



Eye3D™ ***Stereoscopic Eyewear Driver***

USERS MANUAL

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Eye3D Stereoscopic System Users Manual

We all know that you purchased this Eye3D Stereoscopic System to enhance your 3D gaming experience. Although the Eye3D Stereoscopic System has many unique features and offers a completely customizable 3D experience, learning to use the system can be simple and fun. Please follow the 5 easy sections to properly install, configure, and operate your Eye3D Stereoscopic System. If you do, you'll quickly learn to make the most of your Eye3D Stereoscopic System and your games will never look better.

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Section 1: Installing Eye3D software

Upon successfully installing the Eye3D hardware, use the following installation procedures to install the Eye3D Stereoscopic software in Windows 95 or Windows 98.

The Eye3D Stereoscopic System is compatible with a range of 3d accelerator products. Supported products include accelerators based on the following chipsets:

**3Dfx Voodoo2, 3Dfx Voodoo Banshee, 3Dfx Voodoo3,
ATI Rage 128, ATI Rage 128GL,
Intel i740, Intel i752,
Matrox G200, Matrox G400,
nVidia Riva TNT, Riva TNT2, Riva TNT2 M64, Riva TNT2 Ultra, Vanta,
S3 Savage3D, S3 Savage4**

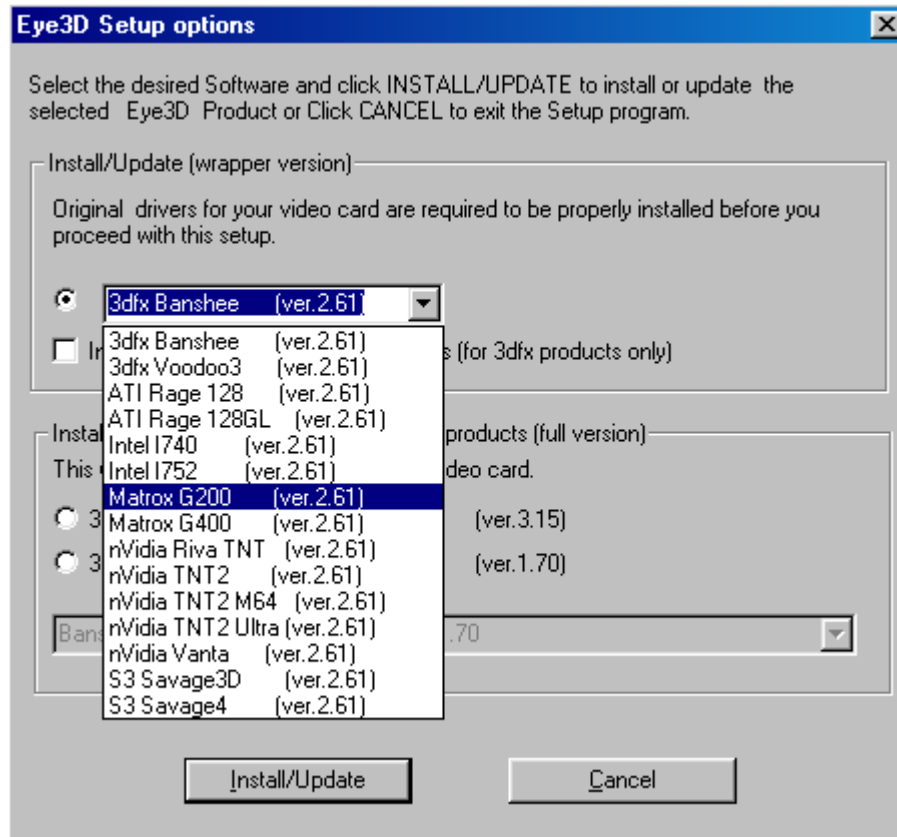
Eye3D features and functionality will differ slightly depending on which 3D accelerator(s) you have installed on your system. Eye3D software can be installed on multiple compatible 3D accelerators on a single system.

1. Turn on your system and start Windows 95/98.
2. Place your Eye3D CD in your CD ROM drive.
3. The Windows 95/98 Auto-run feature will start and the installation process will begin. You will be informed that the Eye3D software installation is beginning. Click Yes to continue.
 - 3a. If the menu does not automatically show up: From the Start menu, choose Run..., then Browse. Double-click on your CD-ROM drive and select Eye3D.exe. Once you return to the Run dialog box, click on OK.
4. InstallShield will extract setup files to your hard drive. After doing so, you will receive the "Software License Agreement" dialogue box. Read the Software License Agreement. Click the Yes button to accept the terms and continue the installation procedure.

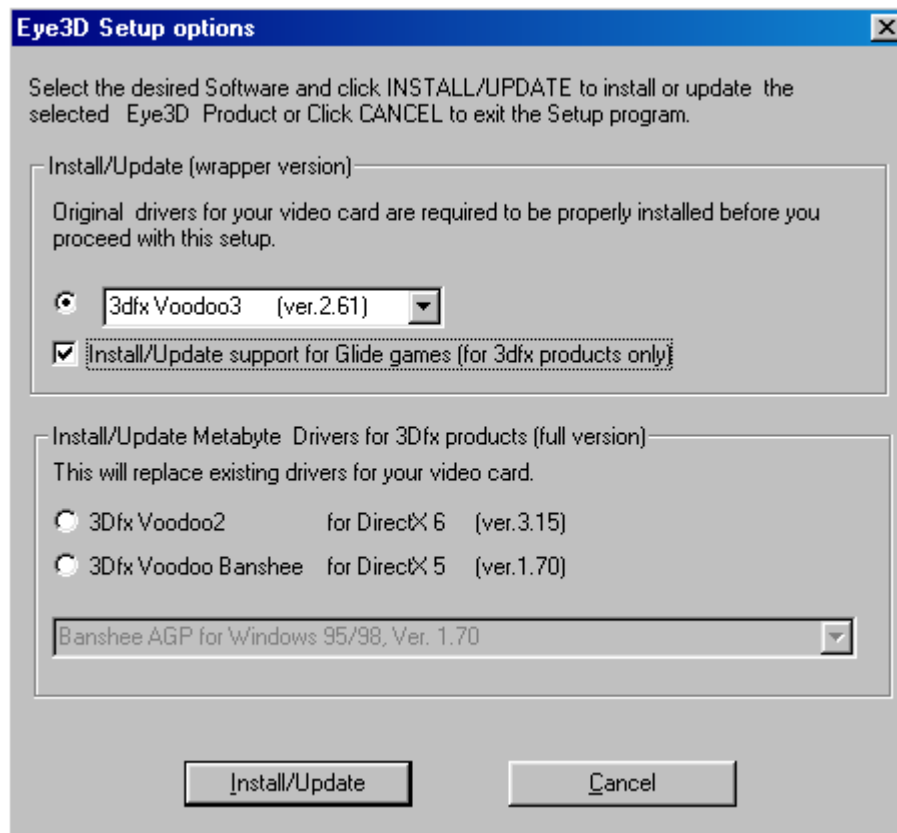
Note: Clicking the No button will terminate the setup program.
5. You will then receive a "Medical Warning" dialogue box. Carefully read the Medical Warning. Click the Yes button to accept the terms and continue the installation procedure.

Note: Clicking the No button will terminate the setup program.
6. You will proceed to the "Eye3D Setup/Update" dialogue box. Use the checkboxes to select the graphics accelerator(s) that you want to install the Eye3D software for. If you have more than one of the available accelerators, you can install the Eye3D stereoscopic software on one or more of the accelerators. Click Install to proceed with the installation.

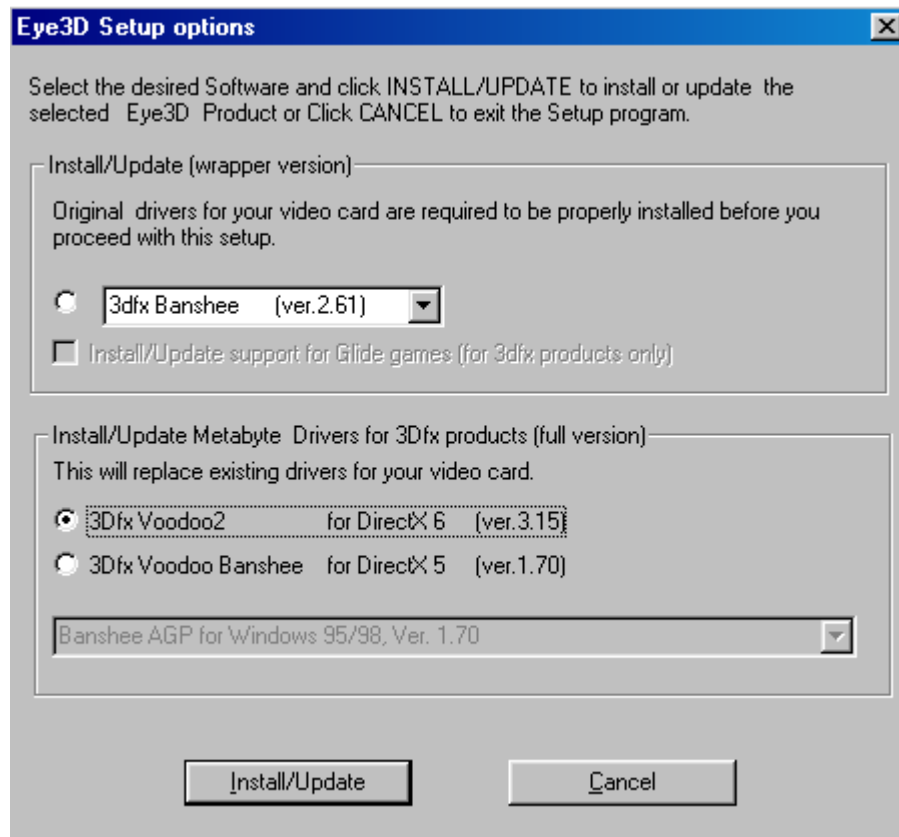
6a. If your VGA card is non-3dfx based products, please choose your VGA card from drop-down menu. **For non-3dfx based products, the Eye3D software will not affect the existing drivers.**



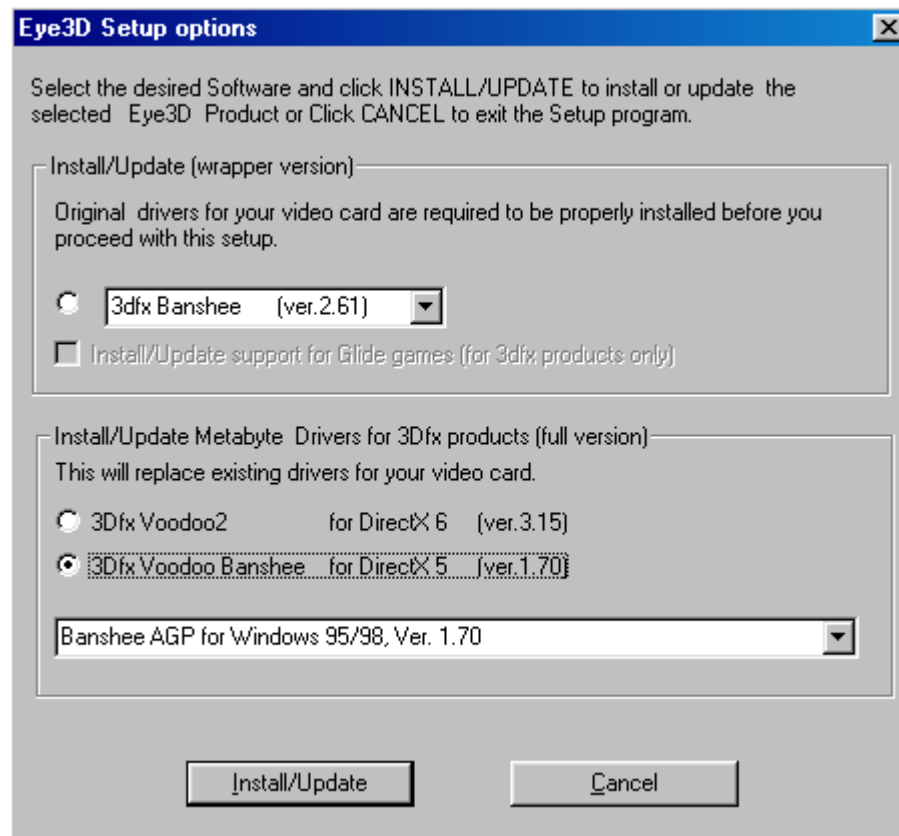
6b. If you have a Voodoo3 card, please select Voodoo3 from the drop-down menu and check install/update support for Glide game box.

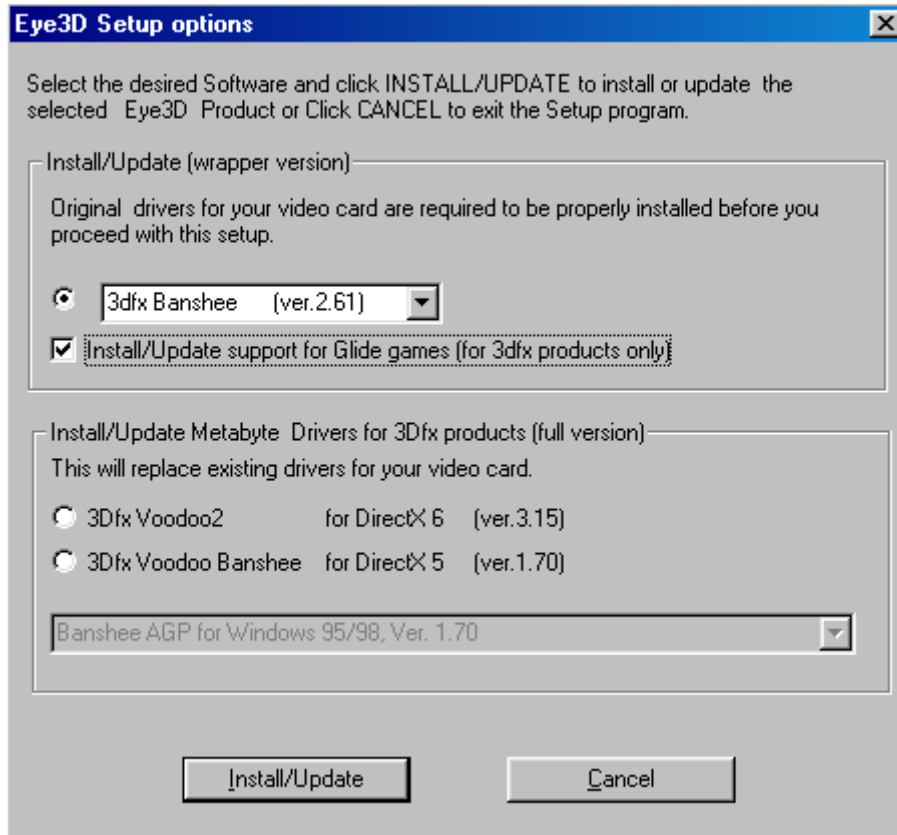


6c. If you use Voodoo2, please check 3Dfx Voodoo2 button. **Note: If you are installing the Eye3D Stereoscopic drivers on a 3dfx Voodoo2, the drivers will replace your existing drivers.**



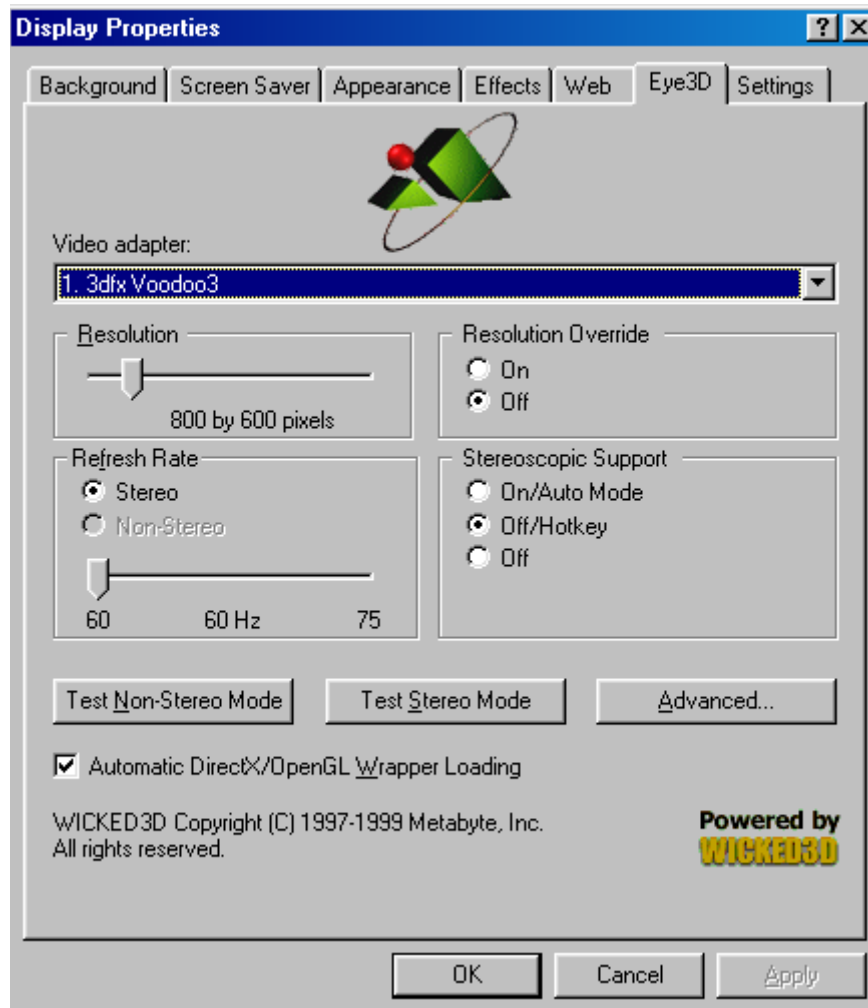
6d. If you use Voodoo Banshee, you can choose either to replace or not to replace the drivers. **The DirectX 5 Banshee selection during installation replaces your existing drivers while the DirectX 6 Banshee installation keeps your current drivers intact.**



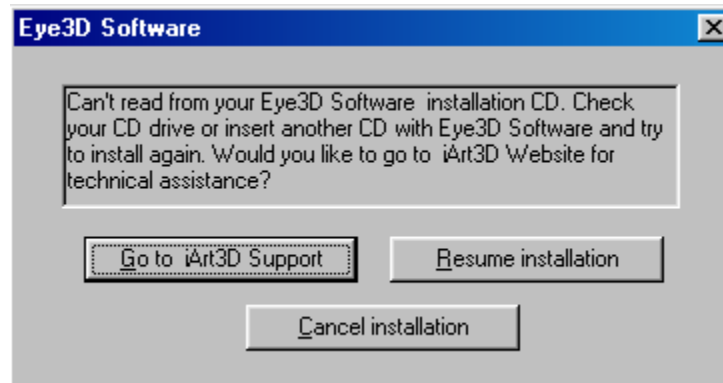


7. If there is not DirectX 7 in your system, installShield will lead you to install it. **Note: For full Eye3D driver functionality, DirectX 6.0 or higher must be installed. If DirectX 6.0 or higher is not installed, install DirectX 7 from the DirectX directory on the Eye3D CD.**
8. After the necessary files are installed, you will receive a "Setup Complete" dialogue box. You may choose to review the README file for the latest information on the software release. Click the Finish button.
9. We recommend you install Eye3D Activator 2.0 to help you toggle back and forth normal and stereo mode easily and capture the JPS files while you are in stereo games.
10. Reboot your computer to complete driver installation.

11. Congratulations! You are now ready to experience the ultimate in 3D gaming! Open the Eye3D Display Properties by right-clicking on your desktop, selecting "Properties" from the drop-down menu, and clicking on the Eye3D tab. You should see the following screen: **Note: Depending on the type of 3d graphics accelerator(s) hardware you have installed in your system, the Eye3D tab may look slightly different from the illustration. If you install DriectX 5 Banshee (ver. 1.70), you will find Eye3D tab at [Display Properties] → [Settings] → [Advanced..].**



Note: You can download the update from our web site (<http://www.iart3d.com>). In order to use the update, it is required the original Eye3D CD is present in the CD-ROM driver. If you do not put your Eye3D CD in your CD-ROM driver, you will get the following message.



Section 2: Understanding the Eye3D Stereoscopic System

Eye3D software enables stereoscopic support for a variety of 3D games. Eye3D allows users to run these games in true stereo 3D by simultaneously generating and displaying game images from the left and right eye viewpoints. When these images are viewed with compatible 3D stereo hardware, the user experiences a perception of depth. Different VGA cards will support different games.

	Direct3D (e.g. Tom Rider II)	OpenGL (e.g. Quake II)	Glide (e.g. Need for Speed III)
ATI Rage 128, ATI Rage 128GL, Intel i740, Intel i752, Matrox G200, Matrox G400, nVidia Riva TNT, nVidia Riva TNT2, nVidia Riva TNT2 M64, nVidia Riva TNT2 Ultra, nVidia Vanta, S3 Savage3D, S3 Savage4	V	V	X
Voodoo2 Banshee Voodoo3	V	V	V

In order to quickly learn to use and enjoy the Eye3D stereoscopic eyewear system, it is important to understand some basic concepts:

Direct3D and OpenGL vs. Glide Games – All current Eye3D driver compatible 3D accelerator cards support both Direct3D and OpenGL games. In addition, 3dfx products support Glide games. Information on how to configure Glide games is only important for Eye3D users with 3dfx accelerator products.

For 3dfx users: *In order to configure the Eye3D software correctly, it is important to know whether each game you want to play is written in Direct3D, OpenGL or Glide. This information can usually be found printed on the box of the game as well as on a “video settings” setup screen within the game. Note that some games have both Direct3D and Glide versions. In this case, we usually recommended that you run the Glide version. The exception here is for Glide3 version games in which we recommend using Direct3D. This is also true with OpenGL titles. All current Eye3D-compatible OpenGL titles can be run as Glide games. You can also check the Eye3D Game Ratings List at <http://www.wicked3d.com> for information on whether a particular game is Direct3D or Glide. For Glide games, you must explicitly choose to use the Glide Wrapper in the Eye3D Glide Control Panel. The option to “Use original glide” is available for Glide titles that do not support Eye3D. (See the Glide Section for more details) Note that there is also an OpenGL stereo wrapper. However, currently in all cases, it is preferable to use the Glide stereo wrapper for OpenGL titles.*

Wrappers - The individual components of the Eye3D Stereoscopic software that enable Eye3D functionality (Stereo and Resolution Override along with Re2Flex for 3dfx products) in games are referred to as “Wrappers”. These wrappers must be active to use these features. The wrappers are activated and controlled using the Eye3D control panel. The wrappers can be disabled for games which are not compatible with the Eye3D Stereoscopic System.

Resolution Override – Resolution Override is an exclusive feature of the Eye3D software that allows you to specify the resolution you want a game to run at, even if the game doesn’t natively offer or support that resolution. There are two major benefits of Resolution Override: First, Resolution Override allows you to play any compatible game at the highest resolution your 3D hardware supports. Second, in stereo mode, Resolution Override maximizes the legibility of in-game text by allowing you to set an actual displayed resolution that is higher than the in-game resolution. For example, you can set the game resolution at 640x480, making text larger and easily readable while overriding the overall displayed resolution to 1024x768 for higher quality, more detailed stereo gameplay. Note that Resolution Override works independently of stereo. You can activate one without activating the other. Resolution Override is controlled using the Eye3D control panel.

Keyboard Hotkeys - Keyboard hotkey controls provide you with keyboard key combinations that you can define to dynamically adjust your Eye3D software powered-Eye3D Stereoscopic System functionality during gameplay. For example, you can toggle stereo or Resolution Override on and off and change the stereo separation to a setting that is most comfortable for you. These hotkeys have been pre-defined with convenient key combinations when the Eye3D software was installed. However, you may choose to re-define the hotkeys to suit your preference. Here is the list of predefined keys (Note that not all keys are available for all cards):

Default Eye3D Hotkeys:

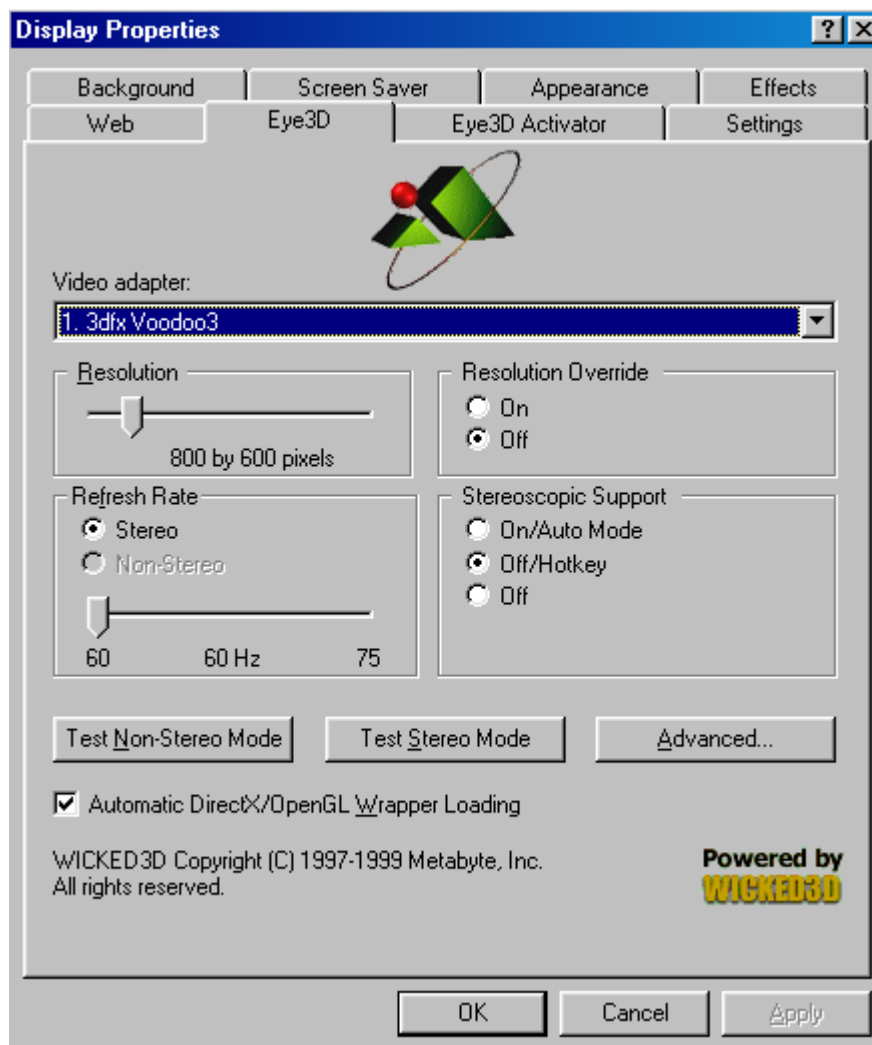
Toggle Stereo	<Ctl + T>	Less Stereo Separation	<Ctl + O>
Toggle Resolution Override	<Ctl + F>	More Stereo Separation	<Ctl + P>
Toggle Stereo and Resolution Override	<Alt + G>	Less Vertical Separation	<Ctl + U>
Reset Stereo	<Ctl + R>	More Vertical Separation	<Ctl + I>
Toggle Stereo Separation	<Ctl + S>	Stereo Crosshair Toggle	<Alt + C>

Re2flex – Re2flex allows you to create and use custom resolutions and refresh rates in order to take full advantage of your 3D graphics hardware. This is especially helpful during stereo gameplay because modes that have increased vertical resolution produce a far superior image. Note that not all 3D graphics accelerators support Re2Flex. Currently, 3dfx Voodoo2 and Voodoo Banshee (DirectX 5 version) support Re2Flex.

Section 3: Eye3D Display Properties Sheet

You are now ready to familiarize yourself with the Eye3D Display Properties Sheet (DPS). Use the controls on the Eye3D DPS to control and customize all product functionality. Eye3D Stereoscopic software includes a stereo test screen that you can use to verify that your hardware and software are set up properly. Open the Eye3D Display Properties by right-clicking on your desktop, selecting “Properties” from the drop-down menu, and clicking on the Eye3D tab. You should see the following screen:

Note: Depending on the type of 3d graphics accelerator(s) hardware you have installed in your system, the Eye3D tab may look slightly different from the illustration. For systems with multiple Eye3D-compatible 3D graphics accelerators, the Eye3D display properties sheet will have a drop-down tab (as shown below) that will allow you to independently configure stereoscopic support for each accelerator.



Eye3D Display Properties Sheet

The main functionality of the Eye3D Stereoscopic System (Stereo support, Resolution Override, and Re2Flex on cards that support it) can be adjusted using the controls on the main Eye3D DPS. Additional advanced controls are available through sub display property sheets accessible from the buttons on the main Eye3D DPS. We will now describe each of the sections of the Eye3D DPS:

Video Adapter

This section displays the 3D graphics accelerator that the Eye3D software is currently controlling. If you have a single Eye3D-compatible graphics accelerator, you will see it listed. If you have multiple Eye3D-compatible graphics accelerators installed on your system, you will see a drop-down menu (as shown above) allowing you to configure/test the Eye3D software for each supported accelerator. All of the Eye3D controls and settings only affect the currently selected accelerator.

Resolution and Refresh Rate

The Resolution Slider Bar has several purposes. First, it allows you to set a refresh rate for a particular resolution, both for stereo and non-stereo gameplay. Select a resolution using the resolution slider bar and use the refresh rate slider bar to select a refresh rate for that resolution. Click "Apply" to set the refresh rate for the selected resolution. You can choose a different refresh rate for stereo and non-stereo gameplay using the radio buttons in the Refresh Rate section. You can also use the resolution slider bar to select the resolution that you want to run a game in using Resolution Override. To do this, use the Resolution slider bar to select the resolution that you want to run your game in and turn on Resolution Override using by selecting the "On" button in the Resolution Override section. When you run your supported games, the resolution will automatically be set at the value chosen using the Resolution slider bar, regardless of the resolution chosen in the game.

In general, the higher the resolution that your hardware (both the graphics accelerator and the monitor) can support, the better quality and more detailed the game images will be. The same is true with refresh rates. The higher the refresh rate, the more comfortable the gaming experience will be. Both are especially true in stereo mode. When stereo mode is enabled, the vertical resolution is halved in order to simultaneously render images for both the left and right eye viewpoints. Playing games in stereo at low resolutions such as 640x480 may result in an "interlaced" look. It is highly recommended that games are run at resolutions of at least 800x600 in stereo. Stereo support requires a monitor that can support at least a 100Hz refresh rate at the resolutions that you want to run your games in stereo at. This is because, in stereo mode, the refresh rate being sent to the monitor is actually twice the refresh rate selected using the refresh rate slider bar. A comfortable stereo refresh rate would be 60Hz per eye, which is actually 120Hz to your monitor. Try 60Hz refresh rate as an initial test and, if necessary, move up and down the scale until you find a setting that is compatible with your hardware and is comfortable to view.

Stereoscopic Support

The stereoscopic support radio buttons allow you to configure how you want to enable stereo support for your games, automatically during startup, manually with a hotkey, or not at all.

On/Auto Mode – Selecting Auto Mode will enable stereo automatically when the game is started. This should be the normal setting. However, certain games may have startup and menu screens that may not look correct in stereo, even though the actual gameplay screens are fine. In this case, use the Hotkey selection. If stereo does not automatically turn on when this setting is selected, use the HotKey to turn on stereo during the game.

Off/HotKey – Using the HotKey selection, games will be run normally (with stereo off). You have the option to enable stereo during the game by hitting the hotkey assigned to toggle stereo on (which, by default, is <ctrl>-T). Note that this selection is only functional with Direct3D games and Glide games on 3dfx graphics accelerators. For OpenGL games running using the OpenGL stereo wrapper, stereo can only be either on at all times during the game or completely off. Stereo cannot be toggled on and off in OpenGL stereo wrapper.

Off – Selecting Off will disable stereo support completely and allow you to run games as they would normally. This is useful for troubleshooting purposes and for games that are not compatible with stereo.

Resolution Override

The Resolution Override radio buttons allow you to choose whether to use the Resolution Override feature or not. To use Resolution Override, select "On" and choose the resolution that you want to run at using the Resolution Slider bar. Your compatible games will run at that resolution regardless of the resolution setting in the games. To use the built-in resolution controls in your games, select "Off". If you have a 3D graphics accelerator that supports Re2Flex, you also have the option to toggle Resolution Override on and off during gameplay using the Resolution Override HotKey (which is <ctrl>-F by default). **Note: Games use different techniques in managing textures which may conflict with Resolution Override. If Resolution Override does not work for a particular game, turn Resolution Override off and select your resolution using the built in resolution controls in the game.**

Test 3D Mode Buttons

The Eye3D DPS has 2 test buttons that will allow you to test your hardware with the currently selected resolution and refresh rate. One is used to test standard 3D and the other is used to test stereoscopic 3D. If the test(s) do not work with the currently selected video mode, adjust the resolution and/or refresh rate and try the test again.

Test Non-Stereo Mode: The Test Non-Stereo Mode button will activate a 3D test screen, running at the resolution and refresh rate currently selected using the slider bars on the Eye3D DPS. (The refresh rate will be the “Non-Stereo” refresh rate.) As an initial test, use the default settings as they should be compatible with most hardware. You should see the following screen:



Test Non-Stereo Mode Screen

The current mode will be displayed on the lower right corner of the screen. Press <Esc> to exit the Test Mode screen. **Note: only cards that support Re2Flex will have the additional controls on the screen.**

Re2Flex capable cards: You can use the keys displayed on the test screen to adjust the screen size and position.

Test Stereo Mode: The Test Stereo Mode button will activate a Stereoscopic 3D test screen, running at the resolution and refresh rate currently selected using the slider bars on the Eye3D DPS. (The refresh rate will be the “Stereo” refresh rate.) As an initial test, use the default settings as they should be compatible with most hardware. Put on your Eye3D stereoscopic eyewear and you should see the following screen:



Eye3D Stereo Test Screen

Take this opportunity to align the vertical separation. This is important for a comfortable 3D gaming experience. For 3dfx users, the Eye3D stereoscopic driver has automatic vertical alignment; however, slight adjustments may be necessary. Remove your stereo eyewear and look at the text on the screen. If necessary, use the U and I keys to adjust the display so that the text is vertically aligned. (Note that the Test Screen text will not show the horizontal shift displayed in the following images. However, the text in many games will.)



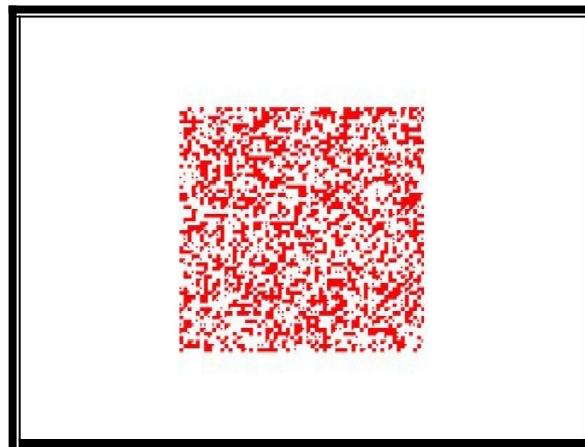
Put on your 3D eyewear again and notice the improvement. You can now use the O and P keys to adjust the stereo separation to a setting that feels the most comfortable for your eyes. Keep in mind that the wider the separation, the better the stereo effect will be. At this point, you should see a single 3D image on the screen. You can also use the other on-screen keys to adjust screen location and size. Press <Esc> to return to the Eye3D DPS tab. Try the stereo test on various resolutions and refresh rates to explore the capabilities of your monitor. If you see 2 separate screens, one on top of the other, try pressing R to reset the stereo hardware. If this doesn't work, press <Esc> and reduce the refresh rate and/or resolution in the display properties sheet and try again.

Press <T> to bring up the Depth Perception Test. You should see a row of 5 stars, each progressively "deeper" into the monitor from left to right.



Stereo Depth Perception Test

Press <Shift+T> to see the Eyes Test to verify that you can indeed see stereo images. If you can see a square within the middle leftside of the larger square, you can see stereo images correctly. There are various reasons why you would not be able to see the square; however, it is best to consult a physician. Press <Shift+T> again to exit the Eyes Test.



Stereo Eyes Test

Advanced Properties

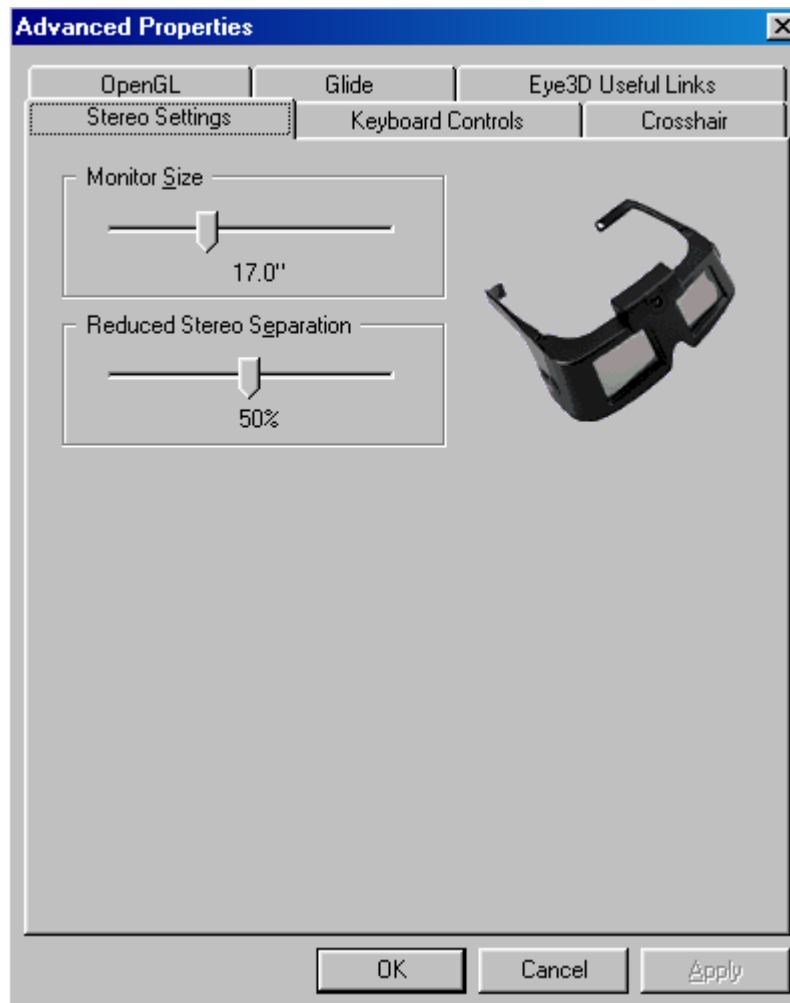
Click the “Advanced...” button to access additional controls for customizing the gameplay experience.

Stereo Settings

The Stereo Settings tab has 2 slider bars used to adjust the stereo separation for your hardware and your viewing comfort

Monitor Size: Move the slider bar to set the size of your monitor. This setting determines the pixel separation between the left and right eye images. (You can use hotkeys to fine-tune the settings during actual gameplay.)

Reduced Stereo Separation: Given the selected monitor size, 100% stereo separation will give the most accurate, ideal stereo image. However, you may find that 100% separation is too much for your eyes, causing you to see double. Use the Reduced Stereo Separation slider bar to reduce the separation to a level that is comfortable to your eyes. Start with the default 50% and adjust until you reach a value that is comfortable for you. Note that as you become used to the stereoscopic experience, you may want to increase the stereo separation to get an even more immersive experience.



Stereo Settings Control Panel

Keyboard Controls

Keyboard hotkey controls provide you with keyboard key combinations that you can define to dynamically adjust Eye3D software functionality during gameplay. For example, you can toggle stereo or resolution override on and off and change the stereo separation to a setting that is most comfortable for you. The Eye3D hotkeys have been pre-defined with convenient key combinations when Eye3D software was installed. To redefine the keys, select the function for which you want to define a key, and enter the key(s) in the box on the right. Note that you can enter a combination of keys using <Alt>, <Ctrl>, and/or <Shift>. Hold down the modifier key(s) and press the key to be defined. This gives you the ability to configure key combinations that aren't used by the game itself.

Toggle Stereo – Use this to toggle stereoscopic support on/off within a game. You can use this function to switch back and forth between stereo and non-stereo to view small items which may be illegible in stereo. Note that this hotkey only works with Direct3D games (and Glide games for 3dfx users).

Less/More Stereo Separation – Use these functions to adjust the stereo separation within the game. The new settings will be saved and reflected in the Stereo Settings tab.

Less/More Vertical Separation – Use these functions to adjust the vertical separation between the left and right eye images. The easiest way to correct vertical separation is to align 3D text on the screen so that there is no vertical separation. **Note: Correctly aligning vertical separation important to reduce the chance of eyestrain!**

Reset Stereo – Use this function to reset stereo separation if your monitor stops producing a stereo image. Try this hotkey if you see two images, one on top of the other, on the screen.

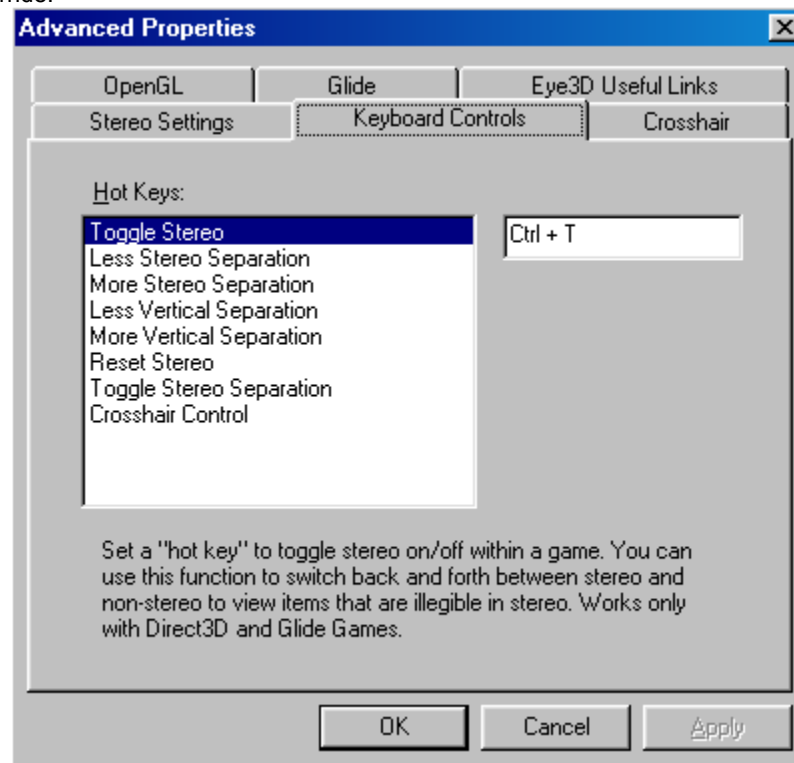
Toggle Stereo Separation – Set a hotkey to toggle the stereo separation from the current value to zero.

Crosshair Control – Use this hotkey to cycle through the available 3D crosshairs during gameplay. The available crosshairs are “None”, “Laser” (red dot), and “cross” (a standard 3D crosshair). These are available only on OpenGL and Glide games.

The following are available only for graphics hardware that supports Re2Flex:

Toggle Resolution Override – Sets a hot key to toggle the resolution override in Direct3D (and Glide for 3dfx users) games.

Toggle Stereo & Resolution Override – Sets a hotkey to simultaneously toggle both Stereo and Resolution Override.



Keyboard Hotkey Control Panel

Crosshair

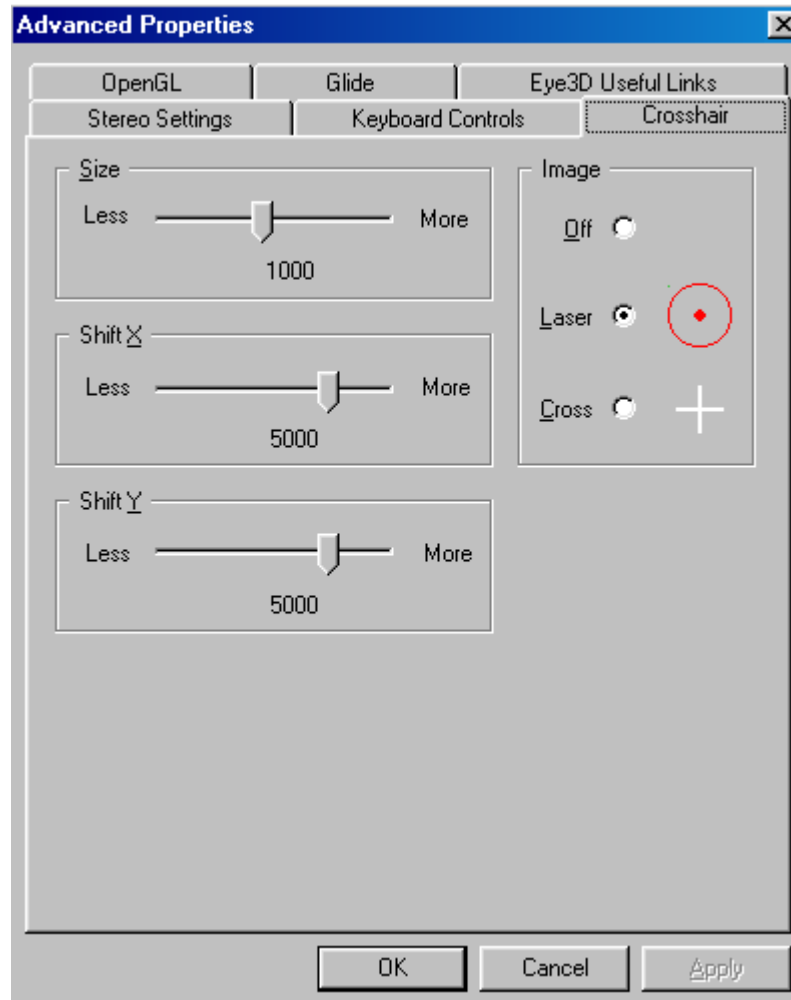
The Eye3D drivers include two true stereoscopic 3D crosshairs that you can use instead of the flat 2D crosshairs that are available in most games. The Crosshair settings tab allows you to choose and fine tune the look of these crosshairs. Note that this feature currently only works in OpenGL and Glide games played in stereo mode.

Image – Choose Off to use the game’s built-in targeting device or for games where a targeting device is not necessary. Select Cross for a stereo-correct crosshair or Laser for a dynamic laser sight targeting device. Note that you can use a hotkey to cycle through the available images during gameplay.

Size – Selects the size of the crosshair or laser sight. Values larger than 100 specify a 3D crosshair that changes its size depending on the distance to the objects being targeted.

Shift X – Use to horizontally correct aiming for a non-centered gun in first-person shooter type games.

Shift Y – Use to vertically correct aiming for a non-centered gun in first-person shooter type games.



Crosshair Control Panel

OpenGL

The OpenGL tab allows you to control various settings for games using the OpenGL stereo wrapper. For all cards but Voodoo2, Voodoo3 and Banshee the OpenGL stereo wrapper is automatically loaded. For these three cards, the Metabyte OpenGL stereo wrapper must be manually installed. However, currently in all cases, it is preferable to use the glide wrapper for all OpenGL games on these cards.

The OpenGL wrapper is in one of the following subdirectories under c:\Program Files\Metabyte\eyescream and the filename is as shown.

\Voodoo2	OpenGL32.GLD for Glide	OpenGL.D3D for DirectX
\Banshee	OpenGL32.GLD for Glide	OpenGL.D3D for DirectX
\Global	OpenGL32.GLD for Glide(Voodoo3)	r_opengl.dll for DirectX(other cards)

To manually install the OpenGL stereo wrapper, copy the appropriate file from the correct subdirectory to the game directory you wish to use it with. Rename the file to Opengl32.dll.

Note: For 3dfx users, an OpenGL driver for Quake3 is also included with the Eye3D software. Two identical files, opengl32.dll and opengl32.gld are copied into your c:\program files\metabyte\eyeSCREAM\Voodoo2 and/or c:\program files\metabyte\eyeSCREAM\banshee directories. Copy the opengl32.dll file into your Quake3 directory and use the Glide controls in order to play Quake3 in stereo.

The OpenGL settings tab allows you to adjust various properties when using the OpenGL wrapper.

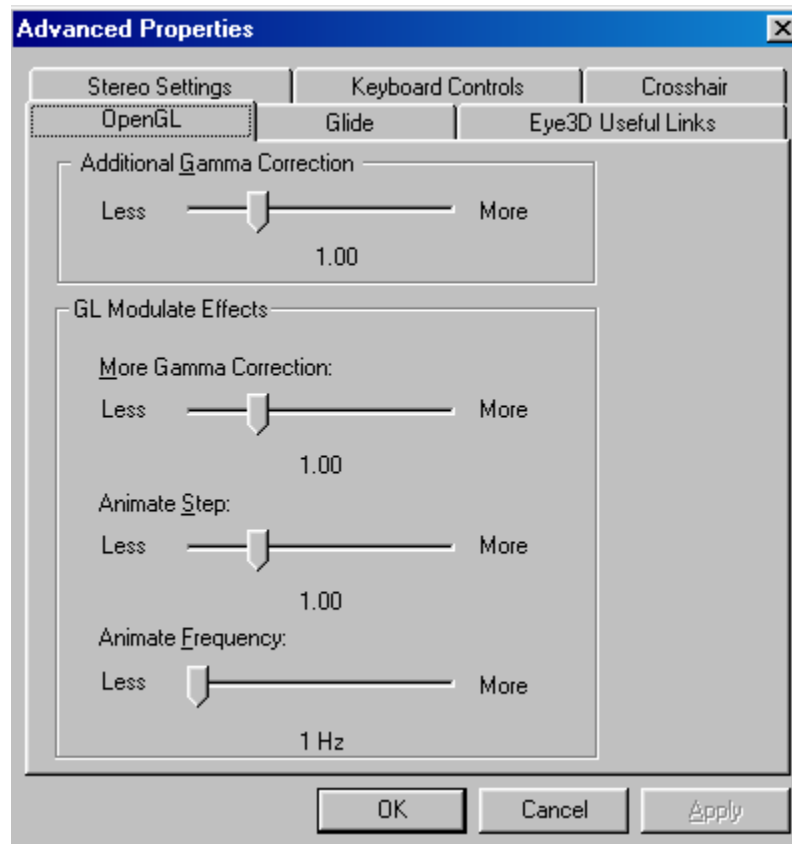
Additional Gamma Correction – Use the slider bar to adjust the overall display brightness

Note: the following 3 controls only work correctly with selected OpenGL games. (Quake, Quake2, Heretic II, Hexen II)

More Gamma Correction – Use this slider bar to change the brightness of *objects* in a game. (Can be used to make opponents easier to spot!) Setting this value to 1.00 leaves objects at the same gamma level as the rest of the environment. Setting this value to less than 1.00 will make objects darker and values greater than 1.00 will make objects brighter.

Animate Step – Settings this value to anything other than 1.00 will cause *objects* in a game to flash. The slider bar controls the amplitude of the flashing effects.

Animate Frequency – Adjusts the frequency of the animated gamma correction of *objects*.

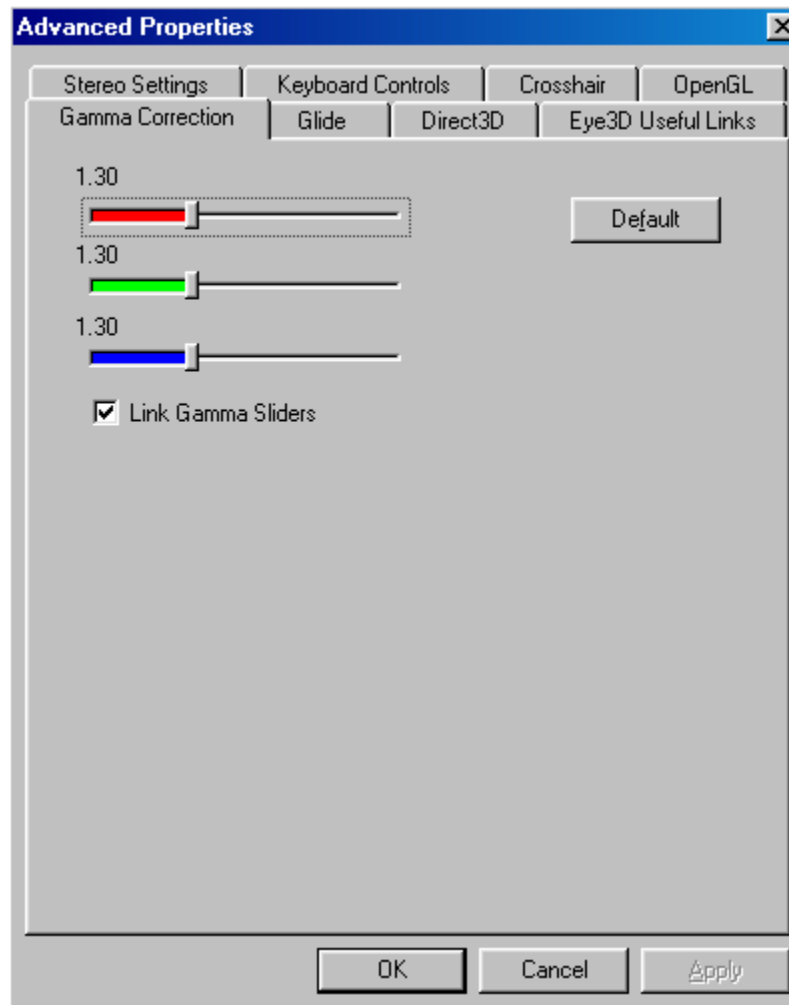


OpenGL Control Panel

Note: The following tabs are available only for users with Voodoo2 and DirectX5 Banshee installations.

Gamma Correction

The gamma correction slider bars allow you to adjust the red, green, and blue gamma settings in Direct3D and Glide games.



Gamma Correction Control Panel

Direct3D

Advanced Direct3D controls for 3dfx accelerators.

Disable Anti-Aliasing – Anti-aliasing reduces the “jaggies” in certain game polygons, thereby providing cleaner visuals. Anti-aliasing is enabled by default. Disable this option if you experience problems with your Direct3D games.

Force trilinear texture filtering (Voodoo2 only) – Use this checkbox to force the Eye3D drivers to render using trilinear filtering for D3D applications that use mipmapping and bilinear filtering. If supported, you will get smoother images. Disable this option if you experience problems with your Direct3D games.

Don't sync buffer swaps to monitor refresh rate – Use this option to allow games to run at the highest framerate possible, ignoring the limit imposed by the monitor's refresh rate. Note: When the framerate is faster than the refresh rate, the application data is being updated faster than the monitor is putting it on the screen. In some instances where a lot of data is being processed (i.e. the rendering of lots of polygons and textures in a high-speed environment), your image may have the appearance of “tearing”. This is a side effect of the application being updated faster than the monitor can refresh the screen.



Direct3D Control Panel

Glide

Advanced Glide controls for 3dfx accelerators.

Force mipmap dithering – Turns on mipmap dithering for Glide games. Can result in higher visual quality.

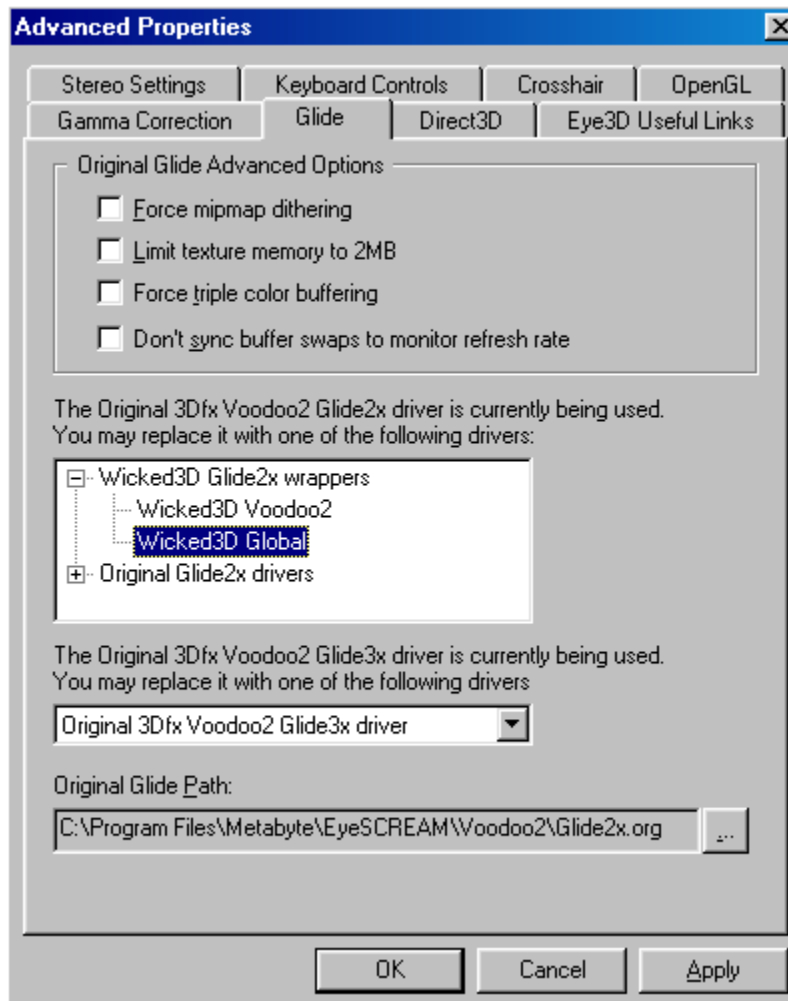
Limit texture memory to 2MB – Use this checkbox if you experience problems with certain older Glide games.

Force triple color buffering – Enables triple buffering for Glide applications. This can result in a frame rate increase, however some games that expect only double buffering can display graphics flashing.

Don't sync buffer swaps to monitor refresh rate – Use this option to allow games to run at the highest framerate possible, ignoring the limit imposed by the monitor's refresh rate. Note: When the framerate is faster than the refresh rate, the application data is being updated faster than the monitor is putting it on the screen. In some instances where a lot of data is being processed (i.e. the rendering of lots of polygons and textures in a high-speed environment), your image may have the appearance of "tearing". This is not a driver or board issue; it is a side effect of the application being updated faster than the monitor can refresh the screen.

Glide Switch – The Glide switch window allows you to activate the Glide wrapper in order to play your Glide games in stereo and/or using Resolution Override. Also, if you have more than a single 3dfx accelerator product in your system, you can use the Glide switch to select whether you want to use your Voodoo2 or Banshee to run your 3D games. Choose to use original Glide if your game is not compatible with Stereo or Resolution Override. On systems with multiple 3dfx accelerator products, this section also allows you to switch between the Voodoo2 and Banshee DOS Glide and Glide3 drivers. Use the checkboxes to switch between the two.

Original Glide Path – The original Glide path points to the location of the original glide file. You should not have to change this setting under normal circumstances.



Glide Control Panel

The following functions are available for cards that support Re2Flex only:

Custom Resolution

The Eye3D software incorporates Re2Flex technology which gives you complete control over your gaming resolution and refresh rates in compatible Direct3D, QuakeGL, and Glide games. The Custom Resolution button allows you to adjust your gaming environment using Re2Flex.

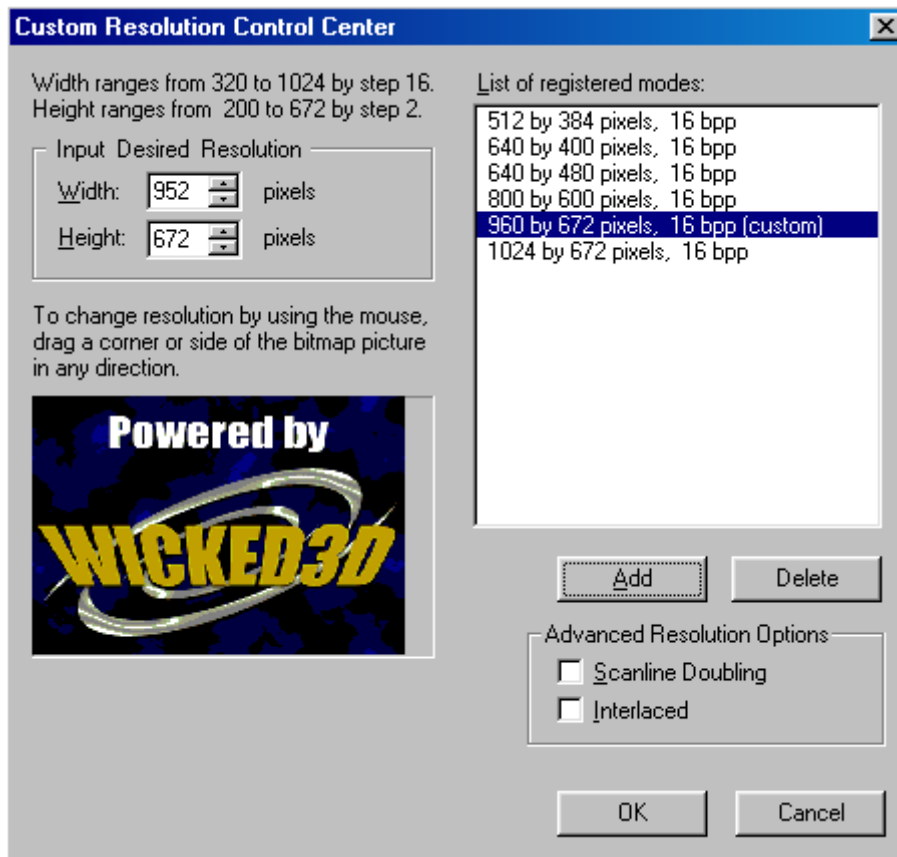
Eye3D's Re2Flex technology allows you to customize the resolution of your 3D environment in by defining and using non-standard modes. To define custom modes:

- 1) Click on the Custom Resolution... button. This will bring you to the Custom Resolution Control Center.
- 2) There are two ways to add a resolution.
 - a. Type in the desired width and height values in the Input Desired Resolution. You may also increment and decrement the values using the arrows on the sides of the input windows. *Note: The "Powered by Wicked3d" bitmap will change in size to reflect the values indicated.*
 - b. Place your mouse cursor on the lower right corner of the "Powered by Wicked3d" bitmap. The mouse pointer will change to a diagonal resize cursor. You can resize the bitmap to reflect the desired resolution. *Note: The numbers in the Input Desired Resolution fields will change as you resize this image.*
- 3) When the desired resolution has been reached, select Add. The new resolution will be added to the list of available resolutions. The new resolution will have the word "custom" next to it to indicate it is user specified.
- 4) Click the OK button to return to the main Eye3D DPS display property sheet.

You may now select the new mode using the Resolution slider bar in the main Eye3D DPS. *Note: You can have a total of 14 modes, including the standard modes.*

If you would like to remove a custom mode, use the following procedure:

1. Click on the Custom Resolution... button. This will bring you to the Custom Resolution Control Center.
2. Select the resolution you would like to remove. (*Note: You may NOT remove the predefined modes. Only modes marked "(custom)" may be removed.*)
3. Click on the Delete button.
4. Click the OK button to return to the main Eye3D display property sheet.



Custom Resolutions

Custom Refresh Rates

Eye3D's Re2Flex technology also allows you to customize the refresh rates used in your 3D environment (both Stereo and non-Stereo) in 1 Hz increments by moving the Refresh Rate slider bar in the main Eye3D DPS to the desired refresh rate.

Warning: Different monitors have different mode capabilities. Use the Test Mode buttons to test custom modes before using in actual games. If you get a blank screen, or the image is incorrect, press <Esc> and reduce the refresh rate then test again.

For 3dfx Voodoo2 users:

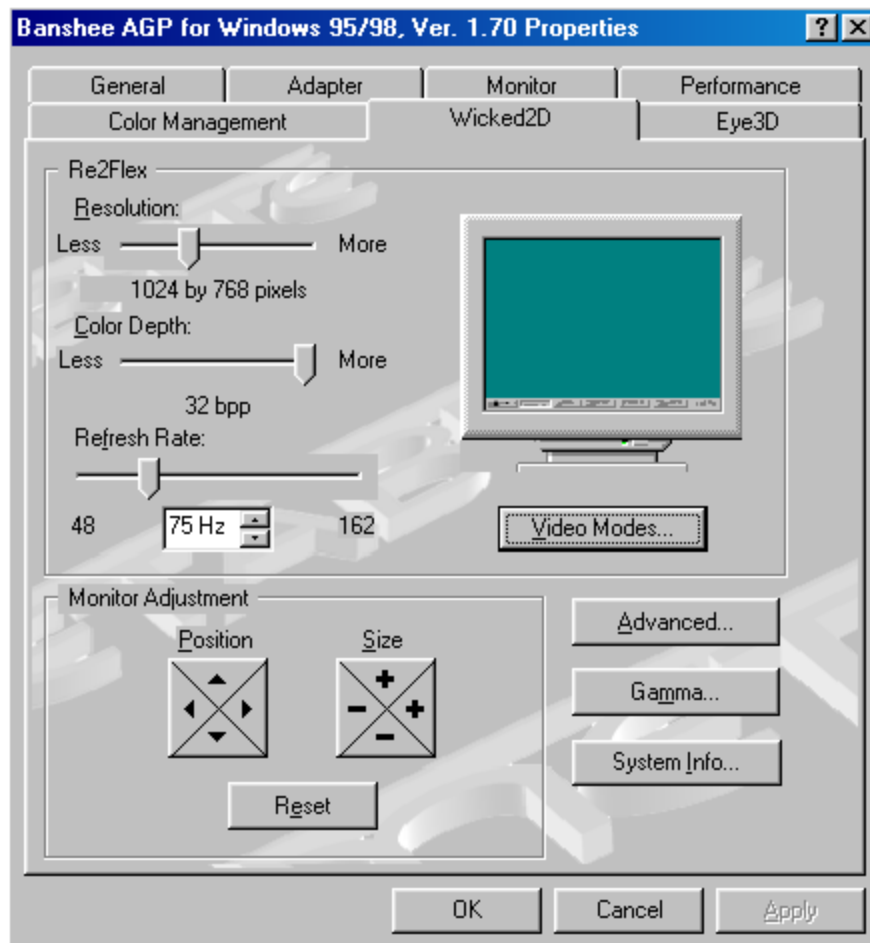
Single Voodoo2 Users: Users with a single Voodoo2 (or users with SLI and one card disabled) have two additional Resolution options.

Scanline Doubling – Enabling scanline doubling forces the Voodoo2 to render each horizontal scanline twice. This can dramatically improve image quality in stereoscopic mode. 800x600 scanline doubled resolution looks very good in stereo. Note that scanline doubling doubles the horizontal frequency input to your monitor so please test the modes using the test screens before using them in games. Clicking on the Scanline doubling checkbox will only enable Scanline Doubling for the mode that is currently highlighted in the list of available modes.

Interlace – Interlace mode is available for users who need to run very low resolution modes. This option is not necessary for normal use.

Voodoo2 SLI Users: Users with 2 Voodoo2's in SLI configuration can choose which of the two cards they want the 3D output from. Normally, using the Automatic Detection setting, the output will automatically be directed to the Voodoo2 that your monitor is connected to. You can also use the checkbox to disable SLI for games that do not support it.

For 3dfx Banshee users: If you chose the DirectX5 version of the Banshee installation, the Eye3D software will also install a display properties sheet to control the 2D features of the Banshee card. Use this display properties sheet to adjust the resolution and refresh rate of your windows desktop and 2D applications.



Banshee 2D Control Panel

Section 4: Moving on to the Real Thing...

Now you are ready to try stereoscopic support on real games. Steps to configure the Eye3D software for both Direct3D/OpenGL and Glide (for 3dfx users) games are given. **For 3dfx users, it is important to know whether the game you want to play using the Eye3D software is written for Direct3D or Glide.**

Before we begin, we'll make brief mention of one additional concept in the Eye3D software, stereo configuration files. Stereo configuration files optimize the stereo settings for specific games. Stereo configuration files are included with many of the popular gaming titles. These files are automatically used when the game with a corresponding configuration file is launched in stereo mode. In the event that the game you want to play does not have a stereo configuration file, a message may be displayed notifying you of this. You can press the key shown on the screen to bypass the message and continue to play the game in stereo. Eye3D will provide updates for the latest compatible games.

Configuring Eye3D Software for Direct3D/OpenGL games

Simple Steps to get Eye3D software features working in Direct3D/OpenGL games:

1. Open the Eye3D DPS
2. If you have multiple Eye3D software-compatible 3D graphics accelerators, choose the one that you would like to run your game with using the drop-down menu.
3. Select Auto-Mode or Hotkey in the stereoscopic support section. **For OpenGL games, you must select Automode/On in order to use stereo.**
4. If you would like to use Resolution Override, select a resolution and select On in the Resolution Override section.
5. Run the Direct3D or OpenGL game.
6. Make sure that your Eye3D software-compatible 3D accelerator card is being used in the game. If necessary, choose the Eye3D software-compatible accelerator card in the Video Options or Video Settings screen within the game.
7. If not using Resolution Override, choose the resolution you want to run from within the game. Note that stereo gameplay looks much better at higher resolutions.
8. If Hotkey was selected, when gameplay begins, hit your Toggle Stereo hotkey (which is <Ctl+T> by default) to turn on stereo. If On was selected, stereo will begin automatically when the game is in 3D mode.
9. Check to see that the images are vertically aligned. If necessary, use the Hotkeys to vertically align the images.
10. Experience 3D gameplay like never before!

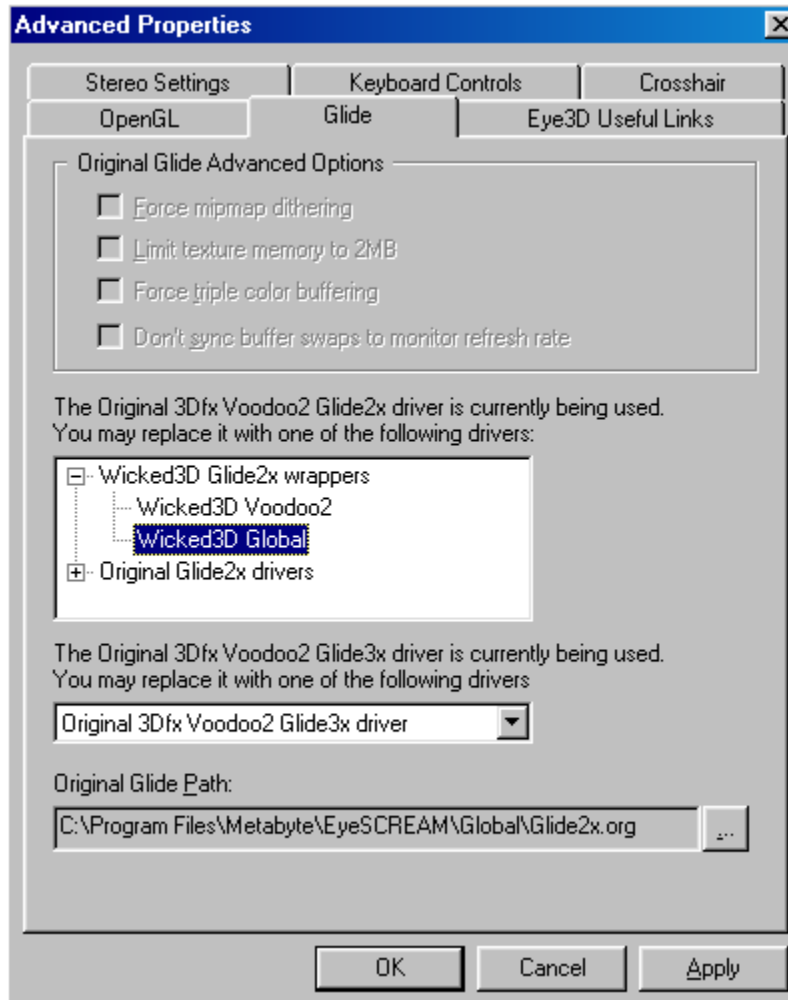
Configuring Eye3D Software for Glide games

Glide games differ from Direct3D games in that they generally can be started in stereo without difficulties in reading the game's startup and options screens. The same is true with Resolution Override in Glide games. In addition, you always have the option to Toggle Stereo and Resolution Override during Glide games as is recommended with Direct3D games. However, the Glide wrapper must be explicitly activated in order to have stereo and Resolution Override functionality in Glide games. Note that, currently, only glide2x games are supported. If your game is glide3x, and you want to use Eye3D functionality, choose to run the Direct3D version of the game instead.

Simple steps to get Eye3D software features working in Glide games:

1. Open the Eye3D DPS
2. If you have multiple Eye3D software-compatible 3dfx graphics accelerators, choose the one that you would like to run your glide game with using the drop-down menu.
3. Select Auto-Mode or Hotkey in the stereoscopic support section.
4. If you would like to use Resolution Override, select a resolution and select On in the Resolution Override section.
5. Click on the Advanced... button.
6. Click on the Glide tab.

- In the window in the middle section, select to use the Glide wrapper. (Or, if you have multiple 3dfx cards in your system, choose to use the Glide wrapper for the particular card that you want to use to run your game.) **Note that for the Voodoo3 the Wicked3D glide wrapper option will be “Wicked3D Global”.**

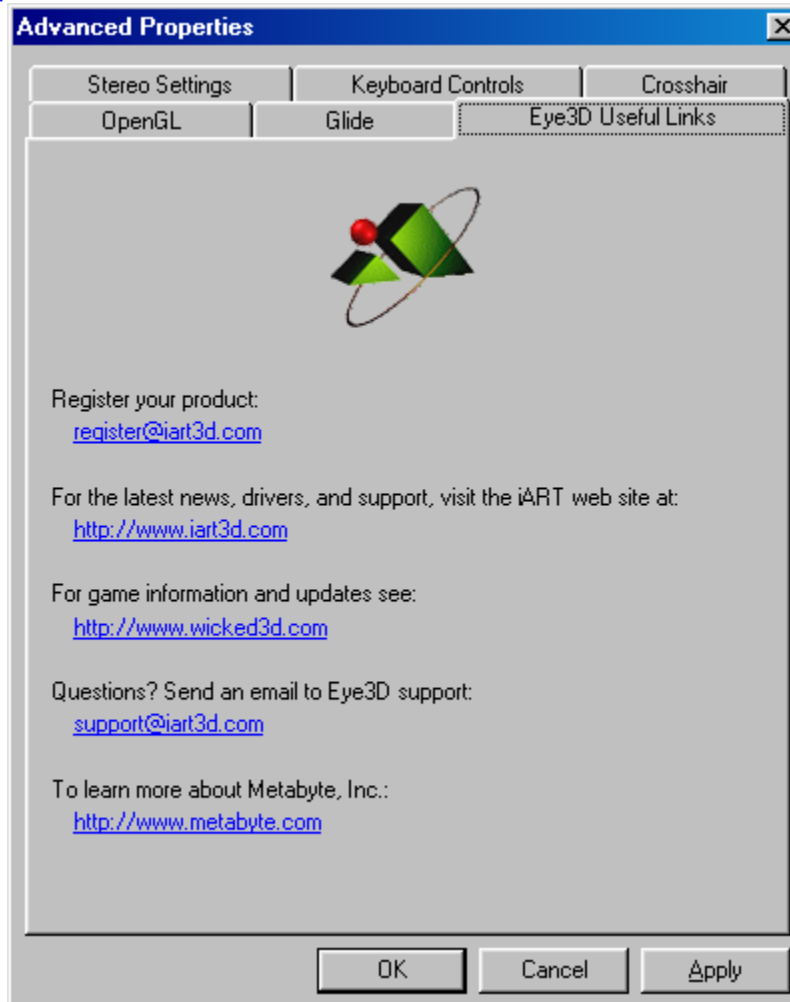


Glide Advanced Properties

- If not using Resolution Override, choose the resolution you want to run from within the game. Note that stereo gameplay looks much better at higher resolutions.
- If Hotkey was selected, when gameplay begins, hit your Toggle Stereo hotkey (which is <Ctl+T> by default) to turn on stereo. If On was selected, stereo will begin automatically when the game is in 3D mode
- Check to see that the images are vertically aligned. If necessary, use the Hotkeys to vertically align the images.
- Experience 3D gameplay like never before!

Technical Support

If you need technical assistance with your Eye3D software product, please contact the manufacturer of your Eye3D software-compatible stereoscopic hardware. For a FAQ and games list, check the information at www.iart3d.com.



Congratulations!

You should now have a full understanding of the Eye3D Stereoscopic System and how to use it to make your favorite games come alive.