

Video for Windows 1.0 - Release Notes



Double click for playback.

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Distributing the Microsoft Video Runtime

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Your license agreement for Microsoft Video for Windows allows you to create AVI sequences and distribute them along with the Media Player so that others can view those sequences. The Drivers disk of your package contains the software necessary to setup another user's machine to play AVI sequences.

Terms

Microsoft grants to you the right to reproduce and distribute the runtime modules of the SOFTWARE provided that you: (a) distribute the runtime modules only in conjunction with and as a part of an application program or data file, and not as part of any operating system or utility program, or on a standalone basis; (b) do not use Microsoft's name, logo, or trademarks in any marketing or advertising; (c) include a valid copyright notice on your product; and (d) agree to indemnify, hold harmless, and defend Microsoft and its suppliers from and against any claims or lawsuits, including attorneys' fees, that arise or result from the use or distribution of your product which

incorporates the runtime modules. The "runtime modules" are those files in the SOFTWARE so identified in the written materials accompanying the SOFTWARE. If required in the SOFTWARE documentation, you agree to display the designated patent notices on the packaging and in the README file of your product. The license in this section to distribute the runtime modules is royalty-free provided that your application program or data file incorporating the runtime modules is created for operation on the Microsoft(R) Windows(TM), Windows NT (TM), or Modular Windows (TM) operating systems. Please contact Microsoft for the applicable licensing terms for all other uses of the runtime modules.

Files

The specific files covered by the license agreement appear below:
This is the complete list of all files required by the Video for Windows runtime setup.

Filename	Setup Directory
-----	-----
dispdib.dll	WINDOWS\SYSTEM
indeo.drv	WINDOWS\SYSTEM
mciavi.drv	WINDOWS\SYSTEM
mciole.dll	WINDOWS
mplayer.exe	WINDOWS
mplayer.hlp	WINDOWS
mplayer.reg	WINDOWS
msvidc.drv	WINDOWS\SYSTEM
msvideo.dll	WINDOWS\SYSTEM
profdisp.exe	n/a

To create a distribution disk:

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1. Copy all files in the \RUNTIME directory on the Microsoft Video for Windows Drivers disk to another floppy disk. Use either the MS-DOS copy command or copy the files from within Windows using the File Manager.
 2. You can now provide this distribution disk to whomever you want. They install the Microsoft Video Runtime by running the setup program included on the disk.
 3. If you want to include an AVI sequence, you must either include it on your distribution disk or provide another disk for this file.

To set up the Microsoft Video Runtime:

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1. Insert the distribution disk into your PC's floppy drive.
 2. From within Windows Program Manager, choose the Run command from the File menu.
 3. From the Run dialog, enter your drive letter followed by the word SETUP. For example, if the distribution disk is in drive A:, then you would type

A:\SETUP

4. Choose OK.

This installs the Microsoft Video Runtime and updates the Media Player accessory. You can now play AVI sequences with the updated Media Player.

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General Information for Installing Video Capture Devices
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Video capture devices are cards which capture and digitize video signals. A number of cards are available which support the ISA, EISA, and Micro Channel buses.

While the design and capabilities of each card is unique, all utilize system resources such as Input Output (I/O) ports, interrupts, and extended memory space. The major challenge when installing video capture devices is to find and use resources which are not already allocated by other devices. Utilities such as MSD.EXE, provided with Windows 3.1, can be used to locate unused interrupts and I/O ports.

When installing a capture card, a good strategy to follow is to first get the card functional with vendor supplied utilities. These utilities usually provide a test suite which verify correct installation and hardware functionality. These utilities may also create initialization files which the driver uses to determine I/O port settings and interrupts.

Many of the capture devices map the capture frame buffer into system memory address space. Typically these devices will require one or two Mb of free memory somewhere in the one to 16 Mb ISA address space. This requirement prevents you from installing more than 14 Mb of system memory on most systems.

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Truevision TARGA+16 Videographics Adapter Driver
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The Truevision TARGA+16 Videographics driver supports 8-bit palettized, RGB16 and RGB24 capture formats. You may use a secondary monitor with this board to preview video, but overlay of the video onto the main Windows display is not supported.

Installation

1. The TARGA+16 is an enhanced version of the original (also called "classic") TARGA16. The provided driver uses capabilities found only on the TARGA+16 version, and is not compatible with the original TARGA.

The TARGA+16 Video Capture board is available in a variety of configurations. The following table lists the

versions supported by this version of the driver:

Model #s	Memory	Video Standard
T+16	0.5 Mb	NTSC
T+16P	1.0 Mb	PAL
T+16/32	1.0 Mb	NTSC
T+16/32P	2.0 Mb	PAL
T+64	2.0 Mb	NTSC

2. Set the switches on the TARGA+16 according to the following tables in which:

0 = "Up" = "On"
1 = "Down" = "Off"

Switch 1 is used to set the Base I/O address port.

SW1-1	SW1-2	SW1-3	Base Address
0	0	0	0x200
0	0	1	0x210
0	1	0	0x220 (Default)
0	1	1	0x230
1	0	0	0x240
1	0	1	0x250
1	1	0	0x260
1	1	1	0x270

SW1-4 must be set to 0 ("Up").

SW1-5 must be set to 0 ("Up").

Switch 3 is used to set the Interrupt request (IRQ).

One (and only one) of switches SW3-1 to SW3-4 must be in the 0 ("Up") position.

SW3-1 IRQ3
SW3-2 IRQ7
SW3-3 IRQ10
SW3-4 IRQ15

SW3-5 "Up" on ISA bus systems,
"Down" on EISA bus systems.

3. Do NOT install the Windows display driver for the TARGA+16. Continue to use your existing Windows display device.
4. Do NOT install the feature connector cable between the TARGA+16 and your VGA/SVGA display card. The driver does not support the use of overlay with the TARGA+16.
5. Vidcap does not require installation of the MS-DOS device driver TARGAP.SYS. It also does not require that you run any configuration utility such as TMODE.EXE prior to starting Vidcap.

6. Use the Control Panel Drivers option to add the TARGA+16 driver from the Video for Windows Drivers disk. Use the "Setup..." button to select the version of the TARGA+16, configure the interrupt, base memory address, and base port address for your board. After the installation is complete, your SYSTEM.INI file should contain the entry:

```
[Drivers]
msvideo=targa16.drv
```

7. If VidCap is unable to access the TARGA+16 board at startup, it will display an error message. Check the I/O address and interrupt settings from the Control Panel Drivers option and confirm they agree with jumper settings on the board.
8. The TARGA+16 contains 2 Mb of memory. The starting address of this memory is located in the range between 1 Mb and 14 Mb. The base address of this block is selected in the Control Panel Drivers option and must be ABOVE all physical extended memory.

THIS MEANS THAT YOU MAY ONLY HAVE 14 MB OF MEMORY IN YOUR SYSTEM!

If you already have 16 Mb in your system, you have the following options:

- a. Physically remove SIMMs.
- b. Change switch settings on the motherboard or memory card to disable some of the system memory. If you are using 4 Mb SIMMs, you may be able to set switches on your motherboard to use these as 1 Mb SIMMs.
- c. If you have an EISA class PC, your EISA configuration utility may allow you to remap your memory to allow the frame buffer to reside anywhere within your 15Mb boundary.

For technical support of Truevision products, contact:

Truevision
7340 Shadeland Station
Indianapolis, IN 46256-3925
317-841-0332

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Truevision Bravado Video Capture Driver
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The Truevision Bravado Video Capture driver supports 8-bit palettized, RGB16, and RGB24 capture formats. This board is a combination ET4000 based Super VGA and frame grabber with overlay capabilities. The Windows display can operate at a maximum resolution of 800x600.

Installation

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1. Install the Bravado following the Installation Guide provided by Truevision. Set switches on the card using the tables which follow. Then verify that the installation was successful using the Truevision supplied Windows application "BRAVADO.EXE". Note that the Bravado includes a built-in VGA controller so you must remove any existing VGA card from your system.
 2. Set the switches on the Bravado according to the following tables in which:

0 = "Up" = "On"
 1 = "Down" = "Off"

Switch 1 is used to set the Base I/O address port.

SW1-1	SW1-2	SW1-3	Base Address
0	0	0	0x204
1	0	0	0x214
0	1	0	0x224 (Default)
1	1	0	0x234
0	0	1	0x304
1	0	1	0x314
0	1	1	0x3A4
1	1	1	Invalid

SW1-4 controls 8-bit ("Up") or 16-bit ("Down") PC bus data transfers. Follow the instructions in the Bravado Installation Guide when setting this switch.

Vertical Blanking Interrupt

H1 must be set to connect Pin A and Pin B. This enables video vertical blanking interrupts on IRQ9.

3. Verify that the Truevision supplied file "VW.DLL" is present in your WINDOWS\SYSTEM subdirectory.
4. Use the Control Panel Drivers option to add the Bravado driver from the AVI Drivers disk. Use the "Setup..." button to configure the base memory address. After the installation is complete, your SYSTEM.INI file should contain the entry:


```
[Drivers]
msvideo=bravado.drv
```
5. Do NOT use the analog audio channel inputs to the Bravado. These channels are not capable of digitizing sound, so you must have some other wave audio device to capture sound.
6. The Bravado contains 1 Mb of memory. The starting address of this memory is located in the range between 1 Mb and 15 Mb. The base address of this block is selected in

the Control Panel Drivers option and must be ABOVE all physical extended memory.

THIS MEANS THAT YOU MAY ONLY HAVE 15 MB OF MEMORY IN YOUR SYSTEM!

If you already have 16 Mb in your system, you have the following options:

- a. Physically remove SIMMs.
- b. Change switch settings on the motherboard or memory card to disable some of the system memory. If you are using 4 Mb SIMMs, you may be able to set switches on your motherboard to use these as 1 Mb SIMMs.
- c. If you have an EISA class PC, your EISA configuration utility may allow you to remap your memory to allow the frame buffer to reside anywhere within your 15Mb boundary.

For technical support of Truevision products, contact:

Truevision
7340 Shadeland Station
Indianapolis, IN 46256-3925
317-841-0332

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Creative Labs Video Blaster Driver
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The Creative Labs Video Blaster driver supports 8-bit palettized, RGB16, and RGB24 capture formats. This board supports overlay at 640x480 resolution and does not include a built-in SVGA. If using the overlay capability, your display adaptor must have a VGA Feature Connector. Some VGA cards do not have this connector available.

Installation

1. Install the VideoBlaster following the Installation Guide provided by Creative Labs. Use The Creative Labs supplied utility "VBWSETUP.EXE" to align the overlay window position. Verify correct operation of the hardware using the Creative Labs supplied Windows application "VIDEOKIT.EXE".
2. Verify that the Creative Labs supplied file "PCVIDEO.DLL" is present in your \WINDOWS\SYSTEM subdirectory. Some early Beta versions of this DLL may require updating if the message "Dynamlink error" appears when VidCap is started.
3. Use the Control Panel Drivers option to add the VideoBlaster driver from the Microsoft Video for Windows Drivers disk. Use the "Setup..." button to configure the base memory address and interrupt. After the installation is complete, your SYSTEM.INI file should contain the entry:

[Drivers]

msvideo=vblaster.drv

4. Do NOT use the analog audio channel inputs to the VideoBlaster. These channels are not capable of digitizing sound, so you must have some other wave audio device to capture sound.
5. The VideoBlaster contains 1 Mb of memory. The starting address of this memory is located in the range between 1 Mb and 15 Mb. The base address of this block is selected in the Control Panel Drivers option and must be ABOVE all physical extended memory.

THIS MEANS THAT YOU MAY ONLY HAVE 15 MB OF MEMORY IN YOUR SYSTEM!

If you already have 16 Mb in your system, you have the following options:

- a. Physically remove SIMMs.
 - b. Change switch settings on the motherboard or memory card to disable some of the memory. If you are using 4 Mb SIMMs, you may be able to set switches on your motherboard to use these as 1 Mb SIMMs.
6. In VidCap, if the image is cropped when capturing 640x480 images, use the Creative Labs supplied utility "VBWSETUP.EXE" and adjust the cropping height to 480.

For technical support of Creative Labs products, call 408-428-6622.

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Intel Indeo(TM) Video Driver
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Intel's Indeo(TM) Video technology provides access to a wide range of scalable compression and decompression capabilities. Intel's Indeo(TM) Video technology provides software-only compression and decompression for Intel i386(TM) or Intel i486(TM) Microprocessors. In addition, Intel's Indeo(TM) Video technology provides access to a family of i750(R) video processor based products for hardware acceleration of playback and/or capture and compression.

Intel's Indeo(TM) Video Technology provides a scalable video format that uses sophisticated compression techniques to achieve very high compression while preserving color and detail in the compressed data. For instance, a 160x120, 24-bit RGB color, 30 frames per second (fps) video stream contains 1.65 Mb/second of video data. Each frame contains 57,600 bytes of information. Indeo(TM) Video compresses this stream to about 4K - 5K bytes per frame while preserving 24-bit color information in the compressed video. This allows Indeo(TM) Video to make the most advantageous use of display hardware in the playback environment.

Software-only decompression allows video to be displayed on systems with no additional video hardware beyond the standard VGA controller and Intel i386(TM) or Intel i486(TM) Microprocessor.

Software-only compression allows editing of video and off-line compression of

video into the Indeo(TM) Video format. To capture video, it is recommended that your system have at least 8Mb of memory.

The Indeo(TM) Video technology provides 15 frames per second 160x120 playback on Intel i386(TM) 80386DX-33 systems, and up to 24 frames per second 160x120 playback on Intel i486(TM) 80486DX-33 systems with no hardware acceleration.

Optional hardware acceleration products based upon Intel's i750(R) video processor, such as ActionMedia(R) II, or RTVideo Developers Board provide accelerated capture, compression, and playback functions.

Accelerated capture and compression allows Indeo(TM) Video to be written directly to AVI files and manipulated completely in compressed format. This saves disk space and allows real-time capture of video data at up to 30 frames per second.

Accelerated playback allows Indeo(TM) Video to be played at up to 30 frames per second at arbitrary window sizes. Accelerated playback also provides true-color full-screen display for Indeo(TM) Video files. This hardware acceleration can provide 30 frames per second (full-motion), true-color video on Intel i386(TM) SX and SL class (or better) machines.

Installation, Setup and Configuration

Indeo(TM) Video is installed for software only compression and decompression when Microsoft Video for Windows is installed. No further setup is required for software only operation.

Updated drivers for i750(R) video processor based hardware accelerators are provided with the hardware products. When optional acceleration hardware is installed use the Drivers, Setup, option in the Control Panel to install, remove, or configure Indeo(TM) drivers.

Playback

Whenever Microsoft Video for Windows encounters an AVI file containing Indeo(TM) Video, the file is played using the currently installed Indeo(TM) Video device. If the device provides hardware assisted playback, then certain advanced features such as 30 frames per second full screen playback may become available. If no hardware device is available to accelerate Indeo(TM) Video, the file is played using the software codec.

Editing and off-line Compression

When in VIDEDIT, the user may compress any video stream using the off-line software Indeo(TM) Video compressor. This compressor may be used to compress raw frames captured from any video source.

Using EXTRACT and the No Change option with Indeo(TM) Video

Please note that Indeo(TM) Video is already compressed and should generally be saved with the "No Change" Video Format to avoid compressing it again.

If you CUT or COPY a video sequence to the clipboard and subsequently PASTE the sequence into a new copy of VidEdit, you will not be given the "No Change" option when saving. To "CUT" a segment from an Indeo(TM) Video file and save it with "No Change", set "Compression Format" to "No Change" and use "FILE",

"EXTRACT" to save the current selection.

Using Intel ActionMedia(R) II and i750(R) Video Processor Capture/Compress Devices

The following notes are for users of the Intel ActionMedia(R) and other i750(R) video processor based devices.

Please see additional documentation delivered with the hardware product for further information. In general, such information will supersede information presented here.

Video Format Dialog Box Options in VidCap

When Indeo(TM) Video is captured, the "Video Format" dialog is used to select Image Dimensions, Image Format, Key Frame Interval, and Video Quality Settings.

Image Dimensions

This release supports 160 x 120 image dimensions.

Image Format

This release supports Indeo(TM) Video format. Indeo(TM) Video provides a compressed video format supporting scalable playback on a wide variety of display devices from 8-bit 256-color displays to 24-bit true-color displays.

Indeo Quality Settings

"Lower" quality levels increase the amount of compression that can be done on a file because the compression algorithm ignores low-contrast image information. "High" quality levels look better, but are not as tightly compressed because low-contrast image information is retained.

Key Frames

When editing video, you must always begin an edit on a Key Frame. When playing video, Microsoft Video for Windows will skip to key frame boundaries whenever frames must be skipped in a video sequence. Since Key Frames are generally larger than difference frames there is a tradeoff between file size (or data rate) and the Key Frame interval. Generally, Key Frames should be placed at intervals of approximately 1/2 the frame rate. Thus, for 30 fps sequences Key Frames should be 15 and for 15 fps sequences Key Frames should be 8. These values may be increased to lower the video data rate or decreased to improve image quality. (NOTE: If the data file is not captured at 30fps initially, the file will not scale to higher than the initial capture frame rate regardless of additional acceleration hardware being present in the system).

If Key Frames is set to 1, every frame is a Key Frame and no difference frames are generated. If Key Frames is set to 0, the first frame is a Key Frame and all subsequent frames are difference frames.

SCSI Bus Mastering Disk Controllers

On some machines with SCSI bus-mastering controllers and using

Windows SMARTDRIVE, you may experience a slow-down in disk speed which may affect your ability to capture at the specified frame rate. This can usually be resolved by tuning certain SMARTDRIVE parameters, such as removing /DOUBLE_BUFFER and by adjusting WINDOWS parameters in the SYSTEM.INI such as VirtualHDIrq. Having too high a setting for BUFFERS in CONFIG.SYS will also slow performance with SMARTDRIVE. A value below 10 is OK. See the Windows 3.1 User's Manual for advice on tuning your system's disk drive performance.

Full Screen MS-DOS Boxes

Do not enter a full screen MS-DOS box when using VidCap or while video is playing using the ActionMedia(R) II board. Doing so may cause the ActionMedia(R) II board to become unstable as the video card changes its synchronization signal, causing the display to acquire a green tint or lose synchronization. If this occurs, reboot your machine.

Entering a windowed MS-DOS box when using VidCap or when playing video on the ActionMedia(R) II board does not exhibit this problem.

Frame rates > 30 frames per second

Audio/Video synchronization is not supported at frame rates above 30 frames per second (FPS).

Hardware installation using ActionMedia(R) II

If you have an ActionMedia(R) II board or an Intel RTVideo Developer's Board, you must restart Windows after installing Indeo(TM) Video for the new software to take effect.

Odd Sized Images

Images should be multiples of 16 pixels horizontally, and 8 pixels vertically. Odd sized images will be truncated to the above boundaries, but will otherwise be compressible and displayable.

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New Media Graphics Driver

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This release includes a Video Capture driver that works with the Microsoft Video for Windows software.

The Super Video Windows board is installed through INSTALL.EXE, supplied by New Media Graphics. Once you've run this program another accessory, VCONFIG.EXE, is used to configure and adjust the colors for the board. Use the other supplied accessory, VDEV.EXE, to check the installation.

After you've run these accessories to install the board, use the Control Panel Drivers applet to install the Super Video Windows Video Capture driver included on this disk. Select Add - "Unlisted or Updated driver" to install the correct driver. There is one driver,

compatible with all versions of Super VideoWindows and TV-VideoWindows.

Once the driver is installed, you may use the AVI capture program VidCap to capture frames, sequences of frames, or capture video in real time.

If you have an older SVW-ISA card, you may not be able to use the real time video capture feature of the VidCap program. See below.

After installation and setup is complete, you may want to check to see that NMGSVW.DLL and NMGSVW.INI are both in your \WINDOWS\SYSTEM directory.

NOTE: The Super Video Windows board uses INT 10 only. If you want to change the I/O port address for the card, you must use the Control Panel Driver's option, the VCONFIG.EXE utility, and then reboot the machine.

If you have any problems or questions about the SVW capture driver, please call the New Media Graphics technical support department at (508) 663-0666.

All cards:

In order to use the AVI Video Sequence capture feature, you must enable the interrupt jumper on the board. The number and location of the jumper varies from board to board. Refer to the board specific directions below. Use an unused jumper block from the I/O address selection jumper to enable the interrupt.

SVW-ISA, SVW-CM

The interrupt jumper is labeled JP18, and is located above and to the left of the edge fingers on the bottom of the card, when looking at the top of the board.

NOTE: Some older revisions of the Super Video Windows board may not support interrupts. These boards are marked REV 2A, REV 2B, or REV 2E. They can capture single frames, but can not capture a sequence of frames in real time.

SVW SL, TV-Video Windows

The interrupt jumper is labeled JP13, and is located above the shorter row of the card edge fingers when looking at the top of the board.

New Media Graphics
780 Boston Road
Billerica, MA 01821-5925

Phone: (508) 663-0666
FAX: (508) 663-6678

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Drivers and Microsoft Video for Windows
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Accompanying the Microsoft (R) Video for Windows (TM) product are certain display and audio driver software programs created by the manufacturers of such hardware. Please note that such driver programs are not part of the Microsoft (R) Video for Windows product. Microsoft makes no warranties or claims regarding the quality, stability or performance characteristics of the driver programs, which are included AS IS WITHOUT WARRANTIES, INCLUDING THE WARRANTY OF MERCHANTABILITY. The included driver programs are the latest releases available to Microsoft, and are included for your convenience only. Should you experience any difficulties with the driver programs, please contact the manufacturer of the display or audio device you are using with your computer system to inquire about obtaining a more recent version.

The DRIVERS directory of the Video for Windows CD-ROM contains the latest releases of the following audio drivers:

Creative Labs Sound Blaster Pro
Creative Labs Sound Blaster Pro 2

MediaVision Pro AudioSpectrum (Orig)
MediaVision Pro AudioSpectrum Plus
MediaVision Pro AudioSpectrum 16

The Mediavision drivers for the Pro AudioSpectrum Plus and 16 require the mvsound.sys file to be copied to the c:\dev directory and an entry to be added to c:\config.sys. Edit config.sys to reflect

```
device=c:\dev\mvsound.sys /d:[dma_channel] /q:[irq]
```

where dma_channel is the direct memory access channel used and irq is the interrupt used when setting up the board.

and the following display driver:

S3 640x480 32K colors

To install an audio driver, use the Drivers option in the Windows Control Panel, select Add Unknown, and select the root directory of the Video for Windows CD-ROM.

To install a display driver, use Windows Setup.

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Final Notes
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1. Switching between greater than 236-color palettes and other palettes can cause the colors shown by MCI.AVI.DRV in an AVI sequence to look wrong.
2. This release does not work with the Notebook accessory that comes with Windows for Pen Computing.

3. Current 16-bit color drivers may have performance problems because they do not yet directly support 16-bit DIBs and must translate from 24-bit.
4. During a Save as... operation, the VidEdit caption will not change to the new file name until the save operation is completed.
5. In the Media Browser, the Options button is inactive for the FunStuff category. This is because the files in FunStuff aren't available to copy legally.
6. From the VidEdit application, when you play a sequence from the Synchronize dialog with Play Duration settings other than 0, you may notice some slight synchronization problems at the very beginning of the playback sequence.
7. If you experience problems playing videos on a Mediavision audio board you should contact their technical support department to get an updated driver.
8. When using VidCap to save captured video sequences for the first time, make sure you include the .AVI file extension to the filename.
9. If you capture a video sequence and discover that it doesn't include any audio in the audio stream (look in the status bar), you may have a hardware conflict between your video capture board and your audio board. Double check the hardware settings for both boards to ensure no conflicts exist.
10. You may see a "profiling display" message after you install or after changing the display driver. This is normal. The system is determining the fastest method to talk to your display driver.
11. Before you can add the Creative Sound Blaster Pro Wave and MIDI driver, you must add the Creative Sound Blaster Pro Auxiliary Audio driver first. If you fail to do so, an error dialog will appear.
12. If you have PASTEd multiple video sequences of different compression formats into a file, do not use the EXTRACT command with the "Compression Format" set to "No Change". This action would create an invalid file.
13. VidCap requires plenty of memory when capturing. Make sure to close all unnecessary applications before running VidCap. In particular, don't run VidEdit and load AVI files into memory when using VidCap for capture.
14. You must install the MediaVision Pro Audio drivers in the following order: First the MediaVision mixer driver, then the MediaVision Pro16 Wave/MIDI/Aux.
15. In some cases, AVI files compressed with the Indeo compressor may load a bit slowly.
16. There is a problem with large audio files and millisecond mode in Waveedit. Please use sample mode when editing files.