TerraTec

Terra*CAM* *USB*

For Desktop + Mobile Computing

Manual (English)

CE Declaration

We:

TerraTec Electronic GmbH, Herrenpfad 38, D-41334 Nettetal, Germany

hereby declare that the product:

TerraCAM USB

to which this declaration refers complies with the following standards or standardizing documents:
1. EN 55022

2. EN 50082-1

The following are the stipulated operating and environmental conditions for the said compliance:

Residential, business and commercial environments and small-company environments.

This declaration is based on:

test report (s) of the EMC testing laboratory

Hardware Overview
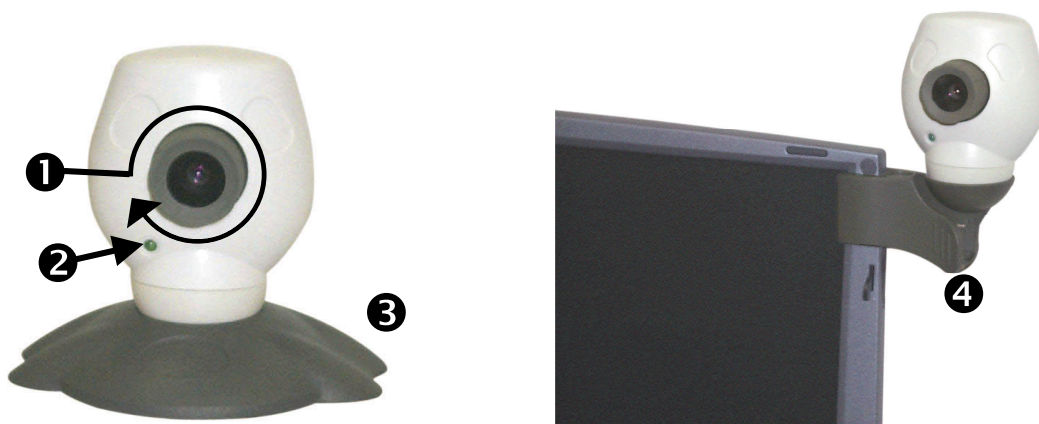
❶ Focusing   ❸ Camera base

❷ Operating light   ❹ Clip

Key features

- Recording of stills and video clips
- E-mailing of stills and videos
- Ideal for Internet video conferencing
- Room surveillance software
- Suitable for WebCam use

System Requirements

- Windows 95 Version 4.00.950B with USB-Supplement 1214, Windows 98 / ME / 2000
- Pentium 200 MHz
- 32 MB RAM
- 1 free USB port
- CD-ROM drive (to install the drivers and software)

Package Contents

- TerraCAM USB
- TerraCAM USB CD-ROM with drivers, SupervisionCAM, PhotoExpress, TeVeo VIDiO Suite, Cyberlink Videolive Mail and Acrobat Reader
- This quick-reference guide
- Registration card

Technical Data

- 1/4" color sensor
- Manual focusing
- Focal range from 10 cm to infinity
- Automatic aperture
- Maximum resolution 352 x 288
- Up to 30 frames per sec.
- Up to 24-bit color depth
- Hardware compression, max. 5:1
- 1.5 m cable
- 12-month guarantee

Installing the hardware under Windows 95

The driver software must be installed before you connect the TerraCAM USB. Please make sure that you don't have any programs running during the installation. Save your data and close the programs.

1. Close all applications.

2. Insert the provided installation CD into your CD-ROM drive.

3. Should the autostarter menu to install the software appear, please close it.

4. On the CD-ROM drive go to the folder

   `<CD>:\Drivers\Windows\WIN95\`

5. Start the installation program **`TERRACAM.EXE.`**

6. Once the drivers have been copied, you will be prompted to restart your computer. Please be sure to restart before connecting the camera.

7. After the system has rebooted, you can connect the TerraCAM USB to a free USB port.

> Please note that you must install the driver software before you connect your TerraCAM to the PC.

TerraCAM settings under Windows 95.

The TerraCAM can be used with almost every Windows software which supports "Video for Windows" drivers or the TWAIN interface. These can be e.g. graphics programs or video processing programs.

The TerraCAM video drivers also allow you to enter various settings manually. Two buttons are used to do this in the relevant application. "Video Format" and "Video Source" (also called "Video Settings").

Video Format

Here you can alter the size of the picture and the color format. Please note that the TerraCAM supports a maximum resolution of 352*288 pixels.
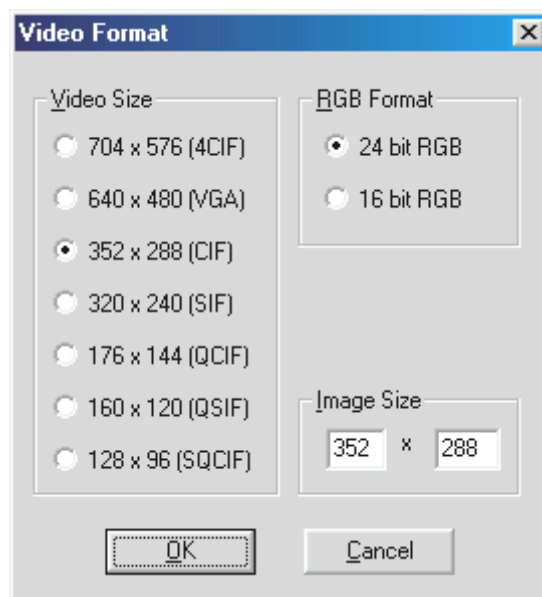
You can also set your own resolution under "Customer-specific Size", which may not however exceed 704*576 pixels.

If you select a higher resolution than 352*288, the screen is scaled up to the selected resolution. But a higher physical resolution can not be set here.

Please note that your TerraCAM works with a maximum resolution of 352 * 288 pixels. If you select a higher resolution, the screen is only scaled up, but the quality cannot be improved. In order to achieve maximum performance, you should only use the resolution which is really required.

Video Source

Here you can enter further camera settings:

Camera settings

Set the brightness, contrast and color of your environment as required. Normally the default settings should be adequate:

Compression control

Here you can adjust the compression rate of the video images. The further to the right you move the controller towards "Better Quality", the slower the video transmission becomes. The further you move the controller to the left towards "Faster Video", the more the images are compressed, although this does result in a reduction in quality.

You can reset the default settings by clicking on "Reset Defaults".
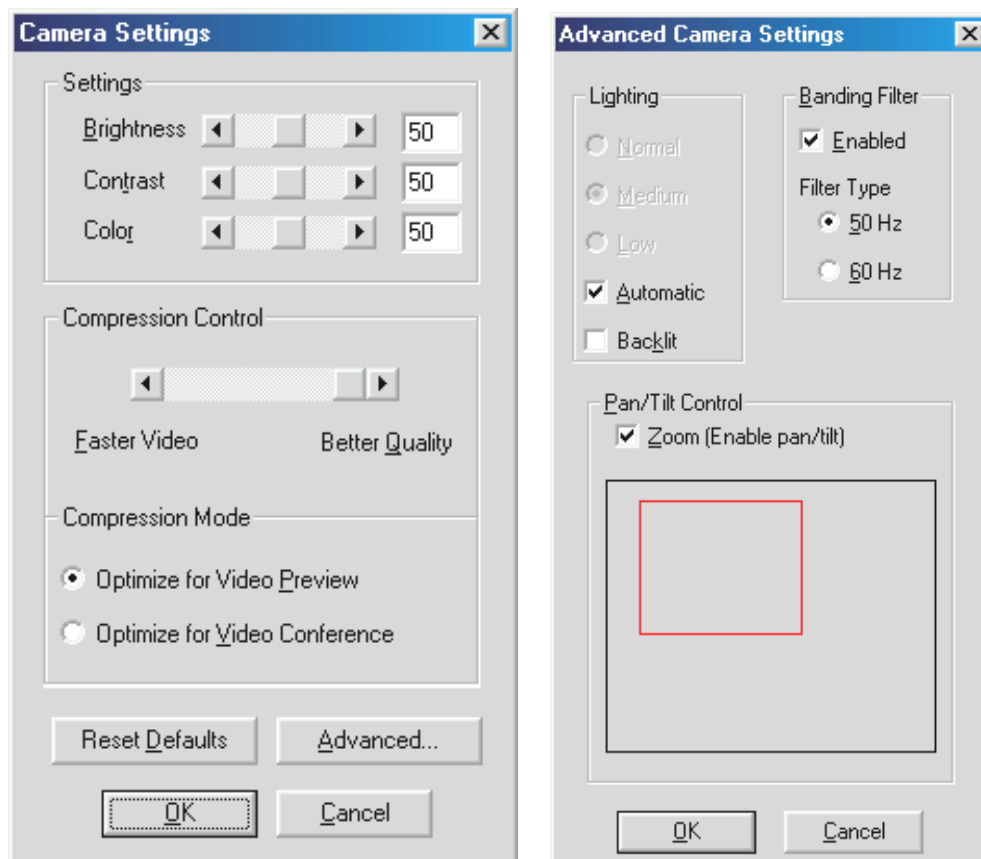
Advanced

This button conceals several advanced settings:

Lighting

The Lighting option is normally set to "Automatic", but it can also be manually set to "Normal", "Medium" or "Low". Select the "Backlit" option if there is a bright light source behind the subject you want to film.

Banding filter

Set the banding filter which corresponds to your power-line frequency (in Europe this is usually 50 Hz.) if you are using the TerraCAM indoors and there is no daylight available. This minimizes unwanted stroboscopic effects.

Pan/tilt controller

This function enables you to switch the digital zoom of the visible image on or off. It is only available with video resolutions of up to 176*144 pixels.
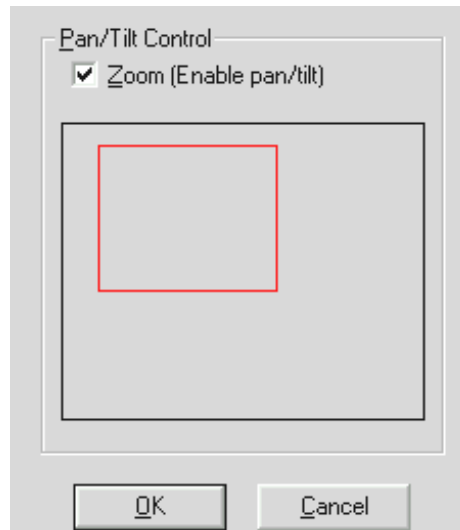
If you activate the function, a mask in the shape of a square is blended in. Move the mask with the mouse to the section of the screen you want to enlarge.

Installing the drivers under MacOS 8.6.

Naturally you'd like to plug in your new TerraCAM and get started right away, but first please read the following installation information carefully to ensure that everything goes smoothly.

The driver software must be installed before you connect the TerraCAM. Please make sure that you don't have any programs running during the installation. Save your data and close the programs.

1. Insert the provided installation CD into your CD-ROM drive.

2. On the CD-ROM drive go to the folder

    `<CD>:\Drivers\MacOS8.6\`

3. Start the installation program **`TerraCAM Install.`**

4. After the installation is complete, restart your system.

5. Connect the TerraCAM to a free USB port. The TerraCAM can now be used in Quicktime-compatible applications.

> Please note that you must install the driver software before connecting the TerraCAM to your Macintosh computer. Otherwise the installation will fail!

Installing the hardware under Windows 98

Naturally you'd like to plug in your new TerraCAM USB and get started right away, but please read the following installation information carefully to ensure that everything goes smoothly.

In some cases Windows may ask you to insert the Windows installation CD during the installation. Please have this CD ready.

1. Close all applications.

2. Insert the installation CD into your CD-ROM drive.

3. Should the autostarter menu to install the software appear, please close it.

4. Connect the TerraCAM USB to a free USB port.
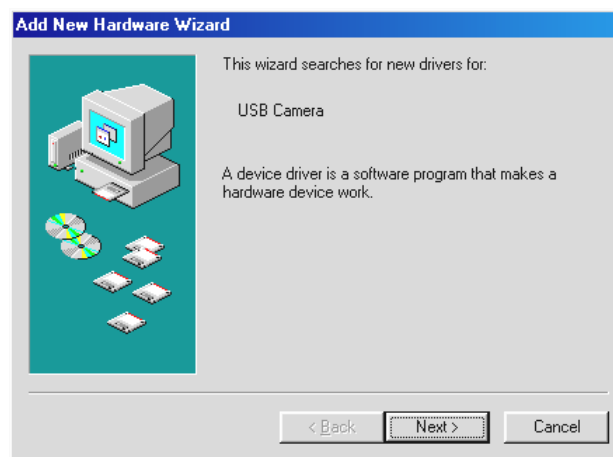
Windows recognizes the new hardware and starts the Hardware Assistant. Click "Next".
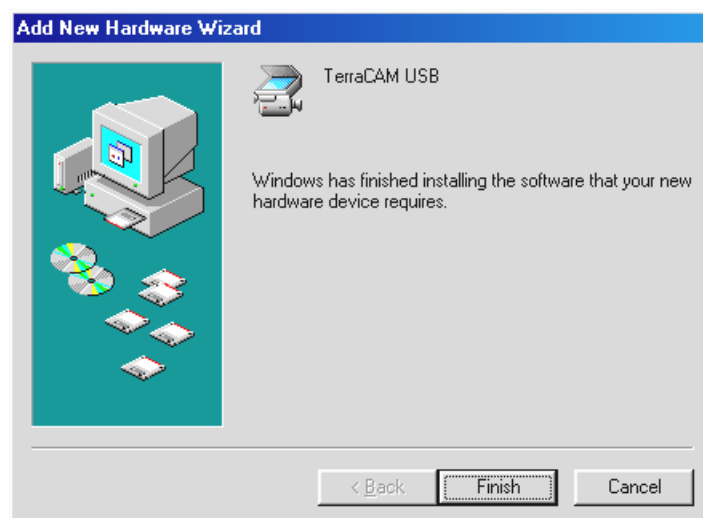

Click "Next".

5. In the next menu you have to enter the path to the drivers. Type in the drive letter and folder path, or click on "Browse" to set the path using the mouse.

Now click on "Next" and the driver will be searched for in the given path.

*When the driver for the TerraCAM has been found, click on "Next".*

*By clicking on "Finish" the installation is brought to an end.*

Driver information under Windows 95 / 98

After the successful driver installation the proper language settings need to be made in the following manner.
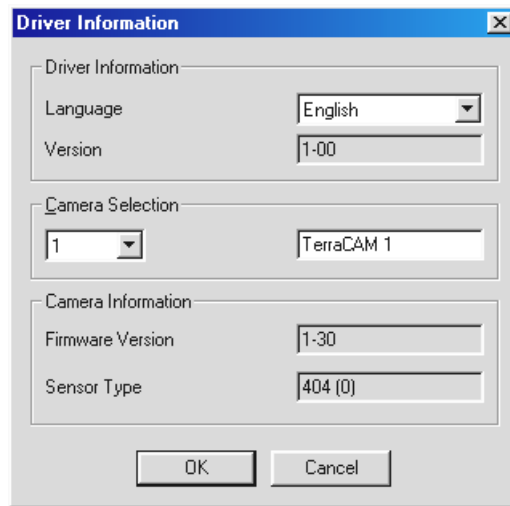
Click on "Start", go to "Settings" and click on "Control Panel". In the Control Panel double click on "Multimedia" whereby the window Multimedia Properties appears, where you need to click on the tab labelled "Devices".
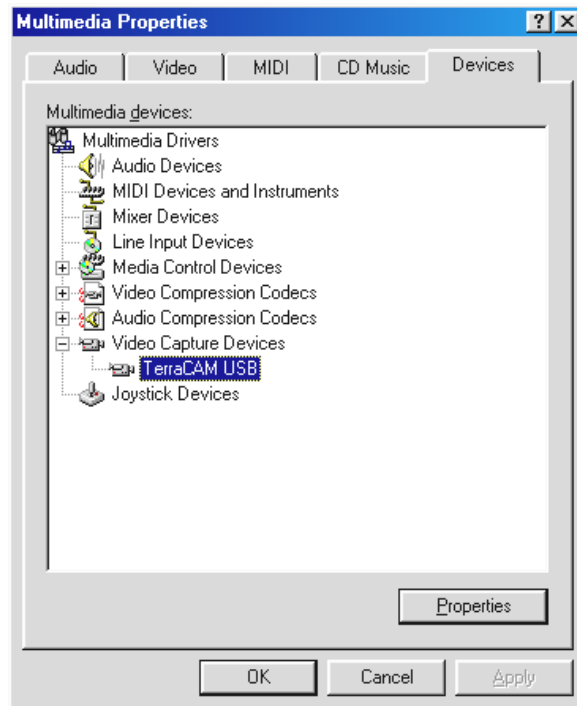
Under Video Capture Devices mark the TerraCAM USB, click on "Properties" and in the next window on "Settings".
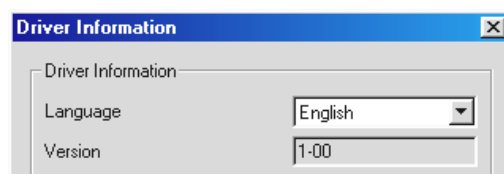
Under "Language" choose your language.

All the TerraCAM driver dialog menus now appear in the chosen language.

Under Camera information the firmware of your TerraCAM and the installed driver version are displayed. Should you use more than one TerraCAM, choose one to view its properties. To more easily differentiate each TerraCAM you can assign each an individual name on the right.

Installing the hardware under Windows ME

1. Please close all applications.

2. Insert the installation CD into your CD-ROM drive.

3. Should the autostarter menu to install the software appear, please close it.

4. Connect the TerraCAM USB to a free USB port.

Windows recognizes the new hardware and starts the Hardware Assistant. Click "Next".

5. The driver search and installation is managed by the hardware wizard..

By clicking on "Finish" the installation is brought to an end.

Driver information under Windows ME

After the successful driver installation the proper language settings need to be made in the following manner.

1. Click on "Start", go to "Settings" and click on "Control Panel". In the Control Panel double click on "Multimedia" whereby the window Multimedia Properties appears, where you need to click on the tab labelled "Devices".
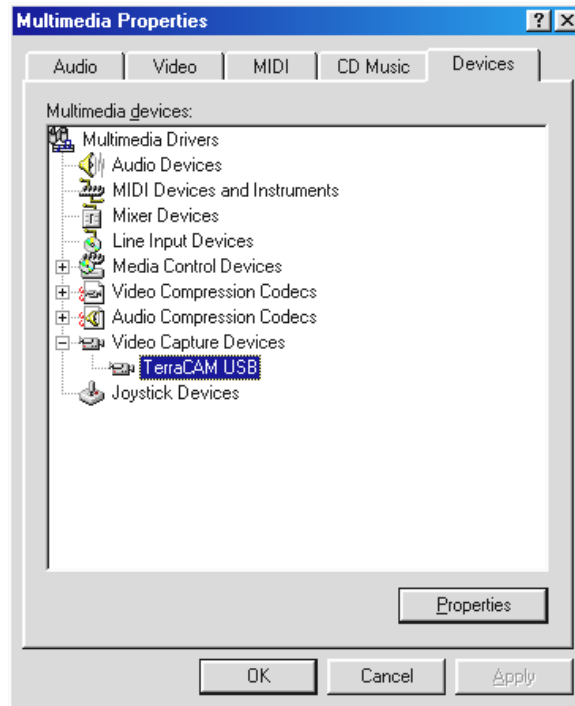

2. Under Video Capture Devices mark the TerraCAM USB, click on "Properties" and in the next window on "Settings".

3. Follow the further steps as instructed on page 11.

## Installing the hardware under Windows 2000

1. Close all applications.

2. Insert the installation CD into your CD-ROM drive.

3. Should the autostarter menu to install the software appear, please close it.

4. Connect the TerraCAM USB to a free USB port.

Windows recognizes the new hardware and starts the Hardware Assistant. Click "Next".
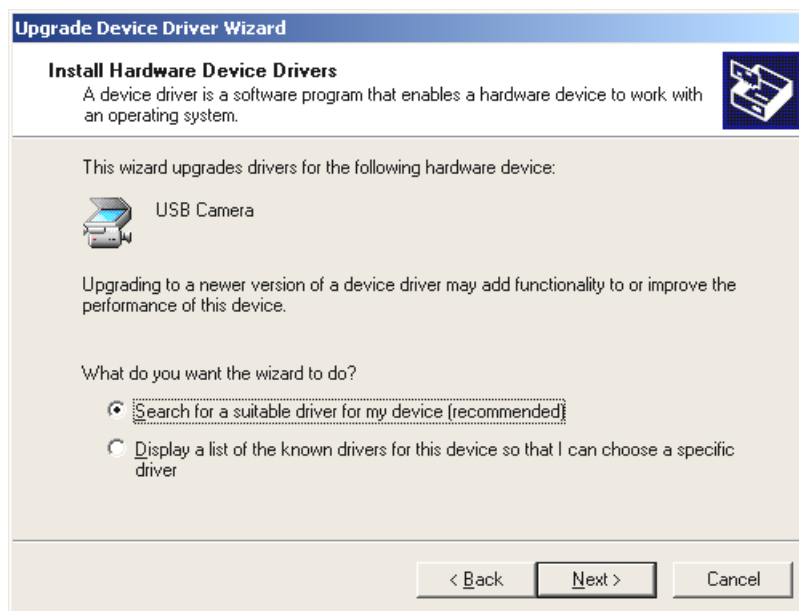
When the following menu appears click on "Next".
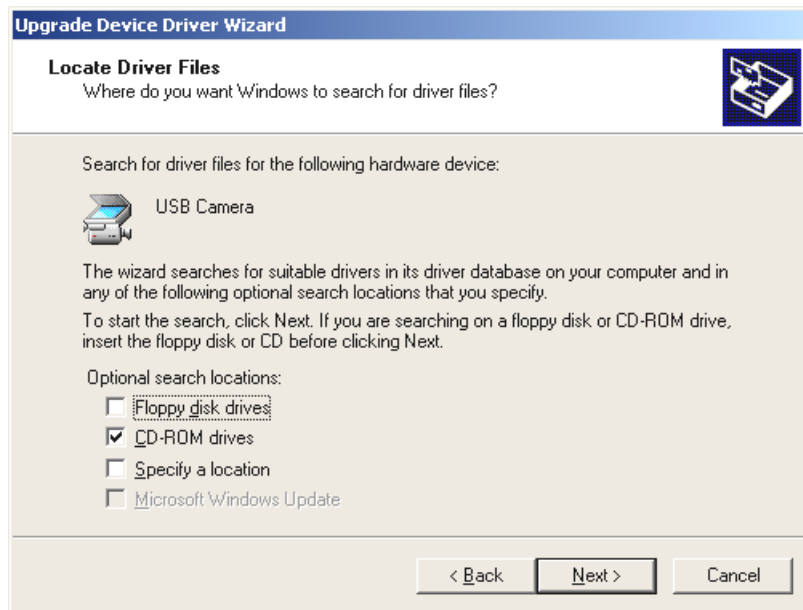
Select the "CD-ROM drives" check box and click "Next".
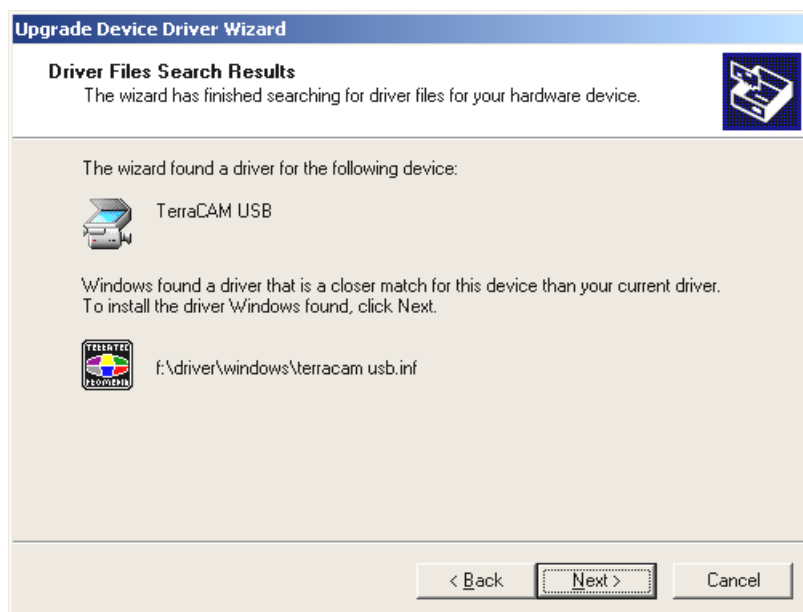
When the driver for the TerraCAM has been found, click on "Next".

Click on "Yes", to allow the driver to be installed despite the missing signature. A missing signature has no effect on the quality or functionality of the driver.

By clicking on "Finish" the installation is brought to an end.

Driver information under Windows 2000

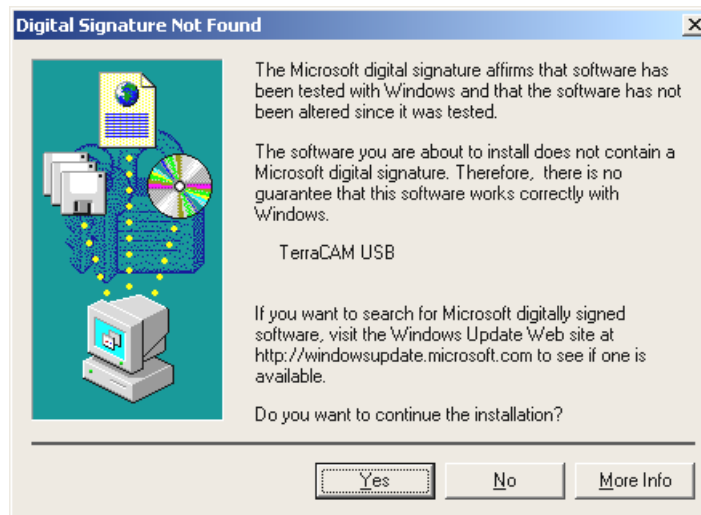Under Windows 2000 the proper language settings need to be made in the following manner.

Click on "Start", go to "Settings" and click on "Control Panel". In the Control Panel double click on "Sounds und Multimedia", whereby the window "Sounds and Multimedia Properties" appears, click on Hardware and choose "Legacy Video Capture Device ".
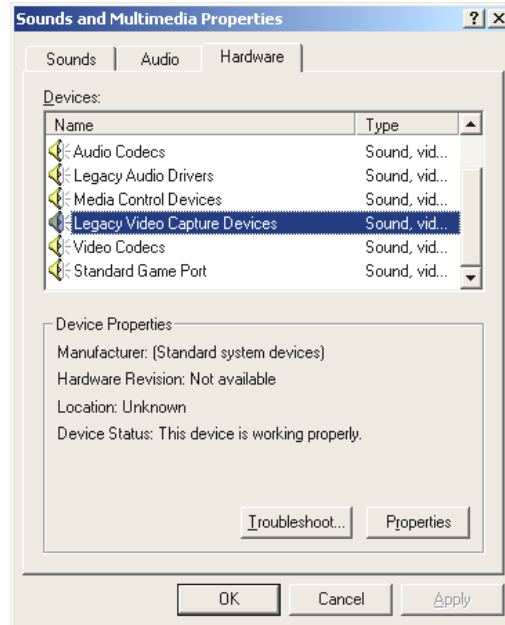
Click on "Properties".
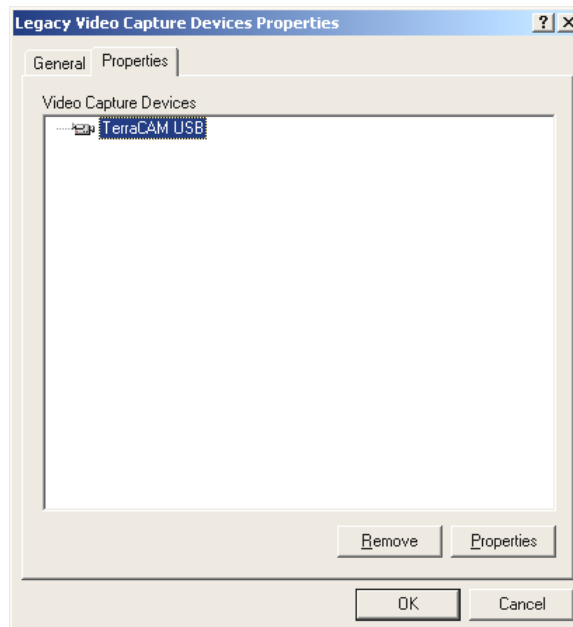
Mark the TerraCAM USB, click on "Properties" and in the next window on "Settings".

Follow the further steps as instructed on page 11.

Settings under Windows 98, ME and 2000.

The TerraCAM can be used with almost every Windows software. These can be e.g. graphics programs or video processing programs.

The TerraCAM video drivers also allow you to enter various settings manually. Two buttons are used to do this in the relevant application. "Video Format" and "Video Source" (also called "Video Setting").

Driver Settings

Video Source

Brightness regulates the brightness.

Contrast regulates the contrast.

Colour regulates the colour intensity.

Banding Filter eliminates the unwanted stroboscope effects of artificial light. In Europe the standard is 50 Hz.
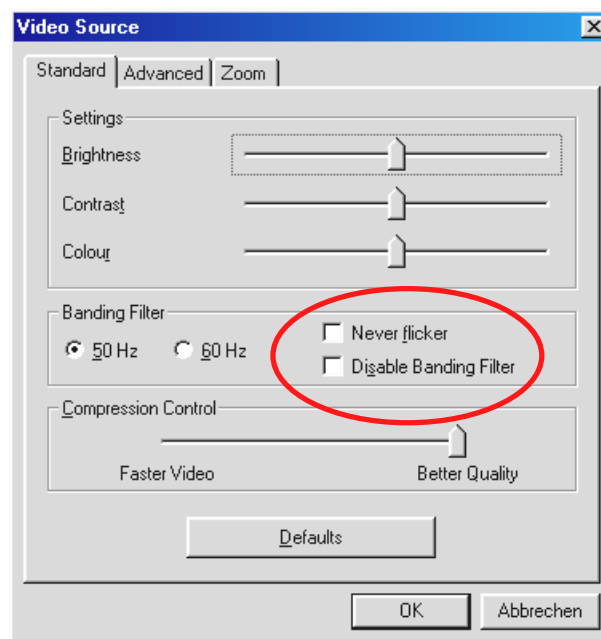
Here you can switch the Banding Filter on and off.
Under "Never flicker" you can suppress the flicker effect.

Compression Control

This slider sets the degree of compression to be used on the video images. For example, should your image during a video conference appear to skip or jump, pull the slider to the left. For better image quality pull the slider to the right.

Defaults

returns the default settings.

Speed/Light

The light settings for the TerraCAM can be adjusted here. The default is "automatic".

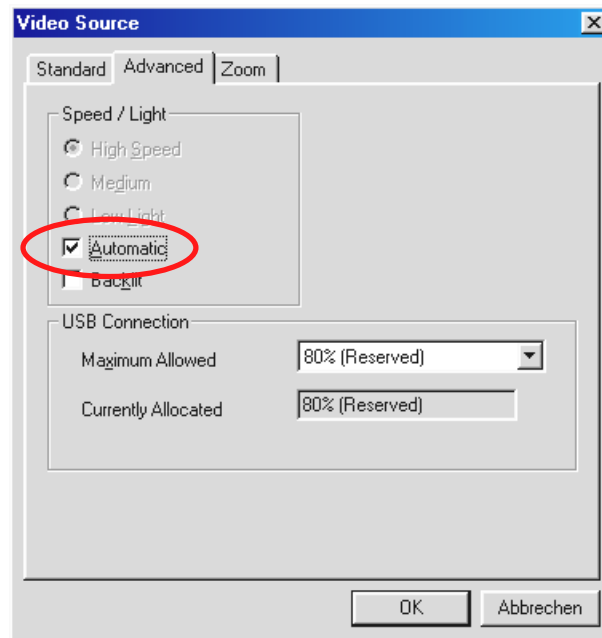*If you want to adjust the setting manually, remove this mark first.*

Then choose the appropriate light setting

High Speed – for intense lighting

Medium – for normal lighting

Low Light – for weak lighting

Backlit

If an object is positioned in front of a bright light source then it may appear too dark. Activating this function will automatically correct this.

USB Connection

When you use more than one USB device simultaneously, it is possible that the USB bus becomes overloaded and the device data flow slows or stops.

Under "Maximum Allowed" you can determine what percentage of the possible data transfer should be reserved for the TerraCAM.

Zoom

The Zoom function on your TerraCAM allows you to enlarge an area of the image.

It can be activated for resolutions up to 176 x 144.

Pull the slider to the right to activate the zoom function . Pull it back to the left to deactivate the zoom.
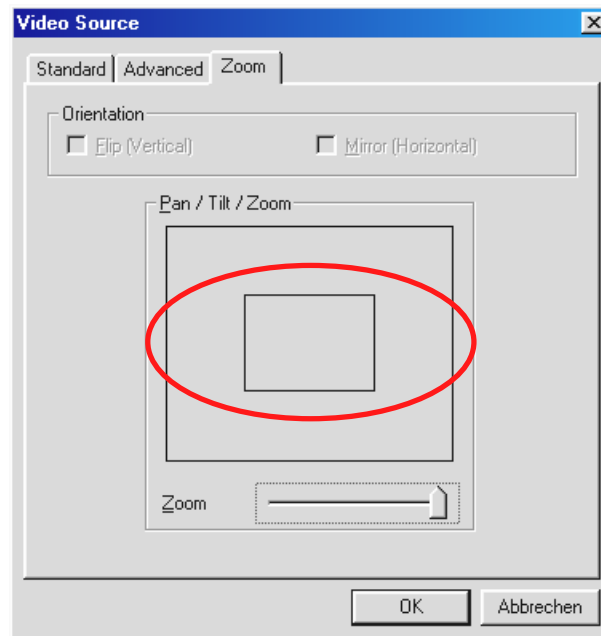
If you activate the function, a mask in the shape of a square is blended in.

Position the mask with the mouse over the area of the image you wish to zoom in on.

Video Format

Camera Select

If you have more than one TerraCAM connected, you can chose the appropriate one here.

Image Size

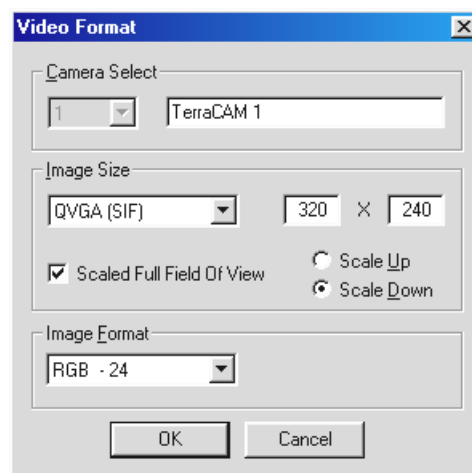The image format of the TerraCAM can be set here. The image format represents how many pixels are displayed. A higher resolution brings a sharper image. Your TerraCAM supports the following formats and resolutions.

CIF	352 x288
QVGA (SIF)	320 x240
QCIF	176 x144
QSIF	160 x120
SQSIF	128 x 96

Scaled Full Field Of View

When using the image format QVGA (SIF) / QSIF and SQCIF, the image field is reduced in size when compared to the CIF and QCIF format, that means the edges of the image are clipped away.

CIF   QVGA (SIF)
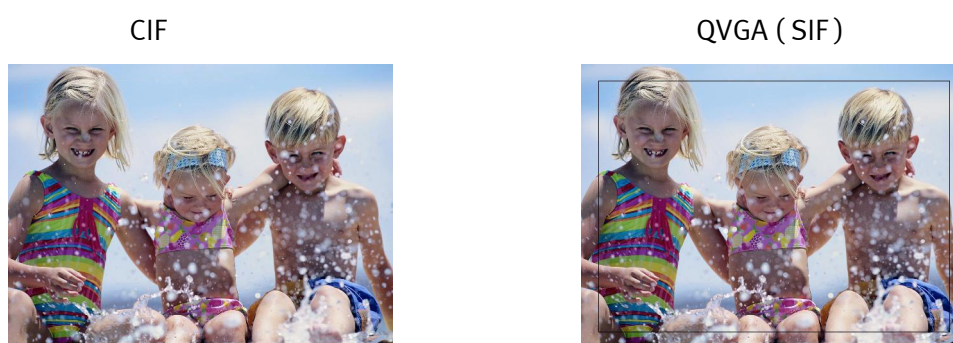
e. g.: If you change the image resolution from CIF to QVGA (SIF), the image size is reduced. Activating the "Scaled Full Field Of View" and "Scale Up" allows the QCIF resolution from 176 x 144 to be raised to 320 x 240, thereby providing a QVGA (SIF) image resolution with a QCIV size.

The resolution scaling also has an effect on the image frame rate (fps) and image quality.

The following resolutions can be scaled.

Possible resolutions	Larger rescaling	Smaller rescaling
CIF 352 x 288	-	-
QVGA (SIF) 320 x 240	QCIF to SIF High frame rate	CIF to SIF Low frame rate
QCIF 176 x 144	-	-
QSIF 160 x 120	-	QCIF to QSIF High frame rate
SQSIF 128 x 96	-	QCIF to SQSIF High frame rate

An image with QVGA (SIF) resolution can be enlarged from QCIF into SIF format or lowered from CIF into SIF format.

Enlarging imaging with a QSIF resolution is recommendable for example for video conferencing, allowing

1. a higher frame rate and larger image size.

2. QVGA (SIF) resolution to be used.

When scaling down the image quality improves but the frame rate is also reduced. The resolutions QSIF and SQCIF can only be scaled down.

Image Format

The camera color depth can be adjusted here. The standard "RGB – 24" should be correct for most situations, providing a good image quality.

Setting the TWAIN driver

The TWAIN driver for your TerraCAM USB can be used to record single frames. You can activate your TerraCAM just like a scanner from within your graphics program. The dialog window shown below is then displayed.
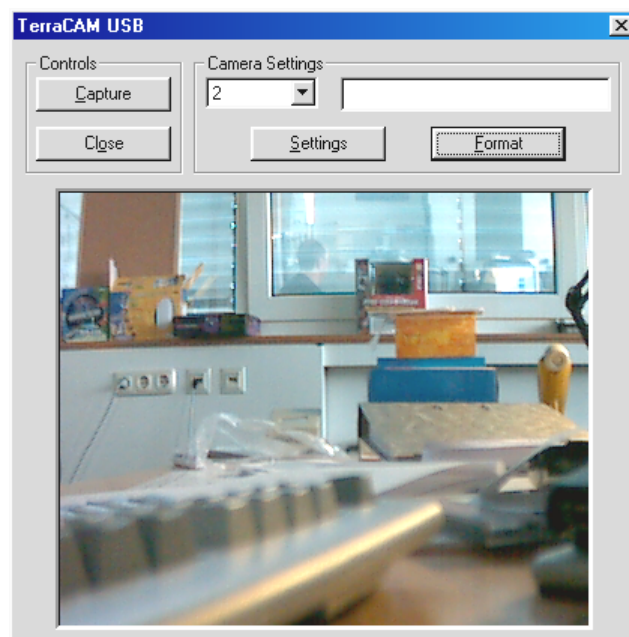
The image from the TerraCAM is displayed here.

Capture

This is used to transfer the captured image into your application.

Camera settings

See pages 19 and 21.

Close

This closes the application..

Brief Description of the Software.

This is just a brief description. Please refer to the online help for detailed information on the applications.

SupervisionCam

The SupervisionCam fulfills several functions.

As a room surveillance system, SupervisionCam keeps a close eye on the field of view of your TerraCAM and reacts immediately as soon as it detects movement in front of the lens. You can have the pictures it takes sent directly by email, or SupervisionCam can automatically upload them onto your Web site.

You can also set intervals in which the TerraCAM is to take pictures. These can also be sent by email or uploaded onto a Web site.

Photo Express

With Photo Express you can lend your pictures that special finishing touch. Merge different pictures, make them look like oil paintings or pencil sketches, and add balloons, clouds or snow. Greeting cards or business cards, or even your very own calendar, are also simple to make using Photo Express.

Send your pictures by email, or let Photo Express create a photo page on the Internet for your Web site.

TeVeo VIDiO Suite

"TeVeo VIDiO Suite" is software that supports live video feed in the internet from every Windows 98, Windows Millenium, or Windows 2000 PC. The video source is registered at the website from TeVeo - www.teveo.com and can be reached there through a link. For live video no personal website is needed and also no FTP transfer of images is necessary. The link can be used can be used in any HTML site. The sent video is automatically actualised. In relation to the connection speed and the involved PC a frame rate of up to 30 fps can be reached. With the "TeVeo VIDiO Suite" any kind of video can be sent through the internet.

VideoLive Mail

VideoMail enables you to produce short video clips, which have small file sizes despite their high quality and which can be conveniently sent by email at the click of a button.

Since Live VideoMail can also create self-playing videos, the person who receives the email does not even need any special video software to play them back.

Important system settings required to run TerraCAM USB under Windows 95/98 and Windows ME.

Please observe the following instructions...

1. The USB port must be enabled in your system's BIOS and thus must also be shown in the Device Manager. If you have any questions about enabling the USB port, please check the manual of your mainboard.
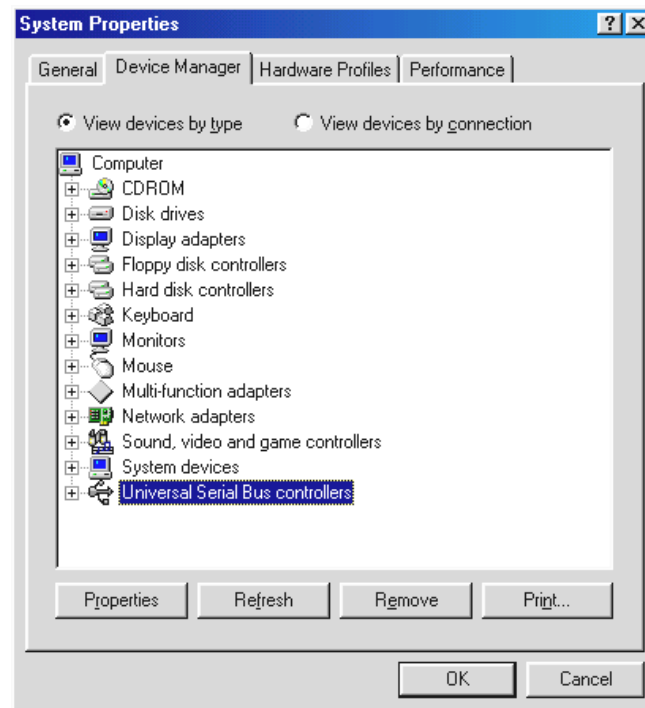
2. If your system crashes after installing the TerraCAM USB, first make sure that the interrupt (IRQ) of the USB port is not also being used by another component. Although Windows will not indicate any problems in the Device Manager, problems may occur nevertheless when using the TerraCAM USB. The following screenshot shows the system's IRQ assignments which are displayed when you double-click on the "Computer" item in the Device Manager. Here you can check whether the interrupt used by the USB port is also occupied by another component.
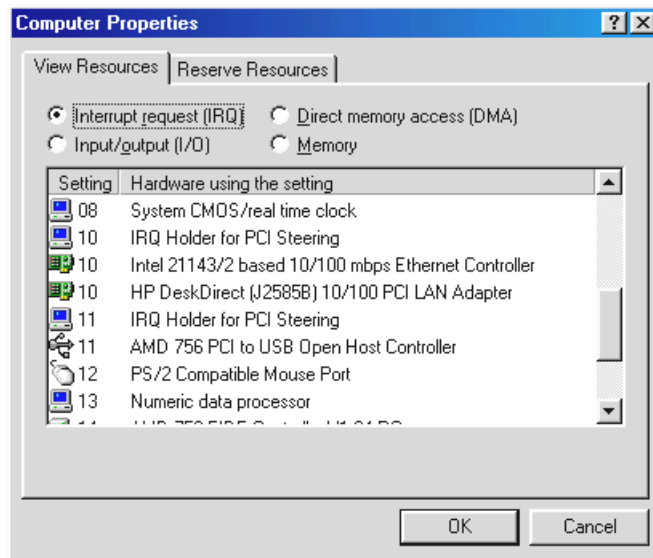
Don't let "IRQ Holder for PCI Steering" bother you. Strictly speaking, this isn't really an additional component.

3. If you would like to use Windows 95, please ensure that you are using version 4.00.950B or higher with USB Supplement 1214 (or later). If necessary, download a USB update for your Windows version from the Internet, or contact your dealer.