ULTRASOUND

16-bit Recording Option

installation Guide

INTRODUCTION

Thank you for purchasing the Gravis 16-bit Recording Option. UltraSound, with its wavetable synthesis and RAM-based, expandable General MIDI system, is the state of the art in PC sound technology. This option board adds 16-bit, 48 kHz, studio-quality digital recording capability, with hardware compression and full audio mixing of up to four sources. Several DOS and Windows applications are included to fully exploit the new capabilities of your UltraSound system.

16-BIT RECORDING OPTION BENEFITS & FEATURES

- Professional-quality 16-bit recording at up to 48 kHz sampling frequency.

- ADPCM, µ-law, and A-law real-time data compression and decompression in hardware.

- Fully programmable audio mixing of mono microphone, stereo line, and stereo CD.

- MPC and MPC-2 compatible.

- Digital recording studio software for both DOS and Windows.

NEW SOFTWARE INCLUDED

Ultrasound Studio™

10-track digital recording studio for DOS with reverb, echo, fade, time compress, and other effects.

Wave Lite™

Windows digital audio recorder and editor loaded with features. Edits up to four .WAV files at one time.

Ultrasound¹™ Mixer for Windows

Full control of stereo MIDI wavetable synthesis and Windows .WAV output. Allows mixing of four input sources.

Patch Maker Lite™

Now edit and create your own instruments with this exclusive UltraSound patch editor!

INSTALLING THE 16-BIT RECORDING OPTION

Before you begin...

You must set jumpers on your 16-bit card before you attach it to your UltraSound. These jumpers determine which Base Address, DMA, and IRQ settings will be used by the card.

	Default	Choices
Base Address	530	530,604,E80,F40
DMA	3	1,2*, 3
IRQ 5	3, 4,	5,6,7,9**

* DMA channel 2 is a possible setting for the jumpers; however, on ATs this channel is used for floppy disk drives, so it is strongly recommended that you do not select it.

** Do not select IRQ 9 if another device is using IRQ 2 (IRQ 2 cascades to IRQ 9).

Refer to Figure 2 and the charts printed on the 16-bit card to see how to set the jumpers for the available choices.

The defaults should work for most computer systems. However, if you have other equipment in your computer which uses one of those settings, you will need to change either the setting on the 16-bit card or on the conflicting equipment.

Note! *To avoid conflicts, record all current addresses, IRQs (Interrupt Requests) and DMAs (Direct Memory Access Channels) used by other adapter cards in your system before you install the 16-bit recording card.*

The I/O Port Address on the 16-bit card MUST BE UNIQUE—not the same as your UltraSound (or any other device in your system)—or your card won't work.

A conflict may occur if you have a printer connected to LPT2 (Printer 2) because LPT2 uses IRQ 5, the same IRQ as the 16-bit recording card uses by default.

The selections will be tested during the software installation after you have installed the card. If the settings need to be changed, you will have to remove the card and move the jumpers. It is recommended that you consider carefully any possible conflicts with other equipment in your PC before doing the hardware installation.

A NOTE ABOUT HIGH-SPEED RECORDING

Recording at or near the maximum capacity of the 16-bit recording option (for example, 16-bit stereo at 44.1 kHz) can strain the throughput capacity of many PC systems. You may encounter a situation where you start recording in an application, but cannot get the application to respond to your command to stop because it is too busy keeping up with the recording. "Runaway" recordings like this can occur with any sound card or software when high throughput recording is attempted.

If runaway recording occurs in Windows, you can stop it by pressing <Ctrl>+<Alt>+<Del>. You will then be given the option to stop the application. In any case, any time a recording ends abnormally, it is a good idea to run CHKDSK on your disk.

You should be able to get reliable high-speed recordings without runaway if you observe the following:

- Do not record to a disk that is using a compression scheme (such as DoubleSpace). The disk compression algorithms slow down the transfer of data.

- Be sure that the disk you are recording to is not badly fragmented. Use a disk defragmenting program such as DEFRAG, which comes with MS DOS v.6.0 and later.

- « If you are still having problems, consider recording to a RAM disk. MS DOS and Windows users can set up a RAM disk using the RAMDRIVE program that comes with DOS.

installing the Option card

- » Turn off your computer, but leave it plugged in so that grounding is still present.

- Ground yourself by touching your computer's case, or wear a grounding wrist strap when handling the 16-bit card to avoid damage from static discharge.

» REMOVE your UltraSound card.

» With your fingers, remove the black, plastic clips from the four sets of jumpers shown in Figure 1. Do not remove any other clips!

Important! Keep the jumper clips in a safe place in case you want to remove the 16-bit card later for any reason. If you do wish to remove the 16-bit card and use the UltraSound without the daughter card, replace the jumper clips in the positions shown in Figure 1.
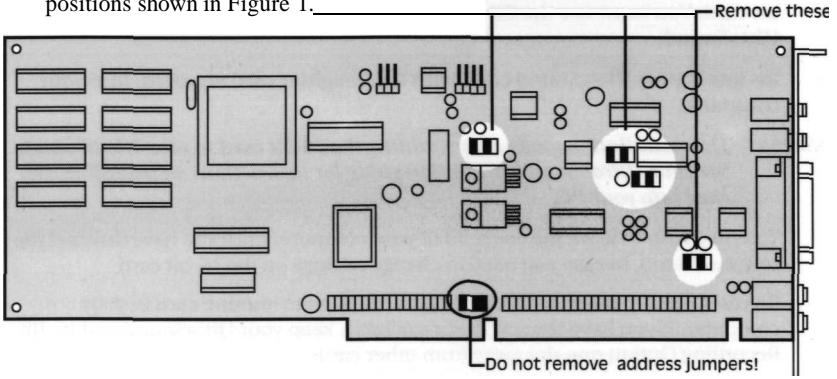

Fig. 1 - Location of jumpers to be removed from the UltraSound

Note! If you don't remove these jumpers, it will not be possible to attach your 16-bit card to your UltraSound.

» If the jumpers remaining on your UltraSound are pull tab jumpers, fold over the tabs, or cut them off, before installing your card.

» Turn over the card and firmly connect the P2 connector on the 16-bit card to the Ultrasound's Jl connector (see Figure 2).

Make sure the pins are aligned. If the pins do not line up, try to insert the card on an angle. Align the pins on the first row first, then press down. If the card does not go on with firm pressure, do not force it. Look at the UltraSound board to see whether a capacitor or other component is too close to one of the jumper sockets. Gently bend any such components away from the connector.
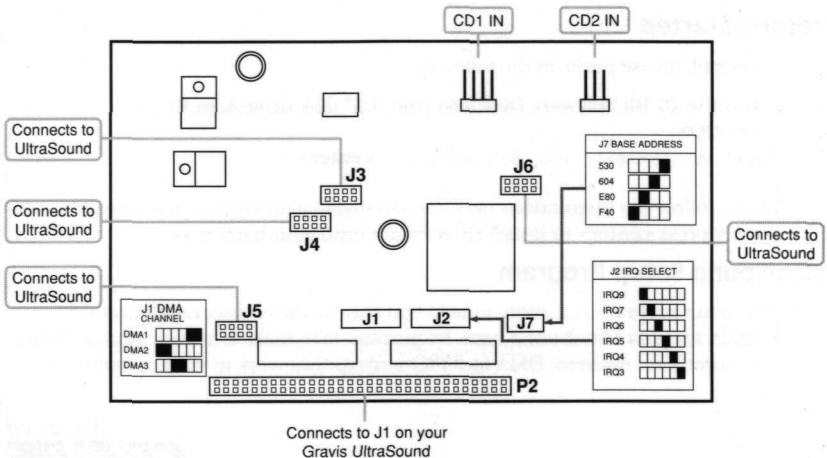

Fig. *2 - The 16-bit card and connections*

» Check that you've fully inserted all of the pins. The card should be snug against the UltraSound card's external connector plate. The notched ends of the plastic connector pegs must snap through the guide holes to the back of the UltraSound board. If the connector pegs are difficult to snap through the guide holes on the UltraSound, remove the 16-bit card, pull out the connector pegs, and insert the opposite ends of the pegs into the 16-bit card. Then re-install.

» Reconnect the CD audio cable, if you have one, to GDI IN or CD2 IN on the 16-bit card. You must use the CD connectors on the 16-bit card, NOT on the UltraSound.

* Re-insert your UltraSound card, with the daughter card attached, into your computer.

Note! *This installation guide covers adding the 16-bit card to your UltraSound. See your UltraSound installation guide for instructions on installing the card into your PC.*

You may wish to leave the cover off of your computer until you have finished the software setup, in case you need to change settings on the 16-bit card .

Be careful not to insert your UltraSound too close to another card in your computer. If you have the slot space available, keep your UltraSound and 16-Bit Recording Option one slot away from other cards.

INSTALLING THE SOFTWARE

Before you begin...

Please note that installation for both DOS and Windows software is done in DOS, NOT Windows.

It's a good idea to make a working copy of your original disks. Use the copy to install your software, and keep the originals in a safe place.

The software on the installation disks is compressed; during installation, it will be decompressed to about 5 MB of disk space on your hard drive.

It's a good idea to disable any TSR (Terminate and Stay Resident) programs before installing software.

During installation, the software will be copied into your UltraSound directory. We recommend that you use the directory where your original UltraSound files reside. The required configuration information will be added to your system's configuration and start-up files automatically.

Getting Started

To install, please perform the following:

» Insert the 16-Bit Software Disk into your 3.5" disk drive A: or B:.
» From DOS:
Type: A:\INSTALL (OR B:\INSTALL) <enter>

Please follow the instructions on screen to install your UltraSound software. Simply press <enter> to install all software onto your hard drive.

UltraSound Setup Program

The Setup program is a utility to help you choose the correct configuration settings for your UltraSound card. Its purpose is to make it as easy as possible for you to get Base Address, DMA and IRQ settings that work in your computer.

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Gravis defaults to the following jumper settings on the 16-bit recording card: Base Port Address (J7 on your 16-bit card) is set to 530 Hex. IRQ (J2) is set to 5, and DMA (J1) is set to 3. If a conflict occurs (two devices using the same resource — like DMA or IRQ), you have the option to set the jumpers yourself: remove the 16-bit card and refer to the charts printed on the card for settings.

Note that the DMA and IRQ settings for the 16-bit card must be different from those of the UltraSound.

The Setup program is run automatically when you do the install. If you need to run it later for any reason:

» **From the directory you installed the 16-bit software into, Type: SETUP <enter>.**

TROUBLESHOOTING

If the setup program doesn't detect your 16-bit card (i.e., no 16-bit options are shown in Setup):

• Make sure you have attached it properly to your UltraSound.

• Make sure the software is installed and running from the correct directory.

CUSTOMER SUPPORT

Advanced Gravis is proud of the quality, design and workmanship that goes into all of our products. However, occasionally a customer has difficulty installing or using the product. This section tells you how to reach Gravis Technical Support.

Registration

It is important that you fill out and mail the enclosed registration card. Registration is important because it ensures that your name is added to our customer data base. If you are in our data base, you are eligible for:

• Access to FREE technical support.

• Notification of significant upgrades.

• Access to special offers and discounts available only to registered users.

Technical Support

There is no charge for Technical Support, but you may have to pay long distance telephone charges, or on-line charges for bulletin board systems.

Technical Support Tips

To keep long distance or on-line charges to a minimum:

• Call from a phone where you have access to your computer. You will then be able to test suggestions immediately and provide any additional information that may be required.

• The best time to call is between 10:30 AM - noon and 1:30-3:00 PM Pacific Coast Time.

• Please prepare the following information:

Your name, address and telephone number.

The Gravis product you are calling about. We make several products.

The make and model of your computer.

The version numbers of your computer's system software and any other software you've installed, especially memory managers or special drivers.

The IRQ, DMA, and Address information mentioned in the Notes section.

Technical Support-Telephone

Call Advanced Gravis Technical Support at (604) 431-1807. Or fax your question, with all the above information, to our fax number: (604) 451-9358

Support hours are 9 AM - 4 PM Pacific Coast Time.

Technical Support-Electronic Mail

Advanced Gravis can be contacted by modem at the following addresses:

CompuServe Support Forum:	GO PCVENB area #14
Advanced Gravis BBS:	(604) 431-5927
Gravis BBS modem setting:	14,400V32.bis baud N81
Internet:	tech@gravis.com
Anonymous FTP:	archive.epas.utoronto.ca pub/pc/ultrasound
FidoNET:	1:153/978
America On-line:	email Adv/Gravis go keyword Gravis
Genie:	GamesRT Category 1 Topic 6

When contacting Gravis via electronic mail, it is very important that you provide all the information described in the previous section. Otherwise, it will take longer to get back to you with a complete answer.

GENERAL INFORMATION

License Agreement

The 16-bit Recording Option is protected by copyright, and all rights are reserved by Advanced Gravis Computer Technology Ltd. This User's Guide is published exclusively by Advanced Gravis Computer Technology Ltd. Information in this document is subject to change without notice and does not represent any commitment on the part of Advanced Gravis Computer Technology Ltd.

Trademarks

UltraSound is a trademark of Advanced Gravis Computer Technology Ltd. All other trademarks and registered trademarks are the property of their respective owners.

Warranty Information

Advanced Gravis Computer Technology Ltd. (hereinafter referred to as GRAVIS) warrants to the original purchaser of the Gravis 16-bit Recording Option (hereinafter referred to as 16 BIT CARD) manufactured by GRAVIS that it will be free from defects in materials and workmanship for a period of 1 year from the original date of purchase.

Information on obtaining warranty services is provided in the "Warranty Claim Instructions" section. You must provide proof of purchase when requesting repairs during the warranty period. All warranty claims must be sent to GRAVIS — do not return your 16 BIT CARD to the place of purchase. GRAVIS is not responsible for any indirect, special, incremental, consequential, or similar damages or loss of data or profits to you or any other person regardless of the legal theory, even if we have been advised of the possibility of such damage. Some states do not allow the exclusion or limitation of consequential damages, so the above limitation or exclusion may not apply to you. Our liability for any damage to you or any third party in the event that any of the above limitations are held unenforceable shall not exceed three times the fee you paid for the 16 BIT CARD regardless of the form of any claim. During the warranty period, GRAVIS will repair (or at its option replace with a reconditioned 16 BIT CARD at no extra charge) components that are defective, provided the 16 BIT CARD is returned with proof of purchase and shipped prepaid to Advanced Gravis. Please see the addresses below.

Warranty Claim Instructions

Carefully read the warranty section and provide a detailed description of the problem, including the make and model of your computer system, and the name, version, and publisher of the software you are using. The means of product shipment to GRAVIS is at your cost and discretion. We suggest that you insure your Gravis 16 BIT CARD in case of loss or damage during shipment. GRAVIS is not responsible for product lost or damaged in shipment.

Advanced Gravis Computer Technology Ltd.

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