



SONIC SOLUTIONS

SonicStudio version 5

Reference Manual

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SonicStudio version 5, Reference Manual

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Written and designed at Sonic Solutions, 101 Rowland Blvd., Novato, CA. 94945, USA

Printed in the USA

Sonic Part Number 820001B (12/96)

Contents

1 Window Reference

The Mixing Desk	1-1
The EDL	1-19
The Edit Fade Window	1-42
The Listing Window	1-54
The Transport Panel	1-55
The Sonic Manager	1-56
The Project Manager	1-66
The Background Queue Manager	1-70
The Status Monitor Windows	1-71

2 Menu Command Reference

File Menu	2-1
Edit Menu	2-15
EDL Menu	2-31
Play Menu	2-41
Mark Menu	2-48
View Menu	2-52
Desk Menu	2-58
DSP Menu	2-62

NoNOISE Menu	2-67
Windows Menu	2-68

3 Dialog Reference

The Record Sound File Dialog	3-1
Project Manager Dialogs	3-4
The User Preference Dialogs	3-16
Utility Dialogs	3-67
Editing Dialogs	3-70
Mark Dialogs	3-73
View Dialogs	3-79
DSP Dialogs	3-81
NoNOISE® Dialogs	3-102

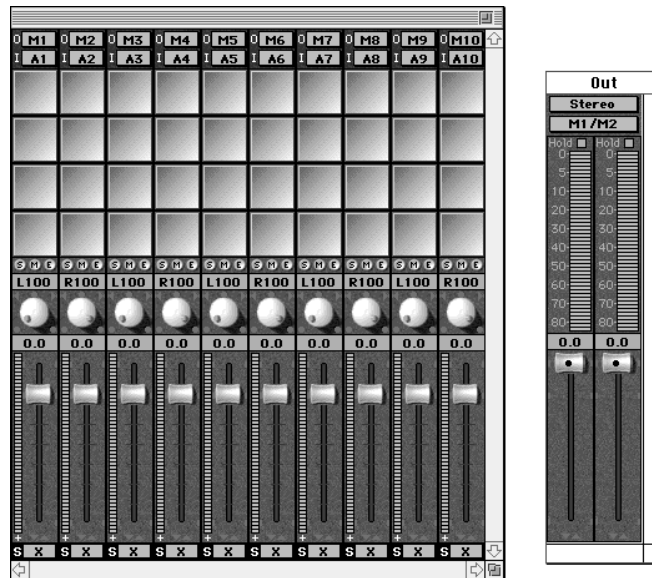
A Menu Command Keyboard Equivalents

Introduction	A-1
QuicKeys	A-4

1 Window Reference

The Mixing Desk

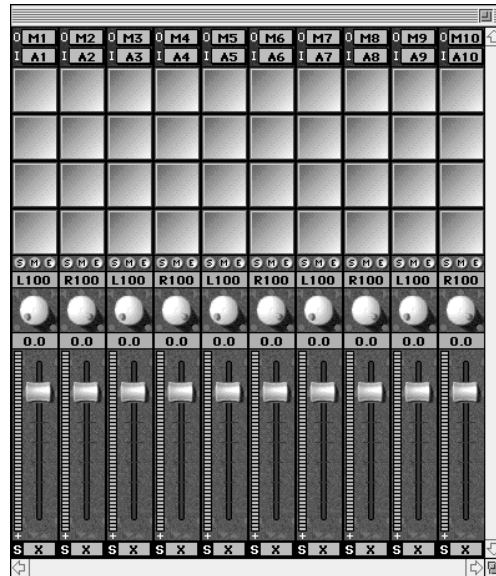
The Mixing Desk is the first window that appears when SonicStudio™ completes its start-up. Use it to direct the input and output of sounds, controlling their gain, equalization and channel separation.



The Mixing Desk consists of two separate principle windows, the channel fader section and the master output section.

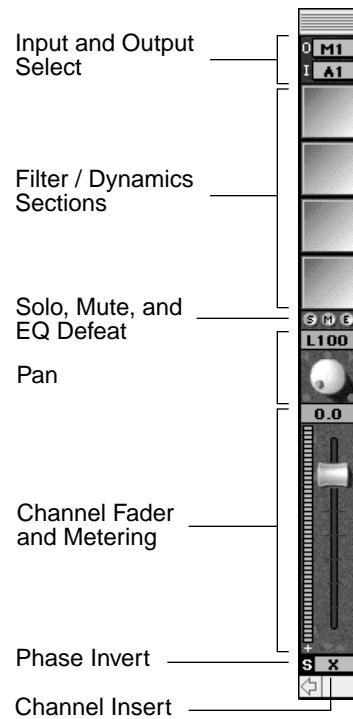
Channel Fader Section

Channel Faders control the input level and equalization of soundfiles during playback and recording. These channel input strips can be grouped and routed in various configurations.



The number of channel strips available depends on system configuration. Systems that use a single SSP-3 board show four channels. An additional four channel strips are added for each additional SSP-3.

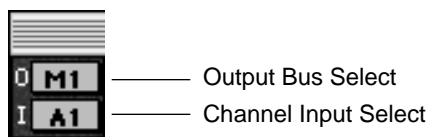
Each channel input strip has a fader, an individual pan pot controlling direction, pre-fader level meter, two or four sections of equalization, input and output routing switches, insert point for real-time DSP options, and mute/solo/phase invert switching.



Selecting Channel Inputs and Outputs

The two buttons at the top of the channel strip are used to select the audio source going into the channel and to route audio from the channel out.

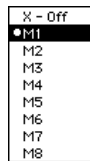
Input/Output Assign



The input and output assign buttons operate by click-holding on either button. This brings up a pop-up menu listing available selections. A two-character label indicates the signal currently selected.

Output Bus Select

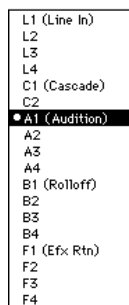
Click-holding on a channel's output bus select ("O") button brings up a pop-up menu to route that strip's output to one of the available mix buses. A selection of "X - Off" selection means there is no assignment for that channel. The number of output buses available depends upon system configuration, with a minimum of two output buses, M1 and M2.



The output buses correspond to particular outputs on the SSP-3 or USP hardware. In a single-board SSP-3-based system, for example, M1 and M2 correspond to the left and right channels of the topmost output ("P2") connector.

Channel Input Select

Click-holding on the input select ("I") button brings up a list of selections.

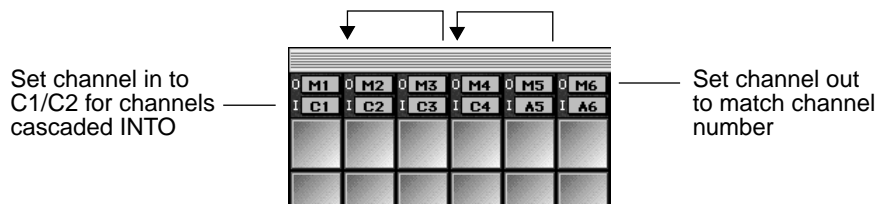


L1-L4 Line Inputs

Each channel has a selection of two or four inputs, depending upon system configuration. In systems with more than four inputs and channel fader strips, each group of four accesses a different group of inputs. In an 8-input, 8-fader system channels 1-4 have access to line inputs L1 through L4, while the pop-ups for channels 5-8 list L4 through L8 as the available inputs.

Channel Cascade Inputs

In this version, mixing desk channels may be cascaded one into another in stereo pairs. The operation of cascade is according to channels pairs, going from right to left. For example, you can cascade channels 3 and 4 into channels 1 and 2. Or you can cascade channels 5/6 into 3/4 and additionally cascade those two channels into 1 and 2.



The figure above illustrates cascading channels 5/6 into channels 3/4 while also cascading 3/4 into 1/2. The channel outputs are set to follow the channel number, i.e. channel 5 is set to M5. The channel inputs for each channel that is being cascaded into are set to C_n , as shown above. Note that you can only cascade pairs of channels in a right-to-left order.

A1-A4 Audition (Disk) Channels

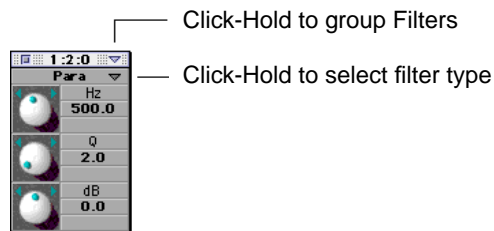
SonicStudio provides a number of audition buses coming from the sound disk. For playback, individual panels in the EDL are assigned to these audition channels and these are selected at the Mixing Desk's channel strips.

B1-B4Rolloff Channels

The Rolloff channels correspond to the Dump port selected in Audio I/O Preferences (see next chapter), so you can monitor output during background dumps.

Selecting and Adjusting Filters and Dynamics

The Filter/Dynamics portion of each channel strip consists of two or four individual sections. These are displayed as 3-dimensional “tiles.” You can open and set any of these filter sections by double-clicking on the corresponding tile.



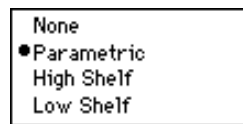
To select a filter:

- Double-click on the filter square you want to set.

An adjustment window appears, with a menu bar for selecting the filter type and rotary adjust knobs to set the parameter values.

To select the filter type:

- Click-hold on the upper strip of the window.



The filter list that appears lists all filter types available. The selection of processing types depends on system configuration.

To set filter parameters:

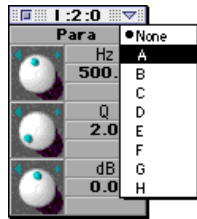
- Use the knobs or nudge buttons to set the filters as desired.

For fine adjustment, hold down the Shift key as you click on the parameter adjust knob. The range of travel of the mouse will be extended, allowing for very fine adjustment.

Though the controls are displayed as knobs, you do not need to use a rotary motion. Just click on the desired control and move the mouse left and right, as though it were a slider. The knob will follow your motions.

Filter Grouping

Filters may be grouped as desired, no matter whether the sections are adjacent or not.



To assign a filter section to a group:

1. Click-hold on the topmost strip of the window.
2. Make a selection from the pop-up menu.

Sections that are assigned to the same group will follow each other's settings. Adjusting any one filter will cause all others in the same group to change as well.

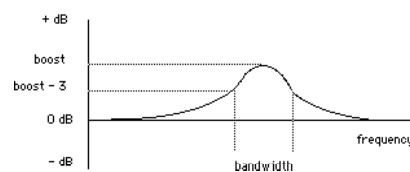
You can open and display any number of individual filter setting windows. You can move these on the screen and arrange them into groups as desired. Once a filter or dynamics processing type is selected, you may close that filter's setting window. The selected parameter values for the filter are displayed within the filter's square on the main channel fader section.

Filter Types and Parameters

Parametric (Presence) Filter

The parametric (presence) filter boosts or attenuates a particular region of the audio spectrum, with three variable parameters:

Frequency Response of Presence Filter



Center Frequency

The center frequency is the mid-point of the band affected. The center frequency may be selected over a range of 1.0 Hz to 22.050 kHz

Q

Filter Q may be translated into actual bandwidth in hertz using the formula $BW = \text{Freq}/Q$. The range is from 0.1 to 100.

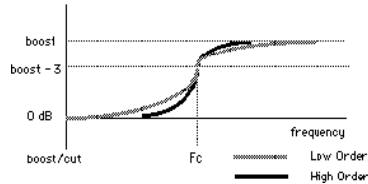
Boost/Cut

B/C indicates the amount of gain or attenuation that will be applied at the center frequency, with a range of ± 24 dB.

High and Low Shelving Filters

Shelving filters apply a fixed boost or cut to frequencies beyond the cutoff frequency.

Frequency Response of High and Low Order Shelving Filters



Cutoff Frequency

Cutoff frequency in the shelving filters is the point where the affected signal is boosted or cut by 3 dB, or by 1/2 the specific boost/cut, whichever is less. The range is 1 Hz to 22.050 kHz.

Boost/Cut

Boost or Cut applies to signal above (in the case of hi shelf) or below (in the case of lo shelf) the cutoff frequency. The range is ± 24 dB.

Order

The “Order” of a filter (value from 1 to 4) controls the slope of the filter’s response curve, with 6 dB octave for each integer step. Higher values of Order consume larger amounts of SonicStudio’s signal-processing power.

Additional filter types are available with the Mixing Desk Option SS-201 that is included on many systems. Refer to the SS-201 manual for details on these filters.

Solo, Mute, and EQ Defeat

At the base of each channel’s filter section is a group of three buttons that select solo, mute, or EQ defeat for the channel.

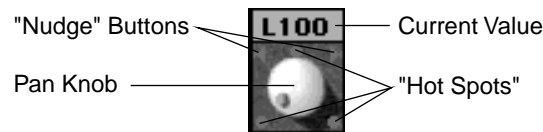
The Solo button selects a single strip for output or auditioning by muting the other channels.

The Mute button turns off the output of the affected channel. If solo is active when mute is selected, the solo is turned off.

EQ Bypass switches all filters in the channel strip. With the EQ bypass activated, the channel has a completely flat frequency response.

Panning

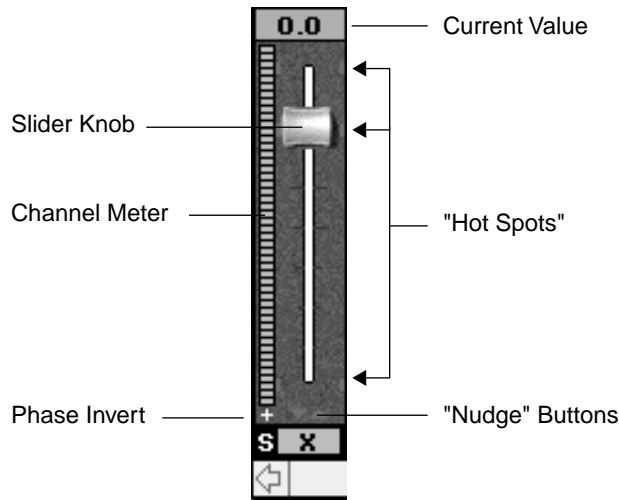
Each channel strip has a pan pot that controls the routing of signal between the pairs of output buses (M1/M2 or M3/M4).



Though the pan pot is shown as a rotary knob, use a simple left-right, rather than rotary, motion to adjust its setting.

Channel Fader, Meter, and Phase Invert

The channel fader sets the amount of gain or attenuation applied to the post-EQ signal. It is capable of supplying up to +20 dB of gain, or attenuation down to infinity.



As the slider is adjusted, the readout window at the top displays gain in decibels. “Hot spots” to the right of the slider can be used to quickly set the gain to unity, +20 dB, or infinite attenuation.

Nudge buttons at the bottom of the slider move gain in increments of 1/10 dB. Signal phase is controlled by clicking on the “Phase Invert” (+/-) symbol to the left of the nudge buttons and immediately below the channel meter.

Individual “pre-fader” meters are provided on each fader strip. These display the level of signal coming into the fader.

Channel Grouping

The mixing desk provides flexible grouping of channel faders, with any fader assignable to one of eight fader groups

To assign a fader to a group:

1. Hold down the option key and click-hold on the “handle” of the channel fader.
2. Select a group from the pop-up menu that appears.

Whenever a fader assigned to a group is moved, all faders assigned to the same group move with it. If the faders in a group are set differently at time of assignment, they preserve the same offset as they move. If any faders reach the end of travel in any direction owing to movement of another fader in that group, they are pegged at maximum or minimum setting. The original offset is restored as soon as the faders are moved away from the “clipped” position.

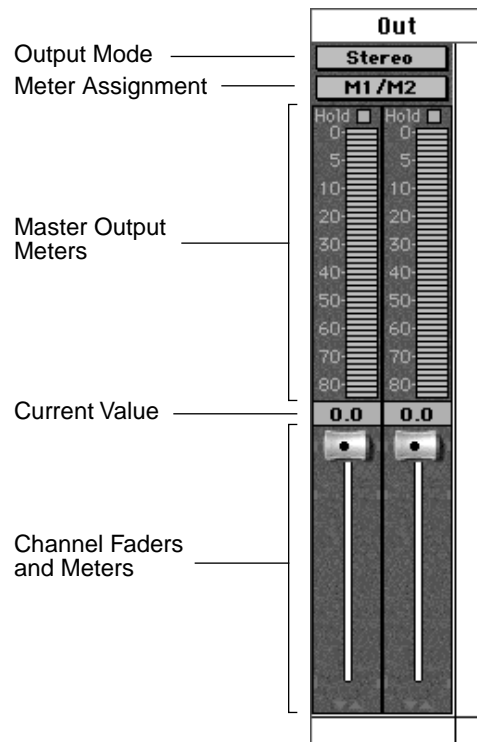
Channel Insert

The channel insert button at the base of each channel is used to insert signal processing options, such as effects and NoNOISE, in line with the channel. The Insert Point Select button calls up a pop-up menu listing four insert points (I1-I4), and the default setting (X-No insert).

Channel inserts are used for real-time signal processing options such as denoise and reverberation. If these options are not included in the system, the channel inserts do not operate.

Master Output Section

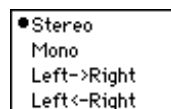
The Master Output section provides a pair of faders to control overall output level, two assignable output meters, and control of output mode (mono or stereo).



The master output section is a separate, Macintosh-standard window. It may be placed, scrolled, or resized independently of the channel fader section.

Output Mode

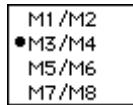
The output mode pop-menu determines whether SonicStudio functions as a stereo or monaural system.



If Stereo is selected, the pan pots are active, and the signals from the left and right buses are routed accordingly. In the Mono (Mix) setting, the two sides of the stereo mix are combined. Both outputs, left and right, see the same signal. In Left->Right mode, the left side of the stereo mix is routed to the right side as well, yielding a mono output.

Meter/Fader Assign

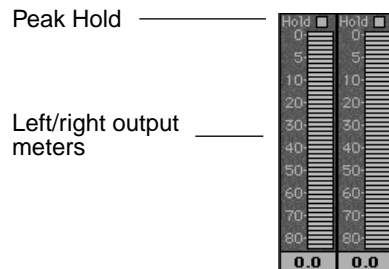
The meter/fader assign button selects a pair of mix outputs. The selected pair then functions as the “main” stereo output, with gain control from the master faders and output level shown on the output meters.



Click-holding on this button brings up a list of the available selections. The length of the list depends on system configuration, with the smallest systems providing only a single possible assignment.

Output Level Meters

The Meters section provides visual confirmation of audio signal levels output from the Mixing Desk buses.



Peak Hold Check Boxes

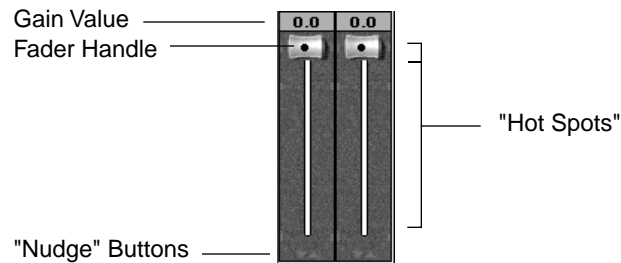
The meters show instantaneous and peaking (3 second maximum values) signals in bright and light green, respectively. Selecting peak hold causes the meter(s) to hold the highest value indefinitely.

Left and Right Meters

Each meter provides a reading of the full scale of digital audio, from minus infinity to 0 dB, where 0 is one bit-value less than full scale. The overload indicator on each meter lights if the signal actually reaches full scale.

Master Faders

The master faders provide signal attenuation only, from 0 dB of attenuation down to infinity.



The readout box at the top indicates actual attenuation as the sliders are adjusted. "Hot Spots" to the right of the slider quickly set level to "0" (off) or full scale, while the nudge buttons at the bottom change attenuation in small increments.

The output faders may be locked together for stereo fading as with the channel faders and pan pots. Simply hold down the Option key and click-hold on one of the fader handles. A pop-up submenu will appear to allow the faders to be locked or unlocked. (They are locked by default on initial start-up.)

Mix Desk Automation

The automation functions of the Desk are controlled entirely by menu commands

Desk
Use Playback Desk Use Record Desk
Fine Desk Controls
Desk Setup ▶ Save Desk Setup Save Desk Setup as...
<input checked="" type="checkbox"/> Playback Automation Record Automation
Undo Pass Redo Pass End Pass
Take SnapShot Delete SnapShot
Goto Next SnapShot Goto Previous SnapShot

To begin a desk automation Session:

- From the File menu, select the command New Desk Session

When you create a new Desk Session, the name of the Session appears at the top of the Desk's Channel Fade section, and the commands in the Automation section of the Desk menu become active.

Automation

Select this command to active mix automation. When you select this command, a check mark will appear beside it in the menu. So long as this check mark shows, automation is in effect.

With automation activated, changes to the Desk are recorded automatically as you play audio from the EDL. All changes to the position of faders and pan pots are recorded.

With automation on, whenever you play the EDL, mixing moves recorded are played back automatically.

Undo Pass/Redo Pass

Each time that you make changes in the mixing moves recorded in a Session, a new automation “pass” is created. Using the Undo Pass and Redo Pass commands, you can revert to a previous version of your mix Session to add to or change the moves up to that point.

End Pass

If you have created multiple automation passes, and used the Undo/Redo commands to move back in the sequence of passes, you can use this command to jump forward to the very last pass created.

Take SnapShot

The Sonic mixing automation stores mix info in two forms. Dynamic automation moves are recorded during playback, by moving the Mixing Desk faders and pots.

Snapshots may be recorded while the system is stopped or on the fly during playback. A snapshot records the position of all faders, mutes, and pan pots as a single memory. When playing back, at the point that a SnapShot is located all the controls will jump to the positions stored in the SnapShot

To record a mix SnapShot at a particular location:

1. Play the EDL to the point where you wish to insert the SnapShot. The time that appears in the Transport Panel’s window is the time at which the SnapShot will be placed.
2. Set the Desk faders, mutes, and pan pots exactly as you want them to appear.
3. Select the command Take SnapShot from the menu.
If there is already a SnapShot at the position selected, that SnapShot is replaced by the new one.

SnapShots may also be placed on-the-fly by selecting Take SnapShot from the menu while the EDL is playing.

Delete SnapShot

If you cue to the location at which a SnapShot appears, you can remove that SnapShot by using this command.

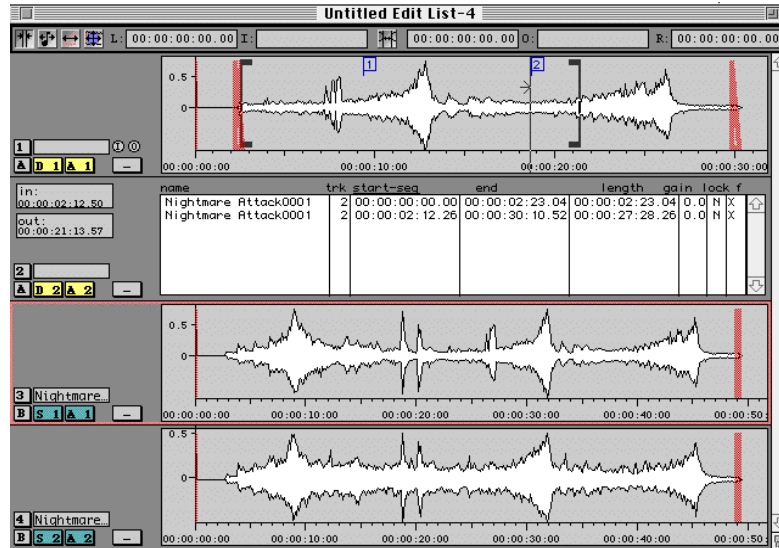
Go To Next/Previous SnapShot

Go To Next SnapShot will bring you from the current play head (Transport Panel) position to the position of the next SnapShot in the Session. Likewise, Go To Previous SnapShot will move you back from the current position to that of the preceding SnapShot.

By using the Go To Next and Go To Previous SnapShot commands together with Take SnapShot and Delete SnapShot, you can easily locate and replace or modify any automation SnapShot

The EDL

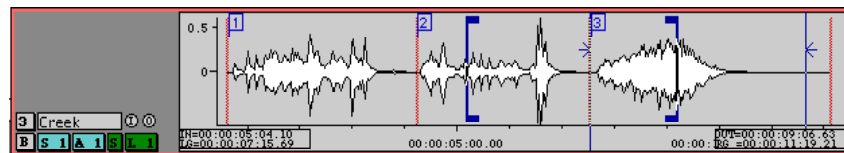
An edit decision list, or EDL, is created when you select New Edit List from the File menu. This window shows you a number of editing *panels*, each of which represents a single track or channel.



You can record sound directly into an EDL panel, or open previously recorded sound and cue files. You can then edit and reassemble these sound sections to create your finished product using a variety of editing tools and commands. You can shift the view in the edit panels, select waveform, text, or bar display modes, resize and regroup panels as required.

The Edit Panel

The edit panel, analogous to a *track* of tape, is the basic element of editing on SonicStudio. You can move audio within a panel, from one panel to another, modify all fade-ins, outs, and cross-fades, adjust level of any individual segment, and so on.



The panel shown here is in the waveform display mode, with audio edits (fades) shown as thin vertical pink lines. The left and right Gates that you use to set locations for play, edit marks and so on, are shown as vertical black lines with a small arrow pointing left or right. You can grab these Gates with the mouse and slide them freely in the panel.

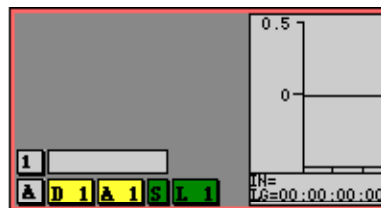
The In and Out edit points, used to mark sections for Insert and Delete commands, are shown as heavy black brackets pointing right and left. General-purpose editing marks such as Track Start marks appear as small number flags above the waveform, while the lower edge of the panel shows time scale and displays of the exact current time for the left/right Gates and edit points.

The left-hand side of the window includes fields for panel number, sync group (which uses an alphabetical designation), edit group (source, destination, or none), and an audition group that controls routing of panel output to the Desk. Also, there is a panel label field and small indicators that show when In and Out points are present off-screen.

Recording into an Edit Panel

To record directly in an EDL panel or group:

1. Use the input selector and channel arming control at the lower-right of the left-side control group.



2. Click-hold on the input selector, at the far lower right of the group, to bring up a menu of available line inputs and mix-out inputs. How many you see depends on system configuration.
3. Select the line input (L1, L2, etc.) from which you wish to record.

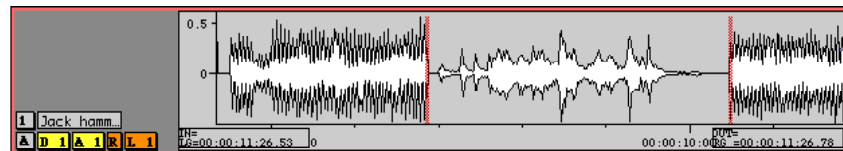
4. Assign line ins to all the panels you want to record to.
The channel-arming control appears when you select a channel input.
5. To arm the channels you want to record to, click once on the control in each panel.
Now you are ready to record.
6. Cue your audio source, tap the space bar, then press the slash key to punch into record.
You will see the record control change to a red color.
7. Let the recording run as long as desired, then tap the space bar again to halt recording.

When recording finishes, you will see the new audio appear in the panel, ready for editing. You can playback from the panel by tapping the space-bar. This starts playback from the position of the left Gate. You may also use the Transport Panel's Play button or any of the numerous options in the Play menu.

Punching In on Existing Sound

You can also punch in to a panel containing previously recorded sound, either manually or automatically, using the same procedure.

1. Select your input.
2. Arm the channels.
3. Press the space-bar to start playback.
4. Press the slash key at the point you wish to punch in.



5. Press the slash key again to punch out of record without halting playback.

6. Press the space bar to finish.

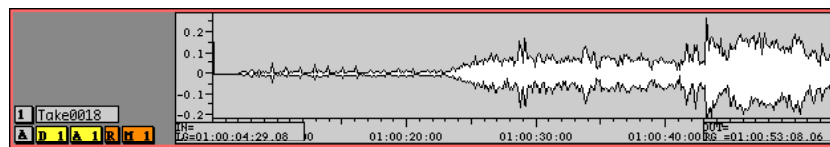
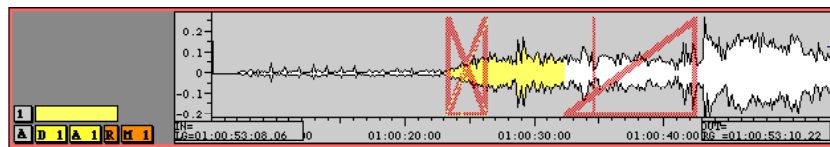
When you press the space-bar, the system finishes up the recording and the new sound section appears at the proper spot.

To automate the punch in process, place In and Out edit points in the panel or group of panels to which you are recording, then arm and punch in with the slash key before the play head reaches the In point.

When it reaches the position of the In point, the panel will drop into record and continue up to the point of the Out point. Following the Out point, hit the space-bar to stop playback and finish up the recording.

Capture Recording

You can use the mix or monitor output (M1, M2, etc.) selections to re-record the contents of an edit panel into a new soundfile. This is a powerful way to simplify complex editing, and to apply individual filtering and dynamic level changes to audio segments.



To capture the contents of an edit panel or group, all you need do is set the panel's input select to one of the mix out options, and begin punch recording as before. The output of the present panel plays back through the Desk where you can apply any desired filtering or dynamic mix changes.

At the same time, the output of the Desk is being recorded into a new soundfile. When you terminate recording with the space-bar, the new, continuous, soundfile replaces the previous contents, with all fades, gain, and EQ changes in place.

Opening Previously Recorded Sound into the Edit List

To open soundfiles that you have previously recorded into an EDL panel, you can use the Open button in Sonic Manager or the Open Sound File command in the File menu. You can also open sound into an EDL by “mounting” another EDL, or by opening or placing a Cue file from the Cues library.

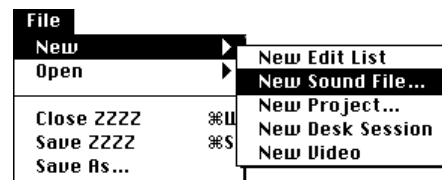
Opening Soundfiles from the Sonic Manager

To open soundfiles from the Sonic Manager Sounds library:

1. Select one or more sounds from the listing
You can select multiple sounds by holding down the Shift key as you click with the mouse. You can also press Command-A to select all sounds.
2. Click on the Open button, double-click a single selection, or press the Return key.

The selected sound(s) will open in the EDL as defined by the selections in the EDL Preferences dialog. By default, sounds are opened into the Source edit group panels.

Opening Soundfiles from the File Menu



To open soundfiles from the menu command:

1. Select the command Open Sound File from the Open submenu of the File menu.
The system will scan the mounted sound disk drives and display a dialog listing all available soundfiles.
2. Select the file you wish to open and press the Return key on the keyboard or click the OK button in the dialog.

As with opening soundfiles from the Sonic Manager, sounds are opened according to preferences selected in the EDL Preferences dialog, General section.

Mounting an EDL

You can also open sound into an EDL by *mounting* another EDL. All of the assembled sound segments will appear in the new EDL with all edit, fade, and gain relationships intact.

To mount an EDL into another EDL:

1. Select the command Mount Edit List from the Open submenu of the File menu.
A file select dialog will appear, listing all EDLs available on the system.
2. Select the EDL you wish to mount and close the dialog.

The audio contents of the selected EDL will open into the on-screen EDL. In the default setting, the selected EDL's top panels will appear in the on-screen EDL's Source panels. The remaining panels of the selected EDL will appear in order downward from the top.

For example, an EDL consists of 5 panels of audio. It is mounted onto a new EDL in which panel 3 is set to source. In this new EDL, panels 3-7 will now contain the first EDL's panels 1-5, in their original order.

If you would like the mounted EDL's audio to appear in either Destination or empty panels, you can change the default with the Open Sound File pop-up menu of the Edit List Preferences "General" section.

Opening Cues from the Sonic Manager

Cues are not complete soundfiles, but individual segments of sound taken from a longer file. Cues are created from selected segments in an EDL by using the command Create Cue Files from the EDL menu.

To create Cue files from selected segments:

1. Invoke the Create Cue Files command from the EDL menu.
2. To display the new files, open the Sonic Manager Cues library and click on the Scan button.

All selected segments in the currently selected panel(s) of the EDL are converted into Cue files that have the same name (see discussion of segment names and editing in the text view display). The Cue files you create will appear in the Sonic Manager Cue library, following a “scan.”

Cues may be placed into an EDL from the Cues library of the Sonic Manager in one of two ways. You can select a Cue and click the Open button, or you can drag the desired Cue to the target EDL using the mouse.

When you use the Sonic Manager Open button, the cue is placed in the currently selected panel.

If there are two or more channels in the cue, the additional channels appear in sequential panels, starting from the selected panel at the cue’s “time stamp” position.

The time stamp of a cue is the position in time occupied by the source segment from which the cue was made, at the time that the cue was created.

Drag-and-Drop of Cues from the Sonic Manager

You may also place Cues into an EDL by using the mouse to “drag-and-drop” them directly from the Sonic Manager’s Cues library.

To place Cues from the Sonic Manager using drag-and drop:

1. Position the Sonic Manager window and the EDL window on-screen such that you can see both windows.
2. Select the Cue file you wish to place from the Sonic Manager Cues library.
3. Drag with the mouse, holding down the mouse button as you do, from the Sonic Manager window to the panel in which you want to place the selected Cue.

As you drag into the EDL, the target panel is highlighted. When you release the mouse button, the selected cue drops into position.



The position in time at which the Cue file appears is determined by the Cue Placement command in the EDL menu. This command opens a small dialog to select one of four available modes.

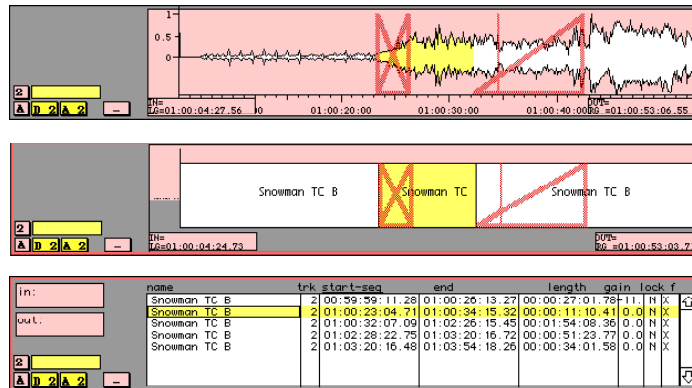
- Place according to mouse position at time the button is released.
- Place according to the position of the edit In and/or Out points.
- Place according to the play head (Transport Panel) time.
- Place according to the time stamp of the cue.

The four modes are represented by icons in the Cue Placement select dialog. As you point at each icon with the mouse, the name of the mode it selects is listed at the bottom of the dialog.

When you select a mode, that mode remains in effect until you select another mode from the Place dialog.

Changing the View in an Edit Panel

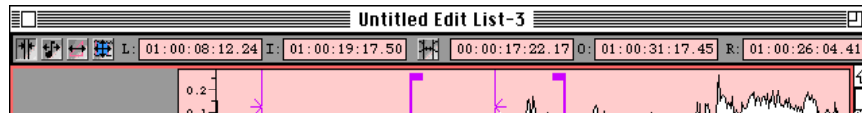
You can change the view in a given edit panel by moving or zooming to different areas and levels or magnification, or by changing the display mode for the panel.



Use the command Display Panel As... in the EDL menu to change the display mode of the selected panel or panels. The three principle display modes used for editing are waveform, bar, and text. The text display is particularly useful in displaying edit information in precise numeric form, as compared to the waveform and bar displays' visually oriented representations.

Using the Control Bar

The strip along the top of the EDL includes displays and selectors useful in editing.



Use the four buttons at the left of the bar to select an edit tool for use within the panel. When you select a tool, the selection is held until you change it. You can also select edit tools using keyboard equivalents: G for Gates, R for Reel-Rock, F for Fade, and T for Segment.

The Gate tool is the initial default selection. With this, you can place left and right Gates anywhere in a panel, to define edit marks and so on.

Use the Reel-Rock tool to precisely locate an audio feature by slow play. This works best when you are zoomed in close to the waveform display.

With the Fade tool, select the fade of any audio edit on-screen and extend or move it as desired. For greater control, use the Edit Fade window.

Use the Segment tool to select and drag individual segments of audio within a panel or between different panels. Hold down the option key while dragging to duplicate a segment. Hold down the shift key to force placement of a segment into the same time position in another panel. Shift and option can be used simultaneously.

The time display fields show the current position of the left and right Gates, and of the In and Out edit points when present. The center field shows the current duration between the positions of the Gates or of the edit points. Select the mode of display using the central toggle button.

Editing Sound in the EDL

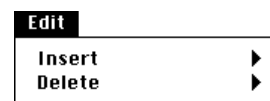
Once you have sound in the EDL display, there are numerous ways in which it can be manipulated.

There are four principle ways to move sound within an EDL:

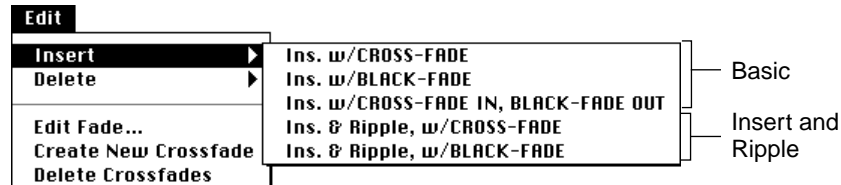
- The Insert and Delete commands in the Edit menu.
- Dragging of segments using the Segment tool
- Cut-and-Paste of audio segments.
- Changing the start time of a segment in the Text view display.

Using the Insert and Delete commands

The Insert and Delete commands are the computer equivalents of cutting and splicing tape.

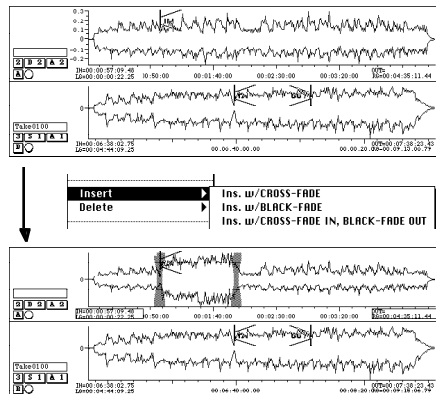


The Insert and Delete commands each have several variations, which may be divided into Basic or Ripple versions of the core command (Insert or Delete).



The selection of (basic) Insert or Insert & Ripple determines what happens to the audio that follows the edit. Variant commands within these two types determine which of a selection of default settings are used for the fades at the Edit Points. Default fades are discussed in the section on the Edit Fade dialog.

When Insert is used, a section taken from the Source panels replaces the audio that existed previously in that section and the timing of all audio following the edit is preserved. Similarly, the Delete command does not effect the audio outside the edit. When the Insert & Ripple variant is selected, audio following the edit moves to accommodate the edit.



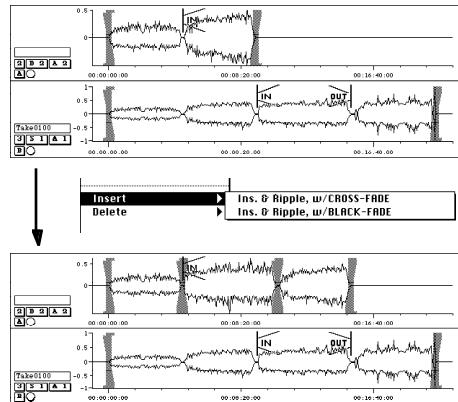
For basic Insert, there are two Edit Points (In and Out) in the Source panel(s), but only one (the In point) in the Destination. For this reason, Insert is known as a “3-point” edit. The length of the audio section replaced in the Destination panel is determined entirely by the length of the section between the In and Out points in the Source panels. If some of the Edit Points required for an Insert or Delete command are not placed in the Source and Destination panels, the system assumes that these points are “implicit,” following a set of clear rules.

- If a needed In point is missing from a Source panel, the beginning of the track is used as the In point instead.
- If the Out point is missing from a Source panel, the end of the track is used.

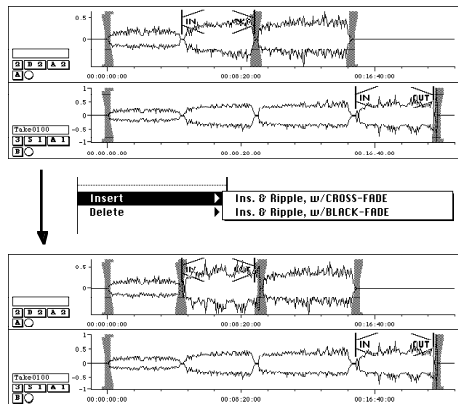
Insert and Delete with Ripple

When an Insert & Ripple command is executed, audio following the edit is displaced to the right of the display (later in time), changing the total length of the target panel. Insert & Ripple may be executed as either a 3-point or a 4-point edit (In and Out points present in both Source and Destination).

In the 4-point variation, the audio between the Edit Points in the Destination panels is replaced by the audio from the Source panel(s). Audio that comes after the Out point is slid left or right when the edit is executed.

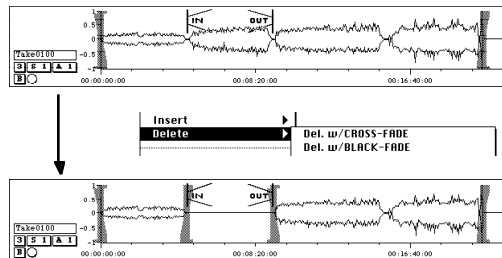


With Insert or Delete with Ripple, the total length of the track *always* changes, except in the unlikely case that a section is replaced by a chunk of audio of exactly the same length. With the basic command, overall length is affected only if the Insert or Delete comes at the very end of the track. If both In and Out points are present in the Destination panel(s), the Insert & Ripple command replaces the material between the Edit Points.

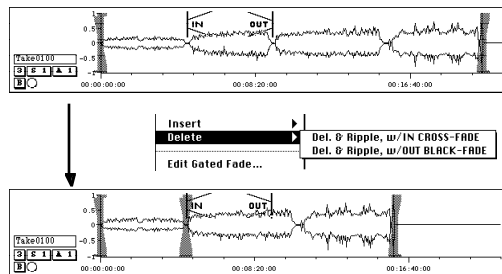




As with Insert, the Delete commands have sub-variations that select default settings for the fade(s) created by the edit. The Delete command removes a designated section from the target panel. The deleted section is replaced by perfect (digital) silence.



The Delete & Ripple commands delete audio and then “close” the gap between In and Out points.



Dragging Audio Segments

Dragging is the quickest and most intuitive way to move a segment or group of selected segments. It is not, however, the most precise. You will probably find that dragging will be useful for basic construction of a track, and other methods best for “fine tuning.”

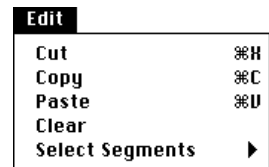
When a segment is dragged (Option click-drag) within a panel, a “ghost” image of it is visible. When the mouse button is released, the segment drops into its new position:

To move a segment to a new position in the panel using the Segment tool:

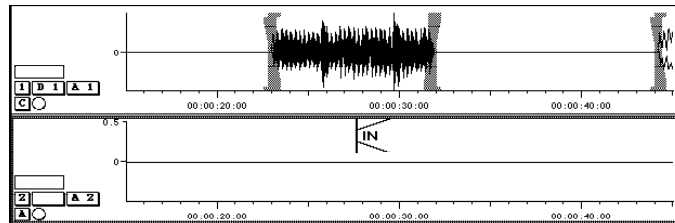
1. Select the Segment tool by clicking on the icon for it in the tool bar at top of the EDL, or by pressing the letter T on the keyboard.
2. Select the segment or segments to be moved.
3. Holding the mouse button down, drag the mouse to the left or right to move the segment(s) within the same panel, or up or down to move it to a different panel.
An outline of the selected segment(s) will be seen to move on the screen, along with the cursor.
4. When the cursor is at the desired position, release the mouse button.
The selected segment or segments appear(s) in the new location.

Cut-and-Paste Editing

Macintosh-style Cut, Copy and Paste commands can be used to move segments between panels.



Selected segments are cut or copied from one panel and pasted into another at a location depending on whether or not any segments are selected in the target panel and whether there is an In point.



To Cut or Copy audio from a panel:

1. Select the segment or group of segments to be Cut or Copied.
2. Select Cut or Copy from the Edit menu, or use the key equivalent.

The key equivalents for the commands are the same as for general Macintosh applications: Command-C for Copy, Command-V for Paste, and Command-X for Cut.

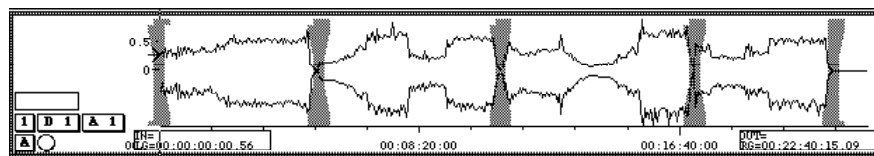
Editing in the Text View Display

Whether edits are produced by defining and moving segments or by the Insert and Delete commands, the resulting Edit List can be viewed and edited in a textual, as well as a waveform, format.

To switch any selected panel from Waveform to Text format and back:

- Use the key combination Command-T to switch a panel from Waveform to Text format.
- To switch from Text back to Waveform, use Command-Y.

Any panel of an Edit List can be switched from Waveform display to Text and back freely.



in:	name	trk	start	end	length	gain	lock	t
	Cut Three	1	00:00:00.00.56	00:05:07:25.32	00:05:07:24.57	0.0	N	X
out:	Cut One	1	00:05:07:25.41	00:10:57:23.15	00:05:49:27.54	0.0	N	X
	Cut Four	1	00:10:55:07.61	00:17:08:08.53	00:06:13:00.72	0.0	N	X
	Cut Seven	1	00:17:08:08.04	00:21:35:27.71	00:04:27:19.67	0.0	N	X

Each audio segment is represented by one line of the text display, with eight columns that describe the segment.

name	trk	start	end	length	gain	lock	t
Cut Three	1	00:00:00.00.56	00:05:07:25.32	00:05:07:24.57	0.0	N	X
Cut One	1	00:05:07:25.41	00:10:57:23.15	00:05:49:27.54	0.0	N	X
Cut Four	1	00:10:55:07.61	00:17:08:08.53	00:06:13:00.72	0.0	N	X
Cut Seven	1	00:17:08:08.04	00:21:35:27.71	00:04:27:19.67	0.0	N	X

	Segment	Track	Start	End	Segment	Gain	Seg.	Edit
	Name	Number	Time	Time	Length		Lock	Fade

All of the fields may be changed by the user, except “Segment Length” which is calculated based on the In and Out points.

Segment Times and Edit Times

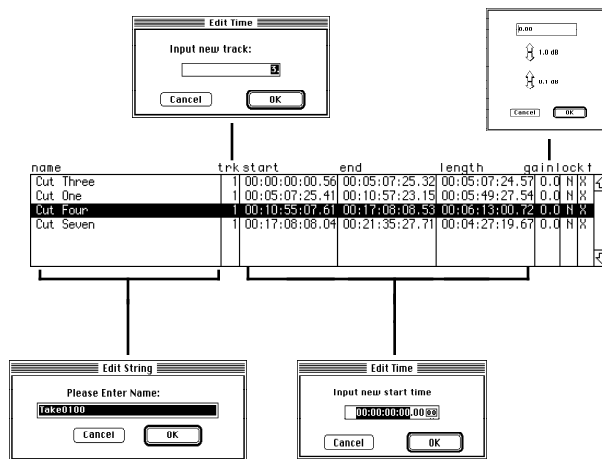
The time fields in the Text display can show the Start, End, and Length parameters in three different ways. The user changes the mode of time display by clicking on the field at the top of the Start column

Start-seg - The Segment Start time is the exact time in the Edit List at which audio begins to fade up at the beginning of the segments. Likewise, the End time is the moment of the last audio sample that is heard.

Start-ed - The Edit Start is the point at which the In or Out point is placed in relation to the fade-in. When editing with Insert and Delete, the editing *cuts* are placed exactly at the Edit Points, with the fade-in/outs overlapping these points to form a cross-fade.

Naming Segments

Initially, each segment is given the name of the soundfile from which it is taken. The user has the option of renaming segments to describe their contents.



To change the name of a segment:

1. Click the line that represents the segment of interest.
2. Double-click the Segment Name field or press the Enter key.
This brings up a dialog to change the value. Other fields of the Text display work in similar fashion.

Moving Segments

Segments may be moved from one track to another, or they can be moved within the same panel, simply by editing the parameters in the Text display.

Panel Number

All segments in a panel have the same Panel Number, by definition. A segment may be moved (cut) from one panel to another simply by changing the Panel Number.

To move a segment from one panel to another:

1. Click on the line that represents the segment of interest.
2. Double-click (or press the Enter key) on the Panel Number column to change its value.
This brings up a dialog to change the value. The user enters a new time value, then closes the window to perform the edit.

An error is generated if moving the segment to the new location would cause simultaneous overlap of three segments.

Start Time

In the Text display, segments may be moved within the same panel by changing the value of the Start Time parameter. The length of a segment may be changed as well, by *locking* the segment and changing either the Start or End Time.

As with other columns of the Text display, the Start Time of a segment is edited by double-clicking to call up a parameter-entry dialog. In this case, the dialog shows a time value, rather than text or straight numeric entry.

The effect of changing the Start Time depends on whether the segment is “locked” or not. (The status of each segment is set from the column at the right-hand side of the Test display.)

If the segment is not locked (the default condition), then changing the Start Time moves the segment as a whole, just as when dragging the segment in the Waveform display.

If the segment is locked, then the end of the segment remains in its original position, and changing the Start Time changes the length of the segment. In this way, a segment can be made smaller or larger, up to the length of the original file.

To change the Start Time of a segment:

1. Click the line that represents the segment of interest.

2. Double-click the Start column.

3. Enter a new time.

The Start, End, and Length times use standard SonicStudio time value entry formats. The display format is taken from the EDL Preferences.

Times may be entered individually, or they may be copied from other time fields in the system.

End Time

The End Time for a segment behaves in the same manner as the Start Time. If the segment is not “locked,” then changing the End Time moves the entire segment. If the segment is locked, then the segment remains in place, but its length changes.

Segment Length

The Segment Length is not changed directly by the user. It is calculated from the Start and End Times. The length can be changed by “locking” the segment and altering either the Start or the End Time.

Changing Gain

Double-clicking the Gain field brings up the Gain Adjust dialog, exactly as when the Gain Adjust command is used in the Waveform display.

To Set the Gain that applies to a segment:

1. Option-double-click the Gain parameter field of the segment of interest.
2. Set the gain desired in the Gain Adjust dialog and click OK.

Locking Segments

A selected segment can be *locked* with Lock Selected Segments in the Select Segments Submenu of the Edit Menu or by double-clicking on lock in Text Display. When the segment is unlocked (N), then changing the Start or End Time moves the segment as a whole without changing

its length. If the segment is locked (Y), the sound remains in the same place but is shortened or lengthened by the amount which the start time is changed.

Note – A locked segment cannot be edited. Any attempt to alter a segment with insert or delete edits, dragging or gain changes will bring up an alert. This includes Insert, Insert & Ripple, Delete, and Delete & Ripple performed in an area *ahead* of the locked segment if the rippling might affect its position.

Editing Segment Fades from the Text-Format Display

Double-clicking the fade column opens the Edit Fade window, described in detail in The Edit Fade Window below.

To open the Edit Fade window from the Text display:

1. Select the Start or End time.
2. Choose Edit Gated Fade from the Edit menu.
Edit Fade will open on the Fade In or the Fade Out of the selected segment.

Option-double-click on the mark in the last column of the Text display to bring up the Fade Out of the selected segment.

To bring up the cross-fade between the two segments:

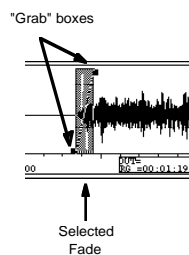
1. Select two adjacent segments with Option-Shift-drag.
2. Option-double-click the cross-fade field of the first segment of the pair.

Overlapping Segments

If a segment overlaps another segment, both segments play normally, but the system will give an error and refuse to perform an edit that results in three or more segments sounding at the same time on a single panel. In this case, the “track” parameter of the list is useful, because the offending segment can be simply moved to another track.

Using The Fade Tool

The Fade tool in the Tool Bar is the fastest and simplest method of editing fades. With this tool, the user can select the pink line representing an In, Out, or cross-fade and alter its duration or move the edit itself by dragging with the mouse. In many cases, using the Fade tool eliminates the need to open the Edit Fade window. Adjustments to a fade in one track affect the corresponding fades in all tracks in the Edit Group.



To adjust the length of a Fade In or Fade Out using the Fade tool:

1. Click on the Fade tool in the Tool Bar.
The cursor will change to a pair of arrows going left and right from a diagonal line.
2. Click on the fade you wish to adjust.
Small grab boxes will appear at its lower left and upper right corners. These are reversed for a fade-out.

3. Click on one of the grab boxes, hold the mouse button down, and drag until the fade is the desired length.

Dragging the box on the lower-left of a Fade In extends the fade ahead of the current position, revealing additional audio (if audio is present in that portion of the source file).

Dragging the box on the upper-right of a Fade In extends the fade after the current position, making the end of the fade later in the segment.

These effects are reversed for Fade Outs.

4. Release the mouse button.

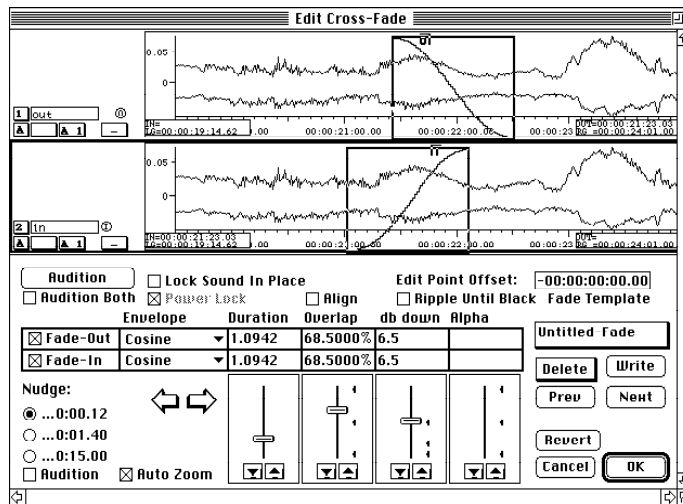
To move the position of a fade:

1. Click on the Fade tool in the Tool Bar
The cursor will change to a pair of arrows going left and right from a diagonal line.
2. Click on the fade you wish to move.
The grab boxes will appear, confirming that the fade is selected.
3. Click in the middle of the fade, hold the mouse button down, and drag the fade to the desired location.
4. Release the mouse button.

Moving a fade in this fashion will shorten or extend (with additional audio from the source soundfile) the audio segment.

The Edit Fade Window

All parameters of Fades In, Fades Out, and each side of a Cross-fade can be separately adjusted over a broad range: the length of the fade, the shape of its curve, and the relationship of the start and end of the fade to the Edit point.



To access the Edit Fade window from the Waveform Display:

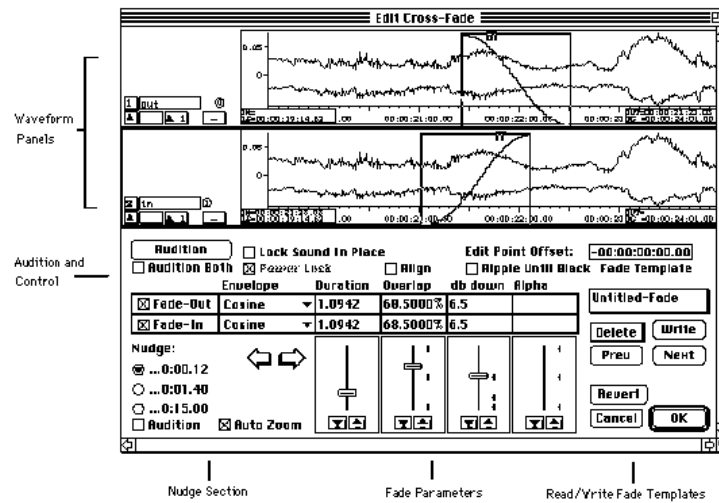
1. Place the Left and Right Gates to either side of the fade to be edited.
2. Pull-down the Edit menu and select Edit Fade.



The Edit Fade window opens showing either one or two waveform panels, depending on whether the selected fade is a cross-fade or a single fade up or fade down.

The Edit Fade window is a comprehensive environment for modifying the way that an edit crosses from one side to the other, as well as the exact positioning of the Edit Points and audio on either side of the edit.

With this window, it is possible to tailor an edit in nearly any way imaginable. The Edit Fade Window is best understood by dividing its functions into different sections.

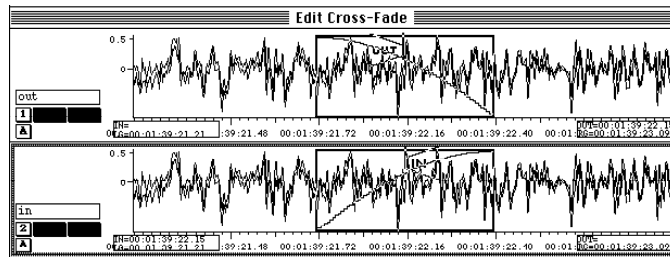


This window can affect three (and only three) aspects of an edit:

- The duration and shape of the fade-out of material ahead of the edit, and the fade-in of new material following the splice.
- The time relationship between the start and stop of each fade.
- The placement of sound on either side of the edit.

Waveform Panels

The waveform panels in the Edit Fade window behave much like panels in the editing display.



The Left and Right Gates are fully active in these panels, as is the Transport Panel. All Move and Zoom commands can be used.

The Adjust Gain command from the Edit menu is also available. It affects whichever side of the fade is selected with the Fade-In and Fade-Out check boxes. If both sides are selected, the gain change applies to both segments.

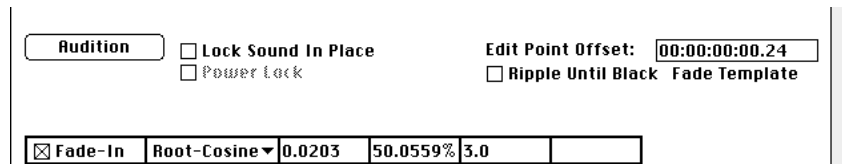
Edit Points (In and Out) can be placed in the Edit Fade window's waveform panels, following some special rules. The general-purpose editing marks are not available.

The Out point can be placed in the upper panel *only*, while the In point is only available in the lower panel. (Remember that these two panels represent the two sides of an edit in the same panel on the regular edit display).

Note that the sound in the upper panel never moves when the position of the Edit Points changes. The audio in the lower panel may move if the Lock Sound in Place box is not checked (see below).

Audition and Control

The Audition & Control section of the Edit Fade Window determines whether one or both sides of the fade are affected by changes in the fade parameters or placement of the Edit Points. It also controls how sound in the lower (fade-in) panel moves in response to changes in the position of the Edit Points.



Audition button

The Audition button is used to hear the actual edit and fade, as modified in the Edit Fade window. Playback is affected by the state of the Fade In, Fade Out, and Audition Both check boxes (described below) and the preferences set in the Audition section of the EDL Preferences dialog.

The Play menu commands can be used to listen to the selected panel without regard for the displayed fades. For example, the command Play To Gates will play the sound between the Gates regardless of where the fade is placed. The Reel Rock feature can be used to shuttle, jog or scrub the audio in the waveform panels.

Audition Both, Fade-Out and Fade-In

These check boxes appear when editing a cross-fade. The Fade-Out and Fade-In boxes select which sides of the fade will be affected by any parameter changes.

The Fade-Out/Fade-In check boxes also affect the operation of the Audition button. When both boxes are checked (the initial default), Audition plays both sides of the fade. The user hears the edit as it will sound in the final product.

If only one box is checked, the Audition button plays only that side of the fade. By checking on the Fade-Out box, the user can hear the lead-in to the edit, complete with fade-out. If Fade-In is checked, the user can hear how the audio fades up on the other side of the edit.

The Audition Both check box overrides the individual check boxes, so that the user can hear the complete edit while adjusting one side or the other.

Edit Point Offset

In the Edit Fade window, the user can change the locations of the In and Out points of an edit in relation to one another. The amount of time between the two points is the Edit Point Offset.

When an edit is first created, the In and Out points are both located at the same point in time, so that the Edit Point Offset is zero (00:00:00:00.00).

If either of the Edit Points is moved (by nudging, etc.) or placed in one of the panels in the Edit Fade window, an offset is created.

In the Edit Fade Window, there are three ways to change the position of an Edit Point:

- Use the Set In/Out point menu selection under the Mark menu.
- Option-click on the Edit Point and directly change the value.
- Use the Nudge section of the window, described below.

Lock Sound In Place

The state of this check box determines how the audio following an edit is affected when one or both of the Edit Points are moved or nudged. Lock Sound In Place can be deselected only when nudging both sides of the fade. It is automatically switched on when either side of the edit is nudged singly.

With Lock Sound In Place turned *off*, the edit remains fixed at the same place in the panel. The sound to the right of the edit slides in relation to the edit, so that less or more of the original source soundfile is heard. With Lock Sound In Place switched *on*, the edit itself moves. The sounds on either side of the edit remain fixed.

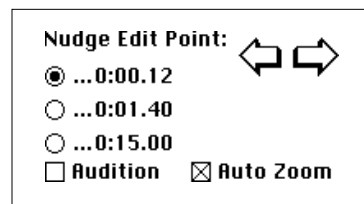
Ripple Until Black

Ripple Until Black affects audio which follows the fade being edited. Normally, any change causing the right half of a fade to be shifted in time causes all subsequent edits to be rippled by the same amount. When Ripple Until Black is checked, edits to the right of the fade shown

in the Edit Fade dialog are rippled, but only until a section of “digital black” (silence) is encountered. The Edit Fade Preferences dialog (in the Preferences submenu of the File Menu) allows the user to set the default for this function.

Nudge Edit Arrows

The Nudge Section of the Edit Fade window operates in a manner similar to that of the Nudge Right and Nudge Left commands in the Mark menu, moving one or both Edit Points.



Three radio buttons select the amount of motion. The Fade-Out and Fade-In check boxes described earlier determine which of the Edit Points will be affected. Note that the Lock Sound In Place check box also plays a critical role in determining the effect of nudging. If the Audition check box in this section is selected, an audition will be triggered immediately following each nudge. The Auto Zoom check box affects nudging operations and adjustments to the fade parameters. With this box checked, the waveform panels will automatically move to keep the fade in view. If the duration of the fade is set so that the fade no longer fits in the window, the panel will zoom to enclose the new fade.

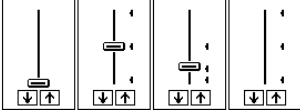
Fade Parameters and Templates

SonicStudio provides extensive control over cross-fades. The exact duration, shape, and positioning of each side of a cross-fade can be controlled with ease and precision.

The same control applies to single fades where the audio fades to or from silence (digital black). When a single fade is selected, the Edit Fade window opens with only a single waveform panel visible.

Power Lock

	Envelope	Duration	Overlap	db down	Alpha
<input checked="" type="checkbox"/> Fade-Out	Root-Cosine ▾	0.0203	50.0000%	3.0	
<input checked="" type="checkbox"/> Fade-In	Root-Cosine ▾	0.0203	50.0000%	3.0	

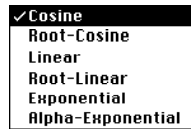


Fade-Out and Fade-In are described above. Besides affecting the movement of the Edit Points, the state of these check boxes determines whether the Fade Parameter sliders affect both halves of a fade, or only one side or the other.

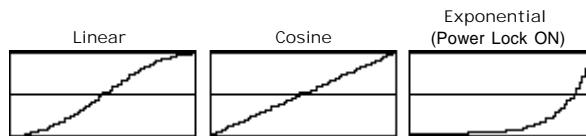
Fade Envelope Type

Each side of the fade uses a distinctive curve type. This fade *envelope* may be adjusted for length, overlap, etc.

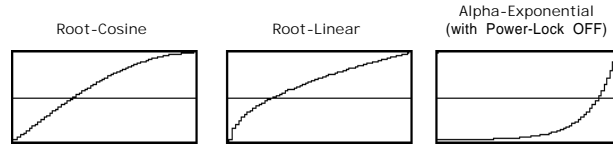
Clicking on either of the Envelope boxes brings up a pop-up menu to select from a family of curves that may be used for the fade.



The three basic fade types are Linear, Cosine, and Exponential. The illustration below shows fade-ins.



The Cosine and Linear curves are modified by the dB Down parameter (described below), while the Exponential curve can be modified by the Alpha parameter slider as well as the Power Lock check box. The remaining selections in the Envelope pop-up menu are variations of the basic curves derived by changing these parameters.



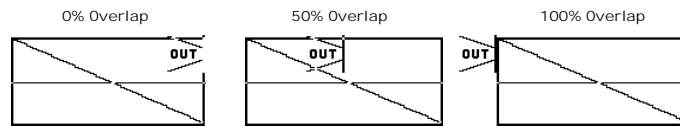
The Root versions of Cosine and Linear are identical with the standard version, but with the dB down (see below) set to a value of 3.0. The Alpha-Exponential envelope is the standard exponential fade envelope with the Alpha value set to 1.0.

Duration parameter

Duration is expressed in seconds, with a range from 2.9 milliseconds (0.0029 seconds) to just over 100 seconds. As with other fade parameters, the duration of each side of a cross-fade may be changed separately. SonicStudio performs all fades by controlling gain during playback. Long cross-fades do not require additional audio memory or computation time.

Overlap parameter

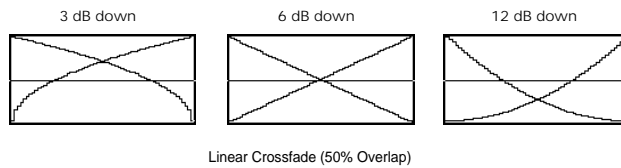
In the default setting, fades are placed so that the corresponding Edit Point is exactly half-way through the fade, for an Overlap factor of 50%. As the Overlap is adjusted, the fade slides left or right while the Edit Point remains fixed. The fades move in opposite directions unless “Align” is selected. In that case, the fades move in the same direction.



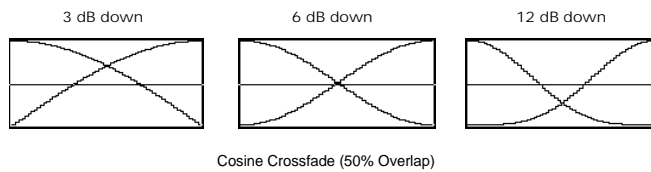
At 0% Overlap, the end of the fade falls at the exact position of the Out point. 100% Overlap puts the *beginning* of the fade at the Edit Point. For the fade-in, these relationships are reversed, so that the fade *ends* at the In point when the Overlap is set to 100%, and begins at that point when the Overlap is set to zero.

db down parameter

The dB down parameter affects *only* the Cosine and Linear fades. It sets an “anchor point” at the position of the Edit Point. The remainder of the curve is drawn in relation to this “fixed” point:



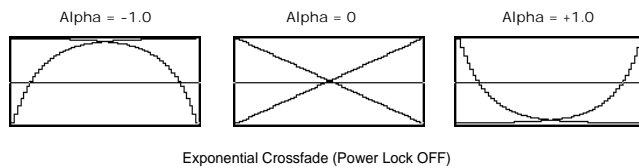
The Cosine fade follows the same rules:



Because the point established by the dB down parameter is placed relative to the Edit Points, the shape of the curve is affected by the Overlap parameter as well.

Alpha parameter

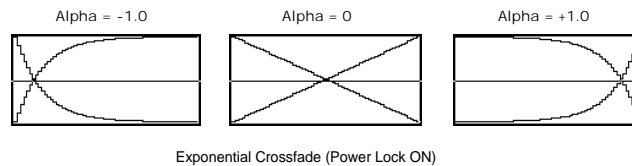
The Alpha parameter affects *only* the Exponential curve. It controls the placement, in time, of the gain change produced by the exponential envelope. Alpha is a dimensionless parameter, whose range is -1 to +1.



The straight Exponential cross-fade tends to produce either a large bump or drop in perceived level at the mid-point of the fade. The Power Lock check box can be used to produce, in effect, another type of curve.

Power Lock

Power Lock affects only cross-fades of the Exponential fade type. When Power Lock is selected, the two curves are drawn so that one curve perfectly complements the other. The sum of the gains on either side of the fade equals unity.



Fade Templates

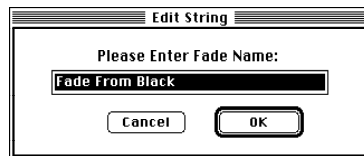
Complete sets of fade parameters may be stored as Fade Templates. There are four permanent templates, and you can add and delete your own templates as needed.

The Templates are stored and recalled using the buttons in the lower right-hand corner of the Edit Fade window.



To store an edited fade as a Fade Template:

1. Click-hold with the mouse on the Write button.
A dialog box appears prompting the user to enter a name. The name of the current fade, whether default or previously stored, is displayed in the edit box.



2. To overwrite the current Fade Template, click OK.
A Warning dialog confirms the user's intention to overwrite the previous Fade Template. If the user answers "Yes" to this warning, the new Template is written, and the previous Template of that name permanently erased.
3. To create a new Fade Template, type in the new name, then click OK.
The new Fade Template is added to the list that appears when the Fade Template button is used to recall a Fade Template.

To recall a default or previously stored Fade Template:

1. Click-hold with the mouse on the Fade Template button.
A pop-up menu lists the available Fade Templates.



2. Select the Fade Template to open.

The three kinds of Fade Templates are fade-in, fade-out, and cross-fade. Only Templates of the same kind as the current Template are shown as active.

SonicStudio has four default settings for fades. Two of these are cross-fades: Out Cross Fade and In Cross Fade. One default, Fade From Black, is a fade-in type, while Fade To Black is the default fade out.

You can alter the default settings, but not delete them. When an Insert or Delete command is executed, it uses one or more of the default fades.

As additional Fade Templates are stored, their names are added to the Fade Template menu.

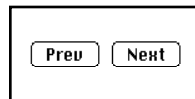


To delete a stored Fade Template:

1. Click-hold on the Delete button.
2. Select the Template to delete from the pop-up menu.

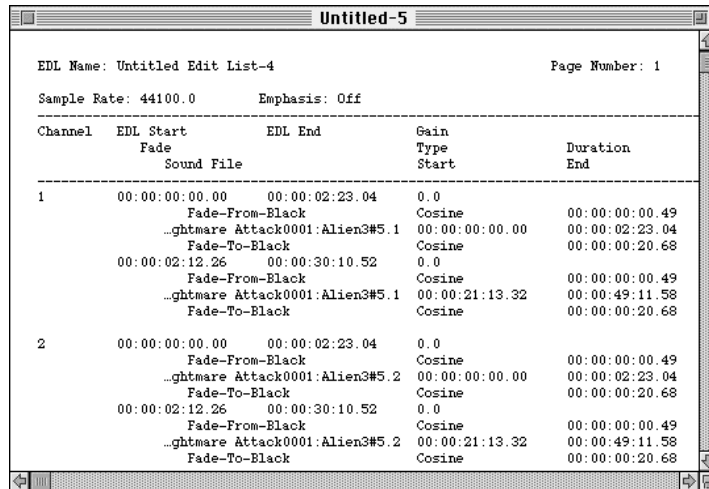
Next and Previous buttons

These two buttons move the Edit Fade window to the next or previous edit in the panel. In this way, you can move through all of the edits without leaving the Edit Fade window.



The Listing Window

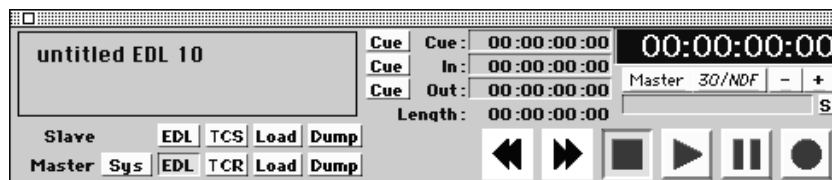
The EDL Listing, accessed from the Format EDL command of the EDL menu, provides a frame accurate edit list based on the editing choices in a particular EDL. This listing is a text file that can be printed or saved.



To open an EDL listing window, select the command Format EDL from the EDL menu. This converts the information in the current EDL into textual form and formats into a standard listing.

The Transport Panel

The Transport Panel allows precise control of playback, editing and machine control functions.



The Transport Panel is divided into functional areas. The lower right-hand portion provides a set of tape-style transport controls including play, stop, record, and pause.

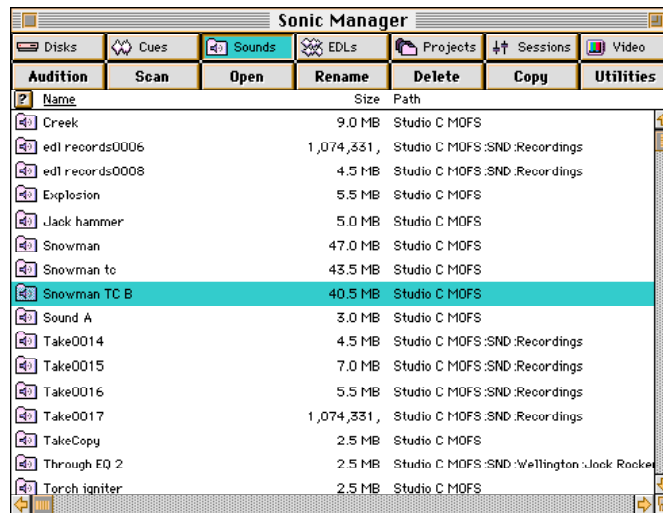
Above the transport control is a time display that shows the current play locations. Underneath that is a set of buttons and pop-up menus to indicate current time display mode. The + and - buttons provide for nudging of external transports. The strip underneath these buttons is used to scrub, or reel-rock, audio.

The group of Cue fields to the left of the time display is used to locate EDL and external transports. You can type in arbitrary time values, or grab the current play time by selecting the entire field then hitting the space bar. When you click on one of the Cue buttons to the left, the play location jumps to the new value.

SonicStudio can slave its playback to incoming time code, and with the SS-516 Machine Control option, it can operate with external transports as master or slave. The buttons in the lower left portion of the Transport Panel are used to define master and slave for synchronization.

The Sonic Manager

The Sonic Manager is sound, cue and video files for editing and playback. It allows the user to quickly find and open EDLs, Projects and Sessions. The Sonic Manager also provides tools for maintaining and organizing both these materials and the system's Sound Disks.



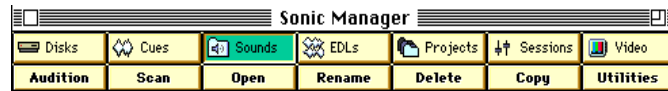
To open the Sonic Manager, select the command Sonic Manager from the Managers submenu in the File menu.

The Sounds library

When the Sonic Manager opens, it displays a list of soundfiles in alphabetical order. Stereo and multi-channel soundfiles are shown as folders that contain the individual channel recordings. Size (in megabytes) and path-name are shown in columns alongside. To change the sort of the listing of folders by duration, or path-name, click on the label at the top of the column.

You can find individual soundfiles in the manager's listing by typing the first few letters of the soundfile name at the keyboard. As you type, the window scrolls to locate and select the file you seek.

Selected soundfiles may be opened into EDLs, renamed, moved, copied to other disks, or deleted using the top-row buttons.



In addition, any soundfile may be played without leaving the Manager window. To audition a soundfile, select the desired file by mouse or by typing, then click on the Audition button.

The Utilities button provides access to administrative and maintenance functions. Among these are commands useful in recovering soundfile and waveform information.

UFID SonicStudio's native file system is known as MOFS, or Media Optimized File System. MOFS uses a system of file identifiers to keep track of multiple copies of a file that may exist in a MediaNet network. MOFS also makes it possible to use third-party archive software to backup and restore Sonic soundfiles.

When an archive is restored from such a utility program, new file IDs are created which require resolution with the original ID numbers so that EDLs will recognize these files as belonging to them. The UFID (Universal File ID) command restores the original file IDs to a group of selected files.

Waveform With the Waveform button, you can reconstruct the waveform display data used to view a recording. Use this command in any case where an EDL waveform display appears corrupt or does not match the sound heard. The repair operation works in the background to rebuild the waveform display data from scratch.

Note – Reconstructing waveform display data can be a lengthy operation, and cannot be aborted once initiated.

Export Use the Export button to convert Sonic soundfiles into standard AIFF files stored on the Macintosh's hard disk. These files can be opened and used by other multimedia applications.

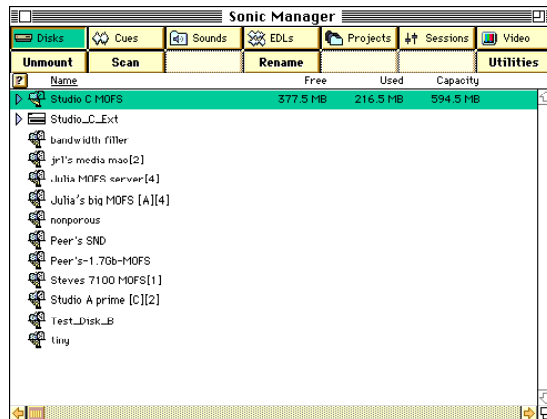
Each soundfile has an information dialog that lists its most important characteristics, such as the duration, time stamp, and sample rate of the file.



To open the Information dialog for a file, select that file in the library, then click on the small question mark box at upper left of the Manager window.

The Disks Library

In the Sonic Manager, each library provides facilities to administrate and find all files and storage devices used in system operations.

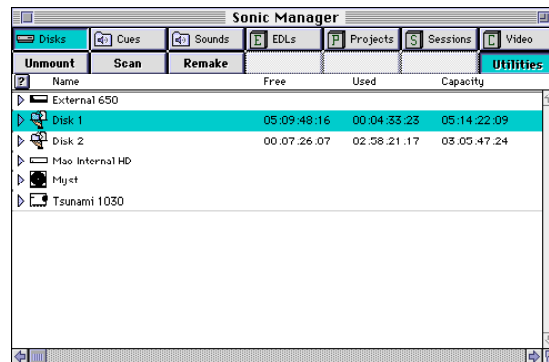


The Disks library shows all readable storage units attached to the system, including Macintosh volumes. MOFS (sound disk) volumes are displayed with a distinctive icon. Unmounted volumes, including network volumes, are shown with the MOFS icon, but dimmed.

Use the Scan button in the second row to read disks that are added to the local system or to remote MediaNet stations. When disks are unmounted and taken off-line, the Scan function is also used to remove these disks' icons from the displayed directory.

You can selectively take individual disk volumes off-line, or attach to other volumes that have been added or brought on-line over a MediaNet network. To mount a remote sound disk volume or unmount a volume, select that disk's icon, then click on the Unmount (Mount) button.

Use the Rename button when you need to change the name assigned to a disk volume.



The Utilities section of the Disks library includes a Remake button. This button is used to create a new MOFS volume or restore the file system of a disk that has been in use and needs clearing of file fragments. It does not appear if the system is equipped with a MediaNet network card.

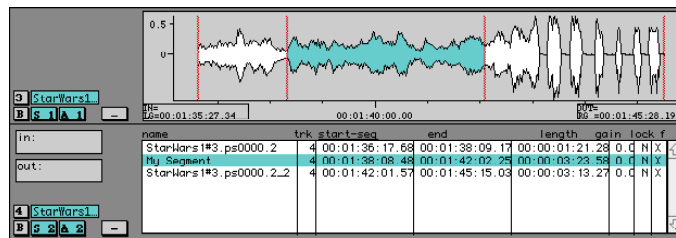
The Cues Library

The Cues library works like the Sounds library, but instead of showing complete recordings, it shows sections of audio selected and named by the user from the soundfiles.



You can store any audio segment from an EDL as a Cue, which you can then open and place in any EDL, independent of the soundfile from which it is taken.

The Cue file itself does not contain sound, only pointers that define start and end times, fade, and gain/phase information. If the original soundfile is not available, all cues using that file also are likewise unavailable.



Cue files for soundfiles that have been deleted or taken off-line are not deleted automatically, so that they can be used if the original soundfile is later restored.

Creating Cue Files

To create a Cue file:

1. Open the desired source soundfile into an EDL.
2. Use any of the editing functions to define the segment that you want to use as a Cue, including fade in/out, gain, and/or phase invert.
3. In the text-mode display, assign a name for the segment as you wish the Cue to be named.
4. Select that segment and deselect any other segments in the EDL.
5. From the EDL menu, select the command Create Cue Files. You may select any number of segments to be transformed into Cues. When you select Create Cue Files, it creates a separate Cue file for each selected segment in the EDL. For this reason, you need to deselect segments other than those you want to save as Cues before invoking the command.
6. After creating a Cue or group of Cues, you must click on the Scan button in the Cue library. This updates the displayed list to show the newly created Cue files.

The Cue file saves the file's stereo or multi-channel mates, as well as all editing, fade, and gain information. The file is stored with the name of the segment as it appeared at the time the command was invoked.

Opening and Placing Cue Files in an EDL

From the Cue library, you can place selected Cue files into an EDL by clicking on the Open button to insert to the selected panels of the current EDL, or by dragging the icon of the Cue to the desired panel.

Cues may be placed into an EDL from the Cues library of the Sonic Manager in one of two ways. You can select a Cue and click the Open button, or you can drag the desired Cue to the target EDL using the mouse.

When you use the Sonic Manager Open button, the cue is placed in the currently selected panel.

If there are two or more channels in the cue, the additional channels appear in sequential panels, starting from the selected panel at the cue's time stamp position.

The time stamp of a cue is the position in time occupied by the source segment from which the cue was made, at the time that the cue was created.

You may also place Cues into an EDL by using the mouse to “drag-and-drop” them directly from the Sonic Manager's Cues library.

To place Cues from the Sonic Manager using drag-and drop:

1. Position the Sonic Manager window and the EDL window on-screen such that you can see both windows.
2. Select the Cue file you wish to place from the Sonic Manager Cues library.
3. Drag with the mouse, holding down the mouse button as you do, from the Sonic Manager window to the panel in which you want to place the selected Cue.
4. Release the mouse to place the Cue.

As you drag into the EDL, the target panel is highlighted. When you release the mouse button, the selected cue drops into position.



The position in time at which the Cue file appears is determined by the Cue Placement command in the EDL menu. This command opens a small dialog to select one of four available modes.

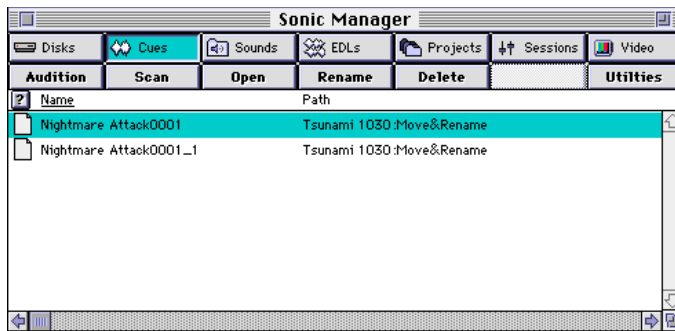
- Place according to mouse position at time the button is released.

- Place according to the position of the edit In and/or Out points
- Place according to the play head (Transport Panel) time.
- Place according to the time stamp of the cue.

The four modes are represented by icons in the Cue Placement select dialog. As you point at each icon with the mouse, the name of the mode it selects is listed at the bottom of the dialog.

When you select a mode, it remains in effect until you select another mode from the Place dialog.

Organizing and Maintaining the Cue Library



To view the Cues you have created:

1. From the Sonic Manager and select the Cues library.
The Cue appears by name on the left, with the Path (including the name of the source soundfile) appearing to the right.
2. Select one or more Cues using the mouse.
3. Use the buttons in the second row at top of the Sonic Manager to audition, place (see below), delete, or rename the Cue files.

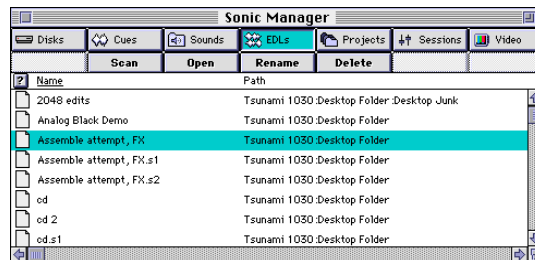
Cue Editing

Because Cues are just segments taken from soundfiles, they may be edited in an EDL as with any other sound. Once a Cue is placed, it may be altered using any of SonicStudio's editing tools. You may save as many versions of a Cue as you wish.

Save altered Cues using the procedure outlined in *Creating Cue Files* above. Since Cues do not contain the sound itself, you may delete any Cue without affecting any other. However, remember that if you delete the source sound all Cues that use that soundfile will be not be available

The EDLs, Projects, and Sessions Libraries

With the Sonic Manager, you can track edit lists, Project files, and Desk automation Sessions in the same way that you locate soundfiles.



When you select one of the library types, using the buttons along the top of the Manager window, the system will quickly scan all mounted disk volumes, both MOFS and Macintosh HFS, and locate all files of that type.

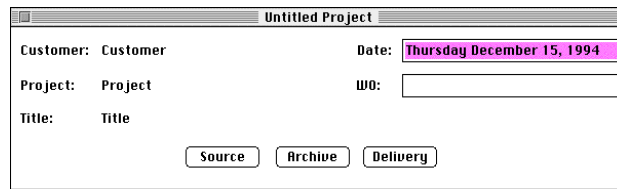
When you select a file in the library, buttons will then become active to let you open, rename or delete files. You can still open EDLs, Projects, and Sessions from the File menu. Files located on Macintosh volumes can also be renamed and removed from the Mac Finder.

The Video Library

When equipped with the SonicVideo operation and video capture board, the Video library provides a listing of all video clips available.

The Project Manager

Projects are the means by which you can organize the source materials, final output, and archives for a given job. When you select the command New Project from the File menu, you are first prompted for the names of three nested folders (Customer, Project, Title). This lets you define work areas for each of your clients and separate subdirectories for each of their jobs.

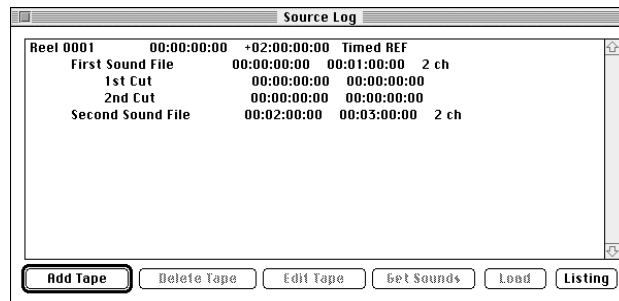


After creating a set of folders, the initial Untitled Project window appears. This shows the name of the Project, with optional date and work order (WO) number fields for your use.

Three buttons in the lower part of the window represent the three principle types of logs used in the manager: Source, Archive, and Delivery. These logs are used to list soundfiles to be loaded into the system, edit lists to be transferred to final delivery medium, as well as edit lists and soundfiles to be stored to archive.

Source Log

The Source Log lists the material of each Project as source tapes. You add tapes by pressing the button at lower left and respond to the dialog that appears.



The two principle types of source tapes are Wild tapes and Timed tapes. Wild tapes are loaded from devices that do not support control by serial protocol. Timed tapes are loaded under direct control of SonicStudio, and require no user intervention other than to initially mount the tape. (Requires Machine Control option SS-516.)

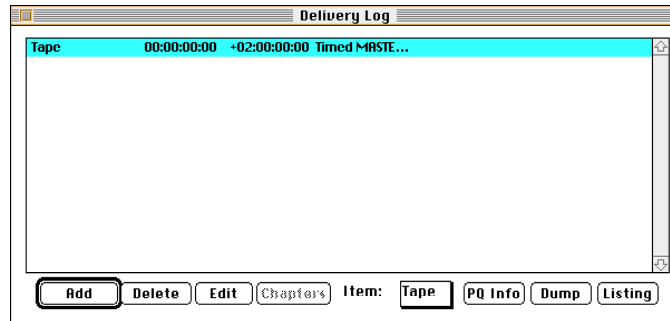
Within the Tape, individual soundfiles are listed. To add soundfile entries, double-click on the Tape name. The lower-left-hand button changes its displayed title from Add Tape to Add Soundfile.

The dialog for defining soundfiles includes fields that specify the start time and the end time (or duration) of the file. For machine-controlled loading, these times are used to cue the tape.

Once the Source Log has been created, use the Load button to initiate the process of loading the materials into the system.

Delivery Log

The Delivery Log window defines the contents of a dump to a final deliverable format.



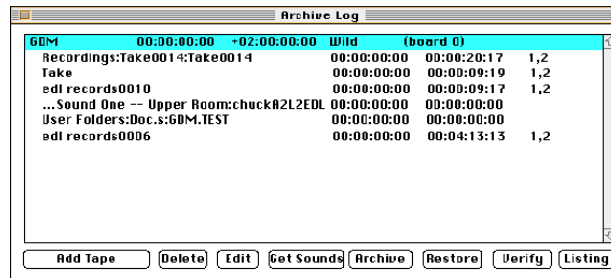
As with the Source Log, you begin by defining one or more delivery tapes. Besides wild and timed tape options, the Delivery Log tape info dialog includes options for delivery to recordable CD. Master tapes may be delivered in reference form, or in pre-master form, which includes the PQ subcode information used in Compact Disc mastering.

Instead of entering soundfiles into the Delivery Log, you enter one or more Sonic EDLs (Edit Decision Lists) that contain the assembled, edit audio you wish to roll off for delivery. To enter EDLs, double-click on the Tape name, or use the Item pop-up menu to designate which type of item you are adding.

When mastering to CD-R (requires Expanded PQ Code Editing option SS-525 or Basic PQ option SS-524), you also have the option of adding CD-ROM data items for mixed mode mastering. These options also allow you to define and edit PQ subcode information.

Archive Log

All soundfiles and EDLs created on SonicStudio can be archived to 2-channel DAT, multi-track digital (not analog), or 8mm tape (Requires 8mm Tape Drive option SS-423 or 424).



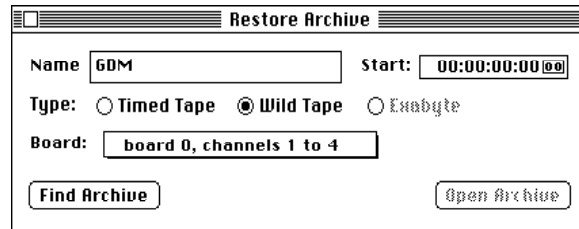
The Archive Log defines the contents of each Project archive. This can consist of EDLs or individual sounds. As with the other Logs, you begin by defining the archive tape. Besides wild and time tape options, there is a selection for Exabyte (8mm) type, provided that you have Sonic 8mm tape drive attached.

Within the tape, you can add EDLs or individual soundfiles. When you add an EDL to the listing, the information dialog lets you specify that soundfiles used by that EDL will be automatically included in the log. You can also add soundfiles in groups by selecting a number of files in the Sonic Manager, then return to the Archive Log and click on Get Sounds.

Once you finish building the Archive Log, click on the Dump button to transfer the log's contents to digital audio or 8mm (Exabyte) tape. The information is stored with all edit information intact, and can be restored onto the system at a future time.

Restoring Archives

To restore an archive from digital audio or 8mm tape, the first step is to recover the Project information that contains the Archive Log. This is stored at the head of the archive tape.



To begin the restore process:

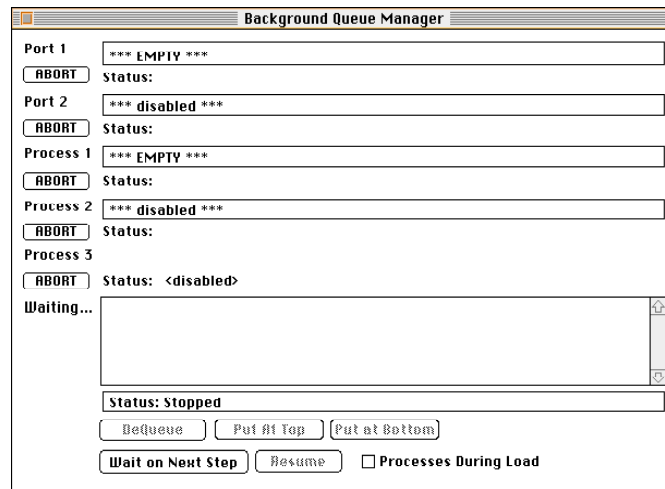
1. Select the command Restore Archive from the File menu.
2. In the Restore Archive dialog, specify the type of archive (Timed Tape, Wild Tape, or Exabyte), then click on the Find Archive button.
3. For Wild Tapes, cue and start the tape.
Timed Tape and Exabyte archives search by themselves.

When the Project file has been found and loaded, the system will alert you.

4. Click on the Open Archive button.
This opens the Archive Log of the Project as a Restore Log. From this window you can select and restore any or all items in the archive.

The Background Queue Manager

Various operations of SonicStudio are executed in the background, allowing the user to continue editing while these operations are proceeding. Dumping of delivery and archive logs, machine-controlled and wild recording, DSP and NoNOISE[®] processing can all be performed in the background, depending on system options. The Background Queue Manager lets you monitor the progress of all background processes.



To open the Background Queue Manager, select the command Background Manager from the Managers submenu to the File menu. The fields of this window let you monitor the progress of any background process, as well as manage a queue of background processes.

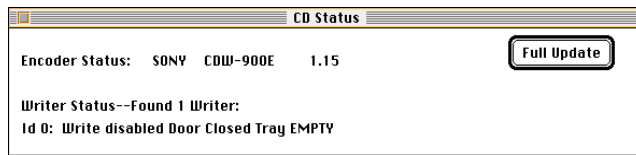
If you launch a series of background jobs in succession, the queue displays the list of jobs. As one background task is completed, the system will automatically launch the next one in order.

The Status Monitor Windows

The three status monitors, opened from the Status Monitors submenu to the File menu, contain information useful in the operation of the system.

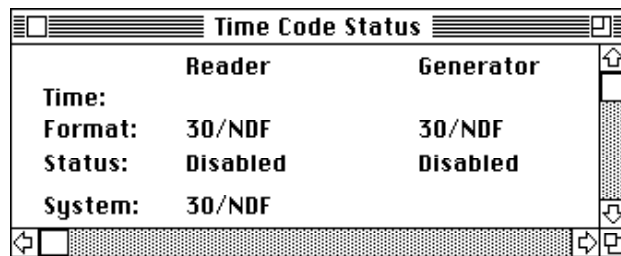
CD Status

This window indicates the current state of the option CD-R recorder. (Requires CD Printer option CD-200.)



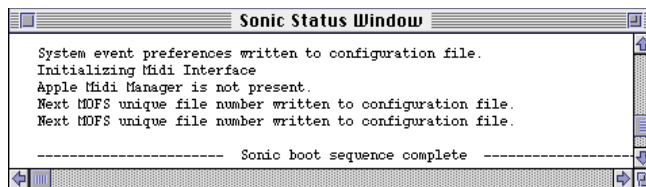
Time Code Status

The Time Code Status window displays the current time and format of the system's time code input and output.



Sonic Status Listing

The Sonic Status Listing provides a constant assessment of the progress of all system functions.

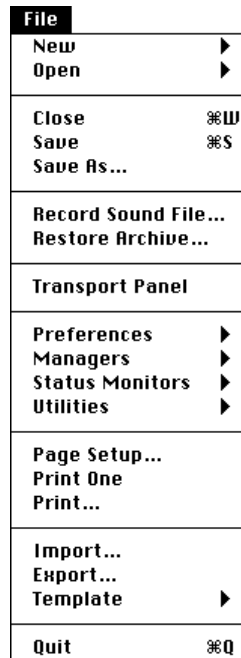


As SonicStudio operates, it posts messages into this window that indicate the progress and status of various operations. This trail of internal system information is useful in diagnosing any questionable behaviors in the system.

2 Menu Command Reference

File Menu

The File menu includes all commands that create, open, or save SonicStudio documents such as soundfiles, edit decision lists, Projects, and desk automation Sessions.



New

The New command at the top of the menu has a submenu to provide for creation of the four types of documents used in SonicStudio.



New Edit List

This command creates an empty Edit Decision List (EDL) on-screen. The operation of the EDL window is described in the previous chapter.

New Sound File...

This command initiates recording a soundfile using the Record Sound File dialog. Its operation is described in detail in the following chapter.

New Project...

A SonicStudio Project organizes the soundfiles, EDLs, and desk automation Sessions for a particular job, and controls the processes of automatic loading, dumping, and archiving.

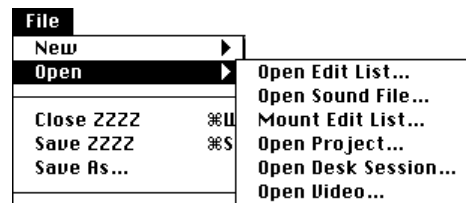
The Project Manager is controlled by a combination of windows and dialogs. Descriptions of the operation of these are found in the chapters preceding and following this one.

New Desk Session

When you select New Desk Session, the Mix Desk window is prepared to record automation data. The operation of mix automation is described in the preceding chapter.

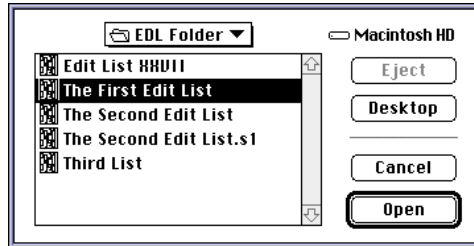
Open

When there are EDLs, soundfiles, and so on that have already been created, the Open submenu is used to re-open the various document types.



Open Edit List

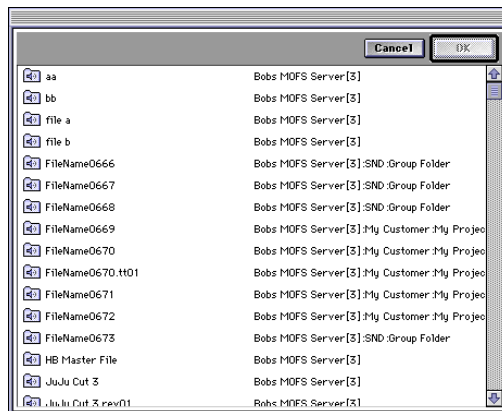
Open Edit List brings up the standard Mac Browser dialog that lets you navigate to different disk volumes and folders in the Macintosh file system.



The selected EDL will open onto the screen in the state in which it was last saved.

Open Sound File

Soundfiles may be opened into an EDL using this command, or using the Sonic Manager which is described in the next chapter. This command is available when an EDL window is in the foreground on the screen. If there is no EDL open, or if the EDL is not at the front of the screen, the command is disabled.



Since soundfiles are stored on the Sonic sound disk rather than the Macintosh' hard disks, a special dialog is used. When you select the command, the system will "scan" all mounted sound disks before opening the soundfile select dialog.

Mount Edit List

Mounting an Edit List (EDL) means to insert one EDL into another. In editing, it is often useful to assemble a group of items and then insert them as a single unit into a new edit list. This command lets you open an entire EDL into another EDL as though it were a single soundfile. If there is not an EDL currently open, the Mount Edit List command is not enabled.

When you select this command, the system brings up a Macintosh file select dialog just as for opening an EDL (see above). When you select an EDL, the selected EDL opens with its topmost panels in the Source panels. Other choices are also available: see description of EDL Preferences in the next chapter.

Open Project

Projects conveniently group the materials used in a single job. Only one Project may be open at a time. If a Project is open already, this command is disabled. The use of the Project Manager's windows and dialogs is described in the chapters preceding and following this one.

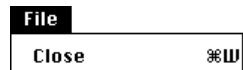
Open Desk Session

Mix automation Sessions can be stored by name and recalled as desired. Operation of mix automation is described in the preceding chapter.

Open Video

Requires the Sonic Digital Playback (SS-518) option.

Close



Closes the currently selected window or document (EDL, Project.) If the Mixing Desk is selected and a mix automation Session is open, the Session will close.

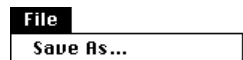
Save



Saves the EDL, Project or Session document from the currently selected window.

When saving an EDL that is already present on disk, SonicStudio does not overwrite the previous version of the EDL, but keeps it with a tag of ".s1" added to the name of the EDL. As you do more editing a save your changes, the system maintains the last three versions as "xxx.s1, .s2, .s3." This allows you to return to a previous version of your work if needed.

Save As



Saves a copy of the current document, with user option to change name and folder location. This makes it convenient to create multiple versions of an EDL or other document, starting from a common base.

Record Sound File



Opens the Record Sound File dialog to begin the process of recording. Record Sound File... is the same function as New Sound File. Operation of the Record Sound File dialog is described in the next chapter.

Restore Archive



Opens the Restore Archive dialog to allow restoration of DAT and Exabyte archives. The operation of restoring archives is described in the preceding chapter.

Transport Panel



Opens the Transport Panel. The use of the Transport Panel is described in detail in the preceding chapter.

Preferences

SonicStudio provides many ways to customize its operation to your needs and preferences. The individual preferences items are accessed from the Preferences submenu.

File	
Preferences	▶ Audio I/O...
Managers	▶ Audio I/O Parameters...
Status Monitors	▶ Desk Parameters...
Utilities	▶ System...
Page Setup...	Cue Path...
Print One	Record Channel...
Print...	Record Path...
Import...	Edit List...
Export...	Edit Fade...
Template	▶ Frequency Analysis...
	Nudge...
Quit ⌘Q	
	External Devices...
	MIDI...
	PQ Read/Write...
	Time Code Read/Write...
	SCS-1000...

The user preference dialogs and the parameters they control are described in detail in the following chapter.

Managers

SonicStudio provides two specialized windows known as Managers. These windows are described in detail in the preceding chapter.

File	
Preferences	▶
Managers	▶ Background Manager...
Status Monitors	▶ Sonic Manager...
Utilities	▶

Background Manager

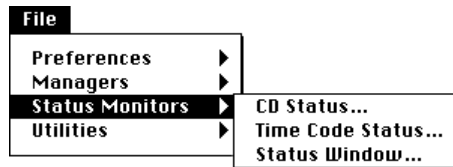
The Background Manager provides monitoring and control for load, dump, archive, DSP, and NoNOISE processes that are performed in background mode.

Sonic Manager

The Sonic Manager window provides library, disk, and file management for soundfiles, Cues, EDLs, disk volumes, Projects, automation Sessions, and video clips. Disk volumes include both local and remote via the MediaNet™ network option.

Status Monitors

Status Monitors are special windows that give you information on current operation of particular systems' functions. The individual Status Monitor windows are described in detail in the preceding chapter.



CD Status

If your system is equipped for direct output to recordable CD, the CD Status Monitor shows the current status and progress of operations on the CD recorder. Support for CD writing requires the START Labs™ CD Printer (CD-200) as well either the PQ Basic (SS-514) or Expanded PQ Code Editing/CD Audio (SS-515) software options.

Time Code Status

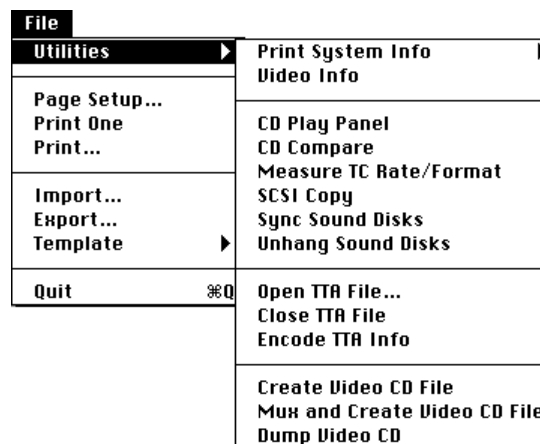
When reading or writing SMPTE longitudinal time code with SonicStudio, the Time Code Status Monitor displays the current time from both the system time code reader and generator.

Status Window

The Status Window lists various text messages relating to the internal operation and status of the system. It is used principally by Sonic customer support in confirming diagnosing system operations.

Utilities

The Utilities Submenu includes a number of miscellaneous commands and specialized functions.

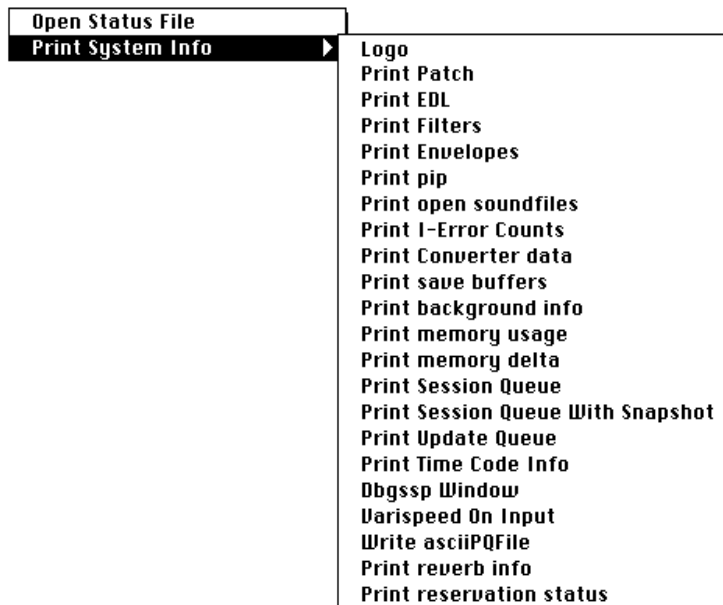


Open Status File

This command opens the current system status information into the Status Window for diagnostic use. This “audit trail” is stored as an ASCII text file in the same folder as the SonicStudio application. The Status Window will appear at the bottom of the screen.

Print System Info

This is the one submenu command in the system that has its own submenu.



The items in this list are used by Sonic Solutions program developers, and occasionally by customer support to list specific types of internal system information to the Status Window, where it can be used for diagnostic purposes.

Video Info

Requires Sonic Digital Playback (SS-518) option.

CD Compare

Requires CD-ROM Reader SS-422 and START Labs™ CD Printer CD-200. CD Compare operation is described in the next chapter.

Measure TC Rate/Format

In case of time code of unknown rate and format, use this command to directly measure the rate of the code and its format. The values derived are applied to the System Time Display parameter in the System Preferences dialog.

SCSI Copy

Use this command to directly copy the contents of a SCSI hard drive to another SCSI device, such as START Labs™ CD Printer (CD-200). This is most often used for mastering of CD-ROM. Supported formats include HFS, ISO9660, CD-i and CD-ROM XA.

SCSI Copy operation is described in the next chapter.

Sync Sound Disks

Use this command to force the system to update its directories of the mounted sound disks.

Unhang Sound Disks

Use this command if your sound drives become hung, refusing to respond to Sonic commands. Note that hanging sound drives generally indicates a connection, cabling, or termination problem in the SCSI chain. If hanging occurs, carefully check the status of every device, cable, and terminator in the chain for valid configuration and secure seating.

Open TTA File

Close TTA File

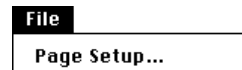
Encode TTA Info

These commands allow encoding of textual information into the specialized “TTA” audio-stream coding used for digital audio cable/satellite subscription service. These commands require the TTA encoding option.

Create Video CD File
Create and Mux Video CD File
Dump Video CD

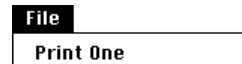
Require SonicCinema options SS-101, 103, or 104.

Page Setup



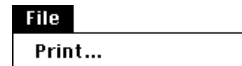
The Page Setup command brings up a Macintosh-standard dialog for controlling your hard-copy print device. This command requires connection to a Macintosh Chooser-level printer.

Print One



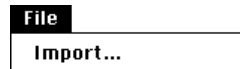
When there is printable document on screen, such as a formatted EDL, Source Log, Archive Log, or Delivery Log on-screen, Print One will deliver the selected document to your hard-copy print device. This command requires connection to a Macintosh Chooser-level printer.

Print



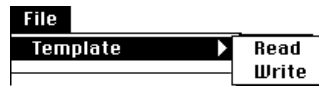
Page Setup..., Print One, and Print commands are part of the standard Macintosh File menu command set. In SonicStudio, the Print... command is not active.

Import Export



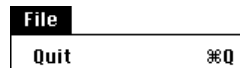
Import and Export commands are not active in this version.

Template



Requires Expanded PQ Editing/CD Audio option (SS-525). Operation is described in the manual for that option.

Quit



Quits the SonicStudio application.

Edit Menu

The commands in the Edit menu are used to cut, splice, rearrange, and modify digital audio in a Sonic edit decision list window.

Edit	
Undo	⌘Z
Undo Edit	
Redo Edit	
Cut	⌘H
Copy	⌘C
Paste	⌘U
Clear	
Select Segments	▶
Insert	▶
Delete	▶
Edit Fade...	
Create New Crossfade	
Delete Crossfades	
Adjust Gain	
Offset	▶
Nudge	▶
Create Segments	▶
Loop and Fill	
Synchronize	▶
Mount Source In Sync	
Split & Roll Back Edit	

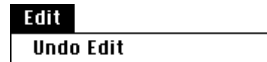
Most of the commands in this menu are not available unless there is an edit list open and active on-screen. Some of the commands become active when certain conditions, such as the presence of a require mark in a selected panel, are fulfilled.

Undo (Can't Undo)

Edit	
Undo	⌘Z

Undo is part of the Macintosh-standard Edit menu structure. In SonicStudio, most undo operations are handled with the Undo Edit command below.

Undo Edit



When editing in a Sonic EDL, a list of edits performed is stored as you work. By invoking Undo Edit, you can move one step at a time backwards through this list, undoing edits one at a time. This makes it very easy to try out edits and then revert to a previous state, with option to save various versions for subsequent reference.

Redo Edit



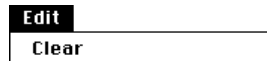
Redo Edit becomes available whenever you have used Undo Edit. It is a single-level operation. You can only Redo the last edit that was Undone.

Cut, Copy, and Paste



In SonicStudio Cut, Copy, and Paste commands operate on selected audio segments exclusively. Use these commands to move segments or groups of segments between panels of an EDL, or between different EDLs.

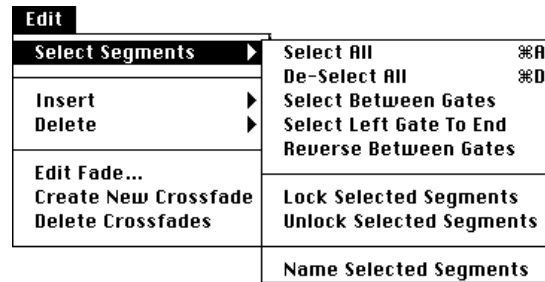
Clear



The Clear command is part of the standard Macintosh Edit menu structure. It is not used in SonicStudio.

Select Segments

Individual audio segments in an EDL may be selected by option-clicking on the desired segment with the mouse, or by simply clicking with the Segment tool. The commands in the Select Segments submenu allow you to select groups of segments defined by their position relative to the left and right Gates, and by current status.



Select All

Select all segments in the currently selected panel or edit group. The key command equivalent is -A.

De-Select All

De-select any segments that are currently selected in the selected panel or edit group. Key command equivalent is -D. De-Select All is very useful in preventing inadvertent deletion or moving of segments that may be selected but not visible in the current view.

Select Between Gates

Select all segments that lie between the left and right Gates in the currently selected panel or edit group.

Select Left Gate To End

Select all segments in the currently selected panel or edit group, starting from the position of the left Gate.

Reverse Between Gates

Reverse the state of all segments that lie between the left and right Gates in the currently selected panel or edit group. Segments that were previously selected become un-selected, while un-selected segments become selected.

Lock Selected Segments

Unlock Selected Segments

The Lock and Unlock Selected Segments commands let you define any segment or group of segments as locked against editing. Locked segments can not be deleted or moved.

Name Selected Segments

This command allows you to assign a name to a segment without reverting to the text view display (as described in the preceding chapter).

This command is especially useful when editing audio segments to create Cue files. The name of the Cue file is taken directly from that of the segment, so being able to assign a name without leaving the waveform or bar display mode may be convenient.

Insert

Insert commands are used to move sections of audio, designated by placement of In and Out edit points or by selected audio segments, from EDL Source panels to EDL Destination panels.



The two major variations of the Insert command are basic insert and insert with ripple. The difference in the effect of these is in what happens to audio that follows the area directly affected by the edit.

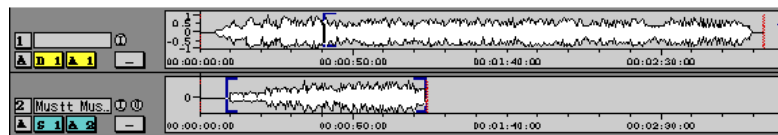
Ins. w/CROSS-FADE

Ins. w/BLACK-FADE

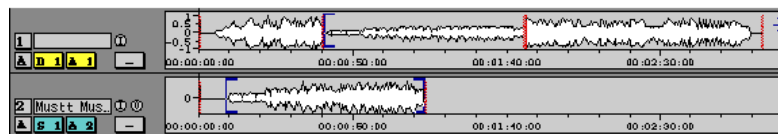
Ins. w/CROSS-FADE IN, BLACK-FADE OUT

In the basic insert commands, audio that comes after the area directly affected remains in place as before.

Before



After



Following the Insert command, the length of the Destination panel does not change. The designated audio section from the Source panel replaces audio in the Destination.

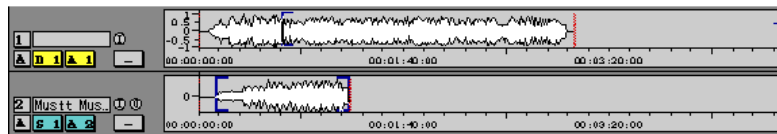
The command variants define which of the user-editable default fades will be applied at the head and tail of the edit.

Ins. & Ripple, w/CROSS-FADE

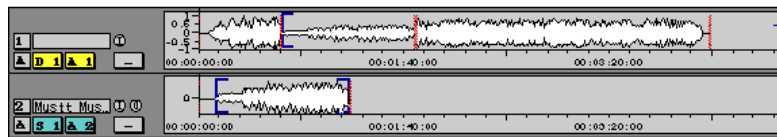
Ins. & Ripple, w/BLACK-FADE

Insert & Ripple causes all audio following the point of insert to be shifted forward to accommodate the section inserted.

Before



After



When you use Insert w/Ripple, the audio in the Destination panel is not replaced, but simply shifted to the right to accommodate the section inserted from the Source panel(s).

Delete

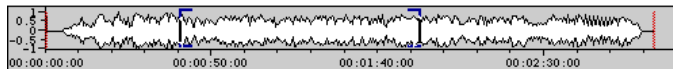
Delete commands operate analogously to Insert, but they operate only on the selected panel's Edit group. Use these commands to delete sections of audio defined by placement of In and Out edit points in the target panel(s), or by selecting audio segments that you wish to delete.



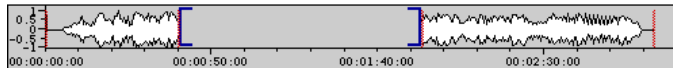
Del. w/CROSS-FADE Del. w/BLACK-FADE

As with the Insert commands, Delete has basic delete (without ripple), and delete with ripple options. Basic delete leaves all audio in place except the portion defined for deletion.

Before



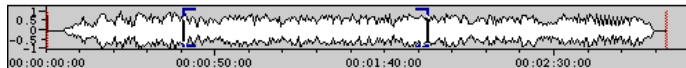
After



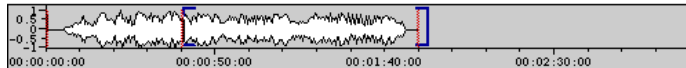
Del. & Ripple, w/IN CROSS-FADE Del. & Ripple, w/OUT BLACK-FADE

Delete & Ripple causes all audio following the deleted portion to shift forward to close the space left by the deleted audio.

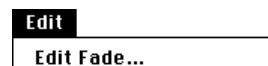
Before



After



Edit Fade...

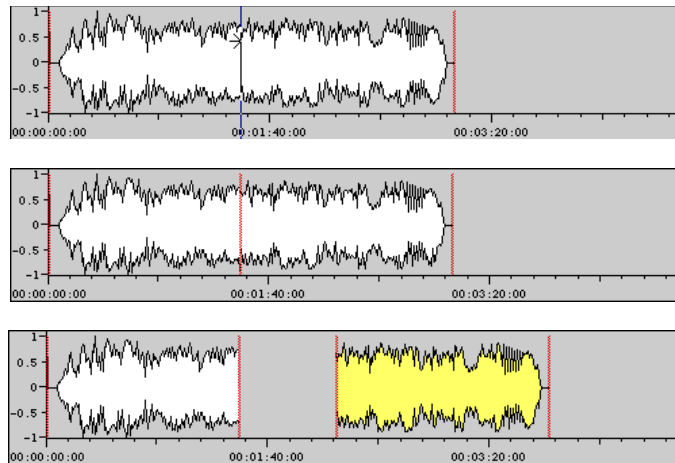


The Edit Fade command opens the Edit Fade window to show the closest fade (fade-in, fade-out, or cross-fade) to the right of the left Gate in the currently selected EDL panel. The Edit Fade window is described in detail in the preceding chapter.

Create New Crossfade

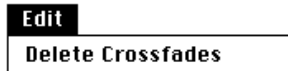


Use the Create New Crossfade command to divide continuous soundfiles into individual segments. Place the left Gate at the point in the audio that you want to “cut,” or divide the file. Then select Create New Crossfade.



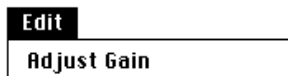
A crossfade edit is inserted into the previously continuous soundfile. Once divided by this new edit, you can move the sound on either side of the crossfade using any of SonicStudio editing commands.

Delete Crossfades



Delete crossfade (between left and right Gate) applies only to cross fades that are inserted in continuous audio. If the audio on either side of the fade is moved or adjusted in any way, Delete Crossfade will not function.

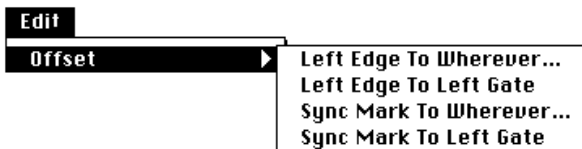
Adjust Gain



Any selected audio segment or group of segments can be adjusted in level, with absolute gain, relative gain, and normalization options. The operation of the command is described in detail in the next chapter.

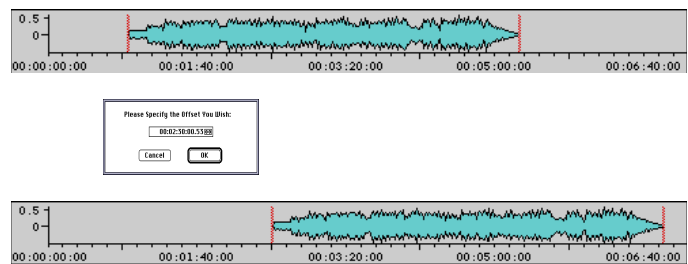
Offset

The commands in the Offset submenu allow you to shift selected segments forward or back in their EDL panel, placing the segments at a point defined by the command option selected. If there are no selected segments in the track, then the entire track will be moved.



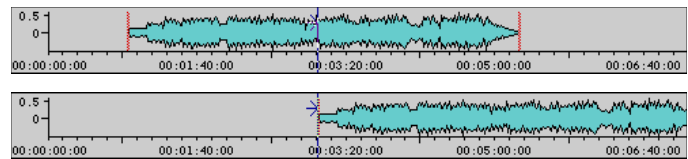
The two reference points available in the segments are the left edge (earliest sample) of the segment or the position of a Sync Mark placed within the segment.

Left Edge to Wherever



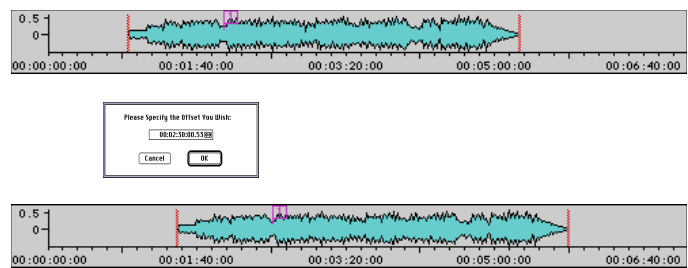
When you select Left Edge to Wherever, a dialog pops up into which you can enter a time value. The selected segment is moved so that the left edge of the segments aligns at the time you have entered.

Left Edge to Left Gate



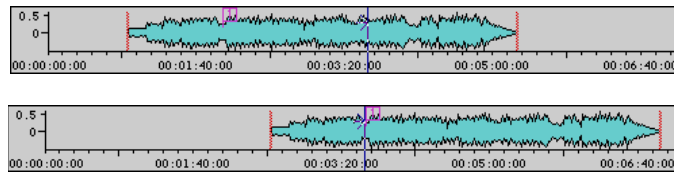
When you select Left Edge to Left Gate, the selected segment is moved so that the beginning (left edge) of the segment aligns with the position of the left Gate.

Sync Mark to Wherever



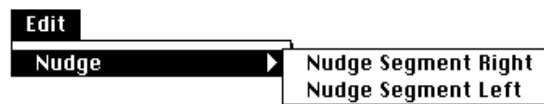
By placing an editing mark of the “Sync” type in the selected segment, you can move the segment to a new position referenced to the position of the mark within the segment. This can be used, for example, to place a sound effect so that the “hit point” aligns with a particular video frame.

Sync Mark to Left Gate



Sync Mark to Left Gate moves the selected segment so that the position of the Sync Mark within the segment aligns with the position of the left Gate.

Nudge



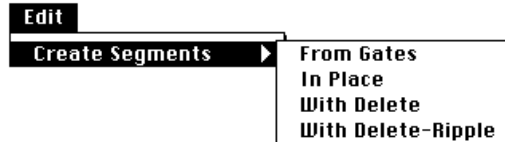
Nudge Segment Right Nudge Segment Left

Use the Nudge commands to shift a selected audio segment or group of segments forwards or backwards in time by a preset amount. Use the Nudge Preferences dialog (described in the next chapter) to specify the increment of time for nudging.

Create Segments

Use the Create Segments commands to divide continuous audio into multiple audio segments that can be individually moved and edited. You have the option of dividing audio based on the current position of the

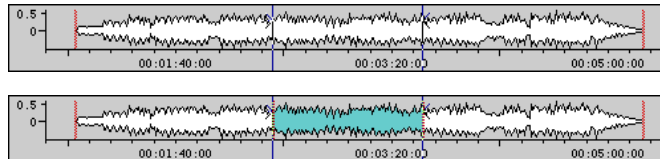
left and right Gates in the selected panel (Use Gates), or dividing audio according to the positions of multiple Segment Start and Segment End marks.



When using the three marks-oriented variants of Create Segments, you have the option of dividing audio by new cross fades without further effect (In Place), or you can elect to delete all audio portions not included between a Segment Start and a Segment End mark (With Delete and With Delete-Ripple).

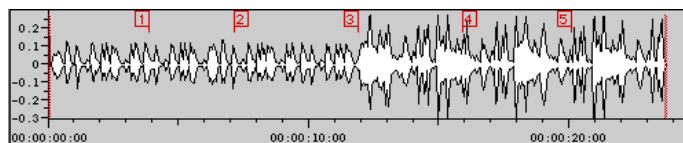
(Create Segments) From Gates

This command places a new crossfade at the position of the left and right Gates. Thus, a new segment is created between the positions of the two Gates. This segment can then be moved or adjusted independently of the audio on either side.

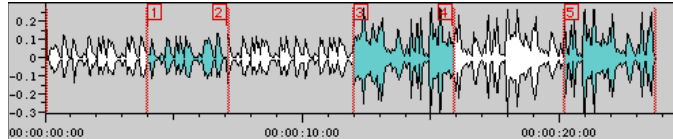


(Create Segments) In Place

When you select one of these commands (except the From Gates command, which ignores the marks), the system will place a crossfade at the position of each Segment Start or Segment End mark.

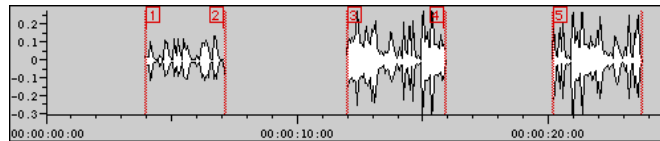


The specific Create Segment option determines how the audio between the newly defined segments is treated. The figure above shows a section of audio with alternating Segment Start and End marks.



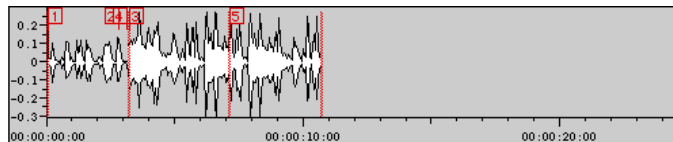
If you select (Create Segments) In Place, then all audio is left in place. Crossfades are placed at the position of the segment mark and the areas that lie between a Segment Start and a Segment End mark are left selected.

(Create Segments) With Delete



If the Create Segment option you select is With Delete, then the sections or audio that lie between the End point and the next Start are deleted, an efficient way to eliminate multiple sections of unwanted sound.

(Create Segments) With Delete-Ripple

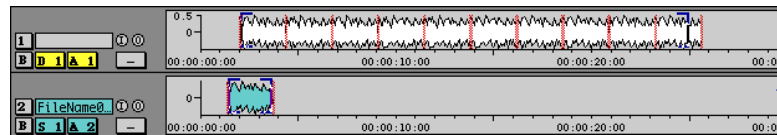
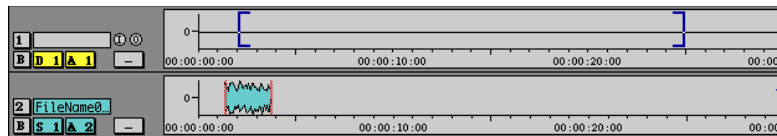


If you choose (create segments) With Delete-Ripple, then the undesired sections of sound are deleted, and the remaining segments slide forward in time so that they butt up one against the other. This can be useful, for example, in reducing a recording of individual sound effects into a compact group of sound segments that can be manipulated as desired.

Loop and Fill



Use Loop and Fill to place multiple copies of a designated section of sound, marked by In/Out edit points, from the Source edit group into a space defined by In/Out points in the Destination panels.



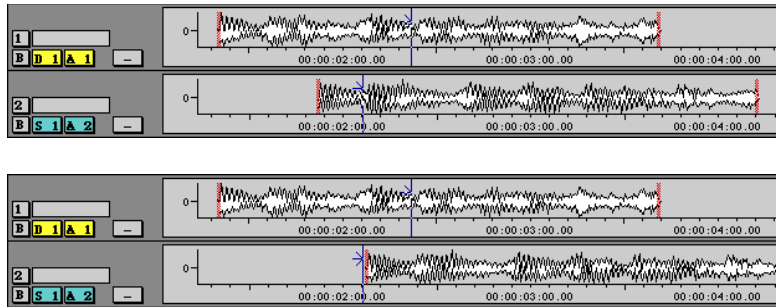
When you invoke this command, it inserts as many copies of the Source section (defined by In and Out points or by selected segments) as are required to fill the space between the In and Out points in the Destination panel.

Synchronize

Use the commands in the Synchronize submenu to shift the relative position of audio in the Source and Destination panels so that designated points in each group line up to the same position in time.



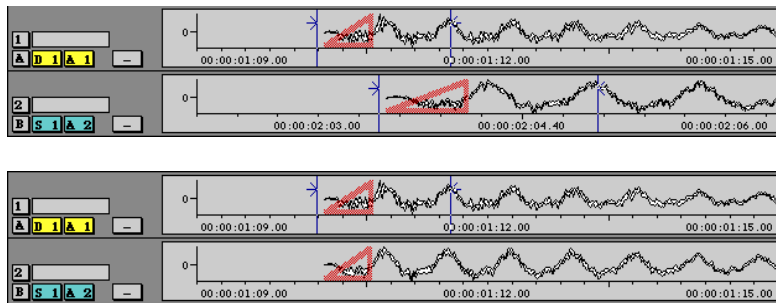
Sync to Left Gates



When you invoke Sync to Left Gates, audio in the Source edit group panels is shifted as follows: the position of Source panel's left Gate is noted, then the audio in the Source panels is moved to the position of the left Gate in the Destination panels using the Source panel's original left Gate position.

Fast Sync to Matching Sync to Matching

When sections of audio in the Source group panels and the Destination panels match each other closely, you can use these commands to align matching portions of audio in the two panels. This match is performed through DSP auto-correlation, and can be used to match audio that doesn't match perfectly but is close.

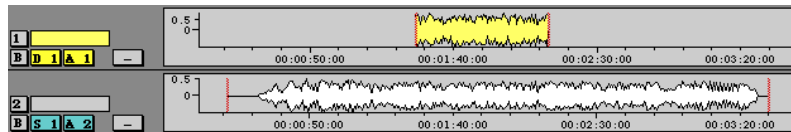
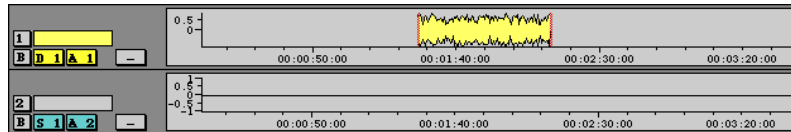


To sync to matching audio, place the left Gates in each group of panels as close as you can to points that visibly match, then select one of the two commands. Because of the variety of circumstance and degrees of level, phase, and spectral mismatch, you may have to try both commands, as well as different locations for the Gates, to get the desired results.

Mount Source In Sync



Sometimes when editing with an audio segment or cue taken from a longer soundfile, you may wish to access the parent soundfile in order to grab an additional section of audio.

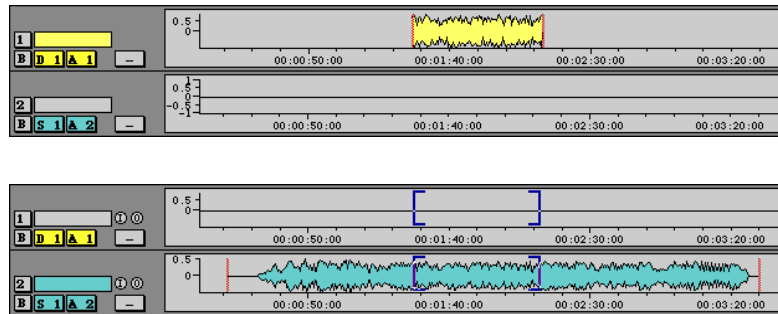


Select a segment then use this command to open the parent soundfile into the Source panel group. The file will open in position precisely aligned with the audio segment selected.

Split & Roll Back Edit



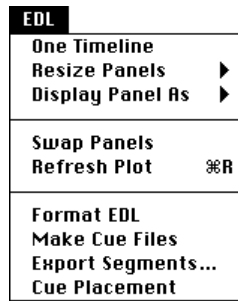
This command performs a similar function to Mount Source in Sync, but it takes it one step further by removing the designated segment from the Destination panels and marking its position, in both Source and Destination panels, with new In and Out edit points.



This allows an edit to be undone long after the Undo Edit ability is past. The left Gate must be placed just to the left of the edit you wish to split.

EDL Menu

Use the commands in the EDL menu to control the editing display, shifting size and display types of the individual panels of an edit decision list.

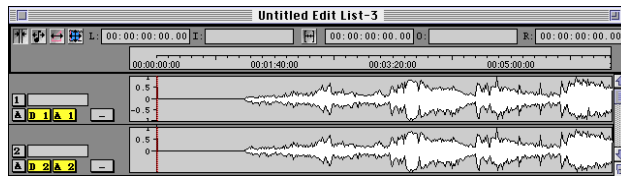
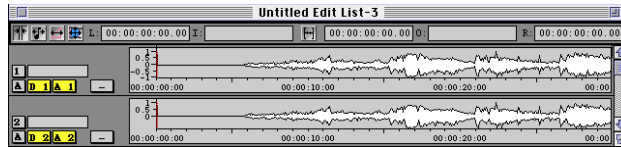


Commands at the bottom of the menu also let you format and print an EDL in textual format, and define selected audio segments as Sonic “Cue” files. Cues are described in the Window Reference chapter.

One Timeline



With this command, you have the option of displaying time-scale marks on every panel of the EDL, or of showing the timeline only as a single scale at the top of the window.

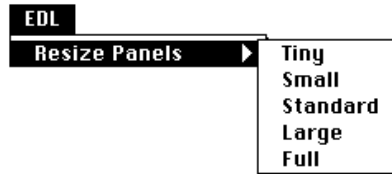


Using a single timeline reduces the amount of clutter in the individual panel, and allows greater waveform detail to be shown for a given panel size.

With One Timeline selected, the time scale at top displays the appropriate time for the currently selected Sync group.

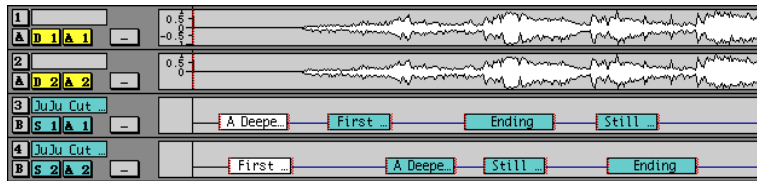
Resize Panels

Use the commands in this submenu to designate the size in which you want to display the selected panel or panels.



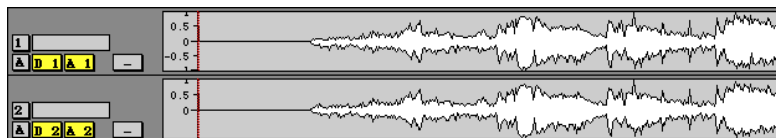
There are five display size options that allow you to pack more panels into the display space available, or enlarge individual panels or groups for detailed examination. Display sizes may be applied to text mode displays, as well as waveform, bar, and other display formats.

Tiny



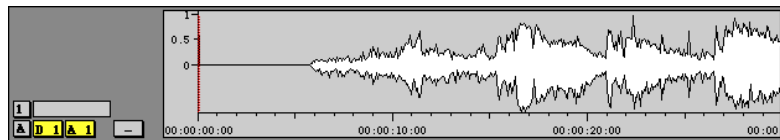
The Tiny display size lets you pack the maximum number of panels into a given display area. Tiny size is available for the waveform and bar display modes, but not for text mode. When using the Tiny size, you may wish to switch of “Show Times” in the EDL Preferences Display section. Tiny size is particularly useful in bar mode.

Small



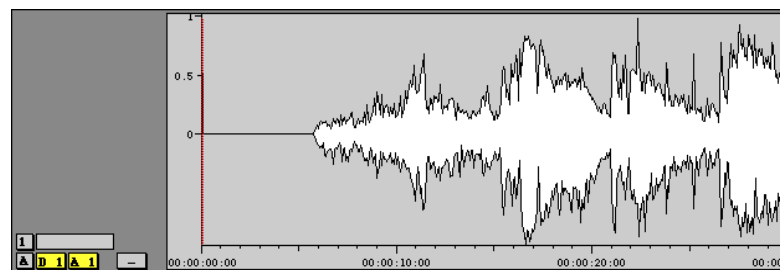
As the name implies, the small display size is compact but provides good resolution of the waveform display. Greater visibility of detail in the waveform is obtained if you switch to One Timeline (see above) and turn off “Show Times” in EDL Preferences.

Standard



Standard size is comfortable for most waveform displays, with or without timeline and time display in each panel.

Large



in:	name	trk	start-sec	end	length	gain	lock	f
	aa	3	00:00:00:00:00	00:00:04:21:20	00:00:04:21:20	0.0	N	X
	Take0003	3	00:00:00:12:43	00:00:05:26:57	00:00:05:14:14	0.0	N	X
	FileName0669	3	00:00:00:21:25	00:00:05:15:50	00:00:04:24:35	0.0	N	X
	FileName0667	3	00:00:00:28:52	00:00:04:09:47	00:00:03:10:76	0.0	N	X
	Take0001	3	00:00:01:00:17	00:00:06:04:67	00:00:05:04:50	0.0	N	X
	FileName0668	3	00:00:01:09:77	00:00:03:20:59	00:00:02:10:62	0.0	N	X
	FileName0670	3	00:00:02:14:62	00:00:04:29:17	00:00:02:14:34	0.0	N	X
	FileName0670.tt01	3	00:00:03:20:29	00:00:06:06:19	00:00:02:15:70	0.0	N	X
	FileName0671	3	00:00:04:16:76	00:00:07:03:34	00:00:02:16:38	0.0	N	X
	bb	3	00:00:04:21:20	00:00:22:07:75	00:00:17:16:55	0.0	N	X
	file a	3	00:00:22:07:75	00:00:38:05:17	00:00:15:27:22	0.0	N	X
	file b	3	00:00:38:05:17	00:01:07:27:36	00:00:29:22:18	0.0	N	X
	FileName0666	3	00:01:07:27:36	00:01:11:06:77	00:00:03:09:42	0.0	N	X
	FileName0672	3	00:01:11:06:77	00:01:13:20:68	00:00:02:13:71	0.0	N	X
	FileName0673	3	00:01:13:20:68	00:01:35:29:47	00:00:22:08:59	0.0	N	X
	JuJu Cut 3.rev01	3	00:02:49:28:56	00:02:53:17:05	00:00:03:18:30	0.0	N	X
	HB Master File	3	01:00:00:00:00	02:00:00:00:00	01:00:00:00:00	0.0	N	X

The Large size provides exaggerated vertical scale in the waveform display, but is especially useful using the text list view.

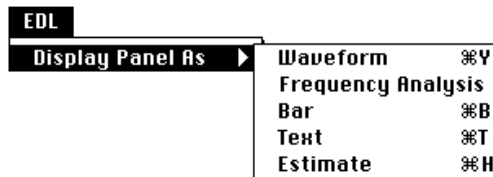
Full

name	trk	start-sec	end	length	gain	lock	f
aa	3	00:00:00:00.00	00:00:04:21.20	00:00:04:21.20	0.0	N	X
Take0003	3	00:00:00:12.43	00:00:05:26.57	00:00:05:14.14	0.0	N	X
FileName0669	3	00:00:00:21.25	00:00:05:15.60	00:00:04:24.35	0.0	N	X
FileName0667	3	00:00:00:28.52	00:00:04:09.47	00:00:03:10.76	0.0	N	X
Take0001	3	00:00:01:00.17	00:00:06:04.67	00:00:05:04.50	0.0	N	X
FileName0668	3	00:00:01:09.77	00:00:03:20.59	00:00:02:10.62	0.0	N	X
FileName0670	3	00:00:02:14.62	00:00:04:29.17	00:00:02:14.34	0.0	N	X
FileName0670.tt01	3	00:00:03:20.29	00:00:06:06.19	00:00:02:15.70	0.0	N	X
FileName0671	3	00:00:04:16.76	00:00:07:03.34	00:00:02:16.38	0.0	N	X
bb	3	00:00:04:21.20	00:00:22:07.75	00:00:17:16.55	0.0	N	X
file a	3	00:00:22:07.75	00:00:38:05.17	00:00:15:27.22	0.0	N	X
file b	3	00:00:38:05.17	00:01:07:27.36	00:00:29:22.18	0.0	N	X
FileName0666	3	00:01:07:27.36	00:01:11:06.77	00:00:03:09.42	0.0	N	X
FileName0672	3	00:01:11:06.77	00:01:13:20.68	00:00:02:13.71	0.0	N	X
FileName0673	3	00:01:13:20.68	00:01:35:29.47	00:00:22:08.59	0.0	N	X
JuJu Cut 3.rev01	3	00:02:49:28.56	00:02:53:17.05	00:00:03:18.30	0.0	N	X
HB Master File	3	01:00:00:00.00	02:00:00:00.00	01:00:00:00.00	0.0	N	X
JuJu Cut 3	3	02:00:00:00.00	02:03:02:21.48	00:03:02:21.48	0.0	N	X
Mustt Mustt	3	02:03:02:21.48	02:20:28:21.25	00:17:25:29.57	0.0	N	X
Mustt Mustt.rev01	3	02:20:28:21.25	02:37:54:21.02	00:17:25:29.57	0.0	N	X

The Full size can be used to extend the view of an EDL text list to see many entries at once without scrolling. This view may also be used with the waveform display mode if extreme vertical detail is required.

Display Panels As

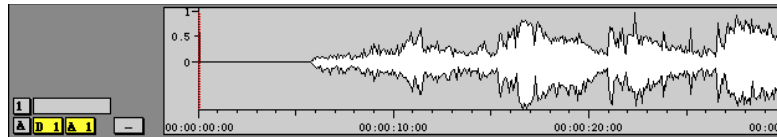
In SonicStudio, you can define individual editing panels for display in one of several modes.



Waveform, Bar, and Text modes may be applied to a panel at any time. Frequency Analysis display is available only when there has been a frequency analysis performed, from the DSP menu, on a region of the currently selected panel.

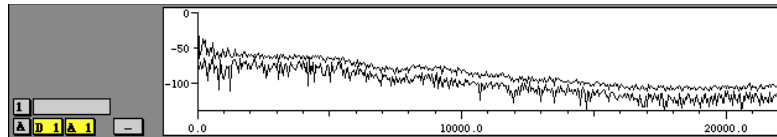
Waveform

Waveform display is the initial default state, and is the most commonly used mode for editing.



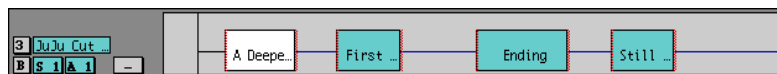
As shown in the menu, you may use the command key -Y to switch the selected panel to waveform display from any other mode.

Frequency Analysis



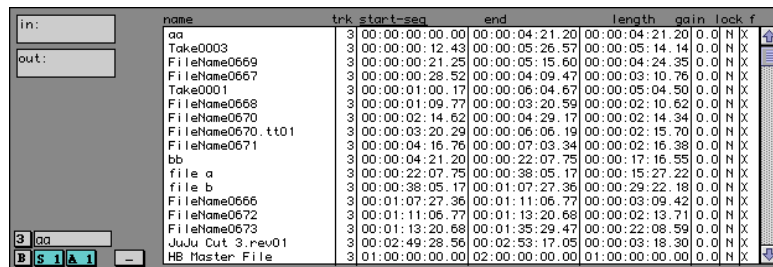
The Frequency Analysis display mode is available only when the Do Frequency Analysis command from the DSP menu has been performed on a section of audio in the panel. The Frequency Analysis display shows frequency content on a horizontal scale from low to high. Although you cannot edit the Frequency Analysis display, you can use any of the View menu commands to zoom in and view any area of the display in detail.

Bar



The Bar mode shows audio segments with their text labels, but without waveforms. This may be very useful when dealing with sound that is divided into many discrete chunks, as in sound effect or dialog assembly

Text



in:	name	trk	start-sec	end	length	gain	lock	f
	aa	3	00:00:00:00.00	00:00:04:21.20	00:00:04:21.20	0.0	N	X
	Take0003	3	00:00:00:12.43	00:00:05:26.57	00:00:05:14.14	0.0	N	X
out:	FileName0669	3	00:00:00:21.25	00:00:05:15.60	00:00:04:24.35	0.0	N	X
	FileName0667	3	00:00:00:28.52	00:00:04:09.47	00:00:03:10.76	0.0	N	X
	Take0001	3	00:00:01:00.17	00:00:06:04.67	00:00:05:04.50	0.0	N	X
	FileName0666	3	00:00:01:09.77	00:00:03:20.59	00:00:02:10.62	0.0	N	X
	FileName0670	3	00:00:02:14.62	00:00:04:29.17	00:00:02:14.34	0.0	N	X
	FileName0670. tt01	3	00:00:03:20.29	00:00:06:06.19	00:00:02:15.70	0.0	N	X
	FileName0671	3	00:00:04:16.76	00:00:07:03.34	00:00:02:16.38	0.0	N	X
	bb	3	00:00:04:21.20	00:00:22:07.75	00:00:17:16.55	0.0	N	X
	file a	3	00:00:22:07.75	00:00:38:05.17	00:00:15:27.22	0.0	N	X
	file b	3	00:00:38:05.17	00:01:07:27.36	00:00:29:22.18	0.0	N	X
	FileName0666	3	00:01:07:27.36	00:01:11:06.77	00:00:03:09.42	0.0	N	X
	FileName0672	3	00:01:11:06.77	00:01:13:20.66	00:00:02:13.71	0.0	N	X
	FileName0673	3	00:01:13:20.66	00:01:35:29.47	00:00:22:08.59	0.0	N	X
	JuJu Cut 3.rev01	3	00:02:49:28.56	00:02:53:17.05	00:00:03:18.30	0.0	N	X
	HB Master File	3	01:00:00:00.00	02:00:00:00.00	01:00:00:00.00	0.0	N	X

The Text view display mode provides a complete alternative editing environment. Audio segments are displayed as a horizontal row, with information describing the start and stop of the segments, their gain and so on. Editing in the Text mode is described in detail in the preceding chapter.

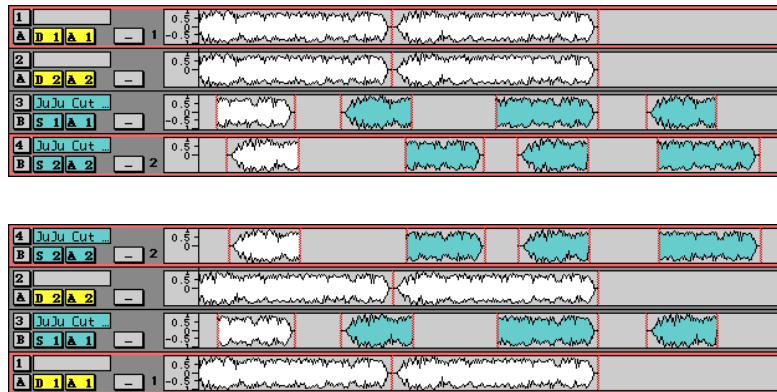
Estimate

Estimate display mode is available only in conjunction with the Broadband Denoising module of NoNOISE.

Swap Panels



Use this command to exchange the screen position of two selected panels. If there is only one selected panel, the command is unavailable



Refresh Plot

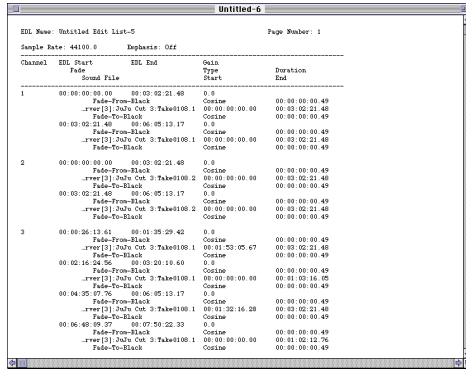


Use this command to force an update of the edit display to the most current information.

Format EDL



When you invoke this command, a new formatted edit list window will appear on-screen, containing all the information in the currently selected EDL in textual, printable form.



Make Cue Files



A Cue contains all of the information that defines a segment, including the source soundfile, and may be used and thought of as the segment itself.

in:	name	trk	start-sec	end	length	gain	lock	f
	Deeper Cut	3	00:00:26:13.61	00:01:35:29.42	00:01:09:15.61	0.0	N	X
	First Cut	3	00:02:16:24.56	00:03:20:10.60	00:01:03:16.05	0.0	N	X
	Ending	3	00:04:35:07.76	00:06:05:13.17	00:01:30:05.21	0.0	N	X
	Still More	3	00:06:48:09.37	00:07:50:22.33	00:01:02:12.76	0.0	N	X



After you make a Cue file, you must hit the “Scan” button in the Cue library of the Sonic Manager to make the new file appear. From the Cue library, you can place cues as desired into your EDL.

Note that the first time you create a Cue, the system will ask you to define a path (folder) in which to store the cue. All subsequently created cues will follow this placement. You can redefine the folder used for storing cues at any time from the Sonic Manager library.

Cue Placement

When you select the Cue Placement command, it opens the Place dialog. This dialog determines where Cue files will be placed in time when you drag them into an EDL panel from the Sonic Manager.



There are four placement modes available. Placement of Cues by drag and drop, and the operation of these modes, is discussed in the section of this chapter that describes the EDL.

- Place according to mouse position at time the button is released.
- Place according to the position of the edit In and/or Out points.
- Place according to the play head (Transport Panel) time.
- Place according to the time stamp of the cue.

The four modes are represented by icons in the Cue Placement select dialog. As you point at each icon with the mouse, the name of the mode it selects is listed at the bottom of the dialog. The mode you select remains in effect until you change it by opening Cue Placement again.

Play Menu

In SonicStudio, there are many ways to start and stop playback of audio, from the menu or from the keyboard.

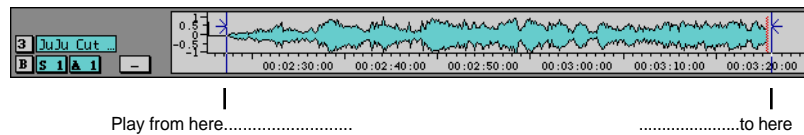
Play	
Between Gates	⌘
Around Gates' Center	▶
From Left Gate	▶
To Right Gate	▶
To In Point	
From In Point	
To Out Point	
From Out Point	
From Play Head	
Between In & Out Points	
All	
Reel Rock	⌘/
Varispeed On Playback	
Stop Play	
Reserve Bandwidth	

The Play menu commands let you play all or any designated portion of a Sonic edit list.

(Play) Between Gates

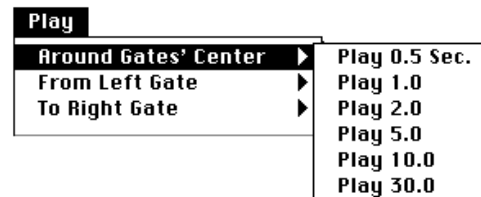


Use this command to play audio between the left and right Gates on the currently selected panel or edit group.

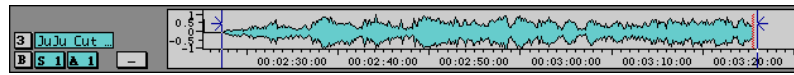


(Play) Around Gates' Center

Use these commands to play a section of audio centered between the left and right Gates on the selected panel.



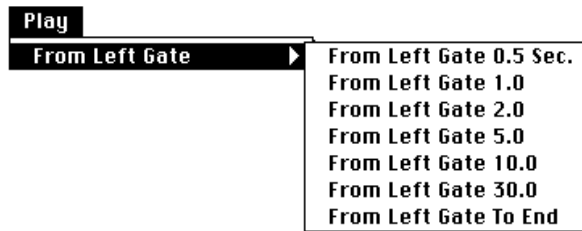
The time interval indicated by the submenu command defines the length of segment played. The audition area is always centered between the Gates.



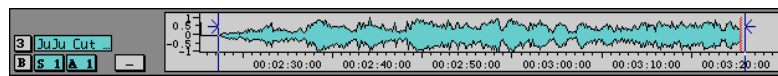
Play defined interval to either side of center point between gates

(Play) From Left Gate

These commands play a portion of audio starting from the position of the left Gate in the select panel or group.



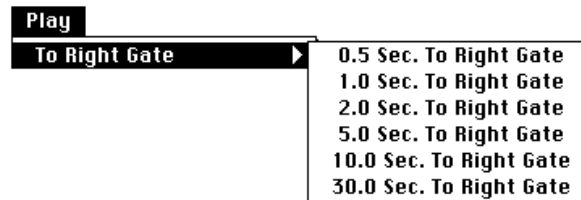
As with playing around the Gates' center, the submenu option defines the length of the portion played in seconds.



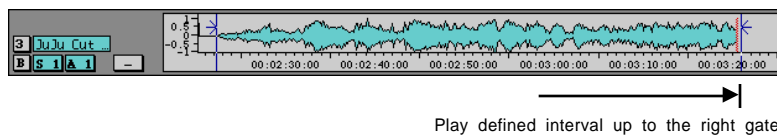
Play defined interval starting from the left gate

(Play) To Right Gate

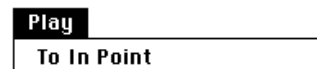
Use these commands to play a section of audio ending at the position of the right Gate.



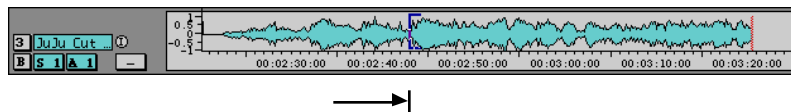
Again, the specific submenu command selected defines the length of the auditioned section.



(Play) To In Point



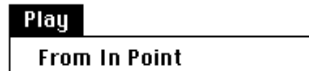
Use this command to play a section leading up to the current position of an In edit point.



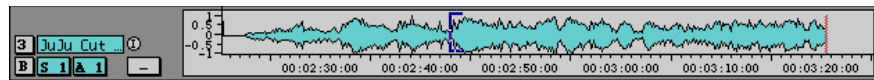
Play up to the In point. Duration of play is defined in
EDL Preferences, Audition section.

The length of the auditioned section is determined in the Audition section of the EDL Preferences dialog.

(Play) From In Point



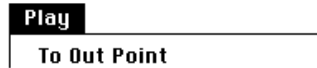
Plays a portion of audio starting from the current In point.



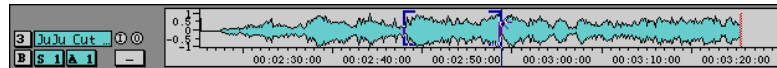
Play starting from the In point. Duration of play is defined in EDL Preferences, Audition section.

Length of auditioned section is determined in EDL Preferences.

(Play) To Out Point



Plays a portion of audio, length determined by the setting of EDL Preferences, leading up to the current Out point position.

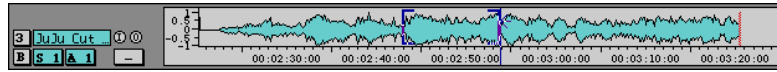


Play up to the Out point. Duration of play is defined in EDL Preferences, Audition section.

(Play) From Out Point



Plays an audio section, as set in EDL Preferences, starting from the current Out point position.

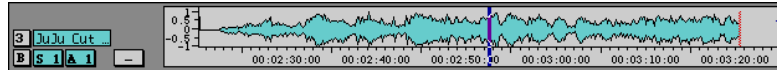


Play starting from the Out point. Duration of play is defined in EDL Preferences, Audition section.

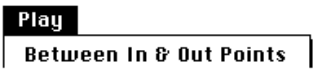
(Play) From Play Head



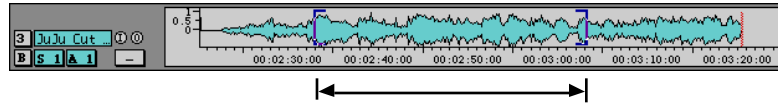
“Play Head” refers to current time position as shown in the Transport Panel time display window. This command initiates playback starting from that point and continuing to the end of the EDL.



(Play) Between In & Out points

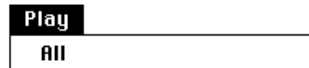


Plays back the audio section between the present locations of the In and Out edit points.

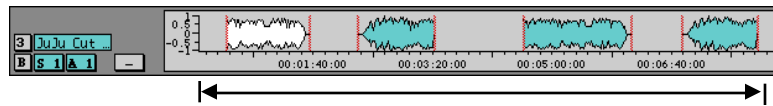


Play from In point position to Out point

(Play) All



Plays back all of the selected panel or group, starting from the beginning.



Play from beginning of panel to the end

Reel Rock



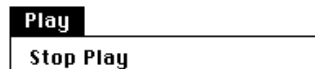
The Reel Rock places the system in audio scrub mode. Using reel-rock, you can move at slow speed within a panel and locate the starting point of attacks and other features.

Varispeed On Playback



This command causes SonicStudio to modify outgoing digital audio data for playback at a different sample rate from the current value. This command requires the Varispeed/Sample Rate Conversion option.

Stop Play



Immediately stops any play in progress.

Reserve Bandwidth



Requires the MediaNet option MN-1101, 1102, 1201, or 1202.

Mark Menu

Use the commands in the Mark menu to place or move edit points (In and Out) and general-purpose editing marks.

In SonicStudio, you can place a variety of different kinds of marks in an editing panel and use these to control various editing and mastering operations.

There are two principle classes of markings used. Use In and/or Out edit points to define the positions of start and end points for edit operations such as Insert and Delete. Use Marks (Segment Start/End, etc.) to mark locations for other purposes or general reference.

Set In Point/Set Out Point

Mark	
Set In Point	⌘[
Set Out Point	⌘]

Use these commands to set In and Out editing points “on-the-fly.” If selected during audio playback, the designated point is placed at the current location of the play pointer. If selected while stopped, the designate edit point is placed at the position of the left (In point) or right (Out point) Gate.

Set In & Out Points

Mark
Set In & Out Points

This command efficiently places both In and Out points at the current positions of the left and right Gates in the selected panel or group.

Clear In/Out/Both Points

Mark
Clear In Point
Clear Out Point
Clear Both Points

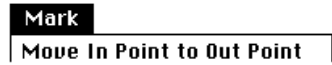
These commands clear the edit points from the selected panels.

Move In Point/Out Point

Mark
Move In Point...
Move Out Point...

Use these commands to set In or Out edit points at specific time locations. A dialog box appears in which you enter an arbitrary time.

Move In Point to Out Point



Use to exchange the positions of the In and Out edit points. When invoked, the In edit point is placed at the previous position of the Out point.

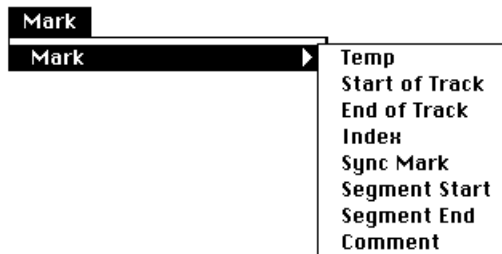
Find & Set Points



Use this command to automatically set In and Out edit points at the boundaries of an existing segment. Place the left Gate within a segment, then invoke the command. In and Out edit points are placed at the edit event times for the To and From Black fades that define that segment.

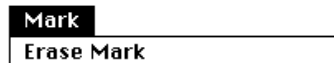
Mark

Use the selections in this submenu to place any of the several types of general purpose marks within an edit panel.



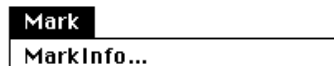
If play is in progress, the selected mark type appears at the current play position. If playback is stopped, the position of the left Gate controls mark placement.

Erase Mark



Eliminates the mark or marks enclosed by the left and right Gates.

MarkInfo



Opens the MarkInfo dialog, described in the Dialog Reference chapter, for the mark closest to the left Gate.

Edited/Analog Black To Marks



Use these commands to place edit marks in a panel automatically. When invoked, these commands scan the selected panel or group and enter marks at the start and end of active audio, eliminating areas of silence. The Edited Black option places marks strictly according to edits which you have performed. These commands work with audio between the Gates.

For Analog Black To Marks, the type of mark that is created is controlled in the resulting dialog. That dialog also provides for threshold amplitude and minimum length used to recognize areas of "silence." This command can be used to automatically create amplitude specific segments in conjunction with the Create Segments command.

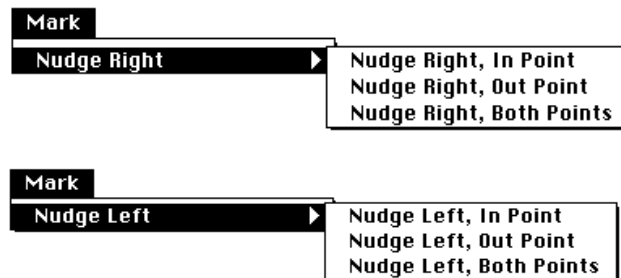
Project To Marks



Requires the EDL Translator option SS-505.

Nudge Right/Nudge Left

Use the commands in this submenu to move the In and Out edit points forward or back in time by a fixed increment.



The value of the increment used is defined in the Nudge Preferences dialog.

View Menu

Use the commands in the View menu to navigate and zoom in or out to any portion of the waveform or bar editing display.

View	
Move Forward	
Move Backward	
Move To	▶
Move Left Gate	▶
Zoom In	⌘I
Zoom Out	⌘O
Zoom To Gates	⌘G
Zoom To Previous	⌘P
Zoom Around In Point	
Zoom Around Out Point	
Around Gates' Center	▶
Zoom To Segment	
Zoom To Entire Track	⌘E
Zoom To Entire EDL	

The first commands in the menu let you move your view to different areas of the current selected panel without changing zoom level. Use the commands in the bottom portion of the menu to change zoom level and move to different locations at defined zoom settings.

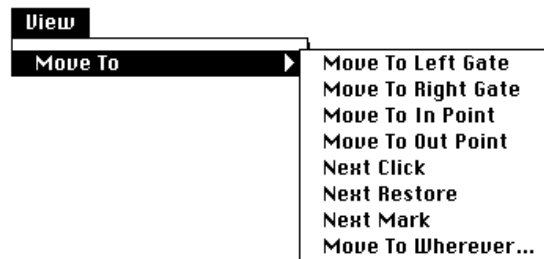
Move Forward/Move Backward

View	
Move Forward	
Move Backward	

Use these commands to move the current view of the selected panel or sync group forward or backward. The view is always moved such that the display overlaps the previous view.

Move To

Use the commands in this submenu to move the current view to an area of the panel defined by a feature of that panel, such as the position of an editing mark.



The submenu options determine the feature or other definition of the area to which the current view is moved.

Move to Left Gate
Move to Right Gate

Moves the current view so that the left or right Gates are placed at the left or right edge, respectively, of the selected panel.

Move to In Point
Move to Out Point

Moves the view so that the In or Out edit points appear in the panel, close to the left or right edge respectively.

Next Click
Next Restore

Require the Production Declicking option NN-103.

Next Mark

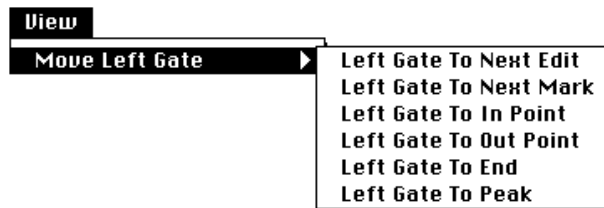
Moves the current view to the position of the next general purpose editing mark placed in the selected panel or group.

Move to Wherever...

This command brings up a dialog into which you enter arbitrary values for the left and right edges of the view. The panel view then zooms to the position defined.

Move Left Gate

The Move Left Gate commands shift the position of the left Gate to that of an edit, mark, or other feature in the selected panel or group.



The specific submenu option selected defines the new location of the Gate.

Left Gate to Next Edit

Moves the Gate to the position of the next fade (in-, out-, or cross-fade) to the right of the prior Gate position.

Left Gate to Next Mark

Moves the Gate to the position of the next general purpose editing mark

Left Gate to In Point

Left Gate to Out Point

Moves the Gate to the position of the In or Out edit point

Left Gate to End

Moves the Gate to the end of the selected panel.

Left Gate to Peak

Use this command to locate the highest peak level (instantaneous sample value positive or negative) in the selected panel or group. When you invoke this command, it scans audio from the current Gate position rightward in all members of the edit group (Source or Destination) of the selected panel to identify the highest audio peak. The Gate is then moved to this position.

Zoom In/Out

View	
Zoom In	⌘I
Zoom Out	⌘O

Use these commands to zoom in or out by a fixed percentage from the current view. The amount of zoom is set in the EDL Preferences dialog. See the Display section for more information.

Zoom To Gates

View	
Zoom To Gates	⌘G

Use this command to zoom the edit view to the area bounded by the location of the left and right Gates.

Zoom To Previous

View	
Zoom To Previous	⌘P

SonicStudio retains a memory of the last previous view. Use the Zoom To Previous command to shift the view level back to the earlier view.

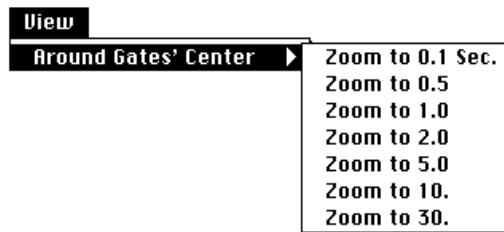


Zoom Around In Point Zoom Around Out Point

Use these commands to zoom around the location of the In or Out edit points. The amount of time displayed to either side of the designated point is defined in EDL Preferences. See the Display section for more information.

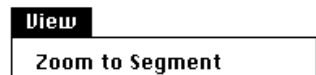
The Around Gates' Center submenu

Use these commands to zoom to an area around the exact center of the left and right Gate positions.



The submenu options define the length of the area viewed.

Zoom To Segment



Use this command to zoom the display to frame the selected audio segment or segments.

Zoom To Entire Track



Use this command to zoom out to show the entire length of the current selected panel.

Zoom To Entire EDL



Use this command to zoom the selected panel out to show the length of the longest panel in the EDL.

Desk Menu

The commands in the Desk menu are used to control mix automation and desk presets used during EDL-based recording.

Desk
Use Playback Desk Use Record Desk
Fine Desk Controls
Desk Setup ▶ Save Desk Setup Save Desk Setup as...
<input checked="" type="checkbox"/> Playback Automation Record Automation
Undo Pass Redo Pass End Pass
Take SnapShot Delete SnapShot
Goto Next SnapShot Goto Previous SnapShot

The upper portion of the menu controls record/playback setups, while the bottom five commands apply to mix automation. These commands become active when an automation Session is opened or created.

Use Playback/Record Desk Make Playback/Record Setup

Desk
Use Playback Desk Use Record Desk
Make Playback Setup Make Record Setup

Use these commands to define and recall the two setups of the mixing desk routing and levels used in playback and punch-in recording. The use of these setups in recording is described in the Window Reference chapter.

Automation Commands

The commands in this section provide a simple, but highly flexible Desk automation system.

Desk
Automation Undo Pass Redo Pass End Pass
Take SnapShot Delete SnapShot
Go To Next SnapShot Go To Previous SnapShot

To begin a desk automation Session:

- From the File menu, select the command New Desk Session

When you create a new Desk Session, the name of the Session appears at the top of the Desk's Channel Fade section, and the commands in the Automation section of the Desk menu become active.

Automation

Select this command to activate mix automation. When you select this command, a check mark will appear beside it in the menu. So long as this check mark shows, automation is in effect.

With automation activated, changes to the mixing desk are recorded automatically as you play audio from the EDL. All changes to the position of faders and pan pots are recorded.

Likewise with automation on, whenever you play the EDL the mixing moves recorded are played back automatically.

If the Mixing Desk (SS-201) software option is installed, automation is expanded to cover changes to filters and dynamics processing, as well as to fader and pan pot position. Otherwise, automation affects only level, pan, and channel muting.

Undo Pass

Redo Pass

Each time that you make changes in the mixing moves recorded in a Session, a new automation “pass” is created. Using the Undo Pass and Redo Pass commands, you can revert to a previous version of your mix Session to add to or change the moves up to that point.

End Pass

If you have created multiple automation passes, and used the Undo/Redo commands to move back in the sequence of passes you can use this command to jump forward to the very last pass created.

Take SnapShot

The Sonic mixing automation stores mix info in two forms. Dynamic automation moves are recorded during playback, by moving the Desk faders and pots.

Snapshots may be recorded while the system is stopped or on the fly during playback. A snapshot records the position of all faders, mutes, and pan pots as a single memory. When playing back, at the point that a SnapShot is located all the controls will jump to the positions stored in the SnapShot

To record a mix SnapShot at a particular location

1. Play the EDL to the point at which you wish to insert the SnapShot. The time that appears in the Transport Panel's window is the time at which the SnapShot will be placed.
2. Set the Desk faders, mutes, and panpots exactly as you want them to appear.
3. Select the command Take SnapShot from the menu.

If there is already a SnapShot at the position selected, that SnapShot is replaced by the new one.

SnapShots may also be placed “on-the-fly” by selecting Take SnapShot from the menu while the EDL is playing.

Delete SnapShot

If you cue to the location at which a SnapShot appears, you can remove that SnapShot by using this command.

Go To Next SnapShot

Go To Previous SnapShot

Go To Next SnapShot will bring you from the current play head (Transport Panel) position to the position of the next SnapShot in the Session. Likewise Go To Previous SnapShot will move you back from the current position to that of the preceding SnapShot.

By using the Go To Next and Go To Previous SnapShot commands together with Take SnapShot and Delete SnapShot, you can easily locate and replace or modify any automation SnapShot

DSP Menu

Use the commands in the DSP menu to set up and launch the specialized digital signal processing functions available in SonicStudio.



The operation and availability of commands in the DSP menu depends on the hardware and software options installed on the system. Frequency analysis and sound reversal are available on all systems, while other processing functions are provided as system options.

If a Sonic FX Processor card (SS-800) is installed, then all non-real-time processing is done in background mode. Otherwise, processing is performed in foreground mode, and prevents other commands from being performed until they are terminated.

Do Frequency Analysis

DSP
Do Frequency Analysis

Use this command to analyze frequency content of a section of audio bounded by the left and right Gates. The analysis display will appear in the panel, replacing the previous waveform or bar display. Note: due to processing time, it is not recommended that you perform analysis on audio lengths greater than 1/2 second.

Reverse Sound File

Use these commands to create a new soundfile that reverses the defined file or section.

DSP
Reverse Sound File

- Reverse Sound File
- Reverse w/CROSS-FADE
- Reverse w/BLACK-FADE
- Reverse w/CROSS-FADE IN, BLACK-FADE OUT
- Reverse & Ripple, w/CROSS-FADE
- Reverse & Ripple, w/BLACK-FADE

Reverse Sound File

This command opens the Reverse Sound File dialog, described in detail in the Dialog Reference chapter. This dialog lets you specify any desired source soundfile, or portion thereof, to be reversed.

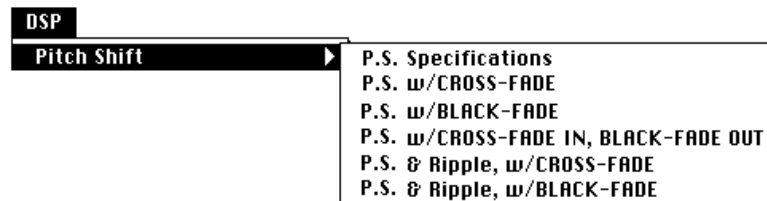
Reverse w/CROSS-FADE
Reverse w/BLACK-FADE
Reverse w/CROSS-FADE IN, BLACK-FADE OUT
Reverse & Ripple, w/CROSS-FADE
Reverse & Ripple, W/BLACK-FADE

The remaining options let you reverse sound directly in an EDL. These are exactly equivalent to the Insert command in the Edit menu, except they reverse the sound as it is placed. All you do is set In and Out points in Source and Destination panels.

When you invoke the Reverse command, it performs an Insert edit, but at the same time launches the reverse process. When you invoke the command, a “garbage” waveform initially appears at the sit where you are placing the new audio. After an interval of time, the reversed sound appears at the designated location in the Destination panel.

Pitch Shift

(Requires software option Time Twist/Pitch Shift SS-806) Additional details on operation is found in the manual for that option.



P.S. Specifications

When you invoke this command, it opens the Pitch Shift dialog to let you specify a soundfile to be processed, along with the pitch shift interval and other parameters. The operation of this dialog is explained in the next chapter.

P.S. w/CROSS-FADE
 P.S. w/BLACK-FADE
 P.S w/CROSS-FADE IN, BLACK-FADE OUT
 P.S. & Ripple, w/CROSS-FADE
 P.S. & Ripple, W/BLACK-FADE

These commands are editing commands, exactly equivalent to the Insert commands in the Edit menu, except that the sound segment being inserted is automatically processed and pitch shifted. The interval of pitch shift is taken from the default settings, which you can change by opening the Pitch Shift dialog using the P.S. Specification command

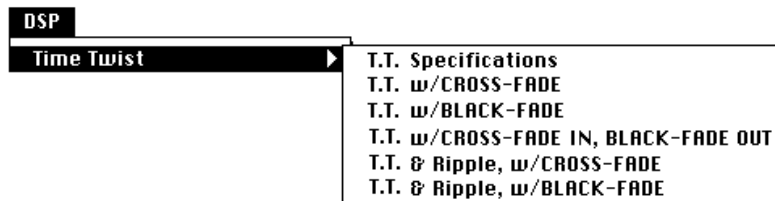
When you select one of these commands, it performs an Insert edit, but at the same time launches the pitch shift process. When you invoke the command, a “garbage” waveform initially appears at the sit where you are placing the new audio.

If you have a dedicated effect processing board in your system, the actual pitch shift is performed in the background, and you can follow its progress by opening the Background Manager window. After an interval of time, the pitch shifted sound appears at the designated location in the Destination panel.

If your system does not have an effect processing card, the process is done in the foreground and locks out other actions until it completes.

Time Twist

(Requires software option Time Twist/Pitch Shift SS-806) Additional details on operation is found in the manual for that option.



T.T. Specifications

When you invoke this command, it opens the Launch Time Twist dialog to let you specify a soundfile to be processed, along with the ratio of time compression/expansion and other parameters. The operation of this dialog is explained in the next chapter.

T.T. w/CROSS-FADE

T.T. w/BLACK-FADE

T.T. w/CROSS-FADE IN, BLACK-FADE OUT

T.T. & Ripple, w/CROSS-FADE

T.T. & Ripple, W/BLACK-FADE

These commands are exactly equivalent to the Insert commands in the Edit menu, except that the sound segment being inserted is automatically processed and time twisted. The ratio of time twist is taken from the default settings, which you can change by opening the Launch Time Twist dialog using the T.T. Specification command

When you select one of these commands, it performs an Insert edit, but at the same time launches the time twist process. When you invoke the command, a “garbage” waveform initially appears at the sit where you are placing the new audio.

If you have a dedicated effect processing board in your system, the actual time twist is performed in the background, and you can follow its progress by opening the Background Manager window. After an interval of time, the time twisted sound appears at the designated location in the Destination panel.

If you system does not have an effect processing card, the process is done in the foreground and locks out other actions until it completes.

Reverberation



(Requires software option Designer Reverberation SS-802 with a dedicated effects/NoNOISE processing card) Additional details found in the manual for that option.

When you invoke this command, the reverberation software is loaded into the program memory of the effects processing board. It then opens the Designer Reverberation dialog (described in the next chapter) for control of reverberation parameters and setups.

Bkg Sample Rate Conversion

DSP

Bkg Sample Rate Conversion

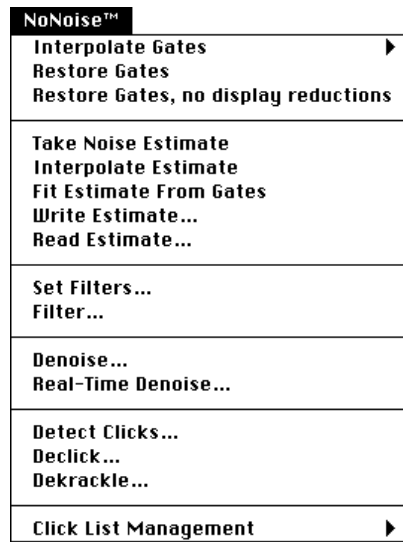
Requires software option Basic Sample Rate Conversion SS-520 or Varispeed Sample Rate Conversion SS-500. Additional details on the operation sample rate conversion are found in the manuals for the specific options.

This command opens the Background Sample Rate Conversion dialog, to launch sample rate conversion of an existing soundfile. Operation of this dialog is described in the next chapter.

NoNOISE Menu

Requires NoNOISE® options, NN-101, 102, 103, 104, 105, 106.

Use the NoNOISE menu to perform manual or automated declipping, denoising, dekrackling, or complex filtering to restore damaged or historical recordings. These commands require one or more of the NoNOISE sonic restoration options.



The operation and use of the NoNOISE modules and commands is explained in detail in the NoNOISE options manuals.

Windows Menu

The Windows menu provides commands to bring any of the currently open windows in the system to the front of the screen.



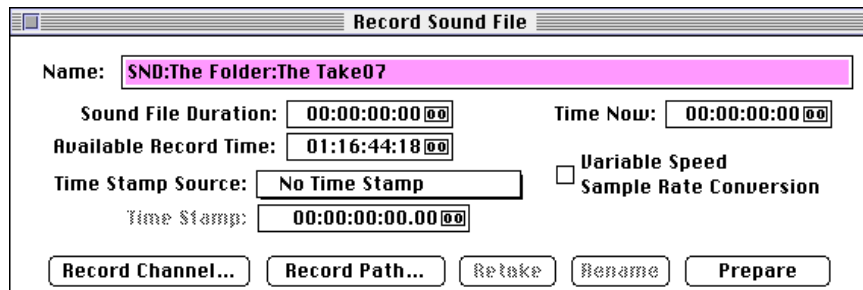
There are three permanent entries in this menu: Desk, EDL, and Project. The Desk commands bring all the windows that make up the Sonic mixing desk to the front of the screen. The EDL and Project commands are active only if there is an EDL or Project open.

3 Dialog Reference

Many SonicStudio functions bring up a dialog when engaged. These dialogs require the user to set parameters for their function.

The Record Sound File Dialog

Recording with the Record Sound File dialog is an alternate way to load sounds in to the system.



In comparison to recording to an EDL panel, it lets you name and define soundfiles before recording and record with sample rate conversion. It also gives you useful information such as the record time available on the currently selected sound disk, and button access to pertinent preference dialogs.

To start a recording using the dialog, select the command Record Sound File or New Sound File from the File menu. When you invoke this command, the Record Sound File dialog and the Transport Panel appear on-screen. The Transport Panel will appear armed and ready to begin recording. To start actual recording, click on the Play or Pause buttons in the transport controls.

Name

By default, the soundfile to be recorded is named according to the settings in the Recording Path Preferences dialog. If you like, you may enter a new name before starting to record or access the Path Preferences by clicking on the Auto Name Settings button.

Soundfile Duration

You may optionally enter a value for the duration of the recording. If you enter a value other than 00:00:00:00 here, the system will automatically terminate the recording after the allotted time.

Time Now

During actual recording, the current time (starting from zero) is displayed here.

Available Record Time

Available Record Time shows the amount of recording time available on the currently selected disk at the current sample rate, bit resolution, and number of channels. To select the disk on which your file will be recorded, go to the Record Preferences dialog, which includes a pop-up menu of MOFS disk volumes.

Time Stamp Source

Time Stamp Source lets you select a timing reference for recording. The choices are SMPTE longitudinal time code, and 9-pin serial time code. If you select one of these, a “time stamp” will be appended to the file so that the same piece of audio can be reinserted into an EDL according to the time code on the original source.

Time Stamp

The actual time stamp value appears here when the stamp is acquired.

Variable Speed/Sample Rate Conversion

If you have the Varispeed/Sample Rate Conversion option SS-500, you can elect to record with sample rate conversion.

Record Prefs.

This opens the Recording Preferences dialog.

Auto. Name Setting

This opens the Default Record Path Select dialog.

Retake and Rename

These buttons are not used in the present system.

Prepare

Clicking this button causes the system to prepare the soundfile, as named and (optionally) allocated. The advantage of doing this is a slight improvement in the delay when actually starting a recording.

Project Manager Dialogs

The operation of the Project Manager is described in the Window Reference chapter. There are a number of data-entry dialogs used in the process of creating and using the Source, Delivery, and Archive logs.

New Project Dialog

The New Project dialog appears when you select New Project from the File menu.



Customer, Project, and Title fields

These fields define the location of storage for soundfile created in association with the Project. This hierarchy of folders replaces that defined by the Default Record Path Select dialog.

Tape Info Dialog (Source Log variant)

The Tape Info dialog lets you name and set parameters for Project tape reels.

The screenshot shows a dialog box titled "Tape Info". It contains the following fields and controls:

- Name:** A text box containing the word "Tape".
- Start Time:** A time code field showing "00:00:00:00".
- Duration:** A set of radio buttons with options 20, 60, 75, 90, and 120. The 120 option is selected.
- Comment:** An empty text box.
- Type:** A set of radio buttons with options "Timed Tape" and "Wild Tape". The "Timed Tape" option is selected.
- Buttons:** "Cancel" and "OK" buttons are located at the bottom right of the dialog.

The key information in this dialog is the Type selection. The Tape Info dialog for a Source Log provides two choices, Timed Tape and Wild Tape. To use the Timed Tape option, you must have the Machine Control option SS-516.

Name

An arbitrary name. This may reference the name of the tape in your own library system.

Start Time

The earliest time code on the tape.

Duration

The length of the tape, in minutes. This information is used to limit the range of search (for machine-controller operations) and to determine when the length of a delivery or archive log exceeds the length of the tape available.

Comment

You may enter your own comments here

Type

There two types of media available for Source tapes. A “Timed Tape” is a tape with time code. To use a timed tape, you must have the Machine Control option (SS-516) and a deck with serial control capabilities.

A “Wild Tape” is any tape that is not subject to machine control.

Tape Info Dialog (delivery variant)

In the case of a Delivery Log, the Tape Info dialog provides more choices of media.

The screenshot shows a dialog box titled "Tape Info". It contains the following elements:

- Name:** A text input field containing "Tape" and a "Mastering Info" button to its right.
- Start Time:** A time code input field showing "00:00:00:00".
- Duration:** Radio buttons for 20, 60, 75, 90, and 120. The 120 option is selected.
- Comment:** An empty text input field.
- Type:** Radio buttons for Timed Tape, Wild Tape, and CD. The CD option is selected.
- Format:** Radio buttons for Reference, PreMaster, and Video CD (PreMaster). The Reference option is selected.
- Flow CD:** An unchecked checkbox.
- Other options:** Unchecked checkboxes for Desk Dump and Double Speed.
- Buttons:** Cancel and OK buttons at the bottom right.

Depending on system options, you can deliver to wild tape (without serial control), timed tape (controlled by SonicStudio using serial RS-422), recordable, or 8mm tape in DDP format. Additionally, you can specify if the output will be formatted for CD mastering, including PQ subcode information.

Name

An arbitrary name. This may reference the name of the tape in your own library system.

Mastering Info

Opens the Mastering Info dialog, described below.

Start Time

The earliest time code on the tape.

Duration

The length of the tape, in minutes. This information is used to limit the range of search (for machine-controller operations) and to determine when the length of a delivery or archive log exceeds the length of the tape available.

Comment

You may enter your own comments here

Desk Dump

Applies only to transfers to recordable CD. When this box is selected, the audio transfer is routed through the mixing desk, where it can be subjected to automated or manual gain change and equalization. When adding an EDL to the Log, you have the option of designating a desk automation Session to be used with the dump. Otherwise, you may manipulate the desk manually in the course of the dump.

Double Speed

Applies only to transfers to recordable CD. When this box is selected, audio transfer to CD-R will process at twice real-time.

Type

A “Timed Tape” is a tape with time code. To use a timed tape, you must have the Machine Control option (SS-516) and a deck with serial control capabilities.

A “Wild Tape” is any tape that is not subject to machine control.

For a Delivery Log, you also have the option of specifying type “CD,” meaning recordable CD using the START Labs™ CD Printer (CD-200).

Format

Requires Basic (SS-524) or Expanded PQ Code Editing / CD Audio (SS-525) option. You may define the format of the output as either Reference or Premaster. The difference is that a Premaster output includes the “PQ Burst” information for CD mastering.

For a Wild or Timed Tape, a separate transfer step is incorporated in the dump procedure to record this burst in audio form onto an analog track of the standard Umatic CD master.

In the case of CD-R, the PQ information is incorporated within the dump, and is invisible to the operator during transfer or playback of the finished CD-R.

If you have the SonicCinema system (SC-101), the additional option of Video CD is available. Video CDs are always in Premaster format.

Flow CD

Requires Basic (SS-524) or Expanded PQ Code Editing / CD Audio (SS-525) option. With this checkbox set, you may create a CD by direct transfer from a standard Umatic master. This procedure is described in the manual for the PQ editing/CD mastering options.

Mastering Info Dialog

The image shows a dialog box titled "PMCD Mastering Info". It contains three text input fields: "Disc Name:" (with a blacked-out field), "Producer Name:", and "Copyright Holder Name:". At the bottom are "Cancel" and "OK" buttons.

The Mastering Info dialog is used to provide information required for the information that is embedded in a Premaster CD. This information applies only to Premaster CDs, and may not be required by your pressing plant.

Disc Name

The title of the CD being prepared.

Producer Name

The name of the producer.

Copyright Holder Name

The name of the holder of the legal copyright.

Tape Info Dialog (archive variant)

For archiving, the tape info dialog provides options for Time Tape or Wild Tape types. In systems equipped with 8mm tape drives, the additional choice of “Exabyte” (8mm) type is available.

The screenshot shows a dialog box titled "Tape Info". It contains the following elements:

- Name:** A text input field containing the word "Tape".
- Start Time:** A time selection field showing "00:00:00:00".
- Duration:** A set of radio buttons with options 20, 60, 75, 90, and 120. The 120 option is selected.
- Comment:** An empty text input field.
- Type:** A set of radio buttons with options "Timed Tape" and "Wild Tape". "Timed Tape" is selected.
- Board:** A dropdown menu showing "board 0, channels 1 to 4".
- Buttons:** "Cancel" and "OK" buttons at the bottom right.

In multi-channel systems, you can archive one board's worth of soundfiles at a time to DAT or send them all in parallel to a multi-track digital audio recording. The pop-up menu at bottom lets you select which board will output the archive.

Name

An arbitrary name. This may reference the name of the tape in your own library system.

Start Time

The earliest time code on the tape.

Duration

The length of the tape, in minutes. This information is used to limit the range of search (for machine-controller operations) and to determine when the length of a delivery or archive log exceeds the length of the tape available.

Comment

You may enter your own comments here

Type

A “Timed Tape” is a tape with time code. To use a timed tape, you must have the Machine Control option (SS-516) and a deck with serial control capabilities.

A “Wild Tape” is any tape that is not subject to machine control.

If you have the 8mm Tape Drive (SS-423 or SS-424) for archiving, the additional selection of Exabyte tape is available.

Board

Applies only to multi-track/multi-board SonicStudio systems. When archiving to digital tape, you have two options:

- If you are using 2-channel digital audio tape (such as DAT), you may select the individual boards and archive the contents of the disks on that board’s SCSI chain by connecting the tape’s input to the output of each board in turn.

- If you are using a multi-track digital audio recorder, you may select “All Boards” and connect the P2 (channels 1/2) of each board to 2 tracks of your multi-track deck. When you dump the archive, the contents of all SCSI chains will be transferred in parallel, greatly speeding operation.

SoundFile Info Dialog

Information on soundfiles used in delivery and archive tape reels is accessed via the SoundFile Info dialog.

The dialog box is titled "SoundFile Info". It contains the following fields and controls:

- Name:** A text input field.
- SoundFile Starts At:** A time input field showing "00:00:00:00" with the label "Absolute Time On This Tape".
- SoundFile Ends At:** Two radio button options:
 - 00:00:00:00 Absolute Time On This Tape
 - 00:00:00:00 After Beginning Of SoundFile
- Comment:** A text input field.
- Number Of Channels:** Radio buttons for "mono L1", "mono L2", "2" (selected), and "all".
- Buttons:** "Set Channels", "Cancel", and "OK".

For loading from timed tape, the start time and the end time or duration of the file are the most important items.

Name

An arbitrary name. This may reference the name of the tape in your own library system.

SoundFile Starts At

The time code location at which the desired audio begins.

SoundFile Ends At

The end of the soundfile may be defined either as an absolute timecode value or as a duration from the start time.

Comment

Available for user comments.

Number of Channels

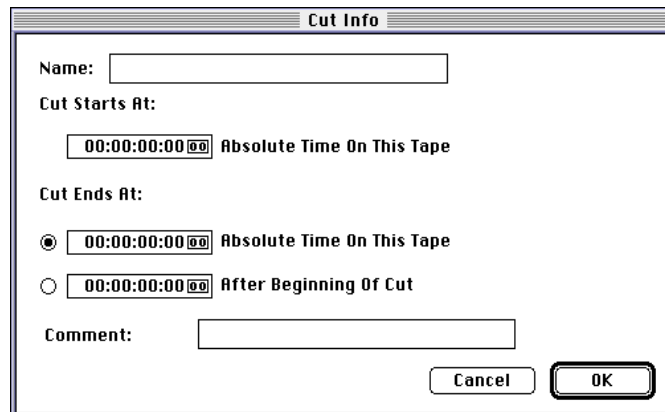
Determines the channels that will be loaded. The demand for, and terminology of, these buttons derives from the Sony D2 digital video machine and other devices that follow its conventions. "All" in this case refers to four channel loading.

Set Channels button

Requires the EDL Translator with Autoconform options (SS-505). Operation is described in the manual for that option.

Cut Info Dialog

Within a soundfile, you can specify individual Cuts. The system will load one soundfile, but place marks that allow you to identify individual cuts.



Information on Cuts used in delivery and archive tape reels is accessed via the Cut Info dialog.

Name

An arbitrary name. This may reference the name of the tape in your own library system.

Cut Starts At

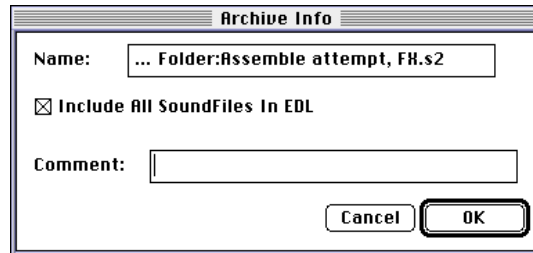
The time code location at which the desired audio begins

Cut Ends At

The end of the soundfile may be defined either as an absolute timecode value or as a duration from the start time.

Archive Info Dialog

The Archive Info dialog lets you define how an EDL item will be added to the Log.



Name

An arbitrary name. This may reference the name of the tape in your own library system.

Include All SoundFiles In EDL

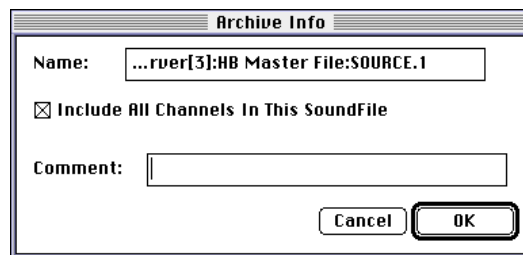
When this checkbox is selected, the soundfiles that are used in the designated EDL are automatically added to the Archive Log.

If you do not use this function, then soundfiles will have to be added to the Log by hand. We recommend that convenience of using Include All SoundFiles In EDL.

Comment

Available for user comments.

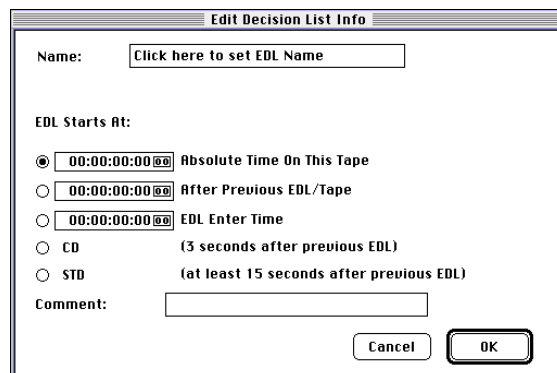
Archive Info Dialog (soundfile variant)



When adding a soundfile to an Archive Log, the Archive Info dialog checkbox reads Include All Channels, rather than include all soundfiles. This selection should be used by default.

Edit Decision List Info Dialog

When adding an EDL to a Delivery Log, you can specify the particular archive using this dialog.



For delivery to tape or CD-R, you also need to specify the starting time for the EDL, either absolute or relative to the end of the preceding EDL.

Name

An arbitrary name. This may reference the name of the tape in your own library system.

EDL Starts At

The time code location at which the transfer is to begin

Comment

Available for user comments.

The User Preference Dialogs

Audio I/O Preferences Dialog

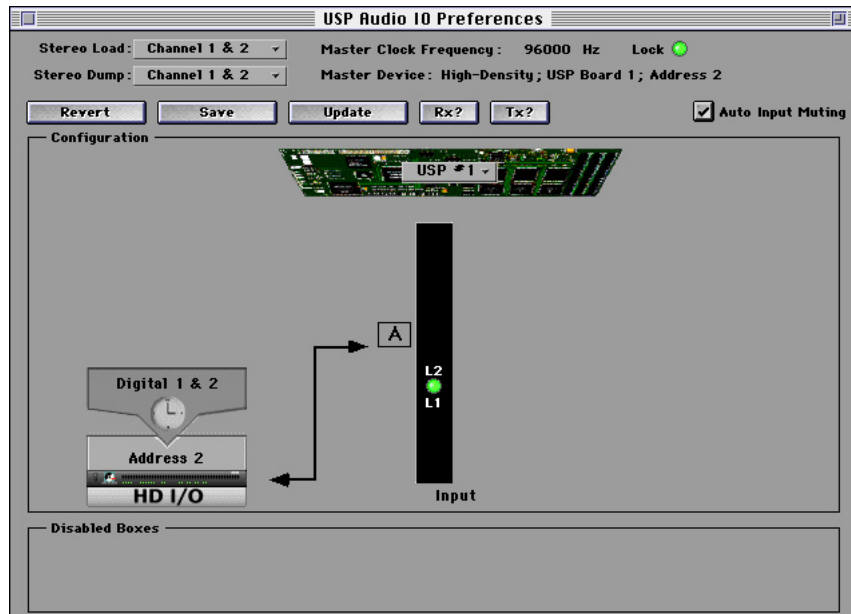
Audio I/O Preferences defines the basic digital input and output functions for SonicStudio.

In the Audio I/O Preferences dialog, the SonicStudio 16•24 card and its connections to external I/O boxes are depicted in literal form. The system scans for responses from the connected peripheral units, so this diagram will accurately reflect the boxes that are connected and switched on. If any of the connected boxes are not switched on, they will not appear in the diagram.

By clicking on the images of the various elements (SonicStudio 16•24, digital I/O, etc.), you can open dialog boxes to set parameters and preferences associated with that element.

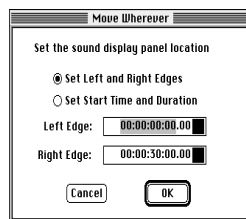
A separate icon image indicates which of the peripheral I/O boxes is providing master clock to the system. In the SonicStudio 16•24-based SonicStudio, clock is always provided by one of the peripheral I/O boxes.

Buttons, pop-up menus, and indicators at the top of the dialog provide for selecting clock master, storing and recalling setups of the dialog, and scanning to update the dialog if the configuration of external I/O peripheral boxes changes.



Selecting the Clock Master

In a digital audio system such as SonicStudio that connects to external digital audio equipment, the master clock is an important subject. The essential point is that every device in the total system must be running off of the same clock. If they are not, the result will be harsh noise. Like many digital audio devices, SonicStudio is designed to derive its clock from a digital input source, such as DAT or other digital source.



The current clock master is indicated by the docking clock icon image in Audio I/O Preferences. When you start up the system, the clock master is assigned automatically to the first input device. If no input device is detected, the selection reverts to the first output device (these have crystal oscillators that can provide clock). If no peripheral devices are detected, a warning dialog appears.

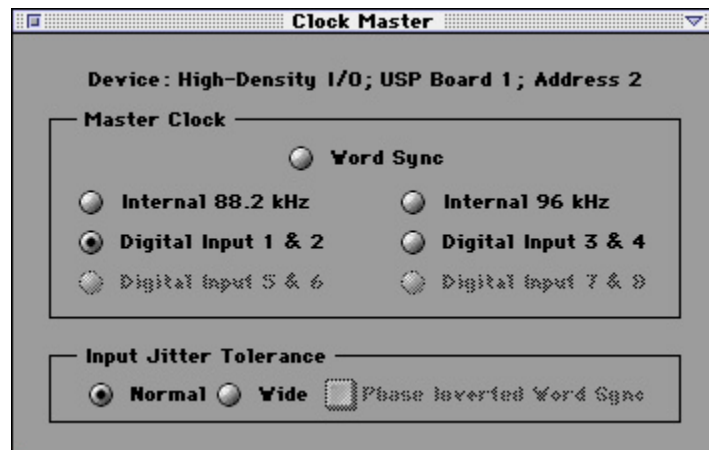
To switch the clock master to a different peripheral box:

- ◆ Option-click on the image of the device you want to designate as the clock master.
The system will not let you designate an output device as clock master as long as an input device is available.

Besides designating which peripheral box is serving as clock master, you will need to designate which of inputs of that box will provide the clock. You can also specify clocking from an external word clock or internal oscillator

To open the Clock Master dialog:

1. Click on the Clock Master icon image.



2. Select the input or other clock source to be used.

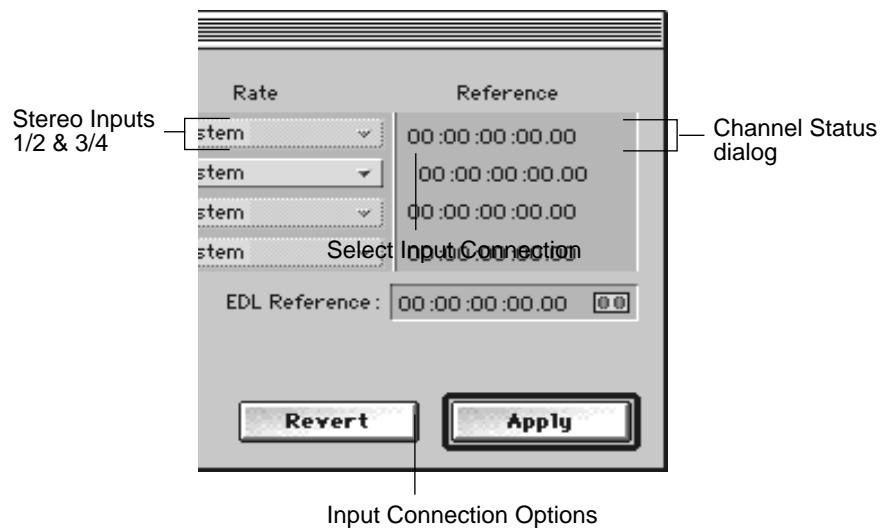
3. Close the dialog.

Four-Channel Digital I/O Control Dialog

The Four-Channel Digital I/O provides two stereo pairs of inputs and outputs on XLR (AES/EBU format), RCA (S/PDIF format) and optical (AES Type II) connectors. All outputs operate in parallel, but only one digital input can be selected at a time for each stereo input pair.

To select digital audio input connection type:

1. Click on the graphic box representing the device you want to set. The following dialog will appear.



2. Click-hold on the Select Input Connection box.
3. Drag to select your desired input for each of the stereo pairs.
4. Close the dialog.

Eight -Channel D/A Converter Control Dialog

The Eight-Channel D/A Converter has the capacity for 8 channels of analog output, with gain (trim) adjustable via software.

To adjust the output trim:

1. Click on the graphic box representing the D/A-8.
The following dialog will appear.
2. Set the channel output volume either individually or for all channels at once.
 - a. For all channels, click on the All Channels box at the top.
A check mark appears in the box.
 - b. For individual channel, select the channel you want to change.
3. Modify the value by clicking and moving the slider, or typing in the value you want.

Selecting Load and Dump Channels

Automated stereo load and dump operations require that you designate which of the system's inputs and outputs will be used. The SonicStudio card's multiplicity of input and outputs provides many more possibilities than the SSP-3's 4-channel I/O structure.

To designate stereo inputs to use for automated background Load:

1. In upper-left of the Audio I/O Preferences dialog, click-hold on the Load field.
2. From the pop-up menu, select a pair of inputs for use in background Load operations.

To designate stereo outputs to use for automated background Dump:

1. In upper-left of the Audio I/O Preferences dialog, click-hold on the Dump field.
2. From the pop-up menu, select a pair of outputs that for background Dump operations.

Desk Modes and Channel Filters

The SonicStudio's digital signal processing capacity may be distributed and applied in different ways. The number of mixer channels can be reduced in order to increase the number of filter sections available and provide access to processing functions such as sample rate conversion.

The Desk Mode is selected using the Audio I/O Preferences dialog.

16-Channel Desk Mode

The default mode provides 16 desk channels (per installed SonicStudio). In this mode, one filter is available for each channel strip.

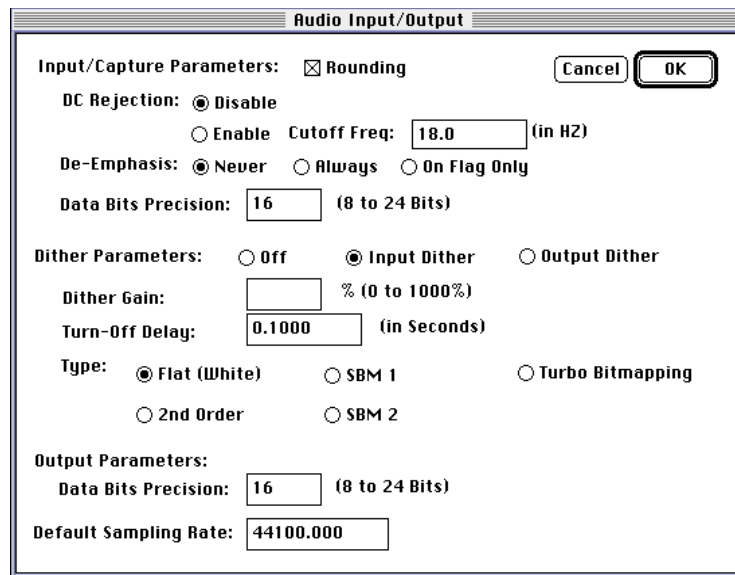
8-Channel Desk Mode

By selecting 8-Channel Desk in Audio I/O Preferences, you can have up to three filters per mixer channel. Note that you can still playback 16 channels from an EDL by assigning multiple channels to the same audition (A1, A2, etc.) channel. These will be summed before entering the desk.

Some of the input processing options (sample rate conversion, Turbo Bit-Mapping and Sony Super Bit-Mapping) require that you switch to the 8-channel desk. If you select one of these functions while in the 16-channel desk mode, an alert will appear advising you to change the mode

Audio I/O Parameters Dialog

Audio I/O Preferences lets you control SonicStudio's bit resolution, dither and automatic de-emphasis.



Input/Capture Parameters

DC Rejection

When DC rejection is enabled, the system applies a digital high-pass filter to the audio input to eliminate any DC offset that may be present in the input signal. You may set the cutoff frequency of this filter. The initial default value is 18.0 Hertz.

De-Emphasis

The world-wide standards for Compact Disc define an optional pre-emphasis/de-emphasis function to reduce high-frequency noise. If input to the system has been subjected to pre-emphasis, it is suggested that

you remove the pre-emphasis on input. Otherwise, changes in level of equalization may distort the pre-emphasis curve and result in degradation of the final output.

You may elect to switch the input de-emphasis off (Never), on (Always), to automatically follow the state of the pre-emphasis flag embedded in the digital audio bit stream (On Flag Only).

Data Bits Precision

SonicStudio is capable of recording, editing, and processing digital audio at bit resolutions from 8 bits (used for much interactive multimedia and for computer games) to 24 bits. The setting in this field determines how many bits of data will be accepted and recorded from the digital audio input

Note that Data Bits Precision affects the amount of storage required for soundfiles. If resolution is set greater than 16 bits, then all data is stored in a long-word format that consumes disk storage at twice the rate used for lower resolution audio.

Dither Parameters

Dither is a means of reducing distortion for low level signals by injecting a small random signal into the data. On SonicStudio, dither may be added at the input or the output, but not at the same time. Dither on input and output uses the same parameters.

Dither Parameters: Off Input Dither Output Dither

Dither Gain: % (0 to 1000%)

Turn-Off Delay: (in Seconds)

Type: Flat (White) SBM 1 Turbo Bitmapping

2nd Order SBM 2

In general, we recommend that dither be added at the system output, rather than on input. Output dithering is applied to all monitor and background dump operations, including dumping to CD-R or DDP-format Exabyte tapes.

Dither Gain

The amount of dither is variable. A value of “zero” means that dither is turned off. A setting of 100% corresponds to 3 dB of dither amplitude, one half of the digitized step size, which is the theoretical ideal value. Dither Gain can be set as high as 1000% or 9 dB.

Turn-Off Delay

In general, dither improves the sound of digital audio by greatly reducing the perceived distortion for quiet signals. However, the dither signal is itself a noise signal, although at a very low level. In periods of silence, this noise may be heard, creating an objectionable impression.

SonicStudio automatically senses silence, and turns off the dither after a delay to prevent abrupt cutoff. This delay may be set anywhere from a thousandth of a second up to several seconds.

Type

The standard SonicStudio provides two types of dither. With the addition of the Turbo Bit Mapping/Sony super Bit Mapping™ option (SS-301), three additional types become available. These are described in the manual for that software option.

“Flat” dither uses a white spectrum signal that is relatively audible even at the low amplitudes normally used. The 2nd Order setting is weighted or filtered to reduce the energy in the critical mid frequency band where human hearing is most acute. This reduces the perception of the dither signal. In general, the 2nd Order setting is preferred.

User Note for Dither

If desired, you may set the parameters of dither in such a way that dither is applied only during an audio crossfade or where gain has been changed. Audio that is not altered in level will be passed a bit-perfect copy of the original.

1. Set dither gain to 50%.
2. Make sure that output word length is set to the same value as input word length (or the word length of the files on disk).
3. Set the dither to “Flat.”
Do not use Turbo-Bit Mapping or Sony Super Bit-mapping.
4. To check, set Turn off Delay to something long.
5. With all the desk settings normal (pans hard left/right, faders at 0, no EQ), play some audio.
6. Stop, and increase the gain of your monitoring system.
If you hear dither noise after audio stops, then the audio is being affected even when there has been no gain change. If you hear absolutely nothing, the settings are correct.

This trick works because the amplitude of the dither is < 1 LSB when the gain is set to 50%, and the dither signal is always positive. Therefore, when there is no round off error (dither not needed), input = output. When dither is needed, the signal is properly dithered before truncation.

Output Parameters

Output Parameters:

Data Bits Precision: (8 to 24 Bits)

Default Sampling Rate:

the “hex” window. Separate “invisible” data buffers represent the channel status received from input (rcv) and the status to be used for output (xmit).

An additional buffer contains channel data in binary form. This information is transferred to the xmit register when you click OK to close the window.

The information displayed by the radio buttons and check box constitutes yet another “register” of data. The six buttons below the “hex” window are concerned with moving data between these various buffers.

Update button

This is used when you have edited the hex display field by typing or pasting information. Pressing causes the information in the hex display to be transferred to the buttons, and to the binary buffer.

Input button

Transfers the information in the receive buffer to the hex display, the binary buffer, and the buttons. This lets you capture the channel status data used by your source device.

Reset button

Changes the hex display and binary buffer to reflect the state of the buttons. This is used when you have been editing the hex display, and you want to return it to a normal state.

Load button

Transfers the binary buffer to the transmit buffer, which SonicStudio uses for audio output. This is used when you want to change the output channel status without leaving the Channel Status window.

Write button

Opens a Macintosh file save dialog, and then saves the contents of the hex display window.

Read button

Opens a Mac file read dialog, and loads the contents of the file you select into the hex display window.

To use the Channel Status window:

To read Channel Status from audio source:

- ◆ Click on the Input button.

The complete channel status block (in hexadecimal) form will appear in the long text field. The buttons in the upper part of the window change state to reflect the settings for format, sample rate, emphasis, and copy prohibit.

To set Channel Status for output:

1. Define settings for format, sample rate, emphasis, and copy prohibit using the buttons and check boxes in the upper part of the screen.
2. Click on the Update button to transfer the edited channel status data to be used for output.

To save Channel Status settings to disk:

1. Click on the Write button
This opens a standard Macintosh file-save dialog.
2. Assign a name to the current configuration of channel status, and click "OK."

To recall Channel Status setting from disk:

1. Click on the Read button
2. Select the file to be read using the Macintosh file load dialog, and click "OK."
The channel status will appear in the text field and will be reflected in the settings of the buttons and check box.

Explanation of the Channel Status Bits

The Channel Status window provides the means to view the channel status information of incoming audio, and set the information to be transmitted with audio output. As it happens, most of the information defined for channel status is seldom used. The portions that are ordinarily used are those that are needed for proper interpretation of audio. These are:

- Professional vs. Consumer format
- Pre-emphasis (on or off)
- Sampling rate (44.1, 48, 32)
- The variety of consumer format (General, CD, PCM, or DAT)
- State of copy-prohibit (on or off)

Status Bits

The above items are encoded into specific bits of the channel status block. The first bit indicates whether the format is “Professional” (CP-340 Type I) or “Consumer” (Type II):

- Byte 0, bit 0: ‘0’Type II (Consumer)
- ‘1’Type I (Professional)

The selection of Consumer or Professional determines the interpretation of the remaining bits.

Professional format (Type I)

- Byte 0, bits 2 & 3
- ‘00’Emphasis off
- ‘11’Emphasis on
- Byte 0, bits 6 & 7
- ‘01’48 kHz sample rate
- ‘10’44.1 kHz sample rate
- ‘11’32 kHz sample rate

Consumer format (Type II)

- Byte 0, bit 1
- ‘0’copy permitted

Table 1:

Value	Format	Emphasis	Copy Prohibit
2	Consumer	Off	On
3	Consumer	On	On
8	Professional	Off	NA
B	Professional	On	NA

2. In the Professional format, indicates the sampling rate. No function in Consumer format.

Table 2:

Value	Sampling Rate
1	48 kHz
2	44.1 kHz
3	32 kHz

3. The third digit has no function in the Professional format. In Consumer format, it indicates one of four possible variations, corresponding to different types of hardware.

Table 3:

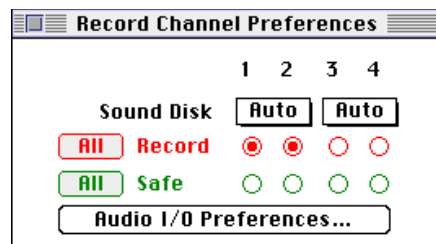
Value	Format Variation
0	General
4	PCM encoder
8	Compact Disk
C	DAT

4. In consumer format, indicates sample rate.

Table 4:

Value	Sample Rate
0	44,1 kHz
4	48 kHz
C	32 kHz

Record Channel Preferences Dialog



Record Channel Preferences displays a vertical column for each available audio input channel. The dialog expands automatically to accommodate the number of boards installed in the system.

Sound Disk

For each audio input channel pair, you can determine which sound disk, out of all local or MediaNet remote volumes, will be used to record audio. This setting applies to all operations that create soundfiles, including archive restore and background signal processing functions.

When you click-hold on the Sound Disk button for a given channel pair, an options list pops up. This includes the names of all sound disks that are currently mounted and two additional options, “Auto” and “Always Ask.”

If you select “Auto,” the system will automatically select a sound disk to receive the new file. The determination of the appropriate disk depends on how the file is being recorded.

- If the file is recorded from an EDL panel, or recorded from the Record Sound File dialog without pre-specifying the length of the file, then the system will select the disk with the most space available, to ensure that the file will not be cut off.
- If the file is “pre-allocated” (that is, the length of the file is known in advance), as when produced by background processing, restore of archive or when the length of a file is specified in advance in the Record Sound File dialog, the system will select the sound disk with the least amount of space that will satisfy the amount of time required. This ensures efficient use of disk space.

Input Source

This applies only to recording from the Record Sound File dialog. You may switch any line input on or off. Note that the “M” selections shown in gray are left from previous versions and are not available.

Record /Safe

Applies to recording from the Record Sound File dialog only. You may elect to place any enabled input in record arm or record safe.

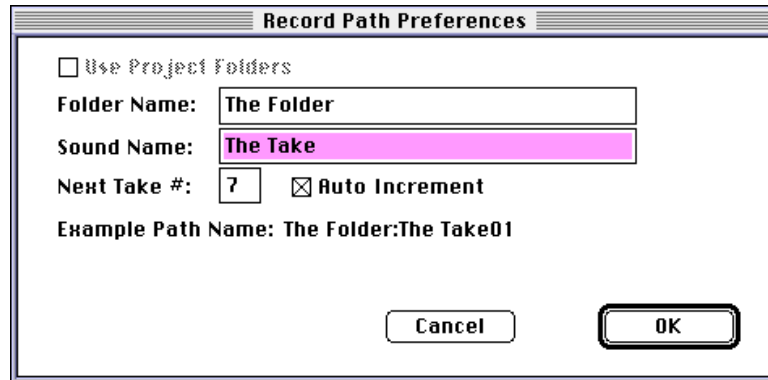
Audio I/O Prefs...

For convenience, this button brings you directly to the Audio I/O Preferences dialog

Save As Default

Causes the current setting of Record Channel Preferences to be used every time the system starts up.

Record Path Preferences Dialog



This dialog determines how new soundfiles will be named, and the folders in which they will be stored. This “default” name/path applies to all files recorded from EDL panels. When recording from the Record Sound File dialog, the default name and path is inserted initially, but the user can easily change the name prior to recording.

Folder Name

Specifies the name of the “high level” folder that encloses the actual recording on the MOFS disk.

Sound Name

This is the name of the actual recording. A 4-digit numeric tag is added by the system automatically (see below).

Next Take

The number here defines the initial 4-digit “take” number.

Auto Increment checkbox

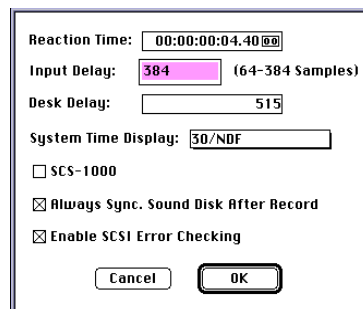
When this checkbox is selected, the system will automatically increment the “take number” for each successive recording.

CAUTION Recording from an EDL panel will not work if this checkbox is not selected!

Use Project Folders

When a Project is open, the default path defined in this dialog is overridden. The soundfile is still named according to the “Sound Folder Name,” but the single Group Folder is replaced by the three folder levels (Customer, Project, Title) defined when you create the Project. This checkbox is inactive if no Project is open.

System Preferences Dialog



Reaction Time

When placing marks into an EDL during playback, allowance needs to be made for human reaction time as well the time required by the computer for processing of the keystroke or menu command.

Input Delay

This is the delay between input and output straight through SonicStudio, owing to buffering for digital I/O. The value is expressed in samples, with a range of 64 to 384.

Desk Delay

The dynamics processing functions provided with the Mixing Desk option (SS-201) use “look-ahead” to eliminate delay between input level changes and changes in gain. The Desk Delay parameter defines the delay used in samples. When monitoring audio straight through the system, the Desk Delay is added to the Input Delay to derive the total throughput delay.

System Time Display

This determines the format of time displays and calculations throughout the system (anywhere that the selection of “System” is used). If you need to change the time displays, it should be done here rather than in the individual area, so that consistency of time format is maintained. Synchronization problems could otherwise result from mismatches in time format.

SCS-1000

When this box is selected, the system will search on the serial (machine control) port for an SCS-series hardware controller. If none is found, the SCS functions are not enabled.

Always Sync. Sound Disk After Record

The internal directories for soundfiles are maintained by the system. When this box is selected (the default), the directories are updated as soon as a recording is completed. This ensures that the directories are always consistent.

The price is a small delay at the end of each recording. When doing many recordings in succession, it may be desirable to switch this off so that recording can be started as quickly as possible. The system will periodically update the directories, but not on every record.

Enable SCSI Error Checking

With this box selected, the system automatically examines its SCSI-bus transactions for errors, which are printed to the Status Window (see the Window Reference chapter). The checkbox is provided to disable this function in case the error checking is found to be incompatible with any model drive. As of this writing, this situation has never been encountered.

EDL Preferences Dialog

The EDL Preferences dialog provides tools for the precise control of all editing functions. EDL Preferences includes many individual items. These are grouped into several groups, selected by radio buttons along the left side of the dialog.

When you open the EDL Preference dialog, the EDL Name field shows the current active EDL. If there are no EDLs open, then the dialog affects the default settings that are applied when a new EDL is created.

Show Defaults

Changes all fields to show the default settings currently installed in the system.

Save As New Defaults

Replaces the current default EDL preferences with the values in the dialog.

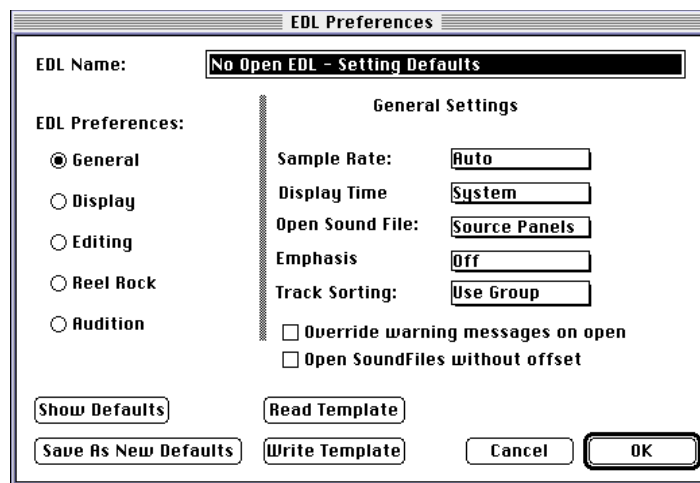
Read Template

Opens standard file select dialog to select a preferences file. The values in the selected template file then appear in the EDL Preferences dialog fields.

Write Template

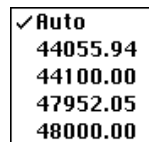
Store the current settings in EDL Preferences into a template file that may be read using the Read Template function.

General Settings



Sample Rate

The sample rate value assigned to an EDL is used by the system to calculate the location in time of individual waveform samples. It is very important that the sample rate of the EDL match the sample rates of the soundfile used in it. The Sample Rate field in EDL Preferences provides a pop-up menu to select the sample rate.



In the default setting, Auto, the system assigns the sample rate value by the sample rate in use at the time the EDL is created. In most cases this will be the right value, but if it somehow happens that the EDL rate is set incorrectly, use EDL Preferences to select the correct setting.

Display Time

This determines the time scale shown in the EDL panels, with choices of various forms of SMPTE time code, film foot/frame notation, raw sample count, or seconds. Ordinarily, the setting of System will be appropriate and will guarantee that the EDL display is consistent with time displays throughout the system.

Open Sound File

There are three choices for determining which panel a newly opened soundfile will appear in.



In the initial default, Source Panels, soundfile automatically open into the panels assigned to the Source edit group. If you select Destination Panels, soundfiles will open into the Destination panel group.

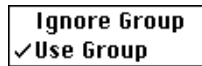
If you select Empty Panels, then each soundfile you open will appear in the next panel, or group of panels, that do not already contain sound. Each time you open a file, the system automatically creates new empty tracks. You cannot run out unless you exceed the system limit of 144 panels in an EDL.

Emphasis

Each EDL includes a definition of CD pre-emphasis on or off. At present, however, this flag is not used.

Track Sorting

When you change the number of a panel in an EDL in order to view a different track, the panels displayed are automatically reordered to allow for the changed panel.



If you select Use Group (the default setting), then panels will be reordered so as to keep panels that are in the same sync group (letter-name groups) together. If you elect Ignore Group, then panels are rearranged minimally, without regard to previous grouping. Depending on the type of editing you are doing (groups of stereo or multi-channel files vs. many monaural files) one or the other setting may serve your needs better.

Override warning messages on open

By default, SonicStudio will warn you when you open a soundfile into an EDL whose sample rate setting (see above) does not match that of the soundfile. Warnings are also posted if you have selected the “Open soundfile without offset” (see below) option and open a file into a panel that already contains sound.

These warnings protect you against creating situations that could seriously affect your editing, but in some cases the warnings may just get in the way and slow you down when you are doing something you know that you want to do. In that case, disabling these warnings will speed your work. It is highly recommended, however, that you re-enable the warnings once your work is completed.

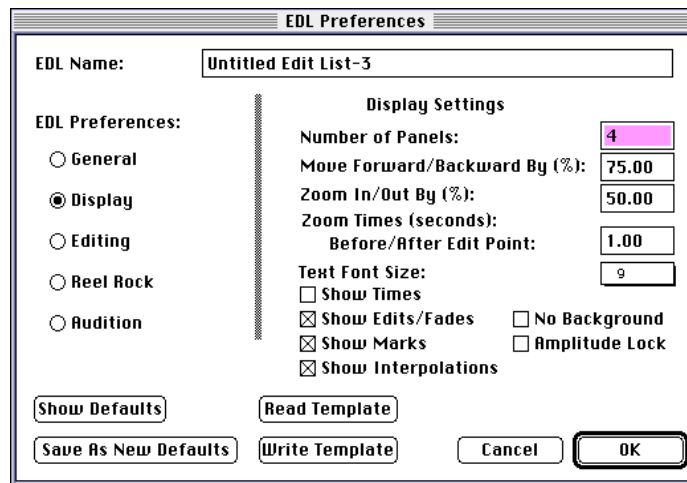
Open SoundFiles without offset

By default, newly opened soundfiles are placed in the panel so that:

- The left edge of the file is aligned at that file’s time stamp, or
- If the file has no time stamp, successively opened files are placed one after another in the target panel.

If you elect “Open soundfiles without offset,” then these rules are overridden. New files will always open at zero time, and successively opened files will overwrite the previous files.

Display Settings



Number of Panels

Determines the number of panels that will be shown on-screen. As the number of panels shown increase, the vertical size of the panels is reduced automatically to fit more on-screen. If the number of panels to be display exceeds that number that can fit in the display window, Mac-standard scroll bars are provided.

If you change the number of panels for an EDL that is already open, you must save, close and re-open the EDL to see the new # of panels.

Move Forward/Backward By (%)

When you use the Move Forward and Move Backward commands in the View menu, the view of the currently selected panel or group will shift such that the previous view overlaps with the new view. The amount of

overlap is determined by the Move Forward/Backward By (%) setting. A setting of 100% results in no overlap (on a Move Forward, for example, the previous right edge become the left edge of the new view).

Zoom In/Out By (%)

When using the Zoom In and Zoom Out commands in the View menu, the amount of zoom from the current view is determined by this setting.

Zoom Times (seconds) Before/After Edit Point

When using the commands Zoom Around In Point or Zoom Around Out Point in the View menu, this setting determines how much time on either side of the edit point is shown.

Text Font Size

When editing in the text view mode, you may elect to display information using either a 9-point or 12-point font. The smaller 9-point font will allow more information to be fit into the window, but the larger 12-point font may be easier to read, depending on your display monitor.

Show Times

When using smaller panels sizes, the boxes at lower left and right of each panel that show the positions of the left and right Gates and the In and Out points may obscure portions of the waveform. As the same information is available in the tool bar of the EDL (for current selected panel), you may elect not to show these boxes.

Show Edits/Fades

Audio edits are shown in the waveform and Bar display modes as vertical lines that expand to boxes if you zoom in close to show where the edits are placed. When you zoom out to view a section of audio that has many edits, individual lines may blur into a solid mass. For clarity in a situation such as this, you may elect to disable the display of the edits.

Show Marks

You may disable the display of editing marks (Segment Start/End, etc.). In most cases, this would be a temporary setting.

Show Interpolations

Applies to Manual Declicking (NN-101) and Production Declicking (NN-103) options. Ordinarily, portions of waveform that have been inserted to replace a click are shown with a red bar over the site of the former click. If desired, you may elect to disable the display of these bars.

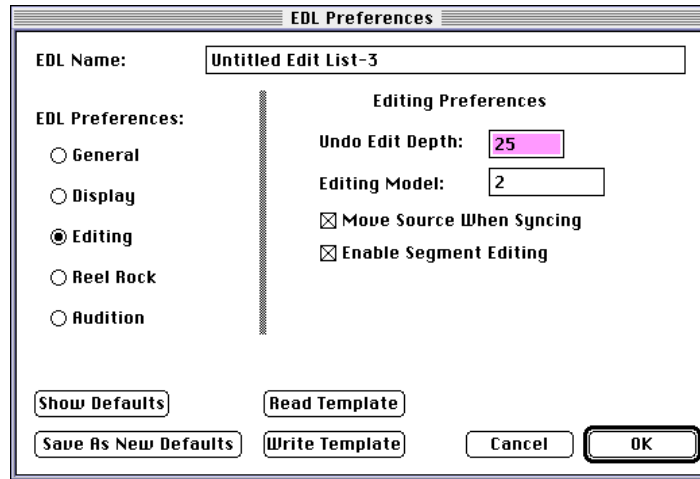
No Background

By default, waveform and Bar displays are drawn with a gray background. If this is found distracting, you may elect to disable it.

Amplitude Lock

SonicStudios waveform display automatically scaled so that no matter what the level of audio within the boundaries of the panel, the vertical scale will be completely filled. This is a powerful feature that lets you view audio at any level with perfect detail and resolution. However, at times it may be confusing, as each panel is scaled independently. If you select Amplitude Lock, the same scaling will be applied to all panels that are in the same sync (letter-name) group.

Editing Preferences



Undo Edit Depth

When editing, you may use the Undo Edit command to step back through your last number of edit moves, undoing each in turn and returning the system to its prior state. The Undo Edit Depth setting determines how many levels you can move back. The default setting is 25, with a maximum of 100.

Editing Model

When a new EDL is created, the editing panels in the EDL are grouped into sync (letter-name) and edit (Source/Destination) groups. The setting of Editing Model determines how many panels are placed in each group. A setting of 2 (the default) is ideal for stereo editing and mastering. Multi-track mono applications such as sound effects assembly might use an editing model of 1, while editing of multi-channel files might use a larger number.

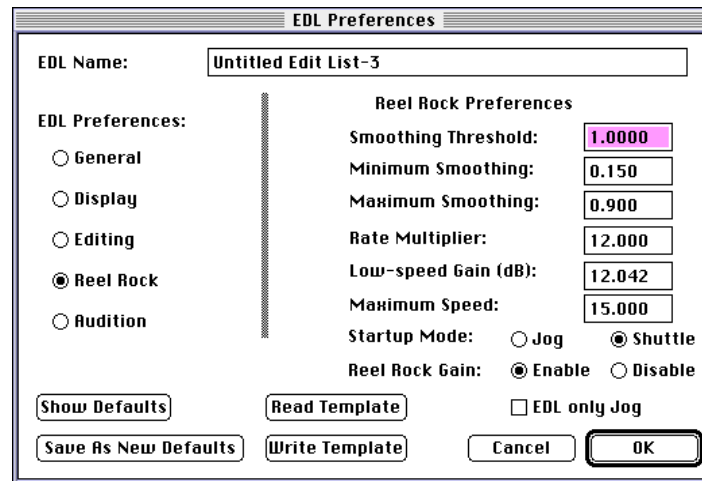
Move Source When Syncing

When using the commands in the Synchronize submenu of the Edit menu, the system by default will align the Source and Destination edit groups by moving the Source group. If you wish, you may switch this so that the Destination group is moved while the Source group remains in place.

Enable Segment Editing

If you desire, you may disable all of the segment-oriented functions (such as segment select, text view editing, segment drag, and so on) by de-selecting this checkbox. This is provided principally for consistency with early versions of SonicStudio, which did not have these features.

Reel Rock Preferences



The Reel-Rock function is controlled by six parameters. Smoothing Threshold, Minimum Smoothing, and Maximum Smoothing apply only to Jog mode, while Low-Speed Gain and Maximum Speed apply primarily to Shuttle.

Smoothing Threshold

Range — 0 to 60. Smoothing is used to compensate for the discontinuous nature of updating and reporting the mouse location. As you move the mouse, its position is periodically detected and sent to SonicStudio. You can move the mouse and cursor faster than its position can be reported. This setting controls the break point (threshold) between Minimum Smoothing and Maximum Smoothing regions.

Minimum Smoothing

Range 0 to 0.99 (dimensionless). This setting can be thought of as low-speed smoothing. The Minimum Smoothing setting is used to average the incoming location values for play speeds from stop to the Smoothing Threshold. At low play speeds, more smoothing is needed than at high speeds. A value of 0.15 is nominal.

Maximum Smoothing

Range — 0 to 0.99 (dimensionless). This setting can be thought of as normal-speed smoothing. The Maximum Smoothing setting is used to average the incoming location values for play speeds from the Smoothing Threshold to Maximum Speed. A value of 0.9 is nominal.

Rate Multiplier

Range — 5 to 25 (dimensionless). The Rate Multiplier represents conversion from number of screen pixels to feet per second. The mouse position is normalized (converted) to a value between 0 and 1. The normalized value is then multiplied by the Rate Multiplier value.

A setting of 25 is very unstable, potentially causing SonicStudio to play backwards even though the mouse is in the right half of the panel. A setting of 5 produces very sluggish response to mouse movements.

Low-speed Gain (dB)

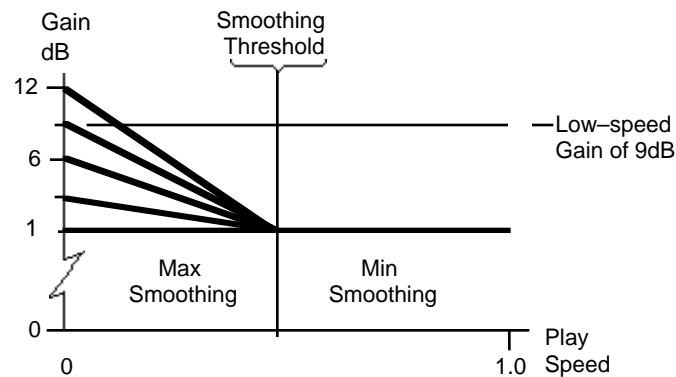
Range — 0 to 12.042 dB. This setting controls the gain at zero play speed or stop. SonicStudio will output a DC value which is the sample value at the play pointer times the Low-Speed Gain value. As play speed

increases from stop, the gain decreases linearly, reaching 1 when the play speed is at the Smoothing Threshold. High values of Low-speed Gain can produce saturation with large amplitude samples.

Maximum Speed

Range — 0.5 to 1.0 playback, real time. Maximum Speed is the rate of play reached when the mouse cursor is at the right edge of the Macintosh screen while in Shuttle mode. The legal values for this parameter are from 0 to 1. Note that values of less than 0.5 results in extremely slow play. A value of 0 means that the scrub does not take effect at all.

The diagram below illustrates the interplay between Smoothing Threshold, Max/Min Smoothing, Low-speed Gain and play speed.



The five curves show the effect of Low-speed Gain settings from 0 to 12 dB in 3 dB increments. The vertical dotted line indicates an arbitrary Smoothing Threshold setting.

As the setting is changed, the threshold would shift left or right on the graph.

Startup Mode: Jog Shuttle

Determines the default mode for Reel-Rock. The initial default is Shuttle, in which the scrub acts like a low-speed play. In jog mode, play corresponds to *motion* of the mouse, rather than position, and is similar to rocking tape reels on an analog tape transport.

Reel Rock Gain: **Enable** **Disable**

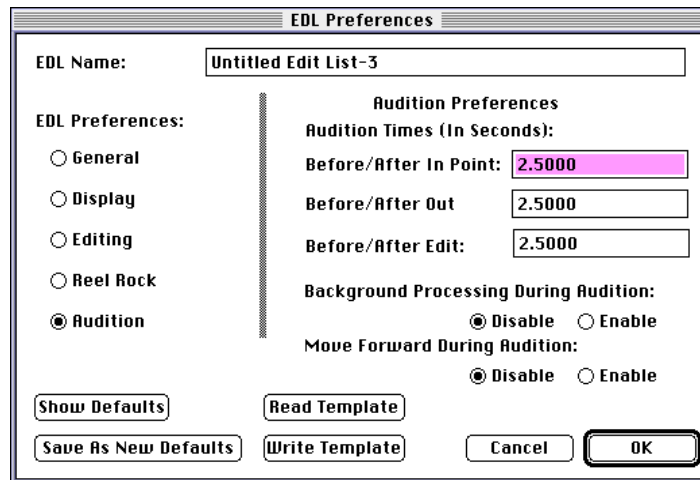
Switches the Low-speed Gain on or off. With Reel-Rock Gain disabled, the gain remains flat at all scrub rates.

EDL Only Jog

When equipped with the SS-516 Machine Control option, SonicStudio has the capability of performing Reel-Rock while an external transport is slaved to it. The requirements of control in this circumstance are quite different from those used for control of the Sonic by itself, and lead to different “feel” that may interfere with locating points precisely. The option of “EDL only Jog” allows the system to behave optimally in all cases.

The default state of the Reel-Rock Preferences is “EDL only Jog” OFF. If there is no external device slaved to the system, the user should set this check-box ON for best results.

Audition Preferences



Audition Time Before/After In Point

When you use the commands Play to In Point or Play From In Point in the Play menu, this setting determines how long before or after the In point will play.

Audition Time Before/After Out

As with the previous item, this setting determines how long the system will play before or after the Out point when the Play menu commands Play To Out Point or Play From Out Point are used.

Audition Time Before/After Edit

When auditioning from the Edit Fade window, this setting determines how long it will play before and after the edit you are viewing.

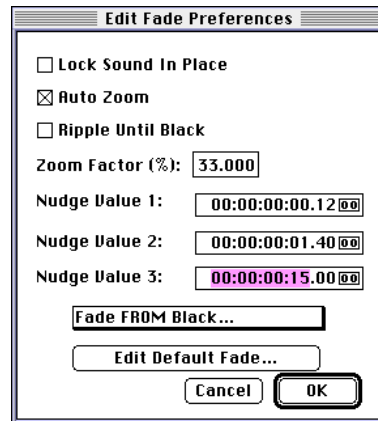
Background Processing During Audition checkbox

Applies if you are using a NoNOISE or FX processing card to do background processing. By default, background processing pauses when you play audio. If you wish, you may set this checkbox so that processing will continue. The trade-off is system responsiveness. If you continues to process during play, then response time to play and other commands is slower. If you are going to do a long playback for transfer or other purposes at the same time that a background job is in progress, you may wish to select this function so that the background process can proceed.

Move Forward During Audition

If you select this checkbox, the display view in the EDL panel in waveform or Bar mode will move forward automatically when the play cursor reaches the right edge of the panel.

Edit Fade Preferences Dialog



Edit Fade Preferences sets default values that are used in the Edit Fade window.

Lock Sound In Place Auto Zoom Ripple Until Black

These checkboxes determine the initial state of the checkboxes of the same names in the Edit Fade window.

Zoom Factor

When the Edit Fade window opens, and when a change in the fade causes an automatic zoom, the system examines the length of the fade and adjusts the duration of the view so that the fade is shown at an appropriate size. The Zoom Factor is a percentage that determines how the fade is fit in the window. The larger the Zoom Factor, the more of the panel will be occupied by the fade. If Zoom Factor is set to 100%, then the fade shown will occupy the entire panel from left edge to right edge. If Zoom Factor is set to 5%, then the fade itself will be shown as a small area centered in the Edit Fade window panel. The default value for Zoom Factor is 33%.

Nudge Values 1, 2, and 3

In the lower left portion of the Edit Fade window there is a pair of left-right arrows used to nudge In and Out points, and their associated radio buttons which select a time increment for each nudge. The Nudge Values fields in Edit Fade Preferences assign the values that each of the radio buttons will represent. You could, for example, set the first nudge value to one subframe, the second to one frame, and the third to one second. The values set in the Preferences dialog are displayed next to the radio buttons in the Edit Fade window.

Edit Default Fade

When performing edits, SonicStudio uses four default fades

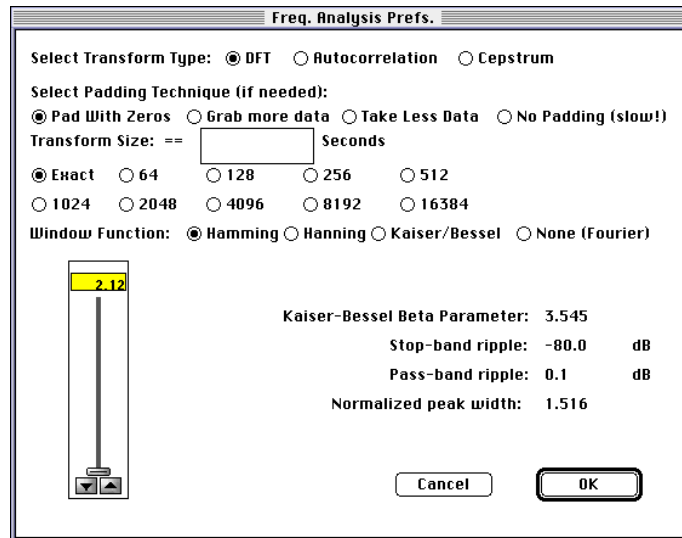
- Fade from Black - for fading sound in from silence
- Fade To Black - for fading sound down into silence

- In Cross-fade - placed where an Insert edit cuts into a previously placed sound
- Out Cross-fade - placed where the tail of an inserted segment fades back to a previously placed section of audio.

To defined the setting used for each of the defaults, select one of the four default fades using the pull-down menu above the Edit Default Fade button, then click on the Edit Default Fade button. This opens an Edit Fade window with the current default settings for the selected default fade.

Freq. Analysis Preferences Dialog

Frequency Analysis Preferences controls the display and function parameters of the Frequency Analysis panel display mode. The parameters in this window are divided into several blocks.



Transform Type

The default setting for the Transform Type is DFT for Discrete Fourier Transform. This is the familiar type of analysis, in which the results are expressed in a frequency vs. amplitude format.

The Autocorrelation analysis is the inverse of the DFT. In this form, the results are expressed in terms of the period of the component signals rather than frequency. The full scale in which the periods are expressed equals the length of the analyzed section (see below).

The Cepstrum analysis is a more specialized form of signal analysis that is sometimes used for speech work.

Padding Technique and Transform Size

Frequency analysis works best (fastest) when analyzing a group of samples whose number is a power of 2. The Transform Size provides a selection of powers of two for use. The largest of these, 16384, corresponds to about a third of a second at a sample rate of 48 kHz.

The user may select one of these values, but it is more usual to choose the option EXACT and then specify a method of padding. The system looks at the area marked by the Gates, and then adjusts that to the closest power of 2 (unless the option of No Padding is selected).

If Pad with Zeros is selected, the system will add zeros to the end of the gated area to bring it up to the nearest greater power of 2 in size. If the user gates an area that matches a major pitch period of the signal viewed, this results in an analysis that is somewhat easier to interpret accurately.

The options to Grab More Data or Take Less Data cause the system to alter the area of the waveform to fit the nearest power of 2 up or down. This is much the same as selecting a fixed Transform Size, and obviates the benefits of selecting the analysis area with an eye to the signal's period.

The option of No Padding causes the analysis algorithm to run much more slowly, but does not produce a correspondingly more accurate result.

Windowing Function

In order to produce an accurate analysis on a finite number of data points, it is necessary to apply a *windowing* function to compensate for the effects of transition at each end of the analysis period.

SonicStudio provides three types of window that are commonly used for DSP functions. These three types, Hamming, Hanning, and Kaiser-Bessel, are optimized for different aspects of the analysis. DSP authorities continue to debate the relative merits of each window.

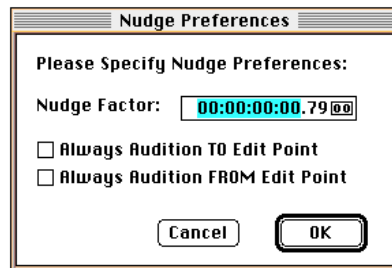
For SonicStudio users, it is much less important which window is chosen than that some window be used. If the analysis is taken with None selected under Window function, the resulting analysis will continue numerous spurious frequency components.

More information on windowing and analysis in general may be obtained from the references listed at the end of this appendix.

Kaiser-Bessel Filter Parameters

This is a single parameter, with dependent parameters, that applies only to the Kaiser-Bessel type. It defines a window function that applies to the analysis.

Nudge Preferences Dialog



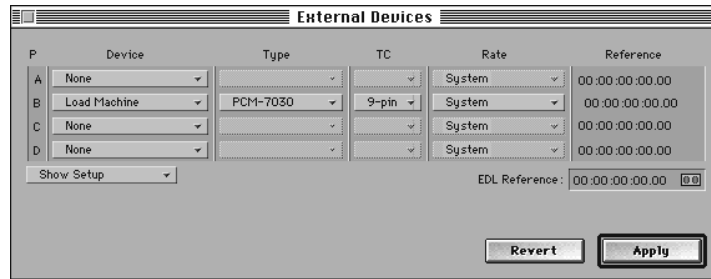
This dialog applies to the Nudge commands in the Edit menu (Nudge Segment Left and Nudge Segment Right), and in the Mark menu (Nudge Left In Point, Out Point, Both Points and Nudge Right with the same options).

The Nudge Factor field specifies that amount of time that will be applied each time a “nudge” command is performed. You may enter any value you like in this field, but in most instances smaller values, such as a single frame, will be most useful.

The Always Audition To Edit Point and Always Audition From Edit Point apply both to nudging of segments and to nudging of edit points. However, they will be found most useful when using the nudge commands to adjust the position of an edit (In or Out) point.

External Devices Dialog

Requires software option Machine Control SS-516



External Devices displays the name and time code clocking type of all devices connected to Sonic SCSI ports. The use of this dialog is described in the manual for the Machine Control Option SS-516.

Ports A, B, C, and D

The External Devices supports four different serial ports that can be used. In a SonicStudio configured using SSP-3 hardware, only the first two ports, A and B, can be used. You can connect a single serial-controlled transport to each port.

Device

When using machine control in conjunction with the Project Manager for automated background load and dump, each machine can be defined as either Load or Dump device. If only a single machine is available, it may be defined as serving both purposes.

When using the Transport Panel to operate external devices, this terminology is also used, so that the Transport Panel's Master and Slave sections have selections for Load and Dump.

Type

Click on the Type button next to the selected Device to engage a menu of several devices that are commonly used in professional applications.

Type
<input checked="" type="radio"/> Auto
BVU-800
BVU-950
BVW-75
D-2
DMR-2000
DMR-4000
PCM-7030
PVW-2800
VQ-9850
JVC 622
JVC 850
Lynx
AS 2600

It is not feasible to provide a separate selection for every model of device that might be connected to the system. The majority of devices on the market with serial control capability adhere to the protocol used by Sony Corporation in their professional video and digital audio equipment.

The “DMR-4000” selection matches this implementation for the special transport that Sony provides for use with their PCM-1630 digital audio mastering system. This is exactly the same as Sony’s popular BVU-800 video transport.

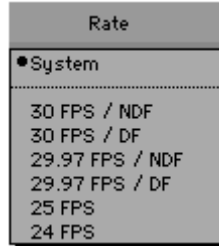
TC

Most devices use the 9-pin serial link to carry time code as well as control commands. When using a device that does not communicate time code in this way, it is necessary to connect a time code (LTC) output from the device to the system’s time code reader, then to select “LTC” as the time code source by clicking on the TC button for the appropriate serial port. Note that activated serial ports default to the “9-pin” setting unless “LTC” is chosen.

Rate

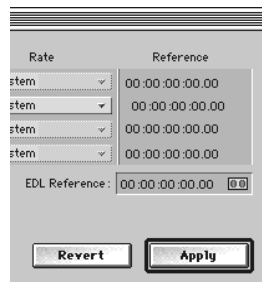
For virtually all SonicStudio applications, it is best to set the system’s clocking rate with the System preferences dialog. In this case, all external devices should then be set to run at the default “System” speed setting.

In the event that a clocking rate different from that of SonicStudio is required, click on the “Rate” button for that device’s serial port then select the desired clock rate.



Reference/Offset

The Reference window allows the user to alter the playback offset for an external device. If, for example, an EDL begins at 00:00:00:00 but the corresponding videotape begins at 02:00:00:00, the user can set an offset of 02:00:00:00. Thus when the EDL is at 01:03:53:18, the slaved machine would be at 03:03:53:18. Change the defaults by clicking on the appropriate number then either typing or click-dragging the desired offset. The EDL offset can also be adjusted with the EDL Reference window.



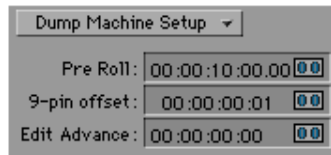
Click at the top of this column, on the word “Reference” to switch the display from “Reference” to “Offset”. The offset is the inverse of the Reference time. If the References is 01:00:00:00, then the Offset is -01:00:00:00.

EDL Reference

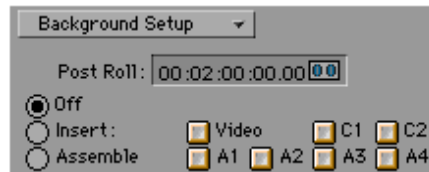
You may also specify an offset for the EDL. This operates in the reverse direction from the machine offsets.

Show Setup

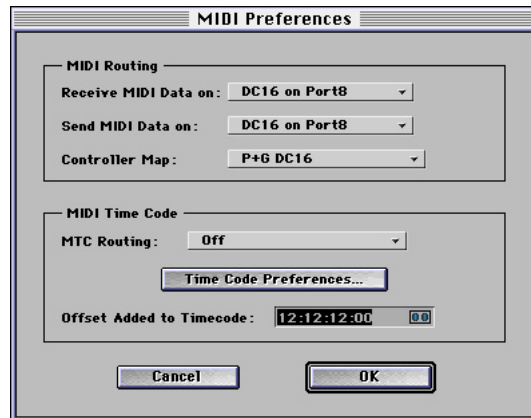
Clicking on the “Show Setup” button brings up a menu which allows the user to access a range of display options. The Pre Roll, 9-pin offset and Edit Advance settings of the Dump and Load machines can be seen and adjusted by typing or click-dragging the desired number.



“Background Setup” in the “Show Setup” menu provides choices for machine control recording. In “Insert” mode, the user can select video or six channels of audio for punch-in. In “Assemble” mode, one video and two audio channels are utilized for punch-in.



MIDI Preferences Dialog



The MIDI Preferences dialog box determines the MIDI data ports, MIDI time code port, and MIDI map for external controllers. This dialog box can be accessed only if OMS or the MIDI Manager has been installed.

The MIDI Routing section has options you can use to assign the ports used to send and receive MIDI information, such as controller messages and system exclusive data. Use the MIDI Controller Map option to match the particular device you are using as an external mixing controller.

If only MIDI Manager is present, your choices for this dialog will be MIDI Manager Port A or MIDI Manager Port B. If OMS is present, the ports you have specified in your OMS MIDI Setup will appear in the MIDI routing menu selections. Sonic Solutions recommends that you use Opcode's OMS (Open Music System™) for routing MIDI data. OMS has become the MacOS standard for interfacing MIDI hardware and software and replaces the Apple MIDI Manager as the primary software interface for MIDI data between SonicStudio and the Macintosh serial ports.

MIDI Routing Section

Choose a port selection from the list for Receive MIDI Data on to specify a data port for incoming MIDI messages.

Choose a port selection from the list for Send MIDI Data on to specify a data port for outgoing MIDI messages.

Use the Controller Map option to choose the appropriate controller map for your MIDI controller. A controller map is a configuration file that maps MIDI controller messages to SonicStudio functions and vice-versa, allowing a controller to work with SonicStudio without additional setup procedures. Currently supported controller maps include General Volume and Pan, JLCoooper CS-10, P+G MM16, and the P+G DC16. More about each of these devices, as well as OMS, can be found in the *Installation and Maintenance Manual*.

MIDI Time Code Section

Under the MIDI Time Code section, you may assign Sonic's time code generator to a MIDI port, generating MTC (MIDI Time Code). MIDI Time code can only be routed via MIDI Manager at this time, as OMS is not yet supported for MTC. If you have both OMS and MIDI Manager installed on your Macintosh, OMS ports will appear in the MIDI Routing section and MIDI Manager ports will appear in the MIDI Time Code section.

Choose MIDI Manger Port A or MIDI Manager Port B to send MIDI Time Code to your MIDI devices via MIDI Manager.

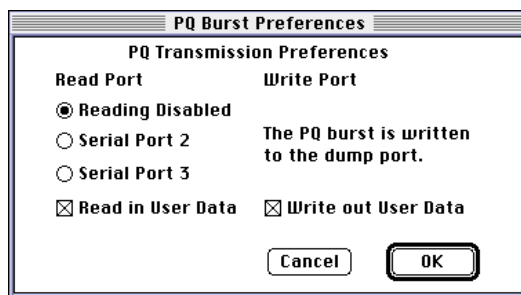
To turn on Time Code Generation, or to set your Time Code Preferences, click the button marked Time Code Preferences in the MIDI Time Code section.

You may also specify an offset to be added to the MIDI time code sent to the MIDI port. This offset will be in addition to the offset specified in the Time Code Generator section of the Time Code Read/Write window.

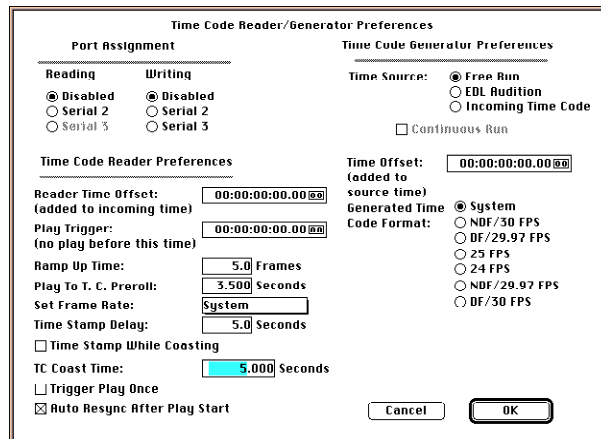
PQ Burst Preferences Dialog

(Requires PQ Basic option SS-524 or Expanded PQ Code Editing option SS-525)

Details on CD mastering and the use of PQ codes is provided in the manuals for these options.



Time Code Reader/Generator Preferences Dialog Box

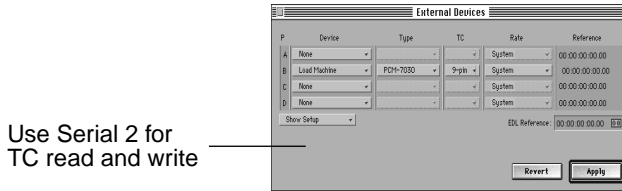


Time Code Reader/Generator Preferences controls SonicStudio's reading and writing of time code. There are three principle sections:

- Port assignment
- Time code reader preference
- Time code generator preference

Port Assignment

This section is used to switch time code reading and generation on and off. At any time that you are not actually using the systems time code reading or generating capacities, you should switch them off, as they consume processing resources that may be required for other functions.



Previous versions of SonicStudio required that different serial ports be selected for reading and for writing. This does not apply for SonicStudio 16•24. Select Serial 2 for both time code read and for time code write.

Time Code Reader Preferences

Time Code Reader Preferences

Reader Time Offset:

(added to incoming time)

Play Trigger:

(no play before this time)

Ramp Up Time: Frames

Play To T. C. Preroll: Seconds

Set Frame Rate:

Time Stamp Delay: Seconds

Time Stamp While Coasting

TC Coast Time: Seconds

Trigger Play Once

Auto Resync After Play Start

The variable parameters in the Time Code Reader Preferences section principally apply when slaving an EDL to incoming time code, as set at the Transport Panel.

Reader Time Offset

This is an offset value added to incoming time code. If your EDL, for example, begins at time zero, but the time code from your external transport starts at 1 hour, you would specify a Reader Time Offset of minus one hour, so that the start point of time code on tape would trigger playback from the beginning of the EDL. Alternatively, you could shift everything in your EDL to start at 1 hour.

Play Trigger

The earliest time that will be recognized for driving playback of your EDL.

Ramp Up time

This provides a compensation for latency in SonicStudio's response to an audition command.

Play to T.C. Preroll

When a mechanical transport starts up, there is generally some period of time before the transport comes up to full speed. Time code read during this period is suspect at best. Preroll defines the length of good time code required to be recognized for play triggering.

Set Frame Rate

Defines the format of incoming time code. Ordinarily this will be the same as the System rate.

Time Stamp Delay

Applies to recording with time stamp, as shown in the Record Sound File dialog. As it is common to start a recording before audio actually begins, the time stamp is taken after actual recording begins. The

amount of time already recorded is subtracted from the time stamp taken, so that a value for the time stamp of the very first sample is derived. The Time Stamp Delay defines the length of time between start of recording and taking of the time stamp.

Time Stamp While Coasting

In cases of intermittent time code, the system will interpolate or “freewheel” for a defined length of time. Because the time stamp of a recording is critical, it may sometimes be dangerous to rely on an interpolated value.

T.C. Coast Time

The length of time that the system will freewheel, interrupted time code. Note that interpolated time code is highly reliable provided that the incoming time code and SonicStudio’s sample clock are resolved to a common reference.

Trigger Play Once

With this option, play to time code will trigger exactly once.

Auto Resync After Play Start

If time code is being actively shuttled, auto resync may be useful. If this is not selected, the system will continue to play even as the deck is relocated to a different point.

Time Code Generator Preferences

Time Code Generator Preferences

Time Source: Free Run
 EDL Audition
 Incoming Time Code

Continuous Run

Time Offset:

Generated Time System

Code Format: NDF/30 FPS
 DF/29.97 FPS
 25 FPS
 24 FPS
 NDF/29.97 FPS
 DF/30 FPS

Time Source

SonicStudio's time code generator function has three modes of operation.

- In Free Run mode, the generator will run continuously, regardless of what else is being done with the system.
- In EDL Audition mode, the generator will run in parallel with playback of the EDL. This is extremely useful for lay back, or for triggering of external devices such as MIDI sequencers or event controllers.
- Incoming Time Code mode will generate code that parallels code read from the reader port. Note that SonicStudio is not recommended for use as a time code regenerator.

Continuous Run

This applies in EDL Audition and Incoming Time Code modes. If this box is selected, time code generation will continue after playback of the EDL stops, or incoming time code is no longer seen

Time Offset

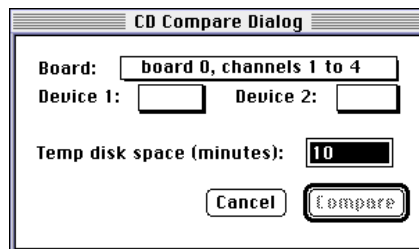
This is a value added to the start time (for Free Run mode), or to the EDL time (EDL Audition mode) or incoming time code.

Generated Time Code Format

This defines the type and rate of time code output from the system. This can be defined separately from the system time, if you need it to be.

Utility Dialogs

CD Compare Dialog



Requires two Sonic CD-ROM Readers (SS-422) attached to the Sonic SCSI bus. This dialog lets you compare the contents of two CD-ROMs.

Board

In a system with multiple SSP cards, you will need to define which board the two ROM drives are connected to. You may only compare data between devices connected to the same card.

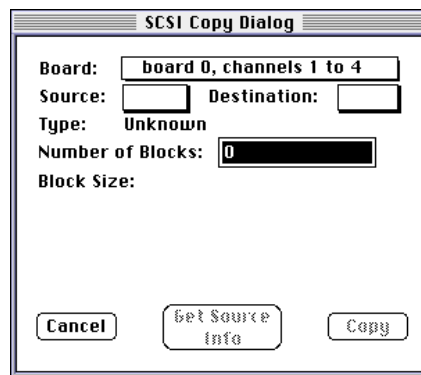
Device 1/ Device 2

Use these two pull-down menus to select the SCSI IDs of the two ROM drives.

Temp disk space

The compare operation uses a temporary disk buffer to hold data for comparison. This field lets you define the size of that buffer.

SCSI Copy Dialog



This dialog appears when you select the command SCSI Copy from the Utilities submenu.

With this dialog, you may copy the contents of one SCSI Device on SonicStudio SCSI chain to another device. This produces an exact bit-for-bit copy. The most common use of SCSI copy is to produce CD-ROMs from any type of computer hard disk, using the START Labs™ CD Printer (CD-200)

Devices containing data to be copied or imaged as CD-ROM data must be connected to SonicStudio SCSI bus. When a disk containing a non-Sonic (foreign) file system disk is connected to the SSP-3 SCSI bus, an advisory message appears on start-up.

When connecting and disconnecting disk drives, be careful to maintain proper termination at the end of the chain, and make sure that all devices on the bus are assigned to different SCSI ID numbers.

Source and Destination devices for SCSI Copy operations are designated by SCSI ID numbers. It is important to note the numbers for the source device (8mm tape or non-Sonic hard disk) as well as the number assigned to the CD Printer or CD Writer so they can be selected from the dialog.

With the data source device connected and mounted, the procedure is to copy a direct image of all or part of the source devices data onto a Sonic/START lab CD Printer or CD Writer that is also connected on the SCSI bus.

To copy a data image from 8mm tape or non-Sonic source disk:

1. Select Utilities from the File Menu
2. From the pull-right submenu, select SCSI Copy.
This opens the SCSI Copy dialog.

The SCSI Copy dialog lists the SSP/SCSI board (for multi-track/multi-board SonicStudio systems) on which the copy operation will be performed. This field defaults to the first board in the system. Note that it is not possible to copy from one board's SCSI bus to another's.

3. If necessary, use the Board popup menu to specify which SSP board will be used.
SCSI Copy includes fields to designate the Source and Destination for a copy operation according to SCSI ID number. These are equipped with pop-up menus that list SCSI ID from 1 to 7.

Only those devices appropriate for the operation will be available in the Source and Destination menus. Unavailable SCSI ID numbers appear in gray.

4. Specify a SCSI ID for the source device.
5. Specify a SCSI ID for the destination device.
After SCSI IDs are selected, the Get Source Info button becomes highlighted. Before the copy operation can proceed, it is necessary for the system to characterize the amount of data that must be transferred.

6. Click on the Get Source Info button.
SonicStudio will attempt to identify the type and size of the Source file system.

If the source device is a labeled, standard-format Exabyte tape, SonicStudio reads the tape's End Of File labels to determine the number of records on the tape and, hence, the amount of data to be copied.

If the source device is a disk in a known foreign file system format, SonicStudio extracts the file system size from the disk itself. This is usually larger than the amount of space required for the actual data, since it contains free data blocks that have not been allocated.

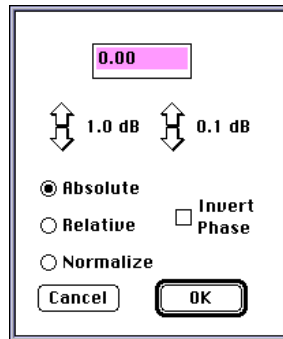
7. Click on Copy.
SonicStudio then starts the copy operation.

At this point the SCSI Copy Dialog is dismissed and the operation begins. Its progress may be monitored or aborted by bringing up the Background Manager window.

Editing Dialogs

Adjust Gain Dialog

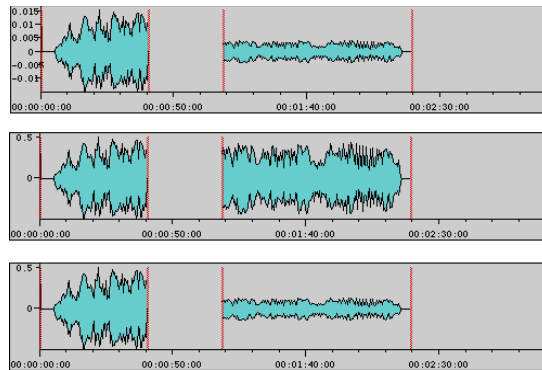
The Adjust Gain dialog appears when you select the command Adjust Gain from the Edit menu, or when you double-click on the Gain field of a segment in the text view display mode. This dialog provides a range of choices in resetting the gain of a selected segment or segments.



Use the window at the top of the dialog to enter a specific gain value, positive or negative. The range of gain available goes from minus infinity to +24 dB. You may also use the up and down arrows below the window to nudge gain values in decibels or 10ths of decibels.

Gain may be set in either absolute or in relative terms. An Absolute gain value is applied directly to the selected segment or group of segments. Any previous gain adjustments are overwritten.

If you select the Relative option, then the gain of the selected segment or segments is adjusted up or down from the current gain setting. (If there have been no previous adjustments, then Relative and Absolute have the same effect.)



The distinction between Absolute and Relative gain is particularly important when changing the gain of a group of segments, as shown above. The top panel shows a pair of segments. The gain of the second segment has been adjusted to be 10 dB lower than that of the first. In the second panel, an Absolute gain of +24 dB has been applied to both segments. In the third panel, the same gain was applied in Relative mode. The 10 decibel level difference between segments has been preserved.

If the relative levels between segments have been adjusted, then you will probably want to use the Relative option. This will shift the gain of each segment by the specified amount, and preserve the relative balance, whereas the Absolute setting would simply set all of the segments to the same gain value and destroy the relative balance

Normalize Level

The third option, Normalize, is actually an automatic gain setting. If you select this option, then you do not enter a value into the gain window at top. The system will scan the selected segments, determine the highest instantaneous level, and apply a gain value such that the highest peak will fall just below digital clipping. This provides an efficient way of optimizing signal level and signal-to-noise before final transfer.

Phase Invert

Phase Invert is an option that may be applied in conjunction with any of the three gain adjust mode options. If Phase Invert is selected, the absolute polarity of each sample is reversed at the same time that the defined gain adjustment is performed.

Specify Offset Dialog

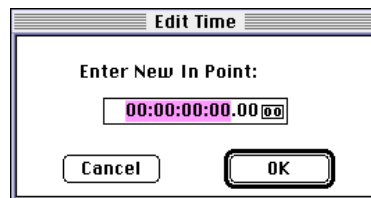
The Edit menu commands Offset Left Edge or Sync Mark to Wherever...bring up the Specify Offset dialog.



Type or click drag to enter the desired time value.

Mark Dialogs

Edit Time Dialog

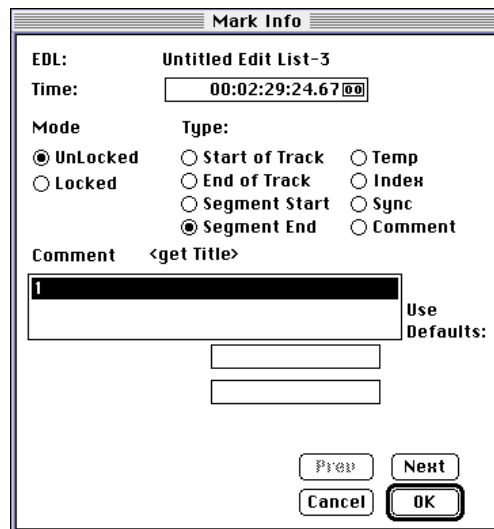


Selecting the command Move In Point... or Move Out Point... from the Mark menu brings up this dialog. You then enter the time value at which you want to place the In or Out points and click OK. The specified edit point (In or Out) is moved to the specified location.

You may also bring up this dialog by double clicking at the position of an In or Out point in the EDL panel.

Mark Info Dialog

The Mark Info...dialogs allow the user to rename and reset the parameters of the selected mark. To view or change the information for a particular mark, double-click on the mark or select the Mark Info command from the Mark menu.



The top two lines of the dialog list the name of the EDL and the time at which the mark is placed. To move the mark to a different location, simply enter the desired time. When you exit the dialog, the new location will be applied.

Note that EDL marks are automatically numbered from left to right in the panel. If you move a mark so that it comes ahead or after another mark, all marks will be renumbered from that point.

Mode

You may set the “mode” of a mark to be Locked or Unlocked. This determines how the mark will respond to edits performed using the Insert and Delete commands (only!). If the mark is set to Unlocked, then

the mark is effectively attached to the audio segment. When moved using Insert or Delete, the mark will travel with the sound. This is useful when you are using a mark to identify a specific audible feature.

If you are using the mark to locate a point in time rather than an audible feature, you can lock the mark to prevent it from moving in response to Insert/Delete edits.

The attachment of a mark to an audio segment applies only to the Insert and Delete commands. If you use edit functions such as dragging, cut-and-paste, or text view editing to change the position of a segment, the marks will not move with the sound.

Mark Types

There are eight different types of marks you can use in SonicStudio. These have specific uses and are affected by different commands.

Start of Track Mark

The screenshot shows the 'Mark Info' dialog box with the following fields and options:

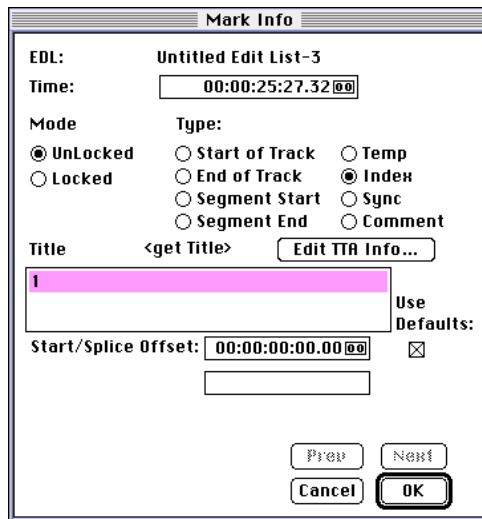
- EDL:** Untitled Edit List-3
- Time:** 00:02:14:09.51
- Mode:**
 - UnLocked
 - Locked
- Type:**
 - Start of Track
 - End of Track
 - Segment Start
 - Segment End
 - Temp
 - Index
 - Sync
 - Comment
- Title:** <get Title>
- Start/Splice Offset:** 00:00:00:00.00 Use Defaults
- End Offset:** 00:00:00:00.00
- ISRC Code:** [Empty text field]
- Digital Copy:** Off On
- Emphasis:** Off On

Track marks are used in CD mastering to define the start of tracks on the finished CD. The Info dialog for a Start of Track mark contains field to set the parameters for track offsets, ISRC standard product codes, digital copy and emphasis. Flags and other information specific to CD mastering applications Use of these fields requires one or the other of the CD mastering options, and is described in the manuals for those options.

End of Track Mark

An End of Track mark is the converse of Start of Track. It is used to mark the ending point of CD track. Unlike the Start of Track mark, the Info dialog for an End of Track mark does not have any fields specific to that type of mark.

Index Mark



Index marks are used in CD mastering to define points within a track to which you can cue a CD player (other than the beginning of the track). The Info dialog for an Index mark includes a field which allows you to

set offset parameters to be applied in the final master. The use of these offsets is described in the manuals for the CD mastering/PQ code editing software options.

Segment Start Segment End

Use Segment Start and End marks when you are going to use the marks to divide continuous audio into individual segments. These marks are used by the commands in the Create Segments submenu of the Edit menu.

Sync

Sync Marks are used to reference a particular point in a segment. You can then use the Offset commands in the Edit menu to move the segment so that the position of the Sync Mark aligns with a desired point.

There are two options for Offsetting a segment in relation to a Sync Mark. With the first of these, Offset Sync Mark To Wherever, you can enter a specific time value into the dialog that appears. The segment underneath the Sync Mark will move such that the Sync Mark aligns at the specified time.

With the Offset Sync Mark To Left Gate command, you can move the segment such that the Sync Mark “handle” becomes aligned with the current position of the left Gate.

Temp and Comment

Temp and Comment Marks serve no special purpose other than to mark and label particular points in a soundfile or time line. Typically, you will enter a label or comment into the Title field for these marks (see below).

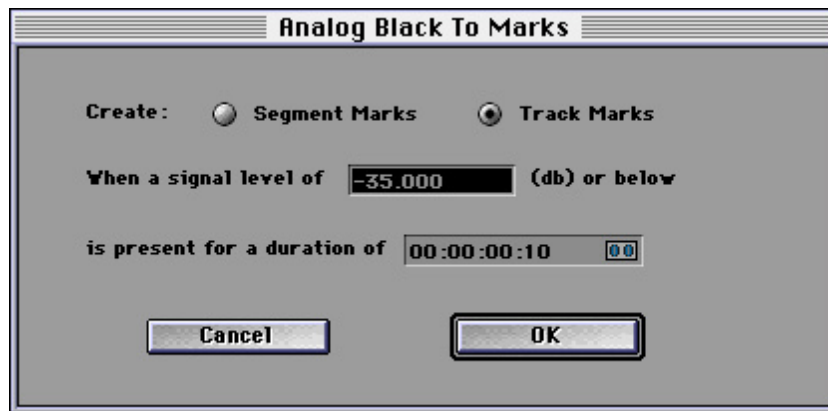
Title

Every mark in an EDL panel has a specific title. Initially, this is the number that is automatically assigned to the marks, going from left to right in the panel. By entering text into the Title field of the Mark Info dialog, you can change this default to any text label you wish to use.

The new label is displayed in the “flag” of the mark in the EDL so you can locate specific points by name. In the case of Track Start marks, the Title is also transferred directly into the PQ information and becomes the title of the cuts in the finished CD master.

Analog Black to Marks Dialog

This dialog appears in response to the Analog Black to Marks command in the Mark menu. This command searches a panel or portion of a panel between the left and right Gates.



In the Analog Black to Marks dialog, you can set the dB threshold and duration for defining analog black (silence) before placing marks at analog black. You can also define the type of marks to be placed in the panel by the command.

In the Threshold field, enter the value in negative decibels (below full-scale) where you want the system to recognize silence. If you set this value too high, then it may place marks so as to cut off portions of desired signal. If it is set too low, the system may mistake analog noise for signal and fail to place marks where needed.

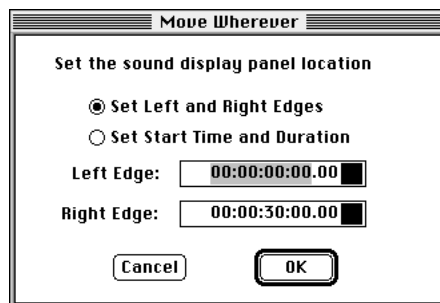
The Duration field defines how long the signal must stay below threshold to be marked. If the audio signal has breaks and pauses in it, this setting will be important in preventing these phrasing breaks from being interpreted as hard stops.

The type of mark you will want to place depends on the application. If you are doing CD mastering, the typically you will want the system to place Track Start and Track End marks to be used for generation of PQ subcodes. In other applications, it is typical to place Segment Start and End marks to divide a recording into individual sound effects or dialog phrases, for example. The Mark Type field lets you select which type of mark will be place when the command executes.

Once you have defined the parameters of the search, click on the OK button or hit the Return or Enter keys to launch the search. The system remains fully occupied during this search. If the area you need to search is long, this could be quite a while so it's a good idea to plan accordingly.

View Dialogs

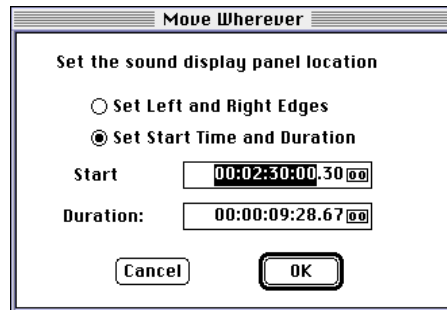
Move Wherever Dialog



The Move Wherever dialog appears when you select the command Move to Wherever... from the Move To submenu in the View menu. In Waveform or Bar display modes, this dialog lets you specify a precise time region to be shown. That panel's display then zooms to show exactly the region you have defined.

There are two ways in which you can specify the area to be viewed. If you use the default Set Left and Right Edges option, you will enter the exact times for the left and right edges of the display.

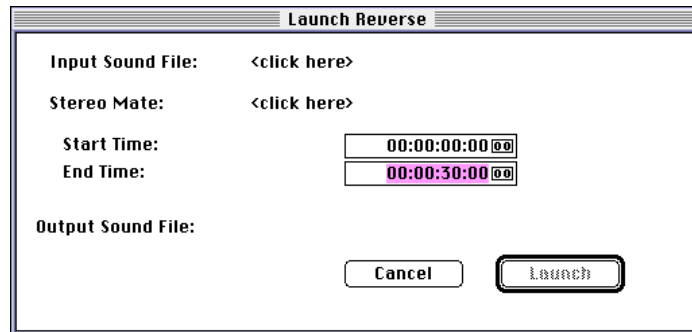
If you select the Start Time and Duration option, the labels of the two time fields change. In this mode, you will enter a time position for the left edge of the display, then enter the duration of time you want to show into the lower of the two fields. If you enter time in one mode then shift to the other, the numbers in the lower display will change to show the equivalent setting.



Once you have defined the region to be viewed, you can exit the dialog and perform the command by clicking on the OK button or hitting the Enter key.

DSP Dialogs

Launch Reverse Dialog



Selecting the Reverse Sound File command in the DSP menu engages the Launch Reverse dialog. There are five fields in this dialog. Begin the process of reversal by clicking next to the label "Input Sound File:". The system will scan all mounted sound disks and bring up a list of all available soundfiles.

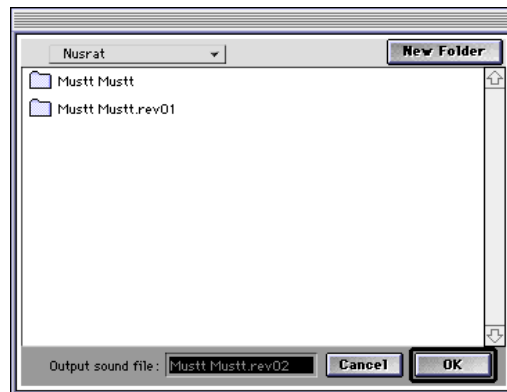
Select the file that you wish to reverse, and close the dialog by clicking OK, hitting the Return or Enter keys, or by double-clicking on your selection.



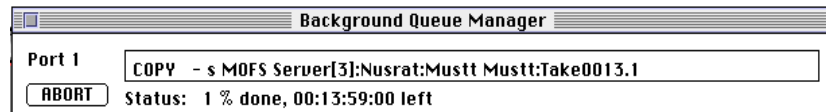
If the soundfile you've selected is a stereo recording, a second dialog will appear to let you select whether to process the left channel, the right channel or both. After making your selections, close this subdialog by

clicking OK or hitting the Return or Enter keys. The name of the channel file for the second channel is automatically entered into the “Stereo Mate:” field of the main dialog.

If you wish to process only a portion of the source file, you may optionally enter start and end times in the two time fields in the center of the dialog. The reverse operation will then be performed only on the portion of the file that lies between those two times.



Soundfile reversal is a copy operation that creates a complete new file, leaving the original untouched. Before launching the reverse process, you must define the name and location of the file that will be created. Click next to the label “Output Sound File:”. A dialog will appear to allow you to enter a name and select a folder to contain the new file. By default, the output file is named the same as the original file with the tag “.revxx” where “xx” is a number that increments automatically each time you repeat a process.



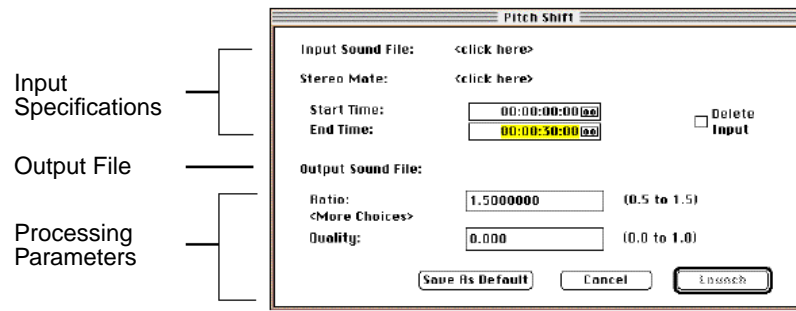
Once you have selected the source file and defined the output file, the Launch button in the main dialog becomes active. When you click this button or hit the Return or Enter keys, the system will launch the

reversal process in the background. You can observe the progress of processing by opening the Background Manager. The reverse process will appear in the Port 1 line, which is reserved for file copy operations.

Pitch Shift Dialog

Requires software option Time Twist/Pitch Shift SS-806

Additional details on operation is found in the manual for that option.



This dialog allows the user to select a soundfile to process, name the output file, and specify the rate of pitch change. The system will process the designated source audio and create a new soundfile containing the processed audio.

Input Soundfile

Click on this area first to define the soundfile that will be processed. A listing of all currently available soundfiles appears, from which you can select.

Stereo Mate

If the selected soundfile is stereo, the second channel is displayed here.

Start Time

End Time

Optional. Pitch shift will be performed only on the portion of the source soundfile that lies between these two times.

Output Soundfile

By default, the dialog that appears will list the name of the source soundfile followed by the tag “.ps0001.” You may use this name, or enter any name you wish. If you do multiple pitch shift operations on the same source file, the numeric portion of the tag increments automatically.

Ratio

The amount of pitch shift applied to the source file is defined as a ratio. By default, this is entered as a numeric factor where 1.0 equals no change in pitch. Values less than 1.0 indicate shift down in pitch, while values greater than 1.0 produce upward pitch shift of the source file.

<More Choices>

Opens the Pitch Shift Ratio dialog to allow entry of Pitch Shift factor in forms other than simple numeric ratio.

Quality

Tells the pitch shift splicing algorithm how “good” a splice point has to be before it will be accepted. The higher the value specified, the better a splice must be to be accepted. The system will absolutely NOT do a splice if the quality value that the processing determines for the splice is below the value set for the Quality parameter. If this value is set too high, the system may be unable to find enough acceptable splice points to deliver the requested ratio of compression or expansion.

Save As Default

When you click this button, the current settings in the Pitch Shift dialog are saved as the default settings. The default settings are used whenever you use any of the “pitch shift edit” commands. These commands (P.S. w/CROSS-FADE, etc.) automatically process the sound segment as they place it in the Destination panels, using the default values to define the pitch shift interval and Quality.

Pitch Shift Ratio Dialog

The screenshot shows the "Pitch Shift Ratio" dialog box with the following settings:

- Speed Change +/-: 0.0000 % (-50.000 to 100.000)
- Semitones +/-: 0.000 (-12.000 to 12.000)
- Sampling Rate From: 44100.00 To: 44100.00
- Beats: From: 60.0000 To: 60.0000

Buttons: Cancel, Done

Speed Change

Expresses the Pitch Shift as a corresponding change in speed. However, the actual rate and length of the shifted segment is not altered.

Semitones

Expresses pitch change in musical semitones.

Sampling Rate

Expresses pitch change in terms of a corresponding change in sample rate

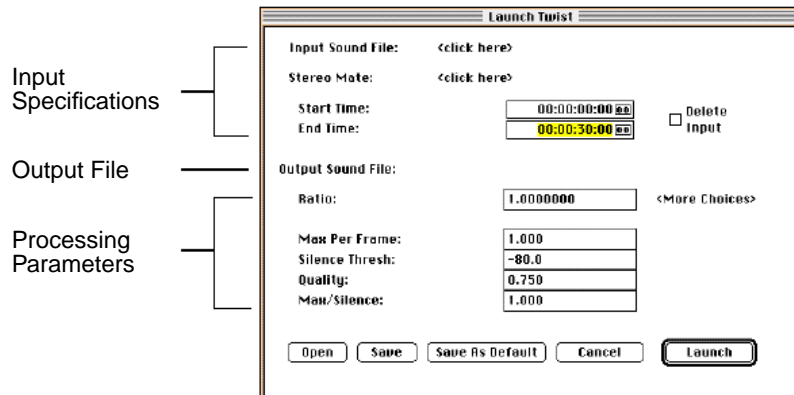
Beats

The difference of tempo that corresponds to the ratio of shift.

Launch Twist Dialog

Requires software option Time Twist/Pitch Shift SS-806

Additional details on operation is found in the manual for that option.



If your system is equipped with a second SSP card for background processing, you may edit, etc. as the file is being processed. If there is no processing card available, the conversion function can still be performed, but other operations will be locked out while it proceeds.

Input Soundfile

Click on this area first to define the soundfile that will be processed. A listing of all currently available soundfiles appears, from which you can select.

Stereo Mate

If the selected soundfile is stereo, the second channel is displayed here.

Start Time

End Time

If you wish, you may define a start and end time. Time compression/expansion will be performed only on the portion of the source soundfile that lies between these two times.

Output Soundfile

You must define a name for the soundfile that will be created. [Click here](#) to do that. By default, the dialog that appears will list the name of the source soundfile followed by the tag “.tt0001.” You may use this name, or enter any name you wish. If you do multiple Time Twist operations on the same source file, the numeric portion of the tag increments automatically.

Ratio

The amount of time compression or expansion applied to the source file is defined as a ratio. By default, this is entered as a numeric factor where 1.0 equals no change in length. Values less than 1.0 indicate time compression, while values greater than 1.0 produce time expansion of the source file.

Max Per Frame

If a splice is called for in a given frame, but none is acceptable (Quality rating equal to or greater than the value set for the Quality parameter), the process accumulates a “deficit” of splices that must be made up for in later frames. The value of the Max Per Frame parameter tells the system how much flexibility it has in the expansion process. The legal range is 0.5 to 3.0.

Silence Thresh

Sections of silence in the source file are opportunities for processing. The Silence Threshold is a value in decibels that determines what will be recognized as silence. If the average energy in a Time Twist frame is below this number, then the entire frame will be declared as “silent.”

In a silent frame, the Quality parameter does not apply. The system will accept any splice point without regard to its Quality rating.

Quality

The primary criterion in determining the acceptability of a splice is its “quality rating,” which is a numeric value between 0 and 1.

The Quality parameter tells the system how “good” a splice point has to be before it will be accepted. The higher the value specified, the better a splice must be to be accepted. The system will absolutely NOT do a splice if the quality value that the processing determines for the splice is below the value set for the Quality parameter. If this value is set too high, the system may be unable to find enough acceptable splice points to deliver the requested ratio of compression or expansion.

Max/Silence

During silence, the Time Twist system automatically reduces the setting of the Quality parameter to “0,” while regulating the number of splices that may be incorporated in a single (silent) frame in order to prevent unnatural stretching or chopping of pauses. If the Max/Silence parameter is set higher than the Max Per Frame, splices will be concentrated in frames that are silent. This can help to avoid audible artifacts with active audio, but may have a noticeable effect on the pacing of spoken word material.

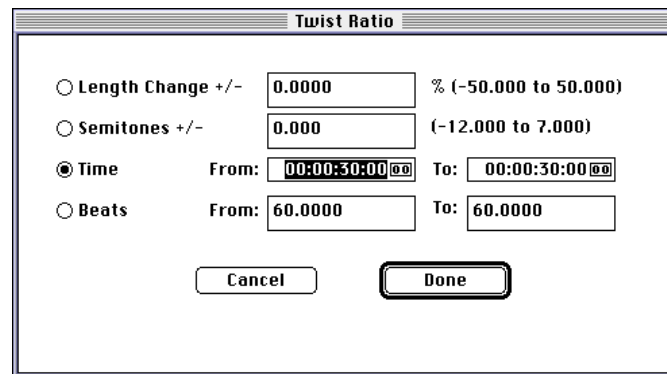
Open button
Save button
Save as Default

Use these buttons to save and recall sets of Time Twist settings. When you choose Open or Save, a Macintosh file select-type dialog opens to let you pick a file of settings to be recalled or to name and place the set you are saving.

Save as Default causes the current settings to be saved as the default settings. These values appear when the dialog initially opens, but even more importantly, they are used exclusively whenever you invoke one of the “Time Twist edit” commands such as T.T. w/CROSS-FADE, etc.

These commands work the same as the Insert commands in the Edit menu, but the segment of sound is automatically time twisted before its placed in the Destination panels. The time ratio is determined by the distance between In and Out points in the Source and Destination panels, with the inserted segment stretched or squeezed to fit the interval in the Destination panels. All other parameters are derived from the default settings.

Twist Ratio Dialog



Length Change

Specifies change of length as a percentage change from current.

Semitones

Pitch change if it were not corrected.

Time

Enter the current length of the soundfile, and the length that you want to convert to. The system will calculate and apply the corresponding ratio.

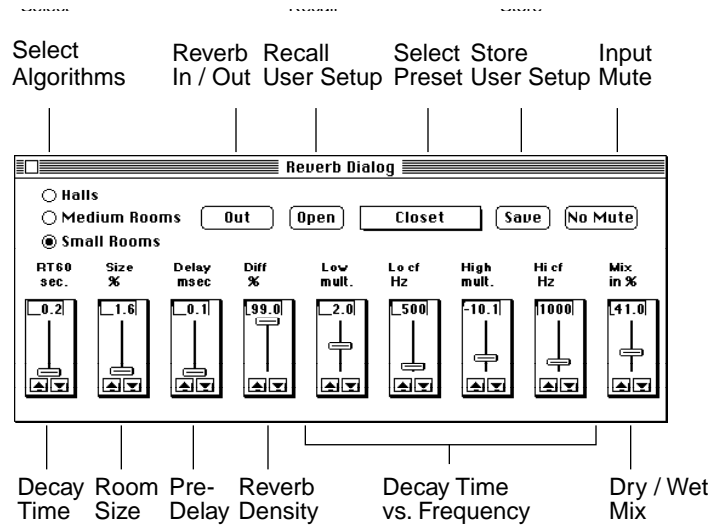
Beats

Indicates the change in tempo between the source and output files, expressed in beats per minute.

Reverb Dialog

Requires software option Designer Reverberation SS-802

Additional details found in the manual for that option.



Algorithm Selection

Designer Reverberation provides 3 separate reverberation algorithms. Each of these is optimized for best results with a particular range of settings of the Room Size parameter.

- Halls -- Best with Size set from 60% to 100%
- Medium Rooms -- Best at Sizes of 30% to 70%
- Small Rooms -- Optimized for Size setting of 0% to 40%

Reverb In/Out button

This button switches reverberation processing in and out, making it easy to compare the signal with and without reverb. When the dialog opens, reverberation is set to “OUT.” In order to hear the reverberated signal, the user must click on the button so that it change to “IN.”

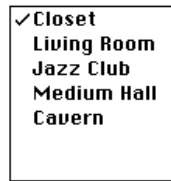
Recall User Setup and Store User Setup

The Designer Reverberation option provides the capability of storing and recalling an unlimited number of user-defined settings, including the selection of reverberation algorithm and the settings of all parameters.

To store the current settings in memory, the user clicks on the button labeled Save, then uses the standard Mac file-select dialog that then appears to define the name of the setup and its location in the Macintosh system of files and folders. To recall a user setup, the Open button is used, and the procedure is reversed. The operator selects the setup to be opened from the file select dialog. All of the settings are loaded into the reverberation dialog.

Recalling Factory Presets

A group of five preset settings defined at the factory are provided in a pop-up menu. To change presets, the user clicks on the Select Preset field and chooses one of the five presets provided.



Input Mute button

When the Input Mute button is activated, the input signal is switched off (muted), but the reverberation is allowed to continued until it finished its current decay. This can be useful in checking the characteristics of the late decay, which can be difficult to hear while signal is active.

Reverberation Parameters

The nine sliders in the Reverb Dialog provide complete control over all aspects of reverberation.

RT60 in s

“RT60” is the engineering term for overall reverberation, or decay, time expressed in seconds. It is the length of time required for the reverberated signal to die down to 60 dB below the maximum. In Designer Reverberation, the decay time can be set from a fraction of a second up to 12 seconds.

Size

Apparent size of the space being recreated displayed as a percentage. Smaller spaces are shown as low percentages while larger spaces are shown as higher percentages. Thus, the factory preset “living room” is 2.3%, while “cavern” is 84.5%.

Delay in ms

This a delay time inserted ahead of reverberation. It is typically used to simulate larger spaces, in which the sound source is located far from the room surfaces. The range of this parameter is 0 to 100 milliseconds.

Dens in %

Density is one of the principle subjective characteristics that the ear identifies in reverberation. This correlates in part to the irregularity of surfaces in an acoustic environment. Smooth surfaces yield low density, while the bumps and curves of highly ornamented surfaces reflect sound in many directions at once, causing rapid build-up in reverb density.

Low Mult.
Lo cf
High Mult.
Hi cf

The four parameters in this group determine how different portions of the frequency spectrum decay in relation to overall reverberation time. Designer Reverberation divides the reverberant field into two bands, Low and High. The relative reverberation time and cutoff frequencies are defined separately for each band.

Low in dB and High in dB are not conventional boost/cut filters, but actually increase and decrease reverberation time as a multiple of the overall (RT60) decay time. In the physical world, reverberation time varies with frequency, largely as a function of the absorption characteristics of the enclosure surfaces and differential absorption by the atmosphere.

Lo cf in Hz and Hi cf in Hz are the cutoff frequencies that apply to each band. With these four controls, and enormous range of variation in the reverb characteristic can be obtained.

Mix in

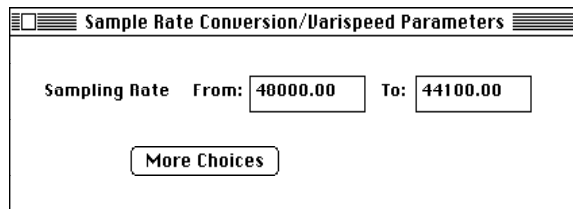
The Mix control determines the blend of dry (unprocessed) versus wet (reverberation output) signal. Its value is expressed as the percentage of processed signal.

Sample Rate Conversion Dialogs

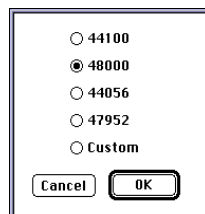
Requires software option Basic Sample Rate Conversion SS-520 or Varispeed Sample Rate Conversion SS-500.

Additional details on the operation sample rate conversion are found in the manuals for the specific options.

Sample Rate Conversion/Varispeed Parameters Dialog



When you specify sample rate conversion on record (by selecting the checkbox in the Record Sound File dialog), or Varispeed on Playback from the Play menu, this dialog appears to define the ratio of conversion.



When you click either the “From” or “To” field, another small dialog appears to allow quick conversion between the common standard sample rates, or elect to define a custom ratio.

If you select “Custom,” then when you return to the main dialog you can enter an arbitrary value in the selected field. Note that you must first delete the contents of the field using the keyboard Delete key before you can enter the custom value.

Varispeed Parameters Dialog

Varispeed Parameters

Speed Change +/- % (-50.000 to 100.000)

Semitones +/- (-12.000 to 12.000)

Sampling Rate From: To:

Time From: To:

Beats From: To:

Ratio: (0.5 to 2.0)

Actual Ratio 1.00000000 % Difference 0.00000000

If you click on the “More Choices” button in the main dialog, this more elaborate dialog appears. Change in rate may be expressed in terms of a percentage speed change, pitch transposition in musical semitones, change from original play time to new time, change from original to new tempo, expressed as beats-per-minute, a direct ratio

Select the radio button that corresponds to the way you want to express the rate change, then enter the desired value.

Percentage Difference

Sample rate conversion is a digital process whose resolution is controlled by the arithmetic capabilities of the computing engine that performs the process. The SSP-3 computes and stores data to 24-bit accuracy.

When the parameters are updated, the system computes the difference between the conversion requested and that which the SSP-3 can perform in real time. This difference is display in the field % difference.

Fewer Parameters

This button returns you to the smaller dialog to specify conversion from one sample rate to another.

Filter Parameters

This button brings you to the filter parameters dialog.

Update Parameters

As discussed, you can specify that change of rate performed by sample rate conversion in any of several different ways. When you click on this button, the value you have entered is converted so that the same ratio is expressed in different ways in the other fields.

(Background) Sample Rate Conversion Dialog

Sample Rate Conversion can also be performed as a “batch” processing function that takes an existing soundfile as its input and creates a new, converted file on disk without altering the original. If your system is equipped with a second SSP card for background processing, you may edit, etc. as the file is being processed. If there is no processing card available, the conversion function can still be performed, but other operations will be locked out while it proceeds.

Specify
Source
File(s)

Output File

Conversion
Ratio

The command Bkg Sample Rate Conversion is found in the DSP menu. It brings up a dialog to specify the source file, the conversion ratio, and (optionally) the filter parameters that apply.

Input Soundfile

Click on this area first to define the soundfile that will be converted. A listing of all currently available soundfiles appears, from which you can select.

Stereo Mate

If the selected soundfile is stereo, the second channel is displayed here.

Start Time End Time

If you wish, you may define a start and end time. Sample rate conversion will be performed only on the portion of the source soundfile that lies between these two times.

Output Soundfile

You must define a name for the soundfile that will be created. Click here to do that. By default, the dialog that appears will list the name of the source soundfile followed by the tag “.src0001.” You may use this name, or enter any name you wish. If you do multiple conversions on the same source file, the numeric portion of the tag increments automatically.

Sample Rates

As when doing sample rate on record or playback (varispeed), you must define the sample rate of the original file, and the rate to which you wish to convert it. Click on each of these fields to bring up the small dialogs that specify the standard or customer sample rates.

<More Choices>

When you click here, the Bkg SRC Ration dialog appears.

Filter Parameters

When you click here, the Filter Parameters dialog appears.

Bkg SRC Ratio Dialog

Option	Value	Range
<input type="radio"/> Speed Change +/-	8.8435	% (-50.000 to 100.000)
<input type="radio"/> Semitones +/-	1.467	(-12.000 to 12.000)
<input type="radio"/> Time	From: 00:00:30:00 @a To: 00:00:27:17 @a	
<input type="radio"/> Beats	From: 60.0000 To: 65.3061	
<input checked="" type="radio"/> Ratio	1.08843537	(0.5 to 2)

This dialog functions the same as the Varispeed Parameters. Change in rate may be expressed in terms of:

- A percentage speed change
- Pitch transposition in musical semitones
- Change from original play time to new time
- Change from original to new tempo, expressed as beats-per-minute
- A direct ratio

Select the radio button that corresponds to the way you want to express the rate change, then enter the desired value.

The Filter Parameters Dialog

The process of sample rate conversion begins by applying a high-precision digital filter to create a “decimated” version of the original audio data. This version is then resampled at the target sample rate to create an accurate interpolation between data points.

The low-pass filter that is used for decimation is very precise. The user has a great deal of control over the actual realization of this filter.

The large form of the Sample Rate conversion/Varispeed Parameters dialog includes a button labeled “[Filter Parameters](#).” This button brings up a dialog to set different aspects of the filter implementation.

		Default (Range)
DC level Gain:	<input type="text" value="0.900000"/>	0.9 (0.0 to 1.0)
Filter Frequency 3db point: (Relative to Source)	<input type="text" value="0.9070295"/>	0.907 (0.0 to 1.0)
Filter Sharpness Beta: (for Kaiser Window)	<input type="text" value="10.00000"/>	10.0 (15.0 to 2.0)
Window Size: (Number of Multiplies)	<input type="text" value="29.00000"/>	29.0 (2.0 to 48.0)
<input type="button" value="Cancel"/> <input type="button" value="OK"/>		

DC Level Gain

The decimation filter used in sample rate conversion is an FIR type, a multi-tap delay that approximates the response of the ideal filter. Because the decimation calculations must be performed in real time, the number of taps available for the filter is limited, and the theoretically infinite impulse response must be abbreviated.

For computational efficiency, SonicStudio uses a direct truncation of the ideal prototype response. This type of filter is very accurate, but exhibits amplitude ripple near the cutoff frequency that is known as the “Gibbs Phenomenon.”

As a result of this ripple, source material containing high frequencies recorded at high signal levels may exhibit clipping as it passes through the decimator. The DC Level Gain parameter reduces gain at the input of the conversion to prevent this clipping. This reduces the overall level of the converted audio.

If the source material does not contain strong high frequencies, the DC level Gain may be set to a value of “1,” resulting in unity gain, without adversely affecting audio.

Filter Frequency 3 dB point

The maximum value for the cutoff frequency of the decimation filter is the Nyquist frequency of the source, which is 1/2 the sample rate. The actual cutoff frequency used for the filter is expressed as a multiple of the Nyquist rate.

Although the system provides for setting of this parameter from 0 to 1.0, normal values are in the range of .9 to 0.95. For example, the default of 0.9070295 is set up for conversion from 48 kHz or 44.1 kHz source material. The minimum cutoff frequency of the filter in kilohertz then is:

$$(44.1 * 0.5) * 0.9070295 = 20.000 \text{ kHz}$$

A slightly lower factor could be used at 48 kHz sample rate, while keeping the filter cutoff at or above 20 kHz.

Filter Sharpness Beta

In a digital filter of the type used for sample rate conversion, there is a trade-off between the sharpness of the filter and the amount of attenuation in the stopband. SonicStudio uses a *Kaiser window* implementation which has a constant, β (Beta), that defines this trade-off.

Lower values for the Beta parameters mean a sharper cutoff, but less attenuation in the stopband, while lower values translate into a more gentle rolloff, with more optimal stopband attenuation.

A low value for Beta may result in aliasing problems caused by the reflection of signal components below the Nyquist frequency into the trans-Nyquist region. Setting the Beta to a high value, on the other hand, will broaden the transition band, and could result in problems with frequencies that are near the filter cutoff point, but beneath the Nyquist frequency.

Window Size

The window size presents a three-way trade-off between the accuracy of conversion ratio, filter response, and signal processing power required.

The greatest accuracy of conversion ratios is provided by low window size. Higher values yield better performance in the decimation filter, but at the expense of a larger error factor (% difference) in the conversion factor realized versus that requested.

In addition, higher values for Window Size consume larger amounts of processing power. Depending on the conversion ration requested, this can result in the SSP-3 engine being unable to deliver the requested conversion in real time.

NoNOISE[®] Dialogs

Requires NoNOISE options, NN-101, 102, 103, 104, 105, 106.

NoNOISE is an extensive and distinct environment of specialized tools for audio restoration. Complete descriptions of the commands and dialogs used for NoNOISE are found in the NoNOISE Users Manual. Description of these is beyond the scope of this document.

A Menu Command Keyboard Equivalents

Introduction

SonicStudio's menu commands and dialogs provide complete control over all audio transfer, editing, and processing functions. For the experienced user, however, it is often faster and more convenient to use the keyboard computer keyboard to control the system.

SonicStudio provides two kinds of keyboard command equivalents.

- Sonic Keys are permanent key assignments that are built into the application and cannot be changed by the user.
- Quick Keys are user-changeable keyboard commands that use QuicKeys™ from CD Software.

This utility program is provided in many of the SonicStudio package configurations and is highly recommended for all users.

These built-in commands and utility functions can greatly speed your use of the system. If you do not have QuicKeys installed on your computer, we recommend you do so.

Built-In Keyboard Commands

There are a number of keyboard command equivalents that are built into the system. Most of these are “command keys”, invoked by holding down the “command” (⌘) or “apple” key on either side of the spacebar while pressing another key. Command keys are displayed in the menu next to the commands they affect, so it is always easy to find out what they are. Letter keys are shown, in capitals, as they appear on the key top.

Menu Commands

File Menu Command Keys

command - W	Close
command - S	Save
command - Q	Quit

Edit Menu Command Keys

command - Z	Undo
command - X	Cut
command - C	Copy
command - V	Paste

EDL Menu Command Keys

command - Y	Display selecte panel(s) in Waveform mode
command - T	Display selected panel(s) in Text mode
command - B	Display selected panel(s) in Bar mode
command - H	Display selected panel (s) in NoNOISE Estimate mode
command - R	Refresh Plot

Play Menu Command Keys

- command - space Play between Gates
- command - / Enter Reel-Rock (Scrub) mode

Mark Menu Command Keys

- command - [Place IN point
- command -] Place OUT point
- command - \ Find & Set Points (set edit points at nearest previous edit)

View Menu Command Keys

- command - I Zoom In
- command - O Zoom Out
- command - P Zoom to Previous View
- left arrow Move Backward
- right arrow Move Forward
- up arrow Zoom In
- down arrow Zoom Out

EDL Commands

There are a few key commands that can be used while the EDL is open.

- S Set selected panel(s) to Source edit group
- D Set selected panel(s) to Destination edit group
- command - A Select all segments in selected panel(s)
- command - D De-select all segments in selected panel(s)

QuickKeys

Quick Keys are implemented through CE Software's QuickKeys™ utility. This is useful application runs in the background, and when a specific key or keys are pressed, it executes the specified command in SonicStudio.

The principle advantage that Quick Keys have over built-in keyboard commands is the key assignments can be easily changed by the user, and new commands specified. This powerful customization capability lets you tailor the system to fit your task and the way you work.

A standardized set of Quick Keys is delivered with SonicStudio. This set has evolved over several years of experience with the system in many different contexts, and has been found to be broadly useful for many applications.

Transport Panel Quick Keys

When the Transport Panel is up on screen, you may use the first three keys on the keyboard numeric keypad, together with the option key, to cue the EDL to any of the three cue memories.

Additionally, you may use the sequence below to halt a recording in progress.

option - F9 Halt recording in progress