



Lilith Banshee

AGP/PCI

User Guide

Technical Support Services

Phone Assistance: 1-800-859-9569 or 1-714-990-6889

Monday - Friday: 9 am - 5 pm Pacific Standard Time

If you need additional information or help during installation or normal use of this product, please contact your retailer. If this is not possible, call EONtronics Technical Support. Our customer support staff will attempt to solve your installation problem by phone or issue a service authorization number for repair or replacement of your product. *Unauthorized returns will not be accepted.*

On Line Services: <http://www.eontronics.com>

Email Support: tech@eontronics.com

Fax Support: 1-714-990-6960

For your convenience, please record your EONtronics Lilith Banshee serial number in the area below:

Lilith Banshee S/N:

FCC Compliance Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

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Introduction

The EONtronics Lilith Banshee is a powerful 2D/3D video card that comes in both AGP and PCI versions. Both cards support a full 128 bit 2D graphics engine, with every Windows GDI feature supported in hardware, the Lilith Banshee is one of the fastest 2D accelerators for the PC that has ever been made. This makes for the fastest and most powerful 2D windows acceleration for many business, educational, and entertainment applications.

The Lilith Banshee also supports one of the most powerful 3D feature sets in the industry with its fully 3Dfx Voodoo2 compatible 3Dfx Voodoo Banshee graphics chip.

The EONtronics Lilith Banshee is fully supported in Windows 95, Windows 98, and Windows NT 4.0; and takes full advantage of the Microsoft Direct X set of APIs, the OpenGL API, and the famous 3Dfx Glide API.

The Lilith Banshee's features include:

- Ultra High Performance - The ×1 AGP and the PCI 2.1 Lilith Banshee provide for excellent bus throughput, with each capable of operating at as high as 66 MHz.
- 16 MB of Memory - The 16 MB of fast memory allows the card to run in high resolutions with excellent color depths. And its unified memory structure allows it to dynamically set frame buffer and texture memory as needed.

- Flicker-free Refresh Rates - With refresh rates as high as 110 MHz, you will be assured a clear, flicker free, non-interlaced image.

- Photo-Realistic Images - Full True Color displays at resolutions up to 1280 × 1024 means brilliant business presentations, CAD and graphics displays, and incredible gaming.

- Impressive 3D Features
 - Integrated Voodoo2 pixel unit
 - High Precision 16 bit Z Buffer
 - Transparency Effects
 - Chroma-key with Color Mask
 - Source and Destination Alpha Blending
 - Fog and Haze Effects
 - Per Pixel MIP Mapping
 - Per Pixel Tri-Linear Filtering

-
- Full Scene and Edge Anti Aliasing
 - Bump Mapping
 - Perspective Correction

- Full Driver Support - The EONtronics Lilith Banshee is fully supported in Windows 95, Windows 98, and Windows NT 4.0.

- Continuing Support - Upcoming support for Windows 2000

- Superior Customer Service

- Five Year Warranty

- Fast Response to Technical Issues

- World Wide Web and Email support for fast driver updates and technical bulletins

- Technical Support Hotline

Note: Please refer to the inside front cover for the complete list of technical services available.

Resolution	Number of Colors/Bits Per Pixel				Frequency (Hz)
	16/4 bit	256/8 bit	64K/16 bit	4 Billion/32 bit	
640×480	Yes	Yes	Yes	Yes	60,75,85,100,120
800×600	Yes	Yes	Yes	Yes	60,75,85,100,120
1024×768	Yes	Yes	Yes	Yes	60,75,85,100,120
1280×1024	Yes	Yes	Yes	Yes	60,75,85,100
1600 × 1200	Yes	Yes	Yes	Yes	60,65,70,75,85
1792 × 1344	Yes	Yes	Yes	Yes	60,72
1856 × 1392	Yes	Yes	Yes	Yes	60
1920 × 1440	Yes	Yes	Yes	Yes	60

Hardware Installation

Before You Start

Package Contents

Your EONtronics Lilith Banshee box should contain the following:

- The Lilith Banshee AGP or PCI Card
- One EONtronics Driver Installation CD
- One User Manual
- One Product Registration Card
- Optional Bundled Software

Installation Overview

This section provides the following information and instructions for installing your EONtronics Lilith Banshee card.

- System Requirements
- Gather necessary supplies
- Identify your system and monitor
- Handling Procedures
- Locate important components on the video card
- Remove or disable existing video hardware
- Install the EONtronics Lilith Banshee video card

Note: Refer to the Software Installation section for information on installing and configuring video drivers for the

EONtronics Lilith Banshee video card.

System Requirements

Before attempting to install your EONtronics video card into a computer, make sure that there is an available AGP or PCI expansion slot, as appropriate, on the motherboard. Additionally, it is recommended that your computer meet the following requirements:

- A Pentium II based system
- A minimum of 32 MB of Memory
- Microsoft Windows 95 or 98, Microsoft Windows NT 4.0
- Microsoft Direct X 5 or later

Note: If you are installing the EONtronics Lilith Banshee AGP video card on a Windows 95 based system, you need to have the following items installed.

- Direct X 5.0 or later
- USB Supplement for OSR2

Note: If you are installing the EONtronics Lilith Banshee video card on a Windows NT 4 based system, you need to have the following items installed.

- Service Pack 3 for Windows NT 4

Note: If you are installing the EONtronics Lilith Banshee AGP video card on a Socket-7 AGP motherboard you will need to make sure that you have the necessary AGP drivers from your motherboard

manufacturer. For more information please contact your motherboard manufacturer.

Gather Necessary Supplies

- No. 2 Phillips screwdriver
- User manuals for your computer
- User manuals for your monitor
- User manuals for Windows 9X or NT

Identify Your System & Monitor

Your system must be an AGP bus compatible system (Pentium II i440LX, or i440BX, or Socket-7 AGP) to use the EONtronics Lilith Banshee AGP video card. Any PCI 2.1 compatible expansion slot may be used for the Lilith Banshee PCI.

Determine whether your analog VGA monitor is an interlaced or non-interlaced monitor. You will need to know its vertical and horizontal refresh frequencies. This information should be found in your monitor user guide.

Additionally, make sure that you have the latest drivers for Windows 95/98.

For questions about your monitor

capabilities and other monitor related questions, please contact your dealer or your monitor manufacturer.

Handling Procedures

Static electricity can severely damage your equipment. Handle the EONtronics PCI or AGP video card and any other device in your system with care and avoid contact with components on the card.

Handle the EONtronics PCI or AGP card by its metal bracket and edges where there are no contacts.

Always work on an antistatic surface to avoid possible damage to the card from static discharge. The packing material placed on a table top makes a good anti-

static work surface.

We assume no responsibility for any damage to the EONtronics Lilith Banshee which results from failure to follow installation instructions or failure to observe safety precautions.



CAUTION



The enclosed device is electrostatic sensitive. Do not open or handle without following proper procedures.



Card Layout for the EONtronics Lilith Banshee AGP

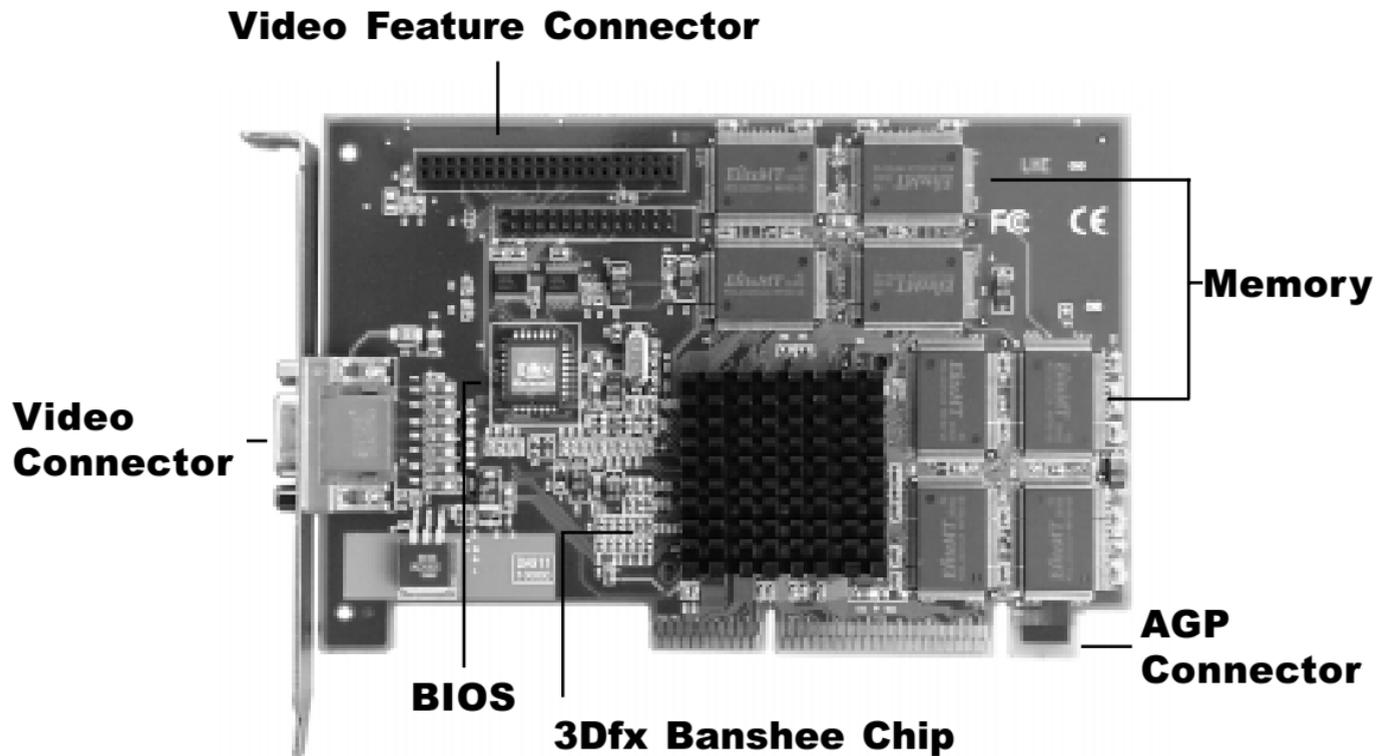
Figure 1 (on the next page) shows the following significant components of the EONtronics Lilith Banshee AGP video card.

- Video Connector: The monitor is connected to this 15 pin female connector.
- Video Feature Connector: These connectors and their associated circuits are for the video feature connectors that are used for connecting video capture cards, DVD decoders, and other compliant devices.
- AGP-bus Slot Connector: The EONtronics Lilith Banshee AGP video card communicates with the computer through its AGP-bus connector that plugs into the AGP-bus expansion slot on your computer motherboard.

The EONtronics Lilith Banshee AGP MUST be installed in the AGP slot of the motherboard. It will not work or fit in a PCI slot.

- Memory: These memory chips provide high speed 100 MHz SGRAM to the 3Dfx Banshee chip.
- Bios: This Bios chip provides the basic instructions for the operation of the EONtronics Lilith Banshee AGP video card.
- The 3Dfx Banshee Chip: This is the brain of the video card. This high performance graphics chip provides all of the powerful graphics processing capabilities that make the EONtronics Lilith Banshee such a high performance card.

Figure 1 - EONtronics Lilith Banshee AGP Layout (Picture May Vary)



Card Layout for the EONtronics Lilith Banshee PCI

Figure 2 (on the next page) shows the following significant components of the EONtronics Lilith Banshee PCI video card.

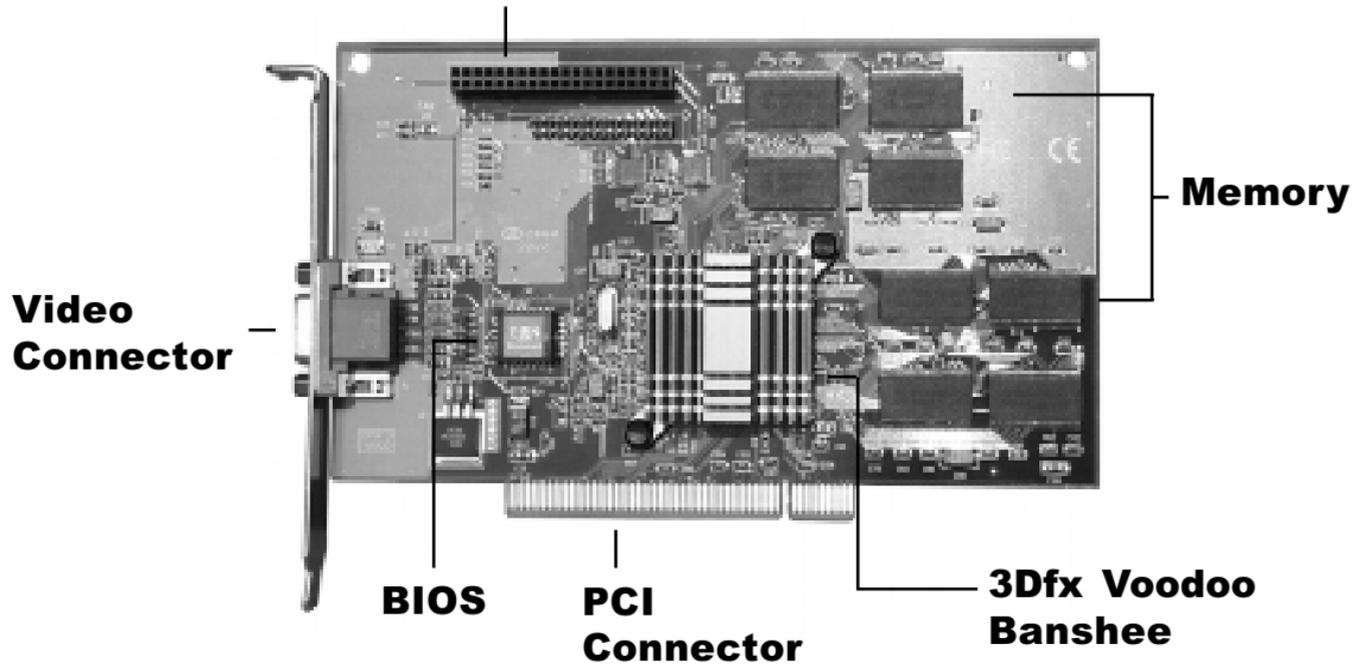
- Video Connector: The monitor is connected to this 15 pin female connector.
- Video Feature Connector: These connectors and their associated circuits are for the video feature connectors that are used for connecting video capture cards, DVD decoders, and other compliant devices.
- PCI-bus Slot Connector: The EONtronics Lilith Banshee PCI video card communicates with the computer through its PCI-bus connector that plugs into the PCI-bus expansion slot on your computer motherboard

The EONtronics Lilith Banshee PCI MUST be installed in the PCI slot of the motherboard. It will not work or fit in an AGP slot.

- Memory: These memory chips provide high speed 100 MHz SDRAM to the 3Dfx Banshee chip.
- Bios: This Bios chip provides the basic instructions for the operation of the EONtronics Lilith Banshee PCI video card.
- The 3Dfx Banshee Chip: This is the brain of the video card. This high performance graphics chip provides all of the powerful graphics processing capabilities that make the EONtronics Lilith Banshee such a high performance card.

Figure 2 - EONtronic's Lilith Banshee PCI Layout (Picture May Vary)

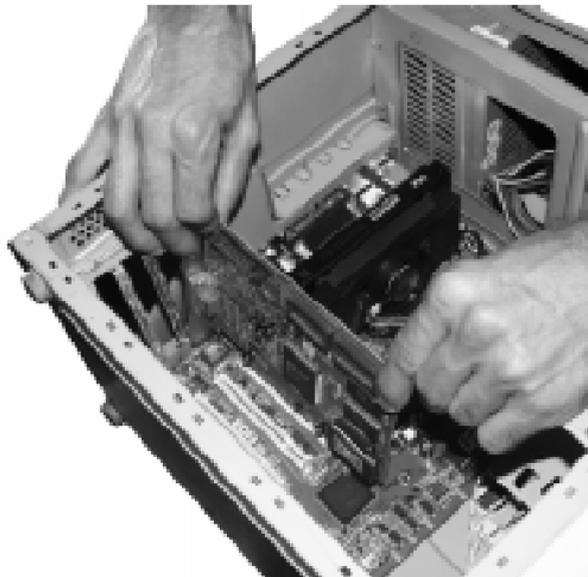
Video Feature Connector



Installing the EONtronics Lilith Banshee

Installation Procedures

1. Turn off the system power. We recommend that you also unplug the power cord from the computer.
2. Remove the system cover according to the manufacturer's instructions.
3. Remove any other video card in the system or disable any video adapter that is built into the motherboard. Please refer to Appendix A for more information on built in video adapters.



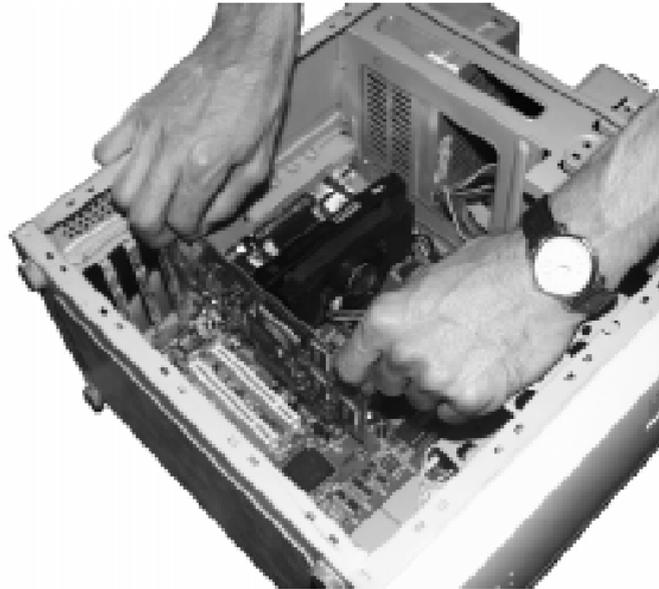
Step 3 Illustration

4. If necessary, remove the expansion slot cover to gain access to the AGP slot. Do this by removing its screw and lifting out the slot cover. Retain the screw for later use in securing the EONtronics PCI or AGP video card.

5. Verify that any video switches for the computer are correctly set. Please refer to your motherboard or system information to determine if you need to do this.

6. Hold the EONtronics video card by its top corners and slide it into the AGP expansion slot (refer to your system manual). Line up the card so that it fits into the slot guides at either end. The board connector pins should line up with the expansion slot underneath. Press down on the card until it is firmly seated

in the expansion slot. The bracket should be flush with the screw hole.



Step 6 Illustration

7. Verify that the EONtronics video card (except for the connector and bracket) does not touch any components on the motherboard or adjacent to the card. Then, secure the card with the screw that was previously removed in step 4.

8. Replace and secure the system cover.

9. Plug the monitor connector into the 15-pin, D-shaped, analog video connector on the EONtronics video card and secure it with the mounting screws.

10. Place the monitor's ON/OFF switch in the ON position. This ensures that when you turn on your system it can properly identify the monitor type.

You are now ready to turn on your system.

Identification Notes

When installing your EONtronics video card, it is useful to note the quantity and type of expansion slots on your motherboard.

With the motherboard in front of you, and the expansion slots running left to right, they typically are as follows:

Far left and black in color, the ISA slots are 16 bit expansion slots used for older legacy devices like modems and sound cards.

To the right of the ISA slots, and typically white in color, the PCI slots are 32 bit expansion slots that are used for many of today's modern expansion cards.

To the very right of PCI slots there is one single brown slot that is set off center when compared to the other slots. This is the AGP slot. Please note that if you do not have an AGP motherboard, that you will not have this slot.

System Setup

After physically installing the EONtronics Lilith Banshee video card in your computer system, the computer must be set up to recognize and take advantage of the new card.

The methods of setup vary from operating system to operating system. In the Software Installation section, detailed instructions are given for each of the major operating systems that are supported by the EONtronics Lilith Banshee.

Please read the section that corresponds to your operating system very carefully and follow the instructions that are presented there.

The EONtronics Lilith Banshee is currently supported in Microsoft Windows 95, Windows 98, and Windows NT 4.0. If you have an operating system other than these, then you will need to consult your operating system literature for instructions and driver availability.

Software Installation

Software Overview

The Software Installation section is divided into installation procedures sections for the following operating systems:

- Windows 95 and 98
- Windows NT 4.0

Please refer to the installation section that matches your operating system and carefully follow the installation instructions.

Windows 95 and Windows 98 Driver Installation

General Instructions

Turn the computer on and allow the operating system to start. Microsoft Windows should automatically detect the presence of the EONtronics PCI or AGP graphics card and prompt you to install the display driver for it.

Windows will prompt you to install the “Standard PCI Graphics Adapter (VGA)” driver. Click Next and Finish to install the standard driver, and then restart the system when asked.

After the computer restarts, insert your EONtronics EASi driver CD.

The CD should now autorun and bring up the EASi installation menu. Choose the

Install Drivers button by clicking on it.

The automatic installation program will then install the new video drivers and configure your system to use the EONtronics Lilith Banshee video card.

You will then be prompted to restart your system. This may take a few moments, especially if you are connected to a network.

After your computer restarts you should be able to change your video settings to suit your tastes by using the Display Control Panel. You can get to this control panel by choosing the Start button, the Settings, then Control Panel, then Display, then the Settings Tab.

Windows 95

When installing in Windows 95, you will want to follow these steps when setting the system to use the Standard PCI Graphics Adapter.

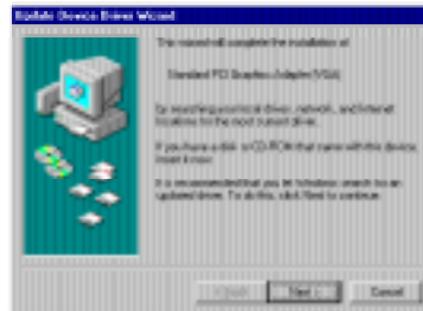


Figure 1-1: This is the screen that you will see as soon as the card is detected. Click next until you get to the screen shown in Figure 1-2.

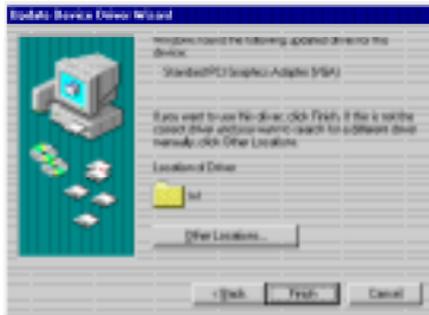


Figure 1-2: The system will now load the Standard VGA driver, click Finish to complete the installation.



Figure 2-1: This is the display that you will see when the card is first detected. Click Next until you get to the screen in Figure 2-2.

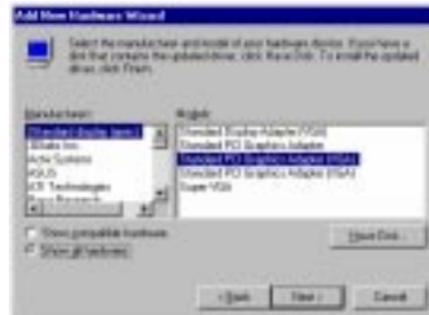


Figure 2-3: Select and install the Standard PCI Graphics Adapter (VGA) and click next to complete installation.

Windows 98

When installing the Standard PCI VGA drivers in the Windows 98 operating system, please refer to the following images and information.



Figure 2-2: Choose Display a List of Drivers and click Next until you get to the screen in Fig. 2-3.

Installation Note

If you receive a message that says that the display adapter is not configured correctly and you cannot get it to display in anything greater than 640×480×16 colors then you may need to install AGP drivers for the motherboard. Please see Appendix C for more information.

Windows NT 4.0 Driver Installation

Start the computer in VGA mode. After you have logged on, you will want to insert the EONtronics EASi driver CD. The CD will then autorun and display the EASi installation menu.

Select the Install NT Drivers button by clicking on it and then select the EONtronics Lilith Banshee from the menu.

The drivers will then automatically install into your system.

After this reboot, start your computer in the regular mode, not the VGA mode as before.

You should now be able to configure your display properties to suit your needs.

Installation Note

If Windows NT says that it cannot recognize the drivers or that the drivers are old and you need to update them, then it is very likely that you do not have Service Pack 3 or 4 installed. Please see Appendix B for more information of installing this update to Windows NT.

Windows 2000 Note

Windows 2000, formerly Windows NT 5.0 is scheduled to be released some time in 1999. There will be many changes to the installation instructions for this new operating system. In general however, you will be able to use the instructions for Windows NT 4.0. Please note that any changes to the drivers or the instructions for Windows 2000 will be found on our web site when the actual product is released. Please refer to our website (<http://www.eontronics.com>) for more information.

Appendices

Appendix A - Systems With Built In Video

If your computer system has a built-in video adapter, that is, one that is integral to the motherboard or system processor, you will need to take special care to disable it prior to installing another video card into the system.

Many systems with built-in video have a hardware jumper or switch that can be used to disable the built-in video.

Other systems use a BIOS routine to disable the onboard video, if a new video card is placed in the system.

In either case, you will need to refer to your motherboard, or computer system, documentation to see what preparations and procedures that you will need to follow in order to disable the onboard video for

your system, as the different methods used by various manufacturers are far too numerous to detail here.

If you have any questions as to how to proceed or if you encounter any problems in disabling the onboard video, please contact your motherboard or system manufacturer for more detailed assistance.

Appendix B - Microsoft Operating System Updates

Windows 95

Since its release in 1995, there have been numerous and sometimes revolutionary changes in the computer world. Microsoft has released updates and patches in an effort to keep the operating system up to date and to work with as much of the new technology as possible.

The following are several of the most common patches and updates, as well as what they do, and why they are so needed.

PIIX4 Patch

The newer Intel chipsets such as the i430TX, i440LX, and i440BX use a new controller chip called the PIIX4 (this stands

for PCI IDE ISA eXcellerator version 4). This chip is responsible for controlling the PCI and ISA slots as well as controlling the onboard IDE functions of the motherboard.

Because of how new these chipsets are, Windows 95 cannot recognize them, and requires a patch to function correctly. Without this patch, any device (such as a video card) that would rely on this PIIX4 chip will not function correctly.

This patch is the responsibility of the motherboard manufacturer, and tends to show up in a variety of forms from manufacturer to manufacturer.

In general, it tends to be called PIIX4.EXE but can come under a variety of names.

This patch should be included on a floppy disk or CD that comes with the motherboard.

If you did not receive it with the motherboard, or if you have questions concerning its installation or use, please contact your motherboard or system manufacturer for more detailed information.

USB Support For OSR2

This is a patch that Microsoft included with newer versions of OSR2 (the OEM Service Release 2 of Windows 95). The patch is located on the Windows 95 installation CD and must be installed to enable support for USB devices and AGP video cards.

The primary reason for needing this patch to use AGP is the fact that it installs a new memory manager that allows the AGP DIME (Direct Memory Execute) functions to work correctly.

DIME essentially enables the AGP video card to take advantage of, and use, system memory to store bitmap textures and other graphics information.

Without this patch installed, the EONtronics Lilith Banshee will not be able to properly initialize and will not operate in AGP mode.

This patch is available on your Microsoft Windows 95 OSR2 with USB Support CD, or on your Microsoft Windows 95 OSR/2.5 CD.

For OSR2 with USB, it is located in the other/usb directory and is called USBSUPP.EXE.

For OSR/2.5 it is located in the other/updates/usb directory and comes in two parts, USBSUPP.EXE and USBSUPP2.EXE. Both of these need to be run.

For more information on installing the USB Supplement please refer to your Microsoft documentation. If you encounter a problem installing this patch, please contact your system manufacturer for assistance.

Microsoft Direct X

Direct X is a standardized API (Application Programming Interface) for the Microsoft

Windows family. It is what allows the operating system to translate its commands to your hardware drivers.

The primary advantage of the Direct X API is the fact that it allows programmers to write a single program independent of your system devices and allow the operating system to translate the program's needs into the appropriate commands to your hardware.

With the release of Direct X 5.0, Microsoft included support for AGP graphics cards. This is the primary reason that it is important to installing the EONtronics Lilith Banshee.

Without Direct X 5.0, the drivers for your Lilith Banshee will not be correctly

understood by the operating system, and this can result in unsatisfactory performance as well as errors and aberrant operation.

EONtronics has included the newest distributable release of Microsoft Direct X 5.0 on the EONtronics EASi driver CD. It can be found in the DirectX directory. Simply double click the dxsetup.exe icon and your system will be updated.

Bus Master Drivers

With changes in technology, a form of IDE control called Bus Mastering has come to be developed.

Its most recent form is Ultra DMA/33. The primary point behind bus mastering

IDE is to lower the CPU processing requirements that occur when an IDE hard drive or device is accessed. It is important to remember that this method lowers the CPU overhead for drive operations, and that in and of itself does not make the drive access any faster than traditional methods. Bus master IDE finds its true place in multi tasking systems where CPU power is at a premium.

While this has little to do with AGP graphics cards, it is included here because a significant number of users experience problems with these drivers, namely their CD ROM drive stops working after they install them.

This can cause problems if you need to install drivers for the EONtronics PCI or

AGP graphics card from your installation CD.

Before you install any bus mastering driver, carefully read all of the attached documentation to make sure that all of your system components are compatible.

If they are not, or you are not sure, DO NOT install them.

If you have installed them and need to get rid of them, there are several ways that are available, and much information can be found on the internet regarding this subject.

The simplest and surest way is, unfortunately, to reinstall Windows 95.

Windows NT

As with Windows 95, Windows NT 4 has undergone changes in order to keep pace with technology, as well as, to fix or refine parts of the operating systems.

Microsoft has released these fixes in the form of Service Packs that are used to update and add functionality to your Windows NT 4 system.

Most users either have no Service Packs or just Service Pack 1 installed, as this is how the operating system was shipped.

The most recent Service Pack, at the time this manual was written, is Service Pack 4.

The important change in Service Pack 3 or 4, as far as it applies to AGP video cards, is that Service Pack 3 or 4 allows Windows NT 4 to use Direct X 5 drivers (for more information on Direct X 5 please see the preceding section on Direct X 5).

Without Service Pack 3 or 4, Windows NT will be unable to correctly use your display drivers, and you will be forced to use 640×480×16 colors.

If this happens to you, you can download Service Pack 3 or 4 from the Microsoft web site and install it on your system. Then, reinstall the video drivers and your computer should be working correctly.

Appendix C - Socket 7 AGP Motherboards

The EONtronics Lilith Banshee AGP video card is designed to work optimally with a Pentium II processor. There are, however, several Socket-7 AGP solutions that are available in the market.

Because Intel chose not to make the details of AGP available to other chipset manufacturers, these other manufacturers have reverse engineered AGP with varying degrees of success.

The most important thing to remember about the non-Intel AGP implementations is that you MUST load a special AGP driver that is provided by the chipset or motherboard manufacturer in order to get AGP to function correctly.

This driver is typically included on a CD or

floppy with the motherboard.

Another important point is that while you may have this AGP driver installed, you may not have a recent enough version of the driver to support the AGP slot with your system configuration.

Read your driver documentation carefully to determine if your version supports the 3Dfx Banshee chip correctly. If you have any questions or are unsure, contact your motherboard manufacturer for more information.

The most common Socket-7 AGP chipset makers and their internet web site addresses are listed to the right:

VIA:

<http://www.via.com.tw>

ALI:

<http://www.ali.com.tw>

SiS:

<http://www.sis.com.tw>

Please contact your respective chipset manufacturer for more information regarding AGP drivers for your motherboard and operating system.

Note: Windows 98 does not ship with or automatically install these drivers!

Appendix D - Hardware Specifications

Generic Classification

Lilith Banshee (AGP DA911)
Lilith Banshee (PCI DP913)

Bus Type

AGP (DA911)
PCI (DP913)

Video Connectors

VGA standard 15-pin analog RGB
VESA Feature Connector

Display Memory

8/16 MB of 100 MHz SGRAM (DA911)
8/16 MB of 100 MHz SDRAM (DP913)

Graphics Chip

3Dfx Voodoo Banshee

RAMDAC

250 MHz

Maximum Resolution

1900 × 1440 × 16 bit colors @ 85 Hz

DCC Monitor Support

DDC-2B

Appendix E- Trouble Shooting

Gathering Information

Troubleshooting starts with diagnosis and progresses to solution. Before diagnosis can begin, you will need to collect some information. This is especially important if you don't already know the contents of your computer and are planning to call technical support.

Some of the basic steps you need to take before making a call to technical support are as follows:

- See if the monitor cable is securely attached to the video card. Loose cables are the most common cause of board problems. If it is loose, secure it now and see if the graphics card is functioning correctly.

- See if the video card is seated correctly on the motherboard. If the card is not seated correctly, remove it and reseal it, making sure that the entire connector is inside the slot.

- Check to make sure that you installed all of the necessary updates and patches to your operating system. This can be especially important when installing new hardware. Please refer to the installation sections of this user guide for more information.

- Find out what other cards are in the computer. Cards can conflict with one another, and resolution of these conflicts varies depending on what boards are present.

- Find out what versions of the drivers, operating systems, and related software are installed on your computer.

- Gather some history. Did the graphics card ever work in this computer? If so, was anything changed or added to the computer just before it stopped working? Was the graphics card moved from a different computer where it was working fine? Is the graphics card new?

The answers to these questions will speed up the diagnosis process dramatically and may even enable you to correct a problem without resorting to technical support.

Solutions to Common Problems

Listed below are some of the most common problems that are encountered with graphics cards, as well as solutions for them. Please refer to this section before calling technical support.

The graphics card stopped working when a software package was added to the computer.

Verify that the monitor cable is still attached to the connector on the back of the video card.

Direct X 5 may not be installed, or an older version of Direct X may be installed. Most programs that use Direct X install it as part of their installation, but some do not.

Also, some older programs may install an earlier version of Direct X, overwriting the later version.

The graphics card stopped working without apparent cause.

Verify that the monitor cable is still attached to the connector on the back of the video card.

The graphics card stopped working when another board was added to the computer.

Verify that the monitor cable is still attached to the connector on the back of the video card.

Some computers may not properly detect

the addition or change of an internal PCI or AGP card. On start up, the computer may beep differently from normal to indicate this error. Reset your computer's CMOS. This is usually done through a switch or jumper on the motherboard of your computer. Check your system manual or contact your motherboard or system manufacturer for instructions on how to do this.

An application stopped working since the graphics card was added.

There could be a conflict between the application and the card. Make sure that you have installed the latest drivers that are available for your graphics card. Try disabling Hardware Acceleration in the Advanced Graphics Setting of the system

application in the Windows Control Panel if the problem is specific to a single application.

Direct X 5 may not be installed, or an older version of Direct X may be installed. Most programs that use Direct X install it as part of their installation, but some do not. Also, some older programs may install an earlier version of Direct X, overwriting the later version.

The computer will not boot after installing the graphics card.

Verify that the monitor cable is still attached to the connector on the back of the video card.

Some computers may not properly detect

the addition or change of an internal PCI or AGP card. On start up, the computer may beep differently from normal to indicate this error. Reset your computer's CMOS. This is usually done through a switch or jumper on the motherboard of your computer. Check your system manual or contact your motherboard or system manufacturer for instructions on how to do this.

Your computer beeps during POST or the AGP card is detected incorrectly.

If another graphics card is plugged into an expansion slot, remove it. If a graphics chip is built in to your motherboard, your system may not have automatically disabled it. Check your system manual for instructions on how to manually disable

it or contact your motherboard or system manufacturer.

The files containing the driver may have become corrupt. Reinstall the driver and try again.

The monitor doesn't display correctly after installing the graphics card.

The driver may be trying to use settings that your monitor doesn't support. This often happens with older monitors. This could also happen if a monitor was never selected in Windows and you changed the resolution to one that your monitor does not support correctly, or if you changed the monitor connected to your computer without changing the monitor setting.

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