milestone Surveillance XXV
Installation Guide & Manual

Dear Customer,

Congratulations with your license for this Milestone Surveillance XXV software. The Milestone Surveillance XXV software is a unique video surveillance product especially designed for TCP/IP based video camera and video server products. The software turns a set of TCP/IP based video cameras and/or video servers into a sophisticated digital video surveillance system fully controlled from your PC.

The Milestone Surveillance XXV software includes a wealth of features like:

- Video Surveillance using up to twenty-five cameras connected via TCP/IP.
- Support for Dual Screen Monitors.
- Motion detection with noise control and excluded areas.
- Motion alerts through GSM-SMS and/or e-mail.
- Advanced Scheduler controlling alert periods and camera activity.
- Controlled camera activity based on external sensors.
- Browser with instant playback and "find next event" feature.
- Simultaneous recording and playback.
- Remote access to the system with the included Web Server.
- Web Server supporting live images, playback and database browsing.
- High performance image database with 600,000 images per camera (this is the daily capacity when archiving is used).
- Automatic archiving of image databases.
- Image printing with camera name, time stamp and user comment.
- Pan/Tilt/Zoom support.
- Creation of AVI video files and exporting of images as JPEG files.

This short manual will help you to get started.

Contents

Installation Guide

This installation guide will help you to install the Milestone Surveillance XXV software and to configure it for your TCP/IP based video camera/server equipment.

The guide will also give you a general introduction to the functionality and usage of the surveillance software.

> 💡 *Note that for simplicity TCP/IP based video camera/server equipment will be called "devices" throughout this guide.*

Introduction

The Milestone Surveillance XXV system consists of four different software components: **Administrator**, **Monitor**, **Web Server** and **Live Feed Server**. Each of these components is described briefly below.

The **Administrator** Application: The administrator of the surveillance installation uses this tool when setting up the system for the first use, when new cameras are added to the system or whenever the system configuration needs to be changed. This tool is also used to configure which screen layout to use while operating the system, which recording conditions to use etc.

The **Monitor** Application: This application forms the main user interface and is the core of the surveillance system. The **Monitor** shows live images from the connected video cameras and the operator uses this application for the surveillance. Depending on the user rights granted to the operator by the administrator, the operator may start and stop cameras, use PTZ camera control (if any installed), review recordings, create AVI files, export and print images etc.

The **Web Server** and **Live Feed Server** Components: These two components make up a powerful Web server that will enable users to access the surveillance system from a remote site using a Web Browser on the remote computer. Using the Web Browser on the remote computer you can view live images from the cameras and review recordings. Jump directly to next/previous recording or to a specific time and much, much more. The Installation Program will ask you if you want to make these two components start up automatically on the surveillance PC - select this if you want to enable the remote access service.

Please note

⇒ You cannot run the **Administrator** Application and the **Monitor** Application simultaneously, you will need to close the first one before opening the other one.

⇒ In order to achieve the best performance and most reliable operation, it is recommended that you do not use the surveillance PC for other demanding software applications or unnecessary purposes.

Before You Install

Before installing the software you should be aware of the following system requirements.

Minimum Hardware Requirements		
	Up to 5 images/second total	25 images/second total or more
CPU	*Pentium II, 300 MHz*	*Pentium III, 700 MHz*
HDD	*6 GB free disk*	*10 GB free disk* *Fast SCSI disks recommended*
RAM	*128 MB*	*256 MB or more*
Video	*High color (16 bit - 65536 colors)* *min. 800 x 600 pixels*	*True color (24 bit)* *min. 800 x 600 pixels* *Fast video card recommended*
Network	*Ethernet 10/100 Mbit*	*Ethernet 100 Mbit*

Software Requirements	
OS	*Recommended:* *- Microsoft Windows NT 4.0 (Service Pack 3 or later) / 2000* *Also supported:* *- Microsoft Windows 95 (OSR2) / 98 / ME*
Protocols, APIs and Software	*TCP/IP support is required* *Windows Messaging (MAPI) support is required* *Microsoft Internet Explorer 5.0 or newer is required*
Incompatible Software	*FTP-Server: Included in Milestone software, do not run others* *HTTP-Server: Included in Milestone software, do not run others*

In order to check if the TCP/IP protocol has been installed, look…

   (a) **Under Windows 95/98:** *In the Network item of the Windows Control Panel, check in the Configuration sheet that the TCP/IP protocol is installed and bound to your network adapter.*

   (b) **Under Windows NT:** *In the Network item of the Windows Control Panel, check in the Protocols sheet that the TCP/IP protocol is installed and bound to your network adapter.*

Step 1: Obtain Device License Keys

In order to install devices in the software, a "Device License Key" is required for each attached device. Obtain the keys from your Milestone dealer.

When obtaining the keys it is required that you specify:

   (a) *the "Software License Code" as stated in the gray area of the Product License sheet delivered with the product, and*

   (b) *the serial number and the device type of all the devices you wish to attach to the system. You'll find the serial numbers on the stickers attached to the devices.*

Device License Keys are not required if you are using the Demo Version.

Step 2: Connect the Devices

Connect all the devices to your LAN/Ethernet as described in the manuals for the camera devices. Consult these manuals for more information.

You can verify that the device is successfully installed on your network by connecting to it using a standard Web Browser. If you cannot connect using the Web Browser, then you will not be able to do this in the software either.

Step 3: Install the Software

Start by removing previous installations of Milestone Surveillance from the computer. From the control panel of Windows click the Add/Remove Programs icon. Select "Milestone Surveillance" in the list of installed programs and click the Add/Remove button. If you are re-installing the XXV software, then you may want to keep the Image Databases and Registry settings (program setup). In this case you must remember to deselect these options when removing the installation.

Insert the Milestone Surveillance XXV CD-ROM into the CD-ROM drive of your computer. The installation program will start automatically if Auto-Run has been enabled, otherwise run the program called *Setup.exe* in the root directory of the CD-ROM.

> 💡 *If you did not remove a previous version of the program you will only be presented for a Repair or Remove option. Select Remove and when the remove operation has finished re-start the installation program again in order to install the new version.*

In the beginning of the installation you will be asked if you can accept the product license agreement, which is also delivered with the product in printed format.

If you can not accept the license agreement, select "No" and the installation will terminate. Otherwise, select "Yes" and the installation will proceed.

You will be asked to enter your name, company name and the product serial number (Software License Code). Enter the whole License Code, including the hyphens. Do not include any blanks.

The rest of the installation process should be self-explanatory.

Before the installation finishes, you can choose if a shortcut to Milestone Surveillance XXV should be added to the desktop and if the support for remote access should be enabled at computer startup (The Milestone Web and Live servers are added to the Windows Start Up group).

When the Milestone Surveillance XXV software has been installed completely you can launch it either from the Windows Program menu (Milestone Surveillance Group) or from the desktop if a shortcut was added.

Step 4: Configure for First Use

When you have installed the software you will need to configure it for all your video cameras and video server devices. You will also need to configure the screen layout for the **Monitor** Application. You do this using the **Administrator** Application; move on to the Administrator Manual to see how this is done.

Use the Program help

The **Administrator** Application and the **Monitor** Application comes with context help for all available functionality and the **Administrator** Application furthermore comes with a How-To wizard for essential program features. Please refer to this help for more information.

Context help

You obtain context help by clicking the question mark icon in the title bar of the program's active window or in some windows the Help button, the cursor will then turn into a "What's this" cursor and you can now click on the item that you need help for. Afterwards click anywhere with the mouse in order to remove the help pop-up window.

How-To Wizard

Click on the help icon in the Milestone Surveillance program group or click the icon of the **Administrator** Application's main window (Upper - left / System menu) and select the menu item "How to…". Now look in the "Show me how to" section to see if the wizard can help you.

Obtaining Support

In case you should have questions or problems not answered in this manual, please contact your Milestone Software dealer or visit the Milestone Surveillance Support site at www.milestonesys.com.

Remember to register the software by filling in the "Product Registration Form" and faxing or mailing it to us. You can also register the software online at:
http://www.milestonesys.com

We hope you will enjoy working with this Milestone product!

Administrator Manual

The **Administrator** Application is used when setting up the system for the first use, when new cameras are added to the system or whenever the system configuration needs to be changed. This tool is also used to configure the screen layout of the **Monitor** Application, which recording conditions to use etc. Start the **Administrator** from the Program Menu.
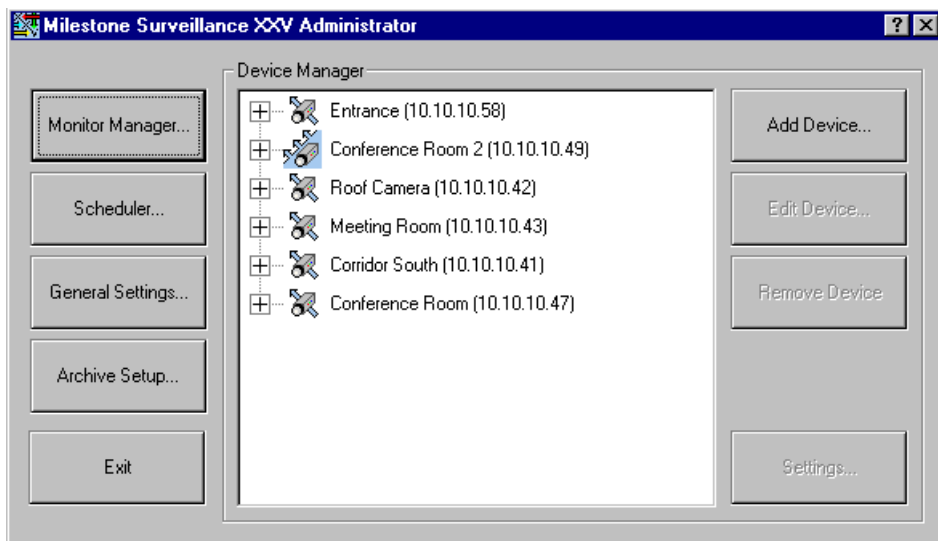
Figure 1: Main dialog of **Administrator** Application

In the main dialog you have the following buttons:

Add Device…	Add new video cameras or video server devices to the system. See section "Configuring Video Cameras and Video Server Devices".
Edit Device…	Edit/update the configuration of an existing device.
Remove Device	Remove an existing device from the system.
Settings…	Set up image quality and recording conditions etc. for the camera. See section "Setting Image Quality and Recording Conditions".
Monitor Manager…	Set up screen layout and screen positions of the cameras etc. See section "Configuring Monitors and User interface Layout".
Scheduler…	Control when cameras start and stop and when alerts are given. See Appendix B "Scheduler Functionality".

General Settings…	Set up user rights and other system settings. See section "General Settings".
Archive Setup…	Set up of daily image database archiving if required.

Configuring Video Cameras and Video Server Devices

When you have installed the software you will need to configure it for all your video cameras and video server devices. You do this by following the steps listed below; you should do it for all your devices.

In the **Administrator** click the *Add Device* button.

STEP A: In the *Identify Video Device* area enter the following information:

Device Type	Specify which kind of device you are using, select one from the list. (The device type can also be found automatically if you press the *Detect Device* button and the correct IP-address and Device Password has been specified).
Device Name	A name that will help you to identify the device later in the software, e.g. "Entrance Door", "Meeting Room 1" etc. Note that you cannot use the same name for more than one device.
Device Serial Number	Serial number (usually the MAC address) of the device, e.g. 00408c291ba2 . The serial number is usually found on a label on the device (can also be found automatically with the *Detect Device* button if the correct IP-address and Device Password has been specified).
Device License Key	License key associated with the device, e.g. c5a8ff0c89679490 (See Step 1 "Obtain Device License Keys").

STEP B: In the *Network Settings* area enter the following information:

IP-address	The IP address of the device on your network. Note that the software also allows you to change the IP address of the device by clicking the *Set IP-address* button.
Root Password	The password is required when logging on to the device using the "root" account (the system uses this account when accessing the device). The password can be changed using the *Set Password* button.

If you are setting up a Network Video Camera (and not a Network Video Server), then you can skip the rest of this section, unless you want to rename the device camera; the default name is "Camera 1".

Configuring Video Servers

For Video Servers you need to specify if the connected cameras are Pan/Tilt/Zoom cameras and you can give the cameras an individual name.

In order to do this, click the *Camera Settings* button and the *Camera Settings for Device* dialog box will appear.

STEP C: In the *P/T/Z Camera Selection* area enter the following information:

Some of the cameras are P/T/Z cameras	Select this option if any of the connected cameras are Pan/Tilt/Zoom cameras.
P/T/Z type controlled through COM1	If you are controlling the P/T/Z functionality of one or several cameras through the COM1 control port of the device then you must select the correct P/T/Z camera type in the list box. If you are not controlling any through this port, select "None".
P/T/Z type controlled through COM2	If you are controlling the P/T/Z functionality of one or several cameras through the COM2 control port of the device then you must select the correct P/T/Z camera type in the list box. If you are not controlling any through this port, select "None".

STEP D: In the camera list box you will see a line for each camera input on the Video Server. First line (Camera 1) corresponds to camera input 1 and so on.

In order to specify the settings for Camera 1 click once on the corresponding line (first line), it will then become selected. In the configuration area below you now have the following options:

Camera Name	Enter a name of the camera for you to remember it by. E.g. a name related to its location, such as "Main Entrance".
Camera Type	If the camera is a P/T/Z camera select "Movable", otherwise select "Fixed".
Device Port	Enabled if "Movable" is selected as *Camera Type*: Select which control port on the Video Server should be used to control the P/T/Z functionality of the camera.
Port Address	Enabled if "Movable" is selected as *Camera Type*: Specify the port address of the camera. Background information: Some P/T/Z cameras support that you daisy chain several P/T/Z cameras and the port address identifies each of them. If you are not using daisy chaining then the port address is normally 1 or perhaps 0. Please refer to the cameras manual for more advanced information.

Now click the *Apply Changes* button and the updated information is now shown in the camera list box.

Repeat STEP D until your have specified the correct setting for all the attached cameras.

Click the OK button when you are done.

Configuring Monitors and User interface Layout

When you have configured the software for your video cameras and video server devices then you need to select which screen layout the **Monitor** Application should use, and you must specify where the individual camera should be displayed on the screen.

In the **Administrator** click the *Monitor Manager* button and the Monitor Manager configuration dialog will be shown.
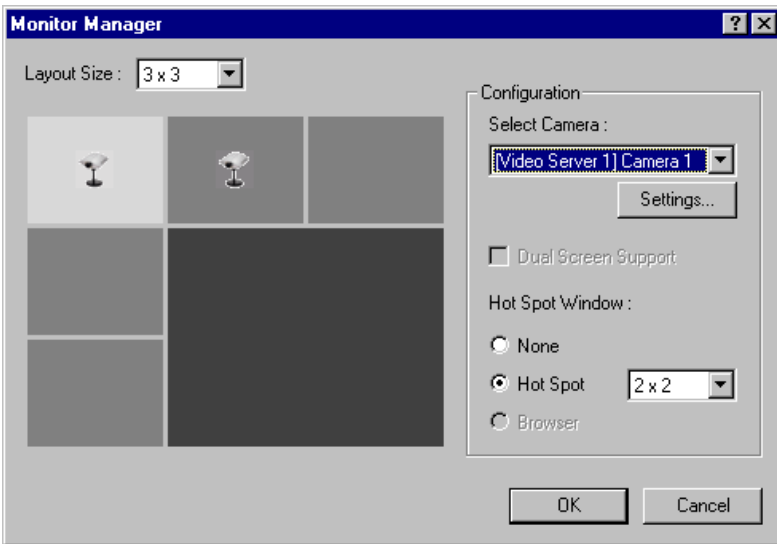

Figure 2: Monitor Manager configuration dialog

In the Monitor Manager configuration dialog you have the following options:

Layout Size	Select how many monitors (i.e. camera windows) you wish to appear on your screen. Select between a 1x1, 2x2, 3x3, 4x4 or 5x5 monitor view.

Hot Spot Window	Select if you want a hot spot window to appear on your screen. A hot spot window is a secondary camera window that can show an enlarged view of one of the cameras. The hot spot window can also be used to browse through previously recorded images. • Select "None" if you don't want the hot spot window to appear. • Select "Hot Spot" and the desired size of the window if you do want the hot spot window to appear.
Select Camera	Select which camera to show in the selected monitor. You assign the cameras to the monitors by (a) clicking with the mouse on the monitor you want to assign a camera to and (b) selecting the appropriate camera in the *Select Camera* drop down box.
Settings…	This button will take you directly to the *Camera Settings* dialog box for the currently selected camera. See the "Setting Image Quality and Recording Conditions" section for more information.
Dual Screen Support	Enabled if you have two or more screens attached to your Windows PC: Select this option if your want the Browser Window of the Monitor Application to appear on your secondary screen.
Browser	Enabled if you have selected the "Dual Screen Support" option: Select the "Browser" option if your want the Hot Spot window to appear in the Browser Window on your secondary screen (and thus not in the main window on your primary screen).

Click the OK button when you are done.

For each of your cameras you can set the desired image quality, the recording speed and other conditions for the recording of images.

In the **Administrator** select the camera in question in the tree view of the main dialog, click the *Settings...* button and the *Camera Settings* configuration dialog will be shown.

> 💡 *You can also invoke this dialog by pressing the Settings... button in the Monitor Manager configuration dialog.*
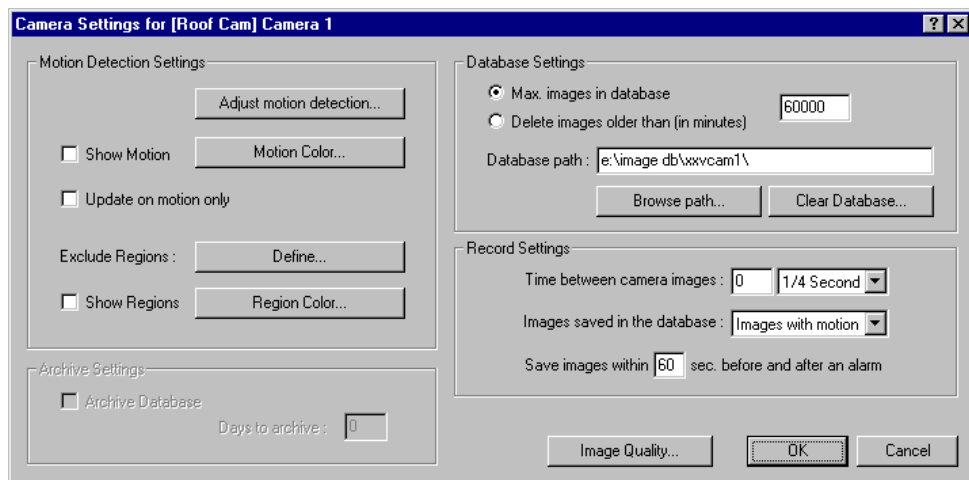

Figure 3: Camera Settings configuration dialog.

In the *Database Settings* area you specify how many images you want to store in your image database and the location of the image database files on your disk:

Max. images in database	Select this option if you want the size of your image database for this camera to be limited by a maximum number of images. When the maximum number of images has been recorded then the new images will be overwriting the oldest images recorded (i.e. the oldest images will be automatically deleted). Note that you will not be receiving any warning when this happens, the overwriting of the oldest images in the database is a part of the normal operation of the system.
	Specify the maximum number of images to record in the box to the right. You can specify a maximum of 600.000 images to be recorded.

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Delete images older than (**in minutes**)	Select this option if you want the recordings in your image database for this camera to be limited by a maximum age. If this option is selected then the images will automatically be deleted when they are older than the specified number of minutes.
	Note that the age is calculated in calendar time and not in the length of the recordings. This means that if you have specified a maximum age of e.g. 60 minutes, then you will not be able to playback a recording that is more than 60 minutes olds even though the total length of your recordings may not be more than 10 minutes. Note also that you will not be able to store more than 600.000 images even though the maximum age has been specified to be very high.
	Specify the maximum age of your recordings, in minutes, in the box to the right.
Database Path	Specify in which directory on your disk you wish the image database to be located. The directory you specify must exist, it will not be created automatically.
	In order to achieve the best performance it is recommended that you specify a location on a local hard disk, and not at a network drive. If you are recording from several cameras, then it is furthermore recommended that you make a new directory for each camera.
Browse path…	Click this button if you wish to browse for the database path directory.
Clear Database…	Click this button if you wish to delete all images recorded for this camera. *Caution: All your recordings for this camera will be permanently lost.*

In the *Record Settings* area you specify the recording speed of the camera and the conditions for the recording:

Time between camera images	Specify the desired recording speed. Choose between:	
	"1/10 Second"	The specified value indicates tenths of seconds, e.g. if 2 is specified, then the software will aim at recording images with 1/5 second intervals, i.e. five images per second.
	"1/4 Second"	The specified value indicates quarters of seconds.
	"Second(s)"	The specified value indicates seconds.
	"Minutes(s)"	The specified value indicates minutes.
	If 0 (zero) is specified as value then the software will record images at the maximum speed.	

Images saved in the database	Specify the desired recording conditions. Choose between:
	"Images with motion"
	Images are saved if the level of detected motion in them exceeds the given limit. Note that pre- and post alarm images can also be saved, see the option below.
	"No images" No images are saved.
	"All images" All images are saved.
Save images within … sec. before and after an alarm	If "Images with motion" has been selected as recording condition:
	Specify for how many seconds before and after an alarm occurs (i.e. the detected motion exceeds the given limit) you want the images to be saved. Images are buffered for the selected period and can therefore be stored when the alarm occurs.

In the *Motion Detection Settings* area you adjust the motion detection for the camera:

Adjust motion detection…	Click this button in order to calibrate the motion detection, see the "Calibration of Motion Detection" section below.
Show Motion	Select this option if you want the detected motion to appear highlighted in the image. If selected, the areas of the image with motion will be colored with the selected motion color.
Motion Color	Click this button to select a new motion color (see Show Motion option above).
Update on motion only	Select this option if you want the camera to be updated on your screen only when motion has been detected. Enabling this option greatly reduces the workload of the PC, it is therefore recommended that you select this option if the PC runs primarily as a server, serving clients through the build-in Web Interface.
Exclude Regions: Define…	Click this button in order to specify if certain areas of the images should be excluded from the motion detection, see the "Defining Motion Detection Exclude Areas" section below.
Show Regions	Select this option if you want the areas in which detected motion has been excluded (disabled) to appear highlighted in the image. If selected, the areas will be colored with the selected region color.
Region Color…	Click this button to select a new region color (see Show Regions option above).

Calibration of Motion Detection

The motion detection may control (a) when images are saved to disk and (b) when alarms are generated and it is therefore a vital element of the system. The motion detection needs to be calibrated carefully otherwise it will not function properly, you do this as described below.

> 💡 *It is recommended that you define possible motion detection exclude regions before you calibrate the motion detection.*
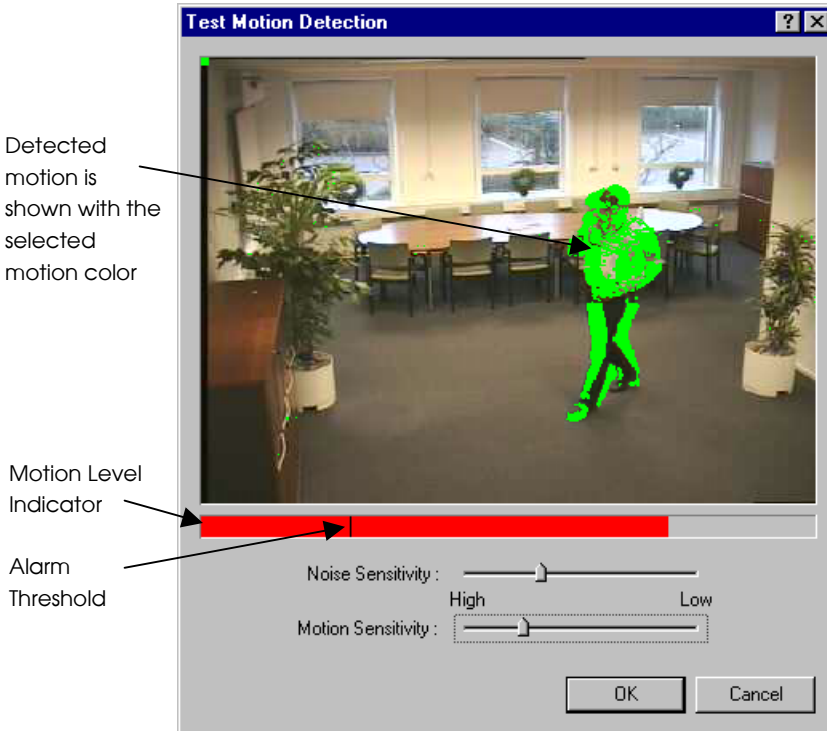
Detected motion is shown with the selected motion color

Motion Level Indicator

Alarm Threshold

Figure 4: Motion Detection Calibration diglog box.

Motion Level Indicator	Indicates the current level of detected motion in the image. The indicator is green when the level is below the threshold and will turn red when the threshold is exceeded.
Alarm Threshold Indicator	Indicates the selected motion alarm threshold. A motion alarm will be generated when the motion level goes beyond the threshold.

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Noise Sensitivity	Slide bar to adjust the noise sensitivity level of the individual picture element (pixel). The noise sensitivity level controls when the change in light intensity and color (*light change*) of the individual pixel should be considered to be noise (i.e. an insignificant change) and when it should be considered to be motion (i.e. a significant change). In the live updating camera image you will see the pixels in which motion has been detected marked with the selected motion color (which is green by default). In order to understand how it works try to drag the slide bar to position "high" and watch how the whole camera image will turn green.
	Drag the slide bar back to the optimal position where only the pixels affected by significant light change are marked with the motion color.
Motion Sensitivity	Slide bar to adjust the motion sensitivity. The motion sensitivity controls the alarm threshold and thereby determines the minimum size of an object to generate an alarm.
	Drag the slide bar until the alarm threshold indicator is at the optimal position.

💡 *Trees and bushes outdoors and plants indoors may generate undesired noise, you may find that you can define motion detection exclude areas to eliminate this noise.*

💡 *Some video cameras generate undesired noise at bad light conditions. In order not to generate undesired alarms, you may find that you need to reduce the noise sensitivity or to improve the light condition.*

Defining Motion Detection Exclude Areas

You can define motion detection exclude areas if you wish to exclude (i.e. mask out) certain areas of the image from the motion detection.
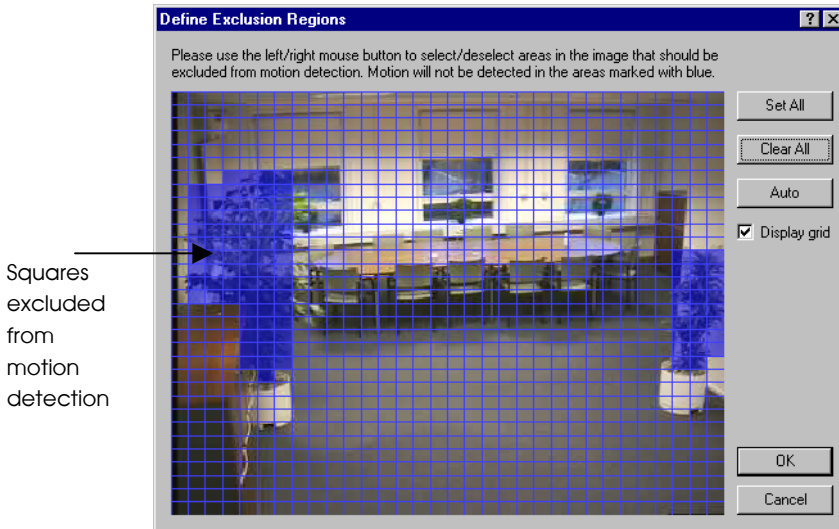

Figure 5: Define Exclude Regions dialog box.

Left mouse button	Exclude square from motion detection.
Right mouse button	Include square in motion detection.
Set All	Press this button to exclude all squares (whole image) from motion detection.
Clear All	Press this button to include all squares (whole image) in motion detection.
Auto	Press this button to make the software detect noisy areas automatically and exclude them from motion detection. Note that the motion detection must be reasonably well calibrated before this auto detection feature will work.
Display grid	Select this option if you wish the grid lines to appear in the image.

The General Settings dialog box allows you to define which rights the user/operator has when using the Monitor Application and to set other administrative settings.

Figure 6: General Settings dialog box

Define user rights in the *Administrator Settings* area:

Enable Protection	Select this option if you want to restrict the user's rights and enable password protection.
Change Password…	Press this button to change the administrator password.
Application Startup	Select this option if the user should be allowed to start the **Monitor** Application without having to specify the administrator password.
Application Shutdown	Select this option if the user should be allowed to stop the **Monitor** Application.
Manual Control	Select this option if the user should be allowed to start and stop the cameras manually in the **Monitor** Application.
Browser	Select this option if the user should be allowed to start the browser in the **Monitor** Application.

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Define settings for logging of activities in the *Logfile Settings* area:

Logfile Path	Specify in which directory on your disk you wish the log files to be located. The directory you specify must exist, it will not be created automatically.
Number of days to log	Specify how many days you want to store the log files. A new log file will be created each day. Log files older than the specified number of days will be deleted automatically.

Other administrative settings:

Email Settings…	Press this button to change the setting for the e-mail alerting. See Configuring E-mail Alerting below.
Sms Settings…	Press this button to change the setting for the SMS alerting. See Configuring SMS Alerting below.

Click the OK button when you are done.

Configuring E-mail Alerting

The E-mail alerting system needs to be configured before it can be used; you do this in the E-mail Setup dialog in the following way:

Enable E-mail	Select this option in order to enable e-mail alerting.
Recipient(s)	Specify the e-mail address of one or more recipients. Use a semicolon (;) to separate the addresses if more than one recipient is specified. E.g.: myself@mycompany.com; myself@home.com
Subject Text	Specify the text string to be used as subject for the mails to be sent.
Message Text	Specify the text string to be used as message (body) for the mails to be sent. The name of the device and camera that generated the alarm will automatically be appended to the text.
Include Image	Select this option if you want the image that generated the alert to be attached to the mail.
Time btw. mails…	Specify the minimum number of minutes between the alert mails for a single camera or 0 (zero) if you want all mails to be sent.
	Background information: During a longer period of constant motion a high number of alarms will be generated; it may not be desirable that an alert mail is sent for every alarm. A number different from 0 in this setting sets a limit to how often the alert mails for each camera will be sent. An alarm from a camera will not generate an alert mail if the minimum number of minutes has not elapsed since an alarm from the same camera generated an alert mail the last time.
Test button	Press this button to send a test mail to the specified recipient(s).

> 💡 *In order for the E-mail alerting system to work it is required that Windows Messaging (especially MAPI) is installed. You can check if it has been installed in the Windows Control Panel under Add/Remove Programs and Windows Setup.*

> 💡 *The Scheduler controls during which hours of the day the alert e-mails are sent and which cameras should be generating the mails.*
>
> *See Appendix B "Scheduler Functionality" for more information.*

Click the OK button when you are done.

Configuring SMS Alerting

The SMS alerting system needs to be configured before it can be used; you do this in the SMS Settings dialog in the following way:

Enable SMS	Select this option in order to enable SMS alerting.
GSM terminal connected to	Specify which serial port on the PC you have connected the GSM terminal to.
SIM card PIN code	Specify the PIN code of the SIM card inserted in the GSM terminal.
SIM card PUK code	Specify the PUK code of the SIM card inserted in the GSM terminal.
SMS central phone no.	Specify the phone number of the SMS central to receive your calls.
Recipient phone no.	Specify the phone number of the GSM phone to receive the SMS alert messages.
Message	Specify the text of the message to be sent. Note that: • a maximum of 100 characters is allowed, • only characters in the ranges a-z, A-Z, 0-9, comma and punctuation mark are allowed.

Time btw. Transmissions …	Specify the minimum number of minutes between the alert SMS message for a single camera or 0 (zero) if you want all messages to be sent.
	Background information: During a longer period of constant motion a high number of alarms will be generated; it may not be desirable that an alert SMS message is sent for every alarm. A number different from 0 in this setting sets a limit to how often the alert SMS messages for each camera will be sent. An alarm from a camera will not generate an alert SMS message if the minimum number of minutes has not elapsed since an alarm from the same camera generated an alert SMS message the last time.
Test button	Press this button to send a test SMS message to the specified recipient.

The SMS Alerting System requires that a GSM terminal has been connected to one of the serial ports of the PC.

The software has been approved especially for the Siemens M20 GSM terminal, but will also work in correction with other GSM terminals compatible with the M20 terminal.

Using the same GSM provider for the GSM terminal and the receiving GSM phone will most likely give you the fastest and most reliable service.

The Scheduler controls during which hours of the day the SMS alert messages are sent and which cameras should be generating the messages.

See Appendix B "Scheduler Functionality" for more information.

Click the OK button when you are done.

The software supports daily archiving of the image databases. The main benefit of using the daily archiving is that it will allow you to make a backup of the archived image databases on a backup media using your normal backup software.

Another important benefit of using the daily archiving is that it will increase the maximum image database storage capacity. 600,000 images per camera is no longer an overall limit but just a daily limit. This means that you can have one or more of your cameras recording 600,000 images per day and at the same time store all these recordings on your disk for e.g. five days - provided that your disk capacity allows it of course.

💡 *Note that a storage capacity of 600,000 images per day corresponds to storing approximately seven images per second 24 hours a day.*

You configure the daily image database archiving using the Database Archiving setup dialog box.
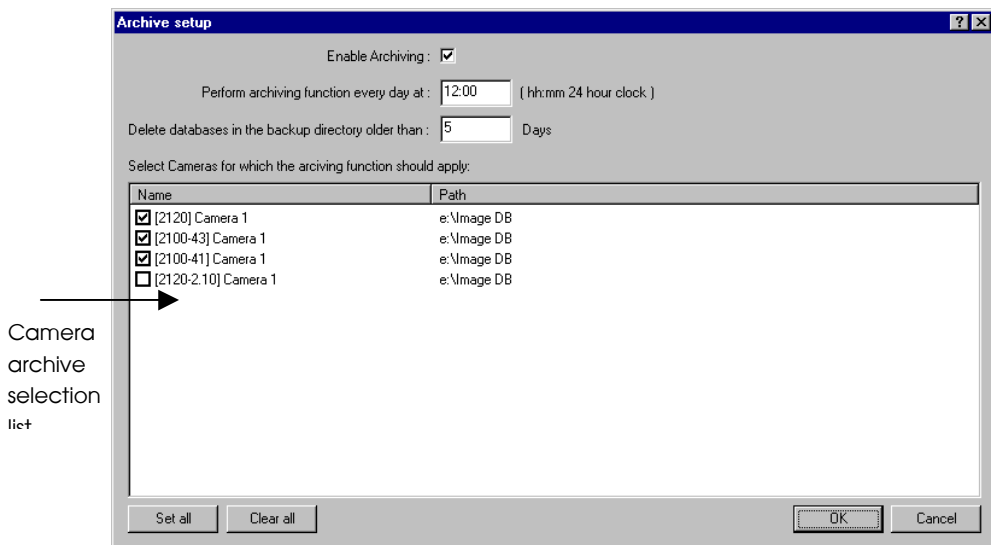

Camera archive selection list

Figure 7: Database Archiving setup dialog box

Enable Archiving	Select this option if you want to use the daily image database archiving feature for one or more of your cameras.

Perform archiving every day at	Specify at which time of the day you want the daily archiving to occur. Note that the cameras will be stopped (i.e. not recording) one by one while the archiving takes place. You should therefore aim at choosing a time of the day where nothing of importance should be recorded. If you are also backing up your image database to a backup media, then you should also choose a time of the day that will not conflict with the scheduled backup job.
Delete databases in the backup directory older than… days	Specify how many days you want to store the archived image databases. Each day at the selected time the image databases will be moved to new sub-directories in the backup directory. Sub-directories containing archived image databases older than the specified number of days will be deleted automatically.
Camera archive selection list	Mark for which cameras the daily image database archiving should take place.
Set all	Press this button to mark all cameras for daily image database archiving.
Clear all	Press this button to unmark all cameras for daily image database archiving.

Click the OK button when you are done.

💡 *How does it work?*

The archived image database for a camera will be stored in a so-called **backup directory***. The backup directory will be created as a sub-directory called "XXVBackup" of the selected image database directory. In the backup directory each daily archived image database will be located in a sub-directory named after the time and date the archiving took place.*

💡 *How do I configure my backup program?*

If you want an external backup program to make a tape backup of the daily archived image database for a camera then you should configure it to make a backup of the **backup directory***. It is recommended that you do not schedule it to make a backup of the image database directory itself, since this may cause sharing violations and functionality malfunctions. Note also that you should not schedule the backup job to overlap the time of the daily archiving.*

Monitor Manual

The **Monitor** Application forms the core of the surveillance system; it is responsible for all the practical work during the normal operation of the system. Besides forming the main user interface to the user, the **Monitor** Application is the one that starts and stops the cameras and servers, acquires the images, displays the images on screen, detects if motion has occurred, saves the images in the image databases, sends alarms and much more.

> 💡 *The surveillance system is only active when the **Monitor** Application is running. If you close the application you will not be recording images and alert messages will not be sent.*

Start the **Monitor** from the Program Menu or from the shortcut on the desk top if you chose to make a link during the installation.

Figure 7: Main window of the **Monitor** Application. Here shown with five monitor windows (each showing the image stream of the associated camera) and one hot spot window.

💡 *When you start the **Monitor** Application it will start the cameras automatically if you have specified them as "Online" if the Scheduler. You can disable and overrule the Scheduler by pressing the "Manual" button. Then the cameras can be started manually one by one by pressing the "Start" or all cameras can be started by pressing the "Start All" button.*

💡 *The **hot spot** window shows an enlarged view of the selected monitor window. In order to show another monitor window in the hot spot window, you must select the new monitor window by clicking on it with the mouse.*

In the main window you have the following buttons:

Start / Stop	Press this button to start or stop the camera in the selected monitor. The button is enabled if running in manual mode.
Start All	Press this button to start all cameras. The button is enabled if running in manual mode.
Stop All	Press this button to stop all cameras. The button is enabled if running in manual mode.
Manual	Switch between *scheduler controlled mode* and *manual mode*. In scheduler controlled mode the scheduler is responsible for starting and stopping the cameras. In manual mode the cameras can be started and stopped manually using the start and stop buttons. The system is in manual mode when the button is depressed.
Recordings	Press this button to review your recordings in the Recordings Browser. See section "Using the Recordings Browser".
PTZ Mode	Press this button to enable the Pan / Tilt / Zoom buttons below.
PTZ buttons	Use these buttons to pan, tilt or zoom the camera in the selected monitor window. Applicable for P/T/Z cameras only.
Admin Login	Press this button to gain administrator rights, and thereby removing the restricted rights a normal user may have. Applicable only if the standard user's rights have been configured to be restricted.
Quick Browse	Switch between *on-line mode* and *quick browsing mode* in the hot spot window. The hot spot window is in quick browsing mode when the button is depressed.
Browser arrows	Use these buttons to pan, tilt or zoom with the camera in the selected monitor window. Applicable for P/T/Z cameras only.
Help	Press this button to get on-line help for the next item you click on.
Exit	Press this button to stop the **Monitor** Application, note that this will stop your cameras.

In the Recordings Browser you can review or playback your recordings, printout or export the individual images, create AVI video files etc.

> 💡 *If you have dual screens on your Windows 98, 2000 or ME system then the Recordings Browser window will be shown on your secondary screen. This is not supported if you are running Window 95 or NT 4.0.*

Camera Selection   Date/Time Selection   Alarm Overview

Previous Image

Go To Start

Previous Sequence
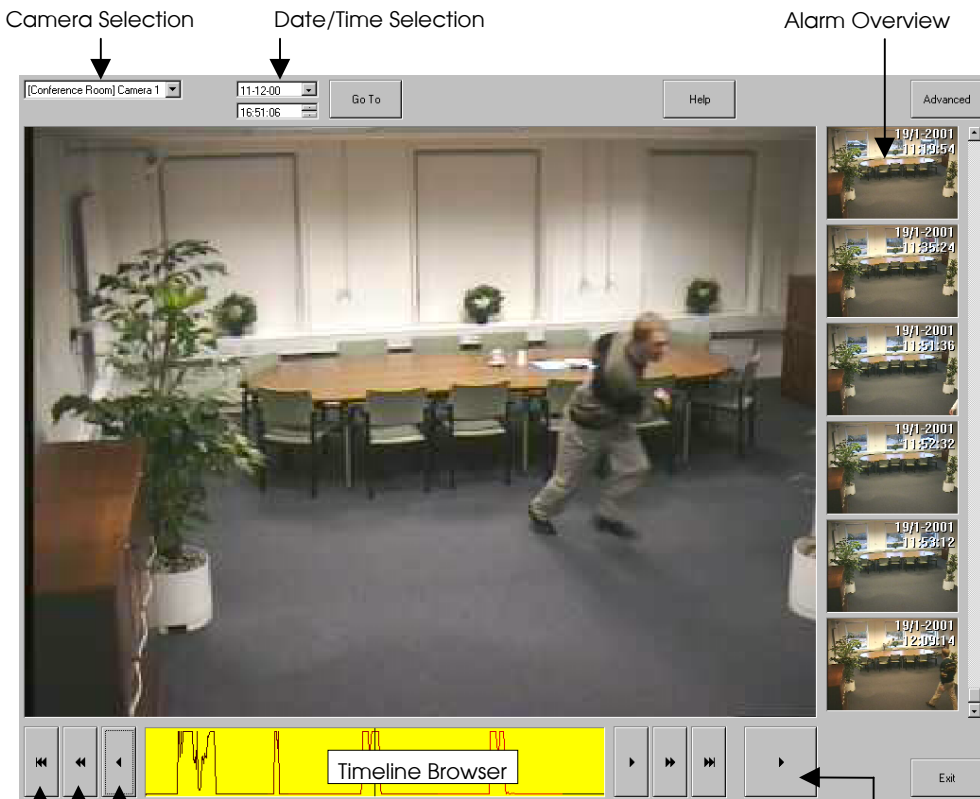
Playback / Pause

Figure 8: Recordings Browser window of **Monitor** Application.

In the Recordings Browser window you have the following controls/buttons:

Camera Selection	Select which camera you want to view the recordings for.

Data/Time Selection	Use these controls and press the "Go To" button to jump directly to the specified date and time. If no image has been recorded at the specified time then the first recorded image found after the specified time will be shown.
Alarm Overview	This overview will show you the first image with motion detected in each recorded sequence. You can use the overview to locate a specific sequence you may be looking for. Click on the overview image in order to jump directly to the time of the sequence.
Timeline Browser	The Timeline Browser graph shows the level of detected motion in the recorded images. You can use your mouse to click and drag the graph to a new position, when you do this you will jump directly to the corresponding time.
Go To Start / End	Press this button to jump directly to the start or to the end (arrows in opposite direction) of your recordings.
Previous / Next Sequence	Press this button to jump directly to the first image with motion detected in the previous or next (arrows in opposite direction) sequence recorded.
Previous / Next Image	Press this button to jump to the previous or next (arrow in opposite direction) image recorded.
Playback / Pause	Press this button to start or pause the playback of your recording
Advanced button	Switch between *alarm overview mode* and *advanced mode*. The Recordings Browser will be in advanced mode when the button is depressed. See also "Features in Advanced Mode" below.
Help	Press this button to get on-line help for the next item you click on.
Exit	Press this button to exit the Recordings Browser and go back to the main window of the **Monitor** Application.

Features in Advanced Mode

In *advanced mode* you are able to printout or export individual images, create AVI video files and zoom in or out on the images. You have the following buttons:

Start Time: Set	Use this button when exporting JPEG files (or creating AVI files). First you must find the image that will start the sequence to be exported (or made into an AVI file), next you must press this button to indicate that the selected image will be the first.
End Time: Set	Use this button when exporting JPEG files (or creating AVI files). First you must find the image that will be the last in the sequence to be exported (or made into an AVI file), next you must press this button to indicate that the selected image will be the first.

Export	Press this button to export the images in the range from start time to end time as individual JPEG images. The images will be exported in their original form as received from the camera.
Create AVI	Press this button to create an AVI file from the images in the range from start time to end time. When creating the AVI file you will be asked to give the new file a name and to select the desired AVI compression method.
Zoom In Zoom Out	Press these buttons to zoom in or out on the image. If you have zoomed in on the image you can use the mouse to click and drag the image so that the correct part of it is shown in the view.
Smooth Image	Select this option if you want to enhance the image electronically.
Print	Press this button to print the selected image on you default printer. If you want to use another printer, you must select this printer as the default printer first.

Through the devices it is possible to connect external sensors to the surveillance system. It could e.g. be PIR (Passive Infrared) sensors or door and window contacts. Check the product manuals for nos. of sensors that each device handles. Also please refer to the manuals for a description of how to connect external sensors to the devices.

The Milestone Surveillance XXV software offers you the possibility to control the camera activity through these sensors. For each sensor one or more events can be defined and for each of the monitors a start and stop event can be selected among the defined events. Follow these steps in order to control camera activity through sensor input:

Start by opening the **Administrator** Application and click the *Scheduler* button. In the new dialog click the *Events* button in order to define an event based on the input from an external sensor. This kind of event is called *External Event*. For each external event one or more *Timer Events* can be defined. A timer event is an event that occurs after a specified time.

In the *Defined Events* window select the camera or video server device to which the external sensor is connected. Now click on the *Add New Event* button and the *Add New Event* dialog appears. Do the following in this dialog:

A. Select the device input used in the list box: *Sensor Connected Through*.

B. Select *High* or *Low* in the list box: *Event Occurs When Input Goes*.

C. Enter a name for the external event in the *External Event Name* box.

D. Click the OK button of the dialog in order to return to the Event Settings dialog.

A plus (+) will now appear to the left of the device to which the sensor is connected. Click on the plus in order to see the defined external event entry. The event name appears under the device, which indicates that this event is controlled through that device. In order to create a timer event that is connected to the new external event, select the event by clicking on it in the *Defined Events* window. Now click the *Add New Event* button. The *Define Timer Event* dialog appears. Do the following in this dialog:

A. Enter a number in the *Timer Event Occurs After* box and specify if the number entered is in *Seconds* or *Minutes*.

B. Give the timer event a name in the *Timer Event Name* edit box.

C. Click the *OK* button of the dialog in order to return to the *Event Settings* dialog.

A plus (+) will now appear to the left of the defined external event found under the device to which the sensor is attached. Click on the plus in order to see the defined timer event entry. The timer event name appears under the external event name, which indicates that this timer event is controlled through the external event. Click the *OK* button in order to return to the *Camera/Alert Scheduler* dialog.

A. From the *Monitor* list box select the monitor to be controlled by the created events.

B. From the *Start Event* listbox select the event that starts the camera.

C. From the *Stop Event* listbox select the event that stops the camera.

Since the camera can be controlled both through events but also controlled on time, we need to specify when the camera should be controlled by the start and stop events.

In the Camera/Alert Scheduler dialog do the following:

A. Select the *Mode* to *Set* in order to specify the event period.

B. Check the *Online* check box, uncheck the *E-mail, SMS,* and *Sound* check boxes. Adding periods will now only apply to the *Online* part.

C. In the Scheduler week view click on the name of the day on which the event controlled period starts.

D. Now find the start time of the event-controlled period and click and drag the mouse to the end time.

E. You will now be asked to specify the selected time period as *On Events* or *Always*. Select *On Events* and the selected time period turns yellow in the Scheduler overview.

When online event periods have been set, click the *OK* button of the *Camera/Alert Scheduler* dialog in order to start using the event settings and return to the main window. The camera will now start and stop on the specified events but only when in the specified event period.

In the scheduler you can control the following functions:

Online - Controls in which periods during the week the camera should be active (i.e. retrieve images). Camera activity can be controlled through time and/or events. Events used to start or stop a camera can either occur when external sensors are activated (External Events) or after a given time since an external event (Timer Event). See Appendix A "Advanced Camera Control with Sensors" for more information on working with sensors.

E-mail - Controls in which periods during the week E-mails should be sent when motion is detected.

SMS - Controls in which periods during the week GSM-SMS messages should be sent when motion is detected.

Sound - Controls in which periods during the week sound alerts should be given when motion is detected. The sound file used must be placed in the Milestone Surveillance directory and the filename must be alarm.wav, if you prefer a different sound than the default one, then you can replace the file.

Select one or more of the above functions (check the associated option-box) if you want to add (set Mode to "Set") or remove (set Mode to "Clear") periods for the monitor schedule. Next you must (a) move the mouse cursor to the desired start time in the scheduler window, (b) click the left mouse button and keep the button pressed, (c) drag the cursor to the desired end time and (d) release the mouse button.

Look in the "How to?" section of the online-help for a small example.

If you want the same schedule to apply for another camera (monitor) press the *Copy Schedule* button and select which monitor the schedule should also apply for and the click the *Paste Schedule* button.

Important: Be careful when copying because monitor schedules are overwritten without any warnings.

💡 *Before using the E-mail Alerting System and the SMS Alerting System you need to configure them by pressing the associated button in the Camera/Alert Scheduler dialog and fill out the required information.*

See the sub-sections "Configuring E-mail Alerting" and "Configuring SMS Alerting" for information on this.

Milestone Surveillance includes a powerful web server that enables access to the image database from a remote computer. Through the web server you can get access to live images as well as playback of recordings and image database browsing. Before the web server can be used the following requirements must be fulfilled.

Requirements:

- Internet Explorer 4.0 or above is installed on the remote computer. **Notice:** Netscape 4.0 or above can be used, but only for image database browsing, not playback or live images.
- The Milestone Surveillance computer should be reachable from the remote computer through a TCP/IP connection (LAN, modem or Internet).
- The Milestone Surveillance computer has a unique IP-address on the LAN and/or Internet.
- No other web server using the same http port (default port 80) must be running on the Milestone computer. The http port can be changed from within the Milestone Web server.
- The Real-time Feed Server uses port 9513. It is not recommended to change this port, since manual changes should be made to the html page as well in order to make it work.

Start the Milestone Web Server and Live Feed Server on the Milestone Surveillance computer. You can start them from the Milestone Surveillance group (Start menu), if these were not started automatically at computer startup.

The Milestone Web server and Live Feed Server can be started automatically at computer start up, by adding them to the Windows StartUp group. Note that the installation program may have done this for you already.

In order to control access to the image database, users must be defined with name and password before they can access the image database. Click the Web Server's *Users* button and add the users that should have access.

When a user has been added the user should be able to connect to the Milestone Surveillance system from a remote computer.

1. Start the Internet browser on the remote computer.

2. Enter the IP-address of the Milestone Surveillance computer in the browser address box. Add the http port number after the IP-address if another port than port 80 (default) is used. A colon should separate the IP-address and port number. Now connect to the computer.

3. A log in web page will be shown if the connection has been established successfully. Enter the username and password and select ActiveX support if you are interested in playback or live images. Click the *Login* button.

4. You are now connected to the Milestone Web Server, and the last retrieved image from monitor 1 will be shown.

You can now change between the different monitors of the Milestone Surveillance system, search for images by date/time, jump to previous/next alert or just to the previous/next image.

Click the *Play/Live* button in order to gain access to playback of recorded images. The *Play/Live* button is only present if support for ActiveX was selected during log in.

Click the *Play* button to start playback from the current position in the database or click the *Live* button in order to watch live images from the selected camera.

Click the *Help* button of the web page in order to get a full functionality description of the different possibilities that you have.

The program stopped with a warning for low disk space?

The program does not check in advance if the desired amount of recordings can be stored on the disk. In case of low disk-space (less than 150 Mbyte available) the program will give you a warning on the screen and alert you by e-mail and SMS, if this has been enabled. The program will warn you in the same way when less than 100 Mbyte disk space available, **at this stage the program will stop all cameras having their recordings on the disk in question.**

NOTICE: Storing recordings on the same disk as the Windows memory swap-file might cause the program to stop cameras due to a temporary large swap-file.

I can not make event-control work with an Axis 2100/2120 camera?

Make sure that you do not have any FTP servers running on the Milestone Surveillance computer. Since FTP-servers uses the same port, running an FTP-server will block the communication between the Axis 2100/2120 and the Milestone Surveillance build-in FTP-server.

The Play/Live button on the remote web page is not present?

Only Internet Explorer 4.0 or above can be used for playback and live images. The playback and live functionality of the web interface uses ActiveX controls. When logging into the Milestone Web server you should ensure that the ActiveX support checkbox is checked. If it is not checked you will only be able to browse in the image recordings (and the Play/Live button will be missing).

Your Notes

Software License Code	**3 0 0** - _ _ _ _ - _ _ _ _

Device Name	IP Address	Serial Number	Device License Key