Osprey-100
Osprey-101
Osprey-200

For Windows 2000, Windows XP, and Windows NT 4.0

Releases 2.2.0 and later.
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FCC Notice

This device 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 device 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, 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.

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.

Note to CATV Installer

This reminder is provided to call to the CATV installer's attention Section 820-40 of the NEC, which provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

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Chapter 1 - Getting to Know the Osprey Multimedia Capture Cards

The User's Guide provides helpful information about installing and configuring the hardware and software for the Osprey-100, Osprey-101, and Osprey-200 devices. This book has been designed with the particular needs of end users in mind, particularly first-timers and those working with existing applications.

Symbols

Introduction

Features

Software Included

Compatible Third Party Applications

Getting Help

Symbols

	This symbol denotes an important note or warning.
	The chapters that describe how to use Osprey application contain step-by-step instructions. The "Shortcut" icon identifies a section that summarizes the detailed steps.

Introduction

	If you already have a working knowledge of the Osprey cards and their capabilities, you may want to skip ahead to **Chapter 2, Hardware** and proceed with installation.

Osprey Multimedia Capture Cards provide economical solutions for capturing video images in an uncompressed digital format. All formatting and scaling of images are processed within the hardware, allowing for maximum system efficiency and speed. The Osprey-200 in addition provides an on-board audio capture capability.

This User's Guide covers five main models of Osprey Multimedia Capture Cards:

1. Osprey-100 – the mainstream video-only product.
2. Osprey-150 – similar to the Osprey-100, designed for Sun PCI workstations but usable on Windows systems as well.
3. Osprey-101 – a video-only product with a bundled NTSC camera.
4. Osprey-200 – a video capture card with on-board audio capture capability.

   The "video only" models work with your existing sound card for audio capture.
5. The Osprey-50-PCI is an entry-level video-only capture board similar to the Osprey-100. It comes with its own User's Guide and software applications. Most of the information in this User's Guide is applicable to it, however, and it uses the same video capture driver as the Osprey-100 and -200 devices.

These products consist of a PCI board (based on the Conexant Bt878 single-chip video capture device) and Video for Windows compliant software drivers for Windows 2000, Windows XP, Windows NT 4.0, and Windows 95/98 platforms.

The driver for Windows 95/98 is a separate driver with its own User's Guide. All information in this User's Guide refers to the Windows 2000, Windows XP, and Windows NT drivers.

Features

The driver supports all Video for Windows capture driver capabilities that are available to the Bt848 / Bt878 hardware device. It is compatible with software video compressors, sound boards, video editing applications, and videoconferencing applications. Features include:

- Connectors – Osprey-50: One Composite Video In, one S-Video In.
- Connectors – Osprey-100: Three Composite Video In, one S-Video In.
- Connectors – Osprey-101: One Composite Video In, one S-Video In; power out for camera.
- Connectors – Osprey-200: One Composite Video In, two stereo Audio In (left = white, right = red)
- Input formats: NTSC (M, J); PAL (B, D, G, H, I, M); SECAM
- Display formats: RGB32, RGB24, RGB15, Grey8, 4:2:2 packed, YUV12, YVU9
- Standard frame sizes: full, half, 3/8, 1/4.
- Square pixel and CCIR601 aspect ratios.
- Custom frame sizes.
- Interactive control of brightness, hue, contrast, and saturation.
- Closed captioning.
- Multiple boards per system. Multiple applications can each access different boards, or a single application can access multiple boards. You can install only one Osprey-50 per system; however, you can install multiple Osprey-100s, -101s, -150s, or –200s along with it.

- The Osprey-200 adds audio PCM capture through an audio waveform (.wav) driver. You can capture audio at 8 and 16 bits per sample, stereo or mono, at a number of sampling rates.
  - 8 kHz
  - 11.025 kHz
  - 16 kHz
  - 22.05 kHz
  - 32 kHz
  - 44.1 kHz
- The Osprey-200 accepts -10dBV standard line level audio input.

Video Frame Rates

Video Frame Rates

Depending on the system's load and display window size, the Osprey Capture Cards can display and capture video at rates of up to 30 frames per second for NTSC formats, 25 frames per second for PAL and SECAM formats. Keep in mind, though, that video frame rates for display, streaming, videoconferencing, and capture are application-dependent. The package supports Direct Draw for drawing video overlays with minimal load on the system processor.

Software Included

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

- A Video for Windows compatible video capture driver capable of being upgraded to SimulStream.
- An audio capture driver (Osprey-200 only).
- VidCap32 — a simple capture application and testing and demo program.
- AmCap – a simple capture application and testing and demo program using the DirectX API (the same as Windows Media Encoder).
- A Control Panel applet.
- Ligos Technology's Indeo package of software-based video codecs and compressors.

Beginning with Version 2.0.0, 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 MultiMedia Capture Program group for details about this feature.

Compatible Third Party Applications

The driver is designed to be compatible with all Video for Windows applications. It is tested for compatibility with the following applications, either by us or by third parties:

Inter/Intranet video servers

Video conferencing

Video editing

Other Video for Windows applications are being added to this list. Refer to the ViewCast Corporation web site for the current list - **http://www.ospreyvideo.com/**.

Inter/Intranet video servers

- Microsoft Windows Media Encoder
- RealNetworks RealProducer

Video conferencing

- Microsoft NetMeeting

Video editing

- Adobe Premiere
- MGI VideoWave

Getting Help

Before calling for help, first do the following:

- Work through the section of Chapter 3 entitled **Testing the Installation**.
- Read through Chapter 9, **Troubleshooting**.
- Visit our web site at **http://www.ospreyvideo.com/** and read the Osprey-100 and Osprey-200 FAQ's by selecting **Osprey-100** or **Osprey-200**, then clicking on the **FAQ** button.

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

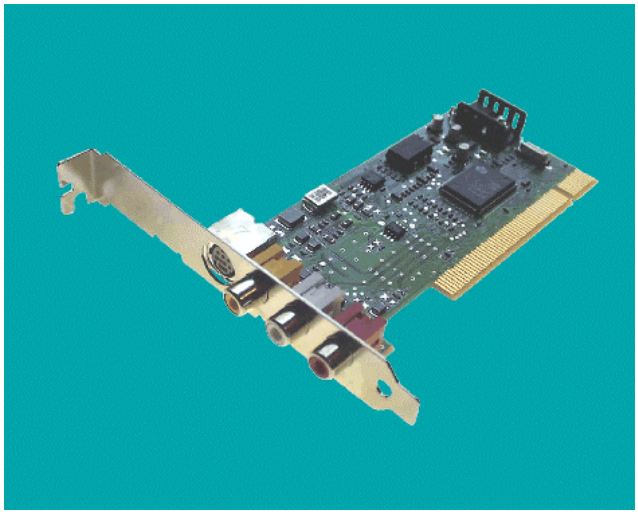
(888) 684-6622	(voice, toll-free)
(919) 319-9200	(voice)
(919) 319-9814	(FAX)
mailto:support@ospreyvideo.com	(email)

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

- What product you have – Osprey-50, -100, -101, -200. We need to know this because we have an Osprey-1000 series of products as well as the Osprey-100 series.
- What operating system you are using. The Osprey capture card drivers for Windows 2000, Windows XP, Windows NT 4.0, and Windows 95/98 are all different.
- For Window NT 4.0 only: Whether your machine has an X86-compatible or Alpha processor.
- What version of the Osprey capture 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.
- A description of the problem. If possible, get the problem to appear with the VidCap32 application, and tell us whether it appears in Preview, Overlay, and/or Capture mode. If the problem appears only with a third party application, tell us what the application is and what version of it you are using.
- 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.

Chapter 2 - Osprey Capture Card Hardware

The Osprey Multimedia Capture Cards are 32-bit, 5-volt variable height short PCI cards. They are compliant with version 2.2 of the PCI hardware specification.



The exact card options and appearance are different for the various Osprey multimedia capture products, and are subject to change.

System Requirements

Configuring the Card

Installing the Card

Connecting Cables

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

Disk space needed to capture one minute of video at a resolution of 320x240 is as follows for three representative formats:

- 24-bit uncompressed capture, 30 frames per second: 396 Mbytes.
- YVU9 uncompressed capture, 30 frames per second: 148 Mbytes.
- 24-bit compressed capture, 30 frames per second: approximately 16 Mbytes.
- A sound card.
  - With the Osprey-50, -100, and -101, you can capture audio with your system sound card.

With the Osprey-200, you can use on-board audio capture capability to capture sound. You can use multiple cards to capture multiple audio/video streams. You still need a sound card to monitor or play back the audio.

Configuring the Card

Osprey capture cards do not have any switches or jumper settings that you need to configure.

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.

- 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 (if 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 and Windows XP you also have the option to 'preinstall' the software before installing the hardware.

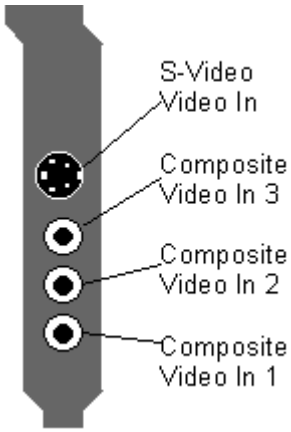
Use the following steps to install the Osprey card:

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.

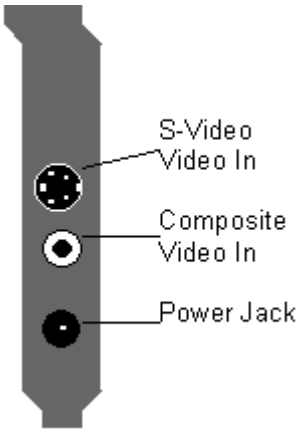
Be sure that the card is seated evenly into the slot.

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. The Connecting Cables section shows details of the card's backpanel connectors.
10. Turn the computer on.

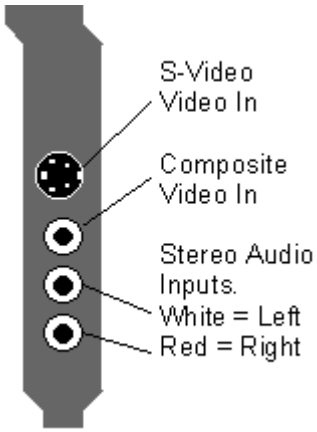
Connecting Cables



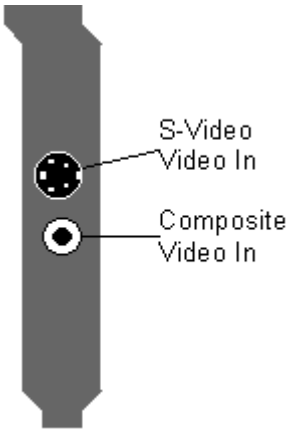
Osprey-100



Osprey-101



Osprey-200



Osprey-50

Exact connector layouts are subject to change.

Connecting a Composite Source

Connecting an S-Video Source

The Osprey-101 Video Camera

Connecting an Audio Source to the Osprey-200

Connecting Audio with the Osprey-50, -100, and -101

Connecting a Composite Source

If your video source provides only composite video, connect the source's output cable to an RCA Composite Video In connector. On the Osprey-100 with three connectors, the connector furthest from the S-Video connector is designated "Composite 1," and the one nearest it is "Composite 3."

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 Osprey card. 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. **Chapter 6, The Control Dialog**, explains how to configure the driver for S-Video.

The Osprey-101 Video Camera

The Osprey-101 video camera has an attached cable with two connectors. One is a composite video connector that plugs into the Composite input connector of the Osprey-101 board. The other is a power plug that connects to the power connector on the board.

Connecting an Audio Source to the Osprey-200

The Osprey-200's audio connectors are made for line level audio stereo equipment, such as VCR or DVD outputs and can also take headphone level outputs when the volume is adjusted midway between high and low settings. It should be noted that if you are using a camcorder or VCR with only a single audio output, the volume needs a slight adjustment.

Although the Osprey-200 will accept RCA line level inputs, the standard microphone shipped with most soundcards is not compatible. You will need to use a powered microphone using RCA connectors with 1-volt peak to peak output.

Connecting Audio with the Osprey-50, Osprey-100, and Osprey-101

These cards do not have an on-board audio connection. Connect your audio source to your system soundcard's line or microphone input. Refer to the soundcard or PC manufacturer's instructions regarding input signal specifications and audio adjustments.

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 ViewCast support website or the ftp site for the any driver update releases subsequent to the software shipped on your CD. For the ViewCast support website, go to **http://www.ospreyvideo.com/** > Downloads > Software and Drivers. Select the operating system and card type. To reach the ViewCast.com ftp site, go to **ftp://ftp.viewcast.com/pub/OSP-200/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 appear on your computer screen. In some cases, version numbers and other minor differences may appear in the installation you are running.

Basics: Installing From CD

Basics: Downloading and Installing Updated Drivers

Canceling Out of Found New Hardware Wizard

Three Install Scenarios

- **Scenario 1: Osprey Card(s) not Physically Installed in the PC**
- **Scenario 2: Osprey Card(s) Physically Installed, but Osprey Software not Installed**
- **Scenario 3: Osprey Card(s) Physically Installed, and Previous Osprey Software Installed**

Installing Ligos Technology's Indeo

Testing the Installation

Uninstalling the Software

Basics: Installing From CD

1. Insert the Osprey CD into your CDROM drive. The installation instructions will assume this is the "D:" drive. Substitute the proper drive name as it appears on your system where appropriate.
2. Run the installation program:
   a. Click the **Start** button.
   b. Click **Run**....
   c. Enter **d:\win2000\setup.exe** in the dialog box.
   d. Click **OK**.

Basics: Downloading and Installing Updated Drivers

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

   ftp://ftp.viewcast.com/pub/OSP-100/win2000/latest

   ftp://ftp.viewcast.com/pub/OSP-200/win2000/latest

The same driver is used for the Osprey-50/-100/-101 and Osprey-200, so these links point to the same download file.

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

2. 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 will appear until you have reached the **...win2000/latest** location. Refer to your browser's help files for more specific and detailed assistance.
3. Download the web package file in **...win2000/latest** to your hard disk
4. 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 will prompt you for a temporary location to unpack the install files to.

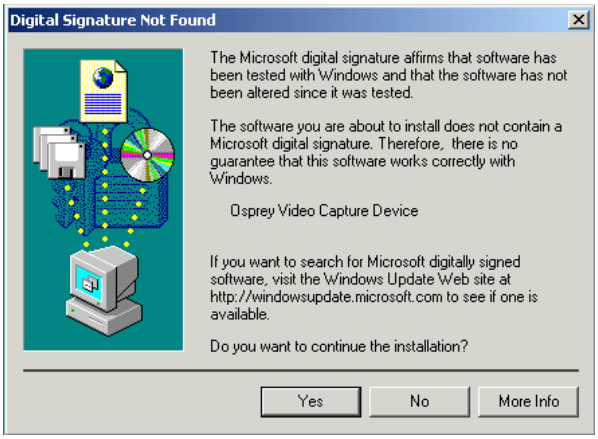
These files will not be automatically deleted after setup has run. This is so that you can perform the manual Plug and Play install if you want to. So make a note of where these files are located, and delete them after the install if you want to conserve disk space.

Canceling Out of the Found New Hardware Wizard

When installing an updated Osprey-220 driver, first uninstall the existing driver and reboot the computer. The Found New Hardware wizard will run after this reboot.

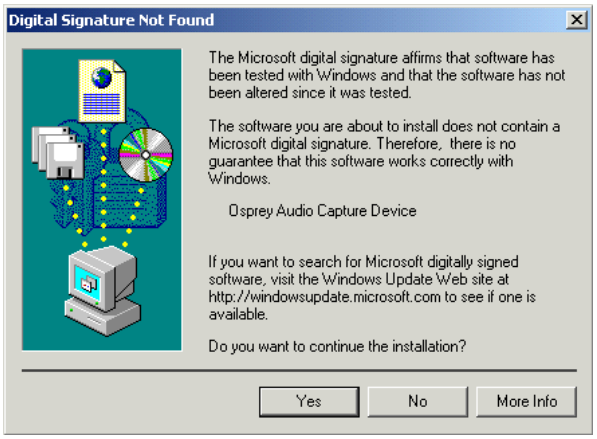
To cancel out of the Found New Hardware wizard:

The Digital Signature Not Found window displays for the Osprey-220 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-220 audio capture device.



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

4. Click **Finish**.

Three Install Scenarios

There are three main situations that might apply to you:

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

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

Scenario 3: Osprey Card(s) Physically Installed, and Previous Osprey Software Installed

If you have upgraded from Windows NT 4.0 or Windows 95/98 and had Osprey drivers installed on the previous operating system, follow **Scenario 3**.

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, then restart your computer and all the updated components will be installed.

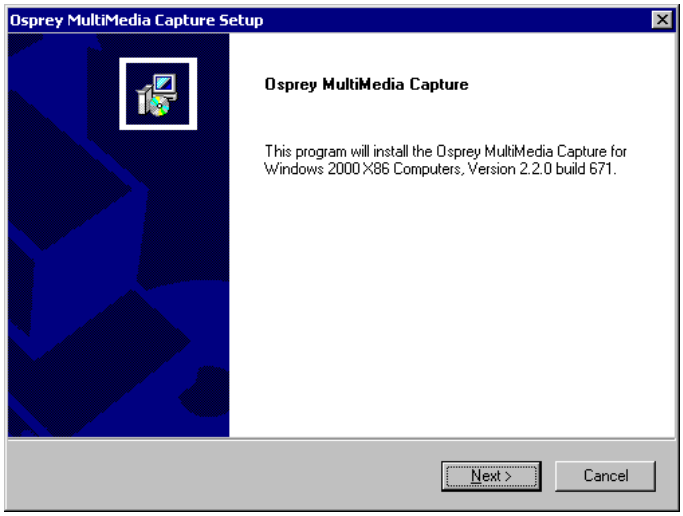
Scenario 1: Osprey Card(s) not Physically Installed in the PC

This 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. This scenario is called the "Preinstall Scenario". After the install is run, as soon as an Osprey card is installed in the PC, it is detected and its drivers are started automatically.

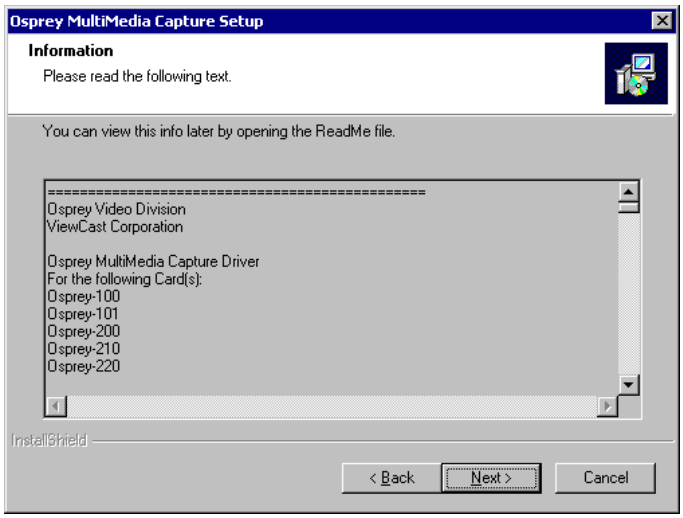
To preinstall the Osprey drivers:

1. Using Windows NT 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**.

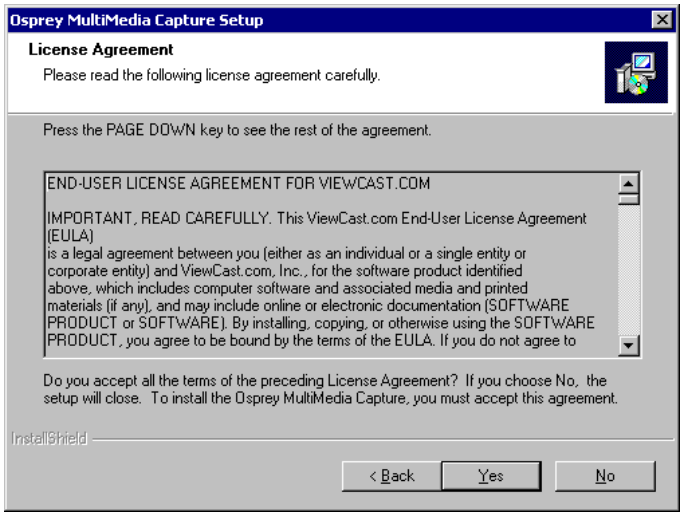
   The Osprey Multimedia Capture Driver window displays.



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

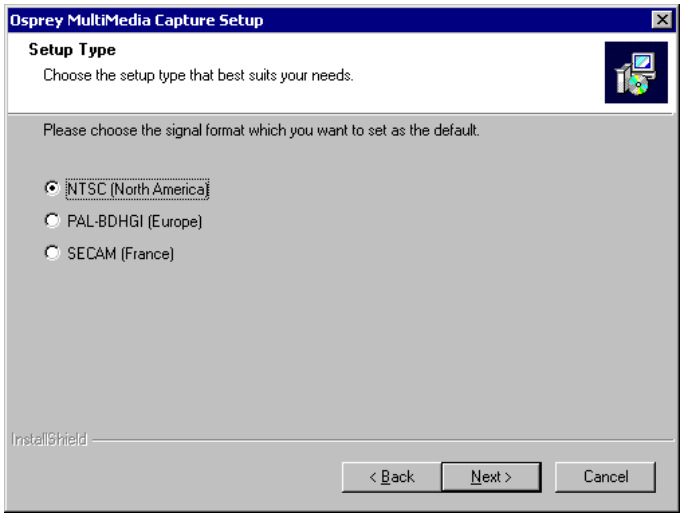


5. Click **Next**.
   The Software License Agreement window displays.



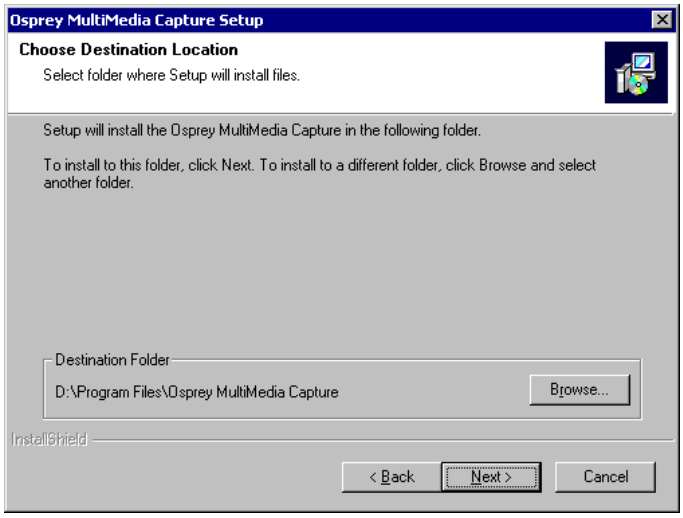
6. Click **Yes** to accept the End User Software Agreement. If you do not wish to accept the agreement, click **No** to terminate the installation routine.

   The Select Components window displays.



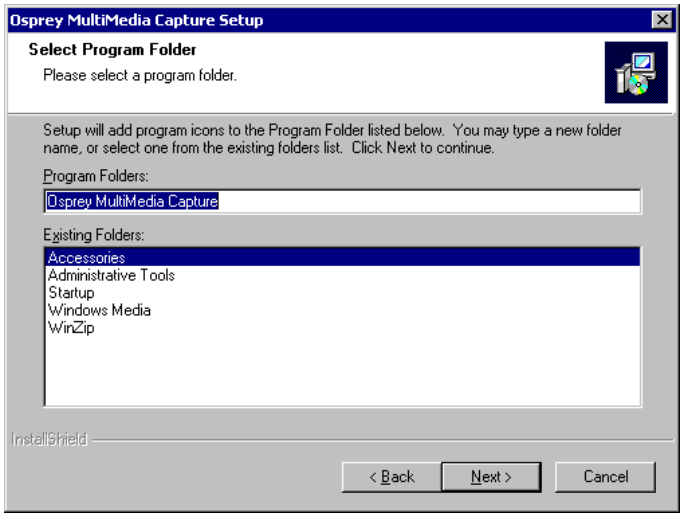
7. To set this default, select the video signal standard used in your country and click **Next**. See **Video Standard** for more information about signal formats.

   The Choose Destination Location window displays.



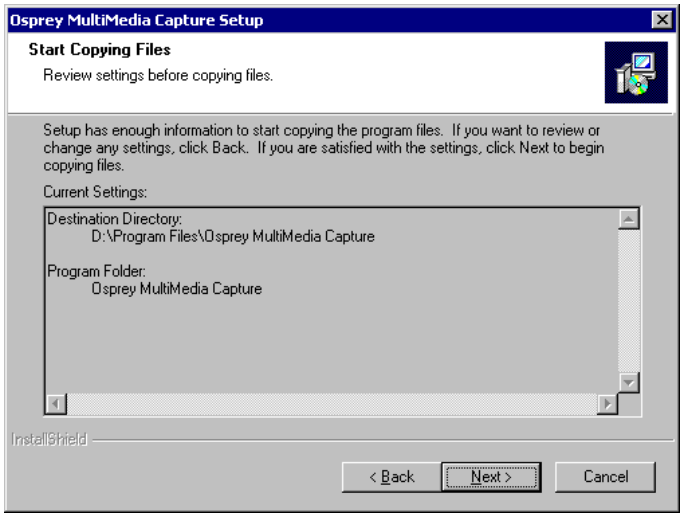
8. If you wish to change the destination location for the files, click **Browse**. Click **Next**.

   The Select Program Folder window displays.

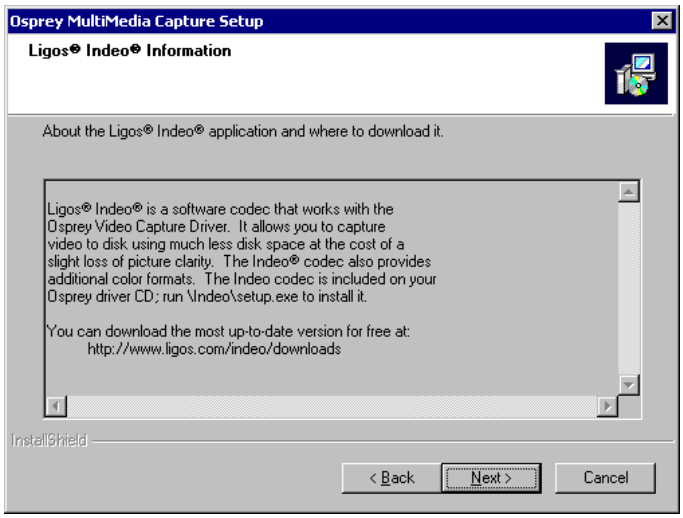


9. Click **Next**. If you wish to change the program folder, type the new name in the Program Folders field.

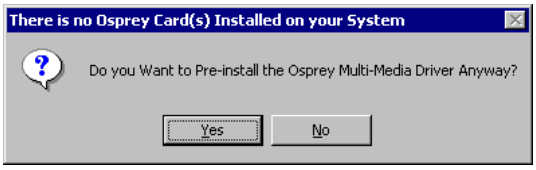
   The Start Copying Files window displays.



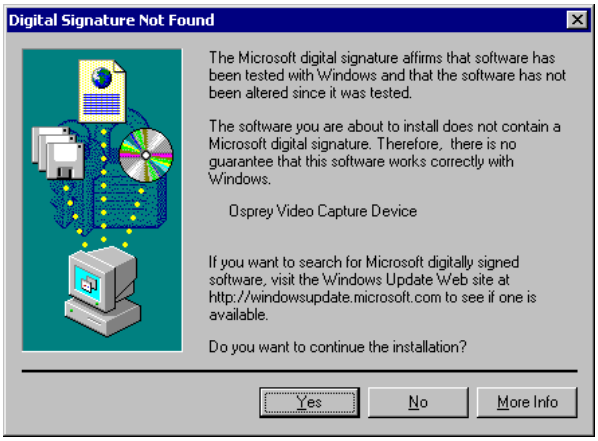
10. Click **Next**.
    The Ligos® Indeo® Information window displays.



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

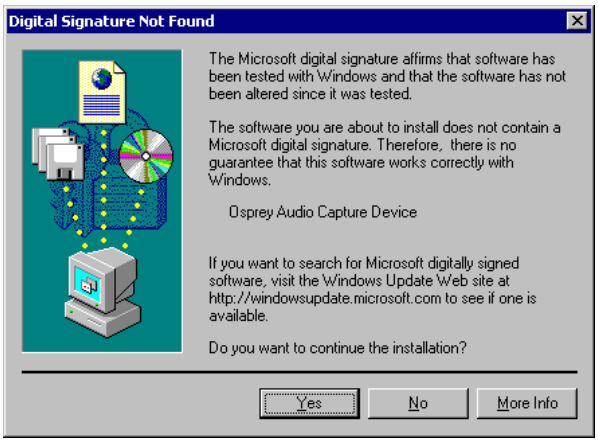


12. Click **Yes** to continue installation.
    The Digital Signature Not Found window displays.



Windows 2000 recognizes the audio and video portions of the Osprey cards as separate items. The audio device is also present on Osprey-100 and Osprey-101 cards containing extra video or power connectors in place of audio connectors.

13. Click **Yes** to continue installation.
The Digital Signature Not Found window displays.

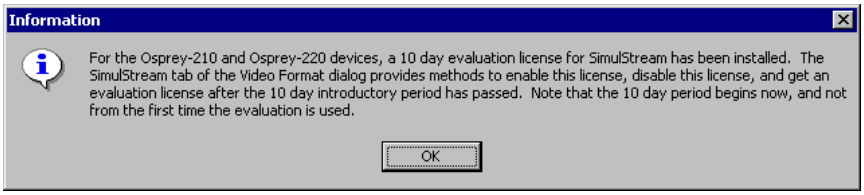


14. Click **Yes** to continue the installation process.
The Osprey Technologies Special Offers Shortcut window displays.

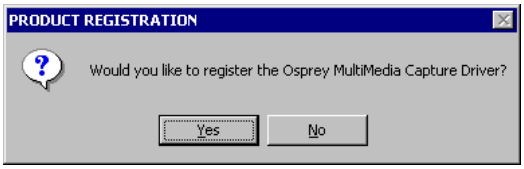
15.

If you would …	then …
like a shortcut installed on your desktop,	click **Yes**. *A shortcut is created on the desktop.*
not like a shortcut installed on your desktop,	click **No**. A Special Offers link is also available on the Programs menu.

An information window displays.



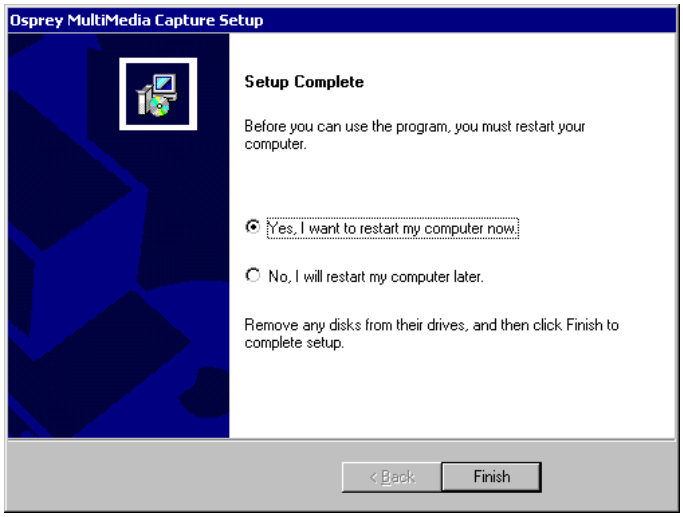
16. Click **OK** to continue the installation.
The Product Registration window displays.



17.

If you would …	then …
like to register your Osprey Multimedia Capture card,	click **Yes**. *A browser window opens.*
not like to register your Osprey Multimedia Capture card,	click **No**. A product registration link is also available on the Programs menu or on the Osprey Video web site (**http://www.ospreyvideo.com/**)

The Setup Complete window displays.



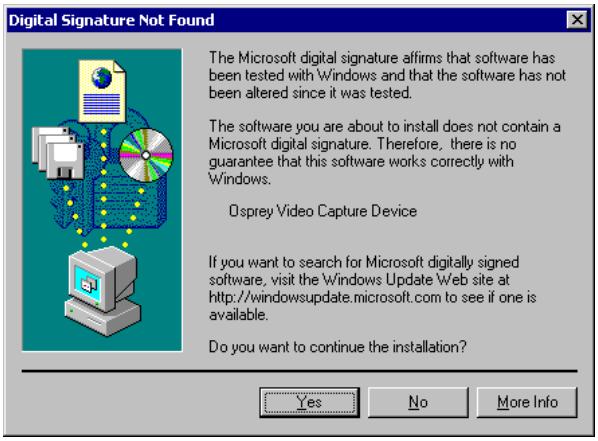
18.

If you are …	then …
installing the Osprey card at this time,	select **Yes** and proceed to step 19.
not installing the Osprey card at this time,	select **No** and proceed to step 19.

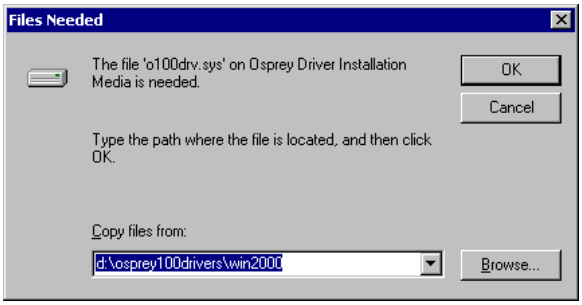
19. Click **Finish**.

When you start your computer after installing the Osprey hardware, the **Found New Hardware Wizard** runs upon detecting new hardware.

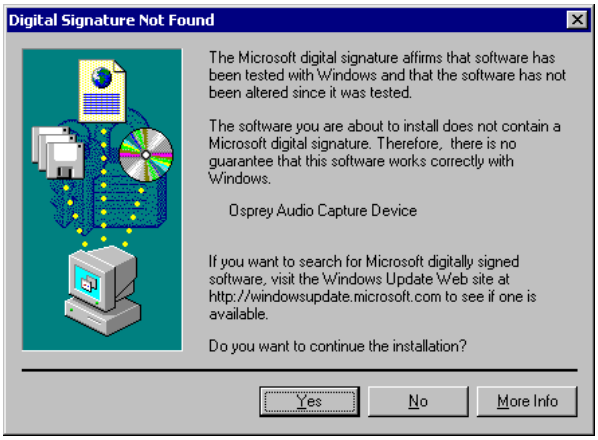
After restarting the computer, the Digital Signature Not Found window displays for the Osprey-220 Video Capture Device.



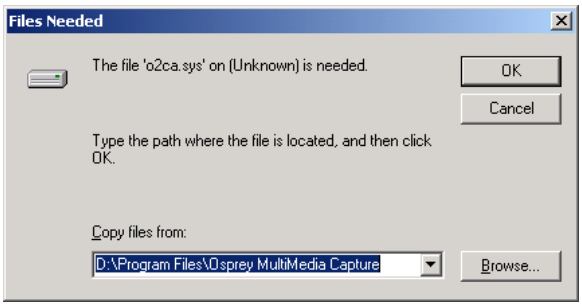
20. Click **Yes**.
    The Files Needed window displays.



21. Click **Browse**.
22. Navigate to the \WinNT\System32\drivers directory.
23. Click **Open**.
24. Click **OK**.
    The Digital Signature Not Found window displays for the Osprey audio capture device.



25. Click **Yes** to continue the installation.
    The Files Needed window displays.



26. Click **Browse**.
27. Navigate to the \WinNT\System32\drivers directory.
28. Click **Open**.
29. Click **OK**.
    The Completing Found New Hardware wizard window displays.

30. Click **Finish**.

You must restart your computer to complete the installation. Do not attempt to use your Osprey card until after restarting the system.

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)

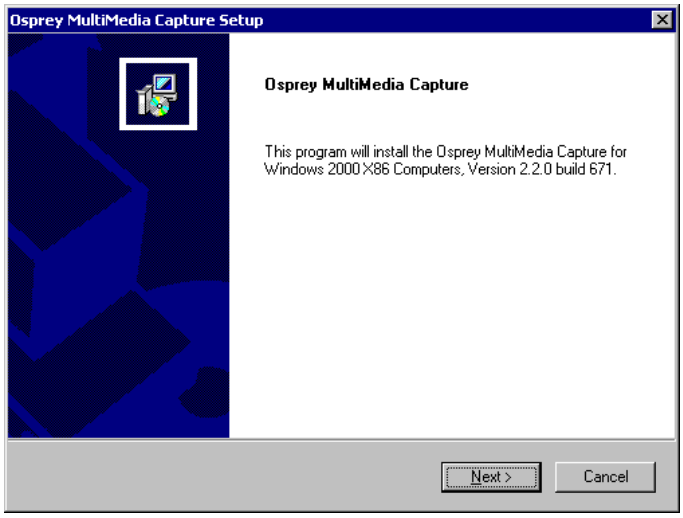
Option B: Use the New Hardware Found Wizard (Not Recommended)

Option A: Run the Installation Program (Recommended)

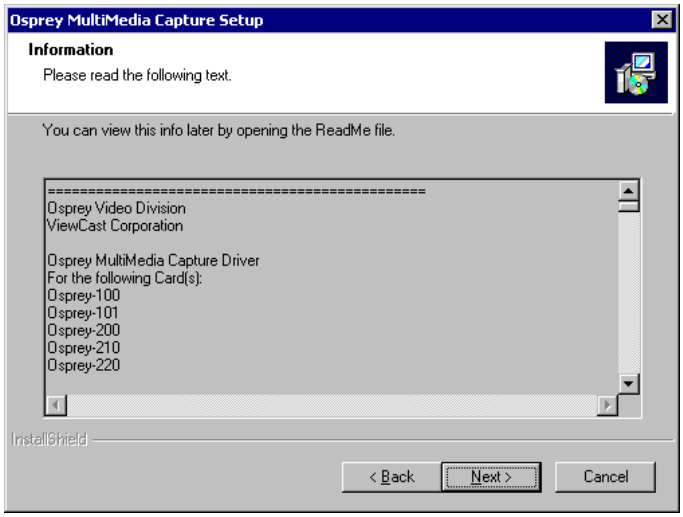
When windows 2000 is first started for the first time after the Osprey card is installed, the *New Hardware Found* wizard will appear one or more times. Cancel out of these wizards. After Windows 2000 has finished starting, perform the following steps.

To install the Osprey drivers:

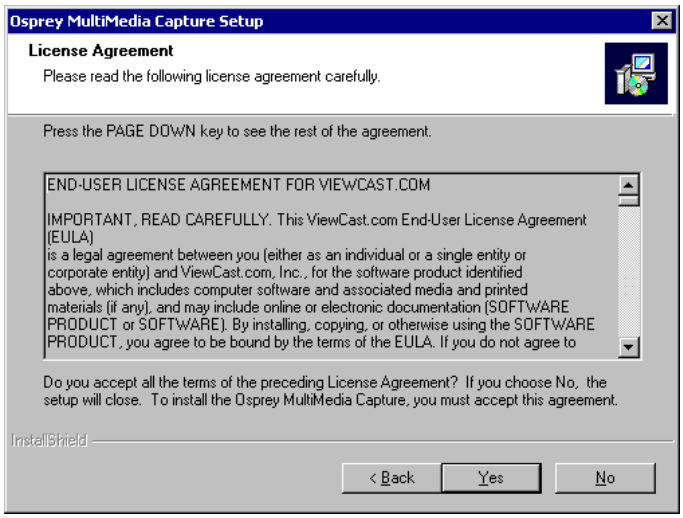
1. Using Windows NT Explorer, locate and access the CD-ROM drive containing the Osprey Installation CD-ROM.
2. Navigate to the **WIN2000** directory.
3. Double-click **SETUP.EXE**.
   The Osprey Multimedia Capture Driver window displays.



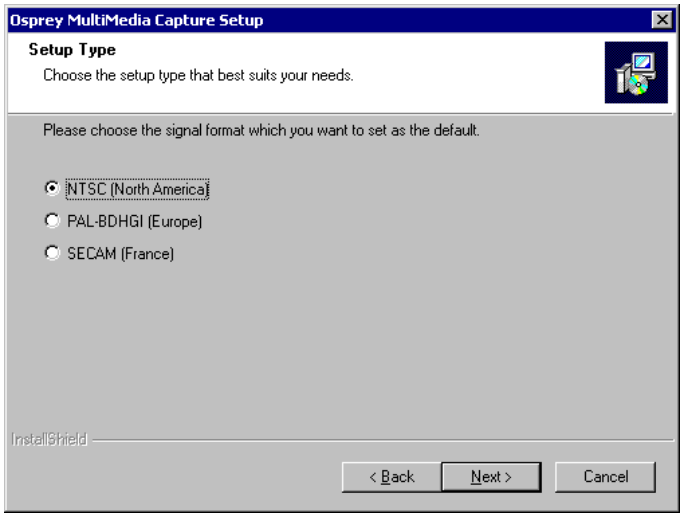
4. Click **Next**.
   The Information window displays.



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

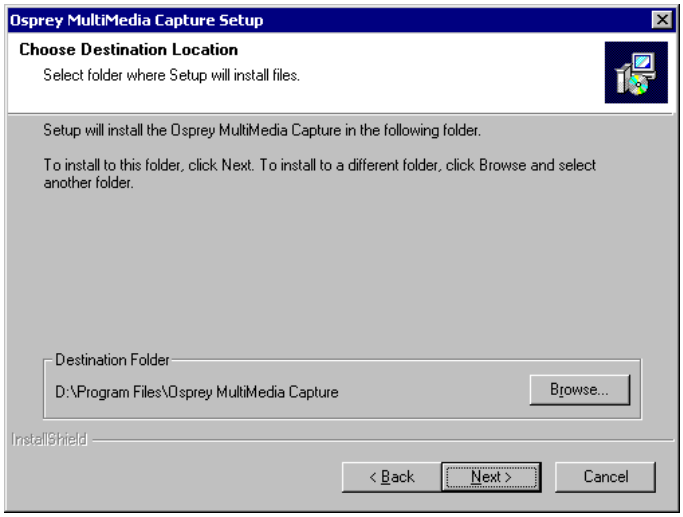


6. Click **Yes** to accept the End User Software Agreement. If you do not wish to accept the agreement, click **No** to terminate the installation routine.
   The Select Components window displays.



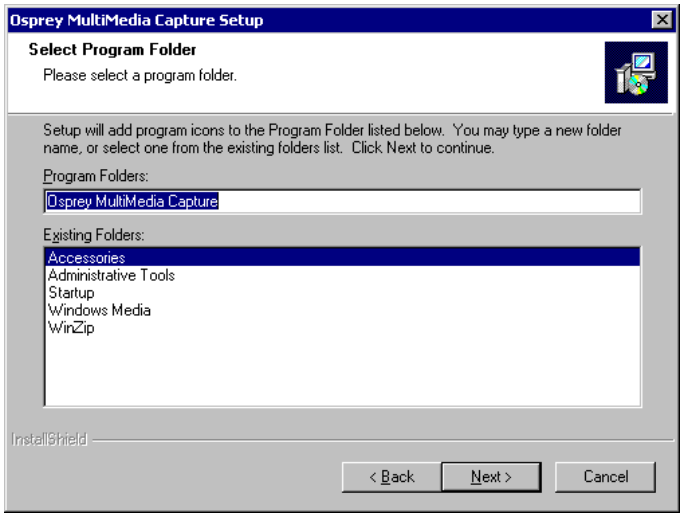
7. To set this default, select the video signal standard used in your country and click **Next**. See **Video Standard** for more information about signal formats.

   The Choose Destination Location window displays.



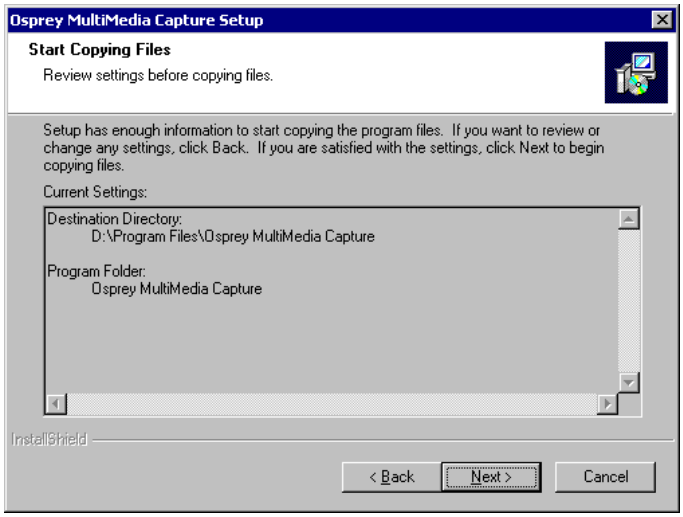
8. If you wish to change the destination location for the files, click **Browse**. Click **Next**.

   The Select Program Folder window displays.



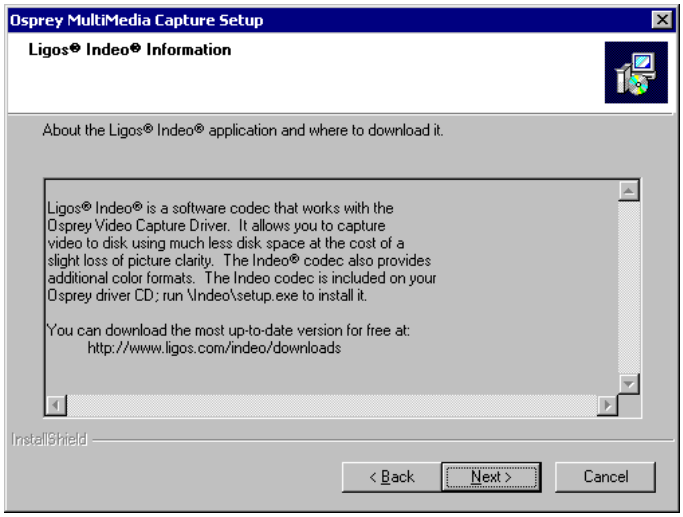
9. Click **Next**. If you wish to change the program folder, type the new name in the Program Folders field.

   The Start Copying Files window displays.



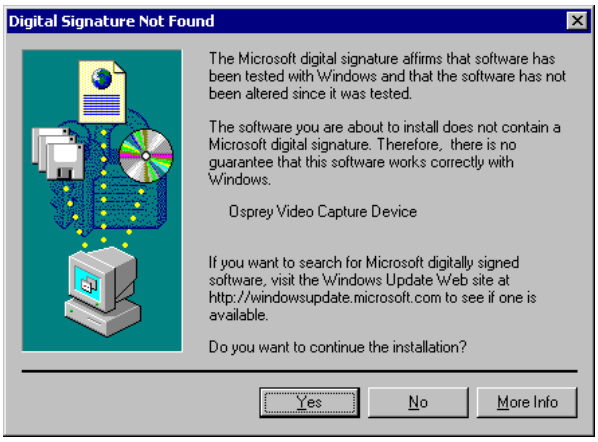
10. Click **Next**.

    The Ligos® Indeo® Information window displays.



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

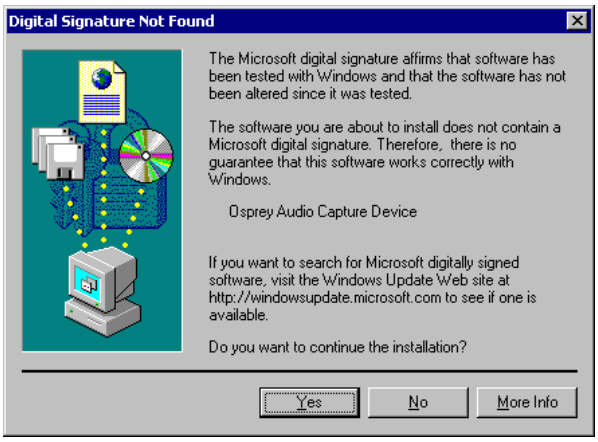
    The Digital Signature Not Found window displays.



Windows 2000 recognizes the audio and video portions of the Osprey cards as separate items. The audio device is also present on Osprey-100 and Osprey-101 cards containing extra video or power connectors in place of audio connectors.

12. Click **Yes** to continue installation.

    The Digital Signature Not Found window displays.



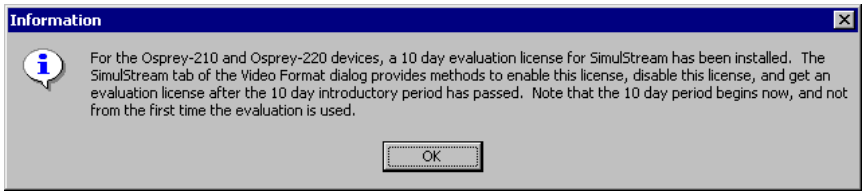
13. Click **Yes** to continue the installation process.

    The Osprey Technologies Special Offers Shortcut window displays.

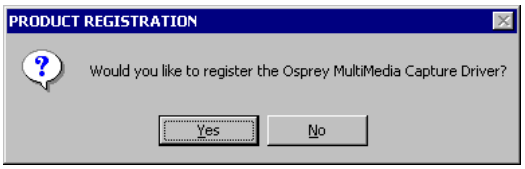
14.

If you would …	then …
like a shortcut installed on your desktop,	click **Yes**. *A shortcut is created on the desktop.*
not like a shortcut installed on your desktop,	click **No**. A Special Offers link is also available on the Programs menu.

An information window displays.



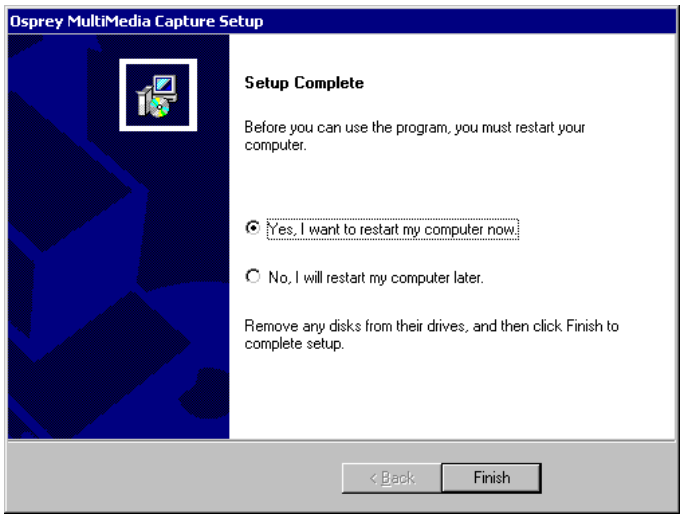
15. Click **OK** to continue the installation.
The Product Registration window displays.



16.

If you would …	then …
like to register your Osprey Multimedia Capture card,	click **Yes**. *A browser window opens.*
not like to register your Osprey Multimedia Capture card,	click **No**. A product registration link is also available on the Programs menu or on the Osprey Video web site (**http://www.ospreyvideo.com/**)

The Setup Complete window displays.



17.

If you are …	then …
installing the Osprey card at this time,	select **Yes** and proceed to step 19.
not installing the Osprey card at this time,	select **No** and proceed to step 19.

18. Click **Finish**.
19. Click **Finish** to complete the installation.

You must restart your computer to complete the installation. Do not attempt to use your Osprey card until after restarting the system.

Option B: Use the New Hardware Found 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.

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

NOTE: 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 is the video section of the Bt/Ct878 device; the Multimedia Controller is the audio section. The audio logical device is present even on Osprey-100 and Osprey-101 cards that have video or power connectors in place of the audio inputs.

When the Hardware Wizard detects a device:

Please note the terminology in the Add Hardware Wizard. It displays either Multimedia Video Controller or Multimedia Controller (the audio device).

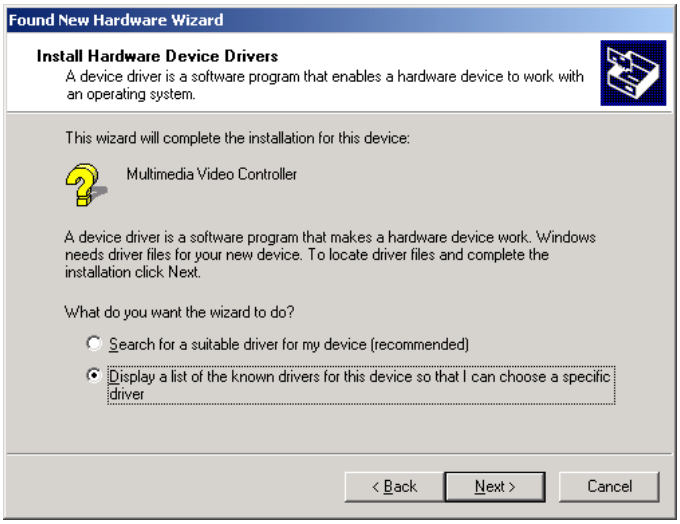
The Add New Hardware Wizard detects several new devices. Among these are the following:

- Osprey Video Capture Device
- Osprey Audio Capture Device (for Osprey-200 installations)
- Osprey Function 1 Placeholder (for Osprey-100 and Osprey-101 installations)

A Found New Hardware window displays and is immediately obscured by the Welcome to the Found New Hardware Wizard window.

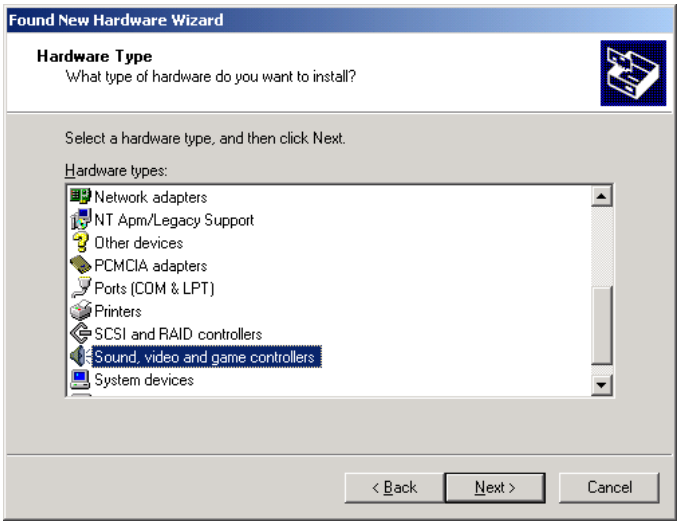
1. Click **Next**.

   The Install Hardware Device Drivers window displays.



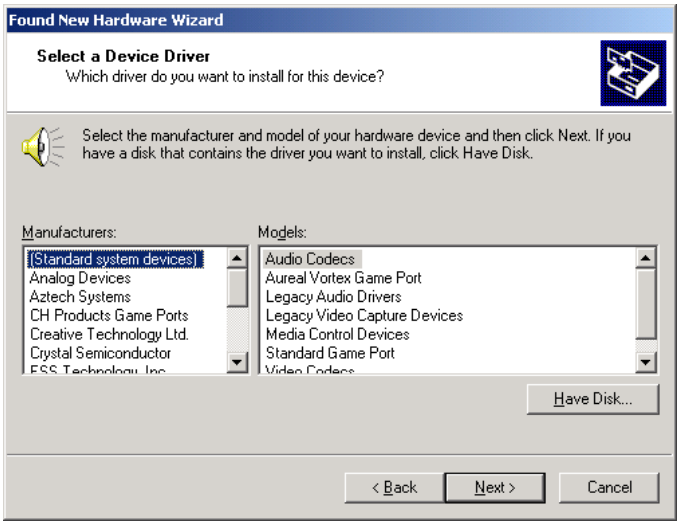
2. Select **Display a list of the known drivers for this device so that I can choose a specific driver** and click Next.

   The Hardware Type window displays.



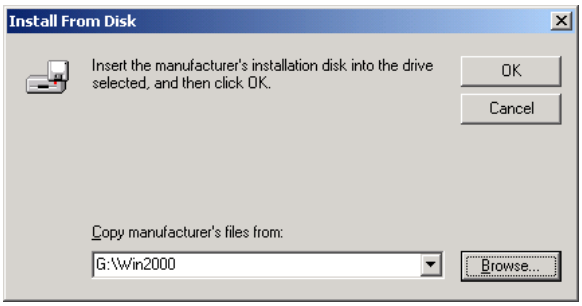
3. Scroll down to select **Sound, video and game controllers** and click Next.

   The Select a Device Driver window displays with a list of manufacturers and models of hardware devices.

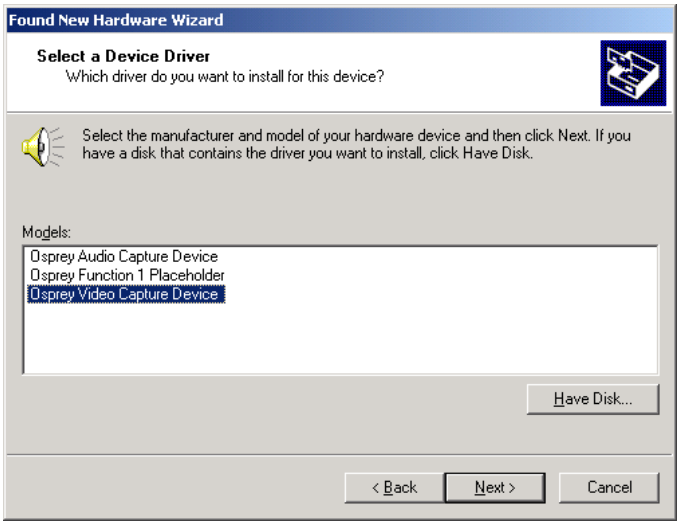


4. Click **Have Disk** and **Next**.

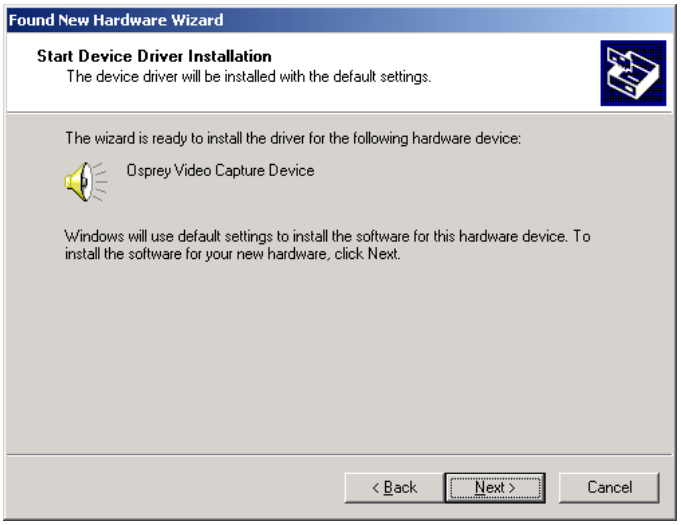
   The Install from Disk window displays.



5. Click **Browse** to locate file **Win2000\o100drv.inf** on your CDROM and click **OK**.
   The Select a Device Driver window displays.

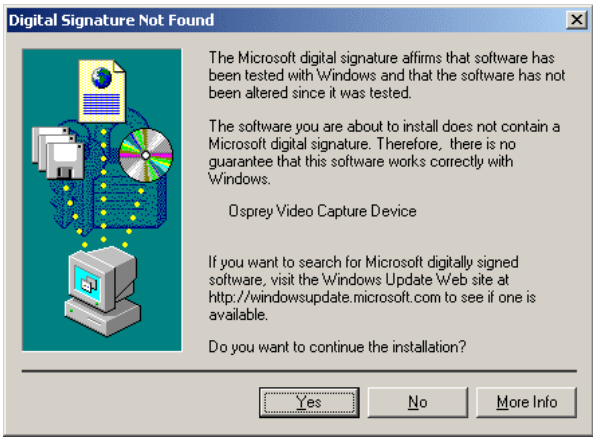


6. Select the **Osprey Video Capture Device** and click **Next**.
   The Start Device Driver Installation window displays.



7. Click **Next**.

   *The Digital Signature Not Found window for the **Osprey Video Capture Device** will specifically identify the software about to be installed.*



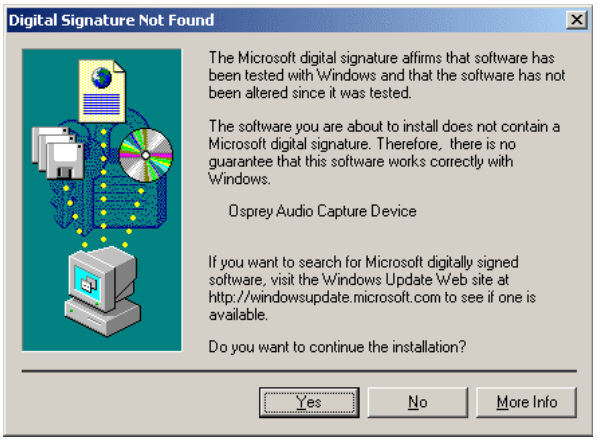
8. Click **Yes** to continue with the installation process.

   The Completing the Found New Hardware Wizard window displays.

9. Click **Finish** to complete installation of the video portion of the device driver.

This sequence of events from steps 7 through 9 will repeat for the Osprey Audio Capture Device.

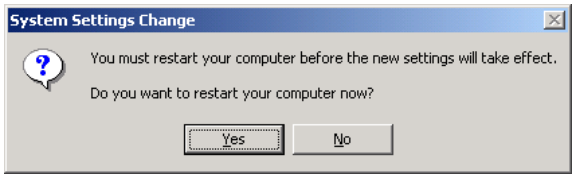
*The Digital Signature Not Found window for the **Osprey Audio Capture Device** will specifically identify the software about to be installed.*



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

NOTE: If you are installing multiple Osprey cards, you will repeat steps 7 - 10 twice (once for video and once for audio) for each additional capture card.

The System Settings Change window displays.



11. Click **Yes** to restart the computer. A restart is not necessary for a video-only card such as the Osprey-100; a restart is required for an audio-video card such as the Osprey-200.

The drivers for your new Osprey board are installed. However, to utilize the utility programs, create a program group, and access the online User's Guide, you must run the installation program.

For detailed instructions on installing the other programs, refer to **Scenario 2, Option A**.

Scenario 3: Osprey Card(s) Physically Installed, and Previous Osprey Software Installed

This scenario is for the case when the Osprey card is physically installed in the PC and there is a previous installation of the Osprey drivers. These methods work for upgrades either from an old Osprey Windows 2000 driver to a newer one, or – if you have upgraded the operating system – from a Windows NT 4.0 driver to a Windows 2000 driver.

Under this scenario you have two options. With both options, it is not necessary to uninstall the old driver before installing the new driver.

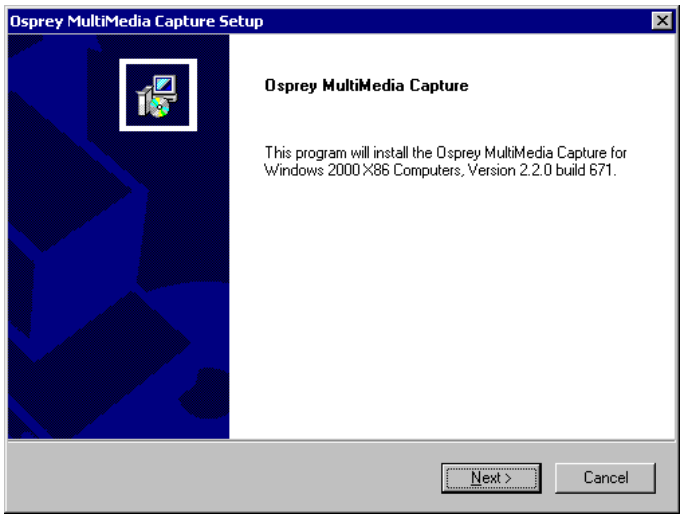
Option A: Run the Installation Program (Recommended)

Option B: Use the Device Manager (Normally not Recommended)

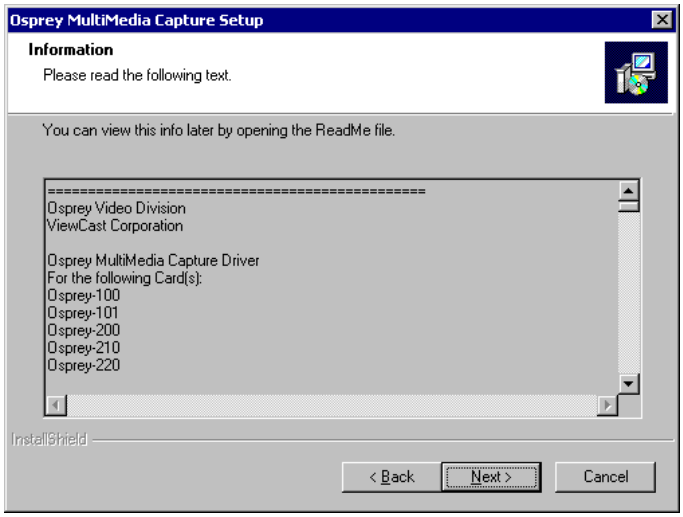
Option A: Run the Installation Program (Recommended)

To install the Osprey drivers:

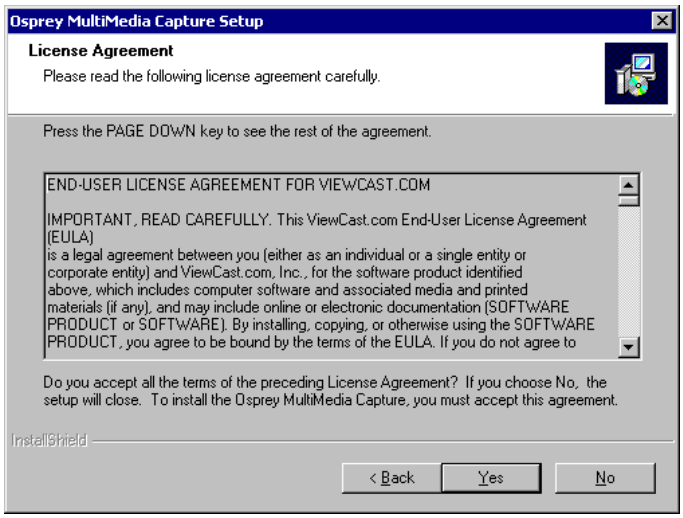
1. Using Windows NT Explorer, locate and access the CD-ROM drive containing the Osprey Installation CD-ROM.
2. Navigate to the **WIN2000** directory.
3. Double-click **SETUP.EXE**.
   The Osprey Multimedia Capture Driver window displays.



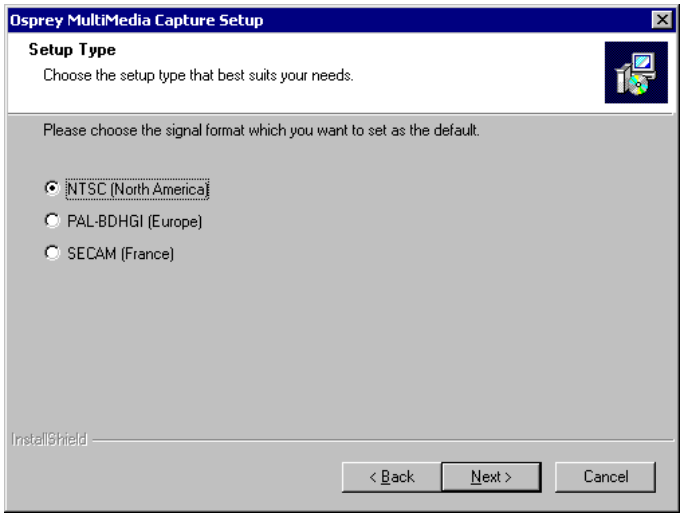
4. Click **Next**.
   The Information window displays.



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

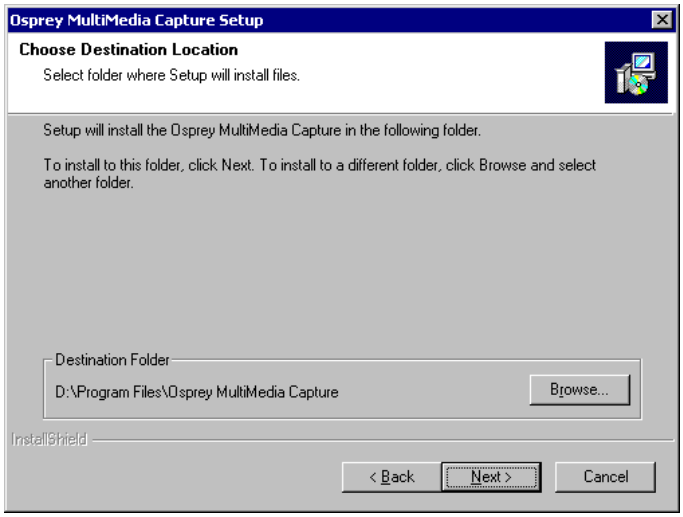


6. Click **Yes** to accept the End User Software Agreement. If you do not wish to accept the agreement, click **No** to terminate the installation routine.
   The Select Components window displays.



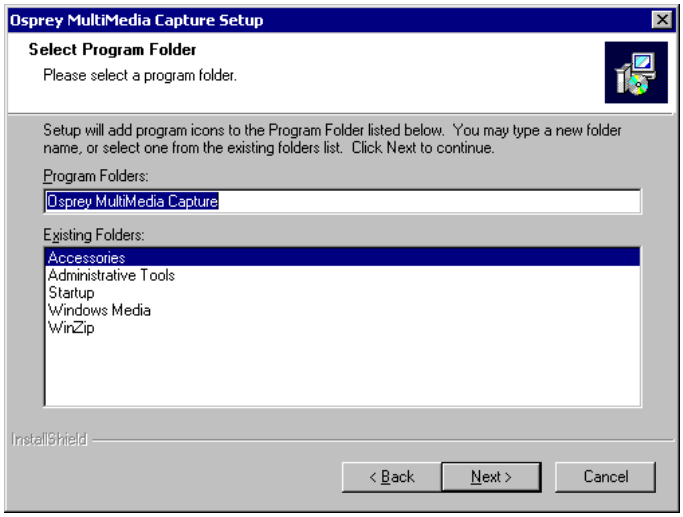
7. To set this default, select the video signal standard used in your country and click **Next**. See **Video Standard** for more information about signal formats.

   The Choose Destination Location window displays.



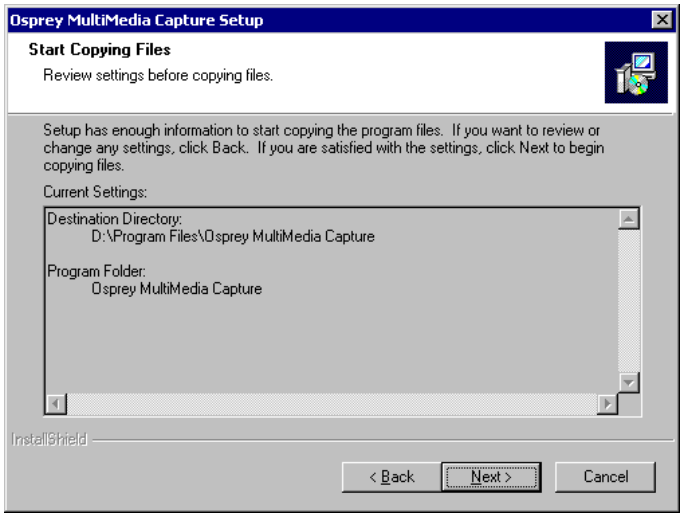
8. If you wish to change the destination location for the files, click **Browse**. Click **Next**.

   The Select Program Folder window displays.



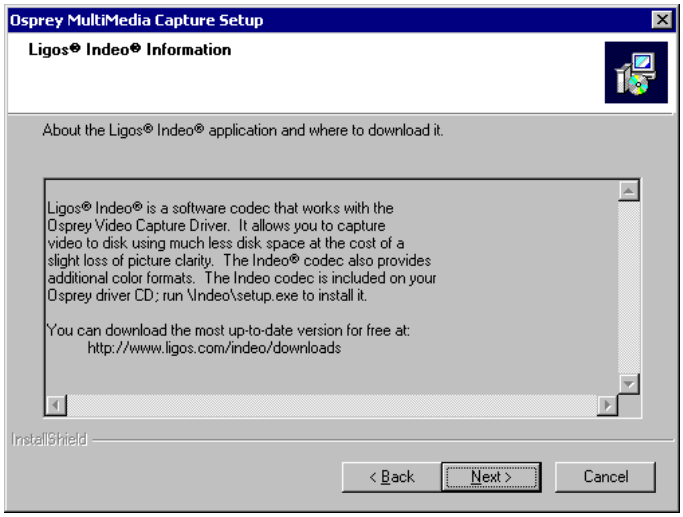
9. Click **Next**. If you wish to change the program folder, type the new name in the Program Folders field.

   The Start Copying Files window displays.



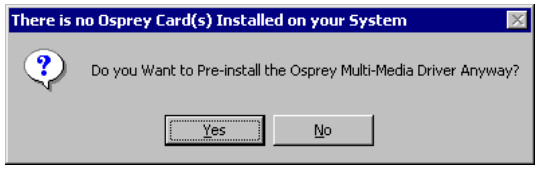
10. Click **Next**.

    The Ligos® Indeo® Information window displays.

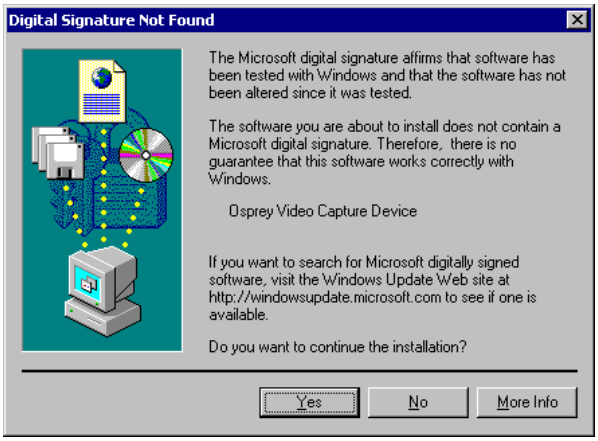


11. Click **Next**. If there are any settings to be changed prior to installation, click Back to return to the previous windows.

    A question dialog window displays.

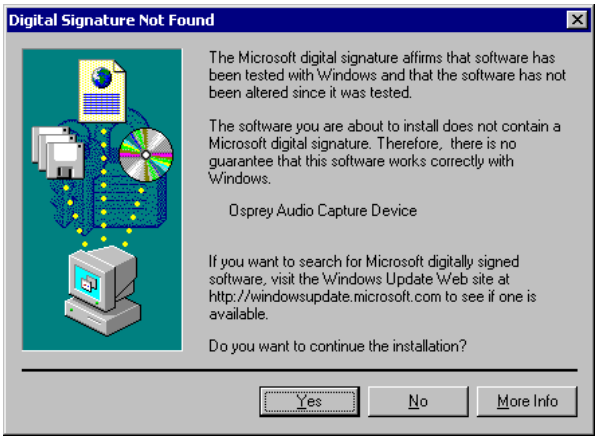


12. Click **Yes** to continue installation.
    The Digital Signature Not Found window displays.

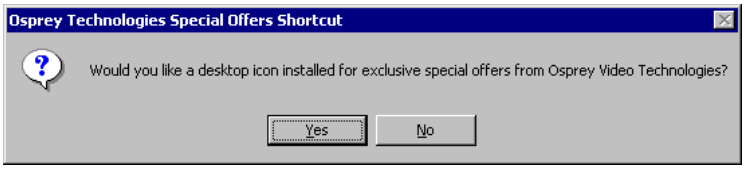


Windows 2000 recognizes the audio and video portions of the Osprey cards as separate items. The audio device is also present on Osprey-100 and Osprey-101 cards containing extra video or power connectors in place of audio connectors.

13. Click **Yes** to continue installation.
    The Digital Signature Not Found window displays.



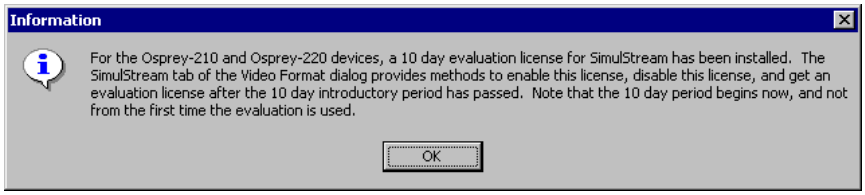
14. Click **Yes** to continue the installation process.
    The Osprey Technologies Special Offers Shortcut window displays.



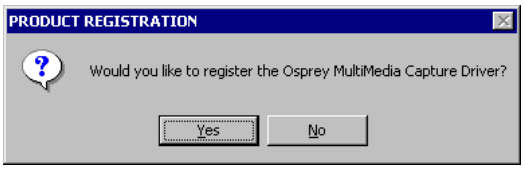
15.

If you would …	then …
like a shortcut installed on your desktop,	click **Yes**. *A shortcut is created on the desktop.*
not like a shortcut installed on your desktop,	click **No**. A Special Offers link is also available on the Programs menu.

An information window displays.



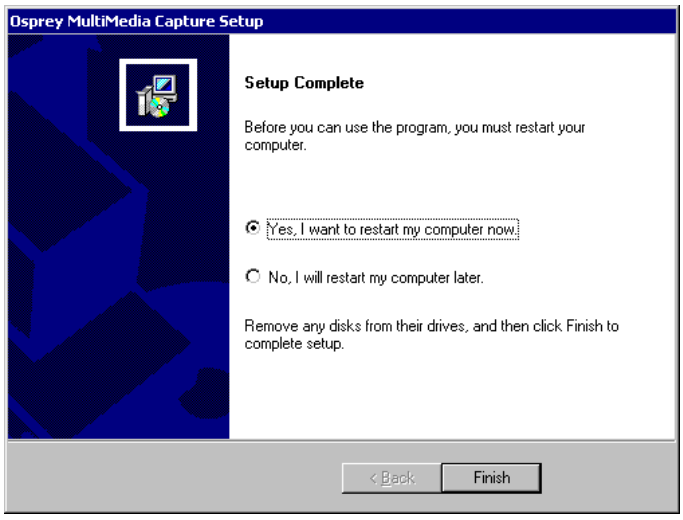
16. Click **OK** to continue the installation.
The Product Registration window displays.



17.

If you would …	then …
like to register your Osprey Multimedia Capture card,	click **Yes**. *A browser window opens.*
not like to register your Osprey Multimedia Capture card,	click **No**. A product registration link is also available on the Programs menu or on the Osprey Video web site (**http://www.ospreyvideo.com/**)

The Setup Complete window displays.



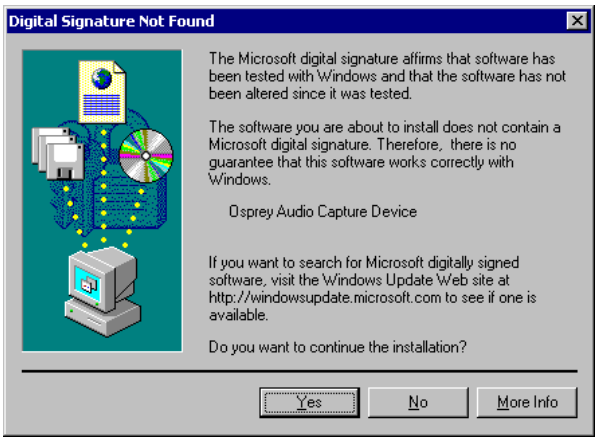
18.

If you are …	then …
installing the Osprey card at this time,	select **Yes** and proceed to step 19.
not installing the Osprey card at this time,	select **No** and proceed to step 19.

19. Click **Finish**.
20. Click **Finish** to restart the computer.

You must restart your computer to complete the installation. Do not attempt to use your Osprey card until after restarting the system.

After restarting the computer, the Digital Signature Not Found window displays for the Osprey-220 audio capture device.



21. Click **No**.

The Completing Found New Hardware wizard window displays.

22. Click **Finish**.

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

When the card is installed, Windows 2000 detects the card and automatically activates the driver.

Option B: Use the Device Manager (Normally not Recommended)

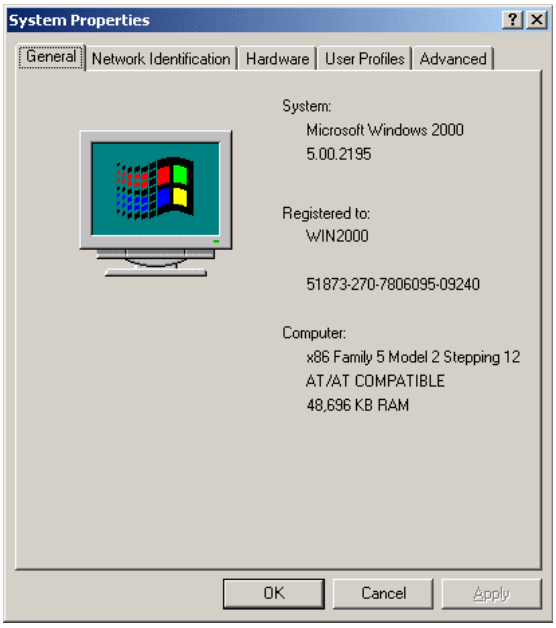
This method will only install the drivers. It will not update the bundled applications, User's Guide, or Start Menu. It is sometimes useful for repairing an installation where the driver seems to be incorrectly or incompletely installed.

Note to Osprey-200 users: To completely update your audio and video drivers, you have to repeat steps 7 through 20 twice - once to update the audio driver, once to update the video driver. You can install the drivers in either order - either the audio driver first, or the audio driver first. The example here assumes that you are updating the audio driver.

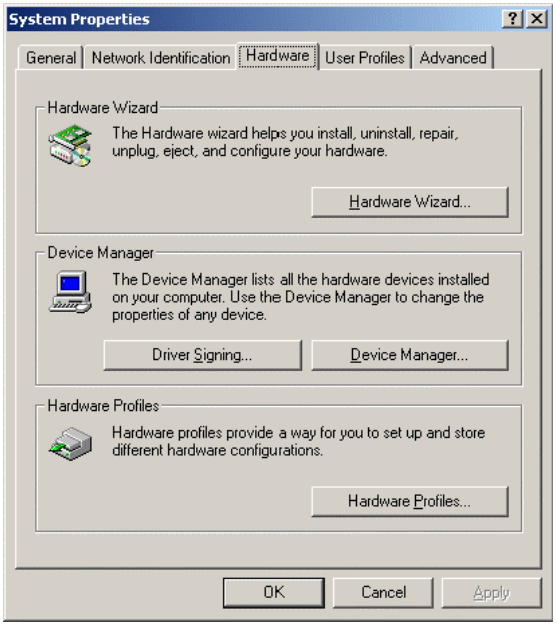
With video-only cards - Osprey-50, -100, and -101 - you need to update the video driver only.

To update the drivers using the Device Manager:

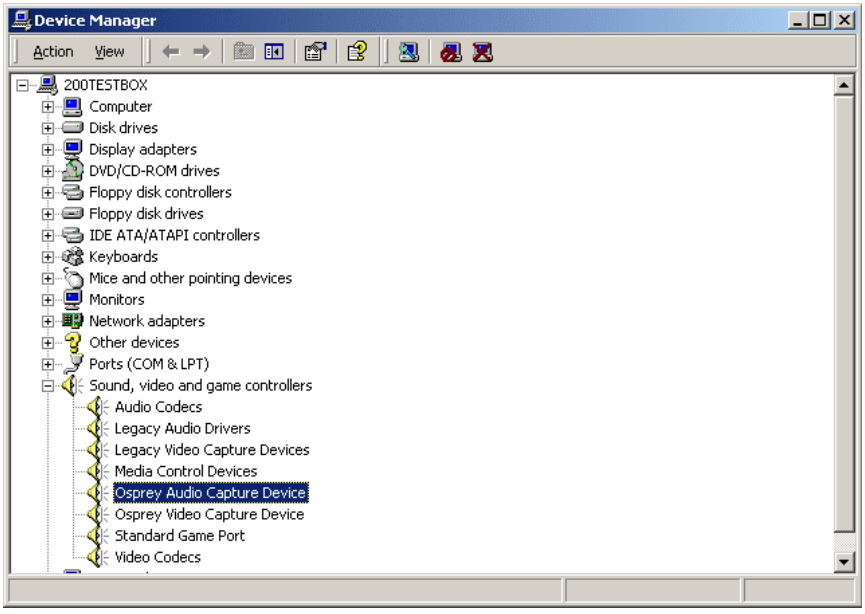
1. Click **Start** and select **Settings**.
2. Select **Control Panel**.
3. Double-click **System**.
   The System Properties window displays.



4. Select the **Hardware** tab.
   The Hardware tab displays.



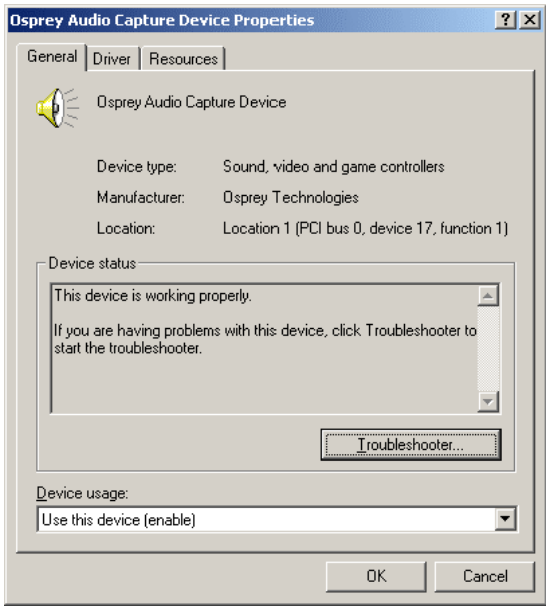
5. Click Device Manager.
   The Device Manager window displays.
6. Double click the Sound, video and game controllers entry.
   The Sound, Video and Game Controllers entry expands.



7. If you are updating the audio driver, double-click **Osprey Audio Capture Device**. If you are updating the video driver, double-click **Osprey Audio Capture Device**.

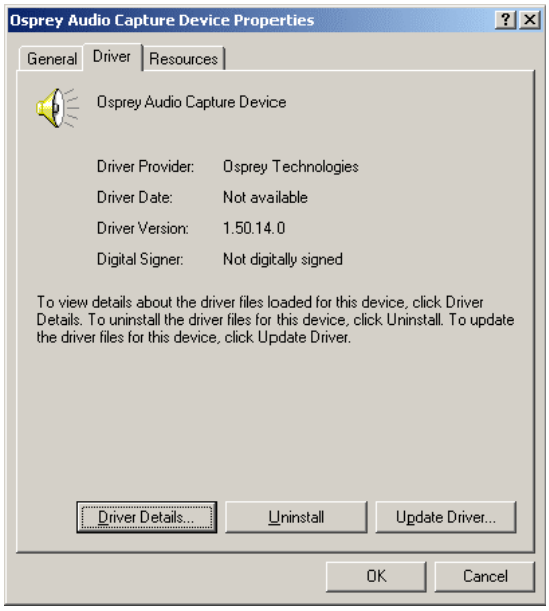
   If you have two or more Osprey Capture Cards in the system there will be separate entries for each video device and each audio device. Click on any one of the devices to update the driver for all of them.

   A Properties dialog displays.



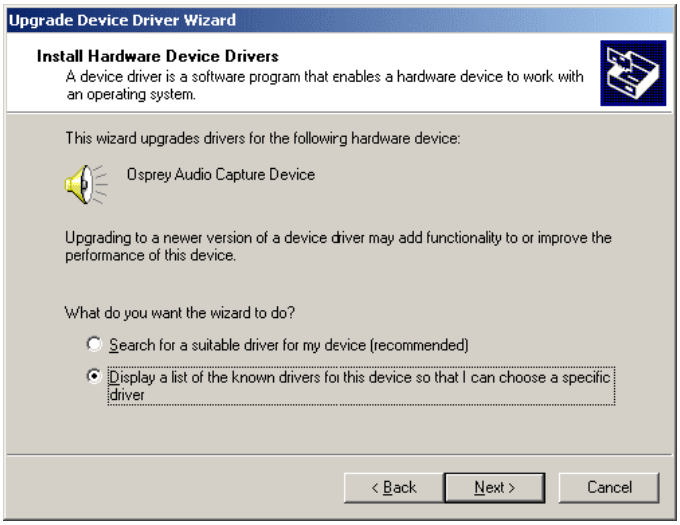
8. Click the **Driver** tab.

   The Driver tab displays.

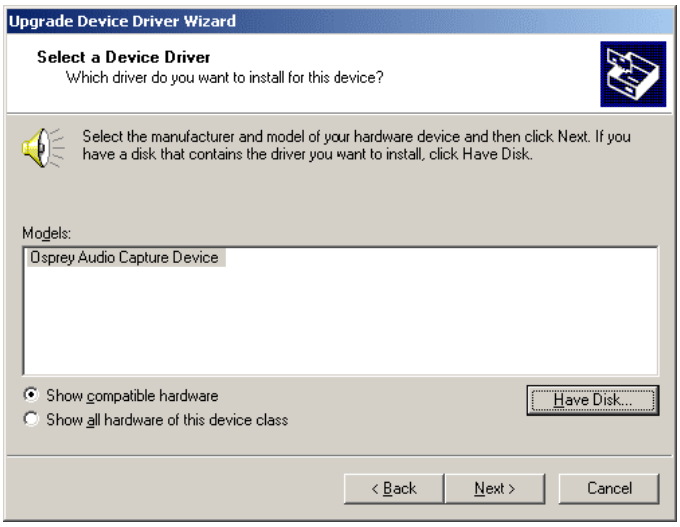


9. Click **Update Driver**.
   The Upgrade Device Driver Wizard displays.

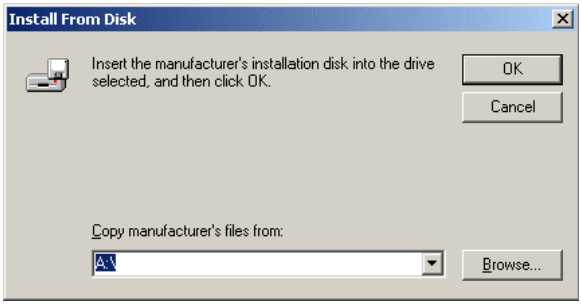
10. Click **Next**.
    The Upgrade Device Driver Wizard displays.



11. Click to select the Display a list of the known drivers for this device ... radio button.
12. Click **Next**.
    The Upgrade Device Driver Wizard displays.

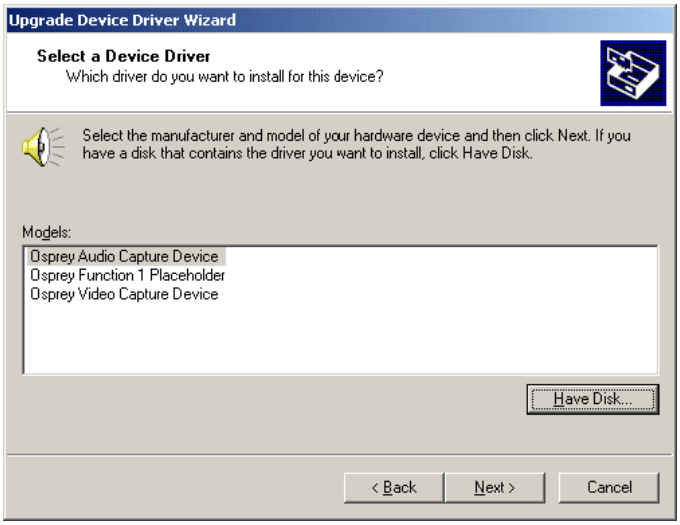


13. Click **Have Disk**.
    The Install From Disk window displays.



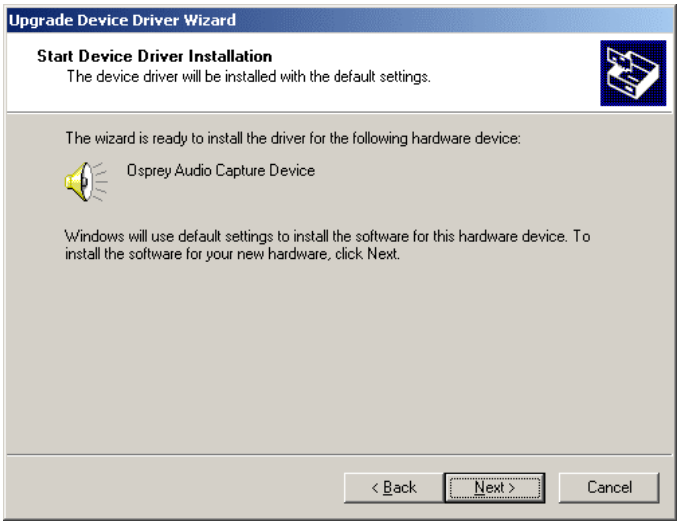
14. Click **Browse** to locate the **O100DRV.INF** file.

15. Click **OK** to return to the Upgrade Device Driver Wizard.
    The Upgrade Device Driver Wizard displays.



16. Select the device to update:
    - If you are updating the Osprey-200 audio function, select **Osprey Audio Capture Device**.
    - If you are updating the video function of any Osprey capture card, select **Osprey Video Capture Device**.
    - The newer Osprey-50, -100, and -101 video-only cards have an on-chip audio interface that, while not usable, is nonetheless detected by Plug and Play. Install the **Osprey Function 1 Placeholder** to satisfy Plug and Play that the unused audio function is "installed" without copying unnecessary audio files to the system directory.

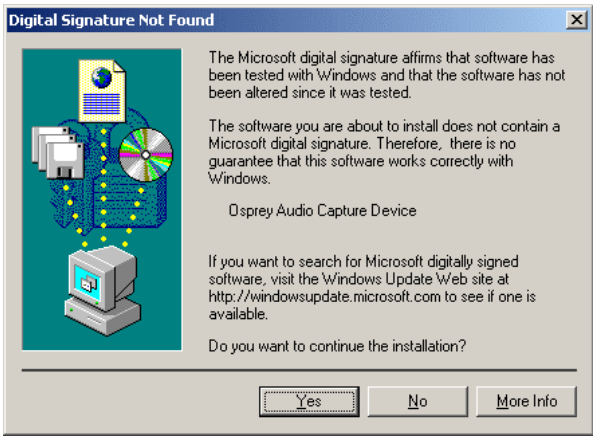
17. Click **Next**.
    The Upgrade Device Driver Wizard displays.



An *Update Driver Warning* may display. If you have followed the instructions carefully, this is a safe operation.

18. Click **Next**.

    The Digital Signature Not Found window displays.



19. Click **Yes** to continue the installation.
20. Click **Finish** to complete the wizard.
21. In a moment the Device Manager screen updates.

    Osprey-200 users: If you have just upgraded the audio driver, repeat steps 7 through 20 for the video driver. If you upgraded the video driver first, repeat steps 7 through 20 for the audio driver.

    If you have multiple boards installed in the system, then you normally need to update the audio driver and the video driver for just one device. You will have multiple capture devices to choose from, and you can pick any one of them.

    If, however, one or more **Multimedia Video Controller** or **Multimedia Controller** devices appear in the Device Manager list (as shown in step 6) that correspond to Osprey cards, then these will need to be individually installed, one device at a time. These devices will have a exclamation mark on a yellow field as part of their icon - indicating that they are not properly installed. They could be listed either under **Sound, video and game controllers** or under **Other devices**. Upgrade a **Multimedia Video Controller** as an **Osprey Video Capture Device**, and a **Multimedia Controller** as an **Osprey Audio Capture Device** or **Osprey Function 1 Placeholder**. Double click on each of these items and follow steps 7 through 20. When you are asked to specify the hardware type, select **Sound, video and game controllers**.
22. Repeat steps 7 through 20 for the remaining capture device(s). For example, if you just upgraded the audio capture device, repeat these steps for the video capture device.

You have to restart the system before you can use the updated drivers. There is one exception: If you have a single video-only card - a single Osprey-50, -100, or -101 - you do not have to restart, and can use the updated drivers immediately.

Installing Ligos Technology's Indeo

Ligos Technology's Indeo Video package contains software codecs and compressors that enhance the usefulness of the card. You need to install this package if you want to use the three YUV color formats

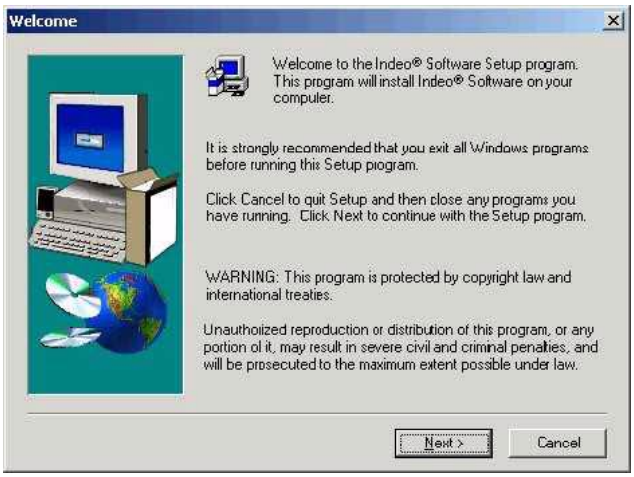
- 4:2:2 packed
- YUV12
- YVU9

There is also a software compressor which creates compressed video files in real time at full capture speed. Indeo is recommended if you will be using Microsoft Windows Media Encoder. This software is described in more detail in **Chapter 8**.

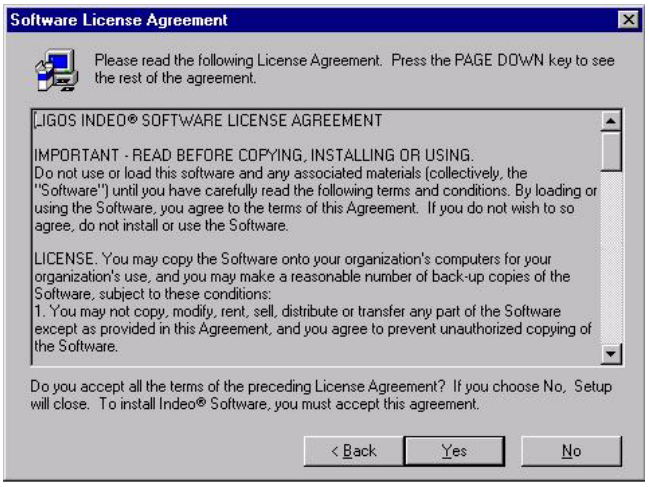
To install Ligos Technology's Indeo Video software:

1. Click **Yes** to install Indeo Video software. Click **No** if you do not wish to install the software at this time.

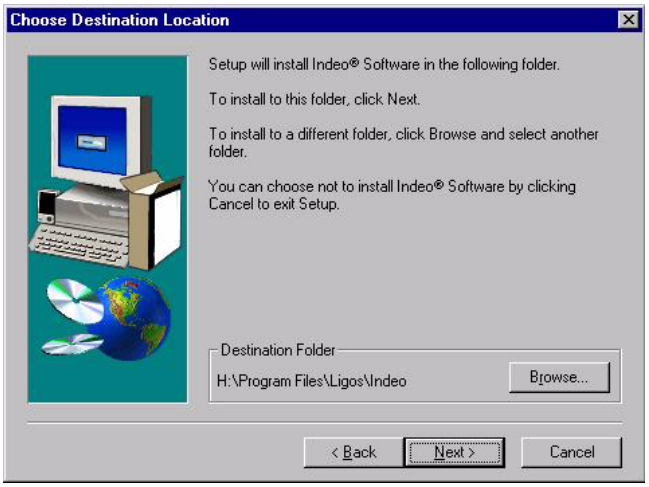
   The Indeo® Installation window displays.



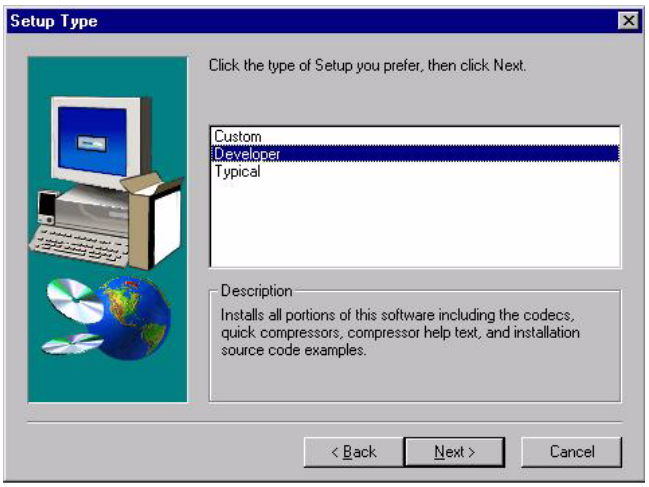
The Software License Agreement window displays.



2. Click **Yes**.
   The Choose Destination Location window displays.



3. Click **Next**. If you wish to change the destination location for the files, click **Browse**.
   The Setup Type window displays.

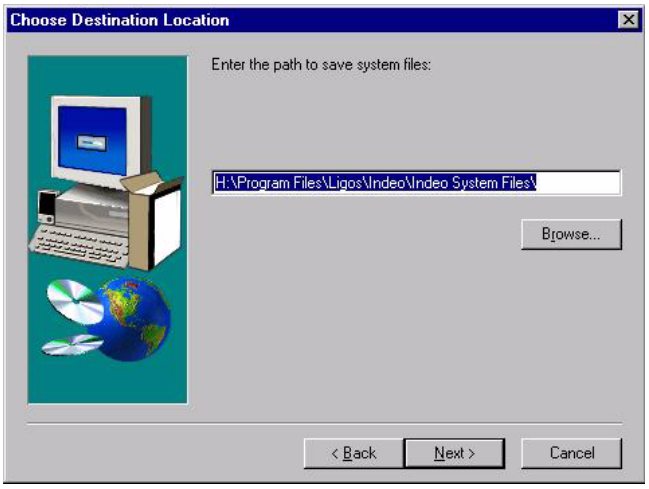


4. Select Developer and click **Next**.
   A question window displays.

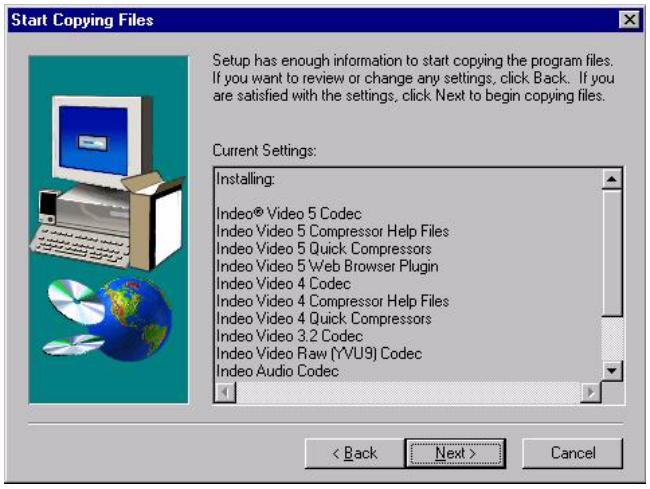
5.

If you …	then …
want to backup your system files,	click **Yes** and proceed to step 6. *The Choose Destination window displays.*
do not want to backup your system files,	click **No** and proceed to step 7.

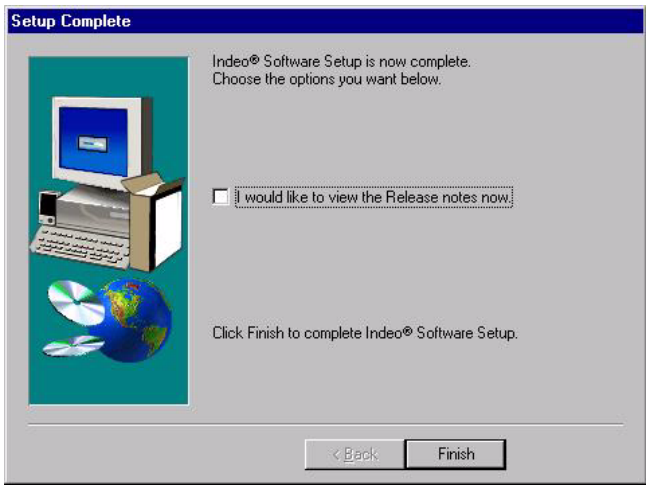
6. Type the path or click **Browse** to locate the path in which you want to save the backup of your system files.



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



8. Click **Next** to proceed with the installation. Click **Back** to make any changes prior to the installation.
   After the files are copied to the system, the Indeo Software Setup Is Now Complete window displays.



9. Click **Finish**.

Testing the Installation

1. Verify the hardware installation is complete, in accordance with the directions in **Chapter 2**.
2. Connect a camera, VCR, or other video signal source to the Osprey card's connectors.
3. Open the Osprey Multimedia Capture group in the Start menu.
4. Click the **VidCap32** icon.
5. Verify the screen displays a still video frame from the Osprey-100 board. Click the **Preview** or **Overlay** button. The screen should display moving video frames.
6. If the video area is a plain blue field, it could be for one of the following reasons:
   f. 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**).
   g. 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 and SECAM equipment always need to change the driver's signal format the first time they run the driver. Please see **Video Standard** in **Chapter 6 - Capturing Video.**

Uninstalling the Software

If you ever need to remove the Osprey driver from your system, proceed as follows:

1. Open the Control Panel.
2. Double-click Add/Remove Programs.
3. Click to select Change or Remove Programs.
4. Highlight the Osprey Multimedia Capture 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. Reboot your computer to complete the uninstall process.

Chapter 4 – Installing the Software – Windows XP

The Osprey Capture Card products contains a single CD for Windows 2000, Windows XP, Windows NT 4.0 and Windows 95/98. The Windows 95/98 driver is an entirely separate driver that is not covered by this User's Guide.

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 support website or the ftp site for the any driver update releases subsequent to the software shipped on your CD. For the ViewCast support website, go to **http://www.ospreyvideo.com/** > Downloads > Software and Drivers. Select the operating system and card type. To reach the ViewCast.com ftp site, go to **ftp://ftp.viewcast.com/pub/OSP-200/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 appear on your computer screen. In some cases, version numbers and other minor differences may appear in the installation you are running.

Basics: Installing From CD

Basics: Downloading and Installing Updated Drivers

Two Installation Scenarios

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

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

Testing the Installation

Uninstalling the Software

Basics: Installing From CD

1. Insert the Osprey CD into your CDROM drive. The installation instructions assume this is the "D:" drive. Substitute the proper drive name as it appears on your system where appropriate.
2. Run the installation program:
   a. Click the **Start** button.
   b. Click **Run**....
   c. Enter **d:\winxp\setup.exe** in the dialog box.
   d. Click **OK**.

Basics: Downloading and Installing Updated Drivers

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

   ftp://ftp.viewcast.com/pub/OSP-100/winXP/latest

   ftp://ftp.viewcast.com/pub/OSP-200/winXP/latest

The same driver is used for the Osprey-50, Osprey-100, Osprey-101 and Osprey-200, so these links point to the same download file.

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

2. 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 **...winXP/latest** location. Refer to your browser's help files for more specific and detailed assistance.
3. Download the web package file in **...winXP/latest** to your hard disk.
4. 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 you for a temporary location to unpack the install files to.

These files are not be automatically deleted after setup has run. This is so that you can perform the manual Plug and Play install if you want to. So make a note of where these files are located, and delete them after the install if you want to conserve disk space.

Two Installation Scenarios

There are three main situations that might apply to you:

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, and all the updated components will be installed.

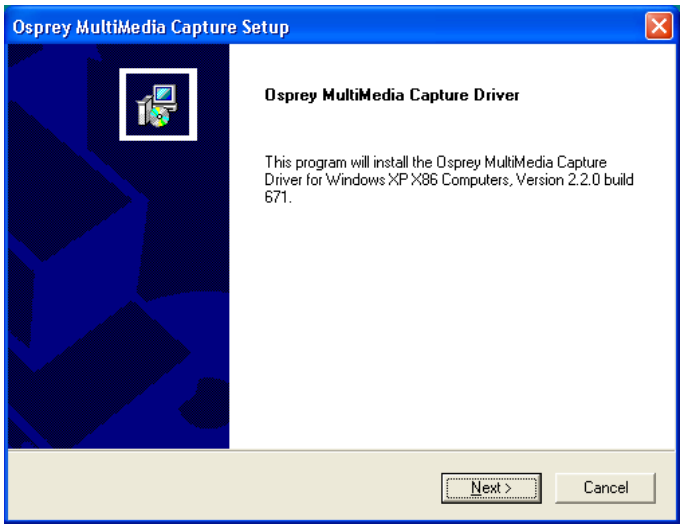
Scenario 1: Osprey Card(s) not Physically Installed in the PC

This 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. This scenario is called the "Preinstall Scenario". After the install is run, as soon as an Osprey card is installed in the PC, it is detected and its drivers are started automatically.

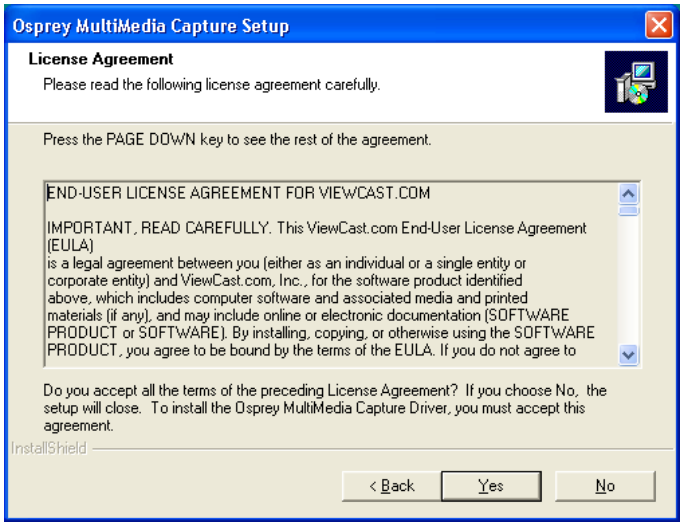
To preinstall the Osprey drivers:

1. Using Windows Explorer, locate and access the CD-ROM drive containing the Osprey Installation CD-ROM.
2. Navigate to the **WINXP** directory.

3. Double-click **SETUP.EXE**.
   The Osprey Multimedia Capture Driver window displays.

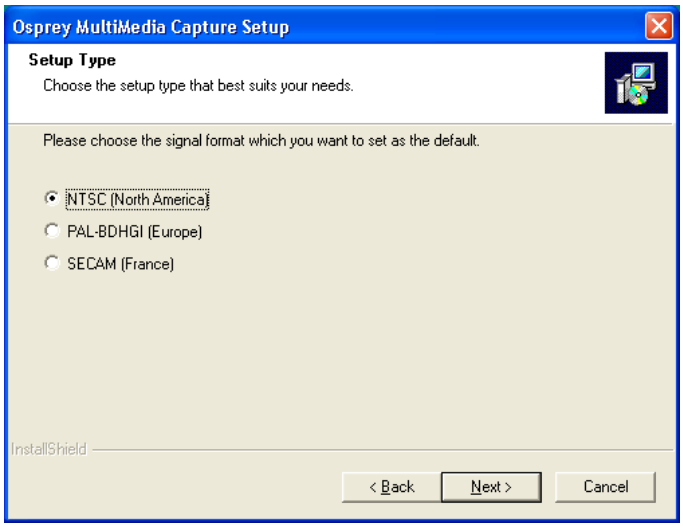


4. Click **Next**.
   The Software License Agreement window displays.



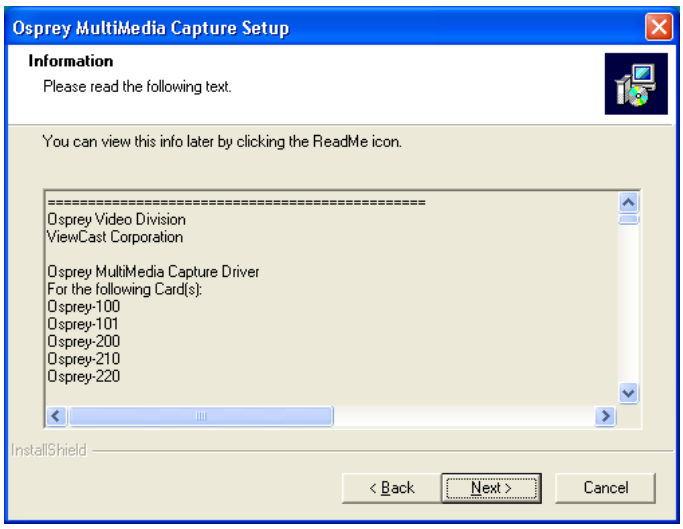
5. Click **Yes** to accept the End User Software Agreement. If you do not wish to accept the agreement, click **No** to terminate the installation routine.

   The Select Components window displays.



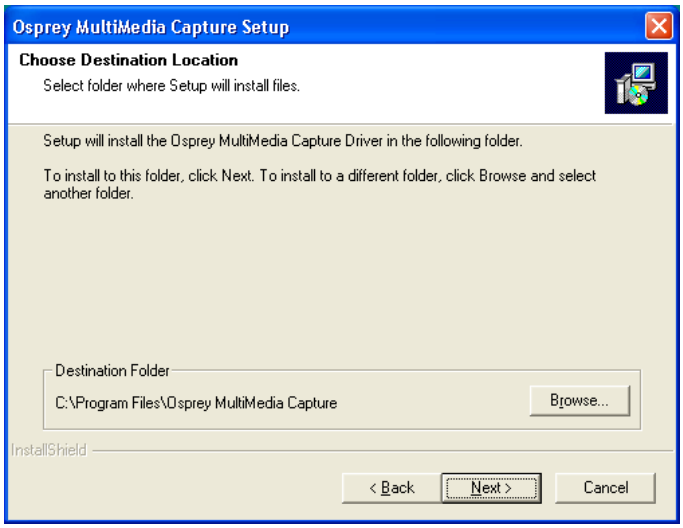
6. Click the radio button to select the default signal format. See **Video Standard** for more information about signal formats.
7. Click Next.

   The Information window displays.



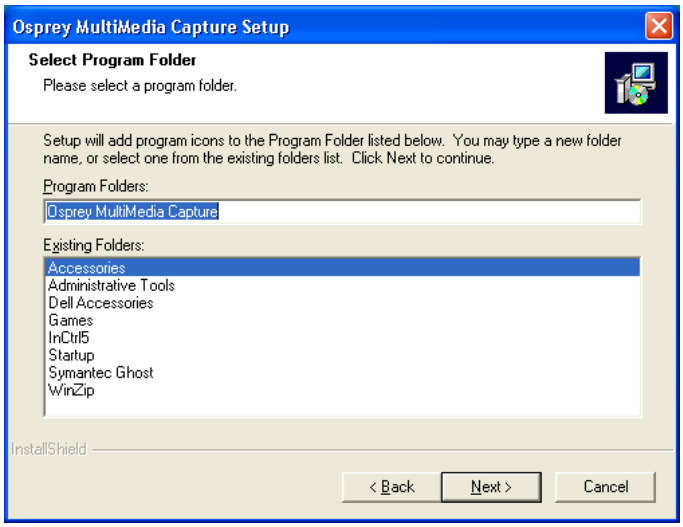
8. Click Next.

   The Choose Destination Location window displays.

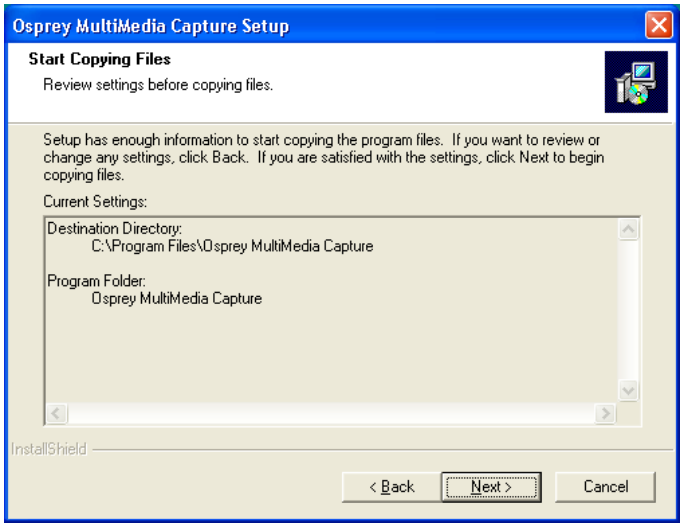


9. Click **Next**. If you wish to change the program folder, type the new name in the Program Folders field.

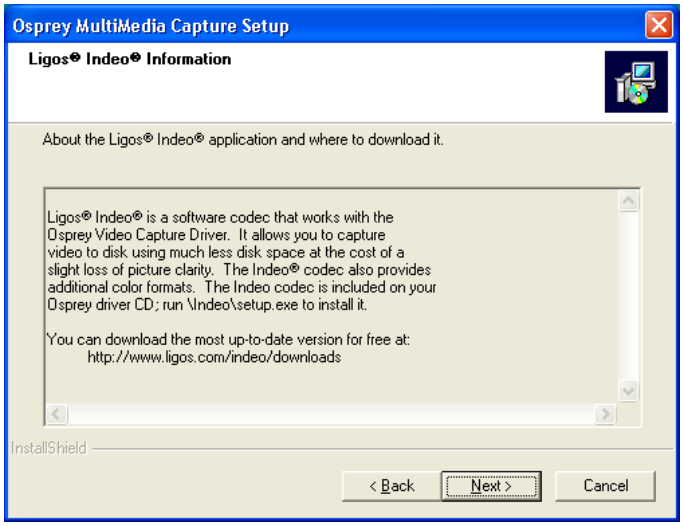
   The Select Program Folder window displays.



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

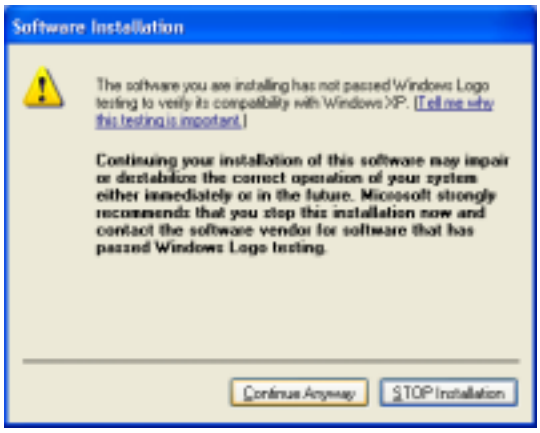


11. Click **Next**.
    The Ligos Indeo Information window displays.

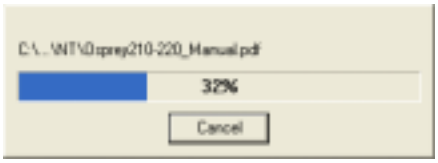


12. Click **Next**.
    The Pre-installation question window displays.

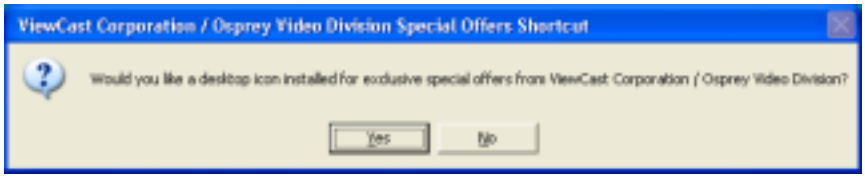
13. Click **Yes**. Skip to step 14 if you are installing the POST-WHQL driver version.
The Hardware Installation window displays.



14. Click **Continue Anyway**.
The files begin copying to the computer.



The ViewCast Corporation/Osprey Video Division Special Offers Shortcut window displays.



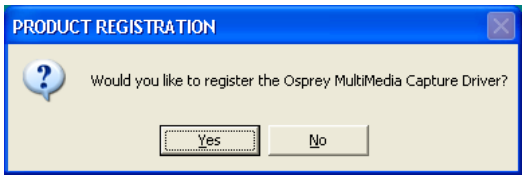
15.

If you would …	then …
like a shortcut installed on your desktop,	click **Yes**. *A shortcut is created on the desktop.*
not like a shortcut installed on your desktop,	click **No**. A Special Offers link is also available on the Programs menu.

An information window displays.

16. Click **OK** to continue the installation.
17. Click **Next**.

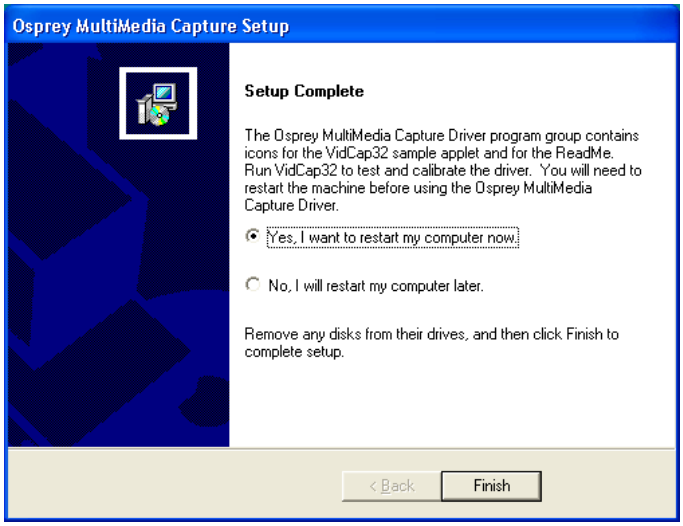
The Product Registration window displays.



18.

If you would …	then …
like to register your Osprey Multimedia Capture card,	click **Yes**. *A browser window opens.*
not like to register your Osprey Multimedia Capture card,	click **No**. A product registration link is also available on the Programs menu or on the Osprey Video web site (**http://www.ospreyvideo.com/**)

The Setup Complete window displays.



19. Click to select **No**.
20. Click **Finish**.

When you start your computer after physically 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 and XP**.

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)

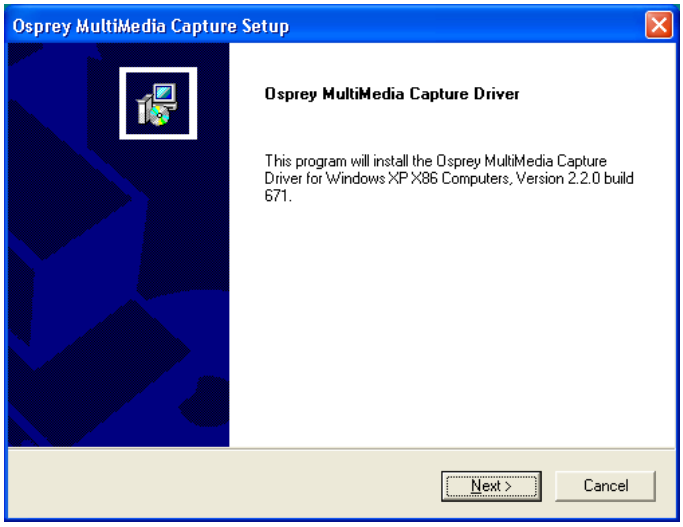
Option B: Use the New Hardware Found Wizard (Not Recommended)

Option A: Run the Installation Program (Recommended)

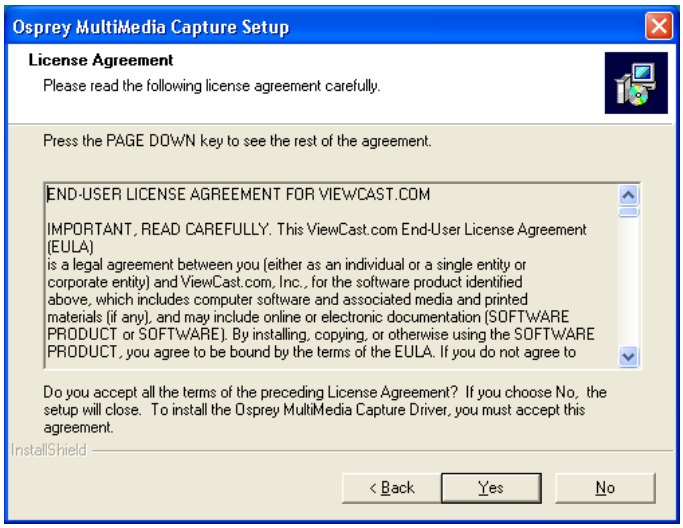
When Windows XP is first started for the first time after the Osprey card is installed, the *New Hardware Found* wizard displays one or more times. Cancel out of these wizards. After Windows XP has finished starting, perform the following steps.

To install the Osprey drivers:

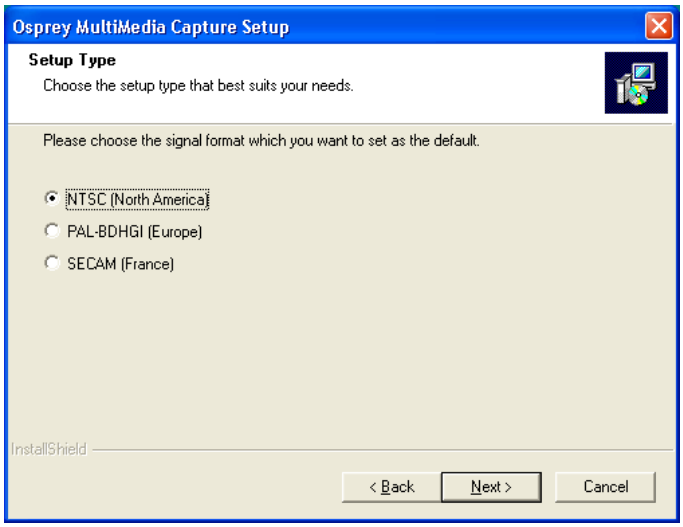
1. Using Windows Explorer, locate and access the CD-ROM drive containing the Osprey Installation CD-ROM.
2. Navigate to the **WINXP** directory.
3. Double-click **SETUP.EXE**.
   The Osprey Multimedia Capture Driver window displays.



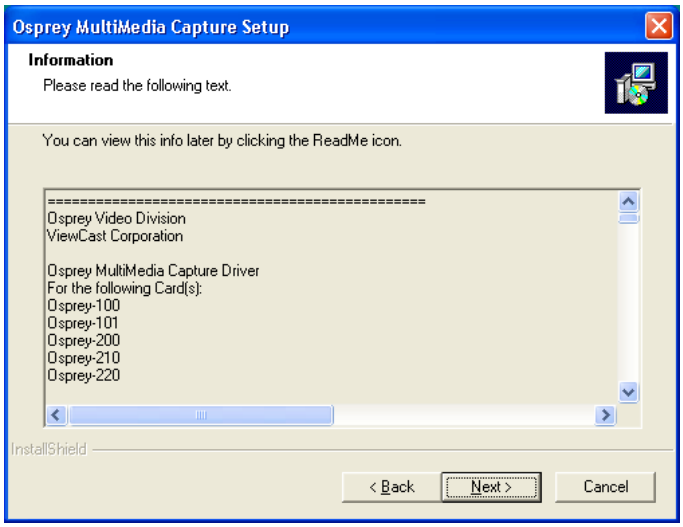
4. Click **Next**.
   The Software License Agreement window displays.



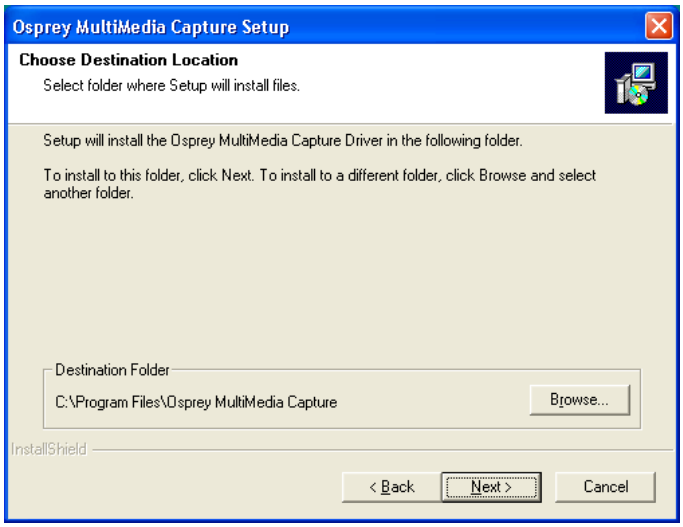
5. Click **Yes** to accept the End User Software Agreement. If you do not wish to accept the agreement, click **No** to terminate the installation routine.
   The Select Components window displays.



6. Click the radio button to select the default signal format. See **Video Standard** for more information about signal formats.
7. Click Next.
   The Information window displays.

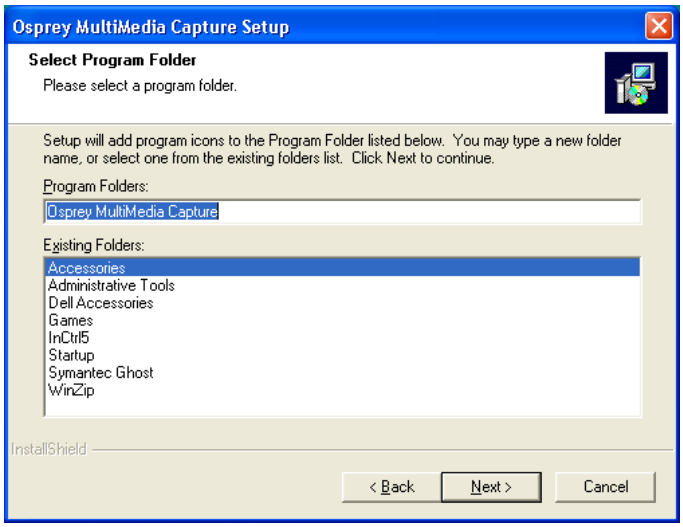


8. Click Next.
   The Choose Destination Location window displays.



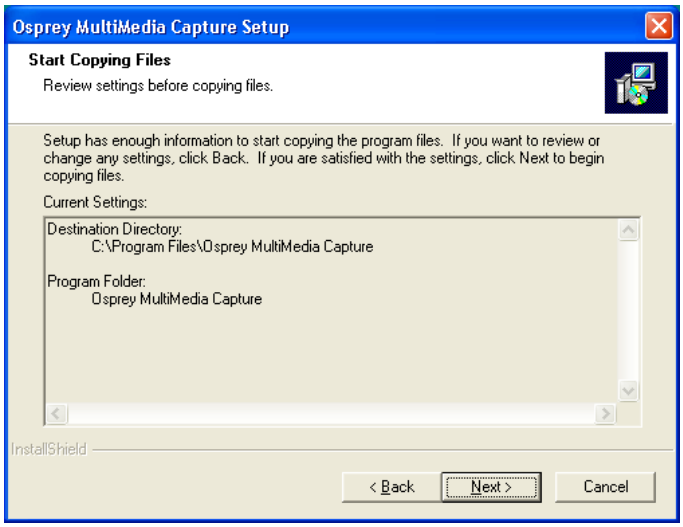
9. Click **Next**. If you wish to change the program folder, type the new name in the Program Folders field.

   The Select Program Folder window displays.

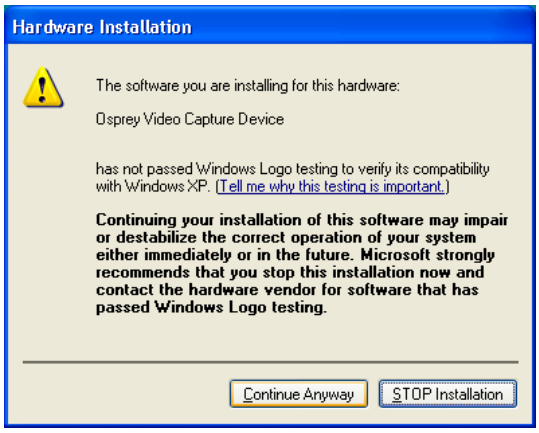


10. Click **Next**.

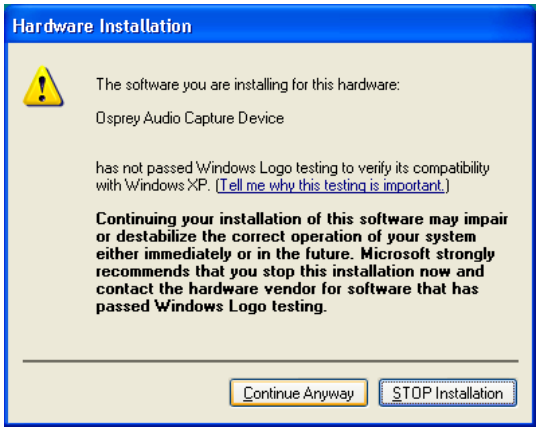
    The Start Copying Files window displays.



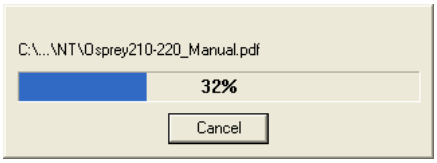
11. Click **Next**. Skip to Step 13 if you are installing the POST-WHQL driver version.
The Hardware Installation window displays.



12. Click **Continue Anyway**.
The Hardware Installation window displays.



13. Click **Continue Anyway**.
The files begin copying to the computer.

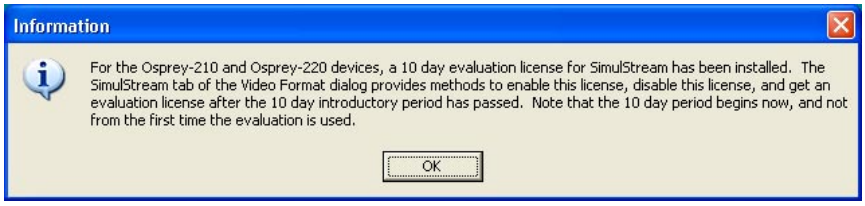


The ViewCast Corporation/Osprey Video Division Special Offers Shortcut window displays.

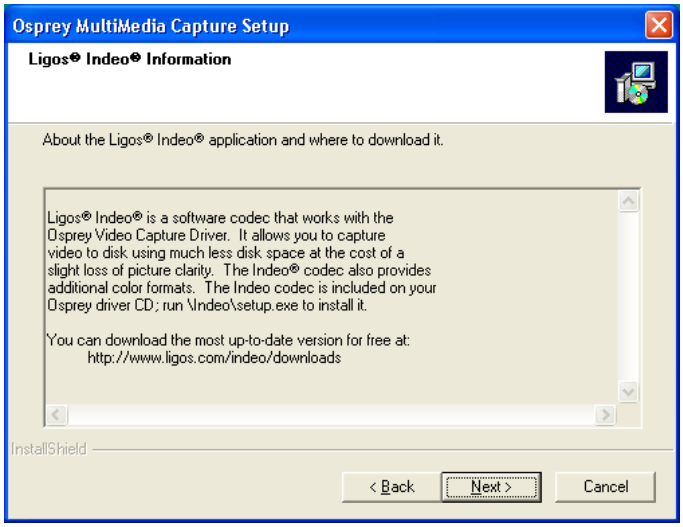
14.

If you would …	then …
like a shortcut installed on your desktop,	click **Yes**. *A shortcut is created on the desktop.*
not like a shortcut installed on your desktop,	click **No**. A Special Offers link is also available on the Programs menu.

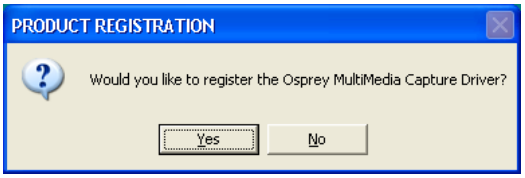
An information window displays.



15. Click **OK** to continue the installation.
The Ligos Indeo Information window displays.



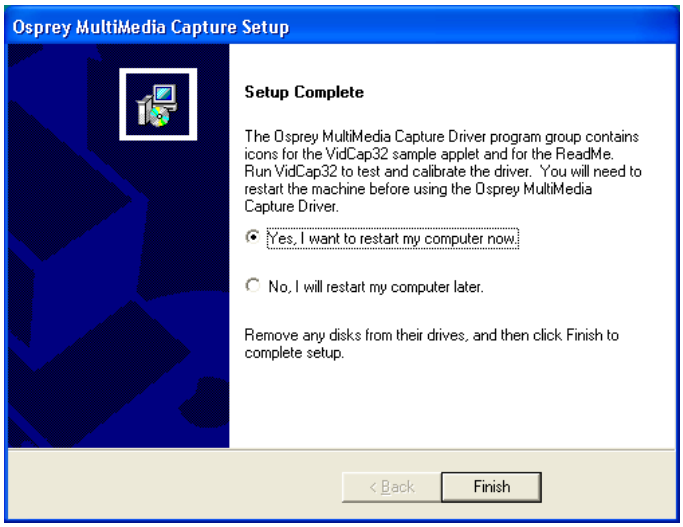
16. Click **Next**.
The Product Registration window displays.



17.

If you would …	then …
like to register your Osprey Multimedia Capture card,	click **Yes**. *A browser window opens.*
not like to register your Osprey Multimedia Capture card,	click **No**. A product registration link is also available on the Programs menu or on the Osprey Video web site (**http://www.ospreyvideo.com/**)

The Setup Complete window displays.



18. Click **Finish** to restart the computer.

You must restart your computer to complete the installation. Do not attempt to use your Osprey card until after restarting the system.

Option B: Use the New Hardware Found 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.

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

NOTE: For all Bt/Ct878-based Osprey cards, the Wizard detects two logical devices for each card - a *Multimedia Video Controller* device and a *Multimedia Audio Controller* device. The Multimedia Video Controller is the video section of the Bt/Ct878 device; the Multimedia Audio Controller is the audio section. The audio logical device is present even on Osprey-100 and Osprey-101 cards that have video or power connectors in place of the audio inputs.

When the Hardware Wizard detects a device:

Please note the terminology in the Add Hardware Wizard. It displays either Multimedia Video Controller or Multimedia Controller (the audio device).

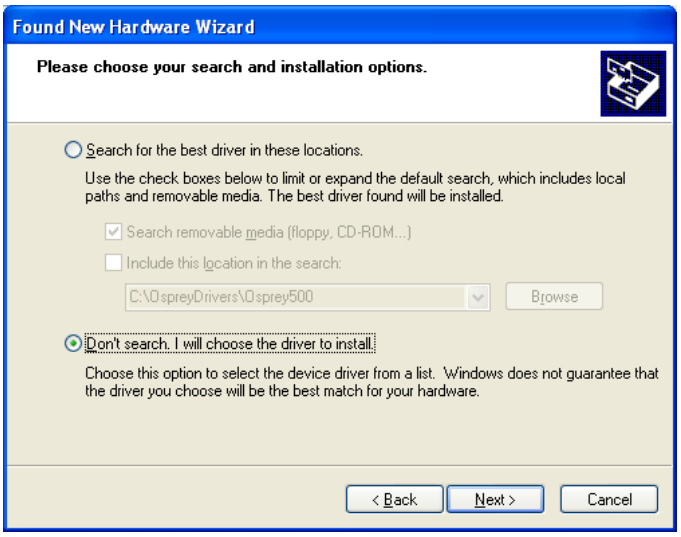
The Add New Hardware Wizard detects several new devices. Among these are the following:

- Osprey Video Capture Device
- Osprey Audio Capture Device (for Osprey-200 installations)
- Osprey Function 1 Placeholder (for Osprey-100 and Osprey-101 installations)

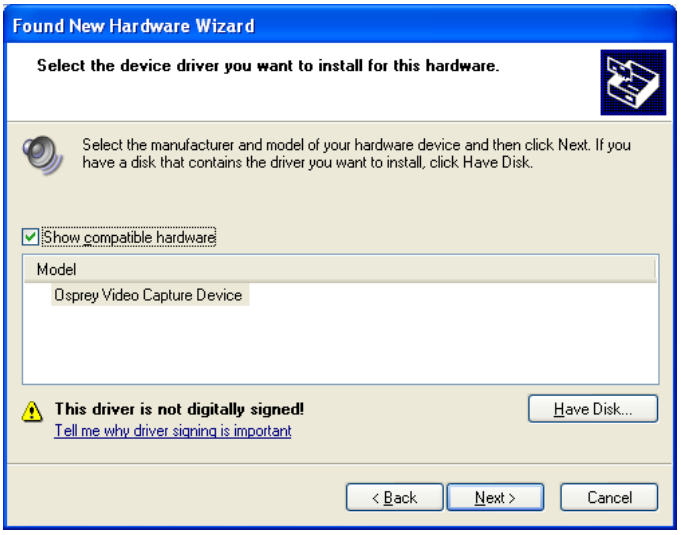
The Add Hardware Wizard window displays.

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

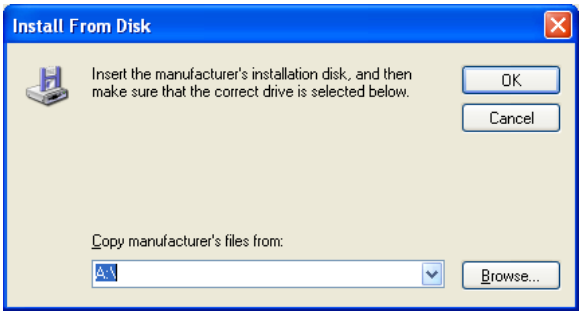
2. Click to select **Install from a list or specific location**.
3. Click Next.
   The Found New Hardware Wizard window displays.



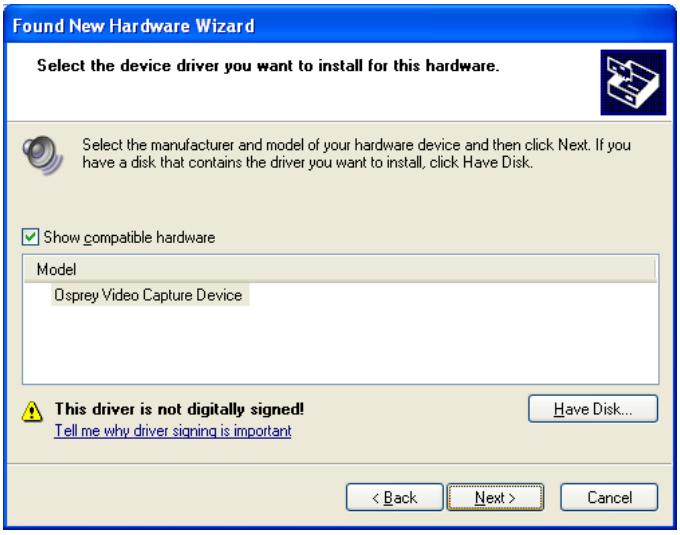
4. Click to select **Don't search**.
5. Click **Next**.
   The Found New Hardware Wizard window displays.



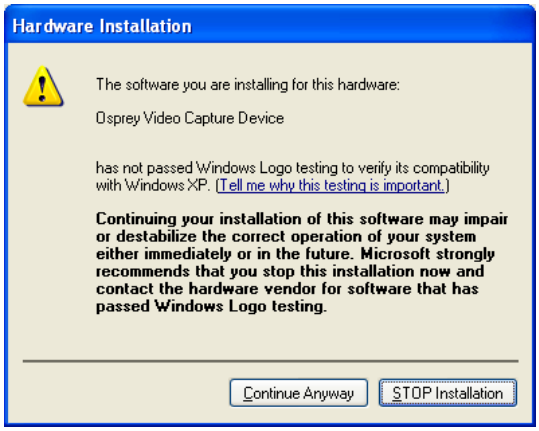
6. Click to select **Osprey Video Capture Device**.
7. Click **Have Disk**.
   The Install from Disk window displays.



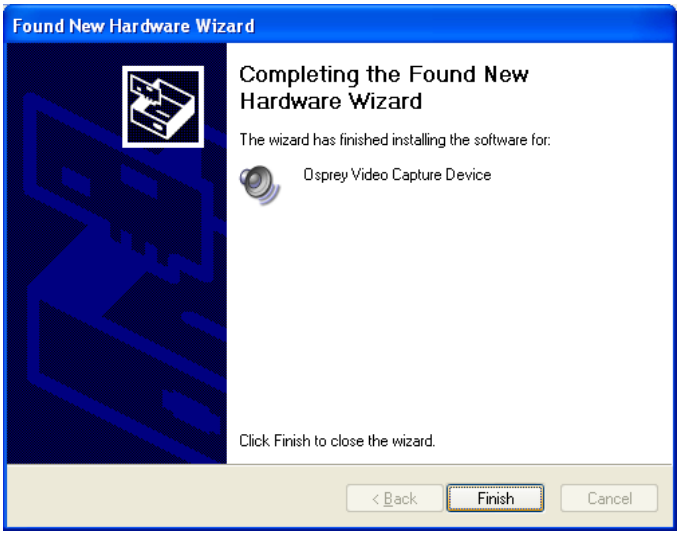
8. Click **Browse** and navigate to the location of the Osprey drivers.
9. Click **OK**.
   The Found New Hardware Wizard window displays.



10. Click **Next**.
    The Hardware Installation window displays; skip to step 13 for post-WHQL driver.



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



12. Click **Finish**.
13. Repeat steps 5 to 12 for the audio portion of the Osprey driver.

After completing the Add Hardware Wizard, the application portion of the Osprey driver must also be installed. To do this, navigate to the setup program for Windows XP and click SETUP.EXE. For detailed steps, please refer to **Option A: Run the Installation Program (Recommended)**.

Testing the Installation

1. Verify the hardware installation is complete, in accordance with the directions in **Chapter 2**.
2. Connect a camera, VCR, or other video signal source to the Osprey card's connectors.
3. Open the Osprey Multimedia Capture group in the Start menu.
4. Click the **VidCap32** icon.
5. Verify the screen displays a still video frame from the Osprey-100 board. Click the **Preview** or **Overlay** button. The screen should display moving video frames.
6. If the video area is a plain blue field, 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 - Capturing Video**).
   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 and SECAM equipment always need to change the driver's signal format the first time they run the driver. Please see **Video Standard** in **Chapter 6 - Capturing Video.**

Uninstalling the Software

If you ever need to remove the Osprey driver from your system, proceed as follows:

1. Open the Control Panel.
2. Double-click Add/Remove Programs.
3. Click to select Change or Remove Programs.
4. Highlight the Osprey Multimedia Capture 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. Reboot your computer to complete the uninstall process.

Chapter 5 - Installing the Software - Windows NT 4.0

The Osprey Capture Card products contains a single CD for Windows 2000, Windows XP, Windows NT 4.0 and Windows 95/98. The Windows 95/98 driver is an entirely separate driver that is not covered by this User's Guide.

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 and Drivers. Select the operating system and card type. To reach the ViewCast.com ftp site, go to **ftp://ftp.viewcast.com/pub/OSP-220/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 appear on your computer screen. In some cases, version numbers and other minor differences may appear in the installation you are running.

If you have not installed Microsoft's DirectX Media package, it is required to run the Windows Media Encoder Version 7 software. The DirectX Media package is included on your Osprey Multimedia CD-ROM.

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.

Installing from CD

Downloading and Installing Updated Drivers

Setup Program: Details

Installing Ligos Technology's Indeo

Testing the Installation

Uninstalling the Software

Installing from CD

1. If necessary, follow the directions in **Chapter 2** to install the Osprey card. The software installation procedure will not work properly unless the card is already installed. Turn on the machine and start Windows NT.
2. If you are updating from a previous version of the driver, it is not necessary to uninstall the old driver before installing the new driver.
3. Insert the Osprey Multimedia Capture Driver CD into your CDROM drive. The installation instructions will assume this is the "D:" drive. Substitute the proper drive name as it appears on your system where appropriate.
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 will guide you through the installation steps. For many users it will be self-explanatory. If anything is unclear, refer to the section below 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 below entitled **Testing the Installation**.

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 Multimedia Capture Cards are available via FTP (file transfer protocol), at the following location:

   ftp://ftp.viewcast.com/pub/OSP-100/winnt/latest

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

   The download image will contain a copy of the latest version of this *User's Guide* in Adobe PDF format.
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 will appear until you have reached the **...winnt/latest** location. Refer to your browser's help files for more specific and detailed assistance.
4. Download the setup file in **...winnt/latest** to your hard disk.

5. Run the setup 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**.
6. The setup program will guide you through the installation steps. For many users it will be self-explanatory. If anything is unclear, refer to the section below entitled **Setup Program: Details**.
7. The driver and demo programs 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 **Testing the Installation** in Chapter 3.

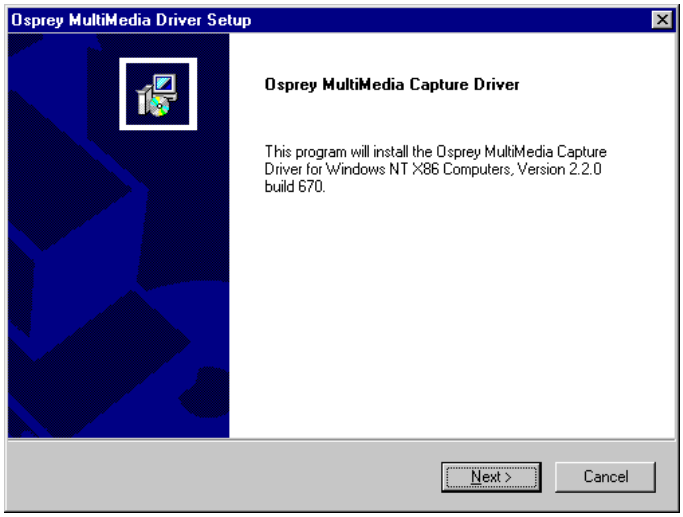
Setup Program: Details

Setup Program: Details

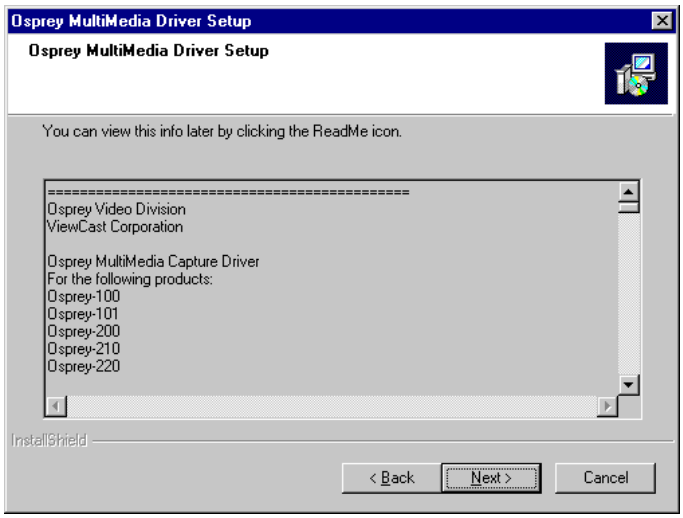
The setup program presents a sequence of windows and dialogs to guide you through the setup process. In general, click the **Next >** button to continue to the next screen. At any point you can click **< Back** to return to a previous screen or **Cancel** to exit the installation.

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

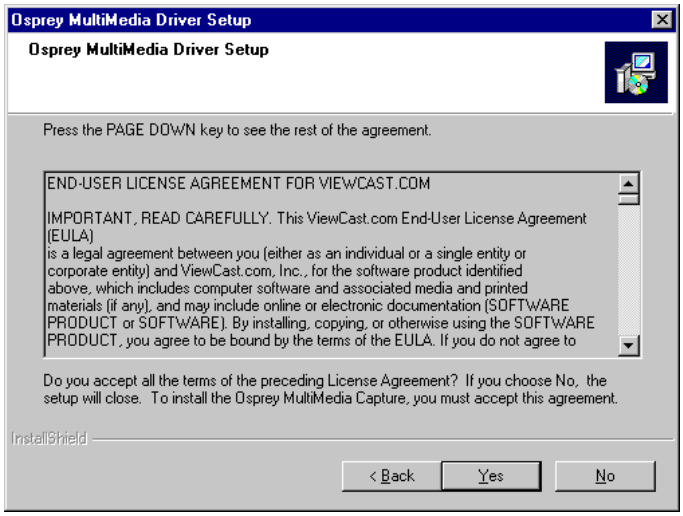
The Welcome window displays.



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

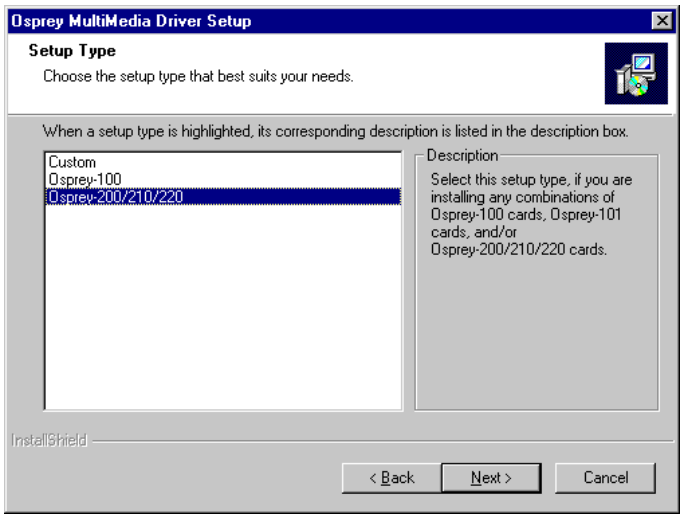


2. Click **Next**.
   The Software License Agreement window displays.



3. 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.

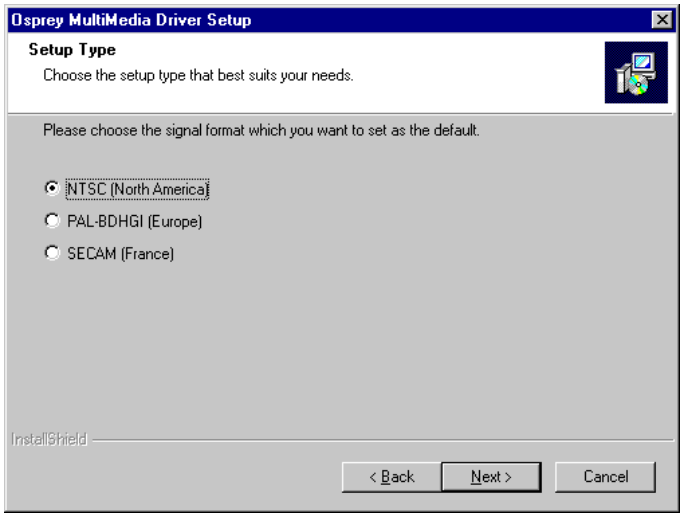
   The Setup Type window displays.



4. This window allows you to select the installation type. If you have any combination of Osprey cards which includes at least one Osprey-200 card, choose the Osprey-200/210/220 setup. If you have any combination of Osprey-100, Osprey-50CPI and Osprey-101 cards, choose the Osprey-100 setup type. Choose the Custom setup if you want more control over the installation. You will then be prompted to select which components to install.

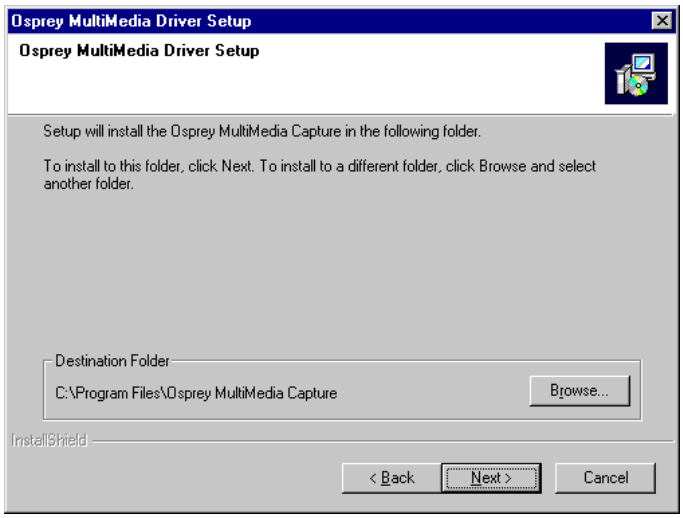
   The Osprey-100 and Osprey-200 setup types automatically install the third-party applications Ligos Indeo and DirectX Media. The option of not installing these third-party applications comes only with the Custom setup type. Make your setup type selection and click **Next**.

   The Select Components window displays.



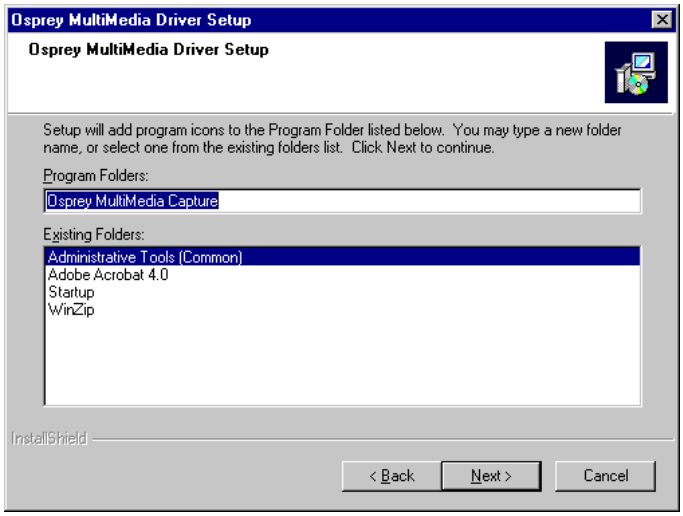
5. This window displays a list of choices for the default video signal format used in your country. Select the Video signal standard you wish to use and click **Next**. For more information about video signal formats, see **Video Standard**.

   The Choose Destination Location window displays.



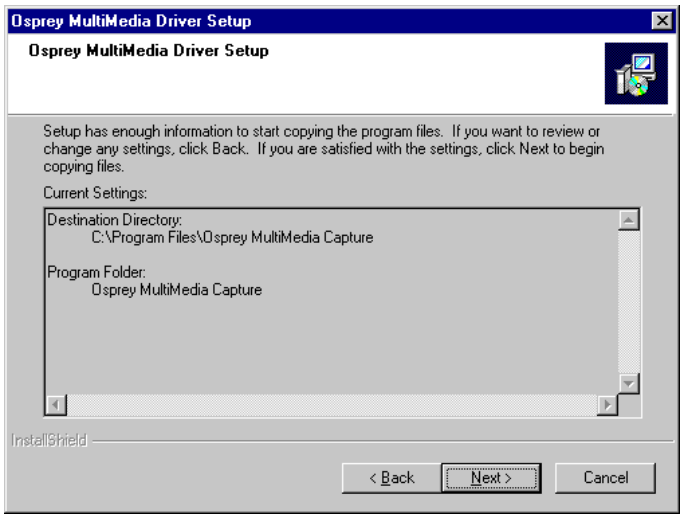
6. The destination location is the folder where `VidCap32 (the demo applet), ReadMe, and other auxiliary files are located. (The core video capture driver files are located in Windows NT system directories regardless of the destination location chosen here.) The default location, in the Program Files folder, should be appropriate for most systems. If you install the Windows 2000, Windows XP, Windows NT and Windows 95/98 versions, you can place them in the same directory, and you can save a small amount of disk space by doing so. Click the **Browse** button near the bottom of the dialog if you want to change the location.

   The Select Program Folder window displays.



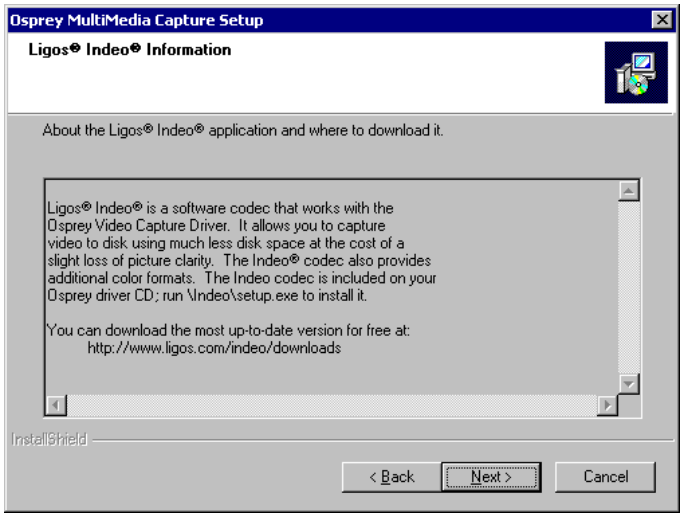
7. The setup program suggests placing the Osprey icons in a new program folder entitled "Osprey MultiMedia Capture." You can change this name by editing the Program Folders field, or you can add the icons to an existing folder by highlighting it in the Existing Folders window. Click **Next** to continue.

   The Start Copying Files window displays.

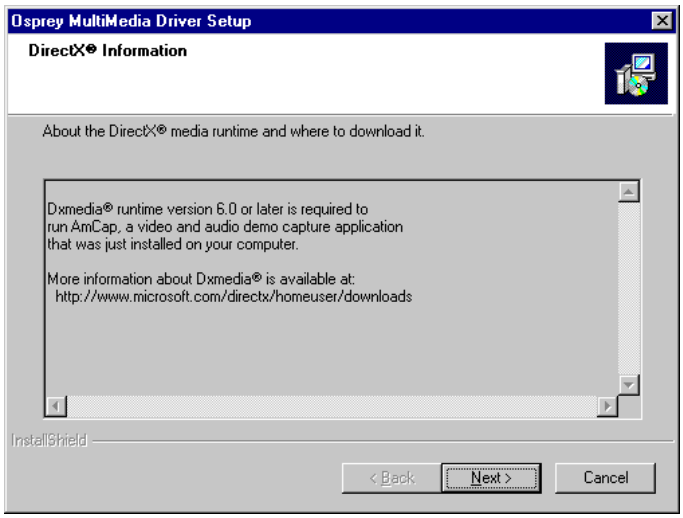


8. Click **Next**.

   The Ligos® Indeo® Information window displays.



9. Click **Next**.
   The DirectX® Information window displays.

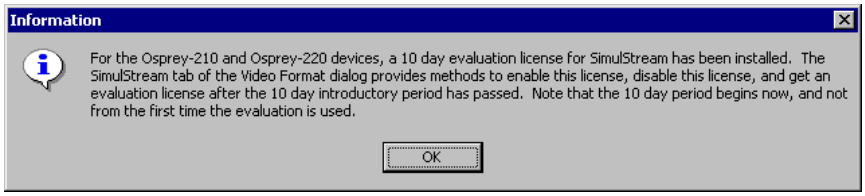


10. Click **Back** to modify the directory and program folder destinations or click **Next** to continue. The installation program copies the files to their destinations, sets up the Osprey driver registry entries, and starts the driver.
    A question dialog window displays.

11.

If you would …	then …
like a shortcut installed on your desktop,	click **Yes**. *A shortcut is created on the desktop.*
not like a shortcut installed on your desktop,	click **No**. A Special Offers link is also available on the Programs menu.

An information window displays.



12. Click **OK** to continue the installation.

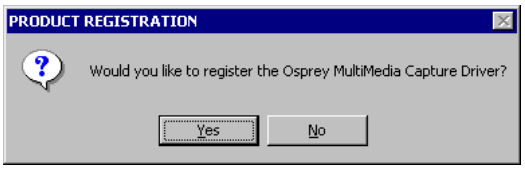
    If another kind of video capture driver is already installed on your system, another question dialog window displays.

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 use the Osprey-210/220 as the primary audio capture device.

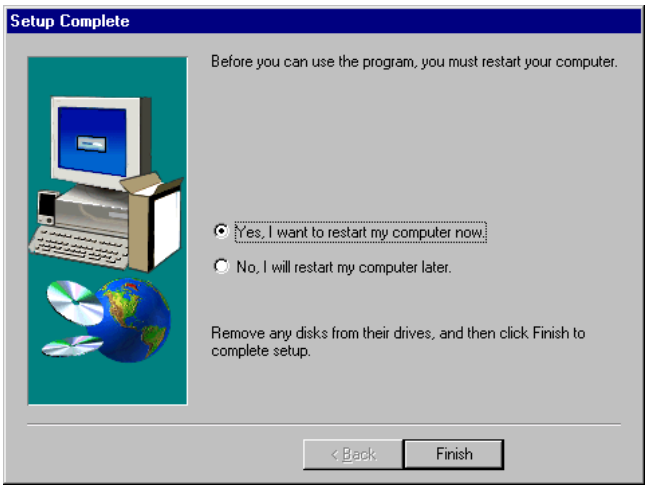
    The Product Registration window displays.



15.

If you would …	then …
like to register your Osprey Multimedia Capture card,	click **Yes**. *A browser window opens.*
not like to register your Osprey Multimedia Capture card,	click **No**. A product registration link is also available on the Programs menu or on the Osprey Video web site (**http://www.ospreyvideo.com/**)

The Setup Complete window displays.



16. Click **Finish**.

If you have an Osprey-100, -101, or -50 card, the driver is ready to test and use.

If you have an Osprey-200 card, you must restart Windows NT in order to use the audio capture feature. Normally, the installation program recommends a restart if one is needed, based on the type of card you have present.

However, if you are updating from driver version 1.33 or earlier to driver version 1.35 or later, you will have to restart Windows NT after the installation. Normally the installation program will detect this condition and recommend the restart if it is needed.

Installing Ligos Technology's Indeo

This procedure is the same regardless of the computer's operating system. See **Installing Ligos Technology's Indeo** in Chapter 3. For detailed instructions, please refer to the Ligos Technology's Indeo section in **Chapter 8 - VidCap32, AmCap, Control Panel, Cropping & Scaling and Indeo**.

Testing the Installation

Refer to **Testing the Installation** in Chapter 3 for full details.

Uninstalling the Software

If you ever need to remove the Osprey driver from your system, proceed as follows:

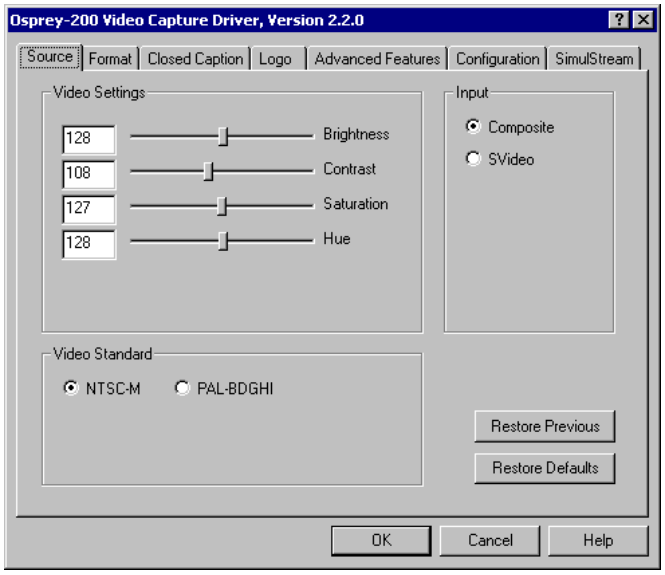
1. Open **Control Panel**.
2. Double-click **Add/Remove Programs**.
3. Click the **Install/Uninstall** tab.
4. Click to select the **Osprey Multimedia Capture Driver** in the list of programs.
5. Click **Add/Remove**....
   The uninstall program begins.
6. Click **Yes** to proceed.
7. Click **OK** when the process is complete.

NOTE: You have the option of deactivating the Osprey drivers without permanently uninstalling them. This allows you, for example, 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 – Video Control Dialog

The easiest way to familiarize yourself with the video capture capabilities of the Osprey cards and video capture driver is run the included capture application VidCap32 and look at its menus and dialogs. VidCap32 is described in detail in **Chapter 8**. This chapter focuses on the underlying video capture driver – in particular its control dialogs that you can access from VidCap32 and similar video applications.

The Osprey video capture driver has a unified tabbed dialog for setting up all driver parameters.



There are seven pages within the dialog: **Source**, **Format**, **Closed Caption**, **Logo**, **Advanced Features**, **Configuration**, and **SimulStream**.

Accessing the Dialog

General Features of the Dialog

The Source Page

The Format Page

The Closed Caption Page

The Logo Page

The Advanced Features Page

The Configuration Page

SimulStream 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, has three menu entries - **Options-> Source..., Options -> Format...,** and **Options -> Display...** that access respectively the Source, Format, and Closed Caption pages of the dialog. Once you are in the dialog, you can move to any other page by clicking on its tab.

Another way to access the Configuration page is through the Control Panel.

Instructions for Windows NT 4.0

Instructions for Windows XP

Instructions for Windows 2000

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 Video Capture Driver**.
5. Click **Properties**.
6. Click **Settings**....

Instructions for Windows XP

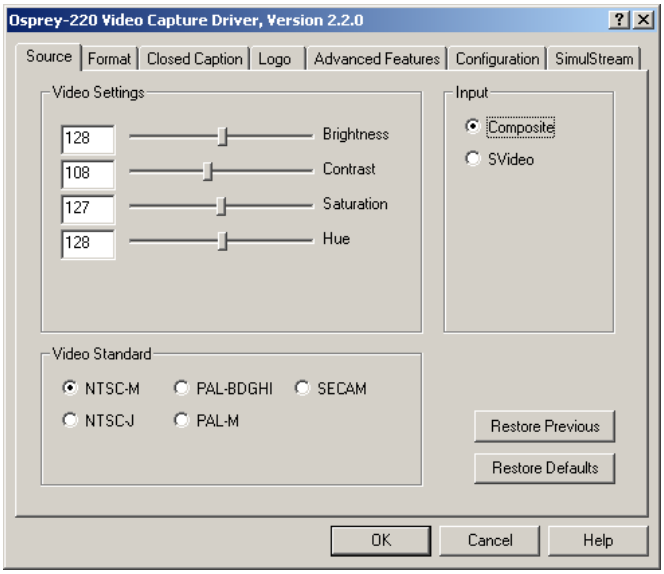
1. Open **My Computer** -> **Control Panel** -> **Sound, Speech, and Audio Devices**.
2. Click **Sounds and Audio Devices**.
3. Click the **Hardware** tab.
4. Select **Legacy Video Capture Devices**.
5. Click **Properties**.
6. Click the **Properties** tab.
7. Select **Osprey Video Capture Driver**.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



Source, Format, Closed Caption, Logo, Advanced Features, Configuration, SimulStream

OK

Cancel

Restore Defaults

Restore Previous

Help

Source, Format, Closed Caption, Logo, Advanced Features, Configuration, SimulStream

These are the "Tabs" of the dialog that access different controls. Click on the tab to access that portion of the dialog. The contents of each tab are described in the following sections.

By default, the Format tab is only shown when you access the Format page directly from the application. This is to ensure maximum compatibility with Video for Windows applications. You can make the Format tab available from any other page by a button on the Configuration page, as explained below.

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 will be 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 will be 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.

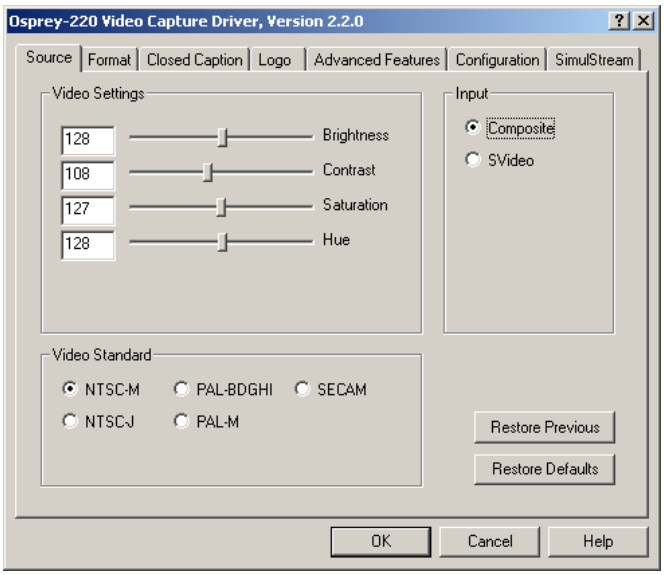
Restore Previous

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.

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

Input

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

If Preview or Overlay mode is enabled in your application, you will usually be able to 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 will not display correctly until you exit the dialog.

Video Standard

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

- NTSC-M – North America
- NTSC-J – Japan
- PAL-B, D, G, H, I – many countries in Europe and elsewhere. B, D, G, H, and I refer to five nearly identical subformats.
- PAL-M – Brazil
- PAL-N, NC – Argentina, Paraguay, Uruguay
- SECAM – France and some other countries

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 will automatically adjust 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.

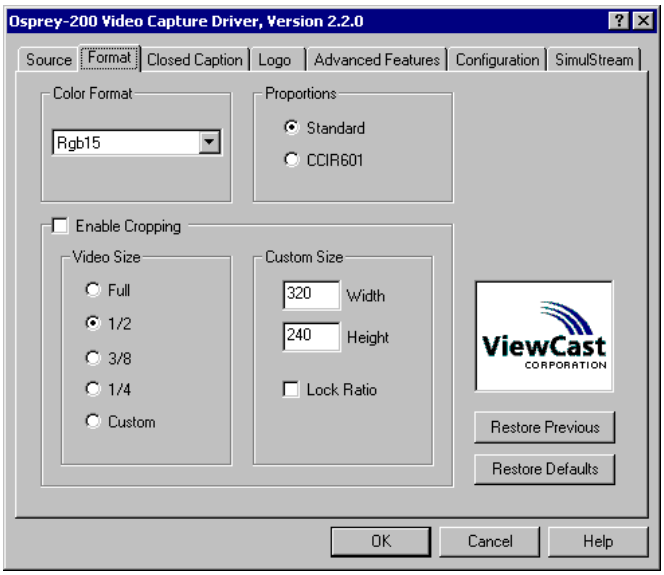
NOTE: When using these controls, be sure that the preview mode or overlay mode is enabled, so that you can immediately see the effects of your changes.

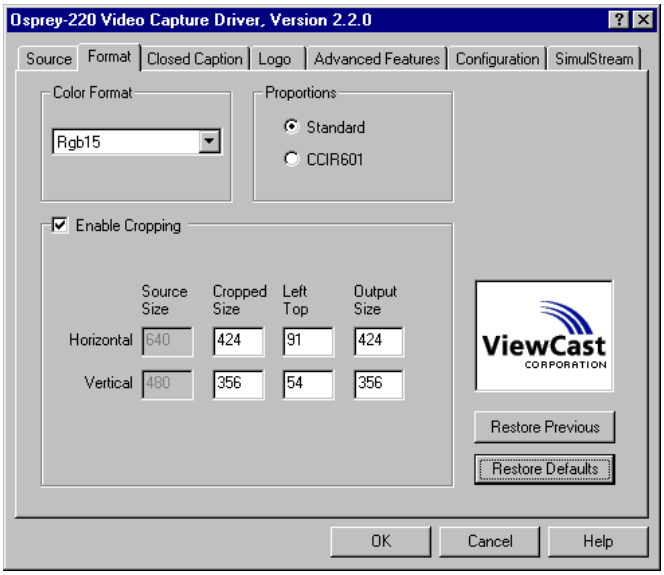
When a video source with PAL or SECAM signal format is used, the Hue setting is not adjustable and the Hue control is grayed out.

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

The Format Page

Two different versions of the Format Page display, depending on whether or not **Enable Cropping** is selected.





Use the Format page to set the color format and size of the image. See Cropping and Scaling for information on this feature.

Color Format

Video Size

Custom Size

Proportions (Pixel Aspect Ratio)

Cropping and Scaling (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 as 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 Capture 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 grayscale mode is selected. Overlay video is therefore as fast and efficient as possible, but the color rendering may differ very slightly from what you will 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	640x480	Full
1/2	320x240	CIF
3/8	240x180	Full
1/4	160x120	QCIF

The width and height shown are in pixels for the North American NTSC-M video format. 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, described below.

Custom Size

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

There is a checkbox marked **Fixed Ratio**. If this box is checked, when you enter a size in the height box, the width is automatically adjusted to maintain the normal screen proportions; and vice versa. If this box is unchecked, the height and width may be entered independently. If the dimensions are different from normal screen proportions, the image will be 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 will let you enter numbers that the hardware cannot utilize, but will adjust them as soon as you click on another field or button of the dialog.

Proportions (Pixel Aspect Ratio)

This dialog allows you to select between "Standard" and "CCIR601" proportions.

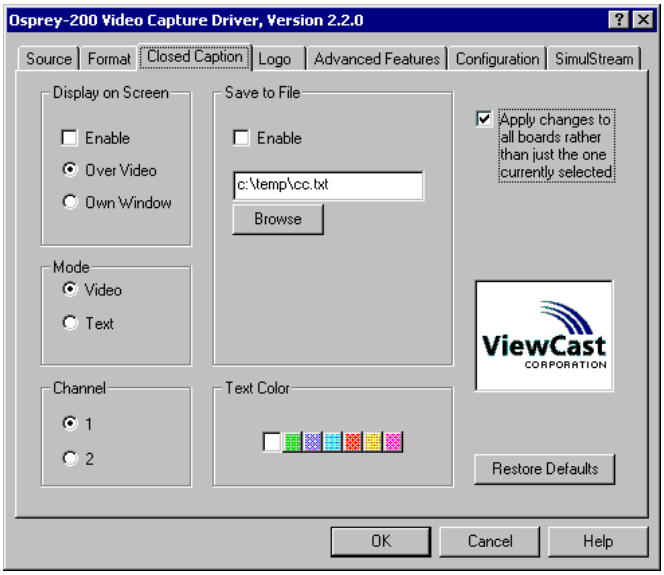
The Standard setting results delivers square pixels on a standard dedicated monitor that has a normal aspect ratio (ratio of height to width).

CCIR601 results in a full-screen line length of 720 pixels in both NTSC and PAL/SECAM modes. In the NTSC format, the video when viewed on a standard monitor will have narrower than square pixels. In PAL/SECAM format, it will have wider than square pixels. When viewed in a video window on your main screen, the pixels will be square, but the aspect ratio of the frame as a whole will be different from the standard – wider for NTSC, narrower for PAL/SECAM.

Cropping and Scaling

Please see **Cropping and Scaling** in this chapter and the CropApp Manual for detailed instructions on this feature.

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 Changes to all Boards

Closed Captioning is a method of encoding and displaying text such as movie dialog captions and 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 Video Capture Driver provides a complete implementation of the Closed Captioning standard, and also provides special extensions that are made possible by the special capabilities of a PC.

You can use Closed Captioning whenever you can meet the following conditions:

- You must be viewing a videotape, videodisk, or broadcast material that has Closed Captioning content. There will be a small "CC" logo on the packaging or in the program listing.
- Closed Captioning is for North American NTSC video only, not for PAL or SECAM video.
- Closed Captioning must be enabled in the Osprey driver, using the Closed Caption dialog page as explained below.
- **Video Mode**, and **Channel 1** must normally be selected, as explained below. 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 following special capabilities:

- You can save the text to file as you view it or capture it.
- If you are a software developer you can write a Video for Windows application that receives decoded Closed Captioning text from the Osprey driver and searches it or processes it in any way you see fit. Contact **mailto:support@ospreyvideo.com** for more information about this capability.

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.

If you check or uncheck the **Enable** checkbox while Overlay or Capture mode is in effect, the change will 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 will attempt to interpret regular video as Closed Captioning character codes, and may sometimes display spurious characters. It will also slightly increase 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 appears, 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:

- The **Enable** checkbox if checked enables saving to a file.
- The **Edit Box** allows you to type in the name of the file that you want to save the captions to.
- The **Browse...** button accesses a standard system dialog for searching for a directory and file to save to. When you choose a file that already exists (either by the **Browse...** button or by specifying it directly), new captions will be appended to whatever was previously in the file.

You can 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 can be saved 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 if you select **Channel 2** you won't see any Closed Captions with most material.

Text Color

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

Apply Changes to all Boards

If multiple boards are present, an additional option to **Apply changes to all boards rather than just the one currently selected** appears when closed captioning is enabled.

The Logo Page

The Osprey Video Capture Driver allows you to superimpose a logo on captured video, as in the illustrations below. The "VCST" logos shown illustrate some of the features for color keying and translucency that will be 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 VidCap32 or similar application. 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, for example, 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, will degrade overall performance in high-throughput applications.

The driver can draw a logo on captured or streaming video, on preview video, or on DibDraw overlays. It cannot, however draw a logo on DirectDraw overlays – if you attempt to do so, everything will work fine, except that the logo will not be 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 can be displayed 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 logos non-transparent pixels are averaged with the underlying video pixels, resulting in a more subtle effect.

Here are the detailed steps for setting up a logo:

Step 0 - Before You Start

Step 0 - Before You Start

Create your artwork with the Windows Paint accessory 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 Multimedia Capture\Nt** on the default drive.

Have Preview or DibDraw Overlay mode running when you enter the dialog. If you do so you will be able 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 you are currently using – go to the dialog's Configuration tab, then stop and restart Overlay mode.

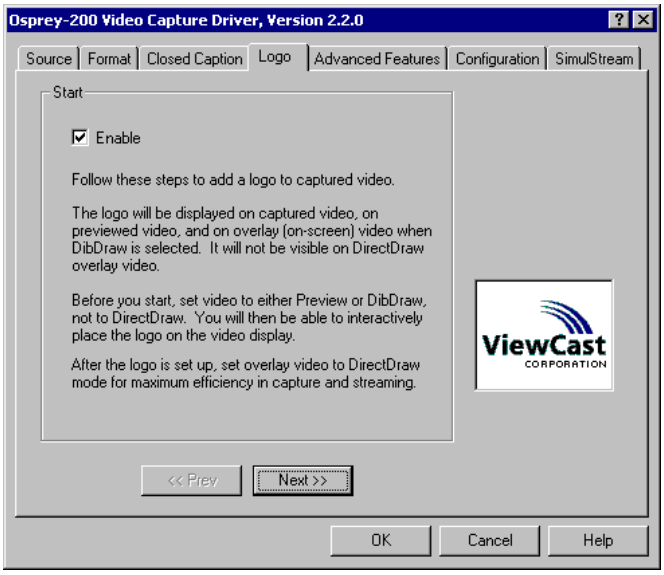
Step 1 - Creating and Enabling the Logo

Additional links:

The Logo Page

Capabilities

Step 1 - Creating and Enabling the Logo



As you can see, the logo setup pages include explanations at each step. Hopefully the details will be largely self-explanatory.

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 will be displayed. 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, when you click **Next>>** you will step through all of the pages of the setup sequence.

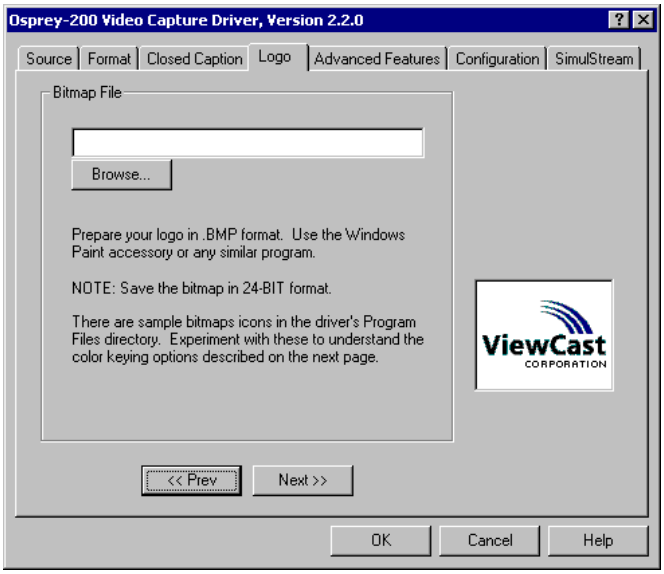
Step 2 - Selecting the Logo File

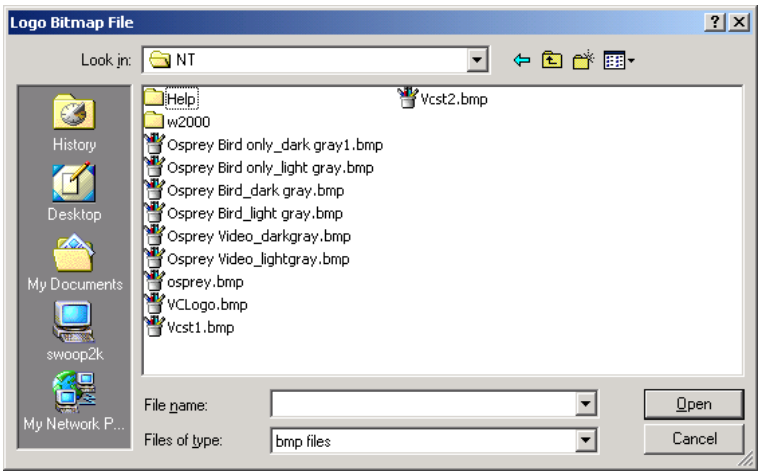
Additional links:

The Logo Page

Capabilities

Step 2 - Selecting the Logo File





This sheet should be nearly self-explanatory. You are selecting a .BMP file, either your own artwork or one of the samples. You can either 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 Multimedia Capture\Nt on the default drive.

Step 3 - Setting Key Color and Style

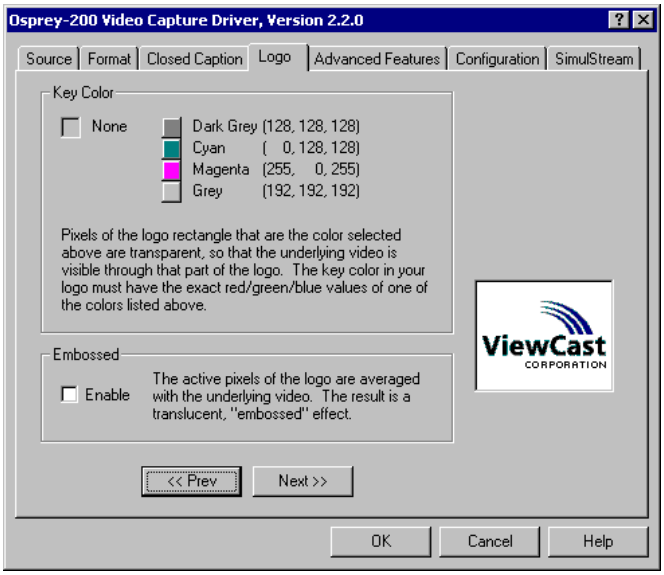
Additional links:

The Logo Page

Capabilities

Review Step 1

Step 3 - Setting Key Color and Style



As previously noted, a "key color" is a (red, green, blue) color value that the driver treats specially. Logo pixels in that color will not be displayed; instead the underlying video will appear. 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 will be displayed 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) will be not be transparent – it will display as cyan.

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

If the **Embossed** box is checked, each pixel color value displayed will be 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 will simply be the value from the logo.

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

Step 4 - Positioning the Logo

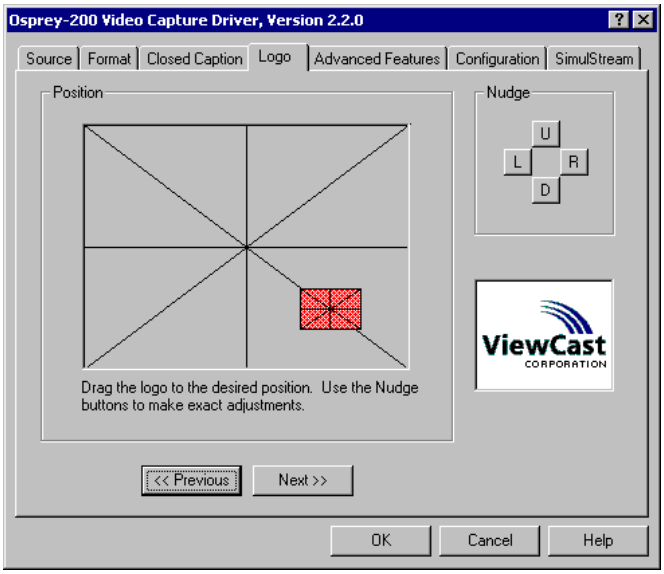
Additional links:

The Logo Page

Capabilities

Review Step 2

Step 4 - Positioning the Logo



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, you will see the logo move 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 will stretch the logo to maintain the same relative size, and will place it in the same relative position. The stretched artwork may have jagged diagonal edges and will 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

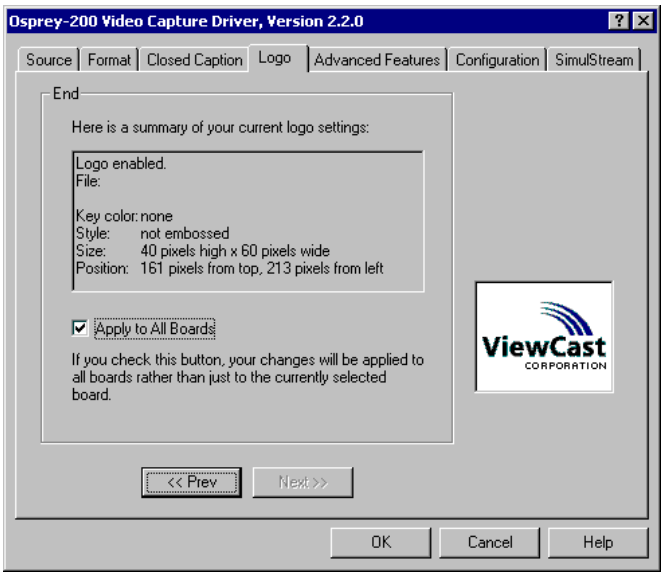
Review Step 3

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** appears, as illustrated in the following screen. If you check **Apply to all Boards**, the logo changes you make to the current board are made to all the boards in the system.

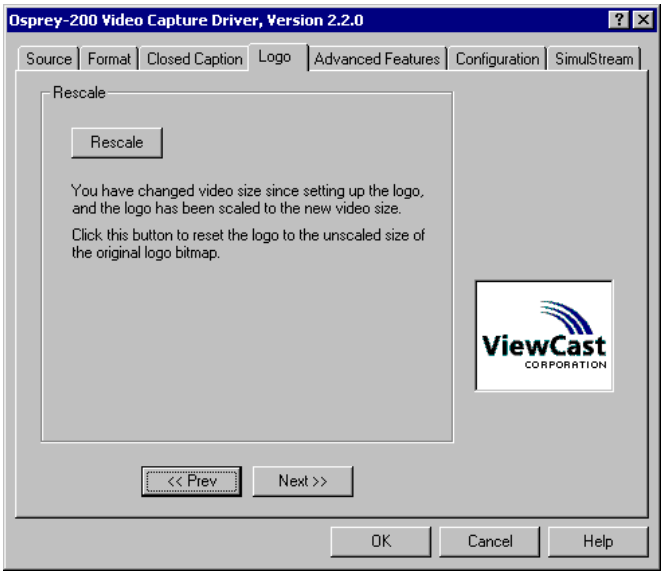
If you have multiple boards in the system and the only change you make is to enable or disable logos, clicking OK with Apply to All Boards checked changes the enable/disable status of all boards but doesn't change any of the other settings.

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 320x240 video, and you change to 640x480 video, the logo will now display at twice the size of the original bitmap.

1. If you edit the logo settings while the logo is scaled up or down,, you will see an additional option, **Rescale.** It will be the second page in the sequence, after **Enable**.



   If you click the **Rescale** button on this page, the logo will be 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 will be 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.

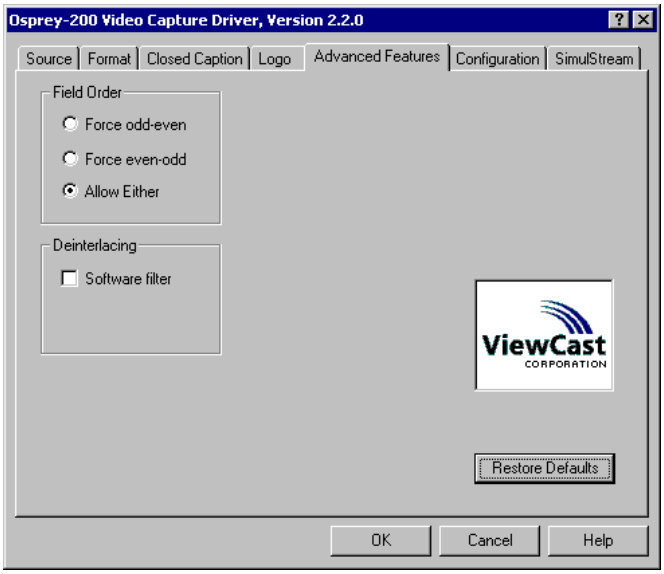
   Detail of colored features may not be as crisp, because in the YUV modes color is not sampled at full pixel resolution.

NOTE: 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.

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

Advanced Features

Select a link below the screen for more information.



Field Order

The De-Interlacing Motion Filter

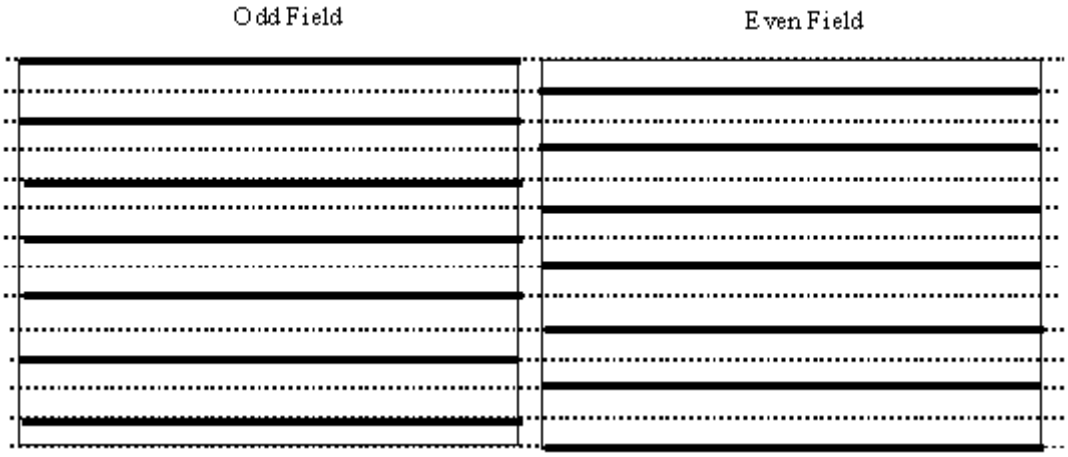
Field Order

The Osprey Video Capture Driver allows you to configure which pairing of fields will be used to construct a frame. For interlaced capture devices (most current video cameras) the field order does not matter and the 'Allow Either' setting will provide better performance in VFW preview mode. The default setting for this feature is 'Allow Either'. Use the force odd-even or force even-odd settings with a progressive scan camera. Consult your camera's technical documentation for the correct setting to use. Using the correct setting with a progressive scan camera will eliminate comb-like interlacing artifacts.

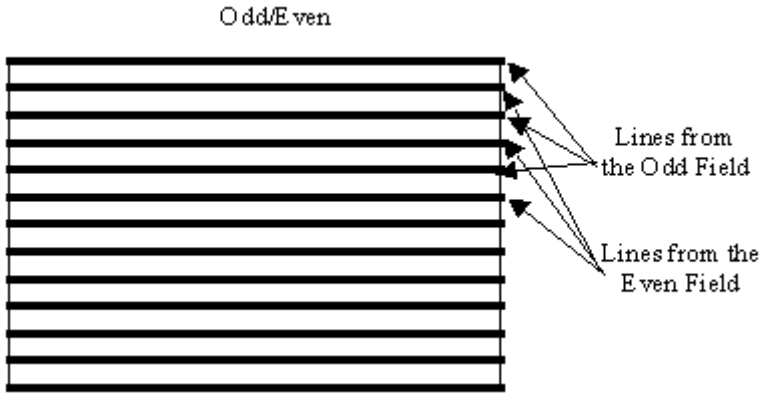
The De-Interlacing Motion Filter

The Osprey Video Capture Driver offers software de-interlacing. This is optimized for Windows 2000 and later; it consumes fractionally more CPU cycles when enabled under Windows NT. If you are using a progressive video source, do no turn on de-interlacing.

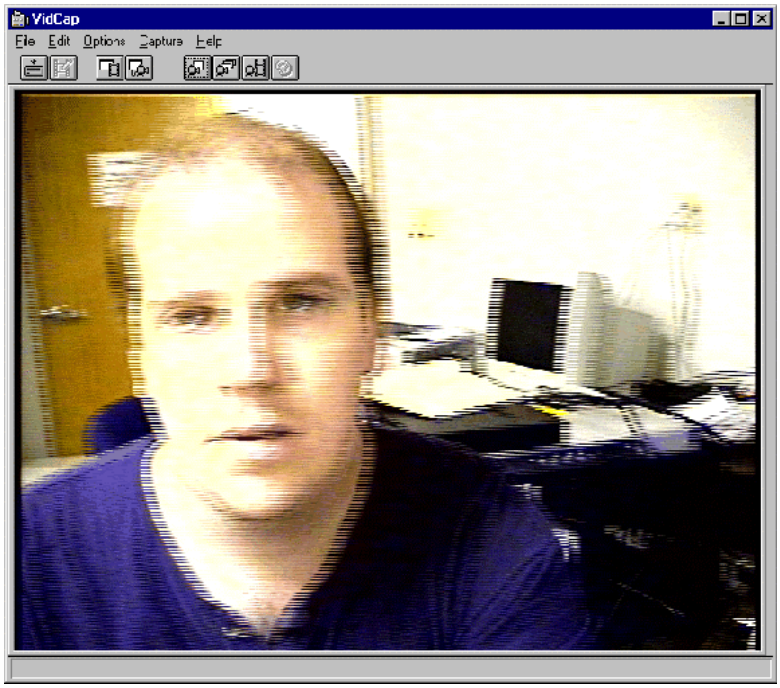
Most video is provided for viewing in an interlaced format. For simplicity, NTSC is used in the following explanation of an interlaced format. NTSC video is basically composed of images taken 60 times a second. Each image is called a field, and there are odd and even fields. While these odd and even 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:

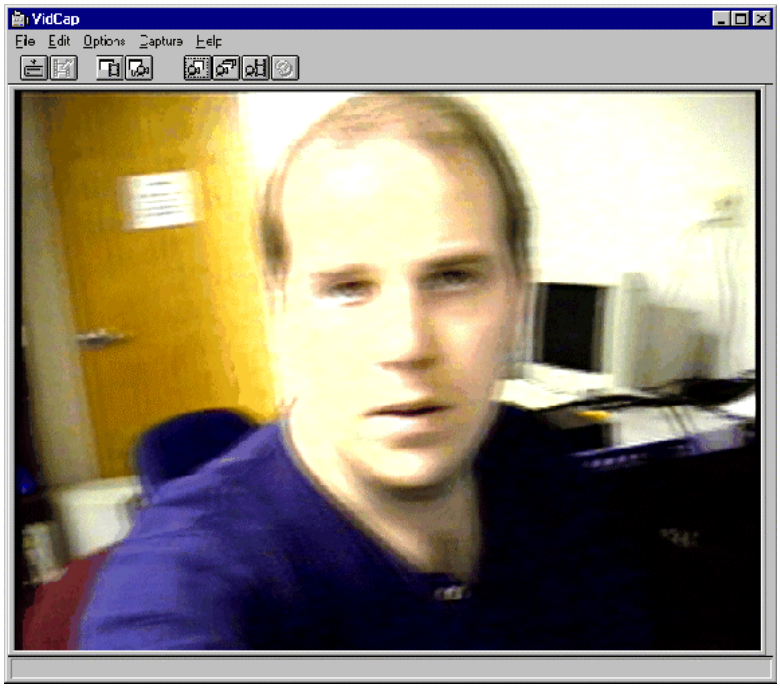


The problem with progressive display devices is that if an object is moving, its position is not the same in both the odd and even fields. When odd and even fields are merged together, interlaced artifacts occurs. The artifacts are seen and commonly described as streaking or feathering.



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.

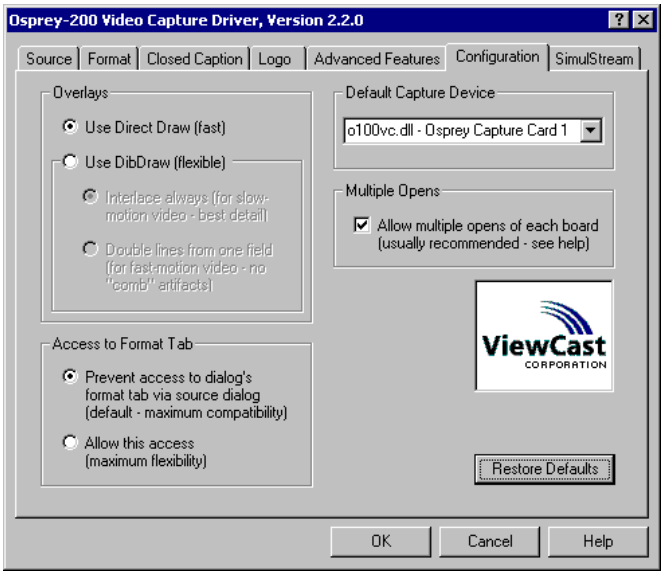
When feeding such images to an encoder, the encoder has a significantly harder time processing and compressing such interlaced video. The result is loss of overall quality and perhaps a loss of frame rate as well. While the encoding process may smooth out some of these artifacts, the resultant compressed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



The Osprey Video Capture Driver'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 Video Capture Driver'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 Configuration Page



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 use Direct Draw for Overlay drawing. If for some reason it cannot use Direct Draw, it will automatically fall back to the default drawing mode (known as "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, then 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 appears 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 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 will not 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 will work with many applications; however, the responsibility lies with you to make sure no problems arise.

Multiple Opens

We recommend that you keep the **Multiple Opens** box checked unless you have a particular reason not to. This will ensure 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. Multiple Opens should be checked when utilizing 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 some applications.

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

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

Default Capture Device

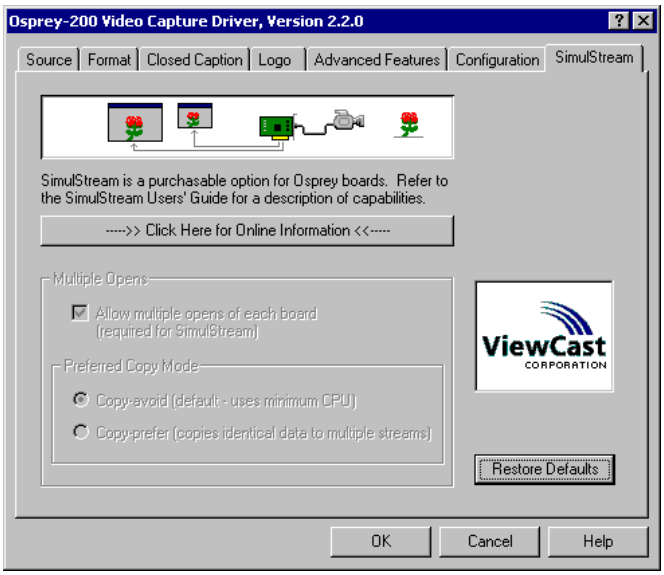
This control is useful if you have multiple video capture devices of different kinds. These could include cards from other vendors or different kinds of capture cards from Osprey. In this context, the Osprey-50, -100, -101, and -200 are considered one single device type.

Some applications are capable of accessing only the primary or default device. With this control you can select which device will be the default that such an application will use.

Changes you make are written to the registry when you click **OK** to close the dialog. Applications such as VidCap32 will 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 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 MultiMedia Capture Program group for details on using this feature.

Chapter 7 - Capturing Audio

The process of capturing audio is very similar for the Osprey-100/101 and the Osprey-200. For the Osprey-100/101, route your audio to the line or microphone input on your system sound card. For the Osprey-200, you can route your audio either to the system sound card or to the line inputs on the Osprey board. If you have multiple Osprey-200s, you can capture multiple streams of audio along with your video – something not possible with conventional sound cards.

Setup and control for audio are much simpler than for video. That's the good news. The bad news is that most applications handle audio setup in their own, non-standard ways. What we'll show here is mainly useful, therefore, for testing audio and as an example of what you will find. The methods shown work with the *Sound Recorder* applet included with Windows, and with *VidCap32*.

There are three basic steps:

- **Selecting the audio source**
- **Setting input volume**
- **Selecting the audio format**

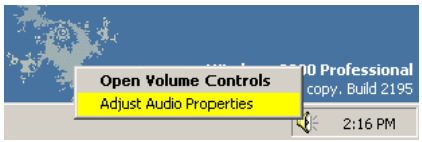
Also see **Audio Playback**.

Selecting the Audio Source

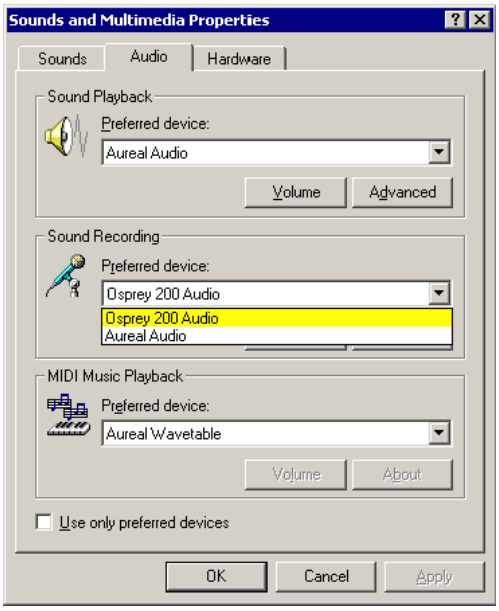
Audio source is set using a dialog in the Control Panel. There are two ways to get to this dialog:

- Windows 2000 and Windows NT - click the **Start** button on the Start Menu, select the **Control Panel**, click the **Sounds and Multimedia** icon, and select the **Audio** tab:

  Start -> Settings -> Control Panel -> Sounds and Multimedia ->Audio
- Windows XP - click **Start** and select **Control Panel**, then click **Sounds, Speech and Audio Devices**, then click **Sounds and Audio Devices** and select the **Audio tab**.
- Or, right click the speaker symbol on your **Start Menu**, select **Adjust Audio Properties**, and select the **Audio** tab:



Both these routes lead to the following system dialog:



If you have Osprey-200 card(s), you will see **Osprey-200 Audio** as one of the choices in the Sound Recording - Preferred Device drop-down box. The other choice you will usually see is your system sound card. The selection you make here will determine whether the audio you capture will be from your Osprey-200 card(s) or from your system sound card.

If you have two or more Osprey-200 cards, and have selected **Osprey-200 Audio**, you can capture multiple separate audio streams, one through each card. If you select sound card audio, audio for all streams comes from the sound card.

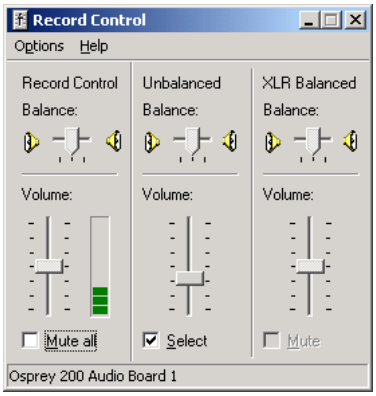
If you have Osprey-50, -100, or -101 card(s), you will not see the Osprey-200 choice, and you have to route audio through the sound card's line or microphone input.

With Sound Recorder, you can access this dialog via the menu entry **Edit -> Audio Properties**. Note, however, that a change to the audio source will not take effect until you restart the application.

Vidcap32 does not include a command to access this dialog from within the application.

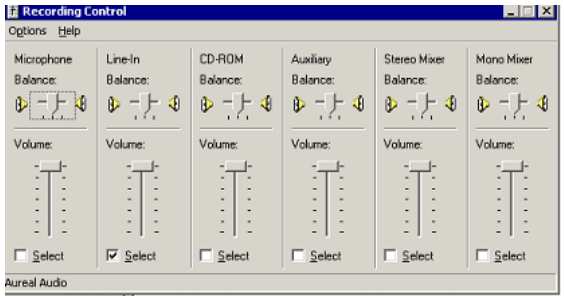
Setting Input Volume

Click the **Sound Recording Volume** button in the *Sounds and Multimedia Properties* dialog:



If you have selected **Osprey-200 Audio**, the Record Control screen will pop up. The volume and mute controls are operative for the Osprey-200; the balance control is not used.

If you have selected your system sound card audio rather than Osprey-200 audio, you will see a display that resembles the following:



Note the checkboxes at the bottom that select which source is actually being used. Typically, you would select either the line input or the microphone input. The balance controls as well as volume controls are operative with the system sound card.

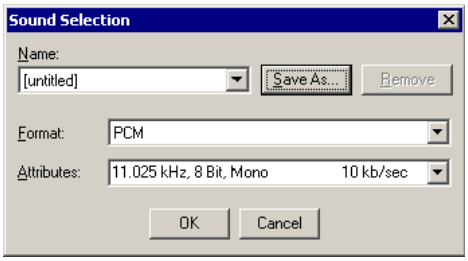
It is recommended that you move the input volume slider to maximum volume when using the Osprey-200 as the audio device.

NOTE: The quick-access volume control on the Start Menu controls playback volume, not recording volume.

Setting Sound Format

Sound format is selected from inside the multimedia application you are using. There is a standard system Sound Selection dialog box that some applications use, including VidCap32 and Sound Recorder. The means of selecting it will vary from application to application. For VidCap32, select the menu entry **Options -> Audio Format...**. For Sound Recorder, select the menu entry **File -> Properties**. In the Properties for Sound dialog that comes up, click the button **Convert Now**.

The Sound Selection dialog box you see will look like this:



The only **Format** that the Osprey Audio Capture Driver supports is PCM. The driver supports the following data rates in the **Attributes** list:

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

These data rates are supported in 8-bit and 16-bit, mono and stereo formats. The driver does not support the 48kHz format.

These options range from telephone-quality mono up to CD-quality stereo. The corresponding data rates and storage requirements range from 7 to 172 kilobytes per second. In general, you will want to use the most compact format that provides sufficient sound quality for your application.

Audio Playback

The Osprey-200 provides audio capture only, not audio playback. Continue to play back captured audio using your system soundcard.

Chapter 8 - VidCap32, AmCap, Control Panel, Cropping & Scaling and Indeo

VidCap32

AmCap

DirectX Media Details

Control Panel

Cropping and Scaling

Ligos Technology Indeo

VidCap32

VidCap32 is a video capture application that is included with the Osprey package. It is useful for testing the installation, for general purpose viewing of video, and for capturing video to file.

The following instructions take you through the basic scenarios for using this applet. VidCap32 has additional capabilities and settings that are beyond the scope of a brief introduction. They are described in the applet's online help.

Preview

Overlay

Configuring the Video Capture Driver

Compression

Setting the Capture File - Preallocating and Defragmenting

Capturing Video

Playback

Preview

The **Preview** button (third button from the left on the toolbar) toggles preview on and off. When preview is enabled, the video you see is updated constantly. What you see has the exact format and appearance that uncompressed video captured to file will have. If you are using a software compressor to compress the video before writing it to file, the compressor's output will be slightly different.

Overlay

The **Overlay** button (fourth 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 will use the fastest and most efficient drawing method it can. Normally, with Direct Draw enabled and working, it will draw 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 will be 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.

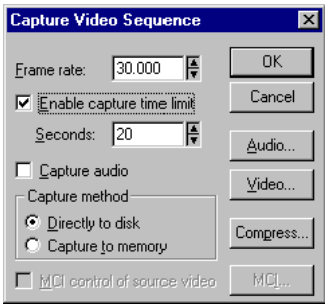
After the disk is defragmented, return to AmCap or VidCap32. The files you preallocated will now be located on contiguous areas of the hard drive. Their physical layout will remain the same until the file is resized or deleted.

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 will have an ongoing need to capture high-quality video, particularly uncompressed video. Be sure to plan the number and size of files you will 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.

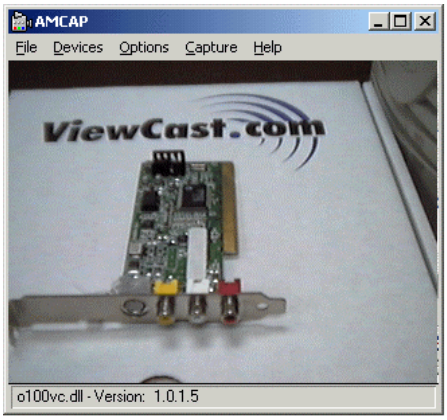
For best quality video capture, use a capture rate (frames per second) that is slow enough so that there are no dropped frames.

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 will start Windows Media Player, which will automatically play 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.

AmCap



AmCap is a video capture application that is included with the Osprey package. It is useful for testing the installation, for general purpose viewing of video, and for capturing video to file. AmCap differs from the other general purpose capture application, VidCap32, that is included with the Osprey package in that:

- AmCap can handle captured file sizes that exceed the 2 GB limit that VidCap32 has.
- AmCap is written using the DirectShow API, and VidCap32 is written using the VFW API. Another application that uses DirectShow is Windows Media Encoder.
- AmCap does not support software compression modules.
- AmCap's Preview mode is equivalent to VidCap32's Overlay mode. AmCap does not have an equivalent to VidCap32's Preview mode.

AmCap requires the DirectX Media runtime version 6.0 or later in order to run. This runtime is included on this CD, and can be installed by the Osprey installation program. More information about DirectX Media is available at **DirectX Media Details**.

The following instructions take you through the basic scenarios for using this applet. AmCap has additional capabilities and settings that are beyond the scope of a brief introduction. They are described in the applet's online help.

Selecting the AmCap Device

AmCap Preview

Configuring the Video Capture Driver in AmCap

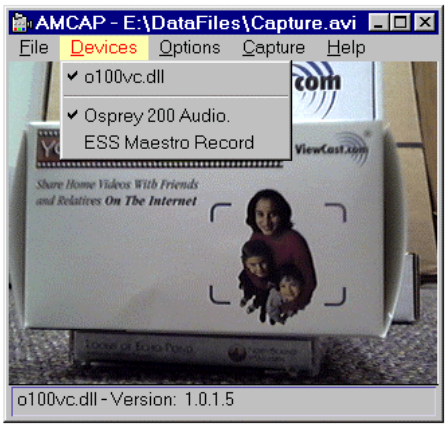
Setting the Capture File - Preallocating and Defragmenting

Capturing Video

Playback

DirectX Media Details

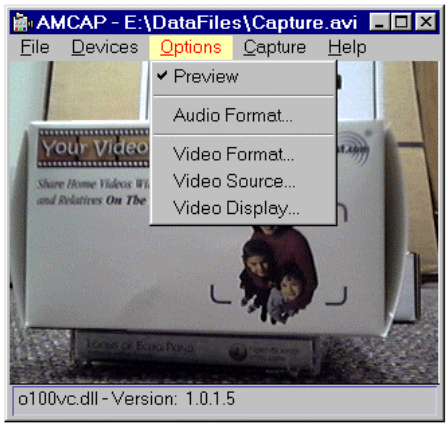
Selecting the AmCap Device



AmCap requires selecting the input device(s) before you can preview or capture video. Use menu item **Devices** to show a dropdown list of the audio and video capture devices present. The video device portion of Osprey-100/200 family cards will appear as **o100vc.dll - Osprey Capture Card 1** in the list. The audio device on the Osprey-200 will appear as **Osprey 200 Audio** in the same list. If you have multiple Osprey cards present, you can select the audio device from this list. Please go to **The Format Page** for instructions on selecting among multiple video sources.

Multiple board installations are a specialized subject, and are discussed in the section entitled **Appendix F: MultiBoard Installations**.

AmCap Preview



When you first start AmCap, there is nothing in the video field display. You must enable Preview mode by clicking on the menu item **Options** -> **Preview**. When preview is enabled, the video you see is updated constantly. What you see is a close approximation to the appearance that uncompressed video captured to file will have. However, preview video is optimized for fast screen drawing rather than the exact capture format, possibly resulting in slight differences in the appearance of the video.

Configuring the Video Capture Driver in AmCap

You can go through AmCap 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.

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 95/98 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.

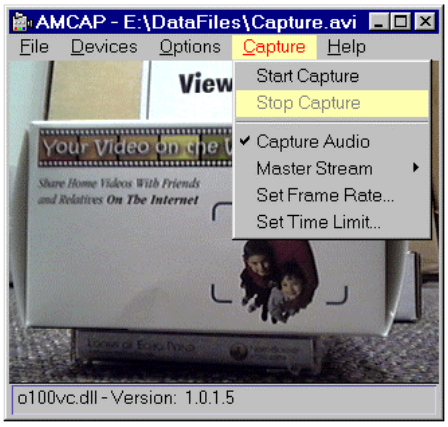
NOTE: Defragment *after* you allocate and size the capture files.

After the disk is defragmented, return to AmCap or VidCap32. The files you preallocated will now be located on contiguous areas of the hard drive. Their physical layout will remain the same until the file is resized or deleted.

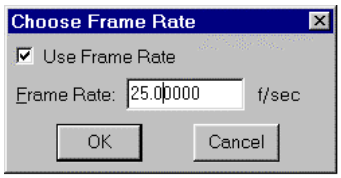
An alternate technique that avoids the need for defragmenting is to set up a separate disk partition dedicated to video capture, containing a single capture file.

Defragmenting is a time-consuming procedure, but is worth the trouble if you will have an ongoing need to capture high-quality video, particularly uncompressed video. Be sure to plan the number and size of files you will 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 with AmCap

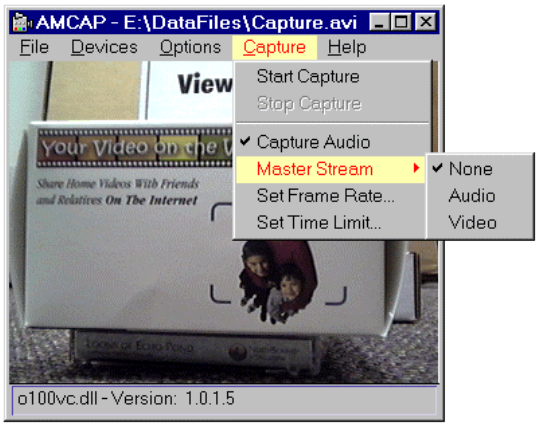


AmCap requires setting a few options before starting Video Capture. First, set the Frame Rate by selecting menu item **Capture -> Set Frame Rate...**

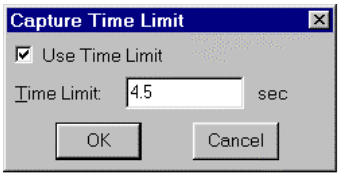


For best quality video capture, use a capture rate (frames per second) that is slow enough so that there are no dropped frames.

If you are capturing audio, then use menu item **Capture -> Capture Audio** to turn on the checkmark for audio capture.



Set the master stream for audio/video synchronization by using the control dialog brought up by **Capture -> Master Stream** to select whether Audio, Video, or none is the master stream for synchronization.



You can optionally set a time limit on this capture through the **Capture -> Set Time Limit...** dialog.

Once the proper configuration is confirmed, click **Capture -> Start Capture** menu item, then click **OK** on the confirmation dialog to start your capture. If you did not set a time limit, use the menu item **Capture -> Stop Capture** or press the **Esc** button to end your capture.

Playback

The simplest way to play back a video clip is to find its icon in "My Computer" and double-click on it. This will start Windows Media Player, which will automatically play 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.

DirectX Media 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 and Windows XP

By default, Windows 2000 and Windows XP install different versions of DirectX®. The default DirectX® version for each of these operating systems includes the appropriate version of DirectX® Media, so, unlike Windows NT, the user does not need to separately install Microsoft's DirectX® Media layer.

The Osprey-100, 101, and 200 have been tested with DirectX® versions 7 and 8.0 under Windows 2000. The Osprey-100, 101, and 200 have been tested with DirectX® 8.1 under Windows XP.

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:

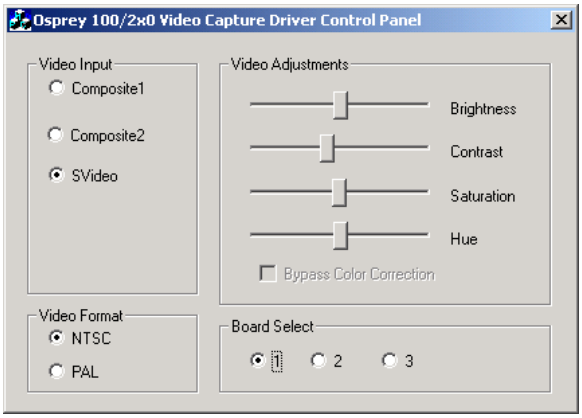
http://www.microsoft.com/directx/homeuser/downloads/default.asp

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.

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

Video Format

Video Adjustments

Board Select

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 5), 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.

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 MultiMedia Capture Program 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 Multimedia Capture Driver CDs starting with Osprey version 1.50. Refer to **Installing Ligos Technology's Indeo** in Chapter 3 for detailed installation instructions. 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:

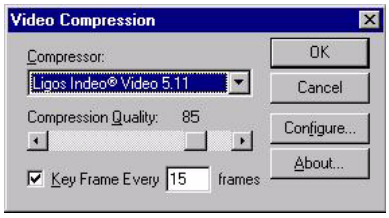
http://www.ligos.com/indeo/downloads/

The file to download currently is **iv5setup.exe**. You need a version that will compress video as well as decompress 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.

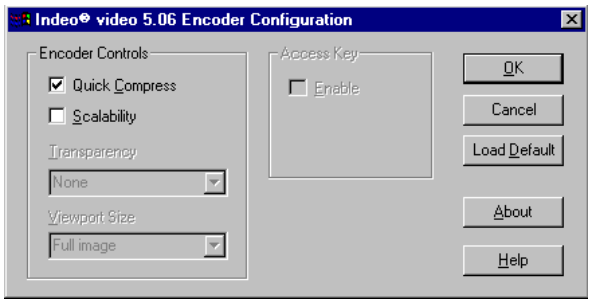
Use the following steps to demo Indeo with the Osprey card:

1. Connect and adjust your video source. Start **VidCap32**.
2. 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**.
3. Use the **Options->Compression**... menu entry to bring up the compression dialog. In the Compressor: field, select **Indeo video 5.11**.



4. 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 will be *much* slower. Click **OK** again to close the Video Compression dialog box.



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

Chapter 9 - Troubleshooting

Blue Video Screen

Black Preview Video Screen

Scrambled Video Image

Grainy, Dithered Image

Slow Overlay Drawing

Problems using Direct Draw

Poor Video Quality at Large Frame Sizes

Wrong Capture Driver Being Accessed

Unwanted Closed Caption Text

Interrupt Conflicts

Cannot Play Back Audio Recorded by the Osprey-200 card

Multiple Horizontal Lines Across Video Image

Video Control Dialog Windows are Empty under WinNT

Blue Video Screen

The currently selected video input is not receiving an active video signal.

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

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 VidCap32's "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 compressor 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 Ligos Technology's Indeo compressor (available on Ligos Technology's web site – see Chapter 7 for notes and download instructions) you will be able to preview and capture YVU9 format.

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. First, make sure you know what signal format your video source is generating. Then, 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. You can determine (and if necessary adjust) the display depth from the field titled **Color Palette** under the **Settings** tab of the **Control Panel ... Display**.

Slow Overlay Drawing

You should be able to obtain 30 frame 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 (480x320 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. The section **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.

If you leave Closed Captioning enabled and view non-Closed Caption video, the Osprey video capture driver will attempt to interpret the first line of each field of video as Closed Caption character codes. Some video may appear sufficiently similar to Closed Caption data that the software thinks it is Closed Caption text. The result will be 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** in Chapter 6.

PAL video sources do not contain closed captions.

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 be 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 Osprey driver finds out the IRQ configuration for its card or cards from Windows NT, and it cannot change this configuration. You can, however, 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 will cause 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, it is probably time for you to email us or call our technical support line. We have a diagnostic tool that may be helpful.

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 hence 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 will not appear 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.

Cannot Play Back Audio Recorded by the Osprey-200 Card

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.
- Verify that the selected playback device is your sound card, and not the Osprey-200 Placeholder device. The Placeholder device exists in order to handle the situation where there is an Osprey-200 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**.

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 Video Capture card cannot eliminate these video artifacts. These artifacts will only be present when you are using a copy-protected source, such as a high-quality DVD for testing a card.

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 Multimedia 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.

Format	Description
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 grayscale levels.
4:2:2 packed	Also known as YUY2. This modes represent 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. See below.

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 but 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 – namely, two. However, 4:2:2 is more efficient than RGB15 because it stores relatively more of the intensity information that the human eye is most sensitive to.

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

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, PAL-NC, and SECAM.

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	640x480	720x480	768x576	720x576
1/2 (CIF)	320x240	360x240	384x288	360x288
3/8	240x180	270x180	288x216	270x216
1/4 (QCIF)	160x120	180x120	192x144	180x144

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

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

If you already have a video capture driver installed in your system, the Osprey installation software gives you the option of installing the Osprey driver as your primary video capture driver. A dialog box giving you a choice comes up near the end of the installation sequence.

If you install it as your primary video capture driver, it will automatically connect to Video for Windows applications as the default driver. If you install it as a secondary or auxiliary video capture driver, it will not be accessible to Video for Windows programs and utilities that lack a control for selecting a specific capture driver; your other driver, however, will remain 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 will attempt to use it for overlays. If it cannot (e.g. the display driver does not support Direct Draw) then it will fall back to the default drawing method, 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:

- You have to enable Direct Draw by checking the Enable button on the Control Dialog's Configuration page.
- Your video display card must support Direct Draw.
- 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 in all cases support Direct Draw. You can obtain the most recent version from your video card manufacturer's FTP site.
- You must be using a video format other than Grey8. The Osprey driver does not support Direct Draw of grayscale video.

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 will flicker when either the video capture window or an overlapping menu or window is moved. When DibDraw is being used, there will be no flicker.

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 will be just a few percent when Direct Draw is running. If DibDraw is running, CPU utilization will be substantial, especially if the image is large.

Appendix F - Multiboard Installations

The multiboard capability of the Osprey Video 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 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 will have to experiment to determine which physical board is Board 1. Also, the numbering under Windows 2000 and Windows XP may differ from the numbering under Windows NT 4.0.

Every time the system is rebooted, the Osprey Video Capture drivers enumerate the boards in the system and make unique video capture entries for each board. If the **Multiple Opens** box is not checked to allow multiple opens of each board on **The Configuration Page** of the Osprey Video Capture Driver's Control Dialog, a default 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 (the recommended method), only entries for specific cards are created.

The Recommended Multiboard Selection Approach

The recommended method is to check the **Multiple Opens** box on **The Configuration Page** of the Osprey Video Capture Control Dialog. Not checking this box results in the generation of only individual names as video capture device entries. For example, the following msvideo entries appear for two Osprey Video Capture devices in the system:

o100vc.dll - Osprey Capture Card 1
o100vc.dll - Osprey Capture Card 2

These "Card 1/Card 2" names should be used when opening an Osprey-100 or 200. In the event that you see a "Card Default" entry (see The Legacy Multiboard Selection Approach below), this entry is for legacy applications that did not allow for specific device selection. When using the device specific (numbering) approach to open the device and bring up the video driver's Control Dialog, the correct board is automatically selected in the Board Select field box.

The Legacy Multiboard Selection Approach

The non-recommended method is not to check the **Multiple Opens** box on the Configuration Page of the Osprey Video Capture Control Dialog. Checking this box results in the generation of individual device names, as well as a Card Default name, as video capture device entries. For example, the following msvideo entries appear for two Osprey-200 devices in the system:

o100vc.dll - Osprey-100 Card Default
o100vc.dll - Osprey Capture Card 1
o100vc.dll - Osprey Capture 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 Board Select field of the Control Dialog. 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 opening any page of the video driver's Control Dialogs with a board select field, selecting the board that you want, and clicking **OK**.

If you have a mixture of Osprey-200 and Osprey-100 boards installed, then situations can exist where a particular board is addressed as "Board 2" for the video driver, and "Osprey-200 Audio board 1" for the audio driver. When mixing audio/video and video-only boards, it is prudent to verify how the boards are numbered by your operating system before you begin capture.

Multiple boards may be accessed according to three main scenarios:

- *Multiple processes accessing multiple boards:* Start two standard applications - or two copies of one application - such as VidCap32. The first copy will come up connected to the default board and will start normally. The second copy will automatically hunt 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-100 Software Developers' Kit (SDK). This kit allows you to override the default board order to access any board at any time.

It is recommended that developers of multiple board applications obtain our Video for Windows developers' kit, described in **Appendix H**. Please inquire at **mailto:support@viewcast.com** for more information.

Note for Osprey-50 users: Whereas the Osprey-100, -101, and -200 have full support for multiple boards in the system, the Osprey-50 is primarily a single-board-per-computer product. It is possible, however, to use one Osprey-50 in the same system with one or more of the other Osprey cards.

Appendix G - Files and Registry Usage

The following are the files that are written and registry entries that are set when the Osprey drivers are installed. This information will allow a technically proficient user to remove the Osprey 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** or **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:

   o100vc.dll
   o2ca_mix.dll
   o2ca_usr.dll
   o2ca_wav.dll
   o200board.dll
   SimulKey2.dll
   otiyuv.dll
3. In the main Windows NT..\System32\drivers directory, these files can be removed:

   o100drv.sys
   o2ca.sys
4. The Osprey Capture Driver directory, its subdirectories, and its files can be removed. Typically this directory is \Program Files\Osprey Multimedia Capture on the default drive. The installation procedure puts the following files in that directory:

   amcap.exe
   CropApp.exe
   xctlapp.exe
   osprey.ico
   Osprey-200 Special Offers.url
   SimulStreaming_Users_Guide.pdf
   VidCap32.exe
   VidCap.hlp
   license.txt
   Driver directory

5. The installation program also creates a directory called NT within the Osprey MultiMedia Capture install directory which contains the following files:

   CroppingManual.pdf
   files DelsL*.isu
   Osprey Bird only_dark gray 1.bmp
   Osprey Bird only_light gray.bmp
   Osprey Bird_dark gray.bmp
   Osprey Bird_light gray.cmp
   Osprey Video_darkgray.bmp
   Osprey Video_lightgray.bmp
   Osprey100-200_Manual.pdf
   Osprey210-220_Manual.pdf
   ReadMe.txt
   VCST1.bmp
   VCST2.bmp
   VCLogo.bmp
   SimulStreamEval.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. The descriptive text "Osprey Capture Card 1" may be different; there can be "Osprey Default Card" present, and the numerals on the capture cards may be different.

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

  "wave1"="o2ca_wav.dll"
  "mixer1"="o2ca_mix.dll"
  "msvideo1"="o100vc.dll - Osprey Capture Card 1"

- HKEY_CURRENT_USER\Software\Microsoft\Windows NT\CurrentVersion\Drivers32\vidc.i420
- HKEY_CURRENT_USER\Software\Microsoft\Windows NT\CurrentVersion\Drivers32\vidc.yuy2
- HKEY_CURRENT_USER\Software\Osprey\Osprey100
- HKEY_CURRENT_USER\Software\Osprey\Osprey200
- HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows NT\CurrentVersion\drivers.desc entries:

  "o100vc.dll"="Osprey Video Capture Driver"
  "o2ca_wav.dll"="Osprey Audio Wave Driver"
  "o2ca_mix.dll"="Osprey Audio Mixer Driver"

- HKEY_LOCAL_MACHINE\SOFTWARE\Osprey\Osprey100
- HKEY_LOCAL_MACHINE\SOFTWARE\Osprey\Osprey200
- HKEY_LOCAL_MACHINE\SOFTWARE\ViewCast Corporation / Osprey Video Division\Osprey MultiMedia Capture
- HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Uninstall\Osprey MultiMedia Capture

- HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\o100drv
- HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\o2ca
- HKEY_USERS\.DEFAULT\Software\Osprey\Osprey100

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 "
2. In the main Windows 2000 (XP) ..\System32 directory, these files can be removed:

   o100vc.dll
   o2ca_mix.dll
   o2ca_usr.dll
   o2ca_wav.dll
   o200board.dll
   OtiPnp.dll
   SimulKey2.dll
   otiyuv.dll
3. In the main Windows 2000 (XP) ..\System32\drivers directory, these files can be removed:

   o100drv.sys
   o2ca.sys
4. The Osprey MultiMedia Capture install driver directory, its subdirectories, and its files can be removed. Typically, this directory is \Program Files\Osprey MultiMedia Capture on the default drive. The installation procedure puts the following files in that directory:

   amcap.exe
   CropApp.exe
   xctlapp.exe
   o100drv.inf
   osprey.ico
   Osprey-200 Special Offers.url
   SimulStreaming_Users_Guide.pdf
   Vidcap.hlp
   Vidcap32.exe
   license.txt
   Driver directory

5. The installation program also creates a directory called NT within the Osprey MultiMedia Capture install directory which contains the following files:

   CroppingManual.pdf
   files DeIs*.isu
   Osprey Bird only_dark gray1.bmp
   Osprey Bird only_light gray.bmp
   Osprey Bird dark_gray.bmp
   Osprey Bird_light gray.bmp
   Osprey Video_darkgray.bmp
   Osprey Video_lightgray.bmp
   Osprey100-200_Manual.pdf
   Osprey 210-220_Manual.pdf
   ReadMe.txt
   VCST1.bmp
   VCST2.bmp
   VCLogo.bmp
   SimulStreamEval.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. The descriptive text "Osprey Capture Card 1" may be different; there can be "Osprey Default Card" present, and the numerals on the capture cards may be different.

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

  "wave1"="o2ca_wav.dll"
  "mixer1"="o2ca_mix.dll"
  "msvideo1"="o100vc.dll - Osprey Capture Card 1"

- HKEY_CURRENT_USER\Software\Microsoft\Windows NT\CurrentVersion\Drivers32\vidc.i420
- HKEY_CURRENT_USER\Software\Microsoft\Windows NT\CurrentVersion\Drivers32\vidc.yuy2
- HKEY_CURRENT_USER\Software\Osprey\Osprey100
- HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows NT\CurrentVersion\drivers.desc entries:

"o100vc.dll"="Osprey Video Capture Driver"
"o2ca_usr.dll"="Osprey Audio Driver"
"o2ca_wav.dll"="Osprey Audio Wave Driver"
"o2ca_mix.dll"="Osprey Audio Mixer Driver"

- HKEY_LOCAL_MACHINE\SOFTWARE\Osprey\Osprey100
- HKEY_LOCAL_MACHINE\SOFTWARE\Osprey\Osprey200
- HKEY_LOCAL_MACHINE\SOFTWARE\ViewCast Corporation/ Osprey Video Division\Osprey MultiMedia Capture
- HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Uninstall\Osprey MultiMedia Capture
- HKEY_LOCAL_MACHINE\SYSTEM\ControlSet001\Control\MediaResources\msvideo\!default entry: "Driver" = "o100vc.dll - Osprey Capture Card 1"
- HKEY_LOCAL_MACHINE\SYSTEM\ControlSet002\Control\MediaResources\msvideo\!default entry: "Driver" = "o100vc.dll - Osprey Capture Card 1"
- HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\MediaResources\msvideo\!default entry: "Driver" = "o100vc.dll - Osprey Capture Card 1
- HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\o2ca
- HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\o100drv
- HKEY_USERS\.DEFAULT\Software\Osprey\Osprey100

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

Appendix H - Developer Support

The Osprey Technologies group has a software developers' kit (SDK) to assist development of specialized Video for Windows applications. The kit 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 on-video logos - see Chapter 5, The Logo Page.
- An API for capture of raw Vertical Blanking Interval (VBI) data.
- Direct access to the Bt878 registers.
- An API for Controlling cropping parameters - see the CropApp Manual.
- An example Audio Mixer program.
- Please inquire at **mailto:support@ospreyvideo.com** for further information.

Appendix I - The Audio Cfg Applet

The Audio Settings applet has been removed from the release. Please see **Registry Settings Controlled by the Audio Cfg Applet** for information on how to change the Rate Conversion Selection and Gain Selection.

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\Osprey200\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

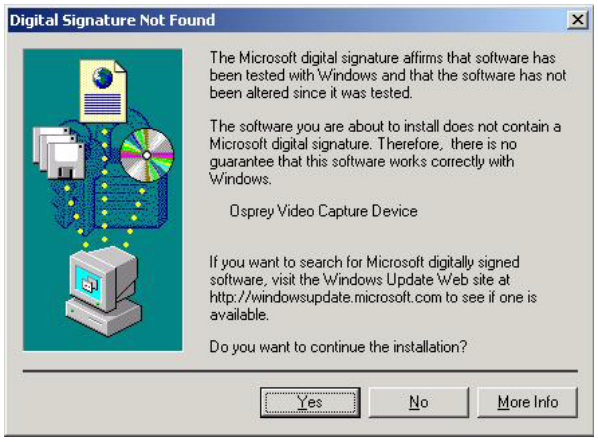
- HKEY_CURRENT_USER\SOFTWARE\Osprey\Osprey200\DeviceX\Audio\Gain

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

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

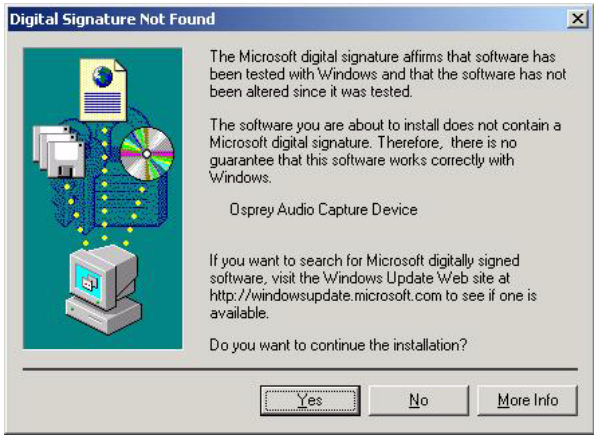
Under Windows 2000 and Windows XP, when the Osprey MultiMedia Capture driver has been installed and another Osprey board is put into a slot that has not previously contained a board, the following sequence is initiated. This can happen because an Osprey board has been moved to a different PCI slot or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

The New Hardware Wizard runs and displays the Found New Hardware window followed by the Digital Signature Not Found window. Skip to step 5 for post-WHQL driver.



1. Click **Yes**.

   The Multimedia Controller installing window (not shown) displays, and the text inside this window changes to "Osprey Video Capture Device, Installing ..." . Then the Digital Signature Not Found window appears on top of it.



2. Click **Yes**.
   The Completing the Found New Hardware window displays.
3. Click **Finish**.
   The Digital Signature Not Found window displays.
4. This window displays once for each Osprey board you are installing.
   The Systems Setting Change window displays.
5. Click **Yes** to restart the computer.

You must restart your computer to complete the installation. Do not attempt to use your Osprey card until after restarting the system.