SOUND ACE

Audio Digitizer for the Apple IIGS

PARALLAX

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Apple System Software

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SoundAce Software, Hardware, and Manual

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(continued)

ABOUT SOUNDACE

Thank you for your purchase of SoundAce.

SoundAce is a single-channel audio digitizer for the Apple IIGS. When connected to an audio source, SoundAce can record sound for subsequent editing, playback, and storage on disk.

In addition to the hardware, SoundAce comes with friendly, easy-to-use Macintosh-like software. The software allows you to record sounds, edit them, play them back, and save them on disk. Editing functions include cut & paste, echo, pitchbend, reversal, and mixing.

If you're a programmer, you can use these sounds to add a new dimension to your programs. If you're not a programmer, you can enjoy the entertaining and educational process of editing sound.

SYSTEM REQUIREMENTS

To use SoundAce, you'll need the following equipment:

Apple IIGS computer with at least 512K memory
Monochrome or color monitor
3.5 inch disk drive

In addition to the computer system, you'll need an audio source. For a description of audio sources, see page 6.

Memory Requirements

As stated earlier, you'll need at least 512K of memory to use SoundAce. However, to take advantage of all of SoundAce's capabilities, you'll need at least 768K.

If you have 512K of memory, you will have only one track to work with and you won't be able to use Undo or Pitchbend.

If you have more than 512K, but less than 768K, SoundAce will adjust to the memory and provide what it can, starting with one level of Undo and Pitchbend, continuing to another track, and finally the addition of more levels of Undo (up to 3 total).

If you have 768K or more, you should have nothing to worry about.

When you start SoundAce, it will tell you what limitations, if any, exist for your amount of memory.

Also, please keep in mind that RAM disks, other programs, and Desk Accessories may reserve memory for their use, making that memory unavailable to SoundAce.

INSTALLING SOUNDACE

The following text explains how to install SoundAce in your Apple IIGS.

1) Make sure the Apple IIGS power switch is turned off, but leave the power cord plugged into a grounded outlet. This keeps your computer system grounded.

2) Remove the Apple IIGS lid. The easiest way to remove the lid is to wrap your hands around the rear corners of the case and hold the lid latches in with your index fingers while you push up on the lid with your thumbs. When you feel the lid release, lift it all the way off the case and put it to one side.

3) Take the SoundAce hardware out of the box and remove the protective foam from the connectors on the top and bottom.

4) Touch the power supply case inside the computer to discharge any static electricity that may be on your clothes or body.

5) One of the connectors on SoundAce has 16 pins and is found on the bottom side of SoundAce (the side without writing). Carefully insert this connector into the Game I/O Socket (found near the back of the computer, marked "Game"). When you insert SoundAce, the 2 or 7-wire cable should exit toward the front of the computer. Be sure that all sixteen pins plug into their appropriate holes, and that SoundAce is **firmly pressed into the socket**, especially the end toward the back of the computer. *See figures 1 & 2 on page 4*

6a) If you purchased SoundAce hardware version 1.1

Figure 1
Game I/O Socket

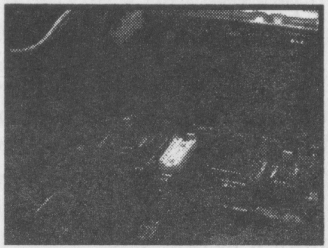


Figure 2
Inserting SoundAce

Figure 3
SoundAce 1.1 7-Wire Cable

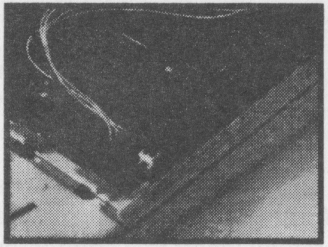


Figure 4
SoundAce 1.0 2-Wire Cable

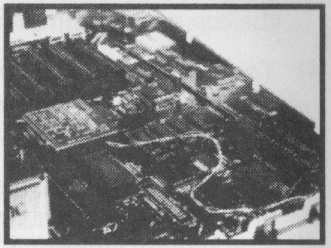
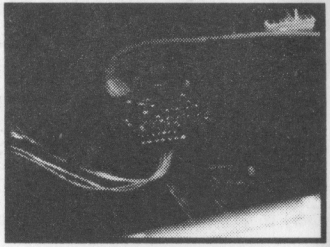


Figure 5
Audio Cable Exiting Computer

Figure 6
SoundAce Fully Installed



(box marked, "WITH 2nd CONNECTOR"), use the following connection procedure:

With SoundAce firmly inserted, look toward the front of the computer. Near the Memory Expansion Slot, there's a 7-pin "Molex" connector (marked "J25"). Gently press the 3-wire SoundAce cable (red) over the three frontmost pins of the Molex connector. Then press the remaining 4-wire cable (white) over the four remaing pins. *See figure 3*

5b) If you purchased SoundAce hardware version 1.0 (box marked, "WITHOUT 2nd CONNECTOR"), use the following connection procedure:

With SoundAce firmly inserted, look toward the front of the computer. Near the Memory Expansion slot, there's a seven-pin "Molex" connector (marked "J25"). Gently press the 2-wire SoundAce cable connector over the two frontmost pins of the Molex connector. *See figure 4*

7) Bring your audio source cable through the computer's back panel and plug it into the round connector on the left side of SoundAce (marked "Audio In"). Because it's attached underneath, the Audio In connector may be difficult to see when SoundAce is plugged into the computer. *See figure 5*

8) Replace the Apple IIGS lid by laying the front edge of the lid in the groove in the front of the IIGS case

and lowering the back edge of the lid into place. Press down on the back corners of the lid until you hear the latches click shut.

CONNECTING AN AUDIO SOURCE

For SoundAce to work, you must supply an audio source. An audio source is simply a device that produces an audio output, such as a stereo or television.

For the technically inclined, the source must supply a signal that is 2.5 volts peak-to-peak.

For those of you not so technically inclined, you may use the headphone or external speaker ("ext. spkr.") output of most radios, cassette players, televisions, etc.

When connecting an audio source, you'll need a cable that has a ⅛ inch ("miniature") phono plug to connect to SoundAce. The other end of the cable should have whatever connector is necessary for your particular audio source (usually another ⅛ inch connector).

When connecting your source, make sure that the volume is set to zero. Starting with a high volume could damage SoundAce and your computer. Although SoundAce has circuitry to protect against such damage, it's a good idea to avoid overloading. When you have the SoundAce software running, you can make several recordings with different volume settings until you achieve good sound quality.

If you do not have an audio source, or you are unsure about what to use, we suggest the following parts for voice and general use, available at your local Radio Shack electronics store:

Part #33-1054A	Microphone	$4.99
Part #277-1008B	Amplifier	11.95
Part #42-2420	6 Foot Cable	2.29
Part #23-583	9 Volt Battery	0.99

To use these parts, first open the amplifier and insert the battery, then plug the larger microphone plug (there are two) into the amplifier's "Input" connector. Plug one end of the cable into the amplifier's "Ext. Spkr." connector and plug the other end of the cable into SoundAce. See figure 4 below

As with any audio source, you'll need to make several recordings with the SoundAce software to determine a volume setting that will give good quality sound.

USING THE SOUNDACE SOFTWARE

The SoundAce software is designed using a friendly, easy-to-use "mouse and windows" environment, much like the Apple Macintosh. Using the software should be fun and intuitive. However, it is assumed that you al-

ready know how to execute the basic functions of your Apple IIGS, such as starting the computer, using the mouse, starting a program, making menu selections, opening & saving documents, etc. If you are unfamiliar with these functions, we strongly suggest that you read the owner's manuals that came with your computer before proceding.

File Operations

Opening a new sound file

When you start SoundAce, two empty tracks appear on the screen ready to accept audio input, either from your audio source or from files previously saved on disk. If you have closed one or both tracks, you may open a new track by selecting **New** from the **File** menu.

Opening an existing sound file from disk

To open an existing sound file from disk, first select (click on) the track you wish to place the file into, then choose **Open** from the **File** menu. When you have chosen the file to open, SoundAce will load the file into the active track (the track selected before Opening). If the file is longer than the track (the file was created with a program other than SoundAce), SoundAce will load enough to fill the track, ignoring the rest. If the file is shorter than a full track, SoundAce will load what it can and clear the remainder of the track.

Saving a sound file to disk

Once you have recorded and edited sounds, you may want to save them on disk. To save a track, select the track and choose **Save As** from the **File** menu. SoundAce will ask for a file name and then save the selected track on disk.

If nothing is highlighted in the selected track, SoundAce will save the entire track. If something is highlighted, SoundAce will save only the highlighted area.

If you've already given a file name in a previous Save As operation, you may choose **Save** instead of **Save As**. If you choose **Save**, SoundAce won't ask for a file name; instead, it will use the previous name.

Closing a sound file

Once you're finished using a particular track, you may close it by choosing **Close** from the **File** menu. **Close** clears the track and removes it from the screen. If you made any changes to the track since the last Save operation, SoundAce will ask if you want to save changes before closing.

Recording

Starting the recording process

To start recording from your audio source, select the track you wish to record into, turn on your audio source, and choose **Start Recording** from the **Record** menu.

SoundAce will record the entire track, during which time the mouse will be inoperative (SoundAce shuts down certain activities to maintain good recording quality).

If anything was playing when **Start Recording** was chosen, the playback operation will be cancelled and recording will start.

When recording has stopped, the new recording will be graphed in the active track.

Stopping the recording process

If you need to stop the recording process early, you may do so by pressing the ESC key on the keyboard.

Setting recording speed

SoundAce has three different recording speeds for different needs: Slow, Medium, and Fast.

The speeds control how quickly SoundAce uses up a track while recording. Faster speeds give less time to record but yield better quality. If you're recording low pitch sound, such as a man's voice, Slow or Medium will

probably do. If you're recording music, you'll probably want to use Medium or Fast.

Slow speed gives about 8 seconds of recording, Medium gives about 6 seconds, and Fast gives about 4 seconds.

Adjusting source volume for best recording quality

As mentioned earlier in this manual, you may need to make several recordings before you find the best volume setting for your particular audio source. The best method of finding the optimal setting is to try a recording at a low volume, then playback the recording. If the recorded sound is faint, increase the volume slightly and try again.

If the volume is too high, you'll hear and see "clipping," an effect that occurs when the system is unable to handle the incoming volume, and therefore starts cutting off parts of the sound wave. Clipping sounds like interference or distortion, and worsens as the volume increases over the system's limit. Clipping can be seen on SoundAce's graphs as sound waves flattened or squared at the top and/or bottom.

To achieve the best sound quality, the volume of your source should be adjusted as high as it will go without clipping.

Playback

Starting the playback process

To start playback of a recorded sound, select the track to play and then choose **Start Playback** from the **Playback** menu.

If nothing is highlighted in the selected track, SoundAce will play the entire track. If something is highlighted, SoundAce will play only the highlighted area.

If something was already playing when **Start Playback** was chosen, the previous play operation will be cancelled and the new one started.

Unlike the recording process, playback does not interrupt the mouse or other operations.

Normally, SoundAce will play through the Apple IIGS's internal speaker. However, if you want better quality and easier listening, you may consider using an external speaker/amplifier, such as the Bose speakers commonly seen with the computer at Apple dealers.

Stopping the playback process

To stop playback, choose **Stop Playback** from the **Playback** menu. Unlike the recording process, pressing ESC has no effect.

Setting the playback speed

Like record, playback has Slow, Medium, and Fast speeds.

If a sound is played at the same speed at which it was recorded, it will sound the same as the original. However, if the playback speed is different than the record speed, the recording will sound slower or faster than the original. Playing a sound at a speed slower than the recording speed will cause the playback to be fast and high-pitched, much like playing a 45 RPM record at 33 RPM. Playing a sound at a speed faster than the recording speed will cause the playback to be slow and low-pitched.

Setting auto-repeat

To make SoundAce repeatedly play a selection, choose Auto-Repeat from the Playback menu. Every subsequent playback will continuously repeat until stopped by choosing **Stop Playback**.

To turn off the repeating option, simply choose **Auto-Repeat** again.

Editing

Undo

If you decide you don't like something you've done, you

may undo it by choosing **Undo** from the **Edit** menu. SoundAce will undo whatever you did and redraw the track in its previous form.

Depending upon the amount of memory in your computer, you may have up to three Undo levels, allowing you to undo the last three changes.

When SoundAce is started, it will display the number of Undo levels available for your amount of memory.

Cut

Like a word processor, SoundAce allows you to cut and paste selections. Of course, instead of words, you'll be cutting and pasting sections of sound.

To cut a section of sound from a track, highlight the area to be cut and choose **Cut** from the **Edit** menu. The section will be removed and stored in memory until the next Cut or Copy.

Copy

Choose **Copy** from the **Edit** menu to copy a highlighted section of sound. The section will remain in its track and in memory until the next Cut or Copy.

Paste

Choose **Paste** from the **Edit** menu to paste whatever was stored by a Cut or Copy into the currently active track. If a cursor is present when **Paste** is chosen, the

pasted sound will be inserted starting where the cursor is and the remainder of the track will be pushed to the right; any part of the track "pushed off the edge" is lost.

If part of the track is highlighted when Paste is chosen, the pasted sound will fill as much of the highlighted area as possible, but not beyond the highlighting.

After a paste operation, the cursor is moved to the end of the pasted area, ready for another paste.

Clear

To quickly clear an area, highlight the area and choose **Clear** from the **Edit** menu.

Select All

Select All allows you to easily select an entire track for editing. With the cursor or highlighting present in the desired track, choose **Select All** from the **Edit** menu.

Adding Echo

Choosing an echo setting

SoundAce has the ability to add echo to your recorded sounds. There are ten various echo settings, ranging from "Cement Pipe" to "Grand Canyon."

Shorter echo settings give a hollow, pipe sound, while longer settings produce the sound of being in a large

room.

To echo part of your recording, highlight the appropriate area and choose the desired echo setting from the **Echo** menu.

Setting echo fade-out

Echo fade-out, when activated, causes all subsequent echos to fade out beyond the highlighted area, as in real life. If you want your echos to absolutely stop at the end of the highlighted area, turn off fade-out by choosing **Fade-Out** from the **Echo** menu.

When you start the SoundAce software, Fade-Out is automatically on.

Changing the Pitch

Choosing a pitchbend offset

SoundAce has the ability to change the pitch of your recorded sounds without affecting the playback time. This process is meant as an effect only, as it introduces some distortion.

There are four various pitchbend settings, ranging from "Martian" to "Cheerleaders from Beyond."

As their names suggest, Martian gives a high-pitched, treble sound, while Cheerleaders from Beyond gives a low-pitch, deep bass sound.

To pitchbend part of your recording, highlight the appropriate area and choose the desired pitchbend setting from the **Pitchbend** menu.

As mentioned in the Memory Requirements section of this manual, Pitchbend may be unavailable, depending upon the amount of memory in your Apple IIGS.

When SoundAce is started, it will display a message describing the limitations, if any, that exist for your amount of memory.

Changing Direction

Reverse

To reverse a section of sound, highlight the area to be reversed and choose **Reverse** from the **Direction** menu. When the reversed area is played, it will play backwards.

For an interesting movie effect, select an area, reverse it, echo it ("New York Subway" echo works well), and re-reverse it. When played back, the original recording will play normally, but the echos will come before the sounds that created them.

Mixing Two Selections

Mix

SoundAce can mix two selections to create the illusion of multiple people or sounds.

To mix two selections, highlight the first selection and choose **Copy** from the **Edit** menu. Then highlight the second selection and choose **Mix** from the **Mix** menu. Both selections will be mixed in a 50/50 ratio. The mixed result will replace the second selection.

If one selection is shorter than the other, mixing will stop at the end of the shorter selection.

QUITING SOUNDACE

When it's time to tend to more pressing duties, you may quit SoundAce by choosing **Quit** from the **File** menu. SoundAce will return to the point from which it was started, usually the Finder.

LIMITED WARRANTY

Parallax, Inc. warrants the SoundAce hardware against defects in materials and workmanship for a period of five (5) years from the date of purchase.

If you discover a defect, Parallax will, at its option, re

pair, replace, or refund the purchase price of the product at no charge to you, provided that you return it with a copy of the bill of sale to Parallax within the warranty period.

This warranty does not apply if the product has been modified of has been damaged by accident, abuse, or misuse.

DISCLAIMER

Parallax is not responsible for special, incidental, or consequential damages resulting from any breach of warranty, or under any legal theory, including lost profits, downtime, goodwill, damage to or replacement of equipment and property, and any costs of recovering, reprogramming, or reproducing any program or data stored in or used with Parallax products.