

3Dlabs Wildcat 4110 Graphics User's Guide

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This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations. Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

Notes

Changes or modifications made to your 3Dlabs graphic accelerator card not expressly approved by 3Dlabs, Inc. void's the user's warranty.

To reduce the risk of electrical shock, do not attempt to open the equipment unless instructed. Do not use a tool for purposes other than instructed.

Specifications are subject to change without notice.

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About This Document

The *3Dlabs Wildcat 4110 Graphics User's Guide* contains information on the setup and use of the Wildcat 4110 and Wildcat 4110 VIO video cards, as well as troubleshooting information, connections, and specifications.

NOTE References to Wildcat 4110 in this document cover both Wildcat 4110 and Wildcat 4110 VIO unless otherwise noted.

If you purchased this card as part of a system, the card was factory installed and configured in your system prior to shipment. This document provides instructions for setting your display parameters and installing the video drivers and hardware in case you bought the card as part of an upgrade or add-on purchase.

The document is organized as follows:

- ◆ Chapter 1, "Introduction," provides an overview of the Wildcat 4110 video card, a list of features, and a brief description of the external ports.
- ◆ Chapter 2, "Setup," provides step-by-step instructions for installing the Wildcat 4110 hardware and related software, and connecting the monitor and stereo display device.
- ◆ Chapter 3, "Using the Video Card," provides instructions for configuring the video display and enabling the stereo display.
- ◆ Chapter 4, "Troubleshooting," describes common problems and solutions, and instructions for obtaining a usable video resolution, reinstalling the video driver, and how to get help.
- ◆ Appendix A, "Technical Information," provides general, functional, and performance specifications for the Wildcat 4110, and describes the ports and connectors.

Getting Support

When you need software support or hardware maintenance, contact your system vendor.

For the latest Wildcat news and product information, visit <http://www.3dlabs.com> on the World Wide Web.

1 Introduction

The Wildcat 4110 video card equips your personal computer or personal workstation with powerful and professional 3D graphics capability. The Wildcat 4110 video card infuses Intel Pentium II or greater computers running the Microsoft Windows NT operating system with workstation-class 3D graphics features and performance.

NOTE References to Wildcat 4110 cover both Wildcat 4110 and Wildcat 4110 VIO unless otherwise noted.

Features

Card Interface AGP Pro 50, designed for computers with a 50 Watt AGP Pro50 or 100 Watt AGP Pro expansion card slot

NOTE A Wildcat 4110 card cannot plug into a standard AGP expansion card slot.

Video Memory Frame buffer 64 MB
Texture buffer 64 MB
DirectBurst 8 MB

RAMDAC 222 MHz

Plug and Play Monitor Supported

Accelerated 3D API OpenGL

Maximum Resolution 1920 x 1200

Maximum Aspect Ratio 16:10

Maximum Refresh Rate 60 Hz

NOTE Supported refresh rates, monitor resolutions, aspect ratios, and color depths depend on your type of monitor, and whether or not you have multisampling selected. See Appendix A, "Technical Information," for a list of supported resolutions and refresh rates.

NOTE To display at a specific resolution with the desired refresh rate, both the video card and monitor must support it. Refer to the documentation that came with your monitor for a list of supported video resolutions.

Power Management Display Power Management Signaling (DPMS)
Advanced Configuration and Power Interface (ACPI)

Geometry Acceleration	<p>Model view matrix transformation of vertex and normal coordinates</p> <p>Perspective and viewport transformations</p> <p>Texture matrix transformation of texture coordinates</p> <p>Local display list storage and processing</p> <p>Full lighting calculations (up to 24 lights)</p> <p>View volume clipping</p> <p>Up to six user clip planes</p> <p>Image processing</p>
Traditional 2D Operations	<p>16- and 32-bit color depths (565, 8888)</p> <p>Solid and patterned area fills</p> <p>Vectors (diamond rule compliant)</p> <p>Block moves (screen-to-screen)</p> <p>Block gets (screen-to-system)</p> <p>Block puts (system-to-screen)</p>
Open GL Operations	<p>Image support for multiple formats, zooming, bilinear scaling, color matrix, and color tables</p> <p>Fogging: linear, exponential, exponential², and user-defined</p> <p>2D/3D points, vectors, and polygons</p> <p>Texture mapping: point, bilinear, trilinear, and multiple internal formats</p> <p>24- and 32-bit depth buffering</p> <p>Dithering</p> <p>Fast window clears</p> <p>Window clipping</p> <p>Fast window-mode double buffering</p> <p>Masking</p> <p>Frame-sequential and interlaced stereo support</p> <p>Stencil operations</p> <p>Matrix transformations</p>

OpenGL Extensions	<p>Imaging extensions – pixel buffer, color table, color matrix, convolution</p> <p>Blend extensions – color, minmax, function separate</p> <p>Fog extensions – fog function, fog offset</p> <p>Texture extensions – 3D textures (edge, border, and LOD clamps), mipmap generation</p> <p>Video extensions – interlace, interlace read, 422 pixels</p> <p>Swap control extensions – swap control, swap group, swap statistics</p> <p>Texture color table</p> <p>Pixel texture and 3D texturing</p> <p>Stencil operation wrap</p> <p>Post-texturing specular</p>
Additional Features	<p>SuperScene full-scene multisampled anti-aliasing – point sampled with eight samples, sample location jittering, dynamic sample allocation, dynamic sample backoff</p> <p>Two video look-up tables</p> <p>Eight stencil planes</p> <p>Eight double-buffered overlay planes</p> <p>32-bit Z buffer</p> <p>High-performance DACs that directly drive display devices</p> <p>DDC2B Display Data Channel standard</p> <p>Head-mounted displays and shutter glasses (frame sequential and interlaced stereo required)</p> <p>Onboard texture memory with full mipmapped trilinear interpolated texture processing</p> <p>Digital Video Interface (DVI)-I display support (Wildcat 4110 only)</p> <p>Direct image/alpha channel transfer support (Wildcat 4110 VIO only)</p>

External Ports

The Wildcat 4110 video card has the following external ports (see Figure 1):

- ◆ 3-Pin MiniDIN stereo sync output
- ◆ 15-Pin D-sub analog video output
- ◆ DVI-I output (Wildcat 4110 only)

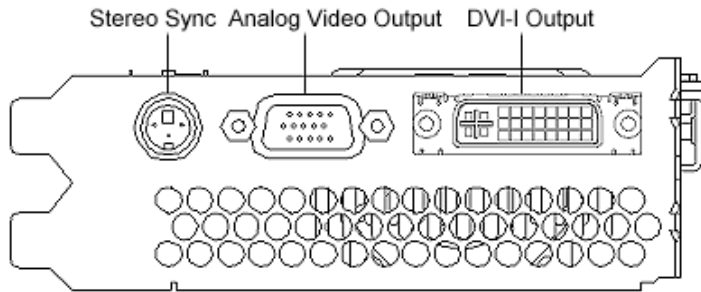


Figure 1. Wildcat 4110 External Ports

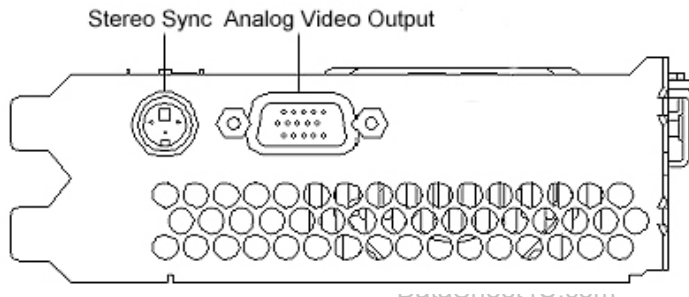


Figure 2. Wildcat 4110 VIO External Ports

See Appendix A, "Technical Information," for detailed information on each of the Wildcat 4110 ports.

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2 Setup

This chapter provides step-by-step instructions for installing a Wildcat 4110 video card and related software, and for connecting the monitor and stereo display device to the card. The instructions in this chapter are necessary only if you purchased your video card separately, or if you must replace your video card or reinstall its driver software.

NOTE References to Wildcat 4110 cover both Wildcat 4110 and Wildcat 4110 VIO unless otherwise noted.

Preparing for Installation

Make sure your system has the following items:

- ◆ Pentium II or greater processor
- ◆ Microsoft Windows NT 4.0 with Service Pack 4 or later
- ◆ Accelerated Graphics Port (AGP) Pro50 or AGP Pro expansion slot

NOTE Wildcat 4110 cannot plug into a standard AGP slot.

- ◆ An open Peripheral Component Interconnect (PCI) slot adjacent to the AGP Pro50 or AGP Pro slot to provide adequate cooling for the Wildcat 4110 video card
- ◆ A minimum of 32 MB DRAM system memory; 64 MB DRAM system memory is recommended for optimum performance
- ◆ Industry-standard, multiple-frequency monitor (Wildcat 4110 and Wildcat 4110 VIO) or DVI-compliant digital display device (Wildcat 4110 only)

Make sure you have the following items:

- ◆ Wildcat 4110 or Wildcat 4110 VIO video card
- ◆ Delivery media with the Wildcat 4110 video display driver
- ◆ Flat-head or Phillips screwdriver
- ◆ Monitor cable supplied with your computer or with the monitor
- ◆ Grounding wrist strap

Static electricity can damage the components inside a computer or on a printed circuit card. To reduce the possibility of electrostatic discharge:

- ◆ Turn off power to the computer.
- ◆ Touch the metal chassis of the computer to drain off static electricity before touching the card.

- ◆ Wear a properly connected grounding wrist strap.
- ◆ Do not wear wool or polyester clothing.
- ◆ Work in an area with a relative humidity of at least 50 percent.
- ◆ Keep the card in the anti-static bag until you are ready to install it.
- ◆ Handle the card as little as possible and only by the edges.

Installing the Video Card

Refer to your computer's documentation for instructions on opening and closing the system, identifying the AGP Pro50 or AGP Pro expansion slot, identifying Peripheral Component Interconnect (PCI) expansion slots, and adding expansion cards.

To install the Wildcat 4110 video card:

1. Turn off power to the computer and to the monitor, and disconnect the cables from the computer.
2. Open the computer to gain access to the AGP Pro50 or AGP Pro expansion slot.

CAUTION You must have an open PCI expansion slot adjacent to the AGP expansion slot to provide adequate cooling for the Wildcat 4110 video card. If necessary, move other installed PCI expansion cards to other PCI expansion slots to ensure this.

3. If you are removing a Wildcat 4110 VIO card, you may need to disconnect a ribbon cable from the internal VIO connector on the card (see Figure 3).
4. If the computer has an existing video card, remove it and keep the screws that secured it to the computer.
5. Align the Wildcat 4110 card with the AGP Pro50 or AGP Pro expansion slot, as required. Make sure the gold-fingered connections on the card's edge (see Figure 4) are aligned properly with the slot connector.
6. Push the card into the expansion slot firmly and evenly until it is fully seated in the slot connector.
7. Visually inspect the connection. If it does not appear to be correct, remove and reinstall the card.
8. If you are replacing a Wildcat 4110 VIO card, you may have to reconnect a ribbon cable to the internal VIO connector on the card (see Figure 3).
9. Secure the card to the chassis using the screws you removed previously.
10. Close the computer and reconnect the power cord. See "Connecting the Monitor" in this chapter for instructions on connecting a display device to the Wildcat 4110 video card.

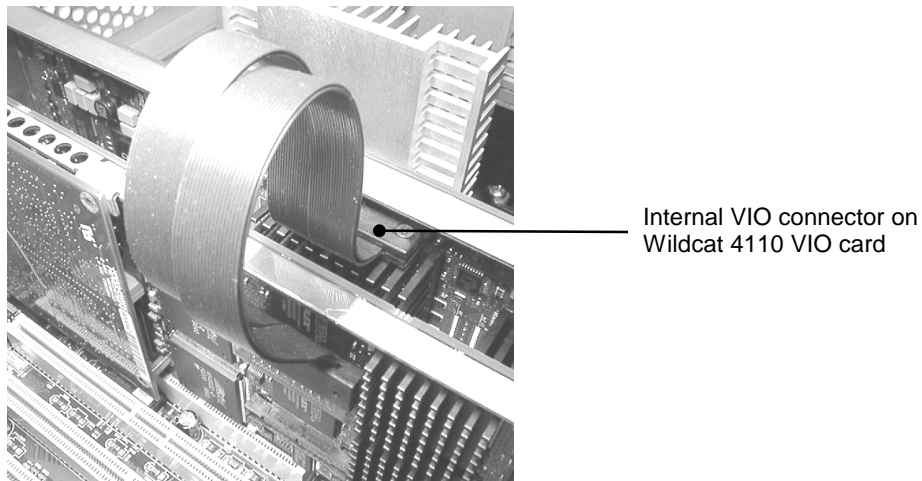


Figure 3. Internal VIO Connector (Wildcat 4110 VIO Only)

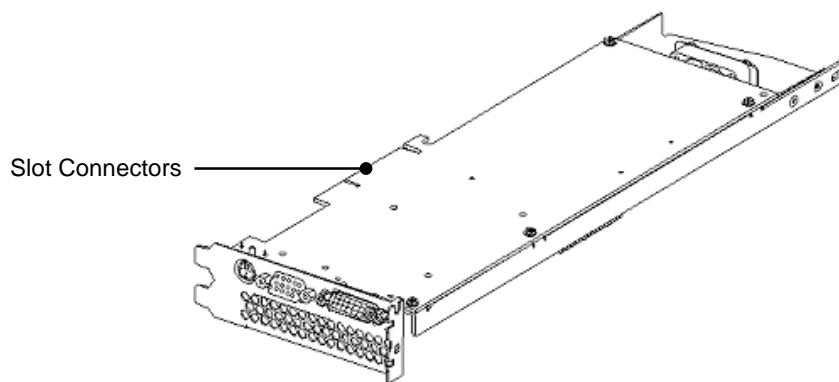


Figure 4. Expansion Slot Connectors

See Appendix A, “Technical Information,” for information on Wildcat 4110 ports and connectors.

Connecting the Monitor

Refer to your computer monitor’s documentation for more information on cables and connectors.

To connect the monitor:

1. Make sure the power to the computer is turned off.
2. Connect the workstation monitor’s video cable to the appropriate output port on the Wildcat 4110 video card. See the documentation that came with your monitor for information on the type of

connection that is required. Typically, you will connect the monitor cable to the analog video output port (see Figure 5).

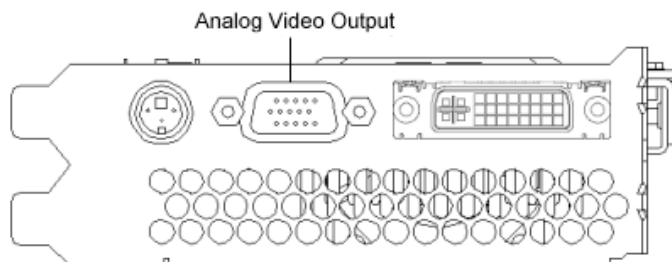


Figure 5. Analog Video Output (Shown On Wildcat 4110)

3. Turn on power to the workstation. If the monitor's Power On LED does not illuminate or the monitor does not display the startup sequence, consult Chapter 4, "Troubleshooting."

If you installed the video card yourself, the computer will boot into VGA mode. Go to "Installing the Software" in this chapter for instructions on installing the video drivers.

See "Connecting a Stereo Display Device" in this chapter for instructions on connecting other devices to the video card.

Installing the Software

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Refer to the operating system documentation and online Help for more information on installing drivers and software application programs.

Make sure your workstation has the following before installing Wildcat driver software:

- ◆ Microsoft Windows NT Workstation 4.0 operating system with Service Pack 4 (or later)
- ◆ 3 MB of free space on the computer's primary system disk

CAUTION You must have the correct driver for the Windows NT 4.0 operating system. If you are unsure, refer to the README file on the driver delivery media for this information.

If you are reinstalling the Wildcat 4110 driver, you must first remove the currently installed driver.

To remove the existing Wildcat 4110 driver:

1. Log on to Windows NT using an account that has administrative privileges.
2. Go to Start » Settings » Control Panel » Add/Remove Programs » Install/Uninstall.
3. Highlight the Display Driver and click Add/Remove.
4. When prompted to confirm driver removal, click Yes and follow the displayed prompts.

To install the Wildcat 4110 video driver:

1. Log on to Windows NT using an account that has administrative privileges.
2. Insert the delivery media into the appropriate device (for diskettes or CD).
3. Go to Start » Settings » Control Panel » Display » Settings » Display Type » Change.
4. In the Change Display dialog box, click Have Disk.
5. In the Install From Disk dialog box, type the path to the directory that contains the delivery media.
6. In the Change Display dialog box, verify that the Wildcat 4110 driver is highlighted, and then click OK.
7. When asked if you want to install a third-party driver, click Yes.
8. When a message displays that the driver installed successfully, click OK.
9. Click Close to exit the Display Type dialog box.
10. Click Close to exit the Display Properties dialog box.
11. When told that the workstation must be restarted for the new settings to take effect, remove the diskette from the workstation's floppy disk drive, if applicable, and click Yes.
12. After the system restarts and you log in, a message displays stating that a new display driver has been installed, and that you should use the Display option in the Control Panel to select the preferred display resolution. Click OK.

See Chapter 3, "Using the Video Card," for instructions on defining the display properties.

To verify the default video display driver:

1. Go to Start » Settings » Control Panel » Display » Settings » Display Type.
2. Verify that Wildcat 4110 is listed under Adapter Type.
3. Click Cancel to dismiss the Adapter Type list without making any changes.
4. Click Cancel to close the Display Properties dialog box.

To verify the default system startup version:

1. Go to Start » Settings » Control Panel » System » Startup/Shutdown.
2. If Windows NT Workstation Version 4.x is not selected, select it and click Apply.

NOTE Do not select the VGA version of the operating system. The video display runs in VGA mode when the Wildcat 4110 graphics driver is not running.

3. Click OK to close the System dialog box.

To check the video image:

1. Go to Start » Settings » Control Panel » Display » Settings.
2. Click Test to test the display resolution.
3. Click OK to dismiss the Display Properties dialog box.

See Chapter 3, “Using the Video Card,” for instructions on defining the display properties.

Connecting a Stereo Display Device

Refer to your stereoscopic display device’s documentation for more information on cables and connectors.

To connect a stereo display device:

1. Connect one end of the stereo emitter cable to the input port on your stereoscopic display device.
2. Connect the other end of the stereo emitter cable to the stereo output port on the Wildcat 4110 video card (see Figure 6).
3. Configure the display settings to enable stereo display. See Chapter 3, “Using the Video Card,” for step-by-step instructions.

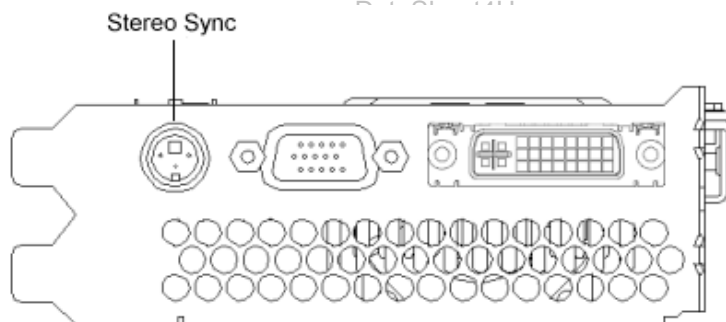


Figure 6. Stereo Output Port (Shown On Wildcat 4110)

3 Using the Video Card

This chapter contains instructions for configuring the video display and enabling the stereo display. If you purchased your Wildcat 4110 video card as part of a system, it was configured before shipment. The instructions in this chapter are necessary only if you purchased the card separately.

Configuring the Video Display

NOTE Before configuring the video display, make sure you are logged into the non-VGA version of Windows NT, and close any open application programs.

Once the drivers are installed properly, the Display Properties dialog box will have two additional tabs: Wildcat Configuration and Wildcat Monitor.

To use the Wildcat Configuration tab:

1. Go to Start » Settings » Control Panel » Display » Wildcat Configuration (see Figure 7).
2. Click Hardware Information to view current hardware settings.
3. Click View Configuration to view the current display configuration.
4. Click Configuration Wizard to modify the current display configuration or create a new one.



Figure 7. Wildcat Configuration Tab

To use the Wildcat Monitor tab:

1. Go to Start » Settings » Control Panel » Display » Wildcat Monitor (see Figure 8).
2. On the Wildcat Monitor tab, you can adjust the resolution, color depth, and refresh rate.

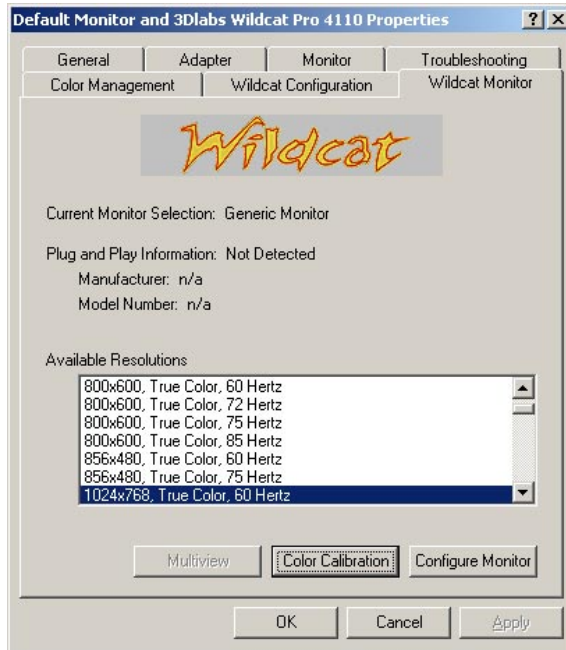


Figure 8. Wildcat Monitor Tab

3. Click Color Calibration to change the color settings. Make changes, and then click OK to accept the changes and dismiss the Color Calibration dialog box, or click Cancel to close the Color Calibration dialog box without making any changes. You are returned to the Wildcat Monitor Display Properties dialog box.
4. Click Configure Monitor to change the display mode, select a monitor type, and change the resolution/refresh rate. Once you have made the changes you require, click OK to accept the new configuration and dismiss the Configure Monitor dialog box. You are returned to the Wildcat Monitor Display Properties dialog box.
5. Click OK on the Display Properties dialog box to accept the changes, or click Cancel to close the dialog box without accepting any modifications.
6. Restart the workstation if you are prompted to do so. Most changes will take effect without restarting.

See Appendix A, “Technical Information,” for a list of available monitor resolutions. See “Enabling Stereo Display” in this chapter for instructions on changing the Display Mode.

Enabling Stereo Display

If you connect a device to the stereo port on the Wildcat 4110 card, you must change the display mode to view in stereo. See Chapter 2, "Setup," for the location of the stereo output port.

To enable stereo display:

1. Make sure your stereo display device is properly connected to the stereo output port on the Wildcat 4110 card. See Chapter 2, "Setup," for more information.
2. Go to Start » Settings » Control Panel » Display » Wildcat Monitor » Configure Monitor (see Figure 8).
3. Select one of the Stereoscopic Display modes from the Display Mode pulldown list, and then click OK. You are returned to the Display Properties dialog box.
4. If you are prompted to select a new display resolution, click OK, and then select a new resolution from the list of available resolutions.
5. Click OK if the display is correct and you wish to keep the new settings. The Display Properties dialog box is dismissed.
6. Click OK to accept the new display mode and dismiss the Display Properties dialog box.

You must disable stereo mode when you no longer wish to view in stereo. To do this, follow the steps above, and select Monoscopic Display from the Display Mode pulldown list.

4 Troubleshooting

This chapter describes common problems and solutions, how to get a usable video resolution, how to reinstall the video driver software, and how to get help.

Finding Solutions for Common Problems

Problem	Cause	Solution
Display is black, not synchronized, or distorted	Display properties are not set correctly.	Use the Last Known Good option, or restart Windows NT in VGA mode and select a supported resolution and refresh rate. Instructions for both of these solutions are provided later in this chapter.
Monitor does not support a selected resolution or refresh rate	The selected settings are not compatible with your monitor and video card.	Restart Windows NT in VGA mode and select a supported resolution and refresh rate.
		Reinstall the video driver.
There is no VGA boot screen	The connections may not be set up properly.	Verify that the monitor cable is securely fastened to the video card.
		Make sure the monitor and computer are plugged into electrical outlets and are receiving power.
		Check any other external display connectors, if applicable.
		Verify that the video card is seated properly in its expansion slot.
Screen image is off-center	Monitor settings may be configured improperly.	Refer to your monitor's documentation for instructions on making horizontal and vertical adjustments.

Problem	Cause	Solution
Color balance is wrong	Monitor settings may be configured improperly.	Refer to your monitor's documentation for instructions on adjusting the color display.
There is no picture	Improper software setup or hardware problem.	Verify that the display properties are configured correctly for the monitor type. If the software setup is correct, use a similar type monitor (if available and functioning properly) to determine if the workstation is defective. See "Obtaining a Usable Video Resolution" in this chapter for instructions on determining if you have a defective unit.
Screen image defects appear	Possible indication of a hardware problem.	Run diagnostics to check the graphics hardware.

Using Diagnostics

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Diagnostics utilities for checking the video card and instructions for using these utilities may be available from your computer vendor.

Getting a Usable Video Resolution

The system operates in VGA mode when the video display driver is not running to accommodate all monitor types. VGA mode is used during initial installation of the video display driver and when experiencing video problems. If you select a resolution that causes the monitor to display incorrectly, press CTRL+ALT+DEL but do not log on to the Windows NT operating system. Instead, shut down then use the Last Known Good option to return to the last known good configuration recorded by Windows NT.

To use the last known good option:

1. Restart the system.
2. Press the space bar when prompted to invoke the Last Known Good menu.

If using the Last Known Good option fails to correct the video display problem, restart the system in VGA mode and reconfigure your display to 640 x 480 resolution, 60 Hz refresh rate. Then restart Windows NT again in non-VGA mode.

To restart in VGA mode:

1. Restart the system.
2. At the boot screen, select the VGA version of the operating system.

Determining a Defective Unit

To determine a defective unit:

1. Save and exit from all files, if possible, then shut down Windows NT.
2. Turn off the power to the monitor and to the system.

WARNING Always turn off the power to the system before connecting or disconnecting the cables.

3. Check and reseat all card and cable connections as needed.
4. Turn on the monitor power. If the Power On LED does not illuminate, see Getting Help in this section.
5. Turn on the power to the system base unit. If the Power On LED on the base unit does not illuminate, or if the BIOS beep codes indicate a failure, see Getting Help in this section.

Reinstalling the Video Driver

Refer to the Microsoft Windows NT documentation and online Help for more information on installing drivers and software application programs.

CAUTION You must have the correct driver for the Windows NT 4.0 operating system. If you are unsure, refer to the README file on the driver delivery media for this information.

If you are reinstalling the Wildcat 4110 driver, you must remove the current driver prior to installing the update.

To remove the existing Wildcat 4110 driver:

1. Log on to Windows NT using an account that has administrative privileges.
2. Go to Start » Settings » Control Panel » Add/Remove Programs » Install/Uninstall.
3. On the Install/Uninstall tab, highlight the Intense3D Display Driver and click Add/Remove.
4. When prompted to confirm driver removal, click Yes and follow the prompts.

5. On the Install/Uninstall tab, highlight the Intense3D Display Driver and click Add/Remove.
6. When prompted to confirm driver removal, click Yes and follow the prompts.

To reinstall the video driver:

1. Log on to Windows NT using an account that has administrative privileges.
2. Insert the delivery media into the appropriate device (for diskettes or CD).
3. Go to Start » Settings » Control Panel » Display » Settings » Display Type » Change.
4. In the Change Display dialog box, click Have Disk.
5. In the Install From Disk dialog box, type the path to the directory that contains the delivery media.
6. In the Change Display dialog box, verify that the Wildcat 4110 driver is highlighted, and then click OK.
7. When asked if you want to install a third-party driver, click Yes.
8. When a message displays that the driver installed successfully, click OK.
9. Click Close to exit the Display Type dialog box.
10. Click Close to exit the Display Properties dialog box.
11. When told that the workstation must be restarted for the new settings to take effect, remove the diskette from the workstation's floppy disk drive, if applicable, and then click Yes.
12. After the system restarts and you log in, a message displays stating that a new display driver has been installed, and that you should use the Display option in the Control Panel to select the preferred display resolution. Click OK.

Getting Help

If the troubleshooting procedures in this document do not resolve the problem, please contact your vendor for technical assistance (refer your system documentation for instructions). For information about your warranty, see your system documentation.

A Technical Information

Functional Specifications

- ◆ Interface – AGP Pro50 and AGP Pro
- ◆ Graphic controller – High-speed Wildcat chipset technology
- ◆ DAC speed – 220 MHz
- ◆ Data width – Frame buffer 128 bits; texture buffer 64 bits; DirectBurst 64 bits
- ◆ Ports and connectors – 3-pin miniDIN stereo sync output; 15-pin D-sub analog video output; DVI-I output (Wildcat 4110 only); internal VIO connector (Wildcat 4110 VIO only)
- ◆ Interrupts – PCI-assigned; Interrupt A for Wildcat 4110
- ◆ DMA channels – PCI, AGP 2x
- ◆ Video memory – Frame buffer 64 MB; texture buffer 64 MB; DirectBurst 8 MB

Requirements

- ◆ Expansion slots – one AGP Pro50 or one AGP Pro slot, and one adjacent PCI slot for cooling purposes
- ◆ Power – 50 W maximum; 12.0 V 140 mA maximum; 5.0 V 1.8 A maximum; 3.3 V 12.8 A maximum

3D Performance

Performance numbers reflect maximum hardware rate. Numbers may vary depending on the application.

- ◆ 3D Gourad-shaded triangles, Z-buffered, 15-pixel – 6.0 M tri/sec
- ◆ 3D Gourad-shaded triangles, Z-buffered, 25-pixel – 4.3 M tri/sec
- ◆ 3D Vectors, solid color, 10-pixel – 12.0 M vec/sec

Resolutions and Refresh Rates

Supported monitor resolutions and refresh rates may vary depending on the monitor.

Monitor Resolutions (bits per pixel)	Refresh Rates (Hz)
1920x1200 (96)	60
1600x1200 (96, 128)	60, 65, 70, 75, 80
1280x960 (96, 128)	60, 75, 85
1280x1024 (96, 128)	60, 75, 85
1024x768 (96, 128)	60, 75, 85
800x600 (96, 128)	60, 75, 85
640x480 (96, 128)	60, 75, 85

Ports and Connectors

The Wildcat 4110 is an AGP Pro50 card designed for systems that have a 50-Watt AGP Pro50 slot or a 110-Watt AGP Pro slot.

NOTE Wildcat 4110 cannot plug into a standard AGP slot.

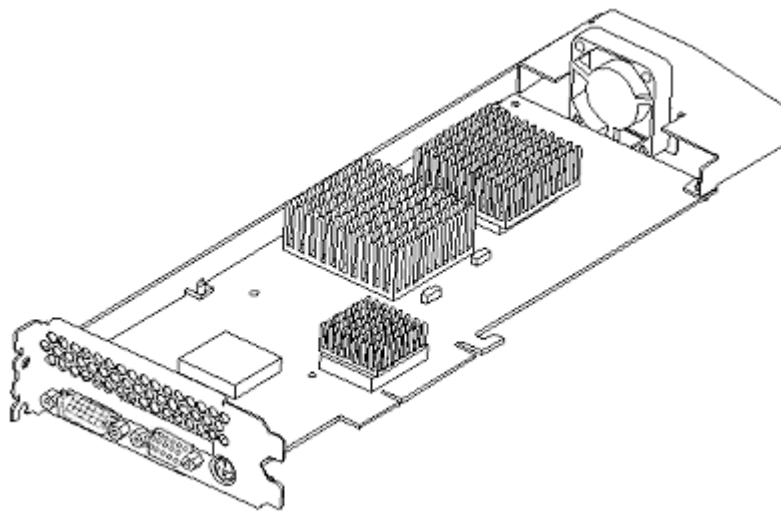


Figure 9. Wildcat Video Card Bottom View

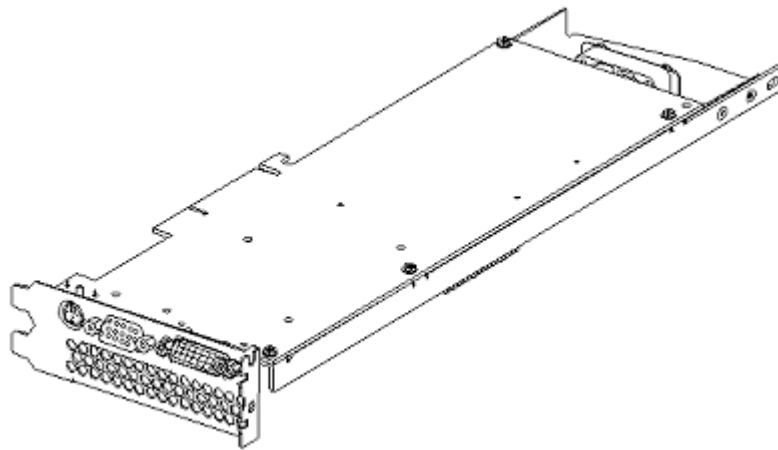


Figure 10. Wildcat Video Card Top View

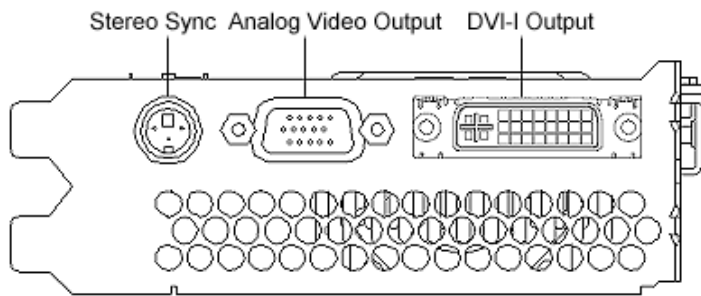


Figure 11. Wildcat 4110 External Ports

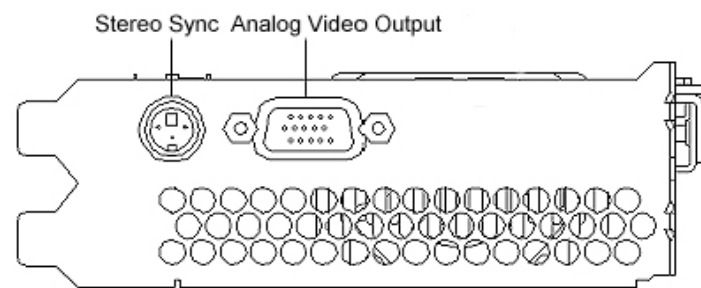


Figure 12. Wildcat 4110 VIO External Ports

Stereo Sync Output

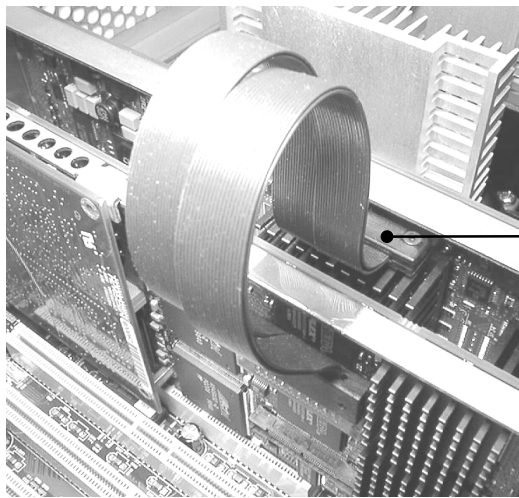
The stereo port (female, 3-pin, mini-DIN connector) provides connection to a LCD shutter glasses emitter module or to other stereo shutter devices.

Analog Video Output

The video port (female, 15-pin, D-SUB connector) provides connection to an analog CRT display.

DVI-I Output (Wildcat 4110 Only)

The Digital Video Output Port on a Wildcat 4110 card uses a DVI-I receptacle with 29 signal contacts as specified by the Digital Visual Interface Revision 1.0 specification. This port supports pixel rates up to 112 MHz using the SII150A PanelLink device from Silicon Image. The port is 100 percent compliant to the DVI specification, and supports digital and analog displays.



Internal VIO connector on Wildcat 4110 VIO card

Figure 13. Internal VIO Connector (Wildcat 4110 VIO)

VIO (Wildcat 4110 VIO Only)

The internal VIO connector on a Wildcat 4110 VIO card provides a path for direct image and alpha channel data transfer to and from the card's frame buffers.