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# IMPORTANT INFORMATION

## for *mach64* Users

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*mach64* Windows Driver

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**\*Note:** This section is intended for Application Developers

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### 1.0 Windows mach64 Display Driver Problem Detail

#### 1.1 GPFs

The majority of known GPFs in the driver have the same workaround: In the [macx] section of SYSTEM.INI, set **DeviceBitmap=off**. The following applications are known to cause GPFs when DeviceBitmap=on(default):

**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.

## 1.2 DOS boxes

There are currently several problems with DOS boxes. These usually show up when you try to switch to a graphics mode. Sometimes they show up when you switch from a windowed DOS box to a full-screen DOS box, or vice-versa. Known DOS box problems include:

When you use ALT-ENTER to switch a DOS box to full screen, sometimes the keyboard will stop responding. To reactivate it, simply tap on the ALT key again.

When you use ALT-ENTER to switch a DOS box, sometimes the contents of the DOS box are incorrect. The condition usually corrects itself if you press ALT-ENTER again.

DOS graphics applications should always be run full-screen. If you start one in a windowed DOS box and your screen goes blank, press ENTER. If you start one in a windowed DOS box and your display is not right, quit the application and run it again as a full screen application.

Using print screen to capture a DOS box does not always work. Sometimes the image in the clipboard is not correct.

## 1.3 Debuggers

Many debuggers are also affected by the problems which adversely affect DOS boxes. Usually, the debugger will come up with a blank screen if this occurs.

All Borland debuggers will require the mach64 video dll. This file is available from Borland's CompuServe forum and is named TDSVGA.ZIP.

## 1.4 DIBs (Device Independent Bitmaps)

There are currently some outstanding DIB problems:

In 32 bpp mode, DIBs do not always display the correct color. Sometimes they are black.

Some applications, such as Lotus Freelance, which draw DIBs directly to the screen, do not work properly.

Some applications may use DIBs in newer formats than the driver supports. These will not always display properly.

## 1.5 WinSwitch

When you set WinSwitch=on (primarily used for dynamic color switching), Windows (GDI) and all Windows applications are actually running in 24 or 32 bpp mode (depending on the 24 bpp setting 24BPPMode=24/32 (default 24)), even when you specify 256, 32K, or 65K colors. This has several consequences:

Graphics performance across various color depths will negatively impacted. For maximum performance in 256, 32K, and 65K color modes, you should disable WinSwitch.

Any application which reads from the screen will not always get exactly the same information

which it wrote, because the pixels can be smaller. This means, for example, that the PaintBrush color eraser will not always work in this mode.

Dithering is not performed when WinSwitch is on.

We do not recommend applications be active during a WinSwitch. Active applications, may not correctly read the new resolution and color depths setting. This can lead to incorrect coloring, windows not properly resizing and portions of windows being painted black.

If you experience distortion in an application after a WinSwitch, close the application and restart it with the new WinSwitch settings.

Applications that require a 256 palletized mode will produce an error, stating that a 256 color driver is required to used this software, if WinSwitch is enabled.

Any application which retrieves the resolution at startup and expects it to stay the same will not work when you change the resolution. AfterDark does this, and should not be running when you are changing desktop resolutions.

**IMPORTANT:** Do not use File.Properties to "fix" black icons. It will delete them in some cases. Sometimes the reason that the icons are black is that the maximum number of icons that you can have in a group is reduced in higher pixel depth modes. Windows stores all the icons for a given group in a 64K segment, and in 24 bpp mode, each icon requires 3K (4K in 32 bpp mode). In some cases, there is not enough room in the segment for File.Properties to add a picture to the icon, and in these cases it will simply remove the icon from the group.

## 1.6 NORTON ANTI-VIRUS

The Norton AntiVirus will sometimes cause the screen to go blank. If loaded with Norton Desktop, it may cause the top portion of the screen to appear black.

## 1.7 PC-NFS

Loading PC-NFS, will prevent you from accessing network drivers under Windows applications.

## 1.8 Palletized Applications

Some applications will only display correctly when in a palletized mode. You may experience incorrect coloring or other failures will occur in 15 bpp and higher color depths. Examples of such applications are: MS Dinosaurs and Sorcery from Intermission 3.0.

## 1.9 GDI Polygon Clipping

Applications that use the polygon draw function may experience random pixel garbage on the screen. Examples of such applications are: AfterDark Rain and Intermission Dragon Kites. The workaround is to add the following statement to the **macx** section of the **system.ini**:  
**DevCapPolygon=off**

## 1.10 VGA Feature Connector

The VGA feature connector, on 64-bit VRAM based graphics accelerators, will only function with Windows VGA display drivers. Attempting to use the accelerated mach64 display drivers may result in black windows.

## 2.0 Programming with Device Bitmaps

### **Note: This section is intended for Application Developers**

When an application creates a compatible or discardable bitmap, Windows will ask the FlexDesk Windows Driver to create the bitmap (this can be suppressed if DeviceBitmap=off is specified in the [macx] section of system.ini). When Windows does this, the driver "owns" the bitmap. The only legal means to get data into and out of the bitmap are those documented in the Windows SDK.

There will be problems if an application uses undocumented features to directly manipulate the bits in one of these bitmaps, because we CANNOT make our format identical to Windows'.

To avoid this problem, applications which intend to directly manipulate bitmaps should use CreateBitmap or CreateBitmapIndirect (instead of CreateCompatibleBitmap or CreateDiscardableBitmap).