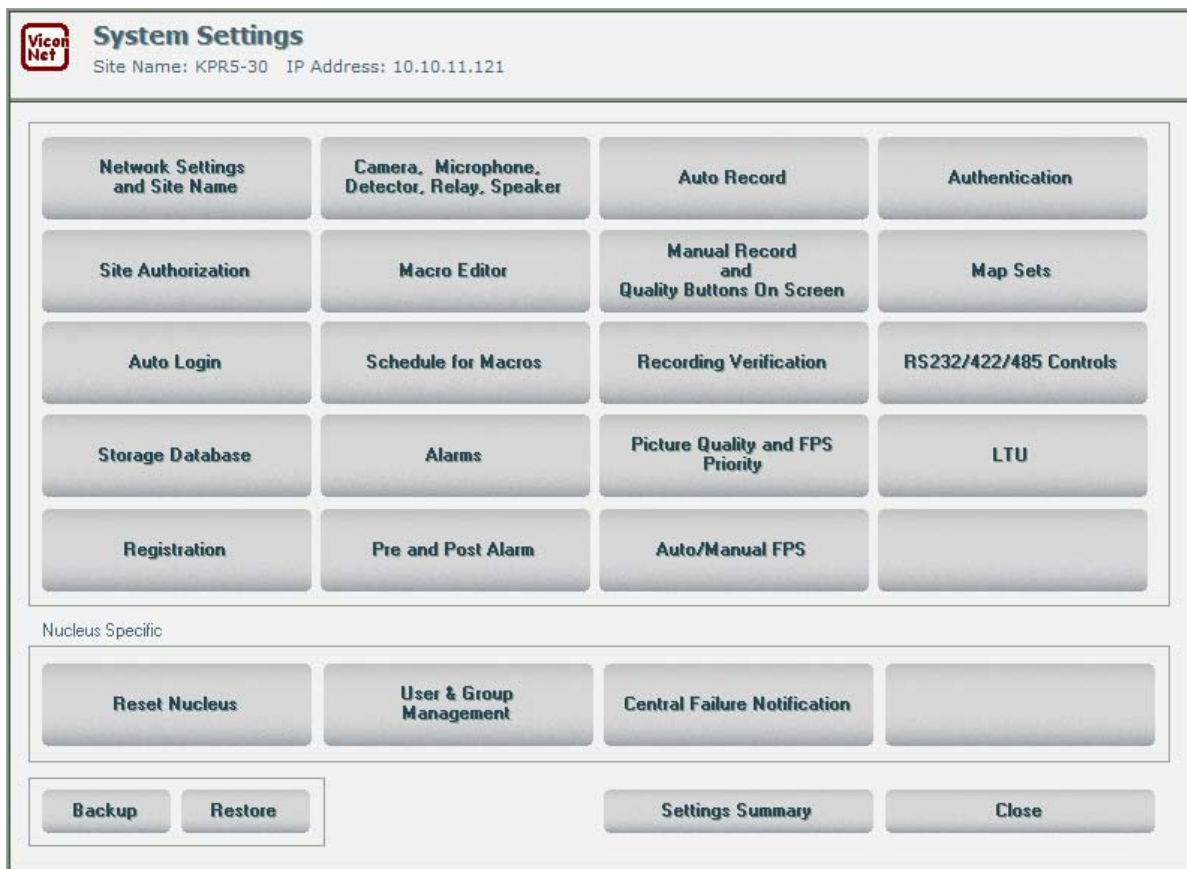
1. From the ViconNet *Main* window, click [Setup]. The *Setup Site Selection* window is displayed, showing only the local Kollector Pro:
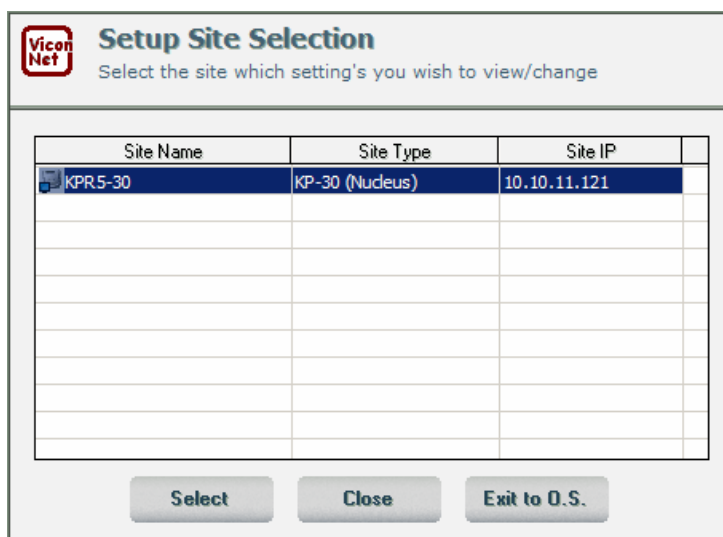
The **Exit to O.S.** button enables you to exit to the Operating System and to close the ViconNet application.

NOTE: The Kollector Pro can configure only itself.

---

2. Select your Kollector Pro and click [Select]. The *System Settings* window is displayed.

System Settings
Site Name: KPR5-30   IP Address: 10.10.11.121

Network Settings and Site Name	Camera, Microphone, Detector, Relay, Speaker	Auto Record	Authentication
Site Authorization	Macro Editor	Manual Record and Quality Buttons On Screen	Map Sets
Auto Login	Schedule for Macros	Recording Verification	RS232/422/485 Controls
Storage Database	Alarms	Picture Quality and FPS Priority	LTU
Registration	Pre and Post Alarm	Auto/Manual FPS	

Nucleus Specific

| Reset Nucleus | User & Group Management | Central Failure Notification | |

[Backup] [Restore]   [Settings Summary]   [Close]

When the function is not supported, the associated button is disabled (grayed out).

*NOTE: The **Site Name** and **Site IP** information are displayed automatically on this and subsequent windows.*

Modifying the System Configuration

The ViconNet system default configuration can be modified, depending on your requirements, as described in the following sections:

- **Configuring the Network Setup**, below, describes how to configure the network setup for each computer in the system, including which computer is running the master nucleus and which computer is running the backup nucleus.

- **Configuring/Modifying Cameras, Sensors and Relays**, page 65, describes how to configure which devices are available and operational in the system.

- **Configuring/Modifying PTZ Controls**, page 72, describes how to configure PTZ camera controls, such as driver and version information.

- **Configuring Other RS232/422/485 Controls**, page 74, describes how to configure all external serial-related controls.

Configuring the Network Setup

The network setup parameters are configured individually for each computer in the ViconNet system. Network setup configuration is performed using the ViconNet application installed on each computer. When setting up a network, **one** of the sites must be assigned as a *nucleus*, and the other sites in the network must know where this nucleus is. Each site (either a transmitter or a Workstation) has the option to input the nucleus IP address.

You can also configure more than one computer with the same subnet mask, which enables them to connect to each other, as well as connect to the master nucleus they share. This includes the ability to synchronize multiple computers with the nucleus time or update all the time settings to another time zone.

To configure the network setup, you must specify both the master nucleus IP and the backup nucleus IP addresses on the computer running the master nucleus. The backup nucleus setup is configured only on the master nucleus computer. Then, as each site connects to the master nucleus using the ViconNet application, it receives the backup nucleus information automatically.

> ***NOTES:***
>
> *If the system goes down, any transmitter that uses an external master nucleus and that is not configured to use a backup nucleus will automatically shift to local operation mode. This means that it will act as a standalone system, and the transmitter will operate without a nucleus.*
>
> *The nucleus and backup nucleus must have fixed IP addresses. DHCP cannot be used on the site running the nucleus (for more details, refer to the Configuring the DHCP section in Appendix B, Configuring the Network).*

Configuring the Nucleus

The nucleus takes an active role in the ViconNet system, acting as a central station that connects all computers running the ViconNet application. The more computers connected to the system, the more resources the nucleus requires. A backup nucleus, which runs at all times, can also be configured as a safety mechanism for cases when the system does not operate due to a problem such as a power failure in the Nucleus. In such cases, the system automatically searches for and connects all ViconNet applications to the backup nucleus currently configured in the system and continues operation without interruption.

In a small network (fewer than five sites), the nucleus and backup nucleus (if it exists) can be on any of the transmitters or workstations, and a backup nucleus should only be configured if deemed necessary. If the nucleus is configured on a site and it is heavily loaded with recordings and transmissions, the nucleus should be moved to a dedicated Workstation. In a large network (more than five sites), it is strongly recommended that the nucleus and backup nucleus be run on dedicated workstations.

Creating a New Network

This procedure provides a five-step example of how to create a new ViconNet network using a field-proven method of setup and commissioning. In this example, we will create a network made up of 11 Kollector Pros with RAIDs and three Workstations.

- **Step 1: Setting the Sites' IP Addresses**, below

- **Step 2: Configuring the Network Setup for a Master Nucleus System**, page 62

- **Step 3: Configuring a Backup Nucleus**, page 62

- **Step 4: Connecting the Master Nucleus to the Backup Nucleus**, page 63

- **Step 5: Testing the Network**, page 63

NOTES:
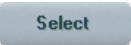
To prevent problems, it is recommended that you methodically plan your network ahead of time.

Do not use this procedure to modify an already existing network.
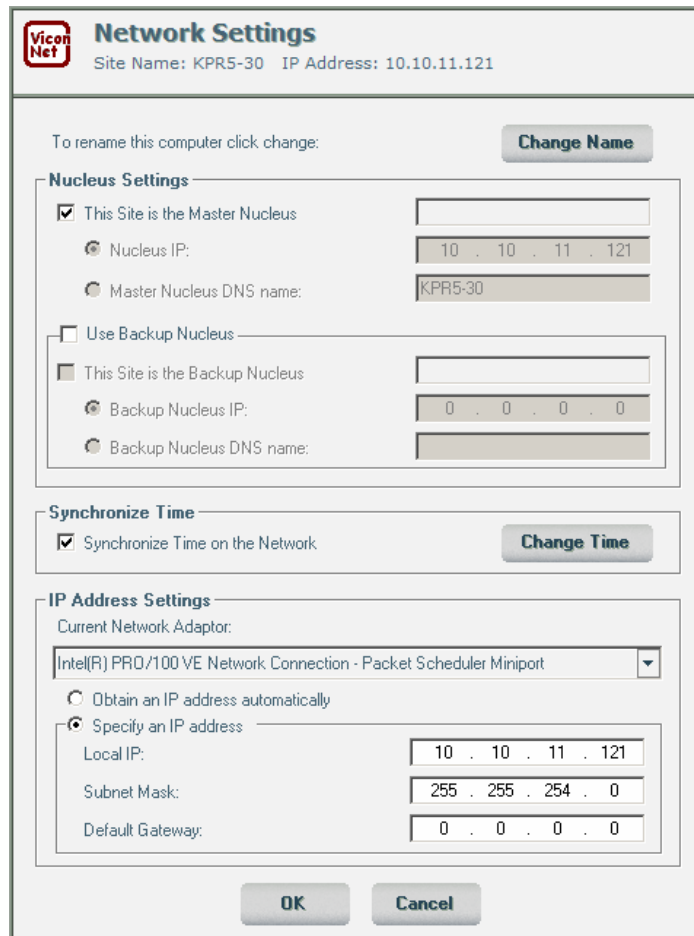
Before beginning, ensure that all CAT5 cables to the transmitters and Workstations are connected to a hub or switch, and that they are properly wired on each end, per 568B (or 568A). It is important to **not** mix connection methods or connect or disconnect cables when the application is running.

Step 1: Setting the Sites' IP Addresses

In this step, you will configure the IP addresses of the sites in the network.

1. Go to the site whose IP address you want to set, and from the ViconNet *Main* window, click
   Setup. The *Setup Site Selection* window is displayed, as shown on page 57.

2. Select your Kollector Pro and click **Select**. The *System Settings* window is displayed, as shown on page 58.

---

3. Click ![Network Settings and Site Name]. The *Network Settings* window is displayed.

NOTE: *The options in the **IP Address Settings** area are disabled during remote setup.*

4. You can change the computer's name, if required, by clicking ![Change Name] to open the *Change Name* window. After you have assigned a new name to the site, click ![OK]. The application will reboot.

5. (Optional) To manually synchronize the local computer time with all sites connected to the nucleus, select the **Synchronize Time on the Network** option (default=checked).

NOTE: *The system also automatically synchronizes the time every one minute.*

6. (Optional) To synchronize the time with your local time settings,

   6.1 Deselect the **Synchronize Time on the Network** option (if it is selected).

   6.2 Click ![Change Time] and update the time in the displayed *Date/Time Properties* window. This is useful if you move from one time zone to another.

   6.3 Re-select the **Synchronize Time on the Network** option (if it was previously selected). The new time is synchronized on the other sites on the network.

NOTE: *If you are changing the time on the Nucleus, ignore steps 6.1 and 6.3.*

7. In the **IP Address Settings** area, select the **Specify an IP address** radio button, and set the **Local IP** address and the **Subnet Mask**.

> *NOTE:* *The option* ***Obtain an IP address automatically***, *in the* ***IP Address Settings*** *area, is only available for a DHCP server.*

8. Click `OK`. The application will reboot.

Step 2: Configuring the Network Setup for a Master Nucleus System

The ViconNet system enables you to configure the Workstation that you want to function as the master nucleus in the system.

1. Go to the site you want as the master nucleus, and follow steps 1 through 3 in *Step 1: Setting the Sites' IP Addresses*, page 60.

2. In the **Nucleus Settings** area, select the **This Site is the Master Nucleus** checkbox to indicate to the system that this computer is running the ViconNet master nucleus. When you select this option, the following occurs:

    - The local IP address and DNS are displayed automatically in the **Nucleus IP** and **Master Nucleus DNS** name fields.

    - The **This Site is the Backup Nucleus** option is disabled.

3. In the **IP Address Settings** area, select the **Specify an IP address** radio button, and set the **Local IP** address and the **Subnet Mask**.

4. Click `OK`. The application will reboot.

Step 3: Configuring a Backup Nucleus

Follow the procedure below to setup a backup nucleus.

1. Go to the site you want as a backup nucleus, and follow steps 1 through 3 in *Step 1: Setting the Sites' IP Addresses*, page 60.

2. In the **Nucleus Settings** area, deselect the **This Site is the Master Nucleus** checkbox.

3. In the **Nucleus Settings** area, select the **Nucleus IP** radio button, and enter the IP address.

4. Click `OK`. The application will reboot, and the nucleus name will appear in the top-left corner of the application, for example, **Nucleus: Workstation-1**.

5. Repeat this procedure for each site in the network.

Step 4: Connecting the Master Nucleus to the Backup Nucleus

In this step, you will connect the backup nucleus you created in the previous step to the master nucleus.

1. Go to the site handling the master nucleus, and follow steps 1 through 3 in *Step 1: Setting the Sites' IP Addresses*, page 60.

2. Go to the site that is acting as the backup nucleus, and follow steps 1 through 3 in *Step 1: Setting the Sites' IP Addresses*, page 60. The name of master nucleus and its IP address, as well as the name of backup nucleus and its IP address, should be grayed out so you cannot change them.

3. In the **Nucleus Settings** area, select the **Backup Nucleus IP** radio button, and enter the IP address of the backup nucleus you defined in the previous step. By default, **0.0.0.0** is displayed as the backup nucleus IP.

4. Click ![OK]. The application will reboot.

5. Repeat step 1. The name of backup nucleus should be grayed out so you cannot change it.

Step 5: Testing the Network

In this final step, you will carry out a number of operational tests to ensure that the network has been setup properly.

1. In the *Main* window, ensure that all sites appear in the *Site List* when they come online, and that you can select a camera from each site by clicking on it.

2. From the *Main* window, click ![Setup]. The *Setup Site Selection* window is displayed:

Setup Site Selection
Select the site which setting's you wish to view/change

Site Name	Site Type	Site IP
KPR5-30	KP-30 (Nucleus)	10.10.11.121

Select   Close   Exit to O.S.
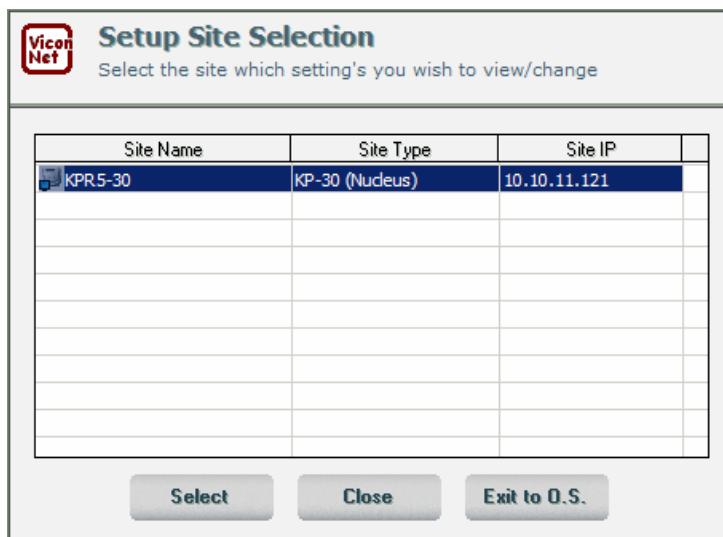
3. Ensure that the **Site Type** column displays **KP-xx** for the Kollector Pro (itself).

4. Go to the site handling the master nucleus and drag a camera from the Kollector Pro to check if video can be seen from this site on the nucleus.

5. Go to the Kollector Pro and playback a camera. Only the local site should appear in the *Site List*.

6. Repeat steps 4 and 5 on the site handling the backup nucleus (optional).

7. Ensure that the backup nucleus is working properly by exiting to the operating system on the site acting as the master nucleus. The backup nucleus name should now appear in the top-left corner of all sites instead of the master nucleus name (for example, in place of **Workstation-1**, the name should now read **Workstation-2**).

8. Log back into the master nucleus. Its name should now reappear in the top-left corner of all sites instead of the backup nucleus name.

Configuring a Site to Work with a Pre-existing Network Nucleus

To configure a Workstation to work with a pre-existing network:

1. Follow steps 1 through 3 in *Step 1: Setting the Sites' IP Addresses*, page 60.

2. Deselect the **This Site is the Master Nucleus** checkbox.

3. Select the **Nucleus IP** radio button, and then enter the IP address of the site handling the master nucleus.

4. Click [OK]. The application will reboot.

Configuring the Network Setup for a Standalone System

The ViconNet system enables you to configure a transmitter as the master nucleus in the system without using a backup nucleus, if required. When performing this configuration, the system automatically detects the local computer IP address and DNS information.

On a standalone system – where only a single recorder is involved, with no Workstations or other Kollector Elites or Kollector Pros connected to it (that is, no other sites are connected to it) – the nucleus can be configured locally. However, it is recommended that the nucleus be configured on a separate system whenever possible.

NOTE: *The nucleus and backup nucleus should not reside on a transmitter. If the system goes down, any transmitter that uses an external master nucleus and that is not configured to use a backup nucleus will automatically shift to local operation mode. This means that it will act as a standalone system, and the transmitter will operate without a nucleus.*

To configure the network setup for a standalone system:

1. Go to the site you want to setup, and follow steps 1 through 3 in *Step 1: Setting the Sites' IP Addresses*, page 60.

   NOTE: *In cases where the nucleus is not running on the local computer, the IP address and the DNS must be typed in manually. As this is a standalone system, you do not need to enter a backup IP address or DNS.*

2. Click [OK]. A notification message is displayed, prompting you to restart the currently connected application with the new nucleus settings.

Configuring/Modifying Cameras, Sensors and Relays

NOTE: The Kollector Pro does not currently support audio input.

The ViconNet system enables you to configure or modify the various devices that you want to be operational in the system, depending on your requirements, including:

- **Configuring/Modifying Local cameras**, below

- **Configuring/Modifying Switchers and Multiplexers**, page 70

NOTE: This feature will be functional in future versions.

- **Configuring/Modifying Sensors (Detectors)**, page 71

- **Configuring/Modifying Relays**, page 72

Each device that you connect to a specific input in the system must be configured separately, using the ViconNet application, so that the system can recognize and operate the device. This consists of configuring information that enables the system to identify the device such as the device type, name, input number, and so on.

During device configuration, a table of buttons for all devices is displayed. When you select a device from this table, the configurable information, specific to the selected device and input, is displayed in the bottom portion of the window.

NOTE: The device appears in the Site List automatically and can be used immediately for all available system functions. No configuration is required for this purpose.

Configuring/Modifying Local cameras

The ViconNet system enables you to configure or modify up to 16 local cameras in the system.
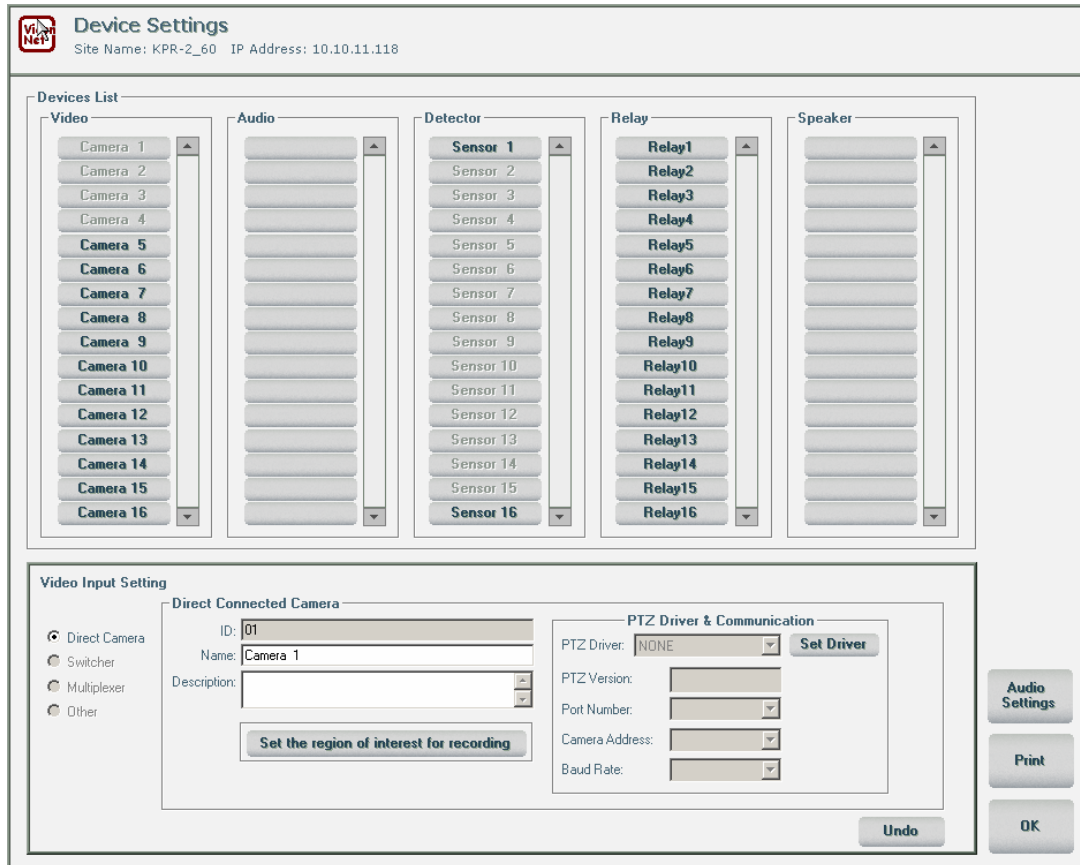
If you want to configure switchers or multiplexers in addition to local cameras, then you can configure up to a combined total of 16 devices. Refer to *Configuring/Modifying Switchers and Multiplexers*, page 70, for additional details.

The settings described in this section, which are accessed via the [Camera, Microphone, Detector, Relay, Speaker] button, apply when connecting to any remote transmitter.

TIP: The local camera definition procedure, described below, includes a region of interest (ROI) area definition aspect, by which recording and display update is triggered only when the changes to the camera view affect defined ROI areas, at specified sensitivities. This usefully conserves storage capacity by limiting the number of frames recorded to those required for business purposes.

To configure/modify a local camera:

1. From the ViconNet *Main* window, click [Setup]. The *Setup Site Selection* window is displayed, showing the currently connected Kollector Pro, as shown on page 57.

2. Select your Kollector Pro and click [Select]. The *System Settings* window is displayed, as shown on page 58.

3. Click [Camera, Microphone, Detector, Relay, Speaker]. The *Devices Settings* window is displayed:

> *NOTE: You can click **Undo** to restore the last saved settings, if required.*
>
> *TIP: You can print the current Device List details by clicking the **Print** button.*

4. Select a camera button from the **Video** section of the **Devices List** area. The **Video Input Setting** area at the bottom of the window displays all the configurable settings for the selected device. A numerical index number is displayed automatically in the **ID** field. The ID number is assigned by the system and cannot be changed (read-only).

5. In the **Video Input Settings** area:

    - Select the **Local camera** option.

    - In the **Name** field, enter a logical name for the local camera. For example, you can assign a camera name that relates to the relevant site, which can be useful for storage purposes.

    - In the **Description** field (Optional), enter descriptive textual information about the local camera.

6. Click the Set the region of interest for recording button to define/modify how detected changes in the view area will trigger recording on the selected camera. You can limit the triggering to when changes are detected in specific regions of interest (ROIs). The *Region of Interest Definition* window is displayed:
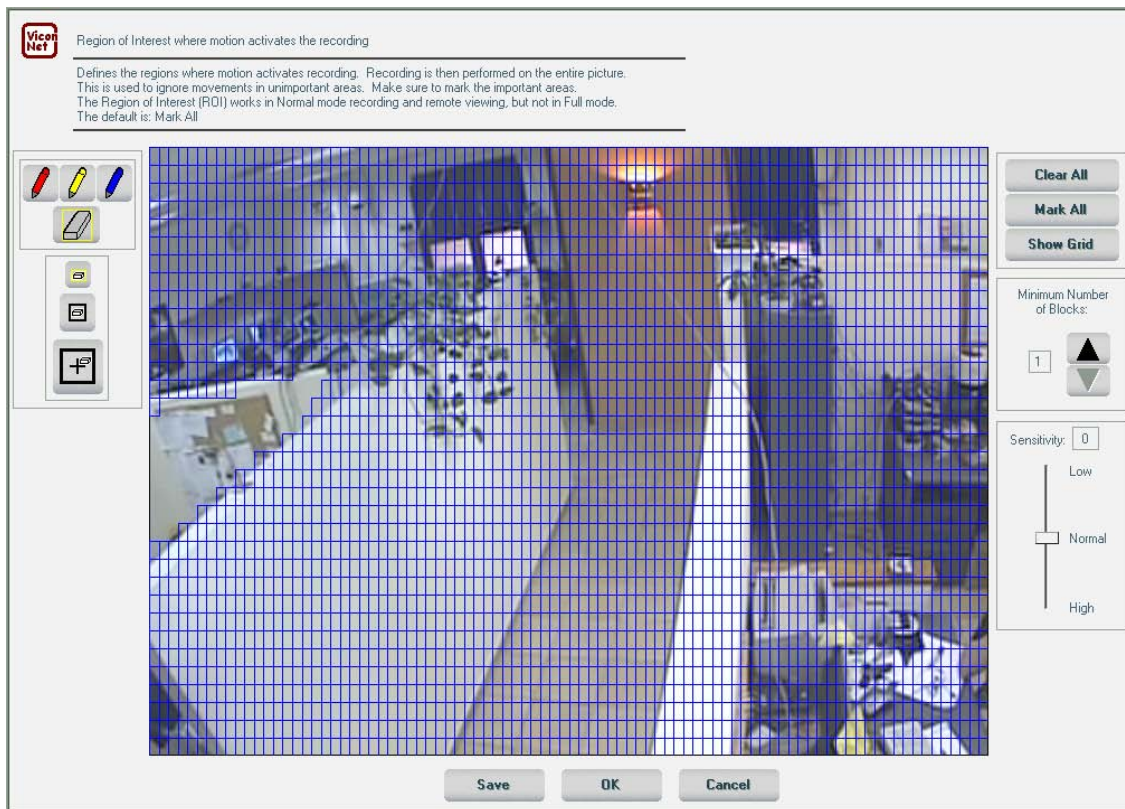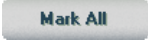
The window shows the live view of the selected camera, with either blue, red or yellow colored grid blocks over selected regions of interest. If no settings were yet defined for this camera, the colored grid blocks cover the entire picture, indicating that the change detection that would trigger recording currently applies to the entire camera view area.

You can focus the change detection mechanism on security-sensitive objects in the camera space by using the window functions to vary the coverage of the colored grid blocks. (Only the segments covered by colored grid blocks are considered for change detection purposes.)

For example, you can focus on windows or doors (as shown in the picture opposite) to monitor opening/closing events.

The following options are provided:

Option	Description
Clear All	This button clears all the current colored grid blocks in the view. You can then use the **Pencil** tool to define grid blocks for specific ROIs within the view surface.
	NOTE: Change detection does not function unless ROIs are identified by colored (blue, red or yellow) grid blocks.
Mark All	This button marks colored grid blocks over the entire window surface, meaning that change detection will apply to the entire camera view. You can then use the Eraser tool to remove specific grid blocks.
	When the **Pencil** tool is selected, the cursor becomes a pencil icon. You can define ROIs by clicking and dragging over the required view area segments, thereby drawing arrays of red, blue or yellow grid blocks (according to which pencil is selected).
	The **Tool Size Selector** area includes buttons for three pencil sizes. According to the selected size, the cursor draws a small (single block), medium (4-block) or large (16-block) width of grid blocks per sweep.
	When the Eraser tool is selected, the cursor becomes an eraser icon. You can erase ROI segments by clicking and dragging over selected grid blocks, thereby erasing them.
	The **Tool Size Selector** area includes buttons for three eraser sizes. According to the selected size, the cursor will erase a small (single block), medium (4-block) or large (16-block) width of surface blocks per sweep.
	The *Block Control* selector enables you to define how many blocks of the colored grid arrays must be simultaneously involved in the change before recording is triggered. For example: • "1" (the most sensitive setting) indicates that recording should be triggered if a change is detected in even one block amongst all the defined ROIs. • "16" (the least sensitive setting) indicates that the change must be simultaneously detected in at least 16 blocks within the entire view area. The blocks do not have to be contiguous.
	NOTE: The selected maximum cannot exceed the total number of blocks defined in ROIs.

Option	Description
Sensitivity: 0 Low Normal High	The *Sensitivity Control* enables you to adjust the triggering sensitivity (by dragging the slider) between **High** (higher detection of changes) to **Low** (lower detection of changes). *NOTE: In general, a "normal" sensitivity should be selected. The highest sensitivities may generate false alarms, while the lowest may cause interesting events to be missed.*
Show Grid Hide Grid	The **Show Grid** button applies a gray planning grid to the parts of the window where no ROIs (colored grid blocks) are defined. The gray grid is only for purposes of viewing where ROIs may potentially be defined and does not affect the change-detection process. When selected, the button changes into a **Hide Grid** button by which the planning grid can be suppressed, making only the "active" colored grid blocks visible.

When you have finished defining grids and recording triggering sensitivity for the selected camera, click the Save or OK button. (Both buttons save the current settings. The **Save** button leaves the window open for additional changes, while **OK** redisplays the *Device Settings* window.)

7. If the local camera is a PTZ, configure the PTZ driver and communication information, as described in *Configuring/Modifying PTZ Controls*, page 72.

8. To configure or modify additional local cameras, repeat steps 4 to 7, as required.

    As you select another camera button in the *Devices Settings* window, the new or modified name of the local camera that you have just configured is displayed automatically on the appropriate button in the **Video** section (for example, Camera 8).

9. Click OK . The new or modified local camera configuration is saved automatically in the system (without requiring a reboot), and the camera appears in the *Site List* in the ViconNet *Main* window as an available device, meaning it is available immediately for all operations.

    NOTE: After you have configured a device in the system, it also appears in all other device lists, such as when creating macros, defining alarm setup links, and setting pre/post alarms. Refer to the relevant sections in this chapter for additional details.

    In addition, the system automatically notifies all connected sites (through the network) of the new or modified local camera configuration.

Configuring/Modifying Switchers and Multiplexers

The ViconNet system enables you to configure or modify up to a combined total of 16 switchers and/or multiplexers (non-local cameras), which consists of configuring settings for each device such as the driver, the output number, and so on.

If you want to configure local cameras in addition to switchers and/or multiplexers, then you can configure up to a combined total of 16 devices. Refer to *Configuring/Modifying Local cameras*, page 65, for additional details.

NOTE: This feature will be functional in future versions.
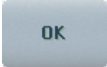
To configure/modify a switcher or a multiplexer:

1. Perform steps 1 to 4 in *Configuring/Modifying Local cameras*, page 65.

2. Select the **Switcher** or **Multiplexer** option, as required.

3. Configure or modify the switcher or multiplexer settings, as follows:

Option	Description
Network or Serial Connection	Select either **Nova 1500** integration or **COM interface**, as required.
Driver	Select the appropriate driver from the dropdown list.
Switcher/Mux Address	Enter the serial address for the switcher or multiplexer.
ID	Select a switcher or multiplexer ID. The ID number is assigned by the system and cannot be changed (read-only).
Name	Enter a logical name for the switcher or multiplexer.
Description	(Optional) Enter descriptive textual information about the switcher or multiplexer.
Switcher/Mux Output # (Monitor)	Select the output number for the switcher or multiplexer. The output is connected to the transmitter input and is limited to one output per transmitter.
Camera Names	This option enables you to view a list of camera names instead of input numbers when performing a switch.
	Enter the names of the cameras (inputs) in the switcher or multiplexer.
	Important: The driver must supply the respective input numbers.
	If a camera is a PTZ, configure the PTZ driver and communication information, as described in *Configuring/Modifying PTZ Controls*, page 73.

4. To configure or modify additional switchers and/or multiplexers, repeat steps 1 to 3, as required.

As you select another button in the *Devices Settings* window, the new or modified name of the switcher or multiplexer that you have just configured is displayed automatically on the appropriate button in the **Video** section, and the configuration is automatically saved.

5. Click [OK]. The new or modified switcher or multiplexer configuration is saved automatically in the system (without requiring a reboot), and the switcher or multiplexer appears in the *Site List* in the ViconNet *Main* window as an available device, meaning it is available immediately for all operations.

> **NOTE:** *After you have configured a device in the system, it appears in all other device lists, such as used in the process of creating macros or setting pre/post alarms. Refer to the relevant sections in this chapter for additional details.*
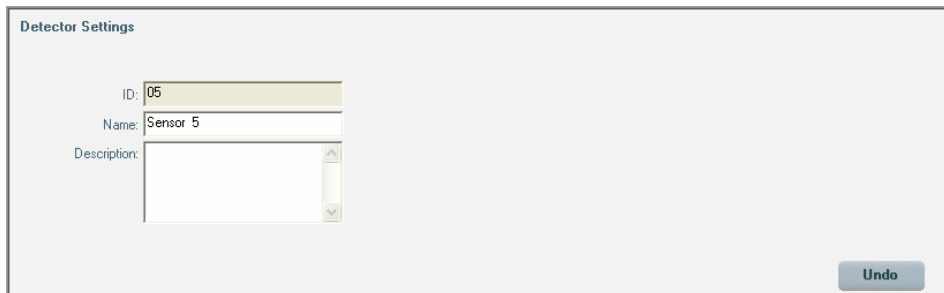
In addition, the system automatically notifies all connected sites (through the network) of the new or modified switcher or multiplexer configuration.

Configuring/Modifying Sensors (Detectors)

The ViconNet system enables you to configure or modify up to 16 sensors, if required. Each sensor that you configure in the system must be associated to a specific alarm type.

To configure/modify a sensor (detector):
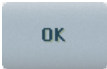
1. Perform steps 1 to 3 in *Configuring/Modifying Local cameras*, page 65.

2. Select a sensor button from the **Detector** section of the **Devices List** area. The **Detector Setting** area at the bottom of the window displays all the configurable settings for the selected device.

3. In addition, a numerical index number is displayed automatically in the **ID** field. The ID number is assigned by the system and cannot be changed (read-only).

4. In the **Name** field, enter a logical name for the sensor. For example, you can assign a name that relates to the associated alarm type.

5. (Optional) In the **Description** field, enter descriptive textual information about the sensor.

6. To configure/modify additional sensors, repeat steps 1 to 5, as required.

   As you select another button in the *Devices Settings* window, the new or modified name of the sensor that you have just configured is displayed automatically on the appropriate button in the **Detector** section, and the configuration is automatically saved.

7. Click ![OK]. The new or modified sensor configuration is saved automatically in the system (without requiring a reboot), and the sensor appears in the *Site List* in the ViconNet *Main* window as an available device, meaning it is available immediately for all operations.

> **NOTE:** *After you have configured a device in the system, it also appears in all other device lists, such as when defining alarm setup links. Refer to the relevant sections in this chapter for additional details.*

Configuring/Modifying Relays

The ViconNet system enables you to configure or modify up to 16 relays, if required.

> **NOTE:** *The relays are only enabled in this window when using the new Kollector Elite rear panel. In this case, the system automatically recognizes the relays.*

To configure/modify a relay:

1. Perform steps 1 to 3 in *Configuring/Modifying Local cameras*, page 65.

2. Select a relay button from the **Relay** section of the **Devices List** area. The **Relay Settings** area at the bottom of the window displays all the configurable settings for the selected device.

3. In addition, a numerical index number is displayed automatically in the **ID** field. The ID number is assigned by the system and cannot be changed (read-only).

4. In the **Name** field, enter a logical name for the relay. For example, you can assign a name that relates to the proper relay operation.
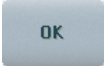
5. (Optional) In the **Description** field, enter descriptive textual information about the relay.

6. To configure/modify additional relays, repeat steps 1 to 5, as required.

As you select another button in the *Devices Settings* window, the new or modified name of the relay that you have just configured is displayed automatically on the appropriate button in the **Relay** section, and the configuration is automatically saved.

7. Click [OK]. The new or modified relay configuration is saved automatically in the system (without requiring a reboot), and the relay appears in the *Controls* area in the ViconNet *Main* window as an available device.

> *NOTE: You can also define an external relay box by selecting **RS232/422/485 Controls i**n the System Settings window. For more details, refer to Configuring an External Control, page 143.*

Configuring/Modifying PTZ Controls
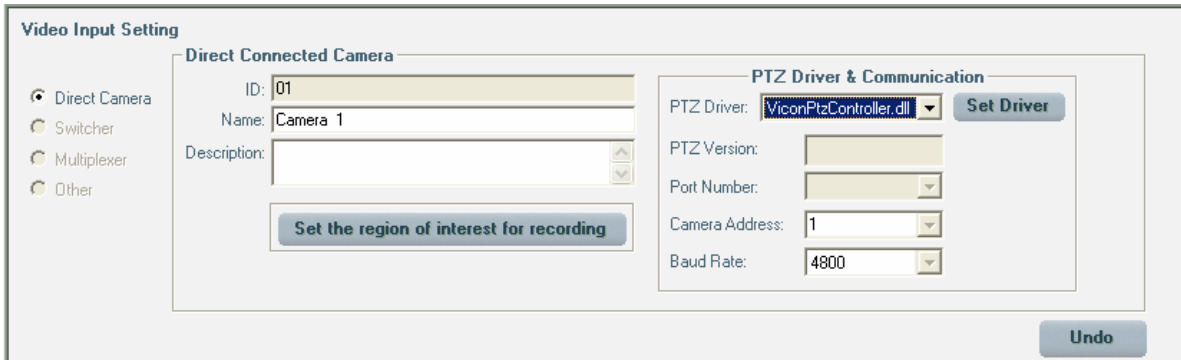
When you use PTZ cameras in the ViconNet system, you must configure/modify each device according to its specific camera specifications, such as the driver, version number, and so on.

To configure/modify PTZ controls:

1. In the *Devices Settings* window, shown on page 66, select the appropriate PTZ camera button from the **Video** section of the **Devices List** area.

> *NOTE: When working in the Devices Settings window, you can click **Undo** to restore the last saved settings, if required.*

2. In the **PTZ Driver & Communication** area, enter the required PTZ configuration settings, as follows:

Option	Description
PTZ Driver	Select the appropriate driver from the dropdown list or click [Set Driver] to automatically select the appropriate driver.
PTZ Version	The PTZ software version is displayed after the appropriate driver is selected.
Port Number	The port number is shown for information purposes.

Option	Description
Camera Address	Select the camera address from the dropdown list.
	NOTE: The address must be identical to the address configured on the camera.
Baud Rate	Select the Baud rate from the dropdown list.

3. To configure or modify PTZ controls for additional PTZ cameras, repeat steps 1 and 2, as required.

Configuring Other RS232/422/485 Controls

The ViconNet system enables you to configure other RS232/422/485 controls for each computer, as required, using the **RS232/422/485 Controls** option in the *System Settings* window.

The following are the available controls and their configurable settings:

Serial Controlled Relay

Configure the following settings, as required:

- **Select Driver:** Select the required driver from the list of installed drivers.

- **Relay Box ID, Name, and Description:** Enter an ID number, logical name, and textual description (optional) for the relay.

- **Relay Box Address:** Select the required serial address from the displayed range.

- **Relay Input Names:** Enter a name for each input to the Relay box.

Serial Controlled Joystick

- **Select Driver:** Select the required driver from the list of installed drivers.

- **Joystick Box ID, Name, and Description:** Enter an ID number, logical name, and textual description (optional) for the joystick.

- **Joystick Box Address:** Select the required serial address from the displayed range.

- **Joystick Input Names:** Enter a name for each input to the Joystick box.

Using Reset Nucleus

The purpose of the Reset Nucleus feature is to clean up the site lists and sub-lists in the *Recording Verification System*, *Central Failure Notification* and *Macro Editor* (for *Send Alarm*) windows by removing all associated disconnected sites.

NOTE: This feature is only available if the Kollector Pro is the nucleus (or by remote from another site with the correct authorizations).

To reset the nucleus:

1. From the ViconNet *Main* window, click [Setup]. The *Setup Site Selection* window is displayed, as shown on page 57.

2. Select your Kollector Pro and click [Select]. The *System Settings* window is displayed, as shown on page 58.

3. Click [Reset Nucleus]. All disconnected sites that appeared in the site lists in the *Recording Verification Site*, *Central Failure Notification* and *Macro Editor Send Alarms* site lists have now been removed from the lists. An example is shown below:

    Before clicking **Reset Nucleus**, disconnected sites on the network appear with the (*) symbol in the site lists, as shown in the list of Notification Sites in the *Recording Verification System* window below:

    After Reset Nucleus, the disconnected sites are removed from the site lists:

Using the Central Failure Notification (CFN) Mechanism

The CFN mechanism enables Workstations and transmitter sites connected to the same nucleus to receive notifications indicating that certain applications have failed, for example, macro, recording and database failures.

CFN increases the user's awareness of problems that could occur at unmanned remote sites. It sends error/warning notifications, via the network, to other sites that share the same nucleus. The notifying site is the same one that handles the nucleus.

The CFN mechanism is available only for the site that handles the nucleus.

> **NOTE:** *If the Kollector Pro is the nucleus, it can see here (in the CFN window) the other available sites in the network.*

To activate the CFN mechanism:

1. From the ViconNet *Main* window, click [Setup]. The *Setup Site Selection* window is displayed as shown on page 57.

2. Select the local site (if it is the nucleus) and click [Select]. The *System Settings* window is displayed, as shown on page 58.

3. Click [Central Failure Notification]. The *Central Failure Notification* window is displayed.

4. In the **Site List** section, select which site(s) to notify about a failure occurring in any other site that shares the same nucleus from the **Available** area and then click [Add >>]. The selected site(s) is displayed in the **Selected** area.

5. When you have finished, click **OK**.

When a failure occurs, a *Central Failure Notifications* window is displayed in the sites selected in the CFN setup, containing information about the time the failure occurred, the site name, the site IP address, and a short description of the failure (the failure message).
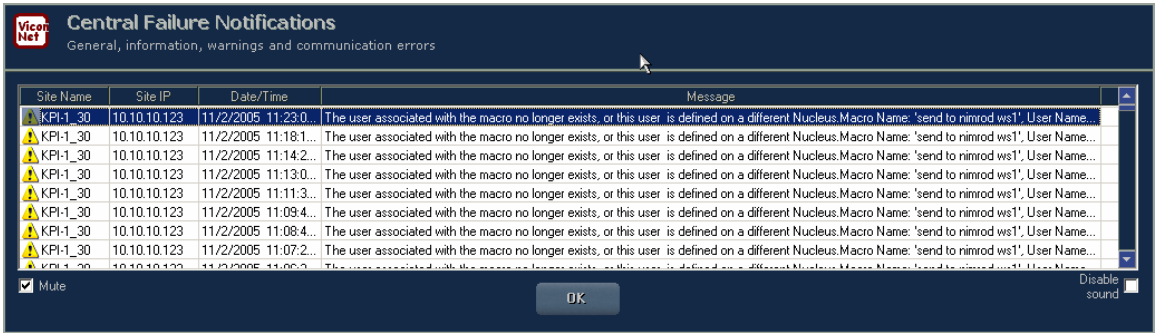
This window is accompanied by a sound (similar to the *Alarm* window). Selecting the **Mute** checkbox silences the alarm for this message; however, the next time the window is displayed, the alarm will sound. Checking the **Disable sound** checkbox disables the sound option completely, meaning that the alarm will not sound again.

To see more details about the error, double-click it to open a window like the one shown here.
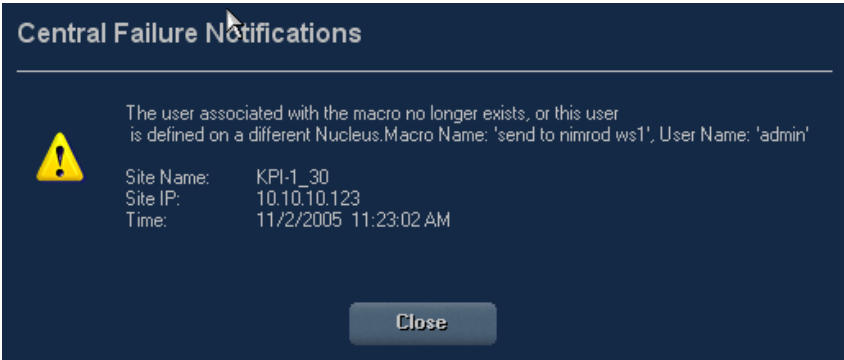
NOTES:

The local site in which the failure occurred receives the user notification even if it was not selected in the nucleus CFN setup.

Disconnected sites are marked with a (*).

Configuring System Authorizations

The ViconNet system enables you to configure system authorizations, depending on your organizational requirements. The authorizations that you configure determine both user access and the authorized system operations for users according to the group to which you assign them.

Configuring system authorizations consists of defining the groups and users in your system, as described in the following sections:

- **Defining Groups**, page 78

- **Defining Users**, page 81

Users and Groups can only be defined in the nucleus. The **User & Group Management** button in the *System Settings* window is disabled in all other sites.

After groups and users have been defined, you can define which system operations will be available to each group of users, per site, as described in *Configuring Site Authorization*, page 84.

Thereafter, each authorized user can access the system and the ViconNet application, using their assigned user name and password. The system automatically checks the login information according to the assigned group and then enables the allowed system operations, which can include:

- Configuring the network setup, as described on page 59.

- Configuring PTZ controls, as described on page 73.

- Viewing and recording live video, as described in *Chapter 4, Viewing Live Video*, and *Chapter 5, Recording Live Video*.

- Playing back recorded video, as described in *Chapter 6, Playing Back Recorded Video*.

Access to the available sites and devices (cameras and so on) is also dependent on the assigned authorization of each user.

Defining Groups

The ViconNet system enables you to define groups to which you can assign specific users. The purpose of each group is to categorize specific users so that they can all be assigned the same site authorization rights. These rights determine the system operations each group can perform.
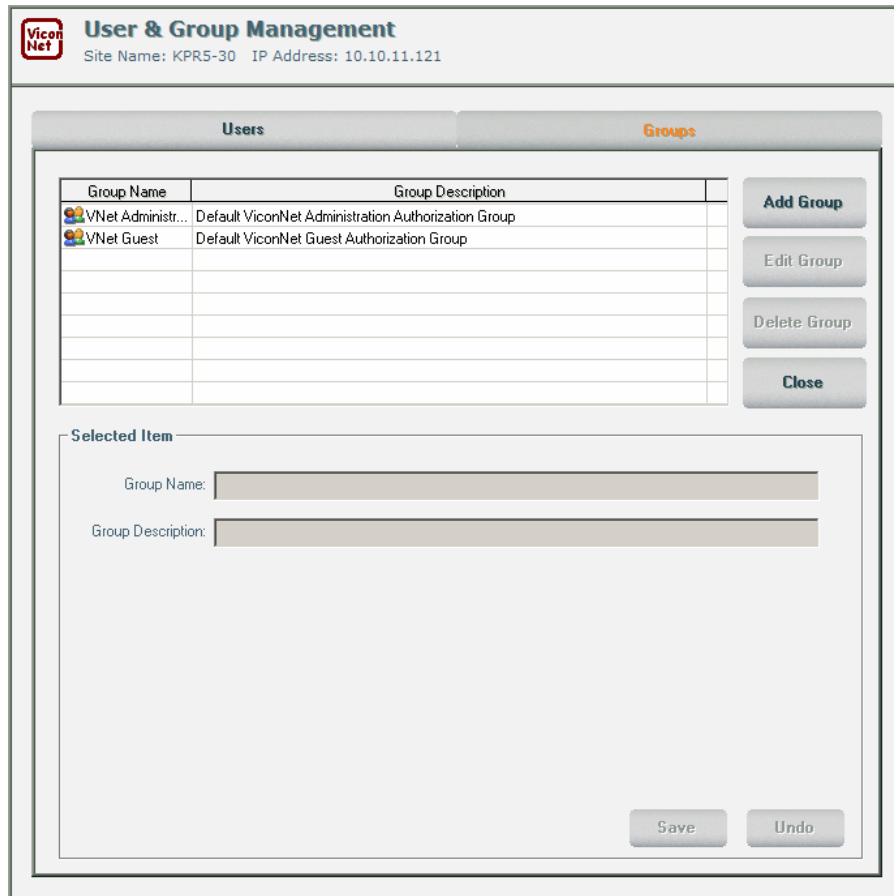
After defining the groups, you can assign users to the groups, as described in *Defining Users*, page 81, and then you can configure the site authorization for each group, as described in *Configuring Site Authorization*, page 84.

To add a new group:

1. From the ViconNet *Main* window (in the Nucleus), click [Setup] . The *Setup Site Selection* window is displayed, as shown on page 57.

   Select your Kollector Pro and click [Select] . The *System Settings* window is displayed, as shown on page 58.

2. Click [User & Group Management] . The *User & Group Management* window is displayed with the [Groups] option selected by default.

   User & Group Management
   Site Name: KPR5-30   IP Address: 10.10.11.121

Users	Groups

Group Name	Group Description	
VNet Administr...	Default ViconNet Administration Authorization Group	Add Group
VNet Guest	Default ViconNet Guest Authorization Group	Edit Group
		Delete Group
		Close

   Selected Item

   Group Name: [   ]

   Group Description: [   ]

   [Save]   [Undo]

NOTE: *When working in the User & Group Management window, you can click **Undo** to restore the last saved settings, if required.*

The system provides two default groups (**Administrator** and **Guest**), each with their respective site authorizations. Refer to *Configuring Site Authorization*, page 84, for a description of these groups.

3. Click **Add Group**. The fields in the bottom portion of the window are enabled, as follows:

```
┌─ Selected Item ──────────────────────────────────────────────┐
│                                                                │
│        Group Name: │                                        │  │
│                                                                │
│    Group Description: │                                      │  │
│                                                                │
└────────────────────────────────────────────────────────────┘
```

4. In the **Group Name** field, enter a logical group name.

5. (Optional) In the **Group Description** field, enter a description for the group. For example, this can be a reference to the type of users you plan to add to the group.

6. Click **Save**. The new group is added to the group list at the top of the window.

> *NOTES:*
>
> *To edit a group, select the group from the list in the User & Group Management window and click **Edit Group**. Then modify the displayed settings, as described in the procedure above, and click **Save**.*
>
> *To delete a group, select the group from the list in the User & Group Management window and click **Delete Group**.*

7. To add additional groups, repeat steps 3 to 6, as required.

You can now add specific users to the defined groups, as described in the following section.

Defining Users

The ViconNet system enables you to categorize the specific users in your system into groups. Users must be defined in the nucleus and can be seen in all the sites. You can then configure the site authorization for each group of users, per site, depending on the system operations that you want them to be able to access.

To define a new user:

1. Perform steps 1 to 4 in *Defining Groups*, page 78, and ensure that the
   [Users] option in the *User & Group Management* window is selected.
   The *User & Group Management* window is displayed.

> **NOTE:** When working in the User & Group Management window, you can click **Undo** to restore the last saved settings, if required.

2. Click [Add User]. The options in the bottom portion of the window are enabled, as follows:

3. Enter the user details, as follows:

Option	Description
User name	Type in a logical user name.
User description	(Optional) Type in a description for the user, if required.
Password	(Optional) Type in an alphanumeric password of up to any 32 characters.
Verify Password	(Optional) Type in the same password that you entered in the **Password** field.
Priority	Select the user's priority in the system to resolve conflict situations, for example, where a user requests or forces him/herself to be the primary user (default = 1). For example, post alarm recording is performed at the quality of the user/macro that has the highest priority.
	Refer to the *Creating a Macro* section for an example of use of user priority.

4. In the **Group Association** section, select which group to assign the user from the **Available** area and then click [Add >>]. The selected group is displayed in the **Selected** area.

5. To add the same user to another group, repeat step 4.

> *NOTE:* *You can remove a group from the Selected area by selecting it and then clicking **Remove**. The group is redisplayed in the Available area.*

6. Click [Save] . The new user is added to the user list at the top of the window.

User Name	Priority	User Description
admin	1	Default ViconNet Admininstrator User
guest	1	Default ViconNet Guest User

> **NOTES:**
>
> *To edit a user, select the user from the list in the User & Group Management window and click* **Edit User***. Then modify the displayed settings, as described in the procedure above, and click* **Save***.*
>
> *To delete a user, select the user from the list in the User & Group Management window and click* **Delete User***.*

7. To add additional users and their group assignments, repeat steps 2 to 6, as required.

You can now set the site authorization for each group of users that you have defined, as described in *Configuring Site Authorization*, below.

Configuring Site Authorization

The ViconNet system enables you to define the site authorization for each group of users that you have defined in the system. This consists of specifically defining which system operations can be accessed by each group.

The system also provides the following two default groups:

- **ViconNet Administrator:** Users assigned to this group have authority to perform all system operations.

- **ViconNet Guest:** Users assigned to this group have authority only to log in, log out, and exit the ViconNet application. Default values shown in entry fields may also be changed, if required. All other options are disabled.

When configuring site authorization, each group is displayed in its own column along with a list of available system operations. This enables you to set site authorization for one or multiple groups by selecting the appropriate options in each column.

To configure site authorization:

1. From the ViconNet *Main* window, click [Setup]. The *Setup Site Selection* window is displayed, showing a list of all currently connected transmitters and Workstations, as shown on page 57.

2. Select your Kollector Pro and click [Select]. The System Settings window is displayed, as shown on page 58.

3. Click **Site Authorization**. The *Site Authorization* window is displayed, as shown below.

Site Authorization
Site Name: KPR5-30   IP Address: 10.10.11.121

Action	VNet Administrator	VNet Guest
Login	✓	✓
Logout	✓	✓
Setup	✓	✗
Reports	✓	✗
Scheduler/Macro	✓	✗
Run Macro/Run Ma...	✓	✗
Stop Macro	✓	✗
Stop all Macro & Sc...	✓	✗
Resume Scheduler	✓	✗
Show Macro	✓	✗
Shutdown	✓	✓
Manual Record	✓	✗
Stop	✓	✗
Quality	✓	✗
Change FPS	✓	✗
Change LowBandWidth	✓	✗
Site Map	✓	✗
Picture	✓	✗
Audio	✓	✗
Controls	✓	✗
Matrix	✓	✗
Export	✓	✗
Print	✓	✗
Live View	✓	✗
Camera 1	✓	✗
Camera 2	✓	✗
Camera 3	✓	✗
Camera 4	✓	✗

Save   Undo   OK   Cancel

NOTE: *When working in the Site Authorization window, you can click **Undo** to restore the last saved settings, if required.*

The *Site Authorization* window contains the two default groups (**Administrator** and **Guest**) as well as all other groups currently defined in your system. The operations in the **Administrator** group cannot be modified, but you can modify the operations in the **Guest** group, if required.

4. Expand the branches in the **Action** tree to view the categories, as required (see the examples below).

Login	Scheduler/Macro
Logout	Run Macro
Setup	Stop Macro
Network Setup & SiteName	Stop all Macro & Scheduler
User & Group Management	Resume Scheduler
Site Authorization	Show Macro
AutoLogin	Shutdown/Close
Macro - Create & Edit	Record
Alarm Setup	Stop
Authentication Settings	Change Quality
Device Setup	Picture
Pre & Post Alarm	Export
Picture Database Utilities	Print
AutoRecord	Controls
Exit to OS	Live View
RS232 Setup	Playback
Priority Setup	Play
Registration Setup	Create Archive
Manual Recording Setup	AVI Export
Scheduler for Macros	Remove Archive
Enable/Disable Scheduler	Museum Search
Reports	Device Data Retrieval
System Status	PTZ
Alarm History	Control buttons
Recording Status	Preset Settings

> **NOTE:** The **Live View** action enables the users of an authorized group (see next step) unlimited access to the specified device. (The actual feasibility of the device use depends on the device's authorization for the relevant group.)
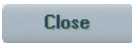
5. In the appropriate group column, define the system operations that you want authorized for that group by selecting (✔) or deselecting (✖) the appropriate categories, as required.

> **NOTE:** The **Live View** feature, as well as the **Device Data Retrieval** feature under the **Playback** branch, are authorized on a per camera basis.

6. To restore the last saved settings, click **Undo**.

7. Click ⬚ Save ⬚. The following message is displayed:

Site Authorization

The configuration settings saved successfully.

⬚ Close ⬚
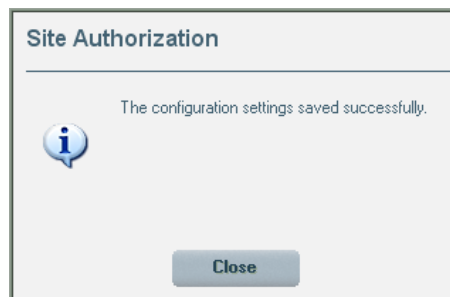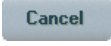
8. Click ⬚ Close ⬚ in the message.

9. In the *Site Authorization* window, either:

   Click [OK] to save and exit,

   or

   Click [Cancel] to exit without saving.

NOTES:

*If you click **Cancel** in the Site Authorization window before you click **Save**, a message is displayed, prompting you to save your changes.*

To edit the existing site authorization for a group, repeat the procedure above, select or deselect the options, as required, and then save your changes.

IMPORTANT:

When replacing the nucleus of the system (by changing the **Nucleus IP** in the Network Settings window), you must first redefine all the users and groups in the new nucleus. To do so:

1. *Go to the site that is to be the new nucleus and manually define all the users and groups.*

2. *In all the sites connected to the current nucleus, change the **Nucleus IP** in the Network Settings window to the IP of the new nucleus. In each site, the system will restart. Upon restart, the site will ask you if you want to run a conversion (to put all the current site authorizations into the new nucleus).*

3. *Either:*

   *Click **Yes** – site authorizations from the existing nucleus are saved in the new nucleus,*

   or,

   *Click **No** – site authorizations are lost and only the administrator and guests can log in to sites connected to the new nucleus. In the Site Authorization window, all the rows appear with red crosses. For other users to access the sites connected to the new nucleus, follow the **To configure site authorization** procedure, as described on page 84, for each site.*

IMPORTANT:

When joining a new nucleus with either a Workstation or Kollector recorder, the new user obtains a group list from that nucleus. This group list (on the new unit) will have no privileges (meaning that by default, all Actions are labeled with a red X). In order for the new user to obtain privileges in that group, a user must login to the nucleus as an Administrator, locally or remotely, and enable the privileges (change the red Xs to green checks) for that unit. This procedure must be repeated on all units in the system where group privileges are required.
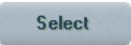
When joining a new nucleus with either a Workstation of Kollector recorder, the previously established group privileges will be disabled on that unit when the "Nucleus" designation is removed. To restore those privileges, the unit must disengage from the new nucleus unit and re-establish itself as a standalone nucleus.
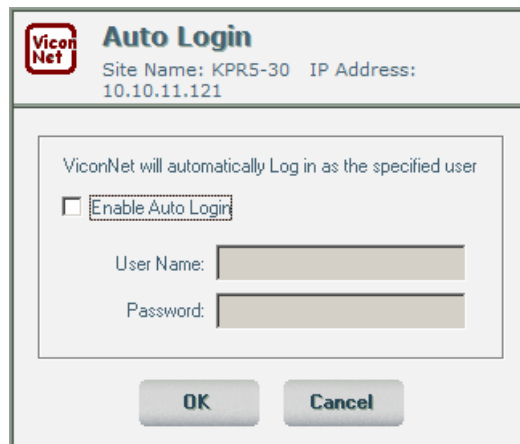
Configuring Auto Login

Any user with appropriate access authorization can configure the system to automatically log in selected users. Afterwards, each time the application starts, the ViconNet *Main* window will display without the need to enter a user name and password. (The regular Login procedure is described in the *Logging In* section in *Chapter 2, Getting to Know ViconNet*.)

The user's Auto Login configuration can also be removed, as required.

To configure a user for Auto Login:
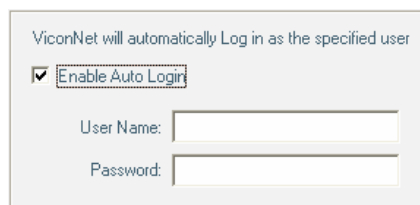
1. From the ViconNet *Main* window, click [Setup]. The *Setup Site Selection* window is displayed, as shown on page 57.

2. Select your Kollector Pro and click [Select]. The *System Settings* window is displayed, as shown on page 58.

3. Click [Auto Login] to display the *Auto Login* window.

> **NOTE:** If Auto Login has already been defined for the user name, the window fields will show the user name and 8 asterisks (********) in the Password field.

4. Select the **Enable Auto Login** checkbox to enable entering data to the window.

5. Enter the required user's user name and password in the applicable fields. (If you want to remove a user's Auto Login configuration, delete the displayed entries or unclick the checkbox.)

6.   Click **OK**. The *System Settings* window is redisplayed.

> **NOTE:** *If the entered user name and password combination is not defined in the system, an error message will be displayed. You should try the entries again.*

The specified users will now be able to access the system without a login procedure.

> **NOTE:** *The Auto Login (or Auto Login removal) becomes operational only after the next restart of the application by the Administrator user.*

Configuring Storage Database Utilities

The ViconNet system enables you to configure the local storage locations of the Video and Audio database in your system, depending on your requirements. Each storage location can be made up of a combination of multiple disks (sections), depending on the number of available disks in the system.

> **IMPORTANT:**   *When you add a disk to an existing storage location or enlarge the disk size, all recorded data is retained. If you reduce the size of an existing storage location, all recorded data is removed from the system.*

When you run the ViconNet application for the first time, the default storage location settings are applicable.

> **NOTE:** *Storage database configuration can ONLY be performed locally.*

This section describes how to configure or clear databases, as follows:

- **Configuring Storage Locations**, below

- **Clearing Video and Audio Storage Locations**, page 92

> **NOTE:** *To avoid damage to databases, if the current session involves recording (since the last reboot), the Storage Database Utility is disabled. Otherwise, the following message is displayed:*
>
>
>
> *In this case, disable auto recording and macro recording, restart the application and then select the Storage Database Utilities option again.*
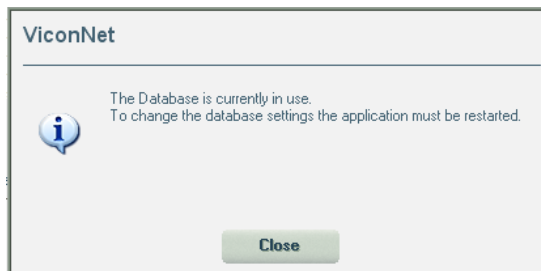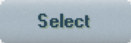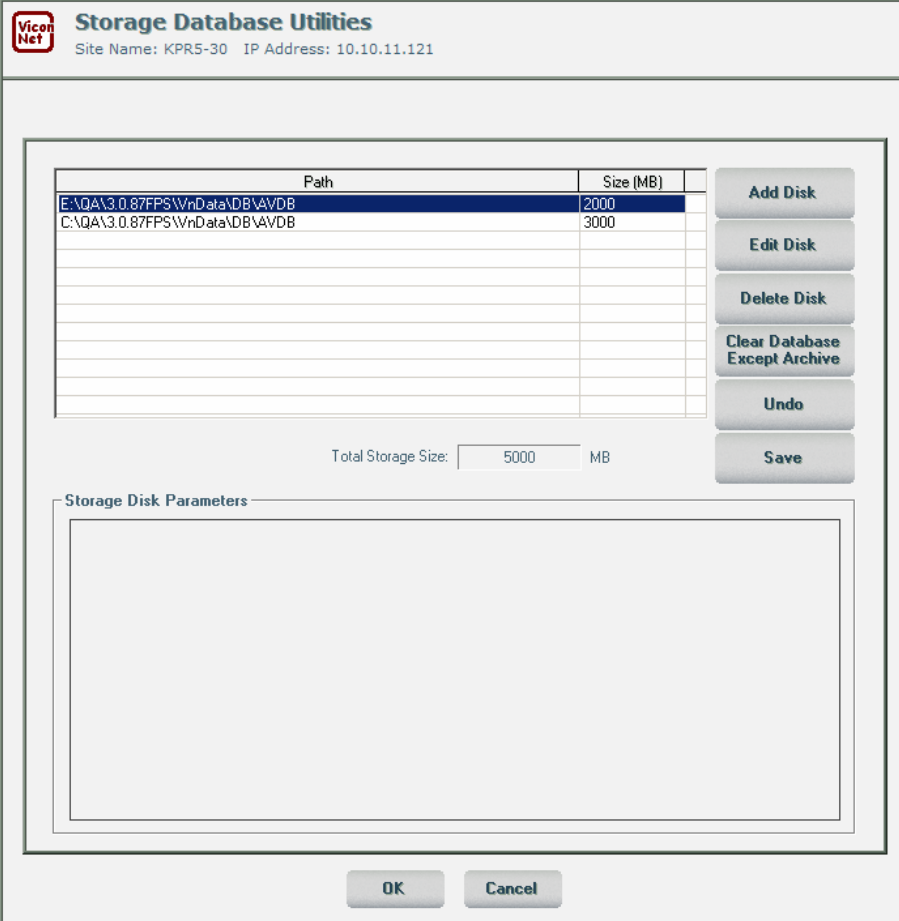
Configuring Storage Locations

Configuring a storage location consists of defining the actual location of the video/audio database. You must also define the storage size of each storage location, depending on the available disk size.

This function is disabled while recording (manual, automatic, or macro-initiated) is currently in progress.

To configure Storage Database Utilities:

1. From the ViconNet *Main* window, click [Setup]. The *Setup Site Selection* window is displayed, as shown on page 57.

2. Select your Kollector Pro and click [Select]. The *System Settings* window is displayed, as shown on page 58.

3. Click [Storage Database]. The *Storage Database Utilities* window is displayed.
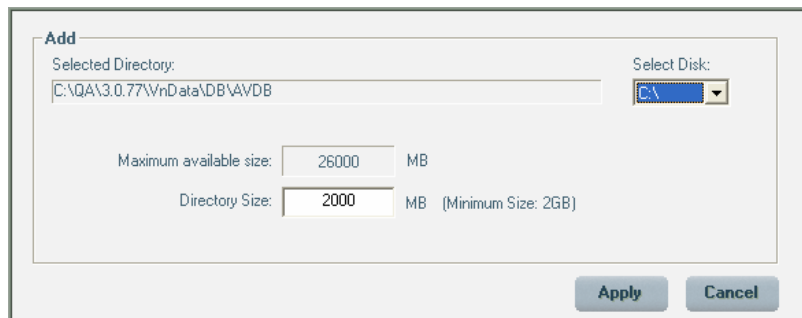
NOTES:

*When working in the Storage Database Utilities window, you can click **Undo** to restore the last saved settings, if required.*

In addition, the options in the Storage Database Utilities window is disabled during remote setup.

4. Click **Add Disk**. The bottom portion of the *Storage Database Utilities* window is enabled, as follows:
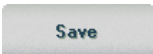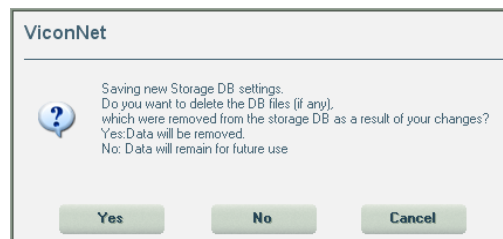
5. Click the arrow next to the **Select Disk** dropdown list and then select the required location.

    The system automatically detects the **Maximum Size** of the selected directory, depending on the available disk space. The default directory size is 2000 MB (which is also the minimum size).

6. In the **Directory Size** field, type in the required size (between the minimum and maximum).

7. Click **Apply** in the bottom of the window. The new storage location information is added to the storage location list at the top of the window.

8. To add an additional disk, repeat steps 4 to 8, as required.
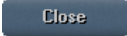
    NOTE: *To edit a storage location, select the storage location from the list in the Storage Database Utilities window and click **Edit Disk**. Then modify the displayed settings, as described in the procedure above, and click **Save**.*

9. Click **Save** on the right side of the storage location list. When saving a change to the size of the database, data may be deleted (if database size is reduced). The confirmation message shown below is displayed, to give you the option of either deleting any excess data or just hiding it.

10. Either:

    *   Click **Yes** to delete the data that does not fit in the new database, or
    *   Click **No** to hide the data that does not fit in the new database. (That means, the data files can still be viewed from Windows Operating System, but you will not see them in the Vicon application. If in the future the database is enlarged, the data files will again become visible.)

    The data is deleted/hidden on a FIFO (First In First Out) basis (meaning that the oldest data is deleted/hidden first).

---

11. Click [Close] to confirm your changes.

Deleting Disks

Storage locations can be deleted if no longer required. To delete a storage location, select the storage location from the list in the Storage Database Utilities window and click **Delete Disk**.

Clearing Video and Audio Storage Locations

The entire video and audio storage database can be cleared.

It is recommended that authorization to this function be assigned only to Administrator users.

To clear databases:

1. Repeat steps 1 to 3 of the *Configuring Storage Locations* procedure, page 89.

2. In the *Storage Database Utilities* window, click the [Clear Database Except Archive] button. (No selections are required beyond the indicated defaults). The following confirmation window is displayed.

3. Click **Yes** to confirm the action. The selected database is cleared.

HD Mobility

The HD Mobility feature enables saving data from the hard disk of a malfunctioning Workstation or recorder, (meaning, a recorder which has stopped working). This feature enables us to take the hard disk from the malfunctioning recorder and insert it into a working recorder.

To restore data from a malfunctioning workstation or Kollector:

1. Disconnect the hard disk from the malfunctioning Kollector.

2. Insert the hard disk into a working site as an additional disk (meaning, not as part of the existing storage configuration).

   For example: If your storage configuration already consists of 2 hard disks **C** and **E**, you can add a disk and map it to any disk drive whose name appears alphabetically after all existing disk drives (in this case, after **E**).

   Note: *Ensure the working recorder has the option to connect additional disks.*

Once the hard disk is connected, it is recognized and displayed in the Navigator as an archive.
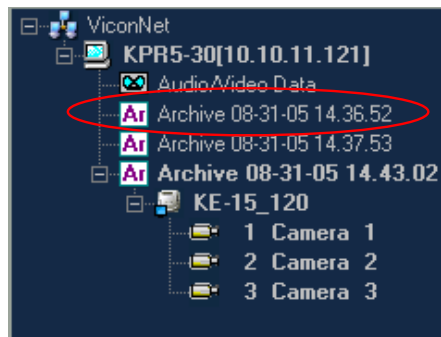
> **Note:** Since this disk contains an external database, you cannot add it to the local database configuration using the storage database utilities window in the setup. If you try to add it, you get the following message:
>
>

Configuring System Authentication

When the **Check Picture Authentication** feature is active, the ViconNet system automatically verifies that live or played back ViconNet-produced videos were not tampered with. According to the results of the verification, one of the following system authentication statuses is displayed on the video:

- **Auth ✓:** Indicates the video segment has been confirmed as authentic.
- **Auth X:** Indicates that the authentication was checked properly but the results were poor and could not be confirmed as authentic.
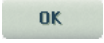
To view authentication results for video played on the destination site:

1. From the ViconNet *Main* window, click [Setup]. The *Setup Site Selection* window is displayed, as shown on page 57.

2. Select your Kollector Pro and click [Select]. The *System Settings* window is displayed, as shown on page 58.

3. Click [Authentication]. The *Authentication Setup* window is displayed.
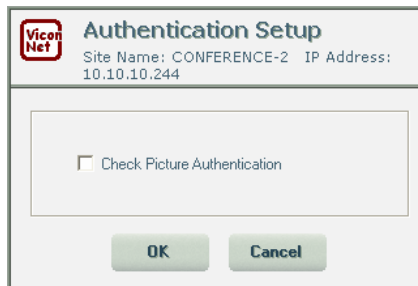
4. Select the **Check Picture Authentication** checkbox. This will activate the authentication reporting mechanism in the video destination.

   When you play back a video segment or watch live video, the system reports whether or not the video is authentic. (When the **Check Picture Authentication** checkbox is deselected, authentication results are not reported.)

5. Click [OK] to save your selection.

Configuring Manual Recording and Video Quality

The ViconNet system enables you to control the display quality that applies to manually initiated recording by configuring the picture quality and refresh rate.
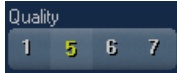
The buttons in the *Main* window **Function Controls** area can also be enabled, which allow you to manually override the display mode-determined Live picture quality for the currently selected camera. The qualities 1, 5, 6 and 7 are available for this purpose. (For more information, refer to the *Function Controls* section in *Chapter 2, Getting to Know ViconNet*.)

NOTE: Changing the display mode after you manually select a quality will override your selection.

To configure manual recording:

1. From the ViconNet *Main* window, click **Setup**. The *Setup Site Selection* window is displayed, as shown on page 57.

2. Select your Kollector Pro and click **Select**. The *System Settings* window is displayed, as shown on page 58.

3. Click **Manual Record and Quality Buttons On Screen**. The *Recording and Display Quality* window is displayed.

4. Make the required **Quality** (picture quality) and **Mode** (refresh mode) selections, as follows:

Option	Description
Quality	The picture quality that you select determines the resolution at which the video images will be recorded. Select the required picture quality from the range of one to eight, where: • **1** = best picture quality, but slowest data transmission. • **8** = least clear picture quality, but fastest data transmission. *NOTE:* *When different recording options are requested concurrently, the recorded picture quality that applies is determined according to prioritization settings. For details, refer to the Picture Quality and FPS Priority section, page 118.*
Mode	The refresh mode determines the rate that the frames will be refreshed during the recording. Select the required refresh mode, as follows: • **Normal:** Records only changes within the frames, resulting in an economic storage location process. This option enables you to view the recorded video at a high frame per second rate, depending on the magnitude and number of changes. • **Full:** Records full video image frames. During the recording operation, this refresh mode causes the selected storage location to fill up at a faster rate.

NOTE: *For additional details about picture quality and refresh mode in recording vs. playback, refer to the About Picture Quality and Refresh Mode section in Chapter 2, Getting to Know ViconNet.*
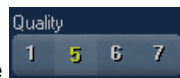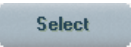
5. In order to enable the buttons in the *Main* window **Function Controls** area, select the **Enable Quality Control Buttons** checkbox.

6. Click **OK** to save the Quality and Mode settings for manual recording.
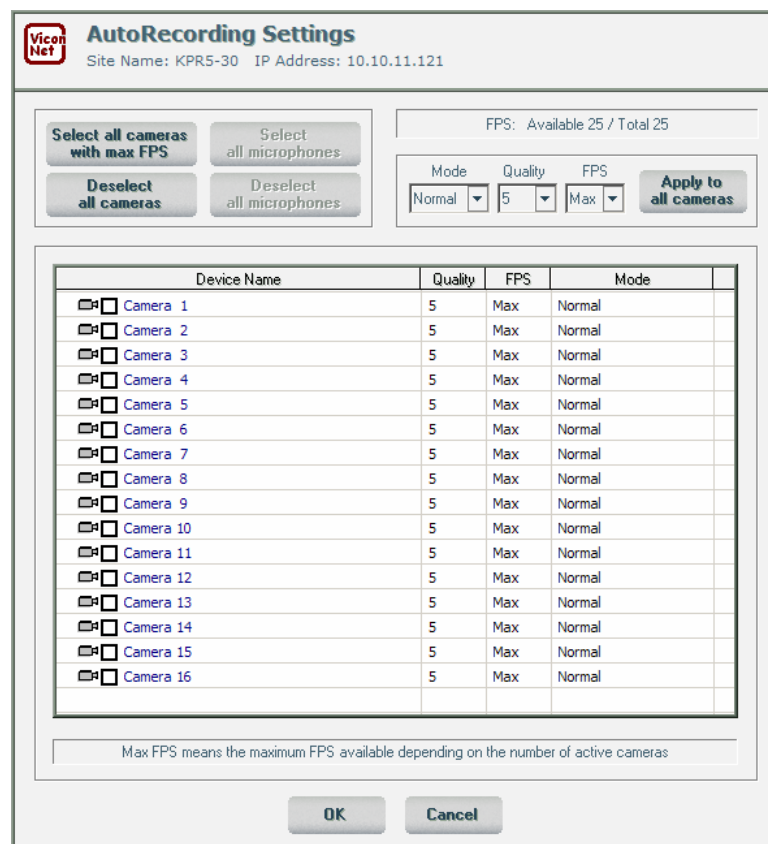
Configuring Automatic Recording

The ViconNet system enables you to configure automatic recording, which instructs the system to begin recording a selection of connected cameras as soon as the ViconNet application is started.

Configuring automatic recording consists of selecting the cameras that will perform automatic recording and selecting the recording settings (video quality, FPS, and refresh mode).

To configure automatic recording:

1. From the ViconNet *Main* window, click [Setup]. The *Setup Site Selection* window is displayed, as shown on page 57.

2. Select your Kollector Pro and click [Select]. The *System Settings* window is displayed, as shown on page 58.

3. Click [Auto Record]. The *AutoRecording Settings* window is displayed.

4. Select the required cameras to be configured for auto recording by selecting their checkboxes.

   You can select or deselect all the cameras at once by clicking the respective option, as follows:

Option	Description
Select all cameras with max FPS	All local cameras will begin recording automatically as soon as the ViconNet application starts, according to the selected recording settings.
Select all microphones	This option is disabled in the Kollector Pro and Kollector Network Server.
Deselect all cameras	Cameras will not record automatically when ViconNet application starts.
Deselect all microphones	This option is disabled in the Kollector Pro and Kollector Network Server.

   After selecting all cameras with max FPS you can deselect individual devices that are not required by clicking their checkboxes.

5. Select the required **Video** settings for each selected device. (Dropdown lists are enabled when a device line is selected.)

Option	Description
Quality	The picture quality that you select determines the resolution at which the video images will be recorded. Select the required picture quality from the range of one to eight, where:
	• **1** = best picture quality but slowest data transmission.
	• **8** = least clear picture quality but fastest data transmission.
	NOTE: When different recording options are requested concurrently, the recorded picture quality that applies is determined according to prioritization settings. For details, refer to the Picture Quality and FPS Priority section, page 118.
FPS	Select the required frames per second (the rate at which the live video segments are recorded/displayed) from the following ranges:
	• **NTSC:** 1-30
	• **PAL:** 1-25
	• **Max:** Sets the frames per second rate to the maximum available from the system.
	NOTE: When different recording options are requested concurrently, the recorded FPS that applies is determined according to prioritization settings. For details, refer to the Picture Quality and FPS Priority section, page 118.

Option	Description
Mode	The Mode (refresh mode) determines the rate at which the frames are refreshed during the recording. Select the required refresh mode, as follows: • **Normal:** Records only changes within the frames, resulting in an economic storage location process. This option enables you to view the recorded video at a high frame-per-second rate, depending on the magnitude and number of changes. • **Full:** Records full video image frames. During the recording operation, this refresh mode causes the selected storage location to fill up at a faster rate.

To set identical **Mode**, **Quality** and **FPS** for all cameras, select the correct values from the dropdown boxes at the top of the *Auto Recording Setup* window and click **Apply to all cameras**.

NOTE: *For additional details about picture quality and refresh mode in recording vs. playback, refer to the About Picture Quality and Refresh Mode section in Chapter 2, Getting to Know ViconNet.*

Configuring Auto/Manual FPS (Frames Per Second)

The purpose of the Auto/Manual FPS feature is to enable the user to determine the FPS for each camera. Here, the user can select whether the FPS distribution to the DSPs (Digital Signal Processors) is automatic or manual. The default setting for FPS is automatic.

NOTE: Digital Signal Processing is a method of digitally processing signals that are converted from analog form.

The maximum FPS that can be assigned to any specific DSP is 25 for PAL format and 30 for NTSC format. If the total FPS for two cameras assigned to the same DSP is above this maximum, and **Auto FPS** is selected, the FPS on one or more cameras will be reduced to the amount of FPS available.

Example (NTSC format)

Camera 1 and camera 5 are assigned to a specific DSP. If camera 1 has 20 FPS configured, and camera 5 has 20 FPS configured, and Auto FPS is selected, then the FPS for camera 5 will be cut to 10.

Column	Description
Camera Name	The camera for which the FPS is being defined.
DSP	The DSP to which the camera is assigned.
	The number of DSPs depends on the type of Kollector. For example, KP-120 has a maximum of 120 frames. Each DSP has a maximum of 30 frames, so if, for example the site is a KP-120, it offers DSPs 1-4. Select the required DSP. The system will prevent adding too many cameras to a DSP (in this case 4 as 4x30 =120)
FPS	The number of FPS of the camera.
	In manual FPS configuration, a camera can also be disabled by selecting **disable** in this column. If a user tries to record with the disabled camera, or open it live, the following notification is displayed.
Use Remainder	If selected, the system will automatically use all the remaining FPS for the specified DSP (default = selected).
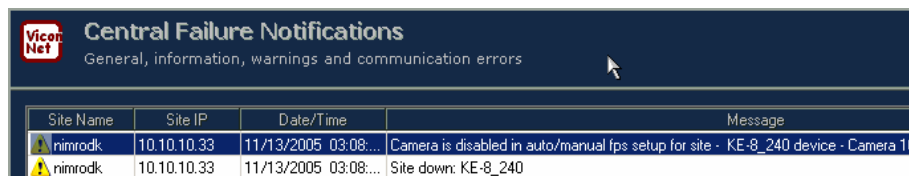
Automatic FPS

When configuring macro recording, auto recording and pre/post alarms in their respective windows (meaning, all windows which configure cameras for recording), the cameras are distributed to the DSPs and are automatically assigned FPS, according to a preset algorithm (meaning that you do not control the distribution of the FPS to the DSPs).

NOTES:

*If the FPS configuration is set to **Auto FPS**, the FPS obtained for a camera may be different to that which was specified in a specific window (see above examples).*

In the Auto Record window, the camera assignment to DSPs is cyclic, meaning camera 1 goes to DSP 1, camera 2 to DSP 2, camera 3 to DSP 3, and so on.

Example.

If the site is a KP-120, there will be 4 DSPs and each one will have 30 FPS. The cameras will be distributed evenly between the DSPs.

To select automatic FPS configuration:

1. From the ViconNet *Main* window, click [Setup]. The *Setup Site Selection* window is displayed, showing a list of all currently connected transmitters and Workstations, as shown on page 57.

2. Select your Kollector Pro and click [Select]. The *System Settings* window is displayed, as shown on page 58.

3. Click . The *Auto/Manual FPS* window is displayed.

4. Select the **Auto FPS** checkbox.

5. Click **OK**.

Manual FPS

If you do not want to distribute the FPS equally between the DSPs and the cameras (using the default algorithm), you can manually set the FPS configuration. In manual FPS configuration, the cameras are assigned FPS per compression DSP, meaning that you set each camera to a specific DSP, with the required FPS (up to the maximum available for each DSP).

Example

If a system has four DSPs and eight cameras, and has **Auto FPS** selected, the camera distribution will be cameras 1 and 5 to DSP1, cameras 2 and 6 to DSP2, cameras 3 and 7 to DSP 3 and cameras 4 and 8 to DSP 8. When **Manual FPS** is selected, if DSPs 1 and 2 do not have enough FPS available, the user can decide that cameras 5 and 6 will not be assigned to DSP 3 or 4. In this case, the number of FPS is not cut, and the number of FPS requested in auto record can be implemented.

To select manual FPS configuration:

1. Follow steps 1-3 in the procedure **To select automatic FPS configurations**, above.

2. Select the **Manual FPS** checkbox. The list of cameras is enabled.

3. One by one, select the required DSP and FPS for each camera.

4. Click **OK**. The following message is displayed, warning that the changes will take effect once the application is restarted (if the cameras are active).
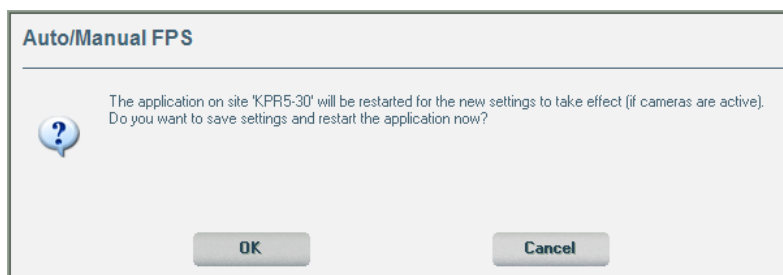
5. Click **OK**. The manual settings are saved and the manual FPS set here, in the Auto/Manual FPS window, overrides all FPS settings in other windows.

NOTES:

If the settings in the Auto/Manual FPS window are changed, ALL recording and live video are performed with the new settings.

If low bandwidth is selected in the site, and manual FPS is selected, the FPS will not be higher (as it would with low bandwidth and Auto FPS). The FPS will remain the same as with normal bandwidth, meaning, in this case, low bandwidth will only reduce the bps (bits per second).

Using the Recording Verification System (RVS)

Automatic recording and scheduled macros are two of the Kollector Pro's most important features. The RVS mechanism ensures continuous recording by notifying users of any recording errors. It monitors local automatic recording activity (video) at all times.

NOTE: The RVS mechanism operates only on sites using version 2.18 or higher.

The RVS includes a feature in which the RVS causes the system to reboot under specific conditions. The conditions for this to happen are:

- Two identical RVS messages occur, within 12 hours, **and**

- The RVS messages indicate problems on the local site, **and**

- Auto Record is enabled

After a reboot has occurred, 24 hours must pass before another RVS-induced reboot can occur.
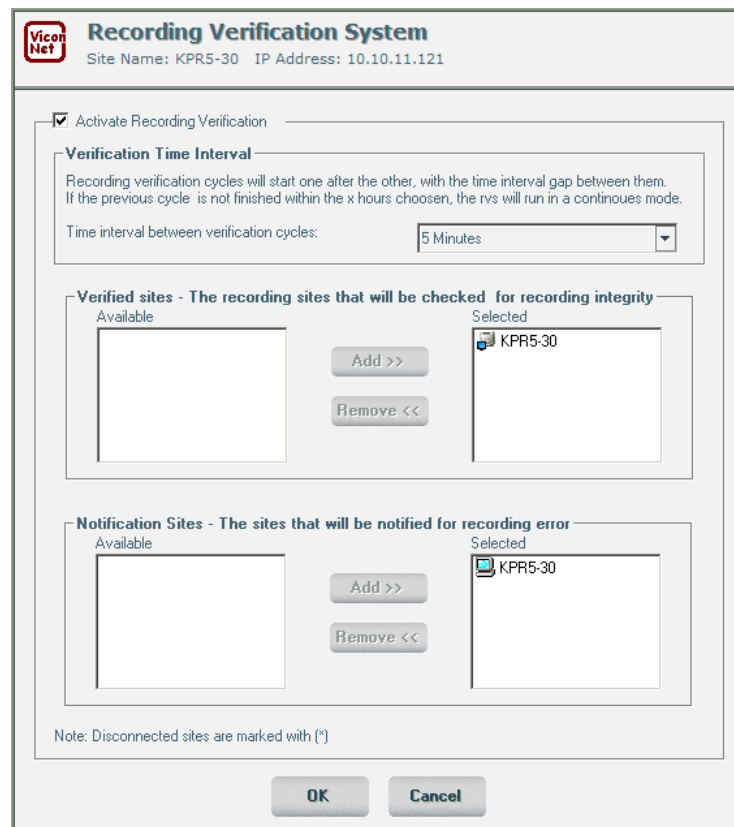
The RVS mechanism handles the following types of recording errors:

Error Type	Message Displayed	Explanation
Connection	Verified site does not exist	This error is triggered when trying to verify a site that does not appear in the site list. This could be the result of changing the nucleus or the verified site's IP.
	Cannot get RVS settings	This error is caused by a communication problem within the system - the RVS settings could not be retrieved.
	Cannot get scheduler settings	This error is caused by a communication problem within the system - the scheduler settings could not be retrieved.
	The verified site doesn't respond to RVS requests	Although connection with the transmitter has been established, it does not respond to the RVS mechanism's requests – the verified site is disconnected or is running with another version. (This may happen if the nucleus IP was changed. To correct this problem, go to the RVS setup and follow the instructions in the popup message received (to view the message, refer to *NOTES*, page 106).
	Could not connect to site	A remote verified site could not be contacted because it is disconnected/down.
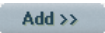
Error Type	Message Displayed	Explanation
	Communication Problem - Could not connect to site	This error is triggered when the source or the destination of the recording camera is disconnected, but the verification is done on the local site.
	Audio Video loss – check device signal	Although the specific camera appears in the auto record or scheduled macro device list, it is not connected to the transmitter.
Record	Recording failure – data not found	No frame was found at the location that the RVS was looking in the database.
	No devices are assigned in the site for recording	No automatic recording or scheduled macros are configured in the verified site.
		NOTE: This message is does not appear locally. It is only displayed on a remote site.
	Recording failure - Data may be corrupted	The frames are corrupted. The video cannot be played back and is permanently damaged.
	Scheduler failed to run macro	The macro or the user that created the macro no longer exists.
	Macro %s contains obsolete site	The scheduler is trying to run a macro containing a source or a destination that does not exist.
	Recording problem	No recording was made. This may be a problem with either the hardware or the software.
	No video\audio signal	No signal from the recording camera/microphone. It may be disconnected.
	No cameras are assigned in the transmitter's Auto Recording settings	No recording, as the auto record device list is empty.
Storage	Unable to open database	Failed to open the video storage database.
Miscellaneous	The version on the verified site does not support RVS requests	The ViconNet version on the verified site is lower than 2.18.
	Nucleus does not support RVS requests	The ViconNet version on the nucleus is lower than 2.18.
	Invalid response from the verified site	The verified site's response to the RVS mechanism's request was not according to RVS protocol (for example, gibberish was received).
RVS Mechanism	Internal error	RVS algorithm malfunction.

To activate the RVS mechanism (default=activated):

1. From the ViconNet *Main* window, click [Setup]. The *Setup Site Selection* window is displayed, as shown on page 57.

2. Select your Kollector Pro and click [Select]. The *System Settings* window is displayed, as shown on page 58.

3. Click [Recording Verification]. The *Recording Verification System* window is displayed, enabling you to determine which sites should be monitored and notified about recording failures, as well as to set the time between verifications.

4. Ensure the **Activate Recording Verification** checkbox is checked.

5. Specify how frequently the transmitters are checked for recording by selecting the required interval from the **Verification Time Interval** dropdown list (default = 5 Minutes).

6. In the **Verification Sites List** section, select which transmitter(s) to verify from the **Available** area and then click [Add >>]. The selected transmitter(s) is displayed in the **Selected** area.

7. In the **Notification Sites List** section, select which site(s) to notify from the **Available** area and then click `Add >>`. The selected site(s) is displayed in the **Selected** area.

> **NOTES:**
>
> *The **Verification Sites List** contains only the local Kollector Pro site (itself); the **Notification Sites List** contains all sites (including Workstations) that enable dialog with end users.*
>
> *Disconnected sites are marked with a (*).*

8. When you have finished, click **OK**.

When RVS is active, the video storage databases of the sites selected for verification are sampled. The sampling process verifies the existence of frames in the database, and is done consecutively on all sites. After the completion of one cycle, the RVS mechanism remains idle for the time selected in the **Verification Time Interval** dropdown list, and then restarts from the top of the list.

When a recording error, sampling failure, or malfunction occurs, all sites selected for notification receive a *Recording Verification Error Notification*, containing information about the failure (such as, the time the failure occurred, the site name, the site IP address, and a short description of the failure).
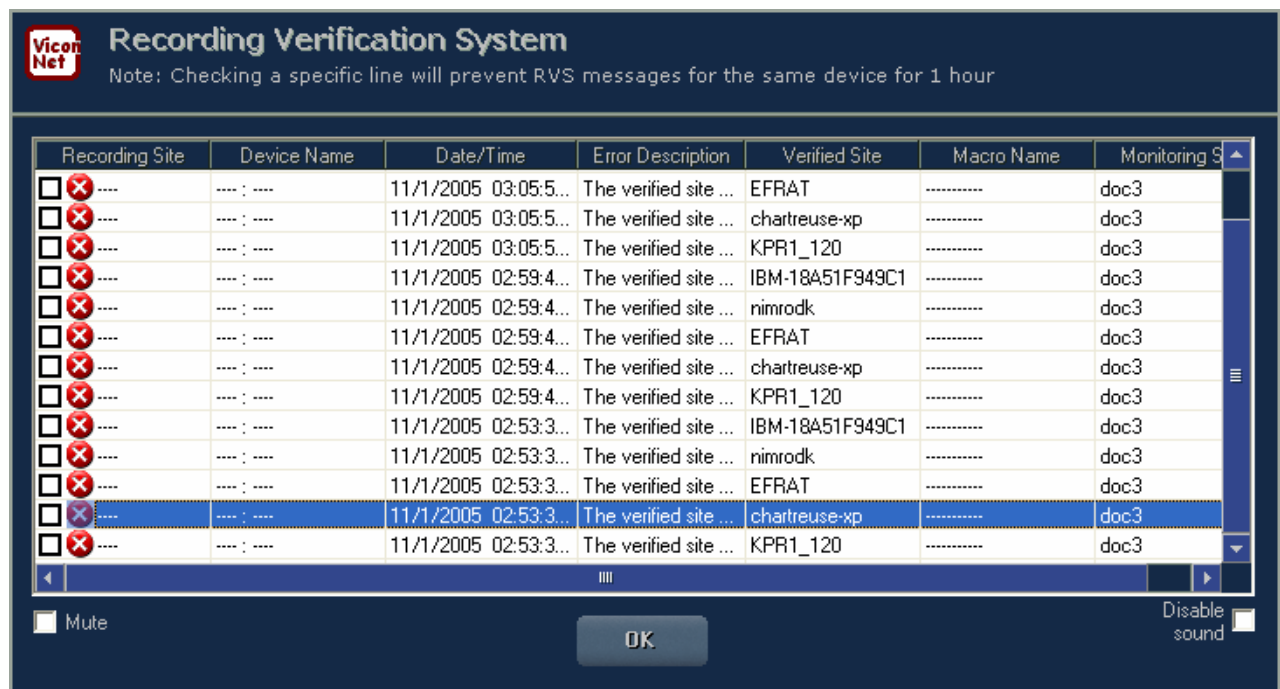
This window is accompanied by a sound (similar to the *Alarm* window). Selecting the **Mute** checkbox silences the alarm for this message; however, the next time the window appears, the alarm will sound. Checking the **Disable sound** checkbox disables the sound option completely, meaning that the alarm will not sound again.

If the checkbox in the **Recording Site** field is selected for a particular RVS notification, that notification is cancelled for one hour. After one hour, this checkbox is automatically unchecked and the error message appears again.

The most recent message is displayed at the top of the list. To see more details about the error, double-click it to open a window like the one shown below.
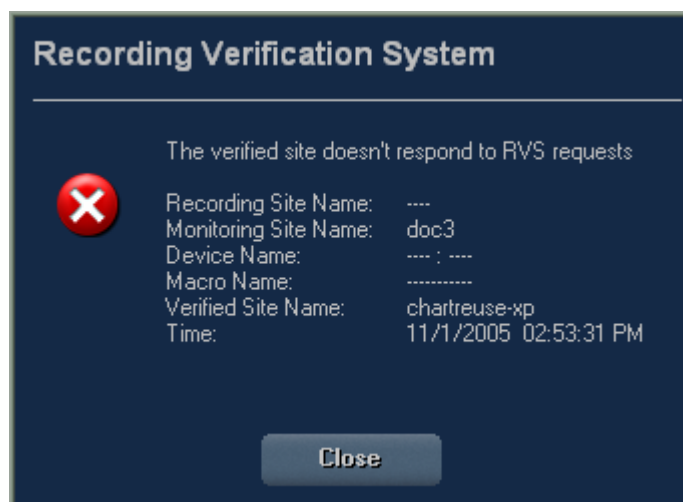
Creating Macros

The ViconNet system enables you to create macros, which are sets of instructions that are made up of user-defined commands that the system executes either automatically or manually in the specific defined order. The commands in each macro give instructions to the system about which devices will perform specific tasks, for how long, and in what order. In addition, you can configure macros for each Kollector Pro independent of the other sites in the system, according to your requirements.

There are two types of macros:

- **Regular macros**: which are comprised of a series of instructions as described in the section *Creating Regular Macros*, below.

- **Matrix macros**: which are comprised of a series of instructions for defining which cameras are to be displayed on each of the four analog outputs. More details are provided in the section *Creating Matrix Macros*, page 115.

For information about the scheduling of macros, refer to the *Creating Schedules* section, page 137.

Creating Regular Macros

Creating macros consists of configuring various settings for each command in a macro, such as:

- Cameras to record/display.

- Duration of each command in the macro.

- Recording location.

- Picture quality (resolution).

- Refresh (display) mode.

- Frames per second rate.

- Related devices.

- Sending alarms.

NOTE: Matrix macros have limited configuration options, see section To create a matrix macro, page 115.

After you create a macro, you can configure the system to activate the macro in the defined order by:

- The alarm setup links, as described in *Defining Alarm Setup Links*, page 122 (automatic).

- A user-defined time schedule, as described in *Creating Schedules*, page 137 (automatic).

- Manual selection, as described in *Chapter 7, Managing Macros and Schedules* (manual).

You can also modify or delete an existing macro, if required. (For more details, refer to step *16* in the *To create a macro* procedure, on page 109.)

To create a macro:

1. From the ViconNet Main window, click [Setup]. The *Setup Site Selection* window is displayed, as shown on page 57.

2. Select your Kollector Pro and click [Select]. The *System Settings* window is displayed, as shown on page 58.

3. Click [Macro Editor]. The *Macro Editor* window is displayed.

NOTE: *Initially, the top portion of the Macro Editor window is blank. If macros have been defined previously, they will appear in the list.*

4. Click [**Add Macro**]. The *Macro Editor* window changes and displays the **Macro** area in the middle of the window. This section of the window is where you define the sequence of commands for each macro.

Macro Editor
Site Name: KPR5-30   IP Address: 10.10.11.121

Macro Name	Macro Description	Macro Type

Add Macro
Add Matrix Macro
Edit Macro
Delete Macro
Close

--- Macro ---

Macro Name: [   ]   User Name: admin   User Priority: 1 [▼]
Description: [   ]

--- Commands ---
Record & Display
Record
Display
Pause
Relay
Send Alarm
Remote Macro
Matrix

Add device
Edit
Delete

Save
Cancel

Note: A new command will be inserted last

5. In the **Macro Name** field, enter a logical name for the macro, for example, **Front Entrance External Cameras** or **Emergency – All Cameras Recording**.

> *NOTE: The **User Name** is displayed automatically according to your log in information.*

6. (Optional) In the **Description** field, enter a brief textual description of the macro.

7. Add the first command by selecting the required command type, as follows:

    *   **Record & Display:** Simultaneously records and displays live video from the selected camera.

    *   **Record:** Only records live video from the selected camera.

    *   **Display:** Only displays live video from the selected camera.

    *   **Pause:** Pauses all recording and displaying actions between operations.

    *   **Relay:** Activates the selected relay.

    *   **Send Alarm:** Automatically forwards alarm events to the destination site you specify. This causes an alarm notification message to be displayed on the destination site.

    *   **Remote Macro:** Does not apply to the Kollector Pro.

> ***NOTES:***
>
> *If you select the **Record & Display** option, then the selected device records and displays live video simultaneously. If you select the other command types, then the macro runs in the sequence of commands that you define.*
>
> *Record operations are available both locally and remotely, but display operations are always local.*
>
> *If a macro is running **display operations** (manual, scheduler, or alarm-initiation) all functions in the ViconNet Main window are disabled, except for the **Stop Macro**, **Schedule/Macro**, and **Shutdown** buttons.*
>
> *If a macro is performing **any other operations**, all functions in the ViconNet Main window remain operational.*
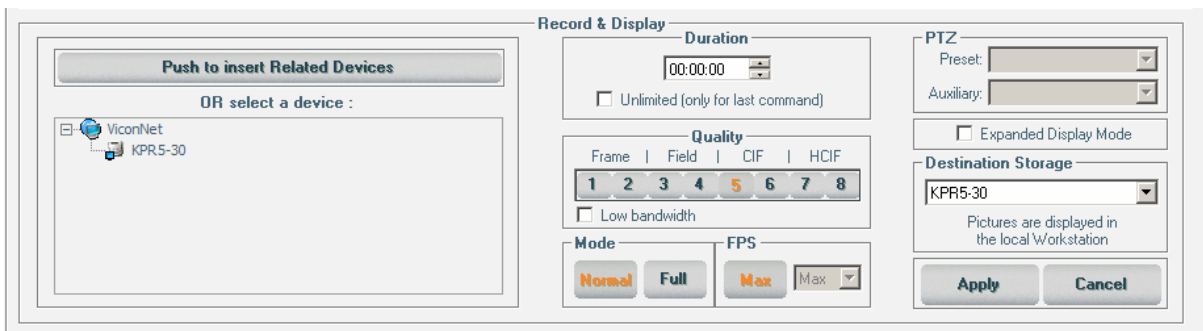
As you select a command type, the bottom portion of the *Macro Editor* window changes and displays the settings relevant for the type of command that you selected.

The steps that follow provide an example for the **Record & Display** settings:

> ***NOTE:*** *All displayed settings for each command type are mandatory.*

8. Select ⬚ Push to insert Related Devices ⬚ to include the related devices that you defined for the device during alarm setup (refer to *Defining Alarm Setup Links*, page 122, for additional details),

   -OR-

   Select the required transmitter in the list to view its available devices (yellow icon = active; gray icon = disabled).
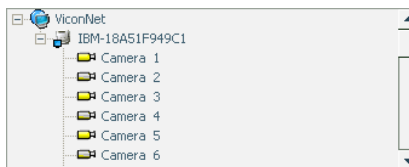
   Then select one or more required devices from the list. After selection, the device names and icons appear highlighted ⬚ Camera 3 .

---

9. In the *Duration* field, use the up/down arrows to select the duration of the command (in HH:MM:SS format),

   -OR-

   Select the required time segment and type in the required value using the keyboard.

*NOTE: The **duration** is set for the entire operation and not per device.*

10. Configure the Quality (picture quality), Mode (refresh mode) and FPS (frames per second) settings for the selected device, as follows:

Option	Description
Quality	The picture quality that you select determines the resolution at which the video images are recorded when the macro is activated. Select the required picture quality from the range of one to eight, where: • **1** = best picture quality, but slowest data transmission. • **8** = least clear picture quality, but fastest data transmission. *NOTE: When different recording options are requested concurrently, the recorded picture quality that applies is determined according to prioritization settings. For details, refer to the Picture Quality and FPS Priority section, page 118.*
Low Bandwidth	Selecting low bandwidth raises compression. When the compression is higher, the quantity of data (kB) is lower and in this case, smaller frames are transmitted. However, more frames per second (FPS) are sent over the network.
Mode	The refresh mode determines the rate that the frames are refreshed when the macro is activated. Select the required refresh mode, as follows: • **Normal:** Records/displays only changes within the frames. • **Full:** Records/displays full frames of the live video images.
FPS	The FPS determines the rate at which the video segments are recorded. Select the required frames per second, as follows: • **Max:** Sets the frames per second (FPS) rate to the maximum available from the system. • **Custom:** Enables you to set a custom FPS rate (1-30 for NTSC or 1-25 for PAL). *NOTE: When different recording options are requested concurrently, the recorded FPS that applies is determined according to prioritization settings. For details, refer to the Picture Quality and FPS Priority section, page 118.*

NOTE: For additional details about picture quality and refresh mode in recording vs. playback, refer to the About Picture Quality and Refresh Mode section in Chapter 2, Getting to Know ViconNet.

11. Configure the **Preset**, **Expanded Display Mode** and **Destination** settings for the selected device, as follows:

- **Preset:** The Preset dropdown list enables operation of a preset for the currently selected PTZ camera. The presets, representing fixed location-and-zoom points in the video display, must first be defined as described in *Operating a PTZ Camera* in *Chapter 4, Viewing Live Video*. Then, when a preset is selected (for example, preset1), the macro automatically focuses the camera on the view area indicated by the preset.

- **Expanded Display Mode:** Select this checkbox to expand the current screen display to fit the entire screen (including the *Site List*).

- **Destination Storage:** Select the local transmitter (storage location) to record the live video when the macro is activated.

> NOTE: The **Expanded Display Mode** checkbox is set for the entire operation and not per device.

12. Click [Apply]. The *Macro Editor* window displays the settings of the first command that you defined in the macro script area of the window.

> NOTE: The **Add device, Edit**, and **Delete** options also become enabled at this point.

13. (Optional) To add another device to the **same** command, click [Add device]. The relevant settings are displayed in the bottom of the window, as shown on page 111.

- Select an additional device from the list and configure its settings, as described in steps 8 to 12.

14. (Optional) To add a **new command** to the macro script area, select the required command type and configure the command settings, as described in steps 7 to 12.

    The following example shows one command that has been defined for the new macro, with two cameras selected.

> **NOTES:**
>
> *The location of each new command is above the highlighted command. In order to add the command to the bottom, you must cancel the highlighting (by clicking once in the blank area of the macro script area) before clicking* **Apply***.*
>
> *To edit a command line in the macro script area, select it and click* **Edit***. Then modify the displayed settings and click* **Apply***.*
>
> *To delete a command line from the macro script area, select it and click* **Delete***.*

15. When you have defined all the commands for the macro, click [Save]. The macro is saved and the *System Settings* window is redisplayed.

    If you open the *Macro Editor* window again as described at the beginning of this procedure), you see the new macro name and description displayed at the top of the window.

16. To define additional macros, repeat steps 4 to 15, as required.
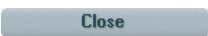
> **NOTES:**
>
> *To edit a macro in the list, select it and click* **Edit Macro***. Then edit the macro settings, as described in the previous steps in this procedure.*
>
> *To delete a macro from the list, select it and click* **Delete Macro***.*
>
> *If you change the macro name during editing, you are asked if wish to create another macro in addition to the first one. (This is similar to the Save As option in other applications.)*
>
> *If the system reboots while a macro is running or due to run, on startup the macro is resumed from the place it stopped (if it is still within its defined time limits).*

17. Click [Close] to close the *Macro Editor* window.

All macros that you define(d) are available during alarm setup, as described in the following sections:
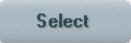
- *Defining Alarm Setup Links*, page 122.
- *Creating Schedules*, page 137 (via the *Scheduler Settings* window).
- Manual selection, as described in *Chapter 7, Managing Macros and Schedules* (manual).

Creating Matrix Macros

NOTE: If there is no rear panel (optional) in the Kollector Pro, the matrix macro is not active.

If the Kollector Pro has the new rear panel, which supports matrix (and has four outputs), it enables four digital streams to be converted back to analog. In this case, Servers, such as analog monitors or TVs, can view these four outputs. The purpose of the matrix macro, is to enable configuration of a specific camera to a specific output (of these four outputs), such that the camera output displayed can be changed every few minutes For example, you can select that the analog monitors will display the output from cameras 1 to 4 first, and after a few minutes, change the display on the analog monitors to cameras 5 to 8.

To create a matrix macro:

1. From the ViconNet *Main* window, click [Setup]. The *Setup Site Selection* window is displayed, as shown on page 57.

2. Select your Kollector Pro and click [Select]. The *System Settings* window is displayed, as shown on page 58.

3. Click [Macro Editor]. The *Macro Editor* window is displayed.

4. Click [Add Matrix Macro]. The *Macro Editor* window changes and displays the **Macro** area in the middle of the window.

5. In the **Macro Name** field, enter a logical name for the macro, for example, **Front Entrance External Cameras** or **Emergency – All Cameras Recording**.

   *NOTE: The **User Name** is displayed automatically according to your log in information.*

6. (Optional) In the **Description** field, enter a brief textual description of the macro.

---

7. Enter the macro commands. The commands available for matrix macros are **Pause** and **Matrix**.

    • **Pause:** In the case where several matrix commands are configured, Pause **e**nables you to set the amount of time the first command will run before the second matrix command takes over.

    Example

    In one matrix command, only four cameras can be configured. If you want more than four cameras to be displayed on the analog outputs, you can configure the matrix macro such that every X minutes another four cameras are displayed. To do this, you must configure several matrix commands, each time with four other cameras, but between the matrix commands, you set pause commands with a duration of X minutes.

    > **NOTE:** In a macro with only one matrix command (up to four cameras), there is no need for a pause command because once the matrix macro is running, the cameras will be displayed on the analog monitors until the macro is stopped manually.

    • **Matrix:** Displays the site list (bottom left) and four output dropdown boxes (monitors). From the output boxes, select which camera goes to which output.

    7.1 To define which camera display connects to which output, click **Matrix**.

    7.2 Select the camera to be displayed on each analog output from the dropdown boxes in the bottom panel and click **Apply**.

    7.3 To define the duration of the recording click **Pause**.

    7.4 To set other cameras to connect to the four analog outputs after the pause, repeat steps 7.1 to 7.3.
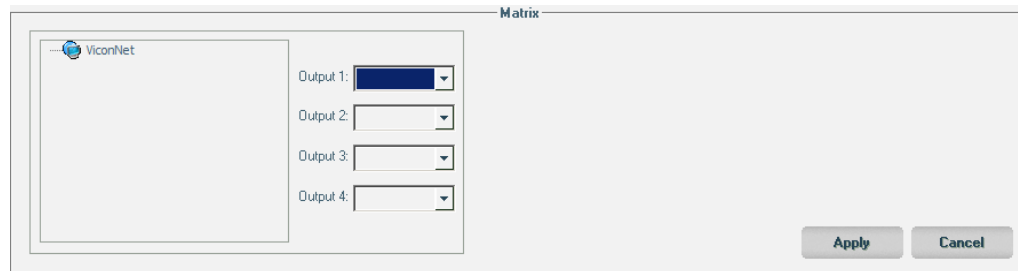
8. To apply the changes, click **Apply**.

9. To save the changes, click **Save**.

The matrix macro can be run manually from here, or scheduled from the scheduler (see section *Creating Schedules*, page 137.

> **NOTE:** The Matrix Macro is also referred to as the Switcher Macro.

Activating Relays in Macros

The Kollector rear panel has eight relay outputs which can be toggled between the states Open (Off) and Closed (On), or Momentarily enabled for a set duration. On system start up, the relay state is Normally Opened (NO).

These relays can be used to drive indicators and alarm enunciators, and to enable or disable devices. Within a macro, any number of relays can be activated between as many states as desired. The relay can be directly connected to a switching load with maximum ratings of 60 VAC or DC at 1.0 Amp current.

To activate a relay in a macro:

1. Follow steps 1 to 6 of the ***To create a macro*** procedure.

    OR

    Select a macro from the list at the top of the *Macro Editor* window, and click **Edit Macro**.

2. To configure a relay function in the macro, click the **Relay** button. The relay configuration options are displayed at the bottom of the window.
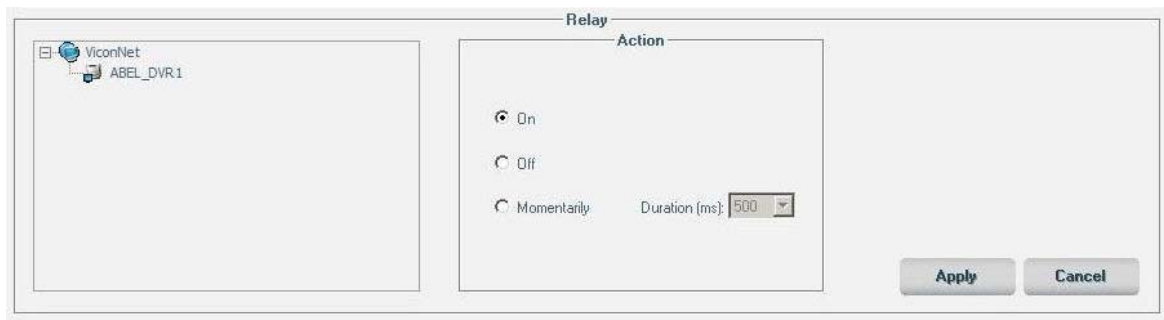
3. Select **On** (Closed), **Off** (Open) or **Momentarily** (configurable between 500 and 2500ms).

4. Click **Apply**.

Setting Video Priority

This section describes how to define the video settings that are used when different recording functions are requested concurrently for the same camera.

Picture Quality and FPS Priority

The recording procedures, described in various sections of this chapter (*Manual Recording*, *Auto Record*, *Macro Creation* and *Pre/Post-Alarm Configuration*), each include picture quality and FPS settings that should apply when those options are executed.

A problem arises when two or more recording options are executed concurrently on the same cameras - which function's settings should be used for the recording? In this case, the setting that should be utilized can be determined in two ways:

- **Highest setting value**: The highest of all the setting values used by the applicable recording options is utilized (default method). For example, for Picture Quality purposes - if Pre/Post alarms uses quality 8, but Auto Record uses quality 1, and both functions are executed concurrently, quality 1 is used for this recording.

  > **NOTE:** *If the **Highest Requested Quality/FPS** is not selected, the recording FPS and quality are determined by a combination of the setup in the Quality and FPS Priority window and the User/Macro priority.*

  -OR-

- **Highest priority rank**: The setting value used by the recording option having the highest priority rank is utilized. For example, for Picture Quality purposes, you can set Pre/Post alarms with priority 1, and Auto Record with priority 2. Then, if both functions are executed concurrently, the Pre/Post alarms quality setting is used for this recording.

  (The **Highest priority rank** criteria selection actually includes three priority levels, enabling you to prioritize between all the recording functions - see step 4 in the procedure below.)

  > **NOTE:** *Here we set up the priority between different functions of the system, NOT between users or macros.*

To define picture quality and FPS priorities:

1. From the ViconNet *Main* window, click [Setup]. The *Setup Site Selection* window is displayed, as shown on page 57.

2. Select your Kollector Pro and click [Select]. The *System Settings* window is displayed, as shown on page 58.

3. Click ![Picture Quality and FPS Priority]. The *Quality and FPS Priority* window is displayed.

4. In the **Picture Quality** area:

    - Select the method for determining Picture Quality setting precedence:

        - To always use the highest setting value, select the **Highest Requested Quality** checkbox (selected by default) and continue to step 6.

        - To use a priority ranking as the selection criteria, leave the **Highest Requested Quality** checkbox unselected.

    - Enter priorities for each function, as required:

        - Select the "1" cell of the function that should have highest priority. (Its Picture Quality setting should always be used if any other recording function is executed concurrently.) Note that as you select a cell, the other cells' priorities are automatically renumbered, since only one function at a time can have the same priority.

- Select the "2" cell of the function which should have second priority. (Unless the "1" function is executed concurrently with it, the "2" function's setting should always be used.) The remaining function is then automatically set as "3".

> **NOTE:** *The priority cells in an area are enabled only when the area's **Highest Requested Quality** checkbox is unselected.*

5. In the **Frames Per Second (FPS***)* area, make the required selections regarding FPS setting precedence and priorities, in the same way as described in step 4.

6. To enable the user to manage the camera on which macros are running, meaning, to allow the user to take over as primary user of the camera select **User always become primary over a running macro** (default = unchecked).

7. Click **OK** to save the selections.

> **NOTE:** *When a camera is selected to record at **3N** and at **3F** simultaneously, it will record at **3N**, meaning that Normal mode takes priority over Full mode when the resolution is the same number.*

User/Macro Priority

Two users/macros can work or run on the ViconNet system at the same time. The following rules are implemented to define which user/macro will have the priority to define, for example, system behavior or settings, in each conflicting situation.

Macro vs. User

If a macro is running and activates a camera before a user, the macro becomes the primary user of that camera. A user may need to make certain changes to that camera, and therefore needs to have primary status. (For example, a secondary user cannot change PTZ, picture settings, quality or FPS). Selecting the option **User always become primary over a running macro** (default = unchecked) enables the user to manage the camera on which macros are running, by allowing the user to take over as the primary user of the camera.

> **NOTES***:*
>
> *This feature does not relate to whether the user priority is higher or lower than the macro's priority.*
>
> *The last macro to start takes over the PTZ presets, regardless of its priority.*

If the **user always become primary over a running macro** is unselected, and the user priority is lower than the priority of the macro, then the user cannot take over as the primary user in any circumstances.

User vs. Macro

A macro can get primary status from the user only if the user has the lower priority.

*NOTE: User priority configuration is irrelevant if **Highest Requested Quality** is selected.*

Example

If the user is the primary user, and the macro is due to start as the secondary user, it will take the primary status from the user automatically ONLY if it (the macro) has higher priority. If the macro has lower priority, it will run all commands, except those that only the primary user can control, such as PTZ preset, FPS and quality.

NOTE: *If the **Highest Requested Quality** is selected in the Quality and FPS Priority window in the source of the camera, and the macro has the highest FPS and quality, the FPS and quality WILL be controlled by the macro.*

Macro vs. Macro

If macro has higher priority than another macro, it will take control.

If a user and a macro, a macro and another macro, or a user and another user, have the same priority, the priority is determined on a "first come first served" basis.

NOTE: The last macro to start takes over the PTZ presets, regardless of its priority.

Configuring Alarm Events

An alarm event is an action or condition that is configured to trigger a physical alarm in the system when the action or condition occurs.

The ViconNet system enables you to configure alarm events by:

- **Defining Alarm Setup Links**, page 122, which consists of linking a macro to a specific device and a specific alarm event. In this case, when the preconfigured alarm conditions are met, the system automatically runs the linked macro, which gives instructions to the system about which devices to activate, for how long, and so on.

- **Setting Pre/Post alarms**, page 133, which consists of configuring what devices the system will activate before and/or after an alarm event occurs. This includes configuring settings such as the recording duration, video quality, and so on.

Alarms can be activated from various sources, including:

- **Sensors:** Each sensor is configured to be associated with a specific alarm type, such as smoke, fire, motion detection, perimeter intrusion, window intrusion, door intrusion, and so on.
- **Video Loss:** A loss of power to the devices, such as an unplugged power cord, cut power line, or power outage.
- **VMD – Video Motion Detection:** Activity detected in a preconfigured area of the premises where activity is cause for concern.
- **Serial Connection or Network Connection Message:** Integrated module alarm notification.

NOTE: The Serial Connection or Network Connection Message feature will be functional in future versions.

In order to activate a macro via an alarm, the source device must be linked in the system to the macro that will run when the alarm conditions are met. When an alarm is activated, a notification is sent to the local station, and the relevant macro linked to that alarm is executed.

Defining Alarm Setup Links

The ViconNet system enables you to define the alarm setup for each device in the system. The alarm setup instructs the system how to react in the case of an alarm event on a specific device, which can include:

- Displaying the *Alarm* window. This happens automatically on the local station for every type of alarm event. (Refer to *Chapter 2, Getting to Know ViconNet*, for additional details about the *Alarm* window.)
- Initiating any defined pre/post alarms. (Refer to *Setting Pre/Post alarms*, page 133, for additional details.)

- Executing any linked macro. In this case, you can configure the alarm conditions that will cause the macro to run on the device if the alarm conditions are met during a specific time period. (Refer to *Creating Macros*, page 99, for additional details).

Important: If a device is removed from the list of alarm setup links, you will **not** receive automatic notification from the system that the alarm event has occurred.

NOTE:

When a macro is running as a result of an alarm event, the following is applicable:

- *If the macro is running **display operations** (manual, scheduler, or alarm-initiation) all functions in the ViconNet Main window are disabled, except for the **Stop Macro**, **Schedule/Macro**, and **Shutdown** buttons.*

- *If the macro is performing **any other operations**, all functions in the ViconNet Main window remain operational.*

To define alarm setup links:

1. From the ViconNet *Main* window, click [Setup] . The *Setup Site Selection* window is displayed, as shown on page 57.

2. Select your Kollector Pro and click [Select] . The *System Settings* window is displayed, as shown on page 58.

3. Click [Alarms] . The *Active Detectors and Associated Macros* window is displayed, showing the default alarm setup links and previously defined alarm setup links, if any.

For the Kollector Pro, the default alarm setup links consist of 16 cameras with alarm type **Video Loss** and 16 sensors with alarm type **Intrusion**.

NOTES:

Instructional notes appear in all the alarm setup windows to assist you in defining the alarm setup links.

Switcher Macro = Matrix Macro.

---

4. Click **Add Detector**. The first step of the *Alarm Setup Wizard* window is displayed, where you select the device for which you want to set up an alarm link. (The *Active Detectors and Associated Macros* window **Edit Detector** button enables you to modify already defined alarms.)

5. From the displayed list, select the required device. The name and type of the selected device is displayed automatically in the **Detector Name** and **Detector Type** fields, as well as a device-specific alarm link description (if an alarm link is already defined).

> *NOTE: The detector type is based on the physical type of device.*

6. Click ![Next >>] to proceed to the next step of the *Alarm Setup Wizard*.

NOTE: The window shown above appears differently when a sensor is selected as a detector.

7. Select the **Camera Alarm Type**, as follows:

    -   **VMD - Video Motion Detection:** Activates an alarm due to activity beyond specified sensitivities in preconfigured regions of interest (ROIs) in the camera view area. (Refer to *When Not to Use VMD*, page 133, for an important warning about using this option.)

    -   **Video Loss:** Activates an alarm due to the video signals being stopped by any means (for example, a cut power line).

    -OR-

    If you selected a sensor as the detector, select the Sensor Alarm Type (**Intrusion**, **Motion Detector**, **Smoke**, **Perimeter**, **Fire**, or **Other**).

8. Click ![Next >>].

    -   If you selected **Video Loss**, or a sensor as the detector, continue to step 10, where you will define the time schedule for the macro.

    -   If you selected **VMD - Video Motion Detection**, continue to step 9, where you will define the regions of interest (ROIs) on which the VMD mechanism will focus.

9. If you selected **VMD - Video Motion Detection**, the *Select Alarm region of interest* window is displayed, which enables you to define the regions of interest (ROIs) for which VMD should trigger alarms for the selected camera.
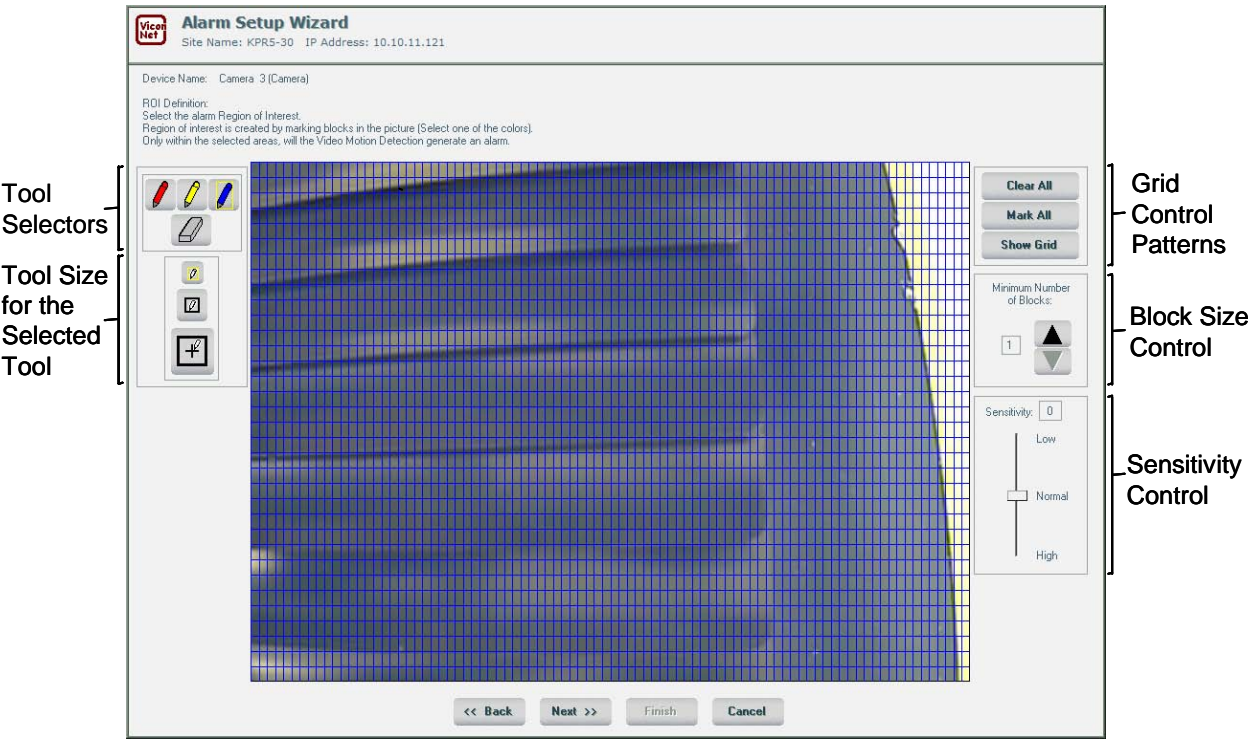
The window shows the Live view of the selected camera, with colored grid blocks over selected regions of interest. If no settings were yet defined for this camera, colored grid blocks cover the entire picture, indicating that the change detection that would trigger alarms applies to the entire camera view area.
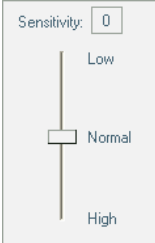
You can focus the VMD on security-sensitive objects in the camera space by using the window functions to vary the coverage of the colored grid blocks. (Only the segments covered by colored grid blocks are considered for VMD purposes.)

For example, you can focus on windows or doors (as shown in the picture opposite) to monitor opening/closing events.
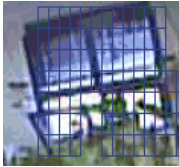
The following options are provided:

Option	Description
Clear All	This button clears all the current colored (blue, red or yellow) grid blocks in the view. You can then use the **Pencil** tool to define grid blocks for specific ROIs within the view surface.
	NOTE: *The VMD does not function, unless ROIs are identified by colored grid blocks.*
Mark All	This button marks colored grid blocks over the entire window surface, meaning that VMD will apply to the entire camera view. You can then use the **Eraser** tool to remove specific grid blocks.

Option	Description
	When one of the **Pencil** tools is selected, the cursor becomes a pencil icon.
	You can define ROIs by clicking and dragging over the required view area segments, thereby drawing arrays of blue, red or yellow grid blocks (according to which pencil is selected).
	The **Tool Size Selector** area includes buttons for three pencil sizes. According to the selected size, the cursor draws a small (single block), medium (4-block) or large (16-block) width of grid blocks per sweep.
	When the **Eraser** tool is selected, the cursor becomes an eraser icon. You can erase ROI segments by clicking and dragging over selected grid blocks, thereby erasing them.
	The **Tool Size Selector** area includes buttons for three eraser sizes. According to the selected size, the cursor erases a small (single block), medium (4-block) or large (16-block) width of grid blocks per sweep.
	The *Block Control* selector enables you to define how many blocks of the colored grid arrays must be simultaneously involved in the change before an alarm is triggered. For example:
	• **1** (the most sensitive setting) – indicates that an alarm should be triggered if a change is detected in even one block amongst all the defined ROIs (that is, the alarm triggering is unlimited).
	• **16** (the least sensitive setting) – indicates that the change must be simultaneously detected in at least 16 blocks within the entire view area. The blocks do not have to be contiguous.
	NOTE: The selected minimum cannot exceed the total number of blocks defined in ROIs.
	The *Sensitivity Control* enables you to adjust the triggering sensitivity (by dragging the slider) between **High** (higher detection of changes) to **Low** (lower detection of changes).
	NOTE: In general, a "normal" sensitivity should be selected. The highest sensitivities may generate false alarms, while the lowest may cause interesting events to be missed.
	The **Show Grid** button applies a gray planning grid to the parts of the window where no ROIs (colored grid blocks) are defined. The gray grid is only for purposes of viewing where ROIs may potentially be defined and does not affect the change-detection process. When selected, the button changes into a **Hide Grid** button by which the planning grid can be suppressed, making only the "VMD-active" colored grid blocks visible.

10. When you have finished defining grids and VMD sensitivity for the selected camera, click Next >> .

---

11. The *Alarm Setup Wizard* window is displayed, where you define the time schedule for the macro.

12. (Optional) To cause the system to activate the macro **only** if the alarm conditions are met during a specific time range on specific days (for example, during non-working hours on weekdays), define the time period in the **Alarm Activity Time** area, as follows:

Option	Description
Active From/To	Select the start and end time for the time period (in HH:MM:SS format) by: • Selecting the required time segment and then using the up/down arrows to scroll to the required value, • **-OR-** • Selecting the required time segment and using the keyboard to type in a numerical value.
Sun, Mon, Tue, Wed, Thu, Fri, Sat	Select the days of the week for the time period. *NOTE: The default is 7 days a week, 24 hours a day (from midnight to midnight).*
Minimum time between alarms	Select how much time must pass after the first and subsequent alarms before a new alarm will be generated (for any specific camera).

Up to three time-range-and-days definitions can be defined in the **Alarm Activity Time** area.

The following example shows an alarm activity time scheduled:

- From 7:00 AM to 6:00 PM, on Monday to Friday, and

- From 12:00 AM to the following 12:00 AM (full 24 hours), on Saturday and Sunday.

13. Click [Next >>] to proceed to the next step of the *Alarm Setup Wizard* where you can define the related devices.

---

14. (Optional) Select the required devices in the **Available** area and click ![Add >>] to add them to the **Selected** area.
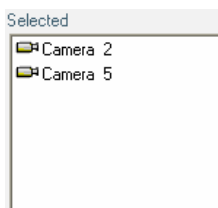
> **NOTES:**
>
> *You can remove a device from the **Selected** area by selecting it and then clicking **Remove**. The device is redisplayed in the **Available** area.*
>
> *The related devices that you select here will be included automatically when you use the **Push to Insert Related Devices** option during macro creation. Refer to Creating Macros, page 99, for additional details.*

15. Click ![Next >>] to proceed to the next step of the *Alarm Setup Wizard* where you can select a macro or a matrix macro (switcher macro) to link to the device. A list of macros currently defined in the system is displayed.

---

16. (Optional) From the list, select the macro to be activated by the system when the selected alarm conditions are met on the specific device.

> **NOTES:**
>
> *A macro can also be linked to related devices, if required, so that when the alarm conditions are met on any of the configured devices, it automatically causes the system to run the macro on all the devices related to the alarmed device.*
>
> *At this point, you can also create a new macro (meaning, macros do not have to be pre-defined) or edit an existing macro, by clicking the **Macro Editor** button. Refer to Creating Macros, page 99, for detailed information about creating new macros.*

17. Click [Finish]. The device's new alarm setup link is displayed in the list in the *Active Detectors & Associated Macros* window.
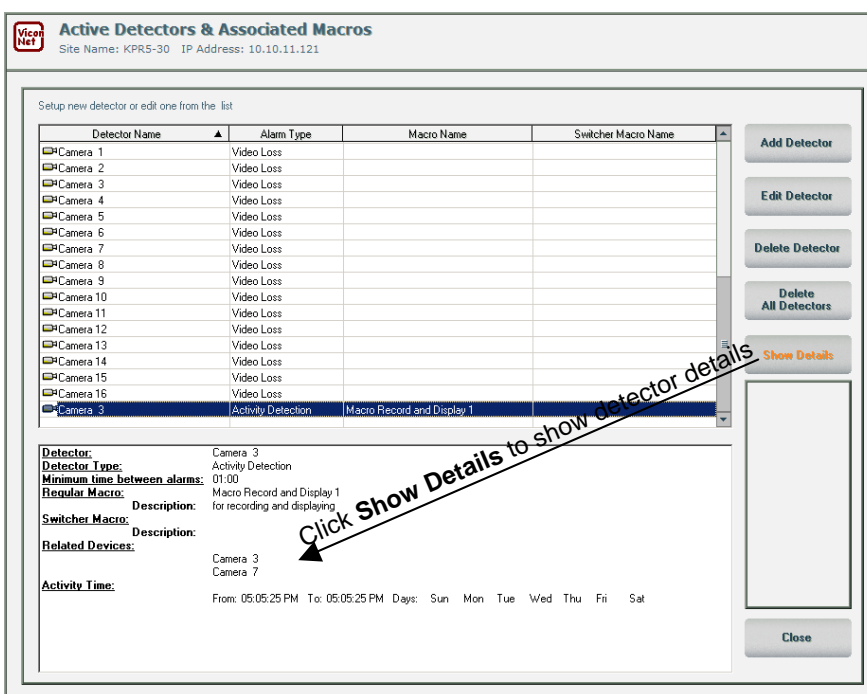
18. (Optional) Select the device name and click [Show Details] to view its alarm setup link information in the bottom of the window, as shown in the above example.

> **NOTES:**
>
> *To edit a linked macro, select it from the list and click **Edit Detector**. The second Alarm Setup Wizard window is displayed. Modify the displayed settings, as described in the procedure above.*
>
> *To delete an alarm setup link from the list, select the appropriate device and click **Delete Detector** or click Delete All Detectors, if required.*

19. Click [Close] to exit the *Active Detectors and Associated Macros* window.

When Not to Use VMD

To conserve valuable hard drive space, it is recommended that the VMD mechanism be used to trigger recording only when motion occurs. On a very active camera, however, this can result in a constant stream of alarms and endless recording. This unending alarm state creates an enormous log of thousands of entries displayed on top of the application. As this log only overwrites after 24 hours and uses a great deal of system resources, potential delays could occur when clicking in any of the application menus. Therefore, unless there is a true need for alarm notification upon motion, using the VMD alarm is not recommended for very active cameras.

Instead, it is preferable to use the recording trigger setup options provided in the *Devices Settings* window, as described in step 6 of the *To configure/modify a local camera* procedure, page 66. When all cameras are programmed to your satisfaction, you must set them to auto record in order to begin recording. Using this approach enables the Kollector Pro to record video only when motion occurs within the selected grid you programmed.

As the Kollector Pro always records the time stamp, upon playback you will see the on-screen clock update every second, even though the video does not refresh more than once every 20 seconds (when the device takes a *reference frame*). For example, if you set a camera to record a clock and you mask out any motion on the clock face itself (like the sweep secondhand on an analog clock, or the seconds display of a digital clock), upon playback you will see the time stamp count every second, but the video of the clock will only change every 20 seconds (the reference frame update). The time stamp that allows the recorder to show a linear clock upon playback is a very small file, and is considered negligible for hard drive usage. The reference frame does not trigger recording; it writes one video frame to the hard drive and it does not show up as a motion "hit" when doing a museum search.

Setting Pre/Post Alarms

The ViconNet system enables you to set pre alarms and post alarms, which instruct the system about what to do immediately before and after an alarm event occurs on any device in the system. This enables you to know what happened at a specific site immediately before and/or after an alarm event.

Post alarms are, in effect, a type of macro, but are activated only by alarm events as opposed to, for example, a user-defined time schedule.
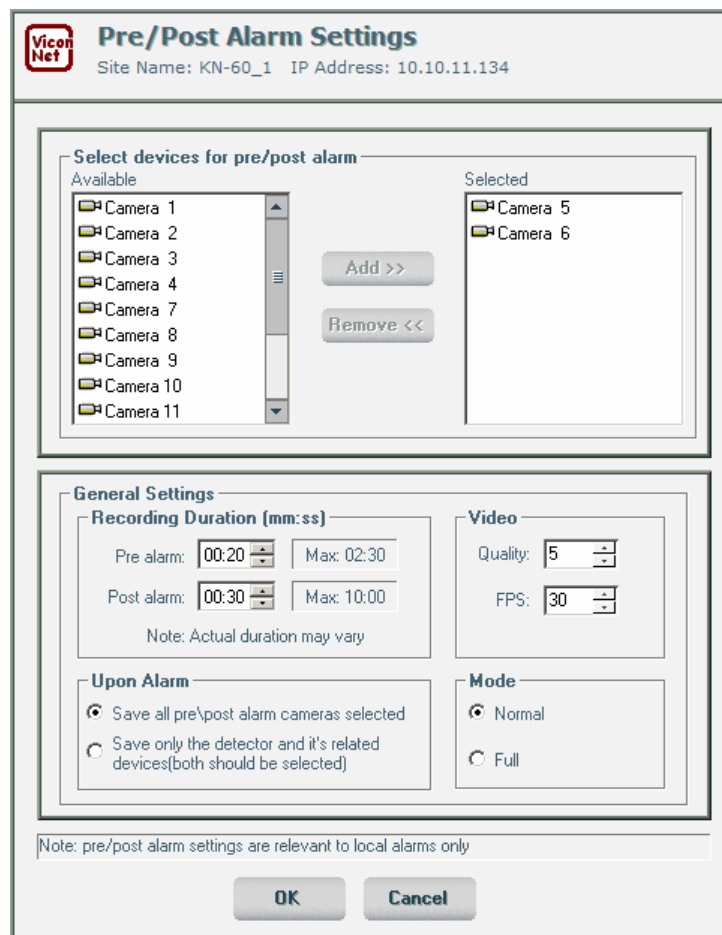
Configuring pre alarm settings consists of determining the duration that devices record prior to the alarm and the quality of the saved data. If you configure post alarm settings, then when an alarm event occurs, the system immediately begins recording the configured devices according to the indicated post alarm duration and other settings.

To set pre/post alarms:

1. From the ViconNet *Main* window, click [Setup]. The *Setup Site Selection* window is displayed, as shown on page 57.

2. Select your Kollector Pro and click [Select]. The *System Settings* window is displayed, as shown on page 58.

> **NOTE:** *You can set pre/post alarms only for a transmitter. Remote setup is only possible to a transmitter.*

3. Click [Pre and Post Alarm]. The *Pre/Post Alarm Settings* window is displayed.

> **NOTE:** *You have the option to set only pre alarms, only post alarms, or both, depending on your requirements.*

4. In the **Select devices for pre/post alarm** area, select the devices from the **Available** area that you want to be affected by the pre alarm and post alarm settings and click to add them to the **Selected** area.
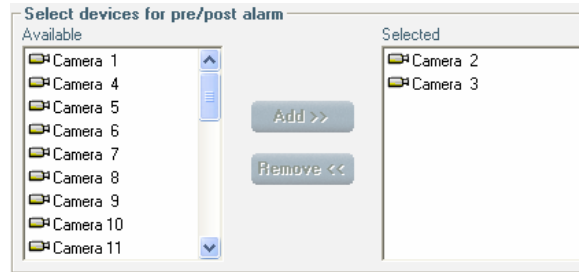
> **NOTE:** *You can remove a device from the **Selected** area by selecting it and then clicking **Remove**. The device is redisplayed in the **Available** area.*

5. Select the required **Recording duration (mm:ss)** settings for the pre/post alarms, as follows:

    *   **Pre alarm:** When an alarm is activated in the system, this option causes the system to immediately save the data prior to the alarm of the selected devices to the storage location. The data is saved according to the selected duration, the selected **Upon Alarm** setting, and the **Video** and **Mode** settings, as described in the subsequent steps in this procedure.

        Select the required time segment and then use the up/down arrows to scroll to the required value,

        -AND/OR-

        Select the required time segment (**mm** or **ss**) and then use the keyboard to type in a numerical value.

    *   **Post alarm:** When an alarm is activated in the system, this option causes the system to immediately begin recording the selected devices for the selected duration.

        Select the required time segment, as described in the **Pre alarm** option above.

> **NOTE:** *Pre alarm and post alarm settings are not directly related to macros and can run without macros being configured in the system. When different recording options are requested concurrently, the recorded Quality and FPS that applies is determined according to prioritization settings. For details, refer to the Picture Quality and FPS Priority section, page 118.*
>
> *The **MAX** fields in the Pre/Post Alarm Settings window (page 134) are read-only fields. The maximum times are the highest possible limits. These upper limits displayed in the **MAX** fields changes according to the selected number of cameras, quality, mode, FPS and transmitter type. The actual recorded duration may differ from the duration requested. (The default MAX values are five minutes for pre alarm and ten minutes for post alarm.*
>
> *If pre\post alarm is defined in the Quality and FPS Priority window as first priority, and the Pre alarm recording duration in the Pre/Post Settings window is not set to 00, the recording is performed according to the quality requested in the Pre/Post Alarm Settings window, even though no alarm occurred. If pre\post alarm is defined in the Quality and FPS Priority window as first priority, and Pre alarm recording duration is set to 00 (meaning, do not save in a buffer), the recording is performed according to the second priority function selected in the Quality and FPS Priority window (either quality of auto record or user/macro), and only after an alarm occurs, the recording is performed according to the quality defined in the Pre/Post Alarm Settings window – for the duration defined in the Post alarm recording duration field.*

6. If you have configured pre alarm settings in step 5, select one of the following **Upon Alarm** settings:

- **Save all Pre/Post alarm devices:** When an alarm is activated on any device in the system, this option causes the system to immediately save the pre and post alarm data of **all** the selected devices to the storage location. The data is saved according to the settings that you define in the other options in the *Pre/Post Alarm Settings* window.

- **Save only the detector's selected related devices:** When an alarm is activated, this option causes the system to immediately save the pre and post alarm data of only the selected devices that are also listed as related devices for that alarm.

> **NOTE:** *Refer to Defining Alarm Setup Links, page 122, for additional details about adding related devices.*

7. Select the required **Video** settings for the alarm-activated recorded data, as follows:

- **Quality:** The picture quality that you select determines the resolution at which the pre alarm and/or post alarm data is recorded.

  Select the required picture quality from the range of one to eight, where:

  - **1** = best picture quality, but slowest data transmission.
  - **8** = least clear picture quality, but fastest data transmission.

- **FPS:** The rate at which the pre alarm and/or post alarm data will be recorded.
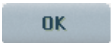
  Select the required frames per second from the available range (NTSC: 1 to 30; PAL: 1-25).

  Refer to *Chapter 2, Getting to Know ViconNet*, for additional details about picture quality and FPS.

8. Select one of the following **Mode** settings (refresh mode):

- **Normal:** Records only changes within the frames for pre-and post alarm data.
- **Full:** Records full frames for pre-and post alarm data.

  Refer to *Chapter 2, Getting to Know ViconNet*, for additional details about the refresh mode.

9. Click [OK] to save your settings and close the *Pre/Post Alarm Settings* window.

Creating Schedules
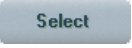
A schedule is a group of user-defined settings that cause the system to activate a selected macro during a specific time period and for a specific length of time.

The ViconNet system enables you to use the ViconNet application to create multiple schedules, according to your requirements, which consists of selecting which macro to run on which days of the week, as well as a start time and end time for each day.

Each schedule, using its defined macro, performs the respective commands on the configured camera inputs only during the time periods defined in the schedule. The transmitter remains idle during the non-scheduled times.

During schedule configuration, you can also determine if the defined macro will run continuously during the selected time period or at specific intervals. This enables you to fine-tune your macro operations and may reduce storage space in the storage location by recording data only during the scheduled time periods. You can also modify or delete an existing schedule, if required.

To create a schedule:
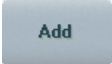
1. Ensure that you have created the required macros, as described in *Creating Macros*, page 99.

2. From the ViconNet *Main* window, click [Setup]. The *Setup Site Selection* window is displayed, as shown on page 57.

3. Select your Kollector Pro to create a schedule and click [Select]. The *System Settings* window is displayed, as shown on page 58.
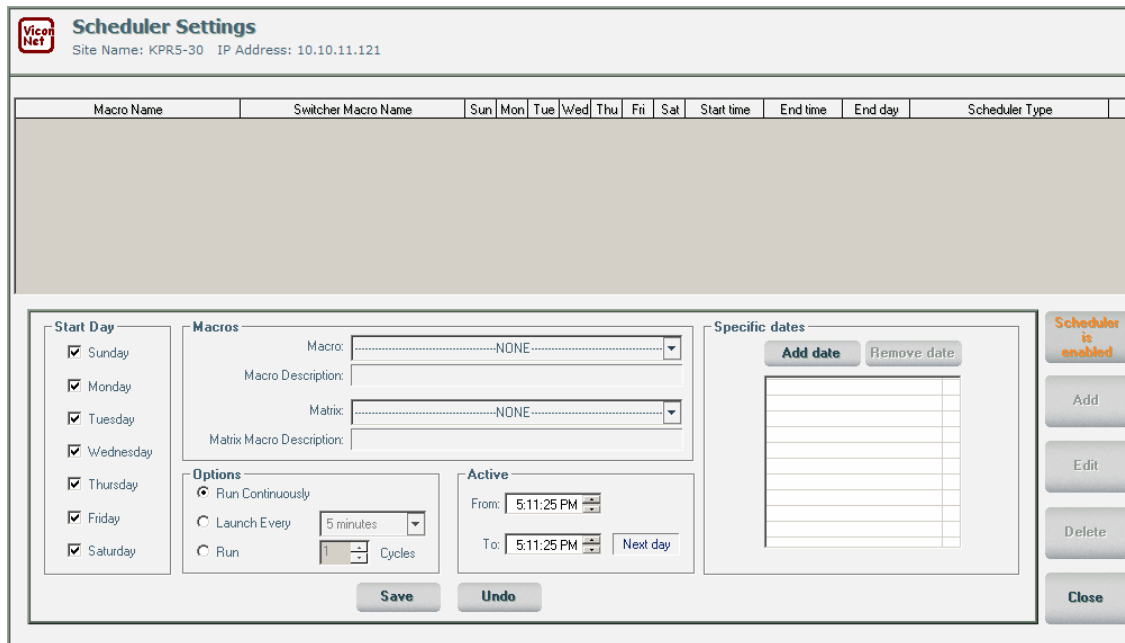
4. Click ![Schedule for Macros]. The *Scheduler Settings* window is displayed, showing the currently defined schedules in the system, if any.

The *Scheduler Settings* window contains the following information about each schedule:
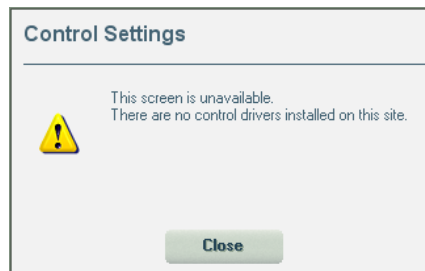
Column	Description
Macro Name	The defined macro name.
Switcher Macro Name	The defined switcher (matrix) macro name.
Sun, Mon, Tue, Wed, Thu, Fri, Sat	The days of the week that the macro is scheduled to run.
Start Time	The time that the macro is scheduled to begin running.
End Time	The time that the macro is scheduled to stop running.
End Day	The day that the macro is scheduled to stop running.
Scheduler Type	The defined run option, which determines if the macro will run continuously or only at specified intervals.

5. Click ![Add]. The *Scheduler Settings* window is enabled.

> **NOTE:** *When working in the Scheduler Settings* window*, you can click **Undo** to restore the last saved settings, if required.*

6. From the **Macro** or **Switcher Macro** dropdown list, select the macro for which you want to create a schedule. The defined macro description is displayed automatically in the **Macro Description** field.

7. Select the days of the week that you want the macro to run from the **Sunday - Saturday** checkboxes.

> **NOTE:** *Selecting days of the week refers only to the coming week. To select other future dates, select dates from the **Specific dates** area, as described in step 9, below.*

8. In the **Active From** and **To** fields, define the start and end time (in HH:MM:SS format) for the macro to run on each of the selected days, as follows:

   - Select the required time segment and then use the up/down arrows to scroll to the required value,

   -OR-

   - Select the required time segment and then use the keyboard to type in a numerical value.

   If the **Active From** and **To** times are the same, the schedule will be for a 24-hour period.

---

9. To select a specific date for the macro to run, click [Add date] in the Specific Dates area. A calendar is displayed. Select the date/s required by clicking in the calendar.

> **NOTES:**
>
> *Specific dates selected can be deleted by highlighting the date in the list and clicking **Remove date**.*
>
> *If the date you select is in the past, a message requesting a future date is displayed.*
>
> *If a Start Day is selected, and a Specific date, the macro will run on both the day selected in the Start Day area, and the date selected in the Specific dates area.*

10. In the **Options** area, select a run option for the macro, as follows:

Option	Description
Run Continuously	This option causes the selected macro to run continuously, during the selected days and during the time period that you selected in the **Active From** and **To** fields.
Launch Every	This option causes the selected macro to run at regular intervals, depending on the minute/hour value that you select from the dropdown list. > **NOTE:** *When an alarm event occurs, the execution of the alarm macro takes priority over the execution of the schedule macro.*
Run	This option causes the selected macro to run a specified number of cycles (from 1 to 256) from the selected start time. > **NOTE:** *For scheduler to run now, ensure that **Active From** time is the current time or later.*

11. Click [Save]. The new schedule is added to the list at the top of the window. The ViconNet *Main* window is redisplayed.

    After creating the schedule, the system activates the relevant macro automatically according to the schedule settings that you have defined.

    You can also activate the macro manually, if required, as described in *Chapter 7, Managing Macros and Schedules*.

If you open the *Scheduler Settings* window again as described at the beginning of this procedure), you will see the new schedule in the list.

NOTES:

To edit a schedule, select the schedule from the list in the Scheduler Settings window *and click **Edit**. Then modify the displayed settings, as described in the procedure above, and click **Save**.*

*To delete a schedule, select the schedule from the list in the Scheduler Settings window and click **Delete**.*

*To disable all scheduler operations, click the **Scheduler is enabled** button and then click **Yes** in the displayed message. The button then toggles to **Scheduler is disabled**.*

*If a scheduled macro was stopped using the **Stop Macro** option in the Main window, the **Scheduler is enabled** button (in the Scheduler Settings window) changes to **Scheduler is suspended**, and the scheduler switches to **Disabled** mode. Clicking the **Scheduler is suspended** button displays a message which provides the option to **Enable** the scheduler, **Disable** the scheduler or **Cancel** (meaning, stay in Suspended Mode).*

In Suspended mode, a message appears every five minutes asking if you want to enable the macro scheduler.
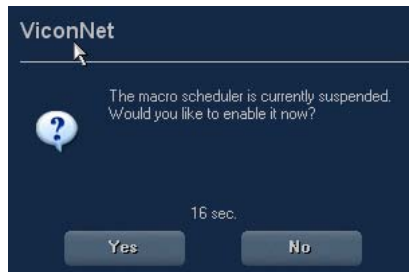
*If the user does not respond (click **Yes** or **No**) within 30 seconds of the message appearing, the macro scheduler is automatically enabled.*
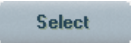
If the system reboots while a macro is running or scheduled to run, on system startup, the macro resumes from the place it stopped (if it is still within its time limits).

Restoring and Backing Up System Settings

The ViconNet system automatically backs up all the system settings every time you close the ViconNet application.

In addition, you can also manually back up the system settings at any time, to any network location, or restore the settings to ones that were saved previously.

To manually back up or restore system settings:

1. From the ViconNet *Main* window, click ___Setup___. The *Setup Site Selection* window is displayed, as shown on page 57.

2. Select your Kollector Pro and click ___Select___. The *System Settings* window is displayed, as shown on page 58.

3. To back up settings, click ___Backup___. A standard file browser window is displayed. Navigate to the required backup location and click **OK**. It is highly recommended that you backup the settings to a floppy disk in the A:\ drive or CD, in case the hard drive fails. After you have saved the settings to the floppy disk or CD, label it with the name of the file and the date on which it was created.

4. To restore settings, click ___Restore___. A standard file browser window is displayed. Navigate to the backup file that you want to restore and click **OK**.
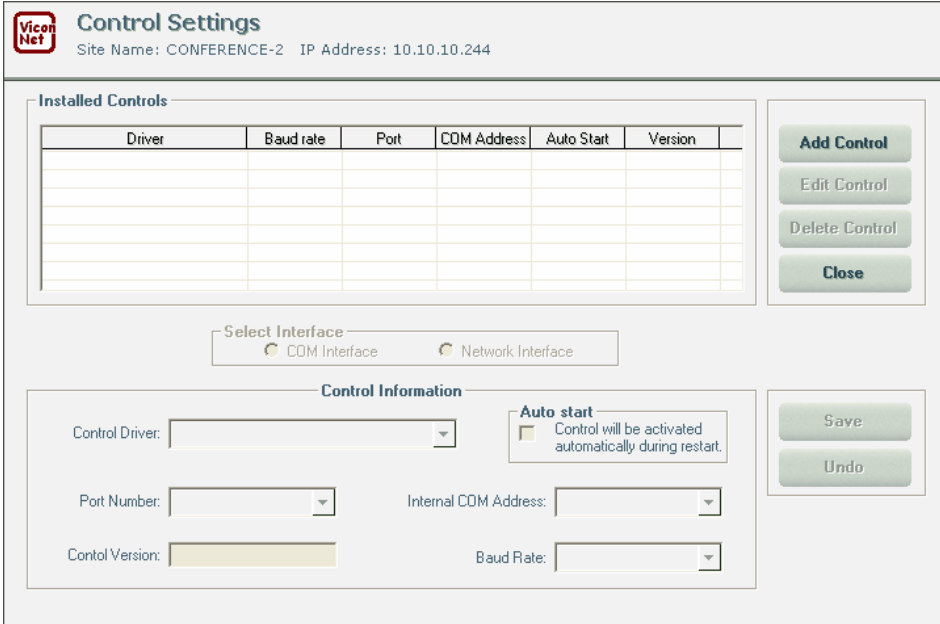
> *NOTE: Remember the backup location for restoration purposes. It is important to restore system settings on the same transmitter on which the backup was performed.*

Configuring an External Control

After the appropriate driver has been installed, the controls can be configured through the **RS232/422/485 Controls** option in the system settings window.

To configure the control:

1. From the ViconNet *Main* window, click [Setup]. The *Setup Site Selection* window is displayed, as shown on page 57.

2. Select your Kollector Pro and click [Select]. The *System Settings* window is displayed, as shown on page 58.

3. Click the [RS232/422/485 Controls] button. The *Control Settings* window is displayed.

> *NOTE: If the relevant drivers are not installed, the following message is displayed:*
>
>
>
> •   *Click **Close** and install the relevant drivers.*

4. When the drivers are correctly installed, click the **Add Control** button to display a list of the pre-installed drivers. The types include: PTZ joystick, relays and control box.

---

5. From the **Control Driver** box, select the required driver.

6. Select the **Internal COM Address** with which to communicate with the device, the **Port Number**, and the **Baud Rate**.

> ***NOTES:***
>
> *Ensure the **Internal COM Address** is different for each control driver, or the following message appears:*
>
> **Control Settings**
>
> ⚠ The Address chosen is already used.
> Please select a differnet address
>
> **Close**
>
> .
>
> *For PTZ Joystick, the **Baud Rate** must be 4800.*
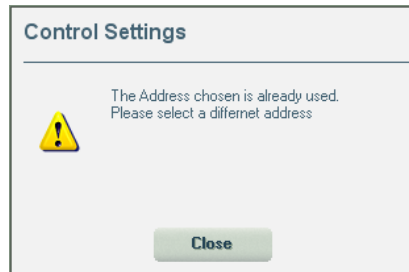
7. Select/Deselect **Auto start** checkbox.

    *   If selected, the control is automatically activated on system startup.

    *   If not selected, the control must be activated manually in the main screen, as described in the section *Activating a Control*, below.

8. Click **Save** to save the settings.

9. Click **Close** to exit the *Control Settings* window.

> ***NOTES:***
>
> *The **Control driver** and **Control version** parameters are set automatically.*
>
> *To edit the configuration for a control driver, select the control in the list and click **Edit Control**. The relevant fields in the **Control Information** area are enabled.*
>
> *To delete a control driver, select the control in the list and click **Delete Control**.*
>
> *When working in the Control Settings window, you can click **Undo** to restore the last saved settings, if required.*

Activating a Control

Controls such as joystick, relay, and so on, must be activated in order for them to function in the ViconNet system.

To activate a control:

1. In the Main window, click **Controls**. A list (tree) of all sites with controls configured is shown in the lower-left panel. To see the controls configured for a specific site, click on the site in the tree.
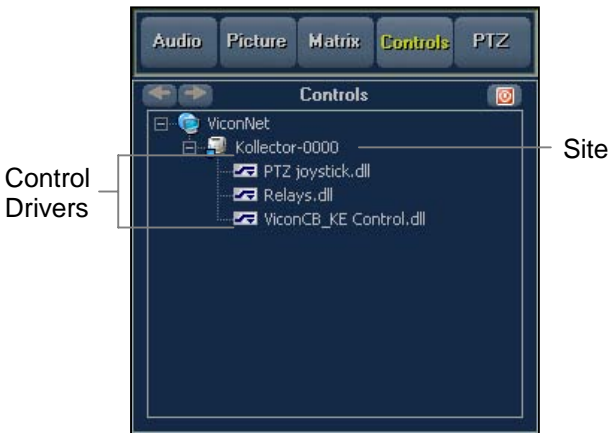
2. Depending on the type of control, activate it as follows:

Control	How to Activate
Relay	• Click on the control driver in the tree. The following GUI is displayed in the lower-left panel.

Control	How to Activate
	• Select **Activate** and the **Activation time** (duration of activation of relay in milliseconds)
	• Select which relay to activate

Activated relays appear in the controls list with a yellow icon and bold text.
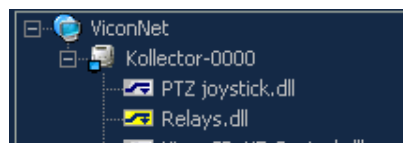
> *NOTES:*
>
> *The **Number of controls actually connected** is the number of actual physical connections. If this number is 0, a relay cannot be activated.*
>
> *The **Current State** displays the name of the last relay activated.*

Control	How to Activate
PTZ Joystick	Click on the joystick control in the tree. The joystick control is activated and a GUI message appears in the lower-left panel that the control is on line. If there are no joysticks physically connected (configured), the message in the GUI is:
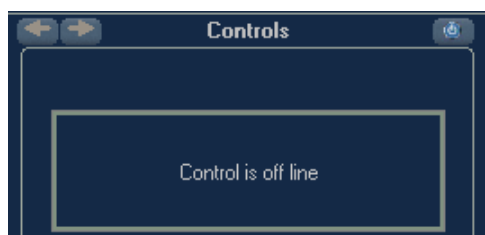
To deactivate the joystick control, click on it in the control list again.

Defining Site Maps and Map Sets

The Site Map feature allows you to define the location of ViconNet equipment (the local Kollector and its associated cameras, and so on) on a map of their physical environment. A map can be a construction plan, building plan, plan of a room and so on. Instead of going to the site list and trying to find a particular camera by name, a Site Map can be examined and the equipment's physical location and status (activated/deactivated) can immediately be seen. Cameras can also be activated via the Site Map. If more than one map exists, map sets (groups of maps) can be defined.

Maps are added using Map Sets Management. The map files should be .jpeg type files. The optimal map size is 980 x 735 pixels. Larger and smaller size maps can be used and will occupy more or less of the full screen. Maps larger than the screen can be scrolled around to view any specific area.

Creating a Map Set

A map set usually consists of various related maps. For example, in a large company with several multi-storey buildings, there may be a map set for each building. In each map set there could be a number of maps, such as, one for each floor (That means, maps can be grouped into map sets according to your preference).

NOTE: Before a map set can be created, ensure that the map images are preloaded into the system from Floppy or CD media.

To create a map set:

1. From the *System Settings* window, select *Map Sets.* The *Map Sets Management* window appears.

2. Click **Add**. The next blank line in the Map Sets area becomes editable and the text *New Map Set* appears automatically as the name of the new map set.
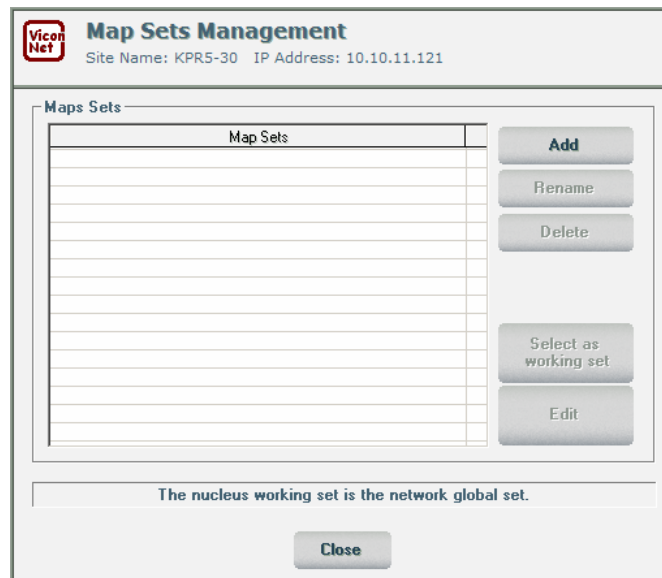
3. Enter the correct name for the new map set and press **Enter**.

4. To configure which maps to put into a map set, double-click the map set name. The *Maps Editor* window appears with the name of the new (selected) map set at the top of the tree in the upper-left panel.

Map Set

Devices

Editing
Space

Navigation
Map
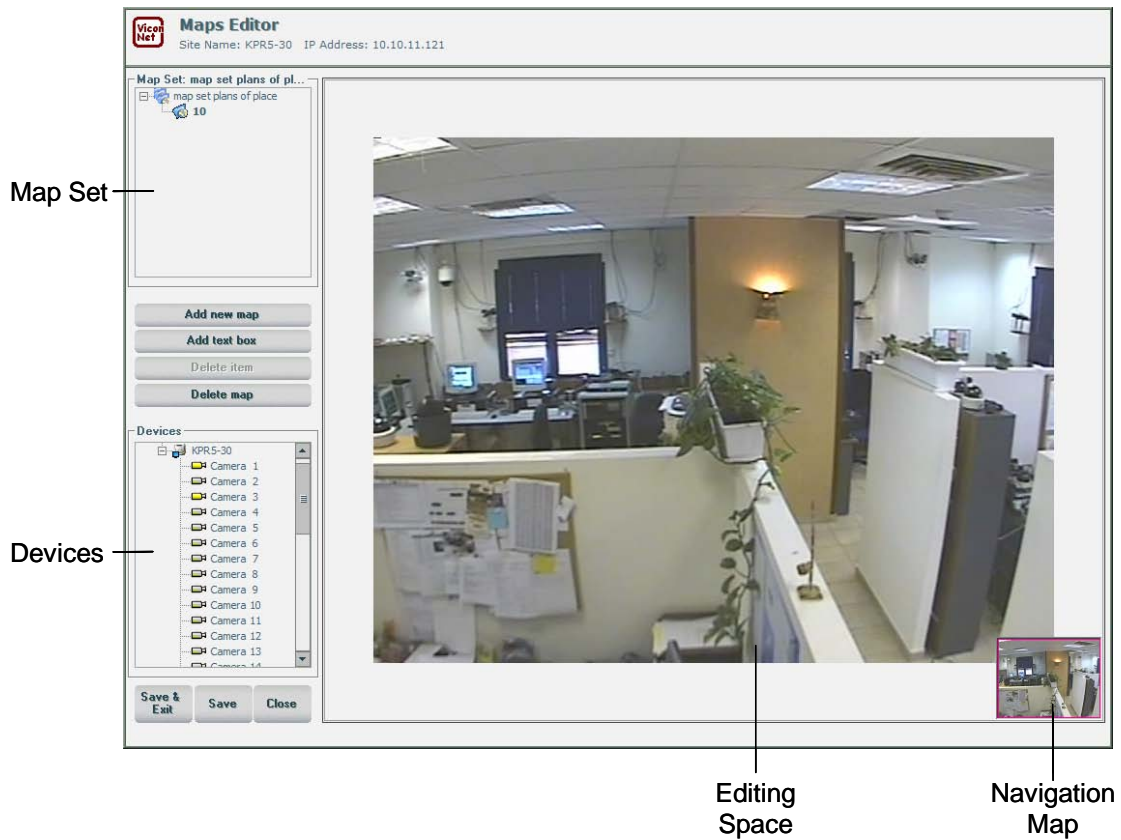
5. To add maps to the map set, click **Add new map**. The *Maps Editor browser* window appears.
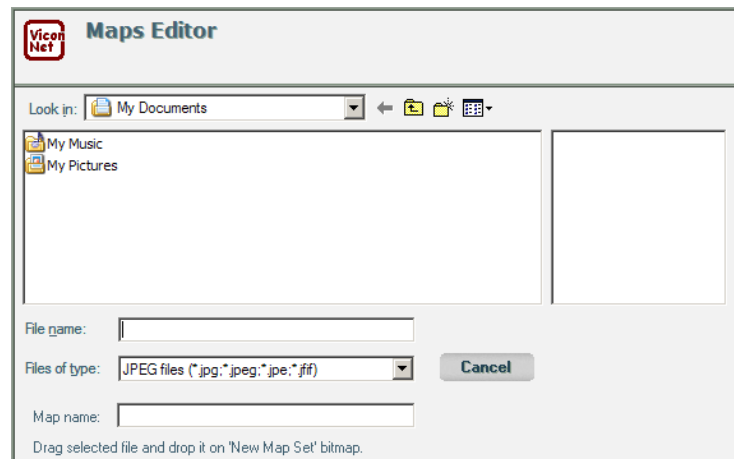
Maps added to the map set retain their original size and resolution.

6. Browse to and select the map you want to add to the map set. Once the map is highlighted, and the name appears in the File name box, drag the map to the map set where you want it.

> ***NOTES:***
>
> 1. *Double-clicking the map name in the browser does not add it to the map set (as it does not know where to add it).*
> 2. *If the map is larger than the screen, it fills the entire screen in the editing space. To navigate to another part of the map, use the navigation map in the bottom right-hand corner of the editing space.*

A map can also be dragged directly from the tree onto the displayed map (in the editing space), to create a sub-map. (For example, if you have a map of a whole floor, you may want to insert a map of only one room on that floor.)

> ***NOTE:*** *If a map that is dragged onto another map has sub-maps, these sub-maps are also dragged onto the map set.*

Adding Sub-maps, Text Boxes and Devices

After creating a map you can add:

* **Sub-maps**: A sub-map is a map inside a higher-level map, for example a detailed map of one room might be a sub-map of a map of a whole floor.

* **Text boxes**: A text box allows you to write a textual comment wherever you want on the map. An example is shown on the following page.

* **Devices:** Devices that can be added to a map are cameras and sensors. The devices should be added to maps according to their physical location.
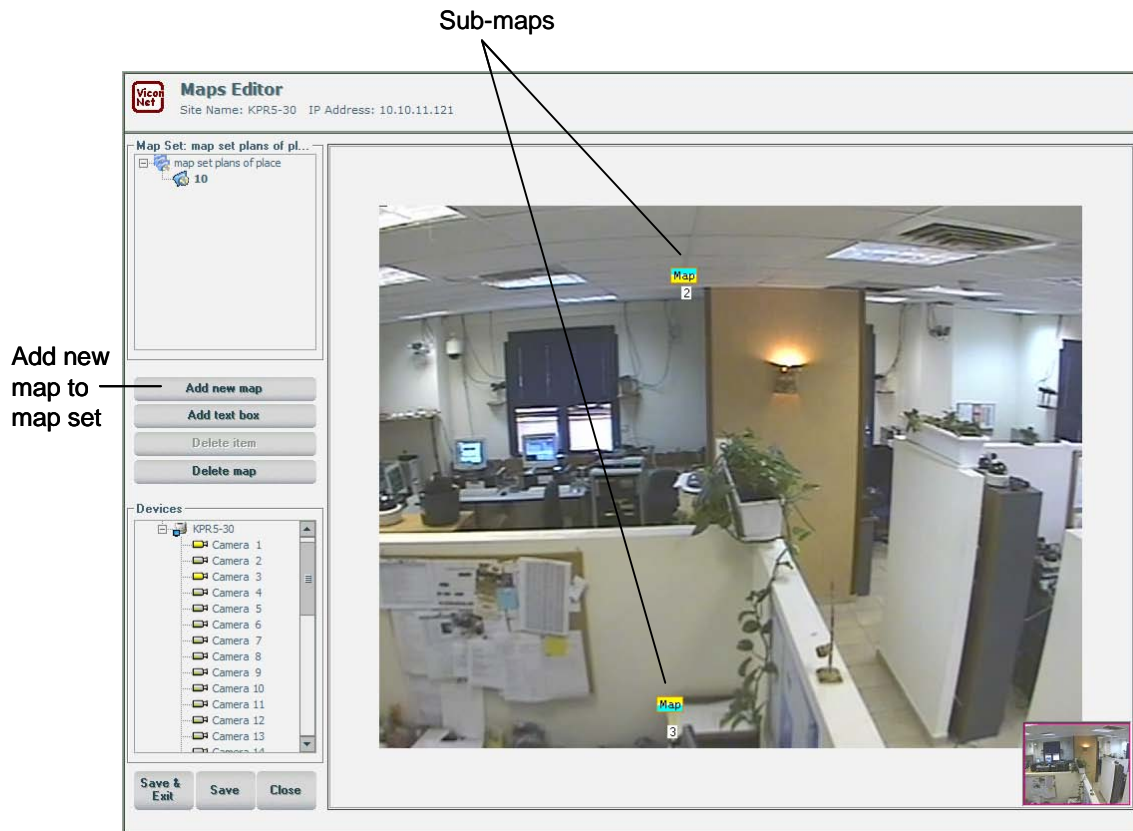
To add sub-maps, text boxes and devices to a map:

1. To add a sub-map (a map inside a map), and click **Add new map.**

2. From the Maps Editor Browser, drag the selected map onto the higher-level map in the Map Set tree or onto the higher-level map in the editing space.

> *NOTES:*
>
> • *You can only access a sub-map via the Map Set tree.*
>
> • *You cannot add the same map twice in the same higher-level map, but you can drag it from the tree into another map.*
>
> • *You cannot add a higher-level map to its sub-map.*
>
> • *Maps are not added recursively.*

3. To add a text box (a comment displayed on a map) to the displayed map, click **Add text box**. Edit the text in the text box as required and drag the text box to the required location on the map in the editing space.
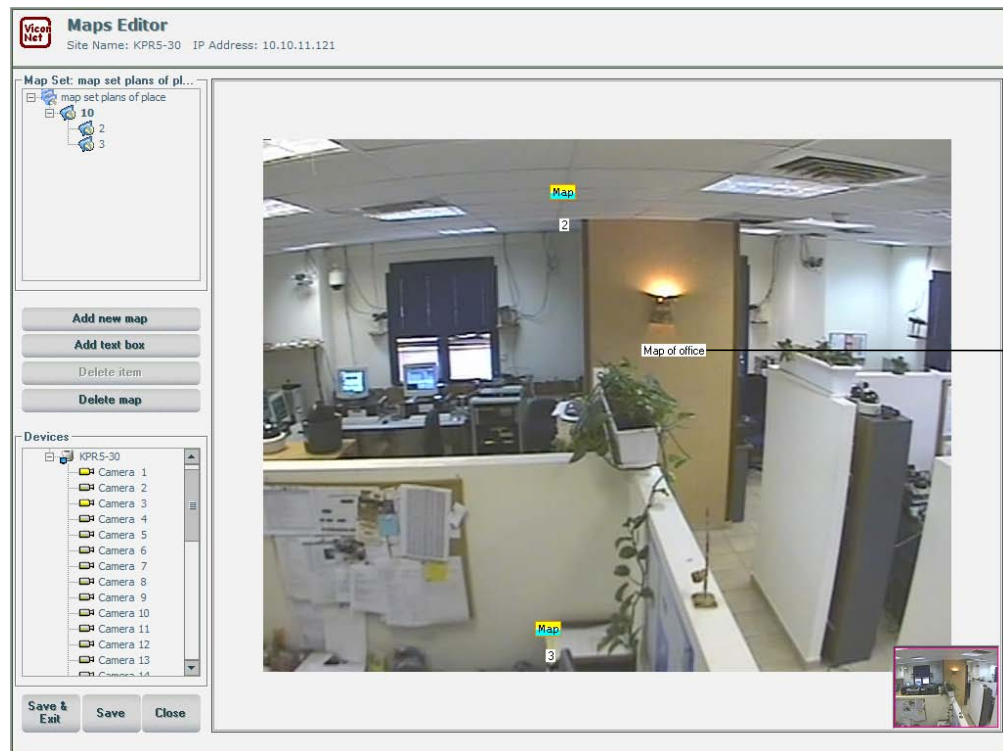
4. To add a device (camera or sensor) to the displayed map, drag the device from the devices list in the left-hand panel into its required location onto the displayed map. An icon and a label are displayed on the map.
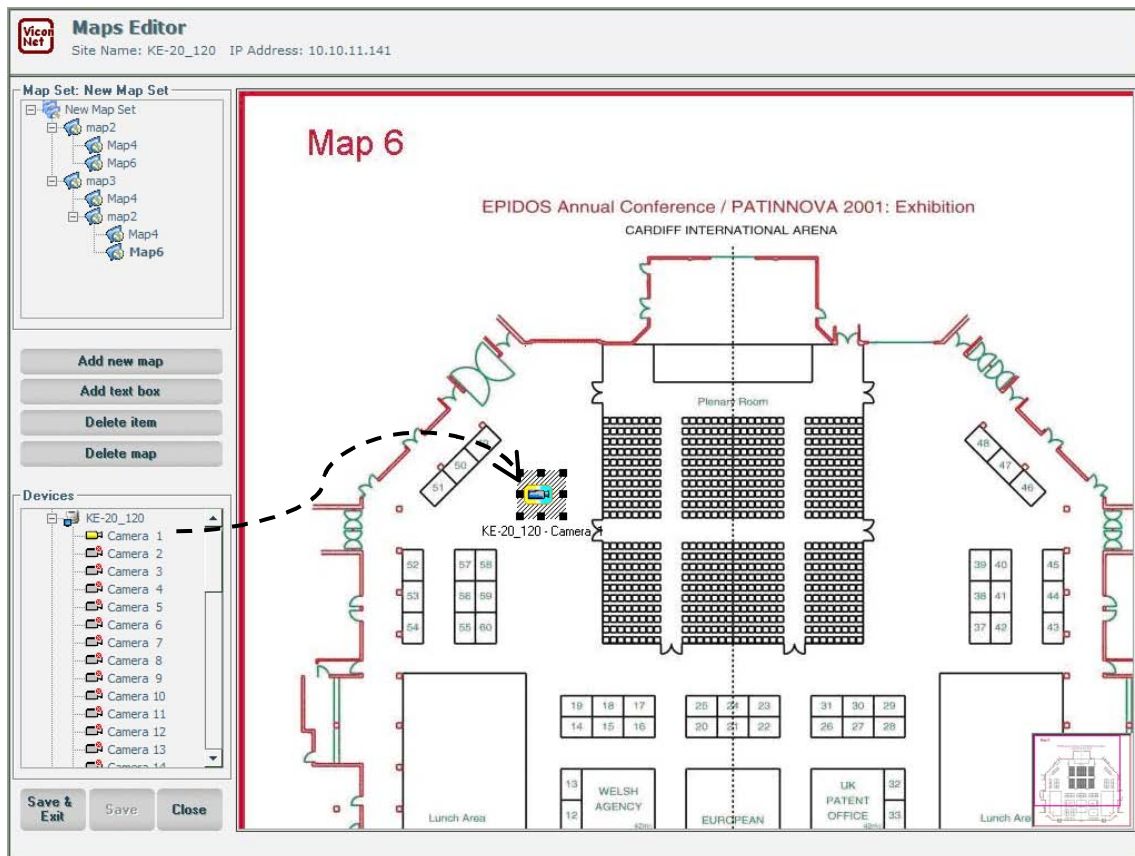
NOTE: *After you drag the device onto the map, the device and its label become two separate objects. If you move the device to another location on the map, the device icon and the label must be dragged separately.*

To activate a device, click the icon on the map. If the device is activated, the icon blinks.

To deactivate the device, click the icon again. If the device is deactivated, the icon remains steady (not blinking).

Exiting the Maps Editor Window

There are two ways to exit the *Maps Editor* window:

- To save your changes, click **Save and Exit**.

- To close the window without saving your changes, click **Close**. In this case, a confirmation message appears to verify that you do not want to save your changes.

In both cases, the *Maps Editor* window is closed.

Editing a Map Set

After a map set has been created, it can be edited as follows:

- **The definition of the map set**: The map set can be renamed, deleted or defined as the working set.

- **The content of the map set**: Maps, sub-maps, devices can be added to or deleted from the map set.

To edit a map set:

- In the *Map Sets Management* window, click **Edit**. The Maps Editor window appears. The map set can be edited as described above.

- To rename the map set, from the *Map Sets Management* window, click **Rename.**

- To select which map set will be displayed in the main window, click [Select as working set]. The name of the map set in the list is then automatically changed to add the suffix *"– Working Set".*

To see the working set in the *Main* Window, click the **Site Map** tab.

Deleting Sub-maps, Devices and Text Boxes in Maps

Maps, sub-maps, text boxes or devices can be deleted individually or collectively from the *Maps Editor* window.

- To delete a device or a text box from a map, select the object and click **Delete item**.

- To delete a map, click (select) the map to be deleted in the tree, and click **Delete map**. A message appears asking you to confirm you want to delete the specific map.

- If the map to be deleted has sub-maps, text boxes or devices, they will also be deleted. Once the map is deleted, the previous map in tree is selected.

Using the Language Translation Utility (LTU)

The LTU enables the translation of the ViconNet user interface (for example, buttons, labels, messages, dialogue boxes and so on) to any language.

The utility imports all buttons, labels, messages and dialogue boxes from the ViconNet application, enabling the translation of all terminology used in the user interface into the local or any other language as required.

Creating a Library File

To change the language of the user interface in a specific site in the ViconNet system, first a library file must be created. The library file contains a "database" of all the terms, their translations and a reference to the location of the term in the ViconNet system.

To create a translation library file:

1. Open Windows Explorer and navigate to **C:\ViconNet\VNVer\BinRelease** and double-click ⬛ LTU.exe .
    The *LTU* is opened and the empty translation window is displayed.
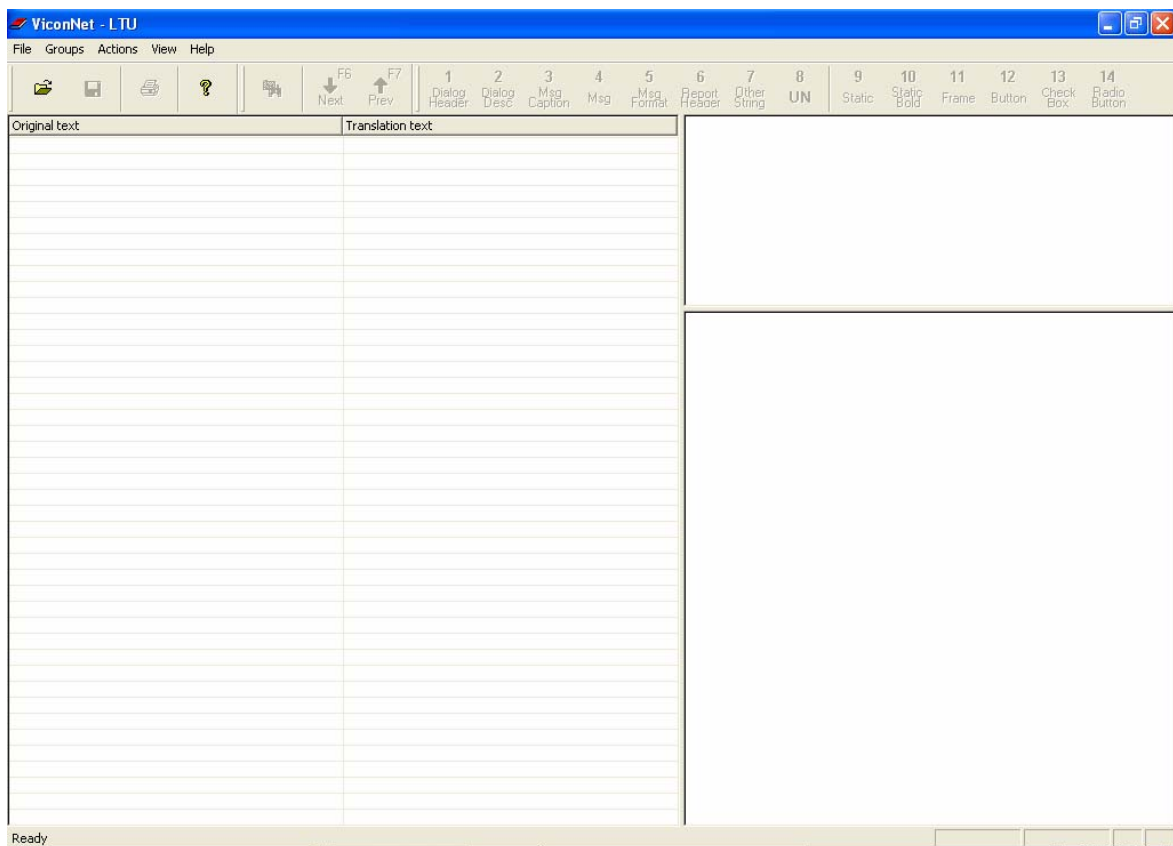
2. Click ☞ or select **Open** from the **File** menu. The *Open resources ViconNet* window is displayed with the default path and current version (read-only) showing.
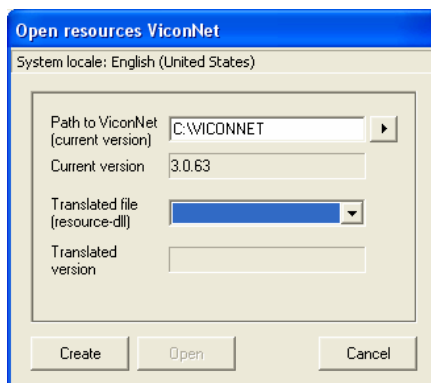
3. (Optional) To change the location where the translated file will be saved, open the browser by clicking on the arrow next to the path text box and browse to the required location. (For example, if you want to open a file from another version of the ViconNet application).

4. If a library file already exists, browse to it in the **Translated file** text box and click **Open**. To create a new library, click [Create]. The LTU application window is displayed with a list of buttons, messages, and so on.
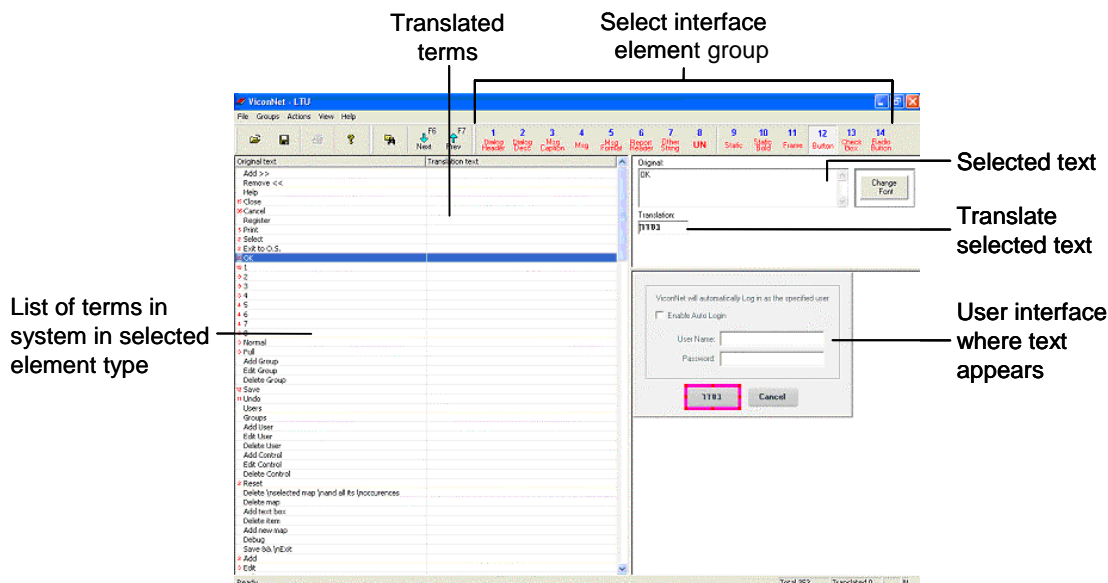
5. (Optional) Select an interface element group from the options in the toolbar or from the **Groups** menu. All the terms which appear in that element group are displayed in the list in the left-hand panel.

6. Click on the row to be translated. The user interface where the selected term appears in the system is displayed in the lower right-hand panel and the selected term appears with a text box to translate it in the top right-hand panel.

7. Type the translation in the **Translation** text box in the top right-hand panel.

---

8. Repeat steps 8 to 10 above until all the terms required have been translated. The translations are saved automatically the selected path.

> **NOTE:** *As long as the LTU remains open, the individual translated terms are saved while you translate/navigate to other terms.*

9. To save the library, click 💾 or select **Save** from the **File** menu. Enter filename of your choice and click **OK**. It is saved in default location.

The following is a list of additional options in the LTU:

Option	Description
Change Font	Enables you to change font, font size and font style of the translated term.
F6 Next	Enables navigation to the next term in the list of terms. You can also navigate to the next term by selecting **Next** in the **Actions** menu.
F7 Prev	Enables navigation to the previous term in the list of terms. You can also navigate to the previous next term by selecting **Prev** in the **Actions** menu.
🔍	Enables you to search for a specific term that appears in the system (button text, label, message, and so on). You can also search for a term by selecting **Find…** or **Find in all groups…** in the **Actions** menu.
❓	Provides information about the LTU.
Sort	You can sort the list of terms alphabetically by clicking the **Original text** column header or by selecting **Sort by** in the Actions menu.
Show identical name	You can show other terms with identical name by selecting **Show identical name** in the Actions menu.

Implementing the Translation in the ViconNet Application

Once one or more library files have been created and terms appearing in the user interface have been translated, the LTU feature in the ViconNet system enables a translation to be selected and implemented,

To implement the translation in the ViconNet site:

1. From the ViconNet *Main* window, click **Setup**. The *Setup Site Selection* window is displayed, as shown on page 57.

2. Select your Kollector Pro and click **Select**. The *System Settings* window is displayed, as shown on page 58.

3. Click the **LTU** button. The *LTU Settings* window is displayed.
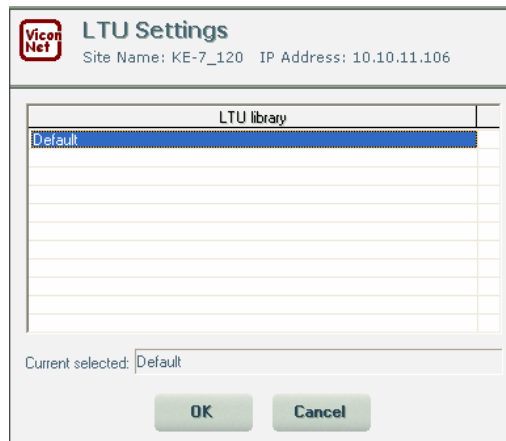
4. If an LTU library has already been created, highlight it and click **OK**. The translation is immediately implemented and all the translated terms appear in the site's user interface.

Example:

Original Text:

Translated Text:

If an LTU library has not been created, follow the procedure *To create a translation library file* procedure, page 155.

> **NOTES:**
>
> *Terms that were not translated remain in the default language.*
>
> *To implement the translation on another site, the .ltu file must be saved on that site in **../ViconNet/VnData/Settings**. The file then appears in the **LTU library** list in the LTU Settings window and can be implemented as described in step 4 above.*

Viewing the Settings Summary

The *Settings Summary* window displays all the system settings for a specified site. This enables the user to view all the settings for a remote site without having to navigate through all the available windows for that site one-by-one (for example, macros, authorizations, schedules, and so on).

To view the settings summary:

1. From the ViconNet *Main* window, click [Setup]. The *Setup Site Selection* window is displayed, as shown on page 57.

2. Select your Kollector Pro and click [Select]. The *System Settings* window is displayed, as shown on page 58.

3. Click the [Settings Summary] button. The *Settings Summary* window is displayed. An example is shown below.
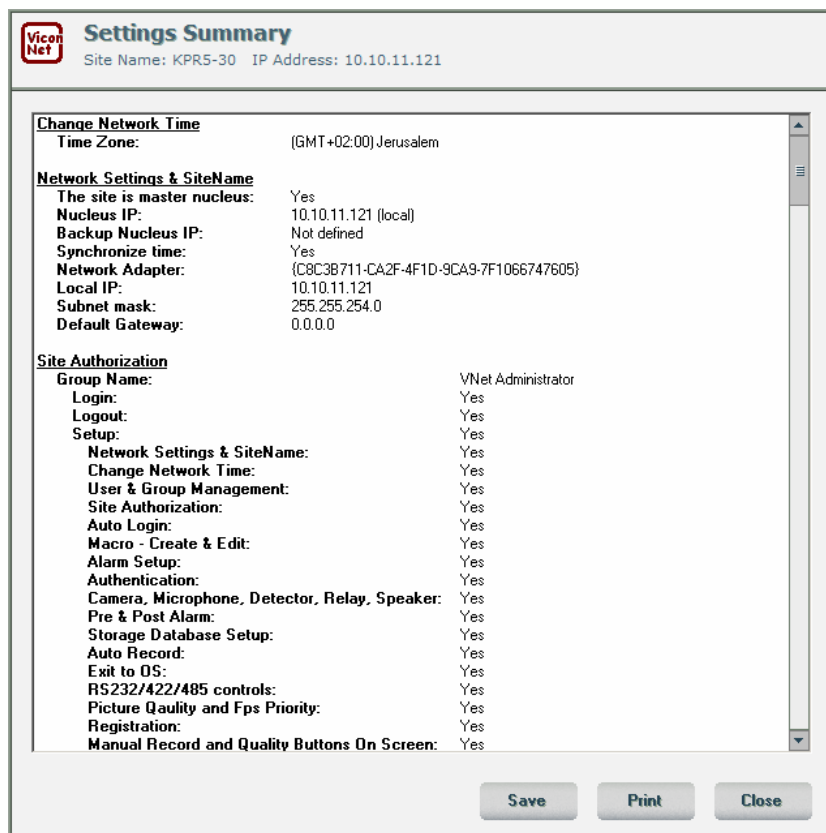
4. (Optional) Click **Print** to print the full list of settings for the selected site.

5. (Optional) Click **Save** to save the settings to a rich text file (.rtf).

Limited Recording

Some states require, by law, limitation of the storage time of recorded material. The ViconNet system limited recording feature limits access to video and audio recordings which are older than a defined number of days,

To limit the period of time for which data is saved and accessed:

1. In Windows Explorer, navigate to **C:\viconnet\vndata\settings\config** (or *path of your application***\vndata\settings\config\RecordingLimitation.ini**)

2. Double-click the file **RecordingLimitation.ini**. The file is opened.
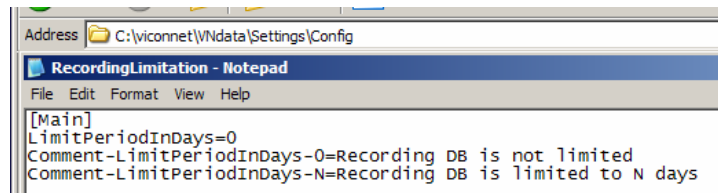
3. Change the **LimitPeriodInDays=0** flag to **LimitPeriodInDays=N**, where **N** is the number of previous days for which you want to save the data. Data older than **N** days back is automatically deleted.

> ***Note:*** *This feature only works while recording is being performed (meaning, the system continuously checks for old data as part of the recording process). If recording is not being performed, the database is not updated and the old data is not removed.*

Chapter 4
Viewing Live Video

This chapter includes the following sections:

- **Overview**, page 162, provides an overview of the viewing process, which also includes some optional tasks that can be performed, as required.

- **Viewing Workflow**, page 163, illustrates the main steps for viewing to live video.

- **Step 1: Selecting the Display Mode**, page 164, describes how to select the required number of video display locations.

- **Step 2: Selecting Cameras**, page 166, describes how to select and control devices in order to view their live video.

- **Step 3: Controlling the Picture**, page 170, describes how to control the contrast and brightness of the live video display.

- **Step 4: Zooming the Video Display**, page 171, describes how to zoom in or out from a live video display.

- **Step 5: Operating a PTZ Camera**, page 172, describes how to view a video from a PTZ camera.

Overview

The ViconNet system enables you to monitor live video using the cameras configured in the ViconNet system. The devices send the live video pictures to the Kollector Pro via the network. The cameras available for viewing live video on each Kollector Pro are configured during system setup, as described in *Chapter 3, Configuring the ViconNet System*.

In order to view live video, you must select the display mode (the number of display locations in the ViconNet application that is sufficient for the number of cameras that you want to monitor. Then you can select the devices using the *Site List*.

When you have selected the required devices, you can select the picture quality (if the **Quality** buttons in the *Main* window **Function Controls** area are enabled - refer to the *Configuring Manual Recording and Picture Quality* section in *Chapter 3, Configuring the ViconNet System*), the refresh mode, and additional picture settings that determine how the live video is displayed on the connected Kollector Pros. The selections that you make also affect the data during recording and playing back operations, as described in *Chapter 5, Recording Live Video*, and *Chapter 6, Playing Back Recorded Video*.

The ViconNet system also provides some optional functions that can be used when viewing live video. These include the ability to zoom in on a specific video display to view it in more detail and to use a PTZ camera.

Viewing Workflow

The following workflow illustrates how to view live video using the ViconNet system. Each step is described in the sections that follow.
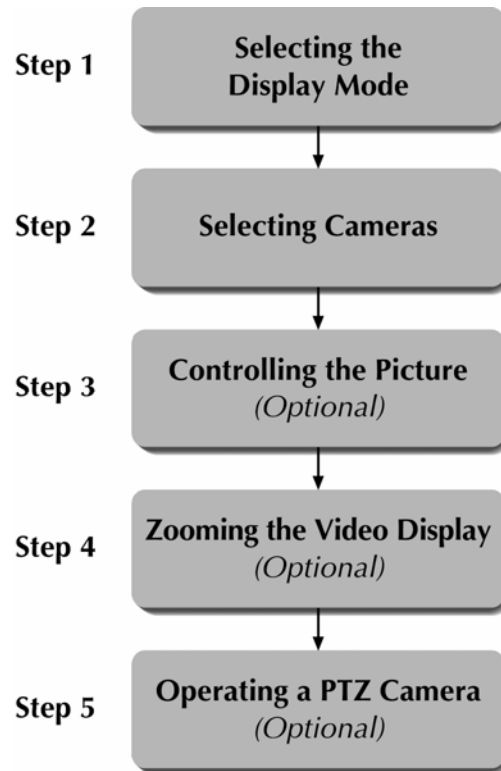
NOTE: The workflow shown above is performed after you have already logged in to the ViconNet application, as described in Chapter 2, Getting to Know ViconNet.

Step 1: Selecting the Display Mode

Selecting the display mode enables you to determine the maximum number of video display locations for viewing live video at one time in the **Video Display** area of the *Main* window.

Various display modes are provided to accommodate your viewing requirements, as described in the selection procedure, below.

You can modify the display mode after beginning to view the live video, if required. For example, if you determine that you want to view additional devices, you can select a display mode with more video display locations without affecting the current video that you are currently viewing.

In addition, you can determine which camera is represented in each video display location, as described in *Step 2: Selecting Cameras*, page 166.

You can choose the display mode from either the *Main* window or the *Navigator* window.

To select the display mode from the Main window:

- In the *Main* window, select the required option from the *Display Mode* controls at the bottom right of the window, as follows:

Display Mode	Description
	Single: Provides a **single** video display location in the **Video Display** area. (Quality 1)
	Quad: Provides **four** individual video display locations simultaneously in the **Video Display** area. (Quality 5)
	Six: Provides **six** individual video display locations simultaneously in the **Video Display** area. (Quality 5)
	Nine: Provides **nine** individual video display locations simultaneously in the **Video Display** area. (Quality 6)
	Sixteen: Provides **sixteen** individual video display locations simultaneously in the **Video Display** area. (Quality 7)
	Full Screen: Maximizes a selected video display location to fit the entire screen (including the *Site List*). (Quality 1) To restore the maximized screen to its previous size, click the icon in the top right corner or right-click in the screen and click . You may also click **<ESC>**.

> **NOTE:** *In order to improve transmission speed, a quality of live images is set automatically for each display mode selection (for example, Quality 1 for the **Single** mode, as mentioned above). For information about display mode quality, refer to the About Picture Quality and Refresh Mode section in Chapter 2, Getting to Know ViconNet.*

To select the display mode from the Navigator window:

- In the *Navigator* window, select the required **Display Mode** icon (located below the *Main* window **Display Location** area).

Thereafter, when the **Play** button is selected, the devices in the *Main* window **Display Location** area are displayed in their respective locations in the *Main* window, ready for viewing and playing back.

The following example shows the **Video Display** area after the **Quad** display mode has been selected.
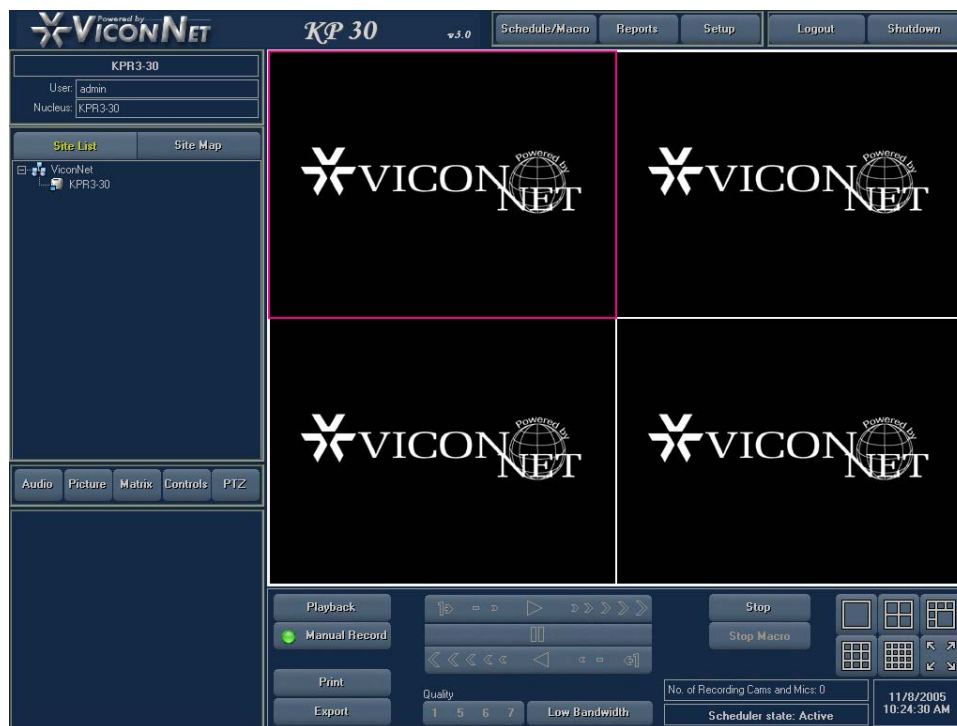
> *TIP: You can maximize an individual video display location in the **Video Display** area by double-clicking the required location. Double-clicking again reverts back to the previous view.*

Step 2: Selecting Cameras

When you launch the ViconNet application, the **Video Display** area of the *Main* window is initially empty, as there is no automatic display of live video. In order to view live video in the **Video Display** area, you must first select the camera that transmits the required data.

When you select a device, the video is then streamed into the selected video display location in the **Video Display** area.

The ViconNet *Site List* enables you to select devices for viewing live video by navigating through the tree and selecting first the required recorder/transmitter and then the required devices. The available devices in the *Site List* are configured during system setup, as described in *Chapter 3, Configuring the ViconNet System*.

Selecting a device from the tree automatically begins the device operation (video transmission) in the selected video display location in the *Main* window.

As transmission begins, the appropriate controls for the specific type of device that you selected become active in the **Control Dialog Display** area, which enables you to modify the live video, as described in the subsequent sections in this chapter.

The maximum number of cameras that can be selected simultaneously is sixteen, depending on the current display mode. If all display locations are in use, and you select another camera, the selected camera replaces one of the previously displayed cameras.

To select a device from the Site List:

1. In the *Main* window, ensure that you have selected the appropriate display mode for the total number of devices that you want to select, as described in *Step 1: Selecting the Display Mode*, page 164.

2. Expand the required transmitter to display a list of the currently connected cameras, as shown below:
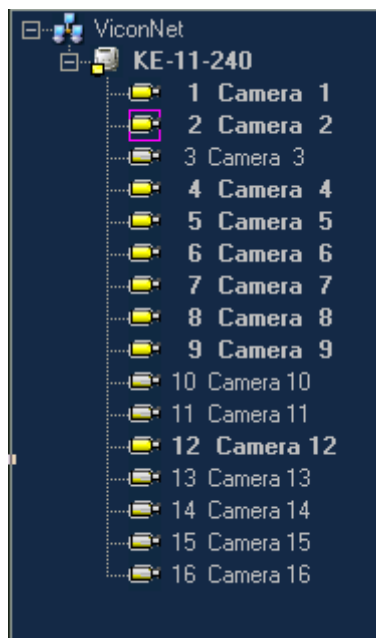
> **NOTES:**
>
> *The cameras that appear in the Site List are automatically detected by the system during startup. If a camera is not physically connected to the system, it will not appear in the list. If the camera is disconnected after startup, it is removed from the list. If a camera is disconnected while it is active (meaning being displayed or recorded), a red **X** icon (⊗) is displayed next to the relevant camera in the Site List, and a blank screen appears in the **Video Display** area.*
>
> *Each site can have up to 16 cameras and detectors connected to it.*

3. Select the required device from the *Site List* in one of the following ways:

   - In the **Video Display** area, select a video display location (indicated by the pink border) and then select the required camera from the tree. The live video transmission is displayed automatically in the selected location, and the camera icon appears highlighted, as shown in the example on page 168.

> **NOTES:**
>
> *If you select a video display location that is currently active:*
>
> - *The live video transmission for the new device that you select will override the current one.*
>
> - *A pink border is displayed around the relevant device in the Site List.*
>
> *In addition, if no empty video display locations are available when you select a device, the video transmission for the new device will override the next default video display location, starting with the location at the top left.*

   -OR-

   - Drag and drop a camera from the tree onto the required video display location. As you drag the camera, the mouse cursor changes to a camera icon, and then the live video transmission is displayed as you drop the camera into the required video display location, as shown in the example on page 168.

   -OR-

   - Select a recorder/transmitter and drag and drop it anywhere in the **Video Display** area. Live video transmission from all the connected cameras are displayed in the current video display locations.

> **NOTE:** *The number of devices that can be displayed at one time in the **Video Display** area is dependent on the number of video display locations in the currently selected display mode. Refer to Step 1: Selecting the Display Mode, page 164, for additional details about changing the display mode, if required.*

The following example shows four live video transmissions displayed in the **Video Display** area. The name of each camera is located in the top of each video display location.

NOTES:

*You can manually stop the transmission at any time by clicking **STOP**.*

*The name of the currently logged in user and the master nucleus are displayed in the **Current Details** area (upper left corner).*

When a macro is running as a result of an alarm event, the following is applicable:

- *If the macro is performing **display operations**, all functions in the ViconNet Main window, except for the **Stop Macro**, **Schedule/Macro**, **Logout**, and **Shutdown** buttons, are disabled.*

- *If the macro is performing **all other recording operations**, except display, all functions in the ViconNet Main window remain operational.*

Refer to Chapter 3, Configuring the ViconNet System for additional details about macros.

4. To display live video from additional devices, repeat step 3, as required.

TIP: To reverse a device selection, click the required device in the Site List again. The live video transmission for the deselected device is stopped.

5. Proceed to the relevant steps in this chapter to modify the live video display that you have selected, such as the picture quality and refresh mode.

Note About Picture Quality and Refresh Mode:

The view image quality is set automatically according to the selected display mode. The Single mode is assigned the highest quality. Other modes assigned lesser qualities, in proportion to their number of views.
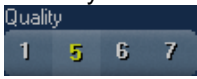
The view image is automatically refreshed according to the refresh mode in which it was recorded.

For more information about image quality and refresh modes, refer to the About Picture Quality and Refresh Mode section in Chapter 2, Getting to Know ViconNet.

Step 3: Controlling the Picture

The ViconNet system enables you to control and change the settings of the current live pictures displayed in the *Main* window, such as the brightness and contrast. Any changes that you make to the picture settings affect the data that is currently being viewed or recorded on all connected Kollector Pro displays.

As well, you can manually override the display mode-determined live picture quality for the currently selected camera using the buttons.

Changing the picture settings is irreversible (meaning that after the settings have been changed, the previous settings are lost).

> ***NOTE:*** *The last saved picture settings can only be restored by selecting **Restore** from the System Settings window. However, this restores ALL the last backed-up system settings.*

To control the picture brightness, contrast and color:

1. Click . The picture controls are displayed in the **Control Dialog Display** area.
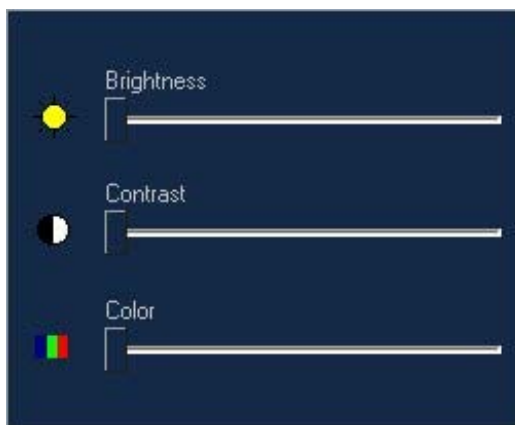
2. Move the sliders to adjust the picture, as follows:

Option	Description
☀ **Brightness**	Adjusts the light level on the display screen.
◑ **Contrast**	Adjusts the difference between the lightest and darkest areas on the display screen.
▮▮ **Color**	Adjusts the color intensity (amount of white contained in the basic colors) on the display screen. For example, a fully saturated red would be pure red. The less saturated the color, the more pastel the appearance.

To control the live picture quality:

- In order to improve transmission speed, the maximum quality of live images is set automatically according to the selected display mode, as follows:

Display Mode	Max Display Quality
Single	1
Two-by-two matrix	5
Hexa (Six)	5
Three-by-three matrix (Nine)	6
Four-by-four matrix (Sixteen)	7

The Single mode is assigned the highest available resolution, while other modes are assigned lesser resolutions, in proportion to their number of views. This is because the smaller views (for example, 3x3 or 4x4) generally do not benefit from higher resolutions and are equally legible in a lower resolution. When the buttons in the *Main* window **Function Controls** area are enabled, you can manually override the display mode-determined live picture quality for the currently selected camera. The qualities 1, 5, 6 and 7 are available for this purpose. The quality and refresh mode of the Live video is displayed during the first five seconds following the manual Quality change. (For information about enabling the buttons, refer to the *Configuring Manual Recording and Picture Quality* section in *Chapter 3, Configuring the ViconNet System*.)

Step 4: Zooming the Video Display

The ViconNet system enables you to digitally zoom in on a specific video display location in the *Main* window in order to view the video in more detail.

Zooming in or out from the video display consists of selecting the required video display location with the left mouse button and then using the mouse roller to increase or decrease the degree of zoom. When the video display is zoomed, one click on the mouse roller returns the display to its original size.

The zoom function can be used on all types of video (live, recorded, and playback).

Refer to the *Zoom Controls* section in *Chapter 2, Getting to Know ViconNet*, for more information about how to use the Zoom feature.

Step 5: Operating a PTZ Camera

The ViconNet system enables you to easily operate and control any PTZ camera configured in your system. See *Configuring/Modifying PTZ Controls* in *Chapter 3*. All PTZ functions are performed in the *Main* window and are available only for one selected PTZ camera at a time.

The video from the selected PTZ camera is displayed in the **Video Display** area. The driver-specific interface for PTZ-enabled cameras is also displayed in the **Control Dialog Display** area and on the screen.

To operate a PTZ camera:

1. Ensure that the PTZ camera has been configured in the system, as described in *Chapter 3, Configuring the ViconNet System*.

2. Select the required PTZ camera from the *Site List*.
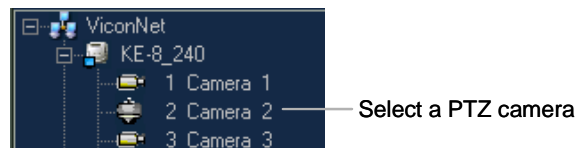
3. Click the ![PTZ] button. The live video from the selected camera is displayed in the **Video Display** area, as follows:

    The yellow arrow directional markers and the ![icon] icon in the displayed image will be described in the following steps.

4. Use the PTZ controls in the video display location, as follows:

Option	Description
Yellow Direction Arrows	These arrows serve only as direction markers.
	Clicking anywhere in the video display will cause the camera to move in that direction. If you move the mouse (while still holding down the mouse button), the camera will follow the mouse.
	When using the mouse, the speed of the camera movement is directly related to the distance of the mouse from the center of the picture. This means that the closer the mouse is to the center, the slower the camera movement, and the farther away from the center, the faster the camera movement.
Optical Zoom	Click the plus (**+**) or minus (**-**) symbols of the icon with the mouse to zoom in or out from the center of the displayed video.

5. Click the icon at the center of the image. The following PTZ controls are displayed in the **Control Dialog Display** area.

NOTE: This area may vary depending on the PTZ type.

Option	Description
Set Preset	You can define the "preset" choices in the preset scroll list to represent fixed location-and-zoom points in the video display. Then, when a preset (for example, **preset1**) is clicked, the view automatically focuses on the associated view area.
	You can define (or reassign) a preset, as follows:
	• Select the required preset from the scroll list.
	• Move to the required specific area/zoom using the window navigation functions.
	• Click Set Preset to lock that preset to the current location/zoom.
	NOTE: Up to 99 presets (depending on the camera's model) may be defined. Presets can be selected either manually, as described above, or automatically, as part of a macro process.

Option	Description
Auto Iris Iris Open Iris Close	These options affect the ability to observe objects in the video display location in relation to one another (proximity) by controlling the amount of light entering behind the PTZ lens, as follows: Clicking **Auto Iris** automatically adjusts the amount of light in the displayed video. Clicking **Iris Open** adds more light to the displayed video. Clicking **Iris Close** reduces the amount of light in the displayed video.
Auto Pan	Sets the PTZ camera to automatically rotate around 360° while displaying the video.
STOP	Stops uncontrolled directional movement of the video display in the case of a malfunction.
Focus In Out	Adjusts the focus.
Aux 1 Aux 2 Aux 3 Aux 4 Aux 5 Aux 6	Auxiliary buttons for configuring internal PTZ settings, used in accordance with the PTZ camera operating manual instructions. (This applies only to Vicon PTZ cameras.)
Speed +	Determines the speed of the autopan.

Chapter 5

Recording Live Video

This chapter includes the following sections:

- **Overview**, page 176, provides a general overview of the manual and automatic recording processes.

- **Recording Live Video (On-Demand)**, page 177, describes how to manually record live video without the use of configured macros and schedules.

- **Automatic Recording**, page 180, describes how to automatically record live video when you log in to the ViconNet application.

- **Automatic Scheduled Recording**, page 181, describes how to automatically record live video according to a pre-configured time schedule.

- **Alarm Recording**, page 182, describes how to automatically record live video in response to an alarm event.

Overview

The ViconNet system enables you to perform recording operations using several types of recording modes to accommodate individual and organizational requirements, including:

- On-demand recording, which records inputs from selected cameras and saves the data to a selected storage location.

- Automatic recording, which uses preconfigured recording settings to record all currently connected cameras when the ViconNet application starts.

- Automatic scheduled recording, which uses preconfigured macros to record specific according to a preconfigured time schedule without user intervention.

- Alarm-only recording, which uses preconfigured macros to record specific cameras when an alarm event occurs in the system.
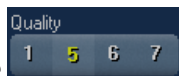
All recording modes require you to pre-configure the recording settings, which includes selecting which devices to record, the recording duration and quality, as well as the required macro and time schedule where relevant.

Note About Picture Quality, Frames per Second (FPS) and Refresh Mode:

The picture quality, FPS and refresh modes for recording purposes are set in the Automatic Recording, Macro Creation and Pre/Post-Alarm Configuration procedures. For additional details, refer to the relevant sections in Chapter 3, Configuring the ViconNet System.

When different recording options are requested concurrently, the picture quality and FPS that applies is determined according to prioritization settings. For details, refer to the Picture Quality and FPS Priority section in Chapter 3, Configuring the ViconNet System.
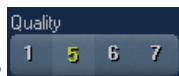
When the *buttons in the Main window **Function Controls** area are enabled, you can manually override the recording picture quality for the currently selected camera, as required. The qualities 1, 5, 6 and 7 are available for this purpose. (For information about enabling the buttons, refer to the Configuring Manual Recording and Picture Quality section in Chapter 3, Configuring the ViconNet System.)*

Recording operations can also be performed on specific cameras at the same time that you are viewing live video from other selected cameras in the ViconNet system, as described in *Chapter 4, Viewing Live Video*.

NOTE: *During recording operations, you will notice that the green LED for the relevant device(s) blinks on the Kollector Pro's front panel. Refer to the Front Panel Indications section in Chapter 1, Introducing ViconNet.*

Recording Live Video (On-Demand)

The ViconNet system enables you to perform on-demand recording, which is a manual method for recording live video, from one or multiple cameras connected to the local site.

The on-demand recording method requires that the devices be configured in the system, as described in *Chapter 3, Configuring the ViconNet System*. Then you can manually start and stop the recording for multiple cameras individually or simultaneously, as required.

Performing on-demand recording consists of:

- Selecting the local Kollector Pro, which is a transmitter physically connected to the cameras you want to record.

- Selecting the cameras that you want to record. The selection of each camera automatically starts the live video transmission and displays it in the selected video display locations.

- Recording the live video, which stores the data for playback purposes in a predefined local storage location.

Note About Picture Quality and Refresh Mode

The ViconNet system enables you to control the quality (resolution) of the picture being recorded and to specify the refresh mode of the video display.

The picture quality that you select determines the resolution at which you record the images. The picture quality range is from 1 to 8, where:

- 1 = best picture quality, but slowest data transmission.

- 8 = least clear picture quality, but fastest data transmission.

The selections between 1 and 8 provide varying degrees of image compression, resulting in varying degrees of system resources use and data transmission.

The refresh mode determines whether you record the full frames for the live video or only the changes within the frames.

> *NOTE: Both the picture quality (resolution) and the refresh mode affect the recording in all current video display locations simultaneously.*

To record live video (on-demand):

1. From the *Site List* in the *Main* window, select the required transmitter.

2. Expand the branch of the required transmitter to display a list of currently connected cameras, as shown below:
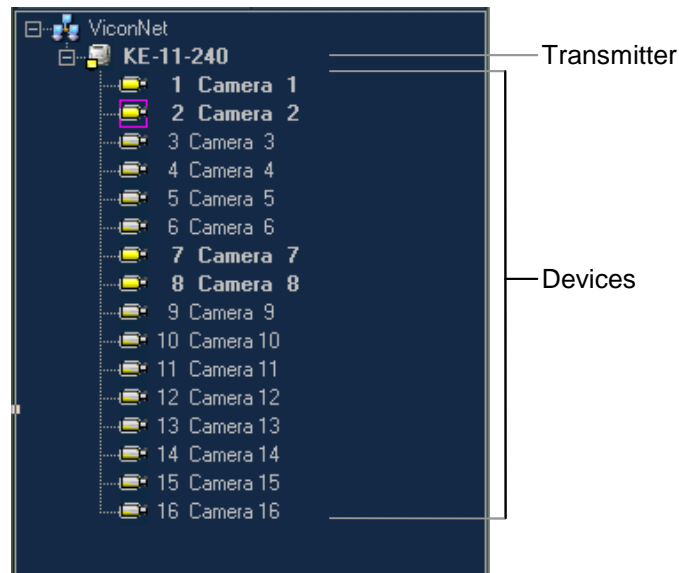
3. Select the required camera that you want to record in one of the following ways:

   - In the **Video Display** area, select a video display location (indicated by the pink border), and then select a camera from the tree. The live video transmission is displayed automatically in the selected location, and the camera icon appears highlighted, as shown in the example on page 179.

   > *NOTE:* *If you select a video display location that is currently active:*
   >
   > - *The live video transmission for the new camera that you select will override the current one.*
   >
   > - *A pink border is displayed around the relevant camera in the Site List.*

   -OR-

   - Drag and drop a camera from the tree to the required video display location. As you drag the camera, the mouse cursor changes to a camera icon, and then the live video transmission is displayed as you drop the camera into the required video display location, as shown in the example below.

   -OR-

   - Select a transmitter and drag and drop it anywhere in the **Video Display** area. Live video transmission for all the connected cameras are displayed in the current video display locations.

> *NOTE:* *The number of cameras that can be displayed at one time in the **Video Display** area is dependent on the number of video display locations in the currently selected display mode. Refer to Chapter 4, Viewing Live Video, for additional details about changing the display mode.*

The following example shows four live cameras displayed and ready for recording in the **Video Display** area, with the name of each camera located at the top of each video display location.
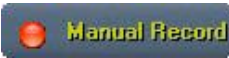
4. To display live video from additional cameras, repeat step 3, as required.
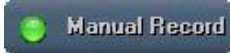
TIP: *To reverse a selection, click the required camera in the tree again. The live video transmission for the deselected camera is stopped.*

NOTE: You can change the picture quality and refresh rate settings for manual recording. Refer to the Configuring Manual Recording and Picture Quality section in Chapter 3, Configuring the ViconNet System.

5. Click [Manual Record]. The following occurs:

    *   The button changes to [Manual Record].

    *   The currently active cameras begin recording live video simultaneously.

    *   The recorded data is loaded and stored into the predefined storage location.
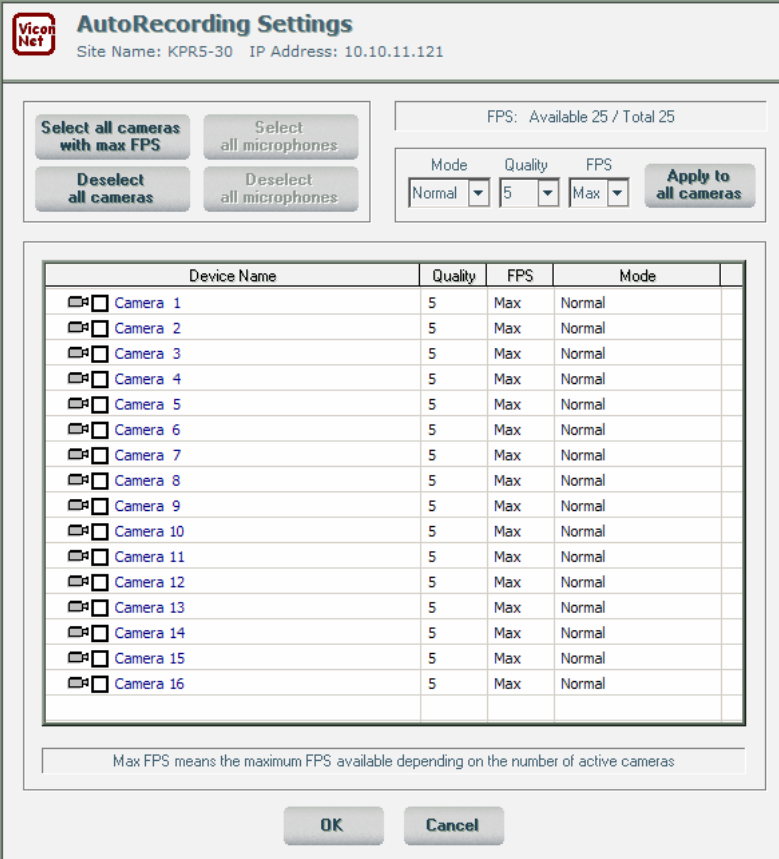
NOTE: When the storage location is full, older files are automatically emptied chronologically to make room for newer files.

6. To stop recording, click the [Manual Record] button. It changes back to [Manual Record]. The active cameras stop recording, but the live video continues to be displayed.

NOTE: *Clicking* **STOP** *turns off all cameras.*

Automatic Recording

The ViconNet system enables you to configure the system to automatically record all currently connected cameras as soon as you log into the ViconNet application. This consists of configuring the automatic recording settings, including the video quality and refresh mode and FPS, and then selecting whether all cameras will begin recording automatically when you log in. Refer to *Chapter 3, Configuring the ViconNet System*, for additional details about configuring automatic recording.

Automatic Scheduled Recording

The ViconNet automatic scheduled recording capability enables you to configure the system to automatically record and display camera inputs according to specific time schedules without user intervention. This consists of first configuring macros in the system for the devices you want to record with automatically. Each macro is made up of user-defined commands that instruct the system about which devices to record, how long to record, recording quality, and so on. Refer to the *Creating Macros* section of *Chapter 3, Configuring the ViconNet System*, for additional details.

After you have created the required macros, you can create a schedule for each macro. This consists of configuring the days of the week, the start and stop time, and the run option for the specific macro. The run option enables you to configure the macro to run continuously during the selected time period or only at selected intervals. Refer to the *Creating Schedules* section of *Chapter 3, Configuring the ViconNet System*, for additional details.

The combination of the two configurations described above (macro and schedule) causes the system to record the devices defined in the macro at the times configured in its associated schedule (thus automatic scheduled recording).

For example, you can configure a schedule to run the macro that has been configured to record **Device A** seven days a week from midnight to midnight (using continuous running or run cycles), or you can select a run option to run the macro only once an hour instead of continuously during the defined time period.

To perform automatic scheduled recording:

1. Create one or multiple macros, according to your requirements, as described in the *Creating Macros* section of *Chapter 3, Configuring the ViconNet System*.

2. Create one or multiple schedules, according to the macros that you created, as described in the *Creating Schedules* section of *Chapter 3, Configuring the ViconNet System.*

    When you launch the ViconNet application, all devices configured to perform automatic scheduled recording (according to the configured macros and schedules) will be activated at the configured times.

Alarm Recording

The ViconNet alarm recording capability enables you to configure the system to automatically record and/or display camera inputs when an alarm event occurs in the system by:

- Defining alarm setup links.

- Setting pre/post-alarms.

Defining alarm setup links consists of first configuring macros in the system for the devices you want to activate when an alarm event occurs and then linking the macro to a specific alarm type. Each macro is made up of user-defined commands that instruct the system about which devices to activate, for how long, in what order, and so on.

When you link the macro to an alarm type, you can also configure it so that the system will activate the macro only if the defined alarm conditions are met during a specific time period, for example, at night and on the weekends.

Setting pre/post-alarms consists of configuring a pre-alarm and post-alarm duration and the recording settings and then configuring which devices will be affected by the settings. When an alarm event occurs in the system, the following actions take place:

- If you have configured a post-alarm, when an alarm event occurs in the system, the system immediately begins recording the configured devices according to the post-alarm settings. This enables you to know what happened immediately after the alarm event occurred.

- If you have configured a pre-alarm, when an alarm event occurs in the system, the data for the configured devices for the pre-alarm duration is saved immediately to the storage location according to the pre-alarm settings. This enables you to know what happened immediately before an alarm event occurred.

To perform alarm recording by defining alarm setup links:

1. Create one or multiple macros, according to your requirements, as described in the *Creating Macros* section of *Chapter 3, Configuring the ViconNet System*.

2. Link each macro to the device that you want to act as the trigger, as described in the *Defining Alarm Setup Links* section of *Chapter 3, Configuring the ViconNet System*.

   When the configured alarm conditions are met on the configured devices, the system will activate the linked macro.

To perform alarm recording by setting pre/post-alarms:

- Set the pre-alarm and/or post-alarm settings, according to your requirements, as described in the *Setting Pre/Post-Alarms* section of *Chapter 3, Configuring the ViconNet System*.

   When an alarm event occurs on any device, the system will activate the configured devices and automatically save the pre-alarm and/or post-alarm data to the appropriate storage location.

Chapter 6
Playing Back Recorded Video

This chapter includes the following sections:

- **Overview**, page 184, provides a general overview of the playback process.

- **Playback Workflow**, page 185, illustrates the main steps for playing back recorded video segments.

- **Step 1: Selecting Recorded Video**, page 186, describes how to select the initial parameters in the *Navigator* window for the recorded video that you want to play back.

- **Step 2: Changing the Main Window Display Location**, page 190, describes how to change the location where the recorded video is displayed in the *Main* window, if required.

- **Step 3: Selecting the Playback Time Interval**, page 191, describes how to select the start and end playback time for the recorded video segment.

- **Step 4: Selecting the Playback Start Time**, page 193, describes how to select a specific point in a recorded video segment at which playback will begin.

- **Step 5: Displaying Recorded Video Content**, page 196, describes how to view a recorded video segment in the *Main* window.

- **Step 6: Playing Back from a Selected Camera**, page 198, describes how to play back recorded segments from one or all cameras displayed in the *Main* window, and discusses the Quick Playback feature, which enables you to play back video from a camera that is currently recording (in an adjacent camera display location), without interrupting the recording process.

- **Museum Search**, page 202, describes how to search for a specific camera's data within a defined region of the database.

- **Creating Archives**, page 207, describes how to create archive databases that contain specific recorded data for use at a later time.

Overview

The ViconNet system enables you to select and play back recorded video segments that have been stored in defined storage locations. You can play back data that has been recorded on your local Kollector Pro. In addition, you can play back data that was recorded manually or that was recorded automatically as a result of an alarm event or a preconfigured schedule.

In order to play back recorded video, in the *Navigator* window, you must select the devices that you want to play back according to the corresponding number of display locations. Then you can select the playback time interval and start time according to the recorded segments that you want to play back.

When you have synchronized all the options in the *Navigator* window, you can display and play back the selected segments simultaneously or individually in the *Main* window, as required.

Picture quality (resolution) refers to the compression level of the video images. The quality of the recorded image is determined according to configuration settings, with eight degrees of quality that can be assigned:

Quality	Type	Properties
1	Frame	Better picture quality, but slower data transmission.
2		
3	Field	
4		
5	CIF	Less clear picture quality, faster data transmission.
6		
7	HCIF	
8		

The view image quality is also a function of the selected display mode. The Single mode is automatically assigned the highest resolution available. In order to improve transmission speed, other modes are automatically assigned lesser resolutions, in proportion to the number of views selected. In general, the smaller views (for example, 9 or 16) do not benefit from higher resolutions, and are equally legible in a lower resolution.)

The ViconNet system also provides some optional functions that can be used when playing back recorded video. These include viewing alarmed segments of recorded data and creating archives that contain specific recorded data, if required.

Playback Workflow

The following workflow illustrates how to play back recorded video segments using ViconNet. Each step is described in the sections that follow.
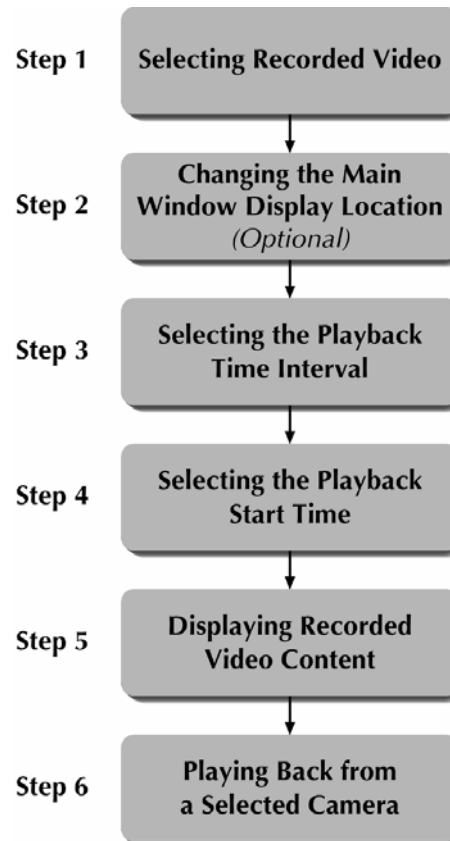
> **NOTE:** *The workflow shown above is performed after you have already logged in to the ViconNet application, as described in Chapter 2, Getting to Know ViconNet.*

Additional procedures are provided for performing the following (optional) functions:

- **Quick Playback**, described on page 199
- **Museum Search**, described on page 202
- **Creating Archives**, described on page 207

Step 1: Selecting Recorded Video

The first step for playing back recorded video consists of selecting a:

- **Storage source**, which is a predefined storage location (located on the local Kollector Pro) that contains the contents of all recorded devices available for viewing and playing back recorded video segments.

    The storage locations, transmitters, and devices in the system can be viewed in a hierarchical tree in the *Navigator* window.

    Site, which is the Kollector Pro physically connected to the recording cameras.

    -OR-

    Archive, which is a previously defined database that contains specific recorded data from specific devices.

- **Recorded camera,** which is the device that has recorded the data that you want to view and play back.

    Cameras can be selected either from the Navigator tree or by using standard drag and drop functionality. When you select a camera for viewing and playback using either selection method, a scan of the storage location is performed for that device's recorded data, which is then displayed.

To select recorded video:

1. From the *Main* window, click [Playback] The *Navigator* window is displayed, as follows:
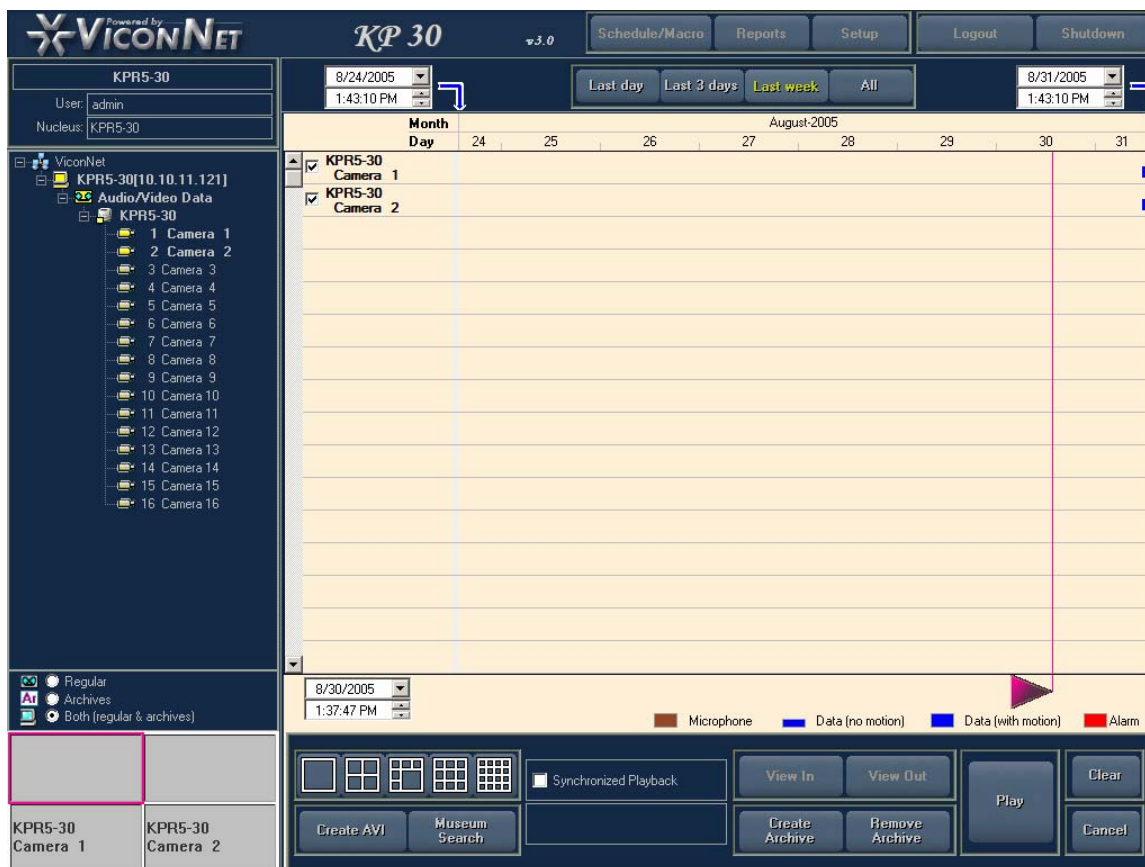
> **NOTE:** *Refer to Chapter 2, Getting to Know ViconNet, for a description of each area in the Navigator window.*

The first time you access the *Navigator* window, the *Main* window display location **Quad** is displayed. You can change this depending on how many cameras you want to select, as described in *Step 1: Selecting the Display Mode* in *Chapter 4, Viewing Live Video*.

If you change the display mode in the *Main* window, the **Main Window Display Location** area changes automatically according to your selection, as shown in the following example:

The pink border indicates the next default location
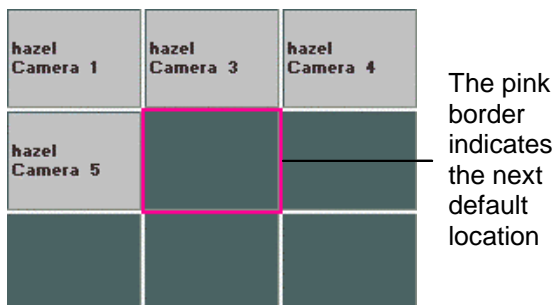
> **NOTE:** *The next time the Navigator window is accessed, the display mode that was last selected will be displayed in the **Main Window Display Location** area.*

2. Expand the Navigator tree to display a list of the system's available storage locations and archives, if any.

3. Expand the required storage location to display a list of the currently connected transmitters. Transmitters that have related recorded devices are displayed.

4. (Optional) Select the required viewing option from the Navigator Tree Controls (**Regular**, **Archives**, or **Both**). The *Navigator* tree is updated depending on your selection.

5. Expand the required transmitter to display a list of currently recorded cameras and/or expand the required archive to display its contents, as shown below:
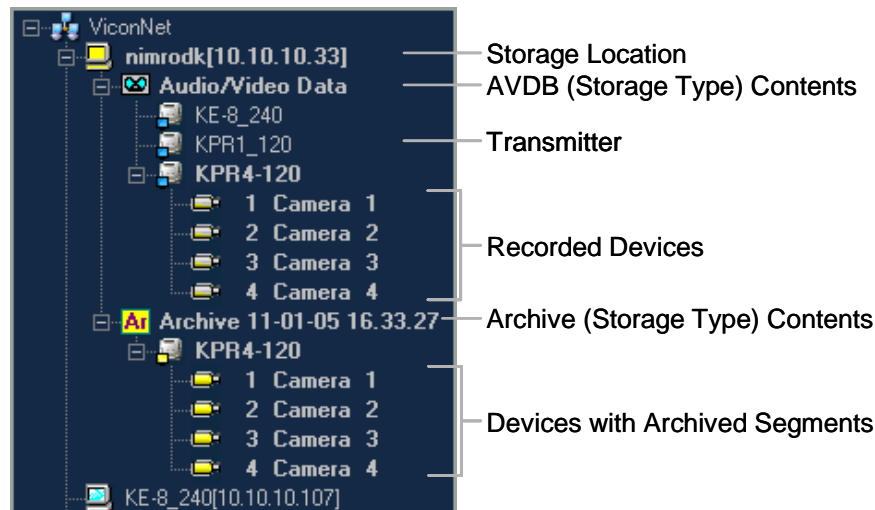
6. From the Navigator tree, select the camera with the recorded segment(s) that you want to view.

   The following details are displayed:

   - The name of the selected camera appears on the left side of the **Recorded Device Contents** area, with the checkbox automatically selected. (See the picture shown on the following page.)

   - The recorded video segments contained in the storage location for the selected camera appear in blue in the middle of the **Recorded Device Contents** area, as shown below:
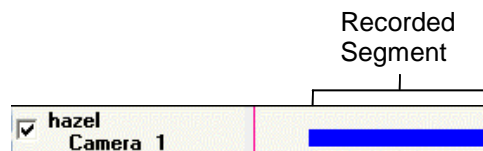
> **NOTE:** *The recorded video segments that are displayed also depend on the currently selected time interval. The default time interval is **Last Day**. Refer to Step 3: Selecting the Playback Time Interval, page 191, for additional details about changing the time interval.*

- The name of the selected camera also appears in the **Main Window Display Location** area in the location marked with the pink border, as shown below:
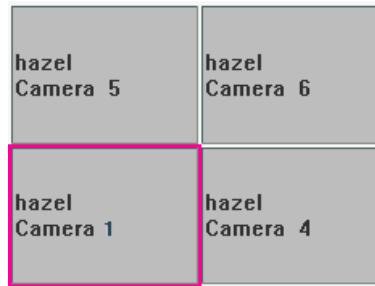
The default display location for the pink border is the top left or the first empty location. As you select additional cameras, the pink border automatically moves to the next display location, indicating the new default position for the next recorded camera that you select.

NOTE: *You can change the position of the pink border by clicking in an empty display location or dragging and dropping it from one location to another. Refer to Step 2: Changing the Main Window Display Location, page 190, for additional details.*

TIP: *You can also select a camera by dragging and dropping it from the Navigator tree:*

- *To the required display location in the **Main Window Display Location** area.*

-OR-

- *To the **Recorded Device Contents** area.*

*As you perform this action, the mouse cursor changes to a camera icon, and then the camera name appears in the relevant location in the **Main Window Display Location** area (as shown above).*

---

7. To select additional recorded cameras, repeat step 6, as required. Each device you select appears in both the **Recorded Device Contents** area and in the **Main Window Display Location** area, as described above.

NOTES:

The recorded devices that you select can be displayed simultaneously with live video in the Main window.

The [Clear] *button clears the current Navigator window settings.*

The [Cancel] *button closes the Navigator window and reinstates the Main window.*

Step 2: Changing the Main Window Display Location

The ViconNet system provides you with the option to change the *Main* window display location for each camera that you select in the *Navigator* window, if required.

As described in the previous step, when you select a camera, it is automatically assigned to the next available display location. You can change the display location by:

- Selecting an unused display location.

- Overriding a used display location.

- Removing a camera from a display location and reassigning a different camera to that location.

Any of these methods enable you to determine the exact display location that each camera will be displayed and available for playback in the *Main* window.

To change the Main window display location:

- In the **Main Window Display Location** area, move the pink border to the required display location by clicking on the new location, and then select the required camera from either the **Recorded Device Contents** area (after first deselecting the device) or from the Navigator tree.

  The new camera name appears automatically in the display location that you selected (as shown in the example on page 189).

  -OR-

  Add or remove cameras from the **Main Window Display Location** area by selecting or deselecting the appropriate checkbox (☑) in the Recorded Device Contents area.

  When you select a checkbox (☑), the name of the selected camera appears in the **Main Window Display Location** area in the display location indicated by the pink border.

> *NOTE: The number of cameras that can be viewed at one time is dependent on the number of display locations in the currently selected display mode (up to 16 cameras). Refer to Step 1: Selecting Recorded Video, page 186, for additional details.*

Step 3: Selecting the Playback Time Interval

The playback time interval is the range of time for the recorded video segment you want to view and play back. This means that you can select a specific time period, defined by its start and end time, for the recorded segment(s) by:
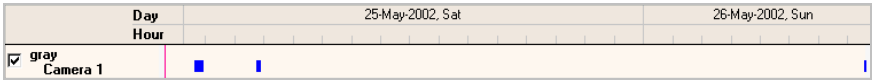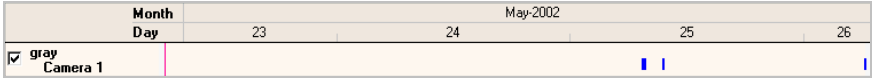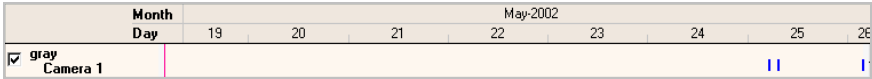
- Using one of the time interval tabs, which enable you to select a range of time, as described below.

    -OR-

- Using the time interval controls, which enable you to specify an exact date and time, as described on page 192.

The time interval option enables you to fine-tune the time interval period by date, hours, minutes, and seconds. For example, you may want to view recorded segments for Camera 1 and Camera 2 only between the hours of 12:00 PM and 1:00 PM, or you may want to view recorded segments for the same cameras for the previous 24 hours.

You can also select, for example, only a date and later zoom in on the recorded segment, as described in the next step.

To select the playback time interval using the time interval tabs:

1. In the *Navigator* window, ensure that the required camera(s) are selected (☑) in the **Recorded Device Contents** area, as described in *Step 1: Selecting Recorded Video*, page 186.

2. In the **Recorded Device Contents** area, select the time interval of the recorded segment that you want to view from the following time interval tabs:

Tab	Description
Last day	Displays all recorded segments during the **last 24 hours** (from the current time), as shown in this example:
	NOTE: *This option is the default.*
Last 3 days	Displays all recorded segments during the **last 72 hours** (from the current time), as shown in this example:
Last week	Displays all recorded segments during the **last 7 days** (from the current time), as shown in this example:
All	Displays all recorded segments for the selected cameras regardless of when the recording occurred.

As you select a time interval tab, the recorded segments displayed in the **Recorded Device Contents** area is updated automatically.

To select the playback time interval using the time interval controls:

1. In the *Navigator* window, ensure that the required camera(s) are selected (☑) in the **Recorded Device Contents** area, as described in *Step 1: Selecting Recorded Video*, page 186.

2. Select a specific starting (**From**) date and time of the recorded segment, using the time interval controls on the **top-left** side of the window, as follows:

   - **To select the date:**

     - Select the arrow next to the date field to display the popup calendar:

     - Select a date from the displayed month or use the previous ◄ and next ► arrows to select another month and day.

> **NOTES:**
>
> The date that you select appears shaded in blue (for example, ◄❚◗) and the current date is circled in red (for example, ⬭) as well as displayed at the bottom of the calendar.
>
> You can also select the **Today** caption to set the date to the present day.

   - **To select the time:**

     - Click the hour, minutes, or seconds portion of the **From** or **To** time field to select it (for example, select the hours ⬛:09:53 PM ▲▼).

     - Select the up/down arrows ▲▼ to change the selected portion of time or type in the required time using the number and arrow keys.

     - Repeat the previous two sub-steps (click and select) for the other time elements (for example, minutes and seconds), as required.

3. Select a specific ending (**To**) date and time of the recorded segment, using the time interval controls on the **top-right** side of the window. This is done in the same way as described in step 2.

4. Click ![View In]. The **Recorded Device Contents** area is updated with the recording date/time interval that you selected.
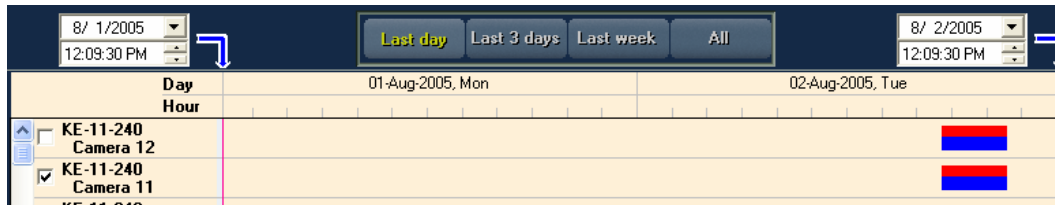
NOTES:

*The **Recorded Device Contents** area is refreshed when you switch to the Main window and then switch back to the Navigator window.*

In addition, changing the playback time interval can take a couple of seconds if the video storage location is considerably large.

Step 4: Selecting the Playback Start Time

The ViconNet system provides an option to select the playback start time of a recorded segment, which includes:

- Zooming in on a specific recorded segment in order to fine-tune the selection capability (optional).

- Selecting the exact playback point in the recorded segment, including hour, minute, and second, if required.

This option enables you to play back only the required portion of the recorded segment instead of having to play the entire segment.

When you select multiple devices in the **Recorded Device Contents** area, the playback start time applies to all currently selected devices. For example, if you have selected Camera 1 and Camera 2 and you select a playback start time of 12:00 PM on May 9, the recorded segments beginning at the selected playback time for both cameras will be available for playback in the *Main* window.

NOTE: *If you do not select a playback start time, as described in this procedure, all recorded segments for the selected cameras will begin playing back according to the start time of the first available frame.*

To select the playback start time:

1. (Optional) Zoom in on a specific recorded segment, as follows:

    - In the **Recorded Device Contents** area, position the mouse pointer to the left or right of the recorded segment that you want to zoom in on.

    - Mark the recorded segment by holding down the left mouse button and dragging the mouse pointer over the recorded segment until the blue shading covers the entire recorded segment, as follows:
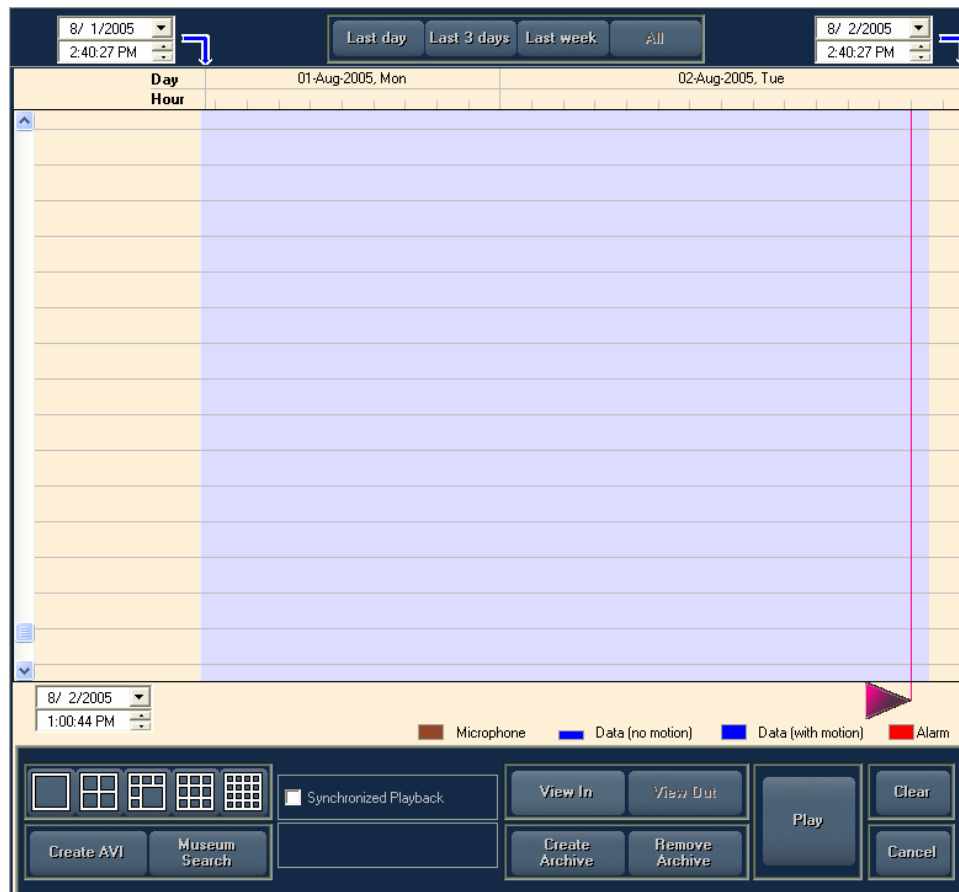
    - Click [View In] to zoom in on the marked recorded segment.

    - Repeat the previous two sub-steps (mark and zoom) to zoom in further on the selected recorded segment, if required.

    The following example shows a recorded segment that has been zoomed in to show the hours between 4:00 PM and 6:00 PM:

The following example shows the same recorded segments zoomed in further to show the minutes between 5:00 AM and 5:30 PM.

> **NOTE:** *If you have selected more than one device in the Recorded Device Contents area, all recorded segments for all devices in the marked (shaded) area will be zoomed in on simultaneously.*

2. Select the playback start time by using the mouse pointer to click and scroll the pink arrow to the exact location (including the hour, minute, and second) in the recorded segment, as follows:

> **TIP:** You can also set the playback start time by using the time interval controls [3/13/2003] [4:12:19 PM] on the bottom-left side of the window. The time and date are selected in the same way as described for the From time and date selection in Step 3: Selecting the Playback Time Interval, starting on page 191.

> **NOTE:** When you click on the pink arrow, a tooltip appears, displaying the date and time of its current location in the recorded segment(s). This enables you to pinpoint the exact playback start time, if required. Refer to Chapter 2, Getting to Know ViconNet, for additional details.

Step 5: Displaying Recorded Video Content

The next step after selecting all the parameters for the recorded video segments of the required camera(s) is to view the actual recorded segment(s) in the *Main* window. Each recorded video segment is displayed in a video display location according to the display mode and the playback start time that you selected in the previous steps.

Once the recorded segments have been displayed in the *Main* window, you can then play them back, as described in the next step.

To display recorded Video content:
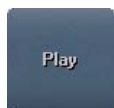
1. In the *Navigator* window, ensure that the pink arrow is positioned at the required playback start time for the selected camera(s), as described in the previous step.

    > **NOTE:** *If you do not need to play back from a specific start time, ensure that the pink arrow is to the far left of the* **Recorded Device Contents** *area.*

2. (Optional) If you want to play the recorded segments for **all** the selected devices **simultaneously**, select the ☑ Synchronized Playback checkbox.

    If this option is **not selected**, then the playback controls will apply to only one selected camera at a time. That device is selected by clicking its block in the **Main Window Display Location** area. (The selected block has a pink border.) The *Main* window playback controls then apply only to the selected video display location.
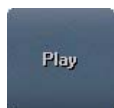
3. Click [Play]. The *Navigator* window closes, and the first frame of the recorded segment(s) for each selected camera is displayed in the *Main* window in its selected display location, as shown below:

Each recorded segment appears in its selected display location with its camera source information (date, time, and camera name).

Step 6: Playing Back from a Selected Camera

The ViconNet system enables you to play back recorded video segments in the *Main* window from either:

- A single currently displayed recorded camera at a time.

    -OR-

- All the currently displayed cameras at the same time.

The ability to play back from one camera at a time or all cameras simultaneously depends on the selection you made in *Step 5: Displaying Recorded Video Content*, page 196, as follows:

- If you chose to play back video from all currently displayed recorded devices, then the playback controls in the *Main* window apply simultaneously to all video display locations () that contain recorded data.

- If you chose to play back video from one recorded device at a time, then you can select the video display location (indicated by the pink border) for any of the recorded cameras in the *Main* window by clicking its tree icon. The playback controls in the *Main* window then become active only for the selected device.

During playback, the recorded segment(s) plays from the selected playback start time.

You can also navigate through the recorded segment using standard playback controls such as fast forward and rewind.

To play back from a selected camera:
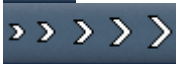
1. In the *Main* window, select the video display location that contains the recorded segment that you want to play back. The pink border indicates the currently selected video display location.

    > **NOTE:** *If you selected the* ☑ Synchronized Playback *checkbox in Step 5: Displaying Recorded Video Content, page 196, you do not need to perform this step.*

2. Click the **Forward** button ▷ . The selected recorded segment plays, and the camera source details change accordingly.

    If you selected the **Synchronized Playback** checkbox, all the video segments for the displayed cameras play simultaneously.

3. (Optional) Use the following buttons to navigate through the recorded segment(s) during playback, as required:

Button	Description
	Fast Forward: Fast-forwards the recorded segment at the following speeds (related to the normal speed): 1/4, 1/2, x2, x5, x10, x50, and x100.
	Backward: Rewinds the recorded video segment.
	Fast Rewind: Fast rewinds the recorded segment at the following speeds (related to the normal speed): 1/4, 1/2, x2, x5, x10, x50, and x100.
	NOTE: *Place the mouse cursor over a button to view its related fast forward speed.*
	Stop/Pause: Stops/pauses the current playback of the recorded segment.
	Prev: Displays the previous frame in the recorded segment.
	Next: Displays the next frame in the recorded segment.

Quick Playback

The following options are available for quick playback of videos:

- Start Playback From Time

- Start Quick Playback From

- Move Playback to Time

- Cancel Playback
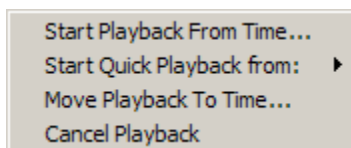
Start Quick Playback From and Start Playback From Time

The **Start Quick Playback From** option and the **Start Playback From Time** option enable you to play back video from a camera that is currently recording (in an adjacent camera display location), without interrupting the recording process. This avoids having to remove one's eyes from the current live video while playing back to investigate suspicious activity, as would be the case if Playback is initiated from the *Navigator* window.

Start Playback From Time and **Start Quick Playback From** can both be selected by clicking the live camera in the site tree or by clicking the display area while the camera is recording.

The difference between the **Start Playback From Time** option and the **Start Quick Playback From** option is that the **Start Playback From Time** option enables you to select a date as well as time (a calendar is displayed for selecting the date). For further details, see chapter 2, *Getting to Know ViconNet.*

Move Playback To Time

While playback is being performed, right-clicking the icon of the camera playing provides the additional option **Move Playback To Time**. This option enables you to stop the current playback and select a new date and time to playback the video.

> **NOTE:** *After being moved to another time, the playback is in the same display rectangle, not the adjacent one.*

Cancel Playback

While playback is being performed, you have the option to stop the playback by right-clicking the camera icon and selecting **Cancel Playback**.

> **NOTE:** *Quick Playback provides a special-purpose subset of the total playback options. The other Playback options (for example, selecting Video segments for play back, viewing video from an Archive, or Museum Search) are accessed from the Navigator window. Quick Playback operates only with local (not remote) databases.*

To perform quick playback options (Start Quick Playback From, Start Playback From time):

1. In the *Main* window, right-click in the required camera display location.

2. Select **Start Quick Playback From**, and the number of seconds from the current moment from which you want to play back. For example, you can play back starting from what was recorded 30 seconds ago.
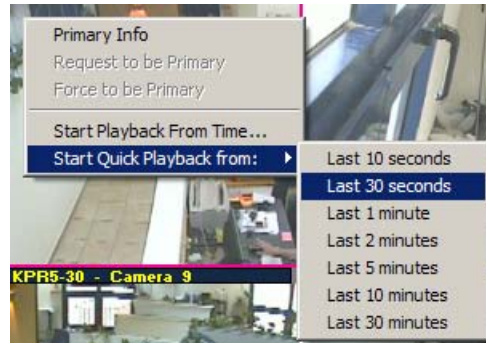
-OR-

Select **Start Playback From Time**, and a calendar is displayed to select the date to playback the video.

The playback is shown in the adjacent video display location. For example, if **Start Quick Playback From** is selected from camera1, the camera1 playback appears in the camera2 video display location, temporarily overriding the live video from that camera. (Live video continues on camera1. While this is happening, recording continues uninterrupted on both cameras.)

During the playback, the regular Playback Controls (described on page 198) are available, enabling you, for example, to fast forward or rewind the playback, exactly as if the camera was selected from the Navigator.

If no recording is associated with the selected time (for example, the current recording started more recently than one minute ago, or the most updated video is 30 minutes old), the following warning is displayed.
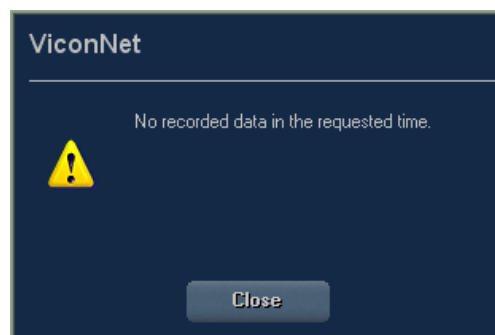
(Optional) To playback currently playing video at another time, select **Move Playback To Time**, and a calendar is displayed to select the date to playback the video.

3. To stop the quick playback, click the **Stop** button or right-click the camera icon in the site tree or the display area and select **Cancel Playback**. Live video returns to the adjacent video display location.

Museum Search

The **Museum Search** option enables you to search for a specific camera's data within a defined region of the database, saving you from having to review the entire database. You can locate all the video segments that include a specific difference, for example, a main door opening, or a car being moved.

The **Museum Search** option enables you to locate the following types change entities:

- **Detections**: Specific frames where significant changes occurred.

- **Episodes**: Sets of consecutive frames in which significant changes that determine a unique event are detected.

Viewing the unique recorded segments described above consists of selecting the required device(s) in the **Recorded Device Contents** area and then selecting the **Museum Search** option. You can then search in the storage location for one or all of the unique segments and play them back in the *Main* window, as described in the previous steps in this chapter.

To perform a museum search:

1. In the *Navigator* window, ensure that the required camera is selected. (Only one camera can be selected at a time).

2. In the **Recorded Devices Content** area, select the required time interval by clicking and dragging, as described in the *Selected Time Interval* section in *Chapter 2, Getting to Know ViconNet*.

Blue Shading Indicates Selected Time Interval
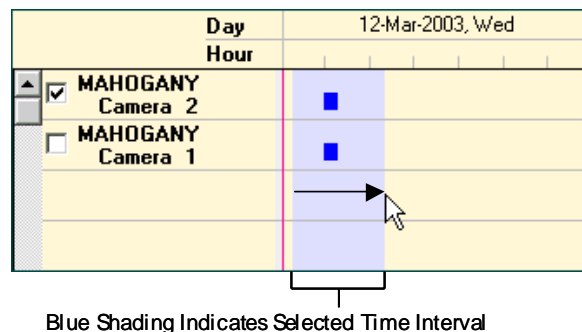
3. Click the ![Museum Search] button. The *Museum Search* window is displayed.
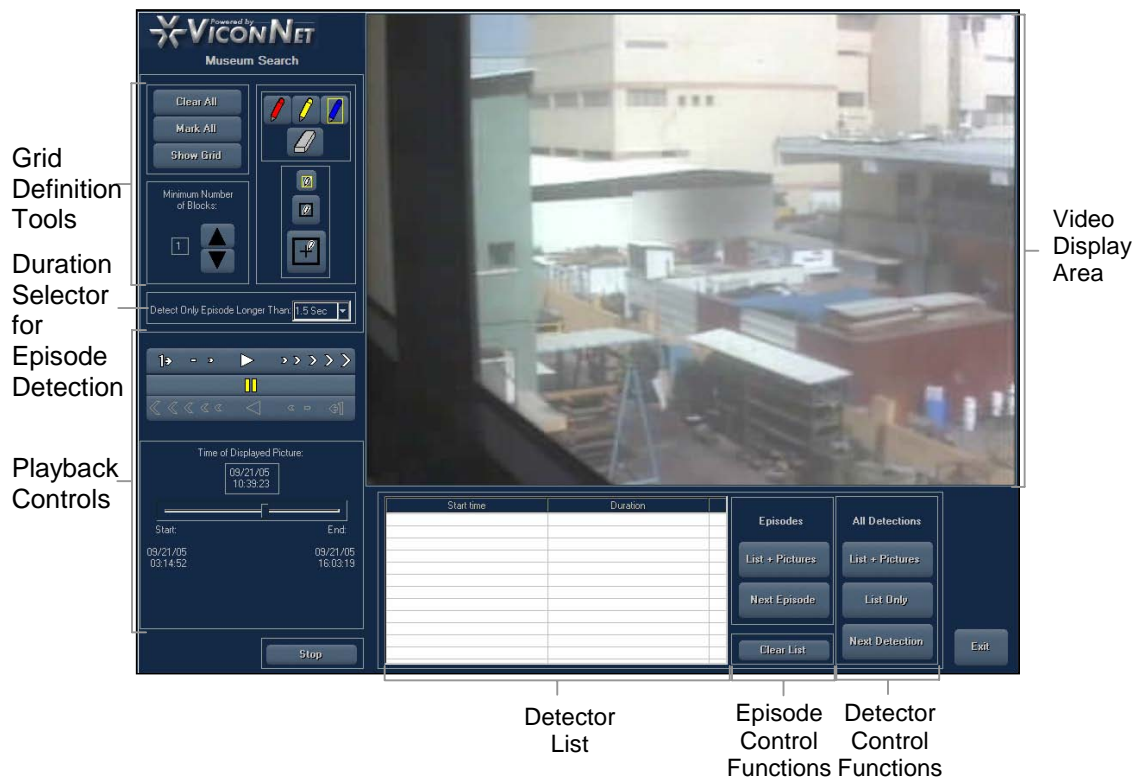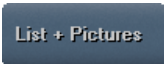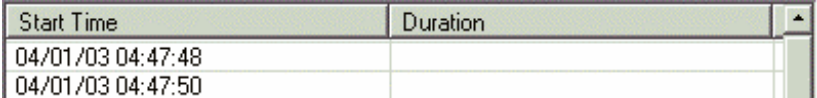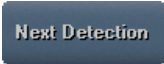
4. The **Video Display** area shows the first frame of the time interval that was selected in step 2. (The **Time Range** area shows the selected time interval start and end times.) If required, navigate to a relevant frame in the segment using the playback controls. These are used in the same way as the playback controls of the ViconNet *Main* window, described in *Chapter 2, Getting to Know ViconNet*.

5. In the current frame, define the following:

    • The ROIs relevant for the current search procedures. This is done using the Grid Definition tools.

    • The sensitivity of the detection mechanism: how many blocks of the colored grid arrays must be simultaneously involved in the change before a detection is recognized. This selection is made from the **Minimum Number of Blocks** selector.
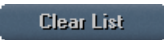
    A description of how to perform these definitions is provided in the *Defining ROIs* section, page 205.

6. If you want to find specific frames where changes occurred in already defined ROIs, use the **Detector Control** functions, as follows:

Option	Description
List + Pictures	This button starts a search, from the current frame forward, for any frames in which significant differences in ROIs (based on the **Minimum Number of Blocks** selection) are detected. The start time of each detected frame is listed in the **Start Time** column in window's Detection List.

Start Time	Duration	
04/01/03 04:47:48		▲
04/01/03 04:47:50		

	As each difference frame is detected, the frame image is displayed in the **Video Display** area. The process continues until the end of the time interval is reached, or until the **Stop** button is clicked.
List Only	This button performs the same actions as the **List + Pictures** button, but does not display the frame images. The process continues until the end of the time interval is reached, or until the **Stop** button is clicked.
Next Detection	This button can be used to search for each next frame (one frame each time the button is clicked) in which there is an applicable difference. The frame image is displayed in the **Video Display** area.

You can view selected frames by clicking their start times in the Detection List. The detected differences in the frame are indicated by light blue blocks.
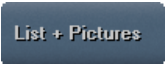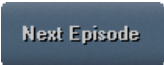
You can clear the Detection list by clicking the **Clear List** button.

7. If you want to find "episodes" (sets of consecutive frames in which a significant difference in ROIs is detected), do the following:

- From the **Detect only episode longer than** dropdown list, select the length of time over which changes must continuously occur.

Detect Only Episode Longer Than: 1.5 Sec ▼
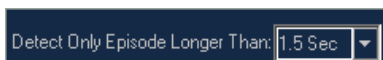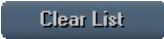
NOTE: The default duration is 1.5 seconds. Values from 0.1 seconds to 5.0 seconds can be selected. In general, the shorter the duration, the more easily episodes will be detected.

- Use the **Episode Control** functions, as follows:

Option	Description
List + Pictures	This button starts a search for episodes, from the current frame forward. The methodology by which the episode start and end frames are determined is described in the *How Episodes are Determined* section, page 206.
	The start time and duration of each episode is listed in the **Start Time** and **Duration** columns in the window's Detection List. As each episode is detected, its first frame image is displayed in the **Video Display** area. The process continues until the end of the time interval is reached, or until the **Stop** button is clicked.
Next Episode	This button can be used to search for each next episode (one episode each time the button is clicked).

You can run the frames of an episode by clicking on its entry in the Detection List. Light blue blocks indicate the detected differences in the frame.

You can clear the detection list by clicking the Clear List button.

Defining ROIs
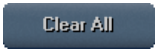
When the *Museum Search* window is opened, blue-colored grid blocks cover the entire frame in the **Video Display** area, indicating that the change detection mechanism currently applies to the entire frame area.

You can focus the change detection mechanism on security-sensitive objects in the frame space by using the window functions to vary the coverage of the colored grid blocks. (Only the segments covered by colored grid blocks are considered for change detection purposes.)

For example, you can focus on windows or doors (as shown in the picture opposite) to monitor opening/closing events.

The following options are provided:

Option	Description
Clear All	This button clears all the current colored grid blocks in the view. You can then use the **Pencil** tool to define grid blocks for specific ROIs within the view surface.
	NOTE: *Change detection does not function unless ROIs are identified by colored grid blocks.*
Mark All	This button marks colored grid blocks over the entire window surface, meaning that change detection will apply to the entire camera view. You can then use the **Eraser** tool to remove specific grid blocks.

Option	Description
	When the **Pencil** tool is selected, the cursor becomes a pencil icon.
	You can define ROIs by clicking and dragging over the required view area segments, thereby drawing arrays of colored grid blocks.
	The **Tool Size Selector** area includes buttons for three pencil sizes. According to the selected size, the cursor draws a small (single block), medium (4-block) or large (16-block) width of grid blocks per sweep.
	When the **Eraser** tool is selected, the cursor becomes an eraser icon. You can erase ROI segments by clicking and dragging over selected grid blocks, thereby erasing them.
	The **Tool Size Selector** area includes buttons for three eraser sizes. According to the selected size, the cursor erases a small (single block), medium (4-block) or large (16-block) width of surface blocks per sweep.
	The **Minimum Number of Blocks** selector enables you to define how many blocks of the colored grid arrays must be simultaneously involved in the change, compared to the reference frame, before a detection is recognized. For example:
	• **1** (the most sensitive setting) – indicates that a detection should be recognized if a change is detected in even one block amongst all the defined ROIs (that is, the triggering is unlimited).
	• **16** (the least sensitive setting) – indicates that the change must be simultaneously detected in at least 16 blocks within the entire view area. The blocks do not have to be contiguous.
	NOTE: The selected minimum cannot exceed the total number of blocks defined in ROIs.
	The **Show Grid** button applies a gray planning grid to the parts of the window where no ROIs (colored grid blocks) are defined. The gray grid is only for purposes of viewing where ROIs may potentially be defined and does not affect the change-detection process. When selected, the button changes into a **Hide Grid** button by which the planning grid can be suppressed, making only the "active" colored grid blocks visible.

How Episodes Are Determined

Episodes are sequences of consecutive frames in which significant differences in ROIs are detected. An episode includes all the frames related to a unique event for which the minimum event duration is determined by the **Detect only episode longer than** criteria, and the required amount of changes of most frames is determined by the **Minimum Number of Blocks** criteria.

Creating Archives

The ViconNet system enables you to optionally create archives, which contain selected recorded data from a video database. This consists of selecting the specific devices, the specific recorded data, and the destination location for where you want to save the data. You can then view it at a later time on the local Kollector Pro.

The archives are included in the navigator site list together with other databases, and can be selected for viewing, or any other file operations, as required.

All playback functions can be performed on the archived data in the same way as regular recorded data, as described beginning from the Selecting *Recorded Video* section in *Chapter 6, Playing Back Recorded Video*.

You can archive directly to a CD, DVD, local or remote drive. CD or DVD archives can be played on any PC, from an automatically started "Player" version of the ViconNet application. (For playing CD and DVD archives, the ViconNet application does not have to be installed on the PC.)

The ViconNet system can be set to automatically verify that ViconNet-produced archive was not tampered with. Activating the display of system authentication results for play back can be done in the same way as for a regular database. For more details, refer to the *Configuring System Authentication* section in *Chapter 3, Configuring the ViconNet System*.

Selected archives can also be removed from the network or another PC.

NOTE: *After creating an archive, you can perform all playback functions on the archived data in the same way that you can with regular recorded data, as described beginning from the Selecting Recorded Video section, page 185.*

To create an archive:

1. From the Navigator tree, select the camera(s) that contain the recorded data that you want to archive. The recorded contents are displayed in the **Recorded Devices Content** area, and the names of the selected devices are displayed in the **Main Window Display Location** area.

2. In the **Recorded Device Contents** area, mark the recorded segments that you want to archive by holding down the left mouse button and dragging the mouse pointer over the required segments.

   The selection area is indicated with a lime green shading, and the size of the selected contents is displayed at the top of the **Archive** area in the **Estimated archive size** field (in MB).

---

3. Click [Create Archive]. The Navigator tree is replaced by an **Archive** area, which automatically displays the archive date and time at the bottom.

4. In the **Archive** area, navigate to the required archive destination (network path, CD-ROM or DVD device).

Archive
Destination
Example

The destination details are displayed automatically at the bottom of the **Archive** area.
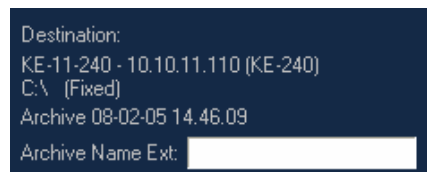
5. In the **Archive Name Ext** field, enter a logical archive name. The archive name is automatically added to the archive date and time details.

Destination:
KE-11-240 - 10.10.11.110 (KE-240)
C:\ (Fixed)
Archive 08-02-05 14.47.54 archive 02

Archive Name Ext: archive 02

Start   Cancel
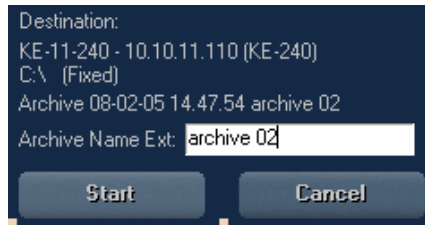
6. Click ![Start]. The following confirmation message is displayed.

Archive

? You selected to create an archive named 'Archive 08-02-05 14.47.54 archive 02' on 'C:\'

Continue?

Yes   No

7. Click ![Yes]. A progress bar in the **Archive Controls** area indicates that the archive creation is in process.
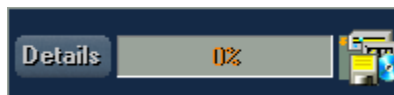
Details   0%

8. (Optional) To view additional details during the archive creation process, click ![Details]. The relevant details are displayed in the **Control Dialog Display** area, as shown in the following example:

Archive Name: Archive 08-31-05 14.34.21
Total MB Copied: 10   Remaining: 11
46%

Current Device: Camera 2
MB Copied: 10   Remaining: 5
Writing   66%
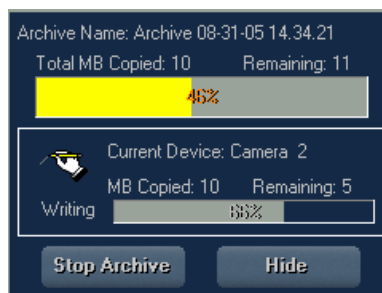
Stop Archive   Hide

NOTE: *If required, you can stop the archive creation process by clicking **Stop Archive**.*
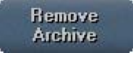
9. When the **Archive completed successfully** message is displayed, click [Close].

The new archive is displayed in the Navigator tree with an **Archive** icon [Ar] (instead of a database icon [icon]), as well as a list of its contents.
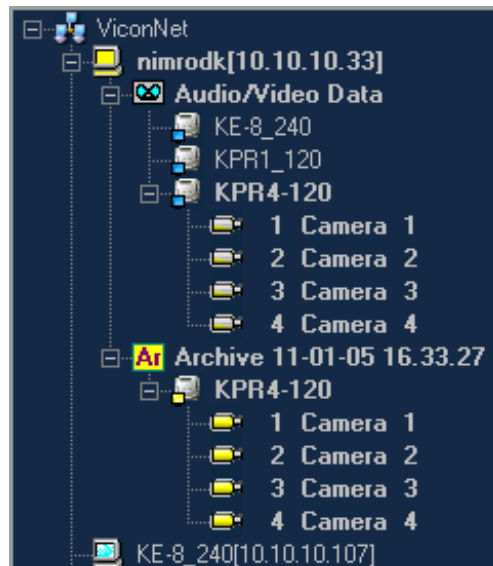
You can now select the devices in the archive and perform all required playback functions, as described in the previous sections in this chapter.

To remove an archive:

1. From the *Navigator* tree, select the required archive.

2. Click [Remove Archive]. A confirmation prompt is displayed.

3. Click **Yes** to confirm the action. The archive is deleted from the database.

Chapter 7
Managing Macros and Schedules

This chapter describes how to manage and work with macros and schedules in the ViconNet system and contains the following sections:

- **Creating Macros and Schedules**, page 212, provides a brief description of the process for creating macros and schedules.

- **Working with Macros**, page 212, describes how to manually start and stop macros that have been created in the system, as well as view macro details and status information.

Creating Macros and Schedules

Macros are sets of user-defined commands that give instructions to the system about what tasks to perform at a specified time and in a specified order. After creating a macro, you can then create a schedule for the macro, which is a group of user-defined settings that cause the system to activate the specific macro during a specific time period.

Detailed procedures for creating macros and for creating the schedules that can activate the macros are described in the *Creating Macros* and *Creating Schedules* sections of *Chapter 3, Configuring the ViconNet System*. Basic information about working with and managing the configured macros and schedules in your ViconNet system is described in the following section.

Working with Macros

After creating macros in the ViconNet system according to your requirements, you can use the ViconNet application to work with and manage the macros during system operation, as required, which includes:

- Viewing the current run status of all configured macros.

- Activating a macro to run immediately, independent of an alarm event or schedule.

- Stopping a macro that is currently running, if required.

- Stopping and/or restarting all macros that are currently running in the system due to the scheduler.

- Displaying or hiding the macro script, which contains all the macro commands and their settings.

- Refreshing the list of macros currently configured in the system.

You can also edit and delete macros that are configured in the system, if required, as described in the *Creating Macros* section of *Chapter 3, Configuring the ViconNet System*.

NOTE: When a macro is running as a result of an alarm event, the following is applicable:

- *If the macro is performing **display operations**, all functions in the ViconNet Main window, except for the **Stop Macro**, **Schedule/Macro**, **Logout** and **Shutdown** buttons, are disabled.*

- *If the macro is performing **all other recording operations**, all functions in the ViconNet Main window remain operational.*

To work with macros:

1. From the ViconNet *Main* window toolbar, select **Schedule/Macro**. The *Macro Status* window appears, displaying a list of all macros currently configured in the system.
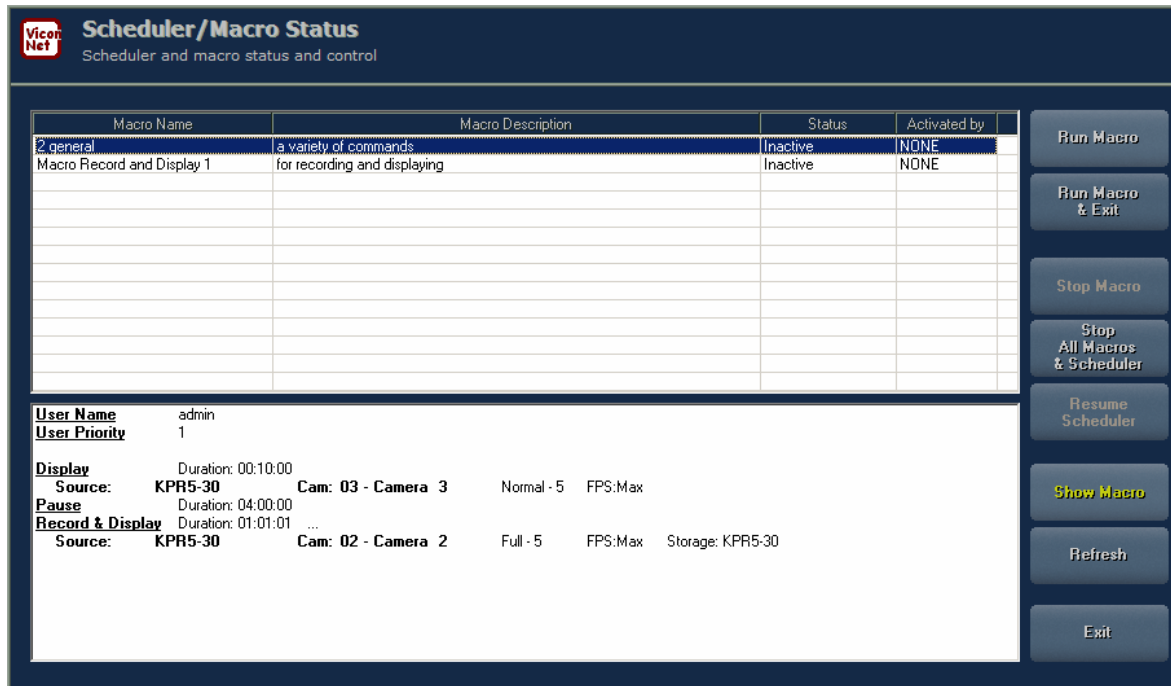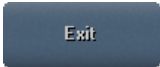
> **NOTE:** *The above example shows how the macro script is displayed in the bottom of the Macro Status window when you select the* ***Show Macro*** *option.*

The *Macro Status* window contains the following information about each macro:

Column	Description
Macro Name	The defined macro name.
Macro Description	The defined macro description, if any.
Status	The current run status of the macro (**Running** or **Inactive**).
Activated by	How the macro was activated (**User**, **Alarm**, or **Scheduler**).

2. Select the appropriate macro in the list and then select the required option, as follows:

Option	Description
Run Macro	Runs the selected macro immediately.
Run Macro & Exit	Runs the selected macro immediately and closes the *Macro Status* window.
Stop Macro	Stops the selected macro immediately.
Stop All Macros & Scheduler	Stops all macros currently running in the system that are running independently or as a result of the scheduler.
Resume Scheduler	Resumes all stopped macros that had been running as a result of the scheduler before they were stopped. This option does not affect any macros that are configured to use the scheduler in the future, meaning they will be activated as configured.
Show Macro	Displays/hides the macro script in the bottom of the window (as shown in the example on page 213).
Refresh	Updates the list of macros currently configured in the system.
Exit	Exits the *Macro Status* window.

Chapter 8
Generating Reports

This chapter describes the various types of reports that can be generated using the ViconNet system and contains the following sections:

Overview

The ViconNet system enables you to generate various reports that each contain a specific type of information, including:

- Alarm History Reports

- Recording Status Reports

- Audit Log Reports

- Device Status Reports

- RVS Log

- CFN Log

Each type of report can be used for analysis of system operations. In addition to easy access to specific information, you can sort and search through the report information, as required.

Saving Logs

In addition, each report provides the option to save the log files, enabling us to retrieve logs from IP and other products which do not have a hard drive (and therefore save their logs in the nucleus), or remote sites which are connected to the same nucleus, yet which are not physically reachable (such as a unit which is located in a closet, or where the USB is behind the unit and cannot be reached, and so on). This feature enables browsing and selection of a destination folder to save a log.

There are three saving options:

Option	Description
Save logs from the following site only	Select to save the logs/reports from your local Kollector Pro.
Save all the logs, stored on this site and belong to remote site	This option is disabled in the Kollector Pro.
Save all logs from the remote sites and the logs of this site	Saves all logs.

NOTE: *To save reports from an IP product, select the nucleus in the Report Site Selection window, and select the relevant IP product from the dropdown list in the Save Logs window.*

The **Save Logs** option is available in all of the report windows.

To save the log to a file:

1. Click **Save Logs**. The *Save Logs* window is displayed.

2. Select the required save log option and browse to the site whose device status report you want to save.

3. Click **Export**.

4. Select the location to save the report file and click **OK**.

Opening the Reports Window

For all the reports available, the relevant site must first be selected from the *Reports Site Selection* window.

To open the Reports window:

1. From the ViconNet Main window, click [Reports]. The following dialog appears, displaying the currently connected Kollector Pro:
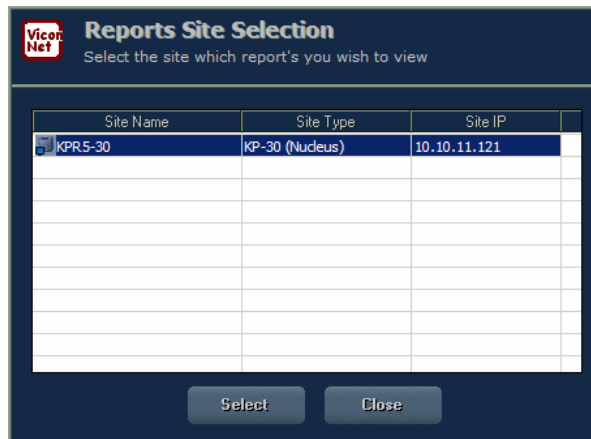
2. Select your Kollector Pro and click [Select]. The *Reports* window is displayed with the [Device Status] option selected by default, as shown on page 219.

Generating Device Status Reports

The Device Status report enables you to view system information about the Kollector Pro, such as whether the device is connected and whether it is currently active or not.

To generate Device Status reports:

1. Display the *Reports* window for a selected site name, as described on page 216. The *Reports* window opens with the `Device Status` option selected by default.
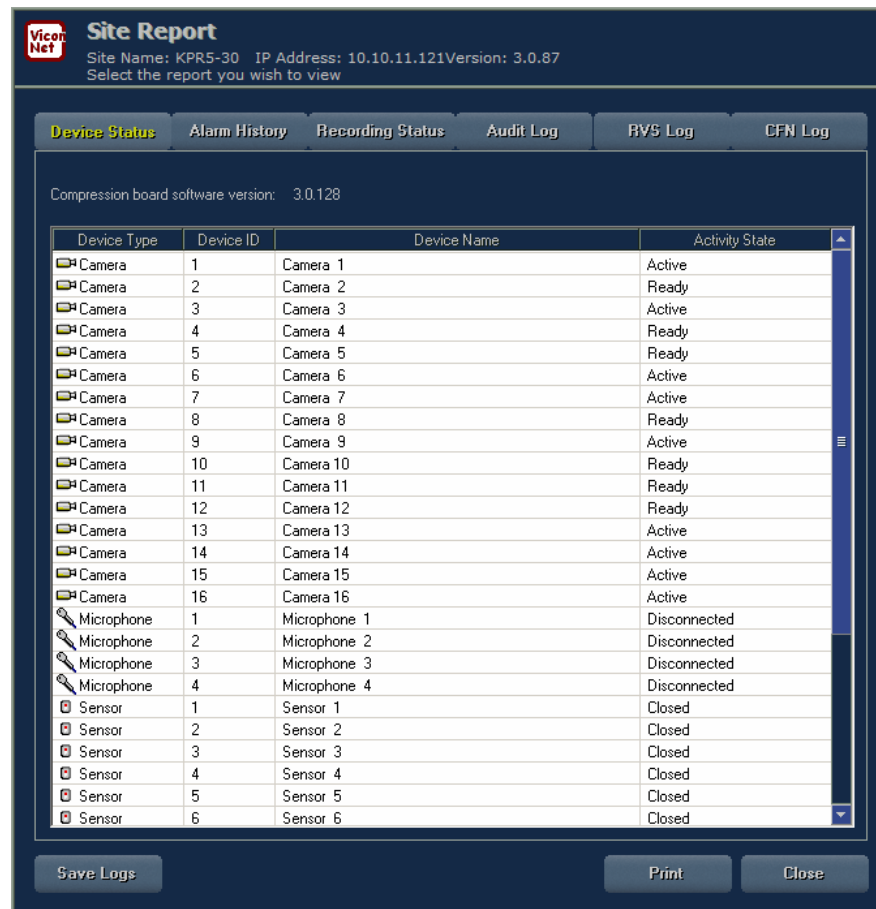
This report contains the following device status information about each device:

Column	Description
Device Type	The type of device (**Camera**, **Microphone**, **Sensor**, **Relay**, or **Speaker**).
Device ID	The numerical index number that was automatically assigned to the device during system setup.
Device	The name of the device that was assigned during system setup.
Activity State	Indicates the current operation state of the device (**Opening**, **Closed**, **Starting**, **Activate**, **Stopping**, **Closing, Ready or Disconnected**).

NOTE: Refer to Chapter 3, Configuring the ViconNet System, for additional details about the device type, device ID, and device name.

Generating Alarm History Reports
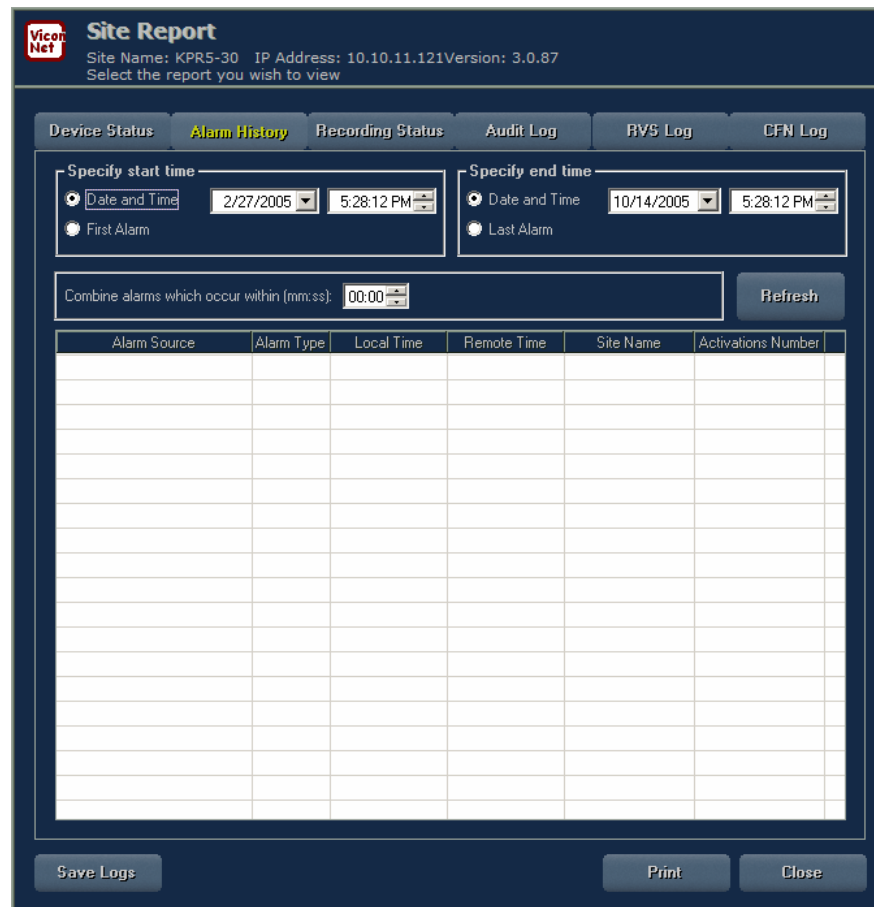
The Alarm History report enables you to view all information related to each alarm that occurs in the system, including the alarm type and the date and time of occurrence.

You can use filters to show a timed range of alarms, from/to either specified dates/times or the earliest/latest detected alarms in the database.

NOTE: Refer also to the Alarm Window section of Chapter 2, Getting to Know ViconNet.

To generate an alarm history report:

1. Display the *Reports* window for a selected site name, as described on page 216.

2. Click [Alarm History]. The *Alarm History* window is displayed.

3. Specify the report content time frame:

- In the **Start time** area, either:

  - Click the **Specify time and date** radio button and select a start date and start time from the dropdown lists.

    -OR-

  - Click the **First alarm** radio button to list the alarms starting from earliest detected alarm in the database.

- In the **End time** area, either:

  - Click the **Specify time and date** radio button and select an ending date and ending time from the dropdown lists.

    -OR-

  - Click the **Last alarm** radio button to list the alarms up to and including the latest detected alarm in the database.

4. Click the **Refresh** button. The following history information about each alarm event is displayed:

Column	Description
Alarm source	The name of the device on which the alarm event occurred.
	When you click the device's icon, the alarm history for that device is displayed.
	NOTE: The ☑ checkbox is provided for your optional use, for example, to remind you which alarms you have already viewed.
Alarm Type	The type of alarm.
Local time	Time zone translation to local time.

Column	Description
Remote time	Time and date the alarm event occurred.
Site Name	The name of the Kollector Pro.
Number of Activations	Indicates the number of times an alarm has been activated on the specific device within a specific time period.
	Each time the alarm is activated, another alarm event line is added to the alarm history for that device (except in the case of a re-activation, as described below).
	When an alarm was activated and then re-activated within a very short period of time, the re-activation of the alarm is **not** displayed in the alarm history.
	The time interval that passes after an initial alarm, in which movement will not trigger a new alarm, but will cause an increment of +1 in the **Number of Activations** field, is defined in the **Unite Alarms which occur within…** field in the *Alarm* window.

Generating Recording Status Reports

The Recording Status report enables you to view information about devices that are currently recording.

To generate a recording status report:

1. Display the *Reports* window for a selected site name, as described on page 216.

2. Click Recording Status. The *Recording Status* window is displayed.

The **Recording Status** report contains the following summary information about devices that are currently recording:

- **Recording time at current rate until present recording will be overwritten**: An estimate of the recording time remaining, according to the database capacity and current data rate (Bytes/Sec), before already recorded content will be overwritten. The overwriting takes place on a FIFO (first in first out) basis.

- **Number of cameras and microphones presently being locally recorded:** The combined total of devices that are currently recording.

  > *NOTE: This information is also provided in the ViconNet Main window **Device Status** area. Refer to Chapter 2, Getting to Know ViconNet.*

The following detailed information is provided about each camera and microphone that is currently recording:
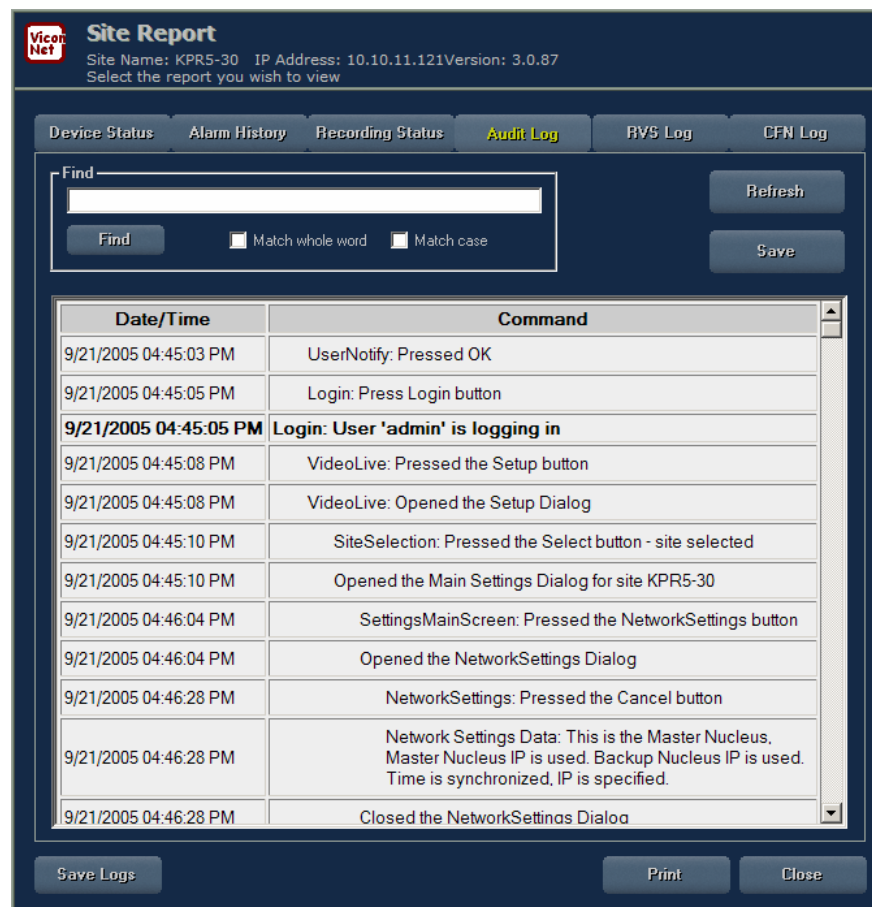
Column	Description
Device Name	The name of the device.
Site Name	The name of the site at which the device is recording.

Generating Audit Log Reports

The Audit Log report provides basic log of operations performed in the system, useful for history and debugging purposes. Information is accumulated continuously. 8,000 record lines can be accumulated, removed thereafter on a first-in-first-out basis. The table display can be updated using the **Refresh** button.

To generate an audit log report:

1. Display the *Reports* window for a selected site name, as described on page 216.

2. Click [Audit Log]. The *Audit Log* window is displayed.

3. Search for events of interest using the Find panel:

    *   Enter a string to the input field.

    *   Specify whether the search should **Match Whole Word** and/or **Match Case**.

    *   Click **Find**.

The **Audit Log** report contains the following information about each event that is found:

Column	Description
Date/Time	The date and time that the operation was performed.
Command	The name of the operation.

4. If required, you can click **Save** to save the result of your search in an HTML format, using a standard *Save As* window.
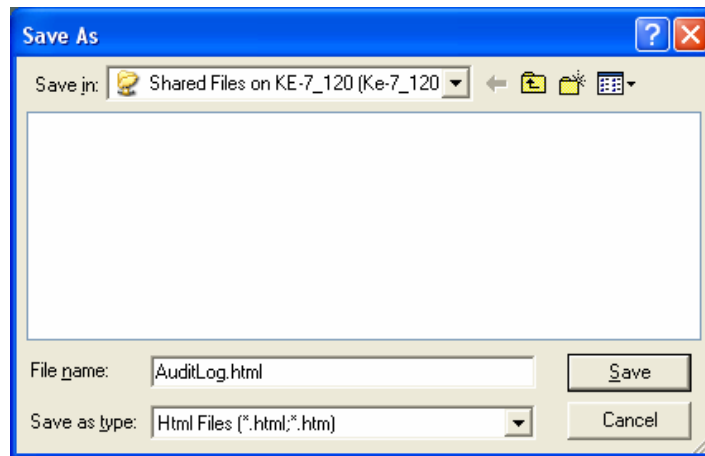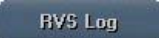
Generating RVS Log Reports
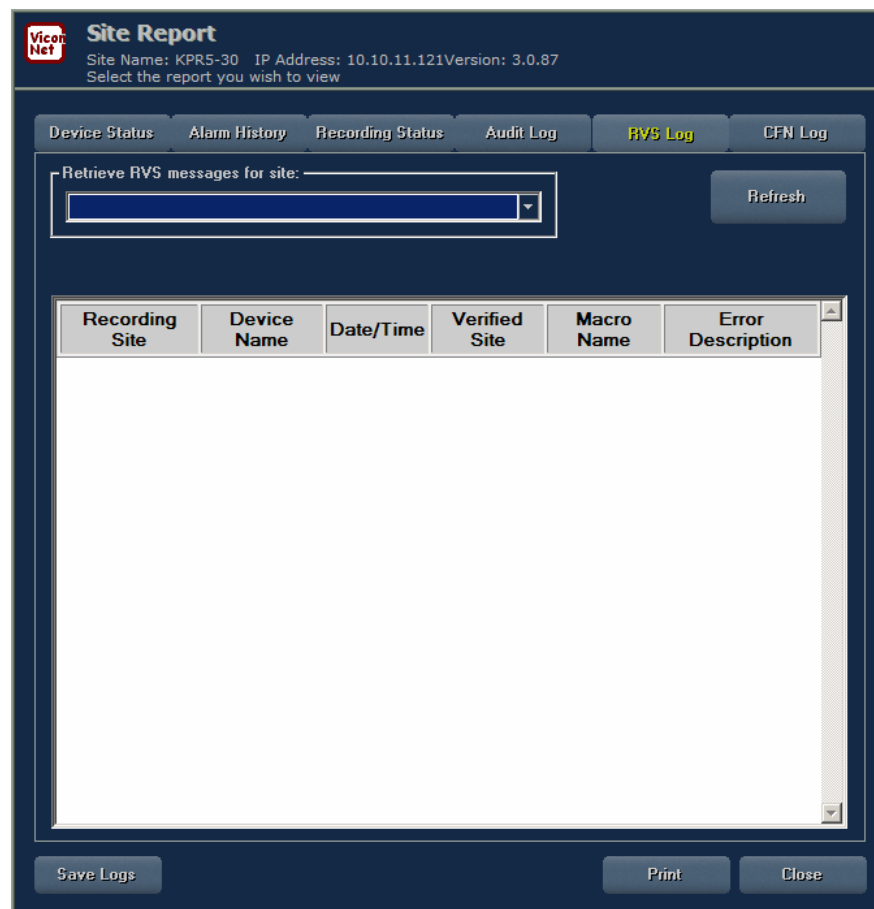
The RVS mechanism ensures continuous recording by notifying users of any recording errors. It monitors automatic recording activity (audio and video) at all times, both locally and over the network.

The RVS Log report is kept at each monitoring site and provides a basic history of all RVS messages from all verified (monitored) sites. The log is available per site, for all sites that have **Activate Recording Verification** checked in the RVS window, as shown in C*hapter 3*, *Configuring the ViconNet System*. If sites whose logs you are examining do not have recording verification activated, the RVS Log will be empty

The table display can be updated using the **Refresh** button.

To generate an RVS log report:

1.   Display the *Reports* window for a selected site name, as described on page 216.

2.   Click [RVS Log]. The *RVS Log* window is displayed.

3. From the dropdown list, select the site (or all verified sites) for which you want to see the RVS Log (default=**All**). A history of local RVS messages that have popped up is displayed.

> *NOTE:* *The history is cyclic, meaning once it is full (several thousand entries), entries are deleted in a FIFO manner.*
>
> *RVS errors also include communication errors in sites being verified which occurred while recording verification system is active*

Generating CFN Log Reports

The CFN mechanism enables Workstations and transmitter sites connected to the same nucleus to receive notifications indicating that certain applications have failed, for example, macro, recording and database failures.
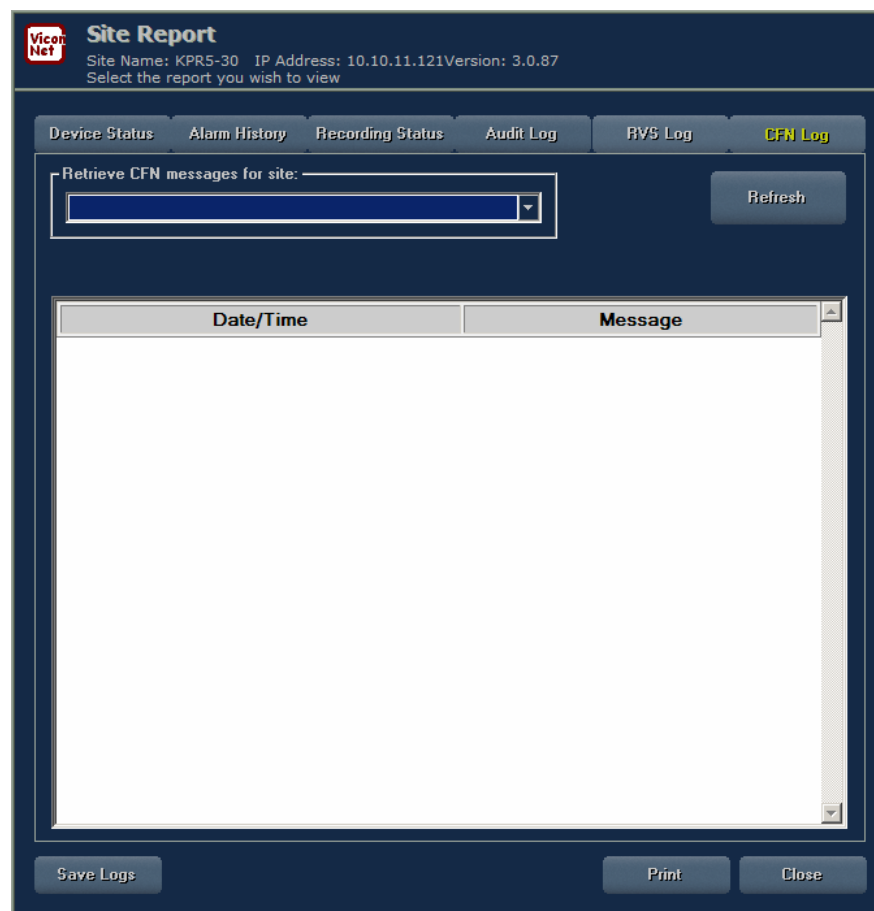
The CFN (Central Failure Notification) Log report provides a report of ALL the failures for a specific site (or all sites).

The CFN report can only be viewed from the nucleus. This is the central site that gathers information from all the sites and spreads necessary information to the sites. If something happens to a connected site, the notification is also sent to the nucleus. The nucleus decides whether other sites should be notified. Each site keeps a log of its own failures.

The table display can be updated using the **Refresh** button.

To generate a CFN log report:

1. Display the *Reports* window for a selected site name, as described on page 216.

2. Click ![CFN Log]. The *CFN Log* window is displayed.

3. From the dropdown list, select the site (or all sites) for which you want to see the CFN log (default=**All**). A history of local CFNs is displayed.

NOTE: *The differences between the RVS Log and the CFN Log are:*

1. The RVS Log includes errors related to recording only, whereas the CFN log reports ALL failures, see explanation at end of RVS Report Log section.

2. The CFN Log is only available from the Nucleus.

Chapter 9

Printing/Exporting Frames and Creating AVI Files

This chapter describes how to print out or export selected frames, and to create AVI files from selected playback segments. This chapter contains the following sections:

- **Printing Frames**, page 232, describes how to print any frame being viewed in the *Main* window (live or playback).

- **Exporting Frames**, page 233, describes how to save a selected single frame or group of consecutive frames being viewed in playback to any network destination as JPEG images.

- **Creating AVI Files**, page 233, describes how to create an AVI file from a selected playback segment, which can then be viewed using any AVI viewer.

Printing Frames

You can print out the *Main* window **Video Display** area panel, showing the frames currently being displayed in Live or Playback mode.

To print a selected frame:

1. Display live video (as described in *Chapter 4, Live Video*) and/or play back the required cameras (as described in *Chapter 6, Playing Back Recorded Video*).

2. If you require a specific frame from a Playback camera, navigate to the required frame using the playback controls and freeze the view on that frame using the **Stop/Pause** button.

3. Click the [Print] button. A standard *Print* window is displayed.
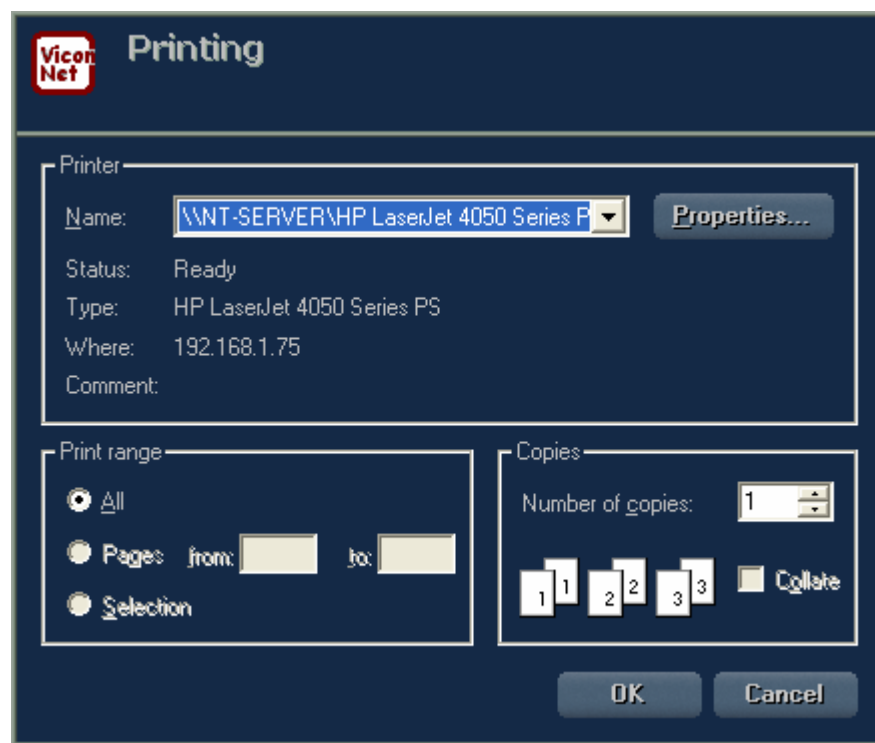
4. Select the printer and settings.

5. Click **OK** to print out the **Video Display** area panel with its current contents.

> **NOTE:** *If no printer is set in the system, clicking the* [Print] *button provides an option to link a printer to the system via an* **Add printer** *wizard.*
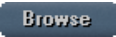
Exporting Frames

You can save selected single frames or groups of consecutive frames being viewed in playback to any network destination as JPEG images.

To export a selected frame:

1. Play back the required camera, as described in *Chapter 6, Playing Back Recorded Video*.

2. In the ViconNet *Main* window, navigate to the required frame using the playback controls and freeze the view on that frame using the **Stop/Pause** button.

3. Click the [Export] button. The *Export Pictures* window is displayed.

4. Enter the required destination path on your network, either directly or using the standard browser window that is displayed by clicking the [Browse] button.

5. Specify the number of consecutive frames, including the current frame, from which JPEG images should be created (up to 9999). You can enter this either directly in the **Number of Consecutive Pictures** field, or using the **Up/Down** buttons.

6. Enter a base file name in the **File Name** field. (Do not include the file extension. The requested files are automatically named using the base name plus a suffix to denote the applicable frame number.)

7. Click **Save** to save the requested images to the selected location.

NOTE: *If **Cancel** is clicked while the Export is in process, the frames that were already exported up to that point will not be removed from the destination folder.*

Creating AVI Files

You can create a short video using the AVI format from a selected playback segment, which can then be viewed using Windows Media Player. The AVI screen converter utility allows conversion of any video data into standard/common format, enabling you to view the data with standard video tools.

To create an AVI file:

1. In the *Navigator* window, select a **single** camera and the required playback time interval from which the AVI file will be created, as described in the workflow steps of *Chapter 6, Playing Back Recorded Video.* (Only one camera in the **Recorded Device Contents** area should have a checkmark.)

2. In the **Recorded Device Contents** area, mark the recorded segments that you want to create an AVI file for by holding down the left mouse button and dragging the mouse pointer over the required segments.

   The selection area is indicated by lime green shading when working with an archive, or blue shading when working with a selection which is not an archive.

3. Click the [Create AVI] button. The *AVI Exporter* window is displayed.

   Your camera and time interval selections are shown in read-only fields.

4. Enter the required destination path on your network, either directly or using the standard browser window that is displayed by clicking the [Browse] button.

5. Enter a base file name in the **File Name** field. (Do not include the file extension.)

6. Click **Start** to create the AVI file at the selected location.

Appendix A
Configuring the Personal Firewall

Due to various security risks, Vicon has decided to keep only specific ViconNet application ports open, while fully closing and protecting all others. To do this, Microsoft's Personal Firewall feature, which exists in every Windows XP operating system, is used.

The following table lists all ports per protocol used by the ViconNet application, version 3. All other ports should be kept closed in order to protect the system from future security breaches. If other ports are open from an earlier version of ViconNet, they will be closed automatically, to match the list of required open ports, as shown below.

Open Ports	Closed Ports
TCP: 4354, 4355, 4356, 4357, 4358, 4359	All other Windows ports
UDP: 4354, 4355, 4356, 4357, 4358, 4359	All other Windows ports

NOTE: *The Personal Firewall feature is configured by default in Vicon's XP Embedded revisions higher than D.*

Vicon recommends using the Microsoft Personal Firewall feature, especially in the following cases:

- The Kollector Pro is connected directly to the Internet.

- The Kollector Pro is connected indirectly through a network that has at least one computer connected to the Internet.

To configure the firewall:

1. Open Windows Explorer by right-clicking the **Start** button and selecting *Explore*.

2. Double-click **My Computer** in the left pane, and then double-click **Control Panel** in the right pane.

3. Click **Network and Internet Connections**, and then click **Network Connections**.

4. Double-click **Local Area Connection**. The *Local Area Connection Status* window appears.

5. Click the **Properties** button. The *Local Area Connection Properties* window appears.

6. Click the **Advanced** tab, and select the checkbox in the **Internet Connection Firewall** area.
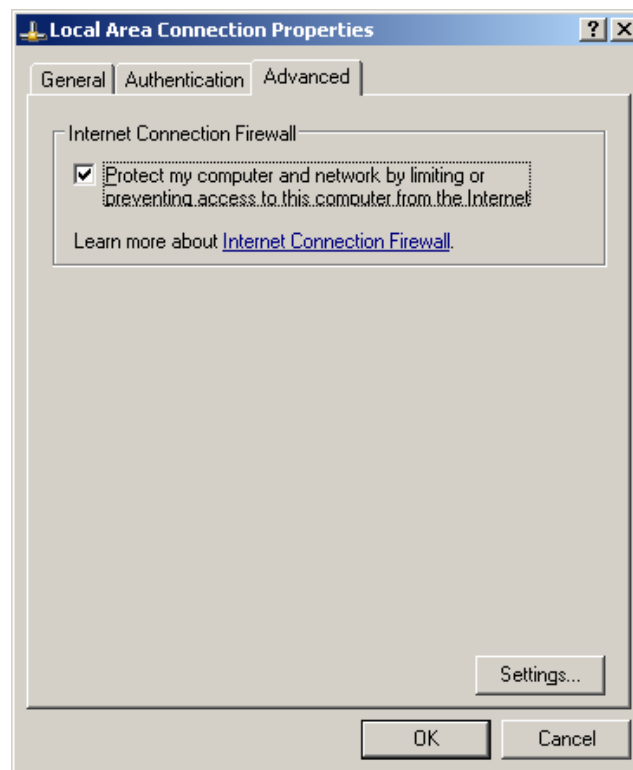
7. Click the **Settings** button. The *Advanced Settings* window appears.

8. In the **Services** tab, click **Add**. The *Service Settings* window appears.

9. Enter the required information in the appropriate fields, as shown in the example below, and then click **OK**.
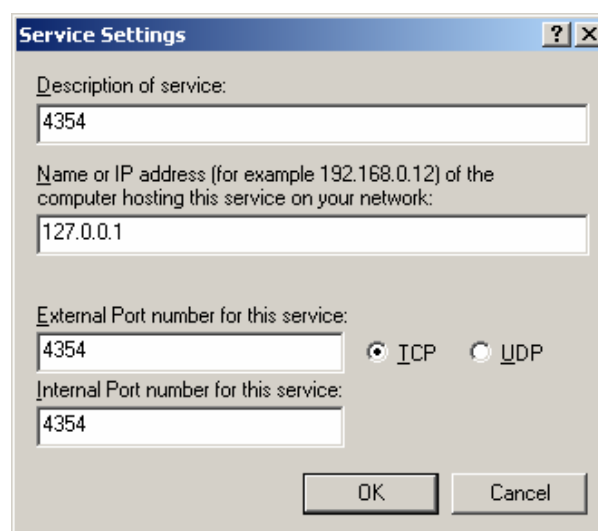
10. Repeat steps 8 and 9 for each port, as follows:

Description of Service	IP Address	External Port	Protocol	Internal Port	IP Address
4354	127.0.0.1	4354	TCP	4354	127.0.0.1
4355	127.0.0.1	4355	TCP	4355	127.0.0.1
4356	127.0.0.1	4356	TCP	4356	127.0.0.1
4357	127.0.0.1	4357	TCP	4357	127.0.0.1
4358	127.0.0.1	4358	TCP	4358	127.0.0.1
4359	127.0.0.1	4359	TCP	4359	127.0.0.1
4354	127.0.0.1	4354	UDP	4354	127.0.0.1
4355	127.0.0.1	4355	UDP	4355	127.0.0.1
4356	127.0.0.1	4356	UDP	4356	127.0.0.1
4357	127.0.0.1	4357	UDP	4357	127.0.0.1
4358	127.0.0.1	4358	UDP	4358	127.0.0.1
4359	127.0.0.1	4359	UDP	4359	127.0.0.1
80(web service)	127.0.0.1	80	HTTP	80	127.0.0.1

11. When you have finished configuring all of the ports, click **OK** twice to close all the windows, and then click **Close** to close the *Local Area Connection Status* window.

12. The **Local Area Connection** icon now displays a lock, as shown below.
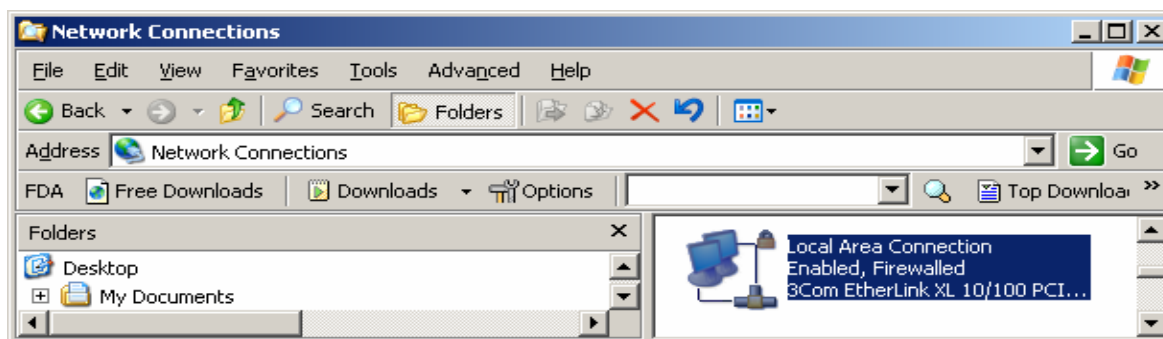
Disabling the Personal Firewall

In general, Vicon does not recommend disabling the Personal Firewall feature, as this may leave the operating system vulnerable and exposed to various security risks that can attack through the network. Vicon supports only ViconNet application ports and recommends that customers **not** change any of the default settings. Vicon takes no responsibility if customers change any of the default settings or disable this feature completely.

There are, however, a few circumstances where the Personal Firewall configuration must be either extended or disabled completely to enable additional communication channels between the Kollector Pro and other devices/computers over the network, for example:

- When working in the Windows NT domain network environment

- When using the Microsoft RDP protocol for remote control support (Remote Desktop Connection)

> *NOTE:* *This option can be opened separately without disabling the Personal Firewall completely, as described below.*

- When debugging communication using the Ping protocol

To disable the firewall:

1. Repeat steps 1 through 5 in the *To configure the firewall* procedure on page 235.

2. Click the **Advanced** tab, and deselect the checkbox in the **Internet Connection Firewall** area.

3. Click **OK**, and then click **Close** to close the *Local Area Connection Status* window.

Opening the RDP Option (Port) Within the Personal Firewall

As mentioned previously, RDP can be opened separately without disabling the Personal Firewall completely.

To open the RDP option without disabling the firewall:

1. Repeat steps 1 through 7 in the *To configure the firewall* procedure on page 235.

2. In the **Services** tab, double-click the **Remote Desktop** checkbox, as shown:
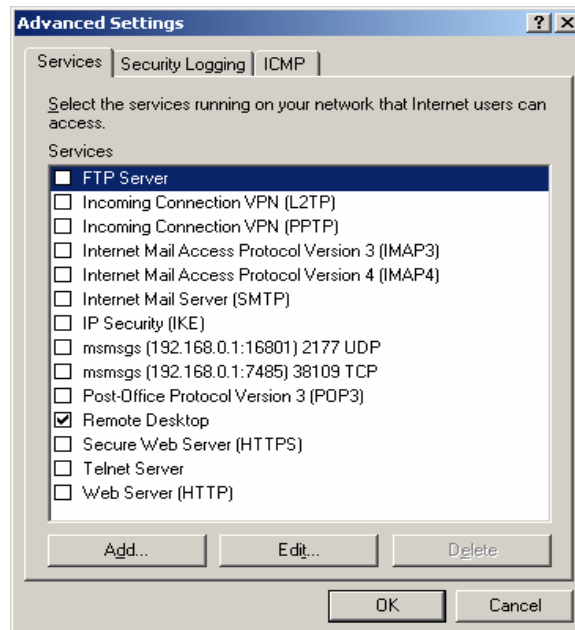
3. In the displayed *Service Settings* window, enter **RDP** in the **Name or IP address** field, as shown:
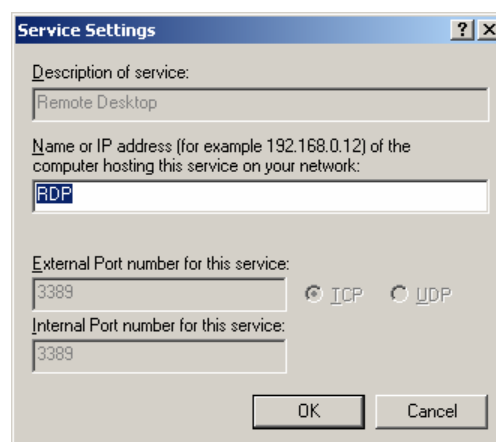
4. Click **OK** three times to close all the windows, and then click **Close** to close the *Local Area Connection Status* window.

Appendix B

Configuring the Network

This appendix describes certain aspects of configure the ViconNet network. It contains the following sections:

- **Configuring the Network Adapter**, page 242, describes how to configure a network adapter when the Kollector Pro has more than one.

- **Configuring a Network with DHCP**, page 243, describes how ViconNet uses networking, in particular the use of the Dynamic Host Configuration Protocol (DHCP).

Configuring the Network Adapter

When the Kollector Pro has multiple network adapters (cards), meaning multiple IPs, the ViconNet application allows you to select which network adapter to load (the required IP address).

To select a specific network adapter:

1. From the *Network Settings* window, select the correct adapter (the required IP) from the **IP Address Settings** list.

2. Click **OK**. The application at the current site requests to be restarted in order to work with the new settings.

> **NOTE:** *If a virtual connection (VPN) is also defined, the virtual adapter IP address is also displayed in the list of options (providing it was previously connected) and the user can choose to work with it.*

Configuring a Network with DHCP

This section describes how ViconNet uses networking, in particular the use of the Dynamic Host Configuration Protocol (DHCP), and assumes some knowledge of networking and assigning IP addresses in a Windows environment. Adherence to this setup will ensure stable ViconNet network connectivity. It is very important to remember that IP addresses **must** be assigned within the ViconNet application. Never assign an IP address, either statically or dynamically, in Windows unless otherwise noted.

If you do not have enough IP addresses for all your sites, a DHCP server can be used. The DHCP server switches dynamically between IP addresses, so that all sites may have varying IP addresses.
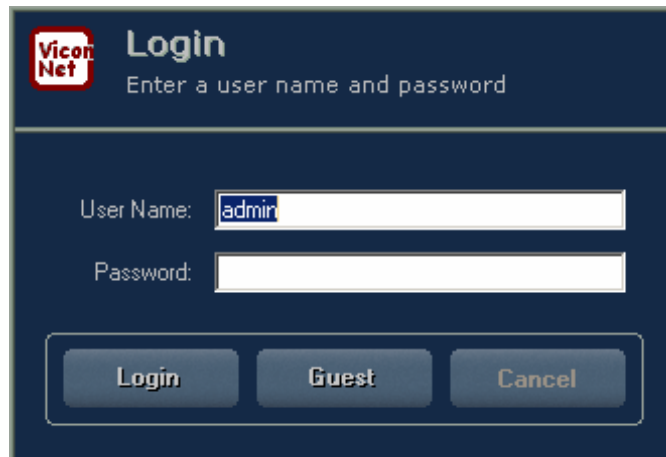
ViconNet manages its network elements within itself. It is **strongly** advised to manually assign IP addresses to each ViconNet networked device, avoiding DHCP. However, if DHCP must be used, the procedures in this section must be followed.

The nucleus and backup nucleus should never have their IP addresses assigned by DHCP, as these are ViconNet's core networking components. Furthermore, these IP addresses should never be changed, as all other ViconNet transmitters and Workstations refer to them. (An IT administrator can reserve (set) IP addresses on the DHCP server for the nucleus and backup nucleus units.)

To set up a Kollector Pro with DHCP:

> **NOTE:** A DHCP server **must** be connected to the system prior to and during the DHCP setup phase of the ViconNet software.

1. Turn the Kollector Pro on by pressing its ON button. The ViconNet *Login* window is displayed, showing the name of the last logged in user.

> **NOTE:** If you restart your site, you will be logged in automatically to the ViconNet application (if the **Auto Login** setup is active, as described in the Configuring Auto Login section in Chapter 3, Configuring the ViconNet System.

2. In the **User Name** field, enter your assigned user name. If you are an administrator entering for the first time, enter **admin**.

3. In the **Password** field, enter your assigned password.

> *NOTE:* *If you are an administrator entering the application for the first time, you do not need a password. After logging in as **admin**, it is recommended to assign yourself a password, as described in the Defining Users section in Chapter 3, Configuring the ViconNet System.*

4. Click [Login]. The ViconNet *Main* window is displayed.

5. To open the *Network Settings* window, follow steps 1 through 3 in *Step 1: Setting the Site IP Addresses*, in the *Creating a New Network* section in *Chapter 3, Configuring the ViconNet System*.

6. In the **IP Address Settings** area, select the **Obtain an IP address automatically** radio button.

7. Click [OK]. The application will reboot.

8. Repeat steps 1 through 5 to reopen the *Network Settings* window. The completed DHCP setup should look as shown below, with the IP address displayed in the **Network Settings** area.

> *NOTE:* *Once ViconNet has an IP address, it will no longer use one assigned by Windows or by the DHCP server. Forcing a new DHCP detection of the Kollector Pro requires first manually setting the IP address, so that it starts with the new manual address. To obtain a new address, repeat the steps in this procedure.*

Appendix C
Setting Up a VPN Service

This appendix presents an example of how to setup a Virtual Private Network (VPN) service (server and client) for the ViconNet application. Configuring the system to work this way is performed by changing the network settings in the ViconNet application setup, as described in the procedure below.

The VPN server in this example is a Windows XP Professional Workstation with two network interface cards (NICs). The VPN server should be assigned to a separate Workstation; the VPN client can be assigned to the VN1000 Workstation or Viewer.

> **NOTE:** *While the example presented here uses Windows XP Professional, other VPN servers can be used as well.*

The VPN setup consists of four steps:

- **Step 1: Setting Up the VPN Server**, page 246

- **Step 2: Setting Up the Dialup Connection**, page 249

- **Step 3: Selecting the VPN Network Adaptor**, page 252

- **Step 4: Setting Up the VPN Network**, page 253

In this example, a number of cameras are connected to Kollector Elites under an internal/corporate network for security purposes, as shown below. When users outside the office wish to view the cameras over the Internet, the VPN server in the office serves as a "bridge" between the external world and the internal network. The remote machine creates a VPN tunnel with the VPN server and allows users to connect to the Kollectors Elites as if they were under the same internal network in the office.
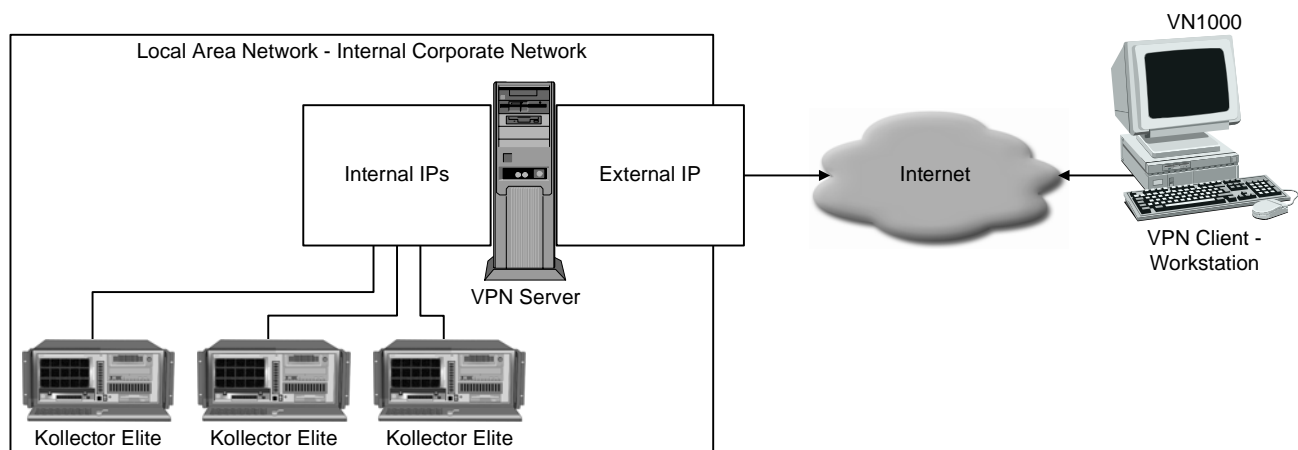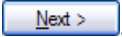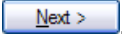
Step 1: Setting Up the VPN Server

To communicate over the Internet with an internal Kollector using an internal IP address, you must first set up a Windows XP Professional Workstation on your local network to be a VPN server, and then set up the IP address you want to assign upon connection. The Workstation should have two NIC cards, one for the external world (public IP address) and one for the internal network (internal IP address).

NOTE: *The Workstation's operating system* **must** *be Windows XP Professional.*

To set up the VPN server:

1. Open Windows Explorer by right-clicking the **Start** button and selecting **Explore**.

2. Double-click **My Computer** in the left pane, and then double-click **Control Panel** in the right pane.

3. Click **Network and Internet Connections**, and then click **Network Connections**.

4. From the *File* menu, select **New Connection**. When the *Welcome to the New Connection Wizard* appears, click Next >.

5. Select the **Set up an advanced connection** radio button, and then click Next >.
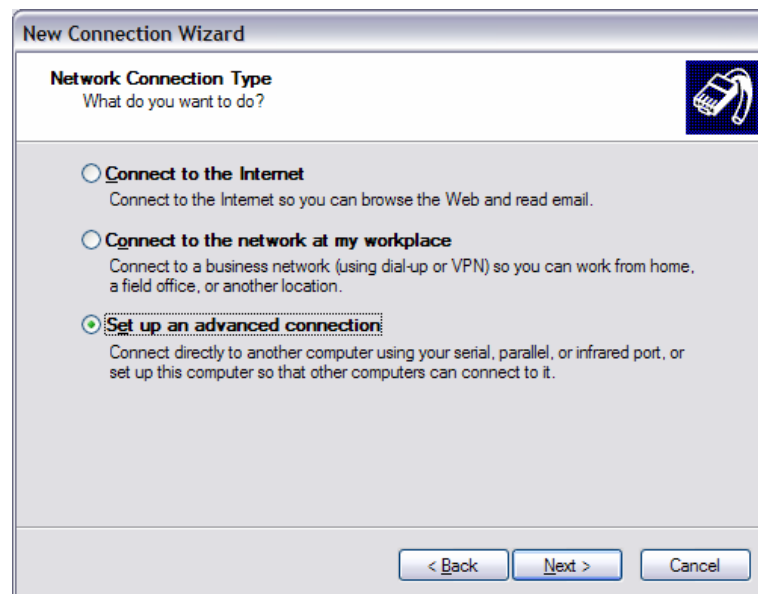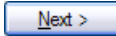
6. Select the **Accept incoming connections** radio button, and then click ▭Next >▭.
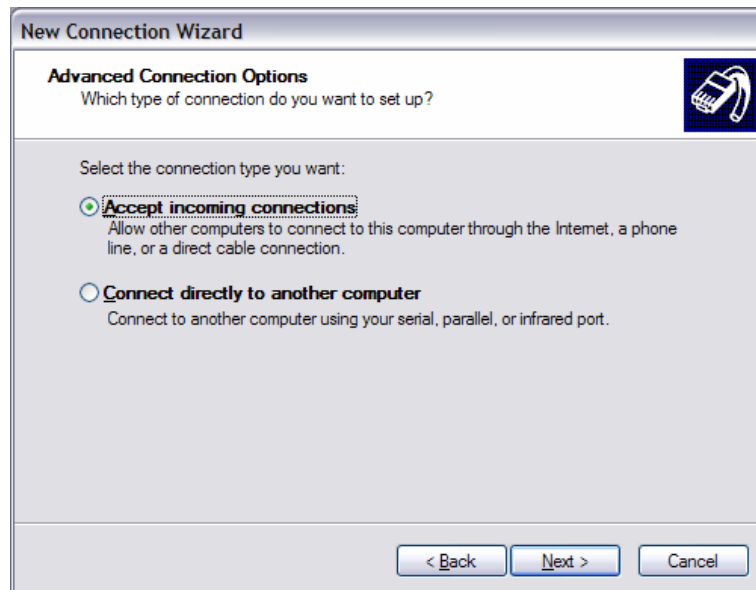
7. In the screen that appears, make sure that no checkboxes have been selected, and then click ▭Next >▭.

8. Select the **Allow virtual private connections** radio button, and then click ▭Next >▭.
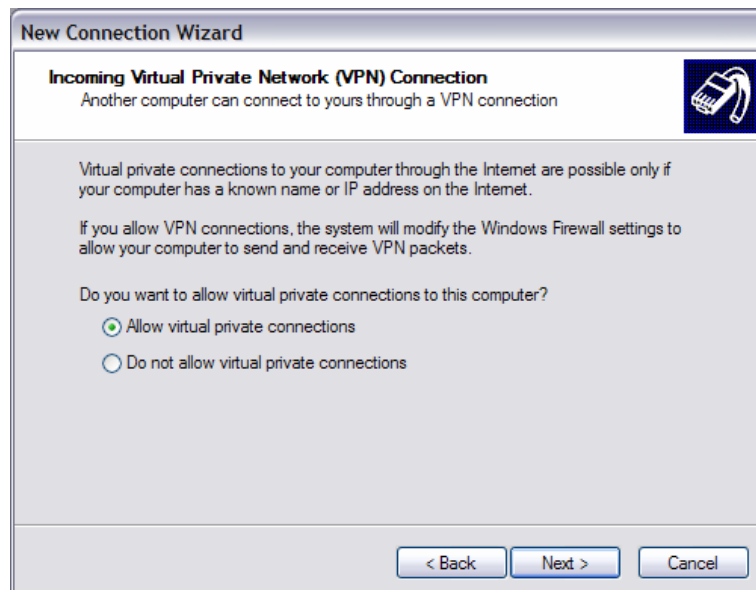

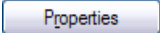9. Use any existing user name or create a new user name for the new connection, and then click ▭Next >▭.

10. Select the **Internet Protocol (TCP/IP)** checkbox, and then click ▭Next >▭.

11. Click ▭Finish▭ to close the wizard. The VPN server is now installed.
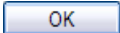
To set up the IP address:

1. Repeat steps 1 through 3 in the previous procedure to open the *Network Connections* window.

2. Right-click **Incoming Connection**, and select **Properties** from the shortcut menu. The *Incoming Connection Properties* window is displayed:
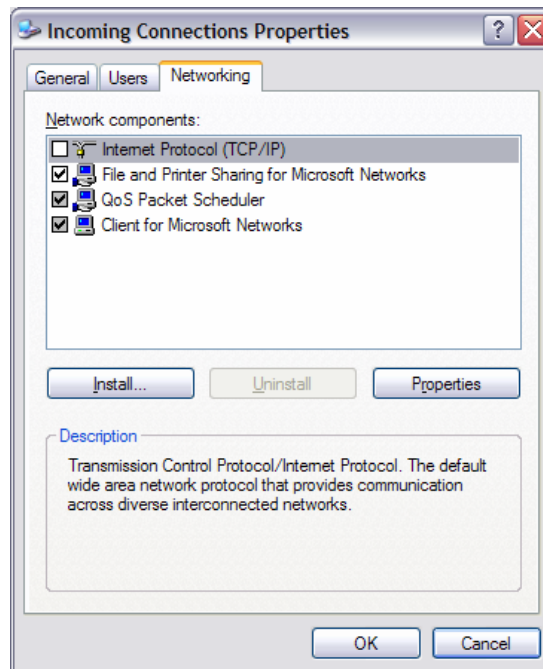
3. Select the **Networking** tab, select the **Internet Protocol (TCP/IP)** checkbox, and then click Properties. The *Incoming TCP/IP Properties* window is displayed:
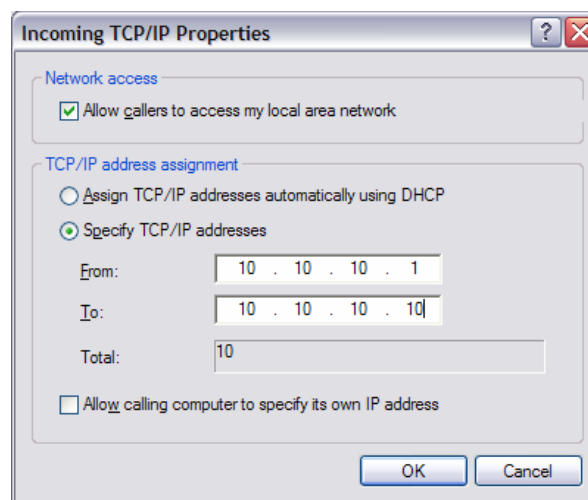
4. Select the **Specify TCP/IP addresses** radio button, and in the **From** and **To** fields, enter the range of IP addresses. It is important to ensure that you do not use IP addresses that are already in use in your network, and that they are under the same network as the Kollectors/Workstation.

5. When you have finished, click OK. The IP addresses you specified are assigned.

Step 2: Setting Up the Dialup Connection
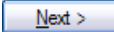
After you have configured the computer as the VPN server, you must create a VPN dialup connection.

6. On the computer that is running the ViconNet application, create a VPN dialup connection following steps 1 through 4 in the *To set up the VPN server* procedure, page 246.

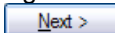7. Select the **Connect to the network at my workplace** radio button, and then click Next > .

8. Select the **Virtual Private Network connection** radio button, and then click Next > .
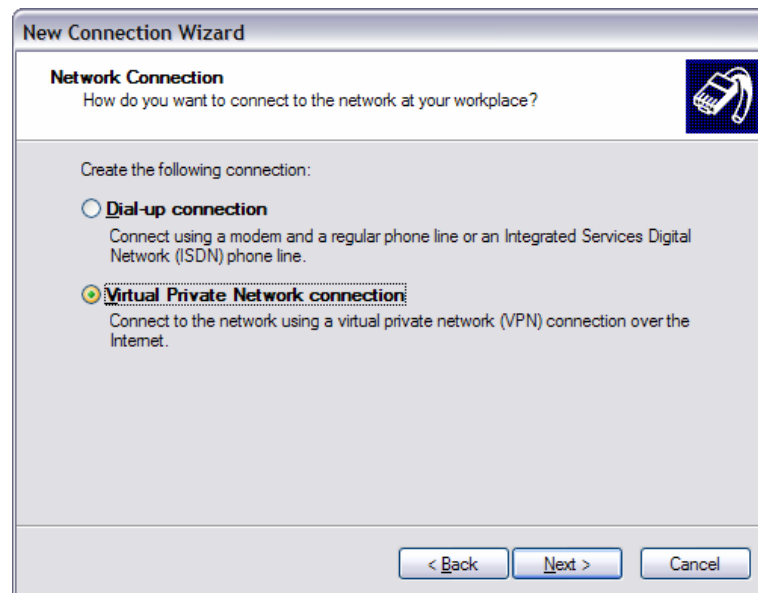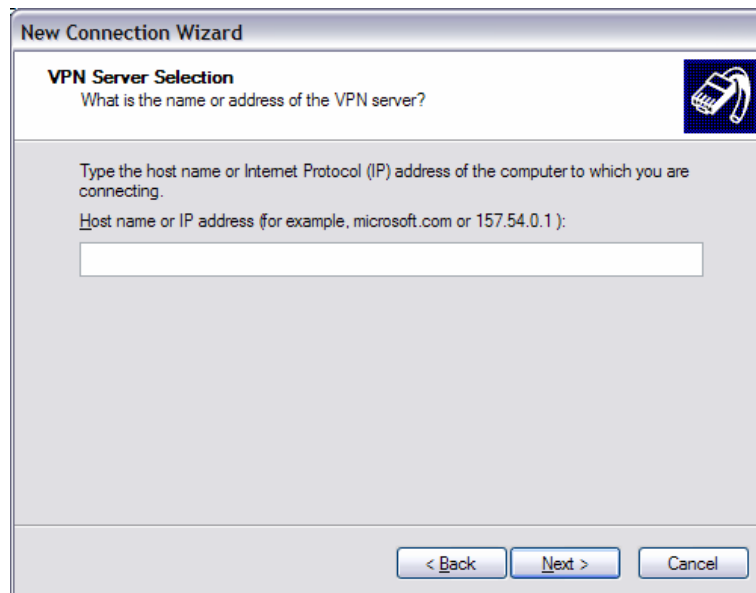
9. In the **Company Name** field, enter the name of the connection, as you want it to appear in the network, and then click [Next >].

New Connection Wizard

Connection Name
   Specify a name for this connection to your workplace.

Type a name for this connection in the following box.

Company Name

[   ]

For example, you could type the name of your workplace or the name of a server you will connect to.

[< Back] [Next >] [Cancel]

10. Enter the external IP address of the Workstation serving as the VPN server (as described in *Step 1: Setting Up the VPN Server*, page 246, and then click [Next >].
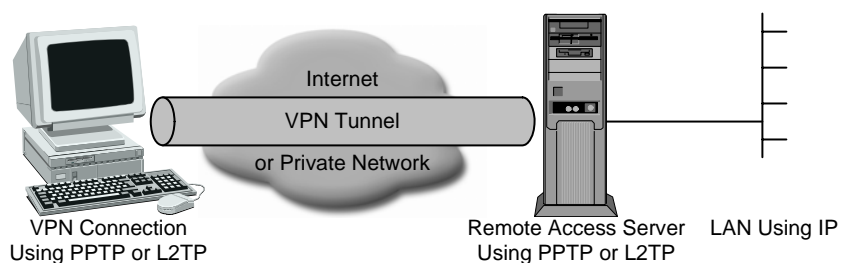
New Connection Wizard

VPN Server Selection
   What is the name or address of the VPN server?

Type the host name or Internet Protocol (IP) address of the computer to which you are connecting.

Host name or IP address (for example, microsoft.com or 157.54.0.1):

[   ]

[< Back] [Next >] [Cancel]

11. Select the **My use only** radio button, and then click ⌊ Next > ⌋.
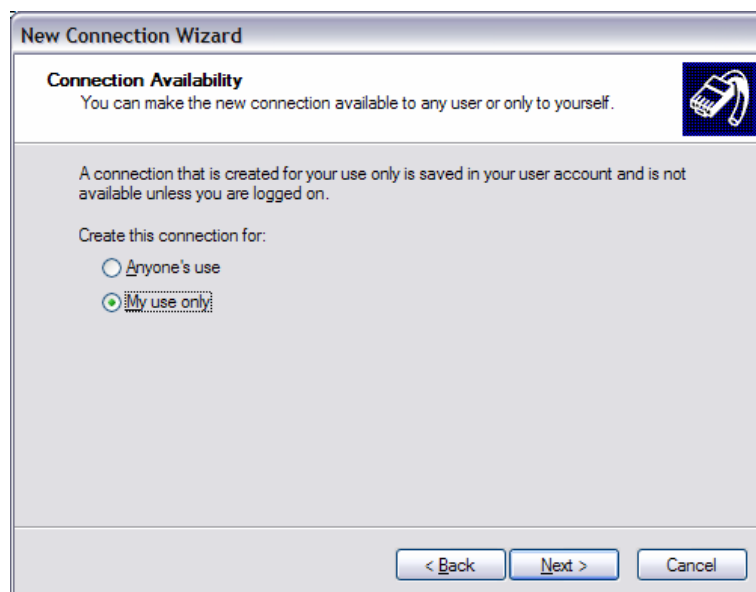
12. Click ⌊ Finish ⌋ to close the wizard. The VPN client is now installed.

13. Dialup from the Workstation to the VPN server to get an IP address from the IP address pool defined there. Both sides must be connected to the Internet.

Internet
VPN Tunnel
or Private Network

VPN Connection
Using PPTP or L2TP

Remote Access Server   LAN Using IP
Using PPTP or L2TP

NOTE: Contact your system administrator if you need help with these steps.

14. After the VPN connection is established between the Workstation and the VPN server, an additional IP address will be created for use by the ViconNet application.

Step 3: Selecting the VPN Network Adaptor

15. From the *Network Settings* window, select the correct adapter (the VPN adaptor) from the **IP Address Settings** list (the VPN adapter will appear as a WAN (PPP/SLIP).

16. Deselect the **This Site is the Master Nucleus** checkbox and enter the IP address of the site that handles the nucleus on your network in the **Nucleus IP** field.

17. Click ![OK]. The new settings are saved and the application reboots. On the top-left side of the *Main* window, the site name displayed next to the word **Nucleus:** should be your system's nucleus.

Step 4: Setting Up the VPN Network

Follow the procedure here to setup the ViconNet application over a VPN network.
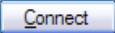
To set up the VPN Network:

18. Set one of the Kollector Elites in the internal network to be the master nucleus, as shown in *Chapter 3, Configuring the ViconNet System*.

19. Set a remote Workstation as a VPN client, as described previously.

20. Set the **FirstIpIndex** flag in the **NetworkAdapters.ini** file to **1**, as described in the previous procedure.

> **NOTE:** *To work with the internal IP address instead, set the* **FirstIpIndex** *flag in the* **NetworkAdapters.ini** *file to* **0**.

21. Run the VPN client and enter the username and password you set previously into the appropriate fields, as required.

22. Click ![Connect] to connect to the VPN server and make sure the application is established.

23. Start the ViconNet application on the Workstation, and set the nucleus IP address to that defined in step 1.

24. In the *Site List*, make sure you can see the cameras over the network and that the list is updated.

Troubleshooting

If the application suddenly gets disconnected from the nucleus machine, you should try the following:

- Check that the VPN connection between the Workstation and the VPN server is still connected.

- Check that the IP address you have received from the VPN server is compatible with the list of addresses defined on your local network.

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