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IMPORTANT USER INFORMATION
for the *mach32*
MULTIMEDIA VIDEO ACCELERATION DRIVERS

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ATI Multimedia Video Acceleration Drivers   Beta 1.0   May 7, 1993

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1.0   OVERVIEW OF ISSUES AND LIMITATIONS

While a great deal of effort has gone into providing you with the best possible acceleration capability for Video for Windows clips, the enormous data requirements of video place limitations on the playback capabiliities of most PC's. The following document highlights the outstanding issues and limitations of the Multimedia Video Acceleration drivers for the *mach32* products, and is intended as a supplement to the Multimedia Video Acceleration User's Guide:

1.   Multimedia Video Acceleration is not supported under the following conditions
          (please see the MVA User's Guide for more information on supported modes):

 a)   ** Since we are adding a couple of enhancement to the Indeo driver, this beta
                    version does not support Indeo video compressed clips. This support will be
added   **shortly in a future beta update ****
 a)   When Crystal Fonts are turned on
 b)   When 8 bits per pixel color depth is selected with Palette Manager turned on
 c)   When using 24 bpp color mode
 d)   For the GRAPHICS ULTRA+
             - modes other than 640x480 (8 & 16bpp) and 800x600
                    (8bpp palette manager off)
 e)   When playing back RLE video images captured at sizes larger than 160x120
 f)   When in 1280x1024 screen resolution

2.   The following conditions may cause substandard multimedia video playback
          performance:

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a)   **CPU less than 486 (e.g. 286/386)**
b)   **Dual monitor configurations**
c)   **Having less than 8MB of system RAM**
d)   **Having more than 12MB of system RAM (on ISA systems)**
e)   **Inferior disk speed (e.g. playback from CD-ROM)**

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3.   **The following is a listing of outstanding operating problems. Please refer to the "Advanced User Section" in this file for a more detailed description:**

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a)   **Using "Smart Drive" can degrade performance**
b)   **RLE files don't play with MCI "Don't Buffer Off-Screen" option turned on**
c)   **Media Player is unable to draw the last frame**
d)   **Window takes about 1 second to update when obscured and then uncovered**
e)   **File marking is ignored by "Media Player"**
f)   **Colors are corrupted in movie created by pasting together in VidEdit**
     g)   **VidEdit: "About" button for "Microsoft RLE" shows same box as "ATI RLE"**
h)   **Color controls (via Color Controls dialog) do not work for 16 bit per pixel Video 1 clips.**
i)   **Selecting audio only playback when using VidEdit still results in video being played back in addition to audio**

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2.0   INCLUDED FILES

The folllwing are the files which we have modified or supplied with the Multimedia Video Acceleration driver installation.

ativideo.drv	Main driver
ativideo.wri	File which you are reading. Addenda to manual
ativideo.hlp	Windows help file for ATIVideo
atirle.drv	ATI RLE video compression driver
ativdacc.drv	ATI video acceleration driver. This driver accelerates standard video compression drivers such as indeo.drv (Indeo(TM)) and msvidc.drv (Video 1).
hangldm.avi	Sample Video 1 video clip
vid_docs.wri	Complete user documentation for multimedia video acceleration

The following files are from the standard Microsoft Video for Windows 1.0 distribution.

dispdib.dll	
mciavi.drv	Playback run-time for Video for Windows
mciole.dll	
mplayer.exe	Microsoft media player application program
mplayer.hlp	Help file for the media player application
mplayer.reg	
msvidc.drv	Microsoft Video 1 video compression driver
msvideo.dll	

3.0   OPERATIONAL REQUIREMENTS AND OPTIMAL SETTINGS

ATI's Multimedia Video Acceleration (MVA) drivers require an ATI 68800 (*mach32*) based video controller (GRAPHICS ULTRA PRO, GRAPHICS ULTRA+ and various OEM *mach32* implementations). The

Graphics Ultra Pro (or VRAM OEM *mach32*) is preferred and achieves better video playback performance. The driver is designed to work with Windows 3.1. Windows must be in Enhanced mode for the MVAdrivers to run.

A minimum of 1.0 MB of Video Memory is required for MVA operation.

Optimal Settings

	640x480	800x600	1024x768	1280x1024
4 bpp	Unaccelerated Playback	Unaccelerated Playback	Unaccelerated Playback	Unaccelerated Playback
8 bpp Palette Mgr. On	Unaccelerated Playback	Unaccelerated Playback	Unaccelerated Playback	Unaccelerated Playback
8 bpp * Palette Mgr. Off	GUPRO 1MB/2MB GU+ 1MB/2MB	GUPRO 1MB/2MB GU+ 1MB/2MB	GUPRO 1MB/2MB	Unaccelerated Playback
16 bpp RecommendedGU+	GUPRO 1MB/2MB 1MB/2MB	GUPRO 2MB	GUPRO 2MB	Unaccelerated Playback
24 bpp	Unaccelerated Playback	Unaccelerated Playback	Unaccelerated Playback	Unaccelerated Playback

GUPRO = GRAPHICS ULTRA PRO (or VRAM-based OEM *mach32* product)
GU+ = GRAPHICS ULTRA+ (or DRAM-based OEM *mach32* product)
* *Users may experience color degradation in Palette Manager Off mode. 16 bpp color mode is strongly recommended.*

For optimal performance of video clips, the following settings are suggested for the ATI FlexDesk parameters:

Resolution - 640 x 480
Colors - 65,000 (16-bit)
Desktop - No effect
16 Bpp RGB Mode - 5/6/5
256 Color Palette - OFF (if using 256 color mode)
CRYSTAL Fonts - OFF

**** ADVANCED USER SECTIONS ****

The following sections provide more detailed information for the advanced user. Configuration information as well as additional detail on the above problems are provided.

4.0   CONFIGURATION INFORMATION

WIN.INI [Mach] Entries

Most of the switches are alterable via the Video Control Panel, and this is the preferred way to change them.

THE FOLLOWING IS FOR YOUR REFERENCE ONLY. RANDOM CHANGES TO THIS SECTION MAY CAUSE UNKNOWN RESULTS WHEN IN DOUBT... DON'T!

ColorWeight16   = 555 | 565 | 655 | 664   Default 565

Choose color weighting when PixelDepth=16 is active. The number is interpreted as the number of Red, Green and Blue bits. For instance, 565 allots 5 bits for Red, 6 bits for Green and 5 bits for Blue. 655 and 664 modes are only available on the ATI 68875 DAC. 565 is preferred for video.

CrystalFonts   = on | off   Default off

When set on, enables the CRYSTAL Font feature. When CRYSTAL Fonts is enabled, the palette is fixed in 8 bpp non- programmable mode. 5 gradients of red, blue and green (125 colors) are available in the palette. Also the usual 20 Windows system colors are supported, and 16 shades of gray (including black and white). The remainder of the palette is unused. Video playback will NOT be accelerated with CrystalFonts=on and PixelDepth=8.

DesktopSize   = 640 | 800 | 1024 | 1280   Default 640

Choose size of Windows work area. The screen may be smaller than the work area (see ScreenSize setting), in which case the Virtual Desktop feature is activated. Use the mouse to pan the display over the desktop. 640 selects 640x480, 800 selects 800x600, 1024 selects 1024x768 and 1280 selects 1280x1024. All modes have 4:3 aspect (which results in square pixels), except 1280. (1280x1024 is a 5:4 pixel ratio. Square pixels 4:3 with 1280 would be 1280x960).

PaletteManager   = on | off   Default on

Enable palette management when PixelDepth=8. This allows applications to control the physical palette, and permits applications such as After Dark to do palette cycling animation. When the PaletteManage is off, the color mode will use a fixed 332 (3 bits Red, 3 bits Green, 2 bits Blue) palette. Video acceleration is disabled when PaletteManager=on and PixelDepth=8.

PixelDepth   = 4 | 8 | 16 | 24 | 32   Default 8

Choose number of bits per pixel. 4 allows 16 colors, 8 allows 256 colors and 16 allows 32768 (in 555 mode) or 65536 colors. 24 and 32 both provide for 16.7 million colors. 24 gives a 3 byte per pixel format and saves memory over 32 which gives a 4 byte per pixel format. 24 works for both 640x480 and 800x600 modes, whereas 32 is only usable in 640x480 mode. The Control Panel will always select 24 bpp for 16.7 million color mode. Video acceleration is available only for 8 and 16 bits per pixel modes.

ScreenSize   **= 640 | 800 | 1024 | 1280   Default DesktopSize**

Select the screen size (screen mode). Video acceleration is disabled for
1280.

VAD   **= on | off   Default off**

Forces Virtual Aperture when set to on. When set to off, Virtual Aperture is
enabled automatically when the Physical Aperture is disabled (through INSTALL).
VAD=off is preferred for video playback.

VGAShared   **= on | off   Default on**

Share the video board memory between VGA and Accelerator, or maintain separate
memory spaces. When running with Virtual Aperture (Physical Aperture disabled,
or VAD=on), VGAShared has no effect (it is forced on).

5.0   SAMPLE WINDOWS.INI/SYSTEM.INI

This section serves to document the various changes that are made to the
SYSTEM.INI and WIN.INI files. For more information on the [*Mach*] settings,
see the Configuration section.

SAMPLE WINDOWS\SYSTEM.INI.

        [Drivers]
        ATIVIDEO=ativideo.drv
        VIDC.RT21=ativdacc.drv
        VIDC.MSVC=ativdacc.drv
        VIDC.ATI0=atirle.drv
        VIDEO1=msvidc.drv

        [Installable Compressors]
        vidc.rle=atirle.drv

        [ATI Interceptor]
        MSVC=msvidc.drv
        RLE=atirle.drv

SAMPLE WINDOWS\WIN.INI.

        [mach]
        VGAShared=on
        EngineBlt=on
        ScanLine=on
        CacheCharacters=on
        DeviceBitmap=off
        PaletteManager=off
        ColourWeight16=565
        DesktopSize=640
        ScreenSize=640
        PixelDepth=16

6.0 OPERATING PROBLEM DETAIL

ATI Multimedia Video Acceleration Driver Errors/Warnings:

ATI Video acceleration disabled!

Most problems will be referenced to a release.
EPR's are "Engineering Problem Reports".

Beta 1.0 Friday, May 7, 1993   GENERAL BETA RELEASE

Open EPRs:

"SMART DRIVE" DEGRADES PEFORMANCE.

The Smart-Drive (smartdrv.exe or smartdrv.sys) disk accelerator software may
slow down your video playback significantly. This is especially true when
trying to play back video files (*.avi files) that are larger than the
Smart Drive Disk Cache. In this particular scenario Smart Drive will end up
with the start of the video in its cache, when playback is started. By the
time the end of a large video file is reached during playback, Smart Drive
will have flushed the beginning of this movie. So the second time the video is
played, every single frame must be reloaded from disk. At the same time the
memory occupied by Smart Drive can not be used for productive things like
video processing.

RLE FILES DON'T PLAY WITH MCI "DON'T BUFFER OFF-SCREEN" OPTION.

If you open any RLE compressed video and configure media player to
"not buffer off screen", the video will no be played although audio gets
played. Microsoft handles RLE cases "internally". ATI video driver can not
correct this situation. For now the "Don't Buffer off screen" option is NOT
recommended.

MEDIA PLAYER IS UNABLE TO DRAW THE LAST FRAME.

Microsoft provides the Media Player application program to play back video
files. The video usually stops at the last frame. If the playback window is
resized or first obscured, then uncovered the visible frame will not be
refreshed. This is because in a video file with 100 frames the frames are
numbered from 0 to 99. Media Player thinks the frames are numbered 0 to 100,
resulting in 101 frames. When positioned at the "last" frame (frame 101 !!)
there is no data left to be supplied when a refresh is necessary.

**WINDOW TAKES ABOUT 1 SECOND TO UPDATE WHEN OBSCURED AND THEN
UNCOVERED.**

In certain instances, the video window can take slightly longer than usual to update when another window
is overlayed on top of it and then removed.

FILE MARKING IS IGNORED BY "MEDIA PLAYER".

When using the "mark in/mark out" feature of the media player, the resulting playback ignores these

settings.

COLORS ARE CORRUPTED IN MOVIE CREATED BY PASTING TOGETHER IN VIDEDIT.

Problems arise when pasting together two or more video clips using VidEdit when one of the clips is 8 bit palettized (i.e. RLE, Video 1 8 bits per pixel palattized). In these instances, the first movie will play properly, but the second and subsequent clips' palettes will not be recognized, thereby causing color distortion.

VIDEDIT: ABOUT BUTTON FOR "MICROSOFT RLE" SHOWS SAME BOX AS "ATI RLE".

After installing the MVA drivers, VidEdit shows both "Microsoft RLE" and "ATI RLE" as installed compressors (under the Video Compressions Options menu). Selecting either of these will, in fact, access the ATI RLE compressor. We are unable to remove the Microsoft RLE reference from VidEdit during our install due to licensing issues.

7.0   REPORTING PROBLEMS

When reporting problems with this driver, please reference the driver build
number. When in doubt about the build number, call up the About box for the
ATI Video Driver and read the driver version and build number. The format is:
1.0 (9315b).
1.0 is the version number, 9315b is the build number.

When calling our Customer Support, please ensure that you have all information
which will allow Customer Support to assist you with your problem. This
includes not only the build number, but also information found in the Customer
Support section of your manual including, but not limited to:

Version of the Card: ISA, EISA, Micro Channel, or VESA Local Bus
BIOS Version of the Card: What is displayed on the screen at Power On time
Memory on the card: 1 or 2 Meg
Hardware <Install> config: Set Power Up configuration, Output of <C-INFO>
Amount of System Memory: 4/8/16Meg
Type of System: 286 / 386 / 486 ISA / EISA / VLB / MCA
Contents of Autoexec.bat and Config.sys
Exact Steps to recreate problem
Version of Microsoft Video for Windows
Versions of other Software or Hardware

The more Information provided, the easier it will be for us to recreate and resolve the problem.

8.0   History

Synopsis

This is the first Release of the driver:

Beta 1.0 May 7, 1993

9.0   ATI Address

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ATI TECHNOLOGIES INC
3761 Victoria Park Ave
Scarborough, Ont.
CANADA. M1W 3S2

FAX ....   (416) 756-0720
ATI BBS ....   (416) 756-4591
Compuserve.................................   "GO ATITECH"
        Corilee Fox ....   76004,3656 Beta Coordinator

** Please be advised that beta support is available only through CompuServe, FAX or mail **
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