

## 1 Introduction

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Brilliant images and blazing colours. That's what you get with the Philips USB PC Camera. Forget about installing grabber cards and separate power supplies. You don't need them. Power is supplied direct to the camera through the USB cable and the camera returns video straight to your PC!

This USB PC Camera has several unique features:

- The universal camera base supports both free-standing and hanging use (for laptops), with perch included for stable footing on top of your monitor. It also features a 1/4" UNC screw thread for tripod mounting
- Full Auto mode automatically optimizes your camera settings for you
- Option for high frame rates, up to 30 fps
- Full Plug & Play use of the USB port
- Video images in CIF resolution of 352x288 pixels, ideally suited for communication over the Internet
- Detailed still images in resolutions of up to 640x480 pixels
- Several top-of-the-line software packages included on CD-ROM, so you can start using the camera straightaway

Congratulations on purchasing the Philips USB PC Camera. This new digital camera is the most advanced means of recording high quality movies or still pictures quickly and easily on your PC or laptop computer. After installation, the new camera can be used for all sorts of applications, such as:

- **Video e-mail / Video capture:** Create your own video presentations, video mail, product demonstrations, training videos, Internet clips etc.
- **Webcam / web album:** Show yourself on the web. Be out there for everybody to enjoy...
- **Snapshot images:** Use images in presentations, create postcards, or send them via e-mail or on diskette. The camera works with all applications that use the TWAIN interface to acquire an image.
- **Video Games:** Amazing gaming interaction using your camera as a game controller.
- **Video conferencing:** Use the camera for network video conferencing or Internet video conferencing.
- **Editing and special effects:** After recording the images you want with the Philips USB PC Camera, the images can be easily edited using image or video editing programs.

The next sections of this manual give a step-by-step description of the installation process and explain how to use the USB PC Camera.

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## 2 Preparation

This section describes how to install the hardware and software and how to get started in a few easy steps.

### 2.1 Contents of the box



Check that the box contains the following items:

- The Philips USB PC Camera;
- Base to support the camera on (including monitor perch);
- A CD-ROM containing the Philips installation software, application software packages and electronic software manuals;
- Quick Install Guide.

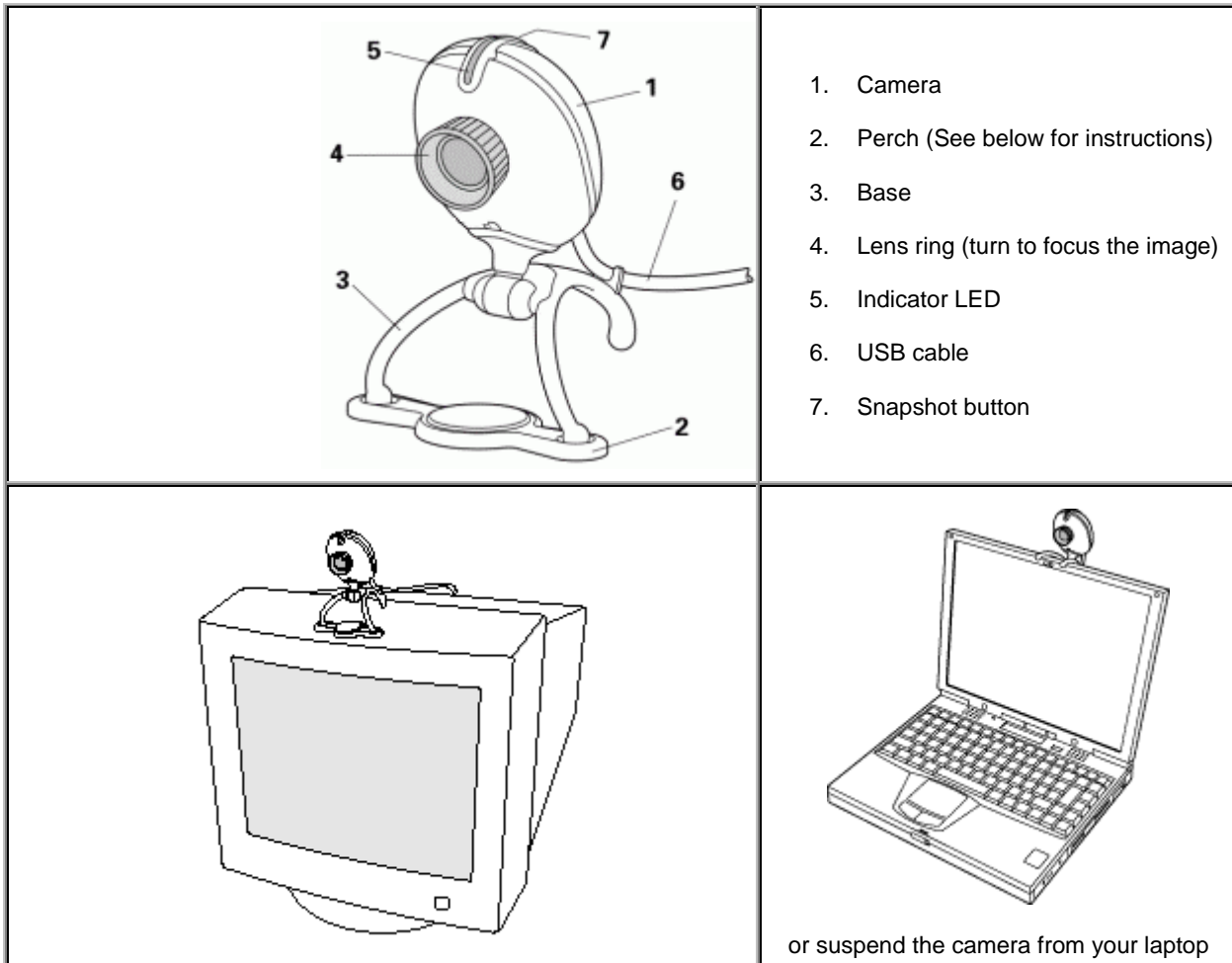
Contact your supplier immediately if any item is missing.

### 2.2 Getting started in four easy steps

The best way to quick results is as follows:

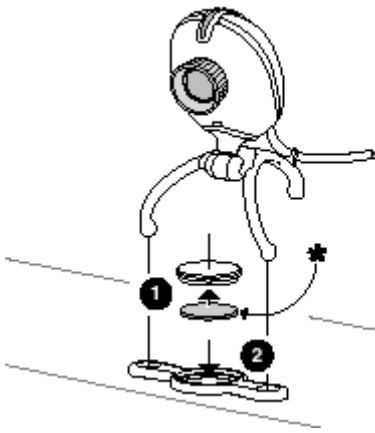
1. Unpack the box.
2. Place the Philips installation CD-ROM in your CD-ROM player, let the Philips installation program install the driver software and the application software, and connect the camera to the USB port (marked with the USB-logo: ) when asked by the installation program.
3. Start the central camera application VLounge using its icon  on your desktop.
4. Have fun !

### 2.3 Camera parts, and use of the camera base and perch



Put the camera on top of the monitor, or on a table or desk...

screen !

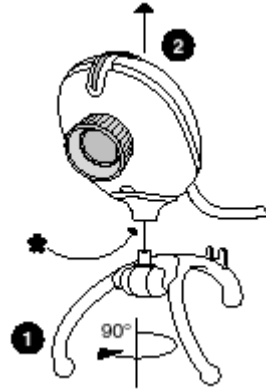


\* = Sticky tape

« How to mount the perch:

(Ensure that the supporting surface is free of grease and dirt.)

1. Remove backing from one side of the adhesive tape, and fix under the disc.
2. Place perch on top of monitor, remove backing from other side of the adhesive tape, and push disc with adhesive tape down through central perch hole.



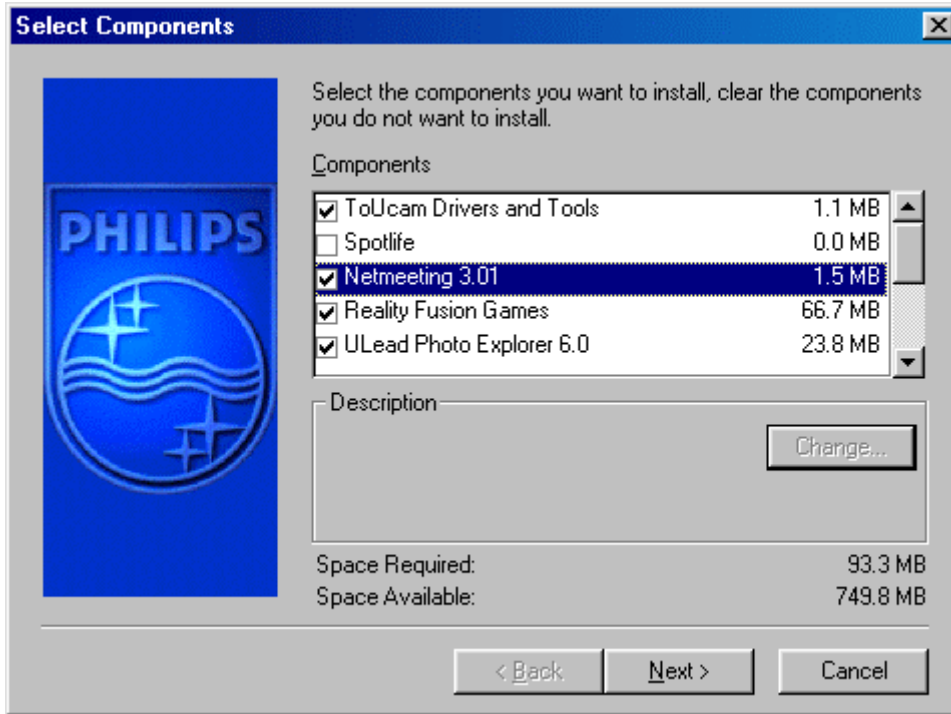
The camera base can be removed by turning it through 90 degrees (1) and pulling it down out of the camera (2).

\* The camera features a 1/4" UNC screw thread for tripod mounting.

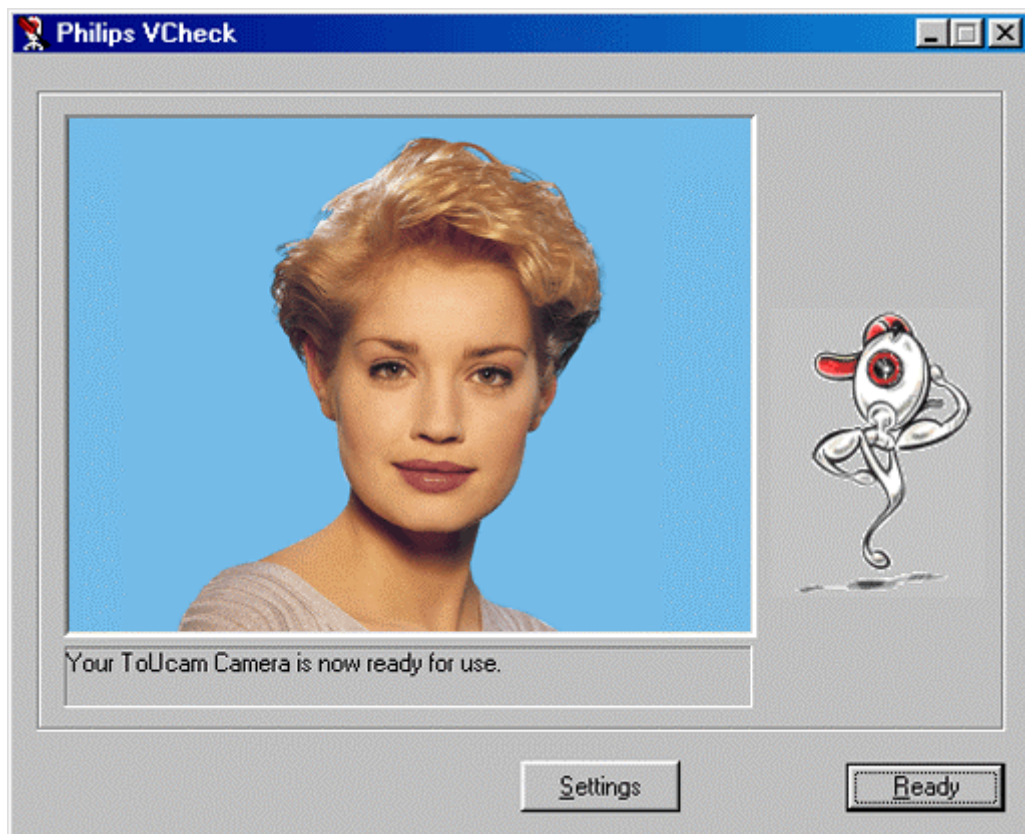
### 3 Camera and software installation

In order to maximize the video performance offered by your camera, we have included a Philips installation program on CD-ROM. Please follow these directions for the camera installation exactly, and make sure that you have your Windows CD-ROM to hand.

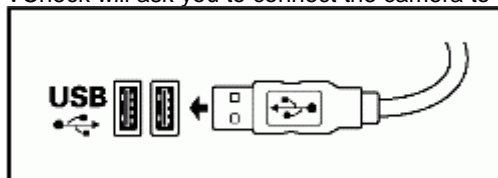
1. **Do not plug in your USB camera yet. Please follow the instructions as they appear on your screen. You will have to restart your computer after installing new components.**
2. Insert the Philips installation CD-ROM into the CD-ROM drive.
3. The installation program should start automatically. If not, click the Windows 'Start' button, then click 'Run', and type: 'X:\Setup.exe', where X stands for the drive name of your CD-ROM drive.
4. Let the Philips installation program guide you through the setup procedure. Mark the different components you want to install (including the applications). You can always re-run this setup at a later time to add components to your installation or to re-install the camera drivers.



5. When asked for the Windows CD-ROM, insert it into the drive and click 'OK'. Exit the Windows Setup screen if it appears.
6. After copying the camera software and the application software to your hard disk, the installation program will install the selected applications and then launch the camera configuration program VCheck to install the camera drivers.







VCheck will ask you to connect the camera to the USB port at the appropriate time.



A test will then be performed. This test window confirms the correct installation by showing you the first 'live' pictures from your USB PC Camera. The camera settings can be shown by clicking the 'Settings' button.

VCheck also gives tips for maximizing the camera's performance.

- Exit VCheck. You should now have:
  - Program Group called 'Philips ToUcam Camera' in your Windows Start menu.
  - One camera settings icon  on your taskbar. (VProperty)
  - One VLounge icon  on the Windows QuickLaunch menu on your taskbar.
  - One VLounge icon  on your desktop.
  - Installed applications, as selected by the user during this installation procedure.

You are now ready to start working with your Philips USB Camera. Go to the central camera application VLounge  and... Have fun!

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## 4 Using the applications

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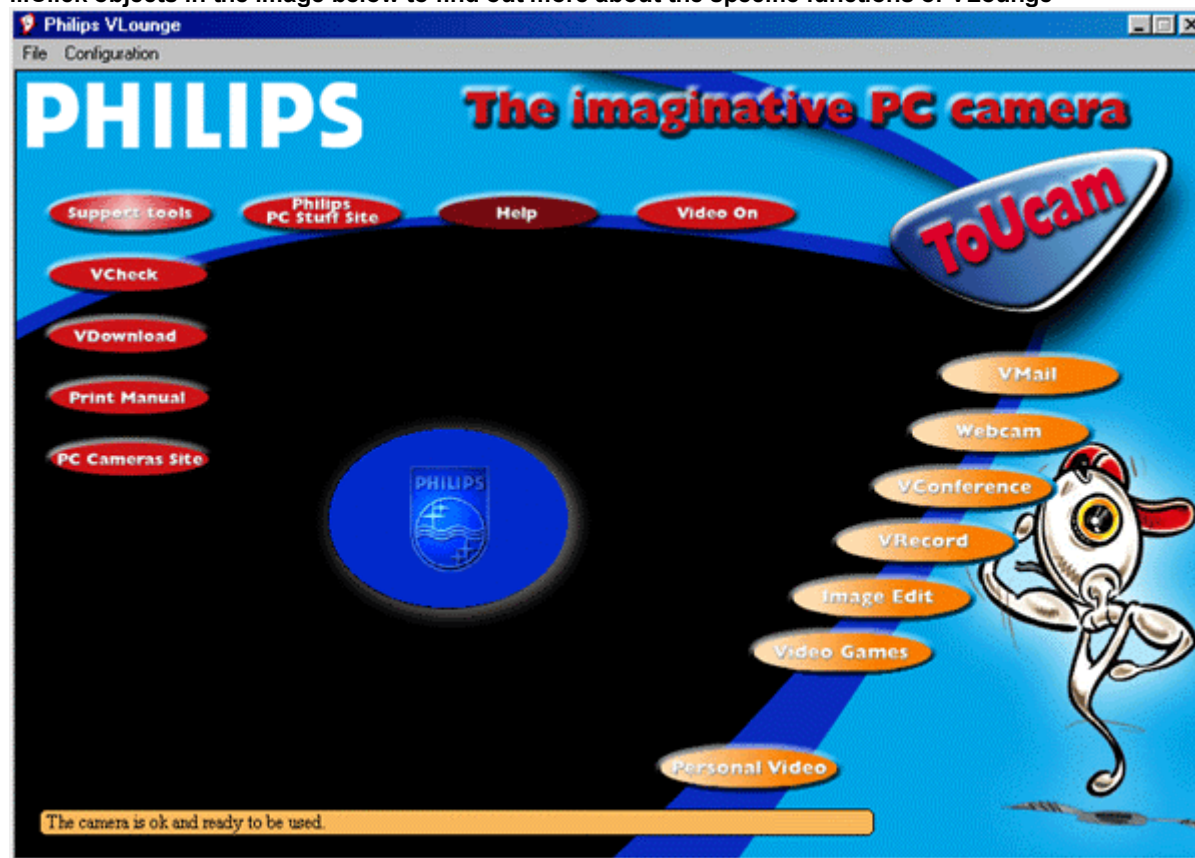
This section gives a brief description of how to use the video software packages included on CD-ROM. If you haven't installed these applications yet, please read '[Camera and software installation](#)' for installation instructions.

### 4.1 General

VLounge is the central application for easy access to your Philips USB PC Camera and all video applications installed during setup, together with access to one application of your choice. You can start VLounge using the Windows QuickLaunch menu on your taskbar,

through the program group 'Philips ToUcam Camera', or by double-clicking the VLounge icon  on the desktop.

...Click objects in the image below to find out more about the specific functions of VLounge



The buttons to the right in the VLounge windows will start the [applications](#). If you did not install all of the applications, some of these buttons will be greyed out and will not activate when the cursor moves over them, indicating that the application is not available. Please re-run the Philips installation program 'Setup' from the CD-ROM to install any missing applications.

The [other buttons](#) and the [menus](#) offer access to other useful camera options.

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### Where to get help on the applications?

For detailed information about the use of these software packages, please read the information accompanying the individual software packages. Each software package usually creates its own program group in the Windows Start Menu which is activated by clicking on the Windows Start button. These program groups contain the application program icon and other items (Help files, Electronic Manuals, Uninstall Wizards, Readme files, etc.) for that specific software package. All available information is usually accessible via the software's program group, or through the Help options within the program.

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## 4.1 Applications

### 4.1.1 Video e-mail and video capture: VideoLink Mail (by Smith Micro Software)



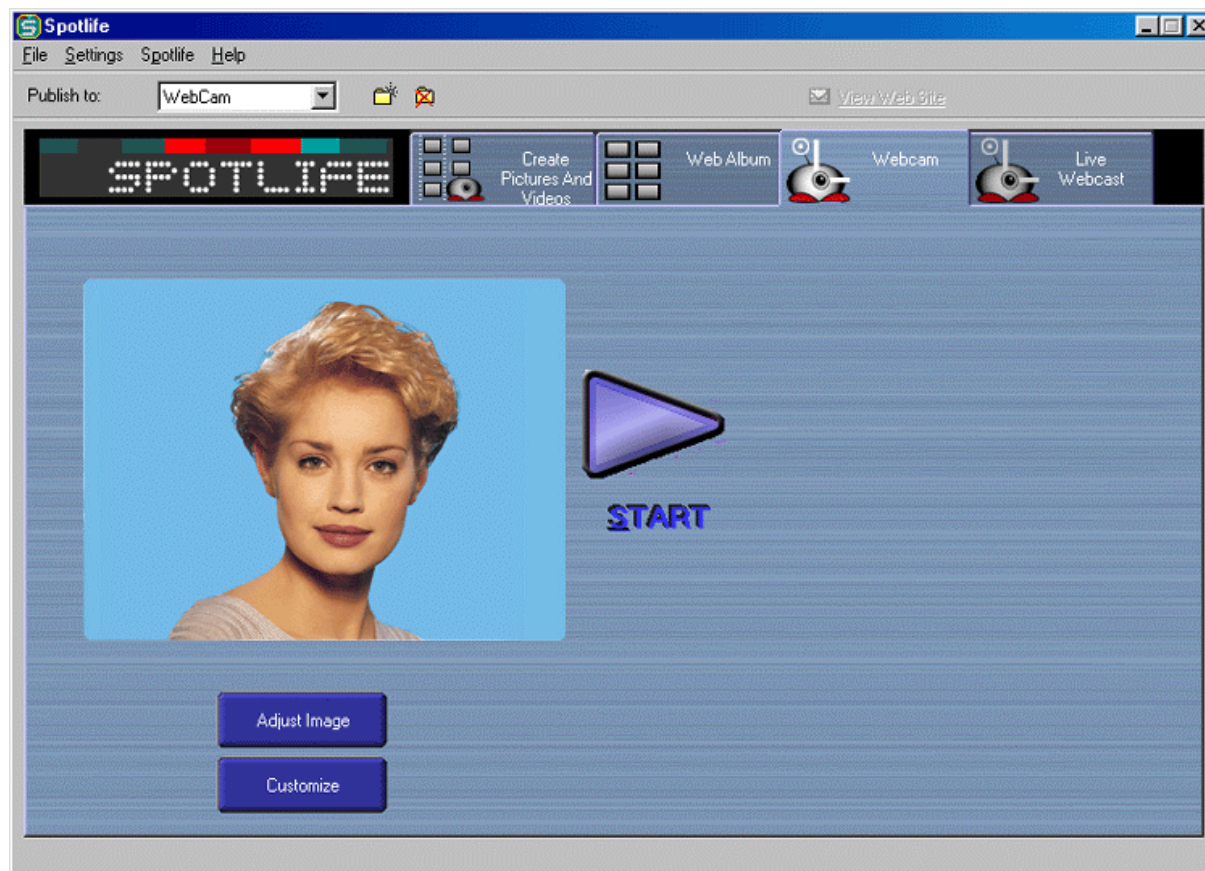
#### How to record and send a video mail.

1. Start VideoLink Mail. The main window appears.
2. Wait for your camera to initialise, and place the camera and microphone in an appropriate position.
3. Click the Record button. VideoLink Mail will begin recording.
4. When you have finished recording, click the Stop button.
5. You can now review your recording, save your recording in compressed SMV video mail format or in general AVI format, mail your recording as an e-mail or discard the recording. Persons receiving your e-mail do not need any special software because the video mail has a player built in and will be an executable file in EXE format.

More info: Click 'Help' within the application for help or go to: [www.smithmicro.com](http://www.smithmicro.com)

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### 4.1.2 Webcam: SpotLife (by SpotLife)



#### How to send movies and pictures over the Internet.

1. Your own *free* SpotLife account will be created during installation or when uploading your first images to SpotLife.
2. Click the 'WebCam' tab to send camera pictures to your SpotLife account periodically.
3. Adjust the preview image if necessary, then click the Start button to start uploading your live webcam pictures. When the upload is complete, your browser will open with a preview of your show on SpotLife.

4. Similarly, click the 'Live Webcast' tab to broadcast your PC Camera images and audio 'live' over the World Wide Web.
5. Or create your own 'Web Album' of stored videos and pictures for people to view at their convenience.

NOTE: You can make your shows public, for anyone to see, or choose to create a password so that only friends and family can view them.

More info: Click 'Help' within the application for assistance or go to: [www.spotlife.com](http://www.spotlife.com)

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#### 4.1.3 Video communication software: NetMeeting (by Microsoft)



**How to connect to a person on the Internet or on a TCP/IP network.**

1. Click the telephone icon.
2. Type the name of the person you want to call, or the name of the computer you want to reach.
3. If NetMeeting does not have enough information for the connection, the Advanced dialog box appears automatically.
4. Only two computers in a NetMeeting conference can use audio for communication. All other participants must communicate through other options, like Chat or the shared Whiteboard.

More info: Click 'Help' within the application for assistance or go to: [www.microsoft.com](http://www.microsoft.com)

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#### 4.1.4 Video capture software: VRecord (by Philips)



**How to record an AVI movie to your hard disk.**

1. Choose a file name in the File menu using 'Set Capture File'.
2. Click 'Devices' to set the video and audio source you want to use.
3. Enable 'Preview' in the Options menu to see the live camera preview, then adjust your audio and video settings if necessary. E.g. the Frame Rate setting in the Options - Video Format menu, which determines the frame rate the camera hardware should deliver to VRecord.
4. Use the Capture menu to start or stop capturing a video. Enable 'Capture Audio' if you want to record sound together with the camera pictures. (See below for other capture options.)
5. You can replay the recording by opening the AVI file you selected for your capture file name in the File - Set Capture File menu. Double click this AVI file in Windows Explorer and Windows Media Player will show you the recording.

Other capture options are:

- The 'Master Stream' option determines the preferred synchronisation between the video stream and the recorded sounds. Choose 'Audio' if you want to make sure that the video rate adapts to the sound recording rate. Choose 'Video' if you want to make sure that the sound recording rate adapts to the video recording rate. If 'None' is enabled, VRecord will adapt both streams to one another whenever necessary.
- If 'Use Frame Rate' is enabled in Capture - Set Frame Rate... it determines the software frame rate at which VRecord captures the movie, independently of the hardware frame rate delivered by the camera according to the Frame Rate setting



in the Options - Video Format menu.

More info: Go to: [www.pc-cameras.philips.com](http://www.pc-cameras.philips.com)


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#### 4.1.5 Image Capture and Photo Editing software: Photo Explorer (by Ulead)



#### To capture frames from your camera:

1. First, click 'TWAIN Acquire' in the File menu at the top left of your screen.
2. Next, click 'Select Source...' in this menu and select the Philips USB PC Camera as your TWAIN source.
3. Once you've set your capture options, click the Acquire button  in the toolbar to start the View Finder.
4. Finally, point your camera at the object or person you want to capture and click on the Capture button in the View Finder window or press the Snapshot button on top of the camera to capture the image displayed in the View Finder.
5. Edit the images after capturing them. Then print them, save them or share them with your friends over the Internet. Send them an email or create your own picture albums on the web. Or use them for slide shows, wall paper, screensavers, and other fun things.

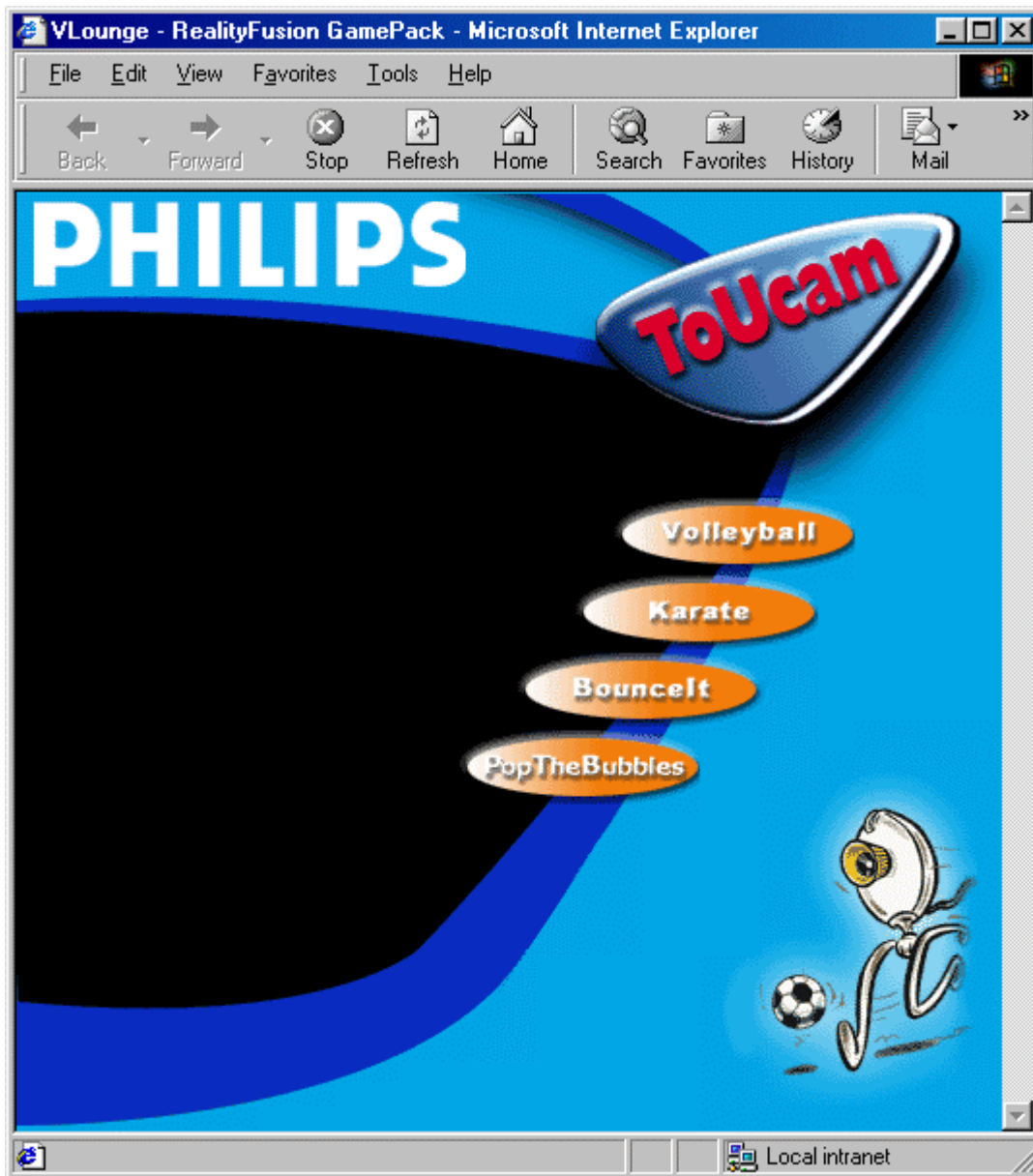
More info: Click 'Help' within the application for assistance or go to: [www.ulead.com](http://www.ulead.com)

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#### 4.1.6 Video Game: GameCam (by Reality Fusion)

This game uses groundbreaking new technology to enable your PC to see you in front of it - via the PC Camera - and to 'understand' where you are and how you're moving.



#### How to play a camera-controlled game:

1. Select one of the games by clicking one of the buttons. Control the game by moving in front of the camera and performing the necessary physical actions. The game will react to your moving in front of the camera.
2. Please close the window after exiting the games to resume VLounge.

NOTE: Please check beforehand that you have enough room to make the necessary movements in front of your camera without causing any damage.

More info: Click '?' within the application for assistance or go to: [www.realityfusion.com](http://www.realityfusion.com)

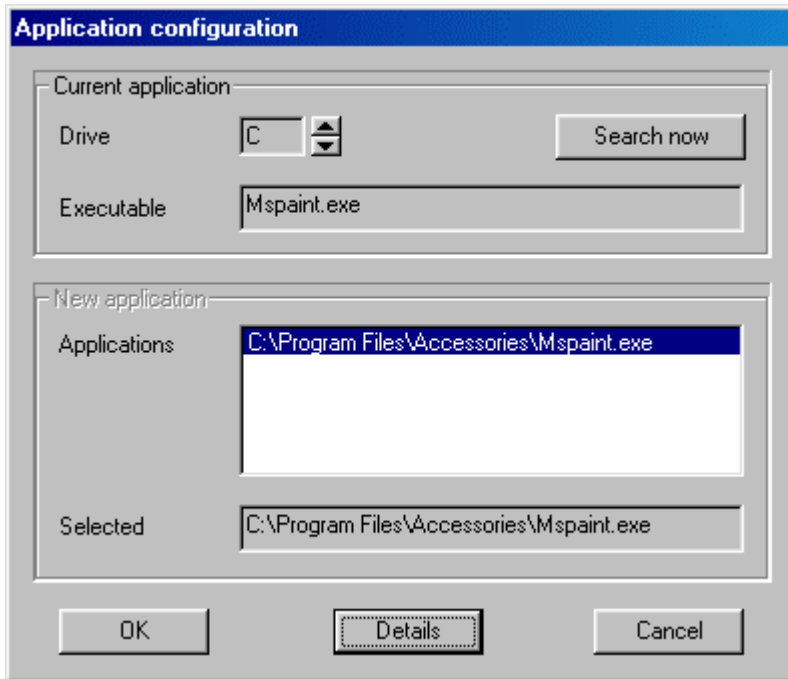
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#### 4.1.7 Personal Video: Your favourite user application.

The Philips USB PC Camera not only works with the video applications included on CD-ROM with this camera, but with any video application that uses DirectX or Video for Windows or the TWAIN interface.

We have therefore equipped VLounge with one application launch button which you can assign yourself. Right-clicking this button will cause the 'Application configuration' dialog to pop-up.



#### How to add an application to VLounge:

1. Right-click the 'Personal Video' button in VLounge to open the Application configuration menu.
2. Click the 'Details' button to access the Application details menu in which you can specify the full program name including its extension (path not required). Fill out the other options as required by your application.
3. Click OK to start searching for the specified application on your system.
4. Select your application by clicking it on the list of search results displayed in the 'New application' window (providing that any were found). If not displayed, please check the program name entered previously at Details (step 2).
5. If the specified application has been found on your system, you will now be able to start this (video) application by clicking the 'Personal Video' button in VLounge.

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## 4.2 V Lounge functions other than the application launch buttons

V Lounge offers you several buttons and menus for central control over your camera. A description of all these functions is given below. To find out more about a function, simply click on that function in [V Lounge](#).

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### 4.2.1 The 'Support tools' button

Use this button to pull down more buttons for support functions.

VCheck	This program checks whether the correct camera drivers have been installed on your computer. It opens a test window confirming the correct installation by showing you 'live' pictures from your USB PC Camera.
VDownload	VDownload checks for the availability of newer drivers through the Internet and installs them for you if you wish.
Print Manual	Prints a copy of the user manual. Since it uses Acrobat Reader to print the file, you should install Acrobat Reader on your computer first. Insert the Philips Installation CD-ROM into your CD-ROM drive and allow the Setup program to install Acrobat Reader on your computer.
PC Cameras Site	The web page for more information about PC cameras.

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### 4.2.2 The 'Philips PC Stuff Site' button

This is the Internet link for information about PC Peripherals from Philips.

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### 4.2.3 The 'Help' button

This opens the HTML manual file in your HTML browser.

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### 4.2.4 The Video 'On/Off' button and the preview window with the Philips logo

Use the 'Video On' button to start showing the live camera image on your screen (instead of the stationary Philips logo). If it is not possible to show a live camera preview, the preview window will display a snowy Philips logo indicating errors in 'receiving' images from your camera. This might occur if an independently started video application is still using your camera.

If you suspect other trouble, run VCheck to diagnose your system.

Press the same button again (when it says: Video Off) to close the preview window.

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### 4.2.5 The 'File' and 'Configuration' menu

Use 'File' to exit V Lounge or to display V Lounge version information.

Use 'Configuration - Icons' to activate or deactivate the various camera icons on your system. Use 'Configuration - Updates' for enabling or disabling the automatic driver update check every two months. Use 'Configuration - Select device' to select the source device (i.e. which camera) V Lounge should use for displaying video images, and for camera updates !!

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#### 4.2.6 Hints and Tips

This bar automatically shows you hints and tips for the various functions of VLounge whenever you move your cursor over the relevant button. Please pay careful attention to this text, since it may contain valuable information as to why specific functions are not available at certain times.

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#### 4.2.7 Your 'Dynamic PC Camera' animation

In this little corner of the screen your camera gives you feedback on your actions and button selections. And it just loves a good workout!

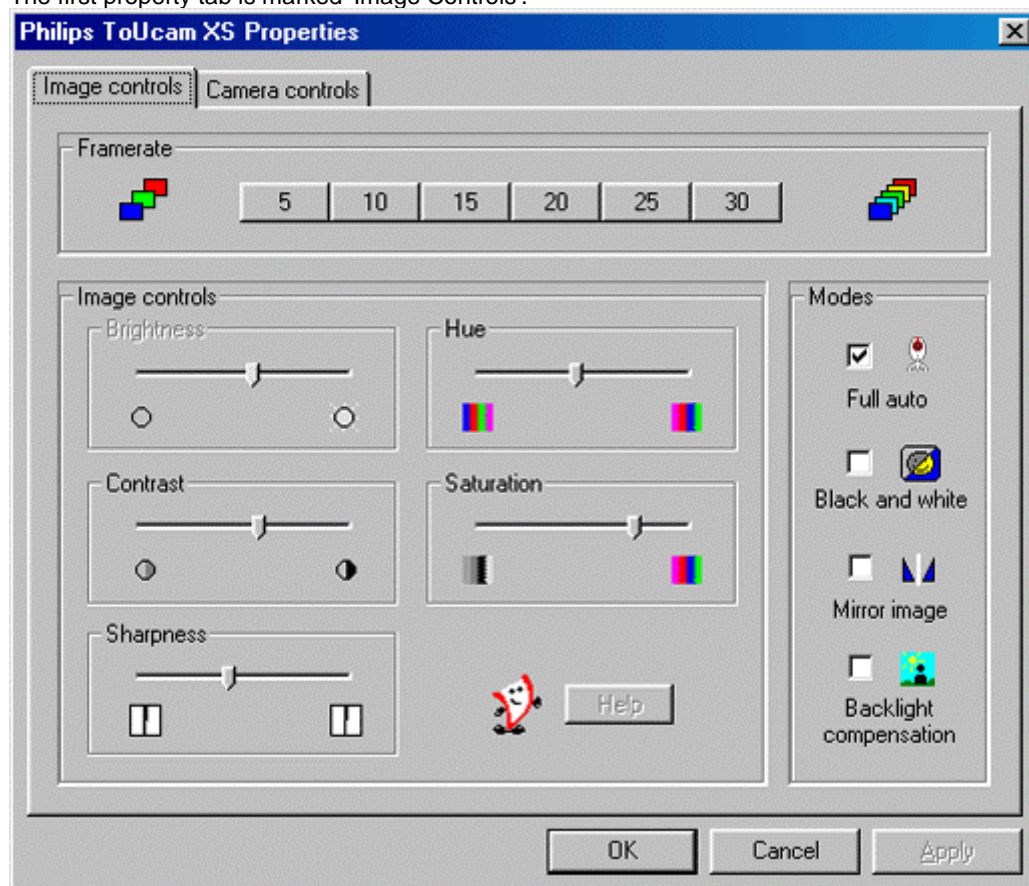
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## 5 Settings

The camera properties can be changed from within an application, or independently by clicking the VProperty icon  which can be found in the right hand part of the Windows taskbar at the bottom of your screen. Most applications can show a 'live preview' video image on your monitor. Always use this option to see the effect of changed settings on your screen.

### 5.1 Image Controls

The first property tab is marked 'Image Controls'.



#### Frame rate

The frame rate setting determines the number of images per second in the video stream.

The set of frame rates from which the user can choose depends on the currently selected video format (resolution) and the available bandwidth on the USB bus (the number of devices connected to your USB port and the amount of data they transport). The buttons for invalid frame rates will be greyed out automatically and cannot be selected. To enable higher frame rates choose a smaller video image format in your application. Applications will usually offer resolution switching (image format setting) under menu items within the applications themselves.

#### Image Controls

Here you will find the slider controls for brightness, hue, contrast, saturation and sharpness. Note that the Brightness control is not available when the Full auto setting is enabled. The Hue control is only available when the Full auto setting is enabled or when the Auto White balance on the Camera controls tab is turned on.

#### Modes

The **Full Auto mode** provides a very easy way to get the best out of your camera. Or you can choose to have maximum manual control over the camera settings by switching the Full Auto mode off. Full Auto 'on' is the preferred setting for normal use as it provides automatic exposure control and automatic white balance control, to provide the best video possible.

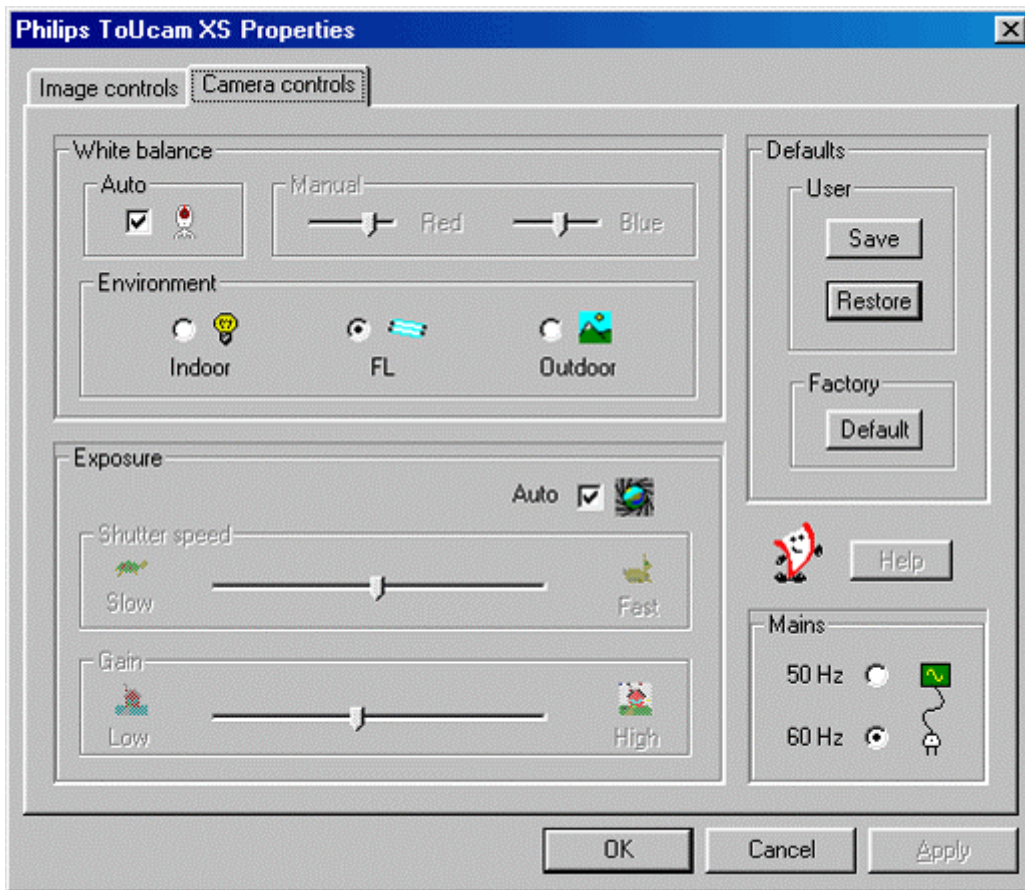
The checkbox **'Black and white'** is used to switch from colour images to black & white and back.

By clicking the checkbox **'Mirror Image'**, the image flips horizontally. This feature can be applied in order to use the camera and monitor as a mirror, or for taking pictures of mirrored images.

Turn on the **backlight compensation** to improve the image quality when you have a scene where the background has a high illumination level (for instance when you are sitting in front of a bright light).

### 5.2 Camera Controls

The next tab is marked 'Camera Controls'.



### White Balance

In Auto mode the camera automatically controls the different colour components in the picture to obtain the most natural colour reproduction. This setting is the preferred setting for normal use.

Deselect the Auto mode and use the 'Red' and 'Blue' sliders to set a white balance manually.

The range of your Auto mode control will be influenced by your Environment setting (Indoor / FL / Outdoor). The Environment setting compensates for the specific colour spectrum of these types of lighting.

Only switch off the automatic white balance control when you have a colourful scene and stable lighting conditions. The current colour setting will remain frozen and will not be influenced by the camera's internal controls.

### Exposure

The exposure setting determines the amount of light that will fall onto the video sensor chip by controlling the gain and shutter speed.

In Auto exposure mode the camera automatically adjusts the gain and shutter speed.

In manual mode (no check mark in the Auto checkbox) you can control the setting for gain and shutter speed manually.

### Defaults

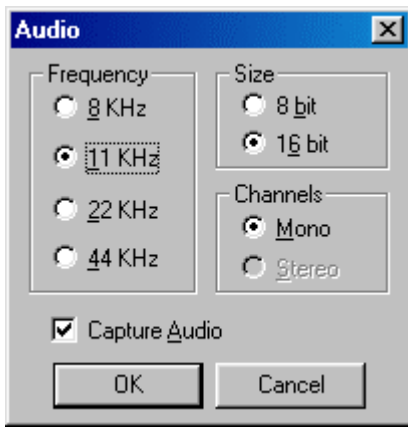
If you like a particular setting for particular lighting conditions, you can use the Save and Restore buttons to save and restore this preferred setting. Should you wish to restore all standard settings, then click the Default button under Factory.

### Mains (flickerless)

The Flickerless control will be switched on automatically if you have chosen to engage Auto White Balance in combination with fluorescent light conditions (the option FL under Environment) to prevent flickering or strangely coloured video images. Please indicate under Mains whether your mains power frequency is 50 Hz (Europe) or 60 Hz (USA) so the Flickerless control will work correctly.

## 5.3 Sound Settings

Access to the sound settings is dependent on the application software. But usually it will look something like this when you open a 'Sound Settings' option.



The camera has no built-in microphone, so a microphone (not included) connected to your sound card will be used as a sound input for your video application. Check your sound recording capabilities with a recording application, e.g. Sound Recorder from Windows. If you can record sound through your sound card with such an application, you should also be able to record sound and camera images together in any video application.

#### **Frequency, Size & Channels**

These are the standard parameters of the audio data. You can change these parameters to suit your application in the same way as the resolution setting, for example.

#### **Capture Audio**

Determines whether or not you want to record sound with your video stream.

#### **5.4 Capture source**

Some applications may offer you an extra tab marked 'Capture source'. Usually this setting has only one option when the USB PC Camera is the only video source connected to your computer. However, if more than one video source is connected to your system, then this is where you switch between them. Applications that don't show this extra tab will offer video source switching under a different menu item within the application itself.

NOTE: If you have two or more Philips USB cameras connected to your computer, these cameras can only be used one at a time.

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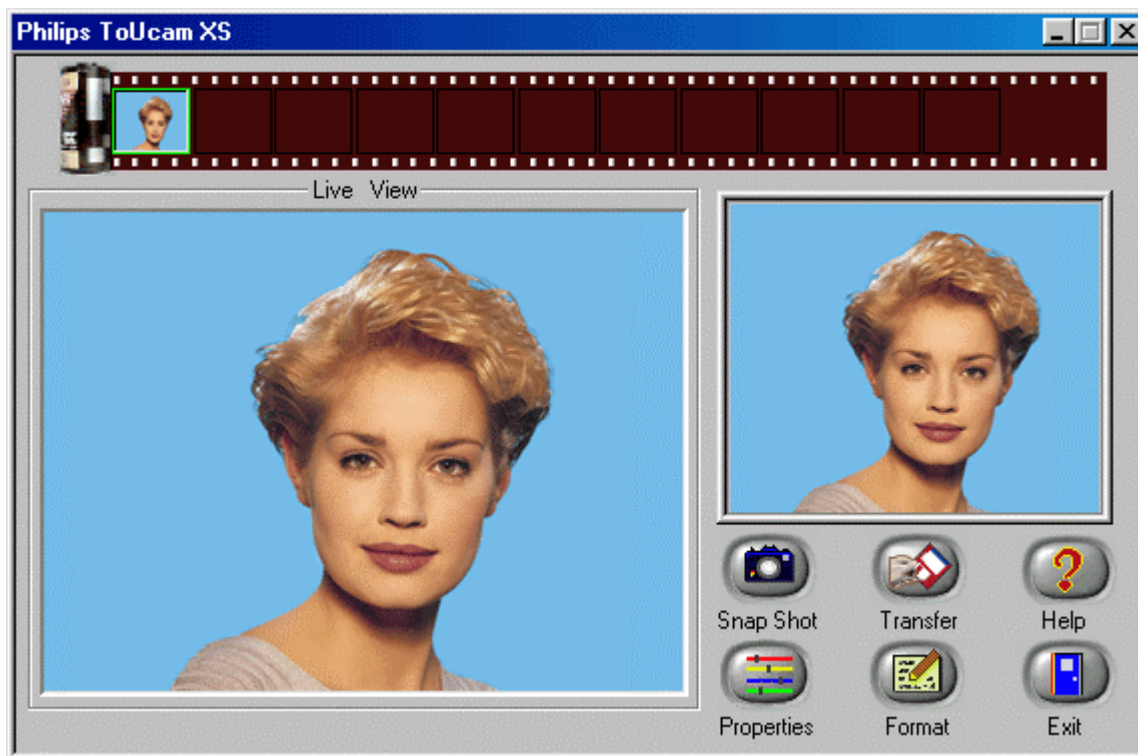
## 6 TWAIN applications

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The Philips USB PC Camera is TWAIN-compatible (like a scanner), so you can use the camera as an input device for any application software that uses TWAIN as a data source (e.g. photo editing software).

### 6.1 Capturing images from within applications

In TWAIN-compatible applications you will see the Philips USB PC Camera listed as an available TWAIN data source among your other TWAIN sources (e.g. scanners). Just pick the USB PC Camera as your source to acquire camera pictures directly into your application. Then choose 'Acquire' to launch the camera viewfinder which displays the moving video picture.



#### Snapshot

Click the 'Snapshot' button to capture a still image or push the snapshot button on top of the camera to do the same. The captured image will be displayed to the right of the 'Live View' and will be added to the film roll at the top of the window.

#### Properties

Under the 'Snapshot' button you will find the 'Properties' button, which is used to change the camera settings. Clicking the 'Properties' button will bring up the camera setting tabs as described under '[Camera Settings](#)'.

#### Format

Here you can select the size of the still image to be captured. The streaming image format will always be the size of the 'Live View' window independently of the still image format.

#### Transfer

Click one of the captured images in the film roll, it will be displayed above the buttons. If you then click 'Transfer' it will be send to the application from which you launched the TWAIN interface. You may transfer more than one picture to the application by selecting another picture in the film roll and clicking 'Transfer' once again to send that picture to the application. (Only if the application can handle multiple pictures.)

#### Help

Click 'Help' to see the appropriate part of the manual.

#### Exit

Click 'Exit' to close the PC Camera TWAIN interface.

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## 7 Tips and Frequently Asked Questions (FAQs)

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### 7.1 TIPS

#### Installing the camera

- Always use the Philips installation CD-ROM to install the correct camera drivers as described below. Do not connect the camera to a USB port before installing the Philips drivers. If you do this, Windows will try to install its own drivers, which might be less compatible with the camera than the Philips drivers. You must have Windows running and have the Windows CD-ROM to hand.
- Your USB controller should be working correctly. You can check this in the Windows Device Manager (Click on the My Computer icon on your desktop, right-click Properties, then click on the Device Manager tab). An icon with the name 'Universal serial bus controller' should be visible. Click on this icon and Windows will tell you if this part of your computer system is operating correctly.

#### Uninstalling the camera

- Uninstall the driver software by using the Add/Remove option in the Start - Settings - Control Panel - Software window.
- For the Windows 2000 operating system you will get a message to delete the camera within the Device Manager manually before you will be able to reinstall the 'ToUcam Drivers and Tools' by using the Setup program from the installation CD-ROM. The reason for this is that the InstallShield cannot remove certain registry entries.

#### **IMPORTANT NOTE :**

If the installation program asks you to place a different CD-ROM in the CD-ROM drive, for instance the installation CD-ROM or the Windows CD-ROM, always wait until:

- the 'busy' cursor icon (usually an hour-glass icon) has disappeared from your screen, and
- the 'busy' LED on your CD-ROM drive extinguishes,

before you press the eject button on the CD-ROM drive.

This prevents the appearance of a blue screen Windows error message prompting you to replace the last CD-ROM into the drive.

Should you encounter this Windows error message, correct the blue screen error by replacing the CD-ROM you just removed and wait for Windows to stop reading from the CD-ROM.

#### **Camera performance and system requirements**

In CIF resolution this digital USB PC Camera provides a large data stream that needs to be processed in real-time by the application you are using. Although the camera will perform satisfactorily on a Pentium I at the lower resolutions, we recommend a more powerful computer, e.g. a Pentium II with 32 MB RAM, for optimum performance at the highest resolution. We regret that optimum camera performance cannot be guaranteed if the computer meets only the minimum system requirements.

#### **Using more than one camera**

If two or more Philips cameras of the same type are connected to your computer, only one of these cameras can be used at any one time.

#### **USB**

You can connect the camera to any USB port on your computer. You do not have to switch off the computer. USB ports are 'hot-swappable', which means that you do not have to restart Windows every time you connect a new USB device. The USB driver will detect the camera as new hardware. It can be used within a few seconds without the need to restart the computer.

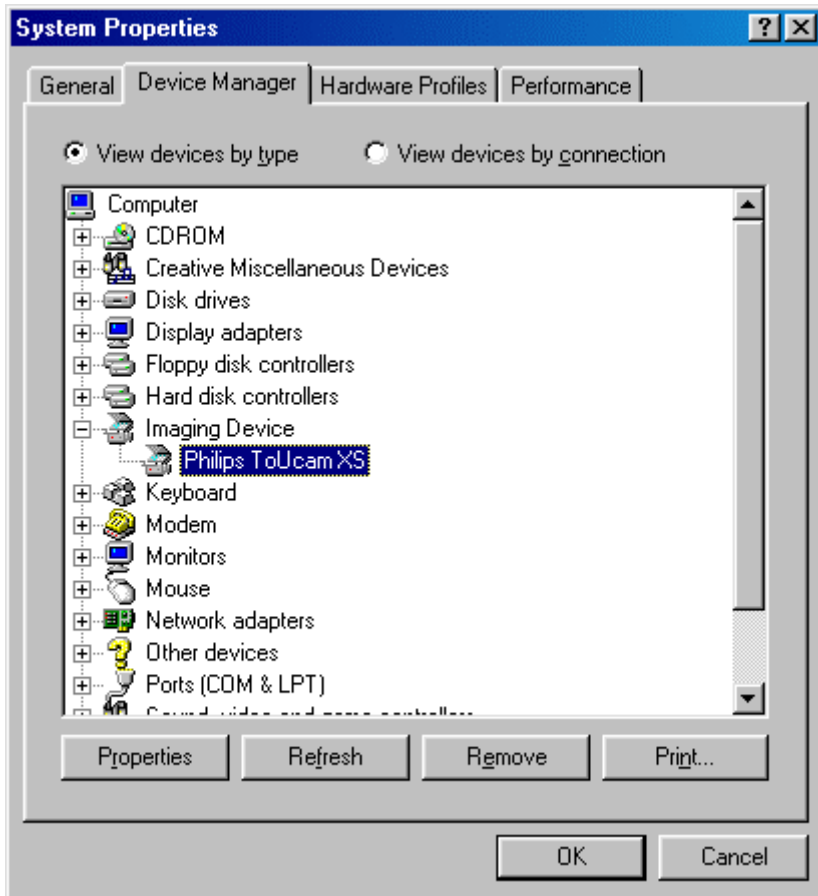
If you unplug the camera while it is actively providing a video stream to an application on your computer, the computer may crash. To avoid problems, first close all applications that use video from the camera before unplugging your Philips USB PC Camera.

#### **Driver software check**

You can determine if the camera is installed correctly, and if it is being recognized by the operating system by checking the Device Manager menu in the System Properties.

1. Access this menu by right-clicking the 'My Computer' icon in the top left-hand corner of your desktop, then click Properties. Alternatively, click Start / Settings / Control Panel, then double-click System to access this menu.
2. Click the Device Manager tab to see the list of installed devices.

If the USB PC Camera has been installed correctly and it is plugged into a USB port, you should see the Philips ToUcam XS listed under the Imaging Device type in this window (double-click on the device to see its specifications):



If you unplug the camera from the USB port, these devices will disappear from the list (and can therefore not be used by any application on your computer until you reconnect the USB camera).

#### WEB SITE

If you have any other questions or problems, please visit our web site [www.pc-cameras.philips.com](http://www.pc-cameras.philips.com) for new or updated information.

#### 7.2 FAQs

##### **Q: Why can't I choose higher frame rates for the USB Camera?**

A: As the digital camera is a USB device, it shares the bandwidth of the USB port with all other USB peripherals. If these USB devices are active (speakers providing sound or scanners performing a scan), the remaining bandwidth may be restricted to frame rates lower than those listed in the 'Technical specifications' as the maximum frame rate for that resolution.

##### **Q: My PC will not start when the camera is connected.**

A: It is highly likely that your BIOS is not compatible with the USB standard. Contact your PC supplier for an updated BIOS.

##### **Q: With additional USB peripherals installed my PC seems to be unstable (blue screens).**

A: Check if Phoenix Plugworks is one of your

applications. You need to have version 1.1 or higher for proper operation with Windows.

##### **Q: No USB Device: My Windows Device Manager reports 'No USB device' even though I have a physical USB port. In the Windows Device Manager (My Computer, click on the right mouse button, Properties, Device Manager tab), no section with the name 'Universal serial bus controller' is visible.**

A: Check whether your BIOS enables the USB port as follows: reboot your computer, enter your BIOS setup and look for a text such as 'USB function'. This should be enabled.

##### **Q: No Video: My application doesn't display any video.**

A: There are several reasons for not having video:

1. Check whether the USB PC camera is connected to a USB port
2. Check whether 'Microsoft WDM Image Capture' is the current capture source. On systems with other devices, this other device may be the selected capture source.
3. If more than one USB capture device is connected to the PC, check whether the correct USB capture device has been selected.

##### **Q: No 'Microsoft WDM Image Capture': 'Microsoft WDM Image Capture' is not available as image capture source.**

A: All USB Image devices need Microsoft WDM Image Capture' as the capture source. Check whether this capture source is enabled. (Start, Settings, Control Panel, MultiMedia, Device tab, Video Capture Devices entry. Double click the 'Microsoft WDM Image Capture' entry. A property page will pop up. The option 'Use the video capture device' should be selected).

##### **Q: Why does my application crash when I unplug the camera from the USB port?**

A: If you unplug the camera while it is providing a video stream to an application on your computer, the computer may crash. Always close applications that use video from the camera before unplugging your Philips USB PC Camera to avoid problems.

##### **Q: Video works, but no audio is recorded: My application doesn't produce any audio.**

A: Check whether your microphone is selected as the current recording device. (Start, Settings, Control Panel, MultiMedia, Audio tab. In the recording section, your microphone should be selected as the input source.)

##### **Q: System lockup: My camera stops responding (black or frozen picture or LED off) for no obvious reason.**

A: Switch off the Hardware Accelerator for your video card (click on: My Computer, right mouse button, Properties, Performance tab, Graphics button, Set 'Hardware Acceleration' to 'None'). Contact your video display card manufacturer to obtain the latest video card drivers. See the video display card's documentation for more information.

##### **Q: Picture Flicker: My video picture is flickering.**

A: This may happen in office environments with 50 or 60 Hz fluorescent lighting when certain frame rates are used. There are two solutions:

1. Select the 'TL' environment option together with Auto White Balance. These options are located in the 'Image Controls'

property page. This property page is accessible from within the application you are using.

2. Select the correct Mains frequency, 50 Hz or 60 Hz.

**Q: 'Unable to draw this data format': The message 'Unable to draw this data format' appears.**

A: This can happen when the selected data stream format could not be processed due to a missing codec. Re-install the camera driver software to install the missing codec.

**Q: Why are frames dropped during the recording of a streaming video?**

A: If a video clip is created at a high resolution such as CIF and at a high frame rate, a tremendous amount of data is generated. Hardly any computer system and/or hard drive is capable of handling this kind of data stream. This effect results in dropping a number of frames to be able to match the data stream to the capabilities of your computer. This effect can be reduced or completely eliminated by applying the following measures:


1. changing to a lower resolution such as 320x240 or lower
2. changing to a lower frame rate
3. putting the hard drive in DMA mode
4. using a new file instead of overwriting an existing one

Please bear in mind that the majority of the video applications do not require high resolutions in combination with high frame rates. In most cases you will therefore not encounter this phenomenon at all.

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## 8 Technical specifications

### Optical

Camera model number:	 PCVC720K lens ring colour: red body colour: grey
Sensor	CMOS
Pixels	352 (H) x 288 (V)
Still image resolution	640 (H) x 480 (V)
Illumination	< 10 lux
Integrated lens	F2.6

### Resolution/performance

Output resolution	Pixels (H x V)	Frame rate in frames/sec [fps]
CIF	352 x 288	Up to 30
SIF	320 x 240	Up to 30
QCIF	176 x 144	Up to 30
QSIF	160 x 120	Up to 30

### Data format

I420, RGB24
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### Camera adjustment parameters

Frame rate, contrast, brightness, saturation, sharpness, colour on/off, mirror image, backlight compensation, white balance, exposure control, hue
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### Interfacing

USB cable	2.0 m
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### Minimum system requirements

Processor	Pentium II 233 MHz
RAM	32 MB
OS	Windows 98, Windows 2000 or higher (not NT4)
CD-ROM drive	Required (for installation only)
USB interface	Required
Microphone, USB speakers or sound card with speakers	
Internet connection	

### Software

Windows 98 / 2000 drivers	by Philips
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VRecord	by Philips
VideoLink Mail	by Smith Micro
NetMeeting	by Microsoft
Photo Explorer	by Ulead
SpotLife	by SpotLife
GameCam	by Reality Fusion

**Weight**

110 g
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**Dimensions**

84 x 67 x 47 mm (L x W x H)
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**Ambient temperature**

Operating	-10 to 55°C
Storage	-35 to 70°C

**Power supply**

**NOTE: Should you wish to connect this camera to a USB hub instead of your computer's root hub, you will need to use a powered hub capable of delivering the operating power specified below.**

Power	Supplied via the USB cable
Power compliance	General USB specifications 1.1 for power requirements
Two modes for power supply:	<ol style="list-style-type: none"> <li>1. Suspend: max. 500 <math>\mu</math>A</li> <li>2. Operating: max. 100 mA</li> </ol>

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## 9 Regulations, Warnings & Maintenance

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### 9.1 FCC compliance

**This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:**

**(1) this device may not cause harmful interference, and**

**(2) this device must accept any interference received, including interference that may cause undesired operation.**

**NOTE:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Any unauthorized modification to this equipment could result in the revocation of the authorization to operate the equipment.

### 9.2 Warnings & Maintenance

**If you observe the following guidelines, you will prevent defects and the camera will operate safely.**

- To ensure that your camera does not fall off the surface on which it is mounted - e.g. your monitor - always ensure that the adhesive tape for the camera perch is placed onto a clean surface.
- Clean the outside of the camera with a soft cloth.
- Do NOT use cleaning fluids based on alcohol, methylated spirit, ammonia, etc.
- Avoid direct contact between the camera and water.
- If the lens has to be cleaned, use a special lens-cleaning tissue, available at any camera store.
- The camera is for indoor use only.
- Protect the camera from oil, vapour, steam, moisture, and dust.
- Keep the camera away from heat sources, lights, and direct sunlight.
- Never point the lens of your camera at the sun.

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## 10 Glossary

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### **Audio input device (recording device)**

One of the Windows multimedia settings is the recording device setting. This setting determines which audio hardware is being used to provide audio signals to audio applications. This setting is accessible through: the Windows 'Start' menu, Settings, Control Panel, MultiMedia, Audio tab. In the recording section, your microphone should be selected as the input source.

### **AVI**

The Microsoft standard file format for combined video and sound files on the PC. This is part of the Video for Windows standard.

### **Codec (COding & DECoding)**

This refers to a compression format for creating sound and video streams on the computer.

### **Compression**

Term used to describe a process of compacting or squeezing video and sound information into a smaller than normal size. For example, 2 to 1 compression would indicate that 2 pixels would now only occupy the space of 1 pixel.

### **DirectX**

The latest standard developed primarily by Microsoft to help establish a common method for exchanging audio and video information between your hardware and software in the PC.

### **Frame**

A single image in a video stream.

### **Frame Rate**

Typically quoted in seconds (fps, frames per second), this refers to the number of single images that will be displayed or captured in a video stream.

### **Philips installation program**

A standard installation program that runs from CD-ROM. Usually, this program starts automatically after inserting the installation CD-ROM into your CD-ROM drive, and guides you through the whole installation process. The program can be started manually by running 'setup.exe' from your CD-ROM drive.

### **Pixel**

The smallest square or round element in an image. These are the 'building blocks' that are only one colour in their individual state, but combine with others to form complete images.

### **Plug & Play**

An operating system principle for connecting hardware to your computer. The idea is to recognize the new hardware automatically and to load the appropriate drivers without restarting your computer. With USB devices this usually means that you will have to perform an installation procedure only once, i.e. the first time you connect the new hardware. After this first time, you will not have to restart the computer when connecting the camera to the USB port. The USB driver will detect the camera as newly connected hardware. It can be used within a few seconds without the need to restart the computer.

### **Preview Window**

The window within the capture application that is used to display live, or moving, video.

### **Property page**

A window with camera setting tabs that appears when you click on a setting menu item within an application. This setting menu item can have different names in different applications, but is usually called 'Settings', 'Preferences', 'Video settings' or something similar.

### **Rebooting**

Restarting your PC to initialize all original settings and finalize all settings changed during an installation procedure.

### **Resolution**

Typically given in the context of pixels, this is used to describe overall video size. This is related to quality in that the higher the resolution, the better the quality and the more pixels.

### **Snapshot button**

The hardware button on top of the camera which fulfils the same function as the software 'Capture' button in the TWAIN viewfinder window. If the viewfinder displays the camera's view on your screen in the TWAIN viewfinder window, pressing this button will capture a still image.

### **TWAIN**

Standard software interface for imaging applications. If a hardware device has a TWAIN driver, it can be used as an image source for TWAIN-compatible imaging applications. Choose your TWAIN source in the imaging application itself. Then choose 'Acquire' to start the TWAIN driver for the TWAIN source.

### **USB**

Universal Serial Bus, used for connecting external devices to the PC without having to restart your PC.

### **Video for Windows**

Developed by Microsoft, this is a standard for displaying video on the Windows desktop. Windows has this built in. This standard has now been succeeded by DirectShow, which is part of DirectX.



**Video stream**

A collection of images that combine to form motion - or moving - pictures (also known as movies or video clips).

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## 11 Your international guarantee

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Your [World Wide Guarantee](#) and your [Philips PC Add-On Warranty](#), giving details on technical support, have been incorporated into this manual as PDF files. You will need a PDF reader such as Acrobat Reader from Adobe in order to view these texts.

Install Adobe Acrobat Reader by starting the Philips Installation program ('X:\Setup.exe') from the Philips Installation CD-ROM. This will install Adobe Acrobat Reader for you if it is not yet present on your computer. Or go to the Adobe website for the latest version of Acrobat Reader.



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