Introduction

Congratulations on your decision to buy Graphics Blaster(TM) RIVA TNT(TM).

Graphics Blaster RIVA TNT offers industry-leading 2D and 3D performance, meeting all the requirements of the mainstream PC graphics market and Microsoft's PC'98 and DirectX 6.0 initiatives.   Graphics Blaster RIVA TNT delivers the industry's fastest Direct3D(TM) acceleration solution and also delivers leadership VGA, 2D and video performance, enabling a range of applications from 3D games to DVD and video conferencing.

Graphics Blaster RIVA TNT is the first integrated, 128-bit 3D processor that processes 2 pixels per-clock-cycle, thereby enabling single-pass multi-texturing and delivering a mind-blowing 180 million pixels-per-second fill rate. Graphics Blaster RIVA TNT's (twin-texel) 32-bit color pipeline, 24-bit Z, 8-bit stencil buffer and per-pixel precision delivers unsurpassed quality and performance allowing developers to write standards-based applications with stunning visual effects and realism.

To help you get the most out of your graphics card, your computer and your monitor, we include three user-friendly utilities, Creative BlasterControl, Sonnetech 3Deep, and Sonnetech Colorific.

Notes
- To find out more information and instructions on how to use Graphics Blaster RIVA TNT, read this online Help.
- For more information on the graphics features and software support, see the Related Topics below.
- For more information on how to use Creative BlasterControl and Creative SoftMPEG, read the topics under their respective help files.
- Creative SoftMPEG is available only for Windows 95 and Windows 98.

{button ,AL(`2D Graphics and Windows Support;3D Features;Software Support',0,`',`')}   Related Topics

To specify performance settings for Graphics Blaster RIVA TNT

1 Right-click your desktop, and then click Properties on the shortcut menu.

2 In the Display Properties dialog box, click the BlasterControl tab.

3 On the BlasterControl tabbed page, click the Tweak icon.

4 In the Tweak module, select the desired settings.

5 To specify additional settings for Graphics Blaster RIVA TNT, click the Advanced Settings button.

6 To reset all the options to their default settings, click the Restore Defaults button.
   Otherwise, click the OK button.

Tip
▪   To display a brief description of an option or a check box in the BlasterControl Tweak module, right-click the item, and then click What's This.

Software Support

Graphics Blaster RIVA TNT supports the following:
- DirectDraw and Direct3D drivers

With these drivers, you can enjoy the new wave of 3D and 2D games designed for Windows in high-quality display and speed.

3D Features

Graphics Blaster RIVA TNT has a rich list of three-dimensional features including:
- Texture mapping

Adds realistic textures to the 3D objects and environments in your games and renderings.
- Anisotropic filtering

Smoothens out the "blockiness" of textures.
- Perspective correction

Reduces any distortion on the textured objects and environment.
- Fogging

Creates more natural atmosphere by blending objects into environment.
- Anti-aliasing

Smoothens out jagged edges of diagonal and curved lines.

2D Graphics and Windows Support

Graphics Blaster RIVA TNT accelerates your 2D graphics in Windows and also supports the following:
- MPEG-1 video playback and assisted MPEG-2 decoding
MPEG-1 is the standard for Video CD playback.
- Color space conversion and filtered image scaling
Smoothens out full-screen video display and any jitters in high-frame video playback.

Note
- Refer to your Installation Guide for a list of display resolutions and refresh rates.

Glossary

Anti-aliasing

Removes the appearance of jagged edges on diagonal and curved lines by cleaning and smoothing out abrupt and jagged changes in a picture. There are other forms of anti-aliasing such as texture anti-aliasing.

Direct3D

An Application Programming Interface (API) for manipulating and displaying three-dimensional (3D) objects developed by Microsoft. Direct3D allows 3D applications and games to use whatever graphics acceleration card is installed in the system. Most 3D accelerator cards for computers in the market, such as Graphics Blaster RIVA TNT, support Direct3D.

DirectDraw

A software interface standard for transferring video processing from a computer's central processing unit (CPU) to the video adapter. The standard was first developed by Intel and was called the Display Control Interface (DCI). DCI is now supported by Microsoft with the name DirectDraw as a registered trademark. DirectDraw can also provide applications, such as games, with direct access to the features of a particular display adapter.

DirectX

A set of Application Programming Interface (API) developed by Microsoft that enables programmers to write programs that provide access to the hardware features of a computer without knowing exactly what hardware will be installed on the computer.

DirectX achieves this by creating an intermediate layer that translates generic hardware commands into specific commands for particular pieces of hardware. In particular, DirectX lets the multimedia applications take advantage of hardware acceleration features supported by graphics accelerators. Some of DirectX components include DirectDraw and Direct3D.

Texel

A colored dot in a texture map. Texture mapping operates by assigning texels to the corresponding pixels of an object.

Texture Anti-Aliasing

If a pixel is in between texels, the texture anti-aliasing colors the pixel with an average of the texels' colors instead of assigning it the exact color of one single texel. Without this form of anti-aliasing, the texture appears very "blocky" when viewed close up. Texture anti-aliasing is also known as bilinear filtering or sub-pixel positioning.

Texture Mapping

Takes a bitmapped image, for example, like a brick surface or the wood grain surface, and maps them into a 3-dimensional surface. This makes the object look more realistic.

Restores all settings to their default values.

Tip: Clicking the OK or Apply button immediately after clicking this button clears all changes to settings made by BlasterControl Tweak, thereby forcing the display drivers to use their default settings.

This option is used to turn fog table emulation on or off.   Direct3D specifies that a display adapter capable of D3D hardware acceleration should be able to implement either vertex fog or table fog.   Some games do not correctly query the D3D hardware capabilities and expect table fog support.   Choosing this option will ensure that such games can be run with Graphics Blaster RIVA TNT.

Fog table emulation is enabled by default.

This option allows you to disable the DirectX 6 features of the drivers.

Some games written for earlier versions of DirectX may not run properly when you have DirectX 6 installed and the DirectX 6 support enabled in the drivers.   Selecting this option forces the drivers to run in DirectX 5 compatibility mode so that older games will run correctly.

If you wish to run certain older games that do not start or do not run as they should, select this checkbox.

Graphics Blaster RIVA TNT automatically generates mipmaps to increase the efficiency of texture transfers across the bus and provide higher application performance.   However, some applications may not display correctly when automatically generated mipmaps are enabled.   To correct any problems, reduce the number of automatically generated mipmap levels until the images are properly displayed.   Reducing the number of mipmap levels can often eliminate texture misalignment or "seaming" (at the expense of some performance).

This allows you to select the auto-mipmapping method used by the Graphics Blaster RIVA TNT.

You can select either the bilinear or trilinear mipmapping method, whereby the bilinear method generally provides better performance, while the trilinear method generally produces a higher quality image.

This allows you to adjust the LOD (Level of Detail) bias for mipmaps.

A lower bias will provide better image quality, while a higher bias will increase application performance.   You can choose from five preset bias values, varying from "Best Image Quality" to "Best Performance".

This option allows for dithering of trilinear mipmaps.

Allowing mipmap dithering will provide increased application performance at the expense of some image quality. In some cases, a loss of image quality may not be noticeable, so you may wish to take advantage of the extra performance gained by enabling this feature.

A list of the custom Direct3D settings (or "tweaks") you have saved.   Selecting an item from the list will activate the setting.   To apply the setting, click the OK or Apply button.

Lets you save the current Direct3D settings (including those set in the Advanced Settings dialog box) as a custom "tweak".   Saved settings will then be added to the adjacent list.

Once you have found the optimal settings for a particular Direct3D game, saving the settings as a custom tweak allows you to quickly configure Direct3D before starting the game and eliminates the need to set each of the options individually.

Deletes the custom setting currently selected in the list.

Displays a dialog which allows you to customize advanced settings for Graphics Blaster RIVA TNT.

These options allow you to control the anti-aliasing features of the drivers.   Anti-aliasing is a method used to smooth edges of 3D objects to eliminate jagged appearance.   Note that enabling anti-aliasing will not automatically cause all Direct3D programs to render anti-aliased images.   Anti-aliasing must be supported by the application in order for it to work properly.

You can select from the following options:

Enabled: Enables Direct3D support for anti-aliasing in the drivers.   This is the default setting.

Disabled: Disables all anti-aliasing support.

Allows you to select the anti-aliasing sampling method.

You can adjust the settings to values which range from providing the fastest application performance to rendering the highest quality image.

If you select this check box, Graphics Blaster RIVA TNT will wait for the screen to refresh before drawing the next frame.

This option allows you to limit the number of frames the CPU can prepare before they are processed by Graphics Blaster RIVA TNT (when VSYNC is disabled).

In some cases, the higher the number of pre-rendered frames allowed, the greater the "input lag" may be in response to devices such as joysticks, gamepads or keyboards. Reduce this value if you experience a noticeable delay in response to the input devices connected to your computer while playing games.

This option changes the hardware texture addressing scheme for texels (texture elements).

Changing these values will change where texel origin is defined. The default values conform to the Direct3D specifications. Some software may expect the texel origin to be defined elsewhere. The image quality of such applications will improve if the texel origin is redefined. Use the slider to adjust the texel origin anywhere between the upper left corner and the center of the texel.

This allows Graphics Blaster RIVA TNT to utilize up to the specified amount of system memory for texture storage (in addition to the memory installed on the display adapter itself).

Note: For performance reasons, this utility will not allow you to set the value to more than one half of the available system memory as reported by Windows.

Allows you to adjust the image quality of textures displayed in OpenGL applications.

If you want textures to be rendered with the highest image quality available for the best appearance, select Optimize For Best Image Quality.

If you want textures to be rendered with reduced image quality to improve application performance, select Optimize For Best Performance.

If you want to use a combination of the above two features, select Blend.   This is the default setting.

Allows you to specify the maximum size of the PCI texture map.

Increasing this value on PCI systems with sufficient memory may significantly improve the performance of some OpenGL applications.

Notes

{bullet.bmp}   For performance reasons, this utility will not allow you to set the value to more than one half of the available system memory as reported by Windows.

{bullet.bmp}   This setting has no effect on systems equipped with an AGP display adapter.

The memory wait state is the delay between two consecutive memory fetches.   If you select this checkbox, the wait state will be shortened to accelerate the performance speed of Graphics Blaster RIVA TNT.

Move this slider to adjust the speed of the SDRAM memory chips on Graphics Blaster RIVA TNT.

Select this check box if you want to disable driver support for enhanced instructions used by certain CPUs.

Some CPUs support additional 3D instructions that complement your Graphics Blaster RIVA TNT and improve performance in 3D games or applications.   This option allows you to disable support for these additional 3D instructions in the drivers.   This can be useful for performance comparisons or for troubleshooting.

Allows you to select between two monitor timing modes:

General Timing Formula or GTF is a standard used by most newer hardware.   This is the default setting.

Discreet Monitor Timings or DMT is an older standard still in use on some hardware.   Select this option if your hardware requires DMT.