Osprey-500 Capture Driver User's Guide

Osprey-500 DV
Osprey-500 PRO
Osprey-500 DV PRO

For Windows 2000, Windows XP, and Windows NT 4.0

Releases 2.2.0 and later

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FCC Notice

For assemblies whose part number ends in -02 and higher, the following applies:

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 device 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 computer and the receiver.
- Connect the computer 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.

For assemblies whose part number ends in **-01**, the following applies:

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his or her own expense.

An example part number for Class A is 92-00109-01.

An example part number for Class B is 92-00109-02.

Shielded Cables

Connections between this device and peripherals must be made using shielded cables in order to maintain compliance with FCC radio emission limits.

Modifications

Modifications to this device not approved by Osprey Technologies, Inc. could void the authority granted to the user by the FCC to operate the device.

Table of Contents

Chapter 1 - Getting to Know the Osprey-500 Capture Cards

The Osprey-500 Capture Driver User's Guide provides practical information for installing and configuring the hardware and software for the Osprey-500 DV, Osprey-500 PRO, and Osprey-500 DV PRO devices. This guide has been designed with the needs of the end user in mind, particularly first-timers and those working with existing applications.

Symbols

	This symbol denotes an important note or warning.
	This shortcut icon points more experienced users to sections or chapters that summarize step-by-step instructions.

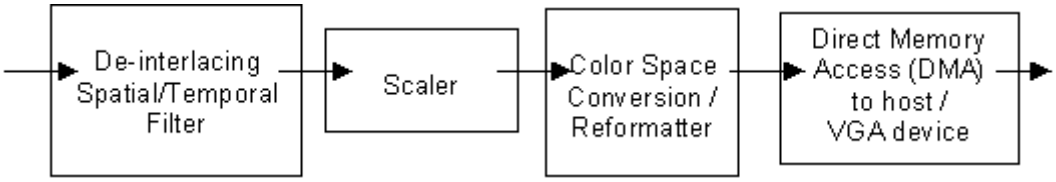
Introduction

The Osprey-500 is the first professional-grade video capture card designed specifically for streaming. Developed in collaboration with Microsoft, the Osprey-500 provides higher quality audio and video than traditional analog audio/video capture devices. Particularly notable, the Osprey-500 provides this data to the host in formats most optimal for encoding without additional CPU utilization, thus leaving more CPU bandwidth for the actual encoding process.

The Osprey-500 provides to the host application the following:

- Digital Video from an SDI video source
- Decompressed DV video from IEEE-1394 DV video devices
- Video from S-video/Composite sources
- Digital Audio from a digital audio source (AES/EBU, S/P-DIF)
- Digital Audio from IEEE-1394 DV video devices
- Audio from Balanced or Unbalanced analog sources

The Osprey-500 also offers optional hardware based video processing.



In hardware the Osprey-500 can scale and color convert video, and it can perform a video filter operation. The filter is basically a de-interlacing operation. The benefit of the de-interlacing operation is twofold:

- Provide full resolution de-interlacing of video from interlaced sources, thus eliminating typical interlaced artifacts.
- Provide more motion content in resolutions less than or equal to CIF. In typical existing video capture devices, resolution captures of less than or equal to CIF resort to only a single field capture. The video filter provides for higher motion content than a single field capture without jagged/stair-step edges.

Starting with Software Release 1.0.6, the Osprey-500 can be utilized with any VFW or DirectShow based audio/video application. For example, the Osprey-500 can be used with:

- Windows Media Encoder to produce .asf and .wmv encoded files
- RealProducer to create .rm encoded files
- Sorenson Broadcaster to create QuickTime encoded files
- and a variety of AVI based capture programs to generate .avi files.

Starting with Software Release 2.1, the Osprey-500 is SimulStream capable. SimulStreaming is an added-cost upgrade that allows the driver to capture and display video and audio to multiple destinations from a single card. Please see the SimulStreaming User's Guide which is installed in the Osprey 500 Program group for details about this feature.

Three versions of the Osprey-500

Osprey-500 DV

Enables real-time streaming from a digital video (DV) source. The Osprey-500 DV *actually decodes DV video on the card*, optionally scales and color converts the resultant digital video, and transfers the digital video directly to the host. The host CPU can then be used to encode the data for streaming. This is far superior to most IEEE-1394 DV solutions which capture DV data to the host. In these systems, the host CPU must first decode, scale, possibly color convert, and reformat the data before it can encode it for streaming. Decoding on the Osprey card leaves the bulk of your CPU power for creating higher-quality video streams.

Osprey-500 PRO

Captures digital video and audio in the formats produced by professional-level camera and production equipment, including SDI video and professional digital audio. Previous to the Osprey-500 PRO, the only method available to many professionals for efficiently supplying data to streaming encoders was to first convert digital video and audio to analog and then capture the converted data using analog capture cards. The Osprey-500 PRO significantly improves quality by completely eliminating this need to go from high quality digital sources to analog.

Osprey-500 DV PRO

Includes all the features of both the Osprey-500 PRO and the Osprey-500 DV.

Features

The Osprey-500 is a single-slot card that delivers uncompressed digital video and audio to media applications. It includes digital video preprocessing in hardware that can significantly improve video quality for streaming applications.

The variety of video and audio inputs supported by the Osprey-500 allows it to meet quality demands across a wide spectrum of professional and prosumer users.

Audio/Video Specifications

Video Frame Rates and Performance

Audio/Video Specifications

Video Input

- NTSC/PAL[1]
- Composite (BNC style)
- S-Video (Mini-Din style)
- DV (via IEEE-1394 connector)
- SDI (SMPTE-259M)[2] (BNC style)

Audio Input

- Unbalanced stereo (RCA connectors)
- Balanced stereo (XLR connectors)
- Professional digital audio AES/EBU (XLR connector)
- Consumer digital audio (S/P-DIF Optical/RCA connectors)
- DV Audio (via same IEEE-1394 connector as DV Video)

Audio Processing

- Auto sample rate selection for analog inputs (32 kHz/44.1 kHz/48 kHz)
- Audio sample rate down conversion based on application requirements
- Audio sample rate up conversion based on application requirements

Hardware Video Processing

- Temporal/spatial de-interlacing filter
- DV decoding
- Video scaling
- Color space conversion

Computing Platforms

- Windows 2000 Professional
- Windows XP
- Windows NT 4.0

Hardware System

- 32-bit/5-volt PCI card
- Full PCI Rev. 2.2 compliance
- Multi-board support

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Notes:

1. PAL is supported in Software Releases 1.02 and later.
2. Embedded Digital Audio in SDI is not supported in the Osprey-500 Hardware.

Video Frame Rates and Performance

The Osprey-500 can deliver to the host 30 frames per second (fps) full resolution NTSC (720x480) as well as 25 fps full resolution PAL (720x576). The Osprey-500 uses Direct Memory Access (DMA) to efficiently perform this delivery of both video and audio data to the host. Once the data is in host memory, performance is directly affected by how the data is processed. The different encoding options of the Windows Media Encoder have varying CPU requirements and are outside the scope of this manual.

The Osprey-500 also supports DirectDraw for displaying video with minimal load on the system processor.

It should be noted that uncompressed video bandwidth is very large. Video at 640x480 with a 16bit color format at 30fps results in more than 18Mbytes/sec of data transfer across the PCI bus. Thus PCI bandwidth issues, which may result due to other high bandwidth demanding devices on the PCI bus, can limit performance. For example, having PCI based SCSI controllers may consume large amounts of PCI bandwidth if lots of SCSI disk activity is occurring.

Software Included

The products for Windows 2000, Windows XP, and Windows NT 4.0 include:

- A Video for Windows compatible video capture driver capable of being upgraded to SimulStream
- An audio Mixer and an audio Wave driver
- VidCap32 - a simple video capture application allowing for capturing and viewing the various video features of the device
- A variety of other software applications (Windows Media encoder, Windows Media Player, RealProducer, RealPlayer, etc.). Note that these are only available on the CD-ROM and not on the web-based software release.

Beginning with Version 2.1, the driver is SimulStream capable. SimulStreaming is an added-cost upgrade that allows the driver to capture and display video and audio to multiple destinations from a single card. Please see the SimulStreaming User's Guide which is installed in the Osprey 500 Program group for details about this feature.

Compatible Third-Party Applications

The Osprey-500 was initially designed exclusively for Microsoft Windows Media applications. Starting with release 1.0.6, the Osprey-500 works with any audio/video VFW or DirectShow based application.

Getting Help

Before contacting support, please do the following:

- Work through the section of Chapter 3 entitled **Testing the Installation for Windows 2000**, Chapter 4 entitled **Testing the Installation for Windows XP**, or Chapter 5 entitled **Testing the Installation for Windows NT**.
- Read through **Chapter 9 - Troubleshooting**.
- Visit our web site at **http://www.ospreyvideo.com/** and read the Osprey-500 FAQs by selecting **Support** > **Osprey Product Line** > **FAQs**.

If you have done that and you're still having problems, contact the Osprey Support Group at:

Voice, toll free	(888) 684-6622
Voice	(919) 319-9200
Fax	(919) 319-9814
E-mail	**mailto:support@ospreyvideo.com**

When you contact support, especially if it is by email, please include the following information:

- Which product you have – Osprey-500 DV, Osprey-500 PRO, or Osprey-500 DV PRO.
- The connectors on the back of the Osprey-500 vary between the model numbers, either –02 or –03.
- Which operating system you are using. Certain minor aspects of the Osprey-500 drivers are different between Windows 2000, Windows XP, and Windows NT 4.
- Which version of the Osprey-500 driver you are using. The version information is on the title bar of the driver's Control Dialog, as well as in the first message of the installation program.
- The type of audio and video source being used (for example: SDI video and AES/EBU audio) and the type of equipment being used as the source (for example: a Sony A500 Digital Betacam Deck).
- Any additional details about your system configuration would be helpful – for example, the system speed, processor type, motherboard chipset, whether you have a SCSI or IDE hard drive, whether you have a network adapter card, and the type of display adapter card.
- A detailed description of the problem.

Chapter 2 - Osprey-500 Hardware

The Osprey-500 Capture Cards are 32-bit, 5-Volt PCI cards. They are compliant with version 2.1 of the PCI hardware specification. The DV option of the Osprey-500 is a daughter card. Thus the Osprey-500 DV and Osprey-500 DV PRO have both the base card and a daughter card. Below is a picture of the Osprey-500 DV PRO (actual hardware may differ in minor ways):

System Requirements

The minimum capability of the computer for the capture card itself is fairly low. It is typically the application being used with the capture card that sets the minimum requirements of the computer. For example, pure video capture applications typically do not require hefty machines. Yet the various streaming encoding applications, for example RealProducer or Windows Media Encoder, may require up to dual 2 GHz processor for some of their challenging encoding profiles.

For x86 PCs, the minimum system requirements are as follows:

- 300 MHz Pentium II processor or higher with at least 128Mb RAM
- One available PCI slot
- Windows NT 4.0, Windows 2000, or Windows XP,
- Approximately 7.5 megabytes of storage for system files

For optimum performance, we recommend at least the following additional features.

Video display adapter with:

- 4 MBytes memory minimum (8 Mbytes or more recommended)
- Direct Draw capability
- An up-to-date display device driver with Direct Draw capability

With the Osprey-500 you can use on-board audio capture capability to capture sound and multiple cards to capture multiple audio streams. However, you still need a sound card to monitor or play back audio since the Osprey-500 is only a capture device and not an audio playback device.

Configuring the Video Capture Driver

Use the video capture application VidCap32 to access the Osprey driver Control Dialog described in **Chapter 6 - Osprey-500 Video Control Dialog**.

VidCap32 is included with the Osprey package. It is useful for testing the installation and for general purpose viewing of video. Refer to **Chapter 8 - VidCap32** for instructions on using this applet.

Installing the Card

All computer cards are sensitive to electrostatic discharge. Slight discharges from clothing or even from the normal work environment can adversely affect these cards. By following these simple guidelines, however, you can minimize the chance of damaging your Osprey card.

To be used only with UL Listed computers that include instructions for user installed accessories.

- Handle cards only by the non-conducting edges.
- Do not touch the card components or any other metal parts.
- Wear a grounding strap while handling the cards (especially when located in a high static area).
- Provide a continuous ground path by leaving the power cord plugged into a grounded power outlet.

Ensure that the workstation is powered OFF before installing any components.

If you are not familiar with how to install a PCI bus card, refer to your system's documentation for more complete, step-by-step instructions.

You should install the Osprey card before installing the software driver. However, with Windows 2000 or Windows XP you also have the option to pre-install the software before installing the hardware.

Use the following steps to install the Osprey card:

1. Power down the computer. Make sure that the computer's power switch is turned OFF. Read caution note above for grounding precautions.
2. Remove the computer's cover.
3. Locate an empty PCI slot.
4. Remove the slot-cover screw from the empty PCI slot's cover, set the screw aside, and remove the slot cover.
5. Remove the card from its anti-static bag.
6. Install the Osprey card into the empty slot and make sure that it is seated evenly in the slot.
7. Secure the backpanel of the card with the slot's cover screw.
8. Replace the computer cover.
9. Connect video and audio cables to the Osprey card. Refer to **Connecting Cables** for details of the card's backpanel connector.
10. Turn the computer on.

Connecting Cables

Connecting a Composite Source

Connecting an S-Video Source

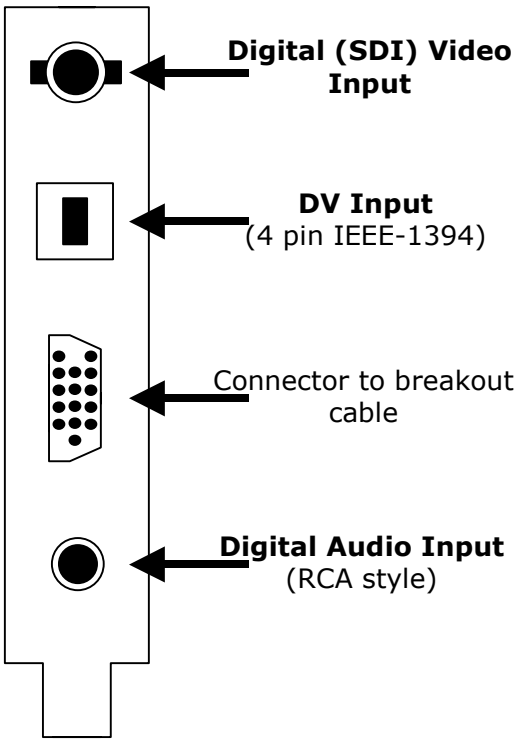
Connecting an SDI Source for the Osprey-500 PRO and Osprey-500 DV PRO

Connecting an IEEE-1394 Source for the Osprey-500 DV and Osprey-500 DV PRO

Connecting Audio Source with the Osprey-500

The Osprey-500 DV Pro and Osprey-500 DV have been redesigned to incorporate improvements. The newer cards have model numbers ending in -03.

The redesigned Osprey-500 DV Pro (Model -03) has 4 connectors.

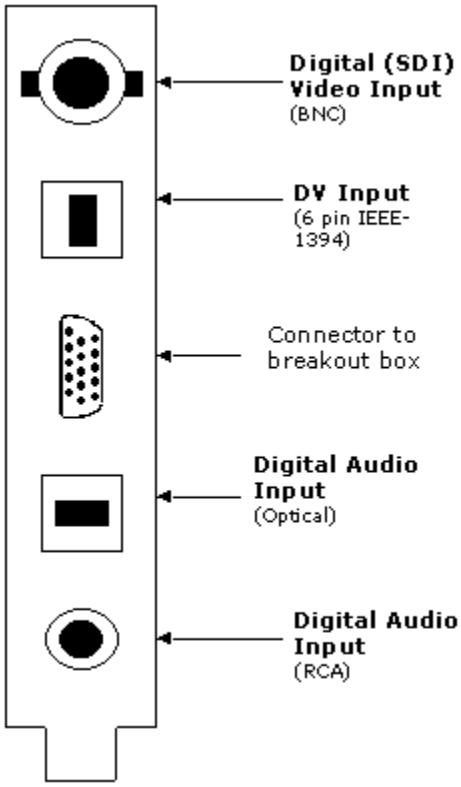


The Osprey-500 models now ship with a breakout cable instead of a breakout box.

The Osprey-500 DV backplate does not include the SDI or digital audio inputs.

The Osprey-500 PRO does have the IEEE-1394 connector.

The Osprey-500 DV Pro board (Model -02) has five connectors on the back plate for audio and video.

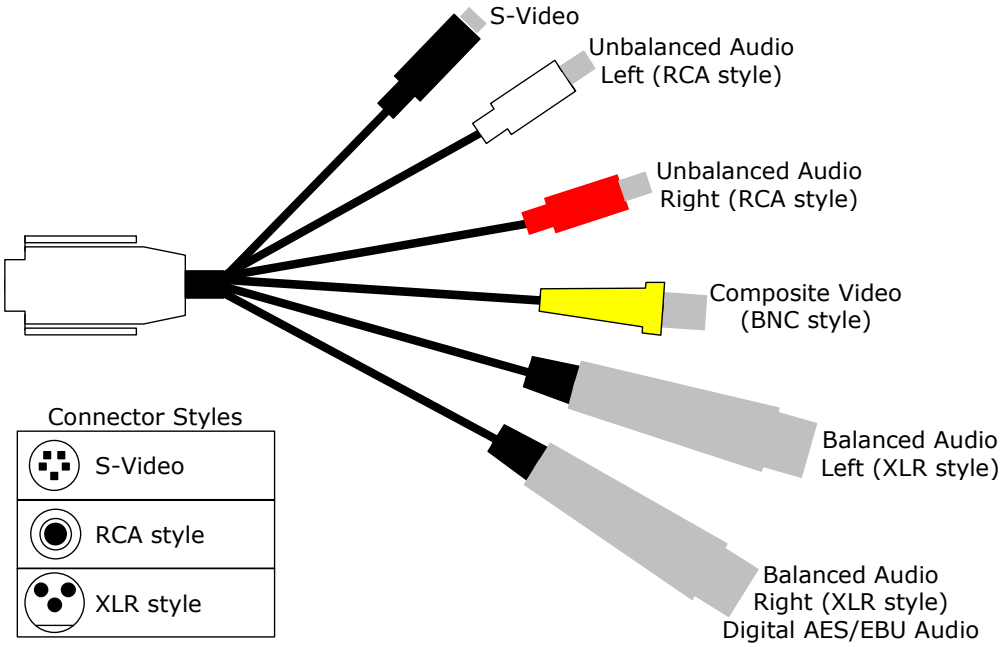


The Osprey-500 models now ship with a breakout cable instead of a breakout box.

The Osprey-500 DV backplate does not include the SDI or digital audio inputs.

The Osprey-500 PRO does have the IEEE-1394 connector.

Osprey-500 Input Breakout Cable

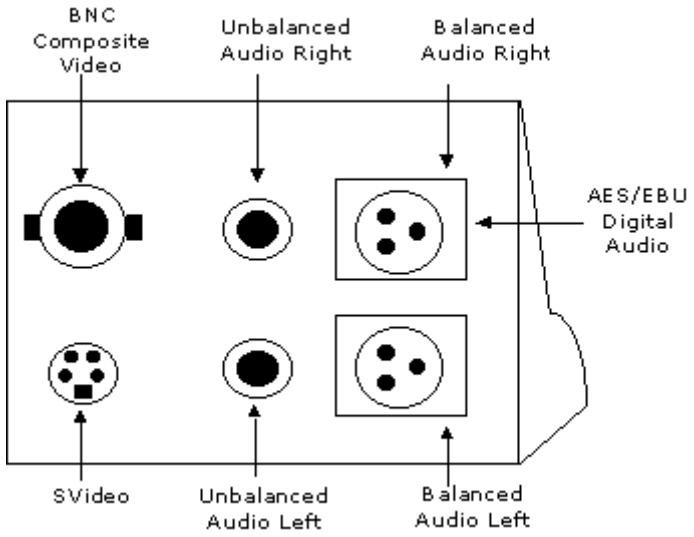


The breakout connector has inputs for composite video, S-Video, balanced and unbalanced audio, and professional digital audio. The breakout cable has a set (L/R) of unbalanced RCA style audio connectors and a set (L/R) of balanced (XLR) audio connectors. Additionally, the right XLR balanced input also is used as the professional digital audio input.

The input breakout cable is ViewCast Part Number 34-05009-01.

Osprey-500 Input Breakout Box

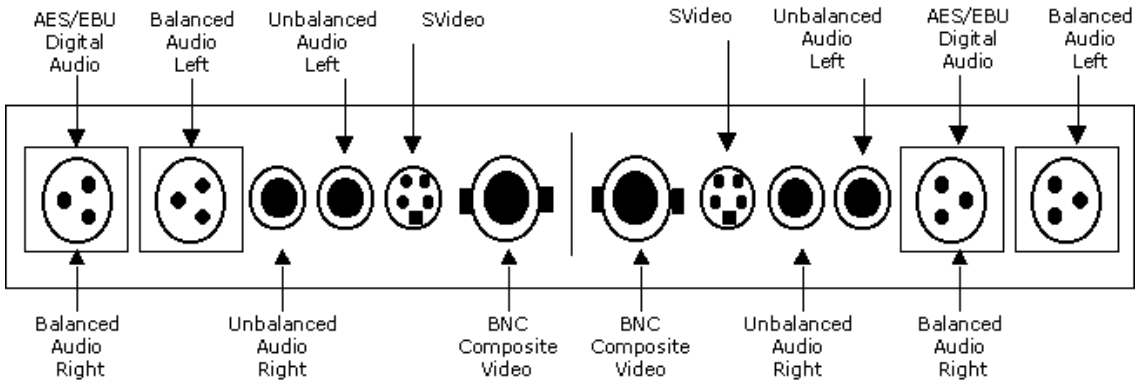
The Osprey-500 formerly shipped with a breakout box. The breakout box has been replaced with a more convenient breakout cable. Here are the connector layouts for the legacy breakout box.



The breakout connector has inputs for composite video, S-Video, balanced and unbalanced audio, and professional digital audio. The breakout cable/box has a set (L/R) of unbalanced RCA style audio connectors and a set (L/R) of balanced (XLR) audio connectors. Additionally, the right XLR balanced input also is used as the professional digital audio input for the Osprey-500 PRO and Osprey-500 DV PRO.

The input breakout box is ViewCast Part Number 95-00157-01.

Osprey-500 Input Rack-mount Panel



A rack mount version of the breakout box is also available. The 1 unit high rack mount input box has the same inputs as the breakout box but includes two sets of inputs. Thus a single rack mount input unit provides for two Osprey-540 cards. The rack mount unit is pictured above.

The optional standard breakout cable is ViewCast Part Number 34-05009-01.

The rack-mount breakout box is ViewCast Part Number 95-00151-02.

Exact connector layouts are subject to change.

Connecting a Composite Source

If your video source provides only composite video, connect the source's output cable to the Composite Video In connector. This is a BNC connector on the breakout box. A BNC to RCA adapter is provided if you don't have a BNC composite cable.

Connecting an S-Video Source

If your video source supports S-Video, connect the source's output cable to the S-Video In connector on the breakout box. Compared to composite signals, S-Video provides a sharper image with better color separation. S-Video uses a four-pin mini-DIN connector that provides separate Y (luminance) and C (chrominance) signals. Refer to **Chapter 6 - Osprey-500 Video Control Dialog** for instructions on configuring the driver for S-Video.

Connecting an SDI Source for the Osprey-500 PRO and Osprey-500 DV PRO

The Osprey-500 PRO and Osprey-500 DV PRO have a BNC connector for SDI (SMPTE-259M) video. A high quality SDI-qualified cable should be used when utilizing this connection, especially when the cable length is long. While SDI carries both digital video and embedded digital audio, the current version of the Osprey-500 requires the digital audio to be brought in separately through the AES/EBU digital audio input.

The Osprey-540 supports embedded SDI audio.

Connecting an IEEE-1394 Source for the Osprey-500 DV and Osprey-500 DV PRO

The Osprey-500 DV and Osprey-500 DV PRO have a DV input. DV carries digital audio and video and both can be independently used by the Osprey-500.

The model –03 has a four (4) pin connector. The model –02 has a six (6) pin connector.

Connecting Audio with the Osprey-500

The Osprey-500 has a variety of audio inputs, both analog and digital. The typical consumer will probably find the unbalanced analog RCA audio inputs to be the most useful. Balanced audio inputs (via XLR connectors) provide cleaner audio especially if the cable length is very long. The prosumer may have a DV camera source and may choose to use the audio embedded in the IEEE-1394 DV stream. For the professional and broadcaster a choice of three digital audio inputs is available. On the base card are S/P-DIF optical and RCA inputs. The breakout box contains a single professional AES/EBU stereo digital audio input. This input is shared with the right balanced analog input to prevent having both balanced audio and professional digital audio connected at the same time.

The selection of audio input to capture is independent of the video input selection. For example, even if you choose to use DV video as a source, you can still opt to use the analog balanced inputs instead of audio embedded in the DV stream.

Model –02 has S/P-DIF optical and RCA inputs. Model –03 has S/P-DIF RCA input.

Chapter 3 - Installing the Software - Windows 2000

The Windows NT 4.0 Osprey drivers do not work with Windows 2000. If your Osprey card(s) were installed under the Windows NT 4.0 operating system and the PC has now been upgraded to Windows 2000, you need to install the Windows 2000 drivers.

Please note:

- Administrative privileges are required for installation.
- Before installing software, check the Osprey Video support website or the ftp site for the any driver update releases subsequent to the software shipped on your CD. For the Osprey Video support website, go to **http://www.ospreyvideo.com/** > **Downloads** > **Software & Drivers** > select Win2000 and Osprey-500 from the table. To reach the ViewCast.com ftp site, go to **ftp://ftp.ospreyvideo.com/pub/OSP-500/win2000/latest**. It's a good idea to check these sites periodically for update releases.
- The screens used to illustrate the installation steps may not be exactly what displays on your computer screen. In some cases, version numbers and other minor differences may display in the installation you are running.

Basics: Installing From CD

If necessary, follow the directions in **Chapter 2 - Osprey-500 Hardware** to install the Osprey card. This software installation procedure works properly only if the card is already installed.

1. Turn on the machine and start Windows 2000.
2. **Cancel** out of the *Found New Hardware* wizard.
3. If you are updating from a previous version of the driver, it is necessary to uninstall the old driver before installing the new driver. Please refer to **Uninstalling the Software** for instructions.
4. Insert the Osprey-500 Driver CD into your CDROM drive. The installation instructions assume this is the (D:) drive. Substitute the proper drive as it is configured on your system, if necessary.
5. Run the installation program
   a. Click the **Start** button
   b. Click **Run**
   c. Enter **D:\Win2000\Setup** in the dialog box
   d. Click **OK**
6. The installation program steps are self-explanatory for many users. If you need additional information, please refer to the section entitled **Option A: Run the Installation Program (Recommended)**.
7. The driver and demo program are ready for use as soon as the installation program completes and you have rebooted the system. We suggest that you test the driver immediately. Please refer to **Testing the Installation for Windows 2000**.

Basics: Downloading and Installing Updated Drivers

1. The latest software drivers for Osprey-500 Capture Cards are available via FTP (file transfer protocol) at the following locations:

   ftp://ftp.ospreyvideo.com/pub/OSP-500/win2000/latest

   The same driver is used for the Osprey-500 PRO, Osprey-500 DV, and Osprey-500 DV PRO, so these links point to the same download file. There are also links to the drivers from our web site at **http://www.ospreyvideo.com**.
2. It is necessary to uninstall your existing Osprey-500 driver before installing a newer version of the driver. Follow the instructions in Uninstalling the Software and restart your computer before beginning the new install procedure.

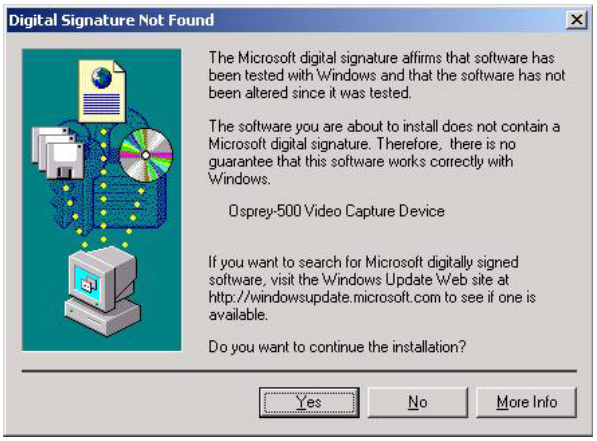
3. Use your web browser, such as Microsoft Internet Explorer or Netscape Navigator, to find our FTP site and download the file. Type the FTP address shown above into the address box at the top of your browser window. You may find it simpler to type just the first part of the address - **ftp://ftp.ospreyvideo.com/** - and then click on the list of directories that display until you reach the **win2000/latest** location. Refer to your browser's help files for more specific and detailed assistance.
4. Download the web package file in **win2000/latest** to your hard disk.
5. The *Found New Hardware* wizard displays detecting each Osprey-500 card in the computer. Follow the directions in Canceling Out of the Found New Hardware Wizard at each prompt.
6. Run the web package program:
   a. Click the **Start** button.
   b. Click **Run**.
   c. Enter <*pathname*> in the dialog box, where <*pathname*> is the location and name of the file that you have downloaded.
   d. Click **OK**.
   e. The program prompts for a temporary location for unpacking the install files.
   f. See Option A: Run the Installation Program (Recommended) for a full description of the Installation Program steps.

These files are not automatically deleted after setup has run. This feature exists to offer the option of performing the manual Plug and Play install later. If you want to conserve disk space, make a note of where these files are being unpacked, and delete them after the install.

Canceling Out of the Found New Hardware Wizard

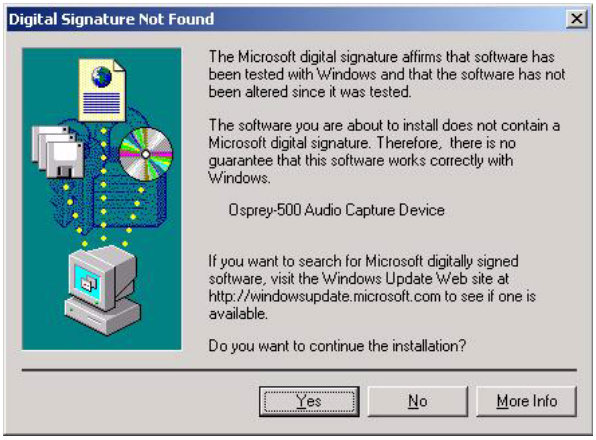
When installing an updated Osprey-500 driver, first uninstall the existing driver and reboot the computer. The Found New Hardware wizard runs after rebooting. To cancel out the Found New Hardware wizard:

The Digital Signature Not Found window displays for the Osprey-500 video capture device.

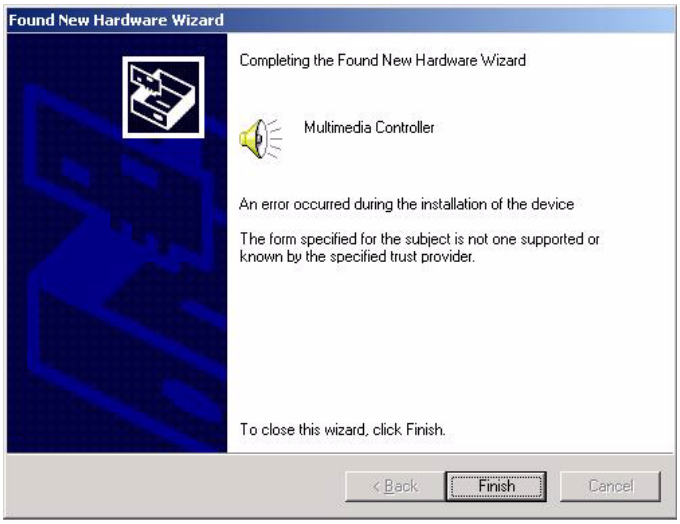


1. Click **No**.
   The Completing Found New Hardware wizard window displays.

2. Click **Finish**.
   The Digital Signature Not Found window displays for the Osprey-500 audio capture device.



3. Click **No**.
   The Completing Found New Hardware wizard window displays.



4. Click **Finish**.

Two Install Scenarios

There are two installation scenarios that might apply:

- **Scenario 1: Osprey Card(s) not Physically Installed in the PC**
- **Scenario 2: Osprey Card(s) Physically Installed, but Osprey Software not Installed**

In all cases, the most efficient and complete installation method is to run the **setup.exe** program on the product CD or in the web package that you downloaded. The setup program automates the Plug and Play steps required to install the drivers and ensures that they are performed correctly. It also installs the bundled applets and User's Guide. If you have multiple Osprey capture cards in the system, it configures all of the boards at the same time.

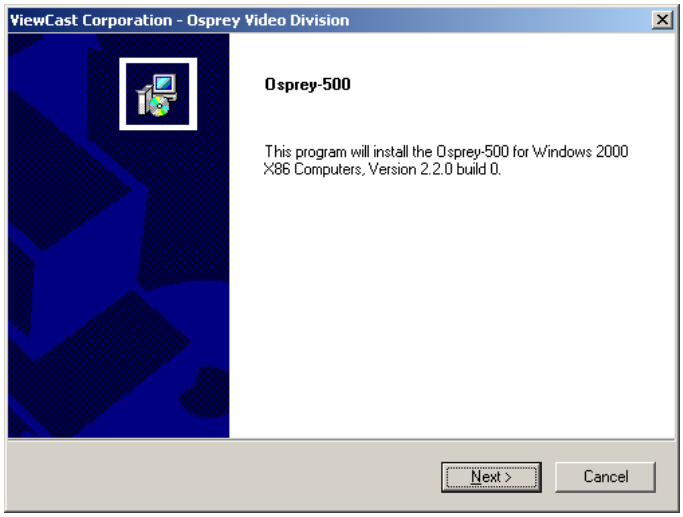
You can skip the detailed instructions if you are upgrading from one Osprey driver version to another. Just run the **setup.exe** file to install all the updated components.

Scenario 1: Osprey Card(s) not Physically Installed in the PC

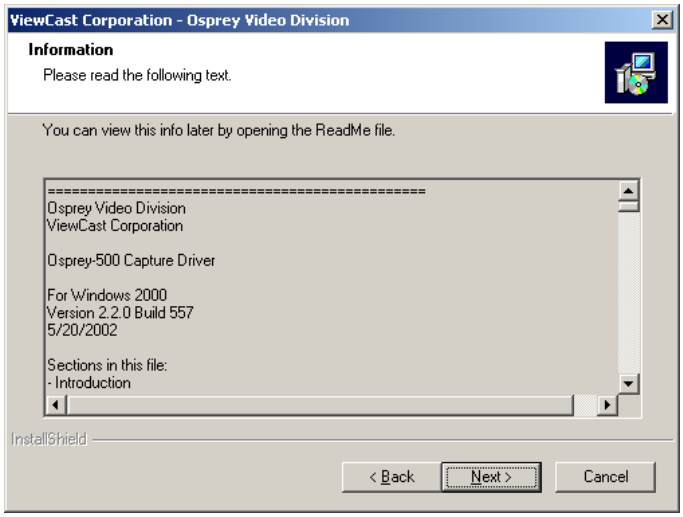
This Pre-install Scenario is the method that we recommend if you are installing an Osprey card for the first time on a system and the Osprey software has not yet been installed. After the install is run and as soon as an Osprey card is installed in the PC, the card is detected and its drivers are started automatically.

Using Windows Explorer, locate and access the CD-ROM drive containing the Osprey Installation CD-ROM.

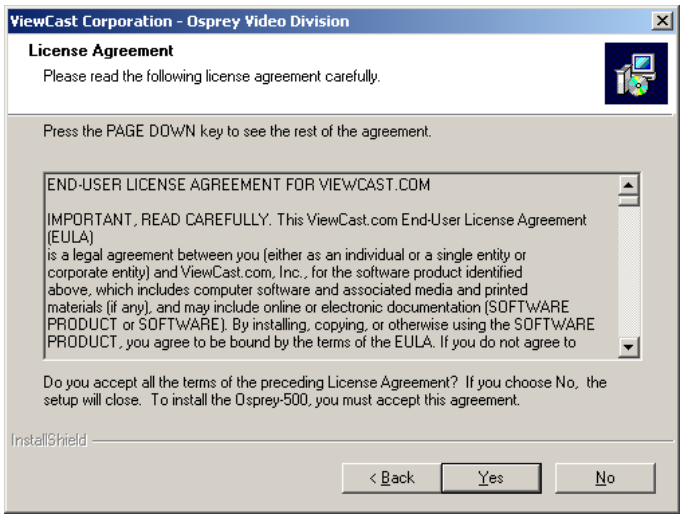
1. Navigate to the **WIN2000** directory.
2. Double-click **SETUP.EXE**.
   The Osprey-500 Video and Audio Capture Driver window displays.



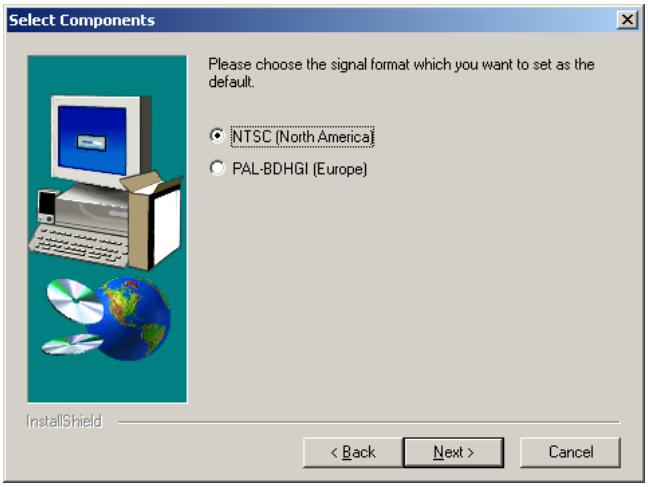
3. Click **Next**.
   The Information window displays.



4. Click **Next**.
   The Software License Agreement window displays.

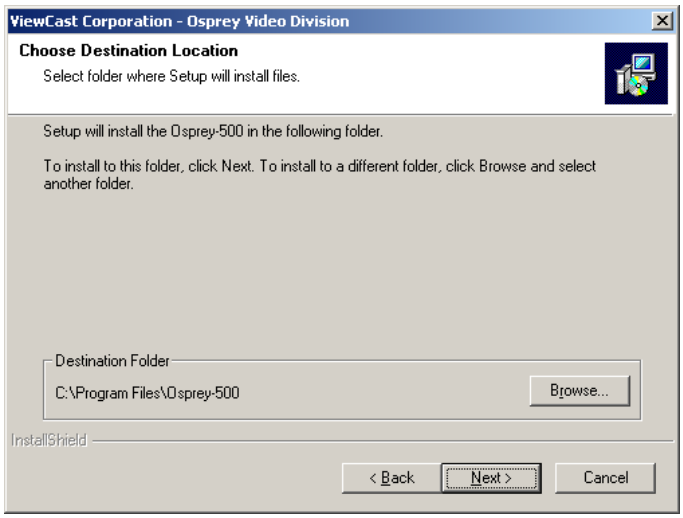


5. Click **Yes** to accept the End User Software License Agreement. If you do not wish to accept the agreement, click **No** to terminate the installation routine.
   The Setup Components window displays.

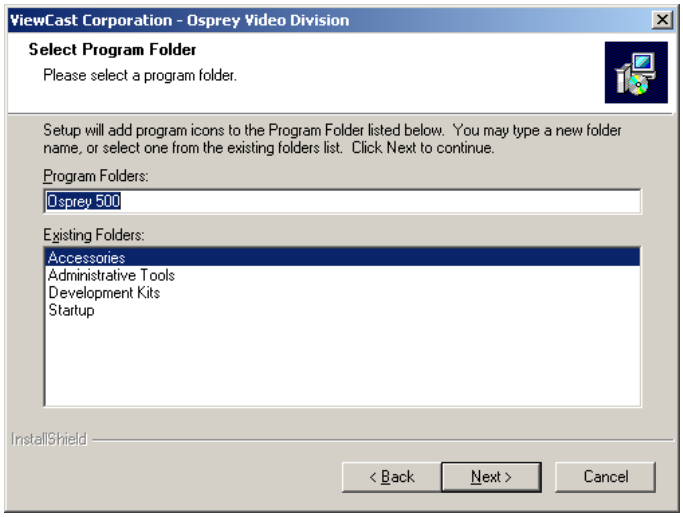


6. Click to select the Video Standard to set as default for your Opsrey-500 card.

7. Click **Next**.
   The Choose Destination Location window displays.

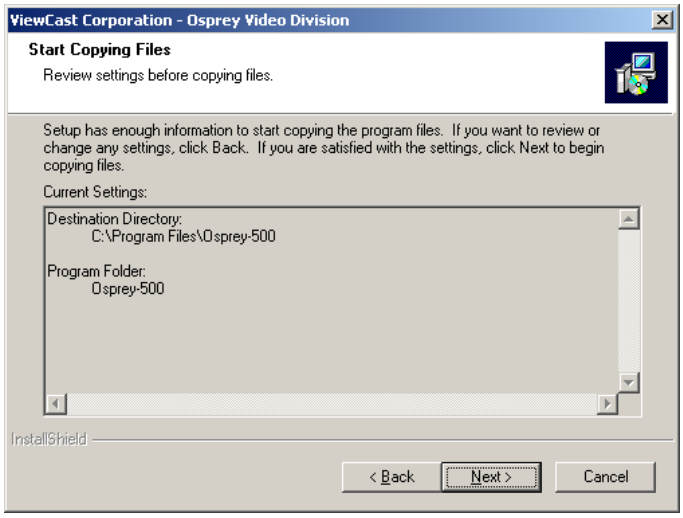


8. If you wish to change the destination location for the files, click **Browse**. Click **Next**.
   The Select Program Folder window displays.



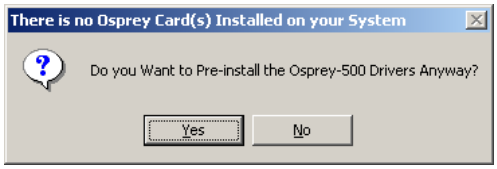
9. If you wish to change the program folder, type the new name in the Program Folders field. Click **Next**.

   The Start Copying Files window displays.



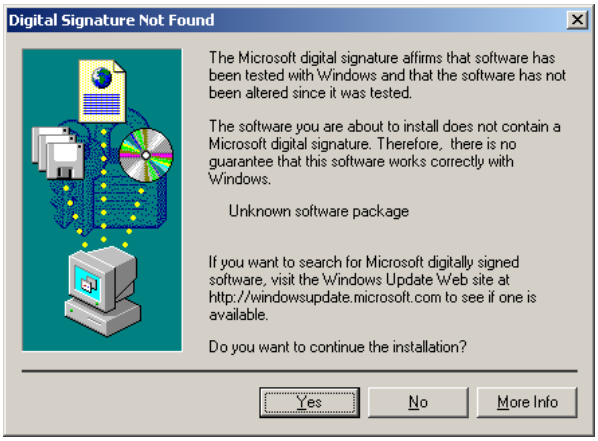
10. If there are any settings to be changed prior to installation, click **Back** to return to the previous windows. Click **Next**.

    A question dialog window displays.

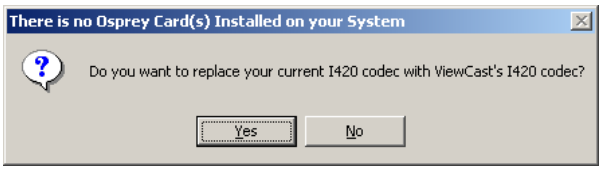


11. Click **Yes** to continue the installation process.

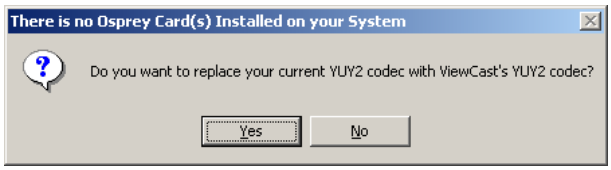
    The Digital Signature Not Found window displays for the video portion of the installation.



12. Click **Yes** to continue with the installation process.
    A Question Dialog window displays.

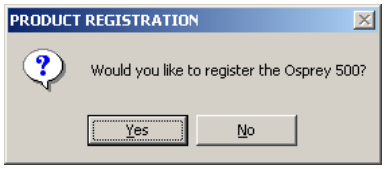


13. Click **Yes**.
    A Question Dialog window displays.



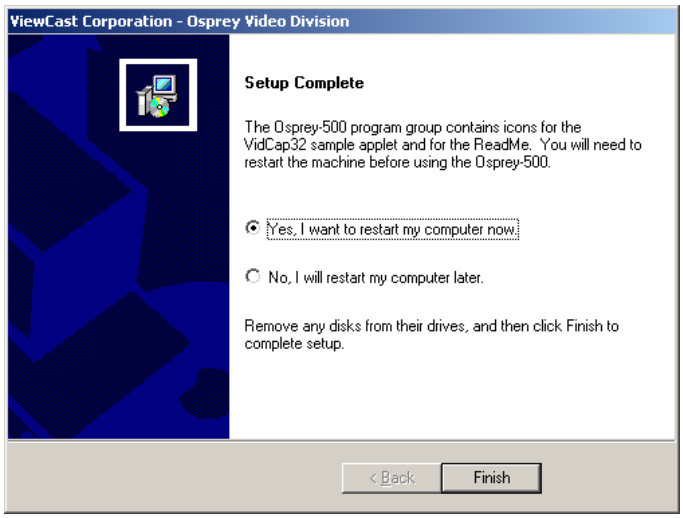
14. Click **Yes**.
    The Osprey Video Division Special Offers Shortcuts window displays.

15. Click **Yes** to place the shortcut on your desktop. If you do not want the shortcut on your desktop, click **No**.
    The Product Registration question window displays.



16. Click **Yes** to open a web browser window and register your Osprey-500 card at the Osprey Video website (**http://www.ospreyvideo.com/**). Click **No** if you would like to register your Osprey-500 card later.

    The Setup Complete window displays.



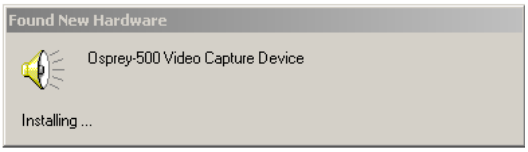
17. Click to select **No**.
18. Click **Finish** to complete the installation.

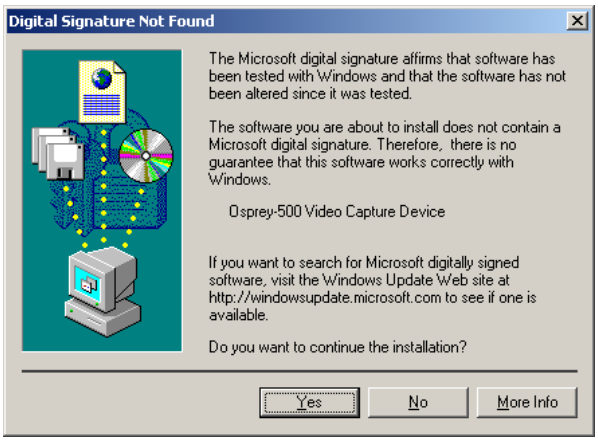
If you are not installing the Osprey card at this time, click **No** then **Finish** to proceed. When you start your computer after installing the Osprey hardware, the **Found New Hardware Wizard** runs upon detecting new hardware. The sequence of windows are similar to that in **Appendix H - Adding/Moving Boards in Windows 2000**.

The Osprey card does not need to be installed at this time. You also do not need to restart the computer at this time.

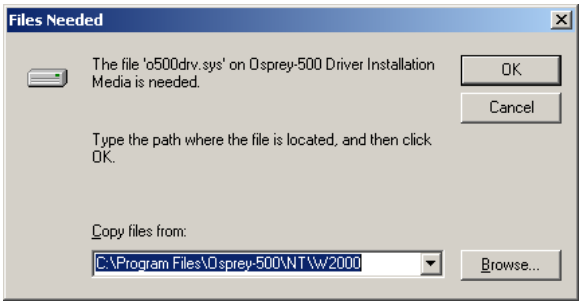
After you have installed the Osprey-500 card into your system, this sequence of windows displays:

When Windows detects the new card, a Found New Hardware window for the Multimedia Video Controller briefly displays on your screen, then the Digital Signature Not Found window displays.

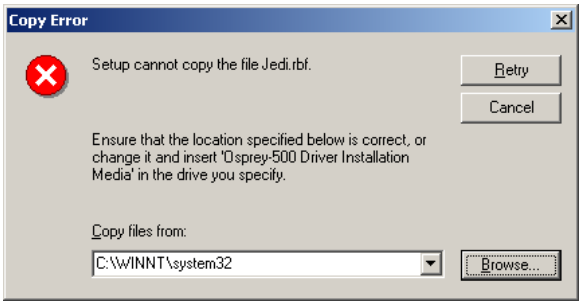




1. Click **Yes** to continue.
   A Files Needed window displays.

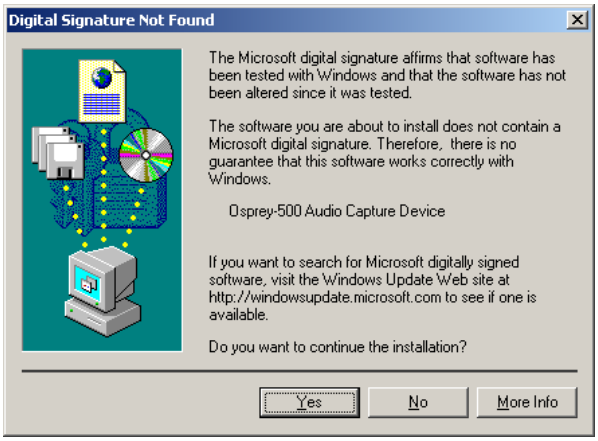


2. Click **Browse** to locate the directory Program Files\Osprey-500\driver.
3. Click **Open**.
4. Click **OK**.
   A Copy Error window displays.



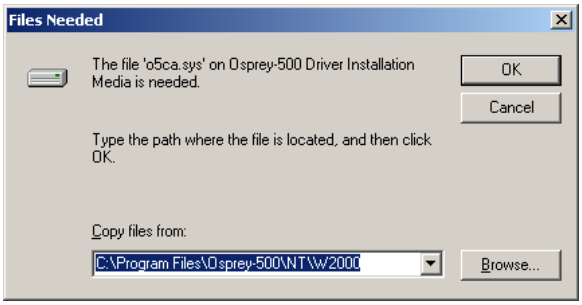
5. Click **Browse** to locate the directory Program Files\Osprey-500\driver.
6. Click **Open**.
7. Click **OK**.

A Found New Hardware window for the Multimedia Video Controller briefly displays on your screen, then the Digital Signature Not Found window displays.



8. Click **Yes** to continue.

A Files Needed window displays.



9. Click **Browse** to locate the directory Program Files\Osprey-500\driver.
10. Click **Open**.
11. Click **OK**.

The Osprey-500 card installation has been completed, and you are prompted to restart your system. The card will not function as expected until after you restart your computer.

Scenario 2: Osprey Card(s) Physically Installed, but Osprey Software not Installed

In this case you have two options:

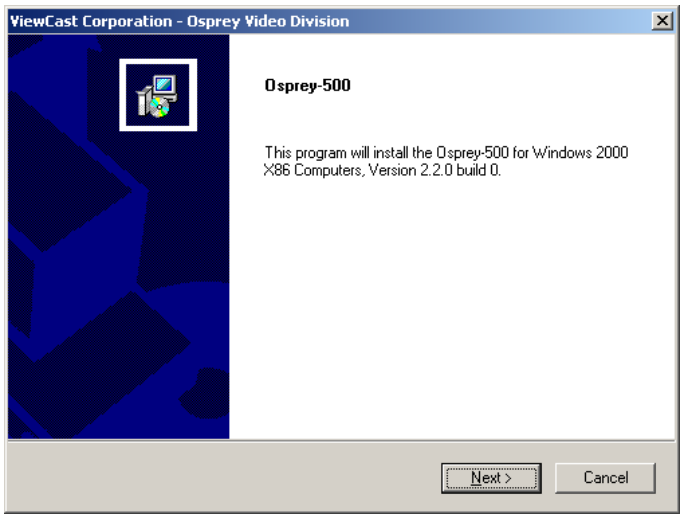
- **Option A: Run the Installation Program (Recommended)**
- **Option B: Use the New Hardware Found Wizard (Not Recommended)**

Option A: Run the Installation Program (Recommended)

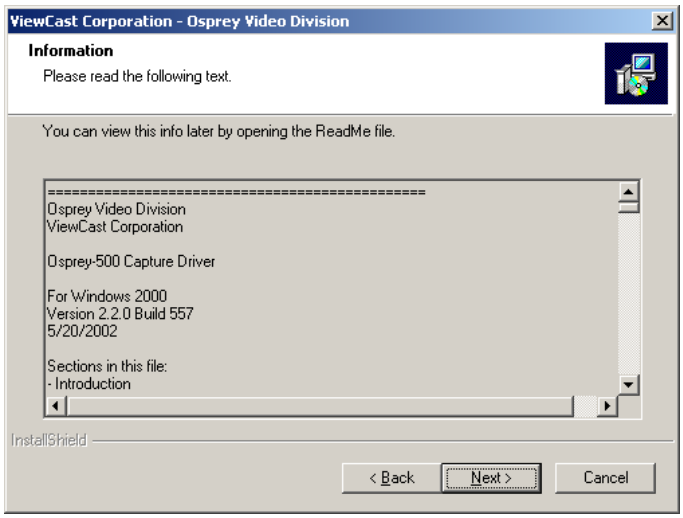
When windows 2000 is started for the first time after the Osprey card is installed, the *Found New Hardware* wizard displays one or more times. Cancel out of these wizards. After Windows 2000 has finished starting, do the following:

To install the Osprey drivers:

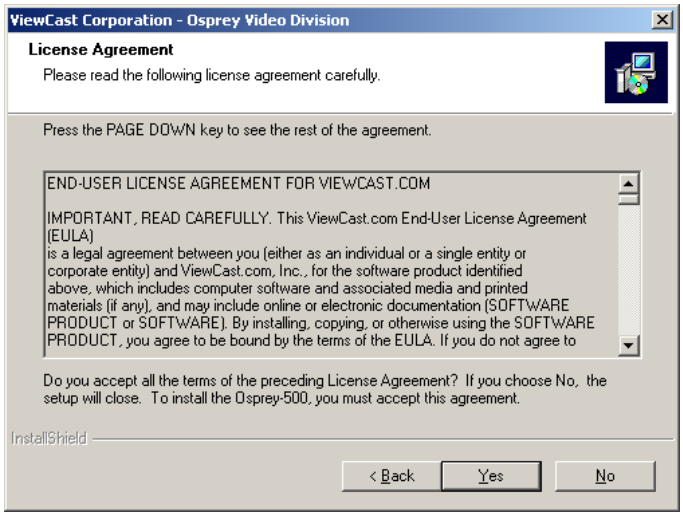
1. Using Windows Explorer, locate and access the CD-ROM drive containing the Osprey Installation CD-ROM.
2. Navigate to the **WIN2000** directory.
3. Double-click **SETUP.EXE**.
   The Osprey-500 Video and Audio Capture Driver window displays.



4. Click **Next**.
   The Information window displays.

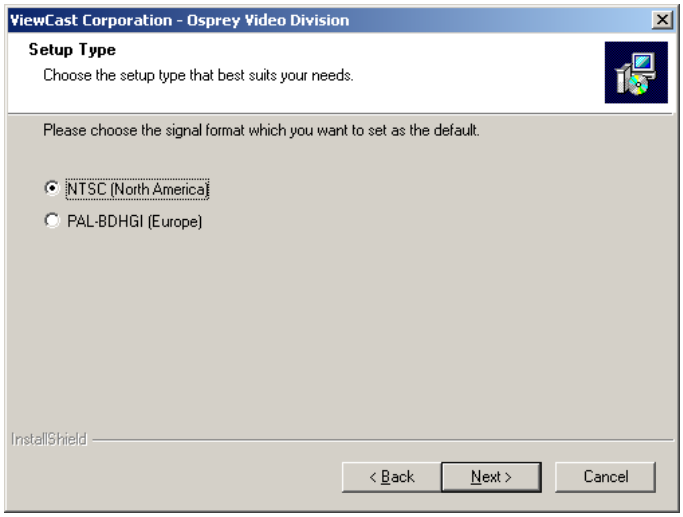


5. Click **Next**.
   The Software License Agreement window displays.



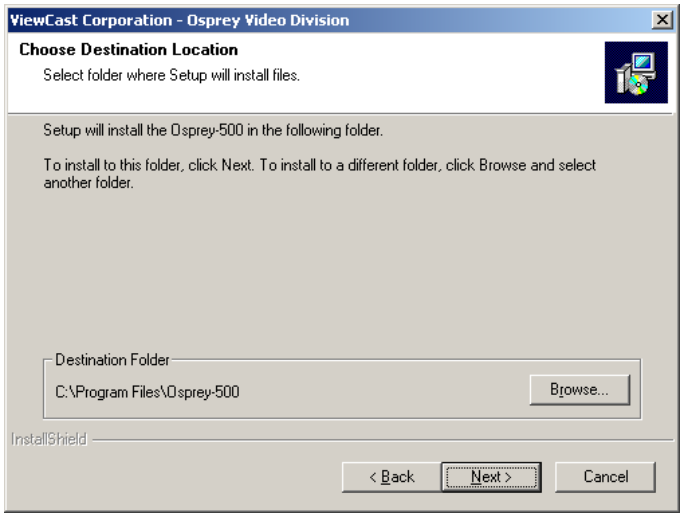
6. Click **Yes** to accept the End User Software License Agreement. If you do not wish to accept the agreement, click **No** to terminate the installation routine.

   The Setup Components window displays.



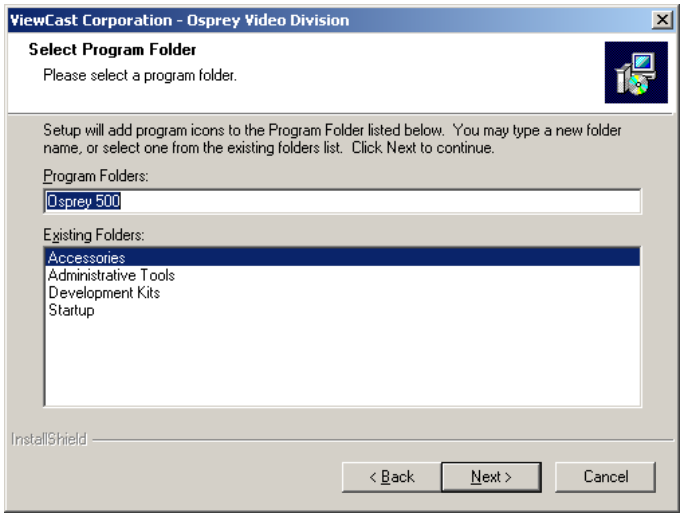
7. Click to select the Video Standard to set as default for your Opsrey-500 card.
8. Click **Next**.

   The Choose Destination Location window displays.



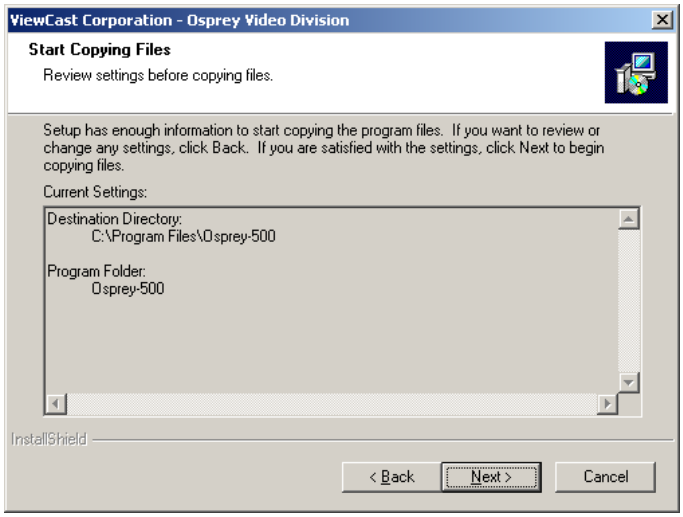
9. If you wish to change the destination location for the files, click **Browse**. Click **Next**.

   The Select Program Folder window displays.



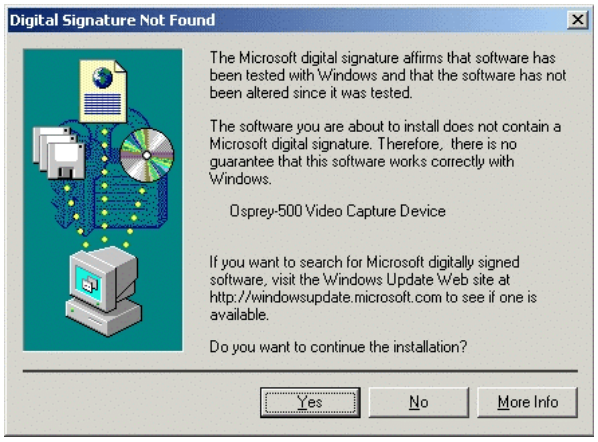
10. If you wish to change the program folder, type the new name in the Program Folders field. Click **Next**.

    The Start Copying Files window displays.



11. If there are any settings to be changed prior to installation, click **Back** to return to the previous windows. Click **Next**.

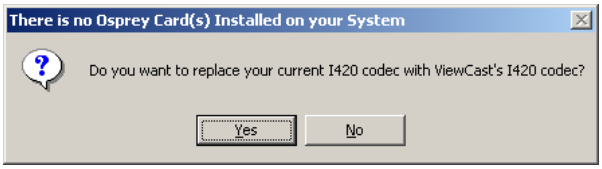
    The Digital Signature Not Found window displays.



The *Digital Signature Not Found* window displays twice for each Osprey-500 card in the computer. Windows 2000 recognizes the audio and video portions of the Osprey cards as separate items.

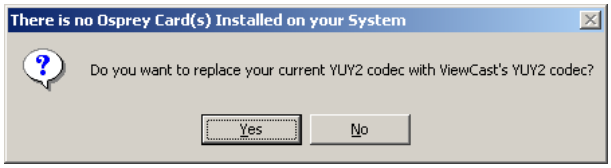
12. Click **Yes** to continue with the installation process.

    A Question Dialog window displays.



13. Click **Yes**.

    A Question Dialog window displays.

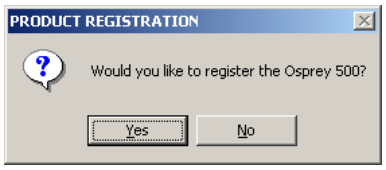


14. Click **Yes**.

    The Osprey Video Division Special Offers Shortcuts window displays.

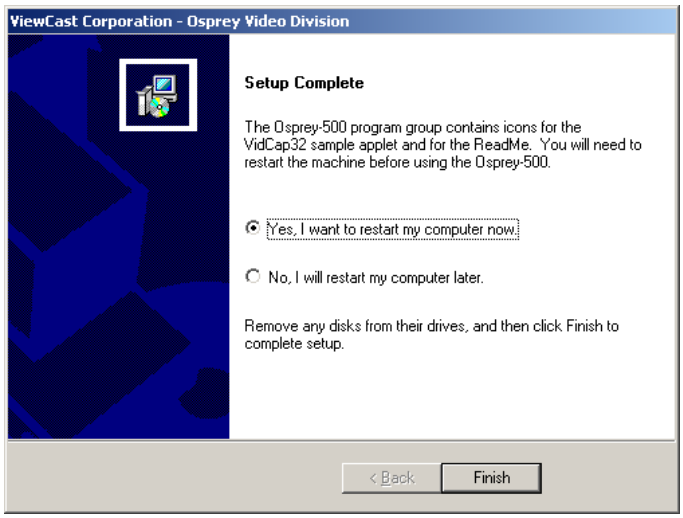
15. Click **Yes** to place the shortcut on your desktop. If you do not want the shortcut on your desktop, click **No**.

    The Product Registration question window displays.



16. Click **Yes** to open a web browser window and register your Osprey-500 card at the Osprey Video website (**http://www.ospreyvideo.com/**). Click **No** if you would like to register your Osprey-500 card later.

    The Setup Complete window displays.



17. Click **Finish** to complete the installation and restart your computer. You must restart your computer before you can use the Osprey-500 card.

Option B: Use the Found New Hardware Wizard (Not Recommended)

This method is more complicated than Option A. It is particularly inconvenient if you are installing multiple cards at once, since each card has to be set up separately. This process installs only the driver and is useful only for updating the driver component. Furthermore, to get the sample applications and other required items, you must still run the setup.exe program detailed in Scenario 2, Option A.

The following windows and instructions assume that you are working with a computer on which the Osprey-500 software has never previously been installed.

When Windows 2000 starts, it detects the new card(s) and starts the Found New Hardware Wizard.

Please carefully note the terminology in the Found New Hardware Wizard.

For all Osprey-500 model cards, the Wizard detects two logical devices for each card - a *Multimedia Video Controller* device and a *Multimedia Controller* device.

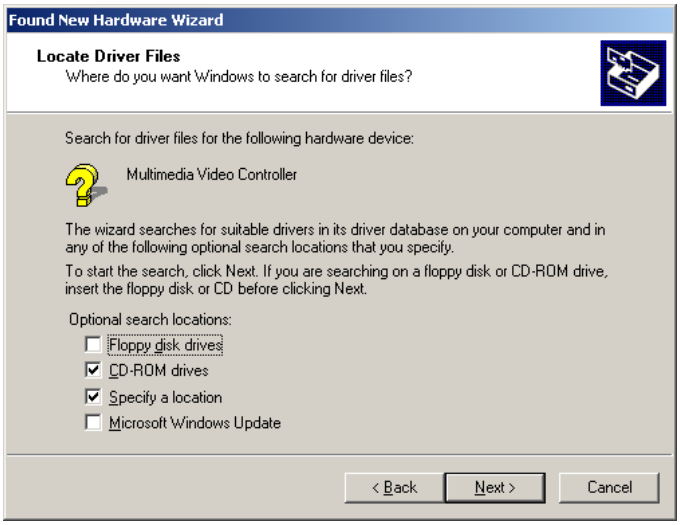
The Multimedia Video Controller corresponds to the Osprey-500 video device. The Multimedia Controller corresponds to the Osprey-500 audio device.

The first window to display is the Found New Hardware Wizard.

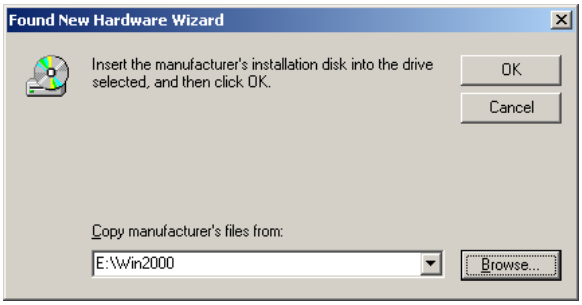
1. Click **Next**.

   The Welcome window displays.

2. Select **Search for a suitable driver** and click **Next**.
   The Locate Driver Files window displays.



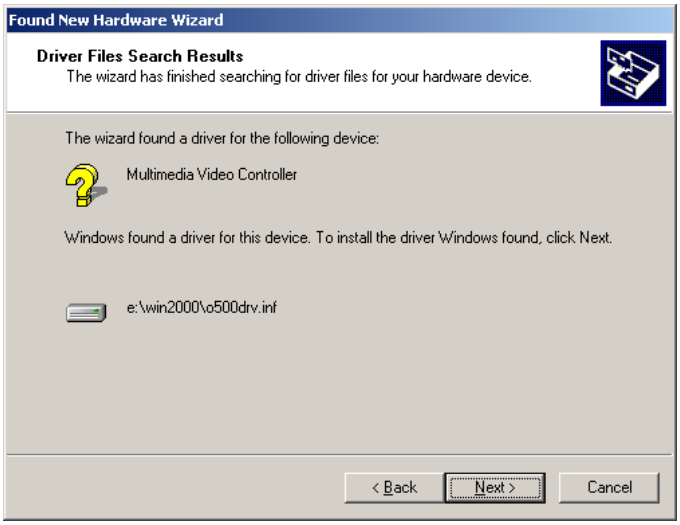
3. Click to select **Specify a location**
4. Click **Next**.
   The Found New Hardware Wizard's specify location window displays.



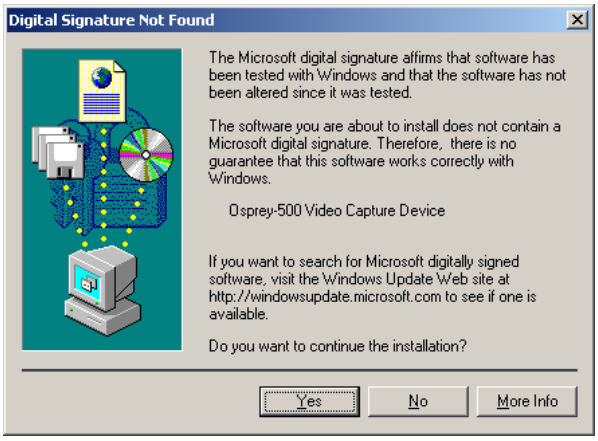
5. Click **Browse** and browse to the location of the Osprey-500 driver

This location is either the Win2000 directory on the CD-ROM drive, or the location to which you downloaded the driver.

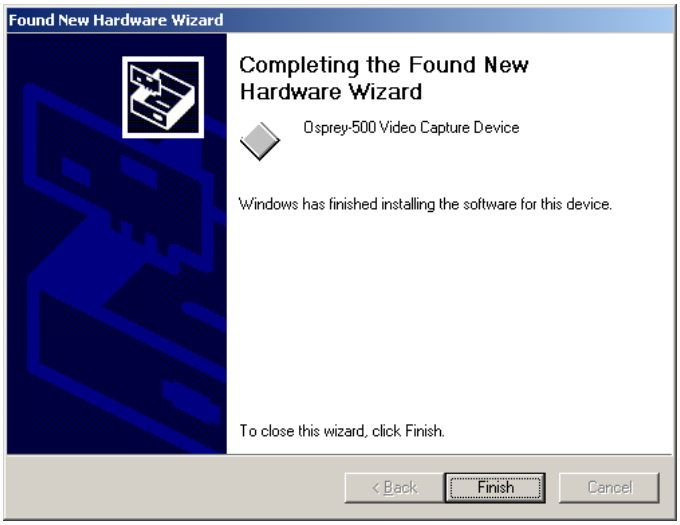
6. Click **OK**.
   The Driver Files Search Results window displays.



7. Click **Next**.
   The Digital Signature Not Found window displays.



8. Click **Yes**.
   The Completion window displays.



9. Click **Finish**.

At this point the Osprey-500 **video** driver has been installed. You should now get a **new** *Found New Hardware* popup – this time for the Multimedia Controller (i.e., the **audio** device) - and this new window is quickly covered by a **new** *Digital Signature Message* for the Osprey-500 audio driver.

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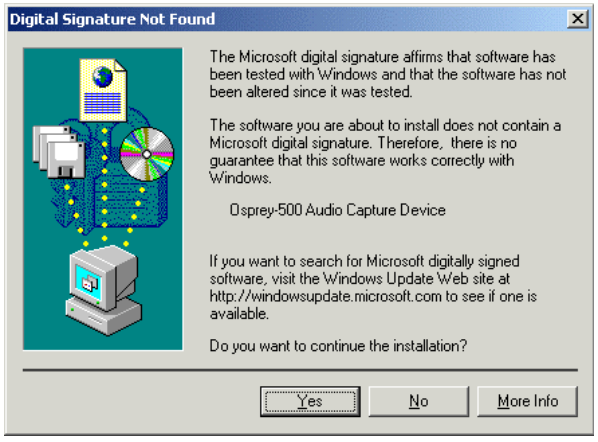
10. Click **Next**.
    The second Digital Signature Not Found window displays.



11. Click **Yes** to complete the driver installation process.

If your system contains multiple Osprey-500 cards, you must restart your computer before you can use all of the Osprey-500 cards. However, you do not need to restart your computer if only one Osprey-500 card is installed.

This process installs only the driver and is useful only for updating the driver component. To get the sample applications and other required items, you must still run the setup.exe program. See Scenario 2, **Option A** for those instructions.

Testing the Installation for Windows 2000

1. Verify that the hardware installation is complete according to the directions in **Chapter 2 - Osprey-500 Hardware**.
2. Connect a video signal source to one of the Osprey-500 connectors (Composite/S-video/SDI/DV).
3. Open the Osprey-500 group in the Start menu.
4. Click the **VidCap32** icon. Refer to **Chapter 8 - VidCap32** for more information on this application.
5. If your input is composite video, the screen displays a still video frame from the Osprey-500 board. Click the **Overlay** button. The screen should display moving video frames. If your input choice is not composite video, select the **Video Source** option under the **Options** menu. This brings up the Osprey-500's video capture driver configuration box where you can select your video input.
6. If the video area does not contain video, it could be for one of the following reasons:
   a. The driver is looking for video on the wrong input connector. You can either move the video cable to another connector or reconfigure the driver using its Control Dialog. Refer to **Chapter 6 - Osprey-500 Video Control Dialog**.
   b. The video source is not turned on or activated.
7. If the video area is scrambled or has bad color, the signal format of your video source may be different from the signal format selected in the driver software. Since the driver defaults to NTSC-M signal format, users of PAL equipment always need to change the driver's signal format the first time they run the driver. Refer to **Chapter 6 - Osprey-500 Video Control Dialog** for more information.

Uninstalling the Software

If you need to remove the Osprey driver from your system:

1. Open the **Control Panel**.
2. Double-click **Add/Remove Programs**.
3. Click to select **Change or Remove Programs**.
4. Highlight the **Osprey-500 Driver** entry.
5. Click **Change/Remove** in the Osprey entry.
   The uninstall program begins.
6. Click **Yes** to proceed.
7. Click **OK** when the process is complete.
8. Please reboot your computer to finish removing the driver.

Chapter 4 – Installing the Software – Windows XP

The Windows NT 4.0 Osprey drivers do not work with Windows XP. If your Osprey card(s) were installed under the Windows NT 4.0 operating system and the PC has now been upgraded to Windows XP, you need to install the Windows XP drivers.

Please note:

- Administrative privileges are required for installation.
- Before installing software, check the ViewCast.com support website or the ftp site for the any driver update releases subsequent to the software shipped on your CD. For the ViewCast.com support website, go to **http://www.ospreyvideo.com/** > **Downloads** > **Software & Drivers** > select WinXP and Osprey-500 from the table. To reach the ViewCast.com ftp site, go to **ftp://ftp.ospreyvideo.com/pub/OSP-500/winXP/latest**. It's a good idea to check these sites periodically for update releases.
- The screens used to illustrate the installation steps may not be exactly what displays on your computer screen. In some cases, version numbers and other minor differences may display in the installation you are running.

Basics: Installing From CD

If necessary, follow the directions in **Chapter 2 - Osprey-500 Hardware** to install the Osprey card. This software installation procedure works properly only if the card is already installed.

1. Turn on the machine and start Windows XP.
2. **Cancel** out of the *Found New Hardware* wizard.
3. If you are updating from a previous version of the driver, it is necessary to uninstall the old driver before installing the new driver. Please refer to **Uninstalling the Software** for instructions.
4. Insert the Osprey-500 Driver CD into your CDROM drive. The installation instructions assume this is the (D:) drive. Substitute the proper drive as it is configured on your system, if necessary.
5. Run the installation program
   a. Click the **Start** button
   b. Click **Run**
   c. Enter **D:\WinXP\Setup** in the dialog box
   d. Click **OK**
6. The installation program steps are self-explanatory for many users. If you need additional information, please refer to the section entitled **Option A: Run the Installation Program (Recommended)**.
7. The driver and demo program are ready for use as soon as the installation program completes and you have rebooted the system. We suggest that you test the driver immediately. Please refer to **Testing the Installation for Windows XP**.

Basics: Downloading and Installing Updated Drivers

1. The latest software drivers for Osprey-500 Capture Cards are available via FTP (file transfer protocol) at the following locations:

   ftp://ftp.ospreyvideo.com/pub/OSP-500/winXP/latest

   The same driver is used for the Osprey-500 PRO, Osprey-500 DV, and Osprey-500 DV PRO, so these links point to the same download file. There are also links to the drivers from our web site at **http://www.ospreyvideo.com**.
2. It is necessary to uninstall your existing Osprey-500 driver before installing a newer version of the driver. Follow the instructions in Uninstalling the Software and restart your computer before beginning the new install procedure.

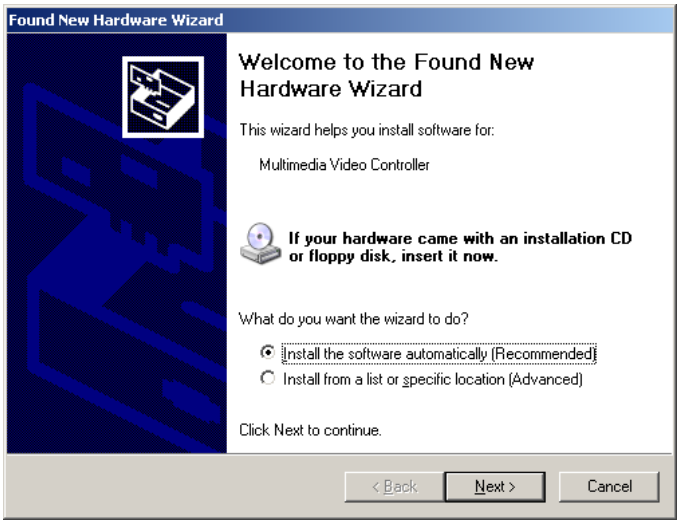
3. Use your web browser, such as Microsoft Internet Explorer or Netscape Navigator, to find our FTP site and download the file. Type the FTP address shown above into the address box at the top of your browser window. You may find it simpler to type just the first part of the address - **ftp://ftp.ospreyvideo.com/**- and then click on the list of directories that display until you reach the **winXP/latest** location. Refer to your browser's help files for more specific and detailed assistance.
4. Download the web package file in **winXP/latest** to your hard disk.
5. The *Found New Hardware* wizard displays detecting each Osprey-500 card in the computer. Follow the directions in Canceling Out of the Found New Hardware Wizard at each prompt.
6. Run the web package program:
   a. Click the **Start** button.
   b. Click **Run**.
   c. Enter <*pathname*> in the dialog box, where <*pathname*> is the location and name of the file that you have downloaded.
   d. Click **OK**.
   e. The program prompts for a temporary location for unpacking the install files.
   f. See Option A: Run the Installation Program (Recommended) for a full description of the Installation Program steps.

These files are not automatically deleted after setup has run. This feature exists to offer the option of performing the manual Plug and Play install later. If you want to conserve disk space, make a note of where these files are being unpacked, and delete them after the install.

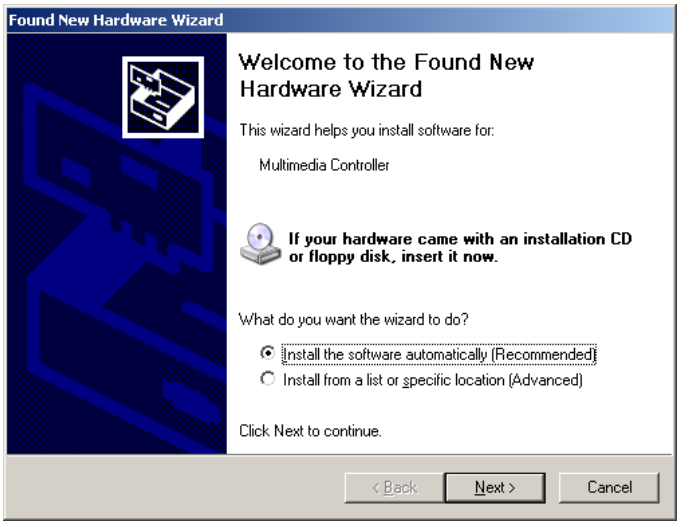
Canceling Out of the Found New Hardware Wizard

When installing an updated Osprey-500 driver, first uninstall the existing driver and reboot the computer. The Found New Hardware wizard runs after rebooting. To cancel out the Found New Hardware wizard:

The Digital Signature Not Found window displays for the Osprey-500 video capture device.



1. Click **Cancel**.
   The Found New Hardware Wizard window displays.



2. Click **Cancel** to exit the Found New Hardware Wizard.

Two Install Scenarios

There are two installation scenarios that might apply:

- **Scenario 1: Osprey Card(s) not Physically Installed in the PC**
- **Scenario 2: Osprey Card(s) Physically Installed, but Osprey Software not Installed**

In all cases, the most efficient and complete installation method is to run the **setup.exe** program on the product CD or in the web package that you downloaded. The setup program automates the Plug and Play steps required to install the drivers and ensures that they are performed correctly. It also installs the bundled applets and User's Guide. If you have multiple Osprey capture cards in the system, it configures all of the boards at the same time.

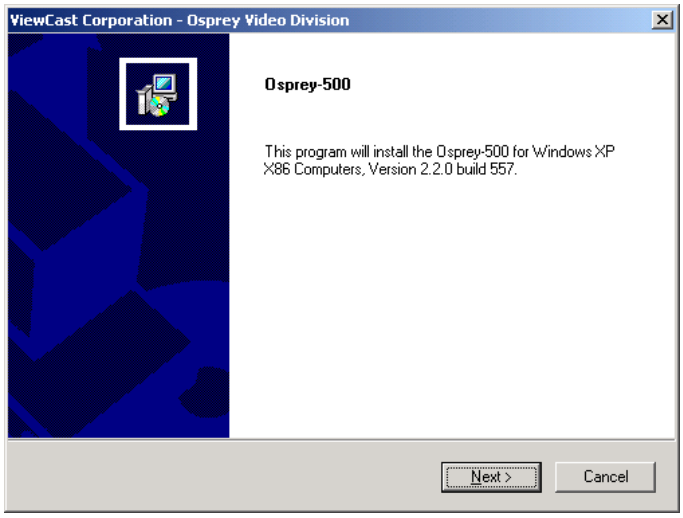
You can skip the detailed instructions if you are upgrading from one Osprey driver version to another. Just run the **setup.exe** file to install all the updated components.

Scenario 1: Osprey Card(s) not Physically Installed in the PC

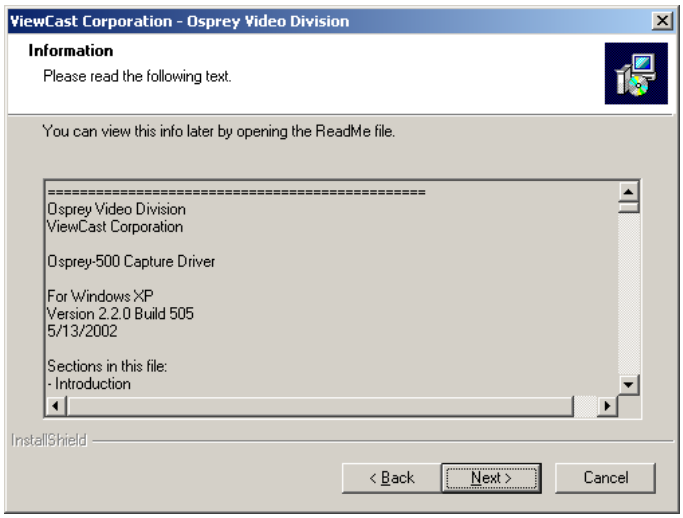
This Pre-install Scenario is the method that we recommend if you are installing an Osprey card for the first time on a system and the Osprey software has not yet been installed. After the install is run and as soon as an Osprey card is installed in the PC, the card is detected and its drivers are started automatically.

Using Windows Explorer, locate and access the CD-ROM drive containing the Osprey Installation CD-ROM.

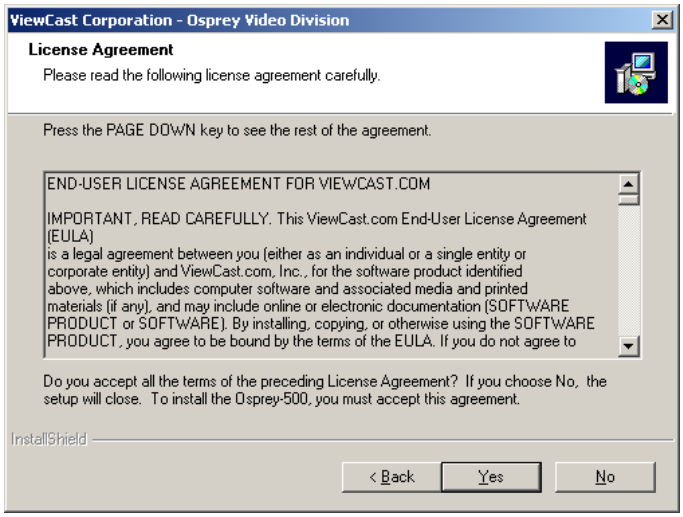
1. Navigate to the **WINXP** directory.
2. Double-click **SETUP.EXE**.
   The Osprey-500 Video and Audio Capture Driver window displays.



3. Click **Next**.
   The Information window displays.

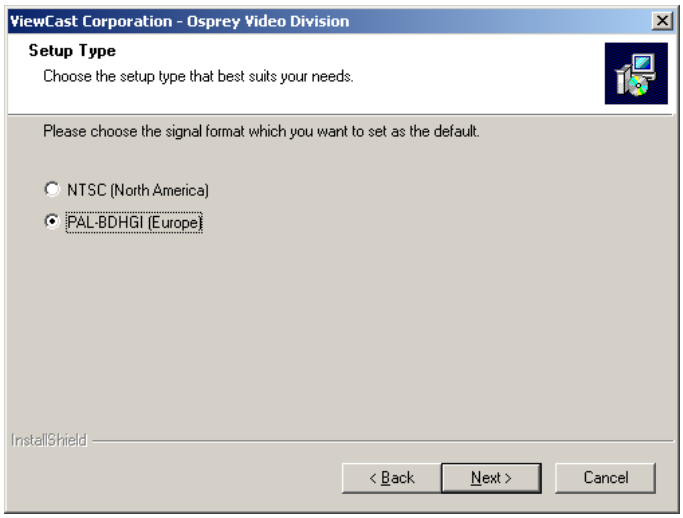


4. Click **Next**.
   The Software License Agreement window displays.



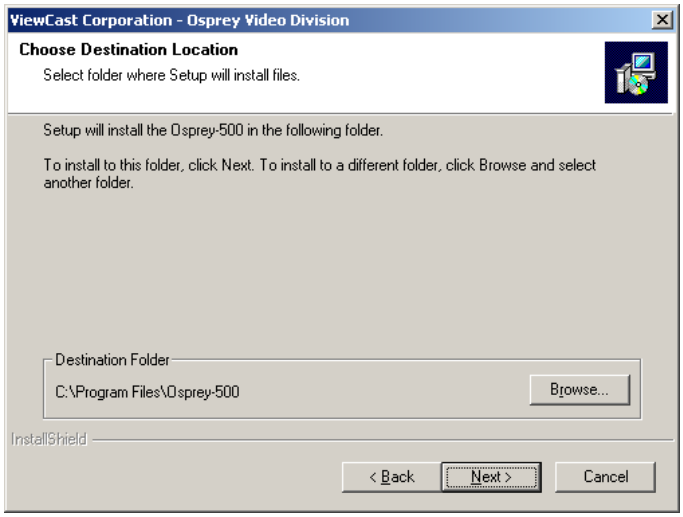
5. Click **Yes** to accept the End User Software License Agreement. If you do not wish to accept the agreement, click **No** to terminate the installation routine.

   The Setup Type window displays.

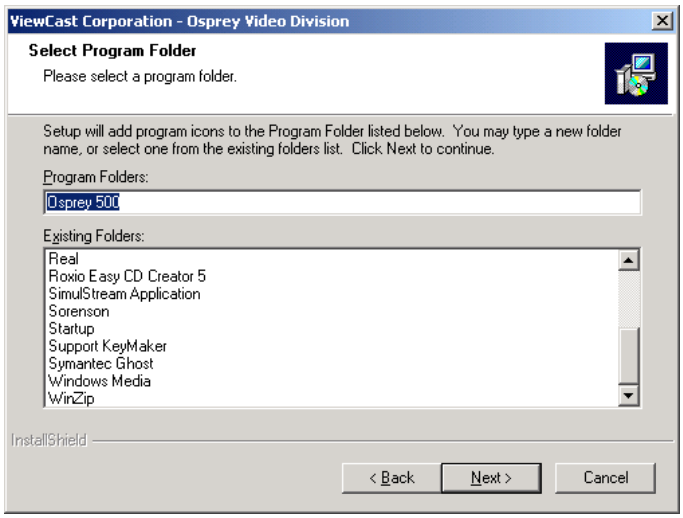


6. Click **Next**.

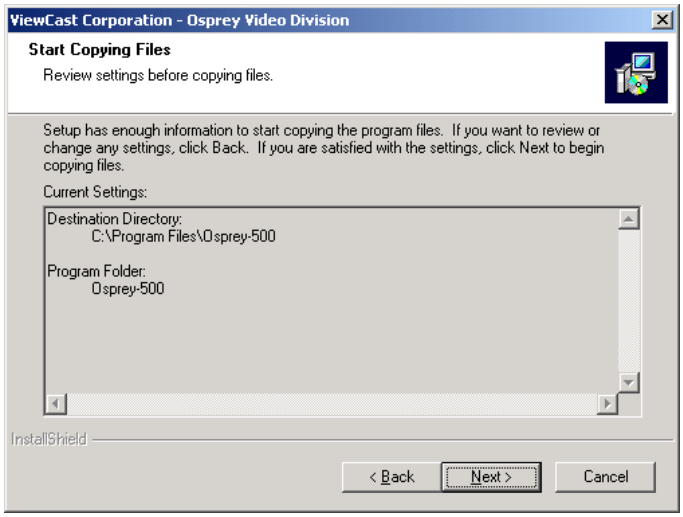
   The Choose Destination Location window displays.



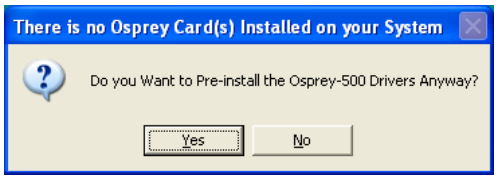
7. Click **Next**.
   The Select Program Folder window displays.



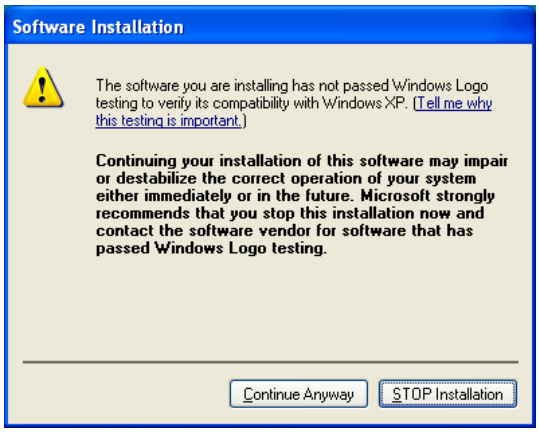
8. Click **Next**.
   The Start Copying Files window displays.



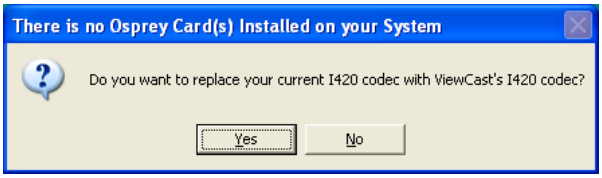
9. Click **Next**.
   A question window displays.



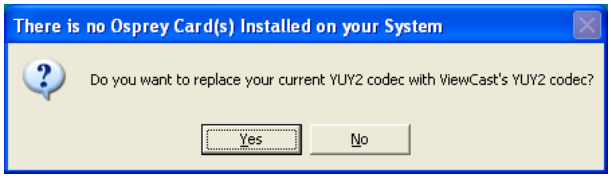
10. Click **Yes** to continue the installation process.
    The Software Installation window displays.



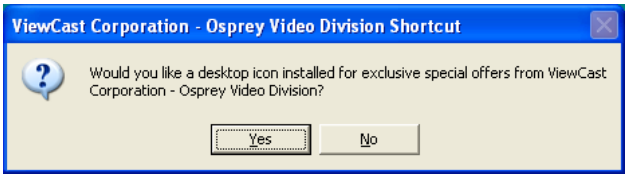
11. Click **Continue Anyway**.
    A question window displays.



12. Click **Yes**.
    A question window displays.



13. Click **Yes**.
    A question window displays.



14. Click **Yes** to place the shortcut on your desktop. If you do not want the shortcut on your desktop, click **No**.

    The Setup Complete window displays.

If you are not installing the Osprey card at this time, click **No** then **Finish** to proceed. When you start your computer after installing the Osprey hardware, the **Found New Hardware Wizard** runs upon detecting new hardware. The sequence of windows are similar to that in **Appendix H - Adding/Moving Boards in Windows 2000**.

The Osprey card does not need to be installed at this time. You also do not need to restart the computer at this time.

Scenario 2: Osprey Card(s) Physically Installed, but Osprey Software not Installed

In this case you have two options:

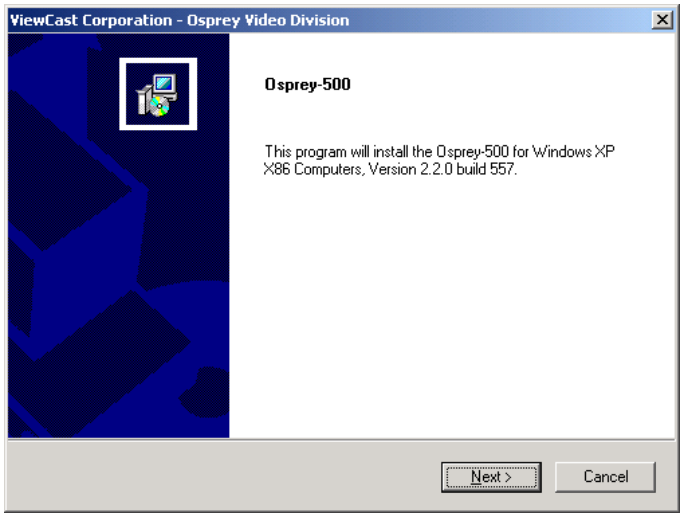
- **Option A: Run the Installation Program (Recommended)**
- **Option B: Use the Found New Hardware Wizard (Not Recommended)**

Option A: Run the Installation Program (Recommended)

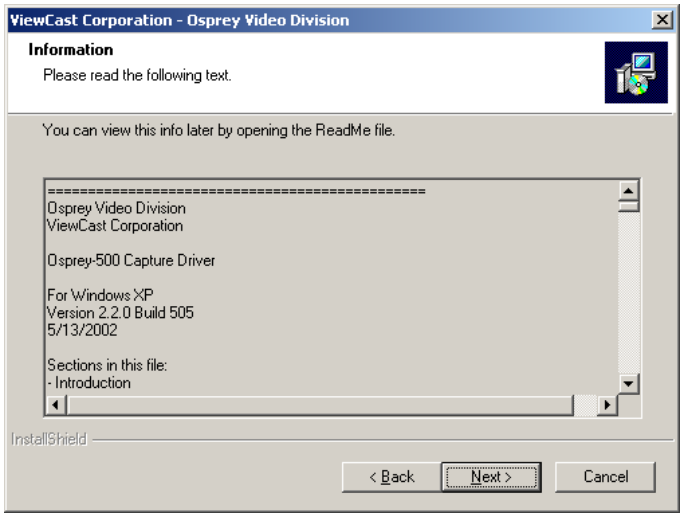
When Windows XP is started for the first time after the Osprey card is installed, the *Found New Hardware* wizard displays one or more times. Cancel out of these wizards. After Windows XP has finished starting, do the following:

To install the Osprey drivers:

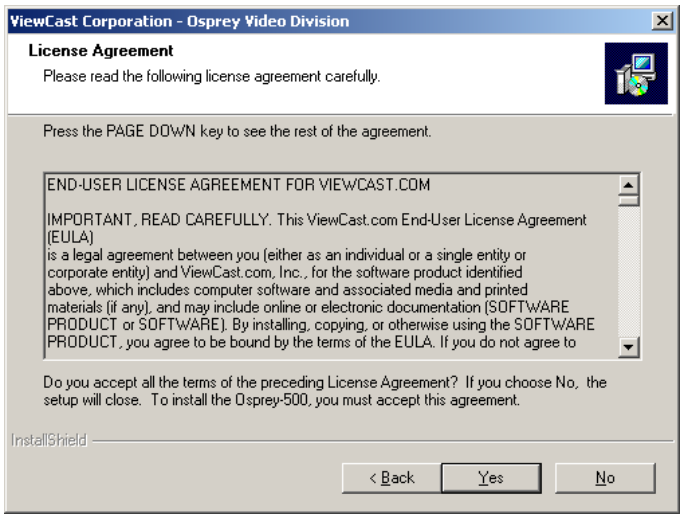
1. Navigate to the **WINXP** directory.
2. Double-click **SETUP.EXE**.
   The Osprey-500 Video and Audio Capture Driver window displays.



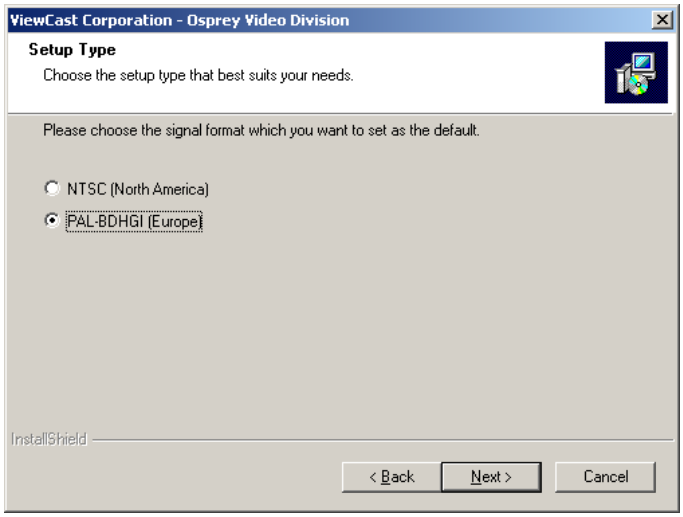
3. Click **Next**.
   The Information window displays.



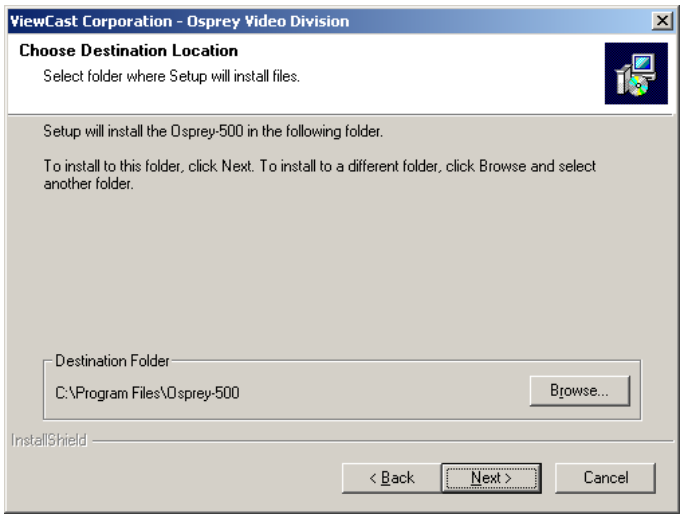
4. Click **Next**.
   The Software License Agreement window displays.



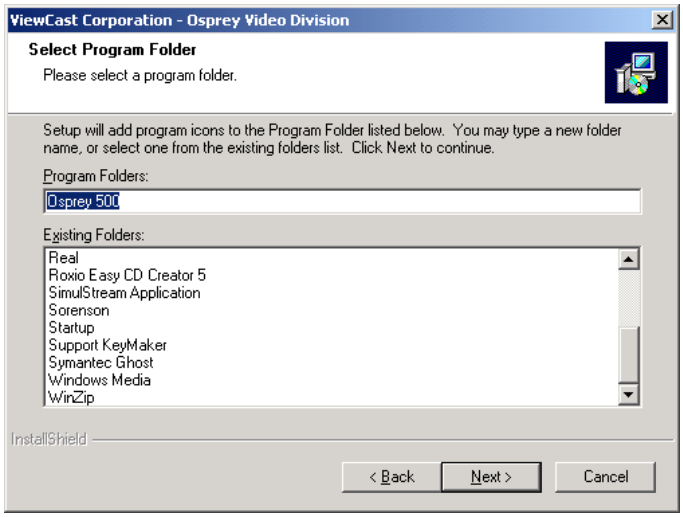
5. Click **Yes** to accept the End User Software License Agreement. If you do not wish to accept the agreement, click **No** to terminate the installation routine.
   The Setup Type window displays.



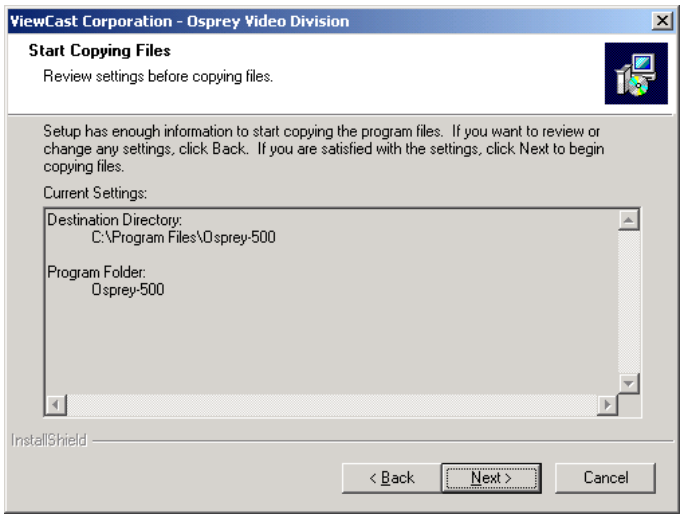
6. Click **Next**.
   The Choose Destination Location window displays.



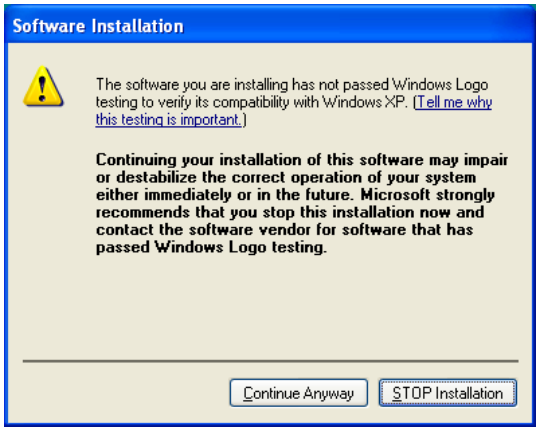
7. Click **Next**.
   The Select Program Folder window displays.



8. Click **Next**.
   The Start Copying Files window displays.

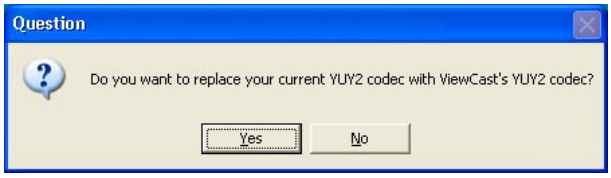


9. Click **Next**.
   The Software Installation window displays.

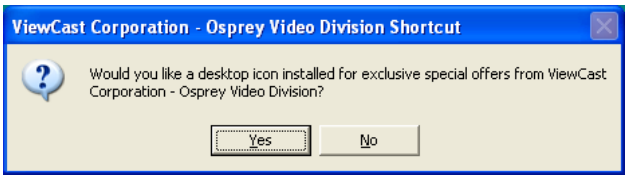


10. Click **Continue Anyway**.
    A question window displays.

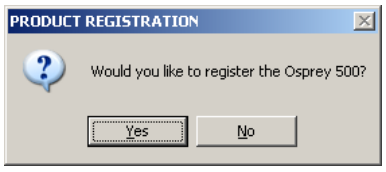
11. Click **Yes**.
    A question window displays.



12. Click **Yes**.
    A question window displays.

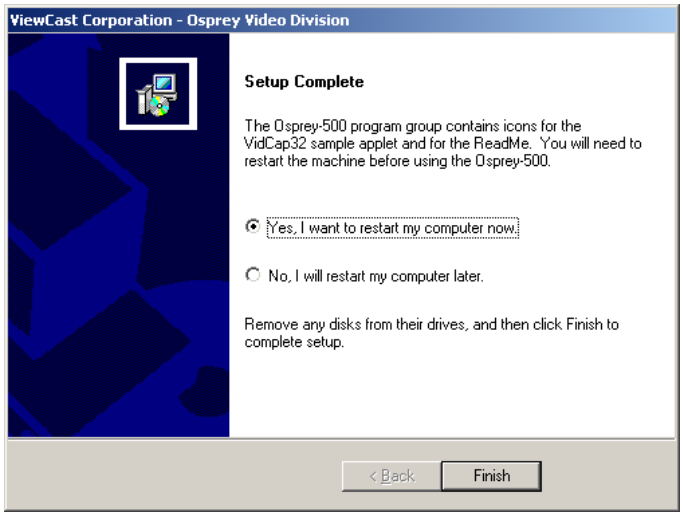


13. Click **Yes** to place the shortcut on your desktop. If you do not want the shortcut on your desktop, click **No**.
    The Product Registration window displays.



14. Click **Yes** to open a web browser window and register your Osprey-500 card at the Osprey Video website. Click **No** if you would like to register your Osprey-500 card later.
    The Setup Complete window displays.

The installation continues after you close the browser window.



Option B: Use the Found New Hardware Wizard (Not Recommended)

This method is more complicated than Option A. It is particularly inconvenient if you are installing multiple cards at once, since each card has to be set up separately. This process installs only the driver and is useful only for updating the driver component. Furthermore, to get the sample applications and other required items, you must still run the setup.exe program detailed in Scenario 2, Option A.

The following windows and instructions assume that you are working with a computer on which the Osprey-500 software has never previously been installed.

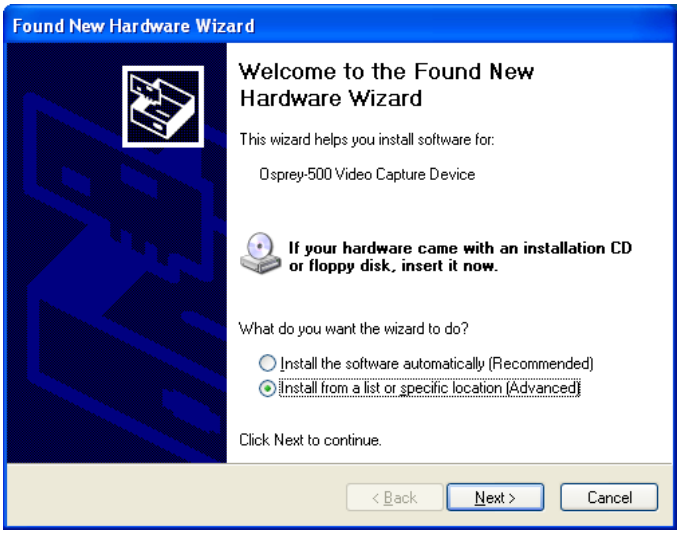
When Windows XP starts, it detects the new card(s) and starts the Found New Hardware Wizard.

Please carefully note the terminology in the Found New Hardware Wizard.

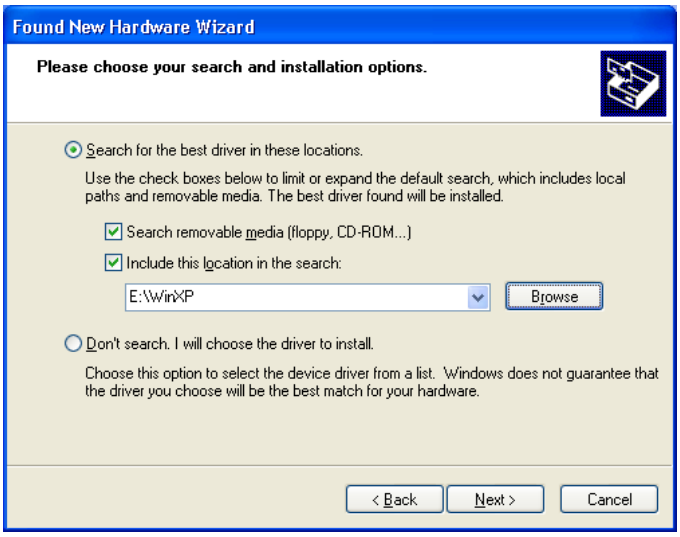
For all Bt/Ct878-based Osprey cards, the Wizard detects two logical devices for each card - a *Multimedia Video Controller* device and a *Multimedia Controller* device.

The Multimedia Video Controller corresponds to the Osprey-500 video device. The Multimedia Controller corresponds to the Osprey-500 audio device.

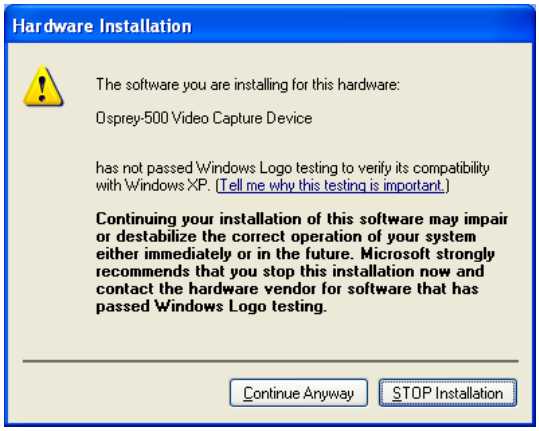
The first window to display is the Found New Hardware Wizard.



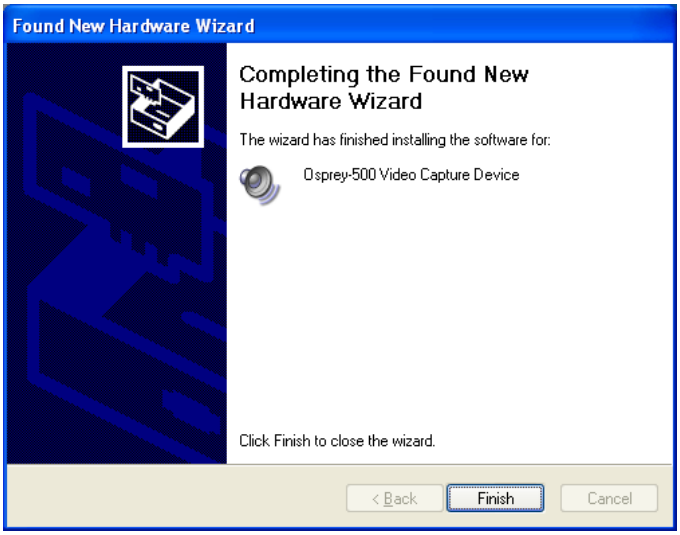
1. Click to select **Install from a list or specific location**.
2. Click **Next**.
   The Found New Hardware Wizard window displays.



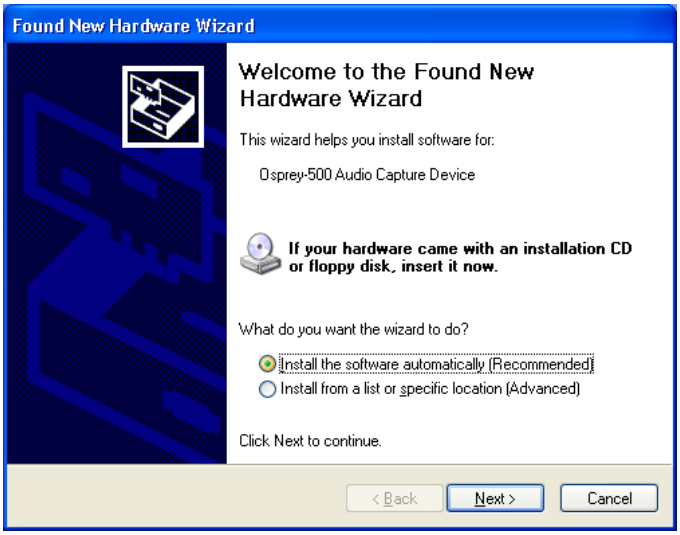
3. Click to select **Search**. Click **Browse** to locate the drivers.
4. Click **Next**.
   The Hardware Installation window displays.



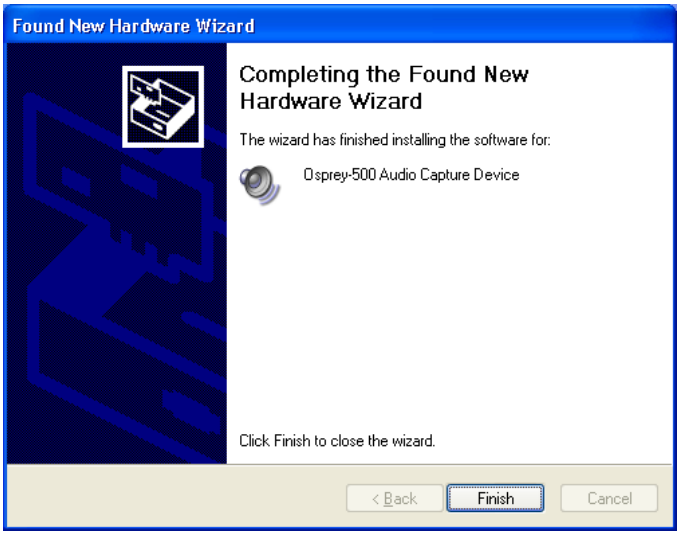
5. Click **Continue Anyway**.
   The Found New Hardware Wizard window displays.



6. Click **Finish**.
   The Welcome to the Found New Hardware Wizard window displays for the audio portion of the Osprey-500.



7. Click **Next**.
   The Completing the Found New Hardware Wizard window displays.



8. Click **Finish**

	If your system contains multiple Osprey-500 cards, you must restart your computer before you can use all of the Osprey-500 cards. However, you do not need to restart your computer if only one Osprey-500 card is installed.
	After completing the Found New Hardware Wizard, the software applications must also be installed. Navigate to the WinXP directory on the CD-ROM and double-click SETUP.EXE. For detailed instructions, see **Option A**.

Testing the Installation for Windows XP

1. Verify that the hardware installation is complete according to the directions in **Chapter 2 - Osprey-500 Hardware**.
2. Connect a video signal source to one of the Osprey-500 connectors (Composite/S-video/SDI/DV).
3. Open the Osprey-500 group in the Start menu.
4. Click the **VidCap32** icon. Refer to **Chapter 8 - VidCap32** for more information on this application.
5. If your input is composite video, the screen displays a still video frame from the Osprey-500 board. Click the **Overlay** button. The screen should display moving video frames. If your input choice is not composite video, select the **Video Source** option under the **Options** menu. This brings up the Osprey-500's video capture driver configuration box where you can select your video input.
6. If the video area does not contain video, it could be for one of the following reasons:
   a. The driver is looking for video on the wrong input connector. You can either move the video cable to another connector or reconfigure the driver using its Control Dialog. Refer to **Chapter 6 - Osprey-500 Video Control Dialog**.
   b. The video source is not turned on or activated.
7. If the video area is scrambled or has bad color, the signal format of your video source may be different from the signal format selected in the driver software. Since the driver defaults to NTSC-M signal format, users of PAL equipment always need to change the driver's signal format the first time they run the driver. Refer to **Chapter 6 - Osprey-500 Video Control Dialog** for more information.

Uninstalling the Software

If you need to remove the Osprey driver from your system:

1. Open the **Control Panel**.
2. Double-click **Add/Remove Programs**.
3. Click to select **Change or Remove Programs**.
4. Highlight the **Osprey-500 Driver** entry.
5. Click **Change/Remove** in the Osprey entry.
   The uninstall program begins.
6. Click **Yes** to proceed.
7. Click **OK** when the process is complete.
8. Please reboot your computer to finish removing the driver.

Chapter 5 - Installing the Software - Windows NT 4.0

The Osprey Capture Card products contains a single CD for Windows 2000 and Windows NT 4.0.

After you've installed the software, you can test the card and software by running the included application program **VidCap32**.

Please note:

- Administrative privileges are required for installation.
- Before installing software, check the ViewCast.com support website or the ftp site for the any driver update releases subsequent to the software shipped on your CD. For the ViewCast.com support website, go to **http://www.ospreyvideo.com/** > **Downloads** > **Software & Drivers** > select WinNT and Osprey-500 from the table. To reach the ViewCast.com ftp site, go to **ftp://ftp.viewcast.com/pub/OSP-500/winnt/latest**. It's a good idea to check these sites periodically for update releases.
- The screens used to illustrate the installation steps may not be exactly what displays on your computer screen. In some cases, version numbers and other minor differences may display in the installation you are running.
- If you already have the Osprey driver software installed on your system and are updating it, you do not have to remove the old version before installing the new version. The installation program removes or replaces any files or registry settings that are outdated.

If you have not installed Microsoft's DirectXMedia package, it is required to run Windows Media Encoder 7. It is included on your Osprey-500 CD-ROM. You can also download DirectXMedia from the following location:

ftp://ftp.microsoft.com/developr/platformsdk/july2000/common/redist/dxmedia

You should download the following files:

- x86/dxmedia.exe
- x86/dxm6pth.exe
- dxmins~1.htm
- license.htm
- redist.txt

The DirectXMedia package is distributed with Microsoft's DirectX 7.0a SDK which can be ordered on CD from:

http://msdn.microsoft.com/directx/downloads.asp

The DirectXMedia pacage has also been distributed on the Patform SDK CD-ROM within the MSDN subscriptions.

Installing from CD

If necessary, follow the directions in **Chapter 2 - Osprey-500 Hardware** to install the Osprey card. This software installation procedure works properly only if the card is already installed.

1. Turn on the machine and start Windows NT.
2. If you are updating from a previous version of the driver, it is necessary to uninstall the old driver before installing the new driver. Please refer to **Uninstalling the Software** for instructions.
3. Insert the Osprey-500 Driver CD into your CDROM drive. The installation instructions assume this is the (D:) drive. Substitute the proper drive as it is configured on your system, if necessary.
4. Run the installation program
   a. Click the **Start** button
   b. Click **Run**
   c. Enter **D:\WinNT\Setup** in the dialog box
   d. Click **OK**
5. The installation program steps are self-explanatory for many users. If you need additional information, please refer to the section entitled **Setup Program: Details**.
6. The driver and demo program are ready for use as soon as the installation program completes and you have rebooted the system. We suggest you test the driver immediately. Refer to the section entitled **Testing the Installation for Windows NT**.

Downloading and Installing Updated Drivers

1. Install the Osprey board in the PC if you have not already done so, turn on the machine and start Windows NT.
2. The latest software drivers for Osprey-500 Capture Cards are available via FTP (file transfer protocol) at the following location:

   ftp://ftp.viewcast.com/pub/OSP-500/winnt/latest

There are also links to the drivers from our web site at **http://www.ospreyvideo.com/**.

3. Use your web browser, such as Microsoft Internet Explorer or Netscape Navigator, to find our FTP site and download the file. Type the FTP address shown above into the address box at the top of your browser window. You may find it simpler to type just the first part of the address - **ftp://ftp.viewcast.com** - and then click on the list of directories that display until you have reached the **winnt/latest** location. Refer to your browser's help files for more specific and detailed assistance.
4. Download the web package in **winnt/latest** to your hard drive.
5. It is necessary to uninstall your existing Osprey-500 driver before installing a newer version of the driver. Follow the instructions in Uninstalling the Software and restart your computer before beginning the new install procedure.
6. Run the web package program
   a. Click the **Start** button
   b. Click **Run**
   c. Enter <*pathname*> in the dialog box, where <*pathname*> is the location and name of the file that you have downloaded
   d. Click **OK**.
7. The program prompts you for a temporary location in which to unpack the installation files and starts the setup program. The setup program guides you through the installation steps. For many users this process is self-explanatory. If you need additional information, please refer to the section entitled **Setup Program: Details**.

The installation files are not automatically deleted after setup has run. If you want to conserve disk space, make a note of the temporary location where these files are being unpacked and delete them after the installation.

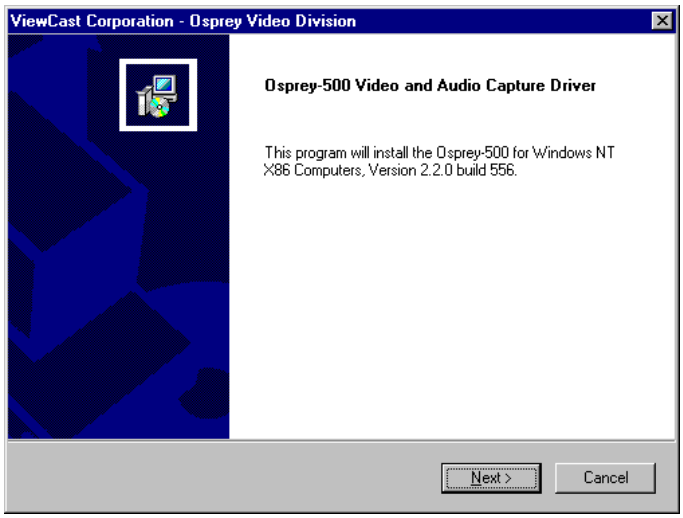
8. You must restart the computer before the driver and sample applications are ready for use. We recommend that you test the driver immediately after restarting your computer.

Setup Program: Details

The setup program presents a sequence of windows and dialogs to guide you through the setup process. In general, click the **Next >** button to continue to the next screen. At any point you can click **< Back** to return to a previous screen or **Cancel** to exit the installation.

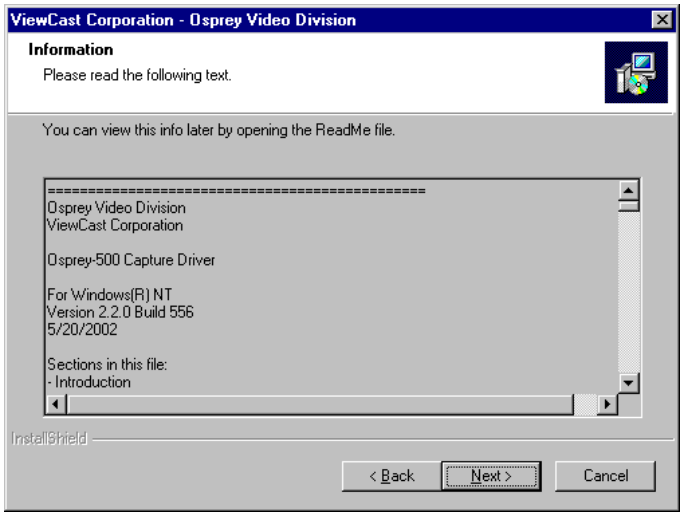
1. The installation of the Osprey-500 Driver for Windows NT begins with a confirmation that the setup program is beginning.

   The Welcome window displays.

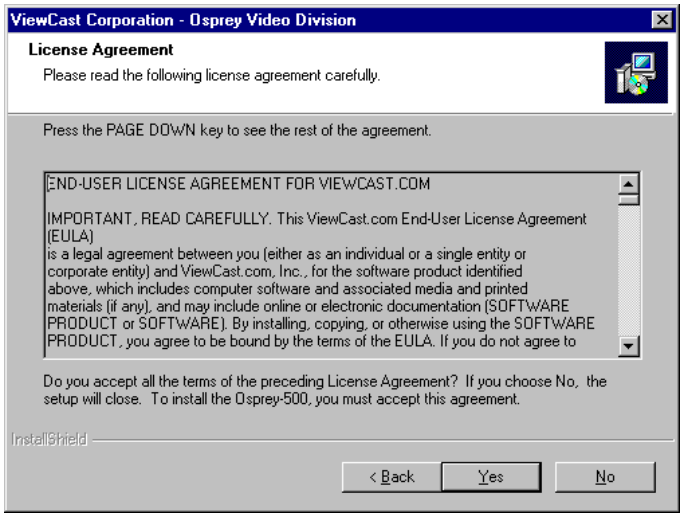


2. Click **Next**.

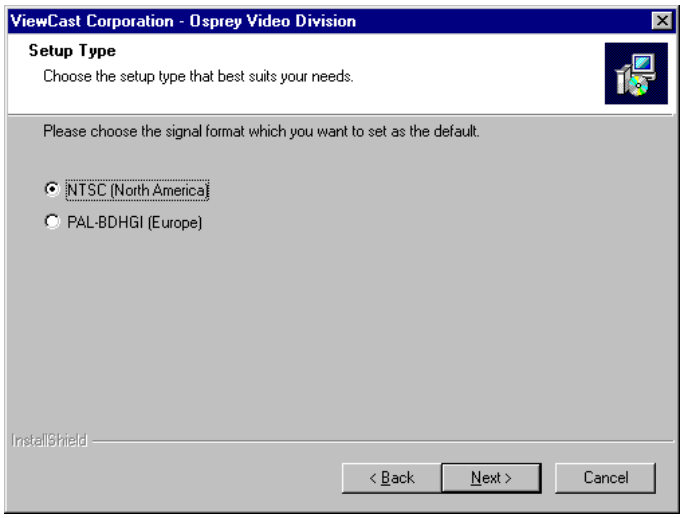
   The Information window displays.



3. Review the release notes for the Osprey-500.
4. Click **Next**.
   The Software License Agreement window displays.

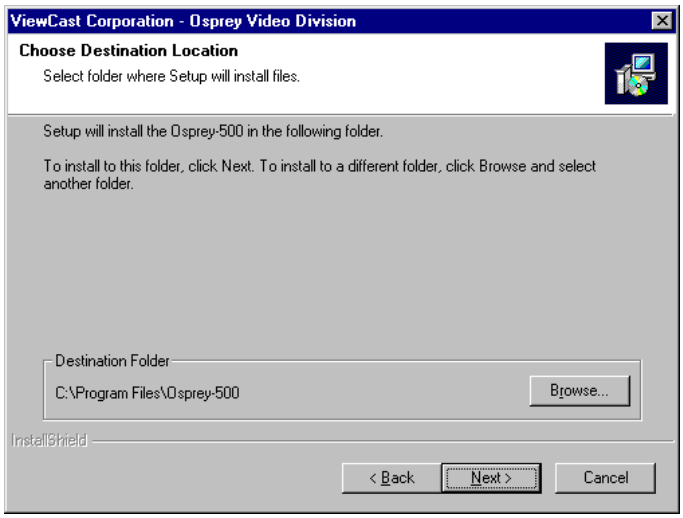


5. Click **Next**.
6. Review this message and make sure that the licensing terms are acceptable. Click **Yes** to accept the agreement. If you do not wish to accept the agreement, click **No** to terminate the installation routine.
   The Setup Type window displays.



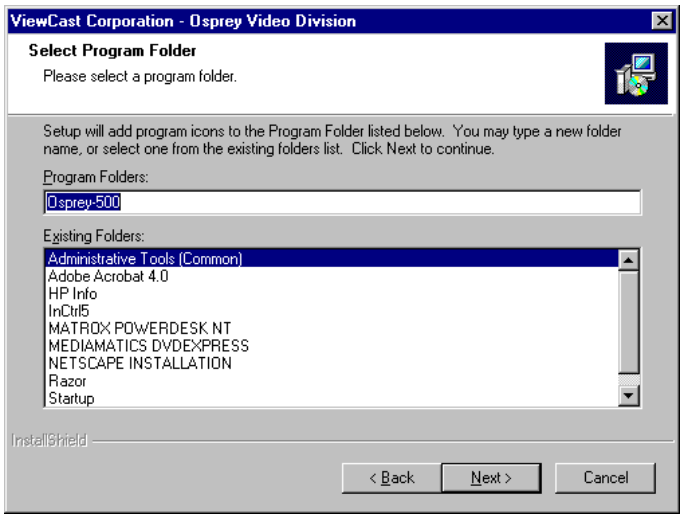
7. Click to select the default **Video Standard** for the Osprey-500.
8. Click **Next**.

   The Choose Destination Location window displays.



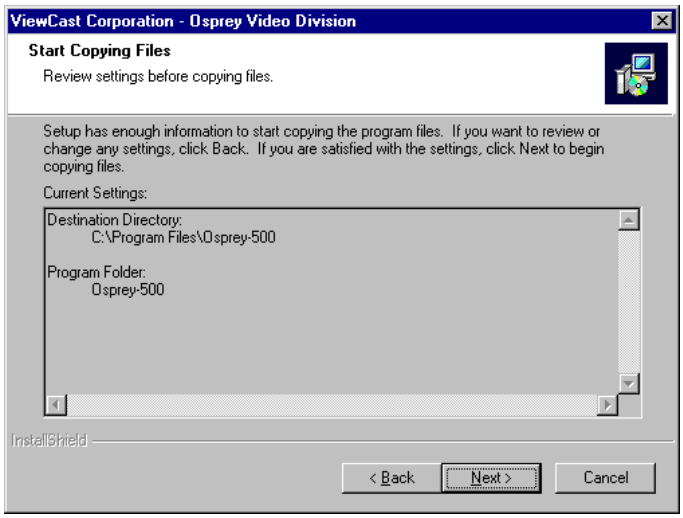
9. The destination location is the folder where VidCap32 (the demo applet), ReadMe, and other auxiliary files are located. (The core video capture driver files are located in Windows NT system directories regardless of the destination location chosen here.) The default location, in the Program Files folder, should be appropriate for most systems. Click the **Browse** button near the bottom of the dialog if you want to change the location.

   The Select Program Folder window displays.



10. The setup program suggests placing the Osprey icons in a new program folder entitled "Osprey 500." You can change this name by editing the Program Folders field, or you can add the icons to an existing folder by highlighting it in the Existing Folders window. Click **Next** to continue.

    The Start Copying Files window displays.



11. Click **Back** to modify the directory and program folder destinations or click **Next** to continue. The installation program copies the files to their destinations, sets up the Osprey driver registry entries, and starts the driver.

    The ViewCast Corporation – Osprey Video Division shortcut window displays.

12. Click **Yes** to place the Osprey Special Offers shortcut on your desktop. If you do not want the shortcut on your desktop, click **No**.

    If another kind of video capture driver is already installed on your system, the question below displays.

13. Click **Yes** to make the Osprey driver your primary video capture driver, unless you have a particular reason for doing otherwise. Refer to **Appendix D - Using the Osprey Video Capture Driver with Other Drivers** for more detailed information about this message.

    If another kind of audio capture device such as a soundcard is already installed on your system, a message similar to the one above displays asking, "Do you want to make this your primary audio capture driver?"

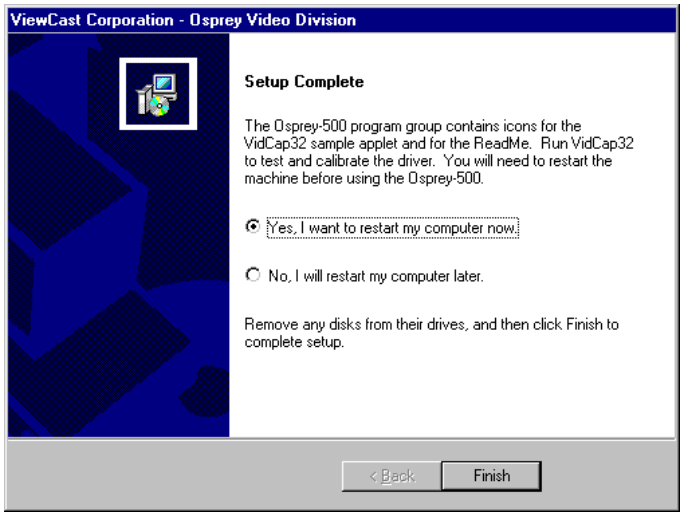
14. Click Yes to make the Osprey audio driver your primary audio capture device or click **No** to continue using your soundcard as your primary audio recording device.

    The Product Registration window displays.

15. Click **Yes** to open a web browser window and register your Osprey-500 card at the Osprey Video website. Click **No** if you would like to register your Osprey-500 card later.

The installation continues after you close the browser window.

The Setup Complete window displays.



16. Click **Finish**.
17. You must restart Windows NT.

To change your setup at a later time, see **Chapter 7 - Capturing Audio**.

Testing the Installation for Windows NT

1. Verify that the hardware installation is complete according to the directions in **Chapter 2 - Osprey-500 Hardware**.
2. Connect a video signal source to one of the Osprey-500 connectors (Composite/S-video/SDI/DV).
3. Open the Osprey-500 group in the Start menu.
4. Click the **VidCap32** icon.
5. If your input is composite video, the screen displays a preview mode window with live video. Click the **Overlay** button. The screen should display moving video frames. If your input choice is not composite video, select the **Video Source** option under the **Options** menu. This brings up the Osprey-500 video capture driver configuration box where you select your video input.
6. If the video area does not contain video, it could be for one of the following reasons:
   a. The driver is looking for video on the wrong input connector. You can either move the video cable to another connector or reconfigure the driver using its Control Dialog. See **Chapter 6 - Osprey-500 Video Control Dialog**.
   b. The video source is not turned on or activated.
7. If the video area is scrambled or has bad color, the signal format of your video source may be different from the signal format selected in the driver software. Since the driver defaults to NTSC-M signal format, users of PAL equipment always need to change the driver's signal format the first time they run the driver. See **Chapter 6 - Osprey-500 Video Control Dialog**.

Uninstalling the Software

If you need to remove the Osprey driver from your system:

1. Open **Control Panel**.
2. Double-click **Add/Remove Programs**.
3. Click the **Install/Uninstall** tab.
4. Click to select the **Osprey-500 Driver** in the list of programs.
5. Click **Add/Remove**.
   The uninstall program begins.
6. Click **Yes** to proceed.
7. Click **OK** when the process is complete.
8. Please reboot your computer to finish removing the driver.

You have the option of deactivating the Osprey drivers without permanently uninstalling them. For example, this option allows you to use another device as your primary video capture device. Refer to **Appendix D - Using the Osprey Video Capture Driver with Other Drivers** for more information.

Chapter 6 - Osprey-500 Video Control Dialog

The easiest way to become familiar with the video capabilities of the Osprey-500 cards is to run the included video capture application VidCap32 and look at its menus and dialogs. **Chapter 8 - VidCap32** focuses on the underlying video capture driver and the control dialogs that you can access from VidCap32.

The Osprey-500 video capture driver has a unified tabbed dialog for setting up all driver parameters. There are six pages within the dialog:

The menu selections **Options -> Video Source** and **Options -> Video Format** access the Control Dialog's Source and Format pages, respectively.

The selection **Options -> Video Display** accesses the Closed Caption page.

Accessing the Dialog

The normal way to access the dialog is through a menu entry or control button belonging to the application program. For example, VidCap32 offers the following three menu entries for accessing the dialog: **Options > Source**, **Options > Format**, and **Options > Display**. Once you are in the dialog, you can move to any other page by clicking on its tab. For example, to access the Configuration page from an application, open the Source, Format, or Display (Closed Caption) page and click the **Configuration tab**.

You can open the dialog through the Control Panel at the same time another application is accessing the card. This is useful if the application does not provide an access control to the dialog. When you open the dialog through the Control Panel, some changes such as adjustments to brightness, contrast, etc. display immediately. Others will not take effect until the application is restarted.

Instructions for Windows NT 4.0

1. Open **My Computer** -> **Control Panel** -> **Multimedia**.
2. Select the **Devices** tab.
3. Open **Video Capture Devices**.
4. Highlight **Osprey-500 Video Capture Driver**.
5. Click **Properties**.
6. Click **Settings**....

Instructions for Windows XP

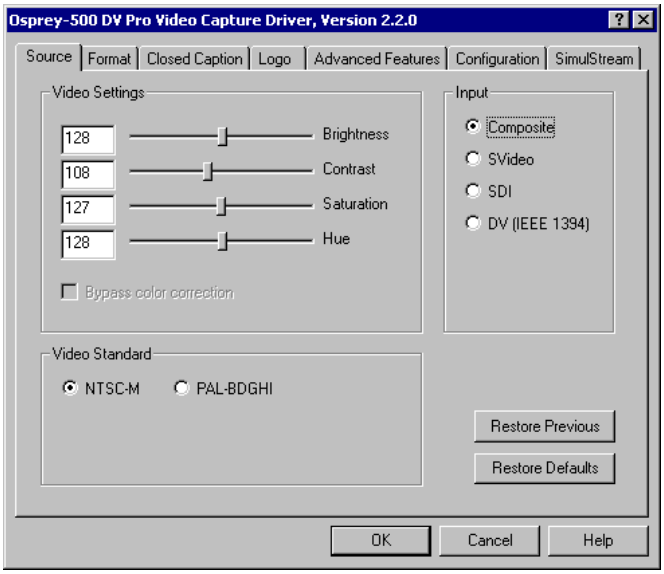
1. Open **My Computer** -> **Control Panel** -> **Sound, Speech, and Audio Devices**.
2. Click **Sounds and Audio Devices**.
3. Click the **Hardware** tab.
4. Select **Legacy Video Capture Devices**.
5. Click **Properties**.
6. Click the **Properties** tab.
7. Select **Osprey-500 Video Capture Driver**.
8. Click **Properties**.
9. Click **Settings**.

Instructions for Windows 2000

1. Open **My Computer** -> **Control Panel** -> **Sounds and Multimedia**.
2. Select the **Hardware** tab.
3. Double-click **Legacy Video Capture Devices**.
4. Click the **Properties** tab.
5. Select **Osprey-500 Video Capture Driver**.
6. Click **Properties**.
7. Click **Settings**.

General Features of the Dialog

These are the common elements found on all pages of the dialog.



OK

Cancel

Restore Defaults

Restore Previous

Apply to All Boards

Help

OK

The **OK** button exits the dialog, saving the settings you have currently chosen. If you have made changes on two or more pages of the dialog, or for two or more boards, all of these changes are saved.

Cancel

This button exits the dialog box without saving any changes. If you have made changes on two or more pages of the dialog, or for two or more boards, all of these changes are discarded.

Restore Defaults

This button restores the settings on the current page, for the currently selected board only, to the way they were when the Osprey software was installed.

Restore Previous

This button restores the settings on the current page, for the currently selected board only, to the way they were at the start of the *previous* dialog session.

Apply to All Boards

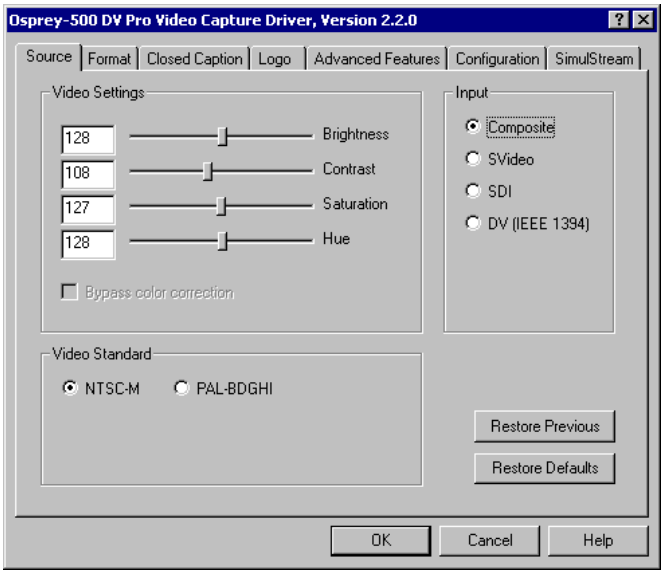
This option displays on relevant dialog windows when more than 1 Osprey card is installed in a system. The only dialog window tabs that can apply an operation to multiple boards are Closed Caption and Logo. The settings for all the boards are saved when you click **OK**; or all are discarded if you click **Cance**l.

Help

Clicking **Help** accesses the pages of this manual covering the currently selected tab.

The Source Page

Use the Source page to set the characteristics of the input video.



Input

Video Standard

Video Settings

Bypass Color Correction

Input

The Input field has buttons for the card's Composite, S-Video, SDI and DV input connectors.

If Preview or Overlay mode is enabled in your application, you can usually see the results of your selection immediately without exiting the dialog. However, if you switch between inputs that have two different signal formats, such as NTSC or PAL, the video does not display correctly until you exit the dialog.

Video Standard

Video Standard or Signal refers to whether the video signal format is NTSC or PAL. Depending on the exact product version you have, buttons for some or all of the following formats are displayed:

NTSC-M – North America

PAL-B, D, G, H, I – many countries in Europe and elsewhere. B, D, G, H, and I refer to five nearly identical subformats.

Full-sized NTSC-M, NTSC-J, and PAL-M have 525 lines total, 480 lines visible, per frame and a display rate of 60 fields per second, or 30 interlaced frames per second.

Full-sized PAL (other than PAL-M) and SECAM have 625 lines total, 576 lines visible, per frame and a display rate of 50 fields per second, or 25 interlaced frames per second.

The standard frame sizes are different for NTSC and PAL. For example, the half-frame size in pixels is 320x240 for NTSC, and 384x288 for PAL. If you have selected a standard frame size (Full, 1/2, 3/8, or 1/4), the driver automatically adjusts the frame size to correspond to the standard. If you have created a custom size, it does not change when you switch between NTSC and PAL/SECAM.

Changes to the signal controls do not take effect until you exit the dialog.

Video Settings

These four slide controls set Brightness, Contrast, Hue, and Saturation. These settings are stored separately for each video source.

NOTE: When using these controls, be sure that the preview mode or overlay mode is enabled, so that you can immediately see the effects of your changes.

When a video source with PAL signal format is used, the Hue setting is not adjustable and the Hue control is grayed out.

When using a digital source (SDI or DV), the Brightness, Contrast, and Saturation settings do not affect encoded video. The Hue setting is not adjustable on SDI and DV video sources.

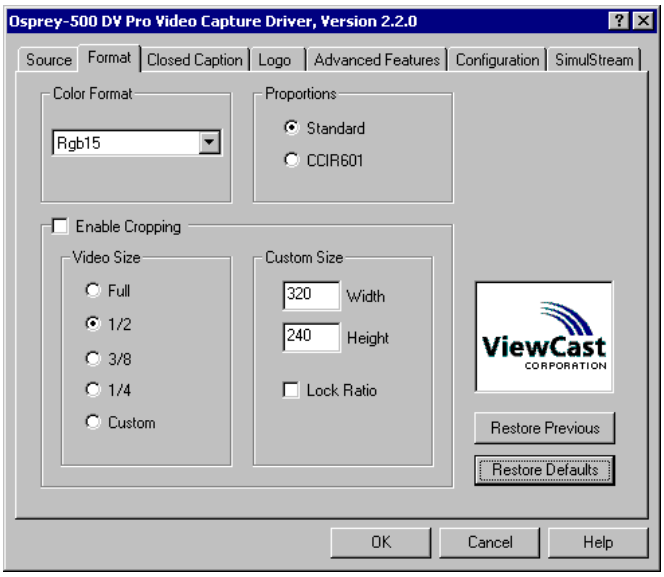
The Restore Previous or Restore Defaults button can be used to restore the previous video settings.

Bypass Color Correction

Check Bypass color correction to turn off all saturation, contrast, and brightness conversion in hardware and pass digital video data directly to the host. This is most useful for the SDI and DV input sources. This checkbox applies ONLY to digital video sources.

The Format Page

Use the Format page to set the color format and size of the image.



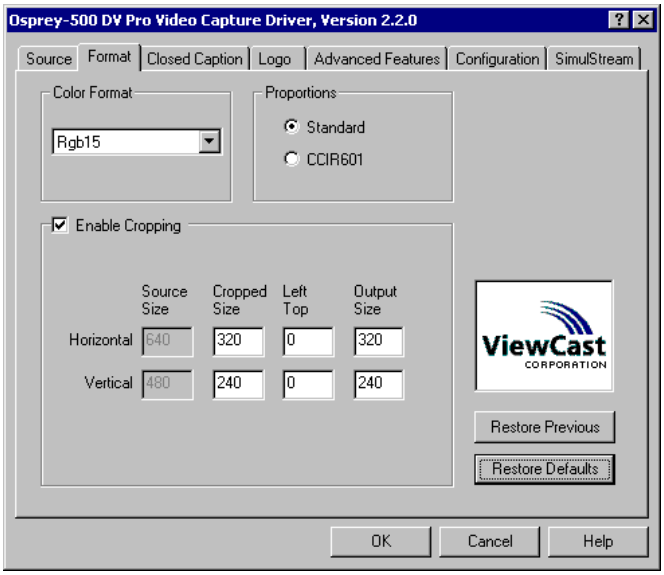
Color Format

Video Size

Custom Size

Proportions (Pixel Aspect Ratio)

Cropping (please see the **CropApp Manual** for detailed instructions on using this feature)



Color Format

The Color Format is the arrangement of data bits representing the colors of each pixel. For example, in the RGB15 format, each pixel of data is stored as 5 bits of red, 5 bits of green, and 5 bits of blue color information.

Video delivered by the Osprey board to the system is in uncompressed format. It is possible to compress the video at a subsequent stage of processing. However, this dialog field refers specifically to the uncompressed raw video that the board delivers to the system.

The color format you choose applies to Captured video and to Preview video. It does not apply to Overlay video. Overlay video is always matched to the display adapter's current screen format - except when greyscale mode is selected. Overlay video is therefore as fast and efficient as possible, but the color rendering may differ very slightly from what you capture. Preview mode renders colors exactly, but it is slower and consumes more system resources.

Changes to Color Format take effect only after you exit the dialog.

For a more detailed description of the color modes available, refer to **Appendix B - Color Modes**.

Video Size

The Video Size field allows you to select between the various sizes given below. Changes made to Video Size take effect only after you exit the dialog.

Size	Width x Height	Also known as:
Full	640 x 480	
1/2	320 x 240	CIF
3/8	240 x 180	
1/4	160 x 120	QCIF

The width and height shown are in pixels for the North American NTSC-M video format in the square (standard) aspect ratio. For further details, refer to **Appendix C: Video Sizes**.

There is a fifth button, **Custom**, that becomes selected whenever a non-standard size is entered in the **Custom Size** field. See Proportion (Pixel Aspect Ratio) for more detailed information.

Custom Size

The Custom Size field allows you to set customized width and height values different from the standard preset values of full, 1/2, 3/8, and 1/4.

If the **Fixed Ratio** box is checked, when you enter a new size in either the height or width box, both dimensions are adjusted proportionately. If this box is unchecked, the height and width may be entered independently. If the dimensions are different from normal screen proportions, the image is stretched horizontally or vertically.

The Osprey video hardware is not capable of drawing all possible widths. Depending on the color mode selected, it may require a width that is an even number of pixels or, for YVU9 and YVU12, a width that is a multiple of 16. The dialog lets you enter numbers that the hardware cannot utilize, but adjusts them as soon as you click on another field or button of the dialog.

See **Proportion (Pixel/Aspect Ratio)** for more detailed information.

Proportion (Pixel Aspect Ratio)

This dialog allows you to select between "Standard" (also called a Square aspect ratio) and "CCIR601" aspect ratio.

The maximum resolution of the CCIR601 mode is 720 pixels for both NTSC and PAL. The Standard/Square aspect ratio mode has a maximum resolution of 640 pixels for NTSC and 768 pixels for PAL. However, the inputs to the Osprey-500 all operate in the CCIR601 mode. The CCIR601 format is true of the analog inputs as well unless the Osprey-100 Analog Mode is selected. Thus, it is recommended that only the CCIR601 mode be used on the Osprey-500.

Note that since the sources are processed in a CCIR601 format, the full 768 pixels of the standard/square aspect ratio mode of PAL is not available. Only 720 maximum pixels are available. If the standard/square aspect ratio mode is selected for PAL, the Osprey-500 drivers limit the maximum resolution to only 720 pixels.

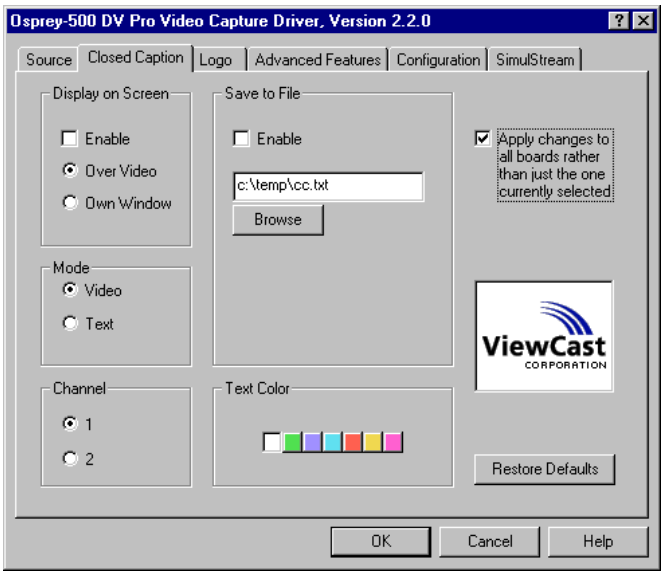
Also, many digital sources provide only 704 true pixels and not 720 pixels per line. Because of this, the Osprey-500 scales down from 704 pixels (i.e., a crop of 720 to 704) to the desired size. If 720 pixels are desired, for example, the result is an unscaled 720 pixels in width. If 704 pixels are desired, the result is an unscaled 704 pixels in width. If 352 pixels are desired, the result is a scaling from 704 down to 352 pixels in width (and not 720 down to 352).

Cropping

Please see **Cropping and Scaling** in this guide and also in the CropApp Manual for detailed instructions.

The Closed Caption Page

Use the Closed Caption page to enable or disable Closed Captioning and to control its characteristics.



Display on Screen

Save to File

Mode

Channel

Text Color

Apply to All Boards

Closed Captioning is a method of encoding and displaying text such as movie dialog captions or stock quotes as part of NTSC video. The text is similar to movie subtitles in appearance. Closed Captioning is widely available on broadcast video, cable, videotapes, and videodisks.

The Osprey-500 video driver provides a complete implementation of the Closed Captioning standard and special extensions that are made possible by the capabilities of a PC. At the moment, the Osprey-500 only provides support for Closed Captioning on the analog video inputs. For more information, see **No Closed Captions on Digital Video** in Chapter 9 - Troubleshooting.

You can use Closed Captioning whenever the following conditions are met:

- You must be viewing a videotape, videodisc, or broadcast material that has Closed Captioning content. Look for a small "CC" logo on the packaging or in the program listing.
- Closed Captioning is for North American NTSC video only, not for PAL video.
- Closed Captioning must be enabled in the Osprey driver, using the Closed Caption dialog page as explained above.
- **Video Mode** and **Channel 1** must normally be selected as explained above. You might use **Text Mode** or **Channel 2** in specialized instances.
- In addition to the normal options of viewing or capturing Closed Captioning, you have the special capabilities to save the text to file as you view or capture it.

Display on Screen

The **Enable** checkbox enables display of Closed Captioning on the screen if it is checked and disables it if it is unchecked. Closed Captioning currently only is enabled for analog (Composite/S-Video inputs).

If you check or uncheck the **Enable** checkbox while Overlay or Capture mode is in effect, the change does not take effect until Overlay or Capture is stopped and restarted.

It is recommended that you disable Closed Captioning when using non-Closed Captioned video. If you leave Closed Captioning enabled, the software attempts to interpret regular video as Closed Captioning character codes, and may sometimes display spurious characters. It also slightly increases the driver's CPU usage.

The normal display mode is **Over Video**. In this mode the Closed Captioning is superimposed on the video field.

The **Own Window** option is a special proprietary mode for Closed Caption display. A separate window displays, and the text scrolls up in this window instead of appearing on the video field. This window disappears while you are capturing video and reappears after capturing video. This mode may be useful for some kinds of material, as the lines of text are not erased as quickly. The **Own Window** option, however, does not fully conform to Closed Caption standards, especially with regard to line placement. It may therefore give undesirable results with some kinds of highly formatted captions.

Save to File

A nice feature of Closed Captioning on a PC is that you can save the captions to a file for later review. The Save to File field contains three controls:

1. If checked, the **Enable** checkbox enables saving to a file.
2. The **Edit Box** allows you to designate a file in which the captions are saved.
3. The **Browse** button accesses a standard system dialog for locating a directory and file in which the captions are saved. When you choose a file that already exists (either by entering the file name or using the **Browse** button), new captions are appended to whatever was previously in the file.

You may enable saving to a file without enabling display of Closed Captioning on the screen; the two checkboxes are independent.

When SimulStream is in use, only one closed caption session is available to save to a file.

Mode

Video is the normal Closed Captioning display mode used with almost all videos and broadcast TV. **Text** is a specialized mode in which the entire 32 character by 15 row Closed Captioning area of the screen is blanked and used to display text. Use **Video** mode unless you know specifically that the material is **Text** mode.

Channel

Channel 1 is the channel normally used in almost all Closed Captioning. Some specialized material may use **Channel 2**.

Note that with most material, if you select **Channel 2**, you won't see any Closed Captions.

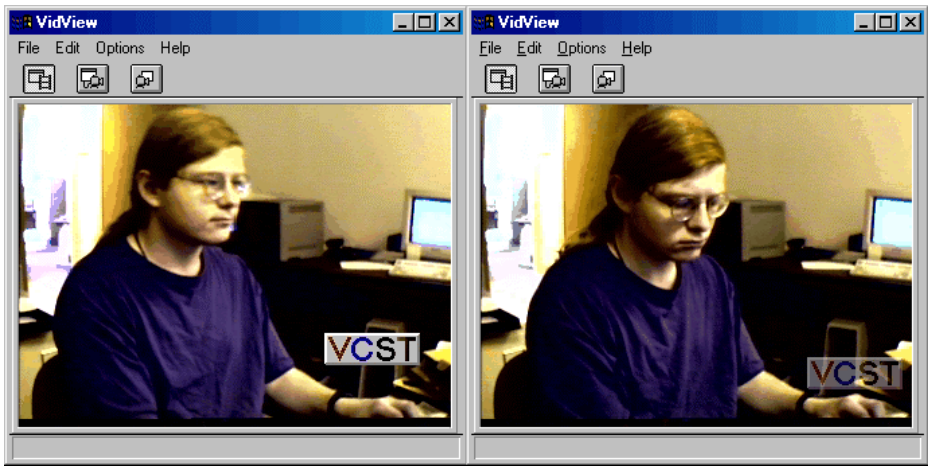
Text Color

Select the color in which you want the closed captioned text to display.

Apply to All Boards

If multiple boards are installed, changes can be applied to all of the installed boards simultaneously. If you only want to apply the changes to the selected board, do not select the Apply to All Boards check box.

The Logo Page



The Osprey Video Capture Driver allows you to superimpose a logo on captured video, as in the images above. The "VCST" logos shown illustrate some of the features for color keying and translucency that are described below.

Use the setup dialog's Logo page to set up a logo. The logo page is actually a sequence of five pages that guide you through the steps of creating a logo and placing it on the video.

You cannot access the Logo page directly from most applications. Instead, open the Source or Format page of the dialog, then click on the **Logo tab**.

Capabilities

Step 0 - Before You Start

Step 1 - Creating and Enabling the Logo

Step 2 - Selecting the Logo File

Step 3 - Setting Key Color and Style

Step 4 - Positioning the Logo

Step 5 - Reviewing and Saving the Changes

Notes on Logos

Capabilities

A logo can be any artwork that is formatted as a 24-bit BMP file. Typically, a logo is a small graphic that is placed at the lower left of the image. In a technical application, however, a logo could be a crosshair pattern placed at the center of the image. The logo can theoretically be any size. However, the CPU must actively draw the image on every frame of video, and drawing a very large image, even if it is mostly transparent, degrades overall performance in high-throughput applications.

The driver can draw a logo on captured or streaming video, on preview video, or on DibDraw overlays. However, the driver cannot draw a logo on DirectDraw overlays. If you attempt to draw a logo on DirectDraw overlays, everything appears to work fine, except that the logo is not visible.

A logo's rectangle can be partially transparent so that the underlying video is visible. The transparent areas are defined by a Key Color – a particular (red, green, blue) value that is specially interpreted by the driver. For example, the sample logos use cyan with red, green and blue values of (0, 128, 128) as the key color.

A logo displays in either of two styles – normal and embossed. In normal style, the logo's non-transparent pixels simply replace whatever video underlies it. In embossed or translucent style, the logo's non-transparent pixels are averaged with the underlying video pixels, resulting in a more subtle effect.

For detailed instructions on setting up a logo, review the following steps:

Step 0 - Before You Start

Step 1 - Creating and Enabling the Logo

Step 2 - Selecting the Logo File

Step 3 - Setting Key Color and Style

Step 4 - Positioning the Logo

Step 5 - Reviewing and Saving the Changes

Notes on Logos

Step 0 - Before You Start

Create your artwork with the Windows Paint application or any other paint program that you like to use. Save it in 24-bit BMP format.

Before creating your own logo, however, you may want to experiment with the samples supplied with the driver. They are located in the Osprey program directory, by default *\Program Files\Osprey 500\Nt* on the default drive.

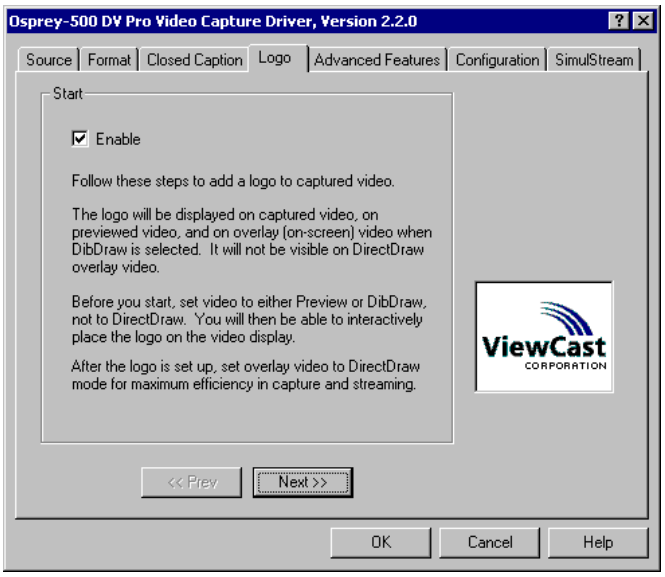
Have Preview or DibDraw Overlay mode running when you enter the dialog to see immediately the results of interactively defining and placing the logo. DirectDraw Overlay mode does not work for this purpose. To change from DirectDraw to DibDraw,– or to find out which one you are currently using – go to the dialog's **Configuration tab**, then stop and restart **Overlay mode**.

Step 1 - Creating and Enabling the Logo

Additional links:

The Logo Page

Capabilities



As you can see, the logo setup pages include detailed explanations at each step.

The first page handles only one consideration – whether logo drawing is enabled or not.

By default, the **Enable** box is not checked and therefore no logo displays. In this case, when you click **Next>>** you go directly to the last page (page 5) of the logo setup sequence.

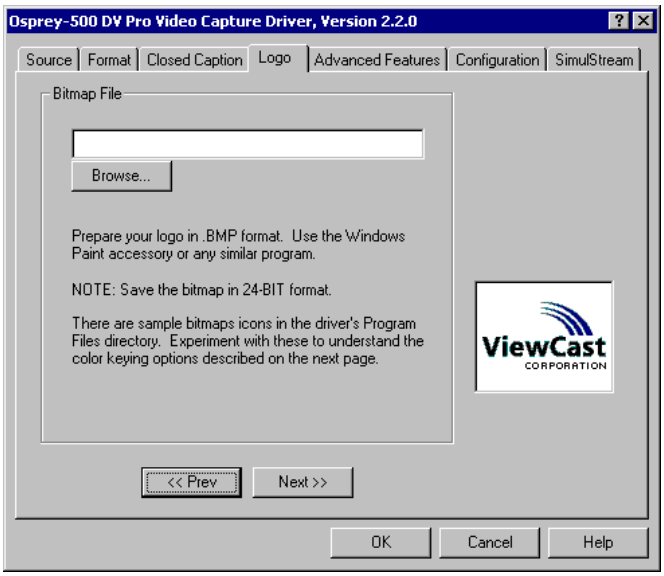
If the **Enable** box is checked, you can click **Next>>** to step through all of the pages of the setup sequence.

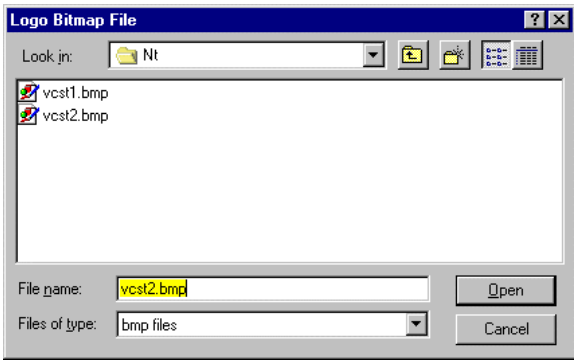
Step 2 - Selecting the Logo File

Additional links:

The Logo Page

Capabilities





This screen should be nearly self-explanatory. You are selecting a BMP file, either your own artwork or one of the samples. You can type in the full pathname to the file or browse for it. When you have selected the file, click **Next>>**.

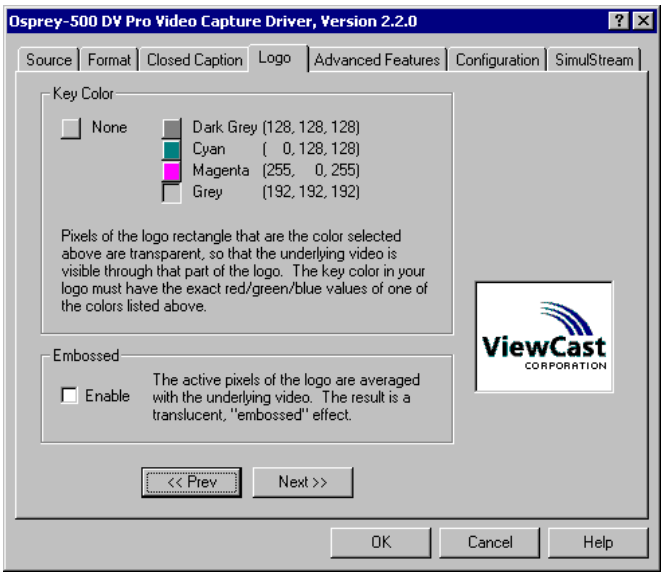
The sample logos are located in the Osprey program directory, by default \Program Files\Osprey-500\Nt on the default drive.

Step 3 - Setting Key Color and Style

Additional links:

The Logo Page

Capabilities



As previously noted, a key color is a (red, green, blue) color value that the driver treats specially. Logo pixels in that color do not display; the underlying video displays instead. This dialog sheet lets you choose one of four fixed key colors, or no key color. If you select **None** for the key color, all pixels from the logo display including all pixels in any of the key colors.

A key color must be a precise (red, green, blue) value. For example, if cyan is selected as a key color the pixel values must be exactly (0, 128, 128). A pixel of value (0, 127, 127) does not display transparent – it displays as cyan.

All four key colors are standard stock colors in Windows Paint.

If the **Embossed** box is checked, each pixel color value displayed is the average of the pixel value of the logo and the pixel value of the underlying video. If **Embossed** is not checked, the pixel color value is simply the value from the logo.

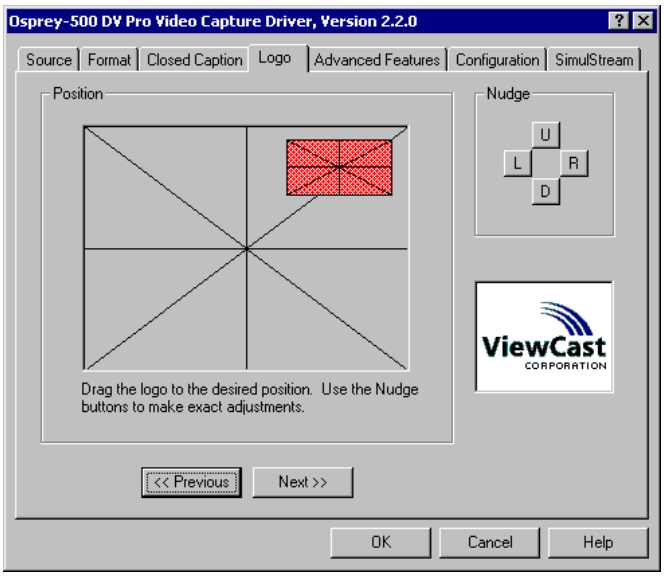
The key color setting takes precedence over the **Embossed** setting; that is, logo pixels in the key color are transparent, not averaged, even in **Embossed** style.

Step 4 - Positioning the Logo

Additional links:

The Logo Page

Capabilities



The **Position** control allows you to position the logo by dragging it with the mouse. The **Nudge** controls move the logo up, down, left or right one pixel at a time. They permit more precise adjustments than the **Position** control can achieve.

If Preview or DibDraw Overlay video is running, the logo moves on the video as you move it in the dialog.

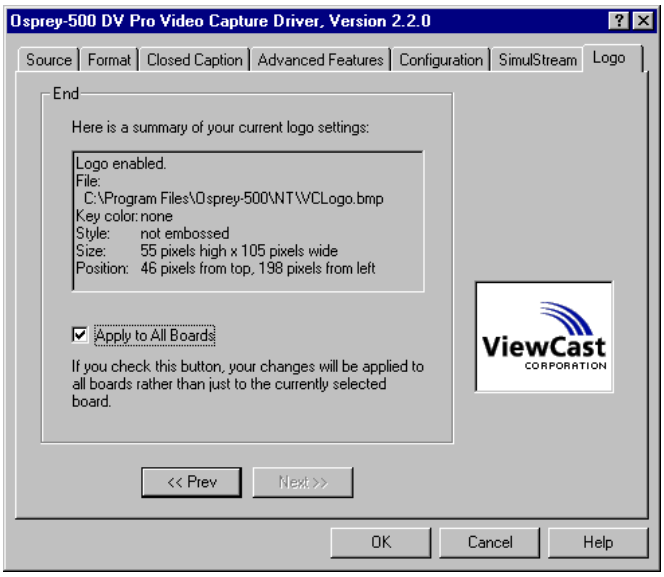
If you position the logo in a certain way and then change the video size, the driver stretches the logo to maintain the same relative size, and places it in the same relative position. The stretched artwork may have jagged diagonal edges and not look as good as unstretched artwork prepared with the intended video size in mind.

Step 5 - Reviewing and Saving the Changes

Additional links:

The Logo Page

Capabilities



This page shows a text summary of the current logo configuration.

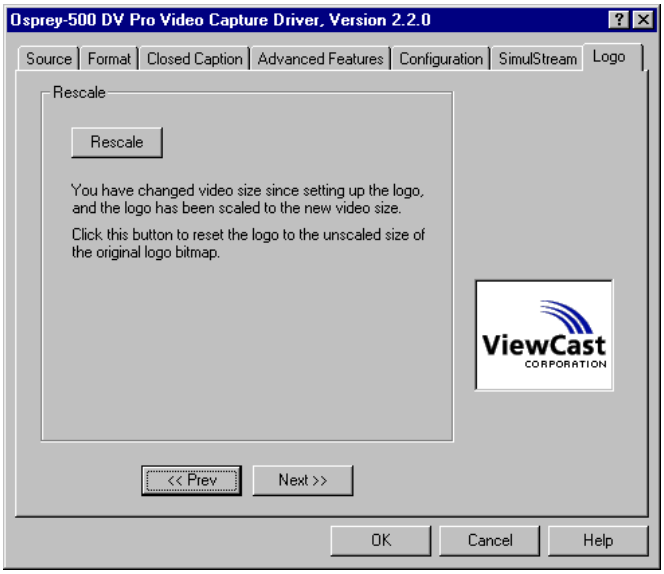
If you have multiple boards in the system, a checkbox entitled **Apply to all Boards** is shown. If you check this box, the logo changes you make to the current board are made to all the boards in the system.

If you have multiple boards in the system and the only change you make is to enable or disable logos, clicking **OK** with **Apply to All Boards** checked changes the enable/disable status of all boards but doesn't change any of the other settings. If, however, you make *any* logo changes other than enable or disable, **Apply to All Boards** copies the entire current configuration to all boards.

Notes on Logos

If you set up a logo with video set to one size, then resize video, the logo is scaled correspondingly. For example, if the logo is originally set up for 320 x 240 video, and you change to 640 x 480 video, the logo displays at twice the size of the original bitmap.

1. If you edit the logo settings while the logo is scaled up or down, an additional option entitled **Rescale** displays after **Enable**.



   If you click the **Rescale** button on this page, the logo is resized to the same size as the original source bitmap.

   If you do not click the **Rescale** button, you can edit the logo settings using the scaled logo. Even if you change to another bitmap image, the old scaling is maintained.

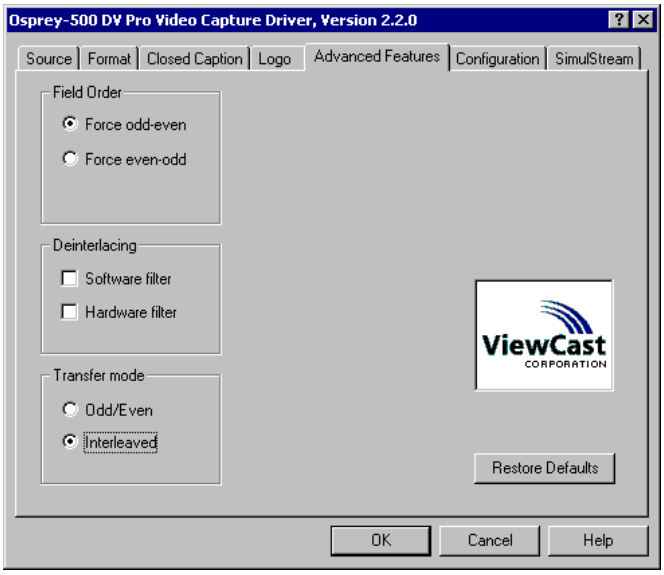
2. The driver can display color logos on YUV video – 4:2:2 packed, YUV12 planar, and YVU9 planar. The appearance may not be quite the same as the RGB version, however.
3. Detail of colored features may not be as crisp, because in the YUV modes color is not sampled at full pixel resolution.

DibDraw Overlay video is always RGB even when you have selected a YUV color format in the dialog. Preview video is always in the exact YUV or RGB format you have selected. Therefore, when using a YUV mode be sure to check the appearance of the logo in Preview mode before putting it to use.

4. When Grey8 video format is selected, all logos including color logos are displayed in greyscale.

The Advanced Features Page

Select a link below the screen for more information.



Field Order

The De-Interlacing Motion Filter

The Transfer Mode

Field Order

The Osprey-500 allows you to configure which pairing of fields will be used to construct a frame. This parameter is most useful when you are using a progressive video source.

If you are using an interlaced video source, and have turned on the hardware de-interlacing filter, choose 'Force odd-even' here.

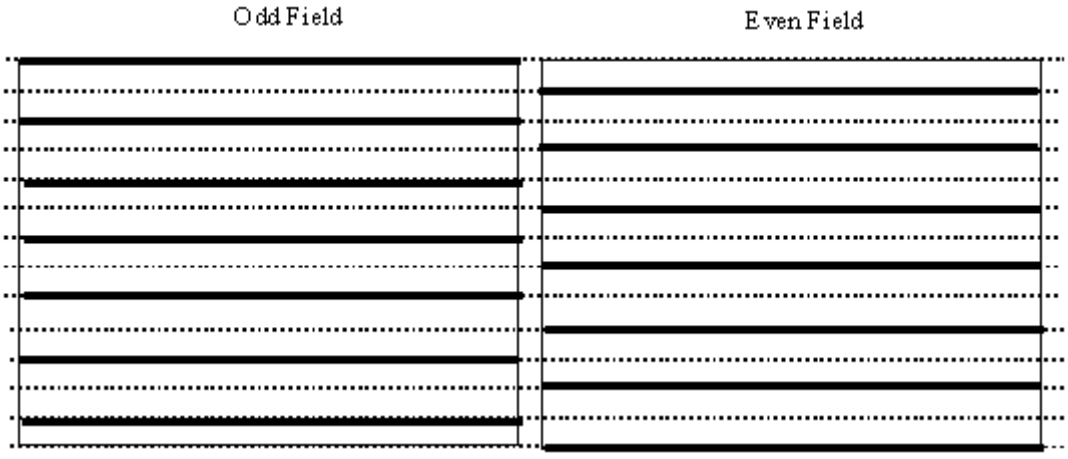
If you are using a progressive video source, the hardware de-interlacing filter should be turned off. Use the 'Force odd-even' or 'Force even-odd' setting with a progressive scan camera to eliminate comb-like interlacing artifacts. Consult your camera's technical documentation for the correct setting to use.

The De-Interlacing Motion Filter

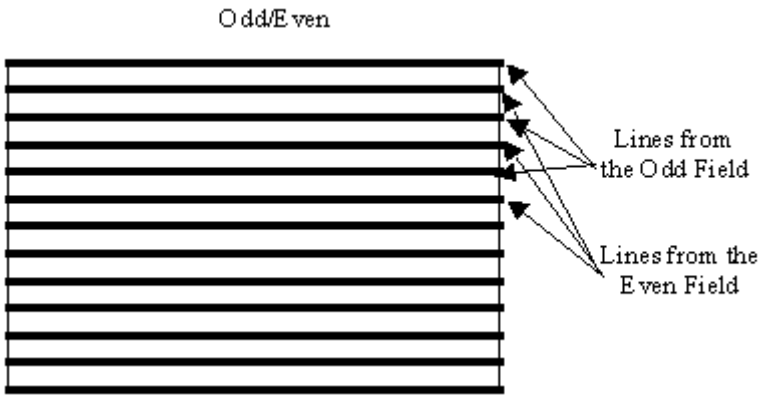
The Osprey-500 offers hardware and software de-interlacing. The software de-interlacing is optimized for Windows 2000 and later; it will consume fractionally more CPU cycles when enabled under Windows NT. We recommend that you choose hardware de-interlacing.

If you are using a progressive video source, you do not need de-interlacing. Turn off both hardware and software de-interlacing.

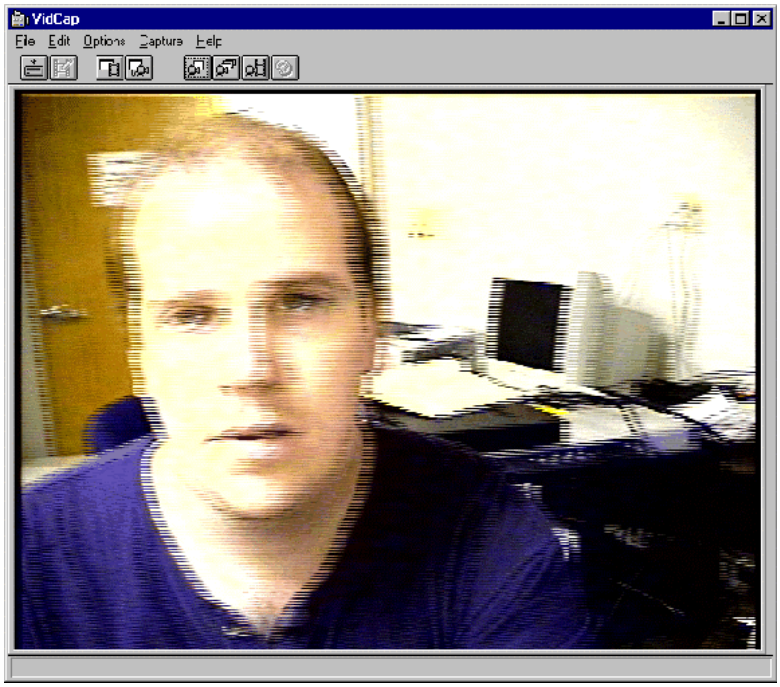
Most video is provided for viewing in an interlaced format. For simplicity, NTSC is used in the following explanation of an interlaced format. NTSC video is basically composed of images taken 60 times a second. Each image is called a field, and there are odd and even fields. While these odd and even fields are temporarily adjacent to each other in time, the horizontal lines that make up these fields are spatially different.



The figure above is a simplistic view of interlaced video and fields. The two fields are taken 1/60th of a second apart, and the lines of each field are not aligned, but staggered. Most televisions are interlace display devices, where the 60 fields are displayed individually and the viewer sees only one field at a time. However, most computer monitors are progressive and not interlaced display devices. On a computer monitor where video is viewed at its full resolution, viewers see both the odd and even fields at once:

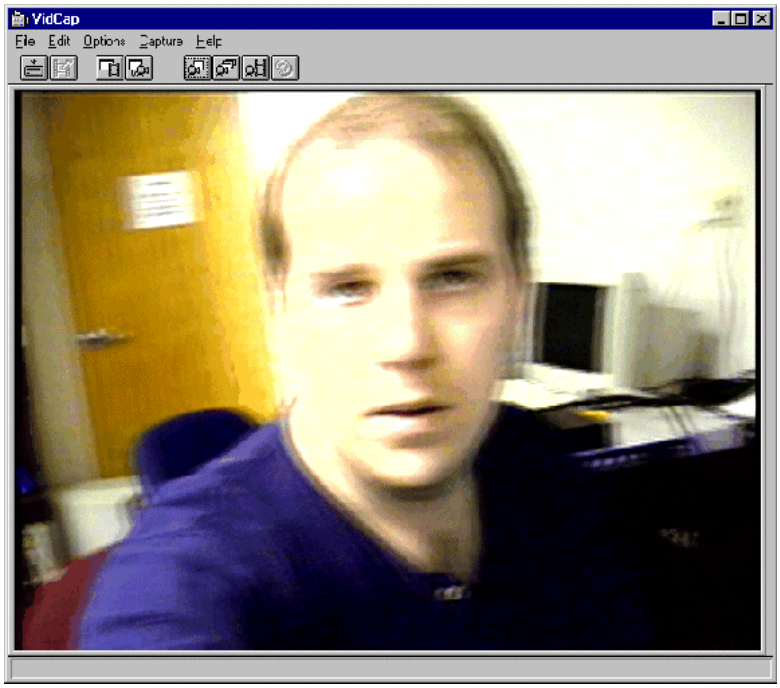


The problem with progressive display devices is that if an object is moving, its position is not the same in both the odd and even fields. When odd and even fields are merged together, interlaced artifacts occurs. The artifacts are seen and commonly described as streaking or feathering.



The screen above illustrates the streaking or feathering problem that occurred when the interlaced odd and even fields in this video were captured. Only a slight amount of motion took place, yet streaking is obvious in the overall result. Note the prominent horizontal lines outlining all the objects on this screen.

When feeding such images to an encoder, the encoder has a significantly harder time processing and compressing such interlaced video. The result is loss of overall quality and perhaps a loss of frame rate as well. While the encoding process may smooth out some of these artifacts, the resultant compressed video may still display somewhat streaked or feathered and may not play back smoothly.



The Osprey-500's de-interlacing motion filter can be applied to any video source prior to the optional scale and color-convert phases of processing to eliminate streaking or feathering and maintain motion content. In the screen above, where the Osprey-500's de-interlace motion filter has been turned on, note that the strong horizontal streaking or feathering around the subject's head have been smoothed to a slight blur. While the blur is noticeable in a single screen snapshot, the human eye perceives only natural motion when the video is played back at normal frame rates.

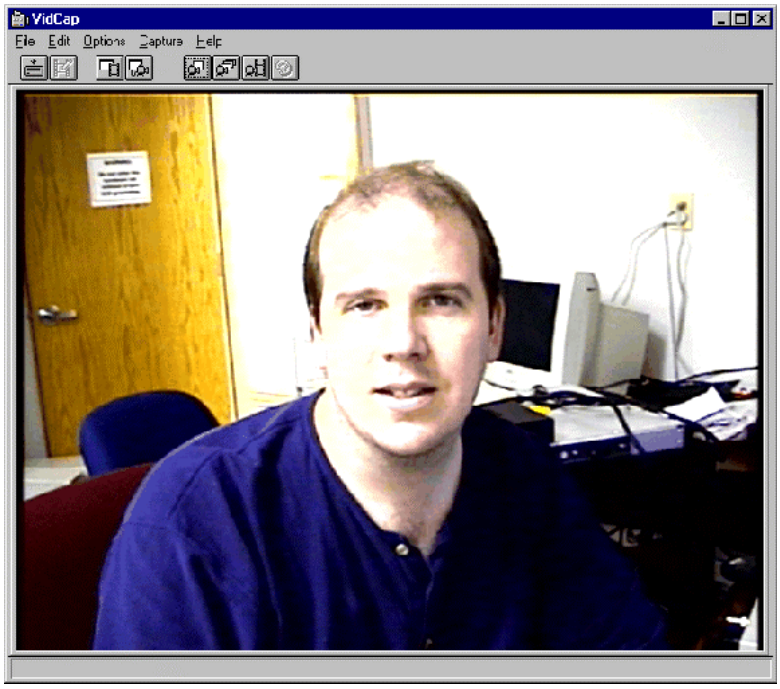
Feeding the de-interlaced image in the screen above to an encoder significantly improves output of the encoder in terms of overall quality and smoothness. The encoder has an easier time compressing the de-interlaced video and thus can expend saved bits and CPU cycles to produce higher quality streams.

The Transfer Mode

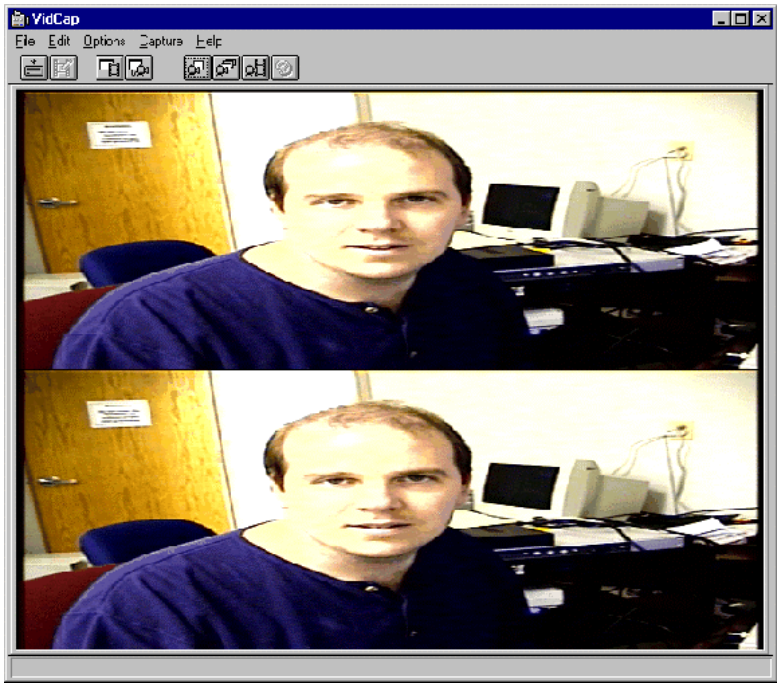
The Osprey-500 captures video data to the host or to the display device via two different transfer modes. The first mode, *Odd/Even*, transfers video such that the odd lines of video are grouped together before the even lines. If the video source was interlaced to start with and the hardware de-interlacing filter was not applied, the *Odd/Even* mode basically places the odd field on top of the even field. If the de-interlacing filter was applied (see description further down), this mode places the odd lines of the resultant de-interlaced frame before the even ones. The *Odd/Even* transfer mode only occurs when the resolution is greater than half the maximum resolution (>240 for NTSC and >288 for PAL).

The second mode, *Interleaved,* transfers video vertically in line order. For example, line 1, line 2, line 3, etc. Basically, this is an interlaced mode. However, since the video source may have been progressive to start with, or because the de-interlacing filter may have been applied, the term 'interlaced' transfer mode is inappropriate.

The following images further describe the *Odd/Even* and *Interleaved* transfer modes:



The first image is a snapshot of video captured using the *Interleaved* transfer mode. The source is an interlaced DV camera, and the image size is 640x480.

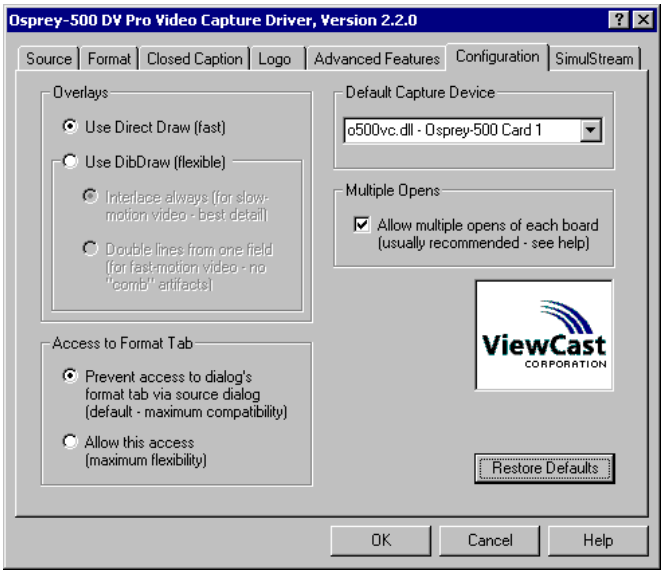


The second image is a snapshot of video captured using the *Odd/Even* transfer mode. The source is an interlaced DV camera, and the image size is 640x480.

The third image is a snapshot of video captured using the *Odd/Even* transfer mode. The source is an interlaced DV camera, and the image size is 320x480. This mode of capture can be used to acquire video at 60 fields/sec. The Osprey-500 already horizontally scaled the video down to 320 pixels in width in hardware. Having the 60 fields/sec delivered 30 times a second in the format given here offers the advantage of keeping the odd/even pairing of video consistent in the case of capture loss due to performance of the application.

The Configuration Page

The Configuration page controls several miscellaneous settings.



Overlays

Access to Format Tab

Multiple Opens

Default Capture Device

Overlays

Direct Draw is a fast drawing method that moves video directly from the Osprey capture card to the display adapter. If Use Direct Draw is selected, the driver uses Direct Draw for Overlay drawing. If for some reason it cannot use Direct Draw, it automatically defaults to DibDraw.

Direct Draw works with the vast majority of display adapters and software driver. We recommend running with Direct Draw enabled unless you are having a problem viewing overlay video, or want to use the "doubled lines" option discussed below. For more details on Direct Draw, refer to **Appendix E - Direct Draw**.

DibDraw is the default drawing method. Video is moved first into system memory and copied to the display adapter. It is useful in the following cases:

1. For systems where Direct Draw does not work correctly.
2. If you want to enable "line doubling". When DibDraw is selected, two radio buttons are enabled that let you choose between interlaced and line-doubled video.

Normally, video larger than ½-height (240 lines NTSC, 288 lines PAL) is interlaced. NTSC and PAL video both consist of alternating odd and even fields of data. Odd numbered lines come from the odd fields, even numbered lines come from the even fields.

Interlaced video offers maximum resolution but suffers from a "comb" effect. When there is rapid motion in the video, it displays blurred. It is recommended for still or slow-motion video, but may not look good with high-motion content.

Line-doubled video uses video data from only one field. Each video line is copied to two lines of your display. Line-doubling reduces the still-picture resolution by half; however, it eliminates the "comb" effect of interlaced video and is therefore useful for viewing rapid-motion video.

3. If you want to stretch the video on your screen beyond full size (640x480 NTSC, 768x576 PAL). You would need a special application to do this. DibDraw video can be stretched but Direct Draw video cannot be.

Access to the Format Tab

The two options are:

- Prevent access to a dialog's format tab via source dialog
- Allow this access

Video for Windows applications access the Source and Format pages as separate commands and do not assume that the driver allows you to switch from one to the other.

Some applications, when they access the Source page, do not check to see if you also made changes to items in the Format page. The result is that the application and the driver may assume different settings and not work properly together.

This control in its default "prevent access" setting prevents you from entering the Source page or Closed Caption page, switching to the Format page, and inadvertently making changes that the application cannot pick up. It also disables the Board Select control on the Source and Closed Caption pages since the driver maintains separate format information for different boards. The "prevent access" setting is recommended for maximum compatibility with all applications.

The "prevent access" settings is, however, inconvenient. The alternative setting to "allow this access" allows you to switch between pages without restriction. This works with many applications; however, the responsibility lies with you to make sure no problems arise.

Multiple Opens

We recommend keeping this box checked unless you have a reason not to. This ensures compatibility with the greatest number of present and future applications that you might want to use.

If **Multiple Opens** is checked, a particular board can be opened for access from multiple places, either within a single process or by multiple processes. However, the features available through subsequent opens are limited. This mode is needed by certain complex applications that, for example, use separate processes for capture and overlay. In particular, Multiple Opens should be checked when utilizing Microsoft Windows Media Encoder.

If **Multiple Opens** is unchecked (hunt mode), a particular board can be opened for access from only one place in one process. If there are multiple boards in the system, and an application tries to access a board that is already in use, the driver hunts for the next available board. This is the easiest way to start multiple copies of Windows Media Encoder or VidCap32, for example, to view multiple video inputs.

Changes you make take effect when you click **OK** to close the dialog. Applications such as VidCap32 do not pick up changes until you restart them.

Review **Appendix F - Multiboard Installations** for more information.

Default Capture Device

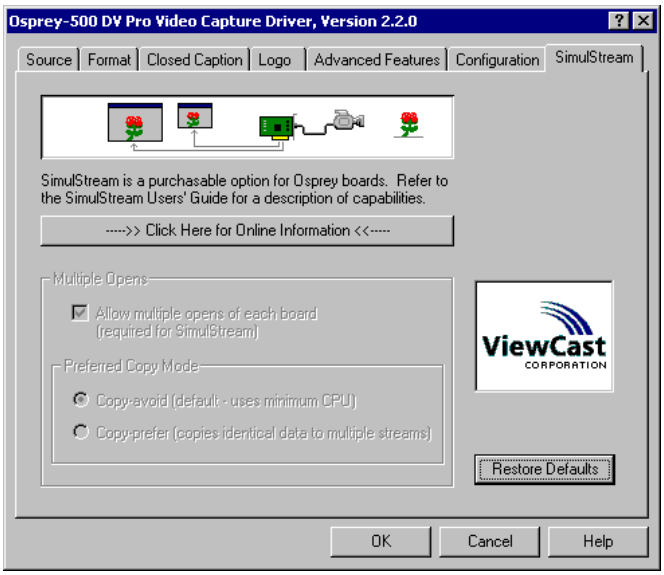
This control is useful if you have multiple video capture devices of different kinds. These could include cards from other vendors or different kinds of capture cards from Osprey. In this context, the Osprey-50, -100, -101, and -200 are considered one single device type. The Osprey-500, the Osprey-1000, and the Osprey-2000 are each separate device types.

Some applications are capable of accessing only the primary or default device. With this control you can select which device is the default device applications use.

Changes you make are written to the registry when you click **OK** to close the dialog. Applications such as VidCap32 does not pick up changes until you restart them. Some DirectX-based applications may not detect changes until you restart the system.

The SimulStream Page

SimulStream is an added-cost upgrade option described in detail in the SimulStreaming User's Guide.



Cropping and Scaling

The Osprey video capture driver package includes the capability to crop the incoming video signal in hardware before it is encoded or captured. Cropping is done by the Osprey card and imposes no extra load on the host computer. Use any of the following methods to crop the incoming video signal:

- Video Format dialog box
- CropApp, the cropping application
- SDK

Please see the CropApp Manual which is installed in the Osprey 500 Program group for details on using this feature.

Chapter 7 - Capturing Audio

Setup and control for audio are much simpler than for video. The basic steps are covered in the following topics:

Select the Audio Source and Input Volume

Audio Formats

Missing Digital Audio Sources

Audio Playback

Note for DV users:

The Osprey-500 is capable of converting sampling rates from a higher sampling rate to a lower sampling rate. For instance, if you set your DV audio to 48 kHz, the card can provide all common sampling rates (48 kHz, 44.1 kHz, 32 kHz, 22 kHz, 16 kHz, 11 kHz, 8 kHz). If your DV audio is set to 32 kHz, the Osprey-500 driver can convert to higher sampling rates.

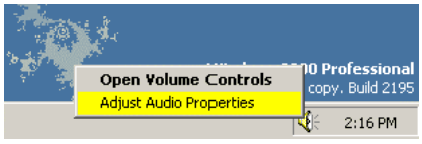
Note for DVD users playing CD audio:

If you are playing a CD in a DVD player, the Osprey-500 is able to capture at all sampling rates including 48 kHz. This is because the Osprey-500 driver can convert audio from a lower sampling rate to a higher sampling rate.

Selecting the Audio Source and Input Volume

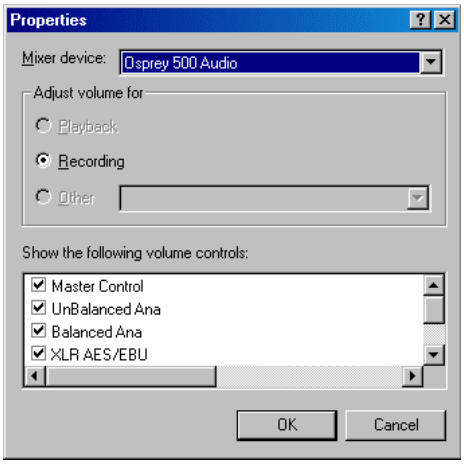
The audio source is set using the Osprey-500's VFW mixer driver interface. Some applications interface to the mixer driver directly and expose the look and feel specific to that application. However, there is a DirectShow based mixer interface that does **not** work with the Osprey-500's VFW mixer. If you are having problems setting mixer settings (audio ports or gains), please contact support@viewcast.com and we'll help you resolve that issue.

The default Windows interface to the mixer driver can also be used and is the recommended way to set audio ports and gains on the Osprey-500. There are two simple methods for getting to the mixer source and volume control dialog box.



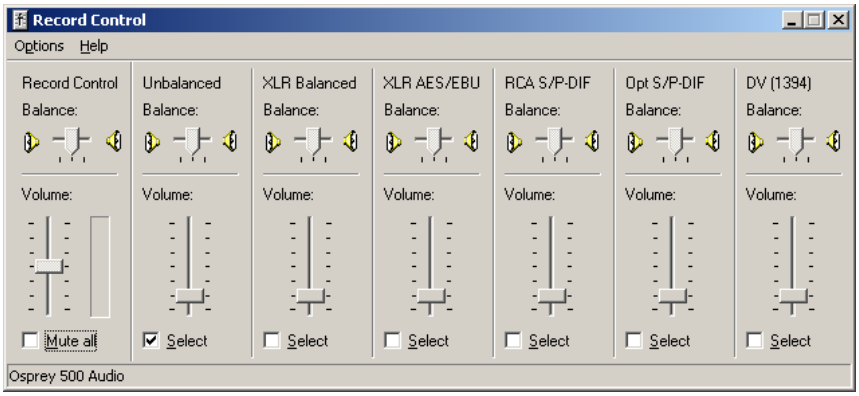
1. The easiest method for accessing this interface is to right click the **speaker symbol** on your taskbar (typically on the bottom right-hand side of your screen). Then select the **Open Volume Controls** option.
2. If you do not see the speaker symbol, click the **Start** button on the Start Menu, select **Programs**->**Accessories**->**Entertainment (or Multimedia)** and select **Volume Control**. For Windows XP, select **Start** -> **All Programs** -> **Accessories** -> **Entertainment** -> **Volume Control**.

   Either of these two methods brings forth the audio mixer interface for the audio playback device. To get to the Osprey-500 audio capture (recording) device, select **Properties** under the **Options menu**. This pops up a dialog to select the **Mixer device.** Do not select the Recording option within the **Adjust Volume for** section; this option is selected automatically when you select the Osprey-500 for the mixer device. Click on the dropdown list for **Mixer device** to see the list of audio input and output devices, including the Osprey-500.



   If more than one Osprey-500 card is in the system, each Osprey-500 card is enumerated individually. Once an Osprey-500 device has been chosen, select **OK** in the *Properties* dialog box.

   The Osprey-500 Master Control panel displays.



The Osprey-500 device is not a mixer in that it does not allow for mixing the various audio sources. Therefore, when one audio input is selected, any other input previously selected becomes unselected. The **Select** checkbox at the bottom of each source sets which source is actually being used. DV audio signals are embedded in DB video signals. If you select DV audio, the **video signal** selection for PAL/NTSC must match the state of the DV source.

The Osprey-500 software has an optional gain control feature that defaults to being on. When this feature is on, the 50% volume level for a given input results in no modification to audio being captured. At a 100% level (the topmost level), gain is increased by 2x.

The quick-access volume control (left click on the **speaker symbol**) on the task bar controls playback volume and recording volume. To change record levels, go to **Options**, then **Properties**, and select **Recording**.

Audio Formats

The only Format that the Osprey-500 audio capture driver supports is PCM. The driver supports the following data rates:

- 8 kHz
- 11.025 kHz
- 16 kHz
- 22.05 kHz
- 32 kHz
- 44.1 kHz
- 48 kHz

These data rates are supported in 8-bit and 16-bit, mono and stereo formats. The actual Osprey-500 hardware supports sampling of analog audio at 32, 44.1 and 48 kHz. Depending on the requested audio format, the Osprey-500 driver automatically selects the most appropriate hardware sampling rate. For example, if 22.5 kHz audio is desired, the audio driver selects the 44.1 kHz audio rate and down samples it to 22.05 kHz.

The Osprey-500 driver provides for optimal rate conversion from these base sampling rates. For digital sources, the sample rate has already been determined. The Osprey-500 automatically determines the digital audio sample rate and converts this as required by the application’s requested sample rate.

It should be noted that the Osprey-500 does not currently dynamically readjust sampling rates while audio capture is in progress. Thus audio capture should be stopped and restarted whenever the audio input port changes.

For mono sources, the Osprey-500 uses only the left audio channel. Optionally, this can be configured to be the left channel or a mix of the left and right channels.

Missing Digital Audio Sources

Be sure to start the audio source before attempting capture. When a digital audio source (such as DV or S/P-DIF) is selected before the audio is turned on, the Osprey-500 is unable to determine the sampling rate. The sampling rate is a measure of the amount of binary data needed to reproduce the audio being capture. If the audio source is not available, the Osprey-500 cannot determine the format of the incoming audio.

When a capture is started before the audio source is selected, the audio may not be sampled at the correct rate. Audio sampled at an incorrect rate sounds slower or faster than normal when it is played back. Should this occur, stop and restart capturing audio.

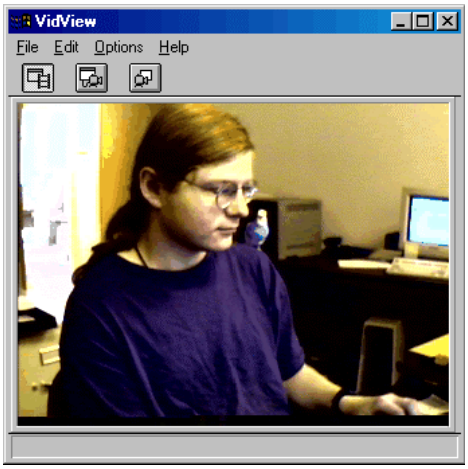
The default digital audio sampling rate is 48 kHz. Some common sampling rates are:

- 48 kHz for DVD audio through S/P-DIF
- 44.1 kHz for CD audio through S/P-DIF
- 32 kHz or 48 kHz for DV recordings

Audio Playback

The Osprey-500 provides audio capture only, not audio playback. Continue to play back captured audio using your system soundcard.

Chapter 8 – VidCap32, Cropping and Scaling, and Indeo



VidCap32 is a video capture application that is included with the Osprey package. It is useful for testing the installation and for general purpose viewing of video. The following instructions take you through the basic scenarios for using this applet. Also see Cropping and Scaling.

Preview

Overlay

Single Frame Capture

Configuring the Video Capture Driver

Compression

Setting the Capture File – Preallocating and Defragmenting

Capturing Video

Playback

Control Panel

DirectXMedia Details

Ligos Technology Indeo

Cropping and Scaling

Preview

The **Preview** button (first button on the left on the toolbar) toggles Preview mode on and off. When Preview is enabled, the video you see is constantly updated and has the exact format and appearance of uncompressed video capture.

Overlay

The **Overlay** button (second button from the left on the toolbar) toggles Overlay mode on and off. When Overlay is enabled, the video you see is updated constantly. The difference from Preview is that the Osprey driver uses the fastest and most efficient drawing method it can. Normally, with Direct Draw enabled and working, it draws at the full frame rate (30 per second) with minimal processor overhead.

Note that the Preview and Overlay buttons behave like radio buttons that cancel each other - you do not have to shut off preview in order to start overlay.

Single Frame Capture

The rightmost button on the toolbar is used to capture a single frame. Every time this button is selected, a single frame is captured and displayed in the window. You can copy this image and paste it into other applications.

Configuring the Video Capture Driver

You can go through VidCap32 to access the Osprey driver's Control Dialog (described in **Chapter 6**). The menu selections **Options->Video Source...** and **Options->Video Format...** access the Control Dialog's Source and Format pages respectively. The selection **Options->Video Display...** accesses the Closed Caption page.

Compression

It is possible to compress video as it is captured to disk. Neither VidCap32 nor the Osprey video capture driver perform video compression themselves. However, VidCap32 may be connected to external software-based compression modules. Compression results in a much smaller capture file. The downside is that many types of compression are slower: you may have to reduce your frame rate in order to avoid dropping an excessive number of frames. With a "quick-compression" methods running on a fast machine, however, the extra processing time is slight enough that it is fully compensated for by the reduced time needed to write the more compact data to disk.

When a compressor is enabled, video is passed from the Osprey capture driver to the compressor, which then writes it to file. The compression dialog, accessed by the **Options->Compression** menu item, allow you to select a compressor, or select no compression. The information below for Ligos Technology's Indeo compressor gives a detailed example of how to perform this task.

Note that the list of available compressors is different for each video Color Format selected in the Osprey video capture driver's control dialog. You should therefore select the Color Format you are using first, then select the compressor. Otherwise, you may get an error message when you try to begin video capture.

Setting the Capture File - Preallocating and Defragmenting

The leftmost button on the toolbar (or the menu item **File -> Set Capture File**) opens the Capture File dialog box.

Depending on a number of factors, you may experience a significant percentage of frames dropped. The percentage of frames dropped is a function of frame size, use of a compressor, and the speed of your system. Performance can be substantially improved by preallocating a capture file and defragmenting it.

"Preallocating" a file means that space has been reserved for it on your hard disk. The menu item **File -> Allocate Disk Space** brings up a dialog in VidCap32 by which you can preallocate a file and reserve space large enough to hold the largest video clip that you are likely to want to capture. In AmCap, it is the menu item **File -> Allocate File Space**. You can preallocate multiple files to hold multiple video clips.

For preallocation to be useful, the hard drive should be defragmented afterwards. "Defragmenting" a drive reorganizes its physical sectors so that each file occupies contiguous sectors, rather than having different parts of it scattered about the disk.

AmCap and VidCap32 do not perform defragmentation; a third-party program is required. Various defragmentation programs are available commercially, and if you have Windows 2000 or Windows XP on the system you can use its built-in defragmenter. Use AmCap or VidCap32 to preallocate the files, then exit to run the defragmentation program.

NOTE: Defragment *after* you allocate and size the capture files.

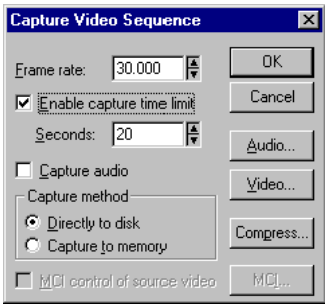
After the disk is defragmented, return to AmCap or VidCap32. The files you preallocated are now located in a contiguous areas of the hard drive. Their physical layout remains the same until the file is resized or deleted.

An alternate technique that avoids the need for defragmenting is to set up a separate disk partition dedicated to video capture, containing a single capture file.

Defragmenting is a time-consuming procedure, but is worth the trouble if you have an ongoing need to capture high-quality video, particularly uncompressed video. Be sure to plan the number and size of files you need. Once you have the defragmented files, be sure not to accidentally delete them - think of them as your permanent working space for time-critical operations, not as containers of specific video clips. Copy your clips to other files for storage and editing.

Capturing Video

The second button from the right opens the Video Capture Dialog. This can also be accessed by the **Capture -> Video** menu item.



The dialog includes controls to set the number of frames per second, as well as an optional time limit (in seconds) for the sequence. Buttons are provided to access both the video capture driver's configuration dialog and the compression dialog. You can also access and configure audio, assuming that it is installed and enabled. The dialog allows a choice between capturing video directly to disk, or capturing via memory. Note that capturing to memory *may* result in fewer dropped frames - but not necessarily.

For best quality video capture, use a capture rate (frames per second) that is slow enough so that there are no dropped frames.

Once the proper configuration is confirmed, click **OK** to capture the video. To end capture, click the mouse anywhere in the VidCap32 window.

Playback

The simplest way to play back a video clip is to find its icon in "My Computer" and double-click on it. This starts Windows Media Player, which automatically plays the clip. Windows Media Player contains standard start, stop, and pause buttons and is largely self-explanatory. Refer to Windows Media Player's online help for more information.

DirectXMedia Details

Microsoft® DirectX® Media is the media layer of the Microsoft® Windows® multimedia system, providing multimedia playback and capture support, image transformations, media integration, and animation for the Web and desktop.

Information Specific to Windows 2000 or Windows XP

Information Specific to Windows NT

General Information

Information Specific to Windows 2000 or Windows XP

Windows 2000 and Windows XP both already contain versions of DirectX® Media suitable for applications like AmCap and Windows Media Encoder. The Osprey-500 driver and applications like Windows Media Encoder also work with the versions of DirectX® that Windows 2000 and Windows XP install by default.

Information Specific to Windows NT

The DirectX® Media runtime is included on this CD, and can be installed by the Osprey installation program. See the Readme.txt file for details. DirectX® Media requires that Microsoft® DirectX® 3.0 or later be installed. Windows Service Packs 4 and later contain DirectX® 3.0. More information about DirectX and Windows NT is available at **http://www.microsoft.com/directx/homeuser/faq.asp - dx4**

General Information

More information about DirectX Media is available at:

http://www.microsoft.com/directx/homeuser/information/dx4nt.asp

and

http://www.microsoft.com/directx/homeuser/downloads/default.asp - DirectX Media.

The DirectX Foundation Layer consists of Microsoft DirectDraw®, Microsoft Direct3D®, Microsoft DirectInput®, Microsoft DirectSound®, Microsoft DirectPlay®, and Microsoft DirectMusic®. Thus, DirectDraw is part of DirectX, and is another reason that a video display adapter which supports DirectDraw is desirable.

More information about DirectX is available at:

http://www.microsoft.com/directx/homeuser/faq.asp

and

http://www.microsoft.com/directx/homeuser/aboutdx.asp

The latest version of all DirectX downloads can always be found at:

http://www.microsoft.com/directx/homeuser/downloads/default.asp

Because DXMedia is not part of the current DirectX releases, it can be downloaded from:

ftp://www.microsoft.com/developer/platformsdk/july2000/common/redist/dxmedia

The DirectX Media package is distributed with Microsoft's DirectX 7.0a SDK, which can be ordered on CD from Microsoft. The DirectX Media package has also been distributed on the Platform SDK CD in MSDN subscriptions.

Cropping and Scaling

The Osprey video capture driver package includes the capability to crop the incoming video signal in hardware before it is encoded or captured. Cropping is done by the Osprey card and imposes no extra load on the host computer. Use any of the following methods to crop the incoming video signal:

- Video Format dialog box
- CropApp, the cropping application
- SDK

Please see the CropApp Manual which is installed in the Osprey 500 group for details on using this feature.

Ligos Technology Indeo

Ligos Technology's Indeo is a software video compressor that works with the Osprey Video Capture Driver. It allows you to capture video to disk using much less disk space, at the cost of only a slight loss of picture clarity. On a 300 MHz Pentium II system you can capture 320x240 NTSC video at a full 30 frames per second with a 25:1 compression ratio.

Indeo is included on Osprey-500 driver CDs starting with Osprey-500 version 1.0.5. Ligos Technology has acquired the Indeo® Media Software from Ligos Technology Corporation. This codec is rather popular, so you may see references to both Ligos Indeo and Ligos Technology Indeo for some months.

You can also download the most up-to-date version for free on Ligos' web site. As of this writing, the location is as follows:

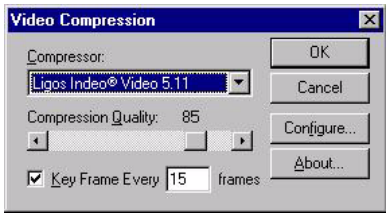
http://www.ligos.com/indeo/downloads/

The file to download currently is **iv5setup.exe**. You need a version that compresses video as well as decompresses it.

Indeo Video compressor version 5.11 works with RGB24 and RGB15. It does not work with YUV12 or YVU9. However, the Indeo package does include components you can use to capture uncompressed YVU9 and 4:2:2 packed video.

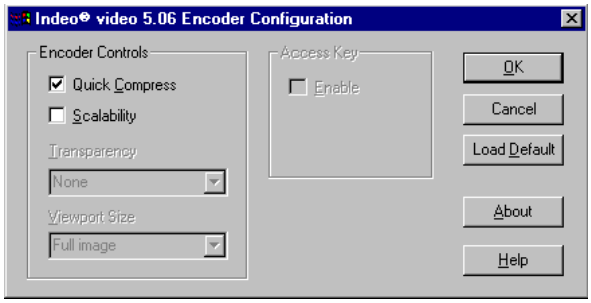
Use the following steps to demo Indeo with the Osprey card:

3. Connect and adjust your video source. Start **VidCap32**.
4. Use the **Options->Format**... menu entry to bring up the Osprey driver's Control Dialog Format page. In the drop-down list in the Color Format field, select **RGB24** (or **RGB15**). Select ½ sized (CIF) video. Click **OK**.
5. Use the **Options->Compression**... menu entry to bring up the compression dialog. In the Compressor: field, select **Indeo video 5.11**.



6. Before leaving the compression dialog, click the **Configure**... button. Enable **Quick Compress** in the Encoder Controls field, and click **OK**.

NOTE: If you do not enable Quick Compress, compression is *much* slower. Click **OK** again to close the Video Compression dialog box.

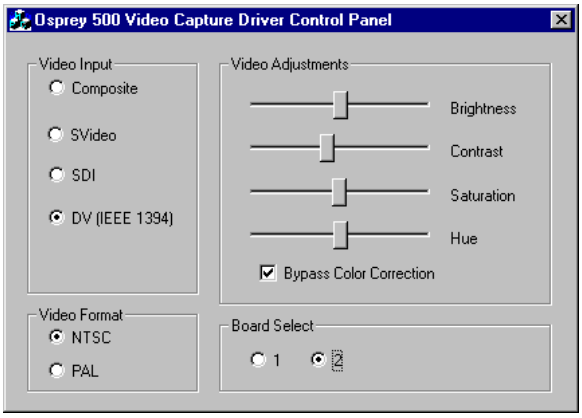


7. Select **Set Capture File**.. under the File menu. Set the name that you want for the file that contains the captured video. Click **Open**.
8. Select **Capture->Video**. Select 30 frames per second for NTSC or 25 for PAL/SECAM. Click **OK**. A confirmation dialog displays. Click **OK** again to start capturing video.
9. Click anywhere on VidCap32 when you want to end capture
10. Open **My Computer** and navigate to the icon of the file you just captured. Click on it and it plays back.

If you experience more than one or two dropped frames, use a lower frames per second capture rate. Useful rates for NTSC video are 30, 15, 10, and 7.5; for PAL/SECAM, 25, 12.5, 8.33, and 6.25.

Indeo has numerous options. You can obtain higher quality video and more compression options by capturing uncompressed video and then compressing it off-line.

Control Panel



The Osprey video capture driver package includes a Control Panel application that allows you to control the video source while another application is running. Some applications make it hard or impossible to access the driver's control dialogs while they are running. The Control Panel allows you to make these adjustments without closing and restarting the primary application.

Video Input

The Video Input field controls which of the board's physical inputs to use. The list of available inputs may vary from the illustration depending on the exact hardware you have.

Video Format

The Video Format field indicates whether NTSC or PAL video is selected and allows you to change the format. NTSC is the video standard in North America and Japan. PAL is the standard in most European countries, and many other countries as well. For simplicity, NTSC and PAL are the only two formats that can be selected from the Control Panel. The driver supports additional, less commonly used format with its internal dialogs (see **Chapter 6**), in particular SECAM and PAL-M.

Video Adjustments

The Video Adjustment sliders allow you to interactively control the brightness, contrast, saturation, and hue of the video being captured or displayed by the primary application. PAL video does not have a hue adjustment.

Board Select

The Board Select field is displayed and used only when there are multiple Osprey cards installed in the system. The buttons of this field determine which of two, three, or four boards is currently being controlled.

NOTE: These buttons affect which board is being controlled, not which board the application is connected to. Their action is therefore slightly different from the Board Select controls in the driver's internal Setup Dialogs.

Chapter 9 - Troubleshooting

Blue/Pink/Black/Orange Video Screen

The currently selected video input is not receiving an active video signal. Different inputs may provide a different symptom when a video source is not supplied. For example, with the Osprey-500 DV or Osprey-500 DV PRO, if no DV source is connected to the card, the DV video may display as a solid pink screen. While playing a tape in a DV camcorder, you may see an orange screen at end-of-tape. Video from composite/S-video may display as a black screen (maybe with a single horizontal line in it) or as a blue screen depending on whether or not the Osprey-100 Analog Mode box is checked on the Osprey-500 Page of the video drivers configuration dialog.

1. Check that the camera, VCR, or other video source is powered and that its output is connected to the Osprey card's input.
2. Check that the correct video input is selected in the Control Dialog's Source page.

Blue Video Screen when using DV or SDI inputs

Check to make sure the Osprey-100 Analog mode is not selected in the Advanced Features Tab of the video control dialog. This option could have been previously manually selected or automatically selected with previous releases (1.0.5 and earlier) if the user last ran a non-certified application.

Black Preview Video Screen

If you select a Color Format other than one of the RGBs or Grey8, you may get a black preview screen. You may also get a message such as "Error: Unable to draw this data format". The problem is that Video for Windows does not know how to decode these more specialized formats. It must be able to locate a software video decompressor on your system that works with this format.

If you encounter this situation with a Color Format that you need or want to use, you have to obtain a suitable compressor. For example, if you install Intel's Indeo compressor you can preview the YVU9 format. To download from Intel's web site:

http://www.ligos.com/indeo/downloads/

Scrambled Video Image

You may have set the wrong video signal format for the signal input you are using. For example, you may have told the driver to look for NTSC-M video but are using a PAL-BDGHI video source. Make sure you know what signal format your video source is generating. Go into the **Video Standard** field of the Control Dialog's Source page, and click the button for that signal format.

Grainy, Dithered Image

Check that you are using a display format with greater than 256 colors. If a 256 color format is used, the system can only approximate the actual colors, and does so with a loss of resolution and precision.

Slow Overlay Drawing

You should be able to obtain 30 frames per second with minimal processor loading by enabling Direct Draw. System requirements for realizing this speed are:

- a video display card that supports Direct Draw
- a video display device driver for the card that supports Direct Draw

Either or both of the two checkboxes in the Direct Draw field of the Control Dialog's Configuration page must be checked.

Refer also to **Appendix E - Direct Draw**.

Problems using Direct Draw

Direct Draw is a recent technology and it is possible that you may have problems using it with your particular combination of display adapter, display driver, and machine. Any problems should arise only when Overlay mode screen drawing is in use; the Osprey card does not use Direct Draw at other times. If you do have problems, disable either or both Direct Draw methods by unchecking their boxes in the "Direct Draw" field of the Control Dialog's Configuration page. We have seen problems with Secondary Direct Draw on a few older display adapters. Refer also to **Appendix E - Direct Draw**, for more details.

Poor Video Quality at Large Frame Sizes

Large frame sizes with the deep pixel depth (24- or 32-bit), or complex format (YVU9 or YUV12 planar), impose heavy demands on the PCI bus's data transfer capacity. Our experience is that some systems cannot handle these formats at full frame sizes.

Systems vary in their data transfer limits. The characteristics of the PCI bridge are often more important than processor speed. If you are having problems, we recommend that you:

- Use a smaller frame size (480 x 320 or less).
- Use a shallower color format (RGB15 or RGB24 instead of RGB32).
- Try an RGB format instead of a YVU format, and a packed format instead of a planar format.
- If you have a choice of PCs for video capture, try using another system with a different system board chipset.

Wrong Capture Driver Being Accessed

This might happen if you already had another capture board/capture driver on your system when you installed the Osprey card. The Osprey installation procedure allows you to set the Osprey driver as either the primary or secondary video capture driver. Appendix D - Using the Osprey Video Capture Driver with Other Video Capture Drivers gives a full description of how to set the Osprey driver as the primary driver.

Some applications, including VidCap32, allow you to select which video capture driver to use. In VidCap32, a list of installed video capture drivers is appended to the bottom of the **Options** menu.

Unwanted Closed Caption Text

Closed Caption text consists of white or colored characters drawn on black character cells.

In video that contains Closed Captioning information, the first active line of video in each field contains encoded Closed Caption text. In video that does not have Closed Captioning information, that line is simply ordinary video.

PAL video sources do not contain Closed Caption text.

If you leave Closed Captioning enabled and view non-Closed Caption video, the Osprey video capture driver attempts to interpret the first line of each field of video as Closed Caption character codes. Some video may display sufficiently similar to Closed Caption data that the software thinks it is Closed Caption text. The result is occasional randomly drawn text appearing on the screen.

The solution is to turn off Closed Captioning when you are viewing sources that are not Closed Captioned. To do so, open the Control Dialog's Closed Caption page and uncheck the **Enable** box in the Display field. The change takes effect when video is restarted after exiting the dialog.

For more information about Closed Captioning, refer to **The Closed Caption Page**.

No Closed Captions on Digital Video

The Osprey-500 is capable of decoding closed captions on NTSC video inputs. This feature is supported on analog video sources - the composite and svideo inputs, only. It is not supported on the digital video inputs - SDI and DV.

Interrupt Conflicts

Failed network connections, failure of a device drive to initialize during start-up, or failure of the Osprey card and driver to operate properly are often traced to interrupt (IRQ) conflicts. In our experience, IRQ conflicts are most commonly seen when a PCI SCSI adapter, or possibly a PCI network adapter, is present in the system.

Conflicts Between PCI Cards

Conflicts of PCI Cards with ISA Cards

Conflicts Between PCI Cards

PCI cards and drivers do not choose which IRQs they use; rather, the operating system assigns IRQ lines to PCI cards. The IRQ configuration for the Osprey card or cards is determined by Windows NT, and the Osprey driver cannot change this configuration. However, you can cause the operating system to assign IRQs differently by rearranging cards or changing BIOS settings.

Multiple PCI cards are supposed to be able to share the same IRQ line. In practice, occasionally you may encounter a device driver that is not implemented correctly for interrupt sharing. If this problem arises, you have to rearrange the PCI cards so that the non-compliant card does not share its IRQ line with any other device.

Another problem is that some PCI device drivers expect to use a particular IRQ line. When a new card is added, it causes the system to assign IRQs differently. If the IRQ assignment for a particular card is changed and its device driver does not detect the change, this causes the system to work incorrectly.

The simple answer to this problem is it can sometimes be solved by physically rearranging the PCI cards such that their arrangement in the PCI slots is different. When doing this, keep careful notes of the arrangements you have tried.

Another approach to PCI card conflicts is at the BIOS level. Depending on what kind of system BIOS you have, you may be able to change which IRQ lines are allocated to PCI devices versus ISA devices. You may be able to allocate more IRQ lines for PCI devices and thereby solve a PCI conflict.

If these approaches do not work, see Getting Help in **Chapter 1**.

Conflicts of PCI Cards with ISA Cards

A PCI card and an older-style ISA card can never share IRQ lines. Windows NT cannot detect with certainty what IRQ line an ISA card is using and cannot always prevent the conflict.

You can view the system's IRQ assignments by running the Windows NT Diagnostics program in the Administrative Tools menu or program group. Select the **Resources** tab and click the **IRQ** button at the bottom of the field. If the list of cards shows an ISA card using the same IRQ as another device, the conflict should be resolved by changing the IRQ of the ISA card.

Unfortunately, if a device driver for an ISA card has failed to initialize because of an IRQ conflict, the card's IRQ does not display in the list. To find the conflict, you have to examine all your ISA cards with the Control Panel to find out what IRQs they are trying to use.

Multiple Horizontal Lines Across Video Image

If there are multiple, regularly spaced, horizontal lines across your video image and your source material is copyrighted and copy-protected, you are seeing Macrovision ™ copy protection. It looks like this:

The lines can vary in color from yellow to blue to green. These lines are not present in every frame of video. There may also be a black band at the top of the frame.

The Osprey-500 cannot eliminate these video artifacts. These artifacts are only present when you are using a copy-protected source, such as a high-quality DVD for testing a card.

Cannot Play Back Audio Recorded by the Osprey-500 Card

Verify that the selected playback device is your sound card, and not the Osprey-500 Placeholder device. The Placeholder device exists in order to handle the situation where there is an Osprey-500 present without a sound card. Some Windows applications cannot use a recording device unless a playback device is also installed. The Placeholder device cannot play back recorded audio. You can use the same method to select playback device that you use when selecting the audio source.

If you have a sound card installed, you should be able to hear audio when you play back recorded audio.

Verify that the volume control for your playback device is not muted.

Video Control Dialog Windows are Empty under WinNT

This problem occurs only for Windows NT installations that are running Service Packs earlier than SP4, or that are running versions of Internet Explorer earlier than version 4. The problem is caused by the Osprey driver software's use of features (window dialog controls) provided by Windows NT that were introduced in 1999.

This problem can be fixed by:

- applying NT Service Pack 4 or later.

Service Pack 6a is required to use Microsoft's Windows Media Encoder 7.1 and Media Player 7.1.

- installing Internet Explorer version 4 or later
- downloading and installing the latest version of 401Comupd.exe from Microsoft's website at **http://www.microsoft.com/msdownload/ieplatform/ie/comctrlx86.asp**

Appendix A - Hardware Specifications

The physical specifications for the Osprey-500 Capture Cards are as follows.

Table A-1 Physical Dimensions

Length	133 mm
Width	22 mm
Height	121 mm
Weight	63 grams

Table A-2 Environmental Specifications

Operating temperature range	0º to 40º C
Non-operating temperature range	-40º to +75º C (RH)
Operating humidity range	Between 5% and 80% (non-condensing) @ 40º C
Non-operating humidity range	95% RH (non-condensing); gradient 30% per hour
Operating altitude range	0 to 3,048 meters (10,000 feet)
Non-operating altitude range	0 to 15,240 meters (50,000 feet)

Appendix B - Color Modes

The Color Format field of the Control Dialog's Format page allows you to select the following video formats.

RGB32 - Each pixel has four bytes (32 bits) of data - one each for red, green, and blue, plus one byte of padding. The pixel has 256 shades of each of the three colors, for a total of 16.7 million colors. This is a "true color" mode.

RGB24 - Each pixel has three bytes (24 bits) of data - one each for red, green, and blue. This is another "true color" mode with 16.7 million colors, and is a recommended format for capturing images with the highest possible color accuracy.

RGB15 - Each pixel has two bytes (16 bits) of data. There are 5 bits each of red, green, and blue data; the sixteenth bit is unused. This is a "high color" mode, also known as "5:5:5."

Grey8 - Each pixel has one byte of data, representing one of 256 greyscale levels.

4:2:2 packed - Also known as **YUY2**. This mode represents each pixel with a total of 2 bytes (16 bits) of data. The data is encoded as separate data for luminance (intensity) and chrominance (color). This mode is mainly used as an input to software compressors. See below.

YUV12 planar - Also known as **I420**. This is a complex format in which there are in the aggregate 12 bits of data per pixel. Each pixel has 8 bits of luminance data. Each group of 4 adjacent pixels shares two bytes of chrominance data. See below.

YVU9 planar - Similar to YUV12 planar, except that there are in the aggregate 9 bits of data per pixel, and each byte pair of chrominance data is shared by 16 adjacent pixels.

YUV Format Details

YUV Format Details

4:2:2, YVU9, and YUV12 are YUV formats. In these formats, each pixel is defined by an intensity or luminance component, Y, and two-color or chrominance components, U and V. Since the human eye is less sensitive to color information than to intensity information, many video formats save storage space by having one luminance byte per pixel while sharing the chrominance byte among two or more pixels. YUV is also very similar to the color encoding used for analog color television broadcast signals.

4:2:2 packed mode consists of a single array of mixed Y, U, and V data. Each pixel has one Y (intensity) byte. Each pixels shares its U and V bytes with one of the pixels horizontally next to it:

Pixels 1 and 2:

byte 1 = y1	byte 1 intensity
byte 2 = u1/2	shared U color information for bytes 1 and 2
byte 3 = y2	byte 2 intensity
byte 4 = v1/2	shared V color information for bytes 1 and 2

Pixels 3 and 4:

byte 5 = y3

byte 6 = u3/4

byte 7 = y4

byte 8 = v3/4

4:2:2 packed mode uses the same number of aggregate bytes per pixel as RGB15, which is two. However, 4:2:2 is more efficient than RGB15 because it stores relatively more of the intensity information to which that the human eye is most sensitive.

YVU9 and **YVU12** are "planar" modes - the Y, U, and V components are in three separate arrays. It is easiest to explain the format with an example: Let's say you have a 320x240 YVU9 format. The buffer has 320x240 bytes of Y data, followed by 80x60 bytes of V data, followed by 80x60 bytes of U data. So each U and each V byte together contain the color information for a 4x4 block of pixels.

Similarly, a 320x240 YUV12 format has a 320x240 Y array, followed by a 160x120 U array, and then a 160x120 V array.

Note that in the I420 format used by Osprey, the order of the U and V arrays is reversed from the order in the YVU9 format.

Appendix C - Video Sizes

The table below gives the standard video sizes available through the Control Dialog's Format page.

The 525-line video formats are NTSC-M, NTSC-J, and PAL-M.

The 625-line video formats are PAL-BDGHI, PAL-N, and PAL-NC.

CCIR601 is a video proportioning standard that can be selected on the Control Dialog's Format page.

Available Video Sizes (Width x Height:)

	525-line (Sqr Pixels)	525-line (CCIR601)	625-line (Sqr Pixels)	625-line (CCIR601)
Full	640 x 480	720 x 480	768 x 576	720 x 576
1/2 (CIF)	320 x 240	360 x 240	384 x 288	360 x 288
3/8	240 x 180	270 x 180	288 x 216	270 x 216
1/4 (QCIF)	160 x 120	180 x 120	192 x 144	180 x 144

Appendix D - Using the Osprey Video Capture Driver with Other Drivers

If you already have a video capture driver installed in your system, the Osprey installation software offers the option of installing the Osprey driver as your primary video capture driver. A dialog box with that option displays near the end of the installation sequence.

The Windows 2000 and Windows XP installer does not offer this option.

After installation, you can change the primary video capture driver by going to the Configuration Page of the driver's setup dialog and then to the Default Capture Device option.

If the Osprey driver is set as your primary video capture driver, it automatically connects to Video for Windows applications as the default driver. If you install it as a secondary or auxiliary video capture driver, it is not be accessible to Video for Windows programs and utilities that lack a control for selecting a specific capture driver. Your other driver, however, remains immediately accessible as the default driver.

What if you have a need to change drivers and capture cards, once or repeatedly? The most safe-and-certain way is to run the old driver’s uninstall program and then run the new driver’s install or setup program. You may find it easier, however, to use the system Control Panel to remove and install drivers.

The Control Panel’s “Remove” does not actually remove a driver permanently from your system. Its files are still in the same locations on your hard disk. Rather, it alters the registry settings so that the driver does not appear on the list of active drivers. When you later “Add...” a driver that is removed in this way, you have the choice of using the existing files, or copying in new ones.

Use the Control Panel’s Multimedia **Add...** function to activate the primary driver you want. The **Add...** function replaces the previous primary driver with the new one. This is usually in fact what you want to do. There is no way to designate a driver as secondary or auxiliary using the Control Panel.

Because the NT 4.0 **Add...** function acts more like a “Replace...” function if a driver is already there, the **Remove** function is not really needed. This is fortunate, because it does not work for all video capture drivers. It appears to, but the registry does not actually get updated. (For the Osprey driver, the **Remove** function does work.) If both a primary and a secondary driver are installed, and you **Remove** the primary driver, and the function works correctly, the secondary driver becomes the primary driver.

To "Add..." a driver, proceed as follows:

To "Remove" a driver, proceed as follows:

To "Add..." a driver, proceed as follows:

The following information is valid for Window NT 4.0 only, not for Windows 2000 and Windows XP.

1. Open **My Computer** and double click on the **Control Panel** icon. The Control Panel window will come up.
2. Double click on the **Multimedia** icon. The Multimedia Properties window will come up.
3. Click on the **Devices** tab. A list of multimedia devices will appear.
4. Click on the **Video Capture Devices** selection; it should become highlighted.
5. Click the **Add**... button at the bottom of the window. A window titled Add appears, with a list of drivers.
6. If the driver you want to add is in the list, highlight it and click **OK**. Follow whatever further directions come up that are specific to the driver.
7. If the driver you want is not on the list, highlight the first item, **Unlisted or Updated Driver**, and click **OK**.
8. You now get a dialog that prompts for a pathname. You have to provide the location of an "INF" file for the driver. This is a file belonging to the driver of interest entitled "o100drv.inf". You can either type in the path or click the Browse... button to select the path. For the Osprey software, this file will be in the directory where the software was installed, by default *Program Files**Osprey Multimedia Capture* on the default drive. When you have the correct path in the dialog, click **OK**.
9. A dialog entitled Add Unlisted or Updated Driver will now come up. There could be several choices of drivers; if so, select the one for a video capture driver and click **OK**.
10. Follow any further directions specific to the particular driver that come up.

To "Remove" a driver, proceed as follows:

The following information is valid for Window NT 4.0 only, not for Windows 2000 and Windows XP.

1. Open **My Computer** and double click on **Control Panel**. The Control Panel window will come up.
2. Double click on the **Multimedia** icon. The Multimedia Properties window will come up.
3. Click on the **Devices** tab. A list of multimedia devices will appear.
4. Click on the plus sign to the left of small icon marked **Video Capture Devices**.
5. Click on (and highlight) the video capture device you want to remove.
6. Click on the **Remove** button at the bottom of the window.
7. A confirmation dialog will come up. Click **Yes** to deactivate the driver.
8. Verify that the driver was actually removed by closing the Multimedia window, restarting it, and seeing if the driver is in fact gone from the **Video Capture Device** list.

Appendix E - Direct Draw

Direct Draw is a fast on-screen drawing method. The Osprey video capture driver utilizes Direct Draw for drawing video **overlays**. Video overlay is a display mode available in most video capture applications, including **VidCap32**. It is enabled by clicking an **Overlay** button, or by selecting an Overlay menu entry. It is distinct from **Preview** mode. Preview mode does not utilize Direct Draw.

Direct Draw is enabled by the Direct Draw Enable checkbox on the Control Dialog's **Configuration Page**. When Direct Draw is enabled, the Osprey driver attempts to use it for overlays. If it cannot (e.g., the display driver does not support Direct Draw), the Osprey driver defaults to DibDraw.

When Direct Draw is used, video is copied by direct memory access (DMA) directly from the Osprey board to the visible screen memory, and video is overlaid at 30 frames per second with very low main processor utilization. When Direct Draw is not used, video is copied by DMA into system memory, and then copied again into display memory. Frame rate without Direct Draw is 30 per second for smaller frame sizes, but less for larger sizes, and processor loading is substantial.

In order to utilize Direct Draw, the following conditions must be met:

1. You have to enable Direct Draw by checking the Enable button on the Control Dialog's Configuration page.
2. Your video display card must support Direct Draw.
3. The software device driver for your video display card must support Direct Draw. It is recommended that you use the most recent driver available. The drivers on the Windows NT 4.0 CD-ROM do not support Direct Draw in all cases. You can obtain the most recent version from your video card manufacturer's web site.
4. You must be using a video format other than Grey8. The Osprey driver does not support Direct Draw of greyscale video.
5. You can tell whether the system is using Direct Draw as follows: When Direct Draw is in use, the display near the video capture window flickers when either the video capture window or an overlapping menu or window is moved. When DibDraw is being used, there is no flicker.
6. You can also measure CPU utilization using the Task Manager's performance meter. When measuring CPU utilization, first shut down any applications that might be actively consuming significant CPU time. CPU utilization is just a few percent when Direct Draw is running. If DibDraw is running, CPU utilization is substantial, especially if the image is large.

Appendix F - Multiboard Installations

The multiboard capability of the Osprey-500 Capture Driver allows both single and multiple applications to simultaneously access multiple boards. However, the driver does not allow multiple applications or processes to access a single board unless the added-cost SimulStreaming option has been enabled for the board, or another special circumstance exists.

First, some background on the logic by which the Osprey-500 driver determines connection or startup order for multiple boards. The numbering of the boards is determined by the order in which the operating system recognizes their presence in the slots in which they are installed. The arrangement of logical PCI slots is different for different machines, and you should experiment to determine which physical board is Board 1. Also, the numbering under Windows 2000 or Windows XP may differ from the numbering under Windows NT 4.0.

Every time the system is rebooted, the Osprey-500 drivers re-enumerate the boards in the system and make unique video capture entries for each board. If the **Multiple Opens** box is not checked under Access for Multiple Boards on the Configuration Page of the Osprey-500 Video Control Dialog, a "default" registry entry is made that represents the legacy method of opening multiple devices, as well as registry entries for individual boards. If the box is not checked (selecting the check box is recommended), only entries for specific cards are created.

The Recommended Multi-Board Selection Approach

The Legacy Multi-Board Selection Approach

The Recommended Multi-Board Selection Approach

The recommended method is to check the **Multiple Opens** box on the Configuration Page of the Osprey-500 Video Control Dialog. Checking this box should result in the generation of only individual device names as video capture device entries. For example, the following msvideo entries display for two Osprey-500 devices in the system:

- o500vc.dll - Osprey-500 Card 1
- o500vc.dll - Osprey-500 Card 2

These "Card 1" / "Card 2" names should be used when opening the Osprey-500. In the event that you see a "Card Default" entry (see the legacy approach below), this is for legacy applications that did not allow for specific device selection.

The Legacy Multi-Board Selection Approach

The non-recommended method is to not check the **Multiple Opens** box on the Configuration Page of the Osprey-500 Video Control Dialog. Not checking this box should result in the generation of individual device names as well as Card Default name as video capture device entries. For example, the following msvideo entries display for two Osprey-500 devices in the system:

o500vc.dll - Osprey-500 Card Default

o500vc.dll - Osprey-500 Card 1

o500vc.dll - Osprey-500 Card 2

If two or more boards are installed and you use the default device name to access the Osprey driver, it first connects to the default board. Normally, the default board is whichever board was most recently selected in the Control Dialog's Board Select field. If this default board is in use (and the MultiOpen option is turned off), the next available board is automatically selected. Once any board is selected, you can change it to a different board by selecting the desired board in the application you are using (often under a menu titled **Options** or **Board Select**).

Multiple boards may be accessed according to two main scenarios:

- *Multiple processes accessing multiple boards:* Start two standard applications - or two copies of one application - such as VidCap32. The first copy comes up connected to the default board and starts normally. The second copy automatically hunts for the next available board in ascending numerical order.
- *A single application accessing multiple boards:* A single custom application can access two or more different boards. If the standard Video for Windows interface is used, the access order is the same as described above.
- *Multiple applications accessing single board:* If you have the added-cost SimulStream upgrade, then multiple applications can access a single board. This option is described in detail in the SimulStreaming User's Guide.

Multiple Opens is much more precise and flexible for custom applications that use the Osprey Video For Windows NT/2000 Software Developers' Kit (VFW SDK). This kit allows you to override the default board in order to access any board at any time. It is recommended that developers of multiple board applications obtain this kit, described in Appendix K. Please inquire at **mailto:info@ospreyvideo.com** for more information.

Appendix G - File and Registry Usage

The following are files that are written and registry entries that are set when Osprey drivers are installed. This information allows a technically proficient user to remove the Osprey-500 installation if the uninstaller is deleted or damaged.

Instructions for Windows NT 4.0

Instructions for Windows 2000 and Windows XP

These instructions are for advanced users only!

Refer to Chapter 3 - Installing the Software - Windows 2000, Chapter 4 – Installing the Software – Windows XP, or Chapter 5 - Installing the Software - Windows NT 4.0 to remove the software. Be careful not to delete or alter any items other than the ones described here!

Instructions for Windows NT 4.0

1. Entries are added in the multimedia and system portions of the registry. When manually removing the software, use the Control Panel to "Remove" the driver (and delete these entries) *before* deleting individual files and registry entries.
2. In the main Windows NT ..\System32 directory, these files can be removed:

   Hutt_merge.rbf
   Jedi.rbf
   o500board.dll
   o500vc.dll
   o5ca_mix.dll
   o5ca_usr.dll
   o5ca_wav.dll
   otiyuv.dll
   SimulKey2.dll
3. In the main Windows NT ..\System32\drivers directory, these files can be removed:

   o500drv.sys
   o5ca.sys
4. The Osprey 500 install driver directory, its subdirectories, and its files can be removed. Typically, this directory is \Program Files\Osprey 500 on the default drive. The installation procedure puts the following files common to Windows NT in that directory:

   CropApp.exe
   CroppingManual.pdf
   license.txt
   Osprey-500 Special Offers.url
   Osprey-500UsersGuide.pdf
   osprey.ico
   Readme.txt
   SimulStream Special Offers.url
   SimulStreaming_Users_Guide.pdf
   VidCap.hlp
   VidCap32.exe
   xctlapp.exe
   Driver directory
5. The installation program also creates a directory called NT within the Osprey 500 install directory which contains the following files:

   files DelsL*.isu
   VCLogo.bmp
   VCST1.bmp
   VCST2.bmp
   the Help subdirectory and all its contents
6. In the registry the following branches are added and can be deleted without affecting the rest of the system. Use RegEdit to delete them.

In this branch of the registry, the "1" on wave, mixer, and msvideo may be a different numeral, or may not be present.

- HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows NT\CurrentVersion\ Drivers32 device entries:

  "wave1"="o5ca_wav.dll"
  "mixer1"="o5ca_mix.dll"
  "msvideo1"="o500vc.dll - Osprey-500 Card 1"
- HKEY_CURRENT_USER\Software\Osprey\Osprey500
- HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows NT\CurrentVersion\drivers.desc entries:

  "o500vc.dll"="Osprey-500 Video Capture Driver"
  "o5ca_wav.dll"="Osprey-500 Audio Wave Driver"
  "o5ca_mix.dll"="Osprey-500 Audio Mixer Driver"
- HKEY_LOCAL_MACHINE\SOFTWARE\Osprey\Osprey500
- HKEY_LOCAL_MACHINE\SOFTWARE\ViewCast Corporation\Osprey Video Division\Osprey 500
- HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Uninstall\Osprey 500
- HKEY_LOCAL_MACHINE\SYSTEM\ControlSet001\Services\o500drv
- HKEY_LOCAL_MACHINE\SYSTEM\ControlSet001\Services\O5CA
- HKEY_LOCAL_MACHINE\SYSTEM\ControlSet003\Services\o500drv
- HKEY_LOCAL_MACHINE\SYSTEM\ControlSet003\Services\O5CA
- HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\o500drv
- HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\O5CA
- HKEY_USERS\.DEFAULT\Software\Osprey\Osprey500
- HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows NT\CurrentVersion\Drivers32 codec entries:

  "vidc.I420 = otiyuv.dll"

  "vidc.yuy2 = otiyuv.dll"

7. You can delete the Taskbar entry by selecting **Taskbar Properties -> Start Menu Programs -> Remove**.

Instructions for Windows 2000 and Windows XP

1. Entries are added in the multimedia and system portions of the registry. When manually removing the software, use the Control Panel to "Remove" the driver (and delete these entries) *before* deleting individual files and registry entries.
2. In the main Windows 2000 or Windows XP ..\System32 directory, these files can be removed:

   Hutt_merge.rbf
   Jedi.rbf
   o500vc.dll
   o5ca_wav.dll
   o5ca_mix.dll
   o5ca_usr.dll
   o500board.dll
   otiyuv.dll
   Ouno500.dll
   OtiPnp.dll
   SimulKey2.dll
3. In the main Windows 2000 or Windows XP ..\System32\drivers directory, these files can be removed:

   o500drv.sys
   o5ca.sys
4. The Osprey-500 install driver directory, its subdirectories, and its files can be removed. Typically, this directory is \Program Files\Osprey 500 on the default drive. The installation procedure puts the following files common to Windows 2000 or Windows XP in that directory:

   CropApp.exe
   CroppingManual.pdf
   osprey.ico
   license.txt
   Osprey-500 Special Offers.url
   Osprey-500UsersGuide.pdf
   Readme.txt
   SimulStream Special Offers.url
   SimulStreaming_Users_Guide.pdf
   UsersGuide500.htm
   VidCap32.exe
   VidCap.hlp
   xctlapp.exe
   Driver directory
5. The installation program also creates a directory called NT within the Osprey-500 install directory which contains the following files:

   files DeIs*.isu
   VCLogo.bmp
   VCST1.bmp
   VCST2.bmp
   the Help subdirectory and all its contents

6. In the registry the following branches are added and can be deleted without affecting the rest of the system. Use RegEdit to delete them.

In this branch of the registry, the "1" on wave, mixer, and msvideo may be a different numeral, or may not be present.

- HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows NT\CurrentVersion\Drivers32 device entries:

"wave1"="o5ca_wav.dll"
"mixer1"="o5ca_mix.dll"
"msvideo1"="o500vc.dll - Osprey-500 Card 1"

- HKEY_CURRENT_USER\Software\Osprey\Osprey500
- HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows NT\CurrentVersion\drivers.desc entries:

"o500vc.dll"="Osprey-500 Video Capture Driver"
"o5ca_usr.dll"="Osprey-500 Audio Driver"
"o5ca_wav.dll"="Osprey-500 Audio Wave Driver"
"o5ca_mix.dll"="Osprey-500 Audio Mixer Driver"
"o500board.dll"="Osprey-500 Audio Board Driver"

- HKEY_LOCAL_MACHINE\SOFTWARE\Osprey\Osprey500
- HKEY_LOCAL_MACHINE\SOFTWARE\ViewCast Corporation\Osprey Video Division\Osprey-500
- HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Uninstall\Osprey-500
- HKEY_LOCAL_MACHINE\SYSTEM\ControlSet001\Control\MediaResources\msvideo\!default entry: "Driver" = "o500vc.dll - Osprey-500 Card 1"
- HKEY_LOCAL_MACHINE\SYSTEM\ControlSet002\Control\MediaResources\msvideo\!default entry: "Driver" = "o500vc.dll - Osprey-500 Card 1"
- HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\MediaResources\msvideo\!default entry: "Driver" = "o500vc.dll - Osprey-500 Card 1
- HKEY_LOCAL_MACHINE\SYSTEM\ControlSet001\Services\O5CA
- HKEY_LOCAL_MACHINE\SYSTEM\ControlSet001\Services\o500drv
- HKEY_LOCAL_MACHINE\SYSTEM\ControlSet002\Services\O5CA
- HKEY_LOCAL_MACHINE\SYSTEM\ControlSet002\Services\o500drv
- HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\O5CA
- HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\o500drv
- HKEY_USERS\.DEFAULT\Software\Osprey\Osprey500
- HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows NT\CurrentVersion\Drivers32 codec entries:

"vidc.I420 = otiyuv.dll"
"vidc.yuy2 = otiyuv.dll"

7. You can delete the Taskbar entry by selecting **Taskbar Properties -> Start Menu Programs -> Remove**.

Appendix H - Adding/Moving Boards in Windows 2000 and Windows XP

Under Windows 2000 or Windows XP, when the driver has been installed and another Osprey-500 board is put into a slot that has not previously contained a board, the following sequence of windows is initiated. This can happen because an Osprey-500 board has been moved to a different PCI slot or when a board is been added to the machine. It occurs because of the manner in which Windows 2000 and Windows XP enumerates devices.

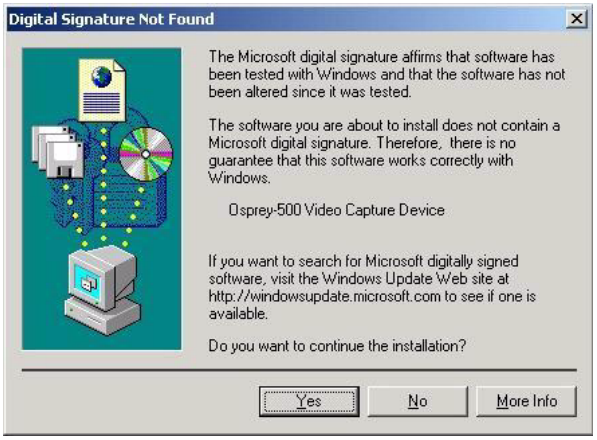
Windows 2000

Windows XP

Windows 2000

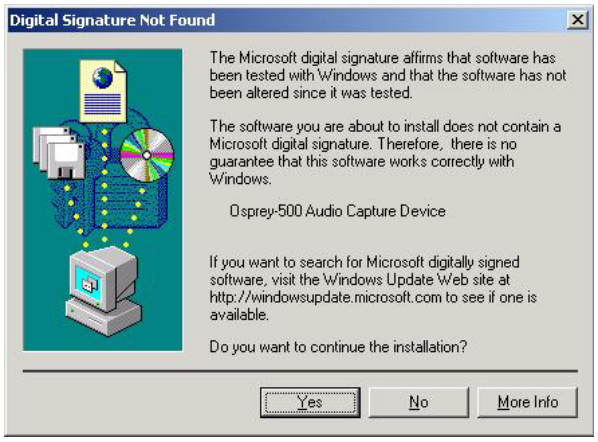
The Found New Hardware Wizard runs and displays two windows. First, a smaller window with the text "*Found New Hardware, Osprey-500 Video Capture Device, Installing* ..."

The Digital Signature Not found window for the video portion of the Osprey-500 displays.



1. Click **Yes**.

   The Digital Signature Not found window for the audio portion of the Osprey-500 displays.



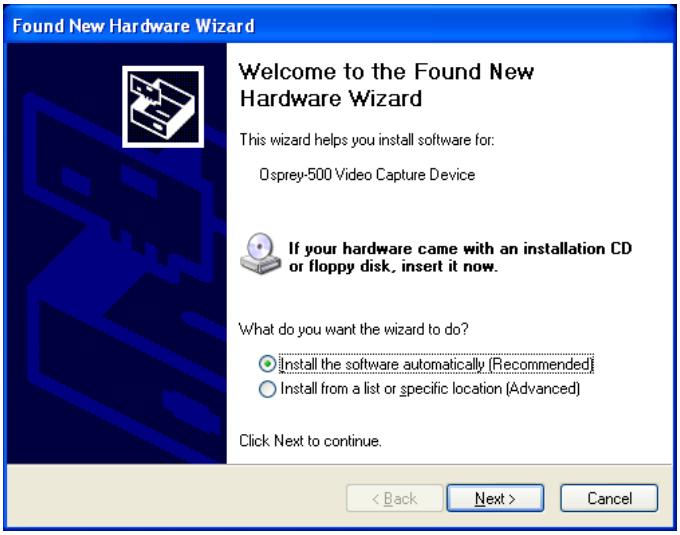
2. Click **Yes**.
3. When the *Completing the Found New Hardware* window displays, click **Finish**.
4. Two *Digital Signature Not Found* windows display for each Osprey-500 board that you have added or moved.

   The Systems Settings Change window displays.
5. Click **Yes** to restart your computer.

You computer must be restarted for the Osprey-500 card to behave as expected.

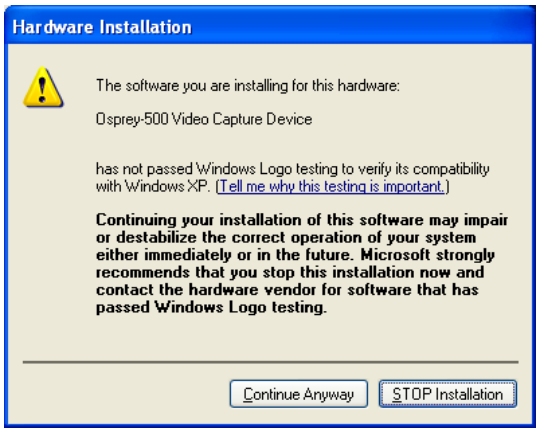
Windows XP

The Welcome to the Found New Hardware Wizard detects an Osprey-500 has been added or moved.



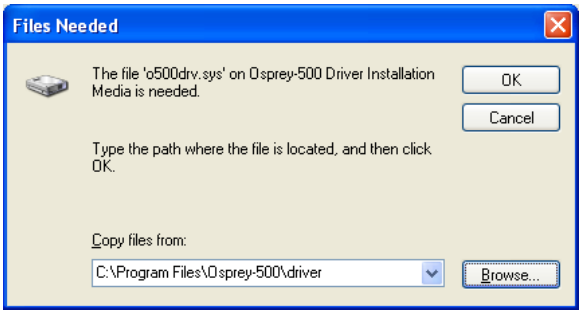
1. Click to select **Install the software automatically**
2. Click **Next**.

   After completing the search, the Hardware Installation window displays, covering the previous window.



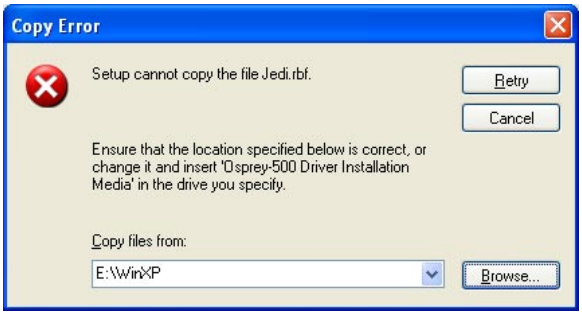
3. Click **Continue Anyway**.

   The Files Needed window displays.

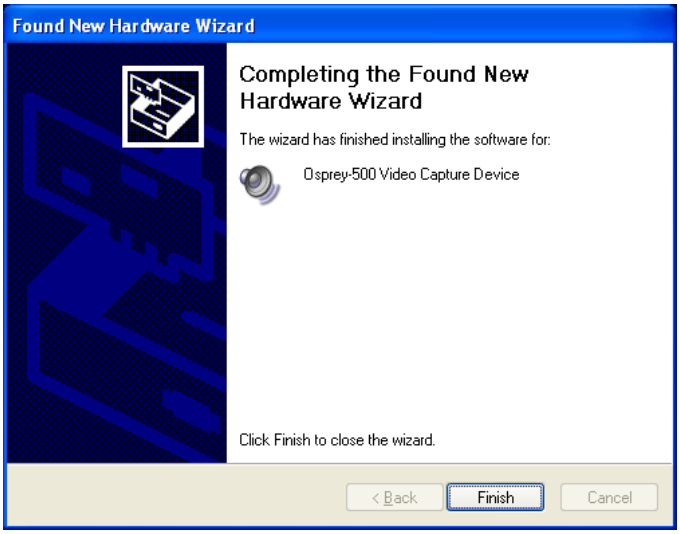


4. Click **Browse** to locate the **Program Files\Osprey-500\driver** directory
5. Click **OK**.

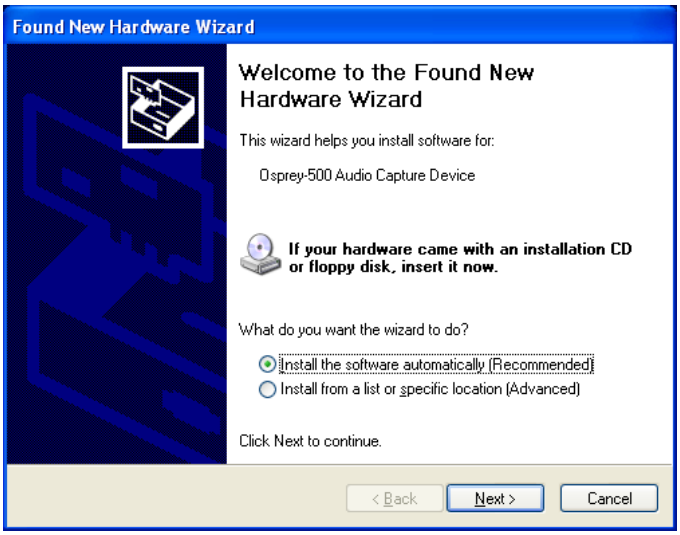
   A Copy Error window displays.



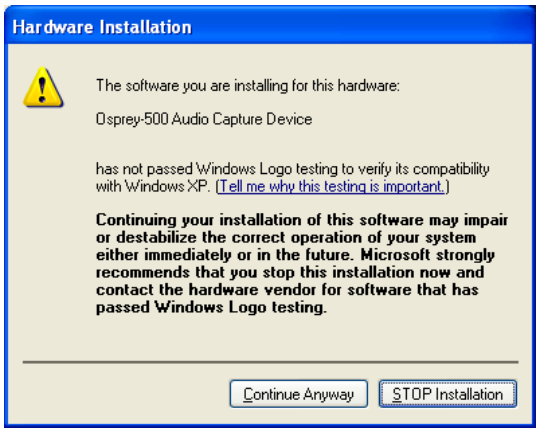
6. Click **Browse** to locate the **systemroot\system32** (usually \WINNT\system32) directory.
7. Click to select **Jedi.rbf**
8. Click **OK**.
   The Completing the Found New Hardware Wizard window displays.



9. Click **Finish**.
   The Welcome to the Found New Hardware displays. [file o500xp-apph-8.bmp]



10. Click **Next**.
    The Hardware Installation window displays.



11. Click **Continue Anyway**.
    The Systems Settings Change window displays.
12. Click **Yes** to restart your computer.

You computer must be restarted for the Osprey-500 card to behave as expected.

Appendix I - The Audio Cfg Applet

The Audio Cfg Applet has been removed from the release. Please see **Registry Settings Controlled by the Audio Cfg Applet** for information about changing the Rate Conversion Selection and Gain Selection.

Mono Selection

This selection indicates how Mono Audio is being presented to the Osprey-500. Typically, Mono audio is carried through a single line or wire. To use single line Mono capture, select Left Channel Mono. If you prefer to convert two audio channels to a single channel, select Left+Right Channel Mono.

Rate Conversion Selection

This function selects the method that the Osprey-500 uses to convert audio from one sampling rate to another. For example, audio from a DV source is typically 48 kHz stereo audio. For various reasons you may want to capture audio at only 8 kHz. This function selects the method that the Osprey-500 uses to convert between data rates. For most purposes the default setting of Filter Converter works well.

Gain Selection

The Gain Selection allows you to boost the audio level. The default value of 2 is sufficient for recording from most sources including camcorders, CD players, and Walkman radios. If you have audio sources that are at lower levels, increase the Gain value.

Default Settings

Restores the default settings which are shown in the screen above.

Apply

Once all options on the Osprey-500 Audio Settings screen are selected, click Apply. All audio applications using the Osprey-500 share these settings.

Registry Settings Controlled by the Audio Cfg Applet

The Audio Settings applet places registry values in these twigs of the registry:

- HKEY_CURRENT_USER\SOFTWARE\Osprey\Osprey500\DeviceX\Audio\RateConversion

  RateConversion may be set to 1, 2, or 3 only.

  When RateConversion is:

  1 - use filter converter (default)

  2 - use skip converter (skips samples)

  3 - use Microsoft PCM method

- HKEY_CURRENT_USER\SOFTWARE\Osprey\Osprey500\DeviceX\Audio\Gain

  The default value of Gain is 2. Set it higher for increased software audio gain. Set it below 2 to decrease gain.

Appendix J - Developer Support

The Osprey Technologies group has a software developers' kit (SDK) to assist development of specialized Video for Windows applications. The Osprey Video for Windows NT/2000/XP SDK provides capabilities that the Video for Windows API does not provide. It uses a proprietary interface that bypasses Video for Windows and connects your application directly to the Osprey video capture driver.

The developers' kit at present has the following modules:

- Methods by which a single application can access multiple boards - see also Appendix F.
- Interactive control of video source, brightness, contrast, hue, and saturation from inside an application
- A Closed Captioning API, by which the application can control Closed Captioning and capture Closed Caption text for specialized processing and display.
- An API for controlling cropping parameters (see the CropApp manual).
- An example of the Audio Mixer program.
- An API for Controlling on-video logos - see Chapter 6, **The Logo Page**.
- An API for capture of raw Vertical Blanking Interval (VBI) data.
- Direct access to the Bt878 registers.
- Please inquire at **mailto:info@ospreyvideo.com** for further information.