USB Web Camera

User's Guide

For Nexxtech
Web Camera

Version 2.0

2516505/6506

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Chapter I. Introduction

This USB Web Camera will display real time video on your PC screen, enabling you to have live video-conferences and interactive video conversations* with people over the internet. Your new USB Web Camera can also create still images for applications that produce greeting cards, photo albums and video mails. Your USB Web Camera will also become a watch-dog while the security software is activated.

The USB Web Camera also comes with a snapshot button allowing you to take still pictures. Your computer will treat still images taken by the USB Web Camera in the same way as images from scanners. The USB Web Camera is TWAIN compliant and can thus be used as an image source for most image-editing software and graphics applications that conform to TWAIN compliance.

State-of-the-art features include instant live video at high frame rates making your conversations feel more natural. It is easy to install, consumes little power, produces photographs in 1.6 million colours and has a versatile clamp. The video and images captured by your USB Web Camera can be saved for later viewing and printing with the same ease as taking normal photos.

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- ♦ USB Web Camera
- ♦ USB Web Camera Setup/Application CD-ROM
- ♦ USB Web Camera Quick Installation Guide

Product Components

- ♦ Snapshot Button
  - ♦ LED Indicator
  - ♦ Adjustable Focus
  - ♦ Built-in Microphone* (For VGA version only)

Snapshot Button

Led Indicator

Adjust. Focus Ring

Built-in Microphone*
(* For VGA model only)

USB Connector

USB Web Camera Setup/Application CD-ROM   Quick Guide
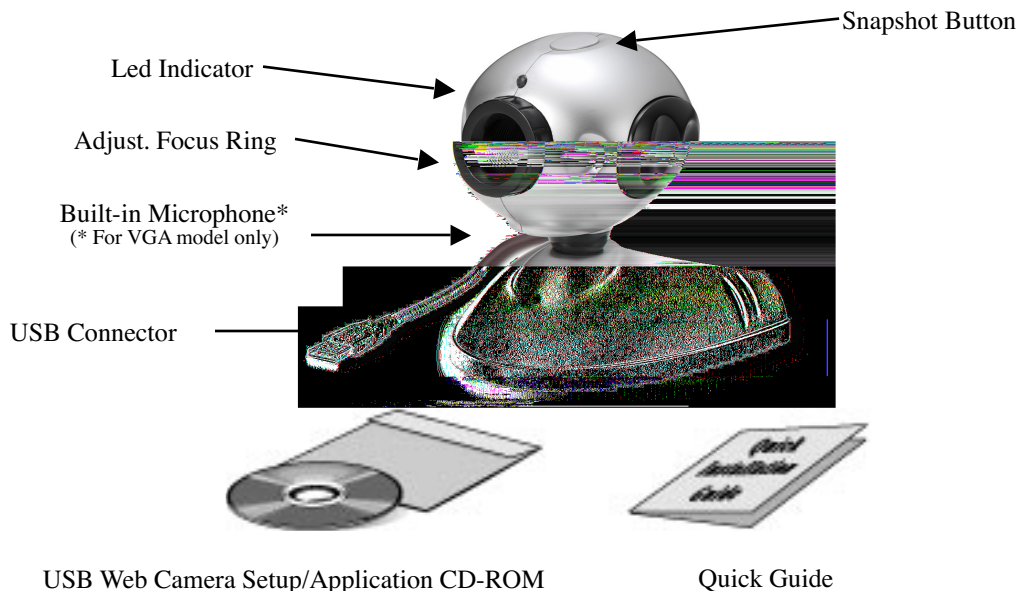
☞ **Note**:   1. The power supply for the camera is provided through the USB cable.
2. Illustrations may appear different from your USB Web Camera.

- IBM-compatible PC computer
- Intel Pentium 233MHz compatible PC or faster
- Windows 98SE, 2000, ME & XP
- 32MB RAM (64MB recommended)
- 160MB free hard disk space (260MB recommended)
- CD-ROM drive
- One available USB port
- A VGA or SVGA video card capable of displaying at least 32,768 colours (15-bit) with 800 X 600 resolution
- Modem, microphone & Internet access for videophone

- Do not attempt to modify this camera.
- Do not place this camera in extremely damp or dusty locations.
- Do not place this camera in places subject to extremely high temperatures, such as in a closed vehicle or direct sunlight. Exposure to high temperatures may adversely affect the camera case and internal components.
- Do not remove the camera casing. Internal inspection, maintenance and repairs should be carried out by an authorized service facility.
- Do not use the camera if any foreign objects have entered the casing. Disconnect the camera from your computer and contact your local dealer or an authorized service facility. Do not continue to use the camera.
- Do not use the camera if any water has entered the casing. Disconnect the camera from your computer, and contact your local dealer or an authorized service facility. Do not continue to use the camera.
- Do not use this camera if it is emitting smoke, is unusually hot to touch, is emitting any unusual odour or is in any other abnormal state.
- Take care not to bump or drop your camera as this may cause the camera to malfunction. If your camera has been dropped or the casing has been damaged, disconnect it from your computer and contact your local dealer or an authorized service facility. Do not continue to use the camera.

  * Tele-conferencing and video-conferencing also require a sound card, microphone and an Internet connection.

Chapter II. Product Features

Nexxtech VGA Webcam
- Up to 12 FPS (Frames Per Second) at VGA (640x480 pixels) mode
- Up to 30 FPS (Frames Per Second) at CIF/SIF (352x288/320x240 pixels) modes

Nexxtech CIF Webcam
- Up to 30 FPS (Frames Per Second) at CIF/SIF (352x288/320x240 pixels) modes

Note: The frame rates (speed) of the camera are affected by the bandwidth available in the particular USB configuration being used, the speed of your CPU, and when using the Internet, the speed of your network connection.

As a general rule, the smaller the frame size and the lower the resolution, the faster the video frame rates will be.

- Up to 24-bit RGB color (16 million colors)

The snapshot button on the top of the USB Web Camera allows you to take still pictures. These images can be used by all TWAIN compliant graphics software and image-editing applications. The image resolution can be adjusted to suit virtually any requirements.

The USB Web Camera was designed to be used primarily to send videos over the Internet for applications such as video-conferencing. It can be used with all current video applications such as video-conferencing, CU-SeeMe, NetMeeting (MSN Messenger) and Yahoo! Webcam (Yahoo! Messenger).

Your USB Web Camera comes with a variety of software allowing you to instantly begin sending videos over the Internet and build your own web site.

Chapter III. Installation

1. USB Web Camera
2. USB Web Camera Setup/Application CD-ROM

1. Turn on your computer or Notebook PC. Close all the programs that run under the Windows system.
2. Load the USB Web Camera Setup/Application CD-ROM into your CD-ROM drive.
3. Follow the on-screen instructions given by the installation program to complete the USB Web Camera installation. (If the auto-run program has not started, choose **Start** and **Run**, type 'E:/Setup.exe' at the **Open** column to start installation.)
4. After the 'USB CAM' application has been installed successfully, connect the end of the USB cable of your PC Camera into the USB port of your computer or Notebook PC.
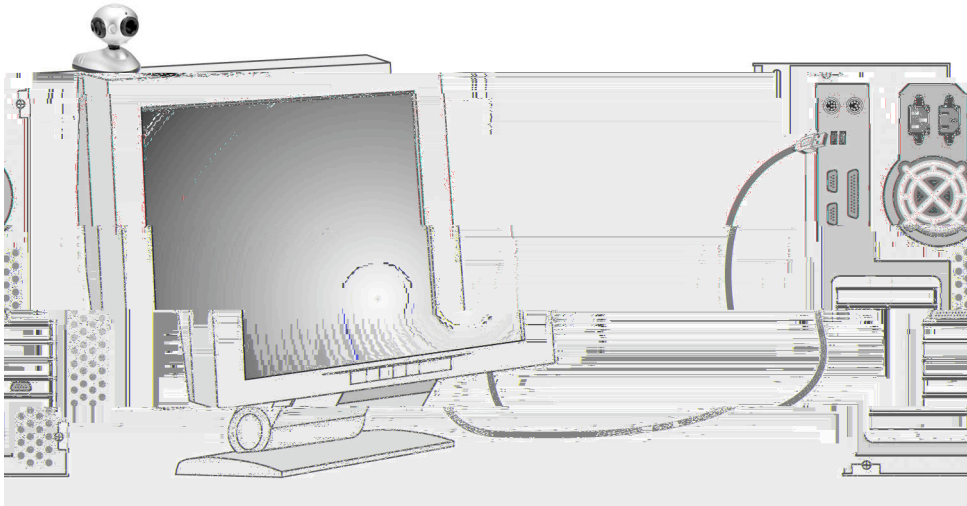
Connect Your USB Web Camera to Your Computer

Your USB Web Camera is now set up and ready to use. At this point, you may wish to run 'USB CAM', the USB Web Camera software to begin using the USB Web Camera. Please refer to the next chapter *Using the USB Web Camera* for more information.

Chapter IV. Using the USB Web Camera

Before using the USB Web Camera, make sure the required Setup software is installed from the USB Web Camera Setup/Application CD-ROM and it is properly connected to the USB Port, as described in the previous chapter.

A variety of TWAIN compliant image editing, graphics application and video editing software can be used with the USB Web Camera to view, edit, record and send videos and pictures. To use TWAIN compliant software, you will need to choose the correct driver, usually found under the **File**, **Acquire** (or **Scan**) menu. After the driver is selected, choose **File**, **Acquire** (**Scan**) from within the graphics application to begin viewing videos from the USB Web Camera. With the USB Web Camera and either Yahoo! Messenger or MSN Messenger, you will be able to call and see people face-to-face over the Internet.

☛ **Note**: Only one software application can use the USB Web Camera at a time.

In the explanations below, we will use the **Imaging** (for Windows 98SE, 2000 & ME users) and **Windows Movie Maker** (for Windows XP users) applications with Windows operating system as an example for setting configurations.

View Your First Image

After you have installed your USB Web Camera, start the image editing or video software to ensure everything is properly set up.

For Windows 98SE, 2000 and ME users:

1. Click on the **Start** menu button.
2. Click on the **Programs** menu item.
3. Click on the **Accessories** menu item.
4. Click on **Imaging** to open Imaging program.
5. Click on **File/Select** to choose 'USB Web Camera'.
6. Click on **File/Acquire**

The Imaging program will launch and live pictures will begin to be shown in the viewing window in a few seconds.

For Windows XP users:

1. Click on the **Start** menu button.
2. Click on the **All Programs** menu item.
3. Click on the **Accessories** menu item.
4. Click on **Windows Movie Maker** to open **Windows Movie Maker** program.
5. Click on **File/Record**
6. From the **Record** menu bar, choose **Video and Audio** or **Video Only**.

The **Windows Movie Maker** program will launch and live pictures will begin to be shown in the viewing window in a few seconds.

If the video image from the viewing window is not clear, adjust the focus. If you cannot see an image on your computer screen, consult the Troubleshooting section at the end of this manual.

Meet People Over The Internet

Yahoo! Messenger and MSN Messenger (NetMeeting) are widely used to Internet Video Chat for free. You may try either of them with your USB Web Camera to see people face-to-face over the Internet.

To use Yahoo! Messenger:

1. Apply an Yahoo! ID from the web site: www.yahoo.com
2. Download 'Yahoo! Messenger' from messenger.yahoo.com and install it.
3. Invite your friend to get a Yahoo! ID, download and install 'Yahoo! Messenger'
4. After both you and your friend install 'Yahoo! Messenger', you will be able to call and see each other using 'Yahoo! Messenger'.

For detailed information, check http://help.yahoo.com/help/mesg/ about 'Yahoo! Messenger' and http://help.yahoo.com/help/us/mesg/webcams/index.html for 'Yahoo! Messenger Webcams'.

To use MSN Messenger:

1. Apply an MSN ID from the website: www.msn.com
2. Download 'MSN Messenger' from messenger.microsoft.com and install it
3. Invite your friend to get an MSN ID, download and install 'MSN Messenger'
4. After both you and your friend install 'MSN Messenger', you will be able to call and see each other from 'MSN Messenger'.

For detailed information, check on http://messenger.microsoft.com/support/helphome.asp

The following section will explain the procedures for fine-tuning your USB Web Camera to receive an optimal image. There are many factors that may affect videos and still image quality including, light source – fluorescent, incandescent or natural sunlight, resolution, colour depth, frame rate, USB configuration, etc.

Video Format

The Video Format dialog box in Live Express allows you to control the size and color of the image provided by your camera. The following dialog box will appear when you select '**Video Format Settings**' from within Live Express. Please note, other graphic applications should also have a settings window with similar controls.
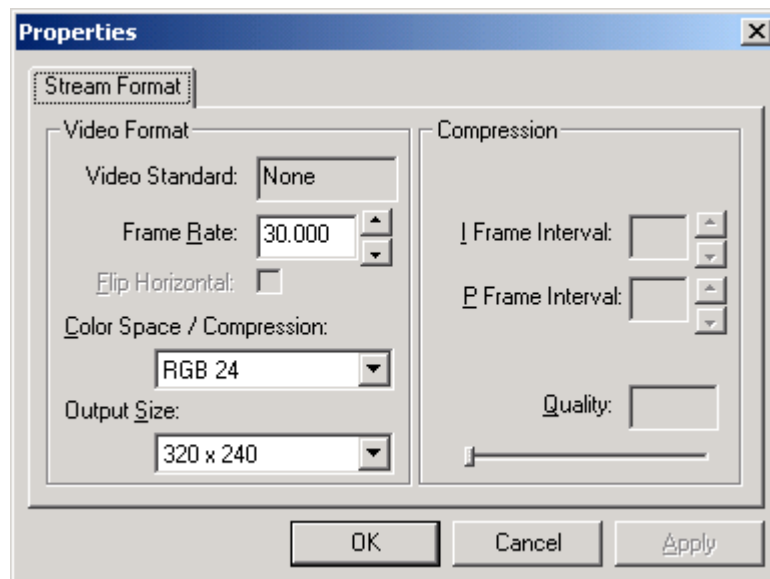
Items in the above **Video Format** window are described as follows:

- **Output Size –** this setting controls the size of the image or video that will be shown by the software. Larger images contain more data, so the frame rate might be slower than for smaller resolutions.
- **Color Depth/Compression –** this setting controls how many colors will be shown. The higher the number, the more colors that can be shown. High pixel depth allows your videos and images to show realistic colors.

Various color formats can be selected, but 24-bit RGB color is recommended unless your PC can display only 256 colors. As with resolution, the higher the pixel depth, the more data the video or image will contain.

- **Frame Rate –** this setting controls the frame rate of the image or video. The higher the frame rate, the larger the file size.

Since these settings directly control the amount of data in a video or still image, they are very important when transmission speed or file size are at a premium. High resolution and pixel depth can generate very large amounts of data. If sending a video over the Internet or recording a video to a file, you may wish to lower the frame rate and color depth to achieve greater transmission speeds or smaller file sizes, respectively.

Other factors may affect video quality include:

- **CPU –** the faster your CPU, the faster your computer can process data. A 300MHz Intel ® Pentium® CPU will show videos (especially those with higher resolutions and pixel depth) at higher frame rates.
- **Graphics Display Card –** Fast display cards and graphics accelerators can greatly increase the quality of videos shown on your screen.
- **USB Configuration –** When the USB Web Camera is the only USB device connected to your computer, it will be able to send image data to your computer faster than if there are other USB devices present.

Video Source or Video Settings

The video source dialog box allows you to control the image quality provided by your camera. Most applications allow you to access a '**Video Source**' or '**Video Setting**' window similar to the one shown below.
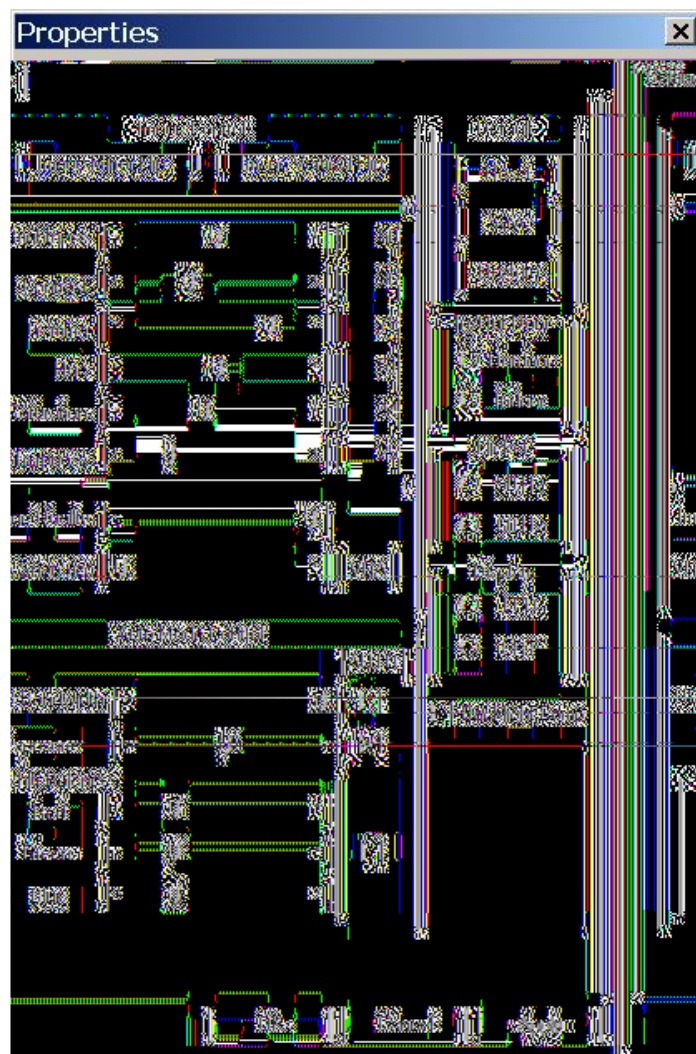

Items in the above **Video Source** windows are described as follows:

- **Saturation –** this setting controls the richness of colors shown by the camera.
- **Brightness –** this setting controls how bright an image or video will appear.
- **Contrast –** this setting adjusts the tonal range of an image by lowering mid-tone values and increasing values for high and low tones. For example, use contrast to eliminate noise or shading on black & white and grayscale videos or images or to clean-up color ones.
- **Sharpness -** the higher the sharpness, the sharper the image. The lower the sharpness, the more blurry an image will be.
- **Auto Exposure –** this setting lets you change the electronic shutter speed.
- **Light Source –** this setting allows you to select the type of light source you are using.
- **Auto White Balance –** this setting allows you to adjust how much white will be in the Red, Green and Blue color channels. Checking the Auto box sets the amount of white for each color to predefined settings based on the type of light source.
- **Light Frequency –** this setting allows you to select the correct light frequency used in your country, you will either choose 50Hz or 60Hz.

Please note that many of the above settings operate the same as those on a normal color TV or computer monitor.
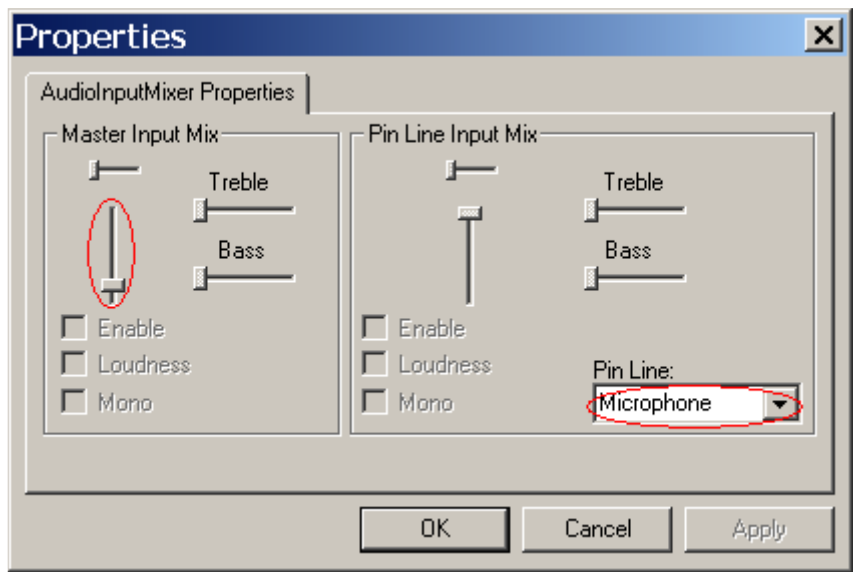
Light Sources
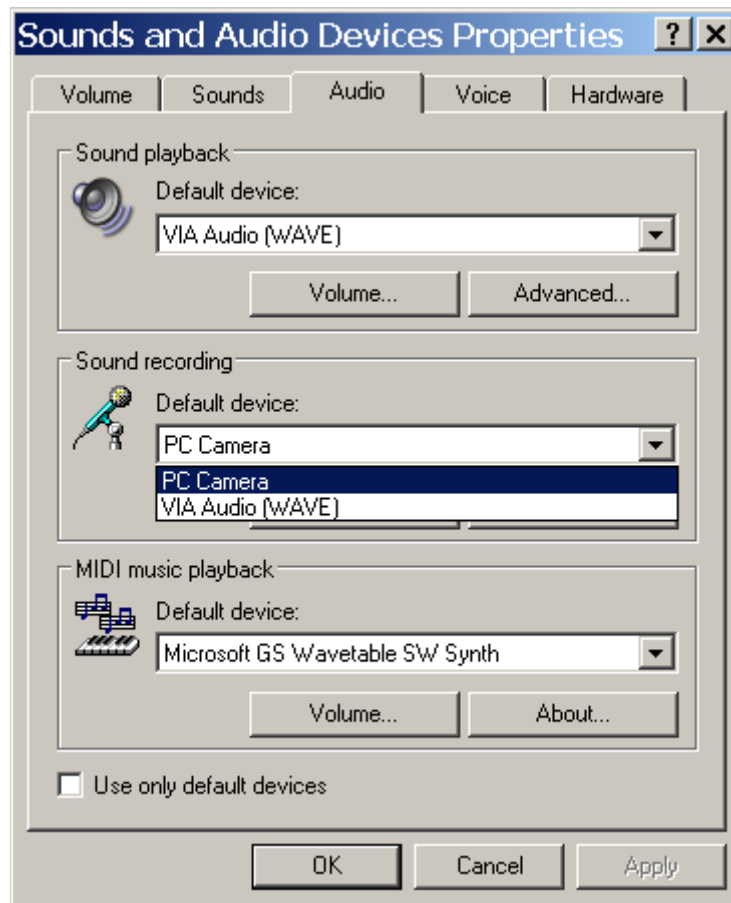
2. After selecting the video device, click on "Volume" of "Sound Recording", adjust the "Volume" until the microphone sounds well.
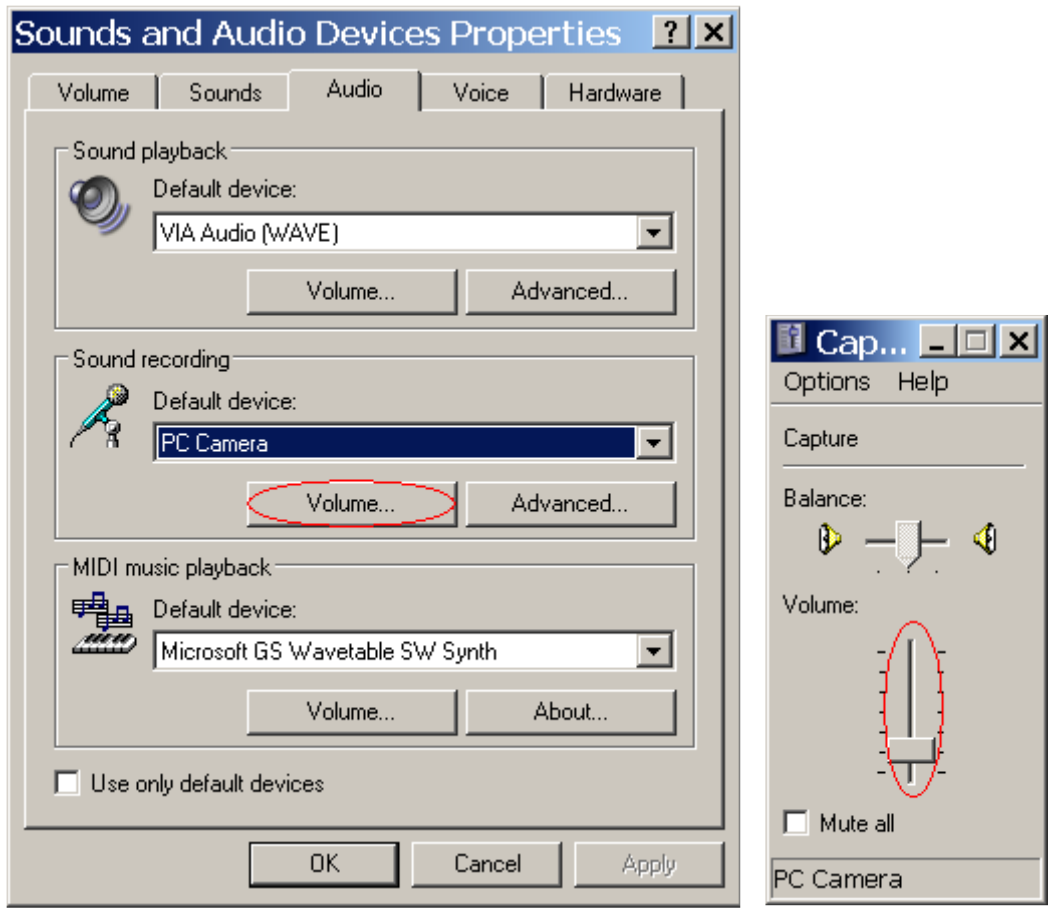
Important: When running the camera software application for the first time, increase the audio volume by sliding the bar in "Audio Property" menu. In the "Pin Line" box, select "Microphone".

Chapter V. Troubleshooting and Maintenance

This section discusses basic problems with the USB Web Camera, frequently asked questions and provides some maintenance tips.

Problems and Solutions

No Image
♦   Ensure the USB cable is correctly and securely attached.
♦   Ensure that your video software has been properly installed.
♦   Make sure your lens is free from obstructions, and that it is pointing in the appropriate direction.

Dark Pictures
♦   Check that there is sufficient light for the camera. Alternatively, you may wish to adjust the Brightness or Contrast settings in the software you are using.
♦   Ensure there is no strong light source behind the object or person being viewed by the PC Camera.
♦   Ensure that the lens is clean.

Frequently

Lens cleaning

If your lens becomes dirty, wipe lightly with a dry, lint-free cloth.

Outdoor Use

Your USB Web Camera is not designed for outdoor use and should not be exposed to the elements without suitable protection. In general, you should not expose it to extreme temperatures or humidity.

Appendix A: Product Specifications

	Nexxtech VGA Webcam	Nexxtech CIF Webcam
Image Sensor	VGA CMOS Sensor	CIF CMOS Sensor
Sensor Size	1/4 in. (6 mm)	1/5 in. (8 mm)
Effective Pixels	Up to 640x480	Up to 320x240
Focus Distance	7-7/8 in. (20 cm) to infinity	7-7/8 in. (20 cm) to infinity
Number of Colors	Up to 24 bits	Up to 24 bits
Frame Rate	Up to 12 FPS at VGA Mode Up to 30 FPS at CIF Mode	Up to 30 FPS at CIF Mode
Manual Focus	Yes	Yes
Auto White Balance	Yes	Yes
Auto Exposure Control	Yes	Yes
Snapshot Button	Yes	Yes
LED Indicator	Yes	Yes
Built-in Microphone	Yes	No
Dimensions	2-9/16 x 3 x 3 in. (WxHxD) (6.6 x 7.6 x 7.6 cm WxHxD)	2-9/16 x 3 x 3 in. (WxHxD) (6.6 x 7.6 x 7.6 cm WxHxD)
USB Cable Length	6 ft. (180 cm)	6 ft. (180 cm)
Interface	USB1.1	USB1.1
Power Consumption		
During Operation	< 30 mA	< 30 mA
During Standby	< 15 mA	< 15 mA

Appendix B: FCC Statement

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 the unit 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 into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or any experienced TV/radio technician for help.

Caution

In order to maintain compliance with FCC regulations, shielded cables must be used with this equipment. Operation with non-approved equipment or unshielded cables is likely to result in interference to radio and TV reception.

To comply with the limits for a Class B digital device, pursuant to part 15 of the FCC rules, this device must only be installed on computer equipment certified to comply with the Class B limits. In addition, only the supplied power cables should be used with the product. Operation with non-certified computers, use of a cable other than that supplied, or modification of the device may result in interference to radio or television reception and could void the user's authority to operate this device.

LIMITED WARRANTY

Who is Providing This Warranty?

- Orbyx Electronics, LLC ("Orbyx"), as the distributor of this Nexxtech™ product (your "Product").

What Does This Warranty Cover?

- This warranty covers defects in materials or workmanship in your Product under normal use and conditions.

What is the Period of Coverage?

- This warranty covers your Product for 90 days from the original purchase date.

Who Is Covered?

- This warranty covers the original consumer purchaser. Coverage terminates if you sell or otherwise transfer your Product.

What Will We Do To Correct Problems?

- We will repair your Product or replace your Product with a new or reconditioned equivalent product, at our option.

How Do You Get Service?

- Call Orbyx TOLL FREE at 1-866-363-3059 for instructions for obtaining warranty service from Orbyx's authorized service providers.

- Or, return your Product directly to the retail store from which you purchased the Product.

- When you obtain service for your Product, you must provide a purchase receipt (or other proof of the original purchase date) and a description of the defect(s).

What Does This Warranty Not Cover?

- This warranty DOES NOT COVER:

- damage due to misuse, abuse, alteration, unauthorized repair, or accident (such as improper electrical current);

- damage due to "acts of God" (such as lightning) or other contingencies beyond our control;

- cosmetic damage;

- externally generated static, signal reception or antenna problems not caused by your Product; or batteries.

- This warranty also DOES NOT COVER, and in no case will we be liable for, any incidental damages (such as transportation costs to and from an authorized service provider, or loss of time) or consequential damages (such as costs of repairing or replacing other property which is damaged, including tapes, discs, speakers not included with your Product or other accessories, or external electrical systems) resulting from the use of your Product. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

- Defacing the serial number, or using your Product for commercial or institutional purposes, voids this warranty.

Are There Other Warranties?

- There are no express warranties other than those expressed herein. Neither the sales personnel nor any other person is authorized to make any other warranties or to extend the duration of any warranties.

- ANY IMPLIED WARRANTIES, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY (AN UNWRITTEN WARRANTY THAT A PRODUCT IS FIT FOR ORDINARY USE), ARE LIMITED TO 90 DAYS. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

How Does State Law Apply?

- This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

LIMITED WARRANTY

ORBYX ELECTRONICS WARRANTY

ORBYX Electronics warrants that this product will be free from defects in materials and workmanship for a period of ninety (90) days from the date of purchase. Within this period, simply take the product and your proof of purchase to any ORBYX Electronics store or dealer and the product will be repaired without charge for parts and labour. ORBYX Electronics reserves the right to charge for transportation. Any product which has been subject to misuse or accidental damage is excluded from this warranty.

This warranty is only applicable to a product purchased through ORBYX Electronics' company owned stores and dealers and to a product that is presented for repair in a country where ORBYX Electronics offers the product for sale. While this warranty does not confer any legal rights other than those set out above, you may have additional statutory rights which will vary under the laws of the various countries, states, province and other governmental entities in which ORBYX Electronics operates. This warranty is subject to all statutory rights you may have in the country of purchase.

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