

# **MemoCam**

## **Software Manual**

Version 5.1

August 2004

**MemoCAM®**

**MemoCAM® Plus**

**MemoCAM® DVR**

**MemoCAM® Mobile**

**MemoCAM® IP System**

**MemoCAM® D-V56**

**MemoCAM® M-C56**



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**Video Domain Technologies Ltd.**



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# Introduction

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This manual describes the installation and use of the MemoCam Application provided on the enclosed CD-ROM.

This manual is also provided in PDF format on the enclosed CD-ROM.

This manual is applicable for the following products:

- ☐ MemoCam
- ☐ MemoCam Plus
- ☐ MemoCam DVR
- ☐ MemoCam *iP* System
- ☐ MemoCam Mobile
- ☐ MemoCam D-V56
- ☐ MemoCam M-C56

**MemoCam** — includes a video camera, a video compression engine, a removable Memory Card, a Passive Infrared (PIR) detector, and the option to connect an external monitor and external alarm devices.

**MemoCam Plus** — provides the same features as the MemoCam and built-in Video Motion Detection (VMD), and the option of connecting two external cameras.

**MemoCam DVR** — provides the same features as the MemoCam as well as built-in Video Motion Detection (VMD), and the option of connecting three external cameras. MemoCam DVR does not contain either a built-in camera or a built-in PIR.

**MemoCam D-V56** — provides the same features as the MemoCam DVR as well as built-in Video Motion Detection (VMD). MemoCam D-V56 does not contain a built-in camera or a built-in PIR. It also supports CIF resolution and full VGA resolution recording, with a recording speed of up to 10 images/sec. The D-V56 also includes a built-in communication port (RS 485).

**MemoCam M-C56** — provides the same features as the MemoCam as well as built-in Video Motion Detection (VMD), Color or B/W CCD camera, support for CIF recording, full VGA resolutions, recording speed up to 10 images/sec, and a built-in communication port (RS 485).

### **MemoCam *iP* System**

Accessing MemoCam units through TCP/IP communication requires the use of a MemoCam GateWay Internet / LAN interface. MemoCam units configured with a MemoCam GateWay comprise a **MemoCam *iP* System**.

### **MemoCam Mobile / Mobile Module**

The MemoCam Mobile and MemoCam Mobile Module provide portable, battery-powered MemoCam functionality.

## **The MemoCam Application**

The MemoCam Application is used with all MemoCam models and has the "look and feel" of Microsoft Explorer™.

The MemoCam Application enables retrieval, viewing, sorting, analyzing, copying and printing of recorded images and events. You can also view image thumbnails and details, verify image integrity and export images to AVI, JPEG and BMP formats.

The MemoCam Application further enables arming and disarming of MemoCam units, as well as setting unit activity schedules and configuration of MemoCam units via your PC and a Memory card.

All models feature remote visual alarm verification, alarm status monitoring, Video Motion Detection, PIR, scheduling,

Notifications on alarm and remote firmware upgrades. These advanced functions are managed through the MemoCam Application.

The MemoCam Application window differs slightly between MemoCam unit models. Your MemoCam Application window is automatically defined by your MemoCam unit and your unit configuration.

MemoCam Serial and TCP/IP communication is described in the MemoCam Serial Communication and MemoCam TCP/IP chapters. The MemoCam Application additionally enables configuration of Mobile MemoCam units using a MEMORY CARD. Mobile MemoCam configuration is described in a separate chapter.





# Installing the Software

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The minimum hardware requirements needed to run the MemoCam application is shown in the table below:

**Table 1 - System Requirements**

<b>CPU</b>	Pentium III 800Mhz or higher.
<b>RAM</b>	64 MB or more.
<b>Graphic adapter</b>	Super VGA or better
<b>Display resolution</b>	640x480, 16 bit or higher.
<b>Operating systems</b>	Windows 98SE, 2000, or XP with Internet Explorer™ 5.0 or higher.
<b>Memory Card Reader</b>	Any USB card reader that is compatible with the Memory cards used

# Installing the MemoCam Application

◆ To install the MemoCam Application:

1. Switch on your computer and start Windows.
2. Insert the enclosed MemoCam Application CD-ROM into the CD-ROM drive. The CD-ROM menu is displayed.
3. Click the **Install MemoCam Application** link. The Install Shield Wizard starts the installation process.

The Wizard *Setup* window opens:

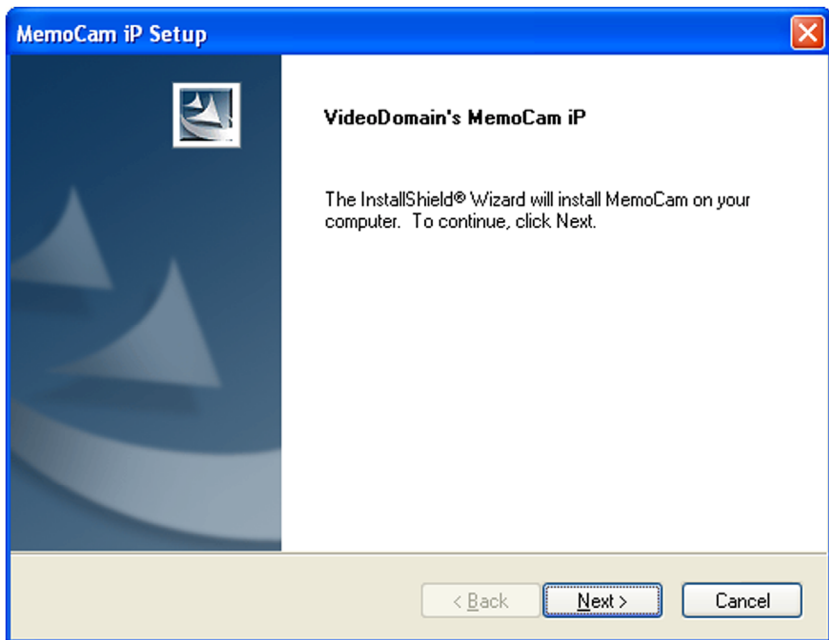


Figure 1 - Setup Wizard Opening Window

4. Click **Next** to proceed.

The *License Agreement* window opens:

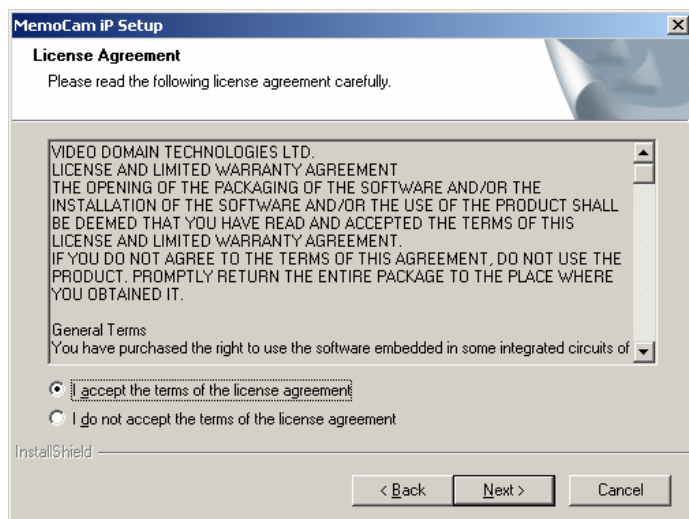


Figure 2 - License Agreement Window

- Click the **I accept** radio button and click **Next** to proceed.

The *Destination Location* window opens:

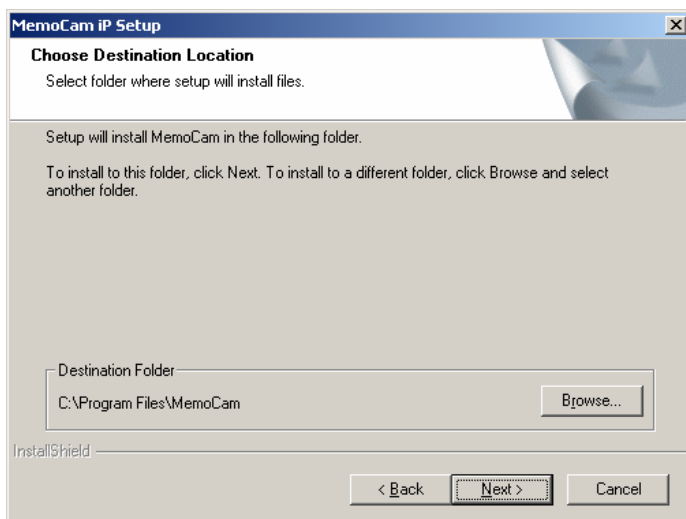
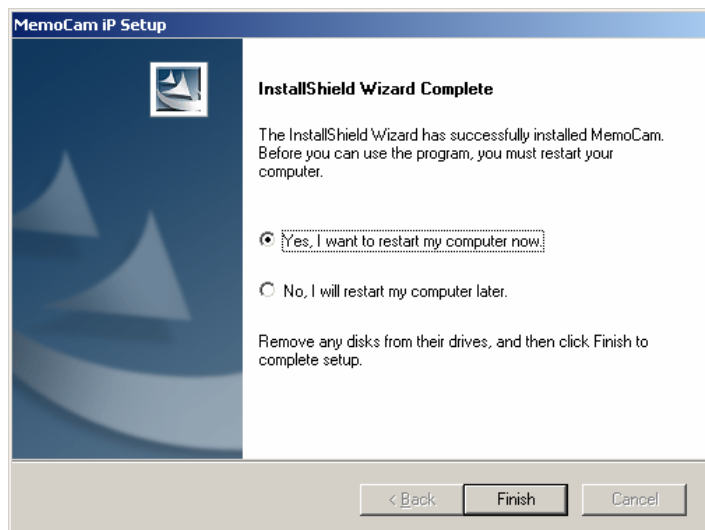


Figure 3 - Destination Location Window

6. Select the destination folder and click **Next**.

The Setup Wizard installs program files. When the files are installed, the *Wizard Complete* window opens:




**Figure 4 - Wizard Complete Window**

7. Select the **Restart** option and click **Finish** to complete the setup and exit the Setup Wizard. The computer restarts and the MemoCam Application icon is now displayed on the desktop.

# Starting the MemoCam Application

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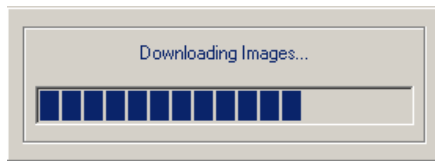
◆ **To start the MemoCam Application:**

1. Insert the Memory card into the Reader.
2. Double-click the  MemoCam Application desktop icon.

If no events have been recorded on the Memory Card, the following message is shown



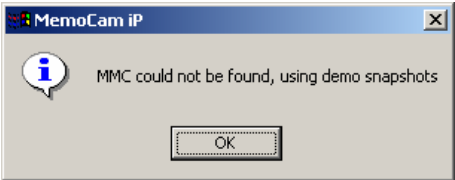
Otherwise a progress bar is displayed while the MemoCam Application reads the Memory card data:



**Figure 5 - Memory Card Reader Progress Bar**

The length of time this message is displayed depends on the Memory card and the data recorded on the card. The duration may vary from a few seconds to a few minutes for a 64MB or high capacity Memory card.

If the Memory card has not been inserted in the Reader, the following message is displayed:

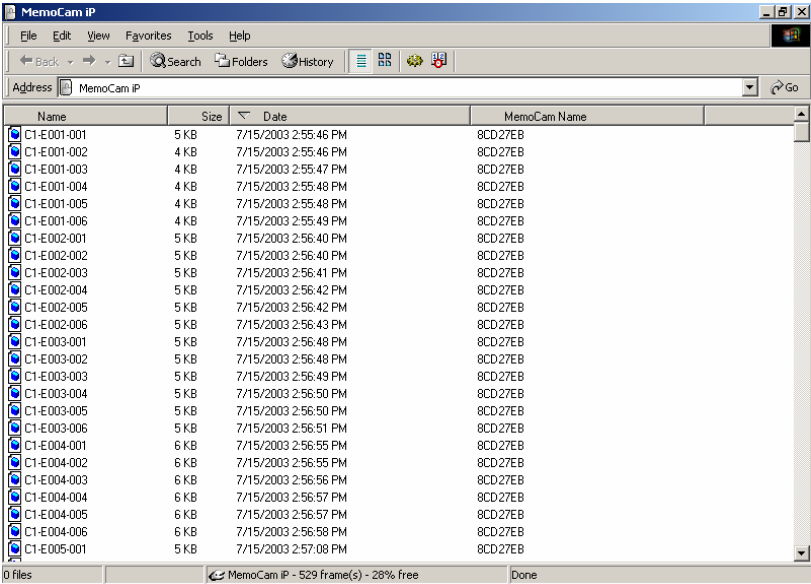


**Figure 6 - Memory Card Not Found Status Message**

If this occurs the MemoCam Application displays demo snapshots from the application.

## MemoCam Application Window

The MemoCam Application window opens and lists the files on the Memory card.







**Figure 7 - MemoCam Application Window**

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## Starting the MemoCam Application

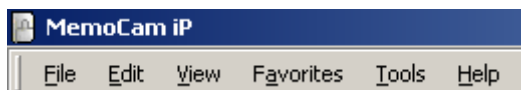
---

The MemoCam Application window is similar to the normal *Windows Explorer* window and contains the following unique icons:

Icon	Description	See Page
	<b>Details</b> - Displays a list of the images on the Memory Card.	<i>Viewing a List of Images</i> on page 15
	<b>Thumbnails</b> - Displays the images as thumbnails.	<i>Viewing Thumbnails</i> on page 17
	<b>Configure</b> - Opens the <i>MemoCam Configuration</i> windows.	<i>The Unit Configuration Window</i> on page 29
	<b>Filters</b> - Opens the <i>Filter</i> window. Used to filter the images by date, time and camera where applicable.	<i>Filtering Images</i> on page 23

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### MemoCam Application Menus



**Figure 8 - MemoCam Application Menu Bar**

Before selecting any of the menu options, click F5 to refresh the MemoCam application.

### File Menu

The **File** menu contains the following shortcut options:

Shortcut	Descriptions	Go To
<b>Delete All Images</b>	Deletes the image files from the Memory card	<i>Delete All Images from the Memory card on page 24</i>
<b>Arm With Memory card</b>	Arms the MemoCam unit using the Memory card	<i>Arming the Unit Using the Memory card on page 57</i>
<b>Rename Unit</b>	Change the MemoCam unit identification	<i>Renaming the MemoCam Unit on page 59</i>
<b>Set Unit Time</b>	Synchronize the MemoCam unit and the PC clocks	<i>Setting the Unit Time on page 57</i>
<b>Load From</b>	Loads data from a specified location	
<b>Save To</b>	Saves the Memory card contents to a specified location on a hard drive	
<b>Add Connection</b>	Opens the Wizard for configuring the Serial or TCP/IP	<i>Adding Serial Connections to the MemoCam Application on page 63</i>
<b>NOA Settings</b>	Sets the NOA TCP/IP parameters	<i>Defining NOA Parameters on page 107</i>
<b>View Log File</b>	View the MemoCam unit notifications log	<i>Viewing the Notification Log File on page 86</i>
<b>Close</b>	Close the MemoCam Application	



### Edit Menu

The **Edit** menu contains the following shortcut options:

Shortcut	Descriptions	Go To
Filter	Filter MemoCam images by date, time and camera	<i>Filtering Images</i> on page 23

### View Menu

The **View** menu contains the following shortcut options:

Shortcut	Descriptions	Go To
Details	Displays a list of the images on the Memory card	<i>Viewing a List of Images</i> on page 15
Thumbnails	Displays thumbnails of the images on the Memory card	<i>Viewing Thumbnails</i> on page 17
Notifications	Shows or hides the Notification window at the bottom of the window	
Toolbars	Adds or Deletes the Toolbars	
Status Bar	Shows or hides the Status bar at the bottom of the window	
Refresh	Refreshes the active window	

### Help Menu

The **Help** menu contains the following shortcut options:

Shortcut	Descriptions
MemoCam iP Help	Displays MemoCam Help file
About MemoCam iP	Displays MemoCam version details and Video Domain Technologies contact links
www.vdomain.com	Loads the Video Domain Technologies website
About Windows	Displays MS Windows information



# Viewing Images

There are a number of ways in which you can view the MemoCam images:


- ☐ As a detailed image list
- ☐ As thumbnails
- ☐ Individually using the default image viewer



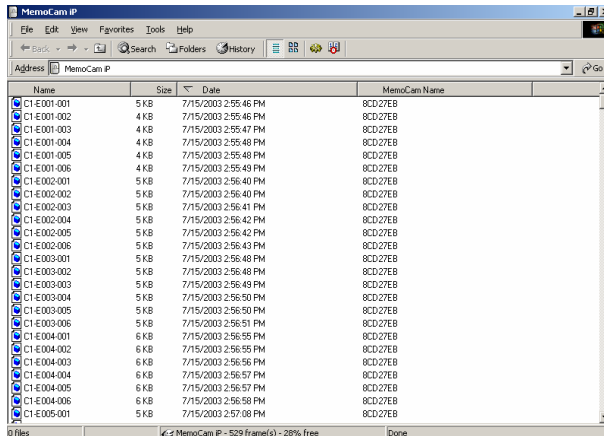
Before ejecting the Memory Card see *Removing the Memory Card from the Reader* on page 21.

## Viewing a List of Images

◆ To view a list of images:

- ☐ Click the **Details** icon 
- OR
- Select *View -> Details*.

The image window displays the list of available images:

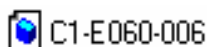


Name	Size	Date	MemoCam Name
C1-E001-001	5 KB	7/15/2003 2:55:46 PM	8CD27EB
C1-E001-002	4 KB	7/15/2003 2:55:46 PM	8CD27EB
C1-E001-003	4 KB	7/15/2003 2:55:47 PM	8CD27EB
C1-E001-004	4 KB	7/15/2003 2:55:48 PM	8CD27EB
C1-E001-005	4 KB	7/15/2003 2:55:48 PM	8CD27EB
C1-E001-006	4 KB	7/15/2003 2:55:49 PM	8CD27EB
C1-E002-001	5 KB	7/15/2003 2:56:40 PM	8CD27EB
C1-E002-002	5 KB	7/15/2003 2:56:40 PM	8CD27EB
C1-E002-003	5 KB	7/15/2003 2:56:41 PM	8CD27EB
C1-E002-004	5 KB	7/15/2003 2:56:42 PM	8CD27EB
C1-E002-005	5 KB	7/15/2003 2:56:42 PM	8CD27EB
C1-E002-006	5 KB	7/15/2003 2:56:43 PM	8CD27EB
C1-E003-001	5 KB	7/15/2003 2:56:48 PM	8CD27EB
C1-E003-002	5 KB	7/15/2003 2:56:48 PM	8CD27EB
C1-E003-003	5 KB	7/15/2003 2:56:49 PM	8CD27EB
C1-E003-004	5 KB	7/15/2003 2:56:50 PM	8CD27EB
C1-E003-005	5 KB	7/15/2003 2:56:50 PM	8CD27EB
C1-E003-006	5 KB	7/15/2003 2:56:51 PM	8CD27EB
C1-E004-001	6 KB	7/15/2003 2:56:55 PM	8CD27EB
C1-E004-002	6 KB	7/15/2003 2:56:55 PM	8CD27EB
C1-E004-003	6 KB	7/15/2003 2:56:56 PM	8CD27EB
C1-E004-004	6 KB	7/15/2003 2:56:57 PM	8CD27EB
C1-E004-005	6 KB	7/15/2003 2:56:57 PM	8CD27EB
C1-E004-006	6 KB	7/15/2003 2:56:58 PM	8CD27EB
C1-E005-001	5 KB	7/15/2003 2:57:08 PM	8CD27EB

Figure 9 - MemoCam Application Image List

### Image Name Format

When using multiple cameras, you can see the names of the cameras as a part of the event name in the image list:



**Figure 10 - Image Name**

An image name contains the following information:

**C1, C2, or C3** – Camera name.

**E060** – Event number.

**007** – Number of the frame in the event.

The image icon color indicates:


**Blue** – A valid recorded image.

**Gray** – No video or camera is disconnected.

The image list also shows the date the image was recorded, the image size and the serial number of the MemoCam unit that recorded the image.

## Viewing Thumbnails

- ◆ To view thumbnails of the images on the Memory card:

- ❑ Click the **Thumbnails** icon 
- OR
- Select *View -> Thumbnails*.

The thumbnail images are displayed:

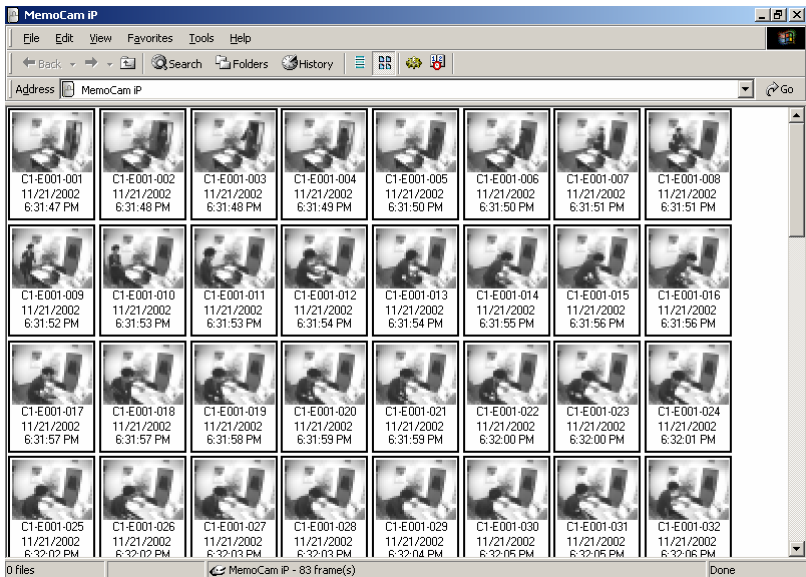


Figure 11 - MemoCam Application Image Thumbnails

## Viewing Individual Images

Individual images can be viewed using the default image viewer or the MemoCam Application Image Player.

Images include a time-stamp that shows the date and time the image was recorded, as well as the number of the camera and the MemoCam unit serial number.

GMT time and date-stamps can also be added to images. For further details, see *Setting the Unit Time* on page 57.

◆ **To view individual images:**

- ❑ Right-click an image name or thumbnail and select *View* from the popup menu.

**OR**

View images and events using the Player, by double-clicking an image to open the player.



Figure 12 - Image with Date, Time and Camera Name Stamp



The default image viewer is selected in the *Unit Configuration Advanced Tab* on page 45.

---

## Playing the Images

You can view images consecutively in the Player. A toolbar to control the viewing of images appears at the top of the player window. Images are played in the order they appear in the image list.

◆ **To play images:**

1. Double-click an image in the list.  
**OR**  
Select an image in the list.
2. Right-click the image and choose **Play**.

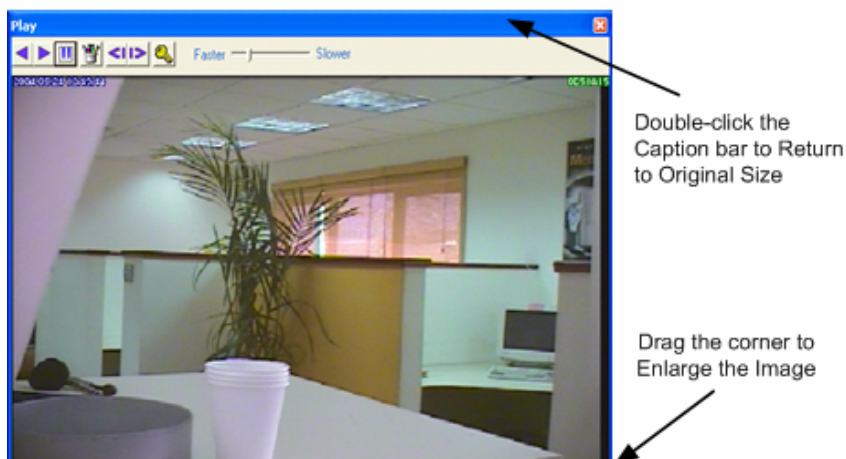










Figure 13 - Image shown in Image Player

The MemoCam Application Image Player toolbar buttons are:

Table 2 - Image Player Buttons

Button	Description
	Play images backward.
	Play images forward.
	Pause image playing.
	Displays the current image in your PC's default viewer.
	Displays the previous image.
	Displays the next image.
	Checks image integrity. Enter the integrity key or load the key from a file. For more information See <i>Image Integrity</i> on page 47
	Adjusts the speed at which the images are displayed.

### Viewing Event Details

An event is a pre-determined number of images recorded per trigger. The MemoCam Application displays the following event details:

- ☐ Serial number
- ☐ Event number
- ☐ Number of frames
- ☐ Trigger time and date
- ☐ Trigger source
- ☐ Integrity check
- ☐ Video status
- ☐ Camera number
- ☐ Image resolution

◆ **To view the details of an event:**

1. Select a single event image from the image list or thumbnail display.
2. Right click the image and select **Details** from the drop-down menu.

The *Details* window opens:

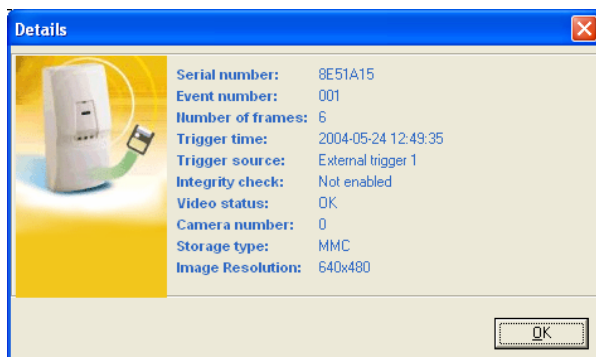


Figure 14 - Event Details Window



## Playing Consecutive Images

MemoCam images can be viewed consecutively using the default viewer.

### ◆ To view individual images consecutively:

- ❑ Right click the event and select **Play** on the MemoCam menu. The default player starts to cycle through the images.

**OR**

Double-click an image in the list. The Player starts to play the images sequentially from this image.

You can adjust the cycle speed using the slider in the top right of the Player window.

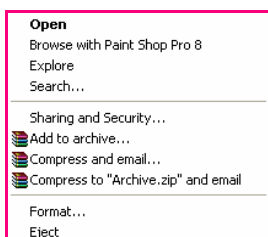
## Removing the Memory Card from the Reader

Before ejecting the Memory Card from the reader first close the application and then use the Eject command.

### ◆ To eject the memory card:

1. Close the MemoCam software application.
2. From My Computer right-click on the card reader device (Removable Disk).

The shortcut menu opens.



3. Choose Eject from the shortcut menu.

You can now remove the Memory Card from the reader.



# Managing Images

You can perform the following image file manipulations using the MemoCam Application:

- ☐ Filtering by date, time or camera
- ☐ Exporting to AVI, JPEG and BMP format
- ☐ Printing
- ☐ Backing up and restoring

## Filtering Images

You can filter images by date and time or by camera number when using multiple cameras.

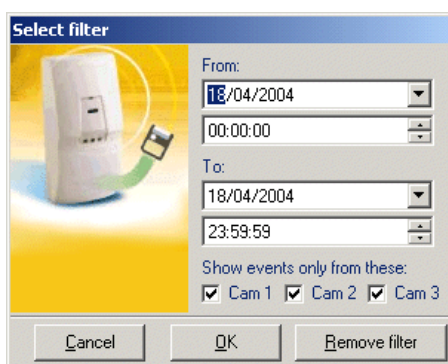
### ◆ To filter the images:

1. Click the **Filter** icon



**OR**

Select *Edit -> Filter*. The *Select filter* window opens:



**Figure 15 - Filter Select Window**

2. Enter the range of dates and/or times of images you wish to view.

3. When using multiple cameras, enter the camera number to view.
4. Click **OK**.

The window closes and the MemoCam Application refreshes itself. The MemoCam Application then displays images recorded with the selected camera in the time and date interval that you set.



**The image list continues to be filtered until you open the filter window and choose “Remove filter”.**

---

In the MemoCam Application status bar, the number of images is refreshed to display the number of images presented after filtering.



**To cancel the filter:**

1. Open the **Select filter** window.
2. Click the **Remove filter** button.

## Delete All Images from the Memory card

---



**Before ejecting the Memory Card see *Removing the Memory Card from the Reader* on page21.**

---



**To delete data from the Memory card:**

1. Ensure that the Memory card is inserted into the Reader.
2. Select **View** and then choose **Refresh** to refresh the image list.
3. Select **File** and then choose **Clear Event Files**. The following window opens:

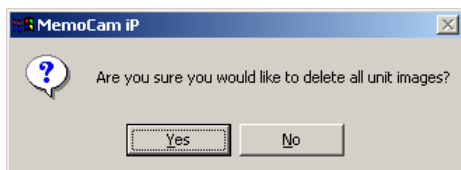


Figure 16 - Deletion Confirmation Window

4. Click **Yes** to delete the data from the card. The following message opens, indicating that the event file entries have been deleted:



Figure 17 - Erase Message

5. Click **OK**. The message box closes.

## Exporting Images

MemoCam images can be exported from the Memory card to a directory on your PC. You can export images (from the Memory card or Demo files) in AVI, JPEG or BMP file format.

### ◆ To export images:

1. Ensure that the Memory card is inserted into the Memory card Reader.
2. Select the files that you want to export.
3. Right-click and select **Export**.
4. Select your target directory.
5. Select your desired file format. The choices are: AVI, JPEG and BMP file formats. If you select AVI, the Video Compression window opens. Select a video compression mode and click **OK**.
6. Click **Save**.

The image files are saved into the target directory.



**You can also copy BMP files into a new directory using the "drag and drop" technique.**

---

### Printing Images

You can print individual or multiple images directly from the MemoCam Application.

◆ **To print images from the MemoCam Application Image window:**

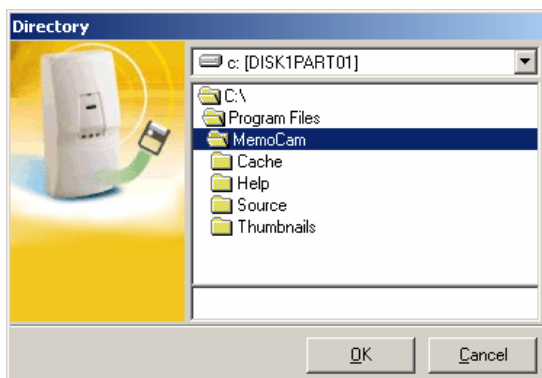
1. Select the image(s) you want to print.
2. Right-click on the image(s) and select **Print**.

### Backing Up and Restoring

You can save the image list and MemoCam configuration in a location other than the Memory card for later processing.

◆ **To save the MemoCam data files:**

1. Select **File** and then choose **Save to** in the MemoCam menu, to open the *Directory* window.



**Figure 18 - Directory Window**

2. Select the drive and directory in which to save the MemoCam data.

**OR**

Enter the desired path in the lower section of the *Directory* window.

3. Click **OK**.

The data is saved to the selected location.

### Loading MemoCam Data

You can load previously-recorded and archived images into the MemoCam Application for viewing.

◆ **To load MemoCam data from any location:**

1. Select **File** and then choose **Load from** in the MemoCam menu. The *Directory* window opens.
2. Select the drive and directory from which to load the MemoCam data.
3. Click **OK**.

The image list refreshes.

◆ **To return to the default location**

- Press **F5** or select **View** and then choose **Refresh** in the drop-down menu.





# Configuring the MemoCam Parameters

---

Configuring the MemoCam unit is accomplished by storing configuration data on the Memory card, then inserting the card into the unit so that the unit will read the new settings.

You can use the MemoCam Application to configure the following MemoCam parameters:

- ☐ Configure the camera recording parameters
- ☐ Define the MemoCam I/O parameters
- ☐ Define the arm /disarm code, LED and beep indicators, default viewer, enable image integrity verification
- ☐ Schedule arm, disarm and beep times
- ☐ Adjust Video Motion Detector (VMD) area and sensitivity

## The Unit Configuration Window

You can configure the MemoCam Application using the tabs in the *Unit Configuration* window.

The new configuration is saved on the Memory card and when it is inserted into a MemoCam unit, the MemoCam unit reads and loads the new configuration settings from the Memory card.

Before you open the *Unit Configuration* window, or attempt to configure your MemoCam unit, ensure that the Memory card is inserted into the Memory card Reader and that the MemoCam application is loaded.

Once you have adjusted your configuration settings, click the F5 key to refresh the MemoCam Application with your new settings.

### Opening the Unit Configuration Window

- ◆ To open the *Unit Configuration* window:

- ☐ Click the *Unit Configuration* icon .

The *Unit Configuration* window opens containing the tabs:

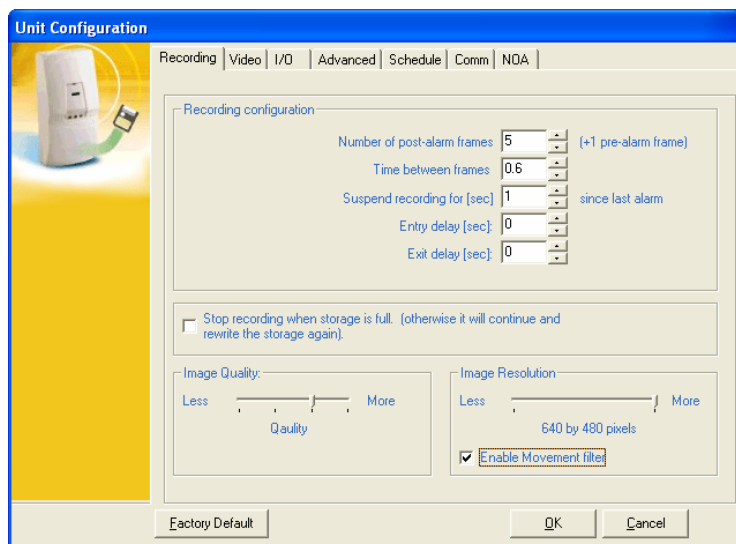
Tab	Description	Go to
<b>Recording</b>	Defining the recording parameters	<i>Unit Configuration Recording Tab</i> on page 31
<b>Video</b>	Selecting image resolution	<i>Unit Configuration Video Tab</i> on page 36
<b>I/O</b>	Defines the Input/Output parameters	<i>Unit Configuration I/O Tab</i> on page 37
<b>Advanced</b>	Defines advanced parameters	<i>Unit Configuration Advanced Tab</i> on page 45
<b>Schedule</b>	Sets the daily schedules	<i>Unit Configuration Schedule Tab</i> on page 49
<b>Comm</b>	Defines the Serial communication parameters	<i>Configuring the Serial Com Settings</i> on page 80
<b>NOA</b>	Defines the Notification on Alarm parameters for TCP/IP and Serial communication	<i>Unit Configuration NOA Tab</i> on page 54
<b>Standby</b>	Defines the mobile standby parameters	<i>Unit Configuration Standby Tab</i> on page 127
<b>VMD</b>	Defines the Video Motion Detection parameters	<i>Unit Configuration Video Tab (VMD)</i> on page 52

### Unit Configuration Recording Tab

Recording parameters are configured in the *Unit Configuration Recording Tab*.



**Before you change any of the parameters, ensure that the Memory card is inserted into the Reader.**



**Figure 19 - Unit Configuration Recording Tab**

The recording configuration parameters are:

- ☐ Recording Configuration
  - Number of post-alarm frames
  - Time between frames
  - Suspend recording
  - Entry delay
  - Exit delay
- ☐ Stop recording when storage is full
- ☐ Image Quality
- ☐ Image Resolution

### Setting Number of Post-alarm Frames

Post-alarm frames are the number of image frames recorded upon activation of the alarm by the sensor. The available range for post-alarm frames is 1-100 frames.

- ◆ **To set the number of post-alarm frames:**
  1. Open the **Unit Configuration Recording** Tab.
  2. In the **Post-alarm frames** field, enter the number of post-alarm frames to record.
  3. Click **OK**, to save the settings and close the *Unit Configuration* window.



When the triggers do not follow immediately one after the other the MemoCam records one frame before the alarm was activated. This ensures that the alarm event is recorded from the exact moment the alarm trigger occurred. On units that have multiple camera recordings, the Pre-alarm frame is recorded only for the internal camera.

---

### Setting the Time between Frames

You can set the time-lapse delay between frames that are recorded upon MemoCam alarm activation.

- ◆ **To set the time between frames:**
  1. Open the **Unit Configuration Recording** Tab.
  2. Enter the delay time in seconds in the *Recording Rate (time between frames)* field.
  3. Click **OK**, to save the settings and close the *Unit Configuration* window.

### Suspend Recording

You can enter a time (in seconds) to suspend recording since the last alarm. This time is measured from the last recorded trigger event. During suspend, the unit ignores any incoming triggers from the same input and no recording takes place. As soon as suspend times out, any new trigger will start the recording again.

The suspend range is 0 to 999 seconds.

#### ◆ To suspend recording time between triggers:

1. Open the MemoCam Configuration window Recording tab.
2. Enter the time in seconds in the *Suspend recording* field.
3. Click **OK**, to save the settings.  
The *Unit Configuration* window closes.

### Defining the Entry Delay

The entry delay is the time delay between the first trigger activation and the actual image recording time. This delay is used for entering the room or detection area in order to de-activate the MemoCam.

The time range f is 0-300 seconds.

#### ◆ To define the entry delay:

1. Open the **Unit Configuration Recording Tab**.
2. Enter the **Entry Delay** time in seconds.
3. Click **OK**, to save the settings and close the *Unit Configuration* window.

### Defining the Exit Delays

The exit delay is the time between arming the MemoCam and the time it is actually activated. This delay is used to exit the room or detection area when activating the MemoCam sensor. This delay is activated only once after the unit is armed, and is active only during the first trigger that occurs after arming.

#### ◆ To define the exit delays

1. Open the **Unit Configuration Recording** Tab.
2. Enter the **Exit Delay** time in seconds.
3. Click **OK**, to save the settings and close the *Unit Configuration* window.

### Setting the Recording Method (Cyclic or Stop on Memory card Full)

MemoCam records images on the Memory card in one of two methods:

- ❑ Images can be recorded until the Memory card memory is full and then the recording on the Memory card is halted. Refer to the specific MemoCam User's Guides and Installation manuals for details on LED indications.

**OR**

Images can be recorded in a cyclic manner (wrap-around) whereby when the MultiMedia card is full, images continue to be recorded from the beginning of the MultiMedia card overwriting the older images.

#### ◆ To define the recording method:

1. Open the **Unit Configuration Recording** Tab.
2. Check the **Stop recording when storage is full** checkbox, to stop recording after the Memory card becomes full.  
**OR**  
Uncheck for the checkbox for continuous recording (cyclic or wrap-around).
3. Click **OK**, to save the settings and close the *Unit Configuration* window.

### Setting Recording Quality

A higher quality image should be used when small details are important even though they take up more space on the Memory card. A lower quality image is used when it is more important to record a large amount of images when taking into consideration that the lower the quality the more images can be recorded on the Memory card.

◆ **To set recording quality:**

1. Open the **Unit Configuration Recording** Tab.
2. Slide the **Recording Quality** selector to the required setting. A yellow pop-up window indicates the quality level.
3. Click **OK**, to save the settings and close the *Unit Configuration* window.

### Image Resolution

Resolution is the number of pixels comprising the image.



**The Image Resolution function is available on supported models only.**

---

◆ **To set image resolution:**

1. Open the **Unit Configuration Recording** Tab.
2. Slide the **Image Resolution** selector to the required setting. A yellow pop-up window shows the image level. There are two levels:  
Less - Low 320 x 240 pixels  
More - High 640 x 480 pixels
3. Check the **Enable Movement Filter** box if the camera is installed in a location with constant movement.
4. Click **OK**, to save the settings and close the *Unit Configuration* window.

### Unit Configuration Video Tab

Camera brightness, contrast and saturation are usually adjusted after you have viewed some test images and determined that you need to improve the image quality.

We recommend that you check a set of test images every time you change the brightness and contrast settings.

This tab enables you to select a camera and adjust its, Brightness, Contrast and Saturation

#### ◆ To adjust the camera properties:

1. As shown below, click the arrow to open the available camera selection box.
2. Select a camera.
3. Use the three sliders to adjust each property.
4. Click **OK**.

Each individual camera retains their set properties until changed.

The **Factory Reset** button returns the selected camera's properties to **Nominal**.

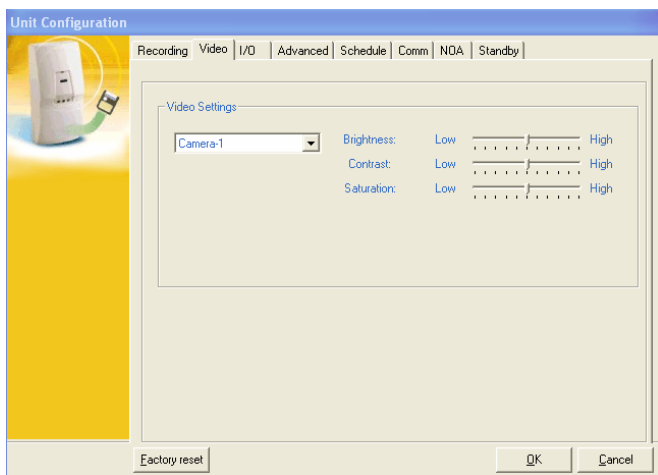


Figure 20 - Unit Configuration Video Tab



### Unit Configuration I/O Tab

MemoCam I/O parameters are configured from the *Unit Configuration window I/O Tab*.



The I/O tab may look different due to the specific model.

**Unit Configuration**

Recording | Video | **I/O** | Advanced | Schedule | Comm | NOA | Standby

Functions	Record Camera 1	Record Camera 2	Record Camera 3	Ext. Arm Disarm	Reserved	Relay IR Flash 10.0 sec
Inputs						
IN 1 <input checked="" type="checkbox"/> N/O	✓	✗	✗	✗	✗	✓
IN 2 <input type="checkbox"/> N/O	✗	✗	✗	✗	✗	✗
IN 3 <input type="checkbox"/> N/O	✗	✗	✗	✗	✗	✗
Internal PIR	✓	✗	✗	✗	✗	✓
Video motion detection	✗	✗	✗	✗	✗	✗
Remote control snapshot	✓	✗	✗	✗	✗	✗

Factory reset OK Cancel

**Figure 21 - Unit Configuration Window I/O Tab**

The MemoCam I/O tab is used to define the associations between:

- ❑ External inputs (dry contacts) (either 2 or 3 inputs)
- ❑ Internal inputs (PIR and VMD in an **AND/OR** combination)
- ❑ MemoCam unit functions

MemoCam unit functions can be activated by both external and internal inputs.



**Before you change any parameters, ensure that the Memory card is inserted in the Reader.**

### MemoCam External Inputs

MemoCam external inputs can be connected to external devices that will trigger MemoCam functions. For example, mechanical switches or door-opened detectors and window-break detectors. External inputs can also be used to trigger MemoCam unit relays. The I/O tab displays the available external inputs for each specific mode.

An example of a MemoCam device with three inputs:

- ☐ Input 1 (IN 1)
- ☐ Input 2 (IN 2)
- ☐ Input 3 (IN 3)

For I/O input hardware configuration details, refer to the specific MemoCam Installation or User Guided documentation.

### Defining the External Device Trigger Type

The external circuits used to trigger the MemoCam alarm mechanism either open or close electrical circuits. Either a contact is opened breaking a circuit, or a contact is closed to complete a circuit triggering an event. The choice of circuit is left up to the person installing the hardware.

#### ◆ To choose the N/O external trigger type:

- ☐ Check the box marked N/O (shown below).  
The default is N/C (when the box is unchecked).

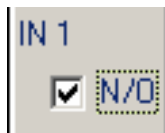


Figure 22 - Input 1 Circuit Type Selector (N/C or N/O)

### MemoCam Internal Unit Inputs

MemoCam internal inputs are:

- ☐ Internal PIR (not in all models)
- ☐ VMD
- ☐ Remote Control Snapshot
- ☐ Dual Detection (not in all models)

#### Internal PIR

The PIR input can activate the MemoCam unit recording cameras and the external relays.

#### Video Motion Detection (VMD)

The VMD input can be used to activate recording on a single selected camera when motion occurs in a pre-defined area of interest. VMD can activate a relay for triggering an alarm or any other external OEM equipment.

When VMD is activated in the I/O tab, the VMD tab is added to the *Unit Configuration* window.

For configuring the VMD tab go to *Unit Configuration Video Tab (VMD)* on page 52.

#### Remote Control Snapshot

The Remote Control Snapshot input can be triggered from a MemoCam IR remote control unit or the MemoCam application. The Remote Control Snapshot input activates snapshot recording on all enabled cameras in sequence when the product has multiple camera inputs.



**The Remote Control Snapshot input is only operational when the MemoCam unit is in Disarm mode.**

---

### MemoCam Functions

MemoCam functions are actions taken by the MemoCam unit when activated by an input. MemoCam functions are:

- ☐ Recording
- ☐ External Arm/Disarm
- ☐ Reserved
- ☐ Relay

### Recording

MemoCam supports multiple cameras depending on the model.

- ☐ Record Camera 1
- ☐ Record Camera 2
- ☐ Record Camera 3

When multiple cameras are activated by a single input, recording is performed in sequence for the activated cameras:

### External Arm/Disarm

External inputs and devices can be used to arm or disarm the MemoCam unit.

An external device such as a control panel is generally used for the External Arm/Disarm function. The external arm / disarm option enables the MemoCam unit to be armed together with the whole installed alarm system.

When the External Arm/Disarm function is activated for an input, no other functions can be enabled for that input.



**Only one External Arm/Disarm function can be configured per MemoCam unit.**



**When selecting the External Arm/Disarm function the Relay check function is automatically reset if active.**

---

When enabled, external Arm/Disarm control has priority over inputs from the MemoCam unit remote control, Scheduler, and Memory card.

### Reserved

This function (Reserved) is intended for OEM use only.

The Reserved function is custom designed to OEM requirements. This type of input is usually assigned to a physically-activated alarm button such as a bank teller's Panic button. A physical connection between the alarm and the MemoCam unit is required. The MemoCam unit must be armed for the alarm button to activate it. When the alarm button is physically activated by a user, the MemoCam unit records for the pre-defined time period and then disarms.

The reserved input parameter can only be activated for a single input.

### Relay

A relay can control or trigger another device usually an alarm panel or a siren. When activated by a MemoCam unit input, the relay will activate the secondary device.

Relay time is the duration of time that the external relay remains active upon sensor activation.

### Relay Configuration

Relay activation hold time can be defined by selecting the desired time in seconds using the arrow buttons in the Relay function box.



**Figure 23 - Relay Function Box**

When an IR flash source is connected and the IR Flash checkbox is checked, you cannot define the relay hold time.



The relay is activated when the selected input is active. For relay details, refer to the MemoCam Installation Manual.



If the External Arm/Disarm function is selected while the relay function is active for that specific input the Relay check function is automatically reset.

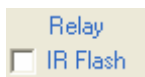
See Figure 21 on page 37.

---



### To activate the IR Flash

- ☐ Check the IR Flash box, to enable the flash function.



## Dual Detection Technology (Supported Models Only)

On supported models, when dual PIR and VMD detection is installed together on the same unit, the unit can either **AND** or **OR** the PIR and VMD functions. The AND function creates a filter allowing the unit to benefit from a marked reduction in false alarms.

On units with multiple camera inputs, only one of the MemoCam unit cameras can be activated using the dual detection combination of PIR and VMD. Any other other cameras remain PIR activated only.

MemoCam I/O parameters can also be configured so that dual PIR and VMD detection activates MemoCam functions.

### AND Function

To enable the AND option dual detection must be installed and activated on the specific unit. PIR activation is now immediately followed by VMD verification and image recording only starts after the VMD confirms the PIR movement detection as a valid alarm event.

◆ **To activate dual detection using the AND function:**

1. In the I/O tab, check the Internal PIR and Video Motion Detection checkboxes in the same MemoCam function column.
2. Click the Boolean AND/OR function between the arrows until it displays AND (as shown below)

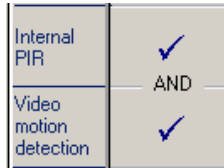


Figure 24 - Dual Detection Activated AND function

3. Only when both the PIR and the VMD are activated together is an event started.

### OR Function

When configured as an OR function, either PIR activation or VMD activation causes image recording to start.

◆ **To activate dual detection using the OR function:**

1. In the I/O tab, check the Internal PIR and Video Motion Detection checkboxes in the same MemoCam function column.
2. Click the Boolean AND/OR function between the arrows until it displays OR (as shown below)

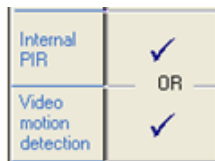


Figure 25 - Dual Detection Activated OR function

3. Whenever either the PIR or the VMD are activated an event is started.

### **Recording with Dual Detection**

Dual detection can be used to activate only one camera for recording.

### **Using Relays with Dual Detection**

To activate a relay using Dual Detection, both PIR and VMD must be selected for the same MemoCam camera or external input.



**This function is not available on all models.**

---




If PIR and VMD have been selected to activate different cameras, either detection method will activate the assigned camera individually, but the PIR and VMD will not be combined to act as a Dual Detection function.

### **Setting the I/O Parameter Matrix**

The I/O tab presents a matrix containing MemoCam unit external input contacts, MemoCam unit internal input contacts and MemoCam functions.

Select the function(s) to be activated by each input by checking or un-checking the appropriate checkboxes.

**Table 3 - I/O Tab Settings**

<b>I/O Setting</b>	<b>Description</b>
	I/O parameter active.
	I/O parameter not active.
	I/O parameter not available.

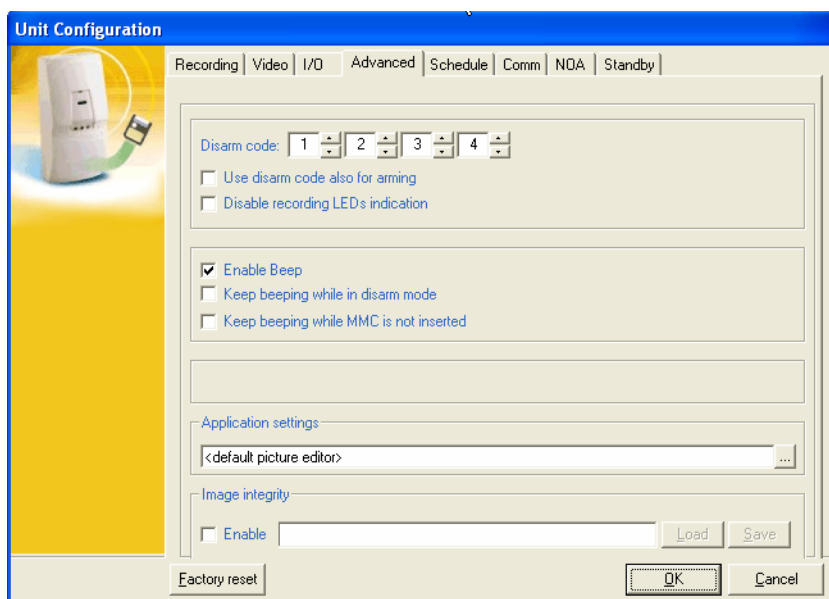


### Unit Configuration Advanced Tab

Advanced parameters are configured from the *Unit Configuration Advanced Tab*.



**Before you change any of the parameters, ensure that the Memory card is inserted into the Reader.**



**Figure 26 - Unit Configuration Advanced Tab**

The advanced parameters are:

- ☐ Disarm Code
- ☐ Use Disarm Code for Arming
- ☐ Disabling recording LED indication
- ☐ Configuring the beep function
- ☐ Application settings - Defining the Picture Editor
- ☐ Image Integrity control

### Defining the Disarm Code

The disarm code is used when you de-activate (disarm) the MemoCam with the remote control unit.

The code consists of four digits (1 through 4).



**Consecutive numbers in the disarm code must not be identical to each other. For example: 1234 or 4231 are valid codes; 1123 or 4413 are not valid and cannot be defined in the software.**

---

#### ◆ To define a disarm code:

1. Open the **Unit Configuration Advanced Tab**.
2. In the **Disarm Code** field, individually enter a value from 1 to 4 in each of the value fields. These four numbers make-up the disarm code.

If you check the **Use disarm code also for arming** checkbox the disarm code is also used for arming the MemoCam, preventing arming by unauthorized persons.

3. Click **OK**, to save the settings and close the *Unit Configuration* window.

### Disabling the Recording LED

#### ◆ To Disable/Enable the recording LED indication:

1. Open the **Unit Configuration Advanced Tab**.
2. Check the **Disable recording LED's indication** box to disable the LED.

**OR**

Ensure the **Disable recording LED's indication** box is unchecked to enable the recording LED.

3. Click **OK**, to save the settings and close the *Unit Configuration* window.

### Audio Indication Configuration

You can configure the internal beeper as an audio indicator for the following set functions:

- ☐ Continually beep while in disarm mode
- ☐ Continually beep when no Memory card is installed in the unit

#### ◆ To configure the audio indicator (beeper):

1. Open the MemoCam **Unit Configuration Advanced** Tab.
2. Check the **Enable Beep** checkbox.  
**OR**  
Uncheck the box to disable the audio indicator (beeper)
3. Check one or both of the checkboxes, **Keep beeping while in disarm mode** and **Keep beeping while Memory card is not inserted**.
4. Click **OK**, to save the settings and close the *Unit Configuration* window.

### Image Integrity

When using the image integrity feature, each recorded image is digitally signed and protected using a secret key that is known only to the person setting the feature. The MemoCam gives you the ability to *stamp* your key to the recorded images on the MemoCam unit, and afterwards check the image integrity on the pictures in the list to verify that they were not modified in any way.

Image integrity guarantees that an image contains original, unaltered data, including creation time and date, and identifies which camera recorded the image using that specific unit's unique ID.

### Enabling the Image Integrity

- ◆ To enable image integrity:
  1. Open the **Unit Configuration Advanced** Tab.
  2. Check the **Enable** checkbox to enable Image Integrity. Un-checking the checkbox disables the image integrity function.

### Setting the Image Integrity Keys

- ◆ To set an image integrity key:
  1. With image integrity enabled, enter the key using the keyboard, or load the key from a file using the **Load** button. Any character string up to 32 bytes can be used as a key. Alternatively you can enter a binary key of 32 bytes representing every byte by two hex symbols (for example: **F303AC639B**).
  2. Click **Save** to save the key to a file for later loading. This ensures that the key will not be lost.
  3. Click **OK**. The *Unit Configuration* window closes. When the Memory card is inserted into the unit, the integrity signature is added to any newly recorded images.



To change the integrity key, repeat the process by entering a new key.

---

### Verifying Image Integrity

For details on how to verify image integrity, see *Verifying Image Integrity* on page 56.

### Defining the Default Picture Editor

- ◆ To define the default picture editor:
  1. Open the **Unit Configuration Advanced** Tab.
  2. In the **Picture editor application** field, enter the path of the picture editor application that you wish to use. You can also use the *Browse* button to find the picture editor.

If you leave the field empty, MemoCam uses the default image editor.

3. Click **OK**, to save the settings and close the *Unit Configuration* window.

### Unit Configuration Schedule Tab

The MemoCam Schedule is a weekly schedule function divided into 10-minute time intervals. You can use the Schedule function to configure the time at which Rec, Arm, Disarm, and Beep operations are performed in a MemoCam Unit. Events are scheduled from the *Unit Configuration Schedule Tab*:

Monday	Tuesday	Wednesday
09:00 - Arm 14:00 - Disarm 14:00 - Beep	09:00 - Arm	09:00 - Arm 14:00 - Rec 14:00 - Beep 14:00 - Disarm
Thursday	Friday	Saturday
09:00 - Arm 14:00 - Rec	09:00 - Arm 14:00 - Disarm 14:00 - Beep	09:00 - Arm 14:00 - Rec 14:00 - Beep 14:00 - Disarm
		Sunday
		09:00 - Arm 14:00 - Rec

Buttons: Add, Remove, Clear all, Factory reset, OK, Cancel

Figure 27 - Unit Configuration Schedule Tab



**Before you change any of the parameters, ensure that the Memory card is inserted into the Reader.**

**The Rec operation changes the unit to recording mode with no Notification on alarm (NOA), see *Unit Configuration NOA Tab* on page 54.**

Before using the *Schedule* function, ensure that the time is synchronized; see *Setting the Unit Time* on page 57.

### ◆ To synchronize the scheduler:

1. Ensure that your PC Time Zone setting is correct.
2. Remove the Memory card from the MemoCam unit.
3. Run the MemoCam Application and open the *Unit Configuration* window.
4. In the **Schedule** tab, ensure that the scheduler is correct.
5. Click **OK**.
6. Re-insert the Memory card into the MemoCam unit.

The schedules are now synchronized.

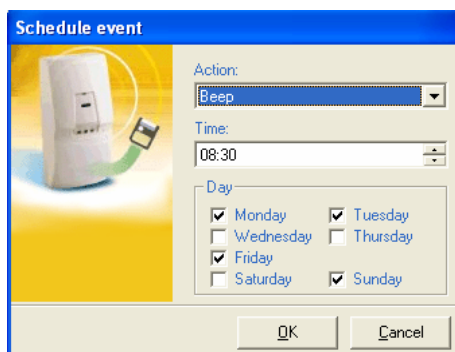


**Remember to synchronize the scheduler when you the change the clock because of daylight savings time. For more information; see *Setting the Unit Time* on page 57.**

---

### ◆ To schedule an event:

1. In the **Schedule** Tab, click the **Add** button.  
The *Schedule Event* window opens:



**Figure 28 - Schedule Event Window**

2. Select an action from the *Action* drop menu. You can select **Rec**, **Arm**, **Disarm** or **Beep**.
3. Enter a time in the **Time** field.
4. Check the days to perform the action.
5. Click **OK**.

The window closes and the new item appears on the *Schedule* tab window.

◆ **To remove a schedule item:**

1. Select the item in the **Schedule** tab.
2. Click the **Remove** button.

The event is removed from the *Schedule* tab window.

◆ **To remove all items:**

- ☐ Click the **Clear All** button. All the scheduled items are removed.

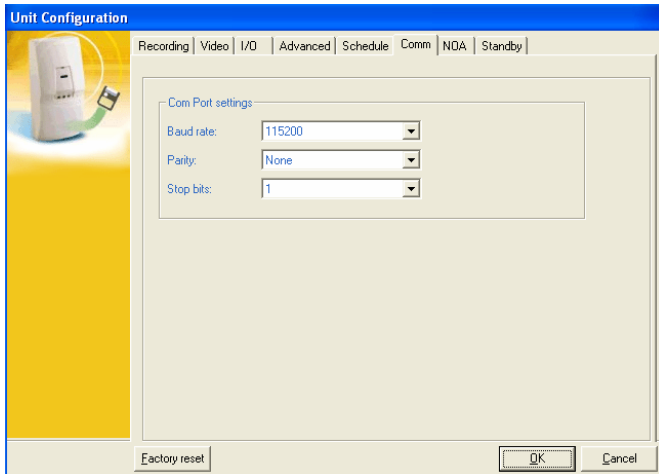


**After resetting the power and inserting the Memory card, the MemoCam unit ignores all events prior to the current time.**

## Unit Configuration Comm Tab

This tab may not be displayed if the unit does not support serial communications.

The *Unit Configuration Comm* Tab is used to set the communication port settings.



**Figure 29 Unit Configuration Comm Tab**

◆ **To set the communication port settings:**

1. Open the **Unit Configuration Comm Tab**.
2. Set the Baud rate, Parity and Stop bits.

The default settings are:

**Baud rate:** 115200

**Parity:** None

**Stop bits:** 1

3. Click **OK**, to save the settings and close the *Unit Configuration* window.

## Unit Configuration Video Tab (VMD)

The *VMD* (Video Motion Detector) window is used to define the areas and sensitivity of MemoCam's Motion Detection function.

VMD must be selected in the I/O tab for the VMD tab to display in the MemoCam Configuration window.

VMD settings are done from the *Unit Configuration VMD Tab*:

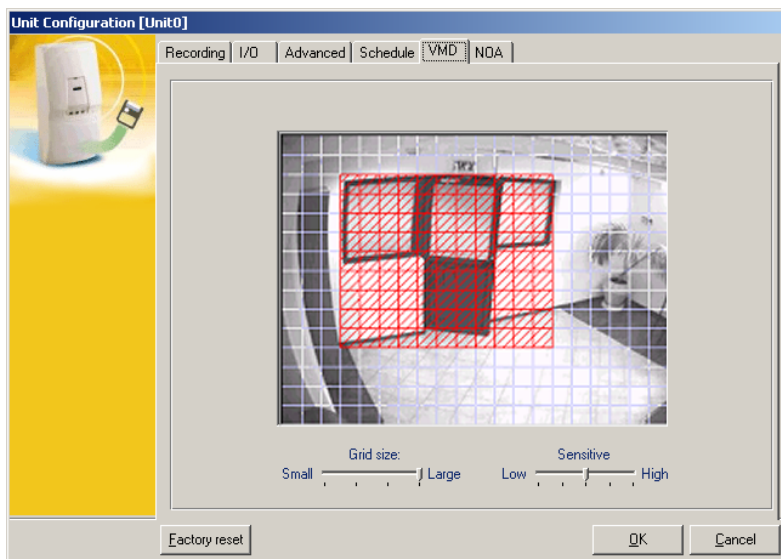


Figure 30 - Unit Configuration VMD Tab





**Before you configure any of the parameters, ensure that the Memory card is inserted in the Reader.**

---

The VMD tab contains an image display area, and two sliders for controlling the grid size and sensitivity.

Before you access the *Unit Configuration* window VMD tab, select an image of your area of interest in the MemoCam image list. The image is shown on the VMD tab image display.

◆ **To adjust the grid size:**

1. Slide the **Grid Size** slider in the appropriate direction until the desired grid is shown in the image display.
2. Click **OK** to save your VMD settings.

◆ **To adjust the detection sensitivity:**

1. Slide the **Sensitive** slider in the desired direction.
2. Click **OK** to save your VMD settings.

◆ **To define detection areas:**

1. Click on the desired grid squares. Detection squares are marked with a red hatch. Non-detection squares are clear.
2. Click **OK** to save your VMD settings.



**Test your detection area and sensitivity settings by arming the MemoCam and entering the VMD field before applying the settings for intrusion detection.**

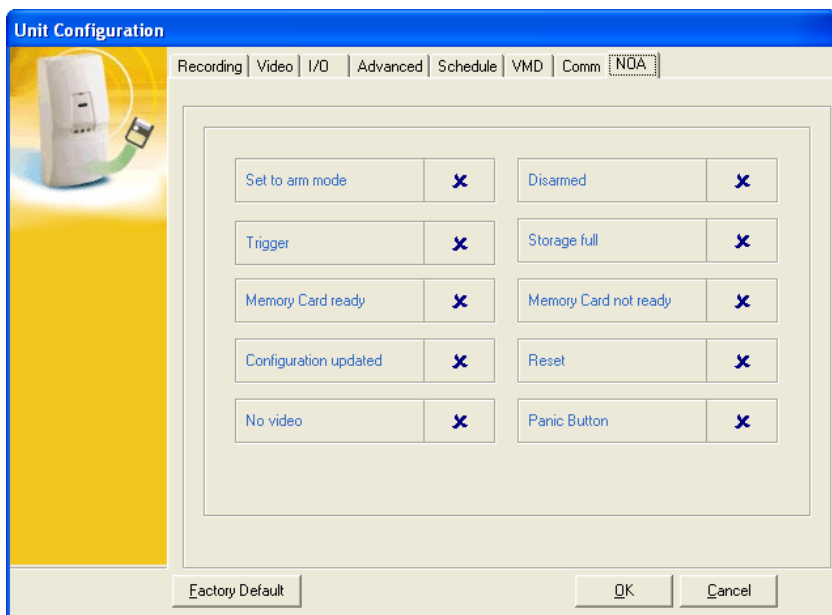
---

### Unit Configuration NOA Tab

This tab may not be displayed if the unit does not support serial communications.

NOA parameters are defined for TCP/IP and Serial communication for Notification On Alarm (NOA).

For information on using NOA, see *Notification on Alarm (NOA)* on page 105.



The NOA tab enables you to select an event on the *Unit Configuration NOA Tab* to trigger the NOA function.

◆ **To select an event to trigger NOA:**

1. Open the **Unit Configuration NOA Tab**
2. Select one or multiple events to trigger the NOA function.
3. Click **OK**, to set the parameters and close the *Unit Configuration* window.

# MemoCam Application Advanced Functions

---

The MemoCam Application incorporates the following advanced functions:

- ☐ Formatting the Memory Card
- ☐ Verifying Image Integrity
- ☐ Arming using the Memory card
- ☐ Delete All Images
- ☐ Setting the unit time
- ☐ Renaming the MemoCam unit
- ☐ Restoring factory settings

## Formatting the Memory Card

The units are supplied with a pre-configured Memory card.

### ◆ To format the Memory Card:

1. Ensure that the MemoCam unit is powered ON.
2. Insert the Memory card into the MemoCam unit. The unit automatically formats the card at this time.
3. Wait until the red Memory Card LED goes OFF.
4. If you want to configure the settings, remove the Memory card and insert the card into the Reader that is connected to your PC and click F5.
5. If you do not want to configure the settings at this point, leave the card inside the MemoCam unit. The unit is now operational and ready to be armed.



**Install the Memory card Reader as described in the documentation supplied with the Reader.**

---


# Verifying Image Integrity

The Image Integrity feature ensures that an image has not been tampered with from the time of original recording.

◆ **To verify an image's integrity:**

1. In the image list, right-click on an image and choose **Check Image Integrity**.

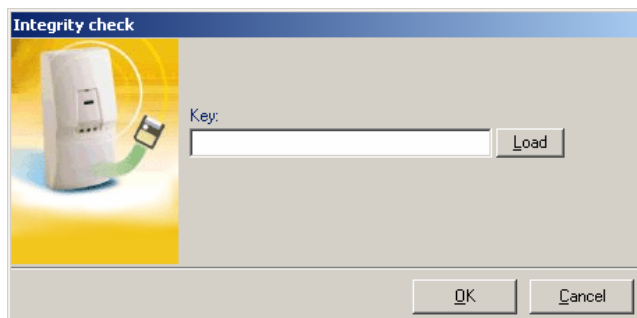
**OR**

With the image Player open, click the  icon.



**Figure 31 - Player Panel Key Icon**

The *Integrity Check* window opens:



**Figure 32 - Integrity Check Window**

2. Enter or load the Integrity Key.
3. Click **OK**. A message informs you if the image integrity is successfully verified.

If the integrity check is not successful, verify that the correct key was entered and that image integrity was enabled.

### Arming the Unit Using the Memory card

You can arm the MemoCam unit upon insertion of the Memory card.

◆ **To automatically arm the MemoCam unit:**

1. Verify that the Memory card is inserted into the Reader.
2. Select **File** and then choose **Arm Using MEMORY CARD** from the MemoCam Application menu.
3. Insert the Memory card into the MemoCam unit. The unit is now armed.

### Setting the Unit Time

You may need to adjust the time used in the time-stamp when you initially set-up the MemoCam unit, or when your local time changes in the spring or autumn.

◆ **To adjust the MemoCam unit time:**

1. Insert the Memory card into the MemoCam unit.
2. Ensure that the MemoCam unit is not armed.
3. Press the **Snapshot** button on the Remote Control Unit and note the time on your watch or clock.
4. Remove the Memory card from the MemoCam.
5. Ensure that the Memory card is inserted into the Reader and that the MemoCam Application is opened.
6. Press **F5** to refresh the MemoCam Application window.
7. Select **File** and then choose **Set Unit Time** from the MemoCam Application menu. The *Set Unit Time* window opens:

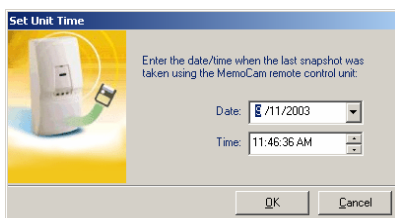


Figure 33 - Set Unit Time Window

8. Enter the date and time when you clicked the Remote Control Unit's **Snapshot** button (step 3).
9. Click **OK**.

The following message is displayed:

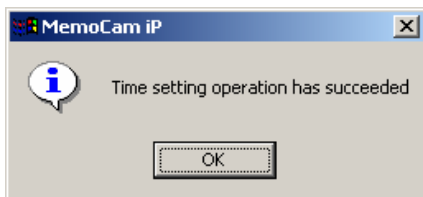


Figure 34 - Synchronization Message

10. Click **OK**.
11. Remove the Memory card from the Reader and insert it into the MemoCam. The time and date are automatically updated.

## GMT Date and Time Stamp

The MemoCam application enables the adding of a GMT date and time stamp along the bottom of exported images.

A GMT date and time stamp enables verification of an absolute date and time for images that is not dependent on your PC date and time settings.



Figure 35 - Exported Image with GMT date and time stamp

- ◆ **To add a GMT date and time stamp to exported images:**
  1. Ensure that the MemoCam Application is not running.
  2. Browse to the MemoCam installation directory (default installation directory is C:\Program Files\MemoCam).
  3. In the MemoCam folder, open the file **MemoCam iP.ini**.
  4. Scroll to the **[CFG]** section.
  5. Set **TimeStamp** = 1 to display the Local timestamp or 0 to hide it [default= 1].
  6. Set **TimeStamp GMT** to 1 to display the GMT timestamp or 0 to hide it [default= 0].
  7. Save your changes and close the **MemoCam iP.ini** file.

A GMT date and time stamp is added to exported images.

## Renaming the MemoCam Unit

You may want to re-name the MemoCam unit to help you track image files. You can add a descriptive name to the image file name to help you identify the MemoCam location, such as lobby or stairs.

- ◆ **To rename the MemoCam:**
  1. Ensure that the Memory card is inserted into the Reader.
  2. Select an image file from the list or thumbnail.
  3. Select **File>Rename MemoCam** in the MemoCam Application menu. The *Rename MemoCam* window opens:

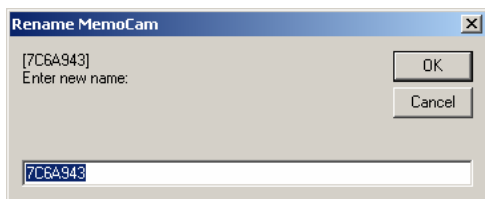


Figure 36 - Rename MemoCam Window

4. Enter a new name in the **Name Entry** field.

5. Click **OK**. The new MemoCam name is saved and is displayed in the *MemoCam ID* field of the image file list.

## Restoring Factory Settings

Use this function when you want to return to a working factory configuration with known parameters.

### ◆ To restore to factory settings:

1. Ensure that the Memory card is inserted into the Reader and the MemoCam Application is opened.
2. Click the **Configure** icon in the MemoCam Application window. The **Unit Configuration** window opens.
3. Click the **Factory reset** button at the bottom left of any tab. A confirmation window opens.
4. Click **OK** to confirm the reset to default settings. The window closes, and the factory default values are saved on the Memory card.



# Using Serial Communications

---

This Appendix presents Serial communication for MemoCam Plus and DVR units.

Before reading this Appendix, you are encouraged to review this manual for instructions on the installation of the MemoCam Application and the operation of your specific MemoCam Plus and DVR units.


## Overview

You can use the MemoCam Application to manage MemoCam Plus and DVR units from your PC through Serial communication. Through the MemoCam Application, you can configure MemoCam serial connections for each available serial port on your PC.

To get the full benefit of the MemoCam Application's Serial communication capabilities, the following terms should be reviewed and understood:


### Local

Local refers to MemoCam unit operation and management from your PC using the Memory card.

In the *MemoCam Application* window, the local icon is displayed: 


### RS-485 Connection

MemoCam Plus and DVR units operate via RS-485 serial connectivity. RS-485 serial connections are used to connect up to 32 MemoCam Plus or DVR units to your PC through a single serial port.

In the *MemoCam Application* window, the serial connection icon is displayed 

### RS-232 Connection

An optional RS-232 serial connection may be used to connect a single MemoCam RS-232 unit directly to your PC through a serial port. On some models this port is for factory use only.

In the *MemoCam Application* window, the serial connection icon is displayed 



**MemoCam Plus and DVR units have different hardware than MemoCam RS-232 units. You cannot combine MemoCam Plus and DVR units with MemoCam RS-232 units in the same serial setup.**

---

### MemoCam Units

A MemoCam unit refers to a MemoCam Plus or DVR unit connected to your PC via a serial port. When a MemoCam unit is connected to your PC, MemoCam operations are performed directly from the PC rather than via the Memory card.

In the *MemoCam Application* window, MemoCam unit icons appear:



*MemoCam unit*  
(not connected)



*MemoCam unit*  
(connected)

### Setting-up Serial Communications

To set up serial communications between MemoCam units and the MemoCam application:

- ❑ Add serial connection(s) to the MemoCam Application.
- ❑ Add MemoCam unit(s) to the serial connection.
- ❑ Connect the MemoCam unit(s).

### Adding Serial Connections to the MemoCam Application

Serial connections are added to the MemoCam Application using the *Connection Wizard*.

### Adding an RS-232 or RS-485 Connection

- ◆ To add an RS-232 or MemoCam Plus or DVR RS-485 serial connection to the MemoCam Application:

1. Select **File**-and then choose **Add Connection**.  
The *Connection* window opens:

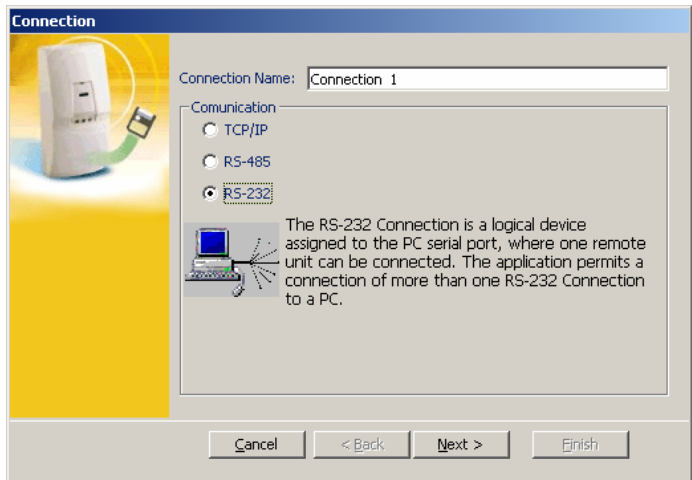


Figure 37 - Serial Connection Window

2. Select the **RS-232** or the **RS-485** radio button.

3. In the **Connection Name** field, change the default connection name if desired.
4. Click **Next**.

The Connection RS-232/RS-485 Tab window opens:

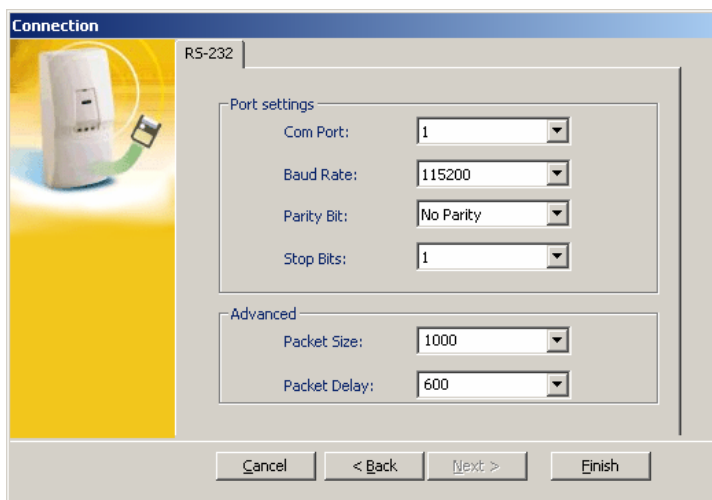


Figure 38 - Serial Connection Configuration Window

5. Configure your RS-232 or RS-485 connection.



Ensure that you have selected the PC com port that the MemoCam units are connected to.



Maintaining MemoCam unit settings at their default values is recommended. These values are selected for optimal unit performance.

6. Click **Finish**.

The RS-232 or MemoCam Plus or DVR RS-485 connection is added to the MemoCam Application.

### Adding MemoCam Units to Serial Connections

MemoCam units must be added to serial connections to enable serial communication between MemoCam units and your PC.

### Adding Units to RS-485 Connections

RS-485 serial connections are used to connect up to 32 MemoCam Plus or DVR units in serial to your PC through a serial port.

Configure and add each MemoCam Plus or DVR unit to your RS-485 serial connection individually.

MemoCam units connected to the same serial connection must have the same configuration settings as the serial connection. For further details, see section *Configuring the Serial Com Settings* on page 80.

- ◆ **To add a MemoCam Plus or DVR unit to a RS-485 serial connection:**

1. Right-click the connection icon . The following menu opens:

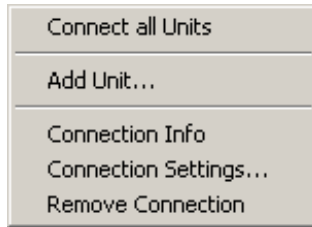
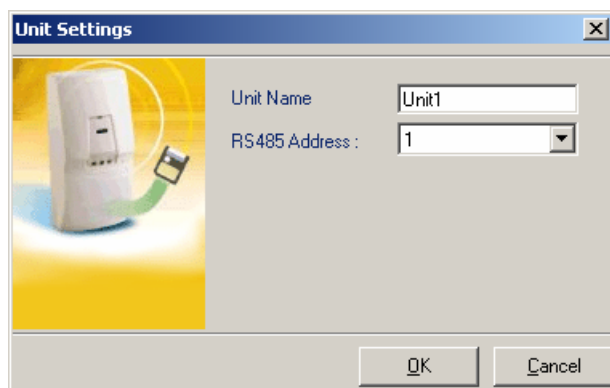


Figure 39 - Connection Menu

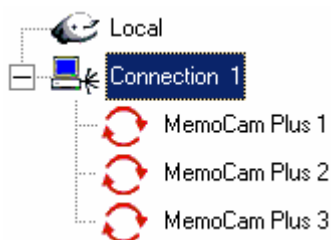
2. Select **Add Unit**.  
The *Unit Settings* window opens:



**Figure 40 - Unit Settings Window**

3. In the **Unit Name** field, change the default unit name as desired. For example, the lobby, window, bank, ATM machine etc.
4. Select the MemoCam unit RS-485 address.

The MemoCam unit(s) are displayed in the *MemoCam Application* window:



**Figure 41 - MemoCam units added to a RS-485 serial connection**

### Adding Units to RS-232 Connections

When you add an RS-232 serial connection to the MemoCam Application, the MemoCam Application automatically adds a RS-232 MemoCam unit to the connection.



Figure 42 - RS-232 Serial Connection with Serial Unit

### MemoCam Application Window

When a serial connection is added to the MemoCam Application, the *MemoCam Application* window displays as follows:

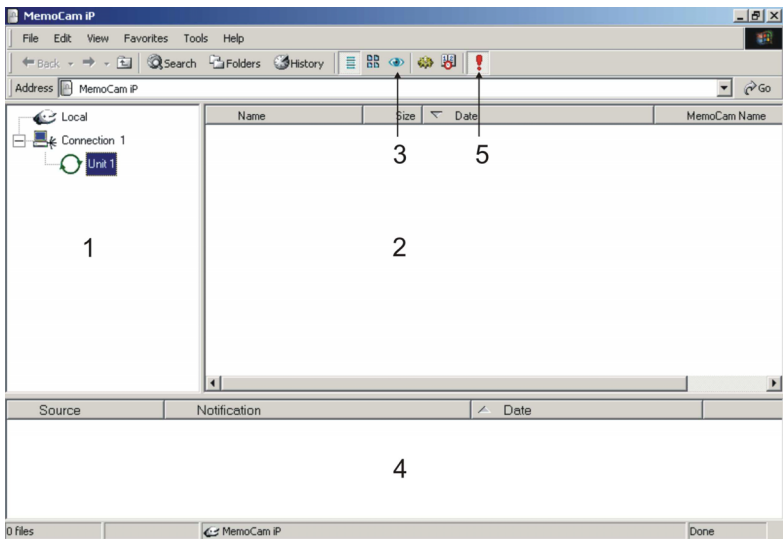


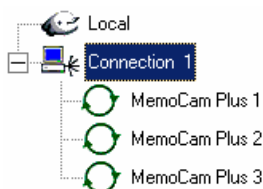
Figure 43 - MemoCam Application Window with Serial Connection

### Sections and buttons

The *MemoCam Application* window contains the following sections and buttons:

#### 1- Connection Section

The MemoCam Application window Connection section presents serial connections and MemoCam units:



Click  or  or double-click  to open and close section levels.

#### 2 - Images Section

The MemoCam Application window Images section displays a list of images from the Memory card.

#### 3 - Live Video Button

View live video from MemoCam units; see section *Live Video* on page 81.

#### 4 - Notifications Section

The MemoCam Application window Notification Section displays Notification and NOA messages; see section *Notifications* on page 84.

#### 5 - Notifications Button

Opens and closes the Notifications Section.



**Resize MemoCam Application window sections by clicking and dragging.**

---






For additional MemoCam Application window button details; see section *MemoCam Application Window* on page 10.



## Icons

The MemoCam Application displays the following icons:

Table 4. MemoCam Application Icons


Icon	Description
	Local Connection to PC
	Serial connection to PC
	MemoCam Plus unit (connected)
	MemoCam Plus unit (not connected)
	Open level / close level

## Managing MemoCam Units

Once you have added serial connections to the MemoCam Application and have added MemoCam units to the serial connections, connect your MemoCam units.

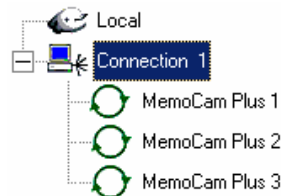
### Connecting MemoCam Units

#### ◆ To connect a MemoCam unit:

1. Right-click a MemoCam unit icon .
2. Choose **Connect**.  
The unit icon changes from red to green.



**RS-232 Serial Connection**  
For factory use only on  
some models




**RS-485 Serial Connection**  
with Connected MemoCam  
units

Once a MemoCam unit is connected, it can be configured and operated from the MemoCam Application.

## Configuring MemoCam Units

MemoCam unit parameters are configured in the *MemoCam Configuration* window.

◆ **To access the *MemoCam Configuration* window:**

1. Highlight a MemoCam unit by clicking on the MemoCam unit icon.
2. Click on the **Configure** icon  in the *MemoCam Application* window.

The *Unit Configuration* window opens containing the tabs:

Tab	Description	Go to
<b>Recording</b>	Defining the recording parameters	<i>Unit Configuration Recording Tab</i> on page 31
<b>Video</b>	Selecting image resolution	<i>Unit Configuration Video Tab</i> on page 36
<b>I/O</b>	Defines the Input/Output parameters	<i>Unit Configuration I/O Tab</i> on page 37
<b>Advanced</b>	Defines advanced parameters	<i>Unit Configuration Advanced Tab</i> on page 45
<b>Schedule</b>	Sets the daily schedules	<i>Unit Configuration Schedule Tab</i> on page 49
<b>Comm</b>	Defines the Serial communication parameters	<i>Configuring the Serial Com Settings</i> on page 80
<b>NOA</b>	Defines the Notification on Alarm parameters for TCP/IP and Serial communication	<i>Unit Configuration NOA Tab</i> on page 54
<b>Standby</b>	Defines the mobile standby parameters	<i>Unit Configuration Standby Tab</i> on page 127
<b>VMD</b>	Defines the Video Motion Detection parameters	<i>Unit Configuration Video Tab (VMD)</i> on page 52

## Operating MemoCam Units

### Viewing Images

- ◆ To view previously-recorded images from connected MemoCam units you can:

1. Double-click a MemoCam unit
2. Press the **F5** key
3. Choose **View**-and then **Refresh**.

The images are displayed in the *Image* window:

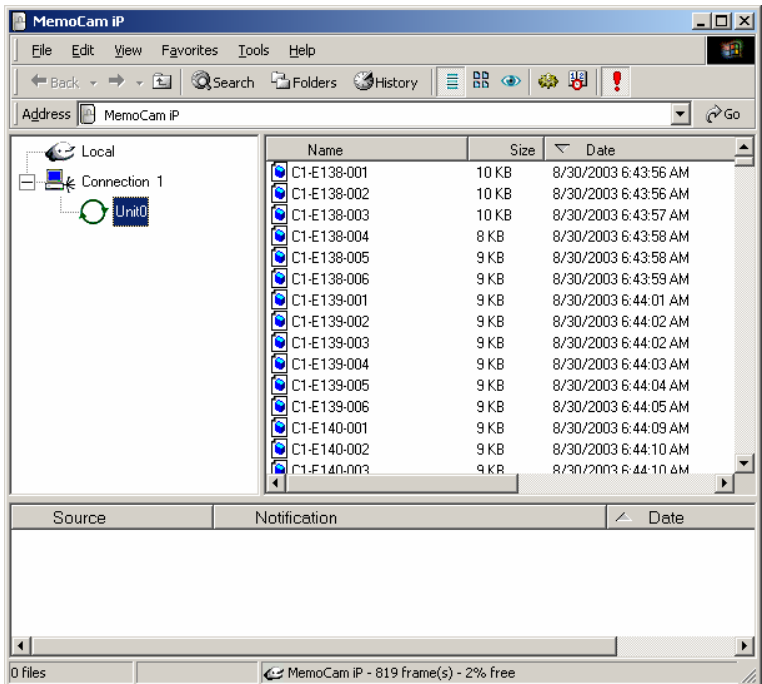


Figure 44 - MemoCam Application window with Images

4. Double-click an image to view it in the MemoCam Image Player; see section *Viewing Images* on page 15.

### No Memory card Events

If the Memory card is empty, the following message is displayed when the image list is accessed or refreshed:



Figure 45 No Memory card Events Found

### Playing Images

- ◆ To view images and events using the Player:
    - ❑ Double-click on an image to open the player.
- OR**

Right-click an image and choose **Play**.  
For further details; see section 0 on page 18.

### Arming MemoCam Units

- ◆ To arm a MemoCam unit to activate as defined in the MemoCam Application configuration parameters:
  1. Right-click a MemoCam unit. The unit operations menu opens.
  2. Choose **Arm**. The MemoCam unit is now armed.

### Disarming MemoCam Units

- ◆ To deactivate a MemoCam unit:
  1. Right-click a MemoCam unit. The unit operations menu opens.
  2. Choose **Disarm**.

MemoCam activity is now disabled.

## Snapshot

The snapshots are stored in the MemoCam unit Memory cards.

◆ **To trigger a snapshot from pre-configured MemoCam unit cameras.**

1. Right-click a MemoCam unit. The unit operations menu opens.
2. Choose **Snapshot**.

An image is recorded in the MemoCam unit's Memory card. Snapshot camera settings are configured in the MemoCam configuration I/O tab. For further details; see section *Unit Configuration I/O Tab* on page 37.



**The MemoCam must be set to Disarm to enable the Snapshot function.**

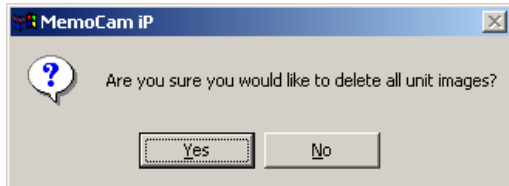
---

## Delete All Images

◆ **To delete all image files stored on the Memory card:**

1. Right-click a MemoCam unit. The unit operations menu opens.
2. Select **Delete All Images**.

A warning message box is displayed:



**Figure 46 - Delete Confirmation Message**

3. Click **Yes**.

All image files are deleted from the MemoCam unit Memory card. The following notification opens:

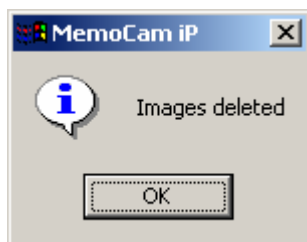


Figure 47 - Delete Confirmation Message

4. Click **OK** to return to the *MemoCam Application* window.

## Managing Advanced MemoCam Unit Functions

- ◆ To access advanced MemoCam unit functions:
  - ❑ Right-click on a connected MemoCam unit icon and choose **More**.

The short-cut menu opens:

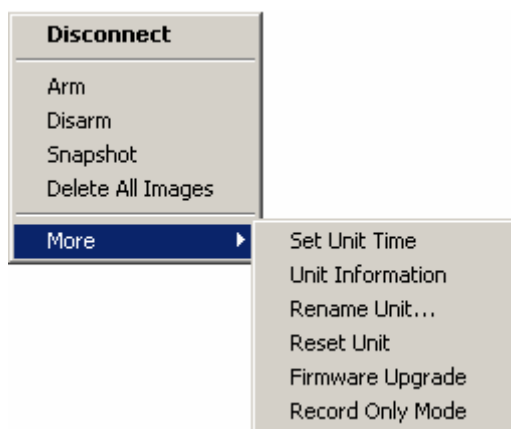


Figure 48 - MemoCam Unit Advanced Menu

### Set Unit Time

You may need to adjust the time and date used in the time-stamp when you initially set-up the MemoCam unit, or when your local time changes in the spring or autumn.

#### ◆ To set the unit time

1. Right-click a MemoCam unit.
2. Choose **More**.
3. Select **Set Unit Time**.

The *Set Unit Time* window opens with the MemoCam unit date and time settings synchronized to your PC:

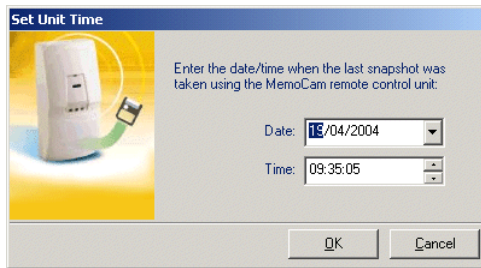


Figure 49 - MemoCam Set Unit Time Window

4. Set the MemoCam unit date as desired.
5. Set the MemoCam unit time as desired.
6. Click **OK** to return to the *MemoCam Application* window.

### Unit Information

#### ◆ To view unit information for the selected MemoCam unit:

1. Right-click a MemoCam unit.
2. Choose **More**.
3. Select **Unit Information**.

The *Details* window opens:

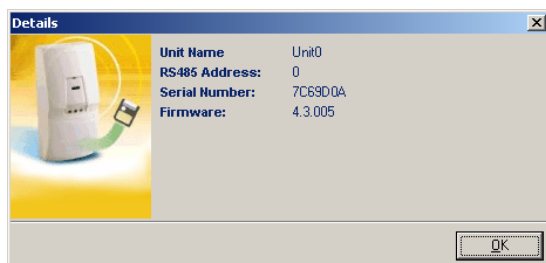


Figure 50 - Details Window

View MemoCam unit name, address, serial number and firmware version details.

4. Click **OK** to return to the *MemoCam Application* window.

## Rename Unit

You may want to rename a MemoCam unit to help you track image files. You can add a descriptive name to the image file name to help you identify the MemoCam location, such as lobby or stairs.

### ◆ To rename a MemoCam unit:

1. Right-click a MemoCam unit.
2. Choose **More**.
3. Choose **Rename Unit**.

The *Rename MemoCam* window opens:

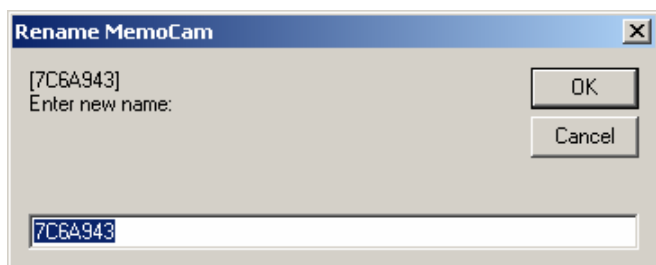


Figure 51 - Rename MemoCam Window



4. Enter a new name in the *Name* field.
5. Click **OK**. The new MemoCam name is saved and is displayed in the *MemoCam Application* window.

### Reset Unit

#### ◆ To reset the MemoCam unit:

1. Right-click a MemoCam unit.
2. Choose **More**.
3. Choose **Reset Unit**.

The MemoCam unit is reset. Previously connected units are disconnected.

### Firmware Upgrade

MemoCam enables firmware upgrades through serial communication.

#### ◆ To upgrade MemoCam unit firmware:

1. Right-click a MemoCam unit.
2. Choose **More**.
3. Select **Firmware Upgrade**. The Upgrade Firmware window opens:

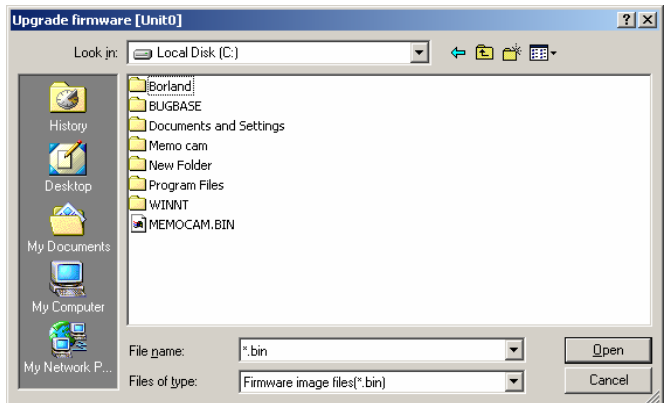


Figure 52 - Upgrade Firmware Window

4. Select the binary file that contains the upgrade data.
5. Click **Open**.

The firmware has now been upgraded.



If the version number of the upgrade file is less than that of the current MemoCam unit firmware, the firmware upgrade will fail.

---

### Record Only Mode

- ◆ To set the MemoCam unit to record when triggered but not to perform any other function:
  1. Right-click a MemoCam unit.
  2. Choose **More**.
  3. Choose **Record Only Mode**.

The MemoCam unit is set to Record Only Mode.

### Disconnecting MemoCam Units

- ◆ To disconnect a MemoCam unit.
  1. Right-click a MemoCam unit icon.
  2. Choose **Disconnect**.

## Offline MemoCam Unit Operations

The following menu features are available for disconnected MemoCam units. To open the operations menu for disconnected MemoCam units, right-click a MemoCam unit icon. The following menu opens:



Figure 53 - Disconnected MemoCam Unit Menu

## Connecting MemoCam Units

◆ To connect a MemoCam unit:

1. Right-click a MemoCam unit icon.
2. Choose **Connect**.

The MemoCam unit is connected to the serial connection.  
For further details, see section *Connecting MemoCam Units* on page 69.

## Changing the Unit Settings

◆ To change the unit settings:

1. Right-click a MemoCam unit icon.
2. Choose **Unit Settings**. The *Unit Settings* window opens:

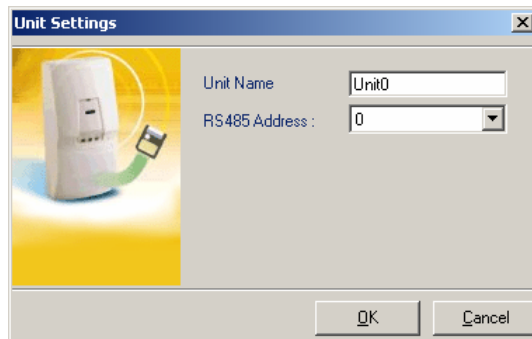



Figure 54 - Unit Settings Window

3. Change the data fields as required.
4. Click **Ok**.

The MemoCam unit settings are saved. The *MemoCam Application* window is updated with the new unit settings.



To access the MemoCam unit configuration window, click the configuration icon . For detailed MemoCam unit configuration details, see section *Configuring the MemoCam Parameters* on page 29.

---

### Removing MemoCam Units

◆ To remove MemoCam units:

1. Ensure that all MemoCam units have been disconnected.
2. Right-click a MemoCam unit icon.
3. Choose **Remove Unit**.
4. Click **Ok**.

The MemoCam unit is removed from the serial connection.  
The *MemoCam Application* window is refreshed.

### Configuring the Serial Com Settings

The Comm tab enables modification of MemoCam unit default Serial communication parameters. It is recommended that you not alter MemoCam unit default settings. Default settings have been selected for optimal unit performance. If you do find it is necessary to adjust your Serial communication parameters for MemoCam units, they can be configured via the MemoCam Configuration window Comm tab:

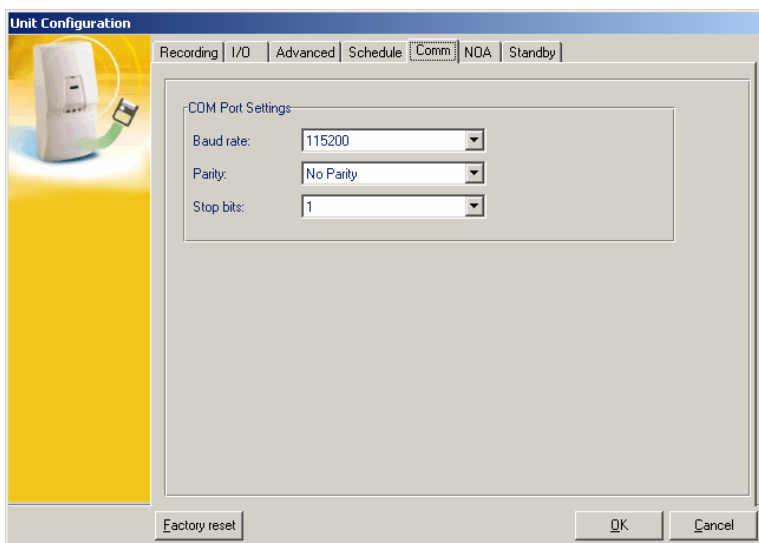


Figure 55 - Unit Configuration Comm Tab

The **Comm tab** parameters are:

- ☐ Baud rate
- ☐ Parity
- ☐ Stop bits

Serial communication parameters are configured via the **Comm tab** and saved locally on the Memory card. The Memory card is then inserted into the MemoCam unit. The unit reads the parameter settings and is configured for serial communication with your PC.

Comm tab settings for MemoCam units must correspond to MemoCam Application communication settings.

◆ **To view MemoCam Application communication settings:**

- ☐ Right-click on a MemoCam serial connection and choose **Connection Settings** or **Connection Info**.

For further details; see section *Controlling the Serial Connections* on page 87.

## Live Video

You can view live video from MemoCam units in the *Live Video* window. MemoCam live video is a series of consecutive frames captured live from a selected camera.



The monitor video out mode switches only between cameras that have been selected in the **I/O tab**. For further details, see *Unit Configuration I/O Tab* on page 37.

---

## Live Video Window

◆ **To open and close the *Live Video* window:**



1. Highlight a connected MemoCam unit. The  icon in the MemoCam Application toolbar becomes active.
2. Click the  icon. The *Live Video* window opens:



Figure 56 - Live Video Window

From the *Live Video* window, you can:

- ☐ Select Cameras
- ☐ Adjust Video Speed
- ☐ Adjust Brightness and Contrast
- ☐ Monitor Video out

### Camera Selection

You can view live video from a specific camera, or from the MemoCam Application monitor video out mode.

In monitor video out mode, the MemoCam *Live Video* window automatically switches between the cameras that have been selected in the I/O tab. This switch occurs every 5 seconds.

#### ◆ To select a camera:

- ☐ Select the desired camera by clicking on its radio button.  
**OR**
- ☐ Select the **Monitor video out** radio button

### Video Speed

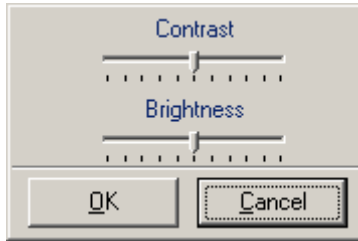
Increase or decrease the time interval between video frames by moving the video speed slider bar to the left or right.

### Brightness and Contrast

◆ To adjust live video brightness and contrast:

1. Select a camera in the **Live Video** window.
2. Right-click the video frame.

The *Brightness and Contrast* window opens:



**Figure 57 - Brightness and Contrast Sliders**

3. Move the slider bar to the left or right to adjust brightness and contrast settings.

As you move the slider bars, the video frame shows the effect of your changes.

4. Click **OK** to save the new brightness and contrast levels.

## Notifications

Connected MemoCam units automatically send information and warning notifications to the MemoCam Application.

The MemoCam units can send the following notifications:

- ☐ Memory card is ready
- ☐ Memory card full
- ☐ Memory card is not available
- ☐ Image not recorded due to Memory card full or error
- ☐ No Video
- ☐ Trigger has occurred
- ☐ Unit is powering up
- ☐ Unit is not available
- ☐ Unit switched to recording status
- ☐ Unit switched to disarming status
- ☐ Configuration is updated

As soon a MemoCam unit notifies the MemoCam Application of an event, the color of the MemoCam unit connection changes.

## Notification Window

Notifications are viewed in the *Notification* window at the bottom of the *MemoCam Application* window.












Source	Notification	Date
Connection 2:Unit 0	 Image not recorded due to MMC full or error	8/11/2003 2:06:41 PM
 Connection 2:Unit 0	 Trigger has occurred	8/11/2003 2:06:41 PM
Connection 2:Unit 0	 Image not recorded due to MMC full or error	8/11/2003 2:06:31 PM
 Connection 2:Unit 0	 Trigger has occurred	8/11/2003 2:06:31 PM
 Connection 2:Unit 0	 Unit switched to Recording status	8/11/2003 2:06:31 PM
Connection 2:Unit 0	 No Video	8/11/2003 2:06:00 PM
0 files	 MemoCam iP	Done

Figure 58 - Notification window



◆ **To open and close the notification window:**

- ❑ Click the  icon on the MemoCam Application toolbar to open and close the *Notification* window.

The *Notification* window contains three notification fields:





### Source

The serial connection number and name of the MemoCam unit from which the notification originated.

### Notification

This is an icon showing the type of notification and the notification text. If the notification is an NOA, all text in the message row is presented in red bold.

Table 5. Notification Window Icons and Fonts

Icon	Description
	<i>Notification</i> window icon
	Information message
	Warning message
	Alarm event
Font	
No Video	Regular Notification
<b>No Video</b>	Alarm event NOA

### Date

The date and time the notification was received.



**Notification date and time corresponds to your PC date and time.**

---

### Sorting Notifications

Notifications can be sorted by Source, Notification or Date.

#### ◆ To sort notifications:

- ❑ Click on the header of the field you wish to sort by.

The notifications are now sorted.

### Finding the Originating MemoCam Unit

#### ◆ To find the originating unit

- ❑ Double-click on a notification to highlight the originating MemoCam unit in the *MemoCam Application* window.

### Viewing the Notification Log File

All notifications logged in the *Notification* window are stored in the notification log file.

#### ◆ To view the notification log file:

- ❑ From MemoCam Application toolbar, choose **File** and then choose **View Log File**.

The *Notification Log File* window opens:

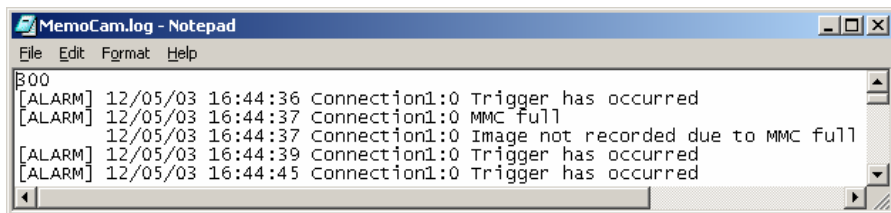


Figure 59 - Notification Log File Window




If no notifications have been logged there is no log file and the View Log File menu option is not available.

---

## Controlling the Serial Connections

The following serial connection operations can be controlled from the connection operations menu.

◆ **To access the connection operations menu:**

- Right-click on a serial connection  icon.

The following menu opens:

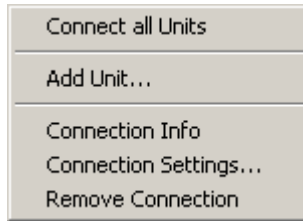


Figure 60 - Serial Connection Menu

### Connect All Units

◆ **To connect all MemoCam units added to a serial connection at the same time:**

1. Right-click a MemoCam unit icon.
2. Choose *Connect all*.

All MemoCam units already added to the serial connection are connected.

### Add Unit

◆ **To add a MemoCam unit to the serial connection:**

- See *Adding MemoCam Units to Serial Connections* on page 65.

### Connection Info

- ◆ To view connection information:
  1. Right-click a MemoCam connection icon.
  2. Choose **Connection Info**.

The *Details* window opens:

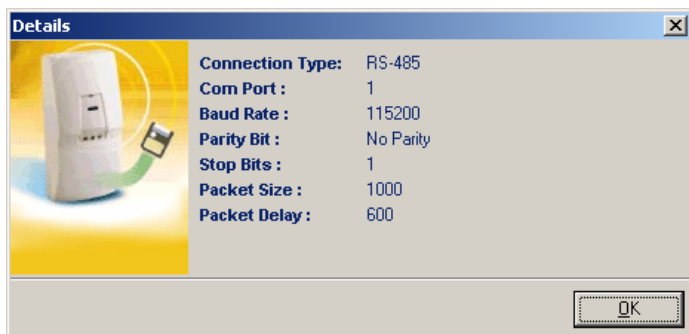


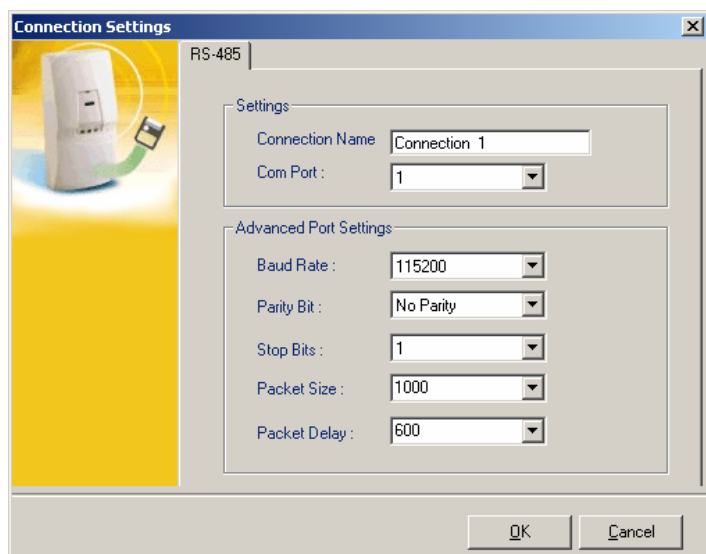
Figure 61 - Details Window

3. View connection information.
4. Click **OK** to return to the MemoCam Application.

### Connection Settings

- ◆ To adjust serial connection configuration settings:
  1. Right-click a MemoCam connection icon.
  2. Choose **Connection Settings**.

The *Serial Connection Settings* window opens:



**Figure 62 - Connections Settings Window**

3. Change connection settings if required.
4. Click **OK**.

The connection settings are updated.

### Remove Connection

- ◆ To remove a serial connection from the MemoCam Application:

1. Ensure that all MemoCam units have been disconnected.
2. Right-click a connection icon.
3. Choose **Remove Connection**.

The warning message box opens:

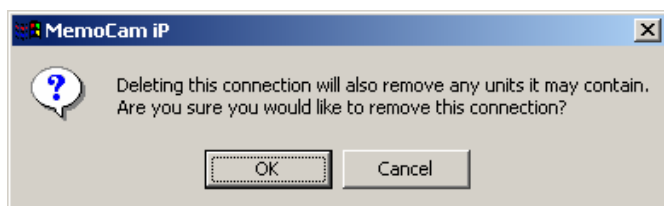


Figure 63 - Deletion Confirmation Message

4. Click **OK**.

The connection is removed from the MemoCam Application. The *MemoCam Application* window is updated.

# Using TCP/IP Communication

---

This Appendix describes TCP/IP communication for MemoCam Plus and DVR **iP** Ready units.

Before reading this Appendix, you are encouraged to review this manual for instructions on the installation of the MemoCam Application and the operation of your MemoCam units.


## Overview

You can use the MemoCam Application to manage remote MemoCam Plus and DVR **iP** Ready units from your PC through TCP/IP communication.

To get the full benefit of the MemoCam Application's TCP/IP communication capabilities, the following terms should be reviewed and understood:


### Local

Local refers to MemoCam unit operation and management from your PC using the Memory card.

In the *MemoCam Application* window, the local connection icon appears: 

### TCP/IP Connection

A TCP/IP connection refers to the configured parameters of a TCP/IP connection in the MemoCam Application.

In the *MemoCam Application* window, a TCP/IP icon is displayed: 

### MemoCam GateWay

The MemoCam GateWay is a LAN / Internet interface for MemoCam units.

MemoCam GateWay IP settings for TCP/IP communication are configured from your PC or a LAN. The MemoCam Gateway enables you to connect up to 32 MemoCam Plus or DVR **iP** Ready units to a LAN or to the Internet.

The MemoCam Application controls and manages MemoCam **iP** Ready units connected via the MemoCam Gateway.

### MemoCam Units

A MemoCam unit refers to a MemoCam Plus or DVR **iP** Ready unit connected to your PC via a TCP/IP port. When a MemoCam **iP** Ready unit is connected to your PC, MemoCam operations are performed directly from the PC rather than via the Memory card.

In the *MemoCam Application* window, MemoCam unit icons are displayed:



*MemoCam unit  
(not connected)*



*MemoCam unit  
(connected)*

### MemoCam **iP** System

MemoCam TCP/IP communication requires the use of a MemoCam GateWay Internet / LAN interface. MemoCam units configured with a MemoCam GateWay comprise a MemoCam **iP** System.



### Setting UP the TCP/IP Communications

- ◆ To set up TCP/IP communications between MemoCam units and the MemoCam application:
  1. Configure MemoCam GateWay TCP/IP settings.
  2. Connect the MemoCam unit(s) to the MemoCam Gateway daisy chained on RS485 cable, (see hardware installation manual for more details).
  3. Add TCP/IP connection(s) to the MemoCam Application.
  4. Add MemoCam unit(s) to the TCP/IP connection.

### Configuring MemoCam GateWay TCP/IP Settings

For details on configuring MemoCam GateWay TCP/IP settings, refer to the *MemoCam GateWay Local Configuration Manual*.

### Using the MemoCam TCP/IP Connection Wizard

TCP/IP connections are added to the MemoCam Application using the *Connection Wizard*.

- ◆ To add a TCP/IP connection to the MemoCam Application:
  1. Select **File** and then choose **Add Connection**. The following window opens:

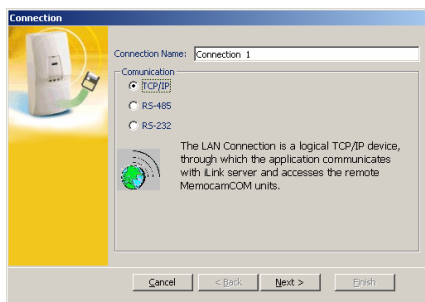
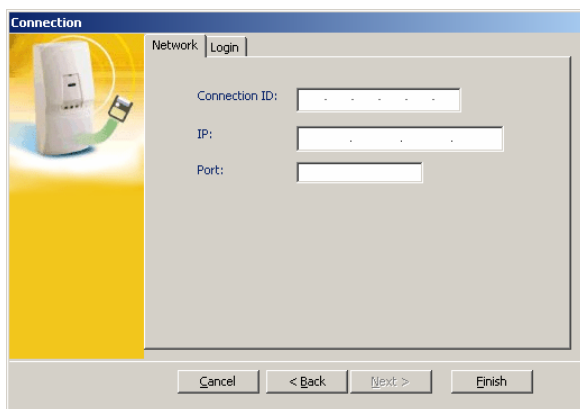


Figure 64 - TCP/IP Connection Window

2. Choose the **TCP/IP** radio button.
3. In the **Connection Name** field, change the default connection name if required.
4. Click **Next**. The following window opens:



**Figure 65 - Connection Window Network Settings**

5. Configure your Network settings.

### Connection ID

The right-hand half of the MemoCam GateWay S/N number is preceded by 5 zeros. The S/N number is located on the bottom sticker of your MemoCam GateWay unit.

- ❑ Example: for S/N 34401-7C82E6B, the *Connection ID* is 000007C82E6B.

This number is also found in your MemoCam GateWay local configuration *Remote* settings.

### IP

The MemoCam GateWay unit IP as configured in the MemoCam GateWay *Network* settings.

### OR

If your MemoCam GateWay is configured via Network Address Translation (NAT), the globally re-routable IP address.

### Port

The network port as is set in the MemoCam GateWay *Network* settings. The default setting is 4599.



For further information, refer to the MemoCam GateWay Local Configuration Manual.

---



#### To configure the login settings:

1. Choose the **Login** tab. The following window opens:

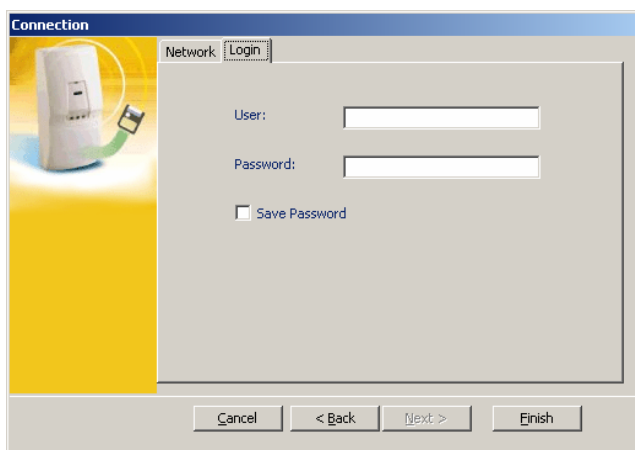


Figure 66 - Connection Window Login Settings

2. Configure your **Login** settings.

Set user and password login details for users and privileged users. These settings must correspond to user and privileged user parameters as set in the MemoCam GateWay local configuration *Remote* settings.



For further information, refer to the MemoCam GateWay Local Configuration Guide.

---

3. Click **Finish**.

The MemoCam GateWay TCP/IP connection is added and appears in the MemoCam Application:




Figure 67 - TCP/IP connection

### Adding MemoCam Units to TCP/IP Connections

Each TCP/IP connection added to the MemoCam Application can manage up to 32 RS-485 MemoCam units.

Configure and add each MemoCam unit to your TCP/IP connection individually. All MemoCam units connected to the same TCP/IP connection must be configured with the same TCP/IP settings.

- ◆ **To add a MemoCam unit to a TCP/IP connection:**

1. Right-click a connection icon  .  
The short-cut menu opens:

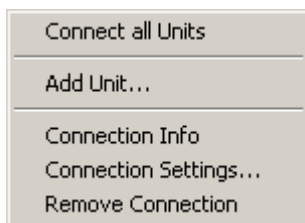


Figure 68 - Connection Menu

2. Choose **Add Unit**.

The Unit Settings window opens:

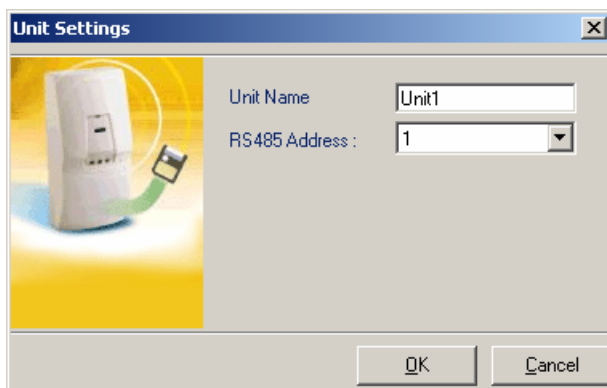


Figure 69 - Unit Settings Window

3. In the **Unit Name** field, change the default unit name as desired. For example, the lobby, window, bank, ATM machine etc.
4. Select the MemoCam unit address.



**The MemoCam unit address corresponds to the MemoCam unit dip switch settings and may range from 0 to 31. MemoCam units connected to the same connection must have different RS-485 addresses. For further details, refer to the MemoCam Installation Manual.**

The MemoCam unit(s) are displayed in the *MemoCam Application* window:

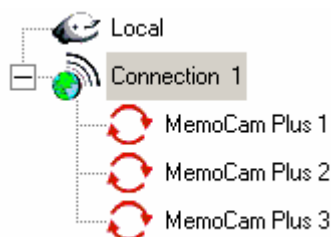


Figure 70 - MemoCam units added to TCP/IP connection.

# MemoCam Application Window

When a TCP/IP connection is added to the MemoCam Application, the *MemoCam Application* window displays as follows:

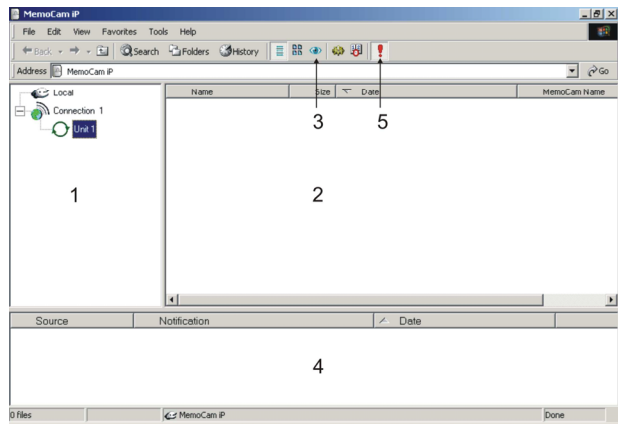


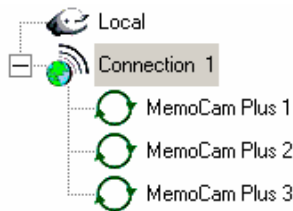
Figure 71 - MemoCam Applic. Window with TCP/IP Connection




## Sections and buttons

The *MemoCam Application* window contains the following sections and buttons:

### 1- Connection Section

The MemoCam Application window Connection section presents serial connections and MemoCam units:



- ❑ Click  or  or double-click  to open and close section levels.

## **2 - Images Section**

The MemoCam Application window Images section displays a list of images on the Memory card.

## **3 - Live Video Button**

View live video from MemoCam units; see section 0 on page 81).

## **4 - Notifications Section**

The MemoCam Application window Notification Section displays Notification and messages; see section 0 on page 84).

## **5 - Notifications Button**

Opens and closes the Notifications Section.



**Resize MemoCam Application window sections by clicking and dragging..**






---

For additional MemoCam Application window button details; see section 0 on page 10.

## **Icons**

The MemoCam Application displays the following icons:

**Table 6. MemoCam Application Icons**


<b>Icon</b>	<b>Description</b>
	Local Connection to PC
	TCP/IP connection to PC
	MemoCam unit (connected)
	MemoCam unit (not connected)
	Open level / close level

# Managing MemoCam Units

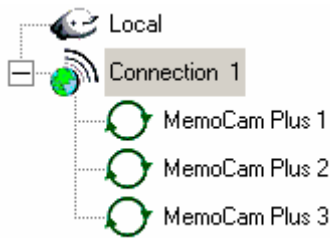
Once you have added TCP/IP connections to the MemoCam Application and have added MemoCam units to the TCP/IP connections, connect your MemoCam units.

## Connecting MemoCam Units

◆ To connect a MemoCam unit:

1. Right-click a MemoCam unit icon .
2. Choose **Connect**.

The unit icon changes from red to green.



**Figure 72 TCP/IP Connection with Connected MemoCam units**

Once a MemoCam unit is connected, it can be configured and operated from the MemoCam Application.



## Configuring MemoCam Units


MemoCam unit parameters are configured in the *MemoCam Configuration* window.



It is highly recommended to place the unit in Disarm mode before configuring the unit.



To access the *MemoCam Configuration* window:

1. Highlight a MemoCam unit by clicking on the MemoCam unit icon.
2. Click the **Configure** icon  in the *MemoCam Application* window.

The *Unit Configuration* window opens containing the tabs:

Tab	Description	Go to
<b>Recording</b>	Defining the recording parameters	<i>Unit Configuration Recording Tab</i> on page 31
<b>Video</b>	Setting up the Video-In parameters.	<i>Unit Configuration Video Tab</i> on page 36
<b>I/O</b>	Defines the Input/Output parameters	<i>Unit Configuration I/O Tab</i> on page 37
<b>Advanced</b>	Defines advanced parameters	<i>Unit Configuration Advanced Tab</i> on page 45
<b>Schedule</b>	Sets the daily schedules	<i>Unit Configuration Schedule Tab</i> on page 49
<b>Comm</b>	Defines the Serial communication parameters	<i>Configuring the Serial Com Settings</i> on page 80
<b>NOA</b>	Defines the Notification on Alarm parameters for TCP/IP and Serial communication	<i>Unit Configuration NOA Tab</i> on page 54
<b>Standby</b>	Defines the mobile standby parameters	<i>Unit Configuration Standby Tab</i> on page 127
<b>VMD</b>	Defines the Video Motion Detection parameters	<i>Unit Configuration Video Tab (VMD)</i> on page 52

# Operating MemoCam Units

## Viewing Images

To view previously-recorded images from connected MemoCam units you can:

- ☐ Double-click a MemoCam unit
- ☐ Press the **F5** key
- ☐ Select **View** and then choose **Refresh**.

The images are displayed in the *Image* window:

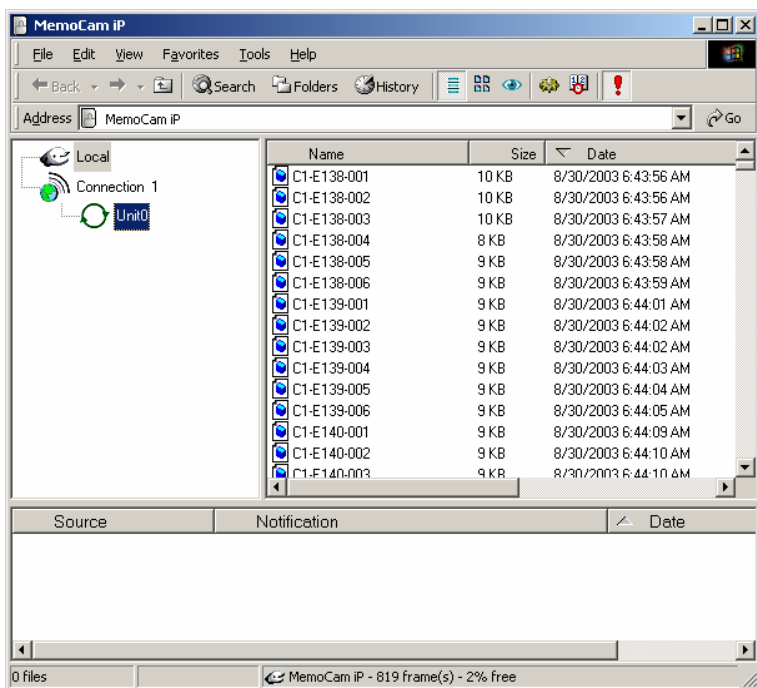


Figure 73 - MemoCam Application window with Images

Click on an image to view it in the MemoCam Application Image Viewer. For further details, see *Viewing Images* on page 15.

### No Memory Card Events

If the Memory card is empty, the following message is displayed when the image list is accessed or refreshed:



Figure 74 - No Memory Card Events Found

This message appears when the Memory card is empty for local, serial and TCP/IP connected MemoCam units.

### Playing Images

- ◆ **To view images and events using the Player:**
    - ❑ Double-click on an image to open the player.  
**OR**  
Right-click the image and choose **Play**
- For further details, see *Viewing Images* on page 15.

### Arming MemoCam Units

- ◆ **To arm a MemoCam unit to activate as defined in the MemoCam Application configuration parameters:**
  1. Right-click a MemoCam unit. The unit operations menu opens.
  2. Choose **Arm**.

The MemoCam unit is now armed.

### Disarming MemoCam Units

- ◆ **To deactivate a MemoCam unit:**
  1. Right-click a MemoCam unit. The unit operations menu opens.
  2. Choose **Disarm**.

MemoCam activity is disabled.

### Taking a Snapshot

The snapshots are stored in the MemoCam unit Memory card.

- ◆ **To trigger a snapshot from pre-configured MemoCam unit cameras:**

1. Right-click a MemoCam unit. The unit operations menu opens.
2. Choose **Snapshot**.  
An image is recorded in the MemoCam unit's Memory card.

Snapshot camera settings are configured in the MemoCam configuration I/O tab. For details, see the *Unit Configuration Video Tab* on page 36.



**The MemoCam must be set to Disarm to enable the Snapshot function.**

---

### Delete All Images

- ◆ **To delete all image files stored on the Memory card:**
  1. Right-click a MemoCam unit. The Unit Operations menu opens.
  2. Choose **Delete All Images**.

The following message box opens:

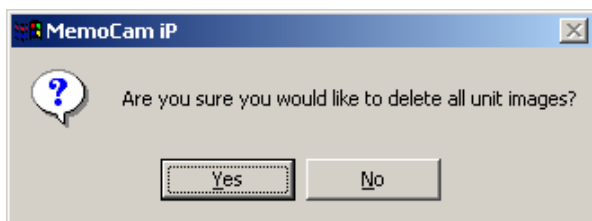


Figure 75 - Delete Confirmation Message

3. Click **Yes**.

All image files are deleted from the MemoCam unit Memory card. The following notification opens:

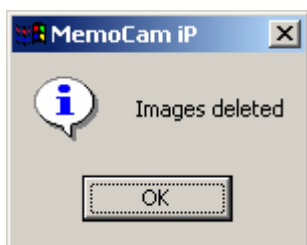


Figure 76 - Delete Confirmation Message

4. Click **OK** to return to the *MemoCam Application* window.

## Notification on Alarm (NOA)

Connected MemoCam units automatically send information and warning notifications to the MemoCam Application as pre-defined events occur.

You can also define alarm conditions that trigger the sending of a NOA.

When a MemoCam unit is activated by a NOA trigger, it will contact the MemoCam Application via TCP/IP to deliver the NOA even if the unit is disconnected.

### Notifications

The MemoCam units may send the following messages as regular messages or as NOAs:

- ☐ Memory card is ready
- ☐ Memory card full
- ☐ Memory card is not available
- ☐ Image not recorded due to Memory card full or error
- ☐ No Video
- ☐ Trigger has occurred
- ☐ Unit is powering up
- ☐ Unit is not available
- ☐ Unit switched to recording status
- ☐ Unit switched to disarming status
- ☐ Configuration is updated

While Notification messages and NOA messages may contain the same message content, NOA messages are configured as alarm events.

Whenever a MemoCam unit notifies the MemoCam Application the color of the MemoCam unit's connection changes in the MemoCam Application window.

### Setting Up NOA

- ◆ **To enable MemoCam units to connect to the MemoCam application via TCP/IP and send NOAs:**

1. Set MemoCam GateWay IP and Port settings.
2. Define NOA parameters in the MemoCam Application *Configuration* window *NOA* tab.
3. Confirm **IP** and **Port** settings and enable **NOA** in the MemoCam Application.
4. Arm the MemoCam unit.

### MemoCam Gateway IP and Port Settings

To enable automatic connection on alarms between MemoCam units and the MemoCam application, configure your MemoCam GateWay IP and Port settings.

These settings are the IP and Port addresses that MemoCam units will contact to send NOA messages. The IP should correspond to the IP of the computer that will receive the NOA messages. Port settings may be obtained from your ISP.

You can also set primary and secondary NOA destination IP addresses for cases where one of the destinations is unavailable.

For MemoCam GateWay configuration details, refer to the *MemoCam GateWay Local Configuration Manual*.

### Defining NOA Parameters

Select the MemoCam unit's activation triggers for sending the NOAs. These triggers are selected in the *Configuration* window *NOA* tab:

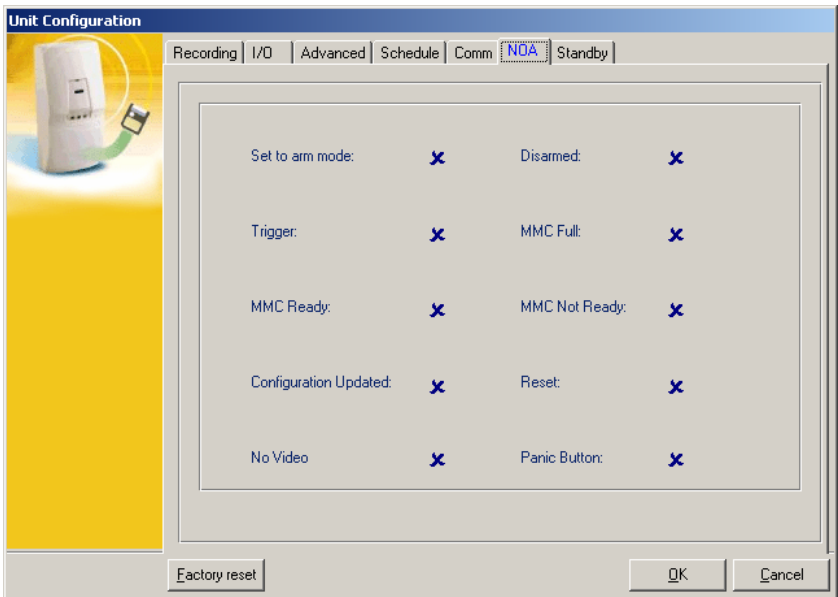



Figure 77 - Unit Configuration NOA Tab

### ◆ To activate NOA messages:

1. Click on the cross-mark icon  next to the NOA trigger type.

The cross-mark changes to a checkmark . The NOA trigger is activated.

2. When you have activated all desired NOA triggers, click **OK**.  
Your settings are applied to the selected MemoCam unit. When a NOA trigger is detected by the unit, it will connect to the MemoCam Application via TCP/IP and send a NOA message.

## Enabling NOA

### ◆ To enable NOAs in the MemoCam Application:

1. Select **File** and then choose **NOA** settings.

The *NOA Settings* window opens:

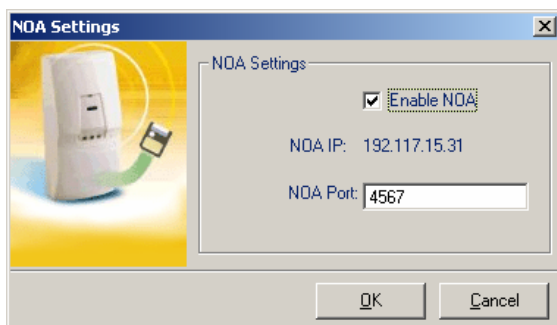


Figure 78 - NOA Settings Window

2. Confirm your *NOA IP* and *NOA Port* settings. These settings must correspond to the IP and Port settings entered in your MemoCam GateWay Local Configuration *Remote* settings.
3. Check the **Enable NOA** checkbox.
4. Click **OK**.



## Arming the MemoCam Unit

Once NOA configuration is complete, MemoCam units must be armed.

You can arm MemoCam units in two ways:

- ❑ In the MemoCam Application



When arming the unit, ensure that you do not select **Record Only Mode**. This will set the MemoCam unit to record when triggered without sending NOA messages.

- ❑ Using the MemoCam Remote Control Unit.

## Notification Window

NOAs and regular notifications are viewed in the *Notification window* at the bottom of the *MemoCam Application* window. NOAs appear next to an alarm icon and are highlighted in bold red text.

Source	Notification	Date
Connection 2:Unit 0	Image not recorded due to MMC full or error	8/11/2003 2:06:41 PM
<b>Connection 2:Unit 0</b>	<b>Trigger has occurred</b>	<b>8/11/2003 2:06:41 PM</b>
Connection 2:Unit 0	Image not recorded due to MMC full or error	8/11/2003 2:06:31 PM
<b>Connection 2:Unit 0</b>	<b>Trigger has occurred</b>	<b>8/11/2003 2:06:31 PM</b>
<b>Connection 2:Unit 0</b>	<b>Unit switched to Recording status</b>	<b>8/11/2003 2:06:31 PM</b>
Connection 2:Unit 0	No Video	8/11/2003 2:06:00 PM
0 Files	MemoCam IP	Done

Figure 79 - Notification Window

### ◆ To open and close the notification window:

- ❑ Click the icon on the MemoCam Application toolbar to open and close the **Notification** window.

The *Notification* window contains three notification fields:





### Source

The TCP/IP connection number and name of the MemoCam unit from which the notification originated.

### Notification

This is an icon showing both the notification type and the text. If the notification is an NOA, all text in the message row is presented in bold red font.

Table 7 - Notification Window Icons and Fonts

Icon	Description
	<i>Notification</i> window icon
	Information message
	Warning message
	Alarm event
Font	
No Video	Regular Notification
<b>No Video</b>	Alarm event NOA

### Date

The date and time the notification was received.



**Notification date and time corresponds to your PC date and time.**

---

### Sorting Notifications

Notifications can be sorted by Source, Notification or Date.



**To sort notifications:**

- ☐ Click on the header of the field you wish to sort by.

The notifications are now sorted.

### Originating MemoCam Unit

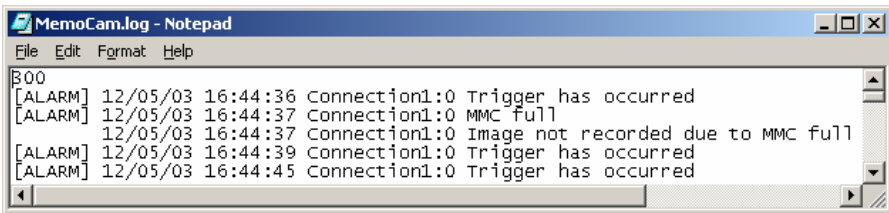
- ◆ To find the originating MemoCam unit
  - ❑ Double-click on a notification to highlight the originating MemoCam unit in the MemoCam Application window.

### Notification Log File

All notifications logged in the *Notification* window are stored in the notification log file.

- ◆ To view the notification log file:
  - ❑ From MemoCam Application toolbar, select **File** and then choose **View Log File**.

The *Notification Log File* window opens:



**Figure 80 - Notification Log File Window**



---

If no notifications have been logged there is no log file and the View Log File menu option is not available.

---

### Managing Advanced MemoCam Unit Functions

◆ To access advanced MemoCam unit functions:

- ❑ Right-click on a connected MemoCam unit icon and select **More**.

The following menu opens:

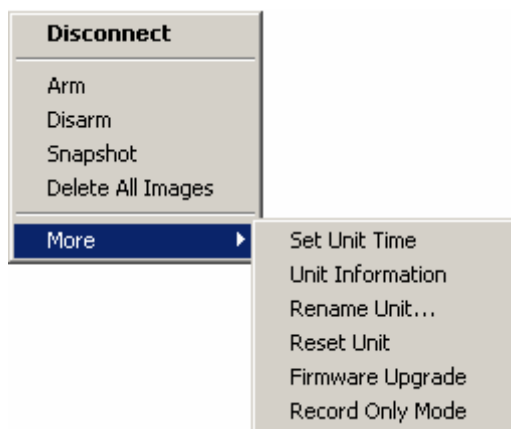


Figure 81 - MemoCam Unit Advanced Menu

### Set Unit Time

You may need to adjust the time and date used in the time-stamp when you initially set-up the MemoCam unit, or when your local time changes in the spring or autumn.

◆ To set the unit time:

1. Right-click a MemoCam unit.
2. Select **More**.
3. Select **Set Unit Time**.

The *Set Unit Time* window opens with the MemoCam unit date and time settings synchronized with your PC:

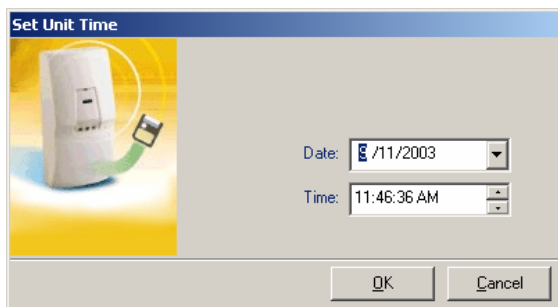


Figure 82 - MemoCam Set Unit Time Window

4. Set the MemoCam unit date as desired.
5. Set the MemoCam unit time as desired.
6. Click **OK** to return to the *MemoCam Application* window.

## Unit Information

◆ To view unit information for the selected MemoCam unit:

1. Right-click a MemoCam unit.
2. Select **More**.
3. Select **Unit Information**.

The *Details* window opens:

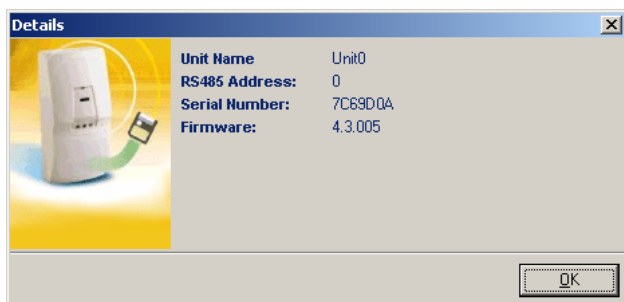


Figure 83 - Details Window

View MemoCam unit name, address, serial number and firmware version details.

4. Click **OK** to return to the *MemoCam Application* window.

### Renaming a MemoCam Unit

You may want to rename a MemoCam unit to help you track image files. You can add a descriptive name to the image file name to help you identify the MemoCam location, such as lobby or stairs.

◆ **To rename a MemoCam unit:**

1. Right-click a MemoCam unit.
2. Select **More**.
3. Select **Rename Unit**.

The *Rename MemoCam* window opens:



Figure 84 - Rename MemoCam Window

4. Enter a new name in the **Name** field.
5. Click **OK**. The new MemoCam name is saved and appears in *MemoCam Application* window.

### Reset Unit

◆ **To reset the MemoCam unit:**

1. Right-click a MemoCam unit.
2. Select **More**.
3. Select **Reset Unit**.

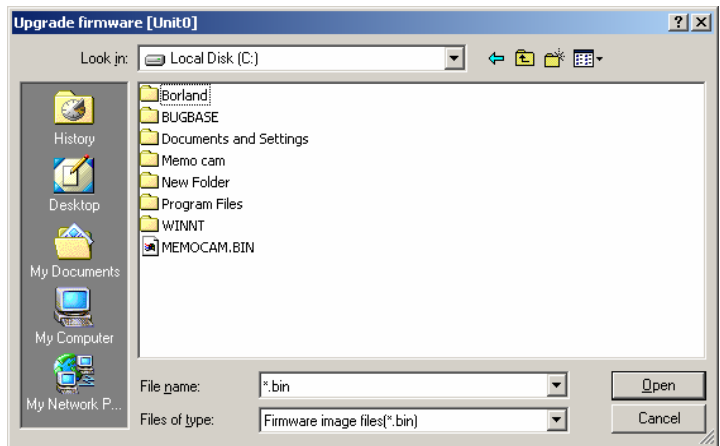
The MemoCam unit is reset. Previously connected units are disconnected.

## Firmware Upgrade

MemoCam enables firmware upgrades through serial communication.

◆ **To upgrade MemoCam unit firmware:**

1. Right-click a MemoCam unit.
2. Select **More**.
3. Select **Firmware Upgrade**. The Upgrade Firmware window opens:



**Figure 85 - Upgrade Firmware Window**

4. Select the binary file that contains the upgrade data.
5. Click **Open**.

The firmware is upgraded.



**If the version number of the upgrade file is less than that of the current MemoCam unit firmware, the firmware upgrade will fail.**

---

### Record Only Mode

- ◆ To set the MemoCam unit to record when triggered but not to perform any other function.

1. Right-click a MemoCam unit.
2. Select **More**.
3. Select *Record Only Mode*.

The MemoCam unit is set to Record Only Mode.

### Disconnecting MemoCam Units

- ◆ To disconnect a MemoCam unit:

1. Right-click a MemoCam unit icon.
2. Select **Disconnect**.

## Offline MemoCam Unit Operations

The following menu features are available for disconnected MemoCam units.

- ◆ To open the operations menu for disconnected MemoCam units:

1. Right-click a MemoCam unit icon.  
The following menu opens:

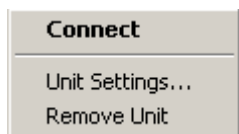


Figure 86 - Disconnected MemoCam Unit Menu



### Connecting MemoCam Units

This section only refers to those units that are communications enabled.

◆ **To connect MemoCam units:**

1. Right-click a MemoCam unit icon.
2. Choose **Connect**.

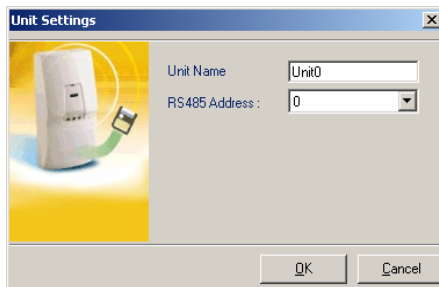
The MemoCam unit is connected to either the RS-485 or RS-232 interface, depending on the MemoCam model.  
See also *Connecting MemoCam Units* on page 69.

### Changing Unit Settings

◆ **To change unit settings**

1. Right-click a MemoCam unit icon.
2. Select **Unit Settings**.

The *Unit Settings* window opens:




**Figure 87 - Unit Settings Window**

3. Change the required data fields.
4. Click **Ok**.

The MemoCam unit settings are saved. The *MemoCam Application* window is also updated with the new unit settings.



To access the MemoCam unit configuration window, click the configuration icon . For detailed MemoCam unit configuration details, see *The Unit Configuration Window* on page 29.

---

## Removing MemoCam Units



To remove MemoCam units:

1. Ensure that all MemoCam units have been disconnected.
2. Right-click a MemoCam unit icon.
3. Select **Remove Unit**.
4. Click **Ok**.

The MemoCam unit is removed from the communication connection and the *MemoCam Application* window is refreshed.

## Live Video

You can view live video from MemoCam units in the *Live Video* window.

MemoCam live video is a series of consecutive frames captured in real-time from a selected camera.





The monitor video out mode switches only between cameras that have been selected in the I/O tab. For further details, see the *Unit Configuration Video Tab* on page 36.

---

## Live Video Window



To open and close the *Live Video* window:

1. Highlight a connected MemoCam unit. The  icon in the MemoCam Application toolbar becomes active.
2. Click the  icon.

If the MemoCam unit is in **Arm** mode, the following message box opens:

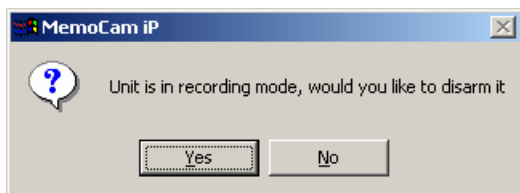


Figure 88 - Disarm Confirmation Window

3. Click **Yes**.

The *Live Video* window opens:

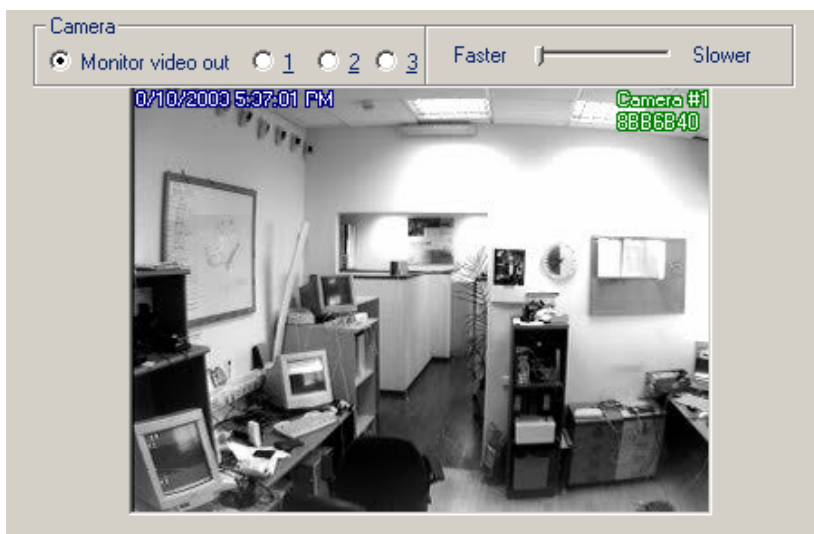


Figure 89 - Live Video Window

From the *Live Video* window, you can:

- ❑ Select Cameras
- ❑ Adjust Video Speed
- ❑ Adjust Brightness and Contrast

### Camera Selection

You can view live video from a specific camera, or from the MemoCam Application monitor video out mode.

In monitor video out mode, the MemoCam *Live Video* window automatically switches between the cameras that have been selected in the I/O tab. This switch occurs every 5 seconds.

For further details; see section *Camera Selection* on page 82.

#### ◆ To select a camera:

- ❑ Select the desired camera by clicking on its radio button.  
**OR**  
Select the **Monitor video out** radio button

### Video Speed

Increase or decrease the time interval between video frames by moving the video speed slider bar to the left or right.

### Brightness and Contrast

#### ◆ To adjust live video brightness and contrast:

1. Select the desired camera in the **Live Video** window.
2. Right-click on the video frame.  
The *Brightness and Contrast* window opens:

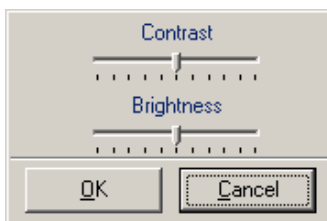


Figure 90 - Brightness and Contrast Sliders

3. Move the slider bar to the left or right to adjust brightness and contrast settings.

As you move the slider bars, the video frame shows the effect of your changes.

4. Click **OK** to save the new brightness and contrast levels.

# Managing TCP/IP Connections

The following TCP/IP connection operations can be managed from the connection operations menu.

◆ **To access the connection operations menu:**

- ❑ Right-click on a TCP/IP connection icon .

The following menu opens:

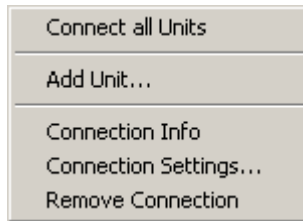


Figure 91 - TCP/IP Connection Menu

## Connect All Units

◆ **To connect all MemoCam units added to a TCP/IP connection at the same time:**

1. Right-click a MemoCam unit icon.
2. Choose **Connect all Units**.

All MemoCam units already added to the TCP/IP connection are connected.

## Add Unit

◆ **To add a MemoCam unit to the TCP/IP connection:**

- ❑ See *Adding MemoCam Units to Serial Connections* on page 65.

### Connection Info

◆ To view connection information:

1. Right-click a connection icon.
2. Select **Connection Info**.

The *Details* window opens:

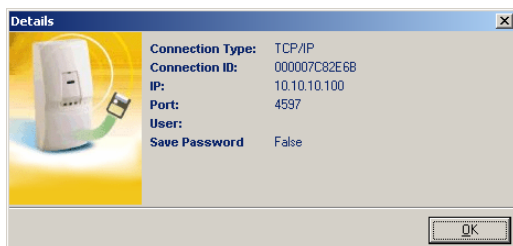


Figure 92 - Details Window

3. View connection information.
4. Click **OK** to return to the MemoCam Application.

### Connection Settings

◆ To adjust TCP/IP connection configuration settings:

1. Right-click a connection icon.
2. Select **Connection Settings**.

The TCP/IP *Connection Settings* window opens:

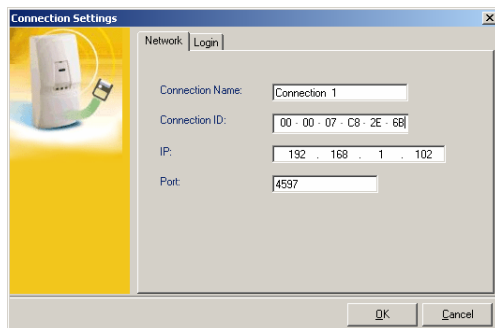


Figure 93 - Connections Settings Window

3. Change connection settings if required.
4. Click **OK**.

The connection settings are updated.

### Remove Connection

- ◆ To remove a TCP/IP connection from the MemoCam Application:

1. Right-click a connection icon.
2. Select **Remove Connection**. The following message box opens:

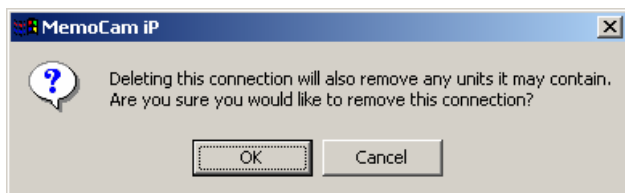


Figure 94. Disconnect Confirmation Window

3. Click **OK**.

The connection is removed from the MemoCam Application. The *MemoCam Application* window is refreshed.





# MemoCam Mobile

---

This appendix describes how to configure MemoCam Mobile. Before reading this appendix, you are encouraged to review the previous sections of this manual, as well as the *MemoCam Mobile Hardware Installation Manual*.

## Unit Description

MemoCam Mobile is a battery-powered version of MemoCam that provides portable MemoCam functionality.

MemoCam Mobile features many of the leading capabilities of the MemoCam family.



**For information on converting your MemoCam unit to a MemoCam Mobile unit and vice versa, refer to the MemoCam Mobile Hardware Installation Manual.**

---

## Standby Mode

MemoCam Mobile operates in a power-saving standby mode, drawing power from the battery only when an alarm event has been triggered. Standby mode extends both the life of the battery and the MemoCam Mobile unit.

### Configuring MemoCam Mobile Parameters

Configuring the MemoCam Mobile unit is accomplished by storing configuration data on the Memory card, then inserting the card into the unit so that the unit will read the new settings. You can use the MemoCam Application to configure all MemoCam Mobile parameters; see section 0 on page 29.

You must also ensure that your MemoCam Mobile unit jumpers are set correctly as described in the *MemoCam Mobile User Guide*.

### Unit Configuration Window

You can configure the MemoCam Application from the *MemoCam Configuration* window; see section *Configuring the MemoCam Parameters* on page 29.

◆ **To check before configuration:**

1. Before you access the *Configuration* window, or attempt to configure your MemoCam Mobile unit:
2. Ensure that the Memory card is inserted in the Reader and that the MemoCam Application is opened.
3. Click *F5* to refresh the MemoCam Application window.



When you check the **Enable Standby** box, the **I/O**, **Schedule** and **NOA** tabs are deactivated and disappear from the MemoCam Configuration window. These tabs are active in other MemoCam versions. The remaining tabs comprise the MemoCam Mobile Configuration window.

---

The *MemoCam Mobile Configuration* window contains the following tabs:

- ❑ Recording – Defines recording parameters;  
see section *Unit Configuration Recording Tab* on page 31
- ❑ Advanced – Defines advanced parameters;  
see section *Unit Configuration Advanced Tab* on page 45
- ❑ Standby – Defines standby parameters;  
see section *Unit Configuration Standby Tab* on page 127.

**You can now configure your MemoCam Mobile.**

## Unit Configuration Standby Tab

Standby parameters are configured from the *MemoCam Configuration* window *Standby* tab:



**Before you change any of the parameters, ensure that the Memory card is inserted into the reader. Press the F5 key on your keyboard to refresh the MemoCam Application with the contents of the Memory card.**

---

The standby configuration parameters are:

- ❑ Enable Standby
- ❑ On Wake Up
- ❑ Select Video Standard

The Standby function is only available with MemoCam mobile units.

For defining the Standby parameters see *Unit Configuration Standby Tab*

on page 127.

### ◆ **To enable standby mode (mobile only)**

1. Open the **Unit Configuration Standby Tab**
2. Check the **Enable Standby** box.
3. Select a camera to record on wake up.
4. Select the required video standard PAL or NTSC (B/W only)

5. Click **OK**, to set the parameters and close the *Unit Configuration* window.

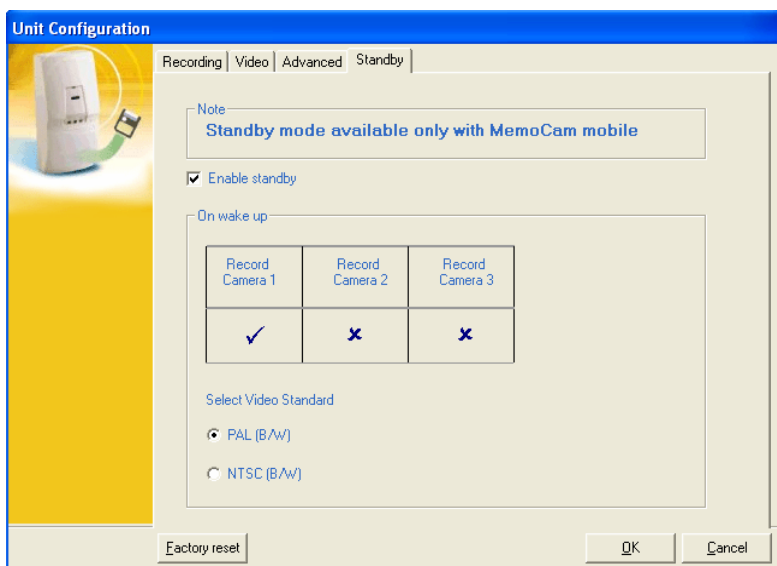


Figure 95 - Unit Configuration Standby Tab

### Enable Standby



The MemoCam Mobile operates in standby mode only.

Check the *Enable Standby* checkbox to activate the MemoCam Mobile standby mode.

In standby mode, the MemoCam Mobile unit draws power from the battery only when an alarm event has been triggered by an external trigger, by PIR, or by both.

## On Wake Up

The MemoCam Mobile can be extended with up to two additional cameras. Select cameras to activate on alarm.

Set each camera to be activated  or deactivated  on wake-up by clicking in the table underneath the camera name.



**You must select at least one camera to be activated on wake-up.**

---

## Select Video Standard

Select the video standard you wish MemoCam Mobile to record in. Select from:

- ☐ PAL
- ☐ NTSC

## Save the Settings



### To save the settings

- ☐ Click the **OK** button.

The settings are saved and the *Configuration* window is closed.



# Glossary

---

<b>Arm</b>	Enables the automatic detection, recording, notification and alarm functions.
<b>Cyclic Recording</b>	Continuous recording. The MemoCam Plus records until the Memory card is full, and then overwrites the Memory card beginning from the oldest images.
<b>Disarm</b>	Disables the automatic detection and recording function.
<b>Entry Delay</b>	<p>Time between first trigger after alarm and actual recording (unit is armed).</p> <p>Entry delay can be used when entering a room to avoid event recording until the unit is disarmed.</p>
<b>Event</b>	The recording of one or more images as a result of a trigger.
<b>Exit Delay</b>	Once the operator arms the unit, a delay can be used to avoid event recording when exiting the room.
<b>Memory Card</b>	Also called an MMC
<b>MMC (MultiMedia Card)</b>	<p>Called a Memory card in this document.</p> <p>A stamp-sized plastic card containing read/write non-volatile memory.</p>
<b>PIR</b>	Passive Infrared motion detector.
<b>Snapshot</b>	Recording of a single picture.
<b>Trigger</b>	A signal that activates the recording process. Usually generated by an alarm contact.
<b>VMD</b>	Video Motion Detection. A feature that detects changes in video frames.

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However, if according to law, by law EC directive etc. prevailing in the country/state in which the product was purchased you are entitled a longer warranty period and/or to better minimum undertaking from VDT and/or from the distributor than those granted to you herein, then this document is changed to reflect the said minimum/s.

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This Agreement sets forth the entire understanding and rights and duties between you and VDT. This Agreement may be amended only in writing signed by both parties. No person or entity is authorized to modify this Agreement or to make any warranty, representation or promise which is different than, or in addition to, the representation or promises of this agreement.

### Waiver

No waiver of any right under this Agreement shall be effective unless in writing, signed by a duly authorized representative of the party to be bound. No waiver of any past or present right arising from any breach or failure to perform shall be deemed to be a waiver of any future right arising under this Agreement.

### Severability

If any provision in this Agreement is invalid or unenforceable, that provision shall be construed, limited, modified or, if necessary, severed, to the extent necessary, to eliminate its invalidity or unenforceability, and the other provisions of this Agreement shall remain unaffected.