

miroMEDIA Surround

USER'S GUIDE

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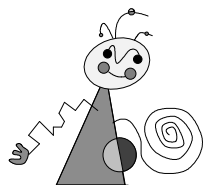
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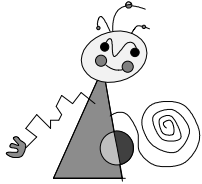
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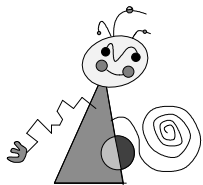
For your own safety

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. Discharge any electrostatic energy from your person before touching the components with your hands or any tools.



For changes that are not included in the printed or the online documentation, refer to the README files provided on the supplied CD-ROM.



About the manual

This manual explains how to install, to configure, and use the miroMEDIA Surround 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:

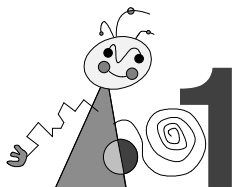
- Connect the miro board to the speaker.

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*.



WHAT IS miroMEDIA SURROUND?



Congratulations on purchasing the miroMEDIA Surround board! The miroMEDIA Surround is an ISA board with a Dolby Pro Logic decoder which enhances the audio capabilities of already existing audio components.

You've experienced it at the movies, or in the comfort of your living room: 3D sound with Dolby Pro Logic Surround. The action no longer unfolds in front of you; instead, you are suddenly in the midst of the action, surrounded by sounds, noises, and music coming from all directions, fascinating and realistic at the same time.

Now the miroMEDIA Surround brings this sound to your PC. It turns your 3D computer, video game, multimedia presentation, digital video clip, action film or concert recording into experiences to remember—sophisticated home entertainment.

FEATURES

miroMEDIA Surround can be used with every sound board or an external source like a television set or a CD player. With the miroMEDIA Surround board miro offers the following features:

☐ *Five audio outputs:*

The five audio outputs integrated on the miroMEDIA Surround board allow the connection of a complete Dolby Pro Logic Surround sound system (front: left/right, center, rear: left/right).

☐ *JVC 3D Phonic Surround sound system with just two speakers:*

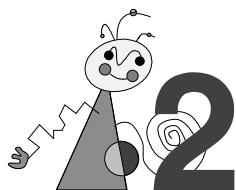
The JVC 3D Phonic technology realizes Surround sound even if you only connect two speakers.

☐ *Control through software:*

The Dolby Pro Logic features are controlled and adapted to the room acoustics through software.

☐ *Compatible with Windows 95, Windows 3.1x and DOS:*

miroMEDIA Surround can be operated under Windows 95, Windows 3.1x, and DOS.



Before you begin

SYSTEM REQUIREMENTS

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

Computer At least a 386 PC or compatible computer with an empty 8-bit ISA or EISA slot.

CD-ROM drive CD-ROM drive for the software installation.

Cables You need cables for the connection of the speakers.
If you want to connect your sound board/CD-ROM drive to the miroMEDIA Surround board internally, you need a suitable audio cable.

Speakers To the miroMEDIA Surround board connect powered speakers. The front speakers and the center speaker should be magnetically shielded to avoid monitor distortions. The following combinations are possible:

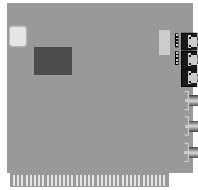
Number of speakers

2	1 Speaker pair
3	1 Speaker pair + 1 Center speaker
4	2 Speaker pairs
5	2 Speaker pairs + 1 Center speaker

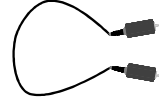
Operating system You need Windows 3.1x, Windows 95, or DOS 3.0 higher.

PACKAGE CONTENTS

Before beginning the miroMEDIA Surround installation, please make sure your miroMEDIA Surround package is complete*:



*miroMEDIA Surround board***



audio cable



*CD-ROM containing applications,
detailed documentation and
sample files*



Quick Installation Guide

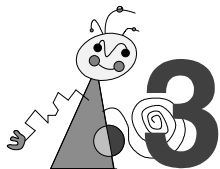
If any parts are missing, please consult your dealer. The complete software and documentation are contained on the CD-ROM. Diskettes are not included in the package contents.

Installation disks

You can easily create installation disks using the miroSETUP-Manager included in the package contents. You can also download the disks using the miro support mailbox.

* Depending on the delivery scope, the package contents may vary from the contents listed in this manual.

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



Hardware installation



Expansion boards are sensitive to static charge. To avoid damage that may occur by static charge, leave the board in its antistatic packaging until installation. Keep the packaging for possible future transportation. The following chapter describes how to install the miroMEDIA Surround board in your computer.

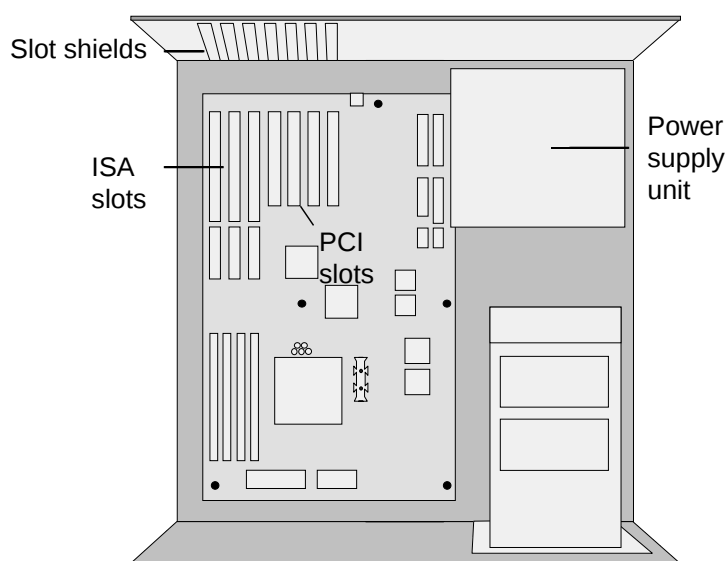
The following chapter describes how to insert the miroMEDIA Surround board in your computer.

For the installation you need a screwdriver.



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

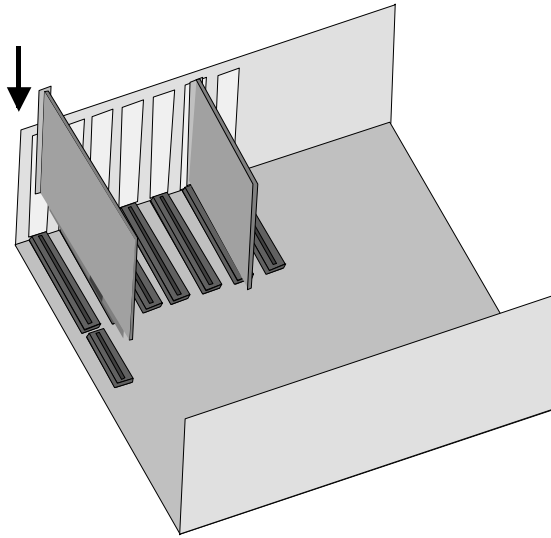
1. Discharge yourself from electrostatic charge by touching the metal case of your computer.
2. Switch off the computer and all peripheral devices. Pull out the power cord and disconnect all necessary cables.
3. Loosen the screws securing the computer's cover and remove the cover.
4. Select a free ISA slot.[‡]



5. Remove the slot shield at the back of the computer. If necessary, remove the securing screw.

[‡] The design of your computer may deviate from the one depicted above.

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



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

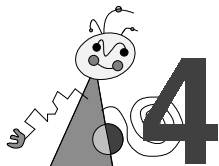
7. Tighten the screws to secure the board's bracket.

After you inserted the miRoMEDIA Surround board in your computer, the hardware installation has been completed. In case you want to connect any devices internally, e.g. if you want to connect a CD-ROM drive or a sound board to the internal audio input of the miRoMEDIA Surround board, or if you want to connect internal PC speakers to the internal audio input of the miRoMEDIA Surround board, read the "Internal connections" chapter in the Appendix. It is recommended, however, to connect the devices externally as described in the "Connecting sound board/other devices" section



Please note that you can only use one input of the miRoMEDIA Surround board, either the internal or the external one.

8. If you do not want to make internal connections, reassemble your computer.



Software installation

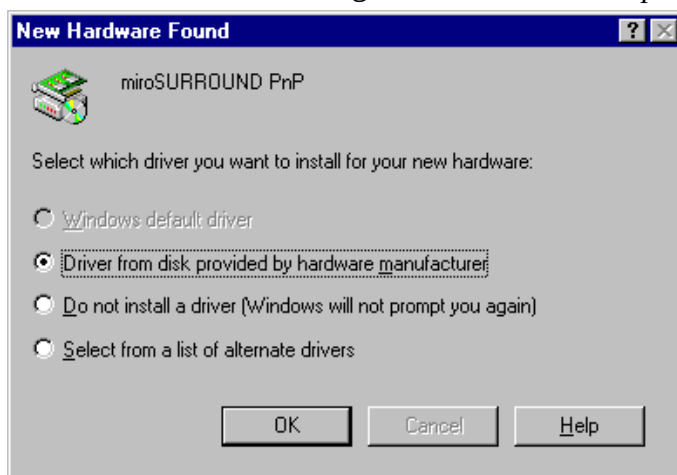
After you installed the miroMEDIA Surround hardware, you can install the driver, the miroMEDIA Surround tool, the documentation, and the program you can use to read the documentation (Acrobat Reader) for Windows 95 and for Windows 3.1x. The CD-ROM also contains the miroMEDIA Surround software for DOS. For more information on the DOS software, refer to the README file and to the “... under DOS” section on page 23.

... FOR WINDOWS 95

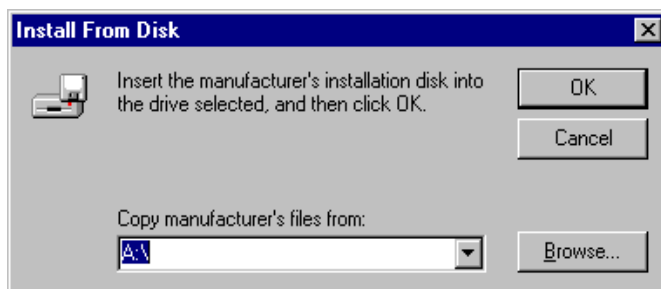
Drivers and tool To install the drivers and the miroMEDIA Surround tool for Windows 95, proceed as follows:

1. Switch your computer on.

After Windows 95 has started, the application recognizes that new hardware has been installed. The message *New hardware component found* appears.



2. In the *New hardware component found* dialog box, click *Driver from disk provided by hardware manufacturer*. Click *OK*.
3. Insert the CD-ROM from the miroMEDIA Surround package contents.
4. Click *Browse...*



5. Switch to your CD-ROM drive to the **\DISKSETS\WIN95** directory. When the **MIROSRND.INF** file appears, click *OK*.
6. Click *OK* again.

The miroMEDIA Surround drivers are copied to your hard disk. After all files have been copied, you will be requested to restart the system.

7. Start your computer.

After the restart you can install the detailed online documentation and the program (Acrobat Reader) you can use to read the documentation.

Documentation

To install the documentation, please proceed as follows:

8. In the *Start* menu select the *Run...* command.

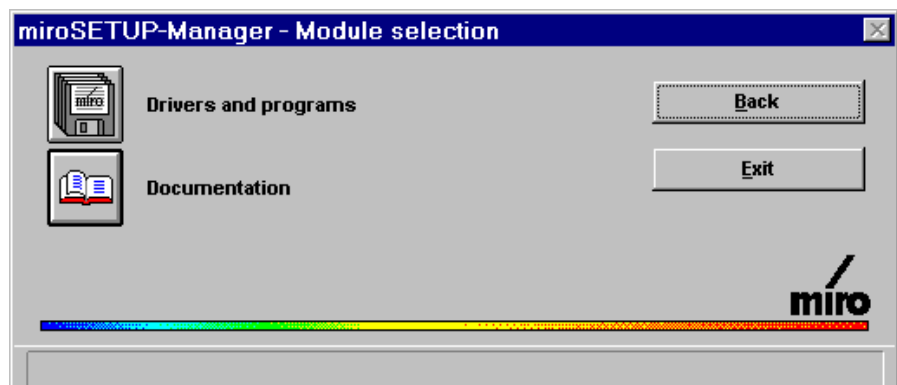
9. Enter **d:\miro_win<↵>** where **d:** is the letter of your CD-ROM drive. Click *OK*.

10. Click *OK*.

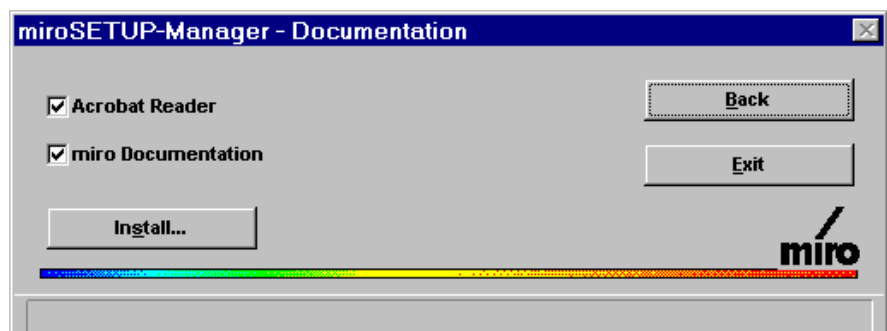


Now you are in the *miroSETUP-Manager Module Selection*.

11. Click *Documentation*.



12. Click *Install...*



13. Follow the installation instructions of the Acrobat Reader.

After restarting the system the program groups *Acrobat Reader* and *miro Documentation* are available. For more information refer to the “Online documentation” section.

... FOR WINDOWS 3.1X

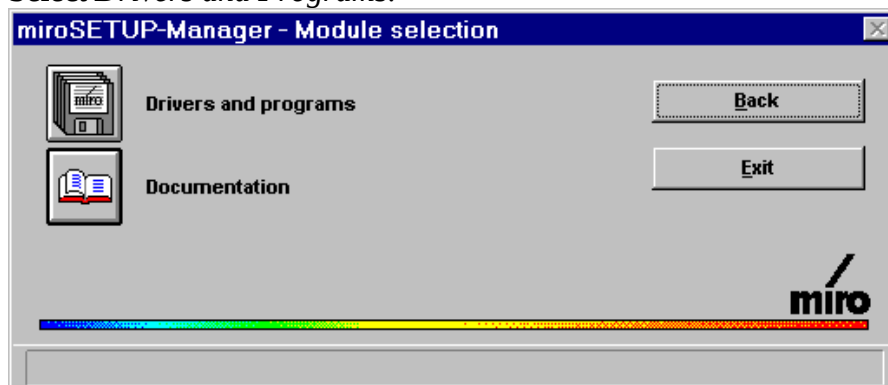
Drivers and tool To install the drivers and the miroMEDIA Surround tool for Windows 3.1x, proceed as follows:

1. If you have not done so already, start Windows 3.1x.
2. Insert the CD-ROM you received with your miroMEDIA Surround board into the disk drive.
3. In the Program Manager, select the *File* menu and the *Run...* command.
4. Enter **d:\miro_win<J>** where **d:** is the letter of your CD-ROM drive and click *OK*.
5. Click *OK*.

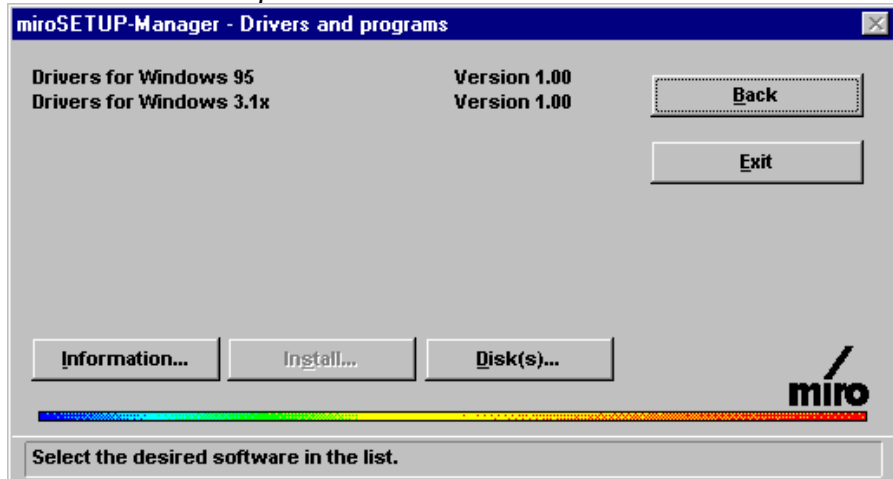


In the *miroSETUP-Manager Module Selection* window, you have the possibility to install the *miro Drivers and Programs*, the *Documentation* and the *Acrobat Reader*.

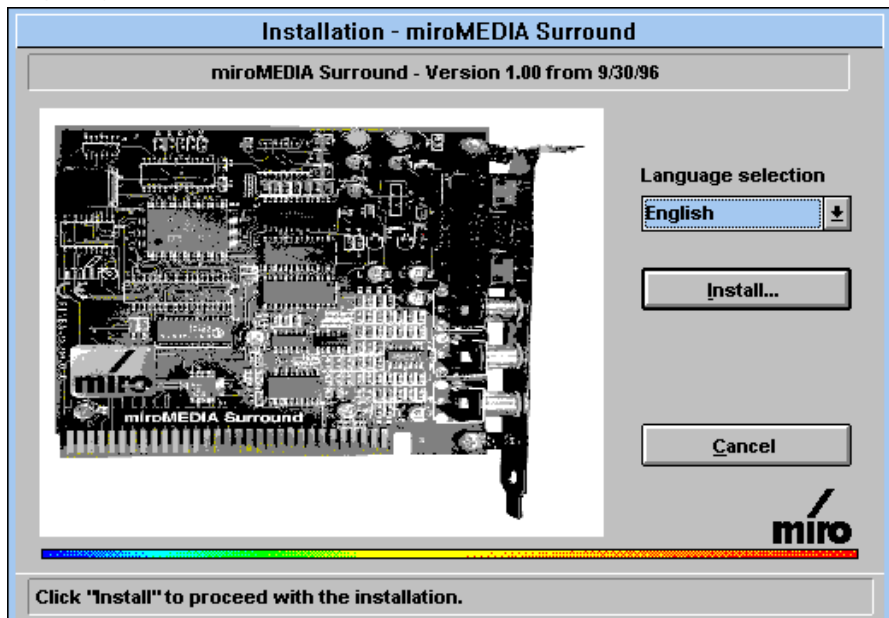
6. Select *Drivers and Programs*.



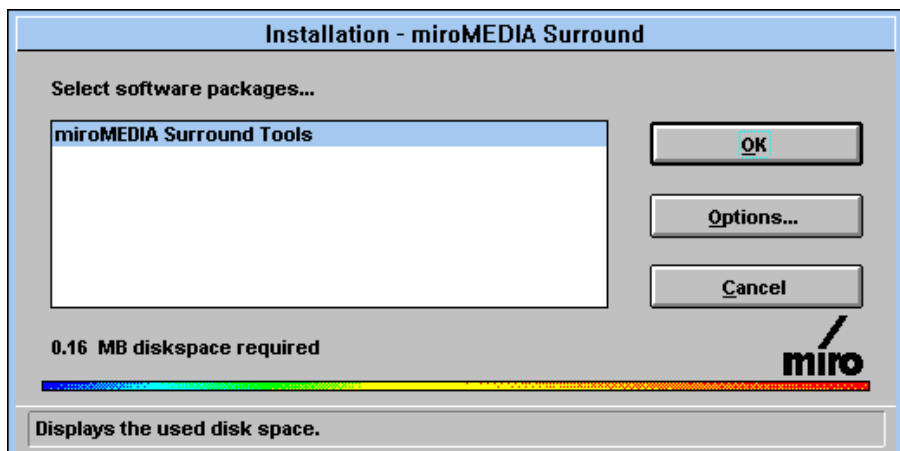
7. Enable the *Drivers for Windows 3.1x* menu item and click *Install...* .



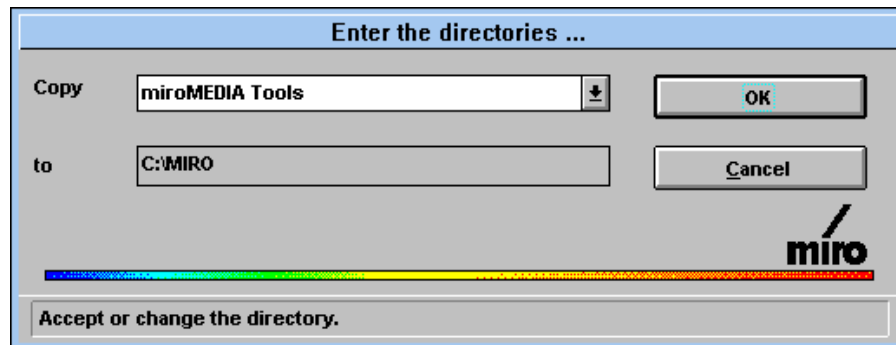
The miro installation program starts automatically. At the beginning of the installation program the *Language Selection* menu appears with the default setting *English*.



8. Click *Install...* .
9. Select *miroMEDIA Surround Tools*.



10. If you want to copy the software into the C:\MIRO directory, click **OK**.
If you want to change the directory, click *Options*, change the directory and click **OK**.



Documentation

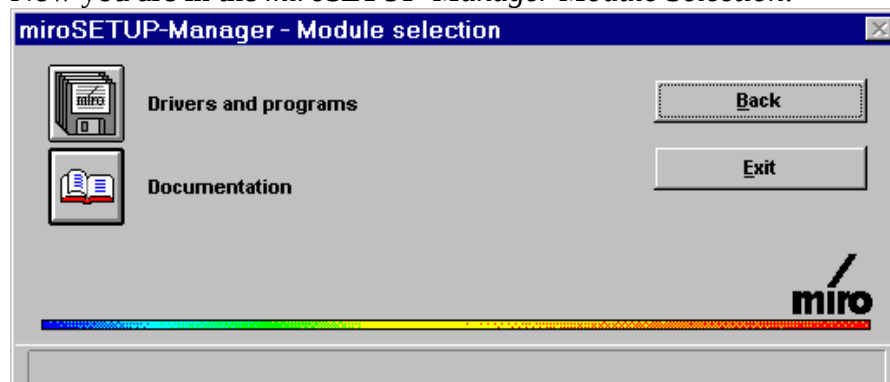
To install the documentation, please proceed as follows:

11. In the Program Manager, select the *Run...* command from the *File* menu.
12. Enter **d:\miro_win<↵>** where **d:** is the letter of your CD-ROM drive. Click **OK**.

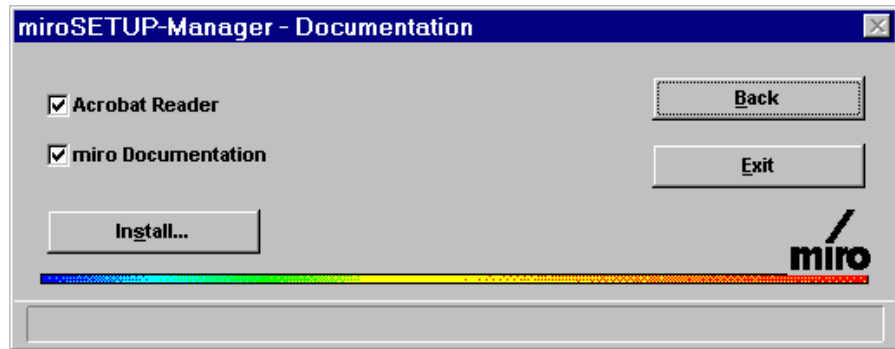


13. Click **OK**.

Now you are in the *miroSETUP-Manager Module Selection*.



14. Click *Documentation*.



15. Click *Install*.

16. Follow the installation instructions of the Acrobat Reader.

ONLINE DOCUMENTATION

The detailed online documentation contains information on the connection of the sound board, other devices and the speakers. You will also find instructions on how to use the miroMEDIA Surround tools.

To open the documentation,

- double-click the icon for the documentation in the *miro documentation*.

Bookmark The manual's table of contents is displayed to you when you select the *Display* menu and the *Bookmark and page* command. Click on a heading to switch direct to the appropriate chapter. A ▸ next to a chapter heading signifies that there are further subheadings, which you can display by clicking on the ▸ icon.

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

Another language You find all files of other language versions on the CD-ROM in the \MANUAL directory. You recognize the languages by the letters _e (English); _d (German), _f (French).

CREATING INSTALLATION DISK(S)

To create installation disks, you need a formatted 3,5" disk. Proceed as follows:

1. If you have not done so already, start Windows.
2. Insert the miro CD-ROM into the CD-ROM drive.
3. In the task bar under Windows 95, select the *Start* menu and the *Run...* command. Under Windows 3.1x, select the *File* menu in the Program Manager and the *Run* command.
4. Depending on the CD-ROM drive you use, enter:
d:\miro_win<↵>, where **d:** is the drive letter of your CD-ROM drive.
5. Select the language you want to do the installation in and click *OK*.
6. In the *miroSETUP-Manager Module Selection* window, select the *Drivers and Programs* item.

In the *miroSETUP-Manager Drivers and Programs* window you can choose for which drivers and/or programs you want to create installation disks.

7. Select the driver you want to install and click *Disk(s)*.
8. Insert the required disk(s) into the disk drive: the installation disk(s) will be created.
9. If necessary, create further installation disks.

Use the *Quit* button to quit the *miroSETUP-Manager*.

DEINSTALLING THE SOFTWARE

... under Windows 95

You can uninstall the complete system and application software under Windows 95. To do so, select *Start, Settings, Control Panel, Add remove programs, miroMEDIA Surround*, and click the *Install/Uninstall* tab. Then the *miroMEDIA Surround* software will be removed during the next startup. If you did not remove the board from your computer, Windows 95 will identify the *miroMEDIA Surround* board as a new component.

... under Windows 3.1x

Under Windows 3.1x a uninstall program is available after you installed the software.

To uninstall the *miroMEDIA Surround* software,

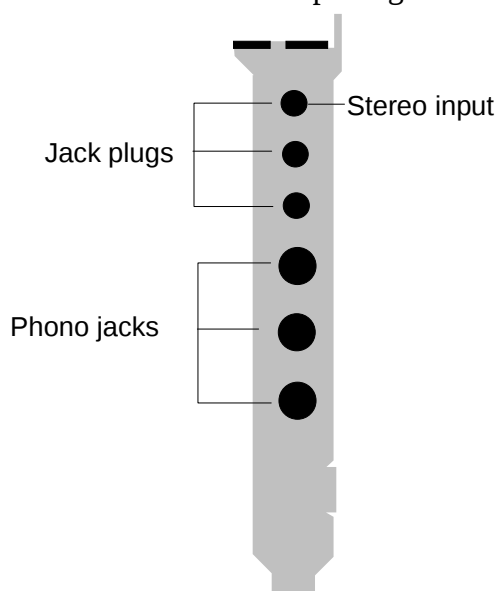
1. double-click *Deinstall* in the *miroMEDIA Surround* program group.
2. Follow the instructions of the program.

CONNECTING SOUND BOARD/OTHER DEVICES

After having installed the miroMEDIA Surround board, you can connect the sound board to the stereo input of the miroMEDIA Surround board. To do so, use the audio cable from the package contents.

To connect your sound board to the miroMEDIA Surround board, proceed as follows:

1. Locate the audio output of your sound board. For information on the audio output, please refer to the documentation of your sound board.
2. Connect the audio output of your sound board to the stereo input of the miroMEDIA Surround board using the audio cable from the miroMEDIA Surround package contents.



To the miroMEDIA Surround board you can also connect other sound devices which output stereo sound, such as a CD player, cassette recorder, VCR, or TV set.

It is also possible to connect a CD-ROM drive to the external audio input of the miroMEDIA Surround board. It is recommended, however, to connect the CD-ROM drive to the sound board.

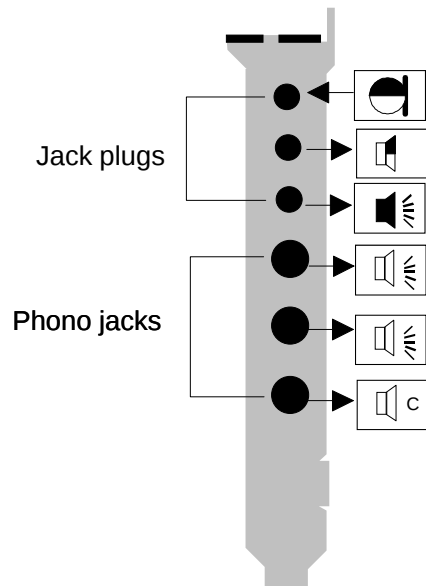
CONNECTING THE SPEAKERS



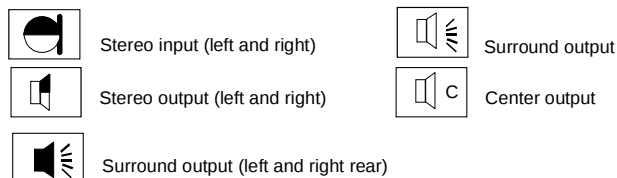
The miroMEDIA Surround package contents does not include the cables for connecting the speakers. Usually cables are supplied with the speakers. Otherwise you can obtain suitable cables from any electronic store.

For information on how to place your speakers, refer to the Appendix on page I.

The following diagram shows the miroMEDIA Surround connectors:

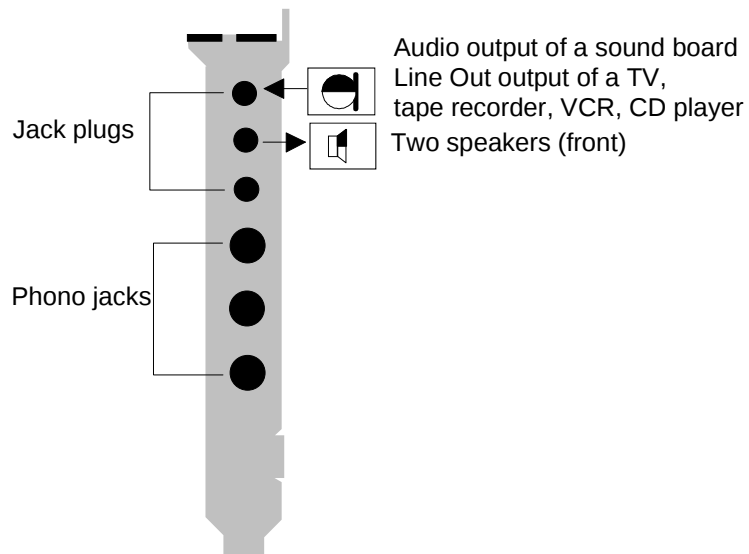


The icons stand for:

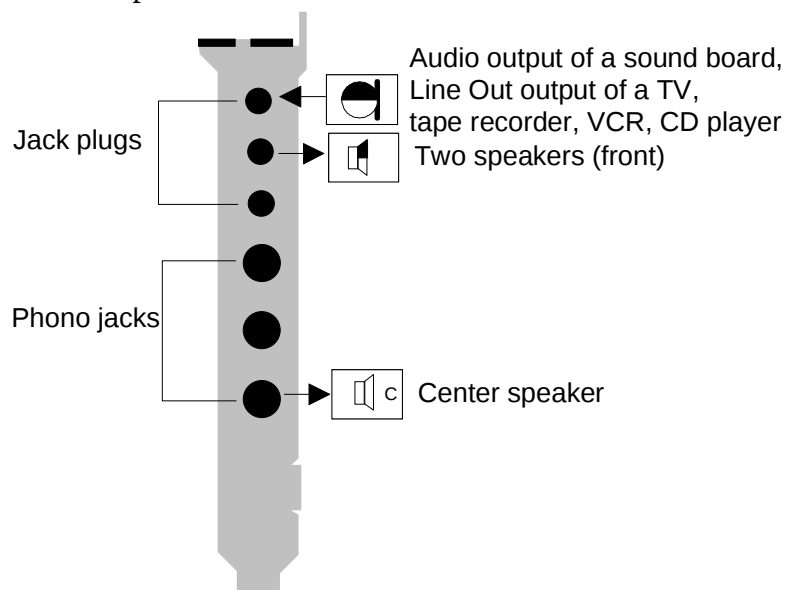


You have the possibility to connect two, three, four, or five speakers. You can adapt the sound especially for the number of speaker you connected using the supplied software. Please refer to “Using the miroMEDIA Surround”.

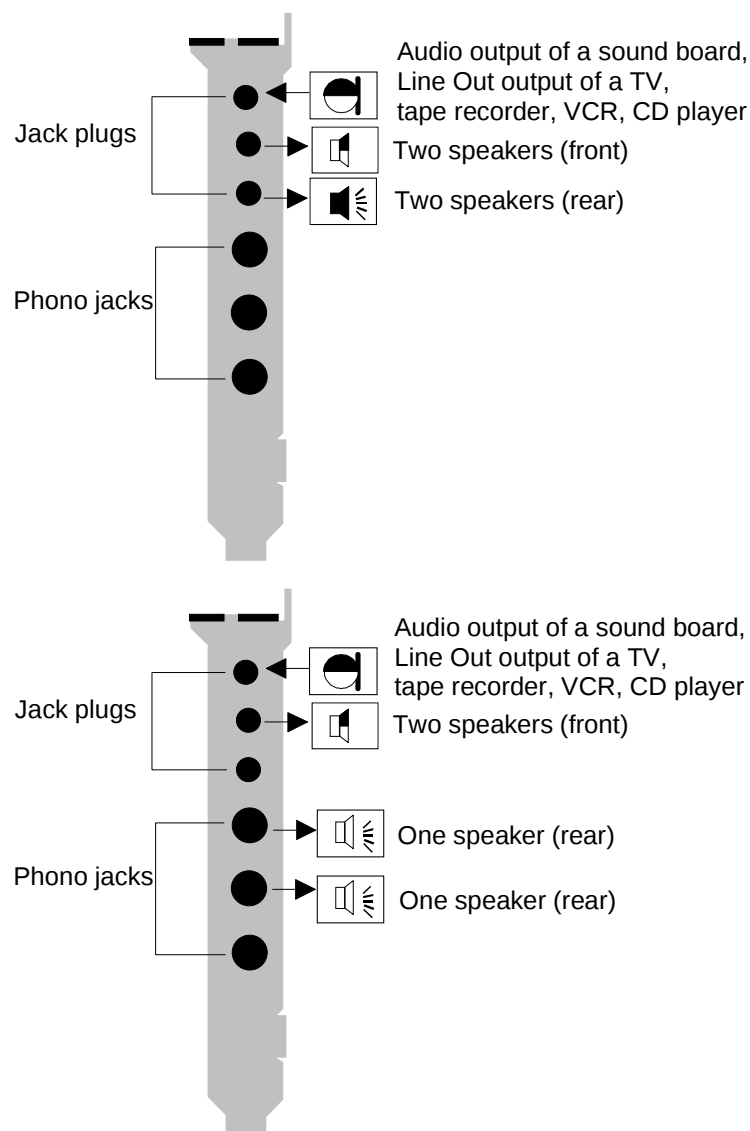
Two speakers If you only want to use two speakers, connect them to the miroMEDIA Surround stereo output. The miroMEDIA Surround board offers spatial sound, even if only two speakers are used.



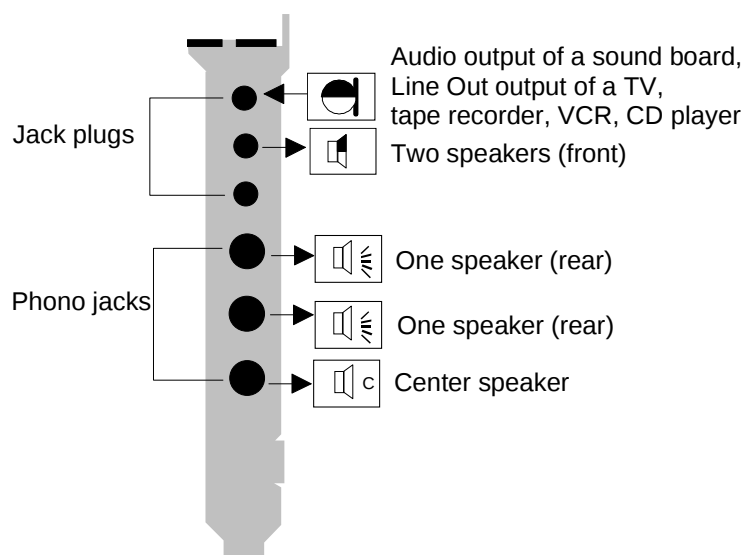
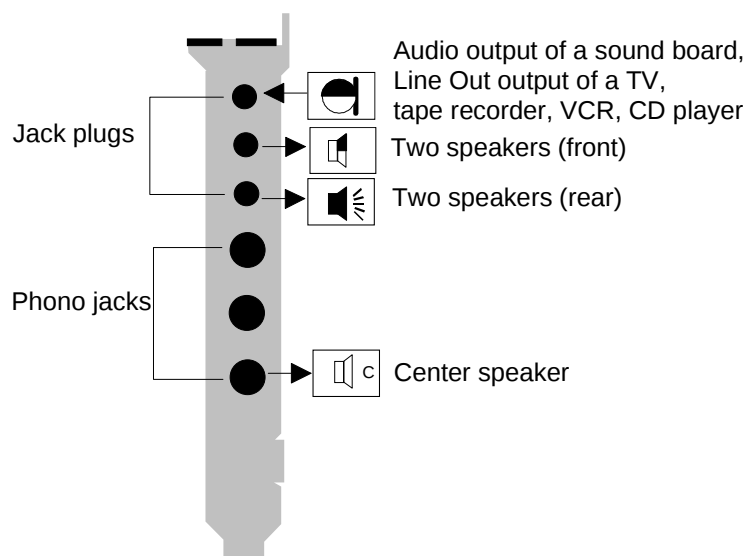
Three speakers You can also connect three speakers to the miroMEDIA Surround board and a center speaker.



Four speakers If you want to connect four speakers, the front speakers connect to the stereo input. You can connect the rear speakers either to the combined surround output or to the individual surround outputs.



Five speakers If you want to connect five speakers, you additionally connect the center speaker.



6

Using the miroMEDIA Surround

To achieve the optimal sound with your system, you can control the sound output for miroMEDIA Surround. To be able to do so, suitable tools are available for Windows 95, Windows 3.1x, and DOS. Depending on whether you connected two, three, four or five speakers, certain settings are recommended.

... UNDER WINDOWS 95

To receive an optimal sound output under Windows 95, use the *miroMEDIA Surround Properties* tool. After the software installation the *miroMEDIA Surround Properties* tool will be automatically inserted into the task bar.

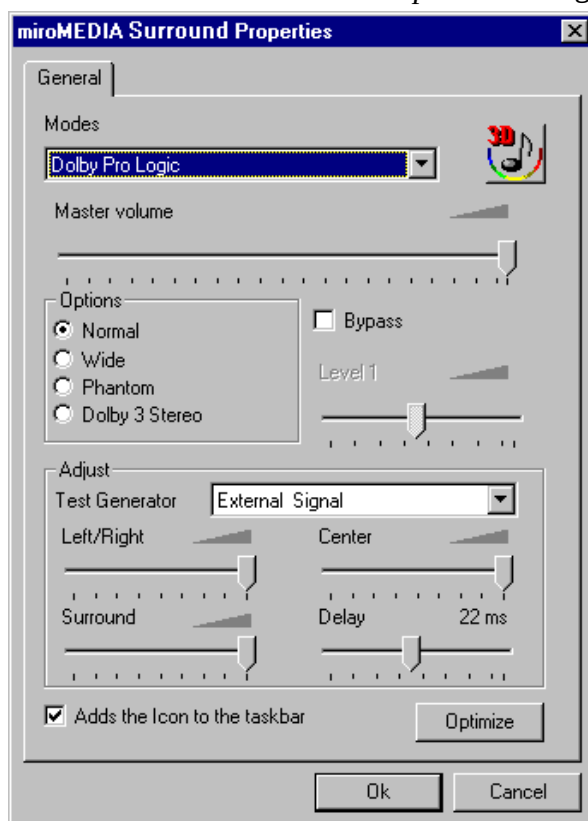
To start the *miroMEDIA Surround Properties* tool, proceed as follows:

1. Select *Settings* from the *Start* menu.
2. Select the *Control Panel*.

In the *Control Panel* you find the tool the miroMEDIA Surround board.

3. Click *Surround*.

The *miroMEDIA Surround Properties* dialog box.



Modes The *Modes* list box allows you to set the general sound parameters.

Master Volume:

This slider lets you adjust the overall volume.

Dolby Pro Logic:

When enabling this option, you can enjoy the Dolby Pro Logic Surround sound.

3D-Phonic:

Enable this option, if you only connected two speakers to your miroMEDIA Surround board. This option emulates a Surround sound field in accordance with the JVC standard.

Wide Stereo Effects:

Enabling the *Wide Stereo Effects* option modifies the sound according to the TI standard. It changes the sound in a way that the speakers seem to be located wider apart than they actually are.

Through:

This option leaves the sound unchanged.

3D button:

Clicking this button will show you current information on the miroMEDIA Surround software.

Master volume This slider lets you adjust the sound for all speakers at a time.

Options Via *Options* you can make further settings for the sound mode you selected above. Depending on the mode you selected, different options are available.

Options for the Dolby Pro Logic mode

Wide:

If the size, the performance, and the frequency range of the center channel speaker matches the parameters of the left and the right speakers, *Wide* mode should be selected.

Normal:

If you use a small center speaker which does not reproduce low frequencies optimally and which has been especially designed to output the dialogs, select *Normal*.

Phantom:

Use this setting when no center speaker is used.

Dolby 3 Stereo:

This option is suited best if you connected two frontal speakers and one center speaker to the miroMEDIA Surround board. This option also improves the sound of signals which have not been encoded with the Surround technology.

Options for the 3D-Phonic mode

Music/Sports:

The sound is optimally adapted to music and sports programs.

Theater 1:

This option offers a room effect which has been especially designed for speech and noise reproduction.

Theater 2:

This option offers another room effect which has been especially designed for speech and noise reproduction.

Standard:

This setting offers a spatial sound effect which does not emulate echo effects in closed rooms so that a wide variety of sources provide an excellent sound.

Options for the Wide Stereo Effect

Dance club:

When selecting this option, the sound conditions in a *Dance Club* are imitated.

Concert Hall:

The *Concert Hall* option offers you a concert hall sound.

Bypass At this setting the sound signal is looped through the miroMEDIA Surround board and will not be changed.

Level The *Level* slider lets you adjust the extent to which the selected sound effect is applied.

Adjust Under *Adjust* you can adjust the volumes for the individual speakers. From the list box next to *Test Generator*, you can select different sound sources. You can select the board's internal noise for the individual channels, a cyclic noise which alternates between the channels or an external sound source.

The slider next to *Left/Right* let you adjust the front speakers, the slider next to *Center* let you adjust the center speaker and the one next to *Surround* the ones in the rear. Please adjust the balance between the left and the right speakers directly at the speakers in case this option is available.

Adds icon to the task bar Enabling this option inserts the miroMEDIA Surround Settings tool in the task bar so that you can change the settings anytime.

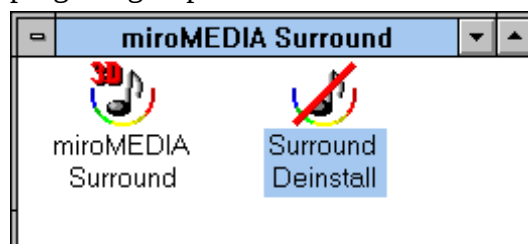
Optimize The *Optimize* button adjusts the maximum volume.

... UNDER WINDOWS 3.1X

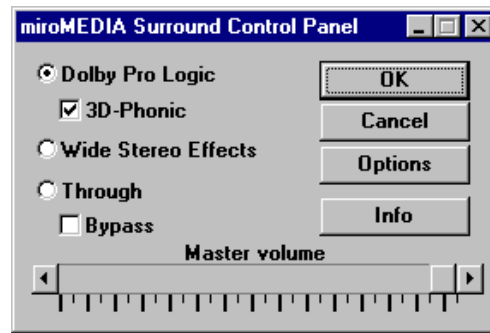
To receive an optimal sound output under Windows 3.1x, use the *miroMEDIA Surround Control Panel* tool. After the software installation the *miroMEDIA Surround Control Panel* will be located in the miroMEDIA Surround program group.

To start the *miroMEDIA Surround Control Panel*,

- double-click *miroMEDIA Surround* from the *miroMEDIA Surround*-program group.



The *miroMEDIA Surround Control* panel appears.



The *miroMEDIA Surround Control Panel* menu allows you to set the general sound parameters.

Dolby Pro Logic:

When enabling this option, you can enjoy the Dolby Pro Logic Surround sound.

3D-Phonic:

Enable this option, if you only connected two speakers to your *miroMEDIA Surround* board. This option emulates a Surround sound field in accordance with the JVC standard.

Wide Stereo Effect:

Enabling the *Wide Stereo Effects* option modifies the sound according to the TI standard. It changes the sound in a way that the speakers seem to be located wider apart than they actually are.

Through:

This option leaves the sound unchanged.

Bypass:

At this setting the sound signal is looped through the *miroMEDIA Surround* board and will not be changed.

Master Volume:

This slider lets you adjust the sound for all speakers at a time.

Options:

Via *Options* you can make further settings for the sound output option you selected in the main menu. Depending on the option you selected above, either the *Dolby Pro Logic*, the *3D Phonic*, the *Effect Type Selection* menu appears.

Info:

Clicking *Info* will show you current information on the *miroMEDIA Surround* software angezeigt.

Options for the Dolby Pro Logic mode



Wide:

If the size, the performance, and the frequency range of the center channel speaker matches the parameters of the left and the right speakers, *Wide* mode should be selected.

Normal:

If you use a small center speaker which does not reproduce low frequencies optimally and which has been especially designed to output the dialogs, select *Normal*.

Phantom:

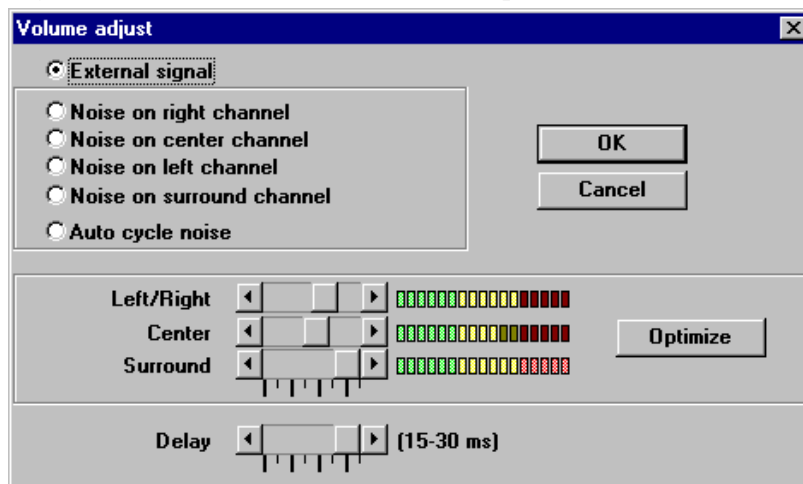
Use this setting when no center speaker is used.

Dolby 3 Stereo:

This option is suited best if you connected two frontal speakers and one center speaker to the miroMEDIA Surround board. This option also improves the sound of signals which have not been encoded with the Surround technology.

Vol. Adjust:

When clicking *Vol. Adjust*, a *Volume Adjust* menu appears allowing you to adjust the volumes for the individual speakers.

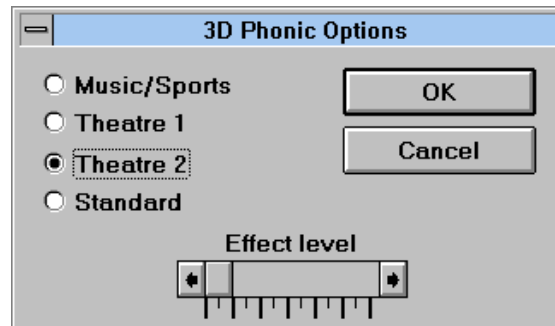


You can select the board's noise generator for the individual channels, a cyclic noise which alternates between the channels or an external sound source. The slider next to the noise settings let you adjust you the overall volume for the noise.

The slider next to *Left/Right* let you adjust the front speakers, the slider next to *Center* let you adjust the center speaker and the one next to *Surround* the ones in the rear. *Optimize* selects the maximum volume.

The *Delay* slider lets you select an echo effect.

Options for the 3D Phonic mode



Music/Sports:

The sound is optimally adapted to music and sports programs.

Theater 1:

This option offers a room effect which has been especially designed for speech and noise reproduction.

Theater 2:

This option offers another room effect which has been especially designed for speech and noise reproduction.

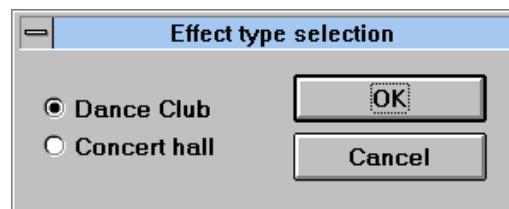
Standard:

This setting offers a spatial sound effect which does not emulate echo effects in closed rooms on purpose so that a wide variety of sources provide an excellent sound.

Effect level:

The *Effect level* slider lets you adjust the extent to which the selected sound effects is applied.

Options for the Wide Stereo Effect



Dance Club:

When selecting this option, the sound conditions in a *Dance Club* are imitated.

Concert Hall:

The *Concert Hall* option offers you a concert hall sound.

... UNDER DOS

You can select the sound options for the miroMEDIA Surround board also under DOS. On the CD-ROM you will find a batch file which installs the DOS tool on your computer.

To install the DOS tool,

- change to the directory \DISKSETS\DOS on the CD-ROM and enter **INSTALL** <↵>.

Then, the README.TXT and the SRNDDOS.EXE files are copied to your hard disk.

The settings you can make here are identical with the ones under Windows 95 and Windows 3.1x.



The miroMEDIA Surround board is only active under DOS, when the following requirements are met:

- You started SRNDDOS.EXE under DOS,
- you are in the DOS prompt under Windows,
- you just quit Windows and are now working under DOS.

The selected settings will be enabled until you reset or restart one of the miroMEDIA Surround tools.

OVERVIEW OVER THE SOUND SETTINGS

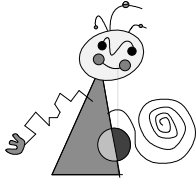
The following table gives you an overview over the sound settings. Select the one which is optimal for the number of speakers you use.

Number of speakers	Mode	Further settings
2	3D-Phonic	
3	Dolby Pro Logic	Dolby 3 Stereo
4	Dolby Pro Logic	Phantom
5	Dolby Pro Logic	Normal/Wide



Technical data

Bus system	ISA, EISA
Chip	DSP with 24-bit data bus with 15 nS data memory
Signal-to-noise ratio	0.707 Vrms=84 dB
THD (left, right)	< 0.02 & @ 100 mVrms
Frequency response	(- 3dB) 20 Hz to 20 kHz



ADDRESSES, INTERRUPTS, DMA CHANNEL

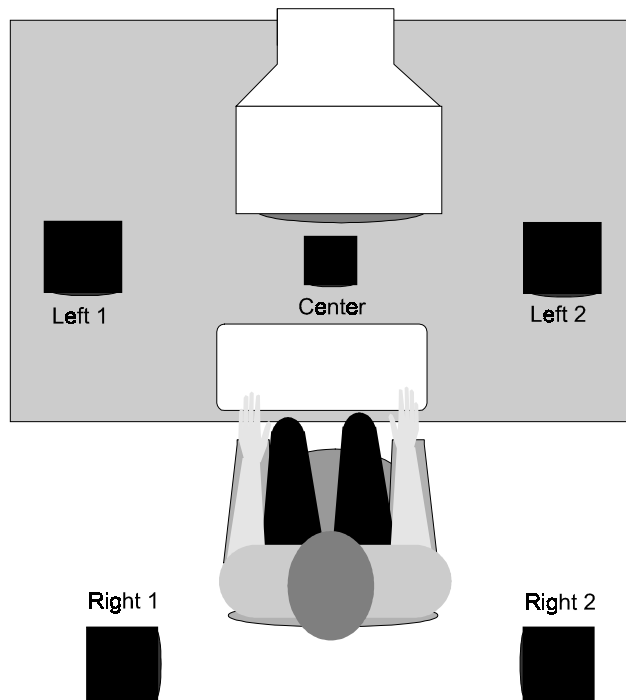
Your miroMEDIA Surround board does not use any interrupts or DMA channels.

The used address may be one of the following:

0x300 to 0x380 with 0x10 Spacing.

This address is primarily used for setting the cards mode. When the board has been configured it requires no intervention from the CPU because of the powerful DSP (Digital Signal Processor) used on the miroMEDIA surround board.

PLACING THE SPEAKERS



To achieve the optimum sound, please note the following hints:

- The center speaker should be placed as near to the monitor as possible in a line with the two front speakers.
- The rear speakers are best placed about 3 ft above the head of the listener.

INTERNAL CONNECTIONS

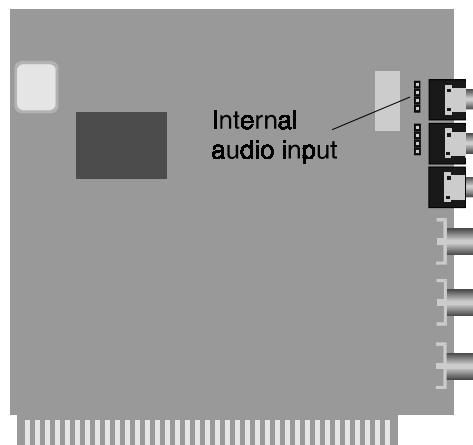


Please note that you can use only one **audio input** of the miroMEDIA Surround board, either the internal audio input on the board or the external audio input at the bracket.

Connecting the CD-ROM drive internally

It is recommended to connect the CD-ROM drive to the sound board. If, however, no sound board is available and you want to use the capabilities of the miroMEDIA Surround board, you can connect your CD-ROM drive directly to the miroMEDIA Surround board. If you want to play back audio CDs via the miroMEDIA Surround board, you have to connect the Line Out connector of your CD-ROM drive to the internal audio input of the miroMEDIA Surround board.

For the position of the internal audio input, refer to the following board layout.

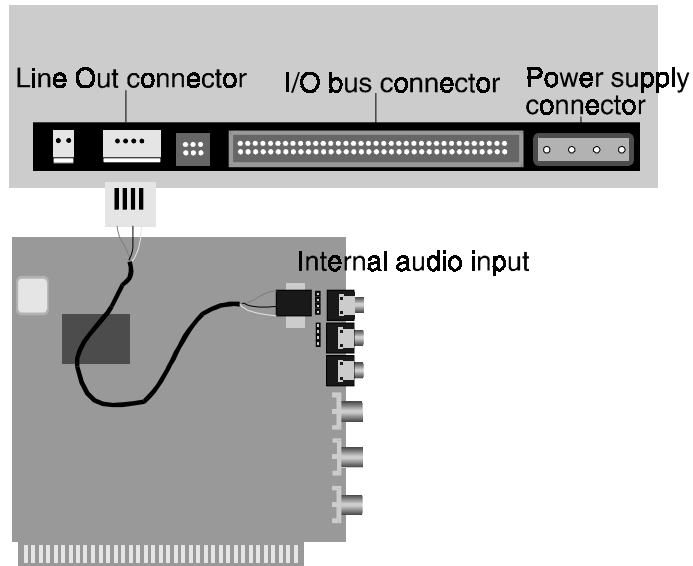


Because the pin allocations vary even for drives of one manufacturer, it is absolutely necessary that you check the pin allocation of your CD-ROM drive's audio connector before connecting the CD-ROM drive's audio connector to the miroMEDIA Surround audio connector. If necessary, adapt the audio cable to the pin allocation. For information on the pin allocations, refer to the next section ("Pin allocation").

To connect the Line Out connector to the CD-ROM drive with the internal audio input on the miroMEDIA Surround, proceed as follows:

1. Locate the internal audio input on the miroMEDIA Surround board.

2. Check if the pin allocation of the Line Out connector of your CD-ROM drive corresponds to the one on the miroMEDIA Surround board. If this is not the case, adapt the cable.



3. Connect the audio cable to the Line Out output of the CD-ROM drive and the internal audio input of the miroMEDIA Surround boards.
4. Reassemble the computer.

Connecting the sound board internally

It is recommended to connect the sound board to the external audio input of the miroMEDIA Surround board. Before connecting the audio output of the sound board to the internal audio input, please check the pin allocations of both boards.

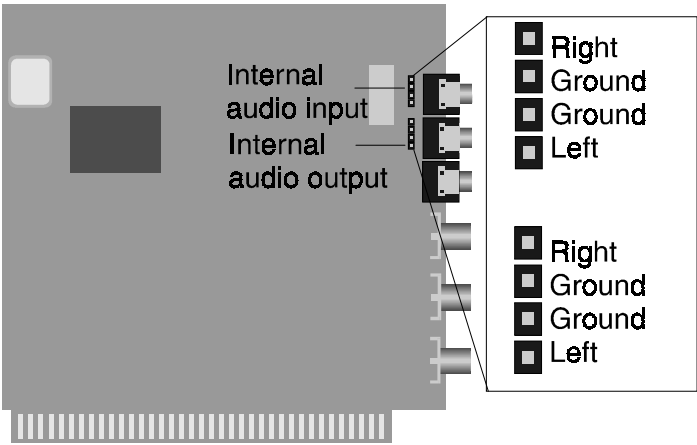
For the pin allocation of your sound board, please refer to the accompanying documentation, for the pin allocation of the miroMEDIA Surround board refer to the “Pin allocation” section overleaf.

Internal audio output

The miroMEDIA Surround also provides an internal audio output to which you can connect integrated PC speakers. Please check the pin allocations. For the pin allocation of the miroMEDIA Surround board, refer to the “Pin allocation” section overleaf.

PIN ALLOCATION

The following diagram shows you the pin allocations of the internal connectors on the miroMEDIA Surround board.



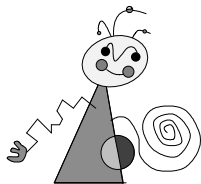
GLOSSARY



This glossary explains the most important terms occurring in this manual. Cross-references are marked by this icon .

- 3D-Phonic** This technology emulates a Surround sound field also when only two speakers are connected.
- Address** All memory positions in a computer have numbers (addresses). Through these addresses each memory position can be addressed directly. Some addresses are reserved for certain hardware components and must not be used. If two hardware components use the same address, there is a address conflict.
- analog** Opposite of  digital. Analog signals can take on continuous values.
- CD-ROM** Compact **D**isk-**R**ead **O**nly **M**emory. CD-ROMs are mass storage media for digital data which are read by a laser beam.
- digital** Literal meaning: represented by numbers. Opposite of  analog. In data processing technology numbers are usually represented by binary signals. Binary signals can take on only two values 0 and 1.
- DMA channel** Through **D**(irect)**M**(emory)**A**(ccess) channels data is transferred between hardware components (e.g. expansion boards) and the computer's memory directly and rapidly avoiding the CPU. Each DMA channel has a number and can be used by only one hardware component.
- Dolby Pro Logic** Dolby Pro Logic processing works to decode the stereo soundtrack back into the four channels.
- Dolby Surround** Dolby Surround works to four channels of audio (Left, Right, Center, and Surround) into a 2-channel stereo soundtrack. ( Dolby Pro Logic)
- DOS** **D**isk **O**perating **S**ystem. The most common operating system for PCs. MS-DOS is Microsoft's DOS version.
- Driver** Programs which integrate the hardware in the computer (e.g. drivers for CD-ROM drives) and which adapt the software to the hardware (e.g. drivers for graphical user interfaces, such as Microsoft Windows).
- IDE** Common standard for connecting CD-ROM and hard disk drives.
- Interrupt** An interrupt is a signal used by expansion boards and other hardware components to request the CPU. Each hardware component should use a separate interrupt.
- I/O address**  Address.
- IRQ**  Interrupt.
- PnP**  Plug & Play.

- Plug & Play** Windows 95 technology. Before Windows 95 has been introduced, the user always had to take some hurdles when installing a new hardware component. Often the user had to set some jumpers on the board before the hardware installation. After having inserted the board into the computer he had to install the driver software and to select interrupts, DMA channels and/or IRQs using a configuration tool. The Windows 95 Plug & Play technology puts an end to this. Whether the computer system includes Plug & Play-compliant or legacy (non Plug & Play-compliant) components, Windows 95 can automatically detect and configure them. After having installed a new hardware component, Windows 95 detects that a new hardware component has been found, identifies the resources (IRQs, addresses, and DMAs) that are available, the resources that are used by other hardware components and adds the configuration information for the Plug & Play device to the Registry. Then, the device drivers are installed based on the Registry settings.
- 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.
- Powered speakers** Powered speakers have a built-in amplifier and require a power supply or, more frequently, batteries. In most cases, powered speakers are used to amplify output signals of sound boards.



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.

miro Computer Products AG

miroMEDIA Surround



Tested To Comply
With FCC Standards

FOR HOME OR OFFICE USE



KONFORMITÄTSERKLÄRUNG DECLARATION OF CONFORMITY

Geräteart: Sound-Modul
Type of equipment: sound modul

Produkt / Product : **miroMEDIA Surround**

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:

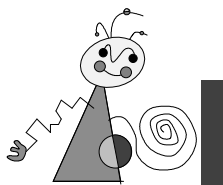
EN 55022 Class B: 1994
EN 50082-1: 1992 (ICE 801-2,-4)

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
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Braunschweig, 26.09.1996
(Ort / Place) (Datum / Date)


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