Instruction Manual

EVEREC ME1

Version 1.1.6

Contents

1   General

The Trajet Everec ME 1 is one of the smallest digital video recorders for personal use. Long battery life and high image and audio quality make it suitable for any number of applications.

- Monitoring
- Observation
- Hidden investigation
- Video documentation
- Helmet camera
- Service use

The system consists of the following components

- Everec ME1 Video Recorder
- Compact Flash Card (CF Card) 4 gbyte
- Camera with microphone
- Battery charging device
- FireWire cable
- 2 Battery holders with 4 AA NiMH batteries
- Aluminium case for secure transport and storage
- CD ROM – Contents
    - Instruction manual
    - Everec Player
    - Everec codec for Windows Mediaplayer

1.1   Warranty conditions

Trajet GmbH covers all parts of the system with a two-year warranty. Replacement of components does not extend the warranty period.
Damage from the following causes is not covered by the warranty

- ■   improper use or treatment of the device
- ■   Use of incorrect or used batteries

1.2   Safety notice

- ■   Use only rechargeble batteries
- ■   Do not operate the recorder in the rain, and protect it from dampness.
- ■   Remove batteries from the recorder if it is not used for long periods to avoid damage caused by leakage.
- ■   Avoid exposure to direct sunlight; do not place the device on heaters or use it in dusty, salty, or gas hazard environments.
- ■   Severe changes in temperature can result in internal condensation. Wait until the temperature has reached a steady level.
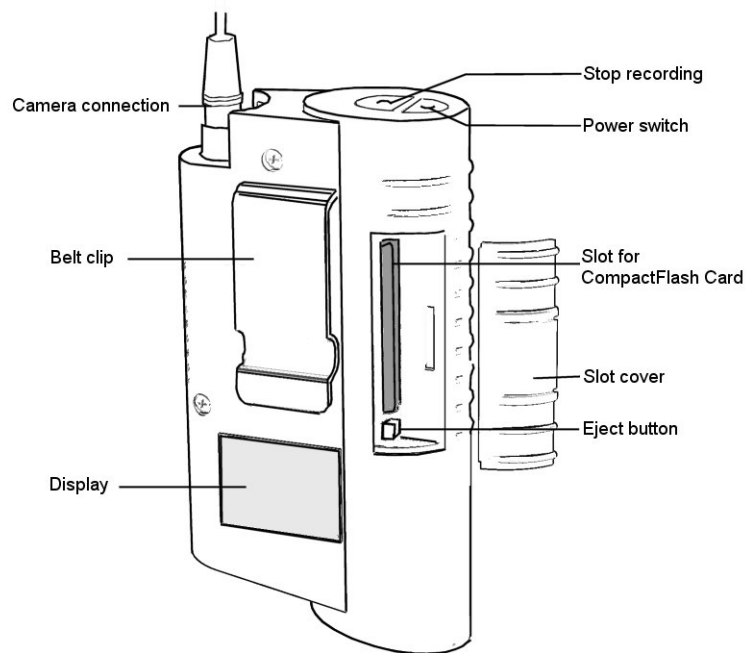
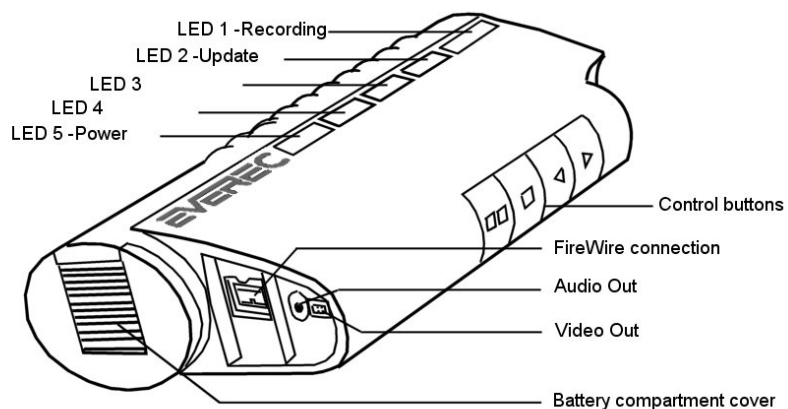# 2   Controls and connections

Figure 1: Everec ME1 – Side view

Figure 2: View from the bottom

3   Installing and charging batteries

3.1   Installing

The Everec ME1 requires 4 Mignon AA NiMH batteries. Depending on the battery capacity and the ambient temperature, you can record for about 4 hours or reach 10 hours standby time.
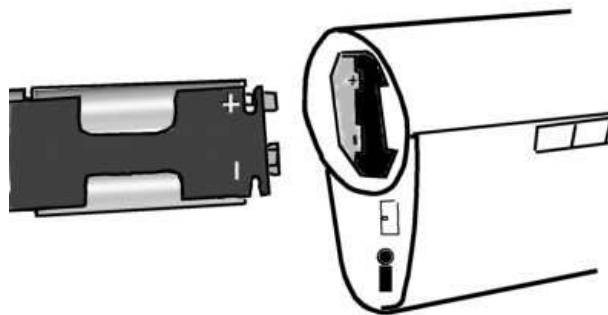

Figure 3: Changing batteries

To insert batteries, open the battery compartment cover at the base of the recorder by sliding it toward the side with the monitor. The battery holder can be removed by shaking lightly. Insert 4 batteries, and check for correct polarity.

The symbol in the battery compartment of the Everec ME1 shows the correct direction to insert the battery holder to ensure correct polarity. Insert the holder into the compartment, and close the cover.

Note: Remove batteries from the recorder as soon as they are empty.
Remove batteries from the recorder if it is not used for long periods to avoid damage caused by leakage.

Note: Do not dispose of batteries as household waste. Every user is obliged by law to return used batteries . They may only be disposed of by an expert retailer or at battery collection sites (community collection sites or hazardous material mobile facilities).

3.2 Charging condition display

When the recorder is turned on you can see the battery charging condition at the bottom of the display, indicating full, three-quarter, half-full, quarter or empty.

Figure 4: Battery charging conditions

3.3 Charging

The batteries can be recharged inside the Everec ME1.

If the charge status displays only one bar or "low" at the bottom of the display, or you cannot switch on the recorder even when the batteries are inserted, then you need to charge the batteries.

■ Connect the supplied power supply to the Firewire connection at the bottom of the recorder.
■ Plug the power supply into a socket.
■ Press and hold the 'up arrow button' on the side of the recorder and switch the recorder on.
■ LED 1 will flash for one second. Now release the arrow button.
■ The display shows „Charging".
■ The LEDs indicate the length of the charging process. To begin with, LED 5 is illuminated and LED 4 flashes. After 30 minutes, LED 5 and 4 are illuminated, and LED 3 flashes, and so forth. If the batteries are completely empty to begin with, charging is completed when LED 1 flashes and all other LEDs are illuminated.
■ Once the batteries are completely charged, the recorder switches itself off.

Caution: When charging the batteries, it is vital that you switch the Everec ME1 on while holding down the arrow button. The charging process does not work simply by plugging the power supply into the socket!
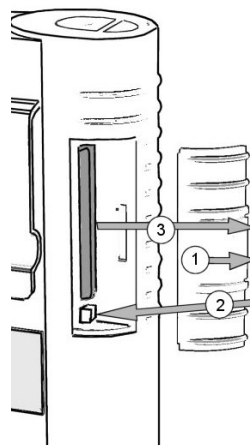
4 Replacing the memory card

The Everec ME1 requires Compact Flash cards (CF) or cards in CF format. One 4GB card is included.

Insertion
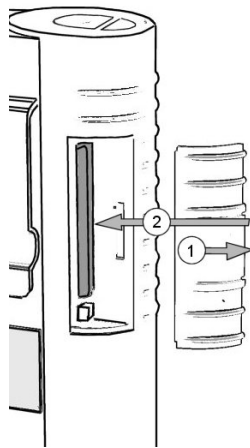
1. To insert the card, slide open the cover on the side of the device.

2. Insert the card into the slot.
   It can only be inserted in one direction, due to its shape.

Removal

If a recording is to be archived, the card with the desired data must be removed from the recorder. The recording must have been completed.

1. Slide open the cover on the side of the device.

2. Press the eject button located on the right, next to the card. The button springs back.

3. Press it again to eject the card sufficiently to allow it to be pulled out.

Caution: *Do not remove the memory card while a recording is running. The current recording will not be properly completed, and may not be able to be replayed.*

5   Connecting the camera

The Everec ME1 is supplied with a matching camera and microphone.

Microphone

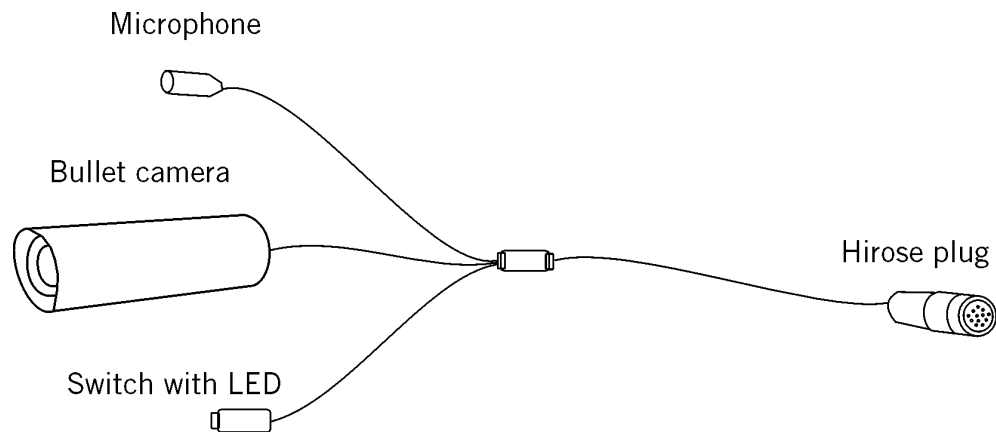Bullet camera

Hirose plug

Switch with LED

Figure 5: Camera with microphone

Connect the camera cable to the 12-pin Hirose connector (HR10A-12Pin) on top of the Everec ME1 by inserting the connector slightly and turning it a little, until the contacts are in place; in doing so, the arrow on the connector casing sits above the operating buttons. The cable is now secure even if it is pulled.

To remove it, slide the outer housing of the plug upward, and pull out the plug.

The top side of the camera is marked with a dot.

Additional to camera and microphone there is a switch to start and stop recording at the cable. A LED in the switch lights up as soon as the Everec ME1 is turned on and indicates that the recorder is ready to record. It is blinking while recording.

Note: *Do not turn the plug while pulling it.*

6   Transmitting data to a monitor
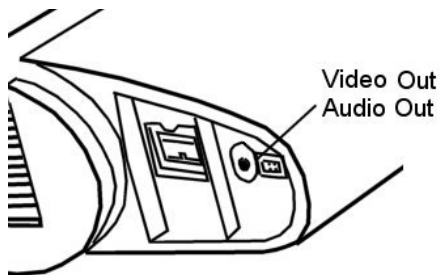
By means of the video output it is possible to transmit the contents of the display to a monitor. Connect the video/audio cable to the connector at the bottom of the recorder and attach it to a monitor.

Now you can see all contents of the display also on the monitor; with a loudspeaker connected you can hear also the recorded audio data.

The video/audio cable is available as accessory from Trajet GmbH.

7 Operation and configuration

7.1 Turning on and off
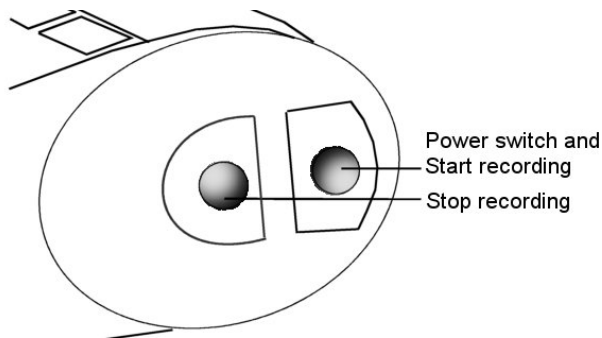
The Power switch is on the top side of the recorder.

Press the switch again to start recording

Next to it is the button to stop recording.

Pressing the Power switch turns the recorder on. The power LED (LED 5) lights up. After approx. 10 seconds, the system is ready to start. You can see this by the illuminated display and the permanent illuminated record switch at the camera cable.

Turning off

■ If no recording is being made and no controls are activated the recorder switches itself off after aprox. 2 minutes, to protect the batteries.

■ You can turn off the recorder manually using the menu, which is controlled by the buttons on the side of the device. The last item in the main menu is "Power off". If you select this and press the "select" button, the recorder will switch off (see Section 7.10).

■ If you press the '*Stop / Back*' button for longer than two seconds, the recorder switches off.

7.2   Controls

There are 4 buttons on the side of the recorder. Use them to navigate menus and activate nearly all functions. The buttons have the following functions

▲	Up arrow button
▼	Down arrow button
■	Select
▪▪	Stop/Back

At startup, the display shows a list of all recorded videos, or the message "No Movies" if the memory card is still blank. Using the buttons, navigate back and forth in the menus and start recording.
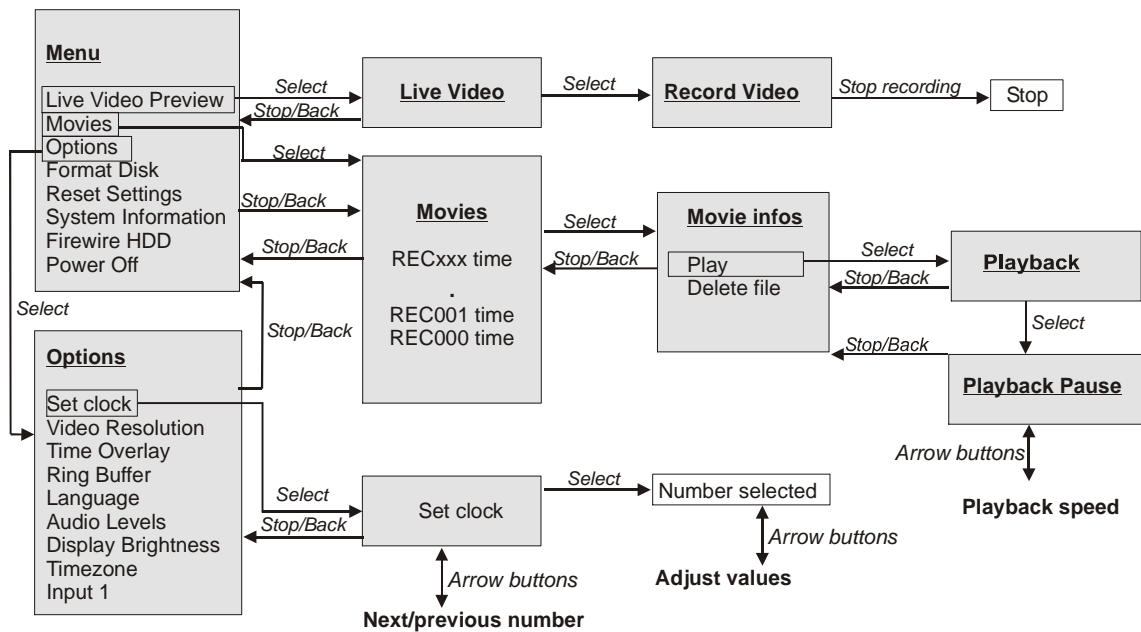
7.3   Menu structure in the display

Figure 6: Menu structure

The illustration shows the display screen (grey background) and which button (arrows) to use to move from one menu to another.

The display always shows 3 menu entries. Scroll up or down using the *arrow buttons* to reach the other entries. Select the desired entry by pressing the "*select*" button

7.4   Live video preview

The first entry in the menu is Live Video. When you press the "select" button, you will see the current view of the camera on the monitor, without making a recording. In the bottom left of the image you can see the date, and at the bottom right, the current time is displayed with hours, minutes, seconds, and milliseconds. These displays are also present in the recording.

7.5   Recording

7.5.1   Start recording

Start recording by either

- ■ pressing the switch on the camera cable; the switch engages and the LED on the switch flashes.
- ■ pressing the Power switch on the top of the recorder again
- ■ using the side buttons, press the "S*elect*" button while live preview is running.

LED 1 - „Recording" starts to blink.
A display is shown at the upper edge of the monitor, in addition to the live image.

- ■ The red dot indicates that recording is in progress
- ■ The bar indicates the space available in the storage medium. White indicates used memory, and free space is transparent.
- ■ The time code shows the run time of the current recording.

Note: *The display switches itself off automatically after 40 seconds. Activate it again by pressing any side button.*

Figure 7: Recording

7.5.2   Stop recording

■ Any recording started with the buttons on the recorder can be stopped by pressing the '*Stop recording'* button on top of the recorder.

■ A recording started using the switch on the camera cable must be stopped by pressing the switch again. This releases the switch, the LED in the switch stops blinking but illuminates permanently.

Power switch and
Start recording
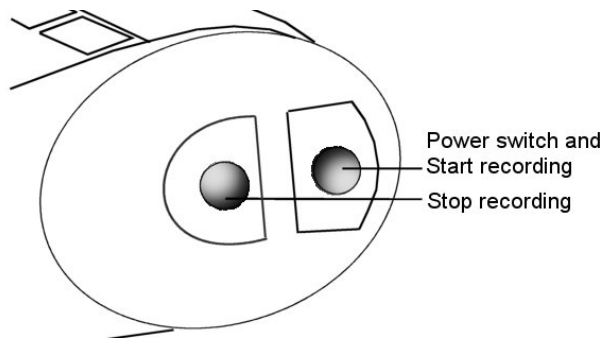
Stop recording

Next to the Power switch, on the top of the recorder, is the button to stop recording.

After stopping the recording the display shows again the menu activated before starting to record

If you have deactivated the ring buffer, the recording stops when there is only 10 mbyte free memory left. The recording also stops when the camera's video signal is interrupted.

Caution: *Do not remove the memory card while a recording is running. The current recording will not be properly completed, and is initially not be able to be replayed.With either the program "Video Analyse" or "Everec Player" the recording may be repared and playback is possible.*
If the memory card is removed, the recorder turns itself off.

Note*: If the batteries are not able to maintain the operational voltage while recording, the recording is stopped and a prompt to recharge the batteries is shown in the display*

7.5.3   Audio recording

The microphone integrated into the camera cable is always used for the audio recording. The video file also contains the audio data. In the menu item "Audio Levels" you can adjust the gain of the audio signal while recording and the volume during playback.

7.6   Movies - Playback

The sub-menu "Movies" is displayed when you turn the recorder on. Here you can see a list of all recorded videos, or the message If you want to play back or delete videos from this menu, select the "Movies" item using the *arrow buttons*. Press the "*Select*" button to display the list. or "No Movies" if the memory card is still blank. The most recently recorded film is shown at the top. The videos are numbered sequentially, starting with REC000. Time and date indicate the beginning of the recording.

Note: *Recordings transmitted to a PC will be shown in the Explorer with the time the recording stopped.*

Figure 8: List of recorded videos

Figure 9: Playback - in the Pause status here

Select a video recording using the *arrow buttons.* The selected video has a blue background. Press the "*Select*" button to reach a menu for this video, in which you can start playback, at normal speed at first.

Pressing the "*Select*" button again pauses the video.

Playback options, speed and direction, can be changed using the *arrow buttons*. The actual option is displayed at the top of the image, together with the duration of the recording.

List of playback options

▶	Playback at normal speed
❚❚	Pause
▶▶ x2	Fast forward at double speed
▶▶ x4	Fast forward at four times normal speed
▶▶ x8	Fast forward at eight times normal speed
❘▶ 1/2	Slow forward at half speed
❘▶ 1/4	Slow forward at one-quarter speed
❘▶ 1/8	Slow forward at one-eighth speed
◀◀	Reverse playback
◀◀ x2	Fast reverse at double speed
◀◀ x4	Fast reverse at four times speed
◀◀ x8	Fast reverse at eight times normal speed
◀❘ 1/2	Slow reverse at half speed
◀❘ 1/4	Slow reverse at one-quarter speed
◀❘ 1/8	Slow reverse at one-eighth speed

The bar shows the ratio between the length of the total recording and the length of the recording which has been played back (white). The time indicates the duration of the recording already played back.

Pressing the "*Stop/Back*" button ends playback. The display shows the information on this video again.

7.7 Configuration settings

Select the "Options" item from the menu, and press the "*Select*" button. You will see a sub-menu with configuration options.

7.7.1 Set clock – setting time and date

The device is set to the current time upon delivery. If you want to change it anyway, adjust the system time with this menu item.

■ Move to the number to be adjusted using the arrow keys (the selected number now has a light blue background)

■ Select with "*Select*" (the selected number now has a grey background)

■ Adjust the number using the *arrow buttons*.

■ Confirm with "*Select*."

■ Exit the menu by selecting Ok with the "*Select*" button.

Figure 10: Setting time and date

7.7.2 Video resolution

With this menu item, you select the recording rate and therefore the storage space on the memory card.

■ 720x576@25fps (frames per second)
■ 720x288@50fps (frames per second)
■ 720x288@25fps (frames per second)

Figure 11: Setting the video resolution

Select the desired video quality and press the "*Select*" button. The setting is saved, and the display shows the Options menu again.

Recording using the MPEG process causes different amounts of data, depending on the image. If the image changes drastically, then the amount of data is greater; if it remains about the same, then the amount of data is reduced. The recorder tries to reach the choosen data rate adjusting the compression. If there is a lot of movement in front of the camera the image quality is decreased.

7.7.3 Time overlay

With this menu item you can switch on or off the time overlay shown in the images in live view and recording.

7.7.4 Ring buffer

With this menu item you can decide whether the recording should stop or overwrite the already stored recordings when there is only 10 mbyte free memory left, beginning with the oldest.

- On   Overwrite the already stored recordings
- Off   Stop the recording

7.7.5 Language

With this menu item, you can select between German and English for the menu language. The language is changed as soon as it is selected.

Figure 12: Setting the language

Select the desired language and press the "*Select*" button. The setting is saved, and the display shows the Settings menu again.

7.7.6   Audio levels

This menu item allows you to adjust the sound settings.

- Volume   Volume during playback
- Gain   Amplification of the input signal

Figure 13: Audio adjustments

You can adjust both settings with a slide control. When accessing the sub-menu the top of the slide control is highlighted blue.

To adjust the slide control against the scale

- ■ press the *"Select" button*, the slide scale is now shaded grey
- ■ move the slider up or down against the scale using the *arrow keys.*
- ■ press the *"Select" button* again, and lock the position. The colour of the slide control is now blue again.
- ■ use the *arrow keys* to adjust the focus. A non-highlighted slide control is white.
- ■ exit the menu via OK with the "*Select*" button

7.7.7 Display brightness

You can adjust display brightness to levels from 1 to 8. 1 is the darkest setting. The digit is marked (blue shaded) when the sub-menu is accessed.

Figure 14: Setting the display brightness

- ■ press the *"Select" button*, the digit turns grey
- ■ adjust the digit by means of the *arrow keys*

- ■ pressing the *"Select" button* again fixes the setting. The digit is now blue shaded again.
- ■ using the *arrow keys* you can now adjust the focus
- ■ exit the menu via Ok with the *"Select" button*

If you leave the menu via „*Cancel*" or „*Stop/back*" the already set brightness remains.

7.7.8 Time zone

Here you can select the appropriate time zone for the location of the recorder CET (Central European Time) is preset.

Select the desired time zone and press the "*Select*" button. The setting is saved, and the display shows the Settings menu again.

7.7.9   Input 1 – Changing between switch and pushbutton

Integrated in the camera cable is a switch, the snaps in when pressed to start a recording. If it is substituted by a pushbutton (that returns to basic position after being pressed), you must select „Button" here.

7.8   Format Disk – Erasing the CF card

With this menu, you can format the memory card if needed. Select "Format" and press the "*Select*" button. The CF card will be irreversibly formatted once this action is confirmed. There is then no data on the card.

Figure 15: Formatting the memory card (CF card)

Press the "*Stop/Back*" button, or select "Cancel" and press "*Select*", if you want to keep the data on the disk.

Note: You can erase individual videos from the "Playback" menu.

7.9   Reset settings

This menu item allows you to restore the default settings. Recordings stored on the CF card will, however, be retained.
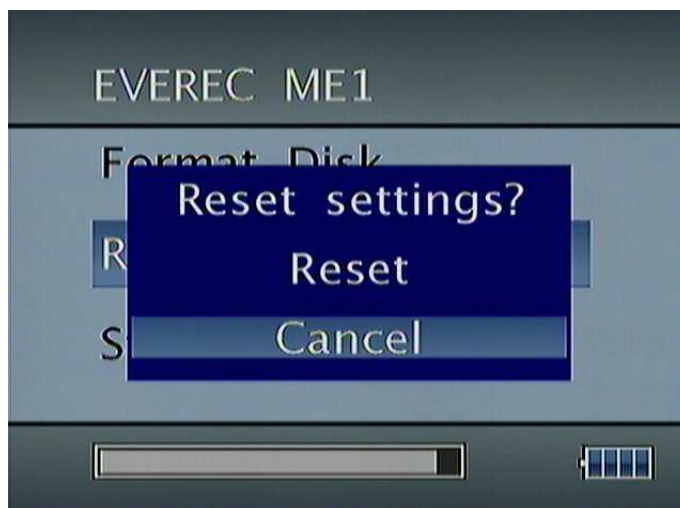
Figure 16: Reset to factory settings

7.10   System information

The firmware version number and recorder serial number are displayed here.

Figure 17: System information

7.11   Firewire HDD

With Firewire mode you can transmit the video recordings directly to a PC.

To allow a connection between recorder and PC using the FireWire or IEEE 1394 interface you can switch the recorder to FireWire mode.
To do this connect a FireWire cable to the connector at the bottom of the recorder and the according connector to the PC.

Figure 18: Switching to Firewire mode

- Select „Firewire HDD" with the "*Select*" button
- On the recorder is displayed „Firewire mode"
- On the PC you can see the recorder now as a drive with name TRAJETDVHDD
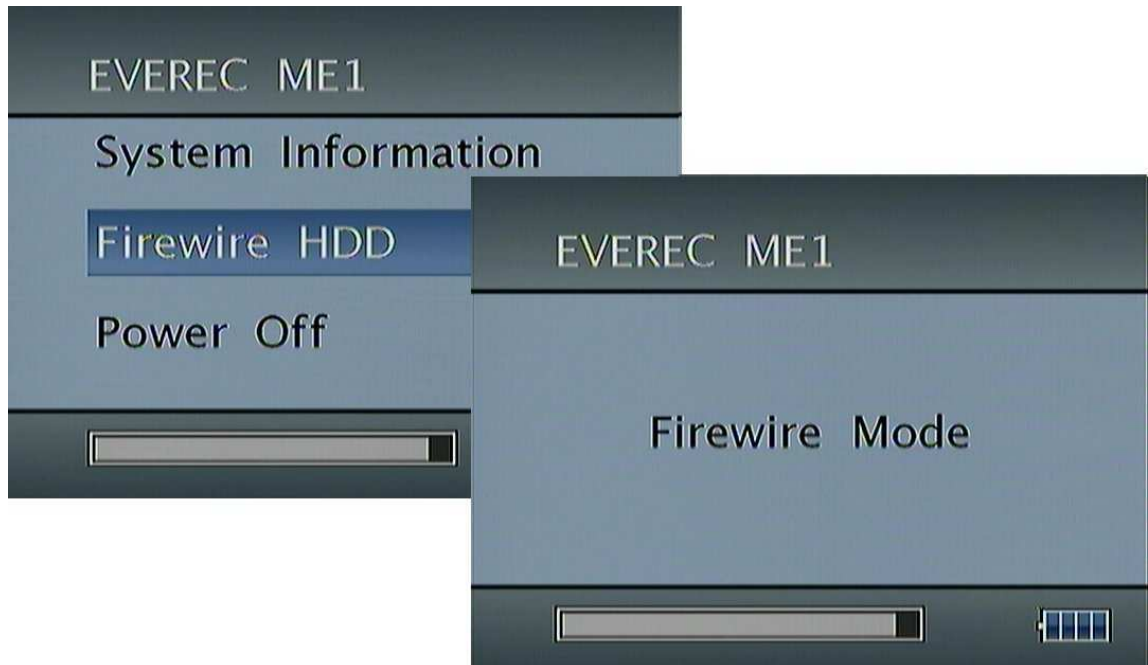- It ist possible to copy or to move movies, to playback them with a Mediaplayer program or to open and handle them with „Video Analyse" od „Everec Player"
- To exit the FireWire mode remove the cable from the recorder and press the "*Select*" button again.

In Firewire mode the recorder is supplied with power via the PC. The batteries are not used.

7.12   Turning off

- If you press the '*Stop / Back*' button for longer than two seconds, the recorder switches off.
- The last menu item, "Power Off" serves to switch off the recorder. Select "Switch off device" and press the "*Select*" button. The device shuts off.

8 Error messages

The recorder displays the following messages on the screen in case of errors:

Message	Cause
Camera not connected	The camera is not (correctly) connected, or is malfunctioning
No camera signal	While recording the camera signal is missing. (The recording will be continued, when the video signal is back.
Memory card missing	No CF card is present when switched on
Hard disc not readable	A CF card is present, but not readable
Recording failed	No recording can be made
Recording blank	The recording file was created, but does not contain any data
Playback failed	The recording cannot be played back, e.g. it was not completed correctly
Low Voltage	The battery charge is to low for recording

If another message appears, then the recorder has an internal defect. Contact Trajet GmbH for support.

9   Update – updating firmware

It is possible to update the recorder's firmware via an update. The Trajet GmbH will provide you with new firmware in electronic form. The name of this file always starts with the letters "upd", and the extension is ".bin".

The update procedure is as follows:

- Copy the Firmware file on a Flash memory card, which you insert into the recorder.
- Switch on the recorder order while holding down the "*Stop Recording*" button.
- Release the button.
- The device now performs the update. Initially, LED 1 flashes, then LED1 and LED 2 will flash alternately. Do not switch off the recorder during this process.
- At startup and in the System Information menu item, you will see the new version number.

10 Playback on a PC using the program Everec Player

Everec Player is a program with features that go well beyond the simple facility of playing back films recorded with the Everec ME1.
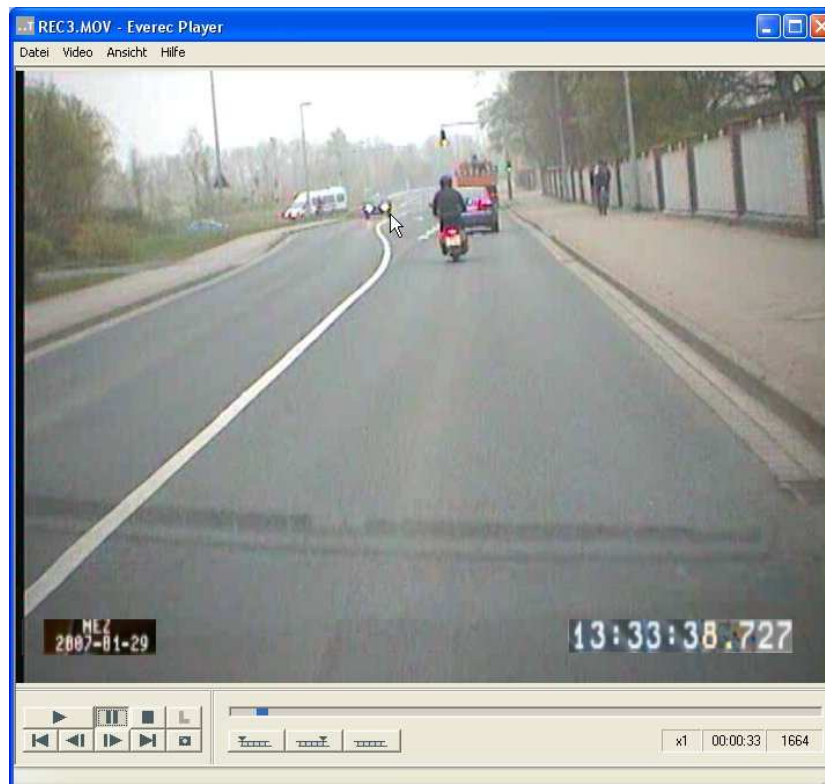

Figure 19: Main window Everec Player

The program can be found on the CD-ROM that came as part of the package, in the directory Software/Video analysis/. Install the program onto a PC meeting the following requirements:

■ Standard PC with card reader

■ RAM storage at least 512 MB

■ Windows XP, Service Pack 2

■ Direct X 9

Program instructions can be found on the CD-ROM in the directory Software/Video Analyse/Manual.

11 Technical data

Camera input	FBAS, 75 Ohm connector
Display	1.5 inch color display
Kamera plug	Hirose HR10A-12Pin for analog cameras, prepared for Trajet Megapixel cameras with up to 2048 x 1536 pixel
Audio input	Standard line in, mono
Audio compression	MP3, 128 kbs, 192kbs or VBR
	Recording rate approx. 5 MBit per second
Video compression	MPEG-4 at 25 fps and 704 x 576 pixel resolution
	MJPEG at 2048 x 1536 pixel resolution
Video format	Quicktime® mov Format
File system	FAT32
Memory card	Compact Flash card, 4 gbyte
Battery	4 x Standard Mignon AA NiMH
Battery life	10 hours standby or up to 4 hours continous recording, incl. supply of the camera
Certification	CE
Temperature range	-10 to 65°C
Dimensions	70 x 33 x 135 mm
Weight	approx. 280 g with battery and memory card

11.1 Technical data of the camera

Housing:	Condensation free IP64 bullet camera
Sensor	1/3 inch Sony CCD colour sensor
Opening angle	74°
Format	PAL, Standard FBAS
Resolution	752 x 582 pixel with 580 TV lines
Temperature range	-10 to 50°C
Min. Illumination	0,1 Lux at F 1.2
Dimensions	21mm Ø, length 70mm
Weight	78g

11.2 CE conformity

$C\,\epsilon$

DECLARATION OF CONFORMITY

Type of device: Digital data processing device

Product name: Everec ME1

We hereby declare that the named device, on the basis of its design and construction in the version introduced for sale by us, meets the directives of the European Union, in particular the EMC directive per 89/336/EEC.

The following standards were reference in evaluating conformity:

Emitted interference: DIN EN 55022 : 2003-09, Class B

Noise immunity: DIN EN 55024 : 1998

The device listed above is therefore provided with the CE label.

Braunschweig, June, 6th 2007

Christian Helck
Managing Director, Trajet GmbH