PC Camera

Model DS3303U

For Windows
FCC ID:OH9DS3303U

User's Guide

FEDERAL COMMUNICATIONS COMMISSION

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. This equipment generates, uses and can radiated 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 o 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 an experienced radio/TV technician for help.

Shielded interface cables must be used in order to comply with emission limits.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Welcome to the DS3303U for Video

Media

The DS3303U with its high-quality digital Video Camera and software now makes video mail and videoconferencing easy. Whether you're sending video mail or videoconferencing over the Internet with someone in another part of the world, or on your business' network to a colleague in a building across town, the DS3303U delivers clear video and audio to your computer.
Using the DS3303U application is especially effective for larger companies located in several buildings or cities. Instead of trudging to another building or hopping on a plane and wasting a day in the air, you can simply capture video mail and send it out or video conferencing and get the job done in a fraction of the time. A video mail and video conferencing with the DS3303U is almost like being there in person.

What's In the Box

Before you start the installation, please check the contents of the box to make sure that all parts are included. There should have one PC Camera with USB cable, one Driver diskette, one PC-EYE Software CD-ROM and User's Manual. If any items are missing or you notice any damage, contact the dealer where you purchased the PC Camera DS3303U product.

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PC Camera DS3303U

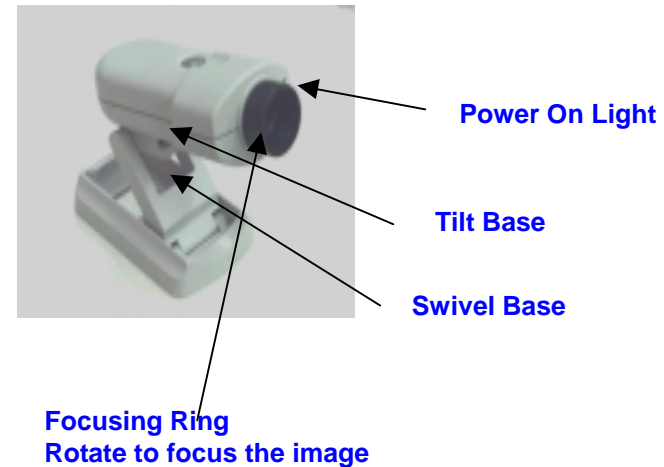**PC-EYE CD**

1. Introduction

1.1 PC Camera DS3303U Feature
- Low power consumption
- Swivel PC Camera DS3303U head
- Instant live video at high frame rates
- 24 Bits color (1.6 million colors)
- Capture full-motion video and still pictures easily and quickly
- Come with USB connection, which eliminates the need for a video capture card or external power supply
- Compliant with USB 1.0 and supports both UHCI and OHCI
- Come with Plug and Play
- Power saving peripheral, compliant with ACPI
- Support AWB, AGC
- High Performance Video/Image Capture Device

1.2 System Requirement
1. A PC with a minimum of a Pentium MMX 233MHz, or equivalent.
2. A minimum of 16 Mbytes of RAM, or above.
3. A USB port.
4. CD-ROM drive
5. A VGA or SVGA video card capable of displaying at least 256 colors (64k colors preferred).
6. Windows 98.

1.3 A Quick Look at PC Camera DS3303U

Power On Light

Tilt Base

Swivel Base

Focusing Ring
Rotate to focus the image

1.4 Adjust the Monitor

For best results you may need to adjust the computer monitor settings.
1   With Windows running, double-click on the My Computer icon.
2   Double-click on the Control Panel icon.
3   Double-click on the Display icon.
4   Click on the Settings tab.
5   From the color palette field, select either High (16-bit) or true 24-bit (32-bit) color.
6   Click OK.

1.5 Software Driver and Hardware Installation

Important: Do not plug in the PC Camera DS3303U until you have followed the instructions below.

Installing the PC-Camera DS3303U your computer takes three steps:
- Install the driver – make sure you install the driver first before plugging in the PC Camera.

- Connect the PC Camera DS3303U to a USB port.
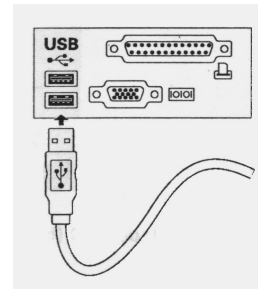- Install the application software.

Before You Begin

Before you can send video email with Video Mail or videoconferencing with the Microsoft NetMeeting, your computer must have all the necessary hardware and software to access the mail server, the Internet, or your company's Intranet.

STEP 1: *Install the driver FIRST!*
1. Start Windows (Windows 98 only)
2. Insert the CD-ROM into the CD-ROM drive
3. The installation software will auto pop-up, click at the start
4. Follow the on-screen instructions
5. Restart the Windows

STEP 2: *Install the DS3303U PC Camera (See Figure)*
1. Once the Windows is restart, plug in the DS3303U to the PC's USB port
2. A message window "**USB Camera detected**" will appear

- **When "New Hardware Found" message appears then browse the directory to your Hard Disk. Your PC Camera DS3303U will be installed.**

▼ **NOTE: The camera does not have a power plug. Its power comes from the USB port.**

1.6 Focus the Camera

You focus the camera with the focus ring.

1.7 Hints for Taking Good Pictures

By following these simple hints, you can take quality videos and pictures with the PC Camera DS3303U.

Composition
- Aim the camera so the subject is in the center of the image.
- Put the camera on a flat, steady surface. If you have to hold the camera during the shot, hold it still when shooting.

Lighting
- Use plenty of light on the subject.
- Select similar types of light. If possible, don't mix fluorescent lights with other lights.
- Don't point the camera directly at bright lights or windows.

Video Quality

Using the PC Camera DS3303U or PC-EYE Video Mail application, you can adjust the camera settings that control the image saturation, contrast, sharpness, Gamma, White Balance, Brightness...

2. A Quick Look at PC-EYE applications

2.1 PC-EYE

To enjoy the PC-EYE video mail, double click on the 'Video Mail' after installing PC-EYE from the CD-ROM disc. The Graphical User Interface (GUI) of the Video Panel program can captures photos, video and audio files of your choice. You can also send electronic mail as an attachment using other E-mail software like Eudora or Outlook Express. To move the program window around, click and drag it to the desired location. This GUI contains all the controls that are available in this program. Video image will be displayed on the video capture panel automatically when the PC Camera DS3303U is correctly installed.

2.2 Capturing and Sending Video E-mail using PC-EYE

- Once the desired video image is focused, click on the 'Record' button to start capturing video clip.
- Send video clip by clicking the 'E-Mail' (the mailbox) icon.
- 'Send' interface appears.
- Fill in the required parameters to prepare correct E-mail sending (Please refer to your Internet Service Provider for more details if you are uncertain about the parameters).
- Click on the 'Send' icon when ready to send.

2.3 Video Capture

Use this for Capture Snapshot and with its advanced design, the PC Camera DS3303U captures video at millions of color and high resolution. In addition, the connection to the USB port provides high quality video at about 30 frames per second in Camera application, and about 10 frames per second in Conference application.
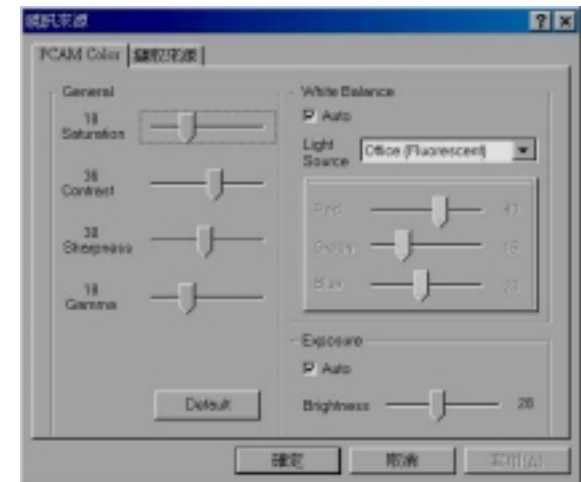
2.4 PC-EYE Video Album

- Take snapshots -- grab a frame of the video and save it as a *.bmp file in the photo album.
- Take captures – record motions and save it as a *.avi file in the photo album.
- Take video mail – record video and audio message and save it as a cap*.exe file in the photo album.

3. Operating the PC Camera DS3303U

3.1 Video Settings

To find out the status of your PC Camera DS3303U, do the following:
- Open the Control Panel and double click on the Multimedia icon.
- When in Multimedia setting select the advanced tab.
- Open the list of Video Capture Devices and double click on <PCAM USB>, this will open a dialog box showing the PC Camera DS3303U properties.
- In the above dialog box, click on the Settings button and you will get a window similar to the one shown below.

- When requesting technical support, please have the above information ready.
- If the port section reports PC Camera DS3303U not found, there is likely to be a problem with the hardware.

   Brightness -- The brightness setting is like shutter speed on a camera, staying open longer to let in more light. The higher the setting, the more

light that reaches the camera. But if you set it too high, the camera "stays open" for so long that moving objects will be blurred. You'll probably have to experiment with this setting to find the best one for different lighting conditions.

If the image is:
- White or washed out -- drag the slider to the left to decrease the light.
- Dark or almost black -- drag the slider to the right to let in more light.
- Speckled with colored dots -- turn on more lights in the room and then adjust the brightness.

Saturation -- Saturation is the amount of colors present. For example, a lightly saturated red looks pink, while a fully saturated red looks like the color of red crayon. Saturation does not mean the brightness of color.

Contrast -- A video term referring to how far the whites are from the blackest blacks in a video waveform.

Sharpness -- Adjusts the clarity (or resolution) of the image. Drag the slider to the left to soften edges in the image. Drag the slider to the right to see a sharper image.

Gamma -- Gamma is the measure of the degree of contrast of the video image. Usually the gamma setting does not need to be changed, however, if you notice that the picture tends to be "washed out" or, conversely, too intensely colored, you may want to change the gamma setting.

White balance -- Adjusts the amount of white to black balance for your camera and surrounding lighting. If the picture in the Local window looks washed out or consists solely of whites and light colors, move the two sliders to the left to lower the amount of light reaching the camera. If the picture looks dark or consists solely of dark colors, move the sliders to the right to let in more light. The Auto option has to be off (unchecked) to drag the sliders. When the Auto option is selected, the camera tries to correct colors automatically when the lighting or scene changes. You've set the white balance correctly when the picture covers the color
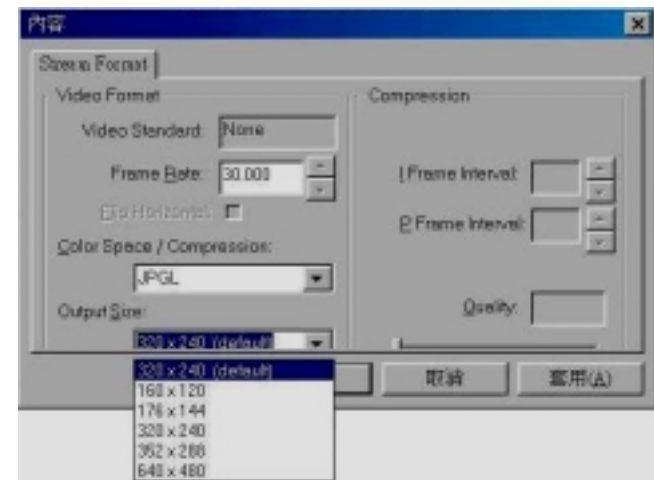
spectrum fully.

If you will not be pointing the camera in some other direction, you should only have to set white balance once. But if you point the camera around the room, you may have to reset the white balance for the conditions of the new scene.

Default button -- Click to return the settings to their original, default values. Usually you click this button after experimenting with the settings to see how you might improve the image.

3.2 Format

Some Video for Windows applications allows you to select the size and format of the images provided by the driver. The following dialog box will appear when you make the selection, but the method of getting to it will depend on the application.

4. Troubleshooting

Problem: You receive the message, "USB port not found. Your system either does not have a USB port or USB is not enabled in BIOS."
Solution: Verify that your computer has a USB port. If the port exists, enable it in the system BIOS by running your computer's BIOS setup program.

Problem: Dark pictures from the PC Camera DS3303U
Solution: If you are getting very dark pictures from your PC Camera DS3303U, then it is either due to there being insufficient light for the PC Camera DS3303U or partial covering of the lens.

Problem: Insufficient Light
Solution: Like camcorders (and even Digital Still Camera), the PC Camera DS3303U sensor requires a certain light level to produce good pictures. If you are getting dark images or if the colors in the images you are getting are poor, then try either to increase the lighting in the room or consider lighting the subject directly.
Using the PC Camera DS3303U in a position that is lit with sunlight should give good results. It is better to position the PC Camera DS3303U with the window (or indeed any light source) outside of the field of view, so that the exposure level is set so as to get the best picture for the scene. If the light source comes within the field of view, the PC Camera DS3303U will try to settle at a compromise between the best exposure setting for the light source itself and the rest of the scene - this is rarely a good level for the rest of the scene. If you are not using the PC Camera DS3303U in a naturally well-lit position then consider using a desk lamp or some other artificial light source.

Problem: Installation does not finish properly.
Solution: Unplug the camera first, then un-install the software. Close all other open applications on the computer. Then install software again.

Problem: The video window has flashing vertical or horizontal colored lines.

Solution: The computer may be having problems processing the large amounts of data sent through it during a typical video capture sequence. Try the following: a) select a smaller image size, b) close other applications on your system that may be open, c) avoid moving windows around the desktop while you are using video applications.

Problem: What if this "camera not detected" message resists?
Solution: Before running the USB camera, you need to make sure you have Universal Serial Bus Controller installed. Check it from System → Device Manager, and the last device listed under the manager should be Universal Serial Bus Controller. Under the Controller folder, you should have both a host controller and a root hub listed. If you don't have this folder, please install USB supplement into your Windows 98 system.

Problem: You receive the message, "Capture device is in use."
Solution: Another application that can use the camera is probably open on your computer. Check the applications that are open that can possibly use camera. Close all the open applications that can use the camera then start the one you want. If that application still doesn't release the camera driver, you will need to restart the computer.

5. Frequently asked questions

Q: What is a PC Camera?
A   A video camera designed to work as an input device with your PC to do videoconferencing, still imaging and cool fun stuff. It doesn't use videotape like your camcorder; instead it converts images directly to digital files that your computer can process and send over the Internet or telephone wires.

Q: Using PC Camera DS3303U with other applications.
A   There is a WDM Driver supplied with your PC Camera DS3303U to allow the PC Camera DS3303U to be used as a general video input device with other Windows applications.

Q: Using PC Camera DS3303U with other video captures devices
A   When using multiple video capture devices, applications will use the default device. There is no easy way of determining the default device, so the best method is to ensure that all other video capture devices are disabled. To disable a video capture driver, do the following:
- Open the Control Panel and double click on the Multimedia icon.
- When in Multimedia settings, select Advanced.
- Open the list of video capture devices and double click on PC Camera Capture. This will open a dialog box showing the PC Camera Properties.
- Enable or disable the driver as required.

Some applications (e.g. Microsoft NetMeeting) allow you to select a device from the application, so disabling the other devices is not necessary.

Q: What is the resolution of DS3303U?
A   The optical resolution of DS3303U is 640 x 480.

Q: Everyone talks about the resolution of a PC Camera. What is resolution?
A   Resolution determines how sharp and clear the picture is on your computer screen. Technically speaking, it's a measure of pixels and lines, width by height. In desktop videoconferencing, 2 common measurements

are: CIF (common intermediate format) displays 352 pixels per line and 288 lines per picture and QCIF is 176x144.

Q: What is the frame rate of DS3303U?
A   A maximum of 15 fps (frame per second) at VGA (640 x 480) and 30 fps at CIF (352x288).

Q: Which port of the PC should I plug the DS3303U into?
A   USB port.

Q: If I do not have a USB port on my PC, can I use DS3303U?
A   No.

Q: Which Operating System does DS3303U supports?
A   Windows 98.

Q: Can I use DS3303U on Windows 3.1, Windows NT or iMac?
A   No.

Q: Does the receiver need to have PC-EYE and USB port to receive my video-mail?
A   No. The video-mail is in self-executable format; no client software is needed.

Q: During installation, I plug in the DS3303U and my PC response "Unknown Device"?
A   You must install the driver FIRST before you plug-in the DS3303U to the PC.

Q: After I start the PC-EYE, there is no video but just white screen.
A   Check whether your system's USB port is enabled. If enabled, close the PC-EYE, plug-out the DS3303U and plug-in again.

Q: What is the file size of the video-mail?
A   By PC-EYE default setting, it is around 1Mbytes per minute.

Q: Can I use DS3303U for video conferencing?
A   Yes. DS3303U supports most of the video and imaging software in the

market.

Q: When I use DS3303U on Microsoft NetMeeting (or other video conferencing software), why is there so much pause and delay in the audio and video?
A   It is due to the bottleneck of the Internet bandwidth, ISP does not provide domestic Internet users with high bandwidth thus video-mail will be an alternate solution!

Q: Lens cleaning.
A   The lens of the PC Camera DS3303U should rarely need cleaning, but if needed, then a dry lint-free cloth is recommended.

Q: Lighting conditions.
A   When setting up a PC Camera DS3303U and subject, try to place the PC Camera DS3303U between the light source and the subject. Where this is not convenient, try to keep the light source out of the PC Camera DS3303U's view. Like a camcorder or other PC Camera, your PC Camera DS3303U requires a certain light level to produce well images and images with good color. A PC Camera DS3303U position lit with daylight is ideal for the PC Camera DS3303U; also bright fluorescent lighting should give good results. Subdued indoor lighting is sometimes too dark for the PC Camera DS3303U in built auto-exposure controller. In this case, you can experiment with the lighting options in the Fine Tuning dialog to try and improve the picture.

Q: How does it differ from a digital camera?
A   The main difference between a PC camera and a digital camera is that a digital camera can only take individual snapshots. A PC camera, on the other hand, can not only take individual snapshots, it can also record and send video mail, communicate as a video phone or do complete videoconferencing with the appropriate software.

Q: What kind of software needed to playback the videos e-mail?
A   You don't need any extra software.

6. Appendix A: Technical Specifications

6.1 PC Camera Specifications

- USB telephony peripheral compliant; up to 12 Mbps, Bi-directional, isochronous.
- No video capture card or power supply necessary
- Supports standard 640x480, 352x288 (CIF), 320x240 (SIF), 176x144 (QCIF), 160x120 (QSIF) video formats. Also provides 640x480 snap shot.
- Adjustable lens for close-up to infinity
- +/- 22¼ tilt by 100¼ swivel movement

6.2 Electromagnetic Compatibility

The PC Camera DS3303U will comply with all applicable CE and FCC regulations regarding electromagnetic compatibility and immunity.