

miroMAGIC Premium

USER'S GUIDE



miroMAGIC Premium

User's Guide

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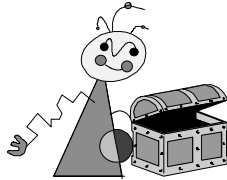
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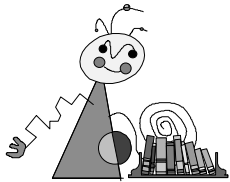
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About the User's Guide

This User's Guide explains how to install and use the miro hardware and software.

Subheadings

In the margins are subheadings to help you quickly find your way through this manual.



Important text passages are marked with the “notepad” and this format.

Numbers mark step-by-step instructions:

1. Start Windows.

Bullets mark instructions for optional steps the order of which is not important.

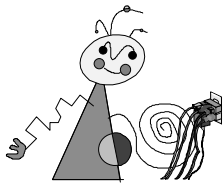
- Connect the miro board to the microphone.

All keyboard commands appear in this font:

install <↵>

<↵> represents the enter key.

Menus, commands, options or buttons which the user can select are written in *italics*.



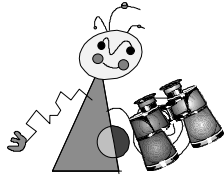
For your own safety

In the interest of your own safety and the flawless functioning of your new product and computer system please note the following:

- ♦ Computer components are sensitive to static charge. Divert any electrostatic charge from your person before touching the components with your hands or any tools.
- ♦ Before opening the computer make sure that the power plug is disconnected from the main socket.



For changes that have occurred after the manual has been printed, refer to the README file/s on the CD-ROM supplied with your system!



FEATURES

With miroMAGIC Premium miro offers you a multi-functional graphics board with the following features:

☐ **Components**

miroMAGIC Premium is a superfast graphics board with a SGS-Thomson Riva 128 chip and 128-bit power. 4 MB SGRAM enable TrueColor with 16.7 million colors up to the 1152 x 768 resolution.

☐ **3D graphics**

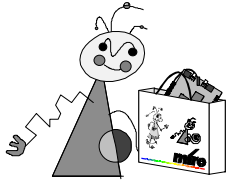
miroMAGIC Premium turns modern 3D games and 3D multimedia applications into a fascinating experience. Full support of 3D standards such as DirectDraw, DirectX (incl. Direct3D) and Open GL (under Windows NT) guarantees for fast and realistic three-dimensional representation under Windows 95. The powerful SGS-Thomson Riva 128 graphics chip calculates complex three-dimensional objects together with textures.

☐ **3D surfing**

The three-dimensional world is also interesting for the Internet. Shopping in virtual shops, surfing in spatial structures or info and edutainment with fascinating 3D animations becomes an adventure with a new dimension thanks to the new VRML format (Virtual Reality Modelling Language). miroMAGIC Premium is prepared for support of future protocols and already today has the right graphics performance for the 3D surfers of tomorrow.

☐ **TV set as an oversized computer monitor**

Experience games and videos in an entirely new dimension. miroMAGIC Premium turns every TV set into a large-size monitor. Simply connect it to the TV-output of the board and the TV shows a flickerfree image. Another field of application is presentations and training courses where the PC monitor is often too small.



Before you begin

Before you start installing the miroMAGIC Premium board, please check to make sure that your system meets the system requirements and your package is complete.

SYSTEM REQUIREMENTS

To install the miroMAGIC Premium board, your computer system has to meet the following requirements:

- | | |
|---------------------|---|
| Computer | Pentium computer or compatible with a PCI Local Bus slot. |
| Monitor | Standard VGA monitor. To receive all the benefits from the graphics board, you need a high-resolution multifrequency monitor. miroDISPLAYS GmbH offers suitable monitors.

To enable the data transfer between the monitor and the miro board, you need a DDC-capable monitor cable (on miro boards recognizable by blue connectors). |
| CD-ROM drive | To install the software, a CD-ROM drive is required. If you want to play back video CDs, you will need a double-speed CD-ROM drive that supports X/A-MODE2 (CDI). |
| Existing VGA | The board's graphics chip has an integrated VGA component that cannot be turned off. Before the installation, however, any existing VGA board or motherboard VGA has to be removed from the computer or disabled. |
| Software | DOS, Windows 3.1x, Windows 95, Windows NT 3.51/4.0. |

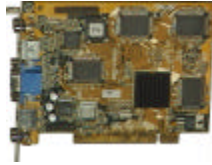


The complete function range of the miroMAGIC Premium board is only available under Windows 95.

- TV** If you want to connect a TV set to the miroMAGIC Premium board, you need a TV set with a composite or an S-Video input. To connect the board to a SCART connector you need a composite/SCART adapter. You can obtain these adapters from electronic stores.
- If your TV set has an S-Video input, you need a video-capable S-Video cable, if your TV set has a composite input, you need a video-capable composite cable.

PACKAGE CONTENTS

Before beginning the miroMAGIC Premium installation, please check to make sure that the package is complete. It consists of the following components* :



miroMAGIC Premium board



CD-ROM with miro drivers



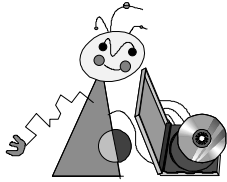
User's Guide

If any parts are missing, please contact your reseller.



Computer components are sensitive to electrostatic charge. Do not take the miro board out of its antistatic package until you install it. Keep the packaging for future transports.

* Depending on the delivery scope, the actual package contents may be different from the package contents listed in the manual.



Software installation

INSTALLING THE SOFTWARE UNDER WINDOWS 95

To install the miroMAGIC Premium software, you can proceed in one of the two following ways:

- ♦ Use the first procedure when no graphics board is installed in your computer,
- ♦ use the second procedure if you want to replace an already existing graphics board by the miroMAGIC Premium.

No graphics board has been installed ...

To install the miroMAGIC Premium, it is required that Windows 95 is installed on your computer. First, you should, however, check which Windows version is installed on your computer, if you are not sure which one you use.

You can check which Windows 95 version you use by entering the DOS command **ver**. The Windows 95 OSR 2 (**O**EM-**S**ervice-**R**elease 2) version has the version number Windows 95. [Version 4.00.1111]; the August Windows 95 Release has the version number Windows 95. [Version 4.00.950].

For detailed information on how to use the DOS **ver** command refer to the appendix in the section “Identifying the Windows 95 version” (page I).

To install the miroMAGIC Premium, proceed as follows:

1. Install the hardware.

First, install the hardware as is described in the “Hardware installation” chapter as of page 13.

2. Start the computer.

Start your computer: Windows 95 will be started automatically.

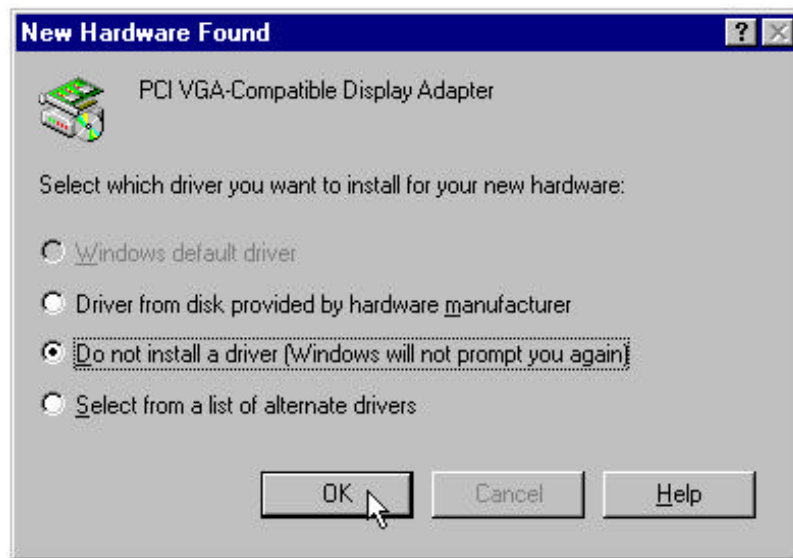
If your computer is set up in a way that Windows 95 is not launched automatically, please start Windows 95.

**Windows 95
(August
Release)**

3. Select *Do not install a driver*, click OK.

Windows 95 tells you that it has found a PCI VGA compatible display adapter (miroMAGIC Premium).

The *New Hardware Found* dialog box appears.



Select *Do not install a driver (Windows will not prompt you again)* and click on **OK**.

**Windows 95
(OSR 2)**

3. Click *Cancel*.

Windows 95 tells you that it has found a PCI VGA compatible display adapter (miroMAGIC Premium).

The *Update Device Driver Wizzard* appears.



Click on *Cancel*.

4. Insert Autostart CD.

Insert the Autostart CD in the CD-ROM drive of your computer. The installation program will be started automatically.



If the Autostart function has been disabled under Windows 95, select the *Run...* command in the *Start* menu and enter **d:\setup**, where **d:** represents the drive letter for your CD-ROM drive. If necessary, enter another letter. Click on *OK*.

5. Select *Install miroMAGIC Premium Driver*.

The setup program offers you a list of options.



Select the *Install miroMAGIC Premium Driver* option.

6. Click *Next*.

In the initial window, click on *Next* to proceed with the installation.

7. Click *Next*.

Click *Next* again.

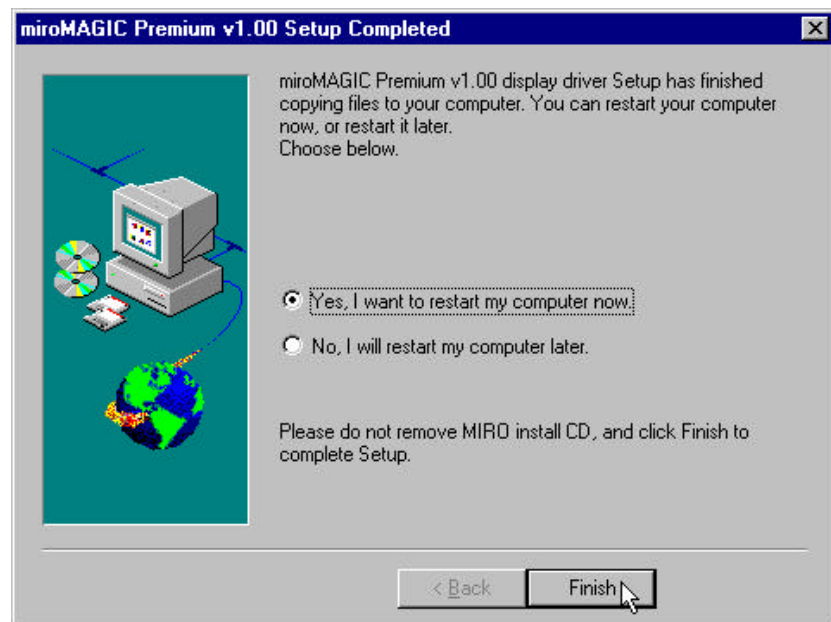
8. If necessary change the directory, click *Next*.

The system directory which has been detected will be displayed. If this entry is not correct, you may change it directly in the text. Click on *Next*.

The driver and DirectX-5 will be copied to your hard disk. DirectX-5 is required for the full miroMAGIC Premium functionality to be available.

9. Select the restart option and click *Finish*.

In the *Setup Complete* window, select *Yes, I want to restart my computer* and click on *Finish*. Windows will be restarted.



After you have restarted your computer, the full functionality of miroMAGIC Premium will be available.



In the task bar, you will find a new icon next to the clock. Click this icon to open the *Display Properties* window which now contains additional tabs. For more information on the tabs, refer to the "Further settings" chapter as of page 19.

A graphics board has been installed already...

If you want to replace an already existing graphics board or a graphics chip on your mainboard with the miroMAGIC Premium board, miroMEDIA recommends you to proceed differently:

1. Insert the Autostart CD-ROM.

Insert the Autostart-CD in the CD-ROM drive of your computer. The installation program will be started automatically.



If the Autostart function has been disabled under Windows 95, select the *Run...* command in the *Start* menu and enter **d:\setup**, where **d:** represents the drive letter for your CD-ROM drive. If necessary, enter another letter. Click on *OK*.

2. Select *miroMAGIC Premium Driver*.

The setup program offers you a list of options.



Select the *Install miroMAGIC Premium Driver* option.

3. Click *Next*.

In the initial window, click on *Next* to proceed with the installation.

4. Click *Next*.

Click *Next* again.

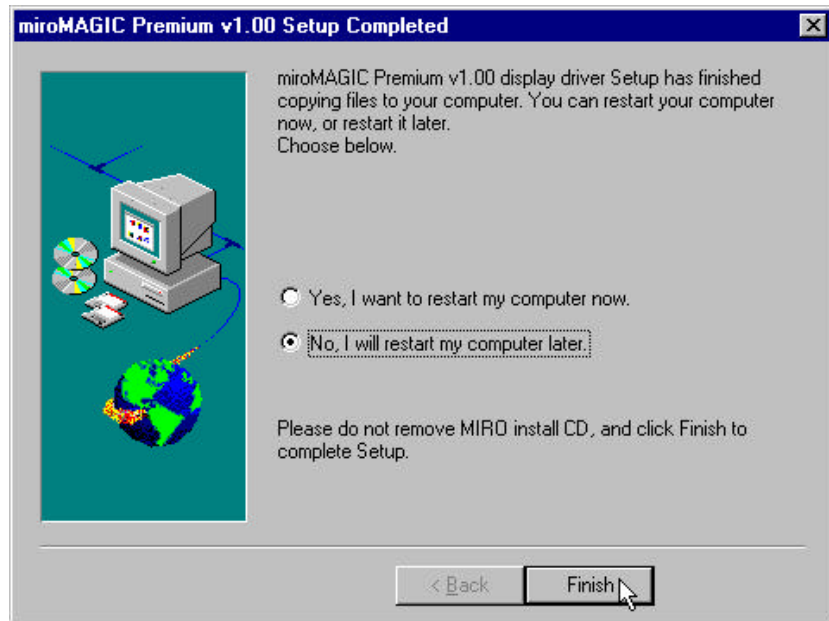
5. If necessary, change the directory, click *Next*.

The system directory which has been detected will be displayed. If this entry is not correct, you may change it directly in the text. Click on *Next*.

The driver and DirectX-5 will be copied to your hard disk. DirectX-5 is required for the full miroMAGIC Premium functionality.

6. Select *No, I will restart my computer later* click *Finish*.

In the *Setup Complete* window, select *No, I will restart my computer later* and click on *Finish*.



7. Click *Finish*.

Click *Finish* to close the setup program.

8. Close Windows 95, switch the computer off.

Shut down Windows 95 and switch the computer off.

9. Install the hardware.

First, install the hardware as described in the “Hardware installation” section on page 13.

10. Switch the computer on.

Restart your computer. Windows 95 will be started.

If your computer is not configured in way that Windows 95 is launched automatically, please start Windows 95.

After you have restarted your computer, the full functionality of miroMAGIC Premium will be available.



In the task bar, you will find a new icon next to the clock. Click this icon to open the *Display Properties* window which now contains additional tabs. For more information on the tabs, refer to the “Further settings” chapter as of page 19.

INSTALLING THE SOFTWARE UNDER WINDOWS NT 4.0

To install the software under Windows NT 4.0, proceed as follows:

1. Install the hardware.

First, install the hardware as is described in the “Hardware installation” chapter as of page 13.

2. Start the computer.

Start your computer: Windows 95 will be started automatically.

If your computer is set up in a way that Windows 95 is not launched automatically, please start Windows 95.



To be able to install the miroMAGIC Premium software under Windows NT you need to have administrator rights. If necessary log in as administrator.

3. Check the VGA mode.

Check to make sure that your computer runs in the standard VGA mode (resolution 640 x 480, 16 colors).

- To do so, right-click on an empty space of the Windows NT desktop.
- Select the *Properties* command. The *Display Properties* window will be opened.
- Please check/change the resolution (640 x 480) and the number of colors (16).
- Click *OK* to close the *Display Properties* window.

4. Insert the Autostart CD-ROM.

Insert the Autostart CD in the CD-ROM drive of your computer. The installation program will be started automatically.



If the Autostart function has been disabled under Windows 95, select the *Run...* command in the *Start* menu and enter **d:\setup**, where **d:** \ represents the drive letter for your CD-ROM drive. If necessary, enter another letter. Click on *OK*.

3. Select *Install NT 4.0 Display Driver*.



Select the *Install NT 4.0 Display Driver* option.

A README file describing the installation procedure will be displayed and the *Display Properties* window will be called.

6. Select *Settings*.

Select the *Settings* tab.

7. Click *Change display type*.

Click the *Change display type* button.

8. Click *Change...* .

In the *Change display type* window, click the *Change...* button.

9. Click *Have disk...* .

In the *Adapter type* window, click on *Have Disk...* .

10. Click on *Browse*.

Click on the *Browse* button.

11. Change to the *NT40* directory.

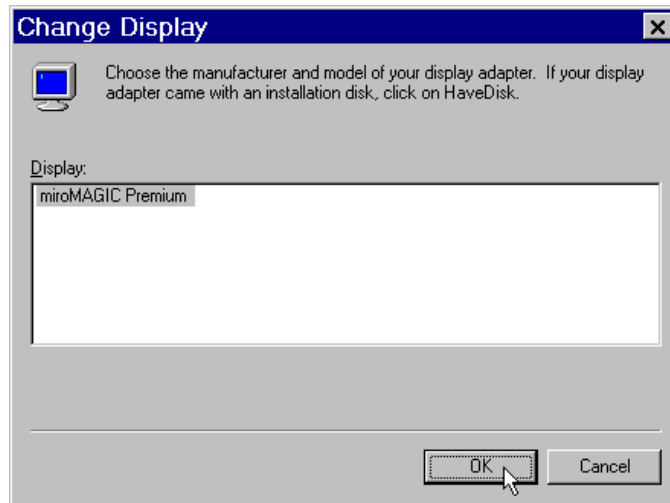
Switch to your CD-ROM directory to the *NT40* directory:

12. Click *Open*, click *OK*.

miroMAGIC Premium will be found, click *Open* and *OK*.

13. Click *OK*.

In the *Change Display* window miroMAGIC Premium is entered. Click on *OK*.

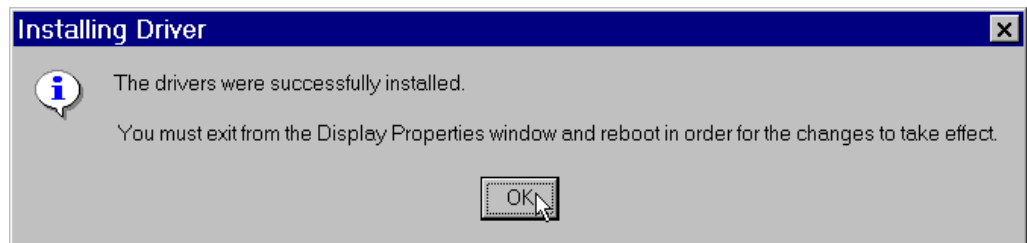


14. Click Yes.

When a warning message appears, close this window by clicking *Yes*.
The files will be copied to your hard disk.

15. Click OK.

Click *OK* to close the following window.



16. Click Close, click Close.

Click *Close*, click *Close* again to close the Display Properties window.

17. Click Yes.

In the *Change System Settings* window, click *Yes* to restart your computer.

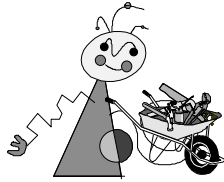
After restarting the computer, you will receive a message telling you that a new board has been installed. You will be prompted to select another resolution:

The Display Properties window will be opened by clicking the *Settings* tab.

18. Change the resolution and the number of colors.

In the *Display Properties* window, select the desired resolution and the number of colors and click *OK*.

In this way, the miroMAGIC Premium installation under Windows NT is complete.



Hardware installation



The following chapter explains how to install the miroMAGIC Premium board into the computer.

The only tool you need for the installation is a screwdriver.



Computer components are sensitive to electrostatic charge. Do not take the miro board out of its antistatic package until you install it. Keep the packaging for future transports.

To insert the miro board into your computer, proceed as follows:

1. Discharge yourself.

Discharge yourself by touching the metal case of your computer. Pull out the power cord.

2. Switch off the computer, disconnect the cables.

Switch off the computer and all peripheral devices. Pull out the power cord and disconnect all necessary cables.

3. Remove the cover.

Loosen the screws of the computer's cover and remove the cover.

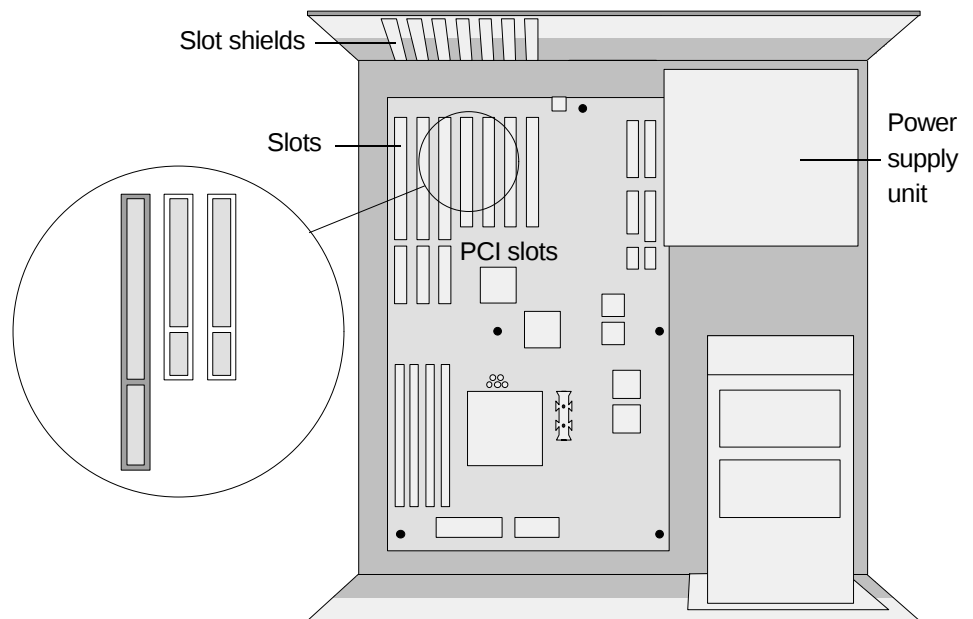


4. Remove/disable the VGA.

Remove an existing VGA board from the computer or disable the motherboard VGA.

5. Select the PCI slot.

Select a free busmaster-capable PCI slot.

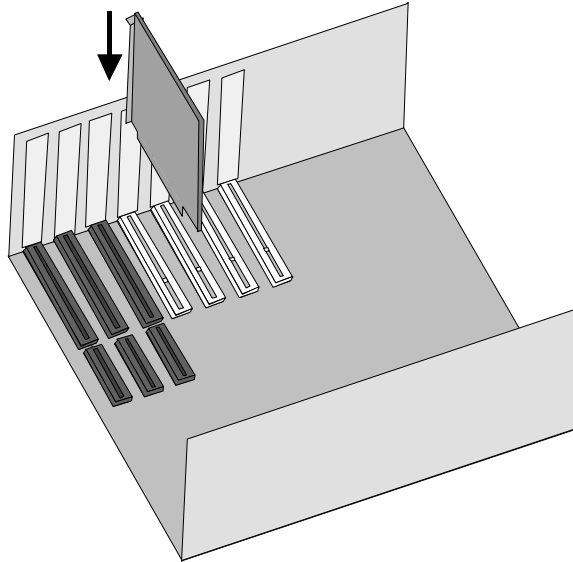


6. Remove the slot shield.

Remove the slot shield at the back of the computer. If necessary, remove the screws at the cover.

7. Insert the board.

Insert the board carefully in the selected slot. Hold the board at the top edge and push both ends simultaneously into the slot. Press the board's top edge to make sure that the board is firmly seated in the slot.



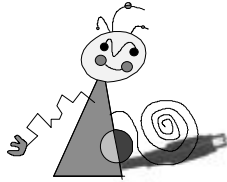
If the board cannot be inserted without problems, do not force the board into place. The contacts at the connector could bend. Instead, pull the board out carefully and try again.

8. Reassemble the computer.

Tighten the screws and reassemble the computer's casing.

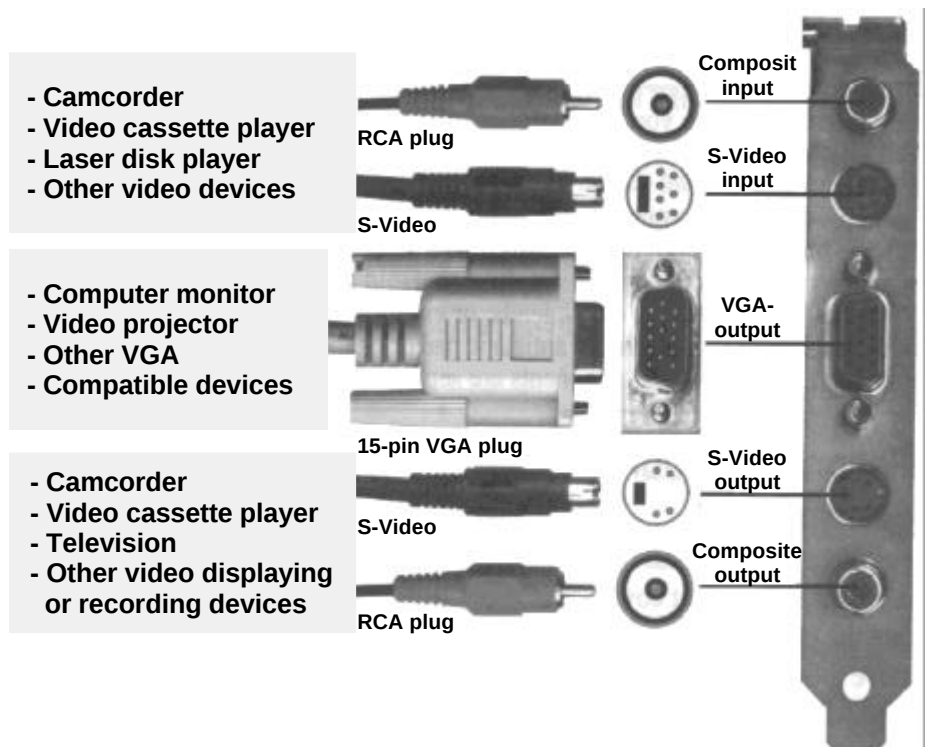
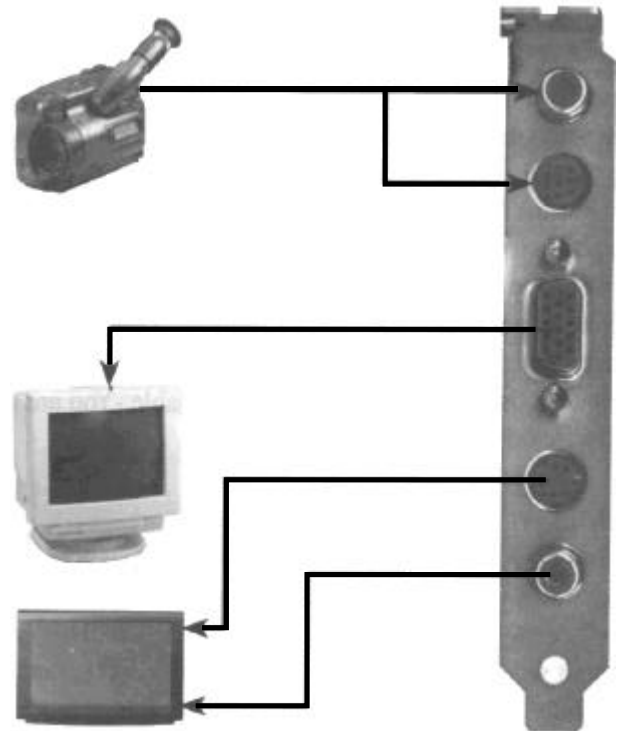
9. Connect the cables.

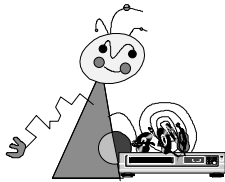
Reconnect the cables. Use the cable which should be DDC-compatible to connect your monitor to the video port of your miroMAGIC Premium board.



Connections

The following diagrams show you the connections possible with the miroMAGIC Premium board.





Connecting the TV set

The miroMAGIC Premium board has a composite and an S-Video connector.

It depends on the input types of your TV set which connectors you should use:

- *If your TV set has an S-Video input,*
use an S-Video cable to connect your TV set to the S-Video output of the miroMAGIC Premium board.
- *If your TV set has a composite input,*
use a composite cable to connect your TV set to the composite input of the miroMAGIC Premium board.
- *If your TV set has a SCART input,*
connect a composite/SCART adapter to your TV set. Use a composite cable to connect the adapter to the composite input of your miroMAGIC Premium board.

You can obtain the cables and the adapters for connecting a TV set from electronic stores. The cables must support video signals because otherwise the display quality will suffer.

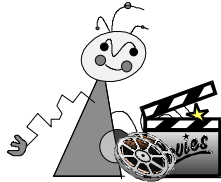
If you want to output the graphics board's image to the TV set, please connect the TV set to the miroMAGIC Premium board before you turn on the computer. To do so, use one of the cables described above.

Please note that an image only appears on the TV screen if no PC display has been connected to the miroMAGIC Premium at the moment the PC was switched on. Connecting a TV set and a computer display at the same time does not do any damage to your computer. The image is, however, only output on the PC monitor, the TV set is ignored by the graphics board. If you only connected a TV set, you will be able to view the Windows 95 desktop on your TV set.



Please only replace the devices (PC monitor by the TV set or vice versa), if the computer has been switched off.

After you switched the computer on, the connected device will be detected automatically and the miroMAGIC Premium will be controlled optimally.



GENERAL

miroMAGIC Premium enables you to connect video sources such as camcorders, VCRs or video-game consoles to your computer and to output the video image to your PC display or to the TV set. You can also capture and save still-images or video clips on your computer to edit them using suitable applications.

To connect these video sources, you can either use the composite input or the S-Video input.

For displaying video you need the miroLIFE application which is located on the installation CD and which can be installed using the installation program.

You can select several video formats and save still-frames and video clips (.avi).

INSTALLATION

To install miroLIFE, proceed as follows:

1. Insert the Autostart CD-ROM.

Insert the Autostart-CD in the CD-ROM drive of your computer. The installation program will be started automatically.



If the Autostart function has been disabled under Windows 95, select the *Run...* command in the *Start* menu and enter **d:\setup**, where **d:** represents the drive letter for your CD-ROM drive. If necessary, enter another letter.

2. Select *miroLIFE*.

The installation program offers you a list of options.

Select the *miroLIFE* option.

3. Click *Next*.

In the initial window, click on *Next*. The miroLIFE Program Group will be created.

4. Click *Finish*.

In the *Setup complete* window, click on *Finish*, to complete the installation.

SETTINGS

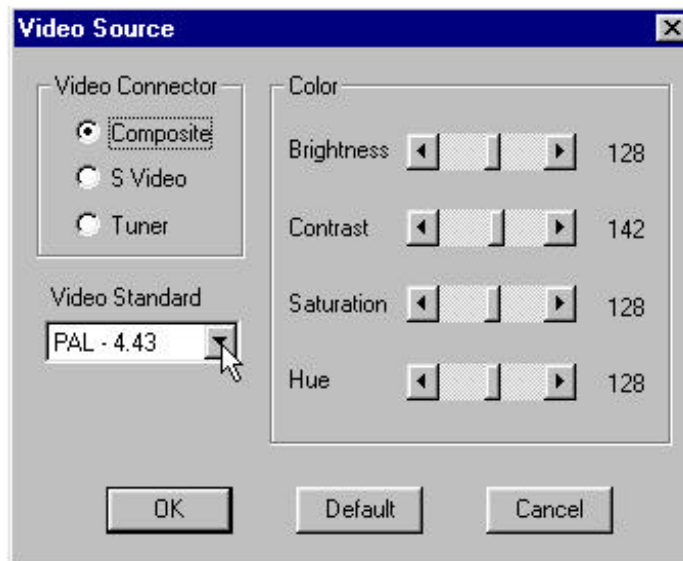
Video input If you connect one of the video inputs with a video source **before** starting the miroLIFE application, the correct input will be detected.

In case you connected video sources to both video inputs, it is possible to switch between these sources using this application.

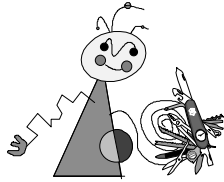
Video standard When you start miroLIFE for the first time, you have to specify the video standard used in your country.

You can select different PAL and NTSC standards.

- To select the video standard, open the *Options* menu and select the *Video source* command. The *Video Source* window appears:



- Select the suitable *Video standard* from the options list.
- The brightness, contrast, and saturation controls allow you to adjust the image data.



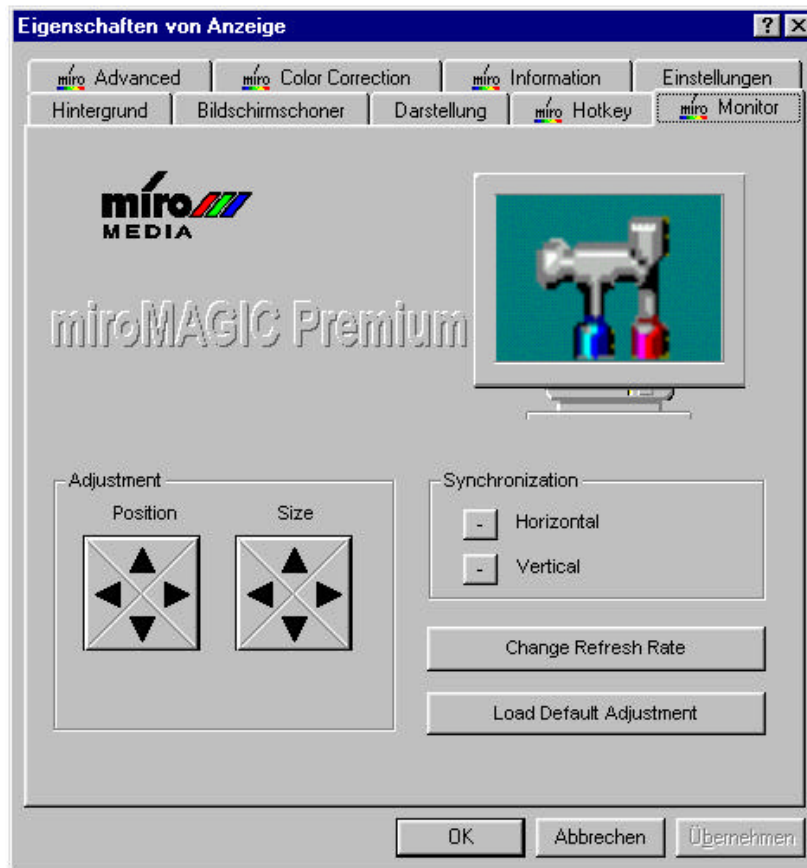
Further settings

You can make additional settings **under Windows 95** in the *Display Properties* window.



To do so, right-click on the Windows 95 desktop and select the *Properties* command. Or click in the task bar on the monitor icon and select the *Display Properties* command. The *Display Properties* window appears.

Monitor

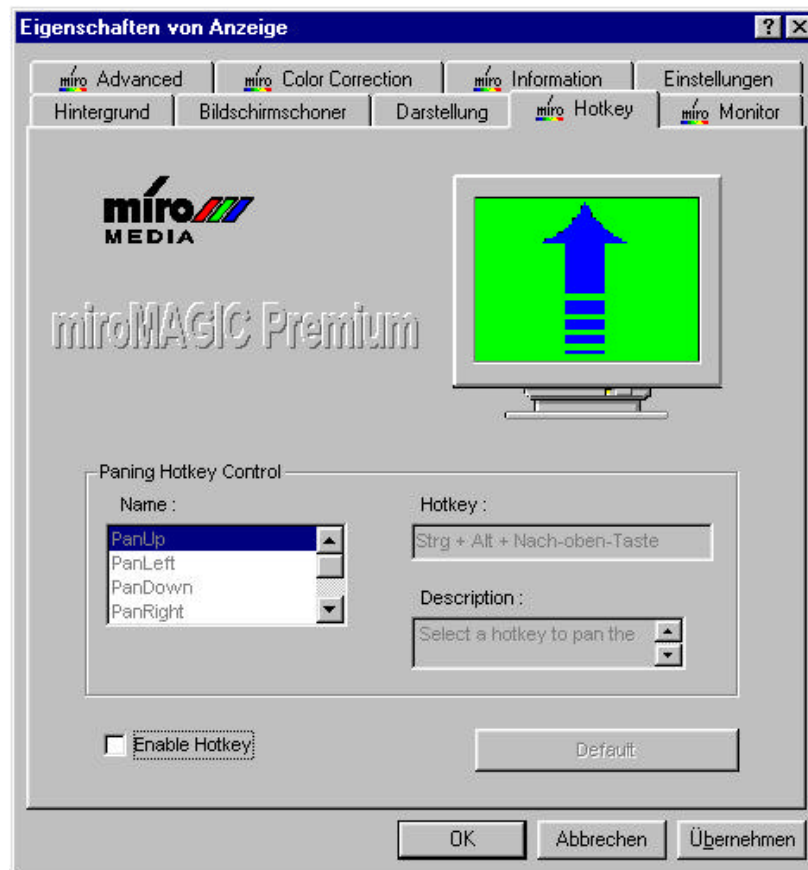


The *Monitor* tab lets you adjust the image position and select the image refresh rate of the PC display. If your PC display is not DDC-capable, please read the instructions that came with your display to make sure your display supports the frequency you want to select.



miroMEDIA GmbH does not grant any warranty for monitors which are operated at characteristics which do not lie within the characteristics specified by the manufacturer of the monitor.

Hotkey



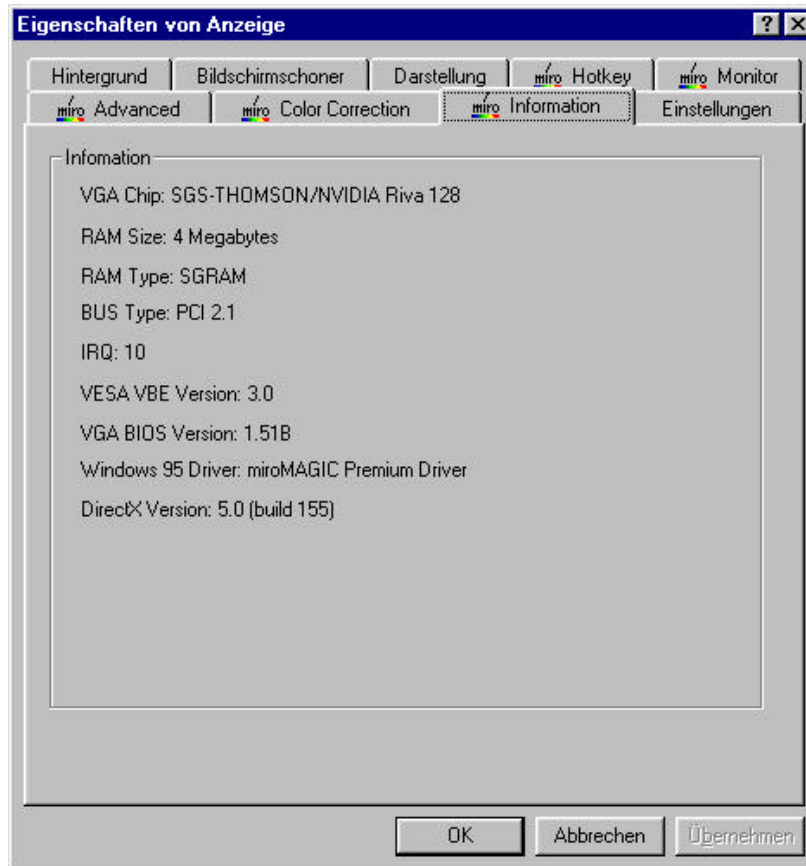
The *Hotkey* tab lets you specify a hotkey for correcting the image position.

Advanced



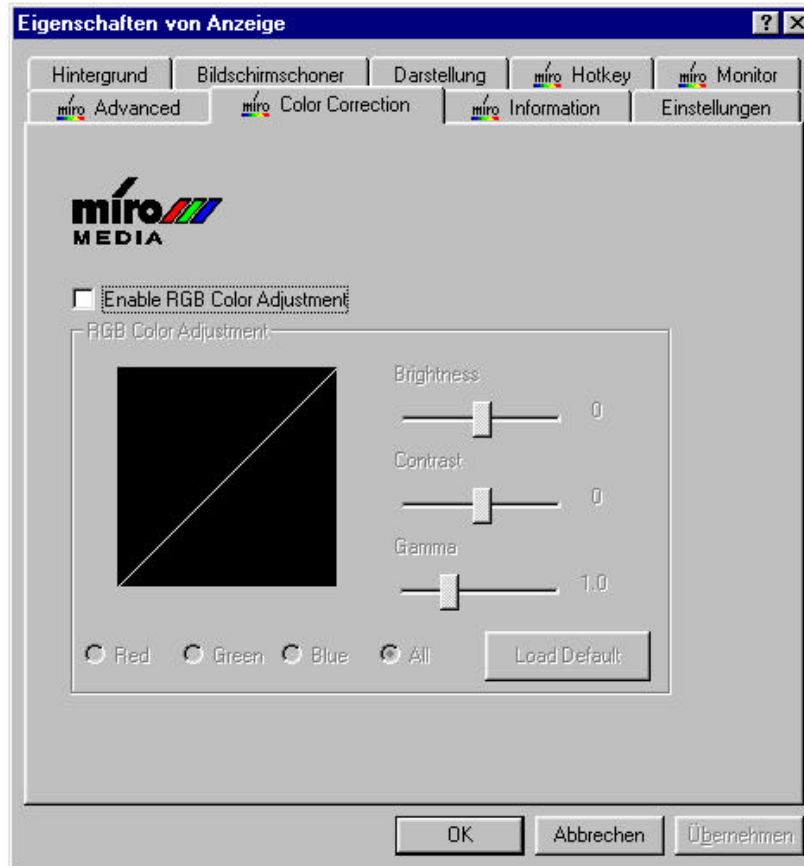
The *Advanced* tab allows you to enable/disable several 3D functions of the graphics board. You can try out these effects using the 3D applications you prefer or a suitable Benchmark program. You can also reserve a cache for textures in the main memory of your computer which accelerates your 3D applications. The optimal cache size depends on the computer configuration and has to be tested individually.

Information



The *Information* tab provides information on the system resources provided by your graphics system. This information can be useful when calling the miroMEDIA Hotline or when upgrading the system.

Color correction

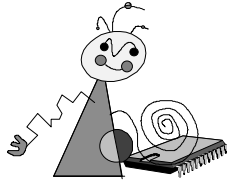


The *Color correction* tab lets you change the brightness and the contrast of the image and adjust the colors.

For further explanations on how the gamma correction works, please refer to the „About calibration“ chapter in the Appendix.



You can only adjust the gamma value (*Color correction* tab) at a bit depth of 16 and 32 bits, but not at 8 bits. If necessary, select another bit depth.



Technical data

GENERAL

Bus system PCI bus

Compatibility VGA-register-compatible

Graphics processor SGS Thomson Riva128

Memory 4 MB SGRAM

Video timing (Computer-monitor)

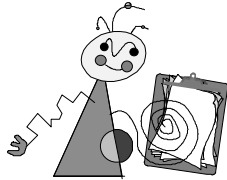
Horizontal frequency	31 kHz to 120 kHz
Image refresh rate	50 Hz to 200 Hz
Pixel frequency	15 MHz to 130 MHz

Others VESA DDC2B monitor interface

VIDEO TIMINGS

Resolution	Color depth and refresh rate		
	256 colors	65,536 colors	16.7 m colors
1600 x 1200	90 Hz	90 Hz	
1280 x 1024	120 Hz	120 Hz	
1152 x 864	160 Hz	160 Hz	120 Hz
1024 x 768	200 Hz	200 Hz	200 Hz
800 x 600	200 Hz	200 Hz	200 Hz
640 x 480	200 Hz, TV	200 Hz, TV	200 Hz, TV

NOTES

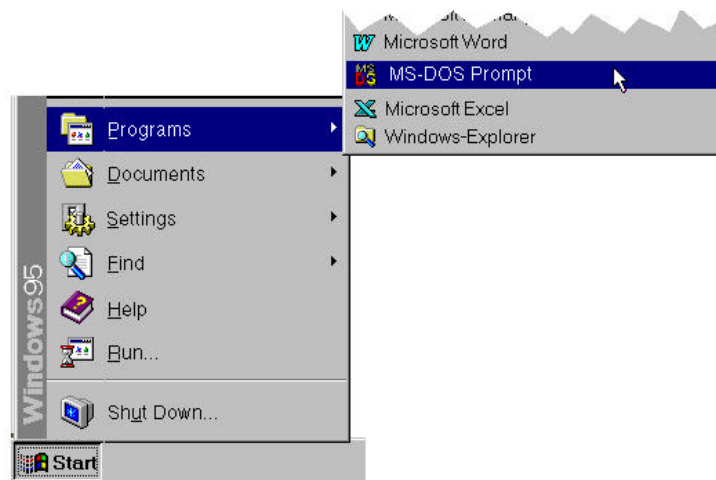


Appendix

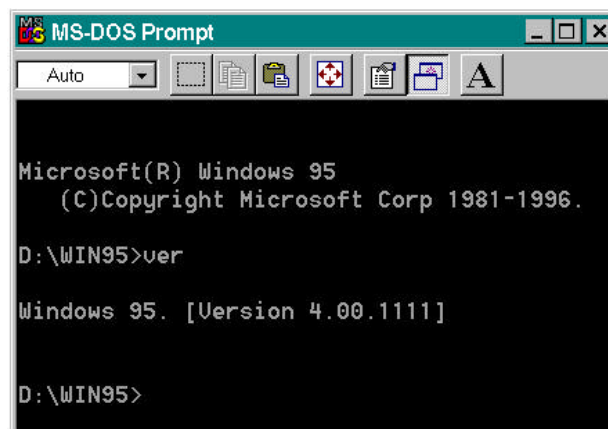
IDENTIFYING THE WINDOWS 95 VERSION

To identify the installed Windows 95 version, you have to start the MS-DOS Prompt.

1. In the *Start* menu, select the *Programs* command and the *MS-DOS Prompt*.



2. In the *MS-DOS Prompt* window type **ver**, and press <Enter>. The installed Windows 95 version will be displayed.



The Windows 95 OSR 2 (OEM-Service-Release 2) version has the version number Windows 95. [Version 4.00.1111]; the August Windows 95 Release has the version number Windows 95. [Version 4.00.950].

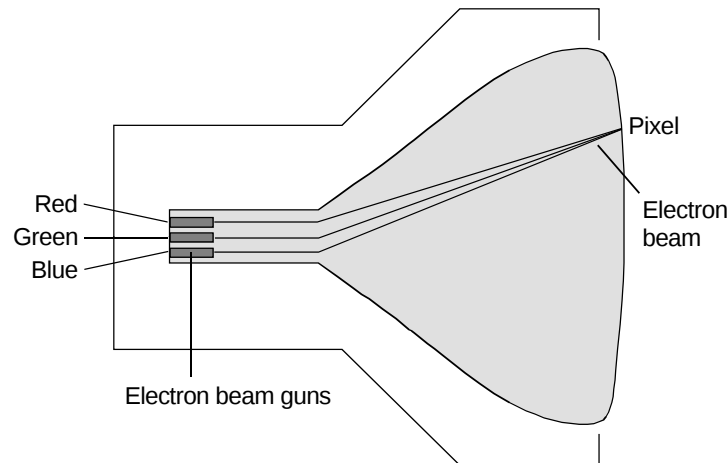
3. Close the *MS-DOS Prompt*.

ABOUT CALIBRATION

How is a color image created on your monitor?

On the inside a CRT of a color monitor is coated with a fluorescent coating consisting of different phosphor substances (red, green, and blue).

Three electron guns generate three electron beams. Each beam controls one color (red, green, and blue). The electron beams scan the screen line by line, when hitting the phosphors they emit light. Switching the electron beam on and off creates a dot matrix which creates a monitor image. The individual dots are called pixels (=picture element).



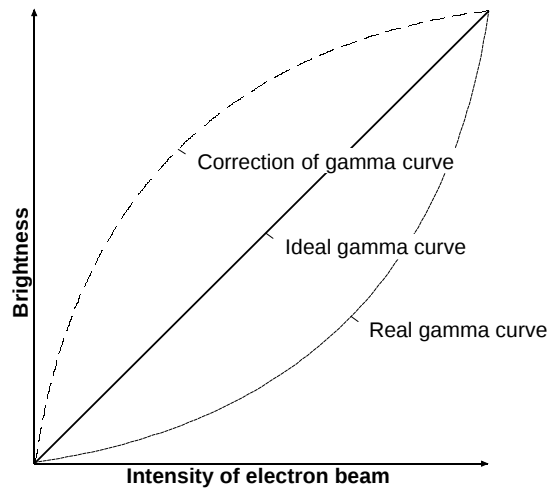
Each pixel has a red, a green, and a blue phosphor, a so-called triple.

When hit by the electron beam the phosphor emits light. If only the red phosphor is illuminated, the pixel appears red. If the red and the green phosphors are illuminated the pixel appears yellow. If all three phosphors are illuminated with equal intensity, the pixel appears white. This is called additive color mixture.

What is “gamma correction”?

The electron beam scans the phosphors of the CRT line by line and thus the phosphors emit light. By increasing the intensity of the electron beam the phosphors emit more light. By reducing the intensity the phosphors emit less light.

The brightness of the phosphors does not increase in proportion to the image signal. The gamma curve shows the non-linear behavior of a monitor. The following illustration shows the real non-linear gamma curve, the ideal gamma curve and the gamma correction function



GLOSSARY



This glossary contains the most important concepts from the field of computer hardware, software and video.

Cross-references are marked by this symbol .

- Address** All memory positions in a computer have numbers (addresses). Through these addresses each memory position can be addressed. Some addresses are reserved for certain  hardware components and must not be used. If two hardware components use the same address, there is an address conflict.
- ANSI** American National Standards Institute. ANSI character set ( Font): used by Microsoft Windows and Windows applications. The character assignment only differs slightly from the assignment of the  ASCII character set.
- ASCII** American Standards Committee of Information Interchange. ASCII character set ( Font): standard character set used by IBM and compatible computers. The ASCII character set consists of 256 characters, the first 128 of which are standardized.
- AUTOEXEC.BAT** A special DOS  batch file which is processed automatically after the computer has been started. The file contains among other things commands which load the country-specific keyboard driver ( Driver) or load programs automatically.
- AVI** Abbreviation for **A**udio **V**ideo **I**nterleaved, standard format for digital video ( Video for Windows).
- Batch file** A  DOS file where a sequence of commands is processed one after the other.
- BIOS** **B**asic **I**nterface **O**utput **S**ystem. Number of basic input and output commands stored in a  ROM, PROM or EPROM. The  operating system uses these commands. The basic task of the BIOS is to control the data input and output. After starting the system the ROM BIOS performs some tests (checking the  interfaces, the disk drives, etc.).
- Bit** **B**inary **D**igit. Smallest information unit in a computer. One bit can take on two states: “0” and “1”, two bits can take on $2^2=4$ states and three bits $2^3=8$, etc. In a computer those states are realized by “0 V” (no current = 0) and “5 V” (current = 1). To display a character (letter, number etc.), 8 bits = 1  byte are required.
- Bus** In a computer, the bus provides for the communication between the  processor and the installed hardware (hard disk, graphics board, etc.). Depending on the bus width, the bus transfers a different amount of information. An 8-bit bus can transfer 8  bits (=  byte = one character) at a time.
- Byte** One byte consists of eight  bits. One byte represents exactly one character (letter, number etc.). The characters are binary-coded with “zero” (0) and “one” (1). The character “E” has the  ASCII code “01000101” or “45h” (hexadecimal).

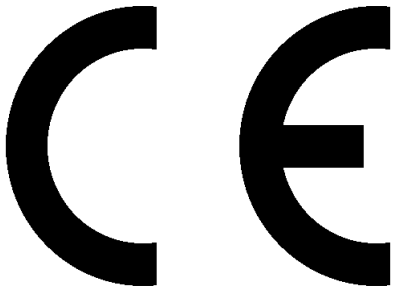
CD-I	A  CD-ROM standard designed for the field of entertainment which is independent of and not compatible with the conventional CD-ROM standard. Interactive components (e.g. for games) can only be played back with an original CD-I playback device.
CD-ROM	CD-ROMs are mass storage media for digital data, such as  digital video. CD-ROMs can only be read.
CGA	Color Graphics Adapter (IBM). Graphics board which displays four colors in the graphics mode.
Clipping	Cutting off image information to make parts within an object visible.
Clock frequency	Rate at which individual commands are processed in a processor. The higher the  clock frequency, the quicker the commands are processed.
CLUT	Color Look Up Table . Color table which contains all indexed color values.
CODEC	Acronym for Compressor/Decompressor , compresses (packs) and decompresses (unpacks) image data.
Color depth	Number of  bits containing color information for each  pixel. A color depth of 1 bit displays only black and white ($2^1=2$ colors). At a color depth of 8 bits $2^8=256$ colors are available and at 24 bits $2^{24}=16,777,216$ ( TrueColor) colors are available.
Composite video	Composite video encodes all image information in one signal.
CONFIG.SYS	A  DOS configuration file which is processed automatically when the system starts. The CONFIG.SYS file includes  drivers which control the output to the monitor and the keyboard and the mouse.
Data rate	Data per second, e.g. amount of data which a mass storage medium (hard disk or CD-ROM) saves/plays back per second or the amount of data of a video sequence per second.
DCI	Windows 3.1x features the DCI (D isplay C ontrol I nterface) which has been developed by Intel and Microsoft. DCI allows video software to directly access the graphics hardware and ensures a full-screen, jerk-free video playback. DCI needs at least the Video for Windows 1.1d version.
Digital video	Digital video stores information bit by bit in a file (in contrast to analog storage media).
DIP switch	Dual Inline Package switch. A row of small switches designed to make certain hardware presettings.
Direct3D	A software interface developed by Microsoft for 3D games and other 3D applications under Windows 95. Enables Direct3D-capable applications to access 3D hardware efficiently.
DirectDraw	Software interface developed by Microsoft for Windows 95 which enables applications to access the graphics hardware.

DirectVideo	Successor of Video for Windows for Windows95. Has been expanded by Microsoft and will be designated by ActiveMovie in future.
DirectX	Direct (X) Extensions is a collection of several system extensions developed by Microsoft for Windows 95 (among others  DirectDraw,  Direct3D), to enable video and games acceleration.
Dithering	By using color patterns the number of the colors to be perceived by the eye is artificially increased. In this way, smoother color transitions are provided for the volume model.
DOS	D isk O perating S ystem. The most common  operating system for PCs (Personal Computer). MS DOS is the M icrosoft version of DOS.
Driver	Programs which integrate the hardware (e.g. driver for a CD-ROM drive) in the computer and which adapt the software to the hardware (e.g. driver for a graphical user interface, such as Microsoft Windows). The software then uses the features of the graphics board.
DVD	D igital V ersatile D isk. Newest mass storage media for audio and digital video with a storage capacity of up to 4,6 G. To be able to play back DVDs, a DVD drive is required.
EDO DRAM	E (xtended) D (ata) O (ut)-DRAM is a new, significantly faster variant of DRAM.
EGA	E nhanced G raphics A dapter (IBM), graphics board which displays 16 colors in the graphics mode.
EISA bus	E xtended I ndustry S tandard A rchitecture. 32-bit bus: The EISA bus can transfer an amount of data of 33  MByte per second at a  clock frequency of 8.33 MHz.
Fixed-frequency monitor	Monitor operating at a very small frequency range ( multifrequency monitor).
Flat Shading	With this shading method all points of a polygon have only one color. The objects appear faceted.
Font	Character set in a certain type, size and style, e.g. Times New Roman 11, normal; Times New Roman 11, italics; Times New Roman 11, bold; Times New Roman 11, bold, italics.
Gouraud Shading	For each vertex of a polygon one color is used; the color for the pixels in between the vertices are interpolated resulting in smooth color transitions.
Graphics board	Graphics boards are the “link” between the computer and the monitor. Without a graphics board no image appears on the screen. Graphics boards operate in two modes: the text mode and the graphics mode. In the text mode only  ASCII characters are displayed. The ASCII character set includes some simple “graphical” characters to display simple graphics. The graphics mode uses individual  pixels. The more pixels available (the higher the  resolution) the more detailed characters and graphics can be displayed.
Hardware	The hardware includes all computer components which are “hard”, such as the monitor, the hard disk, the keyboard, the mouse and the printer.
HGC	H ercules G raphics C ard, monochrome (black and white) graphics board.
Hidden Lines	Displaying a 3D model as a surface model; only the lines which are covered are not shown.

Horizontal scan rate	Number of horizontal scans of the electron beam per second required to create a new line. The higher the resolution the higher the required horizontal scan rate.
Interface	Link between two parts of a system or between two systems where information, pulses and signals are adapted in a way that the receiving part can understand the sending part. For example, signals which the computer sends to the printer have to be adapted by an interface so that the printer “understands” what it has to print.
Interlaced	Image refreshing technique: the screen is subdivided into lines. When refreshing the image first all even lines and then all odd lines are refreshed.
ISA bus	I nternational S tandard A rchitecture. 16-bit bus which transfers 8 MByte of data per second at a clock frequency of 8 MHz.
Jumper	Jumpers can set up or interrupt electrical leads. To establish electrical leads with a jumper, the jumper has to be mounted, to interrupt the lead the jumper has to be removed.
KB	1 KB (Kilobyte) is equal to 1024 bytes. Here “K” (kilo) is always equal to “1024”.
MB	1 MB (Megabyte) equals 1024 KB.
MDA	M onochrome D isplay A dapter. Monochrome (black and white) graphics board.
MPEG	Abbreviation for M otion P ictures E xperts G roup. Standard for the compression of moving images.
Multifrequency monitor	A multifrequency monitor adapts itself automatically to different frequencies supplied by the graphics board (fixed-frequency monitor) and can display different resolutions.
Non-interlaced	Image refresh method, where the complete image is generated without skipping lines. A non-interlaced image flickers much less than an interlaced image.
Operating system	The operating system provides for the communication between hardware, software and the user. The tasks of the operating system are among others the file and the program management.
Parallel interface	The parallel or Centronics interface transfers data through an 8-bit data line. This means that 8 bits (1 byte) can be transferred at a time. The transfer through the parallel interface is considerably faster than the transfer through the serial interface, over long distances the parallel data transfer is, however, more susceptible to interference. Parallel interfaces are designated by LPT and a number (e.g. LPT1).
Parallel Projection	With this type of representation the vanishing point for parallel edges of an object is located in the infinity.
PCI Local Bus	P eripheral C omponent I nterconnect. Local Bus concept by Intel: 32-bit bus, a PCI bus can transfer 132 MByte per second (max.) at a clock frequency of 33 MHz.
Perspective Projection	With this type of representation parallel lines of an object meet at one point (vanishing point) in the distance. Objects near the viewer appear larger than objects of the same size that are farther away.

Pixel	Picture element. Pixels are the smallest elements of a monitor image (📖 resolution).
Pixel frequency	Rate at which the pixels appear on the screen.
Projection	Displaying an object of a higher dimension (e. g. three-dimensional) using a lower dimension (two dimensions).
RAM	R andom A ccess M emory. A RAM is a read-write memory component from which data can be read and to which data can be written any time. The computer memory is equipped with RAM components. The memory is a so-called “volatile” memory meaning that the memory contents are removed as soon as the computer is switched off.
Refresh rate	Also vertical scan rate. Number of image refreshes per second measured in Hertz (Hz). The higher the vertical scan rate the less flicker.
Rendering	Calculating and displaying a realistic surface of a volume model.
Resolution	Number of 📖 horizontal and vertical pixels. 1408 x 1024 means that 1408 pixels are displayed horizontally and 1024 pixels are displayed on the monitor vertically. The higher the resolution the more details the monitor can display.
RGB	Abbreviation for R ed, G reen and B lue, the basic colors of additive color mixing. RGB describes the method used in computer technology where image information is transferred by dividing it into the three basic colors.
ROM	R ead O nly M emory. A ROM is a memory component which can only be read but which cannot be modified. The ROM's contents remain in the component also after the computer has been switched off. All functions which have to be available immediately after switching the computer on, e.g. the data for the system test, the character output on the screen, etc. are stored in ROM components. There are also PROMs (P rogrammable R OM) EPROMs (E rasable P ROM) and EEPROMs (E lectric E PROM).
Rotation	The objects rotates around an axis.
Scaling	Adaptation of an image to a different size.
Serial interface	Also RS232. The serial interface transfers data through a data line bit by bit (all 📖 bits of a 📖 byte one after the other). The serial data transfer is considerably slower than the transfer through the 📖 parallel interface but it is less susceptible to interference. Serial interfaces are designated by COM and a number (e.g. COM1).
Shading	Transition from the wireframe representation to the volume representation.
Software	General term for all programs a computer can run (system programs, application programs, 📖 drivers etc.) and files.
S-Video	With S-Video signals the brightness (luminance) and the color information (chrominance) are transferred separately.
TrueColor	16.7 million colors can be displayed at a time (📖 color depth).
Vertical scan rate	📖 Refresh rate.
VESA	V ideo E lectronic S tandards A ssociation. Committee founded in 1988 in the USA which establishes common standards for the computer technology.

VESA Local Bus	Bus concept defined by the 📖 VESA committee: 32-bit bus operating at a 📖 clock frequency of up to 50 MHz. At a clock frequency of 33 MHz the VL bus transfers up to 132 📖 MByte per second (max.).
VGA	V ideo G raphics A rray (IBM), graphics board which displays 256 colors in the graphics mode.
Video-CD	CD-ROM standard with 📖 MPEG videos you can play back using a CD-ROM drive and an MPEG decoder board.
Video decoder	Converts analog signals into digital information.
Video encoder	Converts digital information into analog signals.
Video for Windows	Video for Windows is a Microsoft Windows system extension which allows to record, to store and to play back video sequences from hard disk (📖 digital video).
Volume Model	Surfaces are displayed with filled interiors.
Wireframe Model	Display of a three-dimensional object where only the edges are visible.
YUV	Color model where Y delivers the brightness information and U and V the color information.
Z-Buffer	This memory allows the 3D hardware to identify covered 3D objects more easily.



KONFORMITÄTSERKLÄRUNG DECLARATION OF CONFORMITY

Geräteart: Grafikkarte
Type of equipment: Graphics board

Produkt / Product: **miroMAGIC Premium**

Das bezeichnete Produkt stimmt mit den Vorschriften folgender EU- Richtlinie(n) überein:
The aforementioned product complies with the following European Council Directive(s):

89/336/EWG	Richtlinie des Rates zur Angleichung der Rechtsvorschriften der Mitgliedstaaten über die elektromagnetische Verträglichkeit Council Directive 89/336/EEC on the approximation of the laws of the Member States relating to electromagnetic compatibility
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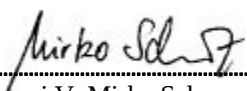
Zur vollständigen Einhaltung dieser Richtlinie(n) wurden folgende Normen herangezogen:
To fully comply with this(these) Directive(s), the following standards have been used:

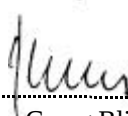
EN55022 Class B	: 1994
EN50082-1	: 1992

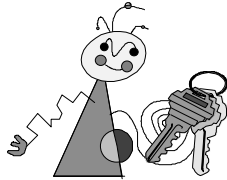
Dieser Erklärung liegt zugrunde: Prüfbericht(e) des EMV-Prüflabors
This certification is based on: Test report(s) generated by EMI-test laboratory

Aussteller / Holder of certificate: **miroMEDIA GmbH**
 Carl-Miele-Str. 4
 D - 38112 Braunschweig

Braunschweig, 01.12.1997
(Ort / Place) (Datum / Date)


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(Vorstand / Board of Management)



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