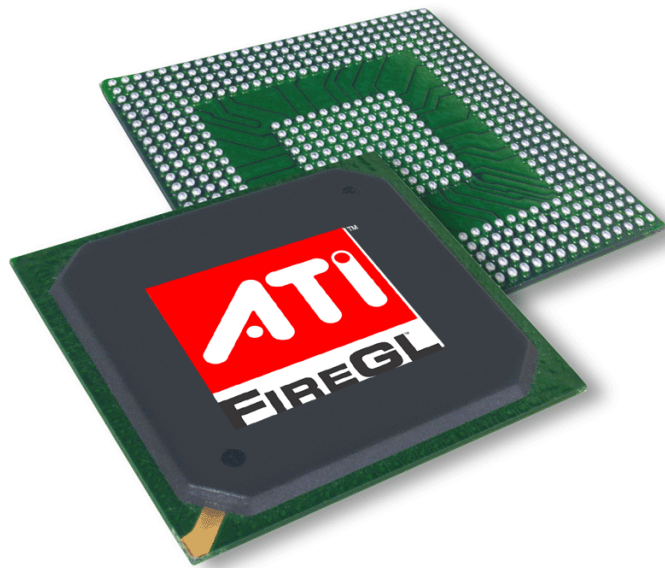




FIREGL™

ATI Technologies Inc.™

**ATI FireGL™ Unified Driver version 8.223
Release Note**



Software Release: 8.223
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April 5, 2006

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Preface

This release note provides information on what is new or what has changed, along with other pertinent information about the current release of the ATI FireGL™ Unified Driver version 8.223 provided by ATI Technologies Inc.

Who should read this release note?

This release note is intended for Original Equipment Manufacturers (OEM), Add In Board (AIB) customers, and Original Design Manufacturers (ODM).

What do I need to know to use this release note?

This release note assumes that the readers of the *ATI FireGL™ Unified Driver Release Note* are familiar with:

- ATI Display Adapters
- ATI Display Drivers
- The Microsoft Operating System
- The Microsoft Display Properties

How is this release note organized?

The *ATI FireGL™ Unified Driver Release Note* is organized as follows:

Chapter 1, *Overview*, provides a description of features found in this release of the ATI FireGL™ Unified Driver.

Chapter 2, *Change Log summary for all supported operating systems*, provides a summary of the issues that have been resolved in this release of ATI FireGL™ Unified Driver.

Chapter 3, *Open Issues*, provides information on open issues associated with this release of the ATI FireGL™ Unified Driver.



Appendix A, *Glossary of Terms*, provides the definition of technical acronyms which may be found throughout this release note.

What conventions are used in this release note?

This release note uses typographical conventions to highlight special terms and phrases. The following typographical conventions are used in this document.

Bold

Component names, key names, button names

Italic

Chapter names, table names, variable names

Blue Italic

This convention is used for cross-references in the book and URL links.

To return from the referenced page, right-click and select *Go back*, or use the **Back** button from the Acrobat Exchange toolbar.



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Chapter 1 Overview

This chapter provides an overview of the FireGL™ Unified Driver version 8.223 provided by **ATI Technologies Inc.**

1.1 API and Operating System Support

OpenGL® 2.0 + extensions	OpenGL Shading Language
Microsoft® DirectX® 9.0	DX9 HLSL
Windows® XP (through SP2)	Windows XP Professional x64 Edition
Windows 2000	Linux® 32/Linux 64



Note: The ATI FireGL™ Unified Driver for Windows XP Professional x64 Edition does not support the Intel Itanium 2 processor based server platforms.



Note: Linux users can obtain the software display driver at:
<http://www.atitech.com/support/driver.html>



Caution: Pre-unified drivers (7.88 or older) should be un-installed before installing the ATI FireGL™ Unified Driver.

1.2 ATI FireGL™ Product Family Support

The ATI FireGL™ Unified Driver version 8.223 is designed to support the following ATI FireGL™ product family:

Table 1: ATI FireGL™ Product Family Support

ATI FireGL™ V7350	ATI FireGL™ V3400	ATI FireGL™ X3-256
ATI FireGL™ V7300	ATI FireGL™ V3300	ATI MOBILITY FireGL™ V5200
ATI FireGL™ V7200	ATI FireGL™ V3250	ATI Mobility™ FireGL™ V5000
ATI FireGL™ V7100	ATI FireGL™ V3200	ATI Mobility™ FireGL™ V3200
ATI FireGL™ V5200	ATI FireGL™ V3100	ATI Mobility™ FireGL™ V3100
ATI FireGL™ V5100	ATI FireGL™ T2	ATI Mobility™ FireGL™ GL T2/T2e
ATI FireGL™ V5000		



Note: ATI Mobility™ FireGL™ 9000 driver support is available from ati.com

1.3 ATI FireGL™ Unified Driver Features

The ATI FireGL™ family of workstation graphic accelerators deliver the performance, quality, and stability required for your most demanding projects. The ATI FireGL™ Unified Driver provides users with a stable, user-friendly, and flexible software experience.

Some of the supported ATI FireGL™ Unified Driver features include the following:

- *Large Desktop Support for Dual Output FireGL™ Products*
- *WHQL Certified Drivers for Windows XP Professional x64 Edition*
- *OpenGL Version 2.0 Support*
- *Wide Aspect Display Option*
- *Widescreen and Full-screen Mode Switching Option*
- *Cache Handler Interface Update*
- *1400x1050 Display Resolution Support*
- *Automatic Display Configuration Enhancement*
- *Rotation Support for ATI FireGL™ Products*
- *Quad Buffer Stereo Support for ATI FireGL™ Products*

- *WMV8 and WMV9 Acceleration*
- *Component Detection Service*
- *User Defined LCD refresh rate*
- *Setup option for Setting the initial Resolution and Refresh rate*

1.3.1 Large Desktop Support for Dual Output FireGL™ Products

The ATI FireGL™ Unified Driver provides large desktop support for dual output FireGL™ products. This support allows for the operating system to see the display output as a single large display. This allows for the operating system's task bar to stretch across both of the connected display devices.

1.3.2 WHQL Certified Drivers for Windows XP Professional x64 Edition

The ATI FireGL™ Unified Driver provides WHQL certified drivers for Windows Professional x64 Edition support for AMD Opteron, and EM64T platforms. Full driver support is available on platforms using both the AMD (Opteron, Athlon64, K8) and Intel 64 bit enabled processors.



Note: The ATI FireGL™ Unified Driver for Windows XP Professional x64 Edition does not support the Intel Itanium 2 processor based server platforms.

1.3.3 OpenGL Version 2.0 Support

The ATI FireGL™ Unified Driver provides OpenGL Version 2.0 support. New to this GL ARB approved specification are GLSL, non-power of two textures, separate stencil, multiple render targets, and point sprites.

1.3.4 Wide Aspect Display Option

The ATI FireGL™ Unified Driver provides an option in the Display page of the Control Panel to dynamically enable or disable Wide Aspect Display (WAD) mode support for Digital Flat Panel and CRT displays connected to a notebook with a wide-screen LCD panel.

1.3.5 Widescreen and Full-screen Mode Switching Option

The ATI FireGL™ Unified Driver provides a widescreen and full screen mode switching option. For notebooks that support widescreen, with each click of a pre-defined hotkey function (Ctrl+Alt+F11), the display will toggle between Center timing, Scale while maintaining widescreen aspect, Full-screen, and back to Center timing. If widescreen aspect is not supported, then the hotkey will toggle between Full-screen and Center timing. This feature is supported on the following ATI product running under the Windows XP, 2000, and XP Professional x64 Edition.

1.3.6 Cache Handler Interface Update

The latest version of the ATI FireGL™ Unified Driver provides for the Central Memory Manager (CMM) replacement for the NT2D Cache Handler (CH) interface. This will allow for the CMM to move the 2D drivers's off-screen resources to any ASIC accessible location and at any practical moment, as well as transparently to the 2D driver. This results in the 2D driver addressing all ASIC-accessible resources using only CMM surface handlers.

1.3.7 1400x1050 Display Resolution Support

The ATI FireGL™ Unified Driver has the capability to display a desktop resolution of 1400x1050. This feature allows a user to set a primary or secondary display device (which are connected to separate controllers) to the desktop resolution of 1400x1050. When a user configures their system with two display devices on the same controller and requests a display mode of 1400x1050, the desktop resolution would be 1280x1024 and the display devices would be able to pan within a desktop size of 1400x1050. The following table provides a summary of the display modes and panning mode available to display devices connected to the system.

Table 2: Summary of the Display modes and Panning modes available

CRT Display Controller	LCD Display Controller	Display Mode
Primary	Primary	1280x1024 panning at 1400x1050
Primary	Secondary	1400x1050 on both display devices
Secondary	Primary	1400x1050 on both display devices

1.3.8 Automatic Display Configuration Enhancement

The ATI FireGL™ Unified Driver provides a feature that stores display settings, such as; resolution, color depth, refresh rate, rotation angle, display to CRT Controller mapping, and extended desktop settings in a display profile. The display profile is then applied based on the user selectable events such as:

- bootup (login)
- resume (login)
- user switch (login)
- fast user switch
- device switch through ACPI and SMI hotkeys
- hot plug/unplug

- lid close/open
- docking/undocking

It also stores other events controlled by the system BIOS through the Configure Displays int10 function call.



Note: On bootup and resume the display profile is applied after user login. A list of display profiles is maintained in the Windows registry on a per user basis. The display profile is created whenever the driver is requested to apply display settings and a new display device combination is detected.

1.3.9 Rotation Support for ATI FireGL™ Products

The ATI FireGL™ Unified Driver provides rotation support for all current shipping FireGL™ products. This feature enhancement provides three rotation modes, 90°, 180°, and 270°.

1.3.10 Quad Buffer Stereo Support for ATI FireGL™ Products

Quad Buffer Stereo support is available on most FireGL™ products. An Advanced Setting tab will be made available allowing for Quad Buffer Stereo to be enabled. This will also allow for Anti-Aliasing controls to be available.

Quad Buffer Stereo is supported in Extended mode (dual screen with monitors using perhaps different resolutions, and with the taskbar appearing only on the primary display)

Quad Buffer Stereo functionality is only available on the display that is identified as primary display device. If a stereo application is launched on the secondary display device, the application window must be dragged onto the primary display device in order for the application window to have a stereo image.

If a stereo application is dragged to the secondary display device, the user would see visual corruption which can be corrected by dragging the window back to the primary display device, followed by clicking the mouse anywhere within the application window.

Stereo must be set before selecting Extended Mode, i.e. disable one of the displays, check the Quad Buffer Stereo checkbox, reboot, and then enable the second display (Extended Mode) since the Quad Buffer Stereo checkbox would be unselectable (i.e. it is grayed out) once Extended Mode has been enabled.



Note: Quad Buffer Stereo is not supported in Span Mode (dual screen with both monitors using identical resolutions – taskbar across both screens).

1.3.11 WMV8 and WMV9 Acceleration

The ATI FireGL™ Unified Driver provides an ATI Control Panel option to accelerate WMV8 and WMV9 playback.

1.3.12 Component Detection Service

The ATI FireGL™ Unified Driver provides a re-architecture Component Detection Service (CDS). The CDS is a centralized service that details which ATI hardware/software components are installed on a system and updates an area of the registry with the information. Currently the CDS is very large and has become non-manageable along with some CDS coverage becoming obsolete. The new re-architecture CDS is more modular and easier to maintain. The new CDS consists of two export functions DoDetection and QueryCDSValue. When the DoDetection() function is enabled, the CDS will loop through the whole system to detect all the hardware and then write the detection information into the registry. The QueryCDSValue() is used to get specific information. QueryCDSValue() will call DoDetection() first to update and validate the current registry information and then return to specific information user is looking for. This feature is supported under the Windows 2000, and Windows XP.

1.3.13 User Defined LCD refresh rate

The ATI FireGL™ Unified Driver provides a user defined LCD refresh rate which will allow the user to toggle between 50 and 60Hz. This goes beyond the current PowerPlay functionality that allows the user to set a minimum LCD refresh rate to 50Hz, while the default is set to 60Hz.

1.3.14 Setup option for Setting the initial Resolution and Refresh rate

The ATI FireGL™ Unified Driver version 8.062 introduced the option to set the initial resolution, color depth and refresh rate when the driver is installed using setup.exe. The option works in the following way. Edit install.ini to add the following line:

```
[BootResolution]
DALDefaultModeBCD=HHhh, VVvw, 00CC, RRrr (doesn't matter if
there is any space)
DALRULE_NOFORCEBOOT=0
```

The following provides an example of the DALDefaultModeBCD values.

HH hh

Horizontal frequency in decimal, as an example 1024 will be written as 10 24

VV vv

Vertical frequency in decimal, as an example 768 will be written as 07 68

00CC

Color depth usually in decimal (04, 08, 16, 32)

RR rr

Refresh Rate in decimal, as an example 100 Hz will be written as 01 00

The installer reads the new key and modifies the registry location with this updated information.

Example: To set the initial resolution to 1024x768 32bpp and 75 Hz refresh, add the lines:

```
[BootResolution]
DALDefaultModeBCD=1024, 0768, 0032, 0075
DALRULE_NOFORCEBOOT=0
```





Chapter 2 Change Log summary for Supported Operating Systems

This chapter provides the Change Log summary for the ATI FireGL™ Unified Driver version 8.223 for supported operating systems.

2.1 Summary of Resolved Issues

The following table provides a summary of the issues that have been resolved in this release of the ATI FireGL™ Unified Driver. The table is sorted by functional area of the software, and is for all operating systems supported by this release of the ATI FireGL™ Unified Driver.

Table 3: Change Log Summary for the ATI FireGL™ Unified Driver Version 8.223

Reference Number	Report Headline	Functional Area
149032	Catalyst Control Center: For the Allplan application, an Allplan configuration profile is now available	Open GL
144696	Houdini: Running the game under Windows XP no longer results in the virtual memory size increasing in value	Open GL
141400	Inventor R11: The application no longer exits to the desktop unexpectedly when closing the second document	Open GL
132267	The wrapped tread shader is now performing as expected	Open GL
149383	Petrel_2003:Simulation: Enabling the Seismic Data and 3D Seismic Lines no longer results in the operating system failing to respond and the display becoming blank	Open GL
136748	Softimage XSI 4.2: Using the mouse to zoom in on an image no longer results in texture loss being noticed	Open GL
148169	Studio Tools R13: An error no longer occurs when using specular and transparency mappings on a single object	Open GL



Table 3: Change Log Summary for the ATI FireGL™ Unified Driver Version 8.223

Reference Number	Report Headline	Functional Area
145910	StudioTools R13: The gl_ClipVertex is now supported when it is written by the StudioTool R13 application into its own shaders	CMM/QS
149601	StudioTools V13: Display corruption is no longer noticed when enabling the Per Pixel shaders found in the application	Open GL
141754	UGS Visualization Test Suite 6.0: A variety of issues found within the application are now resolved	Open GL
142505	glLightModeli no longer triggers a glError when it is executed in a display list	Open GL
145116	CATIA v5r14: 3GB Honda model now loads in /3GB mode	CMM/QS
130535	Active Protection System: Setting the display resolution to 1600x1200 16bpp followed by switching to battery mode and setting the color depth to 32bpp no longer results in corruption being noticed when moving the Active Protection System window	Open GL
131193	AutoCAD 2006: The application no longer draws with few primitives and vertices resolving a performance issue experienced with the FireGL™ V5000 products	Open GL
145696	CATIA V5R14: Using the application to draw a circle no longer results in the circle being drawn as an ellipse shape	GCO/GDO
143463	DV MockUp: Selecting; Fly To, in the testcouleur found in the Functional menu of the application, no longer results in the operating system pausing and either a VPU Recovery occurs, or a critical stop 0xEA	Open GL
131480	Connecting two display devices to an ATI FireGL™ V7100 no longer results in a performance drop being noticed when running the Emageon software under Windows XP	Open GL
140293	Connecting a secondary display device using the DVI connector and setting the display resolution to 1280x1024 or greater no longer results in flicker being noticed when using an ATI FireGL™ V5000 product	Video BIOS
138921	Viewperf v 8.1: The dataset no longer fails to load when launching run_ugs_big.bat from C:\Program Files\SPECopc\SPECViewperf 8.1	Open GL
148680	The Disable DDraw Mapping is now removed	Open GL
135991	Inventor: Running the application under Windows XP Professional x64 Edition and launching Keyboard.iam within the application, followed by opening 3 or more windows, no longer results in an application error	Open GL



Table 3: Change Log Summary for the ATI FireGL™ Unified Driver Version 8.223

Reference Number	Report Headline	Functional Area
136871	3dsmax 6 or 7: Corruption is no longer noticed when D3D mode is enabled and the viewport is maximized on the 2560 x 1024 Apple panel	Open GL
139944	Solidworks 2006: Setting the display resolution to 3840x2400 and enabling OpenGL hardware acceleration no longer results in the application failing to respond	Open GL
141034	UGS Visualization Test Suite 6.1: Setting the display resolution to 1280x1024 followed by opening the HullColorPerVertexEnv-Map.jt file from the SFXTest folder, no longer results in shader and texture problems on models	Open GL
140543	UGS Visualization Test Suite 6.0: Opening the Bumpmap.jt file found in the SFXTest folder no longer results in poor image quality when using the mouse to hold and rotate the model	Open GL
140413	MSC.Marc 2005: Display corruption is no longer noticed when switching from Wireframe mode to Solid mode	Open GL
150841	Discovery Studio 1.5: Using the selection tool to click on a corner of a 3d window no longer results in the corner not being highlighted in yellow	OpenGL



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Chapter 3 Open Issues

This chapter provides a brief description of the open issues associated with the ATI FireGL™ Unified Driver version 8.223.

3.1 Errata Report Summary

The following table provides a summary of open issues found in this release of the ATI FireGL™ Unified Driver. The table is sorted by functional area of the software, and is for all operating systems supported by this release of the ATI FireGL™ Unified Driver.

Table 4: Open Issues Associated with the ATI FireGL™ Unified Driver Version 8.223

Reference Number	Report Headline	Functional Area
148455	UGS Visualization GDr: Shader issues when using the application on systems containing an ATI FireGL V7200 product	Open GL
148445	UGS Visualization GDr: Rotating a model or zooming in or out on a model may result corruption being noticed within the model	Open GL
148208	UGS Visualization GDr - Fixed function pipeline problems with V7200	Open GL
154773	XP64/Studio Tools 13: Display corruption may be noticed when running the application with extended desktop mode enabled	Open GL
152422	Connecting a CRT to a system containing an ATI Mobility FireGL V5200 and enabling extended desktop mode may result in the operating system failing to resume from standby mode	Open GL
154919	3dstudiomax8: Running 01_FullPirate01.max may result in the head on the right hand side of the application window displaying incorrectly	Open GL



Table 4: Open Issues Associated with the ATI FireGL™ Unified Driver Version 8.223

Reference Number	Report Headline	Functional Area
153546	Inventor R11: Placing the mouse cursor over an assembly may result in the red highlight outline not appearing properly	Open GL
139917	Tecnomatix: Poor performance may be noticed in the Wireframe when running the application	Open GL
147773	Overlaytext.exe: Connecting two display devices may result in a program error dialog box appearing when running the application	Open GL
151707	UG NX3: Running the subtests on a system containing an ATI FireGL V7200 may result in poor performance results	Open GL
146029	SOAP.exe: Running the application may result in poor performance being noticed	Open GL
130229	Viewperf 8.1: Running the subtest may result in poor performance results when using an ATI FireGL V5000	Open GL



Appendix A Glossary of Terms

The following Glossary of Terms provides the definition of the acronyms found within this book, and where possible a description of the terminology.

Numeric Terms

2D
2 Dimensional

3D
3 Dimensional

A

AA
Anti-aliasing. Reduces the effect of jagged lines or unsmooth curves because the resolution of the device or file is not high enough

ACPI
Advanced Configuration and Power Interface. a power management specification developed by Intel, Microsoft, and Toshiba. ACPI, which will be part of the next version of Windows, enables the operating system to control the amount of power given to each device attached to the computer. With ACPI, the operating system can turn off peripheral devices, such as a CD-ROM players, when they're not in use. As another example, ACPI will enable manufacturers to produce computers that automatically power up as soon as you touch the keyboard.

ADC
Advanced Display Configuration

AF

1 Adaptation Field

2 Anisotropic Filtering preserves the surface details of an object as it recedes into the distance by utilizing and blending together the object's texture maps. This makes 3D objects appear more realistic as the detail of their surface texture is retained in a smooth seamless fashion on the sections that move or fade away into the background

AFR
Alternate Frame Rendering

AGP
Accelerated Graphics Port. A bus specification from Intel that gives graphics cards faster access to main memory than the PCI bus, thus greatly speeding up graphics display and texture rendering, especially virtual reality and 3D rendering and display. AGP allows efficient use of frame buffer memory, thereby helping 2D graphics performance as well. The coherent memory management design allows scattered data in system memory to be read in rapid bursts. The PCI graphics accelerator bus has a data transfer rate of up to 133 MBps. Because it is directly on the motherboard's chipset and has a direct pipeline connection to the computer's main memory, AGP is much faster.



AGP is available in the following speeds: 1X transfer data at a rate of 264 MBps; 2X transfers data at 528 MBps, and AGP 4X doubles the bandwidth peak to 1GBps.

AiB
Add in Board customer

ALU
Arithmetic Logic Unit

AMC
ATI Multimedia Channel

Analog
In telephone transmission, spoken words are transmitted as analog sound waves or frequencies (as opposed to digital signals).

API
Application Programming Interface

ASIC
Application Specific Integrated Circuit

ASP
1 Active Server Page (ASP) is an HTML page that includes one or more scripts (small embedded programs) that are processed on a Microsoft Web server before the page is sent to the user.

2 Application Service Provider (ASP) is a company that offers individuals or enterprises access over the Internet to application programs and related services that would otherwise have to be located in their own personal or enterprise computers.

ATIMVHAL
ATI RAGE HDTV MPEG-2 Video Decoder Hardware Abstraction Layer

ATPG
Automatic Test Pattern Generation

ATSC
Advanced Television Systems Committee

AVI
1 Audio Video Interleaved. AVI is a Microsoft multimedia file format, similar to MPEG and QuickTime, used by Video for Windows. In AVI, audio and video elements are interleaved (stored in alternate segments) in the file.

2 Audio Video Interlaced

3 AVI movie format (filename extension).

B

Backbone
A network segment that connects other network segments and carries high concentrations of traffic.

Bandwidth
The measurement of the capacity of a transmission. The terms for measurement vary from analog (hertz—"S" cycles per second) and digital (bits per second). Common measurements include: Kbps (kilobytes per second), Mbps (megabits per second), and Gbps (gigabits per second).

Broadband
TData transmissions in which multiple transmissions share the same path, or a circuit supporting bandwidth in excess of T-3 capacity (45 Mbps)

BCL
Broadcast Composition Language

BIOS
Basic Input Output System. Initialization code stored in a ROM or Flash RAM and used to start up a system or expansion card.

BIST
Built In Self Test

BIU
Bus Interface Unit

BLT
Blit or Bit-Blit

Bpp
Bits per pixel

BTL
Backplane Transceiver Logic

C

CA
Conditional Access

CAIL
Common ASIC Initialization Library

CC
Continuity Counter or Closed Captioning

CCI

Copy Control Information

CDF

The first-ever commercial XML language was Microsoft's Channel Definition Format.

CDMA

Code Division Multiple Access

CDS

Component Detection Service. A centralized service that details which ATI hardware / Software components are installed on a system and updates an area of the registry with the information.

CGI

Common Gateway Interface (CGI) is a standard way for a Web server to pass a Web user's request to an application program and to receive data back to forward to the user.

CI

Component Interface

CM

Character Map. Also see Character Encoding Model. The mapping from an abstract character repertoire to a serialized sequence of bytes is called a Character Map (CM).

CIM

Component Install Manager. An InstallShield script-based manager that determine which components need to be installed, assigns a proper order, and launches the required installs one-by-one.

CML

The first-ever XML language of any kind was Chemical Markup Language.

CMM

Central Memory Manager. The CMM serves the following primary purposes. Manages memory resources per device instead of per display instance (or mode). Provides drivers access to resources without a dependency on DirectDraw. Code sharing across ASICs as well as OSs (Win9x -vs- Winnt) provides an efficient and effective development effort. Provides a common programming interface between Win 98/Millennium, WinNT 4.0 and Win2k/XP to facilitate code sharing for dependent components. Centralized resources allow

for flexibility in performance-tuning as well as possible ASIC workarounds.

CODEC

Compression and Decompression

COPP

Certified Output Protection Protocol A protocol introduced by Microsoft® to provide a consolidated mechanism and interfaces to control video output protection

CPC

Copy Protection Control

CRC

Cyclic Redundancy Check

CRT

Cathode Ray Tube

CV

Component Video

CVCT

Cable Virtual Channel Table

CVT

Coordinated Video Timing. A VESA specification

CWDDE

Common Windows Display Driver Extensions

D**D3D**

Direct Draw 3D. A Microsoft standard

DAC

Digital to Analog Converter

DAL

Display Abstraction Layer

DDC

Display Data Channel. A VESA standard for communicating between a computer system and attached display devices.

DDGPE

Direct Draw Graphics Primitive Engine

DDR

Double Data Rate

DDR SDRAM

Double Date Rate Synchronous Dynamic Random Access Memory

DEF

Design Exchange Format



DES

Data Encryption Standard

DES-ECB

Data Encryption Standard - Electronic Codebook mode

DFP

Digital Flat Panel. Monitor connection standard from VESA.

DFT

Design for Test

DHTML

Dynamic HTML is a collective term for a combination of new Hypertext Markup Language (HTML) tags and options, style sheets, and programming that will let you create Web pages more animated and more responsive to user interaction than previous versions of HTML.

DIMM

Dual In-line Memory Module

DMA

Direct Memory Access

DNA

Microsoft® Windows® Distributed interNet Applications Architecture (Windows DNA) is a distributed application development model for the Windows platform. It specifies how to develop robust, scalable, distributed applications to support the Internet as well as a wide range of client devices that maximize the reach of an application. It is a framework for building three-tier, component-based applications that can be delivered over a network. The architecture of Windows DNA development is based on a server-centric model, where the databases and business logic reside on servers, to which local and remote thin and rich clients connect. Windows DNA includes Microsoft technologies like COM, Microsoft Transaction Server, the IIS Web server, and OLE DB database connectivity, as well as open standards like XML for data exchange. DNA provides the framework for component-based development on Windows platforms.

DOCSIS

Data Over Cable Service Interface Specifications

DOM

DOM (Document Object Model), a programming interface specification being developed by the World Wide Web Consortium (W3C), lets a programmer create and modify HTML pages and XML documents as full-fledged program objects.

DPM

Defects per Million

DPMS

Display Power Management Signaling (VESA standard)

DRAM

Dynamic Random Access Memory

DSP

Digital Signal Processor

DTD

Document Type Definition

DTO

Digitally Controlled Oscillator

DTS

Decode Time Stamp

DTV

Digital TV

DVB

Digital Video Broadcasting

DVD

Digital Versatile Disc. Originally, Digital Video Disc. An optical storage medium that provides greater capacity and bandwidth than CD-ROM; DVDs are frequently used for multimedia as well as data storage.

DVI

Digital Video Interface. Monitor connection standard from the DDWG (Digital Display Work Group).

DVS

Digital Video System

DXVA

DirectX Video Acceleration

DX8

DirectX 8. A Microsoft standard

DX9

DirectX 9. A Microsoft standard

E

ECO

Engineering Change Order

ECR

Engineering Change Request

EDA

Electronic Design Automation

EDGE

Enhanced Data GSM Environment

EDID

Extended Display Identification Data (VESA standard)

EDIF

Electronic Design Interchange Format

EDO

RAM Extended Data Output RAM

EIDE

Enhanced Integrated Device Electronics

EMI

Electro Magnetic Interference

EPG

Enhanced Programming Guide

EPR

Engineering Problem Report

EPROM

Erasable Programmable Read Only Memory

ESCR

Extra System Clock Reference

F**FAE**

Field Application Engineer

FAT

- 1 Forward Application Transport
- 2 File Allocation Table

FIFO

First In, First Out

Firewall

A firewall is a set of related programs, located at a network, that protects the resources of a private network from users from other networks. (The term also implies the security policy that is used with the programs.) An enterprise with an intranet that allows its workers access to the wider Internet installs a firewall to prevent outsiders from accessing its

own private data resources and for controlling what outside resources its own users have access to. Basically, a firewall, working closely with a router program, filters all network packets to determine whether to forward them toward their destination. A firewall also includes or works with a proxy server that makes network requests on behalf of workstation users. A firewall is often installed in a specially designated computer separate from the rest of the network so that no incoming request can get directly at private network resources. There are a number of firewall screening methods. A simple one is to screen requests to make sure they come from acceptable (previously identified) domain names and IP addresses. For mobile users, firewalls allow remote access in to the private network by the use of secure logon procedures and authentication certificates. A number of companies make firewall products. Features include logging and reporting, automatic alarms at given thresholds of attack, and a graphical user interface for controlling the firewall.

FSAA

Full screen Anti-aliasing

FSDOS

Full screen DOS

G**GCO**

Graphics Controller Object

GML

Generalized Markup Language (GML) is an IBM document formatting language that describes a document in terms of its organization structure and content parts and their relationship

GOP

Group of Pictures

GTF

Generalized Timing Format. A VESA specification.

GUI

Graphical User Interface

H

HAL

Hardware Abstraction Layer

HDCP

High Definition Content Protection

HDML

HDML (Handheld Devices Markup Language)
- now called the Wireless Markup Language
(WML)

HDTV

High Definition TV. The 1920x1080 and the
1280x720 modes defined by ATSC.

HSD

High Speed Data

HTML

HTML (Hypertext Markup Language) is the
set of “markup” symbols or codes inserted in a
file intended for display on a World Wide Web
browser.

I

I/O

input/output

IDC

Inter Driver Communication

IDL

1 IDL (interface definition language) is a
generic term for a language that lets a program
or object written in one language communicate
with another program written in an unknown
language.

2 IDL (Interactive Data Language) is a lan-
guage for creating visualizations based on sci-
entific or other data.

IF

Intermediate Frequency

IIOP

Internet Inter-ORB Protocol (IIOP) is an
object-oriented protocol that makes it possible
for distributed programs written in different
programming languages to communicate over
the Internet.

J

JAVA

Java is a programming language expressly
designed for use in the distributed environment

of the Internet.

JavaScript

JavaScript should not be confused with Java.
JavaScript, originated at Netscape. It is inter-
preted at a higher level, is easier to learn than
Java, but lacks some of the portability of Java
and the speed of bytecode.

JEDEC

Joint Electron Device Engineering Council

JTAG

Joint Test Action Group

K

L

LCD

Liquid Crystal Display

LOD

Level of Details (refers to texture pixel selec-
tion)

LRTC

LCD Response Time Composition

LVD

Low Voltage Differential

LVDM

Low Voltage Differential Signaling for multi-
point applications

LVDS

Low Voltage Differential Signaling

M

MB

Mega Byte

MCM

Multi-chip Module

MDP

MPEG Data Port

MMC

MULTIMEDIA CENTER™

MPEG

Motion Pictures Experts Group. (ISO body
developing compression algorithms for motion
video) Refers to compressed video image

streams in either MPEG-1 or MPEG-2 formats.

MPP

Multimedia Peripheral Port

N**NTSC**

National Television Standards Committee (NTSC). Standard definition TV system used in North America and other areas.

O**ODBC**

Open DataBase Connectivity (ODBC) A database programming interface from Microsoft that provides a common language for Windows applications to access databases on a network.

OpenGL or OpenGL

Open Graphics Library – for 3D

OS or O/S

Operating System

OTM

Overlay Theater Mode

P**PAL**

Phase Alternate Line (PAL). The standard definition TV system used in Europe and other areas.

PBGA

Plastic Ball Grid Array

PCI

Peripheral Component Interconnect

PDA

Personal Digital Assistant PDA (personal digital assistant) is a term for any small mobile hand-held device that provides computing and information storage and retrieval capabilities for personal or business use, often for keeping schedule calendars and address book information handy.

PDEF

Physical Design Exchange Format

PID

Program ID

PING

A PING request is generally used to trouble-

shoot Internet connections, but when a network is overwhelmed with replies to a PING, it becomes a security breach called a “Smurf.”

PIO

Programmed Input/Output

PIP

Picture in Picture

PLL

Phase-Locked Loop

PM4

Programming Model 4 - graphics rendering commands

PM

Power Management

POD

Point-Of-Deployment

POST

Power On Self Test

PTS

Presentation Time Stamp

Q**QDR**

Quad Data Rate

R**RDF**

Resource Description Format. A recommendation from the W3C for defining Web content.

R/W

read/write

RAMDAC

RAM digital-to-analog converter

RGB

red-green-blue (may refer to a color encoding scheme or a video signal)

ROP

Raster Operation

S**SADD**

Software Audio Decoder Driver

SBA

Side Band Addressing



SBP

Serial Bus Protocol

SCSI

Small Computer Systems Interface

SDRAM

Synchronous Dynamic Random Access Memory

SDTV

Synchronous Dynamic Random Access Memory

SGML

Standard Generalized Markup Language is a standard for how to specify a document markup language or tag set.

SGRAM

Synchronous Graphics RAM

SMA

Shared Memory Architecture

SMBus

System Management Bus

SMTP

Simple Mail Transfer Protocol is a TCP/IP protocol used in sending and receiving e-mail.

Smurf attack

A maliciously sent PING request to an Internet broadcast address, where it can be replicated up to 255 times.

SOC

System On a Chip

Spam

Any unsolicited message sent via e-mail to numerous people.

SS

Spread Spectrum

SSAA

Super Sampling Anti-Aliasing

SSL

Secure Socket Layer is a low-level encryption standard that encrypts transactions in protocols such as HTTP, NNTP, and FTP.

STB

Set-Top Box

STC

System Time Clock

STW

Set-Top-Wonder

T

TC

Texture Compression

TCP/IP

Transmission Control Protocol/Internet Protocol is the basic communication language or protocol of the Internet.

TCL

Transform, Clipping and Lighting

TMDS

Transmission Minimized Differential Signaling. A transmission method for sending digital information from a personal computer, set-top box or other video source to a flat panel display.

U

UMA

Unified Memory Architecture

UML

Unified Modeling Language is a standard notation for the modeling of real-world objects as a first step in developing an object-oriented program.

Unicode

Unicode provides a unique number for every character, no matter what the platform, no matter what the program, no matter what the language. Fundamentally, computers just deal with numbers. They store letters and other characters by assigning a number for each one. Before Unicode was invented, there were hundreds of different encoding systems for assigning these numbers.

USB

Universal Serial Bus

UTF

Unicode transformation format (UTF) is an algorithmic mapping from every Unicode scalar value to a unique byte sequence. See also Character Encoding Model.

UV

Chrominance (also CrCb) (corresponds to the color of an image pixel)

V**VBI**

Vertical Blank Interval

VESA

Video Electronics Standards Association

VFC

VESA Feature Connector

VGA

Video Graphics Array

VIVO

Video In Video Out

VMR

Video Mixing Renderer

VOBU

Chrominance (also CrCb) (corresponds to the color of an image pixel)

VPU

Virtual Processing Unit

W**WAD**

Wide Aspect Display

WAP

Wireless Application Protocol is a specification for a set of communication protocols to standardize the way that wireless devices can be used for Internet access.

WDM drivers

Windows Driver Model. WDM Drivers are supported in Windows 98, Windows ME and Windows 2000. The same driver binary will run on all platforms and has access to a full range of operating system services. Many WDM drivers are for audio or video multimedia although they can also support standard

I/O.

WLM

Wireload Model

WML

Wireless Markup Language (WML) - formerly HDML (Handheld Devices Markup Language).

WRAM

Wireload Model

X**XHTML**

As the World Wide Web Consortium (W3C) describes it, XHTML (eXtensible Hypertext Markup Language) is "a reformulation of HTML 4 as an application of the eXtensible Markup Language (XML).

XML

Extensible Markup Language is a flexible way to create common information formats and share both the format and the data on the World Wide Web, intranets, and elsewhere.

Y**YUV**

The method of video signal color encoding. Includes luma (Y, black and white component) and chroma (UV, color component).

YPrPb

Component Video

Z**ZV**

Zoom Video

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