

miroCRYSTAL 10AD

User's Manual

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 such as graphics boards 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.
- Only use a shielded cable to connect the monitor to the computer.
- If you use a VGA monitor, this monitor must support a 35 kHz horizontal scan frequency. The horizontal scan frequency of a multifrequency monitor can range from 35 to 100 kHz. To use the TrueColor mode a multifrequency monitor is required.

Make sure that your graphics board is in compliance with the slot.

About the manual

This manual explains how to install the miroCRYSTAL 10AD graphics board in your computer and how to install, configure, and use the Windows and CAD drivers.

Important text passages are marked by this format.

Bullets mark step by step instructions:

- Insert the graphics board into the slot.

All keyboard commands appear in this font:

install <↵>

<↵> represents the enter key.

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

For changes that have occurred after the manual has been printed, refer to the README file on the disks supplied with your system!

Contents

Hardware

Overview.....4

Hardware installation.....4

Technical data.....6

ADI®, AutoCAD® are registered trademarks of Autodesk Inc. IBM AT® is a registered trademark of International Business Machines Corp., VGA™ is a trademark of International Business Machines Corp. miro® is a registered trademark of miro Computer Products AG. Pentium™ is a trademark of Intel Corp. VL Bus™ is a trademark Video Electronics Standards Association. Windows™ is a trademark of Microsoft Corp, MS-DOS® is a registered trademark of Microsoft Corp.

Hardware

Overview

With miroCRYSTAL 10AD miro offers a graphics board, which is designed especially for professional use under Windows and DOS: The graphics boards meet all requirements concerning page layout, illustration and color image editing:

Graphics acceleration: The operating speed of a graphics system is essential especially for professional purposes. miroCRYSTAL 10AD/VL is equipped with the ALG2228 and miroCRYSTAL 10AD/PCI with the ALG2301 graphics processors.

Fast bus systems: There is a V(esa) L(ocal) bus version and a P(eripheral) C(omponent) I(nterconnect) version of the board.

Video memory: The miroCRYSTAL 10AD has 1 MB of High-Speed DRAM.

Drivers: miroCRYSTAL 10AD includes all of the necessary drivers to achieve the maximum performance from your system. In addition, the miro tools are provided.

System requirements: To install miroCRYSTAL 10AD, your computer system has to meet the following requirements:

Computer

for VL bus: a 386, 486, Pentium computer or compatible with a VL Local Bus slot

for PCI bus: a 486 or Pentium computer or compatible with a PCI Local Bus slot.

Monitor

High-resolution multifrequency monitor supporting a horizontal scan frequency of at least 35 kHz with separate horizontal and vertical syncs.

Delivery scope

Before beginning the miroCRYSTAL 10AD installation, please make sure your miroCRYSTAL 10AD package is complete: graphics board, installation disk(s), documentation.

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.

Hardware installation

Before you start installing the miroCRYSTAL 10AD graphics board, make sure that the jumper on miroCRYSTAL 10AD/**VL** is set correctly. For miroCRYSTAL 10AD/**PCI** you need not set any jumper.

Any existing VGA board or a motherboard VGA has to be removed from the computer or be disabled.

Setting the jumper on miroCRYSTAL 10AD/VL

Hold the graphics boards in a way that the slot bracket is on the right side, and you can see the components. The jumper adjusts the miroCRYSTAL 10AD/**VL** board to the VESA Local Bus clock pulse of your computer. miroCRYSTAL 10AD/**VL** is factory-set to a clock pulse of 33/40 MHz (jumper set, left figure). If the VESA Local Bus clock pulse is higher than 40 MHz, remove the jumper (jumper open, right figure).

Jumper set:



Jumper open:



- Check and, if necessary, change the jumper setting.

You should be very cautious when changing the setting of the jumpers. An incorrect setting may lead to the malfunction of the graphics board and computer. Therefore you should always consult the manual of your computer.

Installing miroCRYSTAL 10AD

After checking and/or changing hardware settings you can install the graphics board. The only tool you need for the installation is a screwdriver. Proceed as follows:

- Turn off your computer and all peripheral devices. Disconnect the computer from the power supply and all other components.
- Loosen the screws of the computer's cover and remove it.
- Discharge yourself of static charge by touching the power unit casing.
- If necessary, remove the VGA board from the computer or disable the motherboard VGA.
- According to your graphics board select a free VL or PCI slot. Remove the slot's cover at the back of the computer. Save the screws of the cover.
- Depending on the bus type, carefully insert the graphics board into the VL or 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.

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.

- Fasten the board's bracket at the back of the computer using the screws you saved from the shield.
- Put the cover back on the computer and reconnect the peripheral devices.
- Connect the monitor with the 15-pin D-type socket. If you are in doubt about how to connect your monitor, please refer to the monitor documentation.
- Reconnect the computer and the monitor to the power supply.

Technical data

Bus system:	miroCRYSTAL 10AD for VESA Local Bus: VESA Local Bus miroCRYSTAL 10AD for PCI Local Bus: PCI Local Bus
Compatibility:	VGA, CGA, HGC, MDA register-compatible
Graphics processor:	miroCRYSTAL 10AD/VL: ALG2228/miroCRYSTAL 10AD/PCI: ALG2301
Video memory:	1 MB DRAM
Power supply:	+5 V, max. 1 A/+12 V, max. 0.01 A

Video modes:

Vertical refresh rate		43i *	56 Hz	60 Hz	70 Hz	72 Hz	75 Hz
Resolution	Colors						
640 x 480	256			31 kHz		37 kHz	37 kHz
640 x 480	65,536			31 kHz		37 kHz	37 kHz
640 x 480	16.7 mio.			31 kHz			
800 x 600	16		35 kHz	37 kHz		48 kHz	48 kHz
800 x 600	256		35 kHz	37 kHz		48 kHz	48 kHz
800 x 600	65,536		35 kHz				
1024 x 768	16	35 kHz		48 kHz	56 kHz	58 kHz	60 kHz
1024 x 768	256	35 kHz		48 kHz	56 kHz	58 kHz	60 kHz
1280 x 1024	16	48 kHz					
1280 x 1024	256	48 kHz					

* = only in the interlaced mode

Video timings:	Horizontal scan frequency: 31 kHz-100 kHz, depending on operating mode Vertical scan frequency: 60 Hz-100 Hz, non interlaced, depending on operating mode Pixel frequency: 25 MHz-110 MHz, depending on operating mode
-----------------------	--

Option:	miro•win; Highspeed drivers for CAD; installation disk (miroGTI 12 VGA)
----------------	---

15-pin D-type video port: The miroCRYSTAL 10AD graphics board is 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.

VESA Standard Feature Connector: The miroCRYSTAL 10AD graphics board can be used together with a video overlay board. Therefore you need the VESA Standard Feature Connector. The pin allocation of the VESA Standard Feature Connector has been adjusted for all miroCRYSTAL 10AD PCI boards, so that these boards can be connected 1:1 to another graphics board via a flat ribbon cable.

miroCRYSTAL 10AD address range: The addresses used by miroCRYSTAL 10AD must not also assigned to other components of your computer system.

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

miroCRYSTAL 10AD occupies the address range of standard VGA 03B0h-03DFh and parts of the 8514/A I/O address range. (VGA memory: **0A0000h - 0BFFFFh** and **VGA-Bios: 0C0000h - 0C7FFFh**). These address ranges are normally not used by standard system hardware and therefore address conflicts are unlikely to happen.