Introduction

Congratulations on your decision to buy Creative's 3D Blaster (TM) Savage4.

The 3D Blaster Savage4 is an integrated 2D/3D/video accelerator card suitable for general-purpose graphics applications, including word processing, Web navigation, digital imaging, and games.

Notes

- For more information and instructions on how to use Savage4, read this online help file.
- For information on how to use Creative BlasterControl and Creative SoftMPEG Player, read the topics under their respective help files.
- Creative SoftMPEG Player is available for Windows 95, Windows 98 and Windows NT.

What is Creative 3D Blaster Savage4?

3D Blaster Savage4 uses S3's Savage4 PRO graphics controller, which is a 128-bit controller operating at a core speed of 125 MHz. The Savage4 PRO is a dual-pipeline engine capable of processing and combining two textures simultaneously. This gives software developers the ability to create realistic real-time visual effects such as bump mapping, environmental mapping, and dual texturing. These features are important not only for today's leading edge games, but also for the more sophisticated user interfaces that are beginning to appear in business applications.

As a VGA card, it harnesses an outstanding graphics engine to enhance your overall visual experience. Its powerful graphics engine and rich 3D features give you smoother, more realistic play for games and let you do real-time 3D design work – far surpassing the average VGA card.

Equally uncompromising in the 2D arena, 3D Blaster Savage4 speeds up your navigation within the Windows environment while you work on your documents and spreadsheets or use other applications.

As a 3D game accelerator, its 128-bit processor and 32 MB RAM delivers neck-breaking speed and breathtaking performance. Advanced features include anti-aliasing, bilinear and trilinear filtering. All these translate into overall visual improvement with complex 3D gaming environments. With this awesome power, you will learn to take seamless gameplay and stunning visuals for granted!

To help you get the most out of your graphics card, your computer and your monitor, we include an easy-to-use desktop control utility, Creative BlasterControl.

Notes

- For more information on the graphics features and software support, read the topics under General Specifications.
- For more information on how to use Creative BlasterControl and Creative SoftMPEG, read the topics under their respective help files.
- Creative SoftMPEG Player is available for Windows 95, Windows 98 and Windows NT.

To configure advanced settings for Savage4

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 3D Blaster Savage4 Advanced icon.

4 Select from the following sets of options:

Use These Settings	To
Memory clock speed	Control the hardware memory clock speed of the memory chip.
Graphics processor speed	Control the clock speed for the Savage4 PRO chip.
Always use S3TC texture compression	Specify the video display performance level you want.
Force textures to be mipmapped	Specify the amount of acceleration you want for your graphics hardware
Wait for Vertical Sync	Synchronize the screen update rate with the monitor refresh rate.
Force trilinear filtering with mipmapped textures	Enhance the visual quality of textures in the video display.
AGP memory size	Select the amount of system memory to reserve by the Savage4 PRO chip for AGP transfer.

5 To reset all the options to their default settings, click the Default button.
Otherwise, click the OK button.

Tip

- Right-click an option or a check box on the Savage4 Advanced module dialog box and then click What's This to display a brief description.

3D Features

Creative 3D Blaster Savage4 has an extensive list of three-dimensional features including:

- Texture mapping

Adds realistic textures to the 3D objects and environments in your games and rendering.

- Trilinear filtering

Reduces "blockiness" in a texture map by blurring the pixels to make the object appear smoother.

- Perspective correction

Reduces distortion on the textured objects and environment.

- Fogging

Creates a more natural atmosphere by blending objects into environment.

- Anti-aliasing

Smooths out jagged edges of diagonal and curved lines.

Software Support

Creative 3D Blaster Savage4 supports the following:

- DirectDraw and Direct3D drivers

With these drivers, you can enjoy the new wave of 3D and 2D games designed for Windows 95, Windows 98 and Windows NT in high-resolution display and lightning-fast speed.

2D Graphics and Windows Support

Creative 3D Blaster Savage4 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

Smooth out full-screen video display and reduce any jitters in high-frame video playback.

Note

- Refer to your Getting Started for a list of display resolutions and refresh rates.

Glossary

Anti-Aliasing

Direct3D

DirectDraw

DirectX

Texel

Texture Anti-Aliasing

Texture Mapping

Trilinear Filtering

Anti-Aliasing

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

Trilinear Filtering

Trilinear filtering is the basic form of texture anti-aliasing. It eliminates blockiness by taking an average of four surrounding pixels to determine the shading or texture of a single pixel. This allows a richer and more detailed image to be displayed on the screen.

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 Creative 3D Blaster Savage4, 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.

Use this control to select the desired hardware clock speed for the memory chip. Generally, performance is better if the clock rate is set higher. Remember that setting too high a rate causes pixel drop, screen corruption and your system to hang. Though the system default setting should give good performance, you can experiment with the setting to determine the optimal level for your system.

If your system hangs, go to Windows Safe mode and restore the setting to the system default level by clicking the Default button.

Use this control to specify the desired clock speed for the Savage4 PRO chip. Generally, performance is better if the clock rate is set higher. Remember that setting too high a rate causes pixel drop, screen corruption and your system to hang. Though the system default setting should give good performance, you can experiment with the setting to determine the optimal level for your system.

In the event that your system hangs, go to Windows Safe mode and restore the setting to the system default level by clicking the Default button.

This tab is for DirectX settings. You can configure the following preferences by clicking in the checkboxes.

S3's S3TC technology improves the texture performance through faster texture rendering resulting in an improvement in frame rate. The image quality of the texture may be slightly affected. Recommended for games that do not utilize texture compression.

When selected, games written specifically for DirectX will enable force all the textures to be mipmapped. When this option is selected, visual quality of the rendered scene will not be changed. An increase in rendering performance may result.

When selected, games written specifically for DirectX will synchronize buffer swaps with the vertical retrace signal of the monitor. This resolves any visual tearing problems.

When selected, the visual quality of the mipmapped texture is improved by making use of the hardware trilinear filtering. In some cases, there is a slight decrease in performance. It is recommended that you disable this as some applications do not support trilinear filtering for texture. The texture may look corrupted in this case. Hence disabling the hardware trilinear filtering should solve the texture corruption problem.

Use this control to select the amount of system memory to be reserved by the Savage4 PRO chip for AGP transfer. Some applications that are texture-intensive or have large textures to transfer will need to increase the AGP memory size. Hence some applications may benefit from this. However, when too much of the AGP memory size is reserved from the system memory, less system memory remains for other applications.

Click this button to go to Advanced tabbed pages.

Click this button to return all settings to their default values.

Click this button to go to More Settings tabbed pages.

When selected, the speed of the visual rendering will be optimized. However, this may hang some DirectX programs. If this happens, restart your computer and disable this feature.