

miroMEDIA View miroMEDIA TV miroMEDIA Remote

USER'S GUIDE



miroMEDIA View/miroMEDIA TV/miroMEDIA Remote

User's Guide

Version 1.0/GB March 1996

VDOK-MED-100

© miro Computer Products AG 1996

All rights reserved.

No part of this manual may be reproduced or transferred to other media without explicit written permission from miro Computer Products AG, Braunschweig, Germany.

IBM AT® is a registered trademark of International Business Machines Corp.

miro™ is a registered trademark of miro Computer Products AG.

OS/2™ is a trademark of International Business Machines Corp.

Pentium™ is a trademark of Intel Corp.

TRIO64V+™ is a trademark of S3 Incorporated.

VGA™ is a trademark of International Business Machines Corp.

Video for Windows™ is a trademark of Microsoft Corp.

Windows® is a registered trademark of Microsoft Corp.

Windows NT™ is a trademark of Microsoft Corp.

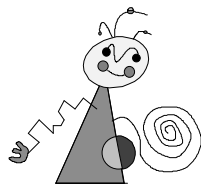
miro manuals are printed on chlorine-free paper using environmentally safe ink.

miro Computer Products AG has written this manual to the best of its knowledge, but does not guarantee that the programs/systems will fulfill the desires of the user.

No warranty is made as to the specifications of features.

miro retains the right to make alterations to the content of the manual without the obligation to inform third parties.

All tenders, sales, supply and manufacturing contracts from miro, including consultancy, installation and other contractual performance are subject exclusively to the General Sales and Delivery Terms of miro.

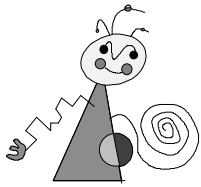


Contents

OVERVIEW	1
FEATURES	1
SYSTEM REQUIREMENTS	2
PACKAGE CONTENTS	3
CONNECTORS	3
CONNECTORS OF miroMEDIA VIEW	4
CONNECTORS OF miroMEDIA VIEW AND miroMEDIA TV	5
HARDWARE INSTALLATION	6
INSTALLING miroMEDIA VIEW	6
INSTALLING miroMEDIA TV	7
CONNECTING THE miroMEDIA VIEW/TV	8
SOFTWARE INSTALLATION	9
VIDEO FOR WINDOWS	9
Installing Video for Windows	9
SOFTWARE INSTALLATION (CD-ROM)	10
miroSETUP-Manager	10
miro drivers and applications	11
miroVIDEO-Tools	12
Video for Windows Runtime	12
miro drivers for CAD (Windows)	12
miro drivers for CAD (DOS)	12
Documentation	12
miro drivers for OS/2 and Windows NT	13
SOFTWARE INSTALLATION (DISK)	14
Overview	14
miro drivers and miro tools	14
Installing Windows drivers for Windows 3.1x	14
miroMONITOR SELECT	15
miroSUPERSCREEN	16
Installing miro drivers for Windows 95	16
miroVIDEO-XL	16
Installing CAD drivers	17
miroMONITOR SELECT	18
Configuring the drivers	19

USING miroMEDIA VIEW	20
PLAYING BACK MPEG AND AVI FILES	20
<u>miroMEDIA REMOTE</u>	21
Delivery Package	21
Connecting the miroMEDIA Remote	21
Installing the miroMEDIA Remote drivers	21
Key Layout	22
<u>CAD DRIVERS</u>	24
miroGTI 12	24
Overview	24
Configuring AutoCAD for miroGTI 12	24
miroGTI 12 main menu	25
miro3D-VIEWER	25
Color Manipulation Tool	25
Additional configuration	27
Using miroGTI 12	31
AutoCAD/miroGTI 12 screen menu	32
miroGTI 12 commands	34
miroSPOTVIEW	34
FASTZOOM	35
miroQUICKVIEW	36
miroGTI 12: Error messages	37
miroGTI 12/13 WIN	38
Overview	38
Configuring AutoCAD and miroGTI 12/13 Win	38
miroBIRDEYE introduction	40
miroBIRDEYE functions	40
miroSPOTVIEW	43
miroADI	44
Introduction: miroADI	44
Loading and configuring miroADI	44
MICROSTATION PC	46
Overview	46
Configuring MicroStation	46
Using the driver	47

miroVGA2TV	48
WHAT IS miroVGA2TV	48
INSTALLING miroVGA2TV	48
Using miroVGA2TV	49
Configuring	49
Starting	49
Command line parameters	49
Limitations	50
TECHNICAL DATA	52
miroMEDIA View	52
miroMEDIA TV	53
APPENDIX	I
15-PIN D-TYPE VIDEO PORT	I
miroMEDIA View ADDRESS RANGE	II
miroMEDIA TV: INTERNAL CONNECTORS	III
SUPPORT/SERVICE	IV
GLOSSARY	VI
miro SUBSIDIARIES	XI
FCC COMPLIANCE STATEMENT	XII
INDEX	

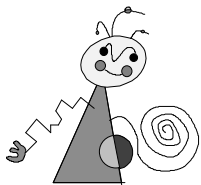


For your own safety

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

- ♦ Before opening the computer make sure that the power plug is disconnected from the main socket.
- ♦ Computer components are sensitive to static charge. Divert any electrostatic charge from your person before touching the components with your hands or any tools.
- ♦ Make sure that the components you want to add to the computer are in compliance with the computer's characteristics.
- ♦ Avoid address conflicts!

For changes that have occurred after the manual has been printed, refer to the README file/s on the disk/s supplied with your system! In the Windows File Manager double-click the README file to get the latest information.



About the manual

This manual explains how to install and use the miroMEDIA 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*.



FEATURES

With miroMEDIA View miro offers you a combined graphics and video board providing hardware-supported MPEG playback and extremely fast Windows acceleration integrated on one board.

☐ **Graphics acceleration**

The miroMEDIA View graphics board is equipped with the S3 TRIO64V+ graphics processor to improve the performance of applications running under Windows.

☐ **Multimedia acceleration**

For digital video applications a video processor is integrated in the graphics processor. This processor offers a digital overlay and an optimal playback: it scales video to any size up to 1024 x 768 pixels – without jerky playbacks and frame losses. When enlarging video the pixels are not just multiplied but the additional pixels are calculated, this technique achieves a very good image quality even at high resolutions.

☐ **MPEG decoder** (not with miroMEDIA View SE)

The MPEG decoder integrated on your miro board is able to decompress and zoom video files very fast, thus enabling full-screen, flicker-free, and non-jerky playback of MPEG videos. The decoder supports all video CD formats and *.MPG files.

☐ **DCI**

Video for Windows 1.1e supports Microsoft's new DCI technology (**D**evice **C**ontrol **I**nterface). DCI allows the video software to directly access the miroMEDIA View hardware and to accelerate the image refresh considerably. The GDI (**G**raphics **D**evice **I**nterface), which has been responsible for the image refresh up to this time, is omitted.

☐ **Video memory**

The miroMEDIA View is equipped with 2 MBytes of fast EDO-DRAM.

☐ **Drivers**

miroMEDIA View includes all of the necessary drivers to achieve the maximum performance from your system. In addition, the miro tools (miroWINTOOLS, miroVIDEO tools) are provided.

☐ **Monitor plug & play support**

The miroMEDIA View board supports the VESA Display Data Channel (DDC). A monitor complying with this standard transmits its characteristics via this interface and starts up with an appropriate resolution.

❑ **miroVGA2TV**

miroVGA2TV allows you to connect a TV set to your computer and use it under DOS, recording DOS applications to video and playing DOS games on the TV set.

❑ **miroMEDIA Manager**

With the miroMEDIA Manager (included in package), miro has developed a smart user interface that lets you control the miro sound, video, and communications hardware integrated in your computer in the most intuitive way possible.

Upgrading the miroMEDIA View board with the miroMEDIA TV television card lets you take advantage of additional functions:

❑ **Cable-ready TV tuner**

The miroMEDIA TV has a cable-ready TV tuner with stereo sound and high-performance Videotext functionality and thus permits reception of all possible television stations. The television pictures received can be digitized, processed, and played back again. The video overlay window is freely scaleable.

❑ **Video sources and video formats**

All standard video sources (video recorder, video camera, TV tuner, video disc, still video camera) that generate a composite video signal or an S-video signal (e.g., VHS, Hi8, Video8) can be connected to the miroMEDIA TV.

❑ **Videotext**

The miroMEDIA TV integrates a module for receiving Videotext (German / British versions only). The miroMEDIA Manager makes text pages easier to View than in the ordinary manner with a television set.

❑ **miroMEDIA Remote**

The miroMEDIA Remote infrared Remote control was developed to give you control over all connected devices via the miroMEDIA manager.

SYSTEM REQUIREMENTS

To install miroMEDIA View, your computer system has to meet the following requirements:

Computer	A 486 or 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. miro offers suitable monitors. To enable the data transfer between the monitor and the graphics board, you need a DDC-capable monitor cable (recognizable by blue connectors).
Software	Windows 3.1, Windows 3.11 or Windows 95.
Audio	If you want to modify audio clips or to control the volume using the miro software, your computer has to be equipped with a Windows compatible sound board with a free audio input.
CD-ROM Drive	If you want to play back video CDs, you will need a double-speed CD-ROM drive that supports X/A-MODE2.

PACKAGE CONTENTS

Before beginning the miroVIDEO installation, please check to make sure your miroMEDIA View package is complete*:

- ♦ Graphics board**,
- ♦ Installation disks or CDs,
- ♦ Documentation,
- ♦ *miroMEDIA TV only*:
 - Adapter for composite video sources,
 - Adapter for the antenna connector,
- ♦ *optional*:
 - Monitor, shielded monitor cable, external audio cable.



Graphics boards are sensitive to static charge. To avoid damage that may occur by static charge, leave the graphics board in its antistatic packaging until installation. Keep the packaging for possible future transportation.

CONNECTORS

miroMEDIA View has the following connectors:

- Video output** To the miroMEDIA View composite video output connects a TV set. The software switches between the output on the computer monitor and the output on the TV monitor.
- Audio output** The miro board has an internal and an external audio output. The internal miroMEDIA View audio output connects to the internal audio input of a sound board. *** As an alternative, you can connect the external audio output to the Line In input of the sound board or to powered speakers.
The miroMEDIA TV tuner board has additional connections and/or internal plugs:
- S-Video input** You can use the S-video input to connect to the miroMEDIA TV any video device that generates an S-video signal (and, using the adapter included, a composite video signal) in PAL, NTSC or SECAM, regardless of the video system used (e.g., VHS, S-VHS, Hi8, Video 8).
- Antenna input** You can use the antenna input to connect an antenna or a cable TV outlet.



Important:
The quality of your antenna cable has a considerable influence on reception.

To connect the video source to the miroMEDIA board, you will also need a suitable cable (cinch or S-video cable).

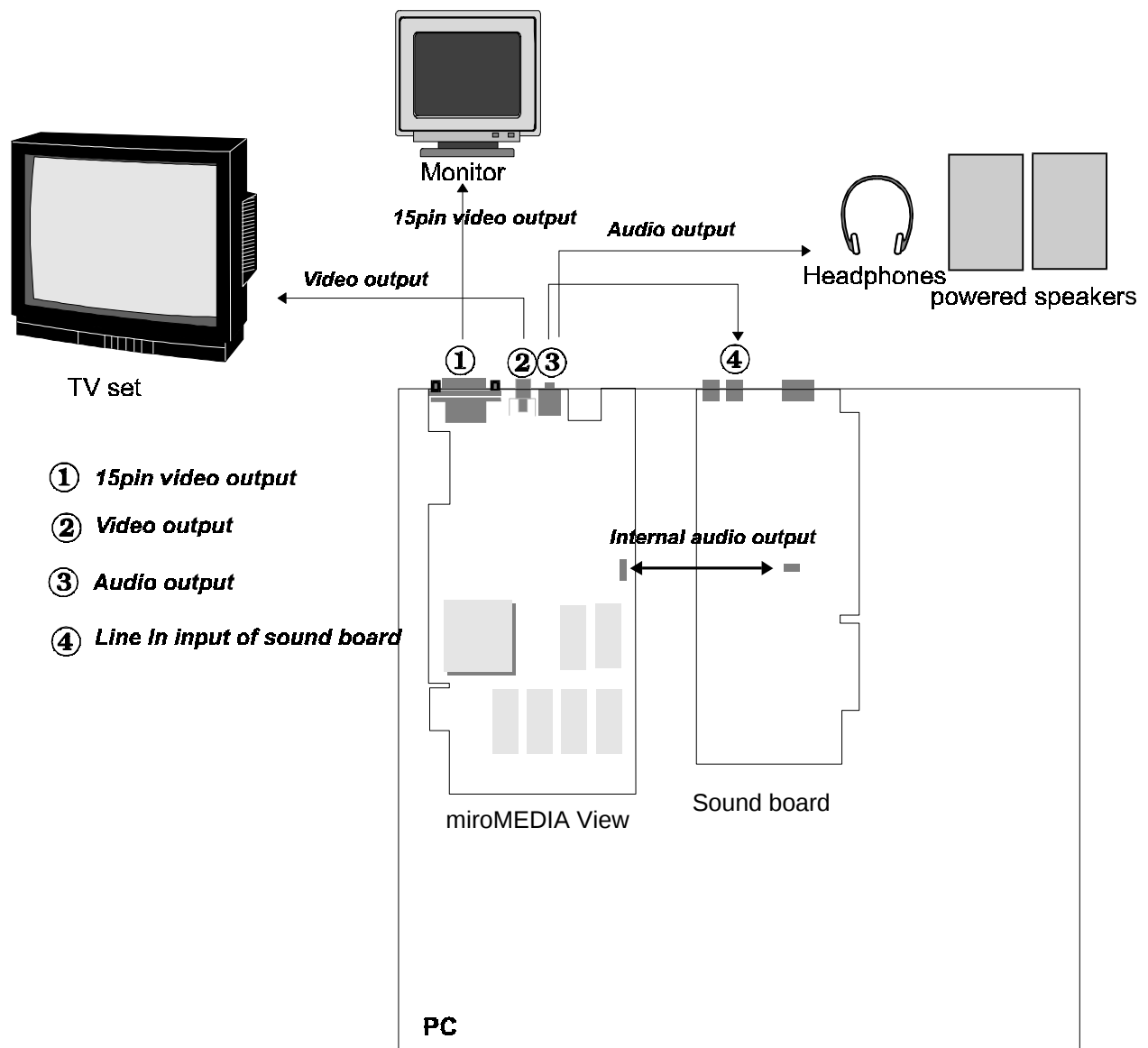
* Depending on the delivery scope, the actual package contents may be different from the package contents listed in the manual.

** For model and serial number of your miro graphics board, refer to the label on the graphics board.

*** The package does not include an internal audio cable.

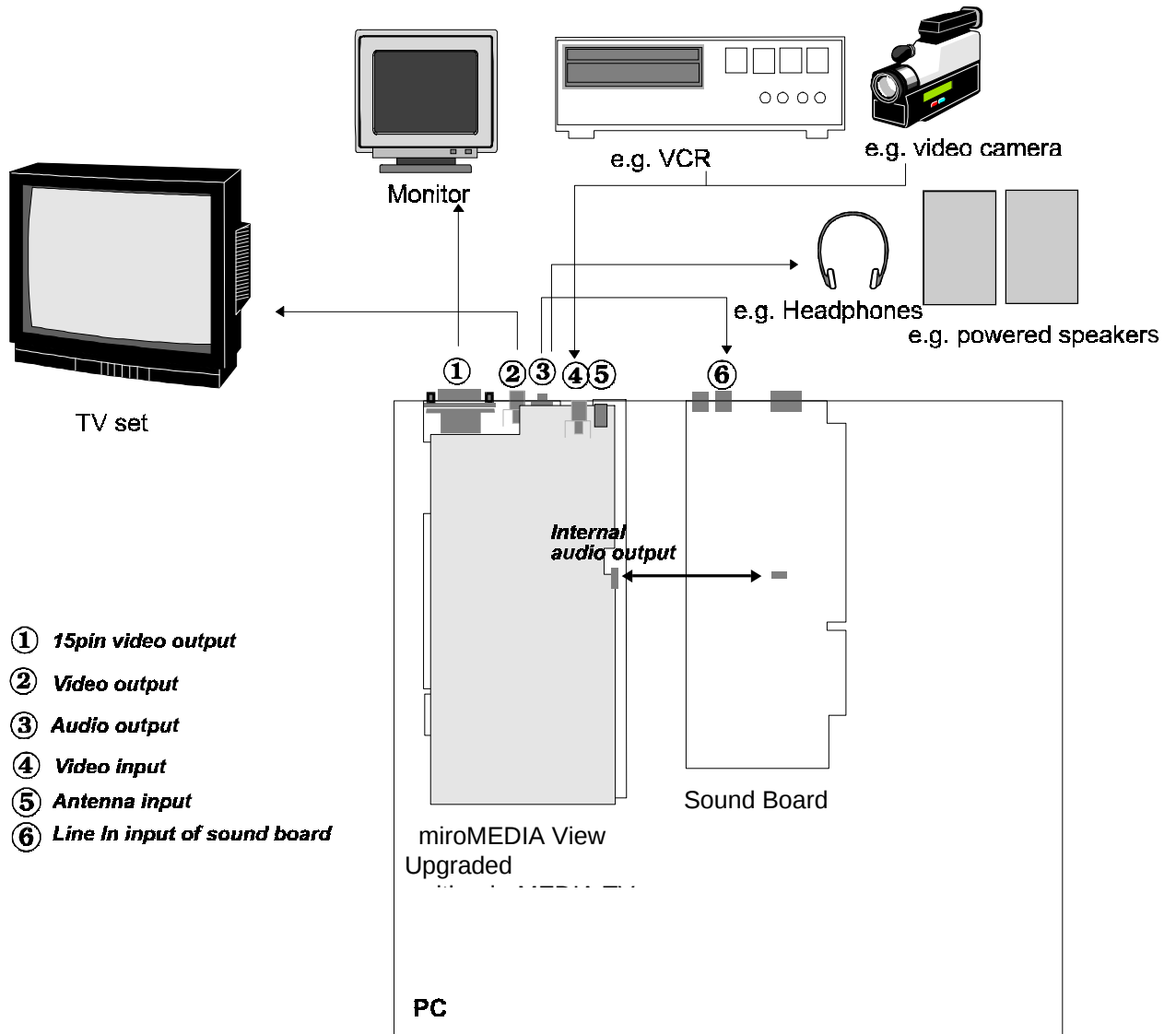
Internal Connectors Depending on the distribution variant, your board may include up to 6 internal connectors for future internal connections to new miro products. See the Appendix for the significance of the various internal connectors and the corresponding pin assignments.

CONNECTORS OF miroMEDIA View



Connectors of *miroMEDIA View*

CONNECTORS OF miroMEDIA VIEW AND miroMEDIA TV





Hardware installation

INSTALLING miroMEDIA View

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.

The only tool you need for the installation is a screwdriver. Proceed as follows:

1. Turn off your computer and all peripheral devices. Disconnect the computer from the power supply and all necessary components.
2. Loosen the screws of the computer's cover and remove it.
3. Discharge yourself of static charge by touching the power unit casing.
4. If necessary, remove the VGA board from the computer or disable the motherboard VGA.
5. Select a free PCI slot. Remove the slot's cover at the back of the computer. Save the screws of the cover.
6. Carefully insert the graphics board into a PCI slot by holding the board at the top and gently pushing both ends into the slot at the same time. Press onto the upper edge of the board to make sure it is firmly seated in the slot.
7. Don't force the board into the slot! You run the risk of bending the contacts. If the board does not fit easily, pull it back out, and try again.
8. If necessary, connect the *internal* audio output to the internal audio input of your sound board.

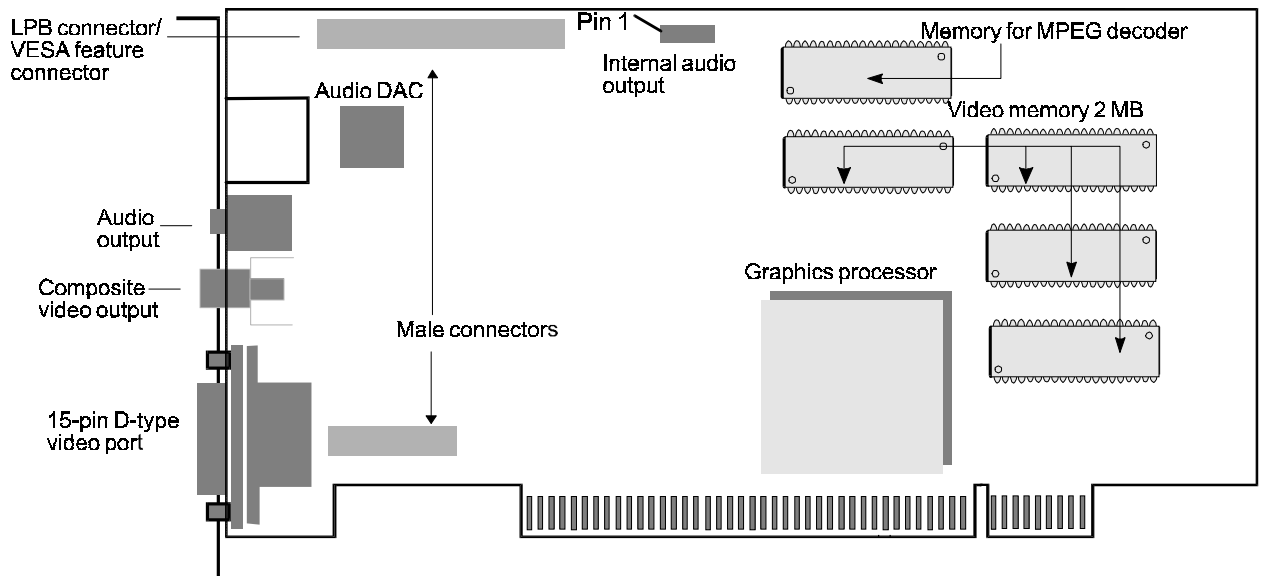


If you want to use the internal audio output, use a suitable cable. For the pin allocation, refer to the table below.

Internal audio output

<i>Pin no.</i>	<i>Assignment</i>
1	Right
2	Ground
3	Left
4	Ground

9. Fasten the board's bracket at the back of the computer using the screws you saved from the shield.
10. Put the cover back on the computer and reconnect the peripheral devices.



miroMEDIA View Board Layout

INSTALLING miroMEDIA TV

To upgrade your miroMEDIA View board, you will first have to remove it from your computer if it is already installed.

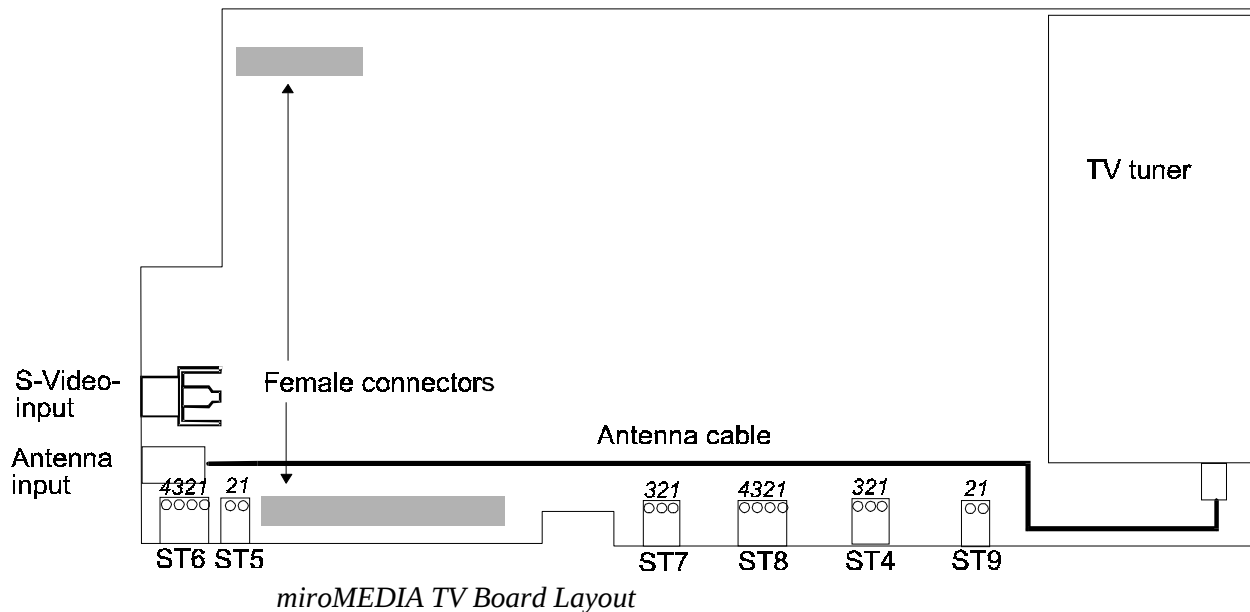
1. Remove the miroMEDIA TV from the packaging.
2. If necessary, remove the label on the miroMEDIA View bracket over the opening in the bracket (provided for the miroMEDIA TV's S-video input).
Depending on the distribution variant, you may find a pre-punched opening, which can be broken out easily, instead of a label on the miroMEDIA View bracket.
3. Plug the internal antenna lead into the cinch adapter on the bracket.
4. Locate the male connectors on your miroMEDIA View board (see above) onto which the miroMEDIA TV is plugged. Locate the corresponding female connectors on the TV card (see below).
5. Orient the TV card so that it is above the corresponding connectors on the miroMEDIA View.
6. When all the pins are above the corresponding sockets, press the plug-on module, gingerly at first, just one or two millimeters onto the miroMEDIA View board.

If you feel no resistance and the TV card can be plugged on without any problems, then press the TV card all the way onto the basic board. Otherwise, please do not attempt to force the TV card onto the basic board. Instead, remove the card and try again.



Make sure that the antenna cable does not become wedged between the two boards and that the plastic spacers snap in properly.

7. Insert the miroMEDIA View in the computer. Proceed as described in the section "Installing miroMEDIA View".



CONNECTING THE miroMEDIA View/TV

8. If you want to use the external audio output, connect it to the Line In input of the sound board.
9. If you have a video source with a S-video output, use a suitable cable to connect it to the S-video input of the miroMEDIA TV.
10. If you have a video source with composite video output, first plug the adapter onto the S-video input of the board and then use a suitable cable to connect the video source to the adapter.



Important:

The miroMEDIA TV provides both an external S-Video input and an internal S-Video input (internal connector).

Please connect only one of the two inputs.

11. Connect the monitor to the D-Sub15 monitor output. If you are unsure how to connect the monitor cable, please refer to the documentation that came with your monitor.
12. If you have a TV monitor, connect it to the video output of the miroMEDIA View.
13. Plug the antenna adapter (included) onto the cinch jack on the bracket.
14. Connect the external antenna cable to the antenna input.
15. Finally, make sure that the computer and the monitor are connected to electrical power.



Software installation

After you have installed your graphics board, you can proceed with the installation of the miro software and the Video for Windows 1.1e Runtime version.

VIDEO FOR WINDOWS^{*}

Video for Windows 1.1e supports the new Microsoft Windows DCI technology (**D**evice **C**ontrol **I**nterface). DCI allows the video software to directly access the miroMEDIA View hardware and to accelerate the image refresh considerably. The GDI (**G**raphics **D**evice **I**nterface) which was responsible for the image refresh up to this time is omitted.

To play back digital video AVI drivers are required. The supplied Video for Windows Runtime disk contains these drivers and a Setup program.



For Windows 95, Video for Windows has been already installed during the miro software installation and does not have to be installed again.



Before beginning the miro software installation, make sure Video for Windows has been installed. If this is not the case, you will be notified of this during the miro software installation.

Installing Video for Windows

Windows
3.1/3.11

To install Video for Windows, proceed as follows:

1. If you have not done so already, start Windows.
2. Insert the *Video for Windows Runtime disk # 1.1e*.
3. In the *Program Manager* open the *File* menu and select the *Run...* command.
4. Depending on your disk drive, enter **a:setup<↵>** or **b:setup<↵>**.
5. Follow the instructions on the screen.

After having installed Video for Windows, you can use the new Media Player for playing digital video sequences.

^{*} This installation describes the software installation from floppy disk. For detailed instructions on how to install the software from CD-ROM, refer to the chapter "Software installation (CD-ROM)".

SOFTWARE INSTALLATION (CD-ROM)

miroSETUP-Manager

To install the miro drivers and applications from CD-ROM under Windows 3.1x and Windows 95, you need the miroSETUP-Manager which is contained on the CD-ROM.

If other installation programs are started during the installation, the miroSETUP-Manager is minimized. To maximize the miroSETUP-Manager again, double-click the icon. After the installation is completed, restart Windows.

To start the miroSETUP-Manager, proceed as follows:

1. If you have not done so already, start Windows.
2. Insert the miro-CD-ROM in the CD-ROM drive.

- Windows 3.1x**
3. In the Program Manager select the *File* menu and the *Run...* command.
 4. Depending on your CD-ROM drive enter:
d:\miro_win<↵>
where **d:** is the drive letter for your CD-ROM drive.

- Windows 95**
3. In the *Dektop* select the *Start* menu and the *Run...* command.
 4. Depending on your CD-ROM drive enter:
d:\miro_win<↵>
where **d:** is the drive letter for your CD-ROM drive.

- Windows 3.1x / Windows 95**
5. Click *OK.*, to proceed with the installation.
Then you are in the *Language Seleccion* menu with the default setting *English*. By clicking *Information* you get information about the miroSETUP-Manager and its modules.
 6. Click on *Install*. You are then in the *miroSETUP-Manager Module Selection*.
You have the possibility to install the miro drivers and programs and to View and print the documentation.

- Exit/ Back**
- The *Exit* button closes the miroSETUP-Manager, with the *Back* button you go to the previous window.

miro drivers and applications

In the *miroSETUP-Manager Module Selection* select *Drivers and Applications*.

Then you are in the *miroSETUP-Manager Drivers and Applications* menu. Here you can select which drivers and/or programs you want to install.

Information...	The <i>Information...</i> button gives you the required information on the installation of the driver/application you selected.
Install...	The <i>Install...</i> button starts with the installation of the selected driver/application.
Diskette(s)...	The <i>Diskette(s)...</i> button allows you to create installation diskettes. You have to do this, if you want to install the miro-CAD drivers.
Exit/ Back	The <i>Exit</i> button closes the miroSETUP-Manager, with the <i>Back</i> button you go to the previous window.



To install the software correctly, **Windows** has to be configured for **VGA**.

miro drivers for Windows 95

If you want to install miro drivers for Windows 95,

1. enable this menu item and click *Install...* . The miro installation program is started automatically. Follow the instructions of the installation program.

During the installation of the miro drivers the miroWINTOOLS have been copied to the hard disk and the miroWINTOOLS Program Group has been created. The miroWINTOOLS are provided with a detailed online help.

miro drivers for Windows 3.1x

Before installing the miro drivers for Windows 3.x, Video for Windows has to be installed!

If you want to install miro drivers for Windows 3.1x,

1. enable this menu item and click *Install...* . The miro installation program is started automatically. Follow the instructions of the installation program.

During the installation of the miro drivers the miroWINTOOLS have been copied to the hard disk and the miroWINTOOLS Program Group has been created. The miroWINTOOLS are provided with a detailed online help.

miroVIDEO-Tools

If you want to install the miroVIDEO-Tools,

1. enable this menu item and click *Install...* . The miro installation program is started automatically. Follow the instructions of the installation program.

The miroVIDEO-Tools are copied to your hard disk and the miroVIDEO-Tools Program Group is created. The miroVIDEO-Tools have a detailed online help.

Video for Windows Runtime

If you want to install Video for Windows Runtime (necessary only for **Windows 3.1x**),

1. enable this menu item and click *Install...* . The Video for Windows installation program is started automatically. Follow the instructions of the installation program.

Video for Windows will be copied to the hard disk and a Video for Windows Program Group will be created.

miro drivers for CAD (Windows)

To install the miro drivers for CAD (Windows),

1. Enable the corresponding menu item and click *Install...* . The miro installation program is started. Follow the directions given by the installation program.

miro drivers for CAD (DOS)

To install the miro drivers for CAD (DOS), you need a formatted 3.5" diskette.

1. Enable *miro drivers for CAD* menu item.
2. Click the *Diskette(s)...* button, to create a 3,5" installation diskette.
3. Close the miroSETUP-Manager and quit Windows: the miro-CAD-drivers are always installed from the DOS level.
4. Insert this diskette into a disk drive.
5. Depending on your disk drive, enter **a:\install<↵>** or **b:\install<↵>**.
6. Follow the instructions of the installation program.



Please note: you have to configure the miro CAD drivers after the software has been installed!

Documentation

Use this menu item to install the Adobe Acrobat Reader which allows you to View and print the complete documentation.

If you clicked *Documentation* in the miroSETUP-Manager Module Selection window, the Adobe Acrobat Reader installation program starts.

1. To install Acrobat Reader, follow the instructions of the installation program.

After restarting the computer the Acrobat Reader Program Group is available which includes an icon for the detailed documentation in addition to the program icon.

2. Double-click the icon to open the documentation.

Printing To print a file, select the *File* menu and the *Print...* command.

Another language If you want to View/print the documentation in another language, select the *File* menu and the *Open...* command. You recognize the languages by the letters *_e* (English); *_d* (German), *_f* (French). You find all files in the \MANUAL directory.

Further module If you want to install further modules in addition to the Acrobat Reader, restart the miroSETUP-Manager.

miro drivers for OS/2 and Windows NT

The CD-ROM also contains OS/2 and Windows NT* drivers. You cannot install these drivers using the miroSETUP-Manager.

miro drivers for OS/2

To install the miro drivers for OS/2, create an installation diskette under Windows or install the miro driver directly from CD-ROM.

To install the miro drivers,

1. from the operating system level, enter the command
**d:\disksets\os2\miroinst.cmd d:\disksets\os2\
c:<↵>**,
where **d:** is the drive letter of your CD-ROM drive and **c:** the drive letter of your OS/2 hard disk.

For detailed information on the installation and the configuration, refer to the README.ENG file on the CD-ROM in the OS2 directory.

miro drivers for Windows NT 3.5x

To install the miro drivers for Windows NT 3.5x*,

1. start the *Control Panel* from the *Main* group and double-click the *Display Tool* icon.
2. In the *Display Settings* window, click on *Change Display Type*.
3. Click *Change...*
4. Windows NT 3.5x shows you an overview of all installed drivers. Select *Other*.
5. You are requested to insert a diskette. To install the drive from CD-ROM overwrite the default with **d:\disksets\win_nt**
where **d:** is the drive letter of your CD-ROM drive.
6. Follow the instructions Windows NT gives you.

For detailed information on the installation and the configuration, refer to the README.TXT file on the CD-ROM in the WIN_NT directory.

* The driver may be not available at the time.

SOFTWARE INSTALLATION (DISK)

Overview

After having installed the miro graphics board in your computer, you can install the miro drivers for Windows and CAD and select your monitor.



Before beginning with the installation, make backup copies of the supplied installation disk(s) using the DOS **DISKCOPY** command. Keep the original disks in a safe place and only use the copies.

miro drivers and miro tools

General

Windows drivers

The miro Windows drivers (drivers for Windows 3.1x / Windows 95) were especially developed for Windows users. Together with the miro graphics boards the drivers allow to fully utilize this graphical user interface and the applications based on it.

miroWINTOOLS

The miro•win disks also include the miroWINTOOLS which can be copied to the hard disk during the installation. For a short description of the miroWINTOOLS, refer to the corresponding chapters in this manual.

miroVIDEO-Tools

You find the miroVIDEO-Tools on the corresponding disk. The installation is easy. For an overview refer to the chapter «miro tools».

Result of the installation

The required files will be copied to your hard disk into the Windows directory and, if possible, to the Windows system directory. The miro tools will be located in the miroWINTOOLS Program Group and in the miroVIDEO-Tools Program Group.

- ♦ If you only install the Windows drivers, only miroMONITOR SELECT, miroSUPERSCREEN, miroPINBOARD and miroTINT CONTROL will be located in the miroWINTOOLS Program Group.

Installing Windows drivers for Windows 3.1x

To install the Windows drivers and the miroWINTOOLS, proceed as follows:

1. Start Windows.
2. Insert the *miro•win High speed drivers for Windows # 1/1* diskette into the diskette drive.
3. In the Program Manager select the *File* menu and the *Run...* command.
4. Depending on your diskette drive enter:
a:install or **b:install** and click *OK*.
5. After starting the installation program the *Language Selection* menu appears in English (default setting).
6. Select the items you want to install.
7. Click *Install* to go on with the installation.

8. Follow the instructions on the screen.

After having completed the miro Windows drivers installation the miroMONITOR SELECT tool is started.

miroMONITOR SELECT

miroMONITOR SELECT allows to select your monitor.

Hardware:

Under *Hardware* you see the installed graphics board.

Monitor:

miroMEDIA View supports VESA Display Data Channel (DDC). If your monitor also supports the DDC specification, data can be transferred between monitor and graphics board.

If your monitor supports DDC, you will find your monitor in the *Monitor* list box during a first-time installation.

If this is not the case or if there is a wrong entry in the *Monitor* list box, proceed as follows:

1. Open the *Monitor* list box and select your monitor.
2. If your monitor is not named in the list, select the monitor with the next lower horizontal frequency.



An incorrect selection can seriously damage your monitor. If you are in doubt, refer to your monitor documentation.

miroPOWERSAVE:

miroMEDIA View supports VESA DPMS Power Management. A monitor which also supports Power Management reduces its power consumption when it is not being used until it switches itself off.

- Activate the *miroPOWERSAVE* check box, if your monitor supports this tool.



Only use *miroPOWERSAVE*, if your monitor has a power saving function complying with the VESA specification!

A detailed online help gives you more information on *miroPOWERSAVE*.

Auto detect:

If you click this button and if your monitor supports the VESA DDC standard, miroMEDIA View tries to detect the monitor connected to the board. A message will appear informing you whether a monitor could be detected or not.

Monitor information:

If you click this button, you get a list with all resolutions and frequencies available.

- Click *OK*, to accept the settings.

The miroSUPERSCREEN tool starts automatically.

miroSUPERSCREEN

A detailed online help gives you detailed information on **all** miroSUPERSCREEN functions.

1. Specify the resolution, the number of colors, and the font size.
2. After you specified all settings, click *OK* to quit miroSUPERSCREEN and restart Windows.

Installing miro drivers for Windows 95

Before installing the miroMEDIA View graphics board under Windows 95, first read the README files on the miro•win disk included in the miroMEDIA View package.



To install the miro drivers for Windows 95, proceed as follows:

1. If you have not done so already, start your computer.
2. Insert the miro installation disk into the disk drive.
3. Select the *Run...* command in the *Start* menu.
4. Depending on the disk drive you use, enter **a:\install** or **b:\install** and click *OK*.
the miro•win installation window appears.
The miro drivers and miroWINTOOLS are copied. A message requests you to change the configuration in the *Settings* tab.
The Display Properties and the Settings tab appears.
5. Click the *Change Display Type...* button.
6. In the *Change display type* tab you can select your graphics board and the connected monitor.
7. To select the graphics board, click the *Change...* button.
8. From the driver list, select the corresponding driver—depending on your installed miroMEDIA board—and click *OK*.
9. If necessary, change also the monitor.
1. Click the *OK* button, to confirm the configuration.

For the new settings to take effect, restart the computer.

After the restart, you can change the resolution and the number of colors in the Control Panel. For more information, refer to your Windows 95 documentation.

miroVIDEO-XL

During the miro software installation the miroVIDEO-XL CoDec driver has been copied to the Windows system directory (default C:\WINDOWS\SYSTEM). miroVIDEO-XL compresses and decompresses digital video.

Optimal playback An optimal playback with miroVIDEO-XL is accomplished with video sequences that have been digitized miro boards, e. g. miroVIDEO D1, miroVIDEO 10/20TD live or miroMAGIC 40PV video and that have been saved in the miroVIDEO-XL format.

Installing CAD drivers

The miro•win High Speed Drivers for CAD diskette includes the following drivers:*

Application	miro Driver
AutoCAD 11/DOS	miroGTI 12
AutoCAD 12/DOS	miroGTI 12
AutoCAD 13/DOS	miroGTI 12
AutoCAD 13/Windows	miroGTI 13 Win
AutoCAD 12/Windows	miroGTI 12 Win
AutoCAD 9-10	miroADI
Microstation PC	Microstation driver

The CAD drivers for DOS are installed from the DOS level, the CAD drivers for Windows are installed under windows and from floppy disk.

Windows 3.1x

To install the CAD drivers under Windows, proceed as follows:

1. Start Windows.
2. Insert the *miro•win High-speed drivers for CAD Install disk for Windows* diskette into the diskette drive.
3. In the Program Manager select the *File* menu and the *Run...* command.
4. Depending on your diskette drive enter:
a:install or **b:install** and click *OK*.
5. After starting the installation program the *Language Selection* menu appears in English (default setting).
6. Select the items you want to install.
7. Click *Install...*, to go on with the installation.
8. Follow the instructions of the installation program.

MS-DOS

To install the miro drivers from the DOS level, proceed as follows:

1. Insert *miro•win High speed drivers for CAD Installation disk for DOS # 1/1* diskette in the disk drive.
2. Depending on your disk drive enter:
a:install<↵> or
b:install<↵>

After starting the installation program the *Language Selection* menu appears in English (default setting). Accept the default setting with the enter key or overwrite it. Now, you are in the Main Menu.

The installation program is operated via the keyboard. The bottom line shows the keys to operate the installation program.

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

To mark a menu item, move the cursor bar to the menu item using the arrow keys and press the space key. To perform the action, press <↵>. Presettings (YES/NO) can be changed using the space key.

<↵>/<ESC> Press <↵> to proceed in the installation program, press <ESC> to end the program.

1. Select the miro graphics board for which you want to install the CAD drivers.



Make sure to select the correct board.

2. By clicking the enter key you go to the “Driver Selection” menu.
3. Select the desired drivers for your applications (e.g. AutoCAD 9 - 10); change the presettings from *NO* to *YES* using the space key.

The *only system software* option installs the system files for your miro graphics board.

The *only uninstall all software* option deletes all files copied to the hard disk during a previous installation.



Do not forget to set the presettings of the desired miro drivers from *NO* to *YES*. To install the desired drivers, press the enter key after you have changed the presettings of all selected drivers.

4. Accept or overwrite the default settings for the drive and directory.

By default, the system software is copied to the system directory of your miro graphics board, the miro application drivers are copied to the drive of the applications.

The installation program modifies the AUTOEXEC.BAT file. The original version is saved under AUTOEXEC.BAK.

After installing the system software and the drivers, miroMONITOR SELECT is started.

miroMONITOR SELECT

The miroMONITOR SELECT tool allows to select your monitor.

Operate miroMONITOR SELECT using the mouse or the keyboard. If no mouse is installed for DOS, consult the following table.

Selecting elements/list boxes/buttons:

<Alt>+<Letter>	Selects a list box/a command.
<Tab>	Selects the next list box/element/control button.
<Shift>+<Tab>	Selects the previous list box/element/control button.
<Alt>+<Arrow up>	Opens a list box.
<Alt>+<Arrow down>	Closes a list box.
<Alt>+<Space>	Activates the system control menu.

Selecting in list boxes:

<Arrow up/down>	Selects next/previous entry .
<Enter>	Accepts an entry.

Selecting/activating/deactivating control buttons:

<Arrow up/down>	Selects control buttons one after the other.
<Arrow left/right>	
<Space>	Activates/deactivates an element.

Performing actions:

<Enter>	Performs an action.
<Esc>	Aborts an action.
<Alt>+<F4>	Quits miroMONITOR SELECT.

1. Check, if you have selected the correct board in the installation program.
If this is not the case, start the installation program again.
2. Open the *Monitor type* list box and select your monitor. If your monitor is not in the list, select the monitor with the next smaller horizontal scan frequency.



An incorrect selection can seriously damage your monitor. If you are in doubt, refer to your monitor documentation.

The *Info* button gives you a list of all resolutions and frequencies.

3. Accept the settings by clicking **OK**, to end the installation of the miro graphics board.

After quitting miroMONITOR SELECT, an information screen appears. The information is the same as the README file which has been copied to the system directory of your miro graphics board. The file can always be called from this directory by entering **readme** <↵>.

Configuring the drivers

After having installed the miro drivers, these have to be configured.

Detailed information on the configuration and a detailed description of the functions are contained in this manual. Proceed as follows:

- ♦ If you have installed miroGTI 12 or miroGTI 12 Win/miroGTI 13 Win refer to the “miroGTI 12” chapter or “miroGTI 12/13 Win” chapter for the driver configuration.
- ♦ To configure miroADI, read the “miroADI” chapter.
- ♦ If you installed the miroMicrostation PC driver, the configuration is described in the “MicroStation PC” chapter.



Using miroMEDIA View

Depending on the various standardization committees, the available network frequencies, various transmission procedures and services (Teletext) have been developed in various nations. For this reason the miroMEDIA TV function varies from one nation to another. The following table shows the national versions:

National Function Sets	
D, A, CH, DK, NL	PAL B/G tuner, stereo, teletext
UK	PAL I tuner, mono, teletext
F	SECAM tuner, mono
US	NTSC tuner, mono

PLAYING BACK MPEG AND AVI FILES



Please read the file MEDTIP_E.HLP, which contains tips and advice on playing back videos, first. This file is located in the miro WINTOOLS program group / folder under the name miro-MEDIA-Tips.

The miro-MEDIA-Tips pop up automatically at every Windows start. If you no longer want the video tips to start automatically, remove them from the Startup group.

The graphics board package also includes the miroMEDIA MANAGER. This graphic user interface lets you control the multimedia hardware in your computer intuitively.

See the miroMEDIA MANAGER User's Guide for a detailed description of how to use this user interface.



miroMEDIA Remote

With the miroMEDIA Remote, miro offers an ergonomically shaped infrared Remote control for controlling miro's *miroMEDIA-Manager user interface*. The clearly arranged, color-coded keys make all the connected devices easier to control.



With Windows 95, the Remote control can be used to navigate the desktop as an extension of the mouse.

Delivery Package

The miroMEDIA Remote package includes:

- ♦ Infrared Remote control,
- ♦ Infrared receiver (for connecting to the serial port of the computer).

Connecting the miroMEDIA Remote

Connect the receiver for the miro Remote control to the serial interface (RS232 interface) of your computer. To do this, proceed as follows:

1. Switch off your computer and all peripherals.
2. Remove the mouse from the serial interface.
3. Connect the T to the serial interface to which your mouse was connected.
4. Connect the mouse to the vacant connector on the T.
5. Fasten the infrared receiver in a suitable place (e.g., computer case or monitor).
6. Insert the batteries in the Remote control unit.

This concludes the hardware installation; you can switch on your computer system again.



Light sources with a strong infrared component, e.g., compact electronic fluorescent lamps, may interfere with reception. In this case, fasten the infrared receiver in a place that is not exposed to direct illumination (e.g., underneath the monitor case, underneath the desk).

Installing the miroMEDIA Remote drivers

Windows 3.1x

Under Windows 3.1x, the drivers for miroMEDIA Remote must be copied to the hard drive.

To start the installation program from floppy disk, proceed as follows:

1. Start Windows.
2. Insert the appropriate floppy disk in the disk drive.

Installing Drivers from Disk

3. In the Program Manager, choose the menu item *File* and the *Run...* command .
4. Please enter: **a:install** or **b:install** as appropriate for your drive and click on OK.
5. Follow the directions given by the installation program.

Once installation is complete, the drivers will be loaded automatically at every system start.

Installing Drivers from the CD

To start the installation program from the CD, proceed as follows:

1. In the miroSETUP Manager, choose the item install *miroMEDIA Remote*. This will start the installation procedure.

2. Follow the instructions given by the installation program.

For a detailed description of the miroSETUP Manager, see the Chapter “Software Installation (CD-ROM)”.

Windows 95

Installing Drivers

In Windows 95, the miroMEDIA Remote must be set up as a new hardware component with the help of the hardware assistant.

To do this, proceed as follows:

1. Double-click *My Computer*.
 2. Double-click *Control Panel*.
 3. Click on Hardware *Hardware*.
 4. Click on *Continue*.
 5. Answer the question whether Windows 95 should search for new hardware with *No*. Click on *Continue*.
 6. Under Hardware Types, choose *mouse*. Click on *Continue*.
 7. Click *Have Disk...* to specify the drive from which you want to install the miro drivers: the default drive is a:\. If the drivers are on a different drive, use *Browse* to switch to this drive and the appropriate directory.
- Installing drivers from the CD:*
The driver is located in the \DISKSETS\REMOTE directory.
8. Click on *OK*.
 9. In the *Models* window, select *miroMEDIA Remote*.

Now the files will be copied to the system directory. Now the files will be copied to the system directory.

Finally, use the miroMEDIA Manager to insert miroMEDIA Remote as a new hardware component.

For detailed information, see the miroMEDIA Manager User's Guide.

Key Layout

When the Media Manager is activated, the Remote control buttons have the following functions for the respectively activated device:



This button lets you collapse the control items for the devices connected.



This button mutes the sound during playback. Press it again to switch the sound on again.



Use the +/- buttons to adjust the volume.
“-” reduces the volume, “+” increases the volume.



Use these buttons to jump, depending on the active device, to the next or the previous position.

- ♦ Television: Change to next/previous channel,
- ♦ Radio: Change to next/previous station,
- ♦ CD-ROM: Change to next/previous video clip/track/photo image



The four directional arrow keys work as follows:

- ♦ *Right arrow/Left arrow:*
Press these keys to switch back and forth between individual elements of the miroMEDIA MANAGER tool bar. In the selection window of an *Actor*, for example, you can choose stations for the television function or select tracks for the CD function.
- ♦ *Up/Down arrow keys:*
Use these at the level of simple actors to set parameters such as volume, brightness, or contrast.

OK The OK key functions just like the left mouse button in every regard (move, double-click, etc.).

Windows 95 only:

If the Media Manager is inactive, the Remote control assumes the functions of a mouse and the keys of the Remote control function as follows:

The VOL +/- keys, the PROG -keys, the mute key and the close key correspond to the right mouse button, while the directional arrow keys correspond to the direction of movement of the mouse, and the OK key corresponds to the left mouse button.



miroGTI 12

Overview

miroGTI 12 is a display and rendering driver which stores the picture sent by AutoCAD in a displaylist. miroGTI 12 is compatible with the Autodesk Device Interface (ADI) 4.2 including the Advanced Modeling Extension (AME) and the Advanced Visualization Extension Render (AVE). miroGTI 12 supports AutoCAD 11/12/13.

A variety of enhanced features contributes to even more user-friendliness:

- ♦ 32-bit support in the displaylist^{**},
- ♦ menu-driven driver configuration^{**},
- ♦ Color Manipulation Tool^{*},
- ♦ font selection, hotkey configuration, miroTEXTSCREEN (configurable)^{**},
- ♦ screensaver,
- ♦ miroSPOTVIEW (magnifying glass),
- ♦ FASTZOOM,
- ♦ possibility to set the display and rendering resolution^{*}.

Configuring AutoCAD for miroGTI 12

Before using miroGTI 12 with your AutoCAD program, you have to reconfigure AutoCAD in a way that the application uses the driver.

1. Start AutoCAD with the **-r** parameter (only for the initial configuration).
2. In the configuration menu select the item for the video configuration.
3. In the video configuration menu select the miroGTI 12 driver.
4. Answer AutoCAD's default questions concerning the driver configuration.

If you want to configure your digitizing tablet under AutoCAD, turn off the *Zoom* and the *Pan* menu.

After the configuration the AutoCAD screen menu appears. The menu is complemented by some additional miroGTI 12 functions. Among others the miroGTI 12 main menu can be called up there (not for AutoCAD 11) giving you access to all driver features. miroGTI 12, installed with a default configuration, can be configured individually to your liking. AutoCAD 11 is configured after the video configuration in the miroGTI 12 dialog.

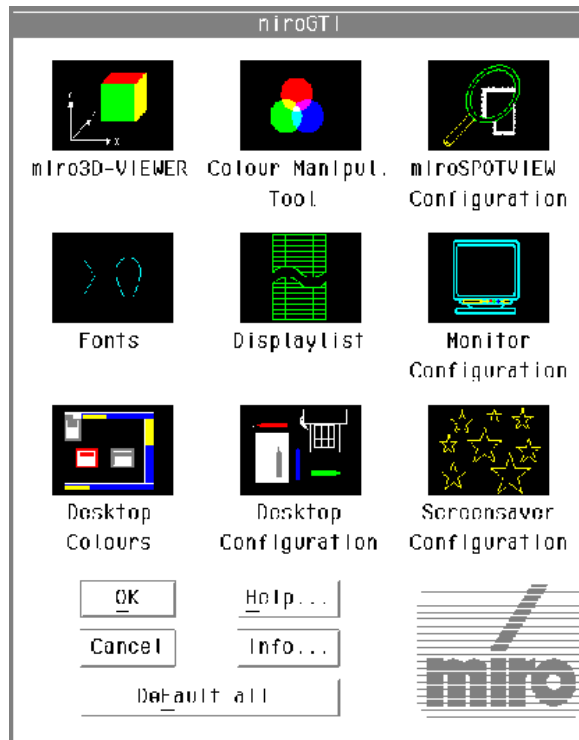
^{*} available as an option, ^{**} not available for AutoCAD 11

miroGTI 12 main menu

Calling the main menu

You can call the driver's main menu in different ways:

- ♦ by clicking *miroGTI* in the AutoCAD/miroGTI 12 screen menu,
- ♦ by simultaneously pressing the <CTRL> and <L> keys,
- ♦ by typing the commands **ami_gti**, **ami_local** or **ami_menu**.



The miroGTI 12 main menu allows to

- ♦ call the miro tool miro3D-VIEWER (see “miro3D-VIEWER”),
- ♦ call the Color Manipulation Tool (see “Color Manipulation Tool”),
- ♦ configure the driver as you desire (see “Additional configuration”).

The miroGTI 12 is configured with the help of dialog boxes. Concerning the design and functionality these boxes correspond to the AutoCAD dialog boxes. Each dialog box offers a context-sensitive help feature, displaying the information you need on the screen.

The settings done in the miroGTI 12 main menu take effect without system restart.

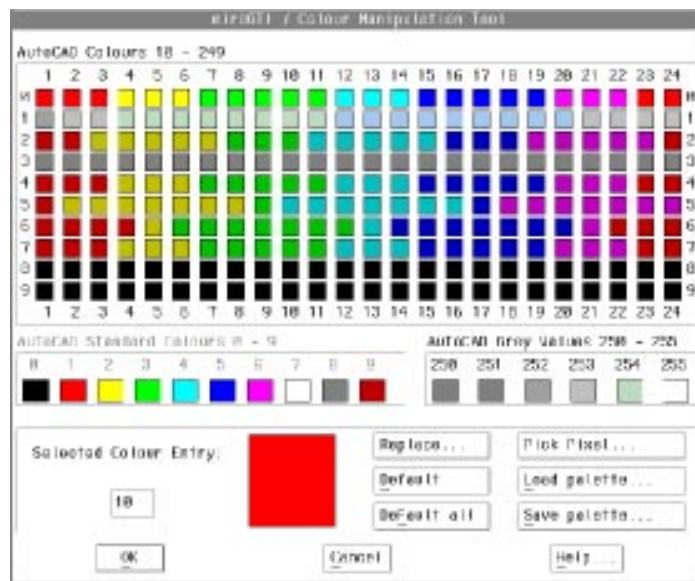
miro3D-VIEWER

Here the miro3D-VIEWER is called (only if the miro•cad package has been installed). The miro3D-VIEWER is described in detail in the miro•cad Software Manual.

Color Manipulation Tool

The *Color Manipulation Tool* lets you mix up to 246 colors (256 minus 10 AutoCAD colors) out of a palette of 16.7 mill. to your liking. The new colors can be saved in a file. That can be very helpful if you want the colors of a rendered graphics to be displayed as true to the original as possible.

Having called the tool by clicking the icon in the miroGTI 12 main menu a matrix with the colors to be changed appears.



Color palette If you are working with the *Color Manipulation Tool* for the first time, the color palette contains the AutoCAD default colors, each of which is provided with an index (from 0 to 255). You may change the mixture of each color index.

Defining a new color palette The AutoCAD colors 0 to 9 are fixed colors and cannot be changed therefore; the rest may be replaced by different ones.

Changing the color You can select the color you want to replace by clicking the suitable color square in the matrix or by directly entering the color index in the text field *Selected Color Entry*. In the bottom part of the main menu you will see the selected color in a window.

The *Color* button in the *Replace* dialog box offers the possibility to roughly adjust the color. Then, you can finely adjust the color by blending the new color using a palette of 16.7 million colors. The fine adjustment is based on either of two color models:

1. the RGB color model (**R**ed, **G**reen, **B**lue)
2. the HLS color model (**H**ue, **L**ightness, **S**aturation)

RGB color model You can modify the portions of the primary colors Red (**R**), Green (**G**) and Blue (**B**) using the scroll bars. With the *color window* you can check the effect on the color.

HLS color model The HLS color system is based on the model of a double cone. On the surface of the cone there are all displayable colors (**H**ue) with a Saturation (**S**) of 100 %. When you move towards the axis of the cone the color portion decreases until there is only a gray shade left. If the height within the cone is modified, also the lightness (**L**) of the color changes.

Using the hue scroll bar (**H**) you move around the circle of the cone defined by the saturation (**S**) and move through the whole color spectrum. The color you start with (0°) is identical with the color you end up with (360°). The primary colors are located at the following angles:

red = 0°, yellow = 60°, green = 120°, cyan = 180°, blue = 240°, magenta = 300°.

Using the scroll bar for lightness (L) you move linearly from the lowest lightness portion (0) – that is the color black – to the highest brightness portion (1.0) that is the color white.

Using the scroll bar for saturation (S) you move linearly from the lowest color saturation (0) to the highest color saturation (1.0).

Pick pixel

This option makes an electronic pipette available that allows you to determine the color of an object. The color appears in the window to the right of the text panel *Selected color*. Now you can edit the color as explained in *Editing a Color*.

Do this:

1. Open the miroGTI 12 main menu and click the *Color Manipulation Tool* icon.
2. Choose the command *Pick pixel ...*.

Now you have returned to the Drawing Editor; the cursor has the shape of a small square.

3. Move the cursor to the color you want to pick and press the left key button once.

Then, you go back to the *Color Manipulation Tool*. The color you chose appears in the preview box.

With objects such as lines that are only a few pixels wide you might have to try more than once to pick the color you want. Try a FASTZOOM first, then pick the color.

4. Change the color as explained under “Changing the color”.



Any color changes you make will affect all areas of a drawing for which you selected that color. Do not change the standard palette. Instead, save changes as a new palette under *Save Palette*.

Creating a new CLUT file

You can save the modified colors in a separate color table in a CLUT file using *Save Palette* and load them at any time using the *Load Palette* dialog box.

Additional configuration

The miroGTI 12 main menu allows you to configure the driver after your liking.

miroSPOTVIEW configuration

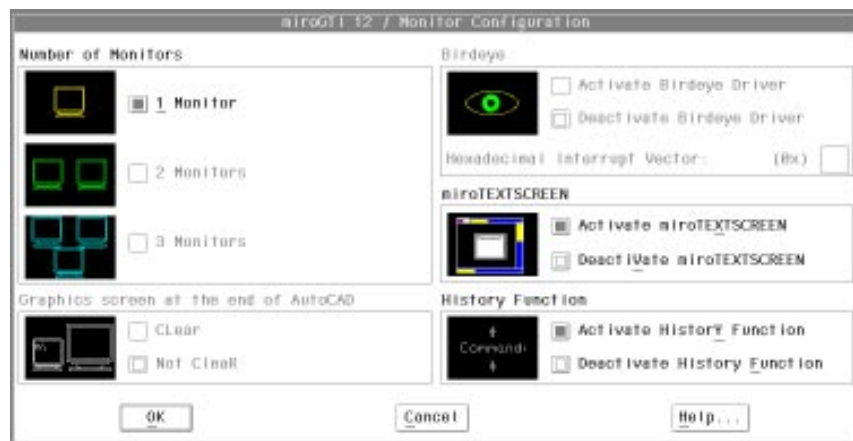
This option allows you to change the size, position and the zoom factor of miroSPOTVIEW in a dialog box. After starting AutoCAD, the position of miroSPOTVIEW is set by using the sliders for the x- and the y-coordinates. Alternatively, you can enter the x- and the y-coordinate in the respective text box. The miroSPOTVIEW size is determined by using the size slider or entering a value in the *Size* text box. The zoom factor is specified by using the respective slider or by entering the value in the *Factor* text box. The zoom factor is independent of the size of the miroSPOTVIEW window and can be set to values between 1 and 100.

Fonts Selecting this option lets you choose a different screen font for the text on the entire AutoCAD screen. A list of available screen fonts is displayed. The number in the text box *Codepage* specifies the codepage which AutoCAD currently uses.

A codepage is a defined alphanumeric character set. Under MS DOS a codepage is used for installing country-specific character sets. The name of the current and the new font is shown in the dialog box as well. During the installation the available fonts have been copied to the directory with the system files. Using the miro font compiler makes it possible to choose Windows TrueType fonts and create the corresponding fonts for your graphics board.

Displaylist The displaylist functions of miroGTI 12 can be enabled or disabled. If you have deactivated the displaylist functions, the driver behaves like a normal ADI driver.

Monitor configuration After having selected this icon the following dialog box appears:



Not all miro graphics boards can utilize the complete range of miroGTI 12 functions. The functions which are not supported are dimmed and cannot be selected.

miroTEXTSCREEN (only for single-screen configuration or dual-screen configuration with enabled Birdeye)

Activates/deactivates *miroTEXTSCREEN*. When activating *miroTEXTSCREEN* command outputs appear on the *miroTEXTSCREEN* which usually appear on the AutoCAD textscreen. The *miroTEXTSCREEN* window can be moved on the screen. If the window contains more than 25 lines the window contents can be scrolled. By pressing any key, you go to the last line.

The DOS text does not appear on the *miroTEXTSCREEN* but on the AutoCAD screen.

History Function

Activates/deactivates the history function. The history function records all commands that have been entered.

When the function is activated you can scroll ten lines upwards/downwards and search for certain commands. The commands found can then be carried out. The hotkeys for these commands can be selected in the *Desktop*

Configuration dialog box (select *Desktop Configuration* in the miroGTI 12 main menu and select *Hotkey Configuration* under *Hotkey*).

Examples You want to find all commands beginning with **re**.

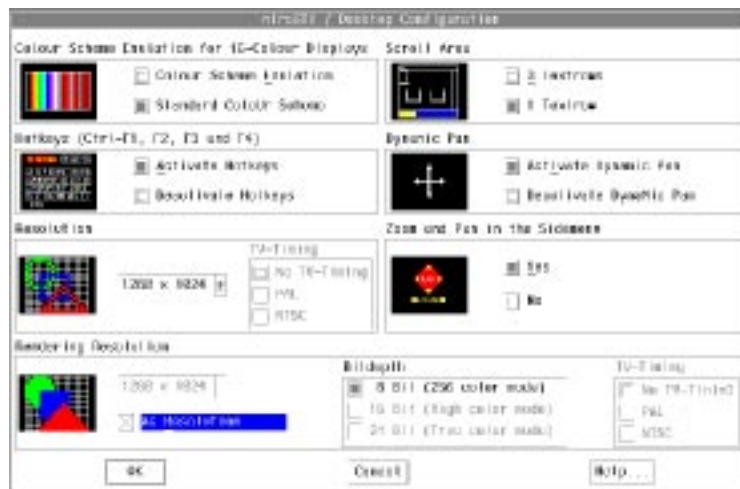
1. Enter **re**.
2. Press <CTRL> and the left arrow key (or the hotkey) to find all commands entered beginning with **re**.
3. If you look for commands after a found command, press the <CTRL> and the right arrow key (or the hotkey).
4. If you want to carry out a command you found, press <CTRL> and <END>, if you want to delete it press <CTRL> and (or the hotkeys).

Desktop colors

This item allows you to choose colors for the AutoCAD screen area (graphics area, alert box, menu bar, cursor etc.) after your liking. The configurable screen elements which can take on a different color are shown in a graph.

Desktop configuration

This dialog box allows to configure your AutoCAD screen, for example the color scheme emulation, use of the hotkeys, resolution, etc. miroGTI 12 allows you to make these changes without having to leave AutoCAD or the drawing editor.



Color Scheme Emulation for 16-Colour Displays

Selecting *Color Scheme Emulation* lets the colors from 0 to 15 look the same way as with a 16-colors driver.

Scroll Area

This option lets you extend the scrolling area to 3 lines (normally 1 line).

Hotkeys

Here you can activate/deactivate the hotkeys for the miroGTI 12 functions. Click the *Hotkey Configuration* button to go to the dialog box which configures the hotkeys.

The *Hotkey Configuration* dialog box lets you configure the hotkeys for miroSPOTVIEW, Zoom-/Zoom+, Fastzoom and the History Function (*Line up/down, 10 Lines up/down, History up/down, Delete command/Send command*).

To select a hotkey, proceed as follows:

1. Select the function you want to choose a hotkey for e.g. miroSPOTVIEW.
2. Click on *Assign Hotkey*.
3. Select the desired keys. First select *Normal, Shift, Ctrl* or *Alt* and then select the desired key from the list box.

Default lets you select the default hotkey for a special function. *Default all* selects the default hotkeys for all functions. Some key combinations are not available because AutoCAD already uses them.

Dynamic Pan

If you want to use the real-time pan function (Dynamic Pan) of miroQUICKVIEW you have to activate the function here.

Resolution

Use this option to change the resolution, if you do not want to use the default.

Zoom und Pan in the Sidemenu

If you want to use applications which take up much space in the AutoCAD screen menu, you can turn off the zoom and pan menu here.

Rendering Resolution

With the miroGTI 12 you can select an individual rendering resolution. In the *Desktop Configuration* the listbox shows the current rendering resolution. If there are multiple entries you can select the resolution you want or enter one via the keyboard.



You can only do this if the *As Resolution* switch is Off.

Activate the switch *As Resolution* if you want to accept the listed resolution and if your graphics system supports this resolution. If you want to use another resolution, deactivate the check box. You can also use the 640 x 480 and the 768 x 576 resolutions in the PAL TV timing. For the 768 x 576 resolution also the NTSC timing is available for some graphics boards.

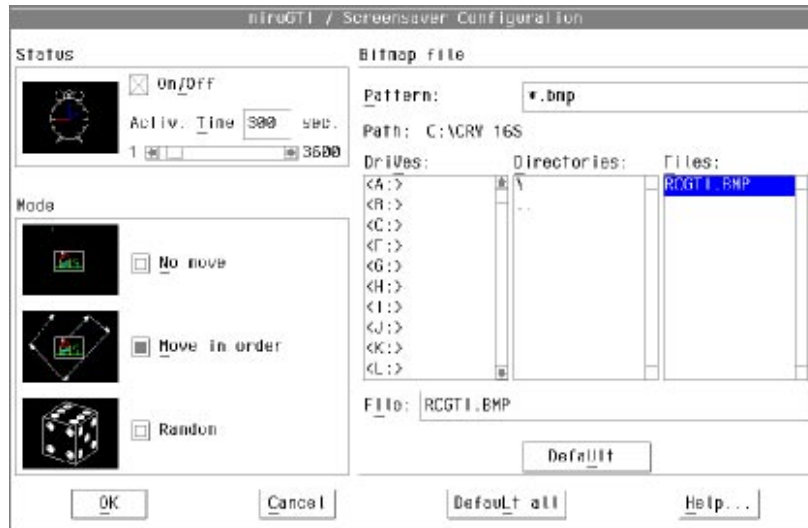
The *Bit depth* buttons for 8, 16 and 24 bits, allow you to set the bit depth of the current rendering resolution, provided the switches are enabled.

If the *As Resolution* check box is enabled, this button is switched off at bit depths higher than 8 bits and the *Rendering Resolution* listbox is enabled.

Screensaver configuration

In the dialog box you can select the following options:

- ♦ Length of pause until Screensaver is activated,
- ♦ Operating mode: *No move, Move in order* and *Random*,
- ♦ Selection of a Bitmap in the Windows .BMP format.



The screensaver is only active when the display list is set to *ON* in the *Configuration* menu.

The *Default* button selects the RCGTI.BMP default bitmap. *Default all* sets the screensaver to its default configuration (Status: ON/Activ. Time: 300 sec./Mode: Move/ RCGTI.BMP).

The *Default all* button resets the values to the defaults.

These are:

Displaylist:	activated
Number of monitors:	one
Birdeye:	deactivated
Color scheme emulation:	deactivated
Scroll area:	one line
Zoom and Pan in side menu:	activated
Hotkeys:	activated (default configuration)
Dynamic Pan:	deactivated
Rendering Resolution:	<i>As Resolution</i>

Default configuration



In case you want to replace miroGTI 12 by a newer driver version, this has to be configured again.

Using miroGTI 12

Overview

The miroGTI 12 driver offers additional functions increasing the efficiency when working with AutoCAD:

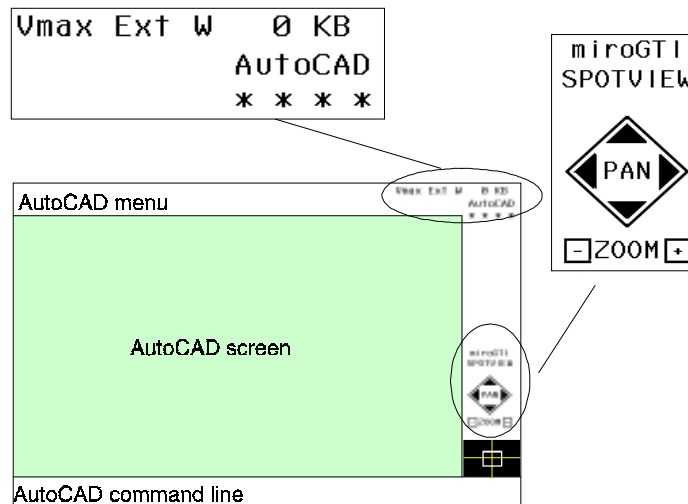
- ♦ miroSPOTVIEW is a function which enlarges the area where the cursor is located in a split second and avoids having to perform a time-consuming zoom;
- ♦ FASTZOOM allows you to edit zoomed drawing details;
- ♦ miroQUICKVIEW: due to the implementation of two display buffers (Double Buffering) miroQUICKVIEW makes absolutely flicker-free zooming and panning possible.

In addition to the functions mentioned above, miroGTI 12 offers an accelerated delete mode. All deleted vectors are marked in the displaylist as deleted, the driver automatically searches through the displaylist looking for deleted vectors and decreases it in size. The memory which is now no longer

occupied is released. Thus, the displaylist remains relatively compact and occupies less memory. Deleted elements no longer flash during regens.

AutoCAD/miroGTI 12 screen menu

After you have started the program the AutoCAD screen you are used to will have some additional functions.



The menu items miroGTI 12 offers allow you to control the program and to check its status. In addition to the current color you can check the displaylist size as well as the size and position of the current detail on the screen.

Status check *Displaylist size indicator*

In the upper right-hand corner of the screen you see the *displaylist size indicator* which tells you how much amount of memory is occupied by the displaylist.

Display of the current detail

In the bottom part of the screen you will see either the miro logo or the size and position of the current detail. In this case a white frame states the greatest expansion of the current display list. A crosshair shows the middle, a white rectangle the size of the current viewport.

The miro logo is shown instead of the current detail if the displaylist ZOOM factor equals 1. The same holds true when you are dealing with a so-called non-zoomable viewport. This special marker is only assigned by AutoCAD 11/12, for example for presentations in perspective.



Function control

Vmax

The zoom command *Vmax* corresponds to the AutoCAD command **Zoom Vmax** (Zoom to Virtual Screen Maximum).

This command lets you zoom out as far as possible on the current viewport's virtual screen without regenerating your drawing completely.

Ext

The zoom command *Ext* corresponds to the AutoCAD command **Zoom Extents**. In opposition to the *Vmax* command which displays the whole drawing area even if only a small portion of it has any entities the command

Ext uses only the drawing extents and not the limits. In this way, the largest possible section including all entities can be displayed on the screen.

A 10-pixel-wide edge will remain between the drawing and the window frame.

The feature *miroQUICKVIEW* (Double-Buffering/ management of two display buffers) enables a **Zoom Extents** redraw in zero seconds without flicker. This redraw without any delay is possible if the image is stored in the second display buffer, that is the first zoom operation is carried out at a normal speed.

W

The zoom command *W* is analog to the AutoCAD command **Zoom Window**. You can specify the area you want to be displayed enlarged in a bird's eye window.

After activating the command, you will see a birdeye window in the upper right half of the screen (when entering the command as the text command **ami_zoomw** the bird's eye window appears where the cursor is). Move the cursor to the desired position on the drawing. Mark a corner point of the window by pressing the pick button; instead of the crosshair cursor you will now see a zoom box. The size of the zoom box is modified by moving out of the center of the box. Draw the zoom box so that it has the desired size and mark the second corner point by clicking the pick button again: you will see the zoom area in the specified size. You can abort the zoom function with the key combination <CTRL> and <L>.

In the Birdeye windows the four zoom details selected last are saved and marked with a white frame. If you want to activate a detail selected before again, click with the right mouse key into the corresponding white frame and this detail is shown.

You can also activate the **ami_zoomw** command by clicking onto the *miro logo in the AutoCAD/miroGTI screen menu*.



If the cursor is located in the status line of the *AutoCAD/miroGTI 12 screen menu*, you cannot enter AutoCAD commands.

miroGTI

By clicking this menu item you switch to the *main menu*.

Pan

When you point the cursor to the arrow symbols and press the pick button the detail is moved 1/3 in the direction of the arrow.

Zoom-

When you point the cursor to the (-) symbol and press the *pick* button, the driver goes to the next lower zoom level. To get the new zoom factor, the old zoom factor is multiplied by 0.7. The reference point for decreasing is the center of the drawing.

Zoom+

When you point the cursor to the (+) symbol and press the pick button, the driver goes to the next higher zoom level. To get the new zoom factor, the old zoom factor is multiplied by 1.4. The reference point for increasing is the center of the drawing.

miroGTI 12 commands

There are different ways to control miroGTI 12: selecting the commands directly from the AutoCAD/miroGTI 12 screen menu, using the hotkeys, or entering the commands over the keyboard. The following table lists the keyboard commands.

Keyboard commands

The functions marked with (*) can be used with AutoLISP programs.

Put an apostrophy in front of some miroGTI 12 functions to use them in the so-called transparent mode. That is they can be used even if another AutoCAD command is in progress.

The following table lists the keyboard commands and their equivalents:

Keyboard command	Equivalent to ...	Description
ami_clean oder ami_clean_list	-	Displaylist is compressed
ami_gti or ami_local ami_menu (*)	<CTRL> + <L> keys AutoCAD side menu: miroGTI	Opens miroGTI 12 main menu
ami_down; ami_up; ami_right; ami_left	AutoCAD-Screen menu: PAN	Pan down; Pan up; Pan to the right; Pan to the left
ami_in	ZOOM+ in AutoCAD side menu	Zoom with next higher zoom level around the drawing's center
ami_out	ZOOM- in AutoCAD side menu	Zoom with next lower zoom level around the drawing's center
ami_draw (*)	AutoCAD: 'REDRAW	Regeneration of the screen (only current viewport)
ami_zoom<factor>	AutoCAD: 'ZOOM number	Zoom with certain zoomfactor; examples: ami_zoom1, ami_zoom3, ami_zoom15
ami_zoomext	AutoCAD: 'ZOOM extents; AutoCAD status line: Ext	Zoom onto the drawing extents (without REGEN)
ami_zoomvmax	AutoCAD: 'ZOOM Vmax AutoCAD status line: Vmax	Zoom into the virtual screen (only current viewport; without REGEN)
ami_zoomw	AutoCAD: 'ZOOM window; AutoCAD status line: W	Area of the drawing to be zoomed (overview at cursor position) is specified
ami_spoton (*)	-	Starting miroSPOTVIEW
ami_spotoff (*)	-	Quitting miroSPOTVIEW
ami_birdclean (*)	-	Redraw on second monitor (miroMULTIVIEW)
ami_panon (*)	miroGTI 12 main menu/ Desktop Configuration Dynamic Pan	Activating Dynamic Pan
ami_panoff (*)	miroGTI 12 main menu/ Desktop Configuration Dynamic Pan	Deactivating Dynamic Pan
ami_fastzoom (*)	<CTRL> +<F1>	Switching FASTZOOM on/off
ami_miro3d	miroGTI 12 main menu/ miro3D-VIEWER	Switches miro3D-VIEWER on (optional)
ami_hoton	miroGTI 12 main menu/ Desktop Configuration Hotkey	Switches on hotkeys
ami_hotoff	miroGTI 12 main menu/ Desktop Configuration Hotkey	Switches off hotkeys

miroSPOTVIEW

miroSPOTVIEW allows to enlarge a part of a drawing without having to call the ZOOM command. After starting miroSPOTVIEW the miroSPOTVIEW window (a dialog box with a crosshair) appears at the position specified during the configuration. In addition to the position, the window size and the zoom factor to be used for enlarging a part of a drawing can be specified via the miroGTI 12 main menu.

- Turning on/off** You can turn miroSPOTVIEW on/off in three different ways (using the <F2> key is only possible when it has been enabled during the configuration):
- ♦ use the AutoCAD/miroGTI 12 screen menu
 - ♦ use the defined hotkey (default <F2>)
 - ♦ use the **ami_spoton** (on) or **ami_spotoff** (off) keyboard commands.



If **FASTZOOM** is enabled, you cannot call up miroSPOTVIEW via the AutoCAD/miroGTI 12 screen menu, instead press the hotkey.

Moving miroSPOTVIEW

To move the miroSPOTVIEW window click the title bar of the miroSPOTVIEW window with your pointing device and while holding the pick button down move it towards the part of the drawing to zoom. Each time AutoCAD loads the miroSPOTVIEW window will appear at the default position specified during the configuration.

Changing the zoom factor

When the cursor is located in the miroSPOTVIEW window, you can use the following keys:

<F3> key	Zoom factor decreases: to get the new zoom factor the old zoom factor is multiplied by 0.7
<F4> key	Zoom factor increases: to get the new zoom factor the old zoom factor is multiplied by 1.4

Be sure to distinguish between the relative Zoom (the zoom factor is dependent on the current viewport) and the absolute Zoom (the zoom factor is dependent on View of the whole drawing = V_{max}). When zooming within the miroSPOTVIEW window the zoom factor always depends on the current viewport.



If you make the miroSPOTVIEW window bigger than the default size it has when starting AutoCAD, the zoom factor of the relative zoom appears to the right of the windows title (from 1.x to 100).

Selecting/ pasting/deleting

miroSPOTVIEW is not active for a short while while selecting, pasting, and deleting objects.

FASTZOOM

With FASTZOOM you can work on a small segment of your drawing and still use all AutoCAD functions.



You need a three-button device (e.g. a mouse) to use FASTZOOM, because the middle button activates FASTZOOM.

1. Activate FASTZOOM by pressing <CTRL> and <F1>.

This combination has a toggle function, that is you can turn FASTZOOM on and off. When FASTZOOM is on, the SPOTVIEW display in the *AutoCAD/miroGTI screen menu* changes to FASTZOOM.

2. Move the cursor to the middle of the segment you want to maximize.

3. Press the middle mouse button once to determine the center of the segment you want to maximize.
 4. Now, use the mouse to open the square until the area is marked (the square will be shown as an *AutoCAD* box with crossing lines).
 5. Click the left mouse button once to confirm your selection.
- Now you can make the changes you want; all AutoCAD functions are available.
6. After you have made all your changes, return to the original position by clicking the center button a second time.



FASTZOOM remains on until you press <CTRL> and <F1> again.

miroQUICKVIEW

miroQUICKVIEW makes panning and zooming possible without any flicker. The prerequisite for miroQUICKVIEW is the so-called Double Buffering feature, which means that the video memory consists of two display buffers. The current drawing is stored in both buffers, thus existing in duplicate. During zooming and panning in the buffer which is currently not active (not visible) the next image is redrawn. miroQUICKVIEW switches between both buffers practically without any delay. Thus, zooming and panning is performed without any flicker. To use the functions of miroQUICKVIEW, the function keys (hotkeys) have to have been activated during the configuration.

Zooming with miroQUICKVIEW

The miroQUICKVIEW zoom is operated using the function keys <F3> and <F4>. By pressing <F3> and moving the mouse you can zoom out of the drawing and no flicker occurs. By pressing <F4> and moving the mouse, you can zoom into the drawing. The miroQUICKVIEW zoom is turned off by pressing the keys <F3> or <F4> or by clicking the mouse.

Panning with miroQUICKVIEW

To pan with miroQUICKVIEW, the real time pan function (Dynamic pan) must be enabled. Move the crosshair cursor to the sensitive marginal area of the viewport. After you are in this sensitive area for nearly one second the crosshair cursor becomes a compass cursor for a short while. The compass cursor tells you that you can now start to pan by pressing the pick button or by moving out of the sensitive area. If the cursor position is on the right edge, the drawing is moved to the left. If the cursor position is on the upper edge, the drawing will move down etc. After one second the compass cursor becomes a crosshair cursor again, and you can work in the sensitive area as usual. If you want to abort panning, press the pick button. If you want to pan once more, first move the cursor out of the sensitive area, then into it, and proceed as is described.

miroGTI 12: Error messages

If one of the following error messages appears on your screen, use this list to find the probable cause and correct the problem.

AutoCAD can't zoom or pan now

Probable causes:

- a) During an AutoCAD command which does not permit ZOOM and PAN you tried to zoom or move the detail.
- b) You tried to zoom a viewport AutoCAD had declared non-zoomable.

Correction: none

Event queue overflow

Cause: Internal driver error

Correction: None

Birdeye Driver wrong or not found, birdeye will not be shown!

Cause: Error during the installation.

Correction: Reinstall the Birdeye driver, make sure the value of the Birdeye driver interrupt vector corresponds to the one asked for during the configuration.

Hardware not found, defect or not initialized

Cause: Defective graphics board, bus conflict or graphics board not initialized.

Correction: Try to display a test picture on the monitor by executing the program TESTPIC.EXE. If this should fail, contact your dealer.

Videomode has changed – please end AutoCAD immediately

Cause: During AutoCAD Shell the videomode of the miro graphics board was changed.

Correction: None. Save your work immediately and leave AutoCAD.

miroGTI 12/13 Win

Overview

miroGTI 12/13 Win is a powerful display and rendering driver compatible with the Autodesk Device Interface (ADI) 4.2. miroGTI 12/13 Win operates as a displaylist driver that stores the picture sent by AutoCAD in a displaylist. miroGTI 12 Win supports AutoCAD 12, miroGTI 13 Win supports AutoCAD 13. miroGTI 12/13 Win runs in the Protected Mode of the 80386/80486 processors, offering maximum speed. Some enhanced features contributes to even more user-friendliness:

- ♦ 32-bit support in the displaylist
- ♦ miroBIRDEYE
- ♦ miroSPOTVIEW

miroGTI 12/13 Win adds more speed to working with AutoCAD for Windows by using 32 Bit code for all drawing operations, regens etc. Windows processes displays menus, dialog boxes etc. with 16 bit. This provides miroGTI 12/13 Win a PC with Workstation processing speed.

miroGTI 12/13 Win supports AutoCAD 12/13 for Windows, including the Advanced Modelling Extension (AME) and Advanced Visualization Extension Render (AVE).

System requirements

To take full advantage of all features the miroGTI 12/13 Win has to offer, you need a 386/486 computer with at least 8 MB RAM. We recommend 16 MB RAM or more. You have to install Windows 3.1 and the Windows 3.1 drivers delivered by miro.

Special features

Here an overview of the features of miroGTI 12/13 Win:

32-bit support

The miroGTI 12/13 Win displaylist use 32-bit entries to perform zoom operation with factors up to 1.5 million without regenerating the drawing.

miroBIRDEYE

miroBIRDEYE is a powerful tool for users to zoom a drawing or to enlarge details. It makes it easier to keep a clear overview of large drawings with easy panning for any viewport.

miroSPOTVIEW

miroSPOTVIEW is a kind of magnifying glass. Due to miroSPOTVIEW the part of a drawing where the cursor is located can be enlarged in a split second.

Configuring AutoCAD and miroGTI 12/13 Win

Before using miroGTI 12/13 Win with your AutoCAD program, you have to reconfigure AutoCAD to recognize the driver. Proceed as follows:

1. Start Windows.
2. Start AutoCAD. Now you see the Drawing Editor.
3. From the *FILE* menu select *configure*.
4. Switch to the *configuration* menu and select from the video displays *miroGTI 12/13 Win*.

Depending on whether you have installed miroGTI 12 Win or miroGTI 13 Win one of the following dialog boxes appears:

AutoCAD 12



F3/F4 keys enabled:

Select this option if you want to use the hotkeys <F3> and <F4> to enlarge or reduce the size of a drawing.



miroGTI 12 Win menu:

Select this option if you want to use the *miroGTI 12 Win menu*. After starting AutoCAD 12 for Windows a button with the miro logo appears in the bottom right corner.

AutoCAD 13



F3/11/12 keys enabled:

Select this option if you want to use the hotkeys <F3>, <F11> and <F12>.

5. Answer the standard AutoCAD questions regarding the driver configuration.
6. Save the configuration.

That concludes the AutoCAD for Windows configuration.

When the *AutoCAD screen menu* appears, you have two new elements (AutoCAD 12) or one new element (AutoCAD 13) to work with: the *miroBIRDEYE window* and the *miro display list monitor* (both elements as icon or as window or information box).



(only AutoCAD 12)

New driver version

In case you want to replace miroGTI 12/13 Win by a newer driver version, this has to be configured again.

miroBIRDEYE introduction

miroBIRDEYE window

The *status line* shows at the bottom of the window

- ♦ what you need to do next. For example *AutoCAD ZOOM window: first corner* prompts you to select the first corner of the detail to enlarge or one of the four following pieces of status information:
- ♦ *Non-zoomable*
The viewport contains a drawing in perspective which cannot be changed.
- ♦ *AutoCAD currently in Paper Space*
You are working in the paper space. The commands in the *AutoCAD* menu cannot be executed in this mode. You can use the functions of the *Birdeye* menu.
- ♦ *AutoCAD can't zoom now*
AutoCAD cannot execute any redraw functions right now (for example while entering a command). Other than that miroBIRDEYE responds as if it were in the status *AutoCAD currently in Paper Space*.
- ♦ *Click to select*
The viewport is inactivate.
The active viewport is marked with a red margin.

miroBIRDEYE functions

AutoCAD Menu

This menu gives you commands within miroBIRDEYE that can only be used in the drawing editor! The drawing in the miroBIRDEYE window does not change.

Zoom Vmax

Use this command to zoom as far out of the virtual desktop of the active viewport as possible, without triggering a regen.

Zoom extents

The counterpart to *Zoom Vmax* is *Zoom extents*. Here you see the viewport the drawing occupies in its maximum size.

Zoom in/Zoom out

This command allows you to enlarge/reduce the size of the drawing; the fix point is the middle of the viewport.

Zoom window

If you want to select the detail to be zoomed yourself, you need to do:

1. In miroBIRDEYE activate the viewport to be edited (read the information about the command *Show all views* in the menu *Options*).
2. If the viewport is in a different status than *Zoom window*, select this command in the menu *AutoCAD*.
3. Move the cursor to one corner of the detail and click the left mouse button once. Move the cursor until the rectangular frame encompasses the entire detail and click the left mouse button again.



Zoom extents or *Zoom Vmax* will restore the default.

Pan

miroBIRDEYE is great for easy panning.

1. As explained in *Zoom window* (in *menu AutoCAD*) select a detail.
2. Select the *menu AutoCAD*.
3. Activate the command *Pan*.
4. In *miroBIRDEYE* select the detail into which you want to pan the frame that is currently in the viewport. In the corresponding viewport of the drawing editor the enlarged detail is displayed.

Birdeye Menu

Several function in the *Birdeye menu* work the same as in the *menu AutoCAD*. Check the *AutoCAD menu* section for details about the following commands:

- ♦ *Zoom Vmax*
- ♦ *Zoom extents*
- ♦ *Zoom window*



The commands selected in *miroBIRDEYE* do not work in the drawing editor, but only in *miroBIRDEYE*.

Zoom in (<F4>/<F11>); *Zoom out* (<F3>/<F11>)

To either enlarge or reduce the size of a drawing, perform one of the following:

Choice 1

1. Activate the viewport.
2. Select the menu *Birdeye*.
3. Select the command *Zoom in* or *Zoom out*.

Here the fix point for zooming is the center of the viewport.

Choice 2

1. Activate the viewport.
2. Move the cursor into the viewport.
3. Position the cursor within the detail you want to zoom.
4. Now press <F4> to enlarge.
5. Press <F3> to reduce again.
6. The fix point for zooming is the cursor position.

<F3>/<F11> key	Zoom factor decreases: to get the new zoom factor the old zoom factor is multiplied by 0.7
<F4>/<F12> key	Zoom factor increases: to get the new zoom factor the old zoom factor is multiplied by 1.4



The <F3>/<F11> and <F4>/<F12> function keys work in the *Birdeye menu* even if you did not enable these keys during the configuration.

Redraw

The drawing in the activated viewport is redrawn.

Redraw all

The drawings in all viewports are redrawn regardless of the status.

Please note: This command is not accessible if you deactivated *Show all viewports* in the *Options menu*!

Take over View

You need this command if you deactivated *Auto View* in the *Options menu*.

In this case the activated viewports in the drawing editor will not automatically be accepted by miroBIRDEYE. You need to activate the command *Take over View* after activating the viewport in the drawing editor.

Options Menu

This menu allows you to determine miroBIRDEYE will while you are working with AutoCAD also which viewports will be available.

Always on top

The miroBIRDEYE window remains on the screen permanently, regardless of which application you are running parallel to AutoCAD for Windows.

Please note: If this option is activated miroBIRDEYE might ignore your screen saver! If you will not be working on your computer for a while we recommend deactivating this option.

Show all viewports

All viewports are shown in the *miroBIRDEYE window*.

Auto Viewport

The activate viewport in the drawing editor is simultaneously active in the *miroBIRDEYE window*.

Help Menu

Under *About miroGTI 12/13 Win...* displays information about the version of the driver.

miroGTI menu (only AutoCAD 12)

This menu makes working in the drawing editor easier menu. You can use the AutoCAD menu commands of the miroBIRDEYE window; also the menu has the option *About miroGTI 12 Win...* .The menu does not remain opened when the mouse button is released.



To use the *miroGTI 12 Win menu*, proceed as follows:

1. Click on the menu button and continue to hold the mouse button down.
2. Move the cursor to the desired option and release the mouse button.

Zoom out/Zoom in

Using the center of the Birdeye as the fix point, these commands allow you to reduce or enlarge the drawing.

Provided you enabled the function keys <F3> and <F4> during the configuration, the keys will appear in the *miroGTI 12 Win* menu on the right next to *Zoom out <F3>* or *Zoom in <F4>*.

Zoom window and Pan

These commands activate miroBIRDEYE. The viewport activated in the drawing editor is accepted automatically, then there is an automatic switch to *AutoCAD Zoom window* or *AutoCAD Pan* status.

Load miro3D-VIEWER

Use this option to load the miro3D-VIEWER.

miro display list monitor (only AutoCAD 12)

The *miro display list monitor* provides information about the status of the - miro display list module. The miro display list module extends your Windows installation by one display list function.

The *miro Displaylist Monitor* shows you

- ♦ the amount of already used memory
- ♦ the number of open lists
- ♦ the number of viewports.

miroSPOTVIEW

Using miroSPOTVIEW you can enlarge a part of a drawing without having to call the ZOOM command. After starting miroSPOTVIEW, the miroSPOTVIEW window (a dialog box with a crosshair) appears at the position specified during the configuration.

Turning on/off

Use the function key <F5> (AutoCAD 12) or <F3> (AutoCAD 13) to turn miroSPOTVIEW on/off.



You can only use the function key <F3>/<F5> if you have activated it during the configuration.

Moving miroSPOTVIEW

To move the miroSPOTVIEW window click the title bar of the miroSPOTVIEW window with your pointing device and while holding the button down move it towards the part of the drawing to zoom. Each time AutoCAD loads the miroSPOTVIEW window will appear at the default position specified during the configuration.

Changing the zoom factor

If the miroSPOTVIEW window is activated, you can use <F4>/<F12> to zoom and <F3>/<F11> to unzoom. In addition to the function keys mentioned earlier you can also execute a zoom by clicking the options in the menu below the SPOTVIEW titlebar, or the plus (Maximize) or minus (Minimize) key on the numeric block of the keyboard.

Be sure to distinguish between the *relative Zoom* (the zoom factor is dependent on the current viewport) and the *absolute Zoom* (the zoom factor is dependent on View of the whole drawing = Vmax). When zooming within the miroSPOTVIEW window the zoom factor always depends on the current viewport.

In the miroSPOTVIEW window the zoom factor of the relative zoom appears in the window title (from 1.x to 20).

Keyboard commands

There are different ways to control miroGTI 12/13 Win: selecting the commands directly from the *AutoCAD/miroGTI 12/13 Win screen menu*, using the function keys, or entering the commands over the keyboard. The following table lists the miroGTI 12/13 Win keyboard commands and their equivalents:

Keyboard command	Equivalent to ...	Description
ami_clean oder ami_clean_list	-	Displaylist is compressed
ami_about	-	miroGTI-About ... is called
ami_down; ami_up; ami_right; ami_left	AutoCAD-Screen menu: PAN	Pan down; Pan up; Pan to the right; Pan to the left
ami_in	ZOOM+ in AutoCAD-Side menu	Zoom with next higher zoom level around the drawing's center
ami_out	ZOOM- in AutoCAD-Side menu	Zoom with next lower zoom level around the drawing's center
ami_draw (*)	AutoCAD: 'REDRAW	Regeneration of the screen (only current viewport)
ami_zoom <factor>	AutoCAD: 'ZOOM number	Zoom with certain zoomfactor; examples: ami_zoom1, ami_zoom3, ami_zoom15
ami_zoomext	AutoCAD: 'ZOOM extents; AutoCAD status line: Ext	Zoom onto the drawing extents (without REGEN)
ami_zoomvmax	AutoCAD: 'ZOOM Vmax AutoCAD status line: Vmax	Zoom into the virtual screen (only current viewport; without REGEN)
ami_zoomw	AutoCAD: 'ZOOM window; AutoCAD status line: W	Area of the drawing to be zoomed (overview at cursor position) is specified
ami_spton	-	Starting miroSPOTVIEW
ami_spotoff	-	Finishing miroSPOTVIEW

miroADI

Introduction: miroADI

miroADI is a powerful Real Mode driver. You can use this driver with a multitude of Autodesk applications and take advantage of the functions of conventional ADI drivers on your miro graphics system. miroADI is compatible with Autodesk Device Interface (ADI) version 4.1 and higher.

miroADI supports:

- ♦ AutoCAD 9
- ♦ AutoCAD 10
- ♦ AutoShade 2.0
- ♦ AutoSketch 3.0



The miroADI driver on the installation disk which came with your miro graphics system is named **TRIOADI.EXE**.

Loading and configuring miroADI

1. Loading miroADI.

To call the driver enter: **trioadi**<↵>.

The default configuration set by miro is the interrupt vector 07A (hex), the background color black, the font size 8 x 16 and the resolution 1024 x 768 pixels.

2. Configuring miroADI.

To select other settings than the default settings, call miroADI with the following parameters:

Interrupt

To use another interrupt, e.g. 7Bh, call the driver in the following way:
trioadi /v7B<↵>. The interrupts from 7Ah to 0d7h are available.

Background color

If you want to choose another background color, e. g. yellow, call the driver entering: **trioadi /b02**<↵>

The AutoCAD background colors 00h - 07FFh are available.

Number (hex)	00	01	02	03	04	05	06	07
Color	Black	Red	Yellow	Green	Cyan	Blue	Magenta	White

Font size

The parameter **/f** and a number between 0 and 2 specify which of the three available fonts are selected. **0** selects the 8 x 8, **1** the 8 x 16 and **2** the 12 x 24 font size.

Resolution

The parameter **/r** and a number between 0 and 2 specify which of the three available resolutions are selected. **0** selects the 800 x 600, **1** the 1024 x 768 and **2** the 1280 x 1024 resolution.

When entering **trioadi /?** the syntax is displayed.



After you have configured the driver, you may have to reconfigure your Autodesk application which has already been configured—especially if the display driver and/or the interrupt vector were changed.

Proceed as follows:

1. If you work with AutoCAD 9/10, switch to the configuration menu.
2. Select the item *Configure video display*. Select *ADI display v4.1*. Answer the questions.

After you have completed the configuration, you can use your Autodesk program together with your miro graphics system.

Removing miroADI

miroADI is a so-called TSR (= **T**erminate and **S**tay **R**esident) program. That is, it can be removed from the memory of the computer after you have finished working with your Autodesk application.

- **Remove miroADI from the memory after quitting your application.**
Switch to the directory containing the system software of your graphics board and enter:
rmadi<↵>

Functions

The function range of miroADI is the same as of a standard ADI driver, so that you don't have to get used to new functions.

The high speed of miroADI is due to the Fast Draw mode. In addition, miroADI takes full advantage of the Packet Mode Interface.

MICROSTATION PC

Overview

The disks supplied with your miro graphics board include driver software for **MicroStation PC version 4.0** and **version 5.0**. The **Protected Mode** driver allows to use the miro graphics board features when using MicroStation, for example:

- ♦ maximum resolutions of 1600 x 1280 pixels (depending on the board),
- ♦ ergonomics: the high refresh rates and the non-interlaced mode prevent eye-strain,
- ♦ single-screen configuration: two screen sides are supported.

During the installation the driver files are copied to the C:\USTATION\DRIVERS subdirectory. The MIROMAT.EXE program is copied to the miro graphics board system file.

Configuring MicroStation

After having installed the drivers on your hard disk, configure MicroStation for your graphics board using the USCONFIG.EXE program. This program is part of the MicroStation software and is usually located in the - C:\USTATION directory. For general information on the USCONFIG program, refer to the MicroStation documentation.

MicroStation 4.0 If you use MicroStation 4.0, proceed as follows:

1. To start the configuration program, enter: **usconfig**<↵>.
2. When the current configuration is displayed select *DISPLAY ADAPTERS*.
3. First, select *VENDOR SUPPLIED DRIVER*, then
MS 4.0 miroCRYSTAL/twin (Board 1) or *MS 4.0 miroVIDEO (Board 1)* for the first board.

Two miro graphics boards:

If you have installed two miro graphics boards or one miro graphics board with a daughterboard, select *MS 4.0 miroCRYSTAL/twin (Board 2)* for second board.

4. To save the configuration, quit the configuration program with *EXIT AND SAVE*.

MicroStation 5.0 If you use MicroStation 5.0, proceed as follows:

1. To start the configuration program, enter: **usconfig**<↵>.
2. Select the DOS or the Windows installation program.
3. When the current configuration is displayed select the *DISPLAY ADAPTERS* option.
4. Select *miroCRYSTAL/twin (Board 1)* or *miroVIDEO (Board 1)* for the first miro board.

Two miro graphics boards:

If you have installed two miro graphics boards or one miro graphics board with a daughterboard, select *miroCRYSTAL/twin (Board 2)* for the second board.

5. To quit the configuration program, enter *EXIT AND SAVE*.

Using the driver

After having installed the driver on the hard disk and having configured MicroStation, you can use the driver.

To change the resolution, use the MIROMAT.EXE program which has been copied to the hard disk during the installation.

With MicroStation 4.0, the driver supports 256 colors and all resolutions supported by your micro graphics board and your monitor.

With MicroStation 5.0, all video modes offered by your board are supported.



WHAT IS miroVGA2TV

miroVGA2TV allows you to connect a TV set to your computer and use it as a graphics display also under DOS. In this way, you can record the operation of DOS programs to video or you can play DOS games using the TV set (which is larger than the computer monitor in most cases). You can also select the graphics modes listed below.

INSTALLING miroVGA2TV

If you selected *miroVGA2TV* in the *Module Selection* window and the *Drivers and Applications* item and using the *miroSETUP-Manager*, the *Information* button tells you that the *miroVGA2TV* tool has to be installed **under DOS** and supplies instructions on how to do this.

To install *miroVGA2TV*, you have to quit the *miroSETUP-Manager* and to close Windows!

Windows 3.1x After leaving Windows 3.1x, you are automatically on the DOS level.

Windows 95 To be able to install *miroVGA2TV* on the DOS level after having left Windows 95, select *Shut-down* in the *Start* menu and the *Restart the computer in MS DOS mode* option.

The *miro* CD-ROM includes all required files for *miroVGA2TV* in the **d:\disksets\vga2tv** directory where **d:** is the drive letter.

Install *miroVGA2TV* from the DOS level as follows:

1. Create a new directory to which you want to copy the *miroVGA2TV* files.
2. Copy all files from the **\disksets\vga2tv** directory on the CD-ROM into the target directory.

Among others, this directory includes a *README* file containing the newest information on *miroVGA2TV*.

USING miroVGA2TV

After you started miroVGA2TV, all supported miroVGA2TV graphics modes are routed to the RCA socket of the connected TV set.

Configuring

In most cases, miroVGA2TV does not have to be configured and works automatically. You can make, however, special settings using command line parameters.

In addition, you can make these settings using the menu-driven program VGATVSET.EXE and save the settings in the VGATV.COM file.

Starting

To start miroVGA2TV, you have two possibilities:

- ♦ Change to the directory to which you copied miroVGA2TV and enter **vgatv** <↵> (PAL) oder **vgatv /nn** <↵> (NTSC) to start the tool.
- ♦ Enter the PATH command in your AUTOEXEC.BAT file to be able to call miroVGA2TV from everywhere:
Path=c:\vga2TV
where **c:\vga2TV** is the drive and the directory to which you copied the VGA2TV files.

Command line parameters

When calling miroVGA2TV you can enter different options after the file name. If you call miroVGA2TV for the first time, the TSR is loaded into the memory and a part of the program stays resident (about 4k). If you call miroVGA2TV again, you can change some parameters. The following parameters are available:

General options	/? Gives you brief help instructions. /?? Gives you detailed help instructions. /Q Messages do not appear on the screen (except for error messages).
Options during loading	Options which are only available when loading miroVGA2TV (first call): /N[P/N] selects the video standard (P for PAL, N for NTSC). Without this parameter PAL is the default.
Options after loading	Options which are only available when loading miroVGA2TV (first call): /U Removes miroVGA2TV from the memory. /A Enables miroVGA2TV when it is in the memory but has been disabled with the \D parameter. /D Disables resident miroVGA2TV. (This option makes it possible to switch miroVGA2TV off temporarily without removing it from the memory).

/M[<mode>[+/-]]

Use this option to switch the graphics modes supported by miroVGA2TV on/off. Without entering +/- the available modes and their present state are output.

/O[+/-]

Use this parameter to switch the *TVOnly* mode on/off. If the *TVOnly* mode is switched on, the VESA BIOS makes only modes available which are supported by miroVGA2TV.

/C[+/-]

This switch automatically distinguishes between video modes 13(320x200x8) and 13X(320x240x8). If this feature is disabled, the timing or the video mode 13X will not be adapted.

/F<special>[+/-]

Use this option to force some timing parameters (You should only use this option with together with the /C+ option). This option can be useful if the application changes the default video timing.

/FX Force alternative timing for modes 12 and 13

/FI Force interlaced timings

/FS Force default timings for modes 12 and 13

FT Enable continuous monitoring of registers

/FD Force delayed mode initialisation.

Limitations

miroVGA2TV supports the following graphics modes for the PAL and the NTSC video standards.

Mode	Resolution	Type	Default
1	40x25x4	Text	enabled
3	80x25x4	Text	disabled
D	320x200x4	Graphics	enabled
12	640x480x4	Graphics	enabled
13	320x200x	Graphics	enabled
13X	320x240x8	Graphics	enabled
100	640x400x8	Graphics	enabled
101	640x480x8	Graphics	enabled
10D	320x200x15	Graphics	enabled
10E	320x200x16	Graphics	enabled
10F	320x200x32	Graphics	enabled
110	640x480x15	Graphics	enabled
111	640x480x16	Graphics	enabled
112	640x480x32	Graphics	enabled

miroVGA2TV does not work under Windows or in the DOS box. Please avoid starting Windows while miroVGA2TV is active (remove the program entering [**vgatv -u**]).

Graphics modes larger than 640x480 pixels cannot be displayed on the TV screen completely and are not supported.

miroVGA2TV does not work with programs, which cannot initialize the screen via the BIOS or which modify the graphics register afterwards. In this case the TV monitor shows no or no still image.



Technical Data

miroMEDIA View

Bus system	PCI
Compatibility	VGA register-compatible
Graphics processor	S3 TRIO64V+
MPEG decoder	S3 Scenic/MX2
Audio decoder	S3 Sonic/AD
Video memory	2 MB EDO RAMs 256 Kbit x 16 with 60 ns
Inputs/Outputs	Video output, audio output, 15-pin D-type video output
Power supply	+5 V, max. 1 A +12 V, max. 0.01 A
Video timings	Horizontal scan frequency: 31 kHz - 80 kHz, depending on operating mode Vertical scan frequency: 50 Hz - 100 Hz, non-interlaced, depending on operating mode Pixel frequency: 25 MHz - 135 MHz, depending on operating mode

Video modes

Resolution	Bits per pixel/ Colors	Vertical scan frequency (Hz)								
		TV	48 kHz	58 kHz	64 kHz	78 kHz	85 kHz	93 kHz	100 kHz	107 kHz
1408 x 1024	8/256	—	—	—	60	70	70	70	70	70
1280 x 1024	8/256	—	—	—	60	70	75	75	75	75
1152 x 864	8/256	—	—	—	70	75	75	75	75	75
1024 x 768	16/65,536	—	60	70	75	75	75	75	75	75
	8/256	—	60	70	75	75	100	100	100	100
800 x 600	32/16.7 Mill.	—	75	75	75	75	75	75	75	75
	16/65,536	—	75	75	75	75	75	75	75	75
	8/256	—	75	75	100	100	100	100	100	100
768 x 576	32/16.7 Mill.	x	—	—	—	—	—	—	—	—
	16/65.536	x	—	—	—	—	—	—	—	—
	8/256	x	—	—	—	—	—	—	—	—
640 x 480	32/16.7 Mill.	x	75	100	100	100	100	100	100	100
	24/16,7 Mill.		60	60	60	60	60	60	60	60
	16/65,636	x	75	100	100	100	100	100	100	100
	8/256	x	75	100	100	100	100	100	100	100

Options Monitor, shielded monitor cable

Other VESA DDC (DDC2B)

miroMEDIA TV

Inputs S-Video input (incorporates I² bus; Hosiden; Y/C, 1.0 Vss/0.3 Vss),
Antenna input (for television receiver component)

Teletext decoder ITT TPU3040 with pagecaching (supports TOP, FLOF, VPS and WSS
(D/A/CH/DK/
NL/UK only)

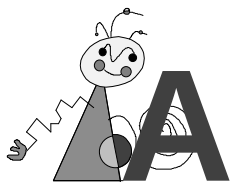
VideoDecoder ITT VPX3220

TV tuner

Country specific versions	
D, A, CH, DK, NL	PAL B/G tuner
UK	PAL I tuner
F	SECAM tuner
US	NTSC tuner

Stereo audio ITT MSP3400C
prozessor
(D/A/CH/
DK/NL only)

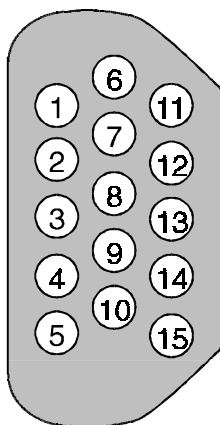
NOTES



15-PIN D-TYPE VIDEO PORT

The miroMEDIA View graphics boards are equipped with a 15-pin D-type connector to which the video cable attaches. The other end of the video cable connects to the monitor.

The following illustration and the table show the video output and the pin allocation of the video output, which is designed for data exchange with the monitor:



15-pin D-type connector

Pin No.	Pin Allocation
1	Red
2	Green
3	Blue
4	Free
5	Ground (analog)
6	Ground (red)
7	Ground (green)
8	Ground (blue)
9	+5V, 10 mA
10	Ground (sync.)
11	Free
12	DDC data
13	HSync
14	VSync
15	DDC clock

miroMEDIA View ADDRESS RANGE

For the miroMEDIA View graphics board to run without problems you have to avoid address conflicts. Make sure that the addresses used by miroMEDIA View are not also assigned to other components of your computer system.

I/O address range

The following table shows the I/O address areas that can be selected and used by miroMEDIA View.

0E2E8h	
042E8h	04AE8h
082E8h	08AE8h
092E8h	09AE8h
0A2E8h	0AAE8h
0B2E8h	0BAE8h
046E8h	04EE8h
086E8h	08EE8h
096E8h	09EE8h
0A6E8h	0AEE8h
0B6E8h	0BEE8h

Additional VGA addresses

In addition the following addresses are used:

VGA video memory	VGA BIOS
0A0000h - 0BFFFFh	0C0000h - 0C7FFFh

IRQ *Please note:* miroMEDIA View needs an IRQ for the configuration.
For further information, please refer to your computer's documentation.

miroMEDIA TV: INTERNAL CONNECTORS

Depending on distribution variant, the miroMEDIA TV has up to 6 internal connectors that can be used to link other cards in the computer that also have internal connectors (e.g., video editing cards).

The following table shows the corresponding pin assignments.

Designation	Pin Assignment	Significance
ST4 (ZF In)	1=ZF 2=gnd	IF (=intermediate frequency) input for connecting an additional baseband signal from additional TV cards for stereo / dual-channel decoding
ST5 (Composite-Video In/ FBAS In)	1=FBAS 2=gnd	Separate composite video input.
ST6 (S-Video In)	1=Y 2=gnd 3=gnd 4=C	Parallel connection for the external S-video input. Important: please only connect one source
ST7 (I ² C-Bus)	1=Data 2=gnd 3=CLK	Control bus for future miro products.
ST8 (Audio In)	1=left 2=gnd 3=gnd 4=right	Separate audio input for connecting additional analog audio signals (e.g., CD).
ST9 (Tuner Out/ FBAS Out)	1=FBAS 2=gnd	Tuner signal output for future miro products.

The pin assignment mentioned above may vary depending on the board type!

SUPPORT/SERVICE

Support

miro Support Hotline hours: 10 am - 12 am
2 PM - 4 PM
phone: (49) 531 2113 - 666

miro Support Fax fax number: (49) 531 2113 - 110

miro Support Mailbox hours: 24 hours
phone: (49) 531 2113 - 112
protocol: 1.200 - 14.400 Baud,
8 data bit, no parity, 1 stop bit

The miro Support Mailbox has useful information for both Mac and PC users such as technical data, tips and tricks, forms and drivers. All information is in 8-bit ASCII.

miro in CompuServe In addition to Mailbox, VoiceMail, Hotline or Fax you can now also contact miro via CompuServe.

Enter GO MIRO to access the miro section in CompuServe.

In the *Message Area* you find the latest information as well as questions and answers about our products.

The *Library section* contains the latest drivers, tips & tricks, patches and info files about our products.

If you have any questions about CompuServe, please contact the CompuServe Information Service nearest you:

Germany:	Tel.: 0130/86 46 43 (domestic) (49) 89/66 535 222 (internat.) Fax: (49) 89/66 535 241	Switzerland:	Tel.: 155 31 79 (domestic) (49) 89/66 535 222 (internat.) Fax: (49) 89/66 535 241
France:	Tel.: 36 63 81 31 (domestic) (33) 1/ 47 14 21 60 (internat.) Fax: (33) 1/47 14 21 51	GB:	Tel.: 0800/289458 (domestic) (44) 272/760 680 (internat.) Fax: (44) 272/252 210
Hungary:	Tel.: (36) 1/156 53 66 (internat.) Fax: (36) 1 155 92 96	USA:	Tel.: 800 848 8990 (domestic) (001) 614/529 1340 (internat.) Fax: (001) 614/529 1611

Service

Repairs If your miro product needs repairs or adjustments, contact your authorized distributor. He will request a repair number (RMA No.) from miro.

Return the product with the warranty card and proof of purchase (receipt with date and serial number) as well as a detailed description of what is wrong with the product. This helps our Service Department to repair and return the product to you as quickly as possible.

Initial installation If you experience problems with your new miro product during the first week after delivery, contact your authorized miro distributor immediately. He will be able to answer your questions because he regularly participates in miro Seminars to be always up to date about our products and other important information.



Contact your authorized distributor if you have a question about miro products. Please have all the necessary information ready before you call so the distributor can answer your questions as precisely as possible, i. e. hardware configuration (extension cards and addresses) and software configuration (memory manager, version of the software you are using, etc.).

For more detailed information about our products and our Support and Service, please check our miroSupport Mailbox.

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), set the time 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**nput **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, busses provide 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	C olor G raphics A dapter (IBM). Graphics board which displays four colors in the graphics mode.
Clock frequency	Rate at which individual commands are processed in a processor. The higher the  clock frequency, the quicker the commands are processed.
CLUT	C olor L ook U p T able. Color table which contains all indexed color values.
CODEC	Acronym for C ompressor/ D ecompressor, 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.
Digital video	Digital video stores information bit by bit in a file (in contrast to analog storage media).
DIP switch	D ual I nc-line P ackage switch. A row of small switches designed to make certain hardware presettings.
Dithering	Method to avoid extreme color contrasts, which occur with a reduced number of colors.
DOS	D isk O perating S ystem. The most common  operating system for PCs (P ersonal C omputer). 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.
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  MB per second at a  clock frequency of 8.33 Mhz.
Fixed-frequency monitor	Monitor operating at a very small frequency range ( multifrequency monitor).
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.

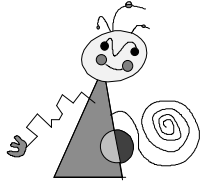
Graphics board	Graphics boards are the “link” between the computer and the monitor. Without a graphics board no image appears on the screen. Graphics boards operate in two modes: the text mode and the graphics mode. In the text mode only  ASCII characters are displayed. The ASCII character set includes some simple “graphical” characters to display simple graphics. The graphics mode uses individual  pixels. The more pixels are 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.
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  MB 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).
PCI Local Bus	Peripheral Component Interconnect. Local Bus concept by Intel: 32-bit bus, a PCI bus can transfer 132 MB per second (max.) at a  clock frequency of 33 MHz.
Pixel	Picture element. Pixels are the smallest elements of a monitor image ( resolution).
Pixel frequency	Rate at which the pixels appear on the screen.
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.
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).
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).
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	Video Electronic Standards Association. 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  MB per second (max.).
VGA	Video Graphics Array (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).
YUV	Color model where Y delivers the brightness information and U and V the color information.

miro SUBSIDIARIES

- Austria:** miro Computers Products GmbH
Concorde Business Park B 4
A-2320 Schwechat
Tel: (43) 1/70155/0
Fax: (43) 1/70155/99
- Benelux:** miro Computer Products B.V.
Science park 5127
NL-5692 Ed Son En Breugel
Tel: (31) 40-670486
Fax: (31) 40-670487
- Denmark:** miro Computer Products AG
Slettebjerget 108
DK-3400 Hillerod
Tel: (45) 42250551
Fax: (45) 42250526
- Germany:** miro Computer Products AG
Carl-Miele-Str. 4
D-38112 Braunschweig
Tel: (49) 531/2113-200
Fax: (49) 531/2113-99
- France:** miro Computer Products SARL
bâtiment D
99/101 rue Pierre Sépard
F-92320 Chatillon
Tel: (33) 1/46120312
Fax: (33) 1/46120313
Minitel: 3615 miroINFO
- Great Britain:** miro Computer Products Ltd.
Westfields
London Road,
High Wycombe
Bucks HP11 1HA
Tel: (44) 494-510070
Fax: (44) 494-510250
- Switzerland:** miro Computer Products AG
Riedstraße 14
CH-8953 Dietikon
Fax: (41) 1/7415853
- Spain:** Binal Multimedia SL
Avda. de Carlos I, 16-8d
20011 San Sebastian
Tel: (34) 43-466047
Fax: (34) 43-459070
- USA:** miro Computer Products, Inc.
955 Commercial Street
Palo Alto, CA 94303
Tel: (001) 415/855-0940
Fax: (001) 415/855-9004



FCC Compliance Statement

FOR YOUR OWN SAFETY

NOTE: Shielded cables should be used for a composite interface. This is to ensure continued protection against radio frequency interference.

FCC WARNING STATEMENT

NOTE: 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 a 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 harmful interference to radio or television reception, 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.

CAUTION

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
Shielded interface cable must be used in order to comply with the emission limits.

LABEL WARNING

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.



KONFORMITÄTSERKLÄRUNG DECLARATION OF CONFORMITY

Geräteart: Grafikkarte
Type of equipment: Graphics board

Produkt / Product : **miroMEDIA View/TV/Remote**

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

Zur vollständigen Einhaltung dieser Richtlinie(n) wurden folgende Normen herangezogen:
To fully comply with this(these) Directive(s), the following standards have been used:

EN 55022:1987
EN 50082-1:1992

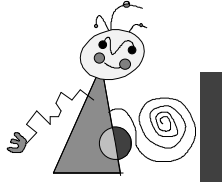
Dieser Erklärung liegt zugrunde: Prüfbericht(e) des EMV-Prüflabors
This certification is based on: Test report(s) generated by EMI-test laboratory

Aussteller / Holder of certificate : **miro Computer Products AG**
Carl-Miele-Str. 4
D - 38112 Braunschweig

Braunschweig, 29.01.1996
(Ort / Place) (Datum / Date)

.....
Dr. Ulrich Schnidt, V.P. Engineering

NOTES



Index

- 1—**
- 15-pin D-type connector I
- A—**
- AutoCAD/miroGTI 12 screen menu 32
- D—**
- DCI 1; 9
DDC 1; 15
- E—**
- Electrostatic charge iv
- F—**
- Features 1
- G—**
- GDI 9
Glossary VI
- H—**
- Hardware installation 6
- I—**
- Installing CAD drivers from the DOS level 17
Installing CAD drivers under Windows 17
Internal audio output 6
- M—**
- MicroStation PC 46
miroADI 44
miroGTI 12
 Overview 24
miroGTI 12/13
 Color Manipulation Tool 25
 Commands 34
 Error messages 37
 FASTZOOM 35
 Keyboard commands 34
 miro3D-VIEWER 25
- miroQUICKVIEW 36
miroSPOTVIEW 27; 34
miroGTI 12/13 Win
 Keyboard commands 43
 miroBIRDEYE 40
 miroSPOTVIEW 43
 Overview 38
miroMEDIA Manager 21
miroMEDIA remote 2; 21; 22
miroMEDIA TV
 Board Layout 7
 installing 7
 Internal Connections III
 Internal connectors 4
miroMEDIA/TV
 Connection 7
miroMONITOR SELECT 15; 18
miroSUPERSCREEN 16
miroVIDEO 22SD adress range II
miroVIDEO-XL 16
miroWINTOOLS 14
- P—**
- Package contents 3
Playing back digital video 20; 21
- S—**
- Safety iv
Service V
Software installation 9
Support IV
System requirements 2
- T—**
- Technical data 48
TV tuner 2
- V—**
- VESA DPMS 15
Video for Windows 9
Video modes 52
- W—**
- Windows 95 9; 16