

3DFusion DVD/DVA

With Mpact 2 Media Processor

Installation Guide

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Thank you for choosing 3Dfusion™ DVD/DVA with Mpack™ 2 Media Processor. The 3Dfusion™ DVD/DVA running with Mpack™ Mediaware98 provides fully integrated multimedia adapter featuring powerful 2D/3D graphics acceleration with VGA support, and the highest quality, high speed DVD playback supporting MPEG-1, MPEG-2, AVI, CDI, and AC-3 Audio (and PC Audio for DVA).

Your purchase includes Software Dynamics' Entertainment Center, a software application that turns your computer into an entertainment station.

System Requirements

Motherboard : IBM PC/ AT compatible computer
Processor: **Windows 95** Pentium® based CPU with MMX
166MHz or higher
Windows 98 Pentium® based CPU with MMX
200MHz or higher
RAM: Minimum 32MB
OS: Windows® 95 OSR2 or Windows® 98
Bus: Open PCI Version 2.1 or higher / AGP
CD-ROM: DVD-ROM Drive
Disk Space: 70MB or more free disk space

Mediaware98 B4324 Feature List

BIOS

- ◆ Automatic HW detection to allow a single BIOS for all 3DVD/3DVA hardware

Graphics

- ◆ High-performance 3D/2D graphics with 35-stage 3D pipeline and 500 MFLOP set-up engine
- ◆ 1.3GB/sec high-bandwidth RAMBUS memory subsystem, supporting up to 8MB of RDRAM
- ◆ 100% DirectX 5.0 complete feature support for Direct3D and DirectDraw
- ◆ 128-level command FIFO
- ◆ 32-bit wide memory-mapped registers
- ◆ PCI version 2.1 compliant bus controller, with full bus mastering and scatter/gather support
- ◆ AGP bus controller (PCI 66)
- ◆ DDC1 and DDC2B+ support for PnP monitors

- ◆ Power management to support VESA DPMS and SPA Energy Star

DVD

- ◆ Full DVD standard support for MPEG-2 video and Dolby Digital audio
- ◆ Full screen DVD resolution playback (720 x 480 pixels) in NTSC and PAL
- ◆ Integrated scaler for arbitrary up and down-scaling with consistent quality
- ◆ Advanced de-interlacing for crisp PC monitor display of interlaced video content
- ◆ Chromabright™ real-time digital brightness control
- ◆ Chromajust™ real-time digital adjustment of gamma, color, tint, and contrast
- ◆ Patented AVSync™ real-time audio/video synchronization
- ◆ Full support for SPA MCI DVD-ROM recommendations
- ◆ SRS TruSurround™ for virtual 6-channel surround sound through two speakers
- ◆ Full acceleration of all critical DVD functions

Audio (Mpact 2 3DVA)

- ◆ Mpact Forte advanced wavetable synthesizer with 32 simultaneous voices
- ◆ Certified Dolby® Digital decode for DVD video playback
- ◆ SRS® TruSurround and SRS 3D sound
- ◆ 48kHz, 36-bit processing for better than CD quality
- ◆ DirectSound hardware acceleration with full-duplex support
- ◆ S/PDIF linear PCM digital audio out
- ◆ Full Dos-box and Windows joystick capability for PCI. In AGP, for Digital Joysticks, only “Thrustmaster” is supported
- ◆ Play standard MIDI files from media players, popular games, or professional music sequencers
- ◆ High-quality Windows 95 and Windows 98 audio through full DirectSound hardware acceleration, WAVE, MIDI, and AIL3

3Dfusion DVD/DVA Features

2D Graphics

- ◆ Full DOS and Windows GUI acceleration through Microsoft GDI and DirectDraw™ APIs
- ◆ VGA register level compatibility

- ◆ Full Bit BLT acceleration engine including transparent BLTs, device bitmaps, full 256 ternary ROPs and pattern buffering
- ◆ Full GUI acceleration of 2-point line draws and polygon fills
- ◆ Fully accelerated YUV conversion, scaling, filtering and clipping
- ◆ X and Y interpolation of YUV surfaces
- ◆ Full text acceleration engine
- ◆ VESA BIOS Extensions (VBE) 2.0, UniVBE, VESA Display Power Management Signaling (DPMS)
- ◆ Support for all standard display modes/refresh rates
 - ◆ 1600 x 1200 x 18-bit color @ 60-85Hz
 - ◆ 1280 x 1024 x 24-bit color @ 60-85Hz
 - ◆ 1024 x 768 x 24-bit color @ 60-120Hz
 - ◆ 800 x 600 x 24-bit color @ 60-160Hz
 - ◆ 640 x 480 x 24-bit color @ 60-200Hz

3D Graphics

- ◆ Full support of Microsoft Direct3D™ API
- ◆ 500MFLOP set-up engine supports up to 1M triangles/sec
- ◆ Dedicated texture cache
- ◆ Complete 3D primitive support
- ◆ Perspective-corrected texture mapping
- ◆ Chroma-key transparency
- ◆ Bi-linear, tri-linear mipmapped texture filtering
- ◆ Diffuse and specular highlighting
- ◆ Full transparency, including alpha maps for textures
- ◆ 18-bit Z-buffering
- ◆ Full screen or window double buffering
- ◆ Edge anti-aliasing
- ◆ Flat and Gouraud shading
- ◆ Dithering
- ◆ Depth cueing with atmospheric effects (e.g. fog, haze)
- ◆ Full alpha blending support
- ◆ Sub-pixel accurate rendering
- ◆ Extensive 3D mode support:
 - ◆ Draw in RGB 16
 - ◆ Texture map formats : RGBA32, RGB32, RGB16, RGB8, ARGB444, ARGB1555
 - ◆ Compress texture formats: CLUT4 (CI4), CLUT8 (CI8)
- ◆ 3D display modes
 - ◆ 640 x 480 x 16-bit color @60-200Hz
 - ◆ 800 x 600 x 16-bit color @60-160Hz
 - ◆ 1024 x 768 x 16-bit color @60-120Hz

DVD Feature Support

- ◆ CSS (Content Scrambling System) license for playback of encrypted content, and regional lockout support
- ◆ Up to 32 sub-picture streams for subtitles, menus, and animation
- ◆ Full-screen, run-length-encoded bitmaps up to 4 contrast values and 4 colors per pixel
- ◆ Multi-language support for video scenes, audio tracks, subtitles tracks, and menus
- ◆ Multi-story, multi-rating support
- ◆ Multi-camera-angle support
- ◆ Parental lock
- ◆ Fast forward, rewind, and search to title, chapter or track
- ◆ Frame by frame advance
- ◆ Macrovision™ analog copy protection support
- ◆ DirectShow support
- ◆ MicroUDF format support

DVD Video

- ◆ Fully compliant MPEG-2 video playback, Main Profile at Main Level at 30 frames per second @ maximum DVD bit-rate
- ◆ 720x480 full-screen resolution playback for artifact and distortion-free playback
- ◆ Dynamic, high-quality scaling screen size, allowing image to be arbitrarily scaled
- ◆ Advanced de-interlacing prior to PC display to eliminate jagged lines and motion artifacts
- ◆ VBR (variable bit rate) and CBR (constant bit rate)
- ◆ IEEE 1180-compliant Inverse Discrete Cosine Transform (IDCT) to ensure crisp picture quality with minimal noise
- ◆ Exact motion compensation for artifact-free playback
- ◆ NTSC (525/60) and PAL (625/50) TV video output
- ◆ Component and S-Video output
- ◆ 16:9 wide screen and standard 4:3 display
- ◆ Pan & Scan Display
- ◆ Still-picture MPEG-2 I-frame display
- ◆ Video CD 2.0 playback and navigation

DVD Audio

- ◆ AVSync™ technology: real-time synchronization between audio and video
- ◆ Doby® Digital (AC-3) 6-channel decode
- ◆ SRS TruSurround 2-channel analog output with spatialization effect

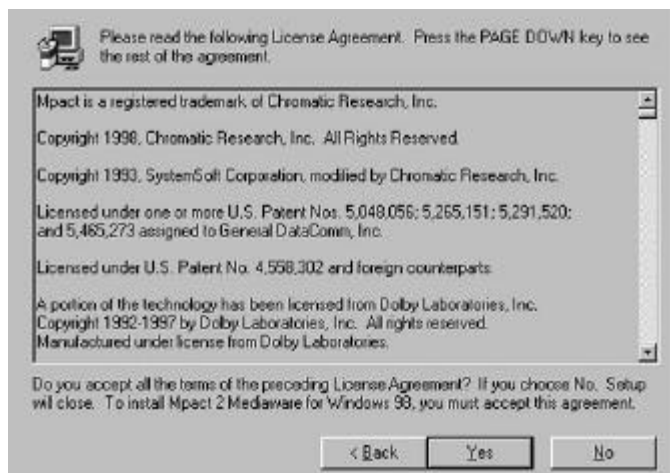
- ◆ Dolby ProLogic™ Surround Sound-encoded 2-channel analog output
- ◆ MPEG-1 layer-II audio decode
- ◆ Digital audio output (S/PDIF)
- ◆ 64 kbps to 448 kbps data rate
- ◆ Audio CD playback

Mediaware98 Installation

Insert the Mediaware98 CD, select “Run” from the “Start” menu and type **D:\setup.exe** in the dialogue box. Click “OK” to run the Mpack setup program.



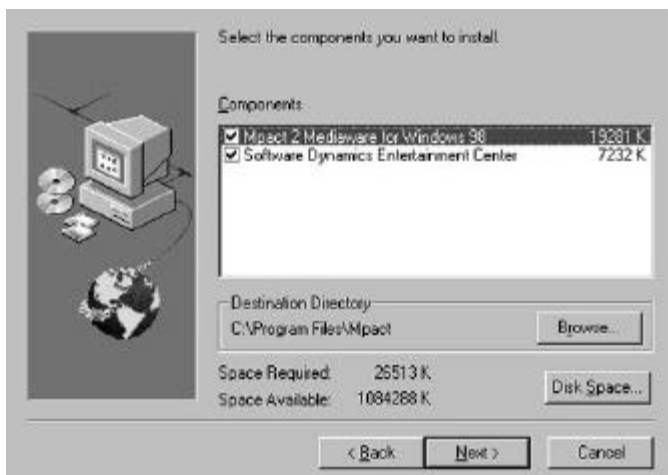
When this screen starts, click “Next”.



Read the License and click “Yes” to continue.



To install DVD components, choose your region and click “Next” to continue.



If both boxes are checked, click “Next” to begin the installation. You will need your Windows 98 disks for the Mediaware98 installation. Please make sure you have it ready, and insert into the drive when prompted. Setup will finish by asking for your Mediaware98 disk again.

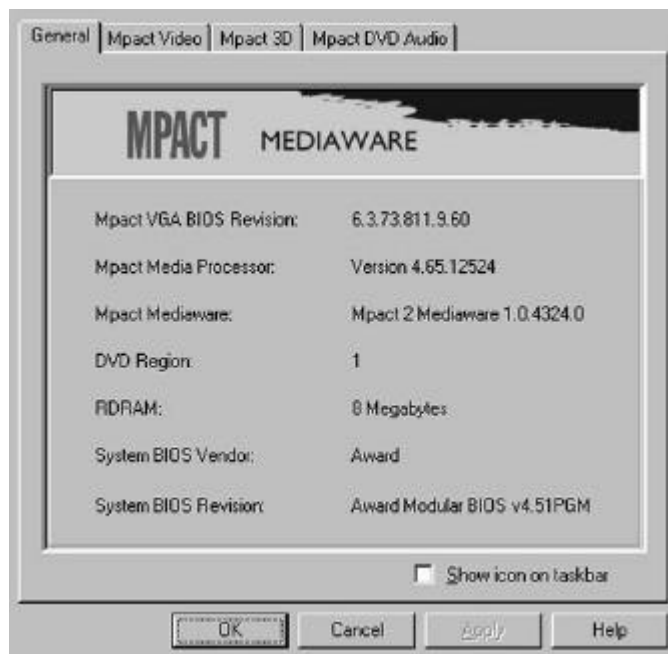
After Mediaware 98 is installation is completed, it will prompt you to restart your computer. Choose “Yes, I want to restart my computer now” and click “Finish” to complete installation. Please do not remove your Mediaware98 disk from the PC.

Upon restarting, Windows98 PnP features will find the new hardware and install required device drivers. Your computer will restart once more to complete installation and boot up into Windows 98.

Mpact Mediaware98 properties can be found in “Control Panel” under “Mpact Mediaware”.

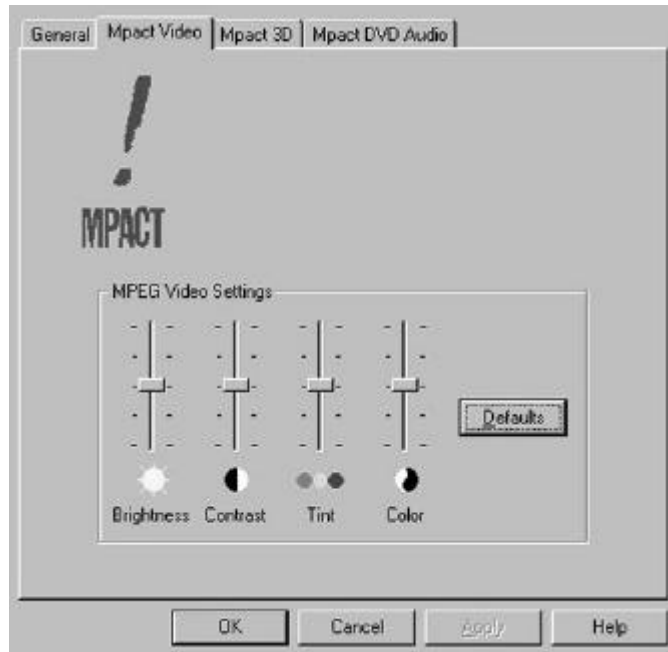


Mediaware98 General Information box:

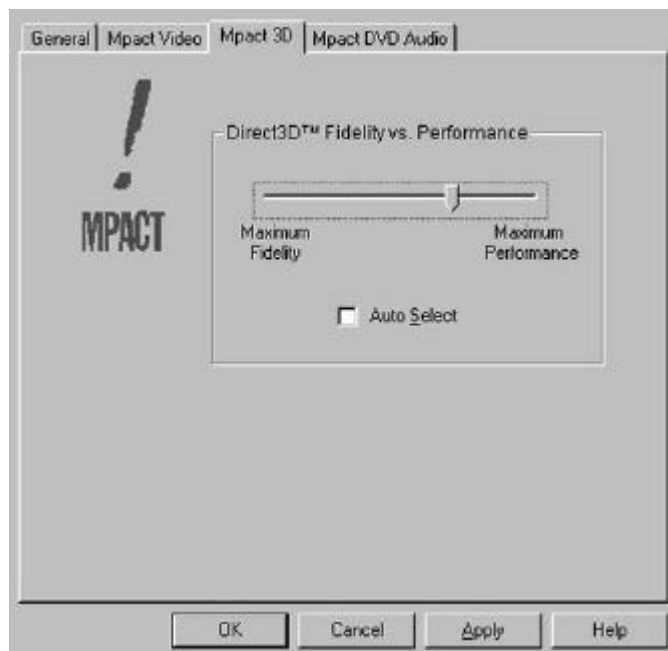


Mpact VGA BIOS Revision – Revision number of VGA BIOS.
Mpact Media Processor – Version of the Media Processor
Mpact Mediaware – Version of the Mpact Mediaware
DVD Region – DVD region indicated by numer of region
RDRAM – Amount of video memory onboard
System BIOS Vendor and Revision – Motherboard Information

Mpact Mediaware Properties



DVD Video playback settings. These settings can also be found and changed in the Entertainment Center. Adjust to preferred settings by using the slide bars.



3D Graphics Settings. This setting can also be found as an option in the "Display Properties" under "Settings/Advanced". For optimal video quality, please choose Maximum Fidelity.

Mpact Mediaware Properties - Continued



DVD Audio settings. The various options in affects the quality of the DVD sound. Please choose the correct option that applies to your audio equipment and environment:

External Dolby Digital receiver: If checked, the Mpact S/PDIF digital output will produce encoded Dolby Digital when playing a Dolby Digital DVD. If unchecked, the Digital Output will always produce PCM.

SRS TruSurround : Enables TruSurround Virtual Speaker technology from SRS Labs. This allows all 5.1 DVD channels to be perceived with a two speaker system.

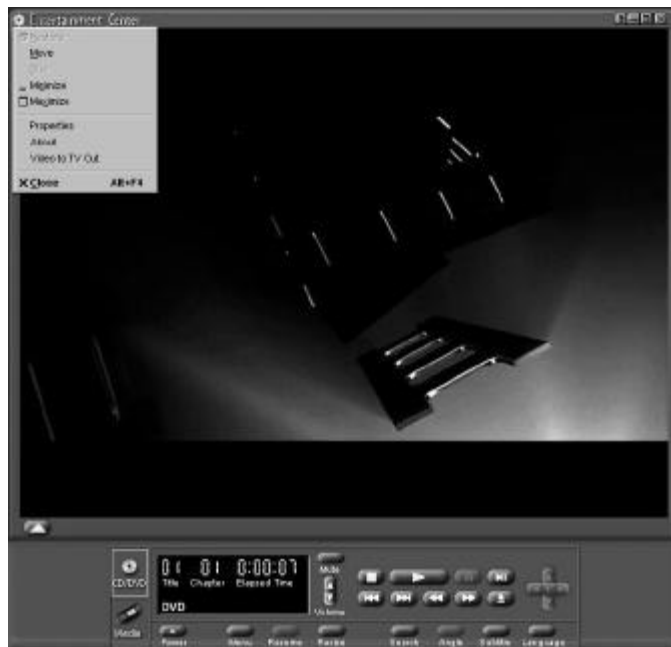
Dolby Pro Logic : Enabling Pro Logic for Dolby Surround encoded stereo sources creates center and surround channels, as well as the left and right channels. Pro Logic requires SRS TruSurround processing as a means to virtualize the center and surround channels for stereo output.

Dolby Digital Dynamic Range : DVD has a large “dynamic range”, meaning that quiet passages are very quiet, and loud passages are very loud. Use “Full” if listening in a Hi-Fi system, “Normal” for most PC use, and “Minimum” if listening in a noisy environment.

Software Dynamics Entertainment Center



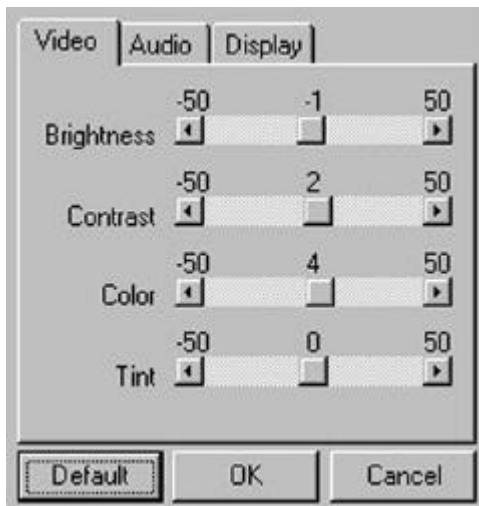
Entertainment Center



Video to TV Out feature can be found by clicking on the Entertainment Center logo on the upper left corner of this screen. General information about the Entertainment Center is also contained here in the dialogue box.

Right clicking on this screen will bring up the Properties menu of the features in the Entertainment Center, many of which can also be accessed from the buttons contained in the Control Bar on the bottom. Following are the available features.

Menu Button Options



Resize Button

Easy switching between Full Screen mode and Windowed Mode

Search Button

Easy navigation of the DVD disk by Title or Chapter

Angle Button

Optional features in some DVD disks, allows different viewing angles when applicable

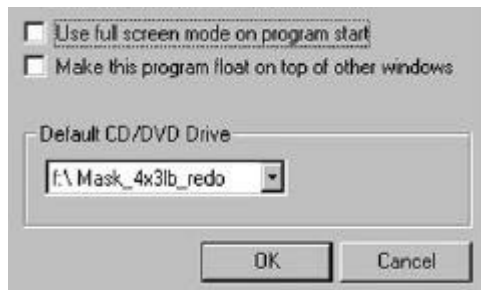
Subtitle Button

Offers option to view with subtitle in language of choice when applicable

Language Button

Offers option to view in language of choice when applicable. Note, option to choose English twice will often indicate special features

Other options



Use full screen mode on program start - open DVD in Full Screen each time Entertainment Center is started



Parental Control – Enable or disable this option. Password protection can be set for the inability of minors to view questionable content. Only applicable if DVD disk is so encoded.

Entertainment Center Key Controls

<u>Command</u>	<u>Key Code</u>	<u>Mode Supported</u>
Hide/Show Control Panel	C	DVD,VCD2,VCD,CD,MEDIA
DVD/CD Mode	F2	DVD,VCD2,VCD,CD,MEDIA
Media Mode	F3	DVD,VCD2,VCD,CD,MEDIA
Mute	M	DVD,VCD2,VCD,CD,MEDIA
Volume Up	+	DVD,VCD2,VCD,CD,MEDIA
Volume Down	-	DVD,VCD2,VCD,CD,MEDIA
Power	ALT-F4	DVD,VCD,CD,MEDIA
Previous	Page Up	DVD,VCD2,VCD,CD,MEDIA
Next	Page Down	DVD,VCD2,VCD,CD,MEDIA
1..0	1..0	VCD2
+10	*	VCD2
Clip Selection	CTRL-S	VCD,CD,MEDIA
Open Single Clip	CTRL-O	MEDIA
Stop	S	DVD,VCD2,VCD,CD,MEDIA
Play	P	DVD,VCD2,VCD,CD,MEDIA
Pause	O	DVD,VCD2,VCD,CD,MEDIA
Fast Forward	F	DVD,VCD2,VCD,CD,MEDIA
Fast Backward	B	DVD,VCD2,VCD,CD,MEDIA
Eject	E	DVD,VCD2,VCD,CD
Frame Advance	A	DVD,VCD2
DVD Up	Up Arrow	DVD
DVD Down	Down Arrow	DVD
DVD Left	Left Arrow	DVD
DVD Right	Right Arrow	DVD
DVD Go	Enter	DVD
DVD Resume	R	DVD
Menu	CTRL-M	DVD
Resize	CTRL-R	DVD
DVD Time Search	CTRL-T	DVD
DVD Angle	CTRL-A	DVD
DVD Subtitle	CTRL-Z	DVD
DVD Language	CTRL-L	DVD
DVD Root Menu	ALT+R	DVD
DVD Title Menu	ALT+T	DVD
DVD Chapter Menu	ALT+C	DVD
DVD Angle Menu	ALT+A	DVD
DVD Subtitle Menu	ALT+Z	DVD
DVD Language Menu	ALT+L	DVD
DVD Go Up	Backspace	DVD
VCD Return	Backspace	VCD2
VCD Default	D	VCD2
VCD Reset	R	VCD2
Parental Level	CTRL-P	DVD
DVD Audio/Video	CTRL-D	DVD

Troubleshooting

- Q. The system will not start after installation of the 3DFusion DVD card.**
- A. There are several causes for this situation. First check to see that the card is seated in the system. AGP can look seated even when not fully inserted. Other causes are non-PCI 2.1 compliance in the motherboard, motherboards requiring flash BIOS upgrades, and BIOS option "Assign IRQ to VGA" being disabled.
- Q. DVD will not start in the Entertainment Center. The screen is black, and the disk is not recognized.**
- A. This often occurs in systems utilizing the Intel 82371AB/EB PCI Bus Master IDE Controller. To correct this problem, uninstall the Mediaware, change your Hard Disk Controller to a Standard PCI IDE Controller and re-install your Mediaware again. After the DVD playback has been tested, you can proceed to install the Intel 82371AB/EB PCI Bus Master IDE Controller again.
- Q. Although DVD will play in windowed mode, it will not play in the full screen mode.**
- A. This often occurs due to the Monitor type. Often older non plug-n-play monitors or settings will cause the Mpact 2 to not recognize that it is capable of running in 720x480 resolution at 60 or 72Hz. To correct this situation, download the latest display drivers from your monitor manufacturer or simply set your monitor type to standard "Plug and Play". Correct monitor should be set before Mediaware installation. It is often difficult to correct the 720x480 mode after incorrect refresh rate has been detected.
- Q. The DVD video is jerky or skips.**
- A. First check the DVD-ROM settings under Control Panel/ Device Manager. Under Settings under the DVD-ROM properties, make sure that the DMA box is checked. Some drives do not have this capability, and should work fine without it. Often the option is available is a Bus Mastering IDE Controller is installed. If this does not correct this problem, check to make sure your case has plenty of ventilation. DVD playback is adversely affected by high internal temperature, and requires good cross ventilation. The last option is to check with the DVD-ROM manufacturer for firmware upgrades which may be needed to correct the problem. Pioneer has announced firmware upgrades, and more manufacturers may be affected by this condition.
- Q. My DVD will not play after installation of a SCSI device, an IDE ZIP drive or Tape Back-up.**
- A. This condition has been detected after these devices are installed, and often caused by an older wnspi32.dll file, or a similar type .dll file. Please check with the manufacturer of the drive for updated drivers.