

M64-32
M64-32T

M64 GRAPHICS CARD

User's Manual

Version 1.0

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	Preface	5
Chapter 1	Introduction	6
Chapter 2	Before You Begin	7
	2.1 Package	7
	2.2 Minimum System Requirements	7
	2.3 Safety Precaution	8
	2.4 Installation Notes	8
Chapter 3	Setting Up Your Graphics Card	9
	3.1 Installation Procedures	9
	3.2 Installing the Graphics Card	10
	3.3 Connecting the Graphics Card	12
Chapter 4	Installing the Graphics Card Driver	14
	4.1 For Windows® 95	14
	4.2 For Windows® 98	16
	4.3 For Windows NT® 4.0	19
	4.4 Installing DirectX™ 6.0 (for Windows® 95/98 only)	20

Chapter 5	Testing the Graphics Card in Windows® 95/98	21
	5.1 For Windows® 95/98	21
Chapter 6	Running the Display Properties	22
	6.1 M64 Information	22
	6.2 Display Properties	23
Appendix A	Frequently Asked Questions	25
Appendix B	Technical Specifications	28

Preface

This manual covers the models, **M64-32** and **M64-32T**. It gives you a step-by-step guide of the following:

1. Installation procedures
2. Connecting the graphics card to your PC Monitor
3. Installing the graphics card driver
4. Testing the graphics card
5. Running the graphics display properties

The section - *Frequently Asked Questions (FAQ)* will discuss on the possible solutions for some of the commonly asked questions by users.

For further technical details on your card, you may refer to the **ReadMe.txt** file found in your **M64 Graphics Card Installation CD**.

Chapter 1



Introduction

Congratulations on your purchase of M64 Graphics Card!

M64 answers to the need for extreme performance in today's 3D graphics intensive world. It fully supports DirectX™6.0 and optimizes Direct3D™ acceleration to bring stunning visual quality performance.

Its advanced textureblend and backend blend features allow players in the graphics industry to perform functions such as multi-texturing, texture modulation, reflection maps as well as 32-bit ARGB rendering with destination alpha point sampled, bilinear, trilinear and 8-tap anisotropic filtering. Integrating its per pixel perspective correct texture mapping function, game enthusiasts will be able to immerse themselves in a 'real fog' situation with special lighting effects while playing their favourite games.

With M64, games and applications will never look the same again!



Chapter

2

Before You Begin

This chapter contains information that you need to know before installing your graphics card. They are your package content, the basic system requirements for your card to run and the installation guidelines.

2.1 Package

You should have the following items inside your M64 package. For any items that is missing, please contact your dealer immediately.

- M64-32 or M64-32T Graphics Card
- This Easy Start Guide
- Installation CD

2.2 Minimum System Requirements

- PC-based computer with Pentium II® processor
- AGP Bus slot
- 10MB hard disk space (system files and drivers only)
- CD-ROM drive
- Windows® 95 OSR 2.1
(USB upgrade supplement if you are running Windows® 95 OSR 2.0) or
Windows® 98 or
Windows NT® 4.0 with Service Pack 3
(Windows NT® Service Pack 3 or later if you are running Windows NT® 4.0)

2.3 Safety Precaution

- Do not remove your card from its protective bag until you are ready to install it.
- Always try to hold your card by its edges. Avoid touching any electronic components on your card.
- Static electricity can cause permanent damage to your card. To prevent such damage, you must ground yourself during the installation:
 - » Use a grounding strap, which is a coiled wire with a clip at one end and an elastic strap at the other. Wear the strap around your wrist and attach the clip to any non-painted metal surface of your computer chassis.
 - » If you do not have a grounding strap, touch any non-painted surface of the computer chassis before you begin installation, and again every minute or so until the installation is completed.

2.4 Installation Notes

- The graphics and screens illustrations shown in this manual may differ from what you see in your actual system, but the procedures will still apply.
- A Philips screwdriver is required for the card installation.
- The documentation of your computer should come in handy during the card installation. Have it ready by your side.

Chapter 3

Setting Up Your Graphics Card

This chapter contains information on how to install and connect your graphics card.

3.1 Installation Procedures



For your card to perform to its fullest capabilities, ensure that your system is installed with the following:

- **Windows® 95 OSR2.1** or later versions
OR
Windows® 98
OR
Windows NT® 4.0 upgraded with Service Pack 3 or later
- **DirectX™6.0** or later versions

The following installation procedures is recommended:

- * 1. Upgrade your **Windows® 95 OSR2.0** to **Windows® 95 OSR2.1**
(Ensure that presently you have OSR2.0 installed. By installing the USB upgrade, Windows® 95 OSR2.0 will be upgraded to OSR2.1.)
OR
Upgrade your **Windows NT® 4.0** with Service Pack 3 or later
2. Install the card to your PC
3. Connect the card to your Monitor

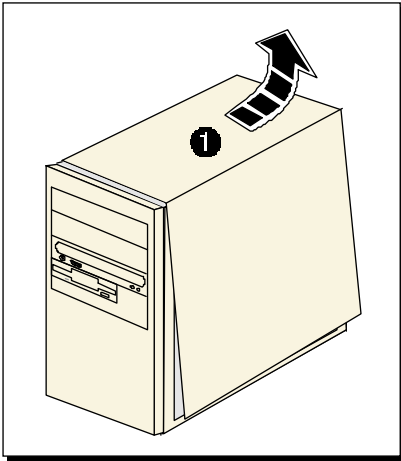
4. Install the graphics card driver
- * 5. Install DirectX™6.0 or later versions (for Windows® 95/98 only)

* For systems that do not meet the minimum system requirements

3.2 Installing the Graphics Card

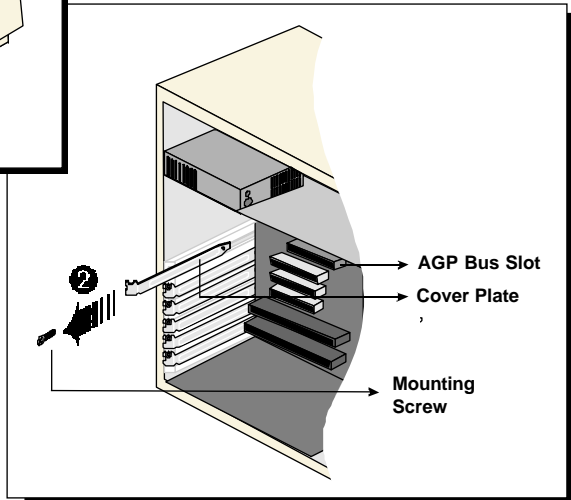


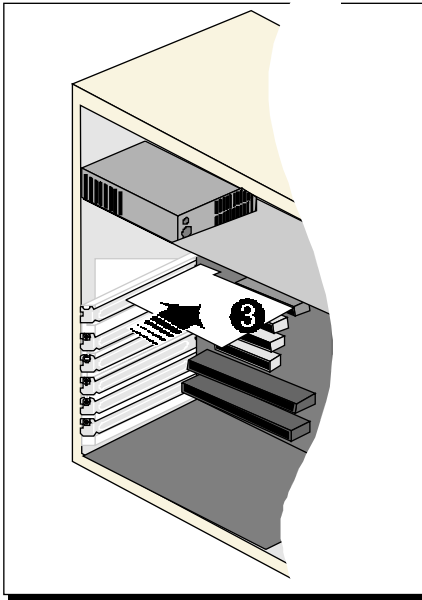
Power off your computer and any connected devices before installing your card.



- 1** Remove the cover of your computer.

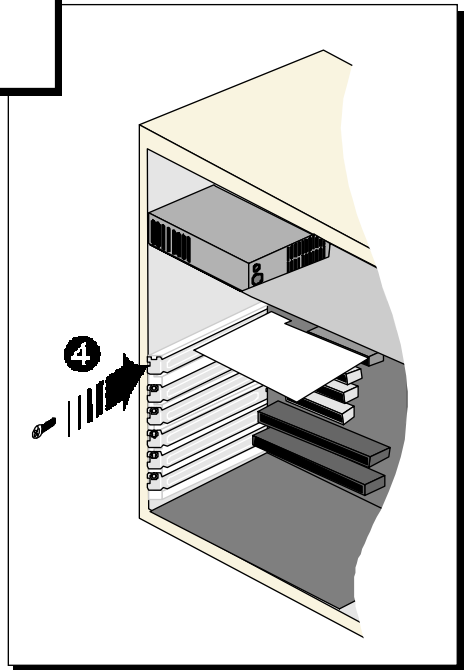
- 2** Locate the AGP Bus Slot and remove the cover plate. Keep the mounting screw to secure your card later.

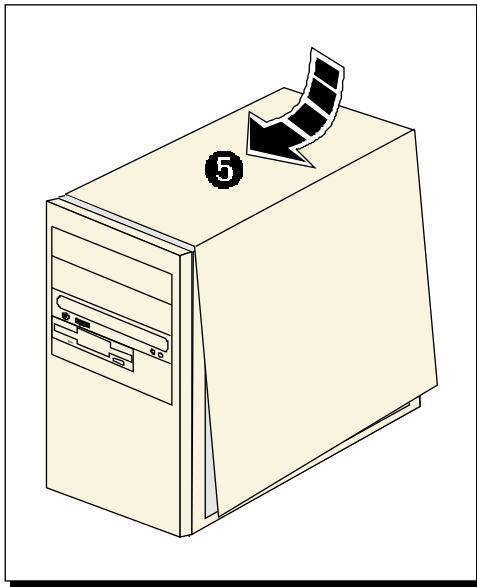




- 3** Align your card with the selected AGP Bus slot and firmly push it into the slot. If the card does not slide in, do not force it. Make sure that the card is lined up properly and try again.

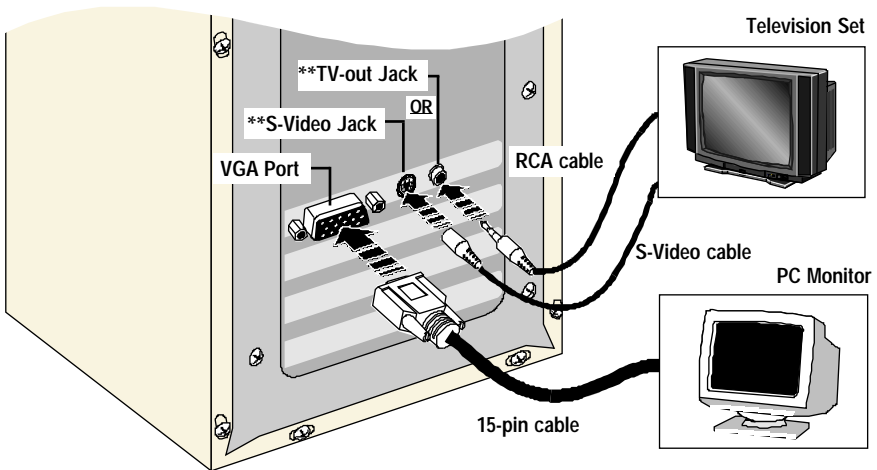
- 4** Secure your card to the computer chassis with the mounting screw.





- 5 Replace the cover of your computer.

3.3 Connecting the Graphics Card



** for M64-32T

1. Connect the standard **15-pin cable** from your **PC Monitor** to the **VGA Port** on the graphics card.

For M64-32T:

You can output your video graphics to *either* your **PC Monitor** *or* **Television**. For output to **PC Monitor**, carry out step **1**. For output to **Television**, carry out step **2**.

2. *The card supports both **Composite Video (CVBS)** and **S-Video (Y/C)**. If your Television is equipped with S-Video Jack, it is recommended that you use it to connect to the graphics card for better resolution.*

If you are using S-Video:

Connect one end of the **S-Video cable** to the **S-Video Jack** on the graphics card and the other end to the **S-Video In** on your Television set.

If you are using Composite Video:

Connect one end of the **RCA cable** to the **TV-Out Jack** on the graphics card and the other end to the **Video-In** on your Television set.

This completes the setting up of your graphics card. Please proceed to the next chapter to install your graphics card driver.

Chapter 4

Installing the Graphics Card Driver

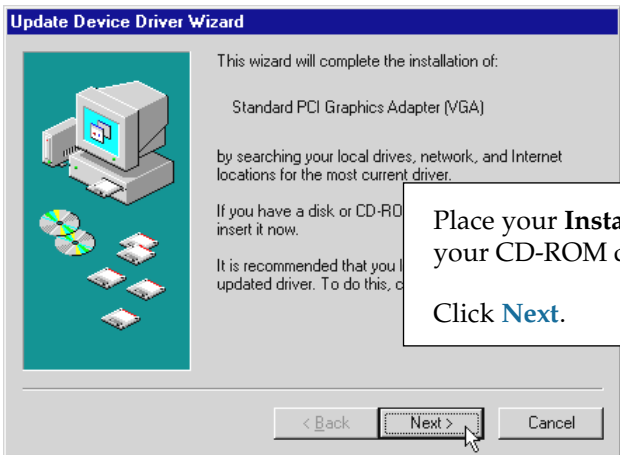
This chapter contains information on how to install the graphics card driver in Windows® 95, Windows® 98 and Windows NT® 4.0.



The installing and testing procedures for M64-32 and M64-32T are exactly the same. The illustrations shown in this manual are based on M64-32.

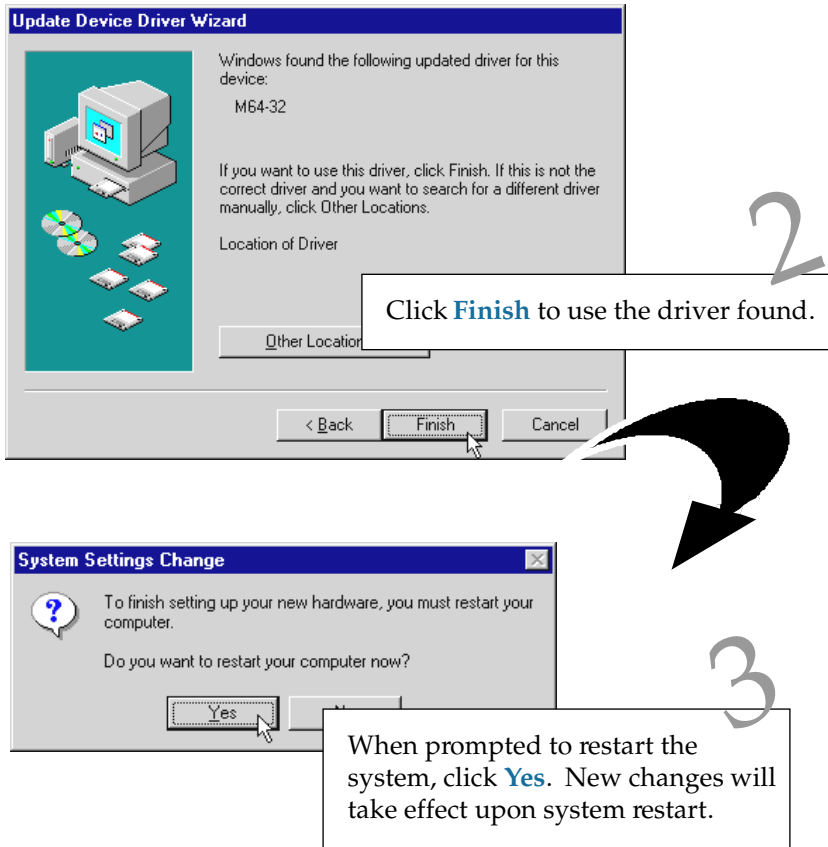
4.1 For Windows® 95

Power on your computer to start Windows® 95. Windows® 95 will detect the newly-installed graphics card and an **Update Device Driver Wizard** will be displayed.



1
Place your **Installation CD** into your CD-ROM drive.
Click **Next**.

Windows will prompt that the graphics card driver has been found.



This completes the installation of the graphics card driver in Windows® 95.

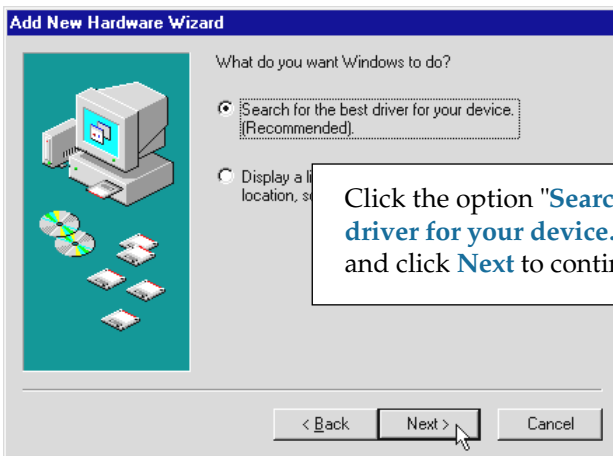
If you do not have DirectX™6.0 or later versions installed in your system, please proceed to **section 4.4 - Installing DirectX™6.0**. Else, proceed to the next chapter to test your card.

4.2 For Windows® 98

Power on your computer to start Windows® 98. Windows® 98 will detect the newly-installed graphics card.



Place the **Installation CD** into your CD-ROM drive and click **Next**.



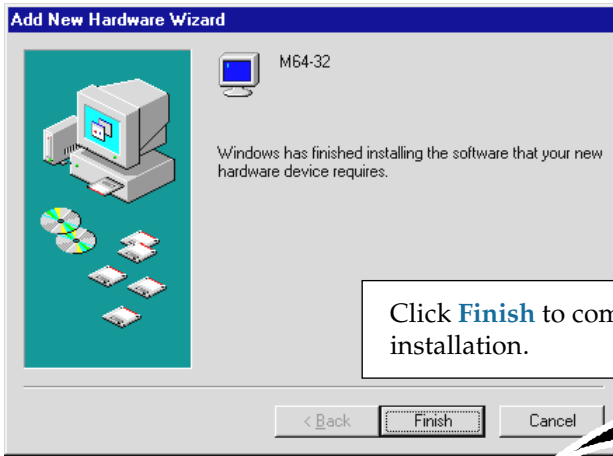
Click the option "**Search for the best driver for your device. (Recommended).**" and click **Next** to continue.

At the next prompt, select the source of your driver.

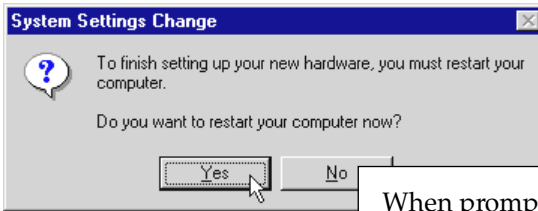


Windows will prompt that the graphics card driver has been found.





Click **Finish** to complete the driver installation.




When prompted to restart the system, click **Yes**. New changes will take effect upon system restart.

This completes the installation of the graphics card driver in Windows® 98.

If you do not have DirectX™6.0 or later versions installed in your system, please proceed to **section 4.4 - Installing DirectX™6.0**. Else, proceed to the next chapter to test your card.

4.3 For Windows NT® 4.0

1. Start Windows NT® 4.0.
2. Place the **Installation CD** into your CD-ROM drive.
3. From the Windows NT® taskbar, click **Start > Settings > Control Panel**.
4. Double-click  (Display icon).
The icon shows a computer monitor with a yellow arrow pointing to it, and the word "Display" is written below it.
5. Click the **Settings** tab > **Display Type...** > **Change...** .
6. From the **Change Properties** window, click **Have Disk...** .
(Make sure that the **Installation CD** is in your CD-ROM drive.)
7. In the text box, type "**D:\winntX**" and click **OK**.
(Assuming D is your CD-ROM drive letter. Else substitute the letter accordingly.)
The system will locate the driver.

Follow the on-line instructions to complete the driver installation.

This completes the installation of the graphics card driver in Windows NT®4.0. Please proceed to the next chapter to test your card.

4.4 Installing DirectX™ 6.0 (for Windows® 95/98 only)

1. Place the **Installation** CD into your CD-ROM drive.
2. From the Windows taskbar, click **Start > Run....**
3. In the **Run** text box, type "**D:\Directx6\directx\dxsetup.exe**"
(Assuming your CD-ROM drive is D. Else substitute the drive letter accordingly.)
Click **OK**.
4. A **DirectX(R) Setup** window appears. Make sure that under **Options**, **Direct-3D Hardware Acceleration Enabled** is checked. Click **Reinstall DirectX**.

Follow the on-line instructions to complete the DirectX™ installation.


This completes the installation of the DirectX™ utility. Please proceed to the next chapter to test your card.

Chapter 5

Testing the Graphics Card in Windows® 95/98

This chapter contains information on how to test your graphics card in Windows® 95/98.

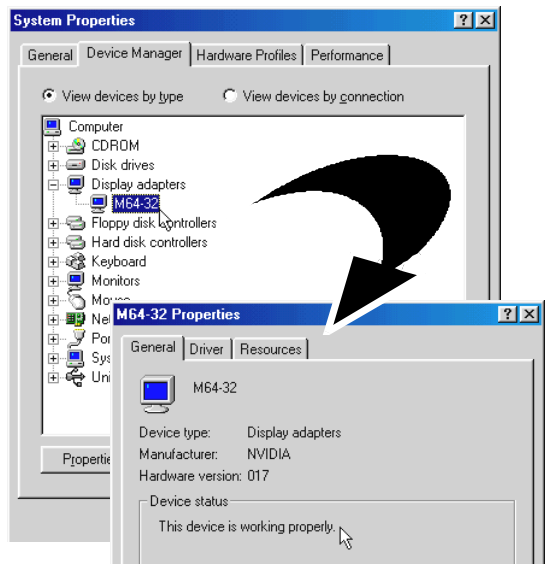
5.1 For Windows® 95/98

1. From the Windows taskbar, click **Start > Settings > Control Panel**.
2. Double-click  (**System** icon).
3. A **System Properties** window will appear. Click the **Device Manager** tab.

4. Double-click **Display adapters** to list the M64 Graphics card. Double-click on it.

5. A **M64 Properties** window will appear.

From the **General** tab, check that the **Device Status** has the message: "**This device is working properly**".



Chapter 6

Running the Display Properties

This chapter briefly describes the features available in the display properties. Explore them for your best desired visual quality!



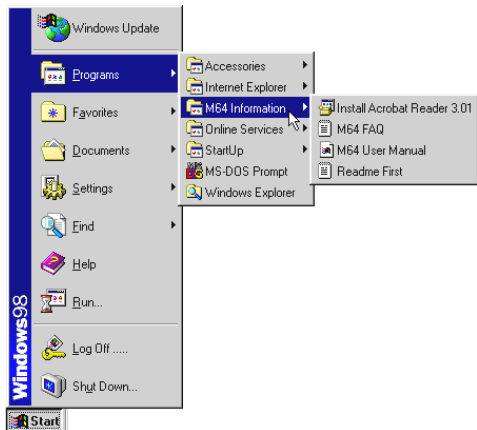
The screens illustrations shown here are based on Windows® 98. For Windows® 95 and Windows NT® 4.0, the procedures still apply.

6.1 M64 Information

A Program Folder named **M64 Information** can be accessed from your **Start Menu**:

From your Windows taskbar, click **Start > Programs > M64 Information**. It contains

- the Acrobat Reader 3.01 Setup Utility
- the ReadMe First text file
- Frequently Asked Questions
- this M64 User's Manual




6.2 Display Properties


Display Properties window allows access to the *hardware information, color corrections, screen adjustment, Direct3D settings, high refresh rates* and many more.

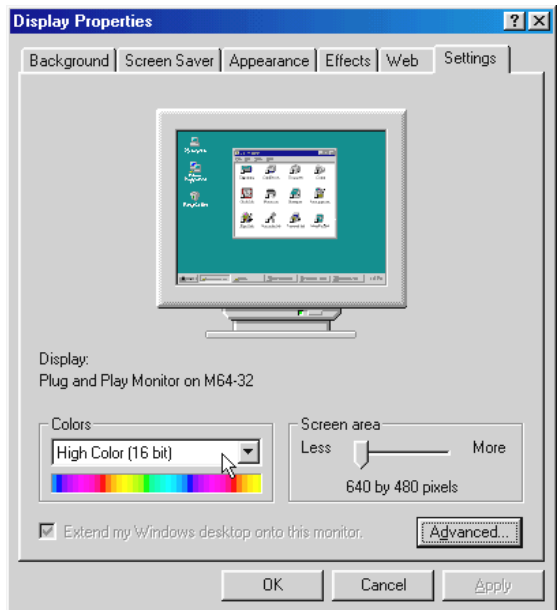
To activate the **Display Properties** window,

1. From your Windows taskbar, click **Start > Settings > Control Panel**.

2. Double-click  (Display icon). The **Display Properties** window will be displayed.

Alternatively, you can right-click on your **Windows desktop** and click **Properties**.

 *Before you start exploring the display features, make sure that you have set the **Colors** to 16-bit or higher, for a better visual quality. (Choose from the **Colors** drop-down list.)*

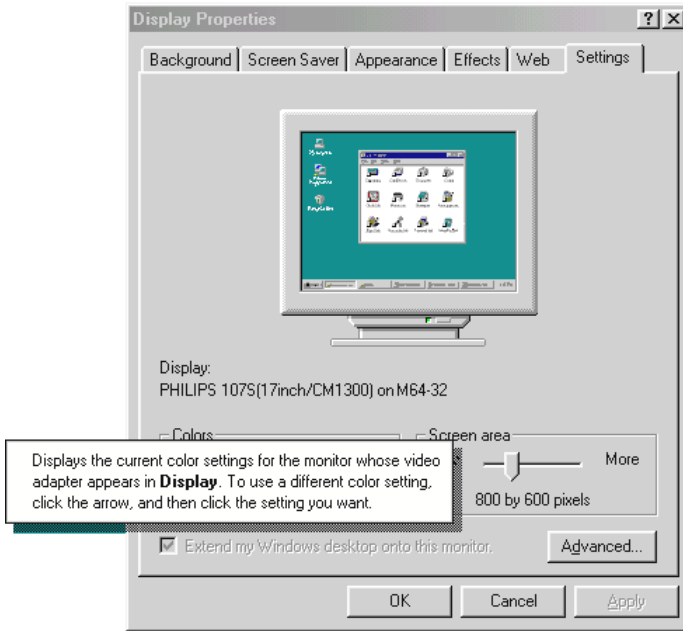


3. Explore the features for various visual effects.

(For Windows® 98, click **Advanced...** from the **Display Properties** window to access the features available.)

Chapter 6 — Running the Display Properties

To understand the terms, right-click on it. System will pop-out "**What's this**". Simply click on it and the explanation will be displayed.



Appendix

A

Frequently Asked Questions

You may encounter some problems or doubts while installing or using your card. This chapter highlights some of the more common issues and their possible solutions.



My Monitor display flickers badly.



Change the **refresh rate** at your **Display Properties** window to **60Hz or higher**.

- i) Right-click on your **Windows desktop**, and select **Properties**.
- ii) At the **Display Properties** window, click **Advanced...** Select the refresh rate from the drop-down list.

(Refresh rate is Monitor-dependent and display tends to flicker if it is below 60Hz.)



Why isn't there any refresh rate settings for some of the screen resolutions ?



The refresh rates for these screen resolutions are fixed.



My system hangs when playing games such as Forsaken or MageSlayer.



There are Patches downloadable from the Web Sites of the respective Games Vendors that can fix the problem.



There is no display after I plugged in the card and powered on my system.



Check that both your Monitor cables and Power cables are plugged in properly and power supply switched on. Ensure that the card is inserted fully into the AGP slot. Try taking out and putting back the card again.



I am unable to obtain 1600x1200 resolution on my Monitor.



The highest resolution that the graphics card is able to run is dependent on the Monitor. If your Monitor does not support this resolution, you will not be able to run at this resolution.



I cannot get 16 color using screen resolutions above 1280x1024.



Screen resolutions above 1280x1024 can only be run at a minimum of 256 color. This is a common implementation among graphics cards manufacturers.



Under Windows NT® 4.0, I am unable to install the graphics card correctly.



*You must first install **Windows NT® 4.0 Service Pack 3 or later** to get AGP support.*



I am having problem installing the graphics card under Windows® 95.



*You must first installed **USB Supplement** from Microsoft and make sure that there is no conflicting devices in your Device Manager that is causing resources allocation problem.*

Check also that you have DirectX™ 6.0 or later versions installed in your system for optimal performances.



Do I need to install DirectX™ 6.0 in the Installation CD under Windows NT® 4.0?



The DirectX™ 6.0 is meant for Windows® 95 SR2.1 or later. Do not install it under Windows NT® 4.0.



Can I install the graphics card under Windows® 95 OSR1 or earlier?



Windows® 95 OSR1 or earlier does not have support for AGP devices. Thus, the features of the card will not be fully utilised.



After I installed the driver and restart my system for the first time, there is Plug-and-Play detection for my Monitor. Why is this so ?



*The Plug-and-Play detection for your Monitor is to allow the card to detect the capabilities and limits of your Monitor's supported resolutions and refresh rates. If you are uncertain of what to choose, click "**Next**" and let Windows select the most appropriate driver for your Monitor.*

Appendix

B

Technical Specifications

*This chapter contains the technical specifications of your card.
The information may be more useful for technically inclined users.*

General

- 128-bit TwiN-Textel architecture
- 64-bit wide frame buffer interface
- 8MB/16MB SDRAM Memory on board (8MB for M64-32 and 16MB for M64-32T)
- 32-bit Z-buffer with 8-bit Stencil buffer
- 4X/2X/1X AGP interface
- Optimized for Direct3D™ acceleration with complete support for DirectX™5.0 and 6.0
- Video acceleration for DirectShow™, MPEG-1, MPEG-2 and Indeo®
- Full Screen, full frame DVD Playback
- 250MHz Palette DAC
- Operating at memory bus speed of 125MHz
- Resolution of up to 1920x1200 @ 70Hz
- True color rendering

3D Capabilities

- 100% Hardware Triangle Setup
- Optimized Direct3D™ acceleration
- Complete DirectX™6.0 support
- Twin texel (TNT) 32-bit graphics pipeline
 - 2 texture mapped, lit pixels per clock
 - single pass multi-texturing support
 - square and non-square support
- TextureBlend supports:
Multi-texture, Bump map, Texture modulation, Light maps, Reflection maps, Detail textures, Environmental maps, Procedural textures
- Backend blend
 - DirectX™6.0: 121 modes supported for source and destination and alpha blending
 - 32-bit ARGB rendering with destination alpha
 - point sampled, bilinear, trilinear and 8-tap anisotropic filtering (better than trilinear Mip mapping)
- Per pixel perspective correct texture mapping
 - Fog, Light, Mip mapping

2D Capabilities

- High performance 64-bit graphics engine
- 1Gbytes/s throughput
- Fast 32-bit VGA/SVGA support
- True color hardware cursor
- Hardware color dithering
- Multi-buffering (Double, Triple, Quad buffering) for smooth animation and video playback

- Full feature 2D Engine for acceleration of BLT, indexed, DIB, color translation, transparent BLT, stretchBLT, points, lines, polygons, fills, patterns, arbitrary rectangular clipping and fast text rendering from hardware font cache
- Pipeline optimized for multiple color depths including 32,24,16,15 and 8-bits per pixel

Video / Display / BIOS

- Palette-DAC pipeline acceleration
- Full Motion Video playback
- High quality color resolution
- True bilinear filtering scaled video
- DVD sub-picture alpha blended compositing
- Video acceleration for DirectShow™, MPEG-1, MPEG-2 and Indeo®
- Advanced support for DirectDraw™
- Back-end hardware video scaling for video conferencing and playback
- Hardware color space conversion
- Multiple video windows feature

API Support

- OpenGL ICD™
- Direct3D™
- DirectDraw™
- DirectVideo™
- DirectShow™
- ActiveX™

Operating System & Driver Support

- Windows® 2000
- Windows® 98
- Windows® 95
- Windows NT® 3.5, 4.0, 5.0

Resolution Supported

Resolutions	256 colors (Hz)	64K colors (Hz)	32-bit colors (Hz) (True Color)
640x480	60, 70, 72, 75, 85, 100, 120, 140, 144, 150, 170, 200	60, 70, 72, 75, 85, 100, 120, 140, 144, 150, 170, 200	60, 70, 72, 75, 85, 100, 120, 140, 144, 150, 170, 200
800x600	60, 70, 72, 75, 85, 100, 120, 140, 144, 150, 170, 200	60, 70, 72, 75, 85, 100, 120, 140, 144, 150, 170, 200	60, 70, 72, 75, 85, 100, 120, 140, 144, 150, 170, 200
960x720	60, 70, 72, 75, 85, 100, 120, 140, 144, 150, 170, 200	60, 70, 72, 75, 85, 100, 120, 140, 144, 150, 170, 200	60, 70, 72, 75, 85, 100, 120, 140, 144, 150, 170, 200
1024x768	60, 70, 72, 75, 85, 100, 120, 140, 144, 150, 170, 200	60, 70, 72, 75, 85, 100, 120, 140, 144, 150, 170, 200	60, 70, 72, 75, 85, 100, 120, 140, 144, 150, 170, 200
1152x864	60, 70, 72, 75, 85, 100, 120, 140, 144, 150	60, 70, 72, 75, 85, 100, 120, 140, 144, 150	60, 70, 72, 75, 85, 100, 120, 140, 144, 150
1280x1024	60, 70, 72, 75, 85, 100, 120	60, 70, 72, 75, 85, 100, 120	60, 70, 72, 75, 85, 100, 120
1600x1200	60, 70, 72, 75, 85	60, 70, 72, 75, 85	60, 70, 72, 75, 85
1920x1080	60, 70, 72, 75, 85	60, 70, 72, 75, 85	60, 70, 72, 75, 85
1920x1200	60, 70, 72, 75	60, 70, 72, 75	60, 70, 72, 75



The product specifications herein are subject to change without prior notifications.

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