Chapter 5
The Editor

This chapter is a detailed reference to Audicy's editing screen and its menu commands. While this manual has other chapters about the mixer and real-time effects system, we did this just to make it easier to find things. When you're working, you can switch freely between editing, mixing, and applying effects. There are no "modes" — everything is always available.

If you haven't used Audicy before, we recommend you go back to Chapters 1 and 2, and try some basic production. Once you're familiar with Audicy-style editing, skim through this chapter to see how many different tools are available to you. Then start using them in productions.

You'll find that most of Audicy's features are intuitive, and you'll quickly learn just by working with them (and occasionally pressing the *Help* button for advice).

- Audicy is a powerful system, and chances are you won't find all of its features just by poking around. So come back to these pages, from time to time, to see if there are any other cool production effects you might have missed. For even more techniques, refer to Chapter 8: Tips and Tricks.

Editor Screen

Most of the time you're working with Audicy, you'll be looking at the Editor screen. It looks like this.

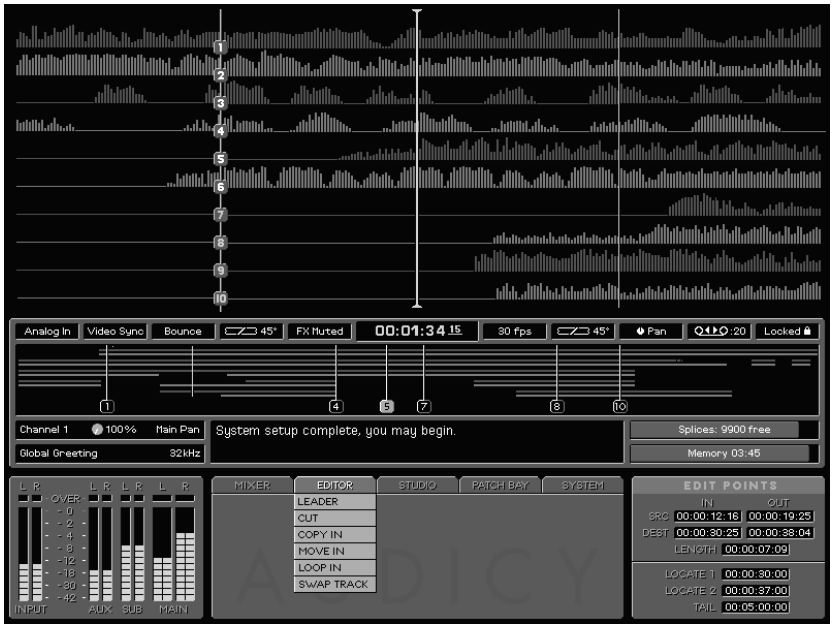


Figure 5-1: Editor Screen

If the top half of the screen doesn't show horizontal tracks, it's easy to get them:

- If the top half is a drawing of a mixer, press the *Editor* button.
- If the top half is effects like an equalizer or compressor, press *Esc.*
- If the top half is text or a form where you can enter settings, press *Esc.*
- If the top half displays a picture of an Audicy, you're in the Job Controller. See Chapter 3.

Track Display

Audicy is a twenty-four track system, and any ten of the tracks can be assigned to the ten Console channels. These ten tracks also show up as the horizontal lines on the top of this screen. As you record or edit sound, you'll see its envelope appear on the track. As you edit sounds, the envelopes move around. The green vertical line in the middle represents your current position in the production. Think of it as a tape head, with ten tracks of a twenty-four track tape moving past.

The numbered vertical bar identifies channels. If a number shows in green, that channel's *Play* button is on. If it's red, the channel's *Record* button is on and the track is ready to receive audio. A number will be yellow if both buttons are on.

[tip] You can switch between the Mixer and Editor screens at any time by pressing *Mixer* or *Editor*.

The channel -number bar may occasionally obscure an edit region. You can make it go away quickly, by jumping at least twenty seconds and coming back: If you're in Jump mode (the *Cue* button isn't lit) press ◀◀ and then ▶▶. Otherwise, just locate to *Head*, *Tail*, or one of your other Locate points — as long as it's at least twenty seconds from the edit — and then use *Audit* to return.

The Status Bar

Figure 5-2: Status Bar

The Status Bar is in the middle of the screen. It tells you how various system functions are set. There are 10 small Status Windows showing various system settings, described below. Some of these slots may be blank, depending on which hardware options are installed and what you're doing at the time. The large slot in the middle shows your current location within the production, in hours, minutes, seconds, and frames.

Input Selection *(Window 1)*

If you have the Intelligent Digital Module, this shows Analog, SPDIF, or AES/EBU, depending on which input jacks you've chosen (with the *Input* button or respective menu picks). If you've selected a digital input, it will indicate whether the signal is valid or not.

The Intelligent Digital Module analyzes all incoming digital signals. A detailed status report is available in the IO Setup screen (refer to Chapter 7).

If you've chosen a digital input with nothing plugged in, or the incoming signal is invalid and can't be recorded, its name will appear in red letters with a line through it.

If you don't have the Intelligent Digital Module, this window will always say Analog.

External Sync *(Window 2)*

If you have the Intelligent Digital Module, this shows the synchronization source for Audicy's internal clock. You can select different external sync sources in IO Setup, including word clock, video, or the digital input. If the chosen sync source is missing or out-of-spec, Audicy automatically reverts to its own internal high-precision crystal. In this case, the window will appear in red letters.

If you don't have the Intelligent Digital Module, this window will always be empty, and your system will be running off its own high-precision internal sync reference.

Record Mode *(Window 3)*

When Bounce mode is active, Bounce appears in this window. Otherwise, in normal record mode, this Status Window is empty.

Splice Length *(Window 4)*

This shows the splice angle you've selected using the *Splice* button, or from the Studio menu choices: 45°, 1/2″, 2″, or 90°/butt. Audicy's splices don't use physical space, of course. But they're tuned to sound like a splicing block with those measurements at 15 ips.

Output and Effects Mute *(Window 5)*

This Status Window is empty unless all audio is muted (by pressing the *Output Mute* button), or just the real-time effects have been muted (by pressing *Shift*+*Output Mute*).

Frames Per Second *(Window 6)*

This window shows the production's frames-per-second setting, as defined in the Job Controller. Refer to Chapter 3.

Vari-Speed Ratio & Auto A/B *(Window 7)*

While you're using real-time Varispeed (*Shift+Play*), this window displays the current speed as a percentage of normal. The display turns off when you stop the tape. Varispeed is discussed fully in Chapter 4. This window also displays whether Auto A/B, a feature that automatically toggles the A/B play enable setup whenever you go into record, is on (Auto A/B is discussed later in this chapter).

Parameter Knob Assignment *(Window 8)*

The *Parameter Control* knobs are assigned to various functions in the Mixer and Effects screens. This window shows the current assignment, especially useful when the Editor screen is on and you can't see the Mixer knobs on-screen.

Machine Control and Chase Status *(Windows 9, 10)*

These are used by the SMPTE TimeCode option, and discussed in Chapter 12 of this manual. Window 9 will be empty unless you have the SMPTE option.

Jump Mode *(Window 10)*

When Audicy isn't chasing timecode, this window displays Jump Mode. When this Mode is turned on, the *Cue* button flashes or goes dark, and text next to the icon in this window shows whether each press of the ◀◀ and ▶▶ button will jump you either :20 or :60 seconds. When Jump Mode is off, the fast-wind buttons behave like an analog tape recorder, the *Cue* button doesn't flash, and this window is empty.

Press *Cue* to toggle Jump Mode on or off. Press *Shift+Cue* to switch between :20 and :60 second jumps.

Overview Window

The Overview Window shows you all the audio on the currently-assigned tracks. It automatically zooms to include every sound, showing as little as two minutes or as much as sixteen hours at a time. The stationary vertical lines with numbers are locate points, and the moving vertical line is your present position.

- If part of a track has been cut, erased, or never recorded, that part of the overview is blank.

- If there's recorded material on a track — even if you've recorded silence — a colored bar appears in its place. This is a good way to confirm that a Copy operation worked, when the destination is beyond the Track Display on the screen.

- The display is automatically scaled to accommodate all of your production.

Job Windows

There are two horizontal windows to the left of the Message Window.

Parameter Control Status (Upper Job Window)

Whenever you move a *Parameter Control*, the top Job Window shows the current knob type and value. It'll tell you whether the knob is for a single channel or the production's Stereo Submix Return; whether the knob is for Main Pan, Sub or Aux Gain or Pan; and the current setting. The on-screen knob responds in real-time to any move of the Console knob, so that you can see any adjustments. This display goes blank after 15 seconds if you aren't moving any knobs

Production Name and Sample Rate (Lower Job Window)

The name you chose when you started the current production is displayed here, followed by the production's sample rate[1].

If Shadowing is being used (because the production was started with Make New or Edit Old), the name appears in green letters. If Shadowing is off because an old production was opened Edit Temp, it's in yellow as a warning. If Shadowing is off because you started this production with Make Temp, it says Temporary Production in yellow letters.

Message Window

The Message Window tells you what the system is doing, and reports problems or operator errors. There are thousands of possible messages that can appear in this space, all designed to inform and guide you through different situations.

[tip]	If something doesn't happen the way you expect it to, always check the Message Window first.

[1]This sample rate is used for Audicy's analog sampling and audio storage. If you have the Intelligent Digital Module, this rate isn't necessarily related to the input or output sample rate.

Messages take many forms:

- Confirmations that an action has taken place, like Bounce Mode Enabled.
- Warnings that you're asking the impossible, like You must choose at least one destination track before you copy.
- Hints about an operation, like You may change source tracks before you edit.

Depending on the Error Help Level you've set in the Job Controller Defaults, the *Help* button might also flash to tell you there's more complete information about these conditions. If the *Help* button flashes, press it to see this information.

Whenever you define an edit with *In* and *Out*, the Message Window tells you the length of the edit in minutes, seconds, and frames.

- You can use this as a handy "instant stopwatch": just mark *Source In* and *Out* around the area you want to time, and read its length in the Message Window.

When a new message is posted, the window highlights to call your attention to it. The highlighting goes away as soon as you do anything with the Console; the old message will stay, unhighlighted, so you can refer to it.

Fuel Gauges

Two horizontal gauges give you a visual indication of how much memory is left for your production. The upper one is also used as a progress indicator during non-real-time processes, and can be switched to indicate offset on timecode-equipped systems.

Splice Memory (upper Fuel Gauge)

The Splice Gauge tells you how much Splice Memory is left; for example, Splices: 9485 free. A horizontal bar shrinks as you use splices.

Audicy records the precise location[2] of each edit as you make it. When you start a production, Audicy assigns memory to hold at least 10,000 splices — the equivalent of four full rolls of splicing tape.

As you edit, you use splice memory:

- A Cut eats up one splice.

[2]Precise to about 1/1000 of a SMPTE frame.

- Inserting Leader takes two splices (one at each end). So does Erase, since Audicy "splices in" an equivalent length of blank tape.
- Copy In and Copy Over also need two splices, one at each end of the copy.
- Loop is like Copy, except you also need one splice to join each repeat of the loop.
- A Move requires four splices, since it's a combination of copying and cutting or erasing.

These splice counts are in mono. Audicy makes separate edits on each track, so stereo requires twice as many splices. (Or in other words, a four-track Erase will need eight splices.)

Occasional operations may use more splices than you think. For example, if a section has a lot of splices in it already, and you Loop that section, all the splices have to be duplicated at each repetition of the loop.

Even so, it's unlikely that you'll ever run out of Splice Memory. If you run low, the system will warn you that splice-intensive operations are impossible. The *Help* button will also flash; press it for ideas about recovering splice memory and continuing your production.

Recovering Splice Memory

You can recycle Splice Memory, so you can cut forever without running out:

- If you cut or erase a section that had splices in it, those splices become available for other edits.
- If you bounce a heavily-edited section onto itself, the new version won't have any splices in it[3].
- If you're looping a heavily edited section, it may be a good idea to bounce it to itself first.

You won't see Splice Memory increase immediately after these tricks. But after the next operation, *Undo* gets cleared and the splices become available.

Audio Memory (lower Fuel Gauge)

The Audio Memory Gauge tells you how much audio RAM is left for new recording in your production. The number within it displays remaining memory, in minutes and seconds, and the horizontal bar shrinks or grows to give you a visual indication.

[3] See Chapter 8.

The remaining time display changes color to warn of low memory. If there's plenty of time left, the numbers are green. When there's less than a minute, they turn yellow. At fifteen seconds, they turn red.

Meters

There are eight peak-reading level meters on the Audicy screen. These display in left/right pairs the inputs, the auxiliary outputs, the submix bus, and the main outputs. The individual main output meters may also split, as described below.

Audicy's meters are a little different than analog VU meters you may be used to. Almost all digital recording devices include this kind of meter, so you can record at maximum levels and still avoid distortion.

- On steady signals, like sine waves, peak-reading and VU meters respond exactly alike.
- But speech frequently has bursts 15 dB hotter than the average level. They can be so fast that analog needles can't swing fast enough to read them, but they'll still produce distortion.

If you've ever used an oscillator to align a console and DAT recorder together, you probably noticed that some elements might look good on the console's analog meters but seriously overload the recorder. Most engineers consider sine wave levels of –15 to –18 dB on a digital peak meter to be the same thing as "zero" on the VU.

Note: Dense, heavily-compressed sounds (like most pop music) can be run hotter — sometimes, all the way up to –10 dB. Wide range materials (like classical) need more headroom, so –18 dB is safer.

Over

The Overload indicators flash when the signal reaches clipping levels, and stay lit for about one second after the peak.

Digital recording isn't like analog: There's absolutely no headroom above the zero indication. If a signal is so loud that all 16 bits are turned on, there just aren't any more bits left.

An occasional peak of one or two samples at all-bits-on is probably something you won't hear, and Audicy can handle the sound with no trouble. But if the level stays up there for a longer period, it usually indicates clipping somewhere in the signal chain.

Even though Audicy is designed to clip "softly", without the crackles or hash found in some other digital equipment, distortion is inevitable at these levels.

Don't let warning indicators flash, unless you're sure it's giving you the effect you want.

Split Output Meters

Each of the Output Meters is twice as wide as the other meters, because they are actually two columns of lights, measuring the level before and after the Output effects-insert point. If you don't have any effects patched into the output, these will read the same level. But if you've inserted a built-in equalizer or OPTIMOD compressor in the output, the left half of each meter shows the effect input and the right half shows Audicy's actual output level.

While the meters are calibrated to 16-bit levels, Audicy's internal mix bus runs at 32 bits to accommodate combinations of loud tracks. So if you've got a compressor patched into the output, it's possible that the left half of a meter will indicate occasional clipping while the right half doesn't. In most of these cases, the signal will not be distorted.

Input Routing Indication

The label above the Input meter, usually defaulted to L/R (green letters), changes to Mono (yellow letters) or R/L (red letters) depending on how you have the input routing set. For a more thorough discussion of input routing, see Chapter 4: Console.

Edit Points

These fields display the user-defined Edit points and Locator points, as well as the Tail of the production. Times are in hours:minutes:seconds:frames. The frames number follows the frame format you chose when you started the production.

If a point has not been specified, the field will be blank.

The top half of the Edit Points section displays the Source and Destination 'edit markers': Src In, Src Out, Dest In, Dest Out. Length is the total time between two active edit points. Length is a useful feature for checking the length of the audio you're working on.

The bottom half of the Edit Points section displays the location of two user-defined locator points: Locate 1 and Locate 2.

The Tail is also shown. This field updates whenever you add audio to the end of the 'tape'. When you press the *Tail* button, this is the location you will jump to. It does not update if you add locate points beyond the last audio.

- When you quit a production, the timer values are saved. They reappear when you reopen the production.

Menu Choices

There are five menu headings across the middle of the bottom half of the screen, directly under the Message Window: Mixer, Editor, Studio, Patchbay, and System.

The Mixer menus are discussed in the next chapter.

The Editor menus let you move sounds around a track or to other tracks.

The Studio menus let you apply processes like Time-Fit and pitch-shift, or get sounds from the library.

The Patchbay menus let you assign tracks to Console channels, name tracks or patch effects into them, and fine-tune special features like the Intelligent Digital Module or SMPTE chasing.

The System menus control basic system functions like Shadowing and the scrubwheel dynamics, and let you Quit a production.

Working With Menu Choices

You can select a heading by using the *left* and *right* arrow buttons; as you select each category heading, a number of related menu choices drops down. Use the *up* and *down* arrow buttons to select a choice; if a choice has a submenu, it will extend to the side. Once you've selected the operation you want, press *Enter* to carry it out.

Menus "wrap around":

- If you're at the bottom choice of a menu, pressing the *Down* button will jump you to the top.
- If you're at the left-most menu heading (Mixer) and press the *left* button, you'll jump to the right-most heading (System).

There are also some shortcuts for navigating through menus:

- If you're on a menu selection that has no submenu choices, pressing *left* or *right* arrow will take you to the top of the adjacent menu column.
- Even if there are submenu choices, pressing *Ctrl+left* arrow or *Ctrl+right* arrow will take you to the same level of the adjacent menu column. *Shift+left* arrow and *Shift+right* arrow behave the same way.

Most of the choices require that you define a region with the *Source In* and *Out* buttons, and that you turn on the *Play* button for at least one track. The tracks you've selected will turn white in the track display, across the edit region.

Some choices, like Copy, Move, or Flip, require three points: After you've set any three *In* or *Out* points, the system computes the fourth. For example, you can mark *Source In*, *Source Out*, and either *Dest In* or *Dest Out* to move a particular sound somewhere else. Or you can mark *Dest In* and *Out* plus *Source Out* to backtime and fill a sound into a preset hole. Almost all of these choices also require that the same number of tracks are both *Play*-enabled and *Record* ready. These operations can work on one or two tracks at a time. The *Source* tracks you've selected will turn white. The destination tracks will turn gray. If *Source* and *Dest* areas overlap, the area will be yellow.

The Copy or Loop Self choices require three points, but work on any number of tracks at a time. They Copy or Loop each sound to the same track that it came from.

The Time-Fit choices let you specify all four points, if you want, to fit a sound of one length into a hole of a different length. (If you don't want to specify four points, you can use Time-Fit by dialing in precise timings or percentages.)

- Menu selections stay selected until you change them. For example, if you've just Cut one sound and you want to cut another, you don't have to do any additional menu navigating. All you need to do is mark the *Source In* and *Out* points and *Enter*.

- The step-by-step descriptions below usually have you mark the source before you mark the destination. But this is just for convenience in writing the manual. You can press Audicy's marking buttons in any order, and the edit will still be correct.

Working With Forms

Many of the menu choices bring up a form where you provide necessary information, before the selected operation can begin.

When a form appears:

- Use the *Up* and *Down* arrows to move from one entry field to the next. You can also move to the next field by pressing *Enter*. If you're on the last field, this will close the form.

- Use the *left* and *right* arrows to scroll through any preset choices within a field.

- Use the scrubwheel or *Page Up*, *Page Down* buttons to advance through a scrolling selection window.

- Use the pullout keyboard to enter text.

- If you're unsure about what an entry means, move to its field and press *Help*.

- You can close a form any time, and save its information, by pressing *Shift+Enter*.
- You can cancel the operation any time, by pressing *Esc*.

Numeric Entry Of Time Values

We've made it easy and quick to enter times into Audicy form fields. This speeds operations such as adjusting locate points or setting the length of audio when using Orban's Time-Fit operations.

The simplest way to set a precise time is to just type it in, using the numeric keypad on the Console. Numbers fill in from the right, just like an adding machine or bank ATM. If you want to, for example, set the time to 12 minutes, 34 seconds and 19 frames, just type 1 2 3 4 1 9, followed by *Enter*. You can also use the *left* and *right* arrow buttons to move around within the field, or use the pullout keyboard's editing keys (like *Delete*, *Insert*, *Backspace*) to edit the value that's already there.

Or, you can "dial in" the time. After you've used the arrow buttons to move to a digit in the field, spin the scrubwheel to adjust the time.

The Editor Menu

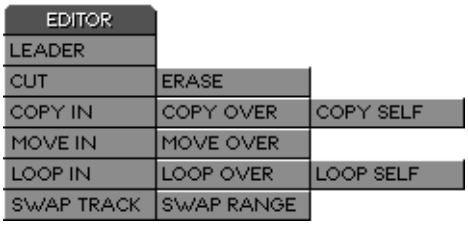


Figure 5-3 Editor Menu

Editor

The menu heading mimics the *Editor* button. If you highlight the word Editor and press *Enter*, the track display appears.

Leader

This choice adds blank space to a track, just like splicing paper leader into an analog tape. Set *Source In* and *Out* to define the position and length. When you press *Enter*, space will be added to each *Play*-enabled channel.

Cut, Erase

These choices eliminate all sound between Source In and Source Out (i.e., everything in the white area) when you press *Enter*. Cut also eliminates the time between edit marks, like cutting and splicing an analog tape:

Before:

Source: The quick [[brown]] fox.

After Cut:

Source: The quick fox.

Erase replaces everything between *Source In* and *Source Out* (i.e., everything in the white area) with silence, just like spot-erasing a length of analog tape. Sounds outside the edit region aren't moved.

Before:

Source: The quick [[brown]] fox.

After Erase:

Source: The quick fox.

Note: *Dest In* and *Dest Out* have no effect on Copy and Erase.

To do a Cut or Erase:

A) Use the transport controls and scrubwheel to locate the beginning of the sound you want to edit.

   Unlike other workstations, Audicy's scrubwheel lets you hear audio at any speed — even down to individual samples. So you can edit quickly and accurately *by ear*, without ever having to guess how a graphic waveform display will sound.

B) Press *Source In* to mark the start of the sound. The button will light to indicate the in-point is set.

C) Use the transport controls and scrubwheel to locate the end of the sound you want to edit.

D) Press *Source Out* to mark the end. The button will light to indicate the out-point is set.

   The area between your marks will turn white on tracks whose channel *Play* buttons are turned on. You can edit a single track at a time, all ten currently-assigned tracks, or any combination.

   This also means you can listen to one set of tracks for cueing purposes, and then edit a totally different set of tracks.

   You can preview the edit region by pressing *Source Audit* twice.

E) Make sure Editor:Cut or Erase is selected, and press *Enter*.

The edit happens as soon as you press *Enter*. Then you can rewind or scrub back a little and listen to it. If you don't like how the edit sounds, press *Undo*.

Copy In, Copy Over, Copy Self

Copy In and Over take material from the source region on the *Play* tracks (the white-highlighted area), and copy it onto the destination region (the gray or yellow area) on the *Record* ready tracks. The original material on the *Play* tracks is unaffected. You define the source and destination regions by pressing any three *In* or *Out* buttons.

Copy In and Copy Over work with one or two tracks at a time. You can copy from any track(s), anywhere in your production, to any track(s) anywhere else.

Copy Self is an insert edit like Copy In, only it works on up to ten *Play*-enabled tracks simultaneously. It copies each sound to the same track that it came from. You can copy to a destination point anywhere in your production, allowing you to make quick, instant copies of an entire mix.

What's the difference between Copy In and Copy Over?

- Copy In inserts a duplicate of the sound at the destination, moving any other elements on that track later in time. It's like splicing a pre-taped copy into an analog track.

- Copy Over overdubs a duplicate of the sound at the destination, replacing any sound that might be there already. It's like overdubbing a copy onto an analog track.

Before:

Source: The quick [[brown]] fox.

Destination: Mary had a »little lamb.

After Copy In:

Source: The quick brown fox.

Destination: Mary had a brown little lamb.

After Copy Over:

Source: The quick brown fox.

Destination: Mary had a brown lamb.

To do a Copy In or Copy Over of a specific sound:

A) Mark a stereo or mono sound as if you were going to Cut or Erase it, using the *Source In* and *Source Out* buttons. See instructions above.

B) Use the transport buttons or scrubwheel to find where the sound should start, and press *Dest In*.

Note: *Dest* is short for Destination.

C) Tell Audicy which one or two tracks the sound should be copied to, by pressing the appropriate channel *Record* button(s). The buttons will flash to indicate the tracks are ready.

The destination region will turn gray on the editor screen. If any of the destination overlaps the source and is on the same tracks, the overlap will turn yellow as a warning.

Note: The number of channel *Play* enable and *Record*-ready buttons must match. If they don't, the Message Box will alert you to try again.

D) Make sure Editor:Copy In or Copy Over is selected, and press *Enter*.

The edit happens as soon as you press *Enter*. Then you can press *Dest Audit*, rewind or scrub back a little and listen to it. If you don't like how the edit sounds, press *Undo*.

You don't have to mark both ends of the source. If you want, you can mark *Dest In* and *Dest Out* around the area where you want the copy to go. Then mark *either Source In* or *Source Out*. After you've made these marks, continue with step C above: Audicy will grab enough of the source sound to fill the destination.

Move In, Move Over

Move In and Move Over take material from the source region on the *Play* tracks (the white-highlighted area), and copy it onto the destination region (the gray or yellow area) on the *Record* ready tracks. The original material on the *Play* tracks is removed. You define the source and destination regions by pressing any three *In* or *Out* buttons.

Move In and Move Over work with one or two tracks at a time. You can move from any track(s), anywhere in your production, to any track(s) anywhere else.

> [tip] Move In and Over work with no more than two tracks at a time. To move more than two tracks, first use Copy Self to copy multiple tracks, then Erase the original tracks.

What's the difference between Move In and Move Over?

- Move In inserts the sound at the destination, moving any other elements on that track later. Since the original is cut out, elements on that track are slid earlier: It's like doing a Copy In to a new track, followed by a Cut on the original source track.

- Move Over overdubs the sound at the destination, replacing any sound that might be there already. The original is then erased. Timings of other elements aren't affected. Think of Move Over as a Copy Over, followed by an Erase.

Before:

Source: The quick ⟦brown⟧ fox.

Destination: Mary had a »little lamb.

After Move In:

Source: The quick fox.

Destination: Mary had a brown little lamb.

After Move Over:

Source: The quick fox.

Destination: Mary had a brown lamb.

To do a Move In or Over:

A) Mark a stereo or mono sound as if you were going to cut or erase it, using the *Source In* and *Source Out* buttons. See instructions above.

B) Use the transport buttons or scrubwheel to find where the sound should start, and press *Dest In*.

Note: *Dest* is short for Destination.

C) Tell Audicy which one or two tracks the sound should go to, by pressing the appropriate channel *Record* button(s). The buttons will flash to indicate the tracks are ready.

The destination region will turn gray on the editor screen. If any of the destination overlaps the source and is on the same tracks, the overlap will turn yellow as a warning.

Note: The number of channel *Play*-enable and *Record*-ready buttons must match. If they don't, the Message Box will alert you to try again.

D) Make sure Editor:Move In or Move Over is selected, and press *Enter*.

The edit happens as soon as you press *Enter*. Then you can press *Dest Audit*, rewind or scrub back a little and listen to it. If you don't like how the edit sounds, press *Undo*.

You don't have to mark both ends of the source. If you want, you can mark *Dest In* and *Dest Out* around the area where you want the sound to go. Then mark *either Source In* or *Source Out*. After you've made these marks, continue with step C above: Audicy will grab enough of the source to fill the destination.

Loop In, Loop Over, Loop Self

These choices work just like their equivalent Copy choices (see above), except they make up to ten consecutive copies of the source, aligning the In-point of each copy right at the Out-point of the previous one. For example, you can loop a bar or

two of music to extend a jingle donut, or a background sound to fill a scene. Just like the Copy operations, Loop In and Loop Over work for one or two tracks at a time, while Loop Self will make loops of up to ten Play-enabled tracks.

To create a loop:

A) Mark a stereo or mono sound as if you were going to Cut or Erase it, using the *Source In* and *Source Out* buttons. See instructions above.

B) Use the transport buttons or scrubwheel to find where the sound should start, and press *Dest In*.

Note: *Dest* is short for Destination.

C) Tell Audicy which one or two tracks the sound should be looped, by pressing the appropriate channel *Record* button(s). The buttons will flash to indicate the tracks are ready.

The destination region will turn gray on the editor screen. If any of the destination overlaps the source and is on the same tracks, the overlap will turn yellow as a warning.

Note: The number of channel *Play* enable and *Record*-ready buttons must match. If they don't, the Message Box will alert you to try again.

D) Select the Loop menu choice and press *Enter*.

All of the ten Channel *Play*-enable buttons will start flashing on the mixer side of the Console.

E) Press the flashing button whose channel number equals the number of loops you want.

For example, if you want three loops, press Channel 3 *Play*. If you want ten loops, press Channel 10 *Play*.

The edit happens as soon as you press the channel *Play* button. Play back part of your loop to check it; if you don't like the sound, you can press *Undo*.

Before:

Source: The quick [[brown]] fox.

Destination: Mary had a »little lamb.

After Loop In[4]:

Source: The quick brown fox.

Destination: Mary had a brown brown brown little lamb.

[4] With Channel 3 Play pressed in step E.

After Loop Over:

Source: The quick brown fox.

Destination: Mary had a brown brown brown.

You can specify a single loop by pressing Channel 1 *Play* in step E. This will do exactly the same thing as if you'd used the Copy menu choice.

You can mark either or both *Dest* points before you begin. The system treats them as the marking points for the first copy in the loop, not for the entire looped sound.

Fade Up and Fade Down

This two-point edit lets you build automatic fades directly onto one or two tracks. It is very useful in building smooth transitions between tracks without mixing. *Play* enable one or two tracks, then set *Source In* and *Source Out* points for the length of the fade, as required. Press *Enter* to do the fade.

Fade Up builds a sound up from silence to full level; Fade Down pulls sound down to silence from full level. The slope of the fade is a logarithm which is determined by how long or short you set the Source In/Out region.

- Fading works best when it's in or out of silence. You may want to erase some sound next to the region you're going to fade before you start.

- Fading starts or ends with absolute digital silence. This is probably quieter than any of your listeners will ever hear, so the softest parts might disappear... making it seem like a Fade Up is too quick, or the end of a Fade Down is earlier than you've marked. Remember, the duration of your fade is a function of the length of your *Source* region. If you don't like results, *Undo*, and experiment by moving your Source marks further from where the fade starts/ends at full level.

- A fade must be longer than a half-second (15 frames). If you want shorter fades, change the *Splice* length and use Erase instead:

Splice:	Equivalent Fade:
1/2"	sixteenth-second (~2 frames)
2"	quarter-second (~7 frames)

Swap Track

Press *Enter* on this choice to make two entire tracks trade places.

It isn't necessary to mark any edit points in order to swap tracks. Just light the *Play* buttons on the two channels your want to Swap Tracks on then press *Enter.* Swap Track is handy for making nice neat stereo pairs after an involved session.

Before:

Track 1: The quick brown fox.

Track 2: Mary had a little lamb.

After Swap Track, with tracks 1 and 2 turned on:

Track 1: Mary had a little lamb.

Track 2: The quick brown fox.

Swap Range

Use Swap Range to make the *Source* and *Dest* regions trade places.

Mark the edit the usual way, then press *Enter* on Swap Range: Anything between *Source In* and *Out* trades places with anything between *Dest In* and *Out*.

Before:

Source: The quick ⟦brown⟧ fox.

Destination: Mary had a »little lamb.

After Swap Range:

Source: The quick little fox.

Destination: Mary had a brown lamb.

Swap Range can be used with mono or stereo source tracks, just like Copy. It also works with unrecorded tracks, if you want to swap something with silence.

You can use Swap Range to reverse channels of a stereo effect, and make it move in the other direction between speakers. Select just one track as the *Source* and the other as the *Dest*.

Studio Menu Choices

Part of this menu heading controls convenience features: handy things you might want in your studio's bag of tricks.

Another part of the menu harnesses the power of our dual custom DSP engines for non-real-time production effects. You can apply time compression, pitch-shifting, individual track varispeed, and other techniques directly to specific sounds. While

these effects require processing, they work very quickly: in many cases, four or five times *faster* than the length of the sound they're affecting.

Studio is mapped like this:

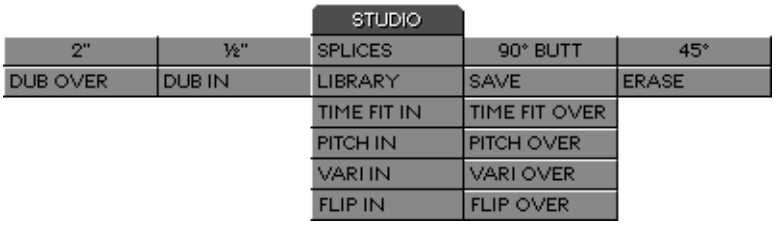


Figure 5-4: Studio Menu

Splices adjusts the crossfade length. Library lets you save or grab sounds from any of Audicy's hard disks. The other choices take old audio and create new audio from it. They use additional record memory, but they check that there's enough before working.

Splices

Tape editors frequently use differently angled slots in their splicing blocks, to get different transitions between sounds.

The more horizontal the cut, the smoother the blend from one sound to the next:

- A standard 45° cut is fine for most speech and music;
- A vertical cut (like the 90° Butt choice) is handy for abrupt sound edits or cutting ticks from a record;
- A long, almost horizontal slant is great for cutting violins or fading background effects. Use Fade Up or Fade Down for true fades with audio of any lengths.

You can select any of the four Splice angles, any time during a production. Old edits stay the way they were made; new ones use the new angle until you change it again.

You can also *Undo* an edit, select a new splice length, and re-do it again.

The Splice angle affects every kind of transition, not just editing. Use the slower ones for more gradual punch-ins, or to fade in elements when you Dub them from the library.

The current splice angle is saved when you Quit a Shadowed production, and comes back as soon as you restart that production.

Highlight Splices to see a submenu of splicing angles. The current splice angle is displayed in the fourth window of the Status Bar. Press *Enter* on the appropriate submenu choice.

- As a shortcut press the Console's *Splice* button to toggle through the different Splice types.

45°

Enter this for a 45° splice, the "standard cut" found on most splicing blocks. We figured our splicing angles at 15 IPS, so this is approximately a half-frame (15 ms) crossfade.

- **45°** is the default setting. Audicy starts all new productions in this position.
- You can also set this angle by pressing *Enter* on Splices.

90° Butt

Enter for a 3° angle, the "vertical" found on most splicing blocks.

1/2″

This gives you a splice about a half-inch long, handy for cutting string instruments. It's actually a crossfade of about 2 frames (60 ms) length.

2″

This gives you slow crossfade, useful for sound effects loops and some music. It lasts about a quarter second.

Library

Audicy lets you build up a library of stereo or mono sounds, on any connected hard disk, which can be played at any time or added to any production[5].

Some uses for the library include:

- Storing station logos and identifications;
- Storing sound effects;
- Storing test signals and tones;
- Instant playback of any mono or stereo production... even while you're working on a different production.
- Playing or saving computer ".wav" audio files (through the Job Controller's Import / Export menu choices).

[5]Library elements are saved at the production's sample rate. They can be brought into any production of the same sample rate. You can change an element's sample rate by using the Wave functions of the Job Controller.

- Exporting sounds or mixed productions to on air storage systems, using the optional Make Cart feature.

High-quality audio takes up acres of disk space: about four megabytes for each minute of mono[6]. Unless you've got a multiple hard disks, reserve the Library for stuff you use frequently.

[tip] Refer to Chapter 8 for tricks using the library.

Library Save

This saves sounds to any connected hard disk. You can then use them in other productions.

To use Library Save:

A) Mark *Source In* and *Source Out* around the stereo or mono sound and make sure its channel *Play* buttons are lit.

The selected sound will turn white on the track display.

B) Select Save next to the Studio:Library menu choice, and press *Enter*.

A form will appear. The grayed-out areas display information about the sound you've highlighted to save.

C) Use the arrow buttons to choose a hard disk, if desired. Then type information for the sound so you can identify it later.

D) Press *Enter* once or twice, as necessary, to start the saving process.

The Message Window will tell you that the sound is saving, and a progress bar will appear in the Fuel Gauge area. This may take a moment, depending on the length of the sound.

- If the sound has a sharp attack (such as a gunshot), leave an extra frame in front to compensate for the Splice angle.

- Since you have to use the pull-out keyboard to type information, you can save time by using the cursors and *Enter* key on the keyboard to navigate through the form.

- If you don't want to save, press *Esc*. If you press *Esc* after the sound has started saving, the operation is canceled. You'll then have a partially-saved sound in your library, named Save Incomplete! Erase this when you get a chance. It's useless.

Saving a sound to hard disk takes a third to a half as long as its mono length, depending on the sample rate: A three or four second effect is almost instantaneous; a sixty second stereo jingle at 32 kHz will take about forty seconds.

[6]At 32 kHz sampling. Even more if you're using the 44.1 kHz option.

Dub In, Dub Over

These menu choices load a Library sound in a production. Dub In inserts a sound onto a track or track pair, pushing existing sounds on destination tracks up in time. Dub Over, overwrites a sound on top of an existing sound. To use these features:

A) Locate Audicy's transport to where you'd like the sound to start.

   This doesn't have to be precise, since you can Copy or Move a library sound after it's been dubbed to the production.

B) Set one or two tracks to receive the mono or stereo sound, using the channel *Record* buttons.

C) Select Dub Over or Dub In next to the Studio:Library menu choice, and press *Enter*.

   A list of Library sounds you've stored on your hard disk will appear. Length is listed in minutes:seconds:frames. SRate is the sample rate, in kHz. If you have used the Library previously in this session, the last sound you dubbed will be highlighted.

D) Use the scrubwheel or Console buttons to select the desired sound

   The *Up* and *Down* buttons step through the list. *Head* or *Tail* takes you to the first or last entry. *Page Up* and *Page Down* scroll through a page of entries at a time.

E) Press *Enter*.

   The system will check to make sure the sample rate matches your production, and that you've readied the proper number of tracks.

When you press *Enter*, the selected sound starts dubbing into your production, at the current transport location and on the record-readied tracks. A progress bar appears in the Fuel Gauge area. You can cancel at any time by pressing *Esc*.

In general, dubbing takes about as long as Library Save did for the same sound. A progress indicator appears on the screen; you can cancel anytime by pressing *Esc*.

The transition between existing and library sound is determined by the *Splice* length.

You can *Undo* after doing a Dub. Anything that was originally on the tracks will be restored.

[tip]	If you want to use the same Library sound many times in the same production, Dub it only once. Then Copy that dub to the new locations. This saves memory and hard disk space.

Library Previews You can preview any sound, instantly and with full fidelity, by pressing ▶ after you select it (from Library Dub, Library Save or Library Erase.

- *Left* and *Right Input* faders control the playback volume.

- *Stop* or *Esc* turns the preview off. Pressing ▶ again restarts it from the beginning.
- There's no limit to the length of sound you can preview. You can use this feature to play songs, full productions (that were saved as mono or stereo library files), or anything else you've saved to the library.
- You can preview any number of library elements without affecting the current production.

In Versus Over

Dub In inserts a library sound, starting at the current time. Anything on the *Record* ready tracks is moved later, for the length of the sound. The total length of the tracks will be increased by the length of the library sound.

Dub Over overdubs a library sound, starting at the current time. The library sound will replace anything on the *Record* ready tracks, for as long as the sound lasts. The total length of the tracks will not be affected.

Library Erase

Press *Enter* on this pick to wipe a library element off the hard disk.

You might want to use preview first, to verify the library sound should be erased. Just press ▶ while the sound is highlighted.

When you're ready to erase the file, choose a sound from the list and press *Enter*. You'll be asked twice to confirm.

Use the *Set* button to tag multiple sounds to erase, but make sure you really want to erase them. Once you erase a library sound, its gone.

Time-Fit In, Time-Fit Over

Time-Fit is among the best sounding time compression systems in the industry. It lets you alter the length or tempo of any mono or stereo sound, or fit a source you've marked precisely to a destination of a different length. Unlike using vari-speed, there's no "Mickey Mouse" effect: The pitch is never changed. Orban's proprietary Time-Fit algorithm avoids the most of the artifacts left by other time compression schemes, and lets you work over a greater range of timings.

You can use Time-Fit to:

- squeeze or stretch spots to their proper timings (it's very easy to turn a :63 into a perfect :60);
- expand a donut to handle longer copy — without changing the key;
- stress individual words or phrases in copy, by making them longer;
- speed up a boring reading, to make it more exciting;

- change the tempo of a song to pick up the on-air pace;
- subtly manipulate sound effects and music to hit picture cues more precisely.
- And lots of things we haven't thought of.

You can also mess up a production. While our advanced algorithms sound particularly good, any time compression or expansion system may introduce a few artifacts[7]. We urge you to read "How time-fit works," on the next few pages, to learn how to get the best sound.

Quick Time-Fit Instructions

Do this if you're in a hurry to get started. Time-fit gives you a lot of powerful options, so these short instructions might not help you make the most of it under every circumstance. In general, it's a good idea to:

- Listen to the result; and
- Undo if you're not satisfied.

Here are the quick steps. There are more complete instructions in a few pages.

A) Mark *Source In* and *Out* around a sound that's a few percent too long — say, two or three seconds over a minute spot. Mark *Dest In* somewhere else, preferably on a blank track.

Before:

Source: Mary had a little lamb.

Destination: »

B) *Enter* Time-Fit In. The *Enter* and *Dest Out* buttons will start flashing.

C) Scrub or fast wind to the desired length, and press the flashing *Dest Out* button.

Intermediate:

Source: Mary had a little lamb.

Destination: » «

D) Ignore the form that appears for now. You'll learn how to use it in a few pages, to get the best results from time fit.

E) Press *Enter* two more times, wait for the progress bar to fill (for a sixty-second stereo spot, this may take a while), and play back the result.

[7] Highly technical term meaning "glitches" or "hiccups."

After:

Source: Mary had a little lamb.

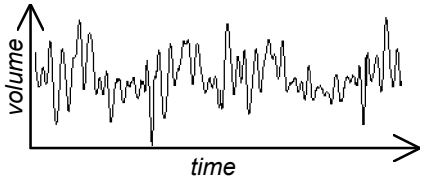
Destination: Maryhadalittlelamb.

As we noted, you might hear a few artifacts in the finished sound. So it's a good idea to check it when you're done, and possibly *Undo* and change a few settings. As to why, refer to the following discussion.

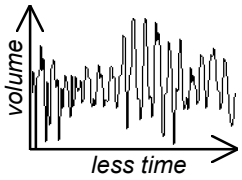
How Time-Fit Works

You don't have to read this section... but you'll do a better job if you know what your Audicy is thinking about.

Imagine a sound:

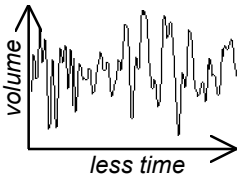


If you want this sound to take less time, you can make each wave faster. That's how vari-speed, on Audicy or an analog recorder, works.



Unfortunately, faster waves have a higher pitch. That's why varispeeding a piece of music throws it into a new key[8].

Instead, Audicy looks for *repeating* waves. If it finds a group of identical waves in a row, it takes some out (or adds a few new ones) until the timing is right. This can happen very precisely, thousands of times a second.

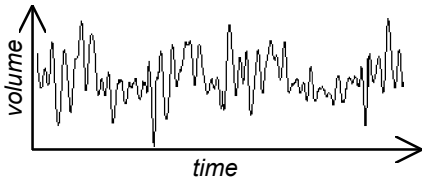


In the example above, each wave still takes the same time so it has the same pitch. But there are *fewer* waves, so the whole sound plays faster. It takes a lot of computing but the result is worth it.

[8]And varispeeding a male announcer can make him a soprano.

In the real world, a lot of sounds won't have *exactly the right number* of nicely-repeating waves to get just the timing you want. That's why Audicy's intelligent algorithm has learned how to cheat.

Here's part of that same sound that doesn't have repeating waves.



In a case like this, Audicy will actually cut out some sound — but only where the ear isn't likely to hear the change. It might make thousands of cuts, each time looking for just the right place to splice.

Our Time-Fit chooses its splices so well, station producers and engineers have called it the best they've heard.

The splices aren't regular, because they're determined by the audio. Look closely, and you'll see that a few subtle details are lost[9]. But as far as the *ear* is concerned, it's still the same sound.

Audicy scans your source material and looks for just the right places to remove waves or splice sounds together. Then it creates a new piece of audio with all the thousands of splices in place. For this reason, Time-Fit In or Time-Fit Over takes a few moments[10] and uses record memory. It's just like recording a new sound that just happens to be faster or slower.

If you're interested in the technical details: We use variable-width analysis windows to simultaneously check the pitch, tempo, and spectral characteristics of the audio. It's the product of years of research into the advantages and pitfalls of other time-compression algorithms, developed by one of the foremost experts in audio software design[11].

We made time-fit very smart for a computer program, but we couldn't give it artistic judgment. That has to come from you.

It's not magic, and it does modify your original sound. Using it the wrong way might hurt your production.

You can set how Audicy looks for splice points, to choose how it will work with different kinds of program material. Sometimes just moving an edit mark slightly, or changing the time ratio a fraction of a percent, can make a big difference in the sound. Be willing to experiment.

---

[9]With *any* time compression, the more you squeeze, the more likely you are to lose something important.

[10]How much time it takes depends on the audio and how many splices it'll have to make. But it's always faster than real-time.

[11]Dr. Barry Blesser: former professor at M.I.T., past President of the Audio Engineering Society, inventor of the world's first practical digital reverb, and a member of Orban's workstation team from the beginning.

Until you get used to working with Audicy's new effects, we recommend that you:

- set your destination on a blank part of your production;
- listen to the result, and be prepared to *Undo* and try other settings.

Time-Fit is limited to a ±25% range. That's pretty wide: It lets you compress an eighty second reading down to a perfect sixty; or expand a forty-five second spot to a minute. You can also Time-Fit in multiple passes for ratios above 25%, but we can't promise the results will be believable.

At extreme ratios, sounds become fairly strange. Twenty-five percent faster means Audicy will have to cut out important parts of your audio. Twenty-five percent slower means a lot of waves will be repeated... making your announcer sound drugged[12].

Using Time-Fit: The Detailed Instructions

A) First, mark any three edit points (both source marks and one destination, or both destination marks and one source). Make sure one or two tracks are *Play* enabled, and an equal number of tracks are in *Record* ready. So far, it's just like Copy In or Copy Over[13].

B) Select the desired Time-Fit choice and press *Enter*.

When you *Enter*, both the *Enter* button and the remaining marking button will start flashing.

At this point, you can:

- Scrub[14] to the length you'd like and press the flashing mark button, *or*
- Just press *Enter*. You'll still have an opportunity to set the missing length.
- You can also press *Esc* if you change your mind.

After you press either the flashing edit mark button or *Enter*, you'll see the Time-Fit form.

The form will open with the cursor in the Fit Ratio field. If you marked a forth edit point in the previous step, an appropriate percentage will be automatically entered here.

---

[12] Why is the cutting or repeating necessary? Go back and read "How Time-Fit works", a few pages ago.

[13] Except Time-Fit can't handle sounds shorter than a half second: there just isn't enough data for it to analyze. If you have to manipulate a very small sound, work on a larger copy of it... and then copy just what you needed back to the original track.

[14] Or fast-forward, play, rewind, or use the locators. All the tape motion controls are still active.

C) Now you can use the scrubwheel to dial any time ratio from -25% to +25% of the original. You can also tap the *left* or *right* arrows to increment the ratio a little at a time.

As you adjust the ratio, the highlighted *Source* or *Dest* length will change. This makes it easy to dial in a desired timing.

At the same time, the text on the right of the screen may change. If the ratio is more than zero, it reminds you that you're expanding, slower tempo. If the ratio is less than zero, it says compressing, faster tempo.

At this point, you can press *Shift*+*Enter*. In a few moments, you'll have perfectly timed audio. But there's a lot more you can do:

D) Or, you can use the *Up* arrow to get to the Source Length or Destination Length field.

Only one of these will be changeable (shown in bold face), matching whichever edit region you left undefined in the first step.

For example, if you originally set *Source In* and *Source Out* around a 63 second mix, and you set *Dest In* where you wanted time-fit to put the result, Destination Length will now be active. You can spin the scrubwheel to set exactly 60 seconds.

D) Or, use the *up* or *down* arrows to get to Set Ratio, and you can choose some automatic settings.

Manually lets you adjust the ratio using the scrubwheel, either by setting a length or by setting an exact ratio.

From Varispeed Play copies the exact percentage you set the last time you used vari-speed. This way you can play something and adjust the tempo by ear[15].

From Last Time-Fit copies the percentage you used, the last time you did a Time-Fit operation.

If you choose from vari-speed play and your last vari-speed would be more than a 25% time change, the setting flips back to manually.

There's one other choice you can make, described directly below.

E) Or, use the Optimize for field to choose how Audicy finds where to splice:

Even Tempo tries to locate the splices rhythmically, so they don't disrupt a musical beat. This may mean some edits are more noticeable. This works best for music with a steady drum beat.

[15]Of course, vari-speed also changes the pitch. But you can use it to preview a tempo change, and then do a "pitchless" tempo conversion with time-fit.

Splice Quality looks for the least-noticeable places to splice. But the splices won't be as regular, and this may upset the rhythm. This works best for orchestral or instrumental music without drums.

The differences are subtle, and you can't assume one will always work better for voice and another will always work better for music[16]. *Both* sound good — far better than standard stand-alone processors — and both are strongly influenced by the program material and the ratio you chose.

If you press *Enter* while in the Optimize field, or *Shift*+*Enter* anytime, the form closes and Time-Fit begins. Or press *Esc* to cancel the process.

Time-Fit checks your remaining memory (in the fuel gauge) before continuing. The function creates new audio — just like recording — so there has to be somewhere to put it. If there isn't enough memory, you'll see a warning in the Message Window.

Once Time-Fit actually starts, it has to find the right place to make all its splices and then record the new audio onto your destination. This can take a while, depending on the ratio and waveforms, but it will always be faster than real-time[17].

While it's working, time-fit will display a progress bar in the message window. You can abort the process anytime, by pressing *Esc*.

After you've done a Time-Fit, listen to the result. Some splice-noise is inevitable at larger ratios. If you're not satisfied with what you got, *Undo*! Then try:

- Changing the *Source In* point or the ratio slightly, or
- Changing the Optimize setting.

Avoid Overlaps

Time-Fit can create destination audio that's longer than the audio source. So if you're trying to fit a sound on top of itself, you might unexpectedly cover some of the original audio:

Before:

Source: The quick ⟦brown⟧ fox.

Destination: The quick »brown fox.

After Time-Fit Over (expanding):

Destination: The quick b r o w n ox.

[16]Besides, what would you do about a fully-mixed spot?

[17]The processing time might become significant if you're doing extreme compression of a five-minute program. Good time for a coffee break.

You can avoid this problem by selecting an unused track for your destination. Or use Time-Fit In and then cut the excess.

Pitch In and Pitch Over

These two menu choices let you change the pitch of a sound, without affecting its length or tempo.

You can pitch-shift a piece of music to make it easier to sing with, "un-modulate" a song that changes key in the middle, create special effects, disguise a character's voice, etc.

This effect combines our Time-Fit and Varispeed copy algorithms, processing every sound twice[18]. You can learn more about Varispeed copy below.

To use Pitch,

A) Set any three edit marks — as if you were going to Copy In or Copy Over. Then *Enter*.

You'll see the Pitch entry form.

B) Use the scrubwheel to adjust the pitch, within a ±25% range. As you do, the semi-tones bargraph will change.

If no bars are showing, the pitch-shift will be the number of semi-tones displayed in the middle of the graph[19].

As bars start appearing, the pitch-shift moves further away from precise half-steps.

When the bars completely fill one side of the graph, the pitch-shift is fifty cents from the number of semi-tones displayed.

If you don't care what semi-tones, half-steps, or cents are, ignore this part of the screen. You're a production engineer, not John Williams.

C) Use the *up* or *down* arrows to get to Set ratio, and you can chose some automatic settings.

Manually lets you adjust the ratio using the scrubwheel, either by setting a length or by setting an exact ratio.

From Varispeed Play copies the exact percentage you set the last time you used vari-speed. This way you can play something and adjust the pitch by ear.

From Last Pitch-Shift copies the percentage you used for your last Pitch In or Pitch Over. If you choose from vari-speed play and your last

[18]If you want to lower a pitch, it first copies the sound slower, then time-compresses the result. But if you want to raise a pitch, it time-expands first and then copies the result faster. Using the algorithms this way maximizes resolution, for the best possible sound.

[19]Plus or minus 3/100ths of a semi-tone.

vari-speed was more than 25% off-speed, the setting flips back to manually.

D) Pick an appropriate Optimize method, as you would with Time-Fit (see above). Then press *Enter*.

The system will check for sufficient memory, and give you a message if there isn't enough.

- You can press *Shift+Enter* from any field to start the process.
- If you want to cancel, press *Esc*.

Since pitch-shift combines two algorithms, you'll see a progress bar fill twice in the Fuel Gauge area.

Pitch-shift's combination of stretching, squeezing, and tweaking[20] results in perfectly musical pitch changes without any noticeable change in timing. But you might notice two side-effects:

- Since the process is doing twice as much work, it takes about twice as long as Time-Fit.
- With all that splicing going on, the final result could be as much as a frame longer or shorter than the original.

Because of this possibility of a one-frame difference, you should check *the Dest Out* point after a Pitch Over. If a critical sound was accidentally covered, *Undo* and try it as a Pitch In. Then Cut any excess.

Varispeed In and Varispeed Over

These two choices make a varispeed copy of any mono or stereo sound. Other parts of the production — even other tracks that are playing at the same time as the new version — are not affected. If you're using digital outputs, their sample rate is not affected. It's very handy for sound effects, musical elements, and voice tricks.

It works as if you'd played the selected sound using vari-speed, taped the result on an external recorder, and recorded *that* back into Audicy. Except it's faster, and — because it's working directly with your audio data — sounds better.

To use these Vari-copy functions:,

A) Set any three edit points — just as you would with Copy In or Copy Over. Then *Enter*.

You'll see a form that's looks a lot like the Time-Fit form. But there's no optimize choice, because you don't need one.

[20] A technical term.

B) Use the scrubwheel to manually adjust the speed change. The bottom limit is –50% (half speed, like playing a 15 ips tape at 7½). The top is +100% (double-speed, equivalent to 30 ips). Of course, you can also choose any intermediate value.

As you adjust the speed, a pitch bargraph displays the musical effect. It works the same as in pitch-shift (above).

C) Or, use the up arrow to select set ratio. Then you can choose:

Manually

From last vari-copy

From vari-speed play.

Since this effect sounds just like varispeed, this last option lets you preview with Audicy's normal transport functions. Once you've found a varispeed ratio you like, it'll be available when you execute varispeed.

Vari-copy uses the same two-octave range as vari-speed play, from –50% to +100% of normal, so every possible speed is available from this choice.

When you're ready, press *Enter* from the copy ratio field or *Shift+Enter* anywhere. Or *Esc* to cancel.

The system will check available memory, and if there isn't enough you'll see a message. Then you'll see a progress bar as it records a vari-speed copy of your audio. The process is considerably faster than real-time.

Avoid overlaps

Vari-copy can create destination audio that's longer than the audio source. So if you're trying to copy a sound on top of itself, you might unexpectedly cover some of the original audio:

Before:

Source: The quick ⟦**brown**⟧ fox.

Destination: The quick »brown fox.

After Varispeed Over (slowing down):

Destination: The quick b r o w n ox.

You can avoid this problem by selecting an unused track for your destination. Or use Varispeed In and then cut the excess.

Flip In and Flip Over

These choices create a backwards copy of your audio.

Use them for special effects (including backwards reverb from an external echo), flipping objectionable lyrics in a song without destroying the music, or to make a "forward/backward" copy of a background sound for looping[21].

Set three edit points, just as you would with Copy In or Over. Then *Enter*. The result is so cool we couldn't resist an illustration.

Before:

Source: The quick brown fox.

After Flip Over:

Destination: Xof nworb kxiuq eht.

The Flip copy functions create new audio, so they require sufficient memory. If there isn't enough available, you'll see a warning in the message window.

Patch Bay Menu Choice

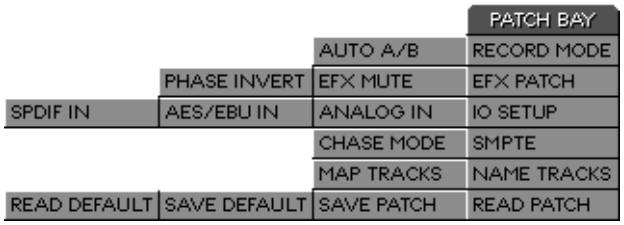


Figure 5-5: Patch Bay Menu

The Patch Bay lets you adjust special functions such as SMPTE chase, and modify digital signal routing[22].

Auto A/B

Auto A/B lets you automatically switch from one set of channel *Play* enables to another, whenever Audicy enters record.

Press *Enter* on this menu choice, or *Shift*+*A/B* on the Console, to toggle this mode on and off. The second window on the right side of the Status Bar displays Auto A/B when it's on.

To set up the alternate *Play* enable set, press the *A/B* button on the Console and select the channel *Play* buttons, as needed. Press *A/B* to switch back to the normal set. With Auto A/B enabled, Audicy will automatically switch between the normal and alternate sets for you when you start recording.

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[21] It's an old Hollywood trick. Backgrounds change slowly, so you'll sometimes hear a repeating glitch if you loop a chunk of one. Instead, insert a flipped copy of your background chunk right after the original. Then loop them both as one piece of audio.

[22] Actually, it's all done by changing computer algorithms. But the effect is the same.

Auto A/B can be used with Audicy's Auto-Record as well. Just set *Dest In* and *Dest Out* points where you want to automatically punch in, then begin recording with *Shift*+*Record*. Audicy will enter record and switch to the alternate play enable set as soon as the transport enters the destination region.

Record Mode

Press *Enter* to switch between normal record and Bounce mode. It's probably faster to use the *Bounce* button, though.

Normal Recording

Normal Record routes the *Left* and *Right* inputs directly to the recording circuits.

- The *Left* and *Right* faders and *Play* switches can be used to control monitoring. They have no effect on the recording levels.
- You can normal record an input while you're listening to other tracks through Audicy's outputs.

To check recording mode, look at the third window in the Status Bar. If the word Bounce appears, you're set for Bounce recording; otherwise, you're in Normal Record.

Or, look at the *Bounce* button. If its LED is lit, you're set for Bounce recording.

When you start a production, Audicy is automatically in normal record. You must manually change the mode to use Bounce recording.

Bounce Recording

Bounce mode routes the full mixer output — the sum of all ten tracks *plus* the inputs and *Submix Return* — to both the recording circuits and Audicy outputs. What you hear is what you record. This lets you do a digital mixdown, directly to Audicy's own tracks.

There are advantages to mixing entirely within Audicy:

- Absolute quality, with no generation or conversion loss;
- Undoability;
- Gapless and noiseless punch-ins, so you can correct a mix without having to splice pieces of tape together;
- Speed.

Use the Auto-Record feature, discussed above, for precise mix updates without worrying about automation systems.

How Audicy Records

Audicy is always in "sync" mode: There aren't any heads, so there isn't any head delay. What you hear is what you get.

Audicy also uses digital "read before write": You can have material on all ten channels and still bounce to one or two of them.

Recording is completely *Undo*-able.

Do A 'Punch-In' Recording

Audicy lets you do 'punch-in' recordings, where you can record over a specific region, while listening back to audio before and after the region. This is a great way to fix a few seconds of an otherwise perfect recording. Unlike most analog systems, Audicy punch-ins are noiseless and gapless.

You can punch in while using either normal or bounce recording.

To punch in, simply press *Record* while Audicy is playing. When you're finished recording, press *Play* to punch out and continue playing. Or press *Stop*: Either way, the punch-out will be smooth and noiseless.

You can also preset automatic punch-in and punch-out points easily:

A) Use the transport controls and scrubwheel to find the exact point where you want to start recording, and press *Dest In*.

B) Find the place where you want recording to stop, and press *Dest Out.*

C) Make sure the appropriate channel *Record* buttons have been pressed and are flashing.

D) Use the ◀◀ button or scrubwheel to move to a position before the *Dest In* point.

E) Press *Shift+Record*.

The transport will start playing and the *Record* button will flash. When the transport reaches the *Dest In* point, it will automatically start recording. When it reaches the *Dest Out* point, it will punch out and switch back to play mode.

Digitally Mix A Production

After you edit a production, the most efficient way to mix it is by *bouncing* to a pair of Audicy tracks. This gives you the most control over effects and lets you fine-tune a mix — even stopping in the middle, or going over part of the production a number of times. Since Audicy's mixer keeps the sound in the digital domain with 32-bit accuracy, audio quality is never compromised.

During normal recording, Audicy records the input signal without going through the mixer or effects. This assures highest quality. Whatever is plugged into the Input jacks goes directly to the record tracks. You can mix and monitor other tracks without affecting the recording.

During bounce recording, Audicy records the full output of the Console. Anything you do with faders, pan pots, and effects — in most cases, everything you hear through the monitor speakers — becomes part of the signal. Whatever is coming through the output jacks is also sent to the record tracks.

To do a digital mixdown:

A) Set one or two tracks to receive the stereo mix, by pressing their channel *Record* buttons.

   If you've built the production on eight or fewer tracks, it's most convenient to mix onto channels 9 and 10. But you can have audio on all ten assigned tracks and still mix to two of them.

   Experienced operators with very complex productions will frequently build eight tracks at a time and make a number of premixes. Since Audicy has 24 separate tracks to work with, assignable to the 10 Console channels, there's lots of flexibility. And since Audicy mixes in the digital domain, there's no generation or conversion loss.

B) Make sure the *Bounce* shortcut button is turned on and its LED is lit. When this button is on, the word Bounce appears in the Status Bar.

C) Assign effects and panning, preset levels, and do whatever you'd normally do to prepare for a mix.

D) Press ▶+*Record* and start mixing.

E) When you're finished, press *Stop*.

To listen to the mixdown,

A) Rewind (or press *Last Record*) to move to the beginning of the mixdown.

B) Turn off the *Play*-enable buttons for the source channels and turn on the *Play* buttons for the one or two channels you recorded on. It's probably easiest to do this by setting two groups of enables, and using the *A/B* button.

C) Press ▶ when you're ready to listen.

   If necessary, raise the faders for the playback channels.

To change part of the mix,

A) Rewind back to the start of the part you want to change.

B) Set the faders so they match the levels you used the first time and then start recording the new version.

FX Mute

Press *Enter* on this menu choice to toggle the effects muting. Or, press *Shift+Mute* as a shortcut. The 5th window in the Status Bar will say FX Mute when the effects are muted. The effects system is discussed in Chapter 7.

Audicy automatically bypasses an effect when it's muted:

- If an effect is patched into a channel insert or the main output, muting it lets you hear the an unprocessed version of the sound.
- If an effect is patched into the submix return, muting it will let the submix play through. If a track is routed through both a main fader and the submix bus, its volume might jump. Turn off the *Submix Return Play*-enable button to fix this.
- FX Mute bypasses all patched effects from the Mixer or Editor screens, but mutes individual effects inserts from the Effects screens.

Phase Invert

Press *Enter* on this choice to open a form that allows you to flip the phase of any Console channel, for special effects or to fix improperly-recorded material.

When you *Enter* this choice, you'll see a phase-invert display: Use the *up* and *down* arrows, the keyboard cursors, or *Enter*, to move the highlighting from track to track. Once Track 10 is highlighted, pressing *Enter* again saves the information and closes the form.

There are a few different ways to flip a channel's phase after it's highlighted. Take your pick:

- Use the *left* and *right* arrows or keyboard cursors to change the field from Normal to Inverted.
- Press *Undo* (to "undo the normal phase");
- Type Y on the keyboard (for "Yes, I want to flip this phase");

When the channels are the way you want, press *Shift+Enter* to save the information. If Track 10 is highlighted, just press *Enter* to save the information.

This sets the phase-inversion pattern, and all audio will play in this relationship until you flip the tracks again. If you quit the production and start it later, Audicy will remember your phase settings and set the tracks the way you left them.

- If you don't want to set the pattern you see on the screen, *Esc*.

Phase Invert affects the entire track, not just the area selected by *In* and *Out*. There's a way to invert selected areas, described in Chapter 8.

FX Patch

This lets you assign a real-time effect, such as parametric equalization or OPTIMOD compression, to the last selected insert point. This menu choice gives you limited access to the Effects System, and to menu Help for effects, but you will do most of your effects patching using the individual *Select* buttons. The Effects System is discussed in Chapter 7.

IO Setup, Analog, AES/EBU, SPDIF

Press Enter on the IO Setup choice to configure the Intelligent Digital Module. As a shortcut, you can press *Shift+Input*.

Press *Shift+Enter* on IO Setup if it's necessary to restart the module's clock.

Pressing Analog, AES/EBU or SPDIF chooses which set of input jacks will be used. Or, you can toggle through these choices by pressing the *Input* button. The current input is displayed in the first window of the Status Bar, and can be changed at any time. For complete details on the Intelligent Digital Module, see Chapter 11.

If you don't have the module installed, this choice is automatically disabled[23].

Chase Setup, Machine Control, VTR Setup

Press Enter on one of these choices to configure various parts of the SMPTE TimeCode system. As shortcuts, you can press *Shift+Machine Control*, *Shift+Offset*, or *Shift+Chase*.

For complete details, see Chapter 12.

If you don't have the SMPTE TimeCode module and software installed, these choices are automatically disabled[24].

Map Tracks

Audicy has 24 separately-editable tracks, any ten of which can be assigned to the Console or appear on the track display at a time.

A) Press *Enter* on Map Tracks to open the Track/Channel Assignment form. As a shortcut, you can press *Shift* plus the round *Play*-enable button for the channel you want to reassign.

B) From the Track/Channel Assignment form, a green musical note indicates there is audio on that track.

C) Use the *left* and *right* arrows to select a track for that channel. You can also use the *up* and *down* arrows to choose another channel to reassign.

You can't assign the same track to two different channels.

D) When you're satisfied, press *Shift+Enter* to set your choice.

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[23]You probably thought we'd use this opportunity to suggest calling your dealer. We're sorry to disappoint you.

[24]You probably thought we'd use this opportunity to suggest calling your dealer again. Heh, heh, heh....

E) Audicy always starts a new production with tracks 1-10 assigned to channels 1-10. Whenever you change track assignments from this default, your changes are reflected before the 00:00:00 location on the track display. Press *Head* to view your track mappings.

You can jump to Name Tracks by pressing *Go To*. See directly below.

Remember: Whenever you assign a new track, your last Undo gets canceled. This is because it would be impossible to book keep or indicate to you track portions of an undone edit that are on tracks which are no longer visible on any of the ten channels.

Name Tracks

To title a track so that its name appears on the Track Display, press *Enter* on this menu choice or press *Go To* whenever the Track Assignment form is open.

You'll see a form where you can type a 16 character name for any of your 24 tracks. Press *Enter* to move from track to track and to save the names. Once you've saved names, they'll be displayed at the beginning of the production. You can view them at any time by pressing *Head*. A green musical note indicates there is audio on that track.

If you create a complex production that you'll be coming back to later, naming tracks is a great feature to help you remember where you put your elements.

Read Patch, Save Patch

Enter these choices to save or restore Patch Bay settings. They work like the similarly-named choices in the Mixer.

A snapshot of the complete Patch Bay setup is stored by Save Patch**.** This includes the current effects inserts and their settings, track layouts, and phase inversions.

When you quit a shadowed production, the full Patch Bay settings — including Record Mode and Phase Invert — are automatically saved. If you go back to that production, the patch bay will be automatically set the way you left it.

This memory is separate from any settings you manually saved with Save Patch.

System Menu Choices

This menu lets you access Audicy's built-in word processor for notes, customize the scrubwheel, or finish working on a production.

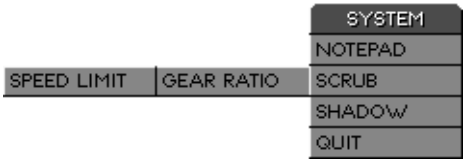

Figure 5-6: System Menu

Notepad

Press *Enter* on Notepad to open Audicy's Notepad Editor.

- Notes can be scripts, memos about special effects, or anything else you want.
- Each production can have its own set of notes.
- You can read, edit, or print notes[25] while you're working on a production or when you're in the Job Controller.
- Notes are saved automatically with the production, and stay with it when you copy a production to another drive or use the Multi-Track DAT Archive option.

If you've previously saved notes for this production, you'll see them as soon as you open the Notepad Editor. Otherwise, the page will be blank.

- If Notes are longer than the screen display, press *Page Up or Page Down* to scroll through them.
- All Audicy motion and mixing controls work even while notes are displayed. This allows you to record an announce track while you're reading the script on the screen, or to type in production notes as you record a long interview segment or piece of music.

When you're finished using the Notepad, press F10 on the keyboard to save your notes. Or press *Esc* to put the Notepad away without saving changes. Help, of course, replaces the Notepad with a screen about the Notepad.

Scrub

Enter on this choice to open a form that lets you fine-tune the scrubwheel behavior.

Gear Ratio When you cue analog tape, you have to move a specific length of tape past the heads for each second of time (usually 15 or $7^1/_2$ inches). Manually editing a long segment can mean a lot of tape-pulling.

You won't get as much exercise with Audicy, because you can set the scrubwheel to different gear ratios:

[25] If you have a standard printer connected to your Audicy.

- In mid gear, Audicy's tape moves about a quarter second per turn: just about the same as a single turn of an empty take-up reel at 15 ips. This is the factory default for new productions.

- Low gear lets you examine the sound at half that speed. It's handy for fine-tuning a musical edit, or getting between syllables in a word.

- High gear zips along at twice the normal speed. Many editors prefer this as their default.

Overdrive is for rough assembly, or for "quick and dirty" editing of an actuality when you're under deadline pressure. Audicy's editing resolution is not affected by gear ratio. You can make just as tight a cut in high as you can in low; you'll just have to be more delicate with the scrubwheel.

Speed Limit

The top speed of the scrubwheel can be half-speed, 1x play speed, 2x play speed and no limit. The factory default for new productions is no speed limit.

Save?

Use this field to save the current scrubwheel settings as a default for all new productions.

Be sure to experiment with different scrub settings until you find what works best for you.

Shadow

Press *Enter* on Shadow to start saving a temporary production to hard disk.

Occasionally, you might start a Make Temp or Edit Temp and decide that you really wanted to keep things on the disk[26]. This choice turns Shadowing back on.

You'll be given a chance to name the production and provide client and creator data, if you haven't done so already. Then, Shadowing starts. You can immediately continue working — there's no time lost for any computer-like "disk save" operation.

If there are any sounds that aren't fully saved by the time you quit, Shadowing catches up then.

The Shadow choice has no effect on sessions where Shadowing is already on.

Quit

Press *Enter* on Quit to close the Audicy Editor and return to the Job control screen.

If this is a Shadowed production:

[26]Because you did some really cool production, or because you have to work on a different job before you've finished.

- The system stores all locate points and edit marks, *Undo* information, all of the mixer and effects settings, the splice angle, and the current tape location.

- The hard disk is checked, and any unsaved audio or edits will be written to disk.

- The system performs a final check to make sure audio and edit files agree.

- The machine may be tied up for a while, depending if you have recently recorded or retrieved new elements. This can last between a quarter and a half the length of any unsaved audio. The Message Window will indicate that Shadowing is still going on, and you'll see a progress bar as it completes.

- If you change your mind and want to continue working, even while Shadowing is finishing, press *Esc*.

- If you Quit from a temporary production:

- The system asks if you want to leave the production without saving what you've done.

- If you want to Quit now, use the arrow buttons to select Yes, abandon all edits. Then *Enter*.

- Otherwise, select No (or press *Esc*). Then you can use the Shadow choice before you Quit.

- If you used RS-422 Machine Control during the session, Audicy sends a Stop command to the external VTR to protect its tape. If the VTR fails to respond — perhaps because it's been disconnected or turned off — the system will warn you but allow you to quit anyway.