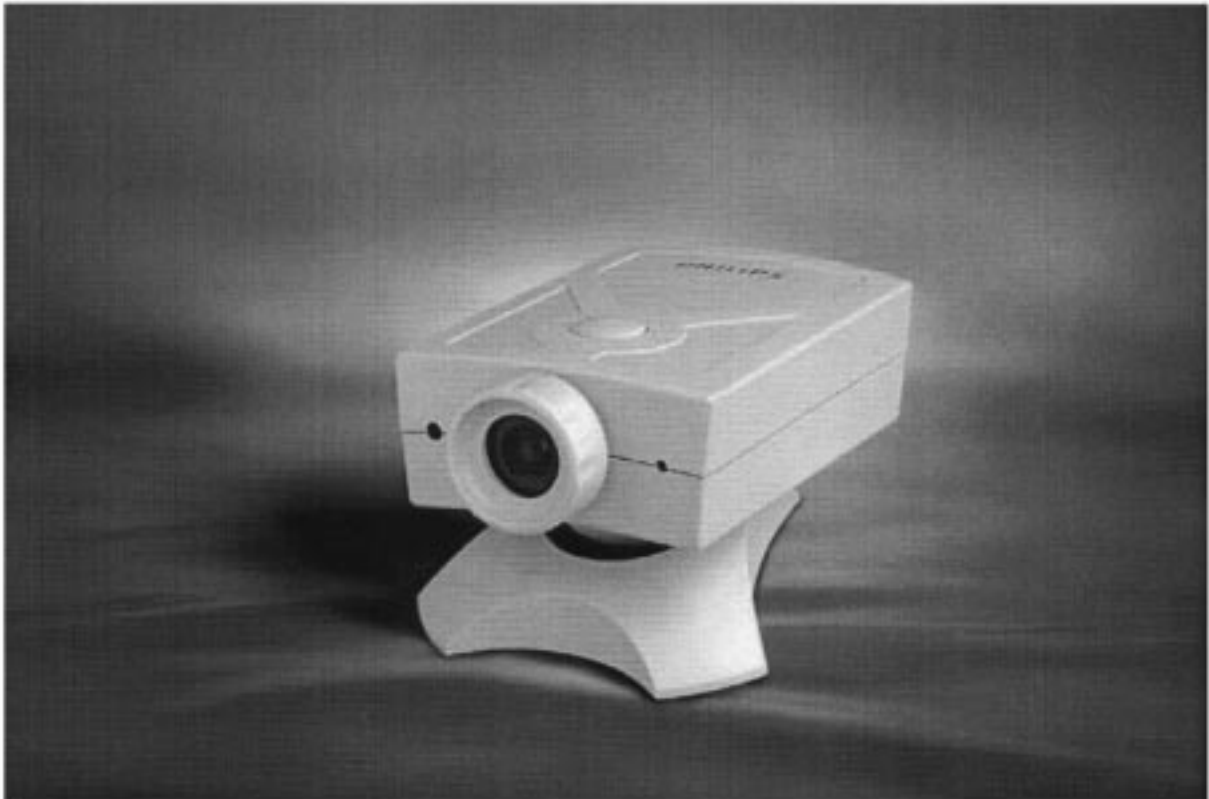


Philips USB PC Camera Model PCVC665K



1 Introduction

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:

- Full Plug&Play use of the USB port
- Video images and still images in true VGA resolution of 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.
- **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 conferencing:** Use the camera for establishing a point-to-point video conference via a modem and telephone line with another PC Camera or a Video Phone. Or use the camera for network conferencing or Internet 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.

Congratulations again on choosing the Philips USB PC Camera. The following sections in this manual give a step-by-step description of the installation process and explain how to use the USB PC Camera.

2 Preparation

This HTML file describes how to install the hardware and software and how to create your first video recording.


2.1 Contents of the box

Check that the box contains the following items:

- the Philips USB PC Camera;
- one CD-ROM, containing the Philips installation software, application software packages and electronic software manuals;
- Quick Install Guide.

2.2 Your first video recording in four easy steps

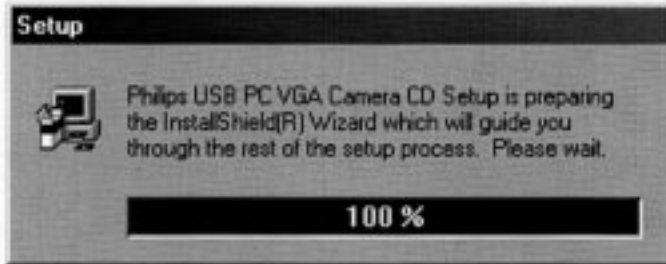
The best way to quick results is as follows:

1. Unpack the box.
2. Put the Philips installation CD-ROM into 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 for by the installation program.
3. Start one of the video applications.
4. Have fun!

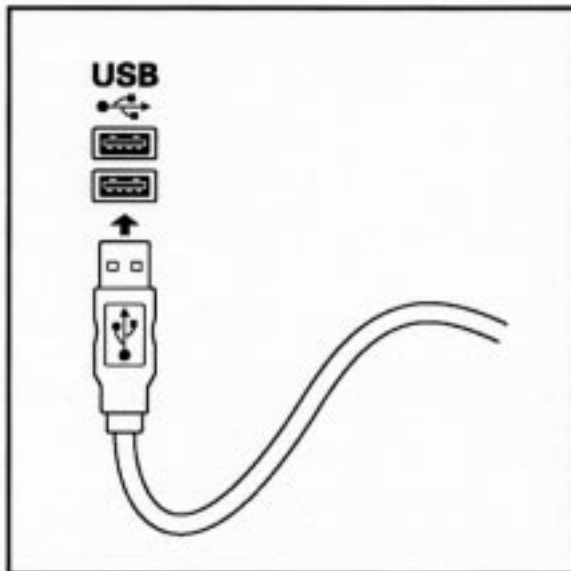
3 Camera and software installation

In order to maximize the video and audio 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 Windows98 CD-ROM to hand.

1. **Unplug all your USB devices (except USB keyboard or USB mouse) before you start.**
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.



5. When asked for the Windows98 CD-ROM, insert it into the drive and click 'OK'. Exit the Windows 98 Set-up screen if it appears.
6. After the camera software has been installed, the Philips installation program will ask you to connect the camera to the USB port.



7. To install the video application software, click the 'Applications' button, and follow the instructions on your screen.

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 Windows98 CD-ROM, always wait until:

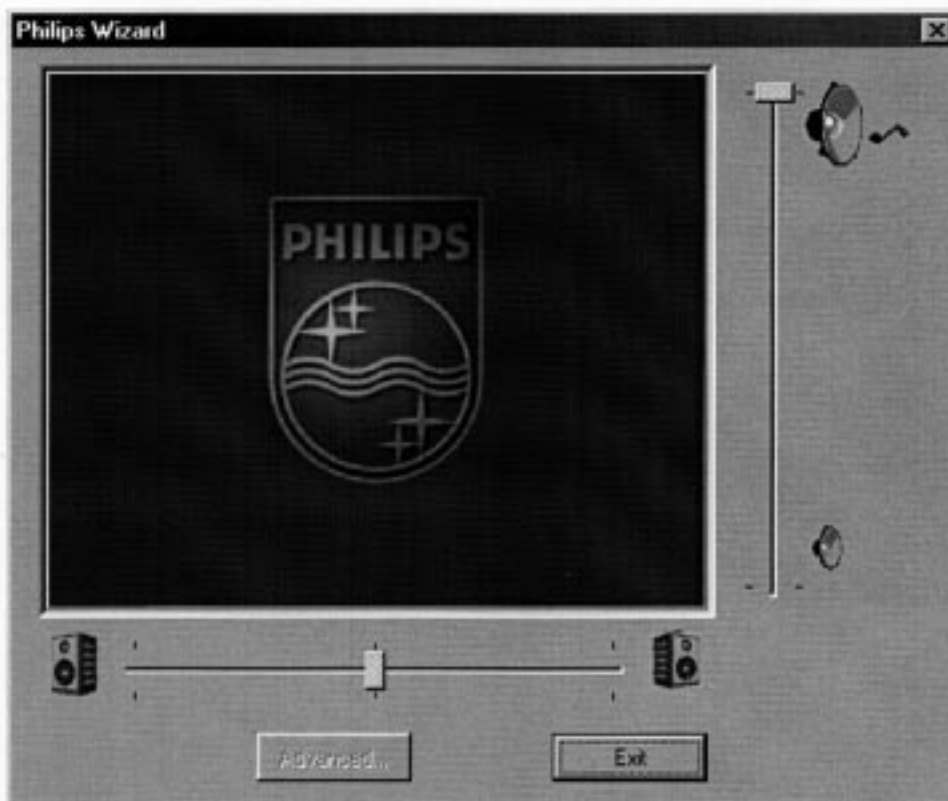
- the 'busy' cursor icon (usually a hour-glass icon) has disappeared from your screen, and
- the 'busy' LED on your CD-ROM drive extinguishes,

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.

1. When the camera has been installed, a test will be performed. This test window confirms the correct installation by showing you the first 'live' pictures from your USB PC Camera.



2. Exit the Philips installation program after closing the test window.
3. Plug in any USB devices you might have disconnected in the first step of the installation.
4. You are now ready to start working with your Philips USB Camera. Have fun!

4 Using the applications

In this section, we will give you 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

Each software package usually creates its own program group in the Windows Start Menu which is activated by clicking 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. You can start the video applications by clicking on them in the program group, just like any other Windows application. The shortcuts for the USB Camera can be found in the program group: 'Start / Programs / Philips USB PC VGA Camera'.

The Philips USB PC Camera is only guaranteed to work with the applications included on the CD-ROM you received with the camera.

Where to get help?

Programs usually contain a help function within the program that allows you to access help about the exact use of the program. Look for a Help topic on the menu bar or for Help buttons on the menus themselves, just like in any other Windows application.

For detailed information about the use of these software packages, please read the information accompanying the individual software packages. All available information is usually accessible via the software's program group, or through the Help options in the program.

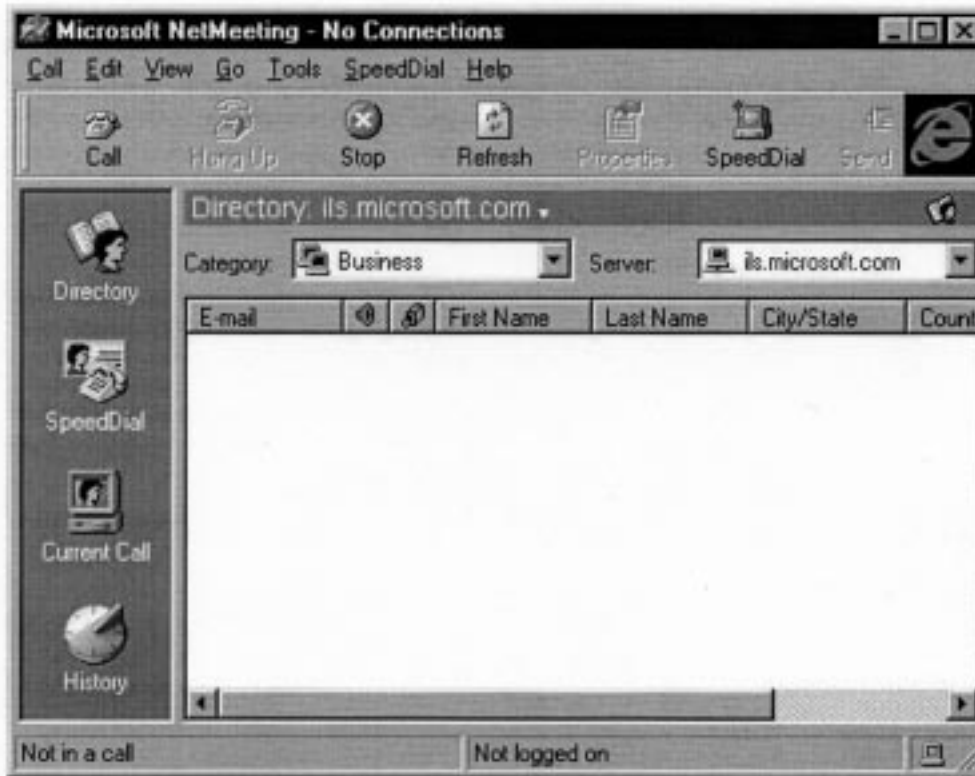
4.2 Video e-mail and video capture: VideoLink Mail (by Smith Micro Software)



How to record and send a video mail.

1. Start VideoLink Mail. The main window appears.
2. Wait for your camera to initialize, 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, mail your recording as an e-mail or discard the recording.

4.3 Video communication software: NetMeeting (by Microsoft)



How to connect to a person on the internet or on a TCP/IP-network.

1. Type the name of the person you want to call, or the name of the computer you want to reach.
2. Click on the telephone icon.
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.

5 Settings

The camera properties (audio and video) can only be changed from within an application.



5.1 Sound properties

Access to the sound properties 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.

Note: A mono microphone can only produce a mono audio signal. Applications may offer you the choice of other audio qualities, but bear in mind that a mono microphone can never produce stereo sounds!

5.2 Camera properties

The Philips USB PC Camera is very user-friendly and can be used intuitively. The video options can be adjusted in the 'Camera Property Page'. Access to this property page is dependent on the application software. For instance, in one program you might choose 'Options' / 'Video Source' from the menu bar to open the property page. However, in other applications you may have to open the 'Preferences' menu or the 'Video Options' menu.

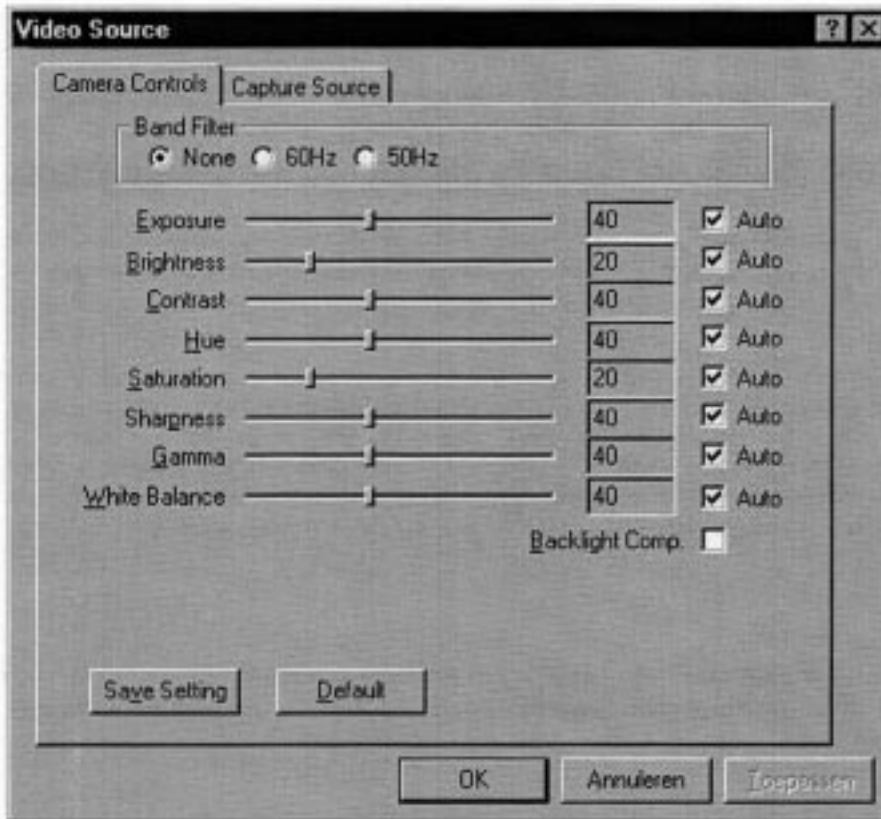
Access the camera property page (its location on the menus differs between applications) and you will see two tabs with user-changeable settings. Most applications can show a 'live' video image on your monitor. Always use this option to see the effect of changed settings on your screen.

5.2.1 Camera Controls

One of the property tabs is 'Camera Controls'.

This tab shows you several camera settings you can change. If a setting can be adjusted automatically by the camera, there will be an active Auto checkbox available to the right of the value box. Click this checkbox to engage the automatic adjustment for that setting.

Remove the check mark in the Auto checkbox before manually changing the settings. Use the sliders to change settings or type a numerical value in the box to the right of a particular slider. This value has to be within the valid range for the setting, which is different for every setting. Most applications can show a 'live' video image on your monitor. Always use this option to see the effect of changed settings on your screen.



Band Filter

The Band Filter option should only be used under flickering 50 or 60 Hz lighting conditions (e.g. fluorescent or neon lamps) to prevent flickering or strangely coloured video images. If this option is used under normal lighting conditions the video image will tend to be overexposed. Disable the Band Filter option by choosing 'None'.

Exposure

The exposure setting determines the amount of light that will fall onto the video sensor chip. In Auto exposure mode the camera automatically adjusts this exposure setting to the lighting of the scene within view of the camera. In manual mode (no checkmark in the Auto checkbox) you can control the setting manually.

Brightness

Adjusts the brightness of the camera image to the available light.

Contrast

Affects the contrast between the light and dark areas of the camera image. Move the slider to the left to reduce contrast (make the colours more alike) and to the right to increase the contrast (make the colours more distinct).

Hue

Adjusts the overall colour representation of the camera image. With this setting you can balance the red, blue and green components of the video stream. Most applications can show a 'live' camera image on your monitor. Always use this option to see the effect of changed settings on your screen.

Saturation

The colour saturation setting is a sliding scale between Black & White and full colour intensity. Move the slider to the left to obtain a Black & White image.

Sharpness

Adjusts the sharpness of the image. Sharper images show more contrast in the small details, but for some applications you might prefer a 'softer' image.

Gamma

The characteristics of displays using phosphors (like computer monitors with cathode ray tubes) are non-linear. This effect is known as gamma. Before being displayed, the non-linear video data will be processed (gamma corrected) to compensate for the gamma of the display. Use the slider to choose a gamma value appropriate for your display.

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.

Remove the check mark in the Auto box to switch off the automatic white balance control. The current colour setting remains frozen and is not influenced by the camera's internal controls. Switch off the automatic white balance when you have a colourful scene and stable lighting conditions.

Backlight Compensation

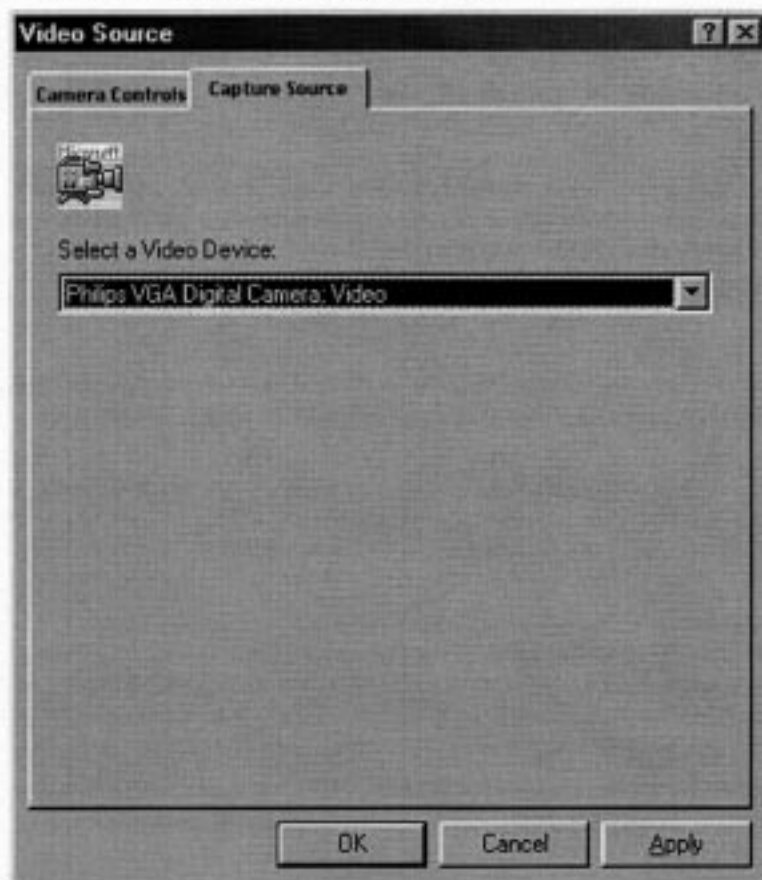
Turn on the backlight compensation to improve the image quality when you have a scene where the background has a high illumination level (for instance when you are sitting in front of a bright light).

Save Setting / Default

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

5.2.2 Capture Source

The other tab is 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 tab will offer video source switching under a different menu item within the application itself.

NOTE: If two or more cameras of the same type - or of the same camera family - are connected to your computer, only one of these cameras can be used. Cameras that use the same driver software can not be used simultaneously on one computer!

5.3 Other camera settings

Usually applications offer separate menu items for 'hardware' settings. These settings are not included in the camera property pages themselves, and might be called different names in different applications. The most important ones are Frame rate, Resolution and Format.

5.3.1 Frame rate (or Image rate, or something similar)

The frame rate setting determines the number of pictures 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). 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. The maximum frame rate for VGA resolution (640 x 480) is 10 frames per second

5.3.2 Resolution (or Size, or something similar)

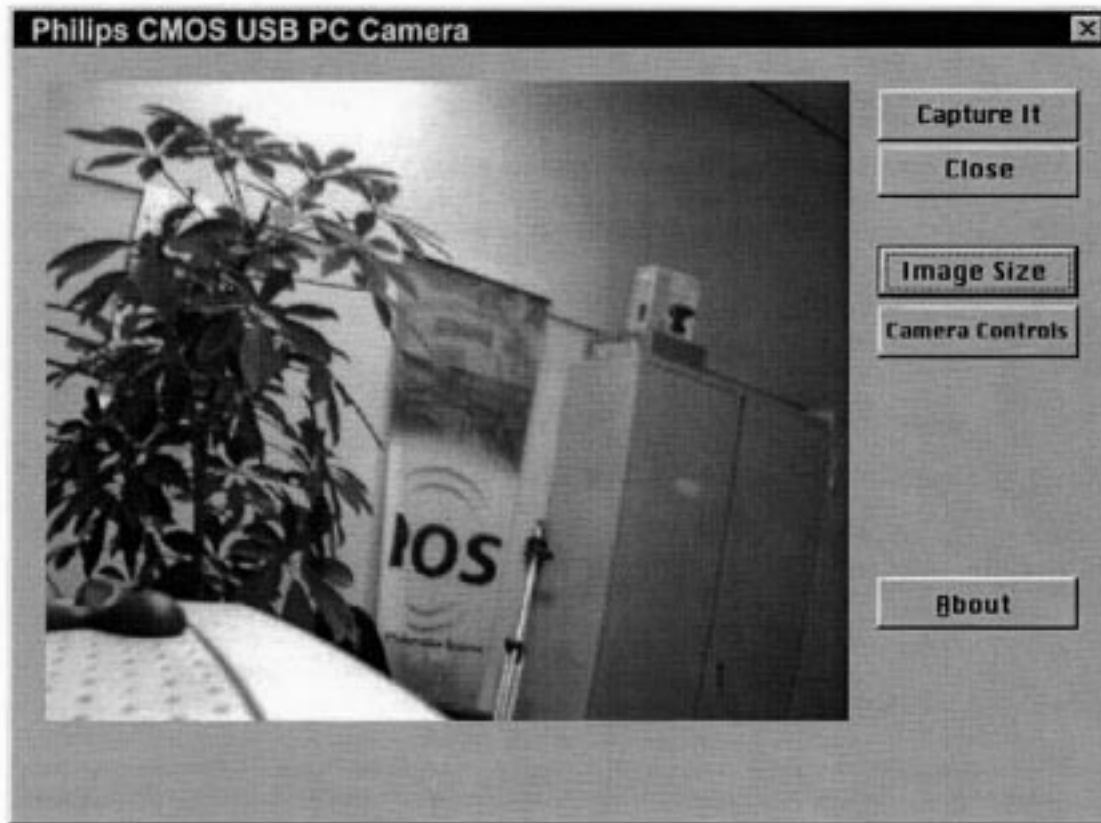
Typically given in terms of pixels, this is used to describe overall video size. Related to quality in that the higher the resolution, the better the quality and the more pixels. But more pixels and a high frame rate demand a lot of bandwidth from your computer. So you have to compromise between frame rate and resolution for your different applications if your computer lacks computing power.

5.3.3 Format (or Quality or Codec, or something similar)

This refers to a compression format for creating sound and video streams on the computer: a process for compacting or squeezing video 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. Not all video applications use the same formats (or codecs). It may be a source of error messages if your camera and the video application do not use the same formats.

6. TWAIN applications

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



6.1 Capturing images 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. Click on the 'Capture It' option in this viewfinder to capture a still image. Use the 'Close' button to close the TWAIN viewfinder.

6.2 Capture settings

To the right of the camera picture you will find the 'Image Size' and 'Camera Controls' buttons, which are used to change the settings.

Image Size

Here you can select the size of the still image to be captured.

Camera Controls

The 'Camera Controls' button will bring up the same camera setting tabs as in the chapter 'Settings'.

About

Brings up an information window on the TWAIN driver.

7 Tips and Frequently Asked Questions (FAQs)

7.1 TIPS

The camera installation

- 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, Windows98 will try to install its own drivers, which might be less compatible with the camera than the Philips drivers. You must have Windows98 running and have the Windows98 CD-ROM at hand.
- Your USB controller should be working correctly. You can check this in the Windows98 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 Windows98 will tell you if this part of your computer system is operating correctly.

Camera performance and system requirements

In VGA resolution this digital USB PC Camera provides a very 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 166 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 - or of the same camera family - are connected to your computer, only one of these cameras can be used at the time. Cameras that use the same Philips driver software can not be used simultaneously on one computer!

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 Windows98 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 on Properties. Alternatively, click on Start / Settings / Control Panel, then double-click on System to access this menu.
2. Click on 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 following device in the list (double-click on the device to see its specifications):



Imaging Device:

- Philips VGA Digital Camera

If you unplug the camera from the USB port, this device 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.pcstuff.philips.com/cameras.html 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: Why is the SSIF resolution (240 x 176) not available on my computer?

A: The SSIF resolution is only available to users of Windows98 SE (second edition).

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 Windows98.

Q: Where can I find application software for this camera?

A: Visit the Philips web-site for the latest information on available application software packages for the USB PC Camera, and for information on how to obtain these software packages. Our URL is:
www.pcstuff.philips.com/cameras.html

Q: No USB Device: My Windows98 Device Manager reports 'No USB device' even though I have a physical USB port. In the Windows 98 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: There are several reasons for not having audio:

1. Your microphone can only produce a mono audio signal. Check whether the application uses this setting. If not, adjust the audio setting to mono.
2. Check whether your sound card is selected as the current recording device. (Start, Settings, Control Panel, MultiMedia, Audio tab. In the recording section, your sound card should be selected).

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 Hz fluorescent lighting when certain frame rates are used. There are two solutions:

1. Select the 'Band Filter' option. This option is located in the 'Camera Controls' tab on the camera property page. This property page is accessible from within the application you are using.
2. Deselect the 'Band Filter' option. The frame rates '5', '10' and '20' are always flickerless in 50 Hz lighting environments. Only the frame rates 15, 25 and 30 are affected by the electronic 'Band Filter' control.

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 VGA and at high frame rate, a tremendous amount of data is generated. For example, the amount of video data generated using VGA resolution at 10 fps with 24 bit full colour is $640 \times 480 \times 10 \times 24 = 73,728,000$ bits (73 Mbit) or 9,22 Mbyte per second. Audio adds even more data on top of this. Almost no current hard drive is capable of handling this kind of data stream, which is roughly twice the maximum data transfer rate of current hard drives. In this example, the result would be that half the number of frames would have to be dropped to match the data stream to the properties of the hard drive. 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

Q: Why do I sometimes hear clicks in my audio during the playback of a video clip?

A: During the recording phase the processor (CPU) has to process a lot of data. In the above example, even a 450 MHz processor would require a processor load of nearly 60% to handle all the data properly. This also explains why the actual video result you can achieve strongly depends on the processor present in your computer. The processor also has to control the timing for the transmission of video data from the camera to your computer. This is done by giving the camera a command to send video data every millisecond. If the processor load is high, commands will sometimes be missed, resulting in gaps in the audio and video stream. With audio, this results in a 'click' sound. The higher the processor load, the more clicks may be generated. This effect can be minimized and even eliminated completely by reducing the processor load, for example by:

1. changing to a lower resolution e.g. 320x240
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 and high frame rate combinations. You will therefore not encounter this phenomenon at all in most cases.

8 Technical specifications

Optical

Sensor	1/3" CMOS
Pixels	640 (H) x 480 (V)
Illumination	15 - 50000 lux
Integrated lens	F2.0

Resolution/performance

Output resolution	Pixels (H x V)	Frame rate [frames/sec]
VGA	640 x 480	Up to 10
CIF	352 x 288	Up to 30
SIF	320 x 240	Up to 30
SSIF	240 x 176	Up to 30
QCIF	176 x 144	Up to 30
QSIF	160 x 120	Up to 30
SQCIF	128 x 96	Up to 30

Data format

JBYR

Camera adjustment parametres

Contrast, brightness, gamma, hue, saturation, sharpness, white balance, exposure control
--

Interfacing

Cable	2 m
-------	-----

Minimum system requirements

Processor	Pentium 166 MHz
RAM	16 MB
OS	Windows98

CD-ROM drive	Required (for installation only)
USB interface	Required
USB speakers or sound card with speakers and a microphone or other sound input device	

Software

Windows98 drivers	by Philips
VideoLink Mail	by Smith Micro
NetMeeting	by Microsoft
Bonus Pack	Various

Audio

Microphone	External (not included)
------------	-------------------------

Weight

Appr 160 gr

Dimensions

92 x 54 x 51 mm (L x W x H)

Ambient temperature

Operating	0 to 45°C
Storage	-25 to 70°C

Power supply

- The power is supplied via the USB cable
- Compliant with general USB specifications for power requirement
- Three modes for power supply:
 1. Suspend (max 500 µA)
 2. Default (max 100 mA)
 3. Configured (full operation) (max 400 mA)

9 Regulations, Warnings & Maintenance

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.

- 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.
- You can only use the camera indoors.
- Keep the camera free from oil, vapour, steam, moisture, and dust.
- Keep the camera away from a heater, lighting equipment, and direct sunlight.
- Never direct the lens of your camera toward the sun.

All brand names and trademarks acknowledged.
Copyright © 2000 Philips Electronics N.V.

All data subject to change without notice.

10. Glossary

Audio input device (recording device)

One of the Windows98 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 sound input device should be selected.

AVI

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

BMP / JPG / TIFF / FlashPix.

These are various file formats for images. BMP files are the largest since they do not use compression and retain full image quality. JPG uses 'lossy' compression which dramatically reduces file size but the original image quality can never be restored. TIFF can use a 'lossless' compression algorithm with less file size reduction but retaining full image quality. FlashPix is a relatively new image format that uses minimal resolution within the application to speed up the image processing. All accepted changes are processed afterwards, before writing to disk.

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.

Gamma Correction

The characteristics of displays using phosphors (like computer monitors with cathode ray tubes) are nonlinear. Nonlinear characteristics means that a small change in voltage when the voltage level is low produces a change in the output display brightness level, but this same small change in voltage at a high voltage level will not produce the same magnitude of change in the brightness output. This effect is known as gamma. Computers like to process with linear RGB data. Before being displayed, this linear RGB data will be processed (gamma corrected) to compensate for the gamma of the display.

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 color 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 automatically recognize the new hardware 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 terms 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.

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 98 has this built in.

Video stream

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

11. Your international guarantee

UK & IRELAND

Dear Customer,

Thank you for purchasing this Philips product which has been designed and manufactured to the highest quality standards.

If, unfortunately, something should go wrong with this product Philips guarantees free of charge labour and replacement parts irrespective of the country where it is repaired during a period of 12 months from date of purchase. This international Philips guarantee complements the existing national guarantee obligations to you of dealers and Philips in the country of purchase and does not affect your statutory rights as a customer.

The Philips guarantee applies provided the product is handled properly for its intended use, in accordance with its operating instructions and upon presentation of the original invoice or cash receipt, indicating the date of purchase, dealer's name and model and production number of the product.

The Philips guarantee may not apply if:

- the documents have been altered in any way or made illegible;
- the model or production number on the product has been altered, deleted, removed or made illegible;
- repairs or product modifications and alterations have been executed by unauthorised service organisations or persons;
- damage is caused by accidents including but not limited to lightning, water or fire, misuse or neglect.

Please note that the product is not defective under this guarantee in the case where modifications become necessary in order for the product to comply with local or national technical standards which apply in countries for which the product was not originally designed and/or manufactured. Therefore always check whether a product can be used in a specific country.

In case your Philips product is not working correctly or is defective, please contact your Philips dealer. In the event you require service whilst in another country a dealer address can be given to you by the Philips Consumer Help Desk in that country, the telephone and fax number of which can be found in the relevant part of this booklet.

In order to avoid unnecessary inconvenience, we advise you to read the operating instructions carefully before contacting your dealer. If you have questions which your dealer cannot answer or any related question please write or call:

PHILIPS CONSUMER HELP DESK

PO Box 298
420 London Road
Croydon
Surrey
CR9 3QR
UNITED KINGDOM.
Phone: (0181)-665-6350
Fax: (0181)-689-4312

PHILIPS ELECTRONICS IRELAND LIMITED CONSUMER INFORMATION CENTRE

Newstead
Clonskeagh
Dublin 14
Phone: 01-7640292
Fax: 01-7640299

ALL OTHER COUNTRIES

INTERNATIONAL GUARANTEE CONDITIONS

Dear Customer,

This product is guaranteed by Philips for a period of one year after the date of purchase against defects due to faulty workmanship or materials. The guarantee covers both parts and labour.

Service under guarantee is only provided upon presentation of reasonable evidence (e.g. completed guarantee card or purchase receipts) that the date of the claim is within the guarantee period.

The guarantee is not valid if the defect is due to accidental damage (including in transport), misuse or neglect and in case of alterations or repair carried out by unauthorised persons.

The guarantee may not apply if the product requires modification or adaptation to enable it to operate in any country other than the country for which it was designed, manufactured, approved and/or authorised or if any damage results from these modifications.

Service (during and after guarantee) is available in all countries where this product is officially distributed by Philips. In countries where Philips do not distribute the product, the local Philips Service organisation will also provide Service although there may be a delay if the appropriate spare parts and technical manual are not readily available.

These statements do not affect your statutory rights as a consumer.

In the event of difficulty please contact the Philips Information Centre in any country (see enclosed addresses).

CONSUMER INFORMATION CENTRES

EASTERN EUROPE

CZECH REPUBLIC

Philips Service
V Mezihorí 2
180 00 Prague
Phone: (02)-6831581
Fax: (02)-66310852

HUNGARY

Philips Markaszerviz
Kinizsi U 30-36
Budapest 1092
Phone: (01)-2164428
Fax: (01)-2187885.

POLAND

Philips Polska CE
UL.Marszalkowska 45/49
00-648 Warszawa
Phone: (02)-6286070
Fax: (02)-6288228

RUSSIA

Philips Representation Office
Ul.Usacheva 35a
119048 Moscow
Phone: 095-755 6900
Fax: 095-755 6923

TURKEY

Türk Philips Ticaret A.S.
Talatpasa Caddesi No. 5
80640-Gültepe/Istanbul
Phone: (0800)-211 40 36
Fax: (0212)-281 18 09

LATIN AMERICA**ANTILLES**

Philips Antillana N.V.
Kaminda A.J.E. Kusters 4
Zeelandia
P.O. box 3523-3051
Willemstad, Curacao
Phone: (09)-4612799
Fax: (09)-4612772

ARGENTINA

Philips Argentina S.A.
Centro de Información al Usuario
Vedia 3892
1430-Buenos Aires
Phone: (01)-5442047
Fax: (01)-5452928

BRASIL

Philips da Amazona Indústria Eletrônica Ltda.
Rua Jacerú, 151-Brooklin
04705-000
Sao Paulo-SP.
Phone : 800123123
Fax: (011)-5315973

CHILI

Philips Chilena S.A.
Avenida Santa Maria 0760
P.O. box 2687
Santiago de Chile
Phone: (02)-730 2000
Fax: (02)-777 6730

COLOMBIA

Industrias Philips de Colombia
S.A.-Division de Servicio
Calle 13, No 51-39
Apartado 4282
Bogota
Phone 1: (01)-6235511
Phone 2: 9800-18971 (toll free)
Fax: (01)-6234399

MEXICO

Consumer Information Centre
Norte 45 No. 669
Col. Industrial Vallejo
C.P. 02300, -Mexico, D.F.
Phone: (05)-3687788/9180050462
Fax: (05)-7284272

PARAGUAY

Philips del Paraguay S.A.
Avenida Artigas 1519
Casilla de Correos 605
Asuncion
Phone: (021)-211666
Fax: (021)-213007

PERU

Philips Peruana S.A.
Customer Desk
Comandante Espinar 719
Casilla 1841
Lima. 18
Phone: (01)-2412890
Fax: (01)-2412913

URUGUAY

Ind. Philips del Uruguay S.A.
Avenida Uruguay 1287
Customer Help Desk
11100 Montevideo
Phone: (02)-923392
Fax: (02)-920752

VENEZUELA

Industrias Venezolanas Philips S.A.
Apartado Postal 1167
Caracas 1010-A
Phone: (02)-2377575
Fax: (02)-2376420

NORTH AMERICA**CANADA**

Consumer Service Division
4977 Levy Street
Ville St. Laurent,
Quebec H4R2N9
Phone: (514)-9560120
Fax: (514)-9560828

USA

Philips Service Company
P.O. box 555
Jefferson City TN 37760
Phone: (423)-475-8869
Fax: (423)-475-0387

PACIFIC**AUSTRALIA**

Philips Consumer Service
Customer Information Centre
3 Figtree Drive
Homebush Bay NSW 2140
Phone: (02)-131391
Fax: (02)-97644681

NEW ZEALAND

Philips New Zealand Ltd.
Consumer Help Desk
2 Wagener Place
Mt. Albert
P.O. box 1041
Auckland
Phone: 0800 658 224 (toll free)
Fax: (09)-849-7858

ASIA**BANGLADESH**

Philips Service Centre
100 Kazi Nazrul Islam
Avenue Kawran Bazar C/A
Dhaka-1215
Phone: (02)-812909
Fax: (02)-813062

CHINA

Philips Authorized Service Centre
Consumer Information Centre
148 fu Jian Road M
200001 Shanghai
Phone: (02)-812909
Fax: (02)-813062

Philips Authorized Service Centre
801 Dong Feng Road East
Guangzhou 510080
Phone: (020)-7766990
Fax: (020)-7766990

Philips Service Logistic Centre
Consumer Information Centre
P.O.Box 002-027
Nextage Department Store
Pudong New District
200002 SHANGHAI
Phone: (021)-63511263
Fax: (021)-63510799

Beijing Authorized Service Centre
Consumer Information Centre
Building 6, West Street
Chong Wen Men, Beijing
Jin Bang Co. Led.
100051 BEIJING
Phone: (010)-65122276
Fax: (010)-65226236

HONG KONG

Philips Hong Kong Limited
 Consumer Information Centre
 16/F Hopewell Ctr.
 17 Kennedy Road
 WANCHAI
 Phone: 2821-5345
 Fax: 2861-3104

INDIA.

Philips India
 Customer Relation Centre
 Bandbox House
 254-D Dr.A Besant Road
 Worli
 Bombay 400 025
 Phone: (022)-4926611
 Fax: (022)-4941698

Customer Relation Centre
 7 justice Chandra Madhab Road
 Calcutta 700 020
 Phone: (033)-747333
 Fax: (033)-4753839

Customer Relation Centre
 3, Haddows Road
 Madras 600 006
 Phone: (044)-8292221
 Fax: (044)-8275208

Customer Relation Centre
 68, Shivaji Marg
 New Dehli 110 015
 Phone : (011)-5469692
 Fax: (011)-5442402

INDONESIA

Philips Group of Companies in Indonesia
 Consumer Information Centre
 Jl. Buncit Raya Kav. 99-100
 12510 JAKARTA
 Phone: (021)-7940040
 Fax: (021)-7940080

JAPAN

Philips Consumer Electronics
 1-11-9, Ebisuminami
 Shibuya-Ku
 Tokyo 150
 Phone: (03)-3719-2235
 Fax: (03)-3715-9992

KOREA

Philips Korea Ltd.
 Philips House
 C.P.O. box 3680
 260-199,
 Itaewon-Dong.
 Yongsan-Ku
 Seoul 140-202
 Phone 1: (02)-5961195/1196
 Phone 2: (02)-5967632/76325
 Fax: (02)-5959688

MALAYSIA

Philips Malaysia Sdn. Berhad
 Service Dept.
 No. 51, sect. 13 Jalan University
 46200 Petaling Jaya, Selagor.
 P.O. box 12163
 50768 Kuala Lumpur
 Phone: (03)-7562144
 Fax: (03)-7560761

PAKISTAN

Philips Electrical Ind. of Pakistan
 Consumer Information Centre
 F-54, S.I.T.E.
 P.O.Box 7101
 75730 KARACHI
 Phone: (021)-2560071-82
 Fax: (021)-2562386

Philips Consumer Service Centre
 168-F, Adamjee road.
 Rawalpindi Cantt
 Phone: (051)-580902-3
 Fax: (051)-584944

PHILIPPINES

Philips Electronics and Lighting Inc.
 106 Valero St. Salcedo-Village
 Makati, Metro Manila
 Phone: (02)-8100161
 Fax: (02)-8173474

SINGAPORE

Philips Singapore Private Ltd.
 Consumer Service Dept.
 Lorong 1, Toa Payoh.
 P.O. box 340
 Singapore 1231
 Phone: 3502000
 Fax: 2508037

TAIWAN

Philips Taiwan Ltd.
 Consumer Information Centre
 Nr. 96 Section 1
 Chien-Kuo N. Road
 TAIPEI
 Phone: (02)-382-4567
 Fax: (02)-2134-2670

THAILAND

Philips Electronics (Thailand) Ltd.
 Philips Service Centre
 209/2 Sanpavut Road,
 Bangna,
 Bangkok 10260
 Phone: (02)-3980141/3980790
 Fax: (02)-3983319

AFRICA**MOROCCO**

Philips Electronique Maroc
 304, BD Mohamed V.
 Casablanca
 Phone: (02)-302992
 Fax: (02)-303446

SOUTH AFRICA

South African Philips
 S.V. Div. 195 Main R.D.
 Martindale
 Johannesburg
 P.O.box 58088
 Newville 2114
 Phone: (011)-4715000
 Fax: (011)-4715034

MIDDLE EAST

Philips Middle East B.V.
 Consumer Information Centre
 P.O. Box 7785
 DUBAI
 Phone: (04)-353666
 Fax: (04)-353999

EGYPT

Philips Egypt
 Consumer Information Centre
 10, Abdel Rahman El Rafei
 Mohandessin -Cairo
 P.O. Box 242
 DOKKI
 Phone: (02)-3313993
 Fax: (02)-3492142