Malibu

Surround 64™



Turtle Beach™

Getting Started Guide

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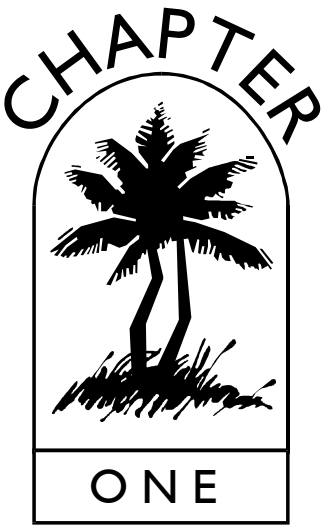
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WELCOME…

And thank you for purchasing the Malibu Surround 64!™

Turtle Beach continues to bring you the best value in PC sound quality and performance with the Malibu Surround 64. The exceptional clarity of Malibu's 3D digital audio hardware coupled with the realistic instrument sounds from its professional-grade Kurzweil® MIDI synthesizer provide a sonic experience surpassing other sound cards in its class.

With advanced features such as S/PDIF output for direct-to-digital recording, SRS® 3D Surround Sound, 4MB of wavetable instrument samples, and hardware-based, full-duplex recording and playback, Malibu delivers performance that outclasses sound cards costing significantly more!

The Malibu is 100% compatible with DOS and Windows games and includes a value-packed software suite that turns your PC into a feature-rich multimedia, music and audio production tool.

Malibu is the affordable solution to the finest PC listening experience, which is just what you would expect from the leaders in award-winning PC sound technology — Turtle Beach!

REMEMBER TO REGISTER!



You can register by mail, fax, phone or on the Web — whichever is easiest for you. Refer to the front of this manual or the Registration Card for these addresses.

There are many benefits to registering your Malibu Surround 64. In addition to the warranty, you also will receive:

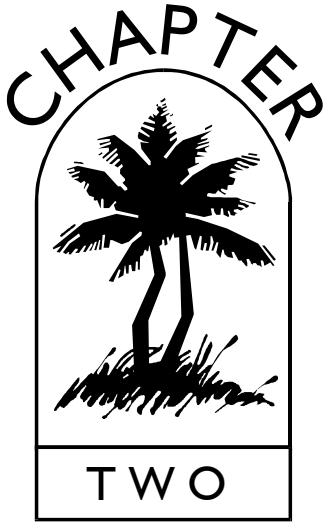
- **Update Notifications —** to keep you informed of software updates and new Voyetra/Turtle Beach products.
- **Upgrade Plan —** to provide you with discounts on our full-featured PC sound products.
- **Technical Support —** to help you get your hardware and software installed before you register. However, you must be a registered user to receive full technical support.

OUR WEBSITE

Be sure to visit the Turtle Beach website for the latest information on new products, upgrades and to obtain the most recent drivers. You will find us at www.tbeach.com



Click the Turtle Beach website icon, in the TBS Malibu program group, for direct access to our website — www.tbeach.com



INTRODUCING THE MALIBU SURROUND 64

The Malibu has many significant features, including:

- 100% compatibility with DOS and Windows games
- 64 voices of wavetable synthesis in Windows® 95
- Legendary Kurzweil® hardware wavetable synthesis with 4MB of instrument samples
- WaveStream™ 32-voice software synthesis
- Voyetra Synth Layering (VSL)
- Digital audio and wavetable S/PDIF digital output
- Full-featured Voyetra software suite
- SRS® Surround Sound 3D spatialization for home-theater realism
- Full-duplex hardware for 16-bit stereo simultaneous record/ playback

S/PDIF

S/PDIF stands for Sony/Phillips Digital InterFace. This is a standard used in the audio industry for connecting audio components together using pure digital signals. It is included on many pro audio devices, such as DVD players, Digital Audio Tapes (DAT), CD players and home theater systems. With S/PDIF, Malibu lets your PC create sound with the same clarity of pure digital audio as these professional audio devices!

The Malibu comes with an S/PDIF digital output connector, allowing you to record directly to a DAT recorder or other digital recording device. Unlike the Line Out jack, the digital signal from the S/PDIF connector is not converted to an analog signal before being recorded. Therefore, the recording process becomes more of a data transfer than an audio recording. This ensures the highest possible audio quality.

The digital output is useful for various audio production applications. For example, using the Malibu and the included AudioView™ software, you can record and edit voice over and music to create an audio segment for a multimedia presentation or a video soundtrack. Then, record to DAT via the S/PDIF output to transfer to the media you are working in — such as another PC, videotape, digital video, etc. During this audio transfer process there will be virtually no signal loss or degradation.

A digital signal is always being routed from the synth and digital audio output to the S/PDIF connect. The digital output of the Malibu is set at 44.1 kHz; therefore, when recording, set your DAT player to record at this data rate.

Many high-end home theater receivers provide S/PDIF inputs. By connecting the S/PDIF to this input, you can enjoy the clarity of pure digital sound from your PC when playing games in your home theater environment. You can also connect the S/PDIF output to your Multi-Sound® Pinnacle™ or Fiji™ S/PDIF input to enjoy your PC games with the clarity of pure digital audio.

WAVESTREAM SOFTWARE SYNTHESIZER

If you are running in Windows 95, the install process will prompt you to install the WaveStream™ software synthesizer, a very powerful 32-voice wavetable MIDI synthesizer. This synthesizer, combined with the Malibu Surround 64's Kurzweil hardware synthesizer and the Voyetra Synth Layering™ (VSL) driver, provides pro synthesis power outperforming any sound card in its class.

The WaveStream also boasts on-board signal processing for rich, lush reverb effects. The reverb provides that professional sound found only in sound cards costing hundreds of dollars more.



WaveStream™ works in Windows® 95 only — to provide an extra sonic boost for Windows 95 applications

ABOUT CPU USAGE

Although the software synthesizer uses the computer's host processor to synthesize its sounds, most Pentium class PCs show little to no performance degradation while using other applications. The included CPU system monitor application provides information on how much of your computer's resources are being used by the software synthesizer.

Although WaveStream was designed to work in Windows 95, DOS games, Windows 3.1 and Windows NT applications will still work fine using the Malibu's powerful 32-voice Kurzweil hardware synthesizer.

THE SOFTWARE SYNTH AND VSL

Voyetra has created a new standard in MIDI with its Voyetra Synth Layering™ (VSL) for Windows 95. This revolutionary new technology allows you to combine several synth outputs to create fuller, richer and more expressive MIDI playback.

Most MIDI files and applications using MIDI have been written to use only the 32-voices found on most sound cards. Voyetra implemented VSL to

enhance these 32-voice files with simultaneous mapping to hardware synth and software synth with effects. The Malibu Surround 64 ships with both a 32-voice hardware Wavetable synth and a 32-voice software synth for Windows 95. Combined together through the VSL, you will be able to experience MIDI files that break the conventional 32-voice barrier.

The Malibu Surround 64 makes full use of this technology. Use the 32-voices of hardware wavetable synthesis and the 32-voices of software synthesis independently for a total of 64 simultaneous voices, or use the VSL Mapper to layer both synths together for a richer sound.

Using the VSL Mapper, you will notice that Windows-based games sound much richer. For musicians looking for that "big" sound, the VSL Mapper is perfect to use with a sequencer such as Voyetra's Digital Orchestrator.™



The VSL™ Mapper requires the WaveStream™ synthesizer — and will only work in Windows® 95 systems!

USING THE VSL DRIVER

The VSL Mapper driver installs automatically during the setup process.

TO USE THE DRIVER:

1. Click Start. Settings. Control Panel. Multimedia.
2. From this dialog, click on the MIDI tab.
3. The Voyetra VSL Mapper should be listed here. Click to select it. Click OK.



The WaveStream™ synthesizer must be installed for the VSL Mapper to work. Therefore, the VSL Mapper only works on Windows 95 systems.

RESOURCE USAGE

The Malibu Surround 64, like all plug-in cards, requires certain computer resources in order to operate. These resources are associated with specific board functions.

In Windows 3.x, the resources are configured automatically by your bios, but can be overwritten by the user.

In Windows 95, the resources are set automatically by the Configuration Manager, but can be adjusted using the Windows Device Manager.

In Windows NT, the resources can be adjusted using the Windows Device Manager.

THE REQUIRED RESOURCES ARE AS FOLLOWS:

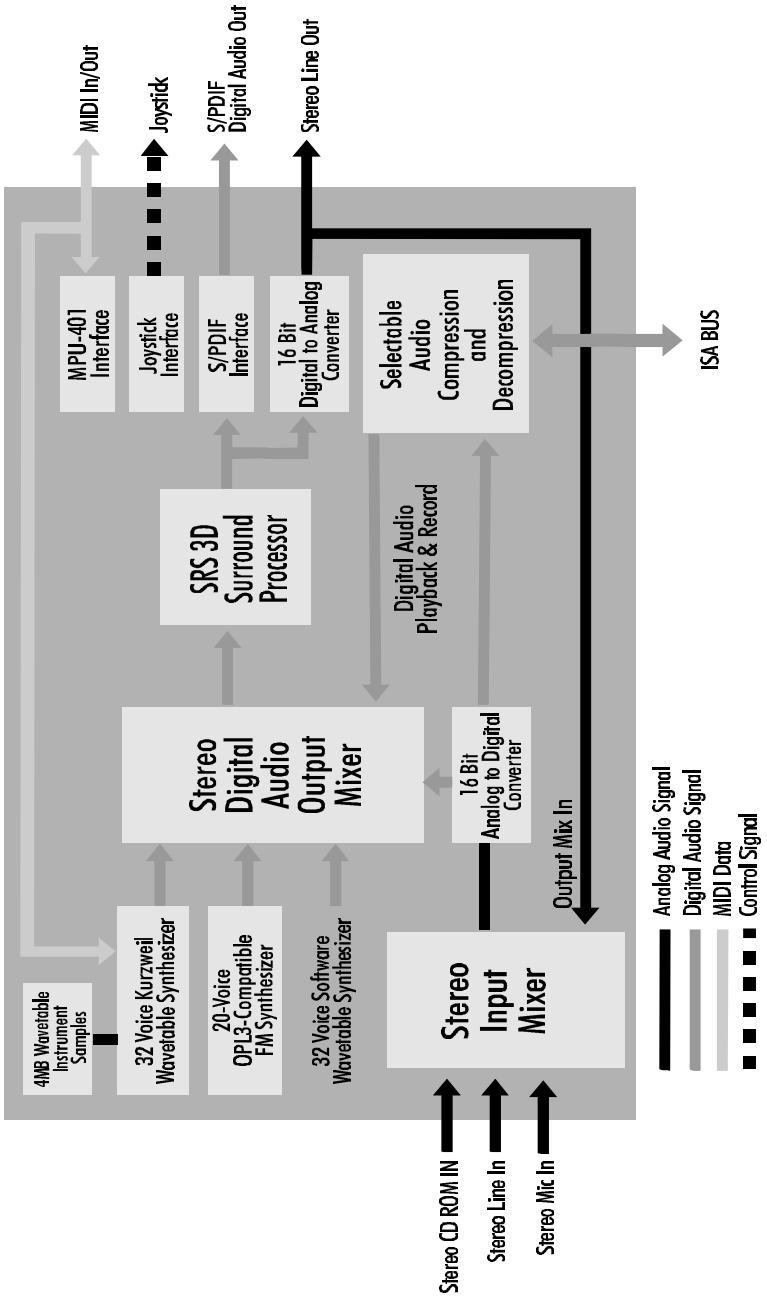
Digital audio record/playback, header and external MIDI require:

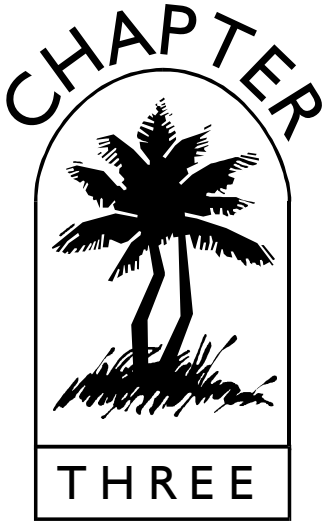
- One IRQ (two if using external MIDI)
- Several I/O address ranges
- Two DMAs (one if using half-duplex)

Joystick port requires:

- One I/O addressrange

SIGNAL FLOW DIAGRAM





INSTALLING THE MALIBU SURROUND 64

It is time to roll up your sleeves and install the Malibu Surround 64 sound card. This chapter takes you through the process step-by-step.

If you have another sound card in your system that you are replacing with the Malibu, remove that sound card's drivers from your system, remove that sound card, then reboot the system to make certain no errors occur and no old sound card drivers remain. You must remove the old drivers BEFORE physically installing the Malibu. For information on removing that sound card's drivers, refer to that sound card's documentation.

Before you physically install the Malibu Surround 64, it is very important that you have enough resources available — port and memory addresses and IRQs.

SYSTEM REQUIREMENTS FOR THE MALIBU SURROUND 64 SOUND CARD

Computer	IBM PC or compatible
Processor	486 DX2/66 (Pentium® required for software synthesizer)
RAM	8 MB (16 MB recommended)
Hard Drive	approximately 8 MB free for drivers and applications; data files require additional space
Operating System	Windows® 3.1 Windows® 95 Windows® NT 4.0
CD-ROM Drive	A 2x or better CD-ROM drive is needed for the software and driver installations

Your computer also should have:

- Available 16-bit ISA card slot
- High-quality stereo sound system, powered speakers or headphones to properly hear Malibu's high-quality audio playback

OVERVIEW OF THE STEPS

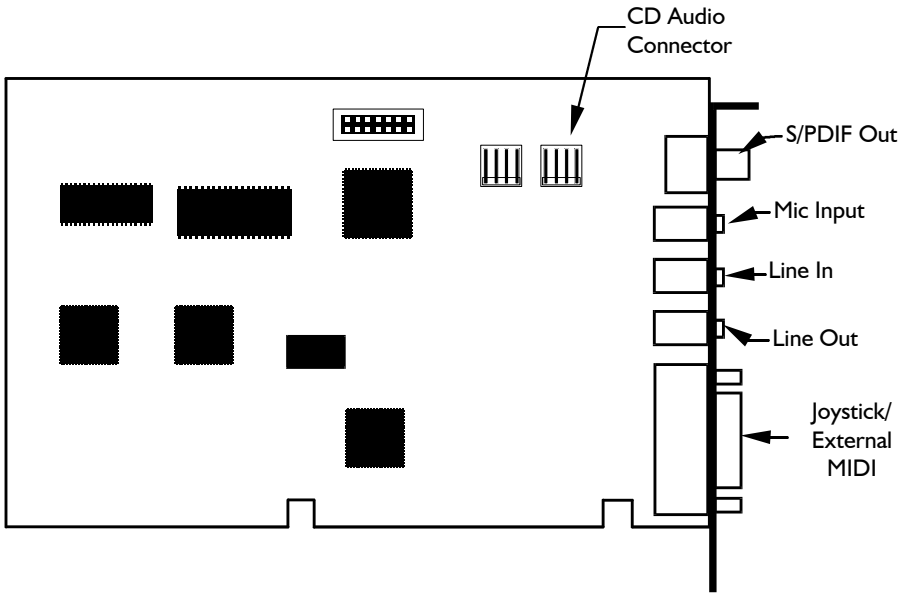
There is a specific sequence of steps that you need to take when installing the Malibu sound card.

HERE IS AN OVERVIEW OF THE STEPS:

1. Remove old sound card and drivers (if present)
2. Install the Malibu sound card in the computer
3. Attach the audio cable to the CD-ROM drive (optional)
4. Install the drivers and software

THE MALIBU SURROUND 64 SOUND CARD

Here is a look at the Malibu sound card, to help you identify the various jumpers, connectors and ports.



The Malibu Surround 64 Sound Card

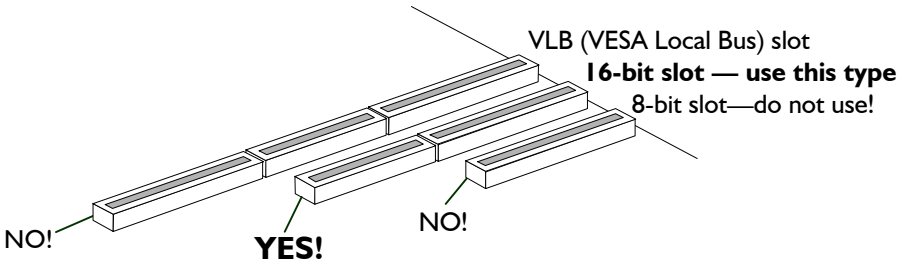
INSTALLING THE MALIBU SOUND CARD

It is time to install the Malibu sound card in your system!

1. Turn off your PC and any connected peripherals and unplug the system

2. Remove the mounting screws from your computer's cover. Remove the cover.

3. Select an unused 16-bit ISA expansion slot for the card. ***We recommend against using a VLB (VESA local bus) slot. DO NOT USE an 8-bit slot as this could damage the card.*** For best results, choose a slot that is not immediately next to another board, since some boards emit signals that can interfere with the Malibu.



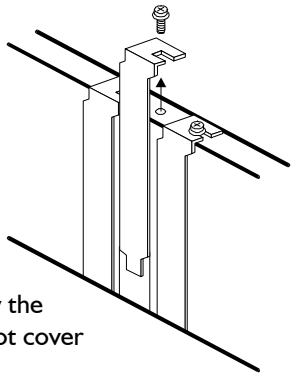
Locate a 16-bit ISA slot for the Malibu



Position the Malibu card as far as possible away from the video card and power supply!

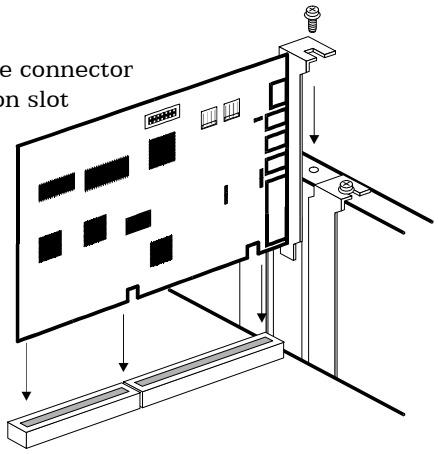
4. Remove the selected expansion slot cover by unscrewing its securing screw.

   Save the screw to secure the Malibu to the chassis later.



Unscrew the expansion slot cover

5. Align the card's gold-striped edge connector with the selected 16-bit expansion slot socket. With a gentle back-and-forth rocking motion, press the Malibu firmly into the slot until it snaps in place.



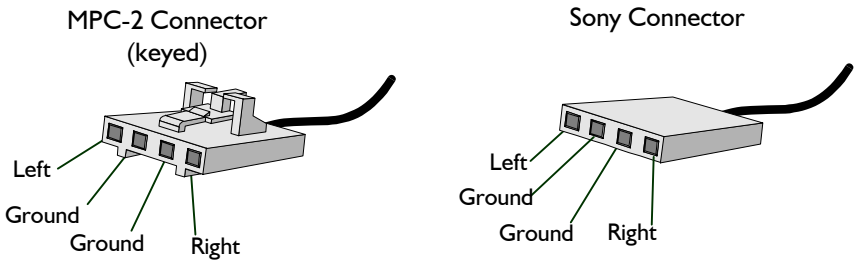
Gently press the Malibu card into the slot

6. Secure the Malibu sound card to the chassis with the expansion slot cover screw you removed earlier.

INSTALLING THE CD-ROM AUDIO CABLE

The Malibu comes with an audio connector cable — one end is keyed (MPC-2), the other is not (Sony). All CD-ROM drives that adhere to the MPC-2 (Multimedia PC) standard have an MPC-2 jack.

Connect the MPC-2 connector to your CD-ROM drive. Then attach the Sony connector to the Malibu.



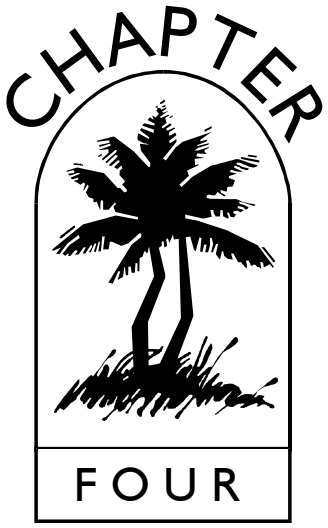
When connecting the CD-ROM audio cable, note that:

- The audio cable should be plugged into the CD-ROM drive first; then the other end of the interface should be plugged into the appropriate connector on the Malibu sound card. Make sure that you are plugging the audio connector into the 4-pin header labeled "CD IN." There are two 4-pin headers, and the CD IN header is located more closely to the back bracket.
- On the cable, "white" is "left" and "red" is "right."
- When connecting the cable to the Sony connector, the red wire should be closest to the slot cover.

NOW YOU ARE READY TO INSTALL THE DRIVERS!

Proceed to the chapter that applies to your system:

- Windows 95 Installation
- Windows 3.x Installation
- Windows NT 4.0 Installation



WINDOWS 95 INSTALLATION

Now that the hardware is installed, it is time to configure the drivers. Plug and Play uses your system's BIOS and the Plug and Play features of Windows 95 to allocate resources for the Malibu.

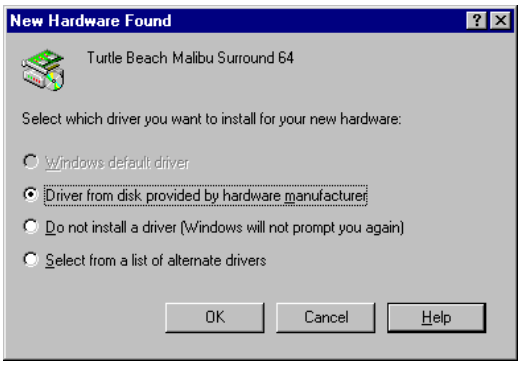
BEFORE YOU INSTALL THE DRIVERS, NOTE…

- The Malibu Surround 64 sound card must be installed in your system. If you have not already installed the sound card in your PC, refer to the previous chapter for instructions.

- **IMPORTANT** On the first boot up after physically installing the Malibu Surround 64, place the Malibu Applications CD in your CD–ROM drive **before** Windows completes boot up.

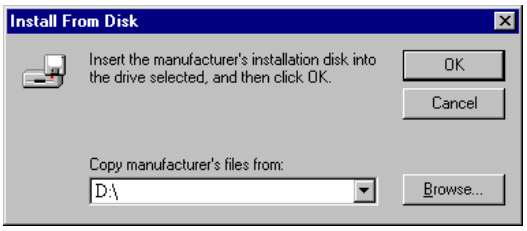
TO INSTALL THE DRIVERS IN WINDOWS 95:

1. Turn on the computer and place the Malibu Applications CD in your CD-ROM drive immediately after pressing the power switch.

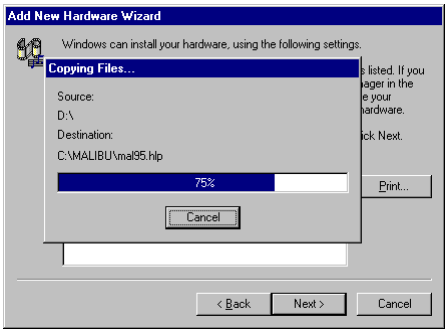


   When the New Hardware Found dialog box reports that it sees the Turtle Beach Malibu sound card, click to select **Driver from disk provided by hardware manufacturer**. Then click **OK**.

2. When the Install from Disk dialog box displays, put the **Malibu's Installation CD** in your computer's CD-ROM drive and enter the letter of the drive, or click on Browse and locate your CD-ROM drive. Click **OK.**



3. Windows then copies the files from the CD. You may be prompted to insert your Microsoft Windows 95 CD or floppies, as the core sound components of the operating system may need to be copied as well. These include the audio codecs, the Mixer and the Sound Recorder program.



   If you do not have your Microsoft Windows 95 installation CD or floppies available, you can choose **Skip File** for each of the Windows 95 Sound Options and install them later from the Windows 95 Control Panel.

4. The Installation will continue, installing the applications and demo files provided on the CD. Follow the on-screen instructions to complete the install.



To test the system, you need to hook up headphones or speakers to the Malibu's output. For more information on hooking up speakers to the Malibu, refer to the "Making Connections" chapter later in this Guide.

At this point, the drivers should be installed and the Malibu sound card should be functional.

We recommend that you run the Testing and Troubleshooting diagnostic located in the TBS Malibu program folder to test your system or troubleshoot any conflicts you might have.

TESTING AND TROUBLESHOOTING

If the Malibu or your system is not working properly, there is probably a resource conflict in your system. This means that two or more devices in the system are using the same resources. Resource conflicts are fairly typical and are a normal part of the PC hardware installation process — and they are easily resolved.

There are three possible types of conflicts that users experience when installing the Malibu:

- Input/Output Port Address Conflict
- Interrupt (IRQ) Conflict
- DMA Conflict

If, after the drivers are installed, but before the applications installation is started, your Windows 95 setup launches, cancel out of the Windows 95 setup and run setup from your Turtle Beach Applications CD-ROM.

Troubleshooting your system involves checking the current settings for each of these common conflicts and trying new settings for the resources that conflict. Note that you may need to try a number of different resource configurations before all of the peripherals work together in your PC.



The Testing and Troubleshooting diagnostic provides an easy way to find and fix audio problems in your system. If you experience any problems installing the drivers, we recommend you run this diagnostic utility.

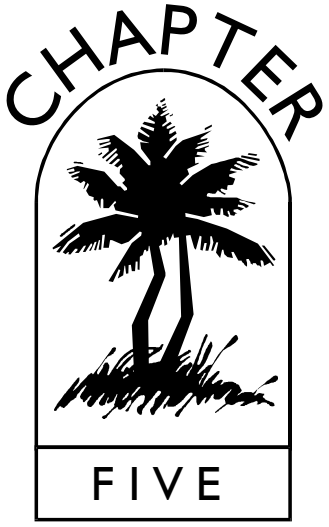
RESOLVING CONFLICTS

In some rare cases, after installing the Malibu sound card, you may not be able to reboot your system. If you are unable to boot into Windows 95, you can restart in Safe Mode.

TO BOOT IN SAFE MODE:

1. **Restart** the system again.
2. When you see the message "Starting Windows 95..." press the **F8** key.
3. Select **Safe Mode** from the menu.

Now run the Testing and Troubleshooting file to help diagnose the problem.



WINDOWS 3.X INSTALLATION

Even though Windows 3.x is not a Plug and Play operating system, installing the Malibu is quite easy.

BEFORE YOU INSTALL THE DRIVERS, NOTE…

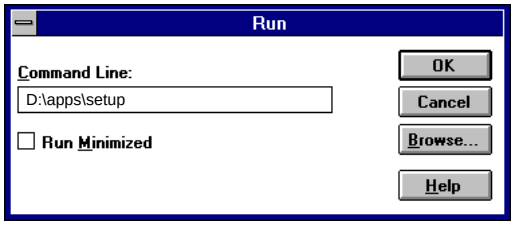
- Make certain you have removed all old drivers from any previously-installed sound cards. This is extremely important! Refer to the manual from that sound card for instructions on this should be done.
- The Malibu sound card must be installed in your system. If you have not already installed the sound card in your PC, refer to the "Installing the Malibu" chapter for instructions.
- If installing the Malibu Surround 64 in a system without Windows (DOS only) follow the directions in README.TXT in the MS_DOS directory on the Applications CD.

TO INSTALL THE MALIBU IN WINDOWS 3.X:

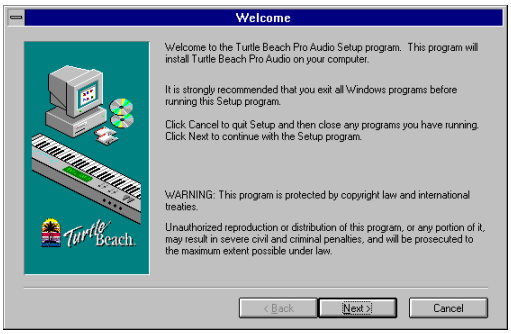
1. Start Windows 3.x and make sure the Program Manager is open.

2. Place the Malibu's Installation CD in your CD-ROM drive.

3. Choose **Run** from the Program Manager's File menu.



4. In the Run dialog box, type the letter name of the drive followed by **\apps\setup.** If your CD drive is d:\, type **d:\apps\setup**.



5. Click **OK**. The Welcome screen displays.

6. Follow the on-screen instructions to install drivers and applications.



In order to test the system, you need to hook up headphones or speakers to the Malibu's output. For more information on hooking up speakers to the Malibu, refer to the "Making Connections" chapter later in this Guide.

TESTING AND TROUBLESHOOTING

If the Malibu sound card or your system is not working properly, there is probably a resource conflict in your system. This means that two or more devices in the system are using the same resources. Resource conflicts are fairly typical and are a normal part of the PC hardware installation process — and they are easily resolved. Follow the instructions on the next page to change the settings of your card.

There are three possible types of conflicts that users experience when installing the Malibu:

- Input/Output Port Address Conflict
- Interrupt (IRQ) Conflict
- DMA Conflict

Troubleshooting your system involves checking the current settings for each of these common conflicts and trying new settings for the resources that conflict. Note that you may need to try a number of different resource configurations before all the peripherals work together in your PC.

RESOLVING CONFLICTS

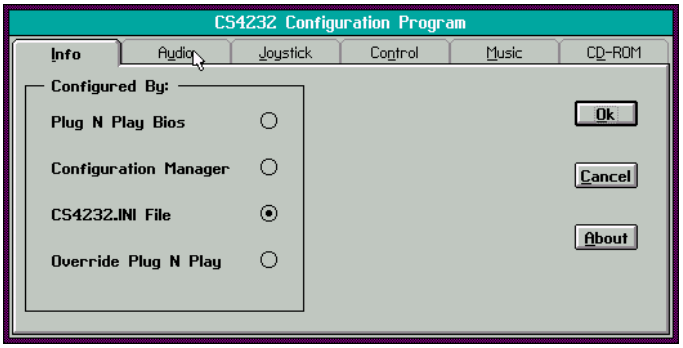
In some rare cases, you may not be able to reboot your system, or you may receive driver-related error messages. If you are unable to boot into Windows 3.x, you must manually configure your Malibu Surround 64. If your computer launches Windows automatically upon reboot, do the following:

1. Press F8 when your computer reboots,
2. Choose Yes when DOS prompts you to step through your CONFIG.SYS and AUTOEXEC.BAT.
3. When you get to "win" or "C:\ windows\win," choose No.

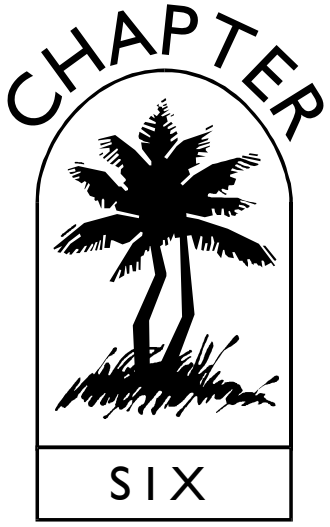
4. From DOS type:

C:\MALIBU\CS32CFG.EXE.

This application allows you to manually change resources for the Malibu. Experiment with different resources settings, rebooting after each change until the conflict is resolved.



To select the tabs in the configuration program, press ALT and the underlined letter in the name of the desired tab. For example, to access the Audio Tab, press ALT+U.



WINDOWS NT 4.0 INSTALLATION

BEFORE YOU INSTALL THE DRIVERS, NOTE …

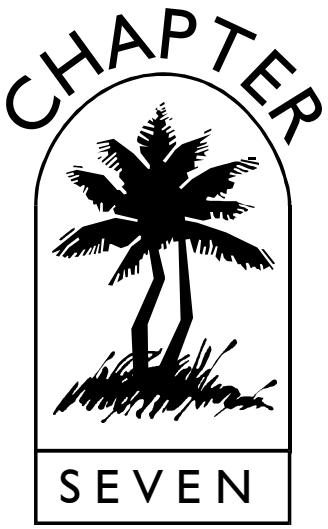
- The sound card must be installed in your system. If you have not already installed the sound card in your PC, refer to the "Installing the Malibu Surround 64" chapter for instructions.
- Make certain you have removed all old drivers from any previously-installed sound cards. This is extremely important!

INSTALLING THE MALIBU DRIVERS IN WINDOWS NT 4.0

To install the Malibu drivers in Window NT 4.0, run D:\APPS\SETUP.EXE (assuming D: is the letter of you CD-ROM drive.)

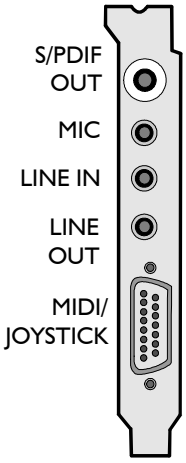
Setup will install a help file that will step you through the driver installation.

After the drivers are installed, re-run **D:\APPS\SETUP.EXE**



MAKING CONNECTIONS

THE BACK PANEL



The back panel of the Malibu has S/PDIF output, Microphone input, Line input, Line output and MIDI/ Joystick connectors. These enable you to connect audio input and output devices to your PC.

The diagram on the left shows the connectors on Malibu's back panel.

Line, Mic and Out on the back of Malibu are audio ports requiring 1/8-inch mini-jack external connectors.

S/PDIF OUT is a digital connector, requiring an RCA connection to a DAT machine or other digital input.

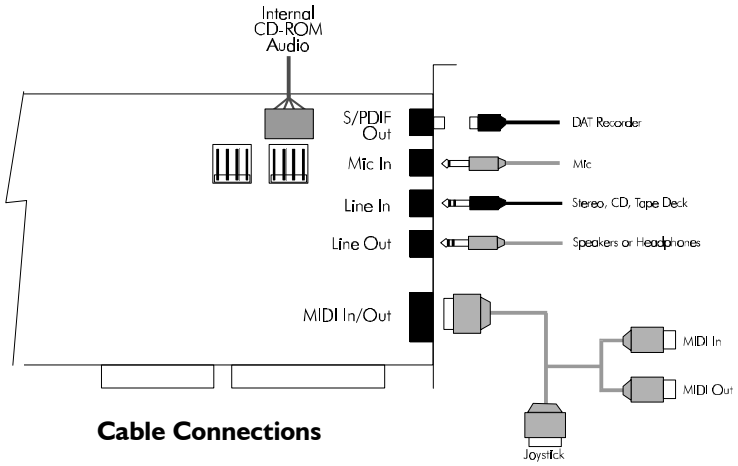
There are several different ways to connect equipment to the Malibu:

S/PDIF — outputs digital and/or wavetable playback in pure digital output. This can be hooked up to an external DAT machine or other digital input device.

Mic — connects a microphone directly for recording your voice, acoustic instrument or acoustic sound source.

Line Input — connects line level audio sources such as a mixer, tape deck, CD player, etc.

Line Output — to monitor the output of the Malibu, connect to powered speakers, connect to a separate power amp/speaker system or connect headphones directly.



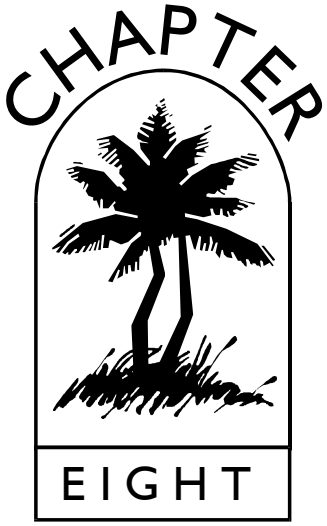
Cable Connections

JOYSTICK CONTROLLER

If you want to connect a joystick to the Malibu, the sound card and its drivers must be properly installed in your system. If you want to use the Joystick/MIDI port to connect an external MIDI controller in Windows 95, you will need to read the online Testing and Troubleshooting document to properly configure the Malibu.

PORT ADDRESSES

The Malibu's joystick controller uses ports 200-201 or 208-20F.



FOR ADDITIONAL INFORMATION

Now that you have the sound card, drivers and software applications installed, you are ready to start making music!

All of the software applications have online manuals in Adobe Acrobat PDF format. Using Acrobat Reader — which you should have installed along with the software applications — you can view and print the manuals and easily search for information about the applications.



Both 16-bit and 32-bit versions of the Acrobat install can be found on the Turtle Beach Applications CD-ROM. To install the application, locate the Acrobat directory on the CD and double-click SETUP.EXE. This will install the Acrobat Reader files necessary for viewing and printing the online manuals.

TECHNICAL SUPPORT

This **Getting Started Guide**, the **Testing and Troubleshooting** utilities and the various help and PDF files should be all you need to get the Malibu sound card and the software applications working. However, if you need support, here is how to contact us — Monday through Friday, 9am-5pm, EST.

TO CONTACT TURTLE BEACH TECHNICAL SUPPORT:

Email	support@tbeach.com
Internet	www.tbeach.com
Phone	914.966.2150

YOU CAN RECEIVE A LIST OF FREQUENTLY ASKED QUESTIONS BOTH THROUGH THE WEB OR BY EMAILING SUPPORT@TBEACH.COM.

IF YOU CALL:

- If possible, use a telephone near your computer.
- The technician might need to ask about the type of system you are using and the additional hardware installed on the system — for example, a synthesizer, CD-ROM drive or MIDI interface. Try to have the manufacturers' manuals for these peripherals at hand.
- Be prepared to explain the problems you are having, what you were doing when these problems occurred and any error messages you have received.



VOYETRA'S DIGITAL ORCHESTRATOR PRO DEMO

Included as one of the options on your Malibu Applications CD install is a demo version of Digital Orchestrator Pro. This incredible program is the "big brother" to MIDI Orchestrator Plus (included) and adds the power of multitrack digital audio recording to the powerful MIDI recording and editing capabilities of MIDI Orchestrator.

With Digital Orchestrator you can add vocals, guitars, sax or any other real-world sounds to your compositions. For example, record drum, bass and keyboard parts as MIDI tracks and lead vocals, background vocals and guitar parts as digital tracks. Then edit both of these audio formats together in the same environment. Arranging and editing is quick and easy with Digital Orchestrator's drag-and-drop capabilities. In addition, the built-in Audio Mixdown feature lets you record and unlimited number of digital audio tracks.

Digital Orchestrator is also great for producing multimedia and video audio productions. Record a voice over narration on one track and a background music track from a CD on another. Edit for timing and volume levels, then output a stereo WAV file to add to your production. Audio production doesn't get any simpler than this.

There are some great tools built in, too; Audio processing such as digital delay for echo and chorusing effects, a compressor/limiter, time compress/expand and more. There are also many more MIDI transforms such as humanize, move, diatonic transposition, just to name a few. Digital Orchestrator has built in synchronization capabilities for synchronizing with external hardware such as a video deck or a multitrack recorder as well as many other pro features like: graphic controller editing, markers, and digital audio wave editing.

The demo is a full working version of Digital Orchestrator Pro. The Save feature has been disabled and the program will automatically close after 30 minutes, however, this is more than enough time for you to get a feel for the power of Digital Orchestrator Pro.

Since MIDI Orchestrator Plus is included with your sound card, you are entitled to upgrade to the full version of Digital Orchestrator for a discounted price.

There are several ways to upgrade:

- In the USA call 1-800-233-9377
  Outside the USA, call 914-966-0600
- Fax the included upgrade card
- Mail the included upgrade card



WARRANTY AND LICENSING INFORMATION

This Appendix includes the warranty for the Malibu Surround 64 sound card, the Voyetra End-User License Agreement for the software suite in this package and the FCC and EMC Declarations of Conformity.

HARDWARE WARRANTY

Voyetra Technologies Inc. ("Voyetra") warrants to the original end-user purchaser ("Purchaser") that the Turtle Beach Systems Malibu Surround 64 ("Product") will be free of defects in materials and workmanship for a period of one (1) year from the date of purchase by Purchaser ("Warranty Period").

If a defect should occur during the Warranty Period, the Purchaser must obtain a Return Merchandise Authorization ("RMA") from Voyetra and be responsible for all costs incurred in returning the defective Product to and from an authorized Voyetra service center, or to the repair facility located at Voyetra's corporate headquarters. The Product must be returned in a static-proof bag, similar to the one included with the original packaging. A copy of the dated proof of purchase must be included with the defective Product and the RMA number must be clearly indicated on the outside of the package.

In the event of a defect, Purchaser's sole and exclusive remedy and Voyetra's sole liability is expressly limited to the correction of the defect by adjustment, repair, or replacement of the Product at Voyetra's sole option and expense.

This warranty does not cover, and Voyetra is not responsible for, damage caused by misuse, neglect, fire, acts of God, or unauthorized modification of the Product or damage resulting from the use of the Product with hardware or software programs not provided or specifically recommended by Voyetra.

Except as specifically provided herein, there are no other warranties, expressed or implied, including, but not limited to, any implied warranties or merchantability or fitness for a particular purpose and in no event shall Voyetra be liable for indirect, incidental, consequential, or other damages, including personal injury, lost profits and damages to property arising out of any breach of this warranty or otherwise.

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DECLARATION OF CONFORMITY (FCC)

FCC ID: JMN-TBS-0550

This device complies with part 15 of the FCC rules. Operation is subject to the following 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.

Warning: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of 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.

Shielded cables must be used with this unit to ensure compliance with Class B FCC limits.

DECLARATION OF CONFORMITY (EMC)

INTERTEK TESTING SERVICES
593 Massachusetts Avenue
Boxborough, MA 01719

EMISSIONS VERIFICATION

Voyetra/Turtle Beach Systems
5 Odell Plaza
Yonkers, NY 10701

July 21 1997

NOT TRANSFERABLE

Verification is hereby issued to the named GRANTEE and is VALID ONLY for the equipment identified hereon for use under the rules and regulations listed below.

Name of Grantee:		Voyetra/Turtle Beach Systems
Model Number:		*Malibu* Computer Sound Card
Applicable Regulation:		Applicable to EC Directive 89/336/EEC
Equipment Class:		Class B
Note(s):	(1)	See Report dated July 21 1997 for details and/or conditions of this Verification.
	(2)	Test methods employed conform to the Standard Operating Procedures of Intertek Testing Services NA Inc.
	(3)	Verified to the limits and methods of EN 55022.

Accredited by the National Institute of Standards and Technology
for Emissions and Telecommunications Testing
Approved by the Canadian Department of Communications for Telecom Testing

In correspondence concerning this Verification,
please refer to the date, Grantee Name and Model No.

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