**Sinarback eMotion**

75LV / 75 / 54LV

Operating Instructions

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Sinar Photography AG
Farbhofstrasse 21
CH 8048 Zürich/Switzerland
Phone: +41/44 217 80 30
marketing@sinar.ch
www.sinar.ch

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# 1    Before You Start

We congratulate you on the purchase of your Sinarback eMotion and we thank you for your trust in our products. We are convinced that the Sinarback eMotion will be extremely helpful in your work.

Before you use your Sinarback eMotion for the first time, please read the **Operating Instructions** very carefully. This will enable you to use the digital back to best advantage and it will prevent disruptions that may result from improper operation.


## 1.1    Scope of Delivery

|  |  |
|---|---|
|  | Sinarback eMotion 75 LV, 75, or 54 LV |
|  | 1x CD with Capture Software and Instructions |
|  | CD with CCD Reference file |
| 551.63.054 | Firewire cable IEEE 1394 A, 4.5 m |
| 552.36.096 | Sinar V290 Battery, 7.2 V Li+ |
| 552.36.093 | Battery Charger V290, incl. mains adapter |
| 551.43.097 | White Shading Diffuser 100 |
| 751.43.003 | Kodak Gray card |
| 551.33.090 | Set of Cleaning cloths and cleaning fluid |
| 475.45.028 | Sinarback eMotion HD case |

Immediately upon receiving your Sinarback eMotion, please verify that the set of items supplied with the digital back is complete and undamaged. If anything is missing or if something is damaged, contact your supplier at once.


## 1.2    Computer Requirements

The minimal requirements to the Apple Macintosh computer used for reading and processing of the images are the following:
Apple Macintosh G5 or Apple Macintosh computer with Intel processors with a clock frequency of at least 1.8 GHz, 2 GB RAM, Apple OS 10.5.8 or higher, one Firewire IEEE 1394a interface.


## 1.3    Capture Software

The Sinar CaptureShop™ and the Sinar eXposure™ capture software – both are included in the scope of delivery of the Sinarback eMotion – allow access to the camera and management of the data that is stored on the inserted card (storage medium) or on the internal hard disc.
With Sinar CaptureShop™ and the Sinar eXposure™, respectively, you can view the images and manipulate them in order to file them from there or to export them to an image manipulation program (such as Adobe Photoshop).


## 1.4    Memory Cards

The following types of memory cards are supported: Compact Flash Cards with 1, 2, 4, 8, and 16 GB

When the camera is connected directly to the computer via Firewire, the data is stored directly in the computer. In that case, it is not necessary to insert a memory card in the camera.

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## 1.5 Power Supply

Power is supplied to the Sinarbacks eMotion by the battery that is supplied with the digital back. No battery is needed when the Sinarback eMotion is connected directly to the computer via Firewire cable, because in this arrangement the power supply takes place via the Firewire.

The camera has to be connected correctly when it is used with the battery that is supplied with it, or when it is being used with the Firewire cable that is also included.

All **warranties become void** when other than the authorized batteries **Sinar V290** or **Varta V290** are used.

## 1.6 Caring for and Charging the Battery

The operating life of a fully charged battery lasts approximately 4 hours. This depends, however, on the stand-by time that has been set, on the temperature, and on the climatic conditions.

Because the battery is of the lithium-ion type, it is not subject to the memory effect. Nevertheless it is recommended that it be completely discharged periodically before it is re-inserted in the battery charger.

The lifetime of a lithium-ion battery is increased significantly if it is discharged completely before being re-charged.

The battery charger that is supplied with the Sinarback is not equipped with a discharging function. It takes approximately 3 hours to recharge the battery.

## 1.7 Attaching the Medium-format Camera Adapter

The adapter plate is fastened to the Sinarback by means of the three screws supplied with the camera adapter. The adapter plate has three holes, spacer frame has one hole. The adapter plate and the spacer frame are to be attached to the front plate of the Sinarback by means of the aforementioned three screws.

Care must be taken not to tighten each screw all the way in one step, but to tighten each one a little at a time, going around several times, so as to avoid skewing the adapter plate.

1. Remove the protective CCD cover from the Sinar Digital back.

2. Attach the Sinar Adapter Plate to the Sinarback by first placing the Spacer frame on the front plate on the Sinarback and on top of the spacer frame place the adapter plate. Then inserting all three screws lightly and then gradually tightening them a little at a time, alternating working on each screw diagonally from each other until all of them are fastened securely.

3. When the Sinarback is to be stored after being used, please use the protective CCD cover that is supplied with the Sinarback.

4. Attach the Sinarback to the camera.

**Important Information**

The Spacer frame must be mounted between the digital back and the adapter plate. This Spacer frame serves for the precise alignment of the sensor surface. Not attaching this shim will result in unsharp images.

# 2    General Technical Information

## 2.1    Connections of the Sinarback eMotion 75 LV / 75 / 54 LV



- Winder Out
- Trigger In
- Firewire IEEE 1394A
- Flash synchronization
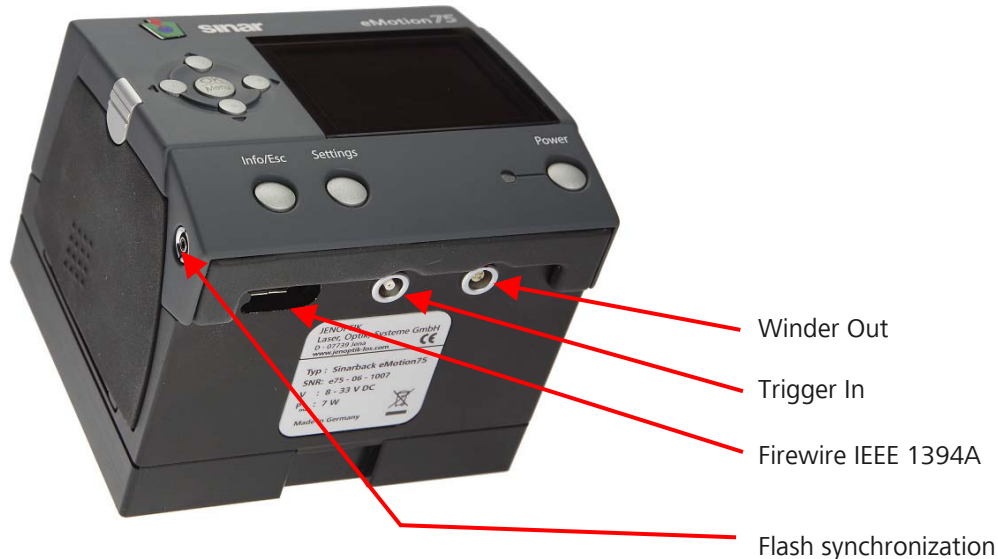
### 2.1.1    Trigger Connection

This interface is only needed when a medium-format camera is being used that does not provide a modern bus system (for instance: Hasselblad 500 series), or when the Sinarback eMotion is used on a view camera. With these systems, in order to synchronize the Sinarback eMotion with the medium format camera, the trigger cable supplied with the Sinarback must be plugged into the flash connector socket of the medium format camera and connected with the Sinarback (*Trigger In* socket). With these systems, because the flash synchronization socket of the medium format camera is in use, the Sinarback Motion has its own flash synchronization socket on its left side, which can be used for triggering a studio flash set-up.

### 2.1.2    Winder Connection

A third interface provided by the Sinarback eMotion is the so-called *Winder Out* socket. If you own a medium-format camera with a winder or if you use an electronic shutter system from Schneider Kreuznach or Rollei, you can activate your medium format camera remotely from he computer by means of the so-called Winder Cable and the Wider Out socket. Please note, however, that you must also connect the Trigger Cable mentioned above.

### 2.1.3    Firewire IEEE 1394A Connection

Not only can you operate the Sinarback eMotion in the mobile mode, you can also connect it directly to the computer. In the latter mode, the exposed images are stored directly on the hard disc of the computer. There is a Firewire interface for this purpose, located on the bottom of the Sinarback eMotion. Connect the Sinarback to your computer by means of the Firewire cable that is included.

### 2.1.4 Flash Synchronization

This connection is used for synchronizing your flash units.

## 2.2 Firmware Update

The actual Firmware is available on the Sinar website *www.sinar.ch*. It can be found in the password protected section under "Download". After you have registered, a user name and a password will be sent to you via e-mail.
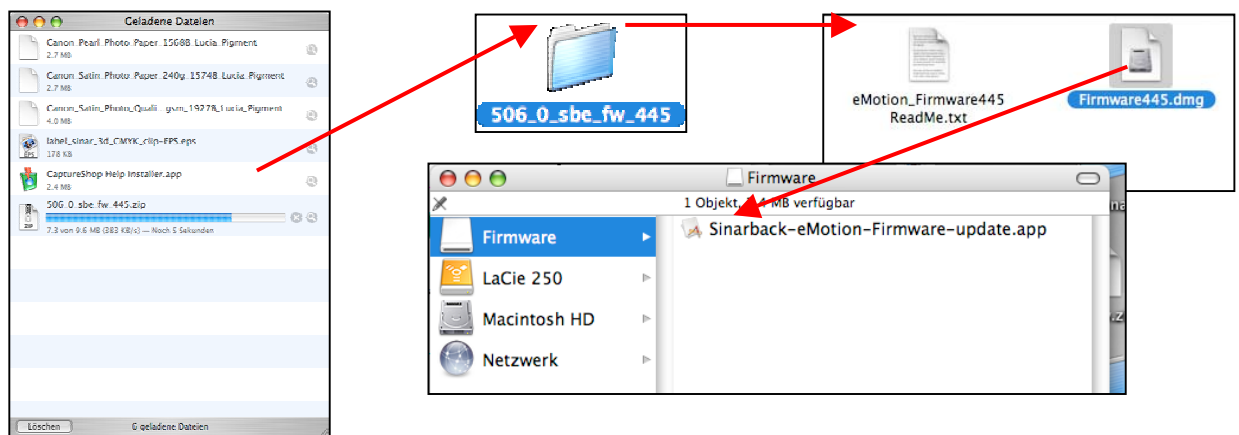


After downloading this file to your computer, proceed as follows:

1. Connect the Sinarback to the computer via the Firewire connector

2. Switch the Sinarback on.

3. Double-click on "Sinarback-eMotion-Firmware-update.app."

4. The update is activated automatically. Dialogs will appear on the display on the digital back and on the monitor, confirming that the update is taking place.

This update should be executed on an Apple Macintosh G5 computer or on later models equipped with Intel processors and with operating system 10.5.8 or higher.

## 2.3    Battery Compartment and CF Card Slot

### 2.3.1  The Battery Compartment



Battery compartment

Release lever

Battery charger

**Important Notice**
Please note that only batteries that have been approved by Sinar Photography AG can be used. Details are listed under Technical Data.

### 2.3.2  The CF Card Slot



CF Card Slot

Release lever

**Important Notice**
Please note that, as long as the LED by the Compact Flash card is blinking, images are still being transferred to the CF card. The card must only be removed when the LED has stopped blinking. Otherwise, there is the danger of an irreparable loss of data.

# 3 First Starting of the Capture Software

This paragraph describes the first starting of the user software Sinar CaptureShop<sup>TM</sup> and Sinar eXposure™, respectively.

The following steps are only necessary when you wish to operate your Sinarback eMotion 75 LV / 75 / 54 LV for the first time with the Sinar CaptureShop<sup>TM</sup> or with the Sinar eXposure™ capture software and when the reference file is not being transmitted automatically from the internal memory to the computer.

Place the included CD-ROM with the camera data (CCD Files) in the CD-ROM drive. This CD contains camera-specific data that are needed for starting the software for the first time.

Start Sinar CaptureShop™ 5.4 or higher or the Sinar eXposure™ 6.1 or higher by double-clicking on the respective program icon. Depending on the firmware that is being used in the Sinarback eMotion 75 LV / 75 / 54 LV, an information window will appear that will automatically copy the corresponding data from the CD in the drive. This installation will be completed in a few seconds and then the CD will no longer be needed, so that it can be removed.

**Important Notice**
Please store this CD in a secure place, because it is the Original Reference CD!

# 4 Basic Settings

## 4.1 Operating Elements



The arrow keys arranged in a circle serve for navigating the images or the menus. With the **OK/Menu** key in the center you can access the menu for the operation of the camera during the shoot, i.e. you can verify the settings in the menus. If the display shows an image, you can use the lower arrow key to call up the images from the internal memory or the images on the CF card for viewing. With the **Info/Esc** key you can exit the respective menu without accepting their settings. When an image is displayed on the screen, you can use the **Info/Esc** key to call up various items of information. The following subjects will be displayed in sequence when you press the **Info/Esc** key repeatedly:

- Image without additional information
- Image with histogram and camera information
- Image with camera information and picture information

The **Settings** key brings up the menu for the basic settings of the Sinarback eMotion.
The **Power** key is used for switching the Sinarback eMotion on or off.

### 4.1.1 Activating the Sinarback eMotion

The Sinarback eMotion is activated by pressing the **Power** key. When the power has been switched on, the LED next to the **Power** key will light up in an orange color. When the starting process has been completed, that LED will light up in green to indicate that the Sinarback eMotion is now ready for action.

### 4.1.2 The Menus

The Sinarback eMotion has two different menus. One is the **Settings** menu, which is used for making the basic settings for the Sinarback eMotion. The other one is the **Image Control** menu, which is called up via the **OK/Menu** key. This one is the control center during the exposure. The arrow keys are used for navigating within these menus. To confirm a setting, use the **OK/Menu** key located in the center of the arrow keys. To cancel the changes, use the **Info/Esc** key.

## 4.2 Settings Menu and Basic Settings



The **Settings** menu is used for making the basic settings on the Sinarback eMotion. The up or down arrow keys are used for navigating within the individual menus. The left or right arrow keys are used for changing a setting. Thus you can make all the settings and then confirm them by pressing the **OK/Menu** key. If you wish to discard the settings that have been made, press the **Info/Esc** key to exit the menu without changing the original settings.

### 4.2.1 File Saving Location

This is where you select the location where the Sinarback eMotion is to save the pictures that have been taken. There are three different possibilities: *Internal*, *Internal and CF,* and *CF Card*.

**Internal** means that the exposed pictures will only be filed in the internal memory. The images can later be transferred manually to the CF card.

**Internal and CF** means that the exposed pictures will be filed in both the internal memory and on the CF card. Filing on the CF card, however, takes longer, because the writing speed of the CF card is considerably slower than that of the internal memory. This function is useful if you desire a back-up file of you pictures. When the CF card is full, the Sinarback eMotion continues to function until its internal memory is also full.

**CF Card** means that the images are first filed in the internal memory. At every opportunity when exposures are not being made, the Sinarback eMotion automatically copies the images on to the CF card. When an image is recorded securely on the CF card, that image is deleted from the internal memory. This function is useful when you need as much memory space as possible. When the CF card is full, or when there is no CF card in the Sinarback eMotion, the latter will continue to function as long as there is storage space on the internal memory. When an inserted CF card is full, images will continue to be stored on the internal memory until this memory is also full. When there is no more filing space left, a warning will be displayed.

For information on how about to **save your images to the computer** please refer to chapter 7.

### 4.2.2 White Balance

The white balance that is established at this stage is an approximate adjustment of the camera to the existing light conditions. The final white balance of the image data will be accomplished with the CaptureShop software. The following pre-set white balance options are available:
- Sunny
- Cloudy
- Shadow
- Tungsten
- Neon
- Flash
- Manual

### 4.2.3 Sensitivity

The Sinarback eMotion can be set for various sensitivities (ISO speeds). When a camera is being used with which the Sinarback eMotion can communicate directly without a cable, this sensitivity setting is also transferred to the medium format camera and the built-in exposure meter takes that setting into account in establishing the aperture/shutter speed combination. The sensitivities that can be set on the Sinarback eMotion range from ISO 25 to ISO 800 depending on the model.

### 4.2.4 Image Mode

The Sinarback eMotion features an internal image compression based on the raw data generated by the digital back. This function can be switched on and off.

### 4.2.5 Camera Mode

The Sinarback eMotion can be attached to various camera bodies by means of its dedicated adapters. In order for the Sinarback eMotion to communicate with the respective medium format camera as efficiently as possible, please enter the designation of the medium format camera that is being used here. If you plan to work with a view camera, please enter "X Contact".

### 4.2.6 Shutter Speed

The Sinarback eMotion has an internal exposure setting function. The latter is only activated when the work is being performed in the "Master Mode", and it serves for flash synchronization with time exposures. Available shutter speeds range from 1/60 to 30 seconds.

### 4.2.7 Sleep Mode

The Sinarback eMotion is equipped with an energy saving mode. Here you can set the period of time after which the sleep mode is to be activated. This setting establishes the length of time elapsed after the last exposure when the sensor and the screen are switched off.

### 4.2.8 Date and Time

The Sinarback eMotion is equipped with an internal clock. To set this clock, select the menu item "Time" and press the **OK** key. A new dialog will open, with which you can enter the time and the date. To make these entries, use the familiar arrow keys. To confirm the entries, press the **OK** key again. To discard the entries, press the **Info/Esc** key. The time and date will be filed with every exposure. The time that you have set on the Sinarback eMotion will only become operational after you have turned the Sinarback off and then on again.

### 4.2.9 Brightness

There are 5 levels of brightness that can be set for the display on the Sinarback eMotion. The standard value is level 3.

### 4.2.10 Language

Under the menu item "Languages" you can select the language that will then be used in the menu descriptors.

### 4.2.11 Special Actions: Formatting

In the event that greater problems occur during the storage of images in the internal memory, this provides the opportunity for re-formatting the internal memory. In order to format the internal memory, select "Format All" and confirm by pressing the *OK* key. Because this causes the loss of all the data stored on the Sinarback eMotion, we recommend this function only as a last resort. Before you employ this function, we recommend that you contact our Support Service so that the causes of the problem can be cleared up. In addition, you can lo format the CF card that has been inserted. To do so, select "Format CF" and confirm by pressing the *OK* key.

**Notice**
When formatting the internal memory of the Sinarback eMotion the reference data that are saved on the Sinarback will be deleted. This reference data, however, can be recalled from the reference CD that is delivered with the digital back.

### 4.2.12 Select the Source for Viewing the Data: Internal or CF Card

The choice or the change from the internal memory to the CF card is made by means of the right or the left *arrow* key. This applies to the viewing of the images.

The following display appears when there is no CF card in the slot or when an inserted card is damaged and cannot be read.
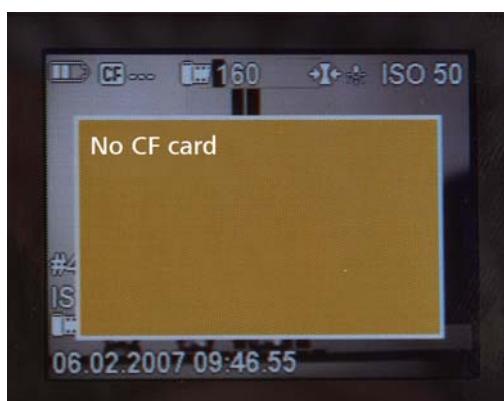
The following display enables you to make the choice between the CF card and the internal memory.
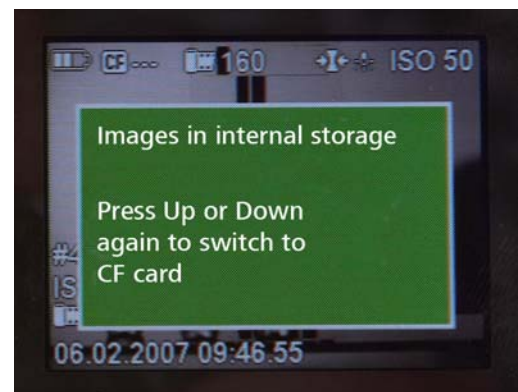
# 5    Image Information

## 5.1    Symbols

The Sinarback eMotion features the following symbols on its built-in display.

The status indicator of the Sinarback eMotion appears on the upper edge of the display to inform you at a glance about the setting that you have made on your Sinarback eMotion.

The **battery** symbol indicates the charge level of the battery that has been inserted. It is divided into three bars. When three bars are lit, this means that the battery is charged to between 75% and 100% of its capacity. Two bars indicate a charge between 25% and 50%. When only one bar is lit and when it turns red, this means that the charge is now less than 25%, so that the battery should be replaced soonest. When the voltage of the battery is no longer sufficient, the Sinarback eMotion will switch itself off automatically

The **magnifier** symbol indicates the zoom level at which you are operating. If no number appears behind the magnifier, you are viewing the entire image area on the display. If the symbol "16x" appears behind the magnifier, you are viewing a 1:1 display, i.e. one pixel on the screen corresponds to one pixel on the sensor. This setting also corresponds to a 100% representation in an image manipulation program. This enables you to evaluate the sharpness of an image.

When there is no **CF card** inserted into the camera, three lines will appear behind the CF card symbol. When a CF card is inserted, a number will appear behind the CF card symbol. This number indicates the number of images that can still be stored on the CF card. When an image is being recorded on the CF card, the CF card symbol lights up in red. The CF card must not be removed from the Sinarback eMotion while the CF card symbol is lit up in red.

The symbol with the **film** cartridge is the symbol for the internal memory. The number that appears behind that symbol indicates the number of images that can still be stored in the internal memory.

Next to the display that indicates the storage space that is still available, information is given about the white balance that has been selected. This symbol can have various different appearances.

If a lightning **flash** appears in the symbol, this means that the Sinarback eMotion is set for the color temperature of flash illumination (5000 Kelvin). Flash pictures that you take with this setting will appear neutral.

If a **light bulb** is shown in the symbol, this means that the Sinarback eMotion is set for the color temperature of artificial light (3500 Kelvin). Pictures taken with artificial light will appear neutral.

If you have set the white balance on the Sinarback eMotion for **Sunny**, a sun will appear in the symbol. This white balance is intended for exposures in direct sunlight.

When the white balance on the Sinarback eMotion is set for **Cloudy**, a cloud will appear in the symbol. This white balance setting is intended for exposures made when the sky is covered with clouds.

If you are working on a sunny day, making exposures in the shade of a tree or a house, we recommend that you select the white balance setting for **Shade**.

In rooms with fluorescent light illumination, we recommend the white balance setting for **Neon**. When you select this setting, fluorescent tubes will appear in the symbol.

In mixed light situations we recommend a **Manual** setting of the white balance. When you select this setting, the symbol shown on the left will appear.

The number that appears behind **ISO** indicates the sensitivity that has been selected on the Sinarback eMotion. When a Hasselblad H1 camera is being used, the sensitivity will also be shown on the display on the Hasselblad H1 camera.

## 5.2   Image Information

When the Sinarback eMotion is being used, various items of information can be called up by pressing the *Info/Esc* key.



| View without image-, storage- and Sinarback information. | View with storage- and Sinarback information along the upper edge of the image. The histogram is also incorporated. | View with storage- and Sinarback information along the upper edge of the image. Information about the exposure is also incorporated at the lower left side. |

# 6    Image Control

The menu for the operation of the Sinarback eMotion comes up when the ***OK/Menu*** key is pressed. Select a function and then press the ***OK*** key for this function to be implemented. To leave this menu without selecting a function, press the ***Info/Esc*** key.

## 6.1    Zoom Function

The Sinarback eMotion features a zoom function for controlling the images. To use the zoom function, first select the zoom factor and then press the ***OK*** key. Cross hairs will appear in the display, which can be moved around by using the arrow keys. Pressing the ***OK*** key repeatedly will enlarge the image to the zoom factor that was pre-selected. By further repeated pressing of the ***OK*** key, you can check the effects of various zoom factors. To exit the zoom function, press the ***Info/Esc*** key.

## 6.2    Contact Sheet

The **Contact Sheet** function permits an overview of a number of images. You can select between 4 and 9 of the images that are shown.

## 6.3    Manual White Balance

The Sinarback eMotion enables you to execute a white balance manually. It allows you to perform a white balance on the image that has been selected. Press the ***OK*** key and the Sinarback will automatically address the picture that was selected. Move the arrow to the area for which a white balance is to be created and then click on the ***OK*** key again. The section that you have chosen will then be zoomed to a 1:1 view. If necessary, move to the exact area that is to be rendered neutral and once again press the ***OK*** key. The white balance will be performed immediately and applied to the picture that has been selected. If you want to make the next exposures with the same white balance, make sure that you have selected the manual white balance in the ***Settings*** menu.

## 6.4    Deleting Data

Using the **Delete** function, you can delete individual pictures or all the images on the internal memory. When you are deleting individual pictures, only the image that is being shown will be deleted. If there are black references in the files for which the images have been deleted, these references will be erased automatically.

## 6.5 Copying Data

You can copy the pictures in the internal memory or you can move them. When you copy pictures, they will not be deleted from the internal memory after the copying procedure! When you move the pictures, they will be deleted from the internal memory after they have been safely transferred to the CF card. There are two methods available for copying pictures. With **Copy Current**, the selected image is copied on to the CF card. With **Copy Max.**, as many pictures as possible will be copied on to the CF card. With this command, the Sinarback eMotion always starts with the oldest picture stored in the internal memory. You have the same possibilities for moving the pictures as you do for copying them. With **Move Current**, you only move the currently selected picture to the CF card. With **Move Max.**, as many pictures are transferred to the CF card as there is room for them on the card. Here too, the Sinarback eMotion begins with the oldest picture in the internal memory.

## 6.6 Over-exposure Alert

The Sinarback eMotion features an over-exposure alert for efficient control of the exposure. If you wish, you can switch this alert *on* or *off*. When the over-exposure is switched on, areas for which one or more channels are over-exposed will be highlighted in red.

## 6.7 Black Reference

From time to time, the Sinarback eMotion applies a **black reference** in order to enhance the image quality. When needed, this occurs every 15 minutes, or when you select a shutter speed that is longer than 1 second. When you wish to apply a **black reference** at a particular point in time, there is the possibility of activating the **black reference** manually. To do so, choose the menu item **Blackreference Next Image** and activate it by pressing the *OK* key. Immediately after the next exposure, the Sinarback eMotion will apply a **black reference.** This **black reference** will be filed together with the respective image. This process will be indicated on the screen with the alert **Acquiring Black Reference**.

# 7 Transferring Images to the Computer

## 7.1 Tethered Operation

a.  In order to save the images that will be taken with your Sinarback eMotion directly onto the computer, the digital back must first be connected with the computer by means of the Firewire cable that is included in the scope of delivery.

b.  Furthermore, either the capture software Sinar CaptureShop™ or Sinar eXposure™ must be installed on the computer and started. Both software can be found on the CD included with the digital back.

c.  If working with **Sinar CaptureShop™:**
    In the menu "CaptureShop / Hardware Setup", select the camera "Sinar eMotion Generic Camera Interface".

d.  If working with **Sinar eXposure™**:
    In the menu "Sinar eXposure / Preferences", select the camera being used.

e.  In the capture software you are working with designate a folder in which the images shall be stored.

f.  Now the taken images will directly be saved on the hard disk of your computer.

## 7.2 From the Internal Memory to the Computer

If you would like to take your images without being connected to the computer, you can save your images onto the internal solid state memory of the Sinarback eMotion as described on chapter 4.2.1. To transfer the image data from the internal memory to the computer please proceed as follows:

### 7.2.1 With Sinar CaptureShop™

a.  Connect the Sinarback eMotion with the computer by means of the Firewire cable.

b.  Start the capture software Sinar CaptureShop™ that was previously installed on the computer. The software can be found on the CD included with the digital back.

c.  In Sinar CaptureShop™, designate a folder in which the transferred images shall be saved.
    – In the menu "Capture" select "Download Images from Internal Memory".
    – Now, all thumbnails of the images that are still located in the internal memory of the Sinarback eMotion are shown. Select the images you wish to transfer to the computer and click on "Download".
    – Now the selected images will be saved on the hard disk of your computer.

### 7.2.2 With Sinar CaptureShop™

a.  Connect the Sinarback eMotion with the computer by means of the Firewire cable.

b.  Start the capture software Sinar eXposure™ that was previously installed on the computer. The software can be found on the CD included with the digital back.

c.   In the browser of Sinar eXposure™ the Sinarback eMotion is shown as a logical drive.
   – Double-click on this drive. Subsequently, the thumbnails of the images that are still located in the internal memory of the Sinarback eMotion will be shown in the contact sheet.
   – Mark the thumbnails of the images you wish to store on the computer and drag those with the mouse into the folder in which you wish to store the pictures.
   – Now the selected images will be saved on the hard disk of your computer.

## 7.3   From the CF Card to the Computer

If you would like to take your images without being connected to the computer, you can save your images on a CF card placed inside the Sinarback eMotion as described on chapter 4.2.1. To transfer the image data from the CF card to the computer a CF card reader is required. Please proceed as follows:

### 7.3.1  With Sinar CaptureShop™

a.   Connect the CF card reader with the computer on which you wish to transfer and save your images.

b.   Start the capture software Sinar CaptureShop™ that was previously installed on the computer. The software can be found on the CD included with the digital back.

c.   In Sinar CaptureShop™, designate a folder in which the transferred images shall be saved.
   – Remove the CF card from the Sinarback eMotion (refer also to chapter 2.3.2) and plug it into the appropriate slot of the card reader.
   – In the automatically displayed window all thumbnails of the images that are still on the CF card are shown.
   – Select the images you wish to download and click on "Download"
   – Now the selected images will be saved on the hard disk of your computer.

### 7.3.2  With Sinar eXposure™

a.   Connect the CF card reader with the computer on which you wish to transfer and save your images.

b.   Start the capture software Sinar eXposure™ that was previously installed on the computer. The software can be found on the CD included with the digital back.

c.   In the browser of the Sinar eXposure™ the CF card is shown as a logical drive.
   – Double-click on this drive. Subsequently, the thumbnails of the images that are still located on the CF card will be shown in the contact sheet.
   – Mark the thumbnails of the images you wish to store on the computer and drag those with the mouse into the folder in which you wish to store the pictures.
   – Now the selected images will be saved on the hard disk of your computer.

# 8 Care

## 8.1 Cleaning the Sensor

For cleaning the sensor, Sinar recommends the Digital Cleaning Set 551.33.090 that is supplied with the Sinarback. This set consists of high-grade, lint-free micro-fiber cleaning cloths from the clean room, plus a cloth holder and two vials with cleaning fluids: "Agent Blue" and 96% proof "Ethanol".

**Agent Blue** (the blue cleaning fluid) is suitable for preliminary cleaning of stubborn, greasy blemishes. It can also be used as a cleaning fluid wherever a wet surface is accessible so that it can be gently wiped dry.
In addition, the fluid can be used when there is no danger of electronic components being damaged by electric discharges. At the beginning of the drying procedure, the anti-static additive leaves wiping marks, which disappear as the wiping progresses. Dust particles adhere less stubbornly to the cleaned surfaces, so that they are easier to remove.

**Attention**
CCD glasses **must not** be cleaned with Agent Blue!

Colorless, highly purified **ethanol** is recommended for cleaning surfaces after they have been pre-cleaned with Agent Blue. Ethanol is generally appropriate for use on surfaces that are not accessible for being wiped dry or where wiping is not permitted because of the danger of electrostatic discharges. The cleaning cloth must always be adequately wetted; otherwise striations may appear after the spontaneous evaporation of the ethanol. If the cleaning cloth is soaked excessively, residues will form at the ends of the wiping strokes.

**Attention**
CCD glasses should **only** be cleaned with ethanol!

## 8.2 Important Tips

a. Clean hands and pure cleaning fluids are essential for a successful cleaning process. Hand perspiration, hand cream, and other residues on the cleaning cloth are transferred to the surfaces to be cleansed, thus making the job more difficult.

b. The surfaces of optical elements should never be touched with bare fingers.

c. Fingerprints are very difficult to remove and they may leave lasting blemishes behind.

d. The combination of dust and humidity results in a sticky film of dirt that clouds the surfaces. The air we breathe out always contains humidity.

e. If dust is removed by blowing on it, the humidity of the warm breath condenses on the cooler surfaces in the form of miniscule droplets. If a surface is accidentally breathed upon, it should be wiped clean very carefully while it is still humid.

f. Wiping a dry surface intensively with a dry cleaning cloth will cause electrostatic charges to build up, whose discharge may destroy sensitive electronic components.

g. Very special care must therefore be exercised when cleaning the IR-blocking filter and the CCD glass. Furthermore, electrostatically charged surfaces attract dust particles from their surroundings.

h.  Only use the materials included in the Sinar cleaning set. These materials were tested thoroughly by Sinar to ensure their suitability and compatibility. The user will be responsible for damages caused by the use of other cleaning materials.

i.  Meticulously careful use of the tip of a very fine brush or the tip of a tiny sponge can be employed for removing individual dust particles from a surface. When there is more than just a little dust, short brush stokes must be applied from the center towards the outside. The brush should be applied to the surface very lightly.

j.  Care must be used when blowing away dust particles with compressed air from a can. Condensation may cause the accumulation of liquid inside the can. Therefore a basic precaution before an application is to check whether the air from the spray can is truly dry. To that end, before blowing on the surface to be cleaned, always first spray air from an appropriate distance towards the floor in order to clear the nozzle of any accumulated liquid. Sinar recommends "Ultra Jet Duster Refill" from Chemtronics.

k.  It is very important to carefully remove any loose dust particles before wiping a surface.

l.  Never use a dry cleaning cloth to wipe a dusty, uncleaned surface, because the dirt particles being rubbed into the surface may create scratches on those surfaces. The wiping movement should be performed without pressure and it should always be in one direction only (not back and forth).

m.  A visible difference between a cleaned and an untreated area after a partial cleaning of a surface indicates the presence of a large soiled area that will require an overall cleaning of the complete surface. In such cases, the entire surface should be wiped in only one direction (not back and forth), and in uninterrupted, continuous strokes across the whole surface. The cleaning cloth should be folded after each wiping procedure in such a way that the used portion will not be in use.

n.  Wiping motions across protruding or sharp edges, which would occur when the area to be cleaned is framed by a raised edge, must be avoided at all times. In that situation, first wipe the surface along the edge and then wipe it just to the edge, but not across it.

o.  Never let the cleaning fluid drip directly on the surface to be cleaned, always apply it to the cleaning cloth first.

p.  After the wet-cleaning with a non-volatile (slowly-drying) cleaning fluid and a clean, dry cleaning cloth, carefully wipe the surface dry from the center to the edges (not back and forth) in order to avoid residual drying marks.

q.  If drying residues are still visible after the first cleaning procedure, the procedure should be repeated carefully with a fresh cleaning cloth. If repeated cleaning efforts do not yield the desired results, the cleanliness of the cleaning cloths and the cleaning fluids should be examined.

# 9 Technical Data

## 9.1 Sinarback eMotion 54 LV

- Digital back for 1-shot exposures with all types of light
- Active sensor size: 48.0 x 36.0 mm
- Sensor resolution: 5344 x 4008 pixels, or 22 million pixels
- CCD pixel size: 9.0 µm
- File size RAW: 42 MB
- File size RAW, compressed: 21 MB
- File size 48 bit TIFF: 124 MB
- Exposure sequence: up to 50 images per minute
- Shutter speeds: 1/10000 to 4 seconds
- Long Time exposures: 4 to 32 seconds
- Dynamic range (contrast): 12 aperture stops
- Digitalization: 48 bit (16 bit per channel)
- Nominal sensitivity: ISO 50 (adjustable from ISO 50 to ISO 400)
- Interface: 1x Firewire IEEE 1394A
- Power supply: Choice of Firewire or interchangeable lithium-ion battery
- On-board battery: Up to approx. 2000 exposures
- On-board memory: Alternatively on internal 3 GB solid-state memory for up to 130 images (and/or on optional Compact Flash card) or via Firewire directly on computer hard disk
- Optional accessory: Additional, interchangeable Compact Flash Card of up to 8 GB (for up to 190 additional uncompressed or 35 compressed images)
- On-board display: 2.2", 16 million colors
- Information provided in the display: Images, histogram, sensitivity, battery charge, exposure control, memory level, white balance
- Operating modes: Choice of fully mobile (on-board data storage), or connected to a computer (data storage directly on the hard disc via the Firewire cable)
- Functionality: Sensitivity, white balance, zoom to 1:1, resolution, compression, choice of languages (Chinese, English, French, German, Italian, Japanese, Korean, Spanish)
- Exposure software: Sinar CaptureShop™ 5.5 and higher or Sinar eXposure™ 6.1 and higher
- Dimensions: 92 x 81 x 71 mm
- Weight: 600 grams
- Computer requirements: Apple Macintosh G5 or Apple Macintosh computer with Intel processors with a clock frequency of at least 1.8 GHz, 2 GB RAM, Apple OS 10.5.8 or higher, Firewire IEEE 1394a interface.

## 9.2    Sinarback eMotion 75 / 75LV

- Digital camera back for 1-shot exposures with all types of light

- Active sensor size: 48.0 x 36.0 mm

- Sensor resolution: 6668 x 4992 pixels, 33 million pixels

- CCD pixel size: 7.2 µm

- File size RAW: 64 MB

- File size RAW, compressed: 32 MB

- File size 48 bit TIFF: 190 MB

- File size 24 bit TIFF: 95 MB

- Exposure sequence: Up to 40 images per minute

- Shutter speeds: 1/10000 to 32 seconds

- Dynamic range (contrast): 12 aperture stops

- Digitalization: 48 bit (16 bit per channel)

- Nominal sensitivity: ISO 50 (adjustable from ISO 100 to ISO 800)

- Interface: 1x Firewire IEEE 1394 A

- Power supply: Choice of Firewire or interchangeable lithium-ion battery

- On-board battery: Up to approx. 2000 exposures

- On-board memory: Alternatively on internal 6 GB solid-state memory for up to 160 images (and/or on optional Compact Flash card) or via Firewire directly on computer hard disk

- Optional accessory: Additional interchangeable Compact Flash Card with up to 8 GB (for up to 120 additional uncompressed or 220 compressed images)

- On-Board display: 2.5", 16 million colors

- Information provided by the display: Images, histogram, sensitivity, battery charge, exposure control, memory level, white balance

- Operating modes: Choice of fully mobile (on-board data storage), or connected to a computer (data storage directly on the hard disc via the Firewire cable)

- Functionality: Sensitivity, white balance, zoom to 1:1, resolution, compression, choice of languages (Chinese, English, French, German, Italian, Japanese, Korean, Spanish)

- Exposure software: Sinar CaptureShop™ 5.3 or higher or Sinar eXposure™ 6.1 and higher

- Dimensions: 92 x 81 x 71 mm

- Weight: 600 grams

- Computer requirements: Apple Macintosh G5 or Apple Macintosh computer with Intel processors with a clock frequency of at least 1.8 GHz, 2 GB RAM, Apple OS 10.5.8 or higher, Firewire IEEE 1394a interface.