



ELSA WINNER™
Series

M a n u a l

ELSA WINNER™

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Table of content

1	Introduction	3
1.1	Features at a glance	3
1.1.1	<i>ELSA WINNER 7000</i>	3
1.1.2	<i>ELSA WINNER 7500</i>	3
1.2	CATALYST Software Suite	4
1.2.1	3D gaming experience	4
1.2.2	Direct3D and OpenGL	4
2	Display connectors	5
3	CATALYST Software Suite	6
3.1	ELSA Displays tab	6
3.1.1	Monitor Attributes tab	7
3.1.2	Monitor Adjustments tab	8
3.1.3	Monitor Advanced tab	9
3.2	ELSA Color tab	10
3.3	ELSA Options tab	13
3.4	ELSA Overlay tab	14
3.4.1	Video overlay	15
4	Direct3D control panel	17
4.1	Main and custom settings	17
4.2	Direct3D compatibility settings	21
5	OpenGL control panel	23
5.1	Main and custom settings	23
5.2	OpenGL compatibility settings	27
6	Using TV out	28
6.1	View your PC's display on a TV	28
6.2	Connecting to a TV or a VCR	28
6.2.1	Starting Windows with TV display enabled	29
6.2.2	Using SCART connectors for european TVs	30
6.3	How to enable/disable the TV display	30
6.3.1	Using and adjusting TV out	31
6.3.2	Using a monitor vs. using the TV display	31

DE

EN

FR

IT

6.4	Adjusting monitor display	31
6.4.1	Viewing text on a TV	31
6.4.2	Reducing edge distortion	32
6.4.3	Changing display configurations	33
6.4.4	Using games and applications	33

1 Introduction

The *ELSA WINNER* series of graphic accelerators delivers ground breaking 3D graphics performance.

- Designed by ATI Technologies Inc.
- Powered by the RADEON Visual Processing Unit (VPU).
- Awesome 3D gaming performance.
- Support for OpenGL applications.
- Support for Direct3D applications.
- High resolutions in 3D up to 2048x1536.
- Best performance for today's and tomorrow's applications.
- Optional S-Video out to connect your PC to your TV or VCR.

1.1 Features at a glance

1.1.1 *ELSA WINNER 7000*

The *ELSA WINNER 7000* provides high performance acceleration for today's demanding 3D graphics applications. Its main features are:

- VIDEO IMMERSION which provides industry-leading DVD playback and digital TV decode capability
- HYPER Z technology, which reduces memory bandwidth consumption, resulting in improved 3D performance
- PIXEL TAPESTRY which can apply 3 textures at once to a complex 3D gaming scene
- 32 MB double data rate (DDR) memory
- TV output support

1.1.2 *ELSA WINNER 7500*

In addition to the features of the *ELSA WINNER 7000*, the *ELSA WINNER 7500* also provides:

- CHARISMA ENGINE which is the main VPU, providing full Transformation, Clipping and Lighting at 30 million triangles per second, necessary to accelerate today's 3D games and applications.

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- 64 MB of double data rate (DDR) memory.

The *ELSA WINNER 7500* is available as AGP only.

1.2 CATALYST Software Suite

1.2.1 3D gaming experience

The CATALYST Software Suite activates the advanced graphic features, such as PIXEL TAPESTRY, for advanced 3D gaming capability. For help on installing the CATALYST Software Suite, refer to the **Getting Started Guide**.

The CATALYST Software Suite installs the ELSA display tabs. These tabs are accessed through the Windows **Display** Control Panel, through the **Advanced...** button located on the **Settings** tab. For a detailed explanation of each ELSA tab, refer to → CATALYST Software Suite on page 6.

1.2.2 Direct3D and OpenGL

The CATALYST Software Suite supports the latest versions of Direct3D and OpenGL. Your 3D game titles will come to life, as you can tweak the game's settings for maximum 3D image quality or 3D gaming performance.

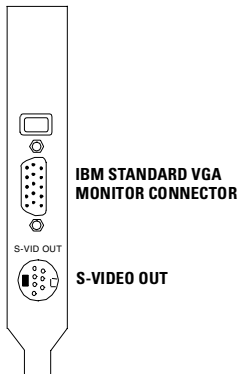
ELSA's Direct3D and OpenGL tabs are available through the Windows **Display** Control Panel, through the **Advanced...** button located on the **Settings** tab.

For a detailed explanation of the Direct3D and OpenGL tabs, refer to → Direct3D control panel on page 17, and → OpenGL control panel on page 23.

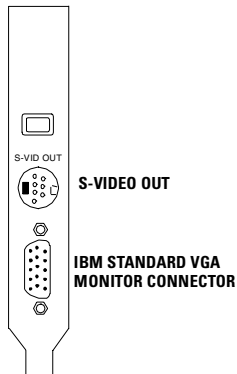
2 Display connectors

The *ELSA WINNER 7000* 32 MB AGP and the *ELSA WINNER 7500* 64 MB AGP provide an IBM standard analog VGA connector and an S-Video out connector.

ELSA WINNER 7000 32 MB AGP



ELSA WINNER 7500 64 MB AGP



For information on how to use the S-Video out connector, refer to
→ Using TV out on page 28.

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3 CATALYST Software Suite

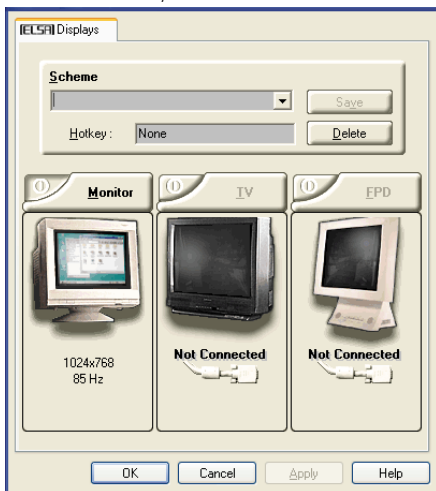
The following section provides an explanation of each ELSA tab available after installing the CATALYST Software Suite.

Features presented in the following pages may not be supported in all operating systems and/or may appear differently.



3.1 ELSA Displays tab

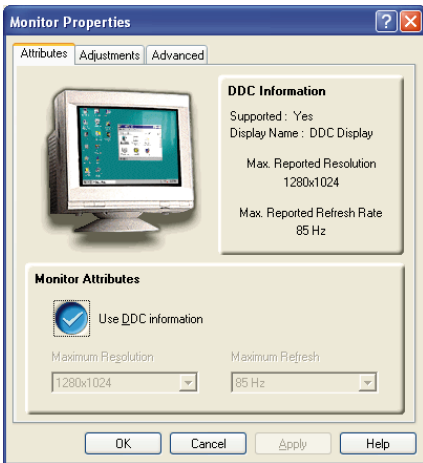
The ELSA Display tab provides information on the current screen resolution and refresh rate your monitor is set to.



Clicking the monitor button accesses additional monitor information, properties and controls.

3.1.1 Monitor Attributes tab

The Attributes tab (not available under Microsoft Windows 9x) provides display data channel (DDC) information.



DDC is the technology whereby the monitor communicates to the graphics card all the resolutions and refresh rates it supports. The *ELSA WINNER* family of graphics cards are all DDC compliant.

By unchecking **Use DDC information**, you can manually select the maximum resolution and refresh rate of your monitor. However, this is only recommended for older or non DDC compliant monitors.

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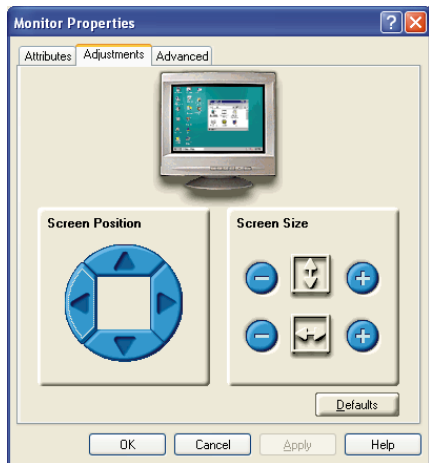
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3.1.2 Monitor Adjustments tab

The Adjustments tab provides the controls to adjust the monitor's screen position and screen size.

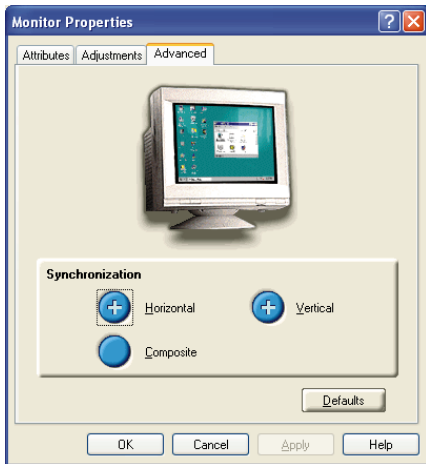


Use the arrow buttons to shift your display left, right, up or down.

Use the plus or minus buttons to increase or decrease the vertical and horizontal size of your display.

3.1.3 Monitor Advanced tab

The Advanced tab provides horizontal and vertical synchronization controls.



Clicking the plus buttons adjusts the monitor's horizontal and vertical synchronization.

Checkmarking the Composite button combines the horizontal and vertical signals supplied by the *ELSA WINNER* graphics card to your monitor.



Composite should be checked only if you are using a composite sync monitor. Consult your monitor's user guide for information on your monitor type.

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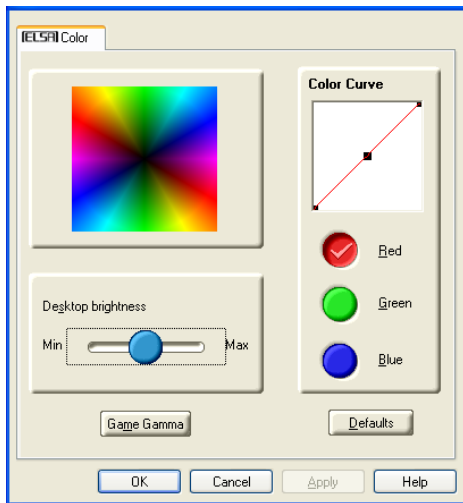
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3.2 ELSA Color tab

The ELSA Color tab is used to adjust the color settings. You can change the red, green and blue display colors. Desktop brightness and Game Gamma (brightness) can also be changed.



ELSA Color Tab

Desktop Brightness

This increases or decreases the brightness of your desktop. The higher the gamma value, the higher the brightness of your display.

Color Curve	This adjusts the selected color (red, green or blue check button) by moving the color curve with your mouse.
Game Gamma button	This accesses Game Gamma Properties.
Defaults button	This allows you to reset the desktop brightness and color settings to default values.

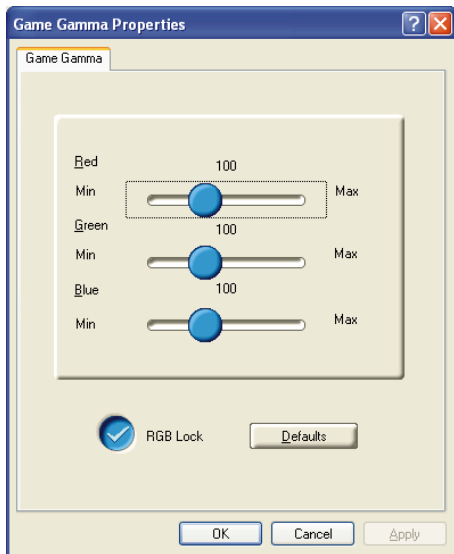
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Clicking the **Game Gamma** button accesses the Game Gamma Properties.



Game Gamma Properties

Red Green Blue sliders

These controls allow you to increase or decrease the color brightness of Direct3D and OpenGL games played in fullscreen mode. (NOTE: Game Gamma is NOT supported in Windows NT4.0)

RGB Lock

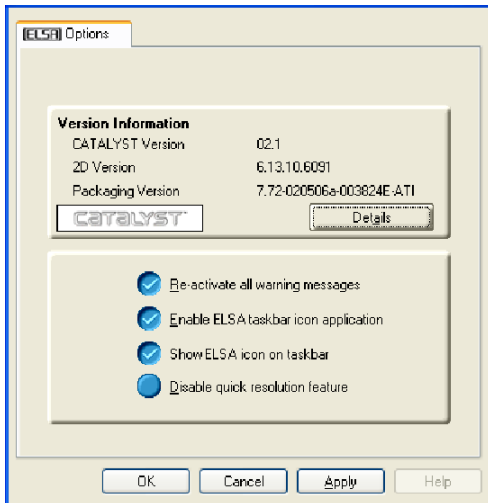
Uncheck this to adjust the RGB sliders individually. Check this to adjust all three sliders at the same time.

Defaults button

This allows you to reset the Game Gamma settings to default values.

3.3 ELSA Options tab

The ELSA Options tab provides detailed driver information and access to the card's specifications. You can also enable or disable the ELSA taskbar icon.



ELSA Options Tab

Version Information	Provides the CATALYST version number, 2D version number and the driver build information.
Details button	Provides access to the Details tab which lists the card's hardware details and driver information.
Reactivate all warning messages	This allows you to reactivate any disabled graphics warning messages.

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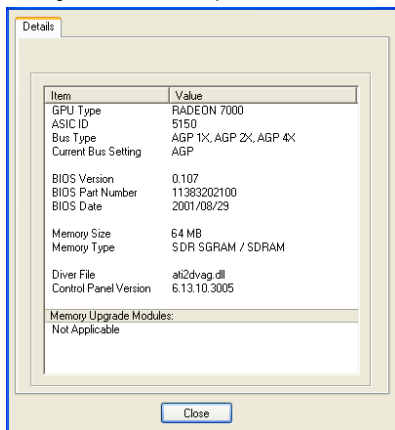
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Enable ELSA taskbar icon application	Unchecking this allows you to disable the ELSA taskbar applications and removes the ELSA icon from your system tray.
Show ELSA icon on taskbar	Unchecking this allows you to remove the ELSA icon from your system tray without disabling the ELSA icon applications.
Disable quick resolution feature	Quick resolution feature is accessible by left-clicking the ELSA icon in the system tray. Checking this option disables the feature.

Clicking the **Details** button provides access to the Details tab.

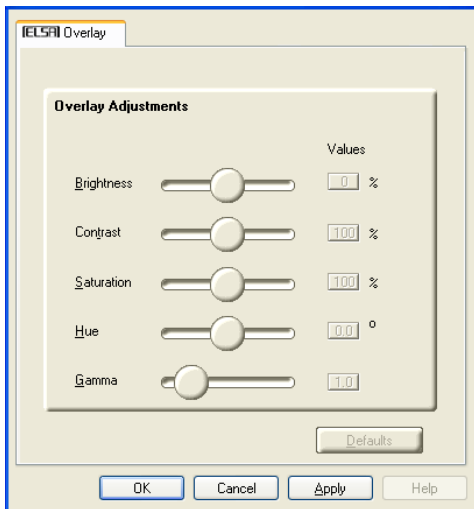


3.4 ELSA Overlay tab

The ELSA Overlay tab allows you to configure the brightness, contrast, saturation, hue and gamma properties of your video overlay.

3.4.1 Video overlay

Video overlay allows for the viewing of full-motion video on your PC. However, there is only one video overlay, which is only available on the **Primary** display. The video overlay controls are automatically activated during playback of any video file type that supports overlay adjustments.



ELSA Overlay Tab

Brightness	Use this slider to adjust the brightness of the video image.
Contrast	Use this slider to adjust the contrast in the video image.
Saturation	Use this slider to adjust the vividness of the color. Sliding it all the way to the left removes all color and produces a black and white picture.

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Hue	Use this slider to adjust the pureness or tint of the red, green and blue components of the color.
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Gamma	Use this slider to adjust the overall intensity of the video image.
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Defaults button	This allows you to reset the Overlay settings to default values.
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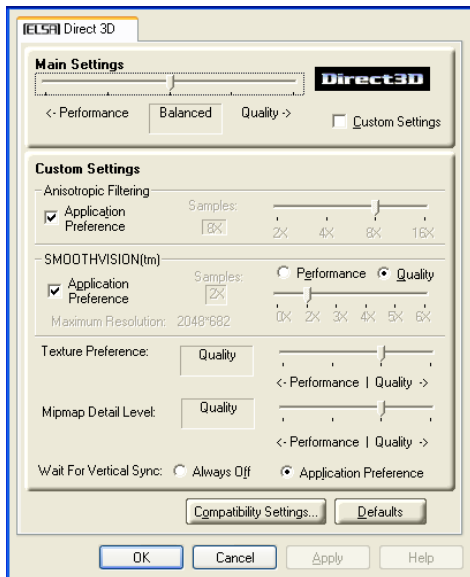
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4 Direct3D control panel

Using this tab, gamers can tweak the settings of their Direct3D games.

4.1 Main and custom settings

In the **Main Settings** you can maximize overall performance by moving the slider to the left, or you can enhance overall image quality by moving the slider to the right.



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Main Settings slider	This allows you to emphasize what kind of application experience you'd like to have. Moving the slider to the left will maximize application performance, while moving the slider to the right will provide excellent 3D image quality. Moving this slider from one position to the next changes the individual Custom Settings sliders found below.
Custom Settings checkbox	When Custom Settings is checked, the Main Settings slider is disabled, allowing you to move each individual slider in the Custom Settings section below. Setting the individual sliders gives you complete control over your application experience. Using Custom Settings is recommended for advanced users only.
Anisotropic Filtering checkbox	Anisotropic filtering uses a texture filtering technique that blends multiple texture samples together. Selecting Application Preference will result in high quality textures, with a negligible reduction in the application's performance.
Anisotropic Filtering slider	The number of samples taken when anisotropic filtering is performed can vary. By moving this slider to the right, as the number of samples taken increases, the quality of the final image increases significantly. 16X provides extremely detailed, crisp-looking images as a result of the largest number of texture samples possible.
SMOOTH VISION checkbox	SmoothVision (Anti-Aliasing) improves image quality by removing jagged edges from 3D images, resulting in smoother, more natural-looking objects. Selecting Application Preference will result in high quality images, with a negligible reduction in the application's performance.
SMOOTH VISION Performance button	Select Performance for the best possible 3D gaming performance at a slight reduction in 3D image quality. The maximum screen resolution possible will automatically be indicated.

SMOOTH VISION Quality button	Select Quality for the best possible 3D image quality at a slight reduction in 3D gaming performance. The maximum screen resolution possible will automatically be indicated.
SMOOTH VISION slider	SmoothVision (Anti-Aliasing) can be applied using different sample patterns and sample points such as 2X or 4X. Moving this slider to the right increases sampling to provide the most realistic 3D image.
Texture Preference slider	Selecting this decides whether your application should use high quality or high performance textures. Moving the slider to the right delivers the highest quality experience. Moving the slider to the left emphasizes a high performance solution while still providing good visuals.
Mipmap Detail Level slider	This will allow you to choose the texture quality of the mipmaps the application will use. Mipmaps are a collection of different sized textures of the same image. As the user moves closer to a 3D object the image quality should increase, requiring a higher quality texture of the same image. The base mipmap is the highest quality texture, and all subsequent mipmaps are smaller sized textures of the same image. Moving the slider to the right selects a higher quality base mipmap, delivering the highest quality application experience. Moving the slider to the left selects a lower quality mipmap, delivering the highest application performance.

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Wait for Vertical Sync

Wait for vertical sync will lower the frame rate of full screen games but reduce the image tearing that can occur with the higher frame rate. Selecting **Application Preference** allows the application to decide whether or not it should display its frames at the refresh rate of the monitor. Selecting **Always Off** allows the application to run at its highest possible frame rate, regardless of the monitor's refresh rate which is typically less than the frame rate at which the application will run.

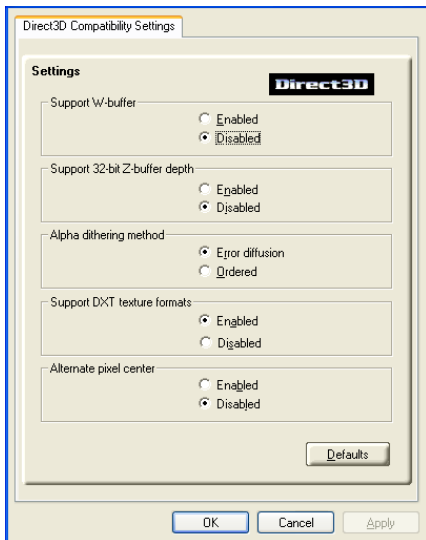
Compatibility Settings button

This button allows you to access advanced settings that can solve compatibility issues for a few specific Direct3D applications.

Defaults

This button allows you to reset the Direct3D settings to default values.

4.2 Direct3D compatibility settings



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Support W-buffer

This will enable W-buffer support for 3D games. It is recommended to disable this for games that do not support this feature. Certain applications require the increased precision of W-buffering and will exhibit artifacts unless the W-buffer is enabled.

Support 32-bit Z-buffer depth

Z-Buffer bit depth can be 16 bits, 24 bits, or 32 bits. 16 and 24 are selected by default to achieve optimum performance. Very few applications require a 32 bit Z-buffer, so in most cases this feature should be disabled.

Alpha dithering method

When applications use both dithering and alpha blending, visual artifacts can occur. This option allows you to select how the application should handle both features at the same time. In most cases **Error Diffusion** will handle this situation quite well, but there are a few cases where selecting **Ordered** may be necessary.

Support DXT texture formats

Enabling this allows applications to use this kind of texture format. There are a few applications that can only support a limited number of texture formats. By selecting **Disabled**, the driver will not support DXT texture formats, thus reducing the number of texture formats supported.

Alternate pixel center

This may eliminate problems with some Direct3D games which display vertical and horizontal lines around textures, or text that appears incorrect. However, this setting should only be used if you are experiencing the symptoms mentioned, as it may cause problems with other games.

Defaults button

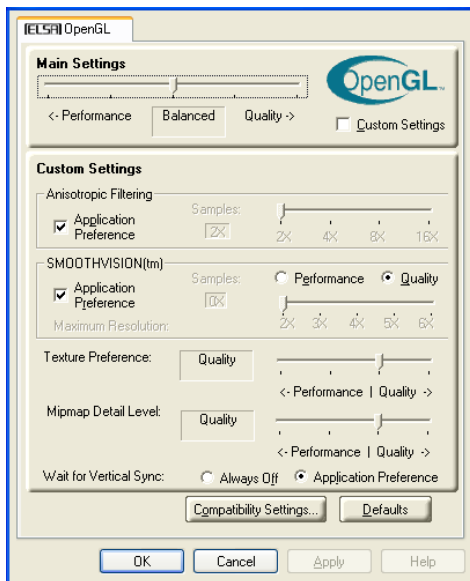
This button allows you to reset the Direct3D Compatibility Settings to default values.

5 OpenGL control panel

Using this tab, gamers can tweak the settings of their OpenGL games.

5.1 Main and custom settings

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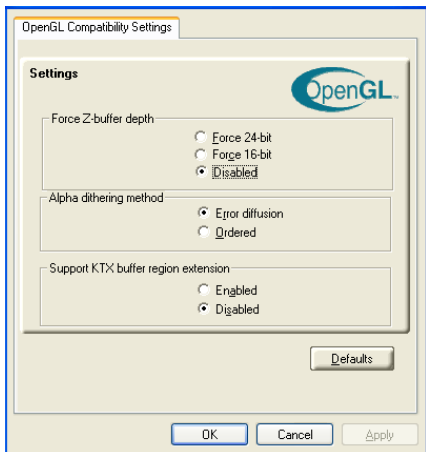
Compatibility Settings button

This button allows you to access advanced settings that can solve compatibility issues for a few specific OpenGL applications.

Defaults

This button allows you to reset the OpenGL settings to default values.

5.2 OpenGL compatibility settings



Force Z-buffer depth

This allows you to explicitly set the Z-buffer depth. Most applications will work best when **Disabled** is selected

Alpha dithering method

When applications use both dithering and alpha blending, visual artifacts can occur. This option allows you to select how the application should handle both features at the same time. In most cases **Error Diffusion** will handle this situation quite well, but there are a few cases where selecting **Ordered** may be necessary

Support KTX buffer region extension

Enabling this feature allows rapid updates of those portions of your screen that have changed. Note that most applications will not be affected by activating this feature

Defaults button

This button allows you to reset the OpenGL Compatibility Settings to default values.

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6 Using TV out

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6.1 View your PC's display on a TV

The *ELSA WINNER 7000* and *ELSA WINNER 7500* have TV out capability. You can connect these cards to a TV and monitor at the same time. Or you can connect them to your VCR and record your monitor's display.

TV display is ideal for playing games, giving presentations, watching movies, and browsing the Internet. The following tips will help you get the most out of your TV out feature.

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Important information for european customers



Some PC monitors in Europe cannot be used simultaneously with TV display. When you enable TV display in Europe, the refresh rate for the monitor and TV is set to 50 Hz. Some monitors may not support this refresh rate and could be damaged.

Please check the documentation supplied with your monitor to see if your monitor supports a refresh rate of 50 Hz.

If your monitor does not support 50 Hz (or if you are not sure), then turn off your monitor before turning on your PC when using your TV as a display.

For information on disabling TV display, see → How to enable/disable the TV display on page 30.

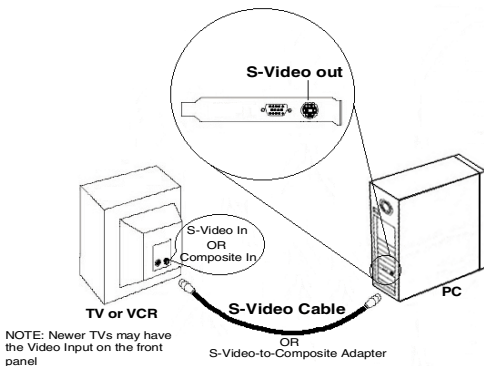
Some TVs in Europe may use a SCART connection. If you use SCART, please read → Using SCART connectors for european TVs on page 30 before attempting to connect your PC to your European TV.

6.2 Connecting to a TV or a VCR

To connect the *ELSA WINNER 7000* or *7500* to a TV or a VCR, use an S-Video cable. However, most TVs (and VCRs) have a Composite video input, in which case you can use an S-Video-to-Composite adapter. If your TV has cable input only, you can connect your card to your TV through your VCR or an RF modulator (available in most electronics stores).

Connecting your S-video out to a TV or VCR

- ① Turn off your PC and your TV (or VCR).
- ② Ensure your card was installed correctly as per the Getting Started Guide.
- ③ Determine if your TV (or VCR) has an S-Video or Composite video connection.
- ④ Looking at the back of your PC, locate your S-Video out. Using an S-Video cable (or S-Video-to-Composite adapter), attach one end of the cable to your graphics card and the other to your TV (or VCR). Refer to the illustration for further help.
- ⑤ Turn on your PC and your TV (or VCR).

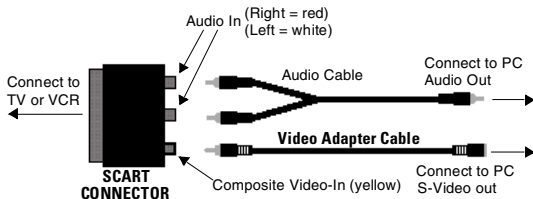


6.2.1 Starting Windows with TV display enabled

The TV screen may become scrambled during the initial Windows logo display. This is only a temporary effect and your screen will be restored within a few seconds.

During start up, your *ELSA WINNER 7000* or *7500* will go through a sequence of mode settings, during which your TV display will remain blank. This process takes only a few seconds and helps program the TV display.

6.2.2 Using SCART connectors for european TVs




The above illustration shows how to connect your PC to a European TV using the SCART.

The SCART connector supports only the Composite video format, which means you will have to use an S-Video-to-Composite Video Adapter Cable.

If your European TV **does** support S-Video (S-VHS) input, you should use an S-Video cable (available in most consumer electronic stores) rather than the SCART connector.

6.3 How to enable/disable the TV display

- ① Access the Windows **Control Panel**. Double-click **Display**.
- ② Click on the **Settings** tab and then the **Advanced...** button.
- ③ Click on the **ELSA Displays** tab. Click on the **TV** button.
- ④ Click the enable/disable button. 
- ⑤ Click **OK** or **Apply** to save the changes.

6.3.1 Using and adjusting TV out

For information about how to use TV display, right click the **ELSA taskbar icon**, point to **Help**, then point to **ELSA Television Display**.

6.3.2 Using a monitor vs. using the TV display

Using your TV for your PC's display is ideal for playing games, giving presentations, watching movies, and browsing the Internet. However, the display on your monitor may change or looked squashed. This occurs because the display adjusts to fit the dimensions of your TV. To correct the monitor's display, use the controls available on the → Monitor Attributes tab on page 7.

Some single frequency monitors may not work with TV display enabled. If you experience problems when TV display is enabled, disable TV display to restore your monitor's display.

6.4 Adjusting monitor display

The size of the display on your monitor may be smaller and not perfectly centered when you have TV display enabled. These effects are caused by the changes required to provide a proper display on the TV.

To correct the monitor's display, use the controls available on the → Monitor Adjustments tab on page 8.

6.4.1 Viewing text on a TV

A TV is designed primarily to show moving, rather than static, images. The large dot pitch of a TV (which is fine for moving video) will yield poor quality static images such as text.

The small text sizes commonly used for PC desktops can appear blurred or unclear on a TV. You can compensate for this by using larger fonts.

To use larger display fonts

- ① Access the Windows **Control Panel**. Double-click **Display**.

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- ② For Windows XP, click the **Appearance** tab. For Windows 98, Windows Me, Windows 2000, click the **Settings** tab, the **Advanced...** button, then the **General** tab. For Windows NT click the **Settings** tab.
- ③ In the **Font Size** box, select the size you want your displayed fonts to be.
- ④ Click **Apply**. If prompted, click **Yes** to restart your PC.

6.4.2 Reducing edge distortion

When using a TV for your PC's display, you may see some edge distortion on the left and right side of your TV screen. This effect depends on your TV and the PC application you are running.

To reduce edge distortion, you can increase the TV display's horizontal size.

To increase the horizontal size

- ① Access the Windows **Control Panel**. Double-click **Display**.
- ② Click on the **Settings** tab and then the **Advanced...** button.
- ③ Click on the **ELSA Displays** tab.
- ④ Click on the **TV** button.
- ⑤ Click the **Adjustments** tab.
- ⑥ In the **Screen Size** section, click on the plus (+) button beside the horizontal arrowheads  to increase the horizontal size of the TV display.
- ⑦ Click **OK** or **Apply** to save the changes you have made.

You can also reduce edge distortion by increasing the TV's contrast.

To increase the TV contrast

- ① Access the Windows **Control Panel**. Double-click **Display**.
- ② Click on the **Settings** tab and then the **Advanced...** button.
- ③ Click on the **ELSA Displays** tab.

- ④ Click on the **TV** button.
- ⑤ Drag the **Contrast** slider to the right to increase the contrast.
- ⑥ Click **OK** or **Apply** to save the changes you have made.

6.4.3 Changing display configurations

If you move your PC to a place where you are using TV display only, make sure that you have the TV display feature enabled.

You can set your display resolution as high as 1024x768. However, higher resolutions will result in a virtual desktop. If a TV is your only display device and a higher mode is selected, the display on your TV will disappear.

6.4.4 Using games and applications

Some older games and applications may program your *ELSA WINNER* card directly, to run under a specific display mode. This may cause your TV display to turn off automatically or become scrambled (the PC monitor will not be affected). Your TV display will be restored once you exit the game or if you restart your PC.

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