

miroMEDIA Radio

USER'S GUIDE



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Version 1.0/GB April 1996

VDOK-MEDR-OEM

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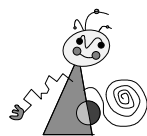
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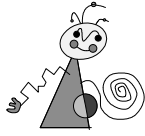
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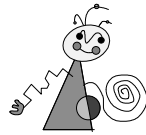
For your own safety

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. 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 CD-ROM 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 Radio 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.

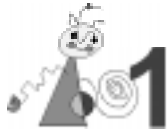
All keyboard commands appear in this font:

install <↵>

<↵> represents the enter key.

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

Notes



Overview

Thank you for purchasing the miroMEDIA Radio board.

The miroMEDIA Radio allows you to upgrade the miroCONNECT 34 and miroMEDIA Online boards with a high-quality RDS tuner. miroMEDIA Radio provides an excellent radio reception with RDS functions.

☐ *RDS functions*

Many radio stations broadcast RDS (Radio Data System) information in addition to the radio programs, e.g. the station name, the program type, radio text, or traffic announcements. The display in the miroMEDIA Radio tuner application shows this information. You can also store the RDS text on your hard disk.

☐ *RDS clock*

RDS broadcasts a very precise time signal which can be used to update the PC BIOS time.

☐ *HIFI standard in compliance with DIN45500*

miroMEDIA Radio complies with the DIN45500 HIFI standard providing an excellent HIFI sound quality.

☐ *User-friendly interface*

The miroMEDIA Radio tuner application interface is similar to a real radio device offering maximum user-friendliness.

☐ *Signal strength*

The tuner application displays the intensity of the signal for optimum accuracy.

☐ *miroMEDIA-Manager*

The miroMEDIA-Manager allows you to set the volume, adjust the channels and sound comfortably.

☐ *Easy installation*

When installing miroMEDIA Radio, you do not have to set interrupts, DMA channels, and memory addresses.



Before you start



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

PACKAGE CONTENTS

Please make sure that your system is complete. The miroMEDIA Radio package contents includes*:

- ♦ the miroMEDIA Radio module with attached antenna cable[†],
- ♦ slot shield,
- ♦ shield for serial interface,
- ♦ adapter screw,
- ♦ nut,
- ♦ coaxial adapter,
- ♦ CD-ROM,
- ♦ documentation.

SYSTEM REQUIREMENTS

To install the miroMEDIA Radio board, your system has to meet the following system requirements:

- ♦ at least 386 PC or compatible computer,
- ♦ the miroCONNECT 34 (board version 2.1 or higher)/miroMEDIA Online boards (board version 2.x or higher) should have been installed and configured already,
- ♦ 1 MB free disk space.

You also need an antenna with an coaxial connector.

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

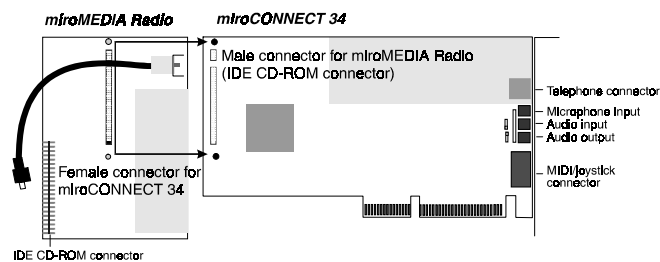
[†] For model and serial number of your miro board, refer to the label on the board.



Before you install the miroMEDIA Radio board, the miroCONNECT 34/miroMEDIA Online board has already to be configured and installed.

To install the miroMEDIA Radio board, proceed as follows:

1. **Turn off the computer, disconnect the cables.**
Turn off your computer and all peripheral devices. Disconnect the computer from the power supply and all necessary components.
2. **Open the computer.**
Loosen the screws of the computer's cover and remove it.
3. **Discharge yourself of static charge.**
Discharge yourself of static charge by touching the power unit casing. In case your computer was in use before you opened it the power supply may be very hot. In this case, touch another metal surface.
4. **Remove miroCONNECT 34.**
Disconnect all cables from the miroCONNECT 34 board. Make a note of how the cables are connected to the miroCONNECT 34 board. Carefully remove the board from the slot.
5. **Unpack the miroMEDIA Radio board.**
Take the board out of its packaging.
6. **Attach the miroMEDIA Radio board to the miroCONNECT 34/miroMEDIA Online board.**
Carefully connect the female connector of the miroMEDIA Radio board to the male connector of the miroCONNECT 34 board/miroMEDIA Online board. Insert the plastic pins attached to the miroMEDIA Radio board into the holes on the miroCONNECT 34/miroMEDIA Online board.

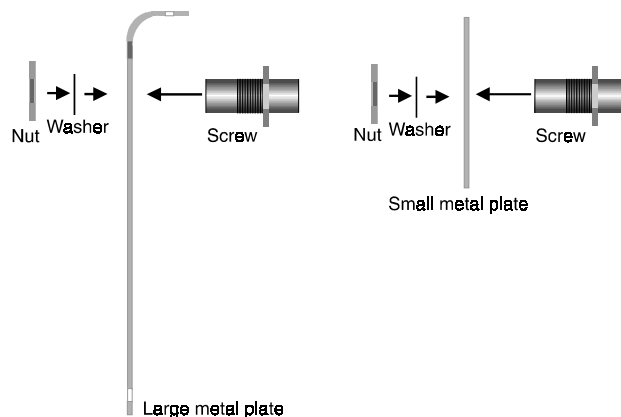


miroMEDIA Radio and miroCONNECT 34/miroMEDIA Online: Connection

In case the slot shield of your miroCONNECT 34/miroMEDIA Online board has a notch, you can lead the cable through this notch out of the computer. In this case, proceed with step 10.

If this is not the case, use one of the plates included in the package contents which provide a hole for the antenna cable. Depending on whether an opening of a free expansion slot or of a serial interface is available at the back of your computer, use the large or the small metal plate through which you can lead the antenna cable.

7. **Remove a slot shield or the shield of a serial interface from the back of your computer.**
8. **Connect the screw to one of the supplied metal plates using the nut.**
Depending on which shield you removed from the back of your computer, use the long or the small metal plate as illustrated below.



Attaching screw to slot shield

9. **Connect the metal plate with the screw to a free slot at the back of your computer.**
10. **Attach the antenna cable of the miroMEDIA Radio boards to the screw.**
11. **Carefully insert the miroCONNECT 34/miroMEDIA board with the attached miroMEDIA Radio board into the slot.**
If your miroCONNECT 34/miroMEDIA Online board has a notch, lead the antenna cable through this notch. Carefully insert the miroCONNECT 34/miroMEDIA Online board into the 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.
12. **If necessary, connect the CD-ROM cable to the miroMEDIA Radio board.**
If you connected your CD-ROM cable to the CD-ROM interface of the miroCONNECT 34 board to which you attached the miroMEDIA Radio board attach the cable to the IDE CD-ROM connector on the miroMEDIA Radio board.
13. **If necessary, connect the CD-ROM audio cable to the miroCONNECT 34 board.**
If the CD-ROM audio cable has been connected to the

miroCONNECT 34/miroMEDIA Online board before you installed
miroMEDIA Radio, reconnect the cable to the board.

14. **Press the coaxial adapter on to the antenna connector.**

15. **Reassemble the computer.**

Reassemble the computer. Reattach the cables.

16. **Connect the devices to the miroCONNECT 34/miroMEDIA Online
board.**

Reconnect the devices you want to use with the
miroCONNECT 34/miroMEDIA Online board. If necessary, consult the
miroCONNECT 34/miroMEDIA Online documentation.



Software installation

After you installed the miroMEDIA Radio hardware, you can install the software. The supplied installation program installs the software automatically under Windows 3.1x and Windows 95.

Windows 3.1x To install the software under Windows 3.1x, proceed as follows:

1. If you have not done so already, start Windows 3.1x.
2. Insert the installation diskette into your disk drive.
3. Select *File* in the Program Manager and the *Run...* command.
4. Enter **D:\install**, if **d** is the drive letter of your CD-ROM drive and click *OK*.
5. Follow the instructions of the installation program.

Windows 95 To install the software under Windows 95, proceed as follows:

1. If you have not done so already, start Windows 95.
2. Insert the installation diskette into your disk drive.
3. Select *Run...* in the *Start* menu.
4. Enter **d:\install**, if **d** is the drive letter of your CD-ROM drive and click *OK*.
5. Follow the instructions of the installation program.

The installation program copies the selected drivers under DOS and Windows and creates the *miroMEDIA Radio* program group.



miroMEDIA RADIO (RDS tuner)

The RDS tuner of miroMEDIA Radio offers you all functions of a VHF board having an RDS function.



Buttons Use these buttons to do the following settings:

Power

Switches the tuner off.



When pressing this button the time received by the tuner is transmitted to the PC. This function only works if the tuner has received the time signal via RDS which is indicated by a star beside the time indicator in the display window.

Mono/Stereo

Switches between mono and stereo playback.



Switches the sound off.

QRec

Records sound from the radio. For this function you have to enable the radio and CD option in the Record Mixer.



Plays the previous station for five seconds and then jumps to the next.



Plays the next station for five seconds and then jumps to next.

0-9

Select the presets.

-/+

- selects the previous station (according to the preset number), + selects the next station (according to the preset number).

Setting the volume To set the volume,

- click the mouse into the display area under *Vol.* Clicking the left mouse button increases the volume, clicking the right mouse button turns the volume down.

- You can also use the keyboard. Clicking the arrow up key increases the volume by one step. Clicking the arrow down key decreases the volume by one step. Clicking the PageUp key increases the volume by four steps, clicking the PageDown key decreases the volume by four steps.

Changing the display mode

To change the display mode, click the mouse into the upper left corner of the display window. The display window displays the following information:

Frequency: current frequency, e.g. FFN,

ProgType: program type: e. g. POP, NEWS, CLASSIC,

Radio text: scrolls the text in the display window. If you use the right mouse button to click this field the text appears in three lines. When clicking the mouse button again, you can scroll the text again

Info: In the station manager the user can enter a note of up to 64 characters for each station.

The text will be scrolled in the display window.

miro logo

Clicking the miro logo displays information about the tuner.

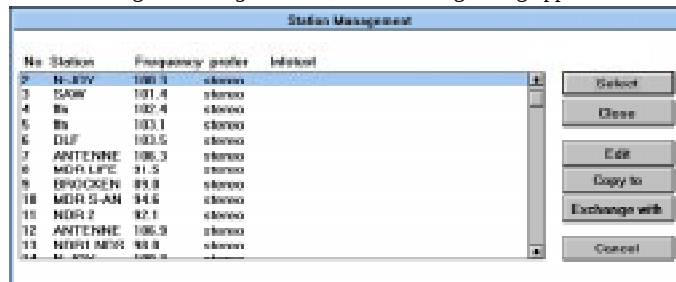
Hidden buttons



Behind the flap of the RDS tuner to the right of the *Power* button, there are further buttons. To open the flap, click on it using the mouse.

Manager

When clicking the *Manager* button, the following dialog appears:



The list shows all saved stations. To edit the information for a presetting, mark the desired line in the list with the left mouse button and click the *Edit* button. A further dialog appears which allows you to change the frequency of the station, to rename the station, or to enter a name if it could not be received by the RDS function, and to enter an info text with up to 64 characters. Pressing the *Delete* button deletes a (selected) channel.

To select another presetting,

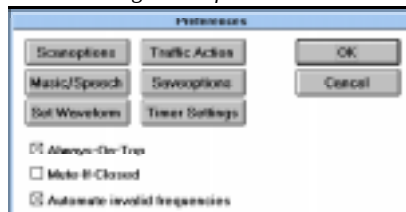
- double-click the presetting or mark it and click *Select*.

To allocate another presetting number to a station,

- click *Copy to* and select the number you desire. To exchange two stations, use the *Exchange with* button.

Prefs

When clicking the *Prefs* button the following dialog appears:



- **Always-On-Top:**
When activating this option the tuner is always on top of all other windows.
- **Mute-If-Closed:**
This option determines whether the tuner will be muted after leaving the application or not.
- **Automute invalid frequencies:**
When enabling this option the tuner is muted when no station is available for the selected frequency meaning that there is no noise between the stations.
- **Scan options:**

When clicking *Scan options*, the following dialog appears:

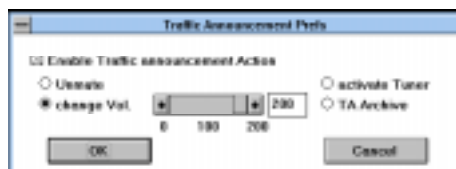


Here you can select the requirements a station has to meet to be accepted in the presettings list during automatic scanning, e. g. stereo (*Stereo only*), traffic announcements (*Traffic Program*), or a special program type (*Program type*).

The following program types are available: News, Pop-Music, Current Affairs, Rock-Music, Information, Easy Listening, Sport, Light Classics, Education, Serious Classics, Drama, Other Music, Culture, Varied.

- **Traffic Action:**

For traffic announcements you can do certain settings.



Enable Traffic announcement Action: Enables the settings for the traffic announcements.

Unmute: When enabling *Unmute*, the muting function is switched off for traffic announcements.

change Vol: Sets the volume for traffic announcements in relation to the volume of the station.

TA Archive (archive for traffic announcements): The tuner records up to 100 traffic announcements. To do so, select the *TA-Archive* button. To select the recording quality (sampling rate etc.) use the *Settings* button which calls up another dialog box.

- ♦ *Music/Speech:*

When clicking *Music/Speech* in the *Preferences* dialog, a dialog box appears allowing you to set the volume of music and speech individually. The volume of the speech is selected in relation to the volume of the music.

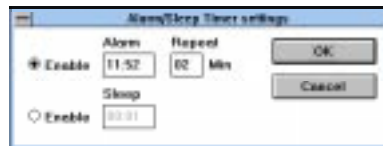
- ♦ *Saveoptions:*

When clicking *Saveoptions* in the *Preferences* dialog, a dialog appears allowing to determine which data you want to save when quitting the application.

- ♦ *Set waveform:*

Click the *Waveform* button in the *Preferences* dialog, a dialog appears which allows you to set the recording quality for the QuickRecord function. Please note that a high recording quality (stereo, 44.1 kHz, 16 bits) requires a lot of memory and lowers the maximum time of the recording considerably. QuickRecord does not save to hard disk, the maximum recording time depends on the free RAM space.

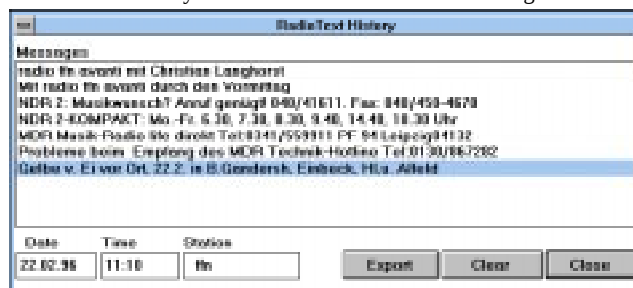
- ♦ *Timer settings:*



Allows you to set an alarm clock and to set the time after which the tuner shall be switched off (*Sleep*).

R-Text (Radio-Text-History)

This button shows you the last hundred radio text messages.



- ♦ **Export:**
The *Export* function allows you to save your message as *.TXT file.
- ♦ **Clear:**
Clear deletes all recent entries.
- ♦ **Close:**
Closes the dialog box.

DnTuneUp

Selects the frequency in steps of 50 kHz.

PlayWav

Lets you select and play a wave file or a traffic announcement.

AutoScan

Automatically scans for stations. To select the search options, select *Prefs* and *Scanoptions*.

Close

Closes the tuner flap.

Programming stations

After starting the tuner for the first time, no presets are available. You can use the RDS tuner of the miroMEDIA Radio board to set up to 40 stations. To select stations, you can scan automatically or manually or you can enter a frequency directly.

Automatical scanning:

To scan for stations automatically, proceed as follows:

- Click the *AutoScan* key under the tuner flap.

If you have not programmed any station yet, the stations are allocated to the presets starting with 1. The complete frequency range is searched for stations, the valid frequencies are saved until all presets are used.

If you have programmed stations already, the following presets are used starting with the preset you have currently selected. If you selected the preset 1 for a station with a frequency of 87.7 MHz, the presets 2, 3 etc. are allocated to stations of the next higher frequency.

Manual scanning:

To search for stations manually, proceed as follows:

- Press a number in the RDS tuner, e.g. 1.
- Press  to search for the previous station or  for the next station. If a station has been found, the search procedure stops for a short time. Then press the button again.

Then the station is programmed and you can call it up using the presetting number.

Selecting a frequency using the keyboard:

To select a frequency directly, proceed as follows:

- Press the key in the number block of your keyboard.

In the display of the tuner *Prog* appears.

- Enter the frequency.

To enter the frequency 92.1, press the keys 9, 2, and 1. You do not have to enter the decimal point. The 0 button calls the channel you saved under 10.

- After having entered a valid frequency, you quit the program mode automatically. Pressing again, you leave the program mode.

Calling up a station

To call up one of the following ten stations, use the left mouse key, to click one of the number buttons 0 - 9.

To call the other programs, click on the numerical key with the right mouse key. Then a list box opens showing all saved stations. When you double-click a station, it is called up.

Recording radio programs

To record radio programs, proceed as follows:

- Start a recorder application, e.g. the HQ-9000 recorder and press the Rec key of the recorder,
or
- press the QRec key of the RDS tuner.



For this function you have to enable the radio and CD option in the Record Mixer.

To record sound with an application other than the RDS tuner, close the tuner application first to enable the other recording device.

Please note that a high recording quality (stereo, 44.1 kHz, 16 bits) requires a lot of memory and lowers the maximum time of the recording considerably. QuickRecord does not save to hard disk, the maximum recording time depends on the free RAM space.

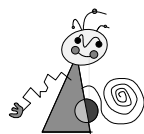
Minimizing

To minimize the RDS tuner, move the mouse cursor on the tuner. When the mouse cursor converts into a cross, perform a double-click.



Technical data

- | | |
|-----------------|--|
| Hardware | <ul style="list-style-type: none">• Daughterboard for miroCONNECT 34/miroMEDIA Online and miroMEDIA Online• RDS decoder• Antenna connector with 75 Ohm via IEC connector• IDE connector |
| Software | <ul style="list-style-type: none">• Tuner application |



WHAT IS RDS?

RDS stands for Radio Data System and is a system which has been developed 1977 by the „Europäischen Rundfunkunion“ and which is used all over Europe since 1987.

In addition to the radio programmes, many radio stations broadcast basic information, such as the name of the station (PS), alternative frequencies (AF), traffic programmes (TP) and traffic announcements (TA).

Further pieces of information are:

CT, clock time and date.

DI (Decoder Identification), recognizes whether the program is broadcast in mono or in stereo.

EON (Enhanced Information Concerning Other Networks), informs about all other programs of a radio station.

M/S (Music/Speech), distinguishes between music and speech programs.

NWS (National Warning System), identifies warning messages which cannot be switched off and which switch from cassette operation to radio operation.

PIN (Program Item Number) identifies programs.

PTY (Program Type), identifies the type of program e.g. sports, pop, classics etc.

RP (Radio Paging), broadcasts calls for persons.

RT (Radio Text), radio text transfers 64 characters, in this way, e.g. news, or interpreters and song titles can be broadcast.

GLOSSARY

This glossary explains the most important terms occurring in this manual and in the field of sound boards in general. Cross-references are marked by this icon .

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 an address conflict.
Analog	Opposite of  digital. Analog signals can take on continuous values.
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), load programs automatically, etc.
Batch file	A  DOS file where a sequence of commands is processed one after the other ( AUTOEXEC.BAT).
CD-ROM	C ompact D isk- R ead O nly M emory. CD-ROMs are mass storage media for digital data which are read by a laser beam.
Codec	Device for c oding and d ecoding signals. A codec converts analog signals into digital signals (coding) and converts digital signals back into analog signals (decoding).
CONFIG.SYS	A  DOS configuration file which is processed automatically when the system is starting. The CONFIG.SYS file includes  drivers which control the output to the monitor, the keyboard etc.
Controller	All drives in a PC (floppy disk drives, hard disk drives, CD-ROM disk drives) require a controller which serves as an electrical link between the PC and the drive and which controls the drive's functions (e.g. positioning the head on the disk).
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.
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).
Dynamic microphone	In dynamic  microphones a diaphragm is attached to a small coil which swings in a magnet. The power generated by the coil is amplified.
Electret microphone	In electret  microphones, the diaphragm consists of electrically polarized matter (electret).

FM	Frequency modulation. Modulation technique used for example for broadcasting VHF radio programs. The signal to be transmitted modulates the frequency of a constant amplitude carrier signal. On sound boards, instrumental sounds are generated synthetically using the FM technique.
Frequency modulation	 FM.
General MIDI	Standard, specified by the synthesizer manufacturer Roland, which ensures that MIDI sound files are compatible with each other. The General MIDI standard assigns fixed MIDI instrumental numbers to real instruments ( MIDI). GM files should sound the same on any output device.
IDE	Common standard for connecting CD-ROM and hard disk drives.
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.
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.
Joystick	Input device mainly used for computer games which converts the movements of a handle into movements on the screen.
Microphone	A microphone is an electroacoustic converter, which converts acoustic vibrations taken up by a diaphragm into electrical power ( electret microphone,  dynamic microphone).
Microsoft Windows Sound System	Sound standard by Microsoft.
MIDI	M usical I nstruments D igital I nterface: standardized  interface developed by synthesizer manufactures in 1983 for the data transfer between electronical musical instruments, computers etc. MIDI devices interconnect via 5-pin MIDI connectors. In a computer, music is often stored in the MIDI format. The MIDI files consist of command sequences, e.g. “select instrument 4”, “note A on”, “note A off”. The sound generated depends on the synthesizer of the sound board.
MIDI adapter	Adapter which allows to connect MIDI devices to the 15-pin joystick connector on sound boards. Sound boards usually do not have 5-pin MIDI connectors. To connect a MIDI device to the MIDI/joystick interface on sound boards, a MIDI adapter is therefore required.
MIDI-In connector	A MIDI device receives signals through the MIDI-In connector.
MIDI-Out connector	A MIDI device sends signals through the MIDI-Out connector.

MIDI sequencer	Software for editing MIDI files which operates like a multi-channel studio mixer.
MIDI songs	As opposed to  samples, MIDI songs consist of the individual notes of a musical piece. To play the music back correctly, MIDI devices or sound boards have to assign the correct instruments to the notes.
MIDI-Thru connector	The MIDI-Thru connector loops through signals which are received through the MIDI-In connector.
MPC	Multimedia PC standard developed by Microsoft which specifies the minimum equipment of a multimedia PC. A PC complying to the MPC standard is able to run MPC multimedia applications and CDs without any limitations.
MPU-401	Originally a MIDI interface developed by Roland. Acronym for M usic P rocessing U nit. Today: standard for most sound applications and games running under MS-DOS. Under  DOS and Windows the MPU-401 interface transfers MIDI signals (for the most part General MIDI signals) to the Wavetable module. To be able to generate Wavetable sound for games and sequencers ( MIDI sequencer) running under DOS and supporting General MIDI, the MPU-401 support under DOS is essential.
MSCDEX.EXE	So-called High-Level driver for CD-ROM drives which prepares the data and the CD-ROM file system for MS-DOS. MSCDEX.EXE is supplied by Microsoft and is identical for all CD-ROM drives. As opposed to the High-Level driver, the Low-Level driver transfers the data between the PC and the CD-ROM controller and calls the control functions for the drive. The Low-Level driver is supplied by the manufacturer of the drive or the  controller.
Operator	Sine oscillator which either generates the carrier signal or modulates the frequency of a second operator ( FM). To reproduce the sound of a musical instrument, a sound board needs at least two operators. Percussion instruments (e.g. drums) require only one operator.
OPL2	First sound chip by Yamaha for sound boards which generates  FM sounds. OPL2 could generate 11 mono voices (6 instruments, 5 drums) simultaneously. Each voice consist of 2  operators.
OPL3	OPL3 is a 16-bit stereo chip and can generate 20 voices consisting of 4  operators.
OPL4	OPL4 is a 16-bit stereo chip and can generate 44 voices. There are 24 Wavetable voices (PCM samples) and 20 FM voices consisting of 4  operators (OPL3). The 44 voices can be played back simultaneously ( Wavetable,  PCM,  Sample).
Patch	In computer technology, patching means modifying data which normally are fixed. In the field of sound boards patches are modifications of basic sounds.
PCM	Pulse Code Modulation. Modulation technique for converting analog into digital data.
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.

Sample	Digitized audio signals which can be processed by computers. A sample consists for example of a complete musical piece with all voices and instruments. Processing a sample is restricted to cutting, inserting and playing backwards individual parts of a sample. Individual voices cannot be deleted. This is only possible for  MIDI songs with the help of  MIDI sequencers.
Sampling	Digitizing audio signals. Sampling converts sound into digital signals which computers can process.
Sampling rate	Number of  samples generated per second when digitizing ( sampling) analog signals (sound). The lower the sampling rate is, the lower is the sound quality of the played back digital audio signals. The higher the sampling rate is, the truer is the digitized sound to the original. The sampling rate for CDs is 44.1 kHz in stereo (2 x 44,100 samples per second).
Sound Blaster compatibility	The Sound Blaster is a sound board developed by the Creative Labs company that has established itself as a standard as the result of its widespread use. A distinction is made between Soundblaster and Soundblaster Pro compatibility. Soundblaster Pro-compatible boards are fully capable of generating stereo sound.
Synthesizer	Here: generates the sound on a sound board.
WAV	File format for sound files. "WAV" stands for wave form.
Waveblaster connector	Small connector on the sound board to which a wavetable module attaches. Waveblaster is originally an add-on board by Creative Labs.
Wave Table	Digital recording of a natural instrument sound in the ROM (read-only memory) of a sound board. The original sounds are taken from the memory and are not reproduced synthetically as with  FM. The larger the Wave Table ROM, the higher the sound quality.

SUPPORT/SERVICE

Support

miro Support Hotline hours: 9:00 am. - 5:30 pm.
phone: (44) 494 51 00 70

miro Support Fax fax number: (44) 494 51 02 50

miro Support Mailbox hours: 24 hours
phone: (49) 531 2113 - 112 (Germany)
protocol: 1.200 - 28.800 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.) (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

miro in the Internet In the World Wide Web you can contact miro via the homepage www.miro.de.

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.

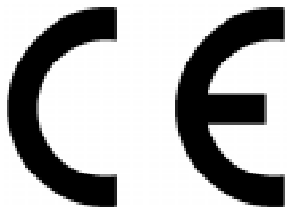


Contact your authorized distributor if you have a question about miro products. Please have all the necessary information ready before you call so the distributor can answer your questions as precisely as possible, i. e. hardware configuration (extension cards and addresses) and software configuration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

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Spain	Binal Multimedia SL Avda. de Carlos I, 16-8d 20011 San Sebastian Tel.: 0034-43-466047 Fax: 0034-43-459070
USA	miro Computer Products, Inc. 955 Commercial Street Palo Alto, CA 94303 Tel.: 001/415/855-0940 Fax: 001/415/855-9004



KONFORMITÄTSERKLÄRUNG
DECLARATION OF CONFORMITY

Geräteart: Sound-Board

Type of equipment: Sound board

Produkt / Product : **miroMEDIA Radio**

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 : 1987
EN 50082-1 : 1992
EN 55013 : 1990
EN 55020 : 1988

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

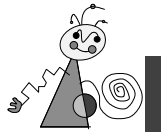
D - 38112 Braunschweig

Braunschweig, 02.05.1995

(Ort / Place)

(Datum / Date)

.....
Dr. Ulrich Schmidt, V.P. ENGINEERING



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