

SoundBuilder 1.0.1

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I. Introduction

Welcome! SoundBuilder is a sound editor and recording application. Version 1.0.1 of SoundBuilder supports the recording, playing, and editing of 8-bit, mono sounds. Some of SoundBuilder's features are listed below. Enjoy yourself!!

- * Asynchronous recording of sound.
- * Ability to specify sample rate and length of recordings.
- * Asynchronous playback of sound.
- * Support of cut, copy, paste, clear, and undo commands.
- * Ability to play sounds in the "clipboard".
- * Save sounds as resources or in SoundBuilder's native format.
- * Save multiple sounds to one file.
- * 3 to 1 and 6 to 1 compression of sounds.
- * Import and export of .wav files.

This manual assumes the reader is familiar with the basic Macintosh skills such as opening files , clicking, dragging, manipulating windows, etc. If you need help with these items, please read your Macintosh user manual before continuing.

A. License Information

You have the rights to use and distribute this program under the conditions described in sections B and C below. If you do not agree to these terms you must immediately destroy all copies of SoundBuilder in your possession. You need not register the program, but if you do you will receive a valid serial number. When the serial number is entered into the registration box, it will stop appearing

everytime you start SoundBuilder. Serial numbers can be obtained by contacting the author at the address on the title sheet of this manual or by sending E-Mail to either computer account listed on the title sheet. If using US mail, please include a self-addressed, stamped envelope.

B. Warranty Information

This software is licensed "as is". You use SoundBuilder entirely at your own risk. The author makes no warranties or guarantees regarding the performance of this software and will not be held liable for damages resulting from the use of the software.

C. Distribution Rights

Feel free to distribute this program. However, SoundBuilder may not be distributed for a profit without prior written approval from the author. Distribution via an electronic bulletin board is acceptable as long as there are no fees above normal charges. Also, SoundBuilder must be distributed in the original archived format which includes the following items:

- * SoundBuilder 1.0.1 application
- * SoundBuilder 1.0.1 Read Me file
- * SoundBuilder 1.0.1 Manual (RTF)
- * Welcome sound file

You may not give your serial number to other users.

D. System Requirements

SoundBuilder will not run unless System 7.0 or greater is present. A microphone is necessary to record sounds. Make sure you activate the microphone via the Chooser.

E. Technical Support

This is the first release of SoundBuilder and although I've tried to test it as extensively as possible, my resources are somewhat limited and there may still be a few bugs. I would very much like to hear about any problems that you encounter or if you have any ideas for new features. I am also interested in hearing success stories about how you are using SoundBuilder. Please send your comments to the author at the address found on the title page of this manual. Comments can also be sent via Compuserve and America Online. See the title page for the account names. You will probably get the best response time via Compuserve.

II. Playing Sounds

SoundBuilder will play many different sounds. These can be sounds that you have recorded yourself or sounds that were supplied by someone else. They can take the form of resources, SoundBuilder's native format, or wave (.wav) files from the PC world. SoundBuilder will currently recognize only 8-bit, mono sounds.

Before playing a sound, the sound must first be loaded into memory. This can be done by recording a new sound or opening a file containing an existing sound. See section III for information on recording a new sound.

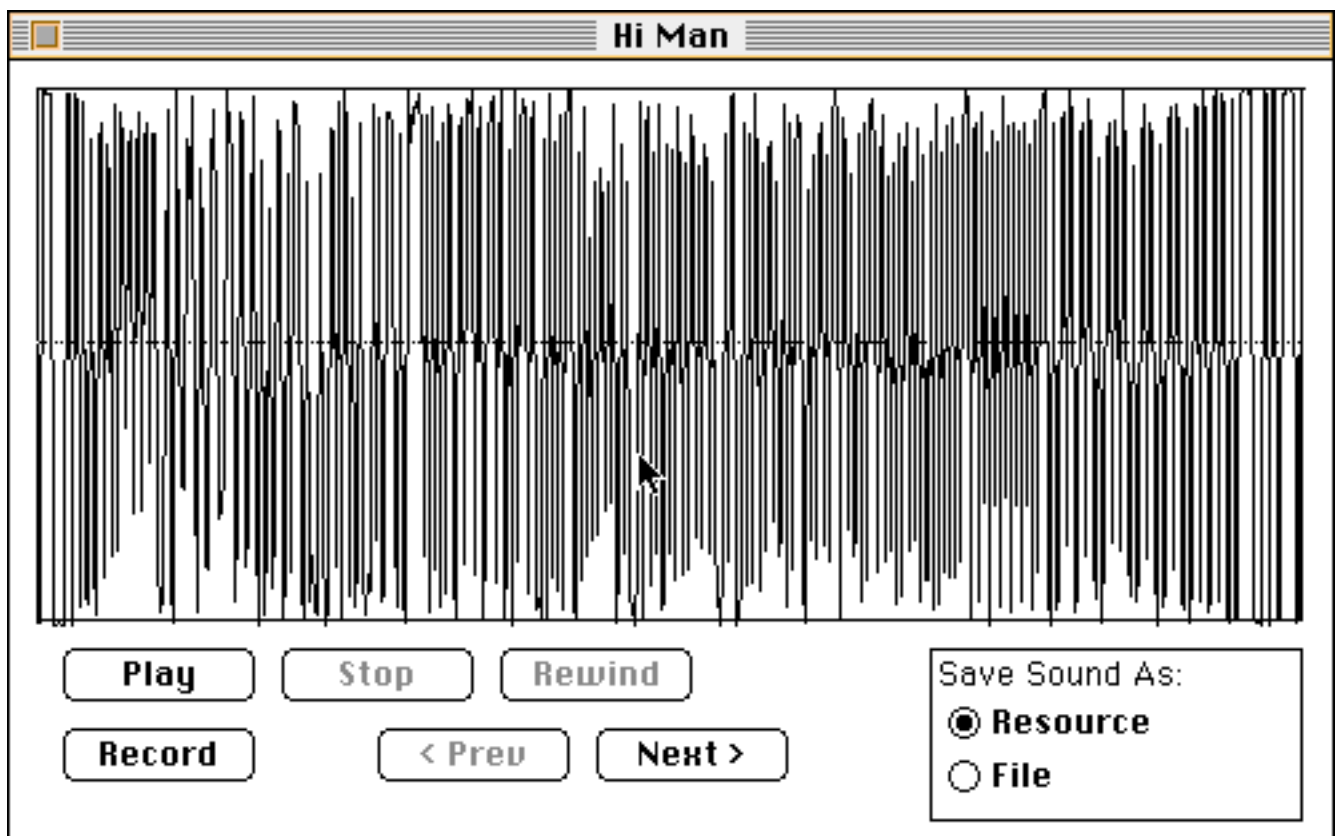
To open an existing sound resource or SoundBuilder format file, choose the Open command in the File menu or type command-o. All native format files and System 7 sound resource files will be displayed by default. If you need to open a file that contains sound resources but is not a standard sound resource file, then hold down the shift key while choosing the Open command. This will cause all of the files on the disk to be displayed, regardless of their format. If you choose to open a file not of SoundBuilder's native format, it will be opened as a resource file. The one exception to this is wave format files exported by SoundBuilder - see below for details. If the file does not contain a resource fork, you will be asked if you would like to create one. If the file has a resource fork, but no 'snd ' resources, a blank window will be opened. This is not considered an error. Any sounds recorded into this blank window can be saved to the file. Note that SoundBuilder does not recognize "format 2" sound resources (designed for Hypercard) as Apple's Inside Macintosh V. 6 states that this sound format is now obsolete.

Any file can also be opened by dragging its icon on top of SoundBuilder's icon. This will cause SoundBuilder to start (if it is not already running) and open the file. If the file is not of SoundBuilder's native file type, it will be opened as a resource file.

The Import submenu under the File menu allows wave format files from IBM-compatible PCs to be read by SoundBuilder. These sounds will be placed in an untitled window on the assumption that you will be saving the sound for use on other Macintoshes. To save the sound in the wave format after editing, use the export command. Wave format files exported by SoundBuilder will be recognized if chosen during a normal open command and an import will be done instead of opening the file as a resource file.

When you open a sound file, a sound editing window will be displayed with its title reflecting the name of the open file. A typical sound editing window is displayed below. To play the loaded sound, simply click on the Play button. To stop a sound that is currently playing, click on the Stop button.

The Next and Prev buttons are used to move among multiple sounds in a file. To move to the next sound, click on the Next button and to move back to the previous sound, click on the Prev button. If the file has no more sounds, the Next



button will empty the window so you can record a new sound and save it in the file currently open.

The entire sound does not have to be played at once. Besides stopping the sound playback with the Stop button, a sound can also be started from any point. Simply click on the graphical display of the sound in the sound editing window. A small section of the display will be inverted to indicate the current position (i.e. where you clicked). That is, a small section will be displayed with white on a black background instead of black on a white background. Pressing the Play button will then start the sound playing from the current position. Small pieces of sound may also be selected by using the click and drag method. The entire section selected will be inverted in the sound editing window. If there is a selected section, only that section will be played by the Play button. The Rewind button unselects any sections and resets the current position to the beginning of the sound.

All sounds are loaded into Random Access Memory (RAM) in an uncompressed format. Because of this, you may run short of memory when loading large sounds. To increase the memory available to SoundBuilder, follow these steps:

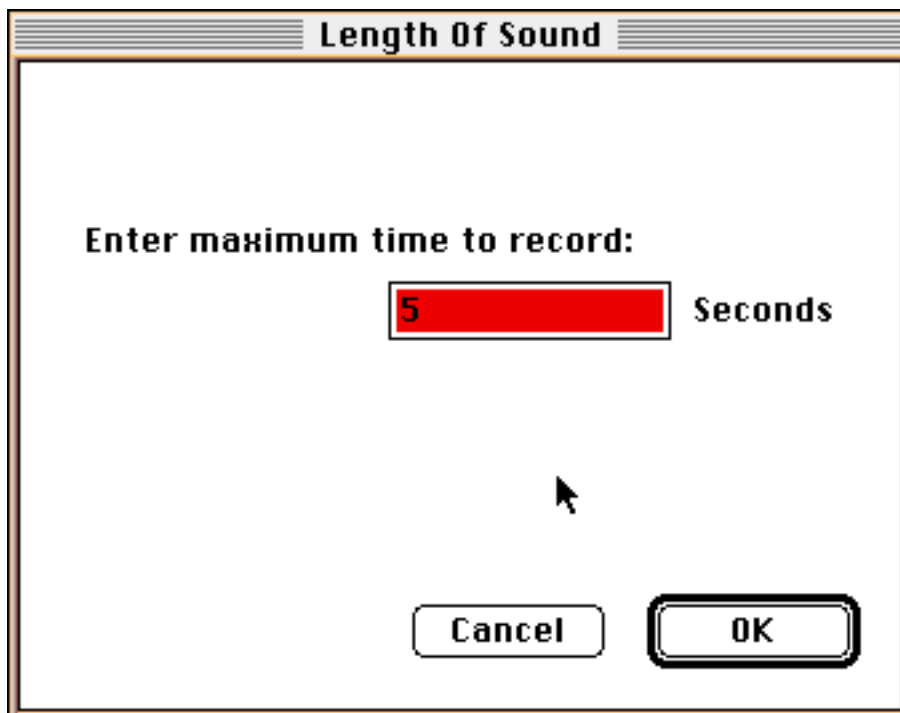
1. Quit the SoundBuilder application.
2. Go to the Finder, and click once on the SoundBuilder icon to highlight it.
3. Type command-i
4. This will bring up a Get Info box. In the box positioned in the lower right corner and labeled Preferred Size, type the amount of memory you want SoundBuilder to have available. To see how much memory is actually available choose the About This Macintosh command from the Apple Menu.

III. Recording Sounds

If you have a sound input device attached to your Macintosh, you will be able to record 8-bit, mono sounds with SoundBuilder. In addition you can specify the length of the recording and the sampling rate used for the recording.

Set the sound's sample rate through the Sample Rate submenu under the Options Menu. The choices of rates include 5 khz, 7 khz, 11khz, 22 khz, and 44khz. Some choices may not be available if your computer configuration doesn't support them. The default setting is 11khz.

To set the maximum length of your recording, choose the Length Of Sound command from the Options Menu. You will be presented with the following dialog box.



Simply enter the number of seconds you wish to record. Once the length and sample rate have been set, you are ready to go.

To enter the recording mode, click on the Record button in a sound editing window. If a sound is already associated with a window, it will be replaced by the sound you record. Therefore, to avoid overwriting other sounds, you should either open a new window with the New command under the File menu or move to the end of the current file by clicking on the Next button until the window is reset with no sound displayed. The recording mode dialog box is shown below.



SoundBuilder allocates RAM for the sound as soon as you enter the sound recording mode. The maximum length of the sound is displayed in the dialog box. The default is 5 seconds. To begin recording, click on the Record button. The Pause button will stop the recording. Resume starts the recording after it has been stopped with the Pause button. Once you are finished recording, click on the OK button to

accept the recorded sound and place it in the active sound editing window. This will replace any sound previously associated with that window. To discard the sound, click on the Cancel button. Any sounds associated with the window will remain intact. The OK and Cancel buttons may be activated during a recording. They will automatically stop the recording currently in progress. The recording process will also stop automatically if the maximum length is reached. The amount of time recorded is represented by the progress indicator displayed in the middle of the dialog box. The empty (white) part of the progress indicator shows the time left. The indicator will filled to indicate the amount of time already recorded.

IV. Editing Sounds

A. Basic Commands

Once a sound has been loaded into a sound editing window by either opening a sound file or recording a new sound, you can not only play the sound but also edit it in any way desired. SoundBuilder supports the standard cut, copy, paste, clear, and undo commands. All of these commands can be found under the Edit menu.

Before you can use the cut, copy, or clear commands, a section of the sound must be selected. To do this, click on the sound's graphical representation in the sound editing window and drag the cursor over the section to be selected. This section of sound will then be inverted to indicate it is selected. The Select All command under the Edit menu will select the entire sound.

The Cut command will remove the selection from the sound and store it in SoundBuilder's clipboard. SoundBuilder currently maintains its own storage area

for this data. It is not available to other applications. The Copy command will store a copy of the current selection in SoundBuilder's clipboard. The Clear command will remove the current selection from the sound, but it does not affect the clipboard in any way.

After a selection has been cut or copied, it can be put back into the sound (or any other sound currently open) by clicking on the desired insertion point and choosing the Paste command. Selections can also be pasted into empty windows.

The Undo command will reverse the actions taken by the last editing command. The Undo command is the only way to retrieve a selection that has been cleared. If an entire sequence of commands needs to be "undone", the only way to do this is through the Revert command under the File menu. This command will discard the current sound and read in the last version of the sound written to disk. If the changes have already been saved to a file, there is no way to undo any change except the last one made. This is also true if the sound has never been saved.

To hear the selection currently in the clipboard, first activate the clipboard window with the Show Clipboard command under the Edit menu. This will display a window with a graphical representation of the clipboard's contents. To play the contents of the clipboard, hold the option key down while clicking in the clipboard window. To hide the clipboard window, choose the Show Clipboard command a second time. This command will be checked if the window is opened and unchecked if the clipboard window is closed.

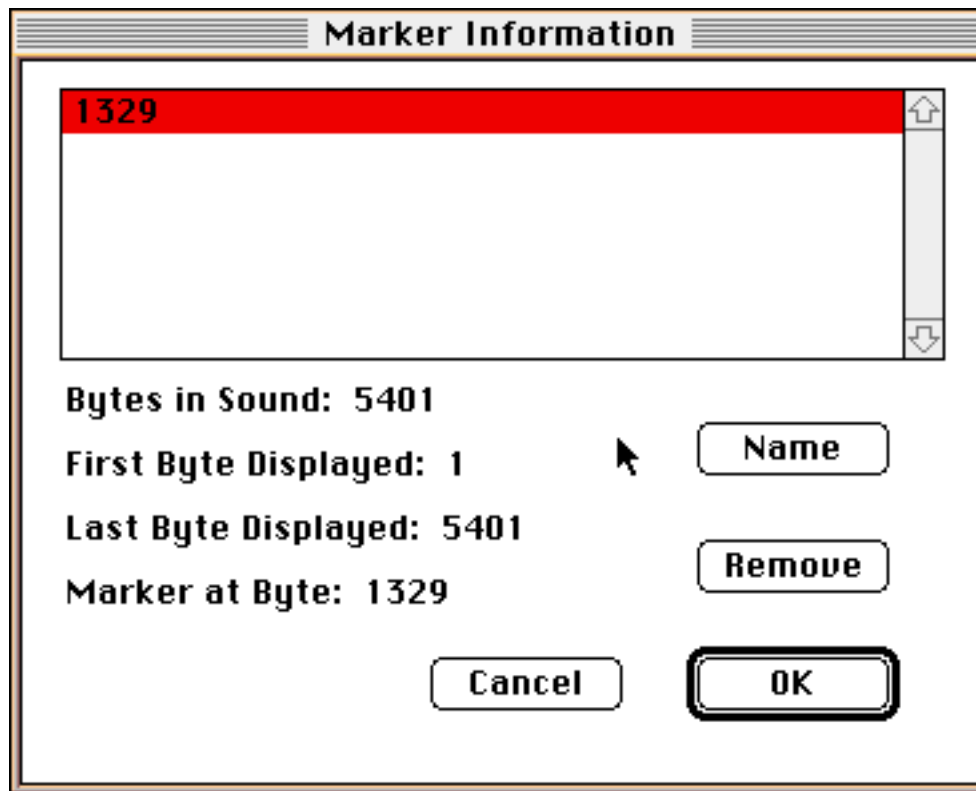
B. Close-up Editing

The View menu offers two options for more detailed editing of sounds. Once a section of sound is selected, the Zoom menu option will cause only that selection to be displayed in the sound editing window. The UnZoom command will restore the sound editing window to its default state (i.e. the entire sound will be displayed). These commands should give the user the ability to do more detailed editing.

C. Markers

When editing a sound it may be desirable to place a marker on a certain location such as the beginning of a word. SoundOff allows you to do this by holding the option key down while clicking in the sound editing window. An upside down triangle is drawn just above the sound's graphical display to indicate a marker has been inserted at that point. The location of markers is also saved in SoundBuilder's native file format. Markers will be lost if you save the sound as a resource or if you export the sound to some other format.

Information about the marker can be viewed by choosing the Marker Info command under the Options menu. The following dialog box will be displayed.



The dialog shows a list of currently defined markers. The size of the sound and the beginning and end positions of the sound section currently displayed in the sound editing window are also given as well as the position of the marker currently selected in the list. To remove the highlighted marker, click on the Remove button. As in other dialog boxes, the OK button tells SoundBuilder to keep the changes that have been made and the Cancel button will cause all changes to be discarded. When removing markers, you will not be given a warning. The only way to restore deleted markers is to cancel all of the changes that have been made.

By default markers are named according to their position in the sound. For example, the dialog box above displays a marker located at byte 1329 of the sound. The marker's name is also 1329. To change the name of a marker, highlight it in the

list by clicking on its current name and then click on the Name button. The dialog below will then allow a new name to be specified.



Simply type in the new name and click on the OK button to implement the change. Click on the Cancel button to discard any typing and keep the previous name.

V. Saving Sounds

Three file formats are supported by SoundBuilder. Sounds can be saved as Macintosh sound resource files, as SoundBuilder files, or as wave files. File formats are generally indicated by the Save Sound As box in the sound editing window. This box is set to the proper format when a file is opened. New and imported sounds default to a Resource file type. It should be noted, however, that the user may change these buttons at any time. This change is ignored by the Save command. Only the Save As command uses the buttons to determine the proper file format. The format of files opened using the Open command will be preserved unless changed to a different format and saved with the Save As command.

A. Compression

Sounds saved as resources or SoundBuilder files can also be compressed. To save a file in a compressed format, choose the desired compression method from the Compression sub-menu under the Options menu. Do this before using the Save or Save As commands. Sound sizes will be reduced to 1/3 of the normal size by the 3 to 1 method and to 1/6 of the normal size by the 6 to 1 method. Compression may result in a loss of sound quality.

B. Resources

To save a sound as a System 7 Sound Resource, click on the Resource radio button in the sound editing window and then choose the Save As command under the File menu. Files saved in this format can be played from the Finder by double-clicking on the file's icon. SoundBuilder can also save sound resources to files that are not Finder-playable, but this can only be done if sound resources already exist in the file. For example, if the file "My Sounds" contains sound resources, then SoundBuilder can open the file, read in and edit the sound resources, and add additional resources. However, if you try to open a file that does not contain sound resources, SoundBuilder will tell you it cannot read past the end of the file and will not open the file. New resource files created by SoundBuilder will always be Finder-playable. It should be noted that the Finder will play only one of the resources in the file, not all of them.

C. SoundBuilder File Format

To save a file in SoundBuilder's native format, choose the File button in the sound editing window and then use the Save As command. SoundBuilder records the necessary information to continue editing the sound at a later time, including any markers that were defined. The format is defined below.

<u>Information</u>	<u>Data Type</u>	<u>Bytes</u>
Major version number	Integer	2
Minor version number	Integer	2
<i>Repeated for each sound:</i>		
Size of sound	Integer	4
Sample rate	Fixed	4
Compression Type	String	4
Number of markers	Integer	2
<i>Repeated for each marker:</i>		
Marker position	Integer	4
Length of marker name	Integer	1
Marker name	String	?
Sound sample data	----	?

D. Wave Files

The Export submenu under the File menu allows sounds to be saved in the wave file format for use with Microsoft's Windows 3.1 and any other program which recognizes the wave format. These files are specifically designed for use with the IBM-compatible world of computers.

VI. Menu Commands

A. File Menu

- New: Create an empty sound editing window. See pages 10, 15 and 16.
- Open: Open an existing sound file. See pages 6, 15, and 16.
- Import: Read non-standard sound files. See pages 6 and 15.
- Close: Close the active sound editing window and associated files.
- Save: Save the sound associated with the active sound editing window in the file associated with the sound editing window. Same as “Save As” if the sound was not previously saved. See pages 12, 13, and 15-17.
- Save As: Save the sound associated with the active sound editing window under a new file name. See pages 12, 13, and 15-17.
- Revert: Discard the active sound and read the last version of the sound saved to disk. See page 12.
- Export: Save sounds in non-standard formats. See pages 6, 13, and 17.
- Quit: Close the SoundBuilder application. The user is given the opportunity to save any edited sounds.

B. Edit Menu

- Undo: Reverse the last editing command. See pages 11 and 12.
- Cut: Remove the current selection from the sound and place it in SoundBuilder’s clipboard. See pages 11 and 12.
- Copy: Copy the current selection to the clipboard. See pages 11-12.
- Paste: Paste the contents of the clipboard into the active sound at the current position. See pages 11-12.

Clear: Remove the current selection from the sound. See pages 11-12.

Select All: Select the entire active sound. See page 11.

Show Clipboard: Display or hide the clipboard. See page 12.

C. View Menu

Zoom: Zoom in on the selected sound. See page 13.

UnZoom: Display the entire sound in the editing window. See page 13.

D. Options Menu

Compression: Choose a compression method. See pages 8, 16, and 17.

Sample Rate: Choose the sample rate for the next sound recording. See pages 9 and 17.

Marker Info: View information about defined markers. See pages 13-15 and 17.

Length of Sound: Set the maximum length to record. See pages 9-11.

E. Windows Menu

This menu will display the names of the open windows. Choose one to make it the active window.