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**IMPORTANT INFORMATION  
for  
mach8 Users**

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**mach8 Windows Driver**

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**1.0 Introduction**

In order to resolve outstanding issues with Windows 3.1, and Windows based applications, ATI will be releasing a new driver for the ATI 38800 (Mach8) chipset based graphics cards with 1MB of accelerator memory.

This new Mach8 Windows driver is faster than previously released drivers with an emphasis on stability. Extensive internal and beta testing have shown the driver to meet this target criteria.

In order to achieve the speed and stability the designers were targeting, the specifications for this new driver differ from the original Mach8 Windows driver in the following ways;

- The new driver does not support 16 color (4bpp) mode. Incorporating 16 color mode into the driver would seriously affect performance. This mode was also found to be incompatible with most of the software applications that are currently being released.

- Since the 1280x1024 resolution was only supported on later versions of the Mach8 family of graphics cards, and it only supported 16 colors, the new driver will not incorporate this mode.

- The proprietary Crystal Font feature that appeared in the original Mach8 driver, was also dropped for performance and compatibility reasons.

The new driver operates in 256 color mode at 640x480, 800x600 and 1024x768 resolutions in Windows 386 enhanced mode only. It features an ATI desktop with the look and feel of Windows drivers offered with ATI's high end graphics products.

Mach8 based graphics cards include the Graphics Ultra, Graphics Vantage, 8514/Ultra and VGAWonder GT products.

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## 2.0 Requirements

FlexDesk requires an ATI 38800 (mach8) based video controller with 1MB of video memory. The driver is designed to work with Windows 3.1 and Windows for Workgroups 3.11.

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## 3.0 Installation

Manual installation of the FlexDesk driver is not recommended. Use the ATI INSTALL utility to initially install the driver, and then use the ATIDesk Control Panel to make modifications to the setup. The default installation directory is C:\ATI, from which a sub-directory ATIDESK will be created. The ATIDESK directory should not be deleted; if it is deleted the mach8 Windows driver will cease to function.

The following files are placed in the WINDOWS sub-directory by the ATI INSTALL program after installing the ATI Windows drivers:

ATICNTL.DLL            ATIDESK.GRP  
ATIDESK.INI

The following files are placed in the WINDOWS\SYSTEM sub-directory by the ATI INSTALL program after installing the ATI Windows drivers:

ATIBASED.DLL           MACHW3.3GR  
MACHW3.DRV            MACHW3V.386  
OEMMACH.INF            RADICAL8.DLL  
VGACOLOR.2GR

The remaining files have been placed in the ATI\ATIDESK (default) sub-directory:

ATIDESK.EXE            ATIDESK.HLP  
ATIDTUTL.DLL           ATIGRFXL.DLL  
ATIINFO.DLL            DEFAULTS.FLX  
FLEXDESK.DLL           FLEXDESK.EXE  
MACH8.WRI              MACH8.HLP  
MACH8.INF

This section serves to document the various changes that are made to the SYSTEM.INI files.

Modify WINDOWS\SYSTEM.INI.

```
[boot]
386grabber=machw3.3gr
oemfonts.fon=8514oem.fon
fixedfon.fon=8514fix.fon
fonts.fon=8514sys.fon
display.driv=machw3.driv
```

```
[boot.description]
aspect=100, 96, 96
displayinf=OEMMACH.INF
display.driv=ATI mach8 RADICAL Driver
```

```
[386Enh]
display=machw3v.386
```

```
[display]
Mach8=1
DevBmp=1
dib2devenh=1
EngineOnly=1
vad=0
dpi=96
y_resolution=480
x_resolution=640
bpp=8
```

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#### **4.0 mach8 Display Driver Detail Problem**

##### **GPFs while playing multimedia applications:**

Windows 3.1 allows using device bitmaps to enhance performance of display drivers. However, some applications may violate the standard rules of windows application development and access the bitmaps directly. This causes drawing errors or GPFs.

QuickTime for Windows, and applications which use the QuickTime runtime can cause a "Viewer caused a GPF in module GDI.EXE at 0001:0F6A" message. This is because QuickTime incorrectly patches GDI. Applications using Quicktime, include The Journeyman Project by Quadra Interactive and Myst by Broderbund.

Macromedia Action causes a GPF at the same address as QuickTime for Windows. We have not investigated further, but assume it is similarly patching GDI or uses the QuickTime run-time.

Adobe Illustrator. On opening this application, you will receive the message "Illustrator caused a General Protection Fault in module ADOBEVUE.DLL at 0006:3B52." Adobe's direct manipulation of memory bitmaps is incompatible with ATI's device bitmap implementation.

If you are running applications that have unexplained problems, set DevBmp equal to zero:

```
(in system.ini)
[display]
DevBmp=0
```

##### **DOS Boxes**

Modes 14, and above cannot be entered while in a DOS Window. When a DOS application

running in a DOS window attempts to enter such a resolution, the DOS session will be forced to full screen mode. If you attempt to switch back to windowed mode, the DOS session will be suspended and cannot be accessed until you switch it back to full screen.

### **386MAX**

If using the FlexDesk driver on a system running Qualitas 386MAX, the 386MAX.PRO file must be modified to remove the "VGASWAP" flag. The VGA area is used to provide aperture services by the driver, and thus cannot be moved by 386MAX.

### **WorkGroup for Windows**

Microsoft WorkGroup for Windows can now be installed without switching to VGA driver. However, we recommend that user exits windows at the end of the install. While it is possible to run the driver in standard mode, we do not recommend or support this except to upgrade from Win 3.1 to WFW 3.11. While upgrading from win 3.1 to WFW 3.11, windows will be running in 640x480 16 color mode. This is normal. When you next run WFW, your session will come up in the mode used before the upgrade.

### **Lotus AMI Pro 3.0**

This word processor must be run with Small Font mode (96 ldpi) selected in the FlexDesk Control Panel. Not all screen buttons are positioned correctly if Large Font mode has been selected.

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## **4.1 Windows Startup Errors**

All driver error messages are issued at startup. The error message is displayed, and the system speaker is beeped. The operator is invited to press a key to return to DOS.

The installed video adapter is neither ATI Mach32- nor ATI Mach8-based and is not supported by the currently selected ATI display driver.

You have two options:

- 1.To use currently selected ATI driver install Mach32-/Mach8-based adapter.
- 2.To use currently installed video adapter select an appropriate driver.

Press a key to return to DOS.

The driver was started on a system without a mach8 based video product or a memory manager moved or compressed the Video ROM at address C000 to C7FF.

The ATI Mach32/Mach8 ROM BIOS cannot be accessed. Please refer to your owner's manual for hardware setup assistance.

Press a key to return to DOS.

Calls to the mach8 BIOS ROM failed. Check for memory managers using the ROM address. Also run the Test portion of the INSTALL program to check the card.

The ROM BIOS Query has returned a failure. Please ensure that the BIOS ROM is enabled, and that you have set up at least one video mode.

Press a key to return to DOS.

The mach8 BIOS ROM has not responded in a reasonable way to the QUERY service. This may be because the ROM is disabled (8514/ULTRA), or there may be no video modes. Run INSTALL and check the hardware power-up configuration.

The ATI display driver cannot be started. The BIOS ROM on the ATI video card has failed to activate the requested mode. Please contact customer support services.

Press a key to return to DOS.

**OR :**

The ATI Mach8 ROM BIOS cannot be accessed. Please refer to 433, " your owner's manual for hardware setup assistance.

Press a key to return to DOS.

**OR :**

The ATI Mach8 (VGA Wonder) ROM BIOS cannot be accessed. Please refer to your owner's manual for hardware setup assistance.

Press a key to return to DOS.

Driver has determined that display adapter is a mach 8, but the rom bios cannot be accessed. Either the rom bios address is not set correctly, or a memory manager may have remapped the address. Run msd to detect if any memory between C000 and E800 is usable. Try remapping your video rom address to an unusable address. If no such address exist, it is probably used by a memory manager. For emm386.exe, add a flag /X=C000-CFFF. If you still cannot run windows, contact ATI customer support.

The %06x%07 mode cannot be started. Please ensure that you have installed the requested mode using the Mach8 or Mach32 INSTALL utility. The selected mode setting in SYSTEM.INI file's (your Windows directory) [display] section is:  
CRTRes=%12

Make sure your monitor supports the requested resolution.

The video resolution requested cannot be started. Run the install program and select the monitor from the list. If your monitor does not match any on the list, select custom and set the refresh rate for each mode you wish to use. Refer to your owners' manual.