ULTRASOUND
ACE

(AUDIO CARD ENHANCER™)

INSTALLATION GUIDE

Advanced GRAVIS™

PROFESSIONAL WAVETABLE UPGRADE FOR SOUND BLASTER™ AND COMPATIBLES

Thank you for choosing the UltraSound ACE™ Audio Card Enhancer wavetable upgrade card.

The UltraSound ACE works with your existing sound card, so it's compatible with the games and music software you already have. And the ACE performs music and sound effects in all the latest software with professional, realistic wavetable sound.

Your UltraSound Audio Card Enhancer package contains:

- UltraSound ACE card and audio cable
- *Installation Guide* and *User's Guide*
- Envelope with software disks and CD-ROM inside
- Registration card and brochures

Installing the UltraSound ACE is easy. Follow these instructions carefully, and you'll be hearing the UltraSound difference in minutes!

Before you install:

To avoid damage from static: Turn off your computer (don't unplug it). Then touch the computer's metal frame to discharge static before you remove the ACE card from its anti-static package or start the installation.

If you are installing the UltraSound ACE to be used with another sound card, be sure to install the other card and its software first.

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1   Check the Hardware Settings

The UltraSound ACE has just two jumpers (JP1 and JP2–see *fig. 1*). The default settings will work well with most computer setups, so you probably won't have to change them. Steps 1 and 2 explain.

1. **JP1.** The default base I/O address *(fig. 1)* is 260 Hex, a free address in most computer setups.

   If another card or device in your computer is using 260 Hex, change its address, or move the plastic jumper block on the UltraSound ACE card's JP1 to an available address *(fig. 2)*.
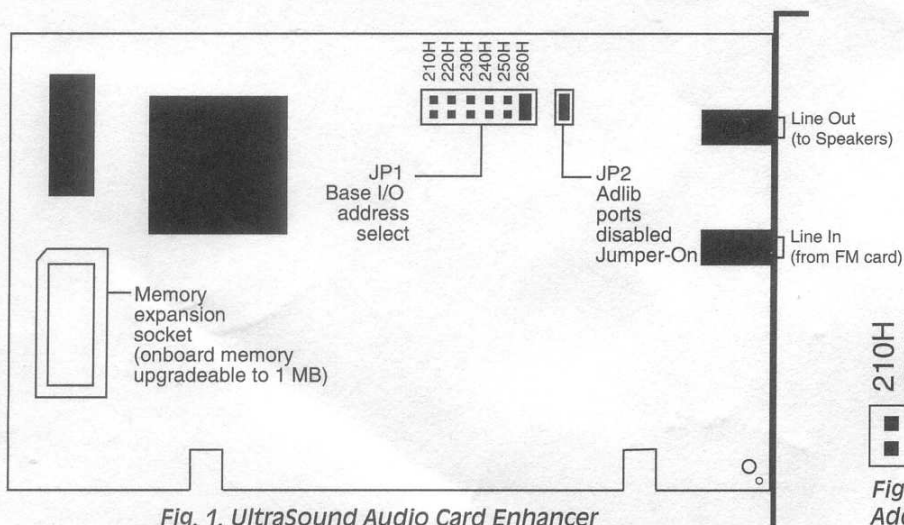

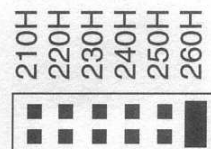Fig. 1. UltraSound Audio Card Enhancer

Fig. 2 – JP1: Base Address Selector

2. **JP2.** The UltraSound ACE is set up by default to be used with another sound card. If you have another sound card installed, use the default setting for JP2 (leave the jumper on).

   If you want to use the ACE as a stand-alone card (without another sound card installed), remove the plastic jumper block from JP2 (Adlib ports disabled/enabled – *fig. 1*). See the README file for special notes on using the UltraSound ACE as a stand-alone card.

2 Install the Card

The UltraSound ACE fits any full-sized 16-bit ISA (Industry Standard Architecture) expansion slot in an IBM®-compatible 386 or better computer.

1. With your computer turned off, unscrew and slide the cover off your computer *(fig. 3)*. See your computer's manual for additional instructions to remove the cover.

2. Unscrew and remove the bracket/slot cover from an empty expansion slot *(fig. 4)* as far as possible from your video card.
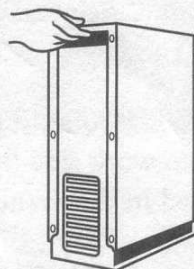
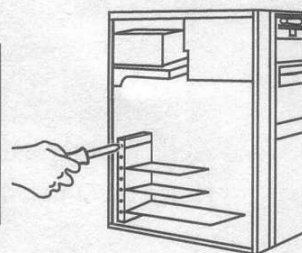Fig. 3 – Sliding off computer's cover.

Fig. 4 – Removing slot cover

Video cards and disk controllers may emit interference that affects a sound card's sound quality.

3. Grasp the card by its top edge and press it firmly into the expansion slot *(fig. 5)*.

   Use a gentle rocking motion to seat the card properly.

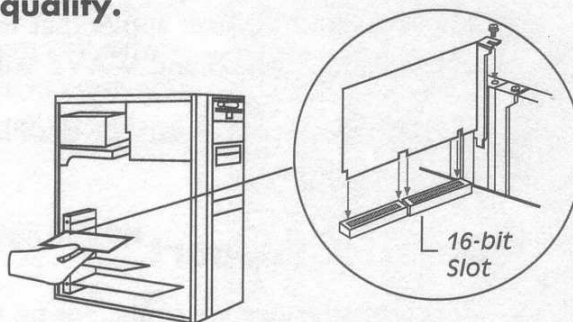4. Secure the card's bracket with the slot cover screw.

16-bit Slot

Fig. 5 – Inserting the card

Leave the cover off until after you install the software. The installation program tests to make sure your jumper settings are OK. Use care when the cover is off.

5. Reattach any cables that you may have removed.

3 Connect the Card

to speakers/ amplifier/ headphones

Existing Sound Card

Line Out or Speaker Out (to UltraSound ACE)

Line In (from existing card)

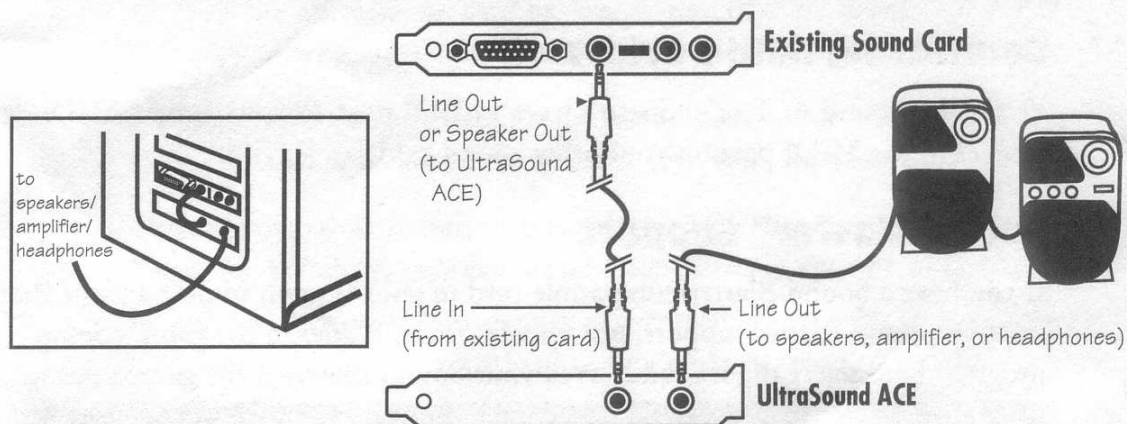Line Out (to speakers, amplifier, or headphones)

UltraSound ACE

Fig. 6 – UltraSound ACE Connections

The UltraSound ACE requires two easy connections:

1. **Connect to your other sound card.** Use the audio cable in your UltraSound ACE package to connect the Line In of your ACE card (fig. 6) to the Line Out of your existing card.

2. **Connect to stereo, speakers, or headphones.** Connect speakers (fig. 6), amplifier, or headphones to the Line Out on the UltraSound ACE.

Use headphones with built-in volume control to prevent damage to your ears or headphones from high volume. If your existing sound card has an external volume control, you may need to adjust the volume level.

Use only *1/8-inch* (3.5mm) *stereo* mini plugs in the Line Out *(fig. 7)*. You can buy inexpensive adapters to convert ¹/₄-inch RCA plugs to mini plugs.
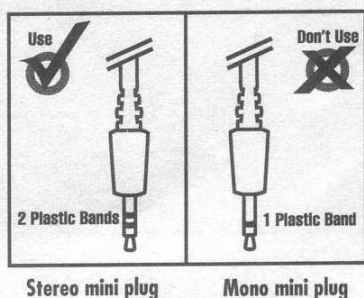
If you have unamplified speakers, you may want to use an external amplifier connected to the ACE card's Line Out *(fig. 8)*. Even with amplified speakers, a stereo amplifier may provide better sound quality.
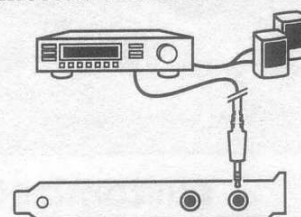
Fig. 7 – Stereo & Mono Mini Plugs

Fig.8 – Connecting to a stereo amplifier

4   Install the Software

Before you install the software, read the "README" file for important updates:

Insert the UltraSound ACE Disk 1 into your floppy drive. From A: or B:, type: *README* <enter>.

A full base software installation will take up about 7 MB of disk space on your hard drive. It is a good idea to back up the original disks and unload any TSR (Terminate and Stay Resident) programs before installing software.

To install the software:

Insert UltraSound ACE Disk 1 into your 3.5" disk drive. From A: or B:, type: *INSTALL* <enter> and follow the instructions on screen.

To install bonus software, insert the CD-ROM into your drive. Switch to your CD-ROM drive, and type: *INSTALL* <enter>. Select the programs you want to install, and follow the instructions on screen.

If anything goes wrong during the installation, turn off your computer, restart it, and begin the installation again.

The installation program asks you to choose a drive and directory where you want to install the files (we recommend a new directory— "C:\ULTRASND"). The installation program sets up your card and updates your configuration and start-up files automatically. For best results, use the defaults and do not move files out of the default directory.

Software for Windows™

If you choose to set up the ACE for Windows during the installation, the program groups will be set up the next time you run Windows.

5   Configure the Card (UltraSound Setup)

The UltraSound Setup program is run for you during the installation. If you ever want to reconfigure your card, type: SETUP <Enter>.

Express Setup

If you choose *Express Setup*, the program walks you through the setup process. Choose the hardware settings that you want, or use the default settings provided in the setup program. Then press the *Continue* button to test your selection. Setup will report an error if there is a possible conflict between your selection and other hardware in your computer system.

Restart your computer when the installation is complete.

Setup Record

Record your settings here for easy reference when installing other cards or software.

	Default	Custom Choices	Your Setting
Base I/O Address:	260	210,220,230, 240,250,260	_____
DMA:	3	1,3,5,6,7	_____
UltraSound IRQ:	11	3,5,7,11,12,15	_____
UltraSound Serial Number:		_____	

Customized Setup

Custom Setup lets more experienced users select all the required hardware settings on one screen.

Press *Continue* to test and apply all the chosen settings.

If your computer stops responding during a test, restart and run SETUP again. Setup will detect that you are recovering from a system crash and allow you to start from just before the problem occurred or from the beginning.

Restart your computer when the installation is complete.

Memory Test

To test the card's onboard memory, click the *Option* button, then click *UltraSound Memory Test*.

The memory test may take up to three minutes.

How the Install Modifies Your System Files

The installation program adds C:\ULTRASND to your PATH and adds three lines to your AUTOEXEC.BAT (shown below using ACE default settings):

SET ULTRASND=260,3,3,11,11
Base I/O address, DMA , DMA, IRQ, IRQ

C:\ULTRASND\ULTRINIT.EXE
Resets the card and configures the selected IRQs and DMAs.

SET ULTRADIR=C:\ULTRASND
Tells programs where to find the UltraSound root directory.

Windows Setup

The UltraSound Setup sets up Windows so that digital wave output goes through the other sound card in your system (if there is one) while MIDI (Musical Instrument Digital Interface) output goes through the ACE card.

To route MIDI through your other sound card, select *MIDI Mapper* in the Control Panel and change the settings. (See your *Windows User's Guide*.)

To route digital wave output through the ACE, use *Sound Mapper* if you have Video for Windows installed, or edit these lines in your SYSTEM.INI file:

in [drivers] section -   wave=xxxx.drv ➤ wave1=xxxx.drv (other card's driver)
wave1=ultrasnd.drv ➤ wave=ultrasnd.drv

6   Try Some Great Demos and Games

Change to C:\ULTRASND and type: MIDIDEMO <enter> to test your card with a MIDI sound demo.

Then try the great demos on the CD (like MODDEMO and some terrific Euro-Demos). Listen to the difference UltraSound ACE makes in games that support UltraSound. DOOM™ (not included where banned by law), One Must Fall™, and Jazz Jackrabbit™ have especially great UltraSound soundtracks. Choose *UltraSound* in the games' Setup programs, and try them!

If you have a Sound Blaster™-compatible card, you can still select *Sound Blaster* in your games that don't support UltraSound for total, no-hassle sound support. (See the note on Sound Blaster support in Section 7.)

If you plan to use your card only for games, you may not even need to crack open the *UltraSound User's Guide*. But if you want to explore some of the card's other capabilities and included software, the manual will tell you everything you need to know.

When you use the UltraSound manual, remember that because the UltraSound ACE is designed to work side-by-side with your other sound card, some of the functions described in the manual are actually done by the other card instead:

Recording and Mixing

The UltraSound ACE supports recording through the line inputs of an attached sound card. Use your other card's mixer for recording and changing line levels. The UltraSound Mixer applet that was installed into your Windows directory lets you adjust MIDI and WAVE volumes, but not line levels.

The UltraSound ACE can use the Playfile software only for audio file playback, not for recording.

Joystick Support

Please use the joystick connector on your other sound card or a game card. Gravis Utilities software is included with the UltraSound ACE card to let you test and calibrate a joystick; however, the Gameport Speed Adjustment feature won't work unless you own a Gravis gameport such as the Eliminator™.

CD Audio In

The UltraSound Audio Card Enhancer doesn't have a CD Audio Input. Please use the CD Audio In on your other sound card.

Connecting MIDI Devices

Your UltraSound ACE card doesn't have a MIDI port. Please connect MIDI devices to the MIDI port on your other sound card.

Sound Blaster™ Support

If you have a Sound Blaster-compatible card in your system, to play a game that requires Sound Blaster support, just choose *Sound Blaster* in the game's Setup program (and select the I/O address of your Sound Blaster if the game's Setup program asks you to choose). The game will use the Sound Blaster support in your other card to play through the ACE to your speakers.

If you are using the UltraSound ACE as a stand-alone card (without another sound card installed), remove the jumper from JP2 and see Chapter 6 in the *UltraSound User's Guide* for Sound Blaster emulation instructions.

8   If you Need Help

Please see the *UltraSound User's Guide* for troubleshooting help and Customer Support information.

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