

PreMaster CD

User Manual

Sonic Studio, LLC
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Chapter 1.....Introduction

PreMaster CD is an easy to operate, task-specific tool for premastering on your desktop. PreMaster CD is ideal for:

- auditioning the audio prior to sequencing
- sequencing your material and refining audible transitions
- defining PQ metadata for your replication master
- creating a reliable replication master for your title

PreMaster CD allows you to audition, edit and mark up your finished mixes without the need to tie up an expensive, DAW-based production system. Since premastering is predicated on the generation of metadata for the finished CD, PQ marks can be added, deleted or moved in time, while ISR codes and UPC/EAN entries can be easily defined and edited. Also, since PreMaster CD runs on any Apple Macintosh with 10.4.3 or newer, including a laptop, it is highly portable so you can take it with you, whenever a gig calls.

Chapter 2.....Installation & Minimum Requirements

2.1 Minimum Requirements for Hardware & Software

At a minimum, PreMaster CD requires the following:

- Apple Macintosh G4 500 MHz, 1 GHz or faster preferred
- 1024 x 768 pixel or larger display
- 512 MB RAM minimum, 1 GB or more preferred
- OS 10.4.3 or newer

For delivery of the final DPP files for replication, a data storage device, such as a CD-R, DVD-R, DLT or AIT drive, is required as well. Since PreMaster CD uses OS X's Core Audio, the quality of audio playback will be entirely dependent on the hardware and driver(s) used.

Note that, though PreMaster CD is not tested with prior versions of Macintosh hardware, operation with older hardware should be usable as long as the CPU supports the required OS version. Slower hardware may have difficulty "keeping up" with the application, however, resulting in drop-outs during playback and possible interruption during deliveries.

2.2 Installation of the Software

To install PreMaster CD, please refer to the PDF copy of the Installation Guide provided on the supplied CD-ROM.

Chapter 3..... Basic Operation

3.1 General Workflow & Explanation of Terms Used

In order to prepare your dupe master, PreMaster CD offers fast, simple audio editing and modification of metadata. Though PreMaster CD is designed to create your CD-Rs for checking mixes and for file interchange, it also includes DDP file creation as well, the professional's preferred method of disc replication.

When opening a sound file into PreMaster CD, you are creating a copy of the file in memory that you can manipulate. This copy is placed into a 'Project,' the workspace created by PreMaster CD. Within the Project, you can add sound, create and edit Marks that will generate PQ codes, and place editing-related placeholders inside the Project as well. All this information can be saved and later recalled.

Your flattened or consolidated mixes can be imported from various file formats, including AIFF, WAV, BWF and SD2 with regions. These sound files can, in turn, be edited, allowing you to compile a new program from various sources. For more information on delivering your finished mixes, visit www.grammy.com or contact the National Academy of Recording Arts & Science for their "Delivery Recommendations for Master Recording."

When you are satisfied that your Project is acceptable, you can create a Compact Disc that allows you to check the completed program. These "check discs" or "refs" are perfect for approvals but not for replication. The audio data on these CD-Rs, technically CD-DA-formatted Orange Book discs, contain error-protected metadata but not error-protected audio data. So, errors can propagate through premaster to replication, resulting in costly rework.

Finally, for replication you should save your changes to the Project and "deliver" a DDP file set, an error-protected file format specifically designed for reliable optical disc replication.

3.2 Project Layout

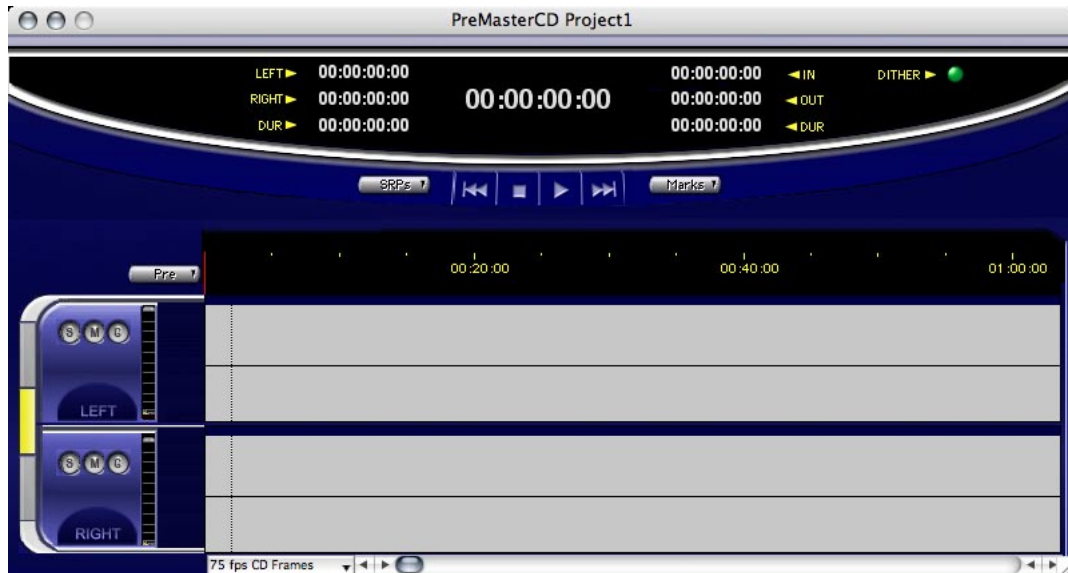


Figure 3.1: The Project window

In PreMaster CD, all tasks are performed in or via a Project. The bottom of a Project shows two empty Panels, containers for stereo sound files and their accompanying waveform displays. The upper Panel shows the left channel while the lower Panel represents the right channel. A slider appears at the bottom of the Project, directly beneath the lower Panel, allowing you to scroll across the time line. To the left of this slider, a drop down menu is available, where the time standard can be selected. The function of this time standard control is discussed further in section 3.7.1 but it's best to leave it at the default setting of 75 fps as this is the correct settings for time code on Compact Discs.

To the left of each Panel are solo and mute buttons, labeled with an S and M respectively, along with an amplitude meter. Also, a gain overlay button, labeled G, is available to the right of S and M buttons. The function of this button and the application feature it brings up will be discussed later in section 4.3.

Immediately above the waveforms, is a black banner with time code values in yellow. At the top of the black area is the time line for the waveforms. The bottom of the black area is reserved for "PQ Marks," discussed in section 3.9. The data underlying the whole of the two Panels, with Marks and all data describing the audio program, is also referred to as the 'EDL' or Edit Decision List, and is saved as a separate file within each Project's folder.

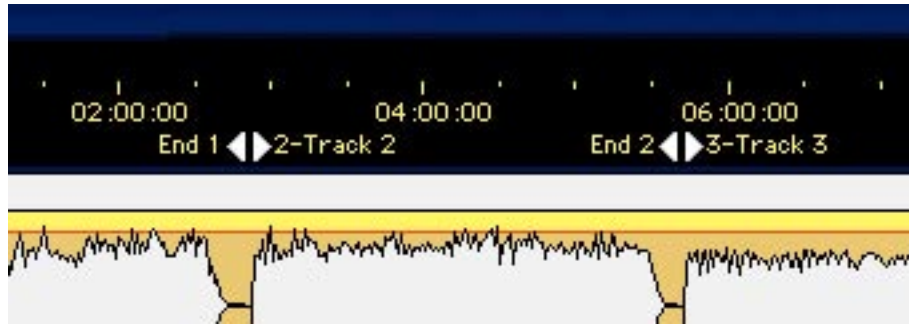


Figure 3.2: Waveforms display with Marks above the Panels

Above the banner with time line and Marks are the transport controls. They offer dedicated buttons for play, stop, fast forward and rewind. Also along this bar are the SRP and Marks buttons. The function of these are explained in sections 3.9 and 4.5 respectively.

Finally, at the top of the main window are time displays on the left, for the Playhead, and, on the right, for edit locations. In the middle is a display showing the current location of the Playhead.

3.3 Starting a Project: Opening Files

3.3.1 Opening Projects

To create a new Project, select File > New Project... from the menu bar. A blank, default Project opens.

Alternatively, you can open an existing Sonic Studio Project by selecting File > Open Project... from the menu bar. This brings up a standard Mac OS browser dialog for finding and selecting the desired Project file. Confirm your selection with Choose and the Project opens into a new Project window.

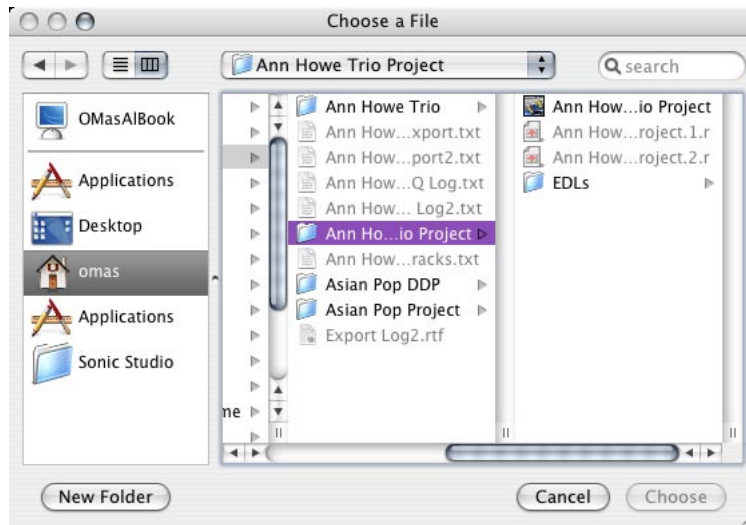


Figure 3.3: Mac OS browser dialog for opening a Project

After highlighting your selection and clicking Choose, the Project will be opened, together with any available metadata already saved in the Project folder.

A third way to open an existing Project is by simply drag the file from any folder onto the application icon or the application's Dock icon.

3.3.2 Opening Sound Files

Once your Project is open, you need to open your sound files into the Project. As with Projects, using either the File menu or dragging and dropping will work.

By selecting File > Open Sound File... from the menu bar, you will bring up a standard Mac OS browser dialog for finding and selecting the desired audio file. PreMaster CD will open AIFF, WAV, BWF and SD2 files with regions. Confirm your selection with Choose and the sound file opens into your Project.

3.3.3 Adding Your First Sound File

In addition to the Open Sound File... command, you may also drag and drop sound files into a Project. PreMaster CD makes the job of CD assembly easy by providing a special behavior for adding your first sound file to a Project. If you drag a sound file into the top Panel of an empty Project, PreMaster CD will automatically place it on the time line at 00:02:00:00 or 2 minutes.

Note that this special case only applies to drag and drop, not to the Open Sound File... command. An exception to the default drag and drop behavior, PreMaster CD normally uses the time code location of your cursor to determine the address of the “head” or start of the resultant sound file, as well as the selection status of already placed sound files. Later in this chapter, section 3.8 discusses these topics in more detail.

3.4 Waveforms

A waveform display provides visual reinforcement of audible cues when editing. Normally, the audio file types that PreMaster CD opens contain metadata such as sample rate and related information, but no information on visualization. Waveform shape information therefore has to be generated by PreMaster CD itself. The application generates two “waveform files,” one for each channel, in order to display high resolution waveforms in the Panels, at any zoom level.



Figure 3.4: Display of a sound file without waveform metadata

If waveform files are absent from one or more audio files, PreMaster CD will automatically start generating those files in the background. Waveform files, with a “.r” suffix, are placed in the same folder as the audio files and can be read by any other Sonic Studio product.

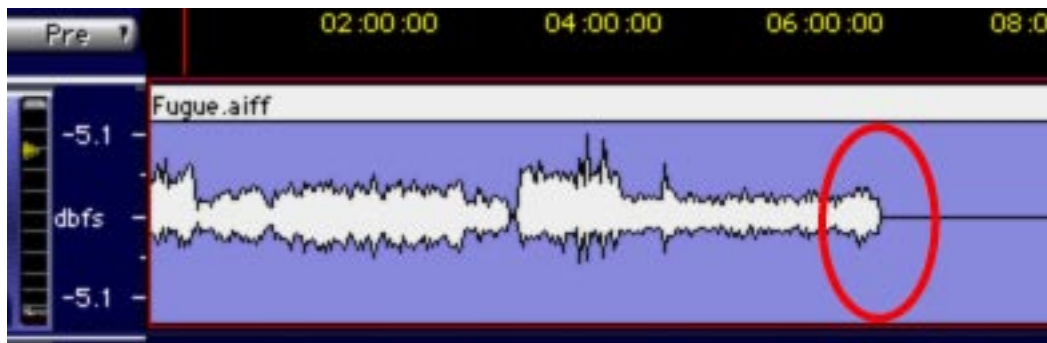


Figure 3.5: The building of waveform metadata in progress

Once the waveforms are visible, the arrow keys control the viewing window and a quick tap of the E key always zooms out to view the entire Project. In section 3.6 below, navigating your Project is discussed in more detail.

3.5 Auditioning Sound

3.5.1 Playback

When you press the keyboard's Space Bar, the cursor changes to a "speaker & note" and playback begins. A vertical red line, the Playhead, spans both the Panels and time line and moves horizontally to indicate the location of playback.

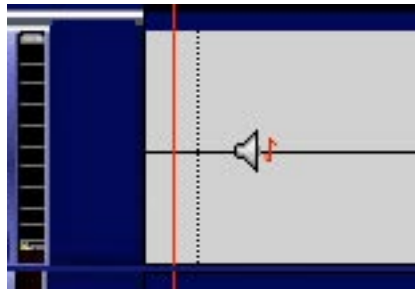


Figure 3.6: The cursor changes into a speaker & note shape during playback

When you first open a sound file and begin listening, playback, once started, will begin at the left edge of the audio. The Playhead will move to the right, across the file. When you hit the Space Bar again, playback ends and the Playhead halts its motion. When you hit the space bar a third time, the Playhead will jump back to the left side of the waveform display, the beginning of the sound file, and playback will begin again.

3.5.2 Playback from Edit Point

When you click anywhere inside the waveform display, the entire Panel, or rectangle containing the waveform display, is selected. The selected Panel has a medium blue background and hairline red border. Once selected, a click anywhere in that Panel produces a thin vertical red line, with an inverted yellow triangle on top. This is the "Edit Point."



Figure 3.7: Empty Panels with Edit Point at left and Playhead at right

When the Edit Point is present, playback will always start from the Edit Point. When you stop playback and start again, the Playhead will jump back to the Edit Point and start playback from there.

You can move the Edit Point by clicking on a new location in the waveform display. The Edit Point will jump to the click location. Alternatively, you can click and drag the Edit Point's yellow triangle to move it to a new location.

3.5.3 Playback from Playhead

The Playhead itself can also be manipulated directly. By double clicking in the lower half of the black time line banner, the Playhead is moved to the click location and playback begins. The Transport Controls above the top Panel provide tape transport emulation, so you can play, stop and continue playing from the current location. You can also select the Play > From Playhead command.

3.5.4 Time Displays

The large, central time code display in the center top of the Project window is live and editable, as are the LEFT, RIGHT, IN, OUT and DUR fields where applicable. Click on any subdivision or click-drag on the entire central time code display to select and modify the current address of the Playhead.

For all editable time code addresses, a single click in any HH:MM:SS:FF subdivision will highlight that subdivision, allowing you to type in a value. By click-holding and dragging up or down, the cursor will change to an arrow and the numeric value displayed will increase or decrease respectively. Click-hold for more than two seconds, and the rate of change increases. The arrow keys also let you move to a particular subdivision and increment or decrement the current value. Option-dragging a time code address allows you to quickly "clone" that value into another editable field.



Figure 3.8: Click-dragging down to edit a time code address

All modifiable time code fields in PreMaster CD support cut, copy and paste. Double clicking on any time field will select the entire field, allowing you to enter a complete time code address.

3.6 Navigating the Waveform Display

There are many tools for quickly moving around inside of the waveform display.

3.6.1 Scrolling

If you are zoomed all the way out, the entire waveform will be displayed. If you are not zoomed out entirely, some of the waveform will be off the edge of the Panel. You can move the window view left or right by moving the slider control at the bottom of the waveform display. You can also move the window view left and right by using the Left and Right Arrow key respectively.

Finally, you can drag the view left or right by simultaneously holding the control, option and command keys. When you click–hold, the cursor changes to a hand to indicate you are in Move View mode.

3.6.2 Zooming

You can zoom in using the Down Arrow key, and zoom out using the Up Arrow key. To zoom all the way out, hit the E, for “entire,” key.

3.6.2.1 Zoom around Edit Point

As you zoom in and out, it is likely that you will want to keep the Edit Point in view. To do this, hold down the Apple or command key as you use the Up Arrow or Down arrow keys. This will keep the Edit Point centered in the middle of the display.

3.6.2.2 Zoom to Selection

Clicking and dragging on the waveform itself selects a region, highlighted in yellow–orange. Typing command-G or selecting View > Zoom to Selection... will zoom around that selected region. See section 3.7 for more information on region selection.

You can also zoom to a selection while making the selection. By holding down the command and option keys while click–dragging on the waveform will define a selection and zoom to that selection as well.

3.6.2.3 Zoom Around Time Selection

If you click and drag in the black time line banner above the top Panel while holding down the Apple or command key, the Panel will zoom to display the region of the time line that your click–drag defined.

3.7 Selections

Selections let you highlight a portion of the audio where you want to perform a desired operation.

3.7.1 Selecting a Region

To select a region, click–drag on the waveform display. At the point that you want the selection to start, click and hold down the mouse button, then drag to complete your selection. An area will be highlighted in yellow–orange, indicating the selected region.

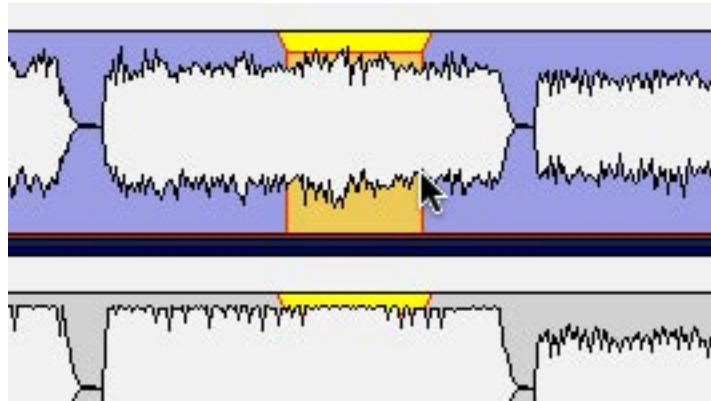


Figure 3.9: A region selected, indicated by the yellow highlight

You can click–drag either left or right to define a selection. In addition, you can fine tune the boundaries of a selected region. Hold down the shift key and click on either side of the selected region then, while continuing to hold the shift key, drag left or right to expand or contract the selection.

While selecting regions, the LEFT, RIGHT and DUR fields at the top of the Project are active and editable. See section 3.5.4 above for more information on manipulating time code addresses.

Note: The format in which all time fields are represented in PreMaster CD is user selectable. By clicking in the time standard display to the left of the time line slider, a drop down menu offering four choices becomes available.

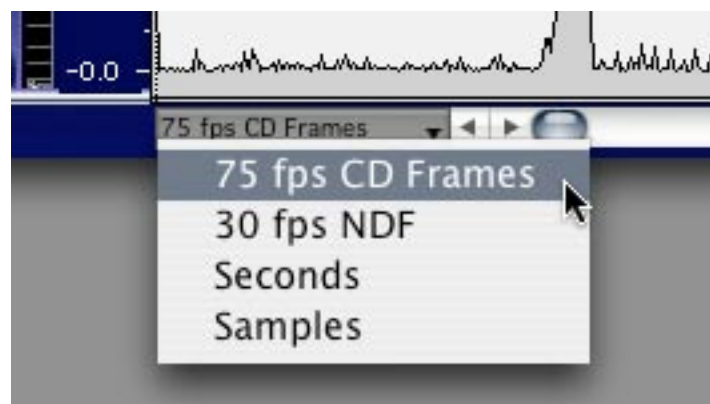


Figure 3.10: The time standard menu

Options are:

- 75 fps CD Frames

- 30 fps NDF
- Seconds
- Samples

75 fps CD Frames is the default setting and the internal time code format for CD-DA discs (audio CDs). 30 fps NDF signifies non-drop frame time code, the default time code format typically used by DAWs to prepare material for CD release. The Seconds setting shows all times in multiples and fractions of seconds. Finally, Samples displays all times in absolute samples based on the CD sample rate of 44.1 kHz. These same selections can also be made in the Preference window. See section 5.9.5 for more information on time standard settings.

Note that, because PreMaster CD is designed to create the metadata necessary for Compact Disc replication, all of your PQ marking decisions are directly tied to, literally quantized to, the 75 frame standard. Unless you are using PreMaster CD as a general purpose editor, you should always use the 75 fps CD Frames standard for CD preparation.

3.7.2 Selecting Segments

An entire sound file “segment,” the representation of contiguous samples from a single sound file, can be chosen as a selection. Click on the white Title Bar at the top of any segment, which displays the source sound file name.

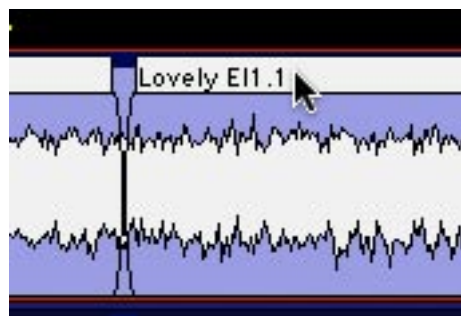


Figure 3.11: The Title Bar

The waveform highlights yellow-orange and a bright yellow bar appears below it, running the entire length of the segment, to indicate that the segment has been selected.

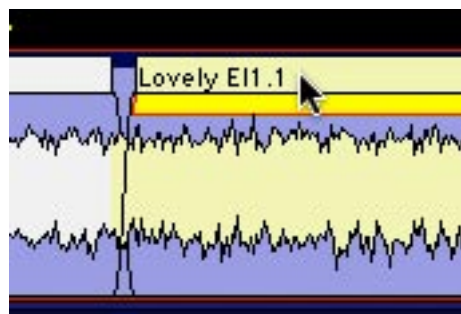


Figure 3.12: A selected segment, indicated by the yellow highlight

By holding down the shift key and simultaneously clicking in other segment's Title Bars, a selection of contiguous segments can be made. Also, while holding down the Apple or command key and clicking any Title Bars, a group of non-contiguous or random segments can be selected simultaneously.

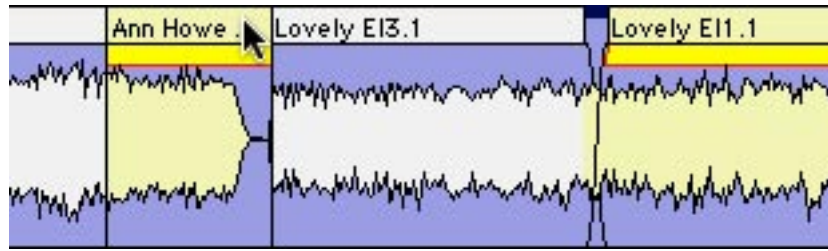


Figure 3.13: Multiple selected segments

3.8 Simple Editing

There will be occasions where sound files need modifications before they can be used in a final version on CD. PreMaster CD offers advanced editing features, as well as simple tools to change amplitude.

3.8.1 The Fade Tool

Heads or tails of sound segments are represented in the display by a vertical edge. When zooming in, this edge will gradually change into a curve representing a 'fade' or amplitude versus time "envelope." Each segment starts with an Fade In and ends with an Fade Out. Fade Ins and Outs are both "Black Fades" where "black" refers to "Edited Black," the absence of data in the track.

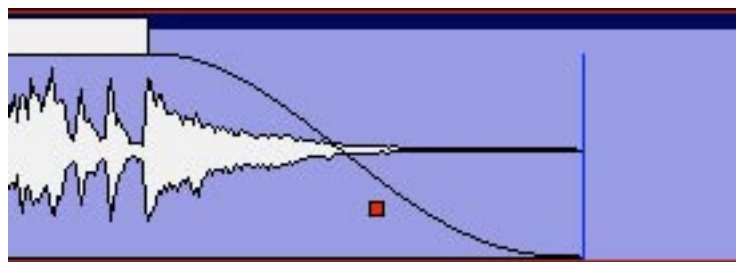


Figure 3.14: End of a segment with Fade Out glyph

Fades have a specific starting point and duration. Both parameters can be easily adjusted with the "Fade Tool."

First, the duration or length of the fade can be changed. To do so, zoom in so you can see what you're doing and have reasonable control of the fade. Then, click-hold and drag on the upper "inside" edge of the fade to the desired location.

Note that, with the cursor on the upper inside edge, the cursor changes into a cross with left, right and up arrows indicating you can change the duration.

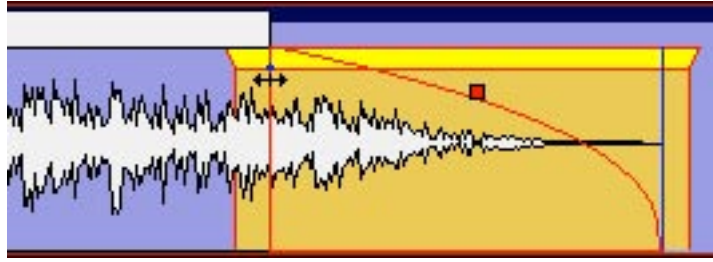


Figure 3.15: Fade tool symbol while moving top inside edge of the Fade

Of course, the length of a fade can also be changed by moving the lower or “outside” edge of a fade, leaving the inside edge in place. To do so, move the cursor over the fade near the bottom of the display until the cursor changes into the FadeTool again. This time, the cursor changes into a cross with left, right and down arrows.

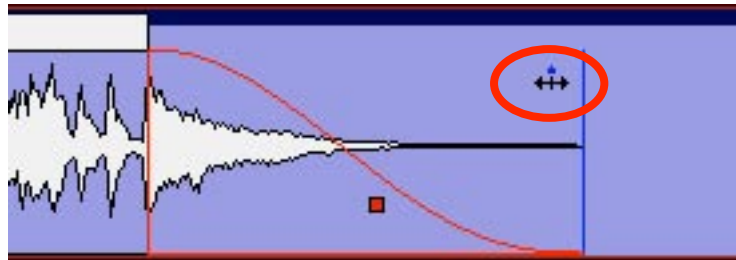


Figure 3.16: Fade tool symbol indicating you are changing the outside edge of the fade

Click–hold and drag the bottom end of the fade to the desired position. Release the button to confirm the change. Remember that modifying the outside edge is only possible within the limits of the actual samples of audio data represented by the segment.

If the cursor is moved over the middle portion of a fade, the FadeTool cursor also appears but this time as a simpler horizontal arrow. In this trim mode, you are able to move the entire fade left or right without changing its duration. This allows you to “hide” or “reveal” portions of the underlying segment, by shortening or lengthening the segment duration, trimming the segment as you go. Click–hold on the fade and drag the fade left or right. Releasing the mouse button fixes the fade in that location. While you are moving or changing a fade with the Fade Tool, the waveform is “live,” continuously changing visually to reflect the modifications you are making.

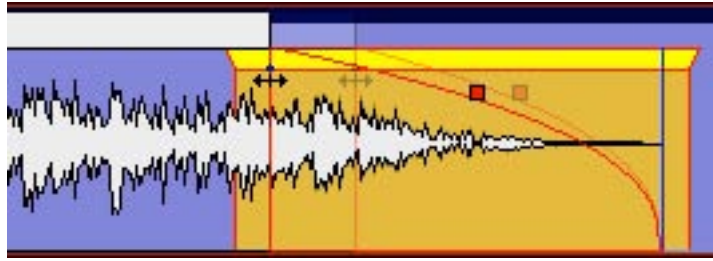


Figure 3.17: Dragging the inside edge to lengthen a Fade

Note that the maximum duration of a fade is equal to the underlying sound file duration. As mentioned above, it is not possible to move a fade past the actual start or end of an underlying sound file.

Also, moving Black Fades so more than two overlap is not allowed as well. A modal “Check-ForTripleOverlap” dialog will pop up, telling you that your command would result in three Black Fades lying on top of each other.

3.8.2 Deleting Part of a Sound File

It may be necessary to edit out some part of a sound file. PreMaster CD allows you to do so quickly or with great precision. To easily cut out a portion of a sound file, simply select the region that you want to remove. Then, select Edit > Delete Selection or hit the delete key to remove the selected region and “slip” all downstream segments left to close the gap. More on this later...

More precise editing can be performed with In points and Out edit points, special marks you can place in the Panel. An In Point is shown as a vertical line with a triangle at the bottom, pointing right, while an Out Point has the triangle pointing left.

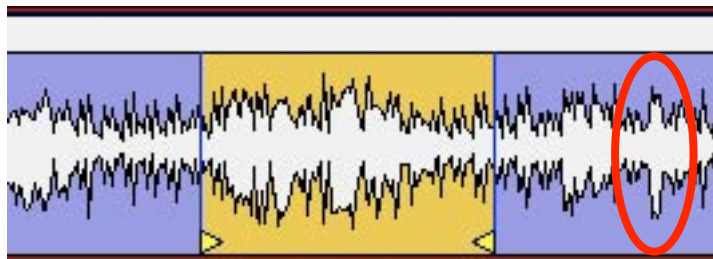


Figure 3.18: In Point and Out Point with highlighted area in between

There can be only one In Point and one Out Point in a Panel at any time. If both an In Point and Out Point are present, and if the In Point is to the left of the Out Point in the waveform display, then the area between the In and Out Point will be highlighted in yellow. The Selection > Set In Point command drops an In Point at the location of the Edit Point.

Note that the IN, OUT and DUR time fields at the top *right* of the main Project window are always active and fully editable. These fields allow you to precisely alter the location of, and duration between, the In and Out Points.

Once the region is defined, it can be modified in two different ways. The region can be either deleted or cleared. To clear the defined region, leaving an empty area, select the Edit > Clear Selection command or hit option-delete on the keyboard.



Figure 3.19: A cleared selection — the circled material has not moved

The selected region now is cleared of its contents, leaving the audio before and after the selected region in the same place. The In and Out Points also stay in place. Effectively, you have now created two new segments that can be further edited and/or moved independently.

Alternatively, the selection can be deleted. To do so, select Edit, Delete Selection from the main menu. Hitting the delete (backspace) key on the keyboard will perform the same action.

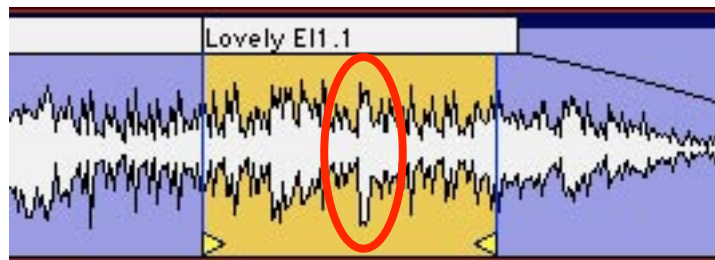


Figure 3.20: A deleted selection — the circled area has moved

As a result, the selected region will be deleted and all audio to the right of the selected region will be moved left to the beginning of the now deleted section, closing the “hole.” Again, the In and Out Points stay in place.

Similar to clearing the selected region, you now have two new segments. When deleting the selection, however, the two new segments are joined together with a “Crossfade.” It is represented in the waveform display as an overlapping Fade In and Out.

The delete functions mentioned above also work with selected regions. Simply click-drag to select a region, and hit delete or option-delete. Remember that, when you have both Edit Points and region selections, PreMaster CD always “pays attention” to any Edit Points rather than a selection. So, it’s always a good idea to either choose Selection > Clear In & Out Points or check for the presence of Edit Point by glancing at the IN and OUT fields at the top right of the Project. Non-zero positive values indicate the location of an Edit Point.

3.8.3 Manipulating Fades

With Crossfades, the FadeTool can also be used to modify or move the fades, either as a complete Crossfade or as individual Black Fades. When the cursor is moved over a Crossfade, it changes into a pair of parallel horizontal arrows. The Fade Out changes to red while the Fade In changes to green.

To move the whole Crossfade either left or right, once again hiding and revealing audio on either side, simply click and drag the Crossfade to the desired location. Release the mouse button to drop the Crossfade at a specific spot.

To modify the fades individually, press the option key while modifying the Fade Out, and the Apple or command key while modifying the Fade In. With these modifier keys, the FadeTool works as if the fades were isolated, as described in section 3.8.1 above. While operating on one fade of a Crossfade individually with modifier keys, the fade not being manipulated will deselect, indicated by its color changing to black.

If you decide that default duration of your crossfade is not right, simply hold down the shift key and place the cursor over the center of the crossfade until the cursor changes into the pair of parallel horizontal arrows. Click-drag up or down and the duration will increase or decrease, respectively.

Note that, to be able to do any of the above fade manipulations with accuracy, it may be necessary to zoom in until the Crossfade extends over a significant proportion of the waveform display. The View > Zoom To Previous command will zoom you out to your previous view quickly after such fine adjustments.

3.8.4 Changing the order of tracks

It is not uncommon that the order in which tracks or songs appear on the final CD needs to be changed. In order for that to work, the tracks or group of tracks you want to move need to be present as separate segments. This can be achieved by either manually creating a new Crossfade or by deleting the space between tracks in an existing sound file, meanwhile creating new segments that can be moved and edited independently.

To create a new Crossfade, simply move your cursor to the desired location, and double click. This will move the Edit Point to the click location. Then, select Edit > Create Crossfade. Also see section 3.8.2 above for information on deleting segments.

Once the material is divided in the required number of segments, the re-ordering can be done. There are several ways this can be achieved. First, segments can be selected, then dragged and dropped into place. This allows you to change the track order very quickly, but may be inaccurate when placing the files with precision on the time line. Section 4.2.1 below discusses an auto-spacing option that helps with precise track timings.

To drag a segment, first select the segment by clicking on the white Title Bar at the top of any segment. See figure 11 above. Notice the bright yellow Drag Bar that appears under the Title Bar in any selected segment.

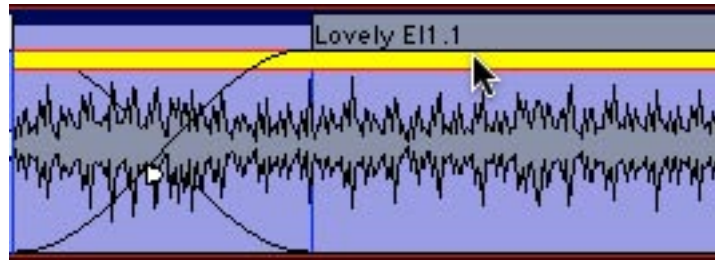


Figure 3.21: The Drag Bar

Click–drag the Drag Bar to move the segment to the desired location. Remember that shift–clicking or command–clicking on multiple segments will select contiguous or segments respectively.

Secondly, segments can be moved by altering their respective time line positions directly via the Move Segments window. Select the desired segments, then select the Edit > Move Segments... command. The Move Segments modal dialog appears, showing the current position of the first, or only, selected segment.

The desired new segment start time can now be entered directly into the time code address shown. Once the 'Move' button is clicked, the segment moves to the new location.

The Move Segments dialog offers three extra options. By clicking on the 'Where' button, you can select via a drop down menu the new start time for the segment:

- the current position of the Playhead
- the location of the In Point, or
- the location of the Out Point

There is also an SRP button that provides a list of any SRPs placed in the Project. By choosing one of these four options, the time display of the move segment window changes to the relevant time. SRPs, persistent markers you can place anywhere in time, are discussed later in section 4.5.

After choosing your option, clicking the 'Move' button will move the segment and close the dialog. Clicking 'Cancel' leaves the segment at its original position and closes the dialog.

3.8.5 Simple Track Spacing: AutoSpace

Once all your segments are placed in the right order, the AutoSpace function offers a simple but effective tool to change all pauses between tracks to a pre-defined value. Simply select Edit > Auto-Space all Segments and all segments will be moved on the time line, with equal space between according to the Preference > Editing Tools > Auto-Spacing Duration setting. In Preferences, the length of the Auto-Space can be set to 1, 2 or 3 seconds.

Note that, if a song is composed of more than one segment, then the Auto-Space command should be used with care. To prevent AutoSpace from “breaking apart” a song into its component segments, only select regions that contain unsegmented songs. Also, the AutoSpace command should be used *before* you place PQ marks to prevent unwanted Mark (re)locations.

3.8.6 Exporting Selections & Segments

Selections, including both selected segments and selected regions, can be exported as 16 bit/44.1 AIFF files. To do this, simply click–hold on the Drag Bar of one or more selected segments or regions, and drag them to the Desktop. PreMaster CD will write the data as AIFF.

Note that, when exporting selected segments and regions, segment gains are applied but Gain Overlay settings are not. Section 4.3.1 discusses segment gain functions in more detail.

3.9 PQ Marks: Defining Metadata

Once all of your tracks for the CD are put in the right order and spaces between the tracks are adjusted to taste, the PQ Marks can be created. PQ Marks generate the TOC or Table of Contents for the final replication master. PQ Marks are shown in the black banner just below the time line.



Figure 3.22: PQ Marks

Start ofTrack marks are indicated by a triangle pointing to the right while End ofTrack marks are indicated by a triangle pointing left. Index marks are indicated by a triangle pointing down.

3.9.1 Inserting PQ Marks Manually

To insert a new PQ Mark, place the Edit Point at the location where you want the new Mark to appear. Then select Mark > Track Start Mark, which adds the new Start ofTrack mark.

Note that PreMaster CD always quantizes the location of PQ Marks so that, in keeping with the Red Book specification for CD–DA or Compact Disc–Digital Audio discs, they are located on CD frame boundaries.

3.9.2 Moving PQ Marks

It's easy to move or relocate PQ Marks from one location to another. Simply click on the Mark to select it, then click–drag it to the desired location.

3.9.3 Removing PQ Marks

To remove one or more PQ Marks, click–drag in the waveform display to select a region that includes the Mark(s) you want to remove. Then, select Mark > Delete Mark and all Marks within

the selected region will be deleted. If you are working in the Windows > Mark Info window and have a Mark selected, you can also use the Mark > Delete Mark command to remove the Mark. The Mark Info window is discussed in detail in section 3.10.1 below.

A third method is to use the contextual menu to delete or otherwise modify a Mark. Simply control-click on a Mark, and make your selection from the menu.

3.9.4 Inserting PQ Marks Automatically

Apart from placing PQ Marks manually at the desired positions, PreMaster CD has the ability to generate PQ Marks automatically. If the entire Project was created by editing each song/segment, the most efficient way to generate PQ Marks automatically is to Edit > Select All, selecting all segments, then select the Mark > Edited BlackTo Marks command. You can also click-drag to select a region, then select the Mark > Edited BlackTo Marks command. PreMaster CD automatically places Start and End of Track marks at the outside edges of all segments, using the location of Black Fades. The final result is a collection of marks accurately placed at the begin or end of each Black Fade.

If you've done a fair amount of editing, then Edited BlackTo Marks may not be the ideal choice, creating many erroneous marks at crossfade locations. Also, if your material consists of one long, consolidated file with few or no edits, then you may want to automatically place PQ Marks with the Analog Black to Marks function instead. This function measures the amplitude of your audio and places PQ Marks at the edges of long duration quiet passages. Both amplitude and duration are user adjustable.

To use, first click-drag to select a region on which to work. Then, select the Mark > Analog BlackTo Marks... command. In the resulting modal dialog, specify the amplitude and duration of the selected region you want to mark.

The results of the Analog BlackTo Marks function are not as accurate as Digital Black to Marks, but will provide quite usable PQ Mark placement even with un-edited material. The placement accuracy is dependent on the settings used, as well as the assumption that tracks always start and end with an increase then decrease in amplitude and quiet in between. However, it is very likely that those same criteria also apply to other moments in the course of a musical piece so, the results of the Analog BlackTo Marks function should always be checked for acceptable accuracy. You may also try the command, check the result and adjust the parameters prior to deleting marks and using the function again. See section 3.9.5 below for useful information on checking mark accuracy.

3.9.5 The Marks Button

In the Transport Controls, the Marks Button can be seen. Clicking on it reveals a list of all PQ Marks in the Project along with their timings. Selecting one of the entries in the drop down list moves the Edit Point to the selected PQ Marks, without changing the zoom level. This allows for a quick and accurate check of the position of all PQ Marks.

3.10 Delivery

After completing the necessary editing of sound and PQ Marks, the next and final step in your production workflow is to start a “Delivery.” This process creates a new DPP image file set, incorporating all edits and changes, ready to be sent to a replication service for glass mastering. The DPP file set is then used by PreMaster CD to generate your CD in the background.

DDP or Disc Description Protocol is the industry standard method for delivering all the data and metadata needed for disc replication to a “pressing plant.” Unlike audio CDs, DDP file sets contain error-protected audio data plus all ancillary metadata or, “data about the data.” DDP file sets, when used for replication, avoid potential errors that can crop up between the time you create a replication master and the moment that a “glass master” is created during replication. CD-DA discs, or audio CDs, do not protect the audio data from errors since they assume that the CD player will hide or “conceal” any errors during playback. This situation leads to errors in replication when recordable CDs, formatted as Red Book (audio) discs, are used as replication masters.

Note that the DDP files created by PreMaster CD, always in their enclosing folder, can be copied to any writable medium you choose, CD-ROM, DVD-R, Jazz, Zip or hard disk, for transport to the replicator. Of course, the medium you choose must have enough space to hold the file set. Also, always check with your replicator to determine which medium they can handle and whether they are even capable of using DDP as a premastering format. Many bargain companies are not ready to handle DDP deliveries so, we at Sonic Studio suggest you find a reputable facility that does accept DDP file sets of your valuable masters.

3.10.1 The Mark Info Window

To begin the PQ Delivery process, select the Windows > Mark Info command. This opens the Mark Info window which displays all the P-W metadata you have defined.

3.10.1.1 Global Metadata

At the top of the Mark Info dialog are three fields that define global information about the disc. The Album Title and Artist generate the disc’s global information that, when placed in a transport that reads CDText data, will appear on the transport’s display.

CDText, a subset of the CD+G specification, provides for the imbedding of textual information about the overall disc and tracks in the R through W codes of the “PQ” subcode stream of a Compact Disc. Many portable and in-dash car players can read CDText data off of a disc, but few home players can.

Note that CDText should not be confused with network services such as Gracenote’s CDDb or FreeDB that attempt to match CDs inserted into a computer drive with an on-line database of extant CD titles. Such network services are used by iTunes and other applications for user convenience but have no relationship to CDText.

3.10.1.2 Track Metadata

This section provides information about individual track attributes. The next two fields, Track Title and Track Artist, are also part of the CD Text specification, and data entered into these fields will also appear on CD players equipped to read this metadata. PreMaster CD auto-populates the Track Title based on the segment name and, if you have provided an Album Artist prior to PQ creation, PreMaster CD will also auto-populate the Track Artist metadata as well.

Track Start and Track End are generated by your Mark placement. Though editable, you should assume that they are correct. Likewise, the Copy and Emphasis buttons generate the SCMS Copy flag and Emphasis flag in the PQ stream and should, in general, be left turned off. Section 4.7 below discussing PQ parameters in more detail.

3.10.1.3 Track Details

The next section in the Mark Info dialog provides a list of details about each defined track. Name, start and end times, as well as duration are shown.

Double clicking on an entry in the list will start playback at that location in the Project. This gives you a quick method for double checking Mark placement.

Note that, if you have placed your (text) insertion point in the TRACKTITLE field, the up/down arrow keys on the keyboard will move you up and down through each entry in the list of PQ details.

3.10.1.4 PQ Status & Validation

Below the Track Details section is a single field with an indicator to its left. This is the PQ Validation field, a non-editable status field that indicates whether your metadata, as defined, is valid and meets the Red Book specification for Compact Discs.

A green indicator means everything is valid, while a red indicator mean you should inspect your PQ information for non-Red Book-compliant entries. The accompanying field calls out the problem entry, making it easy to rectify the problem.

3.10.1.5 Device & Status/Validation

The Device field provides a list of available disc writing devices, and provides details about the (selected) mechanism. To the right of the Device label is a selector that, for multiple connected mechanisms, allows you to choose the target device. The Status field provides an indication of the status of your delivery media and/or progress on the delivery.

Note that you may see a “Sound begins more than 2 frames before Start Mark” message. This is a reminder to check that you are not unintentionally truncating any audio at the head of your Project. Remember that, according to the Red Book specification for CD-DA discs, the first 2 seconds or 150 CD frames are “pregap,” and the first track start is at 2 seconds. Any audio before the 2 second mark will be replaced by 150 CD frames of digital zeroes on any CDs delivered and in DDP file sets. Pregap is a logical region of the disc reserved for mode changes and other non-audio functions.

3.10.1.6 The Execute Button

Once the above options are set, this button starts the process of creating a new delivery, written to the location shown in the “Path/Device” field. When you click the Execute button, a standard Mac OS file browser opens where appropriate, allowing you to specify the location that will be used. A new or empty folder should be specified to contain the newly created or modified DDP file set. Once the destination is specified, PreMaster CD begins the delivery process, with progress shown in the validation field at the bottom of the PQ Delivery window. During delivery to a CD-R when no media is present in the selected drive, PreMaster CD will prompt you to insert media and wait for a blank disc to be inserted.

Note that, once a delivery has started, the Execute button changes to an Abort button, allowing you to halt the delivery process.

3.10.1.7 The Eject Button

The Eject button will cause the host to eject an inserted disc.

3.10.1.8 The PQ List Button

This button generates a Sonic Studio–standard PQ List, the industry’s standard text representation of a compact disc’s content. This file is typically printed and a hard copy sent, along with the DDP data set, to your replicator.

080218-5_PQ_Log.rtf						
Sonic Studio						
PreMasterCD 1.0						
Client : Flail Records						
Project : PreMaster CD						
Title : PreMaster CD PQ Log						
Date : 02/18/08						
WO : Work Order #080218-5						
UPC/EAN : 1882137001025						
Date Generated: Saturday February 18, 2008						
Page Number: 1						
PQ Log:						
Delivery Type: DDP/CD - (times are 75 fps)						
Time Format: 75fps CD Frames						
PQ Track 1 Offset: 00:00:25 PQ Start Offset: 00:00:25						
PQ Splice Offset: 00:00:15 PQ End Offset: 00:00:05						
PQ MinIndex 0 Width: 00:01:00						
PQ Track / Index Information:						
T-X	TITLE/ISRC	COPY EMPH	NO OFFSET TIME hh:mm:ss:fff	OFFSET TIME hh:mm:ss:fff	OFFSET DURATION hh:mm:ss:fff	CD TIME mm:ss:ff
1	0 Pause		00:	00:	00:02:00	00:00:00
	1 Killy Kranky.1		00:00:00		03:07:34	00:02:00
				Total:	03:09:34	
2	1 Pullet & Crane.1		03:07:24	03:07:09	03:41:28	03:09:34
				Total:	03:41:28	
3	0 Pause		06:48:32	06:48:37	00:04:04	06:50:62
	1 Mono E Mono.1		06:52:56	06:52:41	04:05:53	06:54:66
	2		10:58:44	10:58:19	03:49:50	11:00:45
				Total:	07:59:42	
4	0 Pause		14:48:00	14:48:05	00:01:41	14:50:30
	1 Northern Skype.1		14:49:72	14:49:47	03:46:41	14:51:72
				Total:	03:48:06	
5	0 Pause		18:36:08	18:36:13	00:01:42	18:38:39
	1 Angel Cakes.1		18:38:06	18:37:56	04:23:22	18:40:06
				Total:	04:24:64	
6	0 Pause		23:00:74	23:01:04	00:22:53	23:03:29
	1 LTR.1		23:24:07	23:23:57	01:40:01	23:26:07
				Total:	02:02:54	
	LeadOut		25:03:54	25:03:59		25:06:09
Total:					25:06:09	

Figure 3.23: A PQ List

4.1 Fade Tool Options

4.1.1 Changing Parameters

PreMaster CD offers a simple and intuitive tool for changing a fade's gain characteristics: the FadeTool. In the previous chapter, we have seen how to use this to perform simple operations. The FadeTool offers additional possibilities to alter fades according to your needs and preferences.

The FadeTool is enabled by default. By holding the control key and typing A, you can disable or re-enable the FadeTool. This is equivalent to the Edit > Editing Auto Tool Override command.

Alternately, you can force the FadeTool off by default. In the EDL tab of the Windows > Preferences window, the FadeTool check box keeps the FadeTool enabled until you choose to disable it manually.

When moving the cursor over a fade with the FadeTool enabled, the default cursor changes into the FadeTool and the selected fade turns either green for an Fade In, red for an Fade Out or both. Depending on cursor location relative to the fade, the FadeTool modifies either the start, end, length or position of the fade. See section 3.8.1 for basic information about the Fade Tool.

If you zoom in on a Fade so that more than about 10% of the waveform display is occupied by the fade, you will see the thin blue vertical line that represents the edit event (see section 4.1.3 below) and a diagonal line or "curve" that represents the gain law or change in amplitude dictated by the fade. Situated in the middle of the diagonal curve and attached to that line is a square "bead," the Control Point for the fade curve.

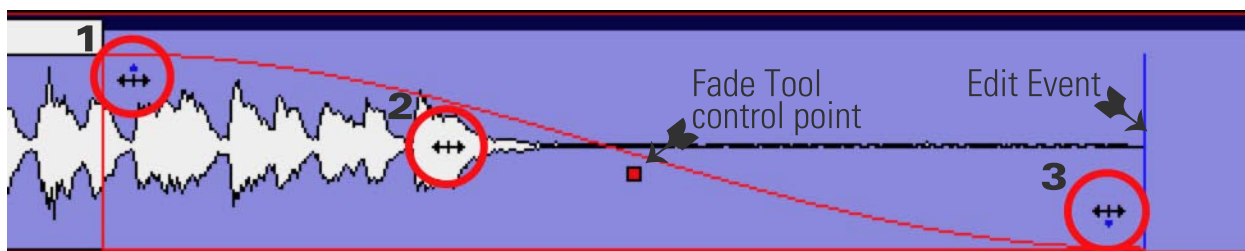


Figure 4.1: Anatomy of a Fade

Figure 4.1 above shows the some of the parts of a Fade and the various contextual shapes that the cursor assumes based on location. Note the Control Point and edit event, discussed in upcoming sections.

On the left, the #1 cursor is set for an “inboard” duration change. Placing the cursor at that location and click–dragging will increase or decrease the duration of the fade without changing the location, edit event or gain law. This is the preferred handle to use when changing duration.

Next is the #2 cursor shape, displayed when the cursor is set to change the overall location of the fade. Placing the cursor in that location and click–dragging will increase or decrease the location of the fade without changing the duration, edit event or gain law. Remember that you cannot move a fade past the head or tail of the underlying audio.

In position #3, the cursor is set for a duration change “toward the outside” of the Fade. Placing the cursor in that location and click–dragging will increase or decrease the duration of the fade without changing the location or gain law. These “outboard” handles do effect the location of the edit event, so it’s recommended that you not use the outboard handle, employing the inboard handle instead as mentioned above.

4.1.2 Changing the Shape

By clicking the Control Point “bead,” shown in Figure 4.1, and dragging it up or down, you can adjust the “dB down” or rate of change setting for the fade. As you make this change, the fade curve will dynamically change in response and the underlying audio will also change since you are affecting the gain across the fade event.

When the FadeTool is active, holding the control key brings up a contextual menu.



Figure 4.2: The FadeTool contextual menu

The FadeTool contextual menu offers the following choices for gain law or curve:

- Linear — default 6 dB down in the center
- Root Linear — 3 dB down in the center
- Cosine — default 3 dB down in the center
- Root Cosine — default 6 dB down in the center
- Exponential — provides very rapid reduction in gain across the Fade

PreMaster CD provides five fade shapes to allow you to accomplish a pleasing edit or transition, no matter what sort of material you have. You can also use fades for less obvious purposes, such as applying a new Crossfade on an unwanted sound, changing the gain law to exponential, and adjusting the duration to “drop out” or suppress the unwanted sound. Though each gain law is useful in certain situations, the linear fade shape is the most widely applicable.

4.1.3 Changing Duration

In the FadeTool contextual menu, the Set Fade to Selection forces the fade duration to match the duration of a selected region that encloses the fade. When a region is selected, this option stretches or shrinks the length of the Fade to match the position and length of the selected region.

The FadeTool functions also apply to a Crossfade. Figure 4.3 below show the FadeTool in Crossfade Mode. Notice that the cursor assumes a double horizontal arrow shape and both fades are highlighted, green and red.

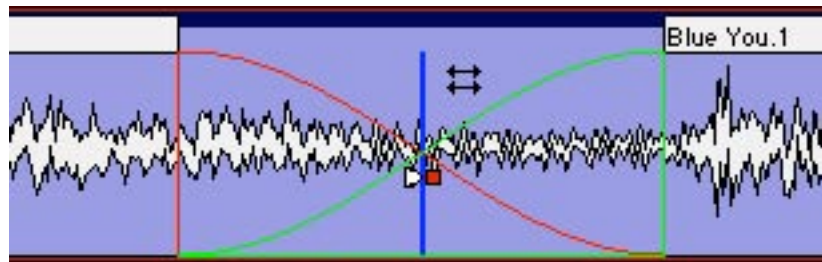


Figure 4.3: The FadeTool in Crossfade Mode

By click-dragging left or right, the Crossfade location can be altered. By shift-click-dragging, the Crossfade duration can be altered. Holding the command key allows you to override Crossfade Mode and alter only the In Fade while holding the option key provides the same override mode for the Out Fade.

4.1.4 Changing the Type

The FadeTool contextual menu also offers two choices for fade type. These choices, accessed by hold the control key while using the FadeTool, allow you to change the context in which the fade will be used. For the purpose of CD preparation, Fade Ins and Fade Outs are fundamentally different from Crossfades. The difference is where the actual edit event occurs in the underlying audio and this subtly but profoundly effects the accuracy of your PQ Marks and resulting metadata.

With a Crossfade, the edits occur at the very center of the two Black Fades (see section 3.8.1). Fade Ins and Fade Outs, on the other hand, are designed to be used as the transition from or to “Edited Black,” also known as “dead air,” where no audio is present on the time line. Use the Set Fade to Crossfade option when you expect to connect its associated segment to another segment for a seamless edit between segments.

Reset to Defaults: These option force all fade parameters back to their appropriate defaults.

- Set Fade to Default Fade In: forces parameters to a default Fade In
- Set Fade to Default Fade Out: forces parameters to a default Fade Out
- Set Fade to Default CrossFade: forces parameters to a default Crossfade

When the FadeTool is active, any change you make to the tool, to a Fade or to the underlying audio is real time. The default fade can be selected in the EditingTools tab in Windows > Preferences.

4.2 Drag & Drop

4.2.1 ReSequence

For rapid assembly of program material, PreMaster CD provides two easy methods for automatically snapping to either 1, 2 or 3 seconds of Edited Black between segments. The first method is the Edit > Auto-Space all Segments command discussed in section 3.8.5 above.

The second method entails snapping when manually dragging segments, which requires that the Snap Zone ON preference in the EDL tab of Windows > Preferences be enabled. Once the Snap Zone preference is set, click on a segment's Title Bar to select it. After it's selected, all you have to do is click-drag on its Drag Bar as you move its head close to another segment's tail. You will see either a vertical red or blue bar appear, visually indicating you are in the snap zone.

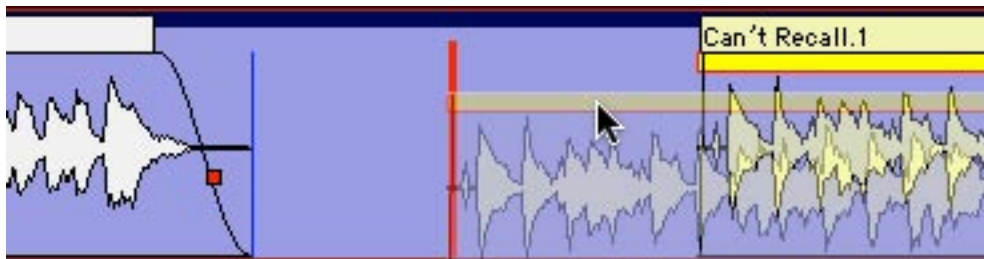


Figure 4.4: The auto-spaced snap indicator



Figure 4.5: The flush snap indicator

The thick blue bar indicates a “flush” snap where, if you drop at that location, the two segments will be tightly butted with no space, no Edited Black in between. The thick red bar indi-

cates an auto-spaced snap where, if you drop at that location, the two segments will have a precise, preset space between. The duration of the inter-segment spacing is determined by the Auto-Spacing Duration selector in the Editing Tools tab of the Windows > Preferences window.

Drag and drop with auto-spacing is useful in conjunction with the Edit > Clear/Delete Selection commands to start with one long continuous segment, such as a consolidated complete mix, and quickly segment, space and re-sequence the individual songs.

The command key provides a special function, in conjunction with the Windows > Preferences > Editing Tools > AutoSpacing Duration preference. With the command key held down, selected segments, when moved on the time line, snap into place and push or “ripple” downstream segments “out of the way” to accommodate the insertion. Hold down the command key, drag a segment so that its head is in a snap zone, and drop it. It will be inserted into that snap zone and ripple all segments after it on the time line. Command-drag and drop is useful for rapid re-sequencing of already segmented material.

Note that sequencing should be performed prior to Mark placement. This will prevent erroneous repositioning of Marks as your segments are shuffled.

4.2.2 Drag-Replace

When you drag and drop one segment on top of another, with no modifier keys employed, then the dragged segment replaces the existing audio where it’s dropped. As with all editing in Sonic Studio’s products, this move is non-destructive.

4.2.3 Drag-Overlay

Shift-dragging segments is another useful editing feature. With the shift key held down, one segment will overlay another when you drop it on top. The two segments coexist in the same location on the time line and sum together during playback. This feature is useful when used in conjunction with Text Mode, discussed in the next section, so you can individually control the overlapping segments. Also see section 4.3.2 below for creating a combination waveform plus text Project layout.

4.3 Text Mode

Text Mode provides a playlist view of the Panel’s contents, with editable segment names along with editable start and end times. Duration is also shown. To view Text Mode, select the EDL > Show Text View command. To switch back to Waveform mode, select the EDL > Hide Text View command.

4.3.1 Gain Adjustment

Compiling audio from different sources will usually make it necessary to alter the amplitude of some of your source material. The last column in Text Mode displays the current gain of all segments. When Segments are opened or added to the EDL, the segment gain is set to zero dB.

By double-clicking on the Gain value of the selected segment, the Segment Gain modal dialog opens.



Figure 4.6: The Segment Gain dialog

The Segment Gain dialog offers several options for altering segment gain. The large central field lets you enter the gain directly. Alternatively, course and fine adjustments are available via up/down arrows. Simply click to increment or decrement gain in 1.0 or 0.1 dB steps.

Segment Gain can be applied in two different ways. First, it can be applied as 'Absolute' value, meaning that the entry in the central gain field will be applied in place of the previous value. The value entered in the gain fields will *replace* any previous state.

Alternatively, the gain can be applied as 'Relative' value. In relative mode, the entry in the central gain field will be added to the previous value. Positive values will be added to the previous state while negative values will be *subtracted from* the previous state.

A third 'Normalize' radio button is available. Choosing this option will cause the segment's sample amplitude to be evaluated, after which the amount of headroom or surplus level below 0 dBFS will be entered in the central gain field. In other words, this function shows how much gain can be added before digital clipping will occur. The value given is relative to the current gain state.

Finally, a 'Reverse Polarity' check box allows you to change the absolute polarity of the segment. Reversed segments exhibit, in Waveform Mode, a red indicator in the left corner of the Title Bar and, in Text Mode, the Gain entry turns red.

As with other modal dialogs in PreMaster CD, gain changes will not be applied unless the OK button is clicked. The Segment Gain dialog is also available via a segment's Title Bar contextual menu. Control-click on any Title Bar to invoke the Segment Gain dialog. Other functions, like Reverse Polarity and Build Waveforms, are also available.

Segment gain can be applied to multiple segments at once. Simply command-click on the desired segments in the Text View list, then open the Segment Gain window to make a change. Changes in Segment Gain will be applied to all selected segments equally, as described above. This implies that, in relative mode, the gain changes will retain any relative loudness differences between selected segments.

4.3.2 Combo Project Configuration

Note that, if you find that you use Text Mode a fair amount, you may want to create a special default Project that combines both Waveform and Text mode. To do this, open a new, empty Project. Now, click on the bottom Panel to select it and change it to Text Mode with the EDL > Show Text View command. Finally, save it as the default Project with the File > Save As Default Project command. Once this is set, all new Projects will have a left and right waveform with an additional right channel Text Mode.

4.4 Gain Overlay Mode

As described in section 4.3 above, the gain of individual segments can be easily changed with the Segment Gain dialog. PreMaster CD offers another, more global way of changing amplitude across your entire program. Gain Overlay Mode can be used to change level independent of segments and fades and works as a master automated fader.

Gain Overlay Mode is enabled by clicking on the G button to the left of a Panel, and is available only when in Waveform Display Mode. When enabled, a red line appears superimposed on the waveform display. The waveform display's amplitude scale, along the left edge, switches to a new scale that ranges from -144 to +24 dB, the range of gain change available. Initially, the Gain Overlay is flat at the 0 dB setting.



Figure 4.7: Gain Overlay function activated, showing the red Overlay and Nodes

To change gain, simply point at the desired time location and click on the Overlay. The cursor changes to a round shape and a square Node will appear. Nodes can only be added, deleted or modified while playback is stopped.

You can also place gain nodes with region selections or the Edit Point. To use this function, first click-drag within the waveform display to select a region. Then, select Edit > Create Gain Nodes

to add two nodes at the “edges” of the Gain Overlay and the selected region. Because the Edit Point is really a zero duration selection, it can also be used to create a single gain node with the Create Gain Nodes command.

When you add a node, a yellow highlighted Gain callout appears in the Title Bar of the associated segment.



Figure 4.8: A newly created Gain Node with its Gain callout

If you click–drag a Gain Node, it can be moved both horizontally and vertically. Dragging a Gain Node horizontally moves it to a different time location while dragging it vertically changes the gain. The momentary gain value of that node is continuously shown in the yellow Gain callout.

When moving Gain Nodes vertically, the gain changes in steps of 1 dB. By holding the option key while dragging a Gain Node, the resolution of the gain change increases to 0.1 dB.

Note that gain changes between Gain Nodes follows a linear gain law. By adding multiple Nodes, other curves can be emulated. Unwanted Gain Nodes can be deleted by holding down the option key while clicking on the Node.

You can make changes to a group of Gain Nodes simultaneously. To do so, select a region that includes the Node on which you want to work. Then, select the EDL > Select Gain Nodes command. All selected Gain Nodes will fill with yellow to indicate their state. You can also shift–click to “gather” a collection of grouped Nodes.

When grouped, only the gain can be modified. When changing the gain of grouped Nodes, the Gain callout shows both the current value and gain delta or difference from the original value. Also, when grouped, holding the option key for fine gain adjustment is disabled.

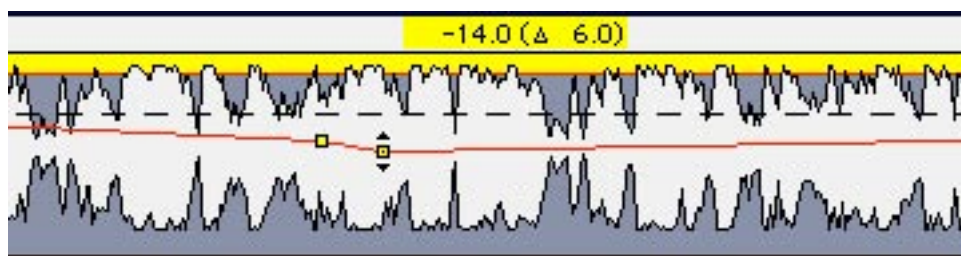


Figure 4.9: The Gain callout for grouped Nodes

Once your Gain Overlay is configured according to taste, all or some Gain Nodes can be locked against unwanted changes. To do so, first click–drag to select a region containing the Gain Nodes you want to lock. Then, move the mouse over one of the selected Gain Nodes and control–click to invoke a contextual menu.

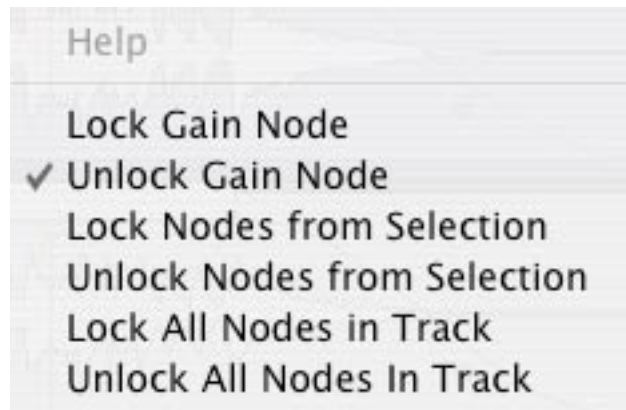


Figure 4.10: The Gain Node contextual menu

By default, the Unlock Gain Node option will be checked. To lock the selected Gain Nodes, click on the GainOverlayNode Locked option. The selected Gain Nodes will now turn red to indicate their locked status. Unlocking the Gain Nodes simply requires selecting the GainOverlayNode Unlocked option.

In the same contextual menu, Nodes can also be locked and unlocked for the whole Panel by selecting the Lock/Unlock All Nodes InTrack options.

Once Gain Overlay is used, the gain changes stay active in the output of PreMaster CD, both during playback and Delivery. To temporarily bypass the Gain Overlay, select the EDL > Bypass Gain Overlay command. Also, the Gain Overlay can be put in bypass mode by option–clicking the “G” or Gain button on the left side of each Panel. In both cases, the Gain Overlay line will turn grey and the Gain button will turn yellow, both indicating the bypass state. Once in Bypass, Gain Overlay can only be activated again by selecting the same command, which changes to Activate Gain Overlay. When off or disabled, the Gain turns grey.

Note that, while in Gain Overlay Mode, all normal editing functions are disabled and only the gain nodes can be manipulated. Reverting to normal Editing can only be achieved by selecting the Hide Gain Overlay command.

4.5 SRPs

SRPs or Selection Reference Points are persistent placeholders that are saved in a Project. SRP commands are under the Selection menu and are placed either with the Edit Point, the Playhead or, at the leading edge of a selected region. They can be locked to the time line, unlocked and deleted. Option–clicking allows you to drag them to a new location on the time line. They also carry a optional comment label that’s useful to jog yours or someone else’s memory at a later date.

As with many objects in PreMaster CD, SRPs have their own contextual menu. Control-clicking on an SRP brings up the following menu;

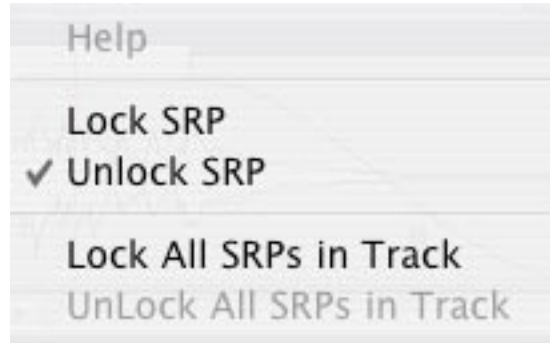


Figure 4.11: The SRP contextual menu

The menu offers the following options:

- Lock SRP
- Unlock SRP
- Lock All SRPs in Track
- Unlock All SRPs in Track

Note that the last two options are global in nature and will change the state of all SRPs present, regardless of region selection. Also note that, if an *unlocked* SRP is enclosed by or touches a segment, it will become associated with that segment and will move if the segment is moved.

4.6 Edit Groups

Sometimes a monaural edit is needed on a stereo pair. PreMaster CD provides a simple “Edit Group” control to depart from the default behavior of performing edits on both channels of a stereo pair when you operate on only one. The default Edit Group mode is stereo, as indicated by the stereo Edit Group indicator.



Figure 4.12: Stereo editing mode

The stereo editing mode selector straddles the two Panels. Above and below the stereo editing mode selector are the two mono mode selectors for each channel.



Figure 4.13: Mono editing mode

Simply click on either mono selector to make changes to one channel or the other exclusively.

4.7 Advanced PQ

All PQ information and additional metadata can be viewed and modified with the help of the Mark Info window. It can be opened by selecting the Windows > Mark Info command.

Mark Info – PreMaster CD

ALBUM TITLE

Amazing Hits That Never Were

ALBUM ARTIST

Vinny Tracco Band

UPC/EAN

1882137001026

TRACK TITLE

Killy Kranky.1

TRACK ARTIST

Vinny Tracco Band

TRACK START

00:00:01:47

ISRC

TRACK OFFSET

00:00:00:25

☒ COPY

☐ EMPHASIS

TOTAL TRACKS

6

TOTAL DURATION

25:06:08

Name	Start	End	Duration
1-Killy Kran...	00:01:47	03:09:08	03:07:35
2-Pullet & C...	03:09:08	06:50:34	03:41:27
TrackEnd	06:50:34		
3-Mono E Mon...	06:54:40	14:50:03	07:55:37
Index	11:00:18		
TrackEnd	14:50:03		
4-Northern S...	14:51:46	18:38:12	03:46:41
TrackEnd	18:38:12		
5-Angel CAKE...	18:39:55	23:03:02	04:23:21
TrackEnd	23:03:02		
6-LTR.1	23:25:56	25:05:57	01:40:00
TrackEnd	25:05:57		



PQ Information is valid.

DEVICE

CD-R(0):MATSHITA DVD-R UJ-835E - ATAPI

STATUS

Insert media for delivery

Execute

Eject

PQ List

Figure 4.14: The Mark Info window

Apart from the PQ information, this window contains additional fields for Album Title, Album Artist, Track Title and, for compilations, Track Artist. These fields provide input for the generation of CD-Text metadata. Additionally, ISR Codes or ISRC, and a Universal Product Code/European Article Number, or UPC/EAN, code can be entered as well.

ISRC or International Standard Recording Codes are unique, machine-readable identifiers for each track on a disc. On the other hand, UPC/EAN identifies the *entire* disc.

Creation of PQ Marks must follow a few simple rules, laid down in the “Red Book” or Compact Disc-Digital Audio specification. The most important of these rules are:

- There is a maximum of 99 tracks allowed on a CD
- There is a maximum of 99 indexes allowed within each track
- Index Markers are not allowed between End of Track and Start of Track marks
- The minimum duration of a track, the minimum distance between Start of Track and End of Track marks or two consecutive Start of Track marks, must be 4 seconds, including offset.
- Two consecutive End of Track marks are not allowed but two consecutive Start of Track marks are allowed

PreMaster CD validates the PQ Marks against Red Book specifications and shows the result at the bottom of the PQ Window.

4.7.1 Album Info

4.7.1.1 Album Title

In this field, the title of the album can be entered.

4.7.1.2 Album Artist

In this field, the artist’s name can be entered.

4.7.1.3 UPC/EAN Code

This is the product’s Universal Product Code/European Article Number, usually displayed as a barcode on the package. UPC/EAN barcodes are 13 digits and, in the United States, the leading digit or country code should be set to zero before entering the additional 12 trailing digits.

In order to employ a UPC/EAN code with your product, you must register with GS1 <www.uc-council.org>, formerly the Uniform Code Council. When you become a member, your company will be assigned an identification number, a “company prefix” for your company’s use. The company prefix becomes part of your eventual UPC/EAN code for a product.

4.7.2 Track Info

4.7.2.1 Track Title and Track Artist

These text fields directly represent the title and artist of the selected track in the list below. These fields are used to generate CDText metadata.

PreMaster CD assigns default names to marks and the tracks they generate. The Start Marks are numbered and named based on their associated segment's name. The End Marks and Index Marks are not numbered, and are called End and Index respectively.

You can assign your own names to the marks. Just select a mark from the track info list, type a new name into the TrackTitle field, and hit the enter key. The new name will appear in the list, in the CDText metadata, and also next to the mark above the top Panel. These names will be saved as part of the Project.

Track Artist is entered in a like manner. Select a mark from the track info list, type an artist into the Track Artist field, and hit the enter key. The artist's name will appear in the list and also in the CDText metadata. If, prior to Mark generation, you enter an Album Artist, as mentioned in section 4.7.1.2 above, PreMaster CD will automatically use that text string for the track Artist as well.

4.7.2.2 Track Start

This field displays the location of the selected mark. The time value can be edited by typing directly into this field. The corresponding PQ mark will be moved accordingly.

4.7.2.3 Track Offset

This field shows the offset, if any, that is applied to the selected mark. If the default offset is not appropriate, you can enter a custom offset for this mark alone.

4.7.2.4 ISR Code

This field shows the International Standard Recording Code or ISRC, if any, that is associated with the selected Start of Track mark. Like UPC/EAN, ISRC cannot be self-assigned and must be created in conjunction with the IFPI <www.ifpi.org>.

4.7.2.5 Copy Enabled Button

This button displays and controls the state of the Copy Enable bit of the SCMS or Serial Copy Management Scheme. Copying is enabled when the button is red.

The default state for this button is off. That is, copying is not allowed. SCMS or "scums" flags, implemented for consumer digital recording devices, are generally ignored by professional audio equipment.

4.7.2.6 Emphasis Flag Button

This button shows and controls the state of the Emphasis Flag bit of the selected track. When the Emphasis Flag is set, a CD player will de-emphasize the track on playback. The Emphasis flag is set when the button is red.

Digital emphasis is rarely, if ever, used in modern production. This flag provides backward compatibility with archival material.

4.7.3 A Word About PQ Offsets

In the Mark Info dialog, the Track Offset field is non-editable. This because PQ Offsets are applied globally based on the setting of the Windows > Preferences > Delivery > Offsets preferences. Offsets are often applied to PQ mark timings and are correction factors subtracted from absolute song timing, to compensate for latencies in CD transports.

Note that, as a rule, offsets are applied during the delivery of an original CD or DDP file set. The Windows > Preferences > Delivery > Offsets > Disable Offsets check box will toggle offset calculation on or off. Offsets are applied globally to the entire Project.

PQ Offsets are available to compensate for the variation found with a CD transport's ability to locate to an address on a CD, fill its audio data buffer, unmute and commence playback. Less expensive transports typically require back-timing, the PQ Offset, to make sure the buffer is full in time so a track start is not cut off by the transport's muting circuit. With Offsets enabled, the factory defaults are very conservative and will produce satisfactory results with even the lowest quality transport but, always deliver a copy of your CD and check a range of target transports for an optimal setting.

4.7.4 PQ Log & Track Info

4.7.4.1 Total Tracks

This field shows the total number of Start Marks that will appear on the disc.

4.7.4.2 Total Duration

This field shows the total playing time of the CD.

4.7.4.3 Listing

This field shows a list of all marks present. For Start of Track marks, each entry shows the track number and name, the start and end times along with the duration. End of Track and Indexes are also listed, along with their time location.

Any individual mark can be selected by clicking on that row in the list. A selected track is highlighted in yellow while information on the highlighted mark will appear in the fields above within the Track Info section. See section 4.7.2 above for more information on Track Info.

If you double click on a Track Start entry in the list, PreMaster CD will automatically begin playing from that Track Start location. This provides a quick way to confirm your Mark locations.

4.7.4.4 PQ Validator

PreMaster CD checks to see that all PQ entries conform to the Red Book specifications. If they meet the requirements, the indicator at the lower left corner will be green and a message will say "PQ Information is valid." If the PQ marks violate the Red Book requirements, the button will be yellow, and a message will appear describing what is wrong with the entered parameters.

4.7.4.5 Device & Status

The Device field provides details about your CD-R mechanism. For multiple connected CD-R mechanisms, there is a selector to the right of the Device label that allows you to choose the target mechanism. PreMaster CD can only address one mechanism at a time. The Status field below provides an indication of the status of your delivery media and progress of the delivery.

4.7.4.6 The Execute Button

Once the above options are to your liking, this button starts the process of creating a new delivery, written to the location shown in the "Device" field. When you click the Execute button, a standard Mac OS file browser opens where appropriate, allowing you to specify the location that will be used. A new or empty folder should be specified to contain the newly created DDP file set that will form the basis for your CD-R delivery. Once the destination is specified, SonicStudio•DDP begins the delivery process, with progress shown in the validation field at the bottom of the PQ Delivery window. During delivery to a CD-R when no media is present in the selected drive, SonicStudio•DDP will prompt you to insert media and wait for a blank disc to be inserted.

Note that, once a delivery has started, the Execute button changes to an Abort button, allowing you to halt the delivery process.

Note that, depending on the settings of in the CDs & DVDs pane of the System Preferences, you may see a Mac OS dialog saying "You inserted a blank CD. Choose an action..." when you place a blank CD-R into your target drive. Clicking on the Ignore button will close the dialog and release the mechanism for PreMaster CD's use.

4.7.4.7 The Eject Button

The Eject button will cause the host to eject an inserted disc.

4.7.4.8 The PQ List Button

This button generates a PQ List, the industry standard text representation of the compact disc's content. This file is typically printed and the hard copy sent, along with the appropriate DDP data set saved to the blank media of choice, to your replicator.

Chapter 5..... Menus

For all menus, the keyboard equivalents for all commands are listed in Appendix 1. Also note that the word folder is used to describe disk directories, in keeping with Mac OS tradition. Finally, all edits in PreMaster CD are both instantaneous and non-destructive. The only exception is the File > Save Reversed command, which “renders” or creates a new sound file of the reversed material.

5.1 The File Menu



Figure 5.1: The File menu

5.1.1 New Project

Selecting New Project from the File menu will open a new, empty Project. Any currently active Projects are unaffected but moved to the background. PreMaster CD allows you to have as many open Projects but, when the application runs out of RAM, it will begin to use virtual memory, significantly slowing down the application.

5.1.2 Open Project

A Project file lets you save your editing work in a set of files, along with most of the editing metadata you added. An additional feature of a Project is that you can save your edit decisions without committing them back to a DDP file set. The Project file saves all segment names, SRPs, marks and edits and, they are all restored upon re-opening that Project.

Selecting File > Open Project brings up a standard Mac OS file browser. Locate the requested Project file and select it to open the Project in a new window.

5.1.3 Open Sound File...

This command opens a Mac OS file browser, allowing you to select any sound file recognized by PreMaster CD. This includes AIFF, WAV and BWF files along with SD2 files with region definitions. See section 5.9.4.1 for more information on importing SD2 files. PreMaster CD is also able to open audio files by dragging and dropping the files into the top Panel of a Project.

5.1.4 Close Window

This command closes the currently active window. This can be a Project, the Mark Info window, Status Window or, the Preferences window. Upon closing a Project that contains unsaved changes, PreMaster CD will open a dialog asking for changes to be saved, discarded or offering to cancel the close window operation.

5.1.5 Save Project

This will save the current state of the active Project. It is saved with its current name and path. This command will overwrite any previously saved Project file with that name and path.

5.1.6 Save Project As...

This command lets you save a copy of the active Project under a new file name or different path. PreMaster CD allows you to choose either a destination folder or, you can navigate to an existing folder. If the destination is empty, PreMaster CD simply writes the audio and/or metadata files as directed. If, however, the destination folder is not empty, PreMaster CD alerts you that a potential conflict exists to overwrite files and asks for more direction.

5.1.7 Save As Default Project

This command save the foreground Project as the default document layout when new Projects are created. Since this is a literal “save as,” you should always deploy an empty Project, without any sound files opened into the Project, before you invoke this command.

5.1.8 Build Sound Waveform...

Files originating from a non-Sonic Studio product includes sample values but do not contain the amplitude-specific metadata needed to draw our very detailed audio time versus amplitude “waveforms.” If you would like to add waveforms while working with your sound files and have unchecked the default Windows > Preferences > EDL > View > Background Waveforms preference, you must select the Build Sound Waveform... command.

First, select the sound file by clicking on the segment’s Title Bar. The Title Bar will turn yellow to show that it is selected. Then, select the File > Build Sound Waveform... command.

5.1.9 Save Reversed

This command saves one or more selected segments or regions in reversed time order, creating a new sound file and segment that “plays backwards.” After invoking the command, a Mac OS file browser appears in order to select the location and file name of the new reversed file to be created. After the operation is complete, the reversed material will be edited back into the Project, replacing the original segment(s) or region(s).

Note that this operation may take a lot of time, depending upon your system configuration and the length of the selected file(s) or region, during which time PreMaster CD may appear to be inactive.

5.1.10 System Information

5.1.10.1 Status Window

Invoking this command opens up the Status Window. While PreMaster CD is running, it outputs information to the Status Window, printing details on installed options, system status and actions undertaken by the application. Also, at the command of the user, certain information regarding EDL or Projects can be output to the Status Window. See the following sections for more information on user selectable printing to the Status Window.

5.1.10.2 Print EDL Sound File Paths

This command outputs a list of all locations of all sound files in use in the current Project. The output is written into the Status Window.

This command is useful if you work in a facility with multiple drives or network-attached storage on which some of your material resides. Printing the explicit path allows you to keep track of the location of all source material, for both documentation and backup.

5.1.10.3 Print Segment Info

This command prints highly detailed information on all segments in the current EDL. The output is written into the Status Window.

5.1.10.4 Print Selected Segment Info Formatted

This command prints user information on the currently selected segment(s). The output is written to the Status Window in the form of a table showing the file name, start and end time, duration and gain in dB.

5.1.10.5 Print Selected Segment Info

This command prints highly detailed information on all selected segments in the current EDL. The output is written into the Status Window.

5.1.10.6 Print SRP Info

This command prints detailed information on all SRPs in the active Panel. The output is written into the Status Window.

5.1.10.7 Write SRP Info to File

This command prints detailed information on all SRPs in the active Panel to a new file. The output is formatted in a table with details on track location, ordinal number, lock status and type, as well as any textual label added to the SRPs. Lock status is indicated by an “L” for locked and a “U” for unlocked. Standard SRPs have a “C” type indication while Sync SRPs, used on other Sonic Studio products, show an “S” type.

Note that, though the default name of the file created with this command has a “srp” suffix, you should manually remove that suffix and replace it with a “txt” file extension.

5.1.1 Quit

Selecting Quit from the File menu begins the process of closing the PreMaster CD application. Any open Projects that have been modified will produce a modal dialog asking you to determine the Project’s disposition. See section 5.1.6 above for more information on this dialog.

5.2 The Edit Menu

Undo Select 1 Segment	⌘Z
Redo Edit	⇧⌘Z
Cut	⌘X
Copy	⌘C
Paste (Replace)	⌘V
Paste (Insert)	⇧⌘V
Paste (Overlay)	⇧V
Select All	⌘A
Deselect All	⌘D
Delete Selection	⌘⌫
Clear Selection	⇧⌘⌫
Create Segment	^G
Create Segment from In & Out Points	^⇧G
Delete Crossfade	
Move Segments...	⇧F1
Segment Gain...	⇧G
Reverse Polarity	
Nudge Segment	▶
Edit Segment Name	
Editing Auto Tool Override	^A
Auto-Space All Segments	

1. Figure 5.2: The Edit menu

5.2.1 Undo (action)

This command reverts the last command executed. For clarification, the Undo command also appends the last action performed to the menu name.

PreMaster CD provide an almost unlimited number of undos. The only limiting factor is the amount of RAM which, when completely used, will force the operating system to use virtual memory. This will slow down the operation of PreMaster CD.

Note that some individual commands actually perform several functions “behind the scenes” though to you, the user, it appears to be only one function. For that reason, you may have to Undo several times to recover a state that was reached with a single user command.

5.2.2 Redo (action)

This command reverts the last undo command, reinstating the last command performed. Additionally, for clarification the Undo command in this menu shows the last action undone.

5.2.3 Cut

The Cut command operates on a region within Edit Points as well as selected regions or segments, removing the defined item from the Project and placing it in PreMaster CD’s “Clipboard.” The Clipboard is a temporary memory location reserved by the operating system for each running application.

5.2.4 Copy

The Copy command operates on a region within Edit Points as well as selected regions or segments, copying the defined item from the Project and placing it in PreMaster CD’s Clipboard. Unlike the Cut command, the Copy command leaves the defined item intact instead of deleting it after copying the selection to the Clipboard.

5.2.5 Paste

The Paste command inserts the content of the Clipboard into the Project, replacing, in order of highest to lowest priority, either:

1. a region within Edit Points
2. selected regions or segments
3. from the Edit Point position

...for the duration of the audio currently of the Clipboard. The inserted content is placed between Crossfades and the Edit Point is moved, for visual reference, to the end of the inserted material.

5.2.6 Select/Deselect All

These commands select or deselect all segments or regions in the current Project.

5.2.7 Delete Selection

If a region or segment is selected, this command will delete the defined item. It will then “slip” or move left any audio after the deleted region or segment, filling in the space formerly occupied by the selected segment or region. A Crossfade is placed to transition across the deletion.

Note that, as with all editing in PreMaster CD, if both an In and Out Point are present, and the Out point is after the In Point, then they take precedents over both selected region and segments.

If only an In Point is present, then the command will not work. Finally, if both an In and Out Point are present, the Out point is after the In Point, and the edit points are inside “Edited Black,” the empty area between segments, then that region defined by the edit points will be deleted and “downstream” audio will be moved left.

5.2.8 Clear Selection

Clear Selection works similarly to the Delete Selection command. The Clear Selection command clears the selected segment, region or area defined by Edit Points, but does not move any other audio on the time line.

5.2.9 Create Crossfade/Create Segment/Create Crossfade from (Edit) Point(s)

This command’s name and function is contextual and changes based on the state of the Project. The command creates a Crossfade or segment at the position of the Edit Points, selected segment or Playhead.

5.2.10 Delete Crossfade

The Delete Crossfade command deletes all “frivolous” Crossfades, ones that cause no audible change in the underlying audio, from the selected region. Superfluous Crossfades are usually created with the Create Crossfade command, discussed in the previous section and, after an extensive editing session, the Delete Crossfade command will clear any visual clutter, making it easier to see the operative edits.

5.2.11 Move Segments

The Move Segment command allows the user to move one or more segments to another location on the time line. Selecting this command opens the Move Segments modal dialog, which shows the current position of the Playhead or start of the first selected segment.

Entering a new start time and clicking the Move button causes the head of the first selected segment to move to the new location. All selected segments will also move by the same amount, maintaining their relative position to each other.

Additionally, this dialog offers three extra options. By clicking the Where button, you can load either the current position of the Playhead or the location of extant In point or Out Points, all from a drop down menu. Then, by clicking the Move button, the segment(s) shift to the new location. The SRP button lets you load the current position of any extant SRPs, also from a drop down menu.

The Move button moves the defined item to the location shown in the dialog’s time code address. Clicking the Cancel button leaves the selected segments at their original position.

5.2.12 Reverse Polarity

The Reverse Polarity command inverts the polarity of the selected segment(s). Segments with inverted polarity acquire a small, bright red dot in the upper left corner of their Title Bar to visually remind you of their inverted status.

Note that, to change the polarity relationship between a stereo pair, this command must be applied to only one channel of the pair. To do this, change the Edit Group Selector of one Panel, located on the left edge of both Panels, from the default stereo setting to mono. To read more about Edit Group Selectors, refer to section 4.6 for more information.

5.2.13 Nudge Segment Left/Right

The Nudge Segment commands move or “nudge” the selected segment(s) left or right, earlier or later respectively, on the time line by a predefined value. The default “Nudge B” value used is defined in the Time Display tab of Preferences window. See section 5.8.4 for more information on the Time Display preferences.

5.2.14 Edit Segment Name

When a segment is selected, choosing the Edit Segment Name command allows the user to edit the name of the segment as it appears in the Title Bar, and in Text Mode view. As with all actions in a Project, changing the Segment name has no effect on the underlying referenced sound file. This command is equivalent to double clicking on the Title Bar to change a segment’s name.

5.2.15 Editing Auto Tool Override

This command toggles the Editing Auto Tools state, either enabled or disabled. See section 5.8.6 for more information on the EDL preferences.

5.2.16 Auto-Space All Segments

The Auto-space function offers a simple but effective tool to change all pauses between tracks to a pre-defined value. Simply select Edit > Auto-Space all Segments and all segments will be moved on the time line, with equal space between according to the Preference > Editing Tools > Auto-Spacing Duration setting. See sections 3.8.5 and 4.2.1 above for practical discussions about the auto-spacing function.

5.3 The EDL Menu



Figure 5.3; The EDL menu

5.3.1 Show/Hide Text View

The Show/Hide Text View command toggles the display of the selected Panel between Text Mode and Waveform Mode views.

5.3.2 Show/Hide Gain Overlay

This command forces the selected Panel to show or hide the Gain Overlay feature. The Gain Overlay is only visible in Waveform Mode, and is shown as a thin red line superimposed on the waveform display. Projects saved with Gain Overlay will open with Gain Overlay visible upon reopening.

Note that, although Gain Overlay may not be visible, when activated it is always active in the audio output signal path. Only the EDL > Bypass Gain Overlay command will bypass any Gain Overlay functionality. See section 5.3.3 below for more information on the Bypass Gain Overlay command.

5.3.3 Bypass/Activate Gain Overlay

This command bypasses or engages the Gain Overlay function. When in bypass, the Gain Overlay line in the waveform display turns grey and the corresponding Gain Overlay Button(s) on the left side of each Panel turn yellow.

Note that the Bypass/Activate Gain Overlay function can only be selected when Gain Overlay is shown. Option-clicking on a Gain Overlay Button will also bypass the Gain Overlay function.

5.3.4 Create Gain Nodes

With Gain Overlay enabled and a region of the time line selected, this command creates Gain Overlay nodes at the boundaries of the region. To use this function, first click–drag within the waveform display to select a region. Then, select Edit > Create Gain Nodes to add two nodes at the “edges” of the Gain Overlay and the selected region.

Because the Edit Point is really a zero duration selection, it can also be used to create a single gain node with the Create Gain Nodes command. For more detailed information on working with the Gain Overlay, see section 4.4 above.

5.3.5 Select Gain Nodes

This command selects all Gain Nodes contained within the currently selected segment(s) or region. Selected Gain Nodes can then be subject to simultaneous changes such as gain setting, lock state, or deletion.

For more information on working with Gain Overlay mode, see section 4.4 above.

5.3.6 Refresh

The Refresh command redraws the current waveform display for the selected Panel. This command is especially useful after rebuilding the waveform files of one or more segments, to force the waveform display to display the updated information.

5.3.7 Standard/Large Track Size

The Standard and Large Track Size commands resize the selected Panel(s) to standard or large vertical size. Large sized Panels are two times as tall as standard size, offering a better display with larger display or desktop settings. A Large Panel also lists more segments in Text Mode.

5.4 The Play Menu



Figure 5.4: The Play menu

5.4.1 Play From Selection

This command starts playback from the beginning of a selected region. If no region is selected, then playback starts at the Edit Point. If the Edit Point is not available, playback commences at the start of the first segment in the Project. This command is equivalent to tapping the Spacebar on the keyboard. The Play From Selection command will continue to play until either the Spacebar is hit again or the Playhead reaches “midnight” (23:59:59:74).

5.4.2 Play Selection

This command plays a selected region or segments. Whereas the Play From Selection command mentioned in section 5.4.1 above will continue to play until stopped, the play Selection command stops automatically at the end of the selection.

5.4.3 Play From Playhead

In normal operation, when you tap the Spacebar to start playback, the Playhead will jump to the Edit Point or, the start of the file if there is no Edit Point, and begin playback. The Play From Playhead command emulates a tape transport, with playback instead starting at the current Playhead location.

5.4.4 Repeat Play

If there is a selected region, the Repeat Play command will repeatedly play the region until stopped. If there is not a selected region, PreMaster CD will repeatedly play the entire Panel. Repeat playback continues until you stop play with the menu command or by hitting the Spacebar.

5.4.5 Stop All

This command stops all playback and is equivalent to tapping the Spacebar during playback.

5.4.6 Around Selection Center

This command plays a section of sound centered around a selected region. When you choose Play Around Selection Center, a submenu appears, allowing you to select the length of playback time.



Figure 5.5: Play Around Selection Center submenu

5.4.7 Play from Selection

Like the Play Around Selection Center discussed in section 5.4.6 above, this command requires that you first select a region. Also, this command offers a submenu with duration choices for playback. Unlike Play Around Selection Center, this command begins playback at the left edge of the selection and continues, for the specified duration.



Figure 5.6: Play from Selection

5.4.8 Play to End of Selection

This command is the opposite of the Play from Selection command discussed in section 5.4.7 above, except that playback ends at the trailing edge or right side of a selected region. If there is not a selected region, playback ends at the Edit Point. This command also offers a submenu with a number of choices for the duration of the playback.



Figure 5.7: Play to End of Selection submenu

5.4.9 Play to In Point

This command plays a section of sound up to the In Point. The duration of playback is preset by the Play Around In Point preference. See section 5.8.4 below for more information on the Time Display preferences.

5.4.10 Play From In Point

This command plays a section of sound starting at the In Point. The duration of playback is preset by the Play Around In Point preference. See section 5.8.4 below for more information on the Time Display preferences.

5.4.11 Play to Out Point

This command plays a section of sound up to the Out Point. The duration of playback is preset by the Play Around Out Point preference. See section 5.8.4 below for more information on the Time Display preferences.

5.4.12 Play From Out Point

This command plays a section of sound starting at the Out Point. The duration of playback is preset by the Play Around Out Point preference. See section 5.8.4 below for more information on the Time Display preferences.

5.4.13 Play Between In and Out Points

This command starts playback at the In Point and continues to the Out Point.

5.4.14 Move Playhead

This command lets you place the Playhead at a specific location on the time line. When you select this menu item, the Move Playhead modal dialog appears.



Figure 5.8: The Move Playhead dialog

When you enter a new time code address in the Move Playhead dialog and click Move, the Playhead will jump to the new location. Besides manually entering a new location, you can also use the Where button to load the address of the In or Out Point, if present, while the SRP button loads the locations of any existing SRPs. Clicking the Cancel button leaves the Playhead at its original location.

Note that, when the Playhead is visible by disabling the Play > Hide Playhead When Stopped toggle, you can hover the cursor over the Playhead's location, either in the time line or Panels,

the cursor changes shape to a sine wave—with-vertical line. Once in that mode, you can click–drag the Playhead to a new location.

5.4.15 Hide Playhead When Stopped

This command toggles between a visible and invisible Playhead when playback is stopped. A check mark appears next to this menu item when the Playhead is hidden. Since this command only hides the Playhead in the Panels, not on the time line, this command is useful if you find yourself grabbing the Playhead accidentally while attempting to edit or modify some other object in a Project.

5.5 The Mark Menu



Figure 5.9: The Mark menu

5.5.1 Mark Info

The Mark Info command opens the Mark Info window. This command is equivalent to the Windows > Mark Info command. See section 3.9 for more information on the Mark Info window.

5.5.2 Track Start Mark

The Track Start Mark command inserts a Start of Track PQ mark at the location of the Edit Point.

5.5.3 Track End Mark

The Track End Mark command inserts an End of Track PQ mark at the location of the Edit Point.

5.5.4 Index Mark

The Index Mark command inserts an Index PQ mark at the location of the Edit Point.

5.5.5 Delete Mark

The Delete Mark command is used to remove existing PQ marks. If a region is selected in a Panel, all of the PQ marks inside the selection are deleted. If no region is selected, this command will remove a PQ mark if the Edit Point is at the exact time location of that mark.

5.5.6 Lock Marks from Selection

The Lock Marks from Selection command is used to lock PQ marks to the time line. This command locks all PQ marks inside a selected region. Once locked, mark locations cannot be modified until they are unlocked. This command is equivalent to clicking the Lock button, if disabled, in the PQ Info tab of the Windows > Mark Info window.

Note that this command does not affect the ability to change Title, emphasis state, ISRC or SCMS metadata associated with a Mark. Also note that this command does not attach marks to audio segments. Editing any audio with locked PQ marks will change the time relationship between those marks and the associated audio.

5.5.7 Unlock Marks from Selection

The Unlock Marks from Selection command is used to unlock PQ marks within a selected region.

5.5.8 Lock All Marks

This command locks all PQ marks on the time line, regardless of selected regions or segments. Once locked, the location of PQ marks cannot be altered until they are unlocked.

5.5.9 Unlock All Marks

This command unlocks all PQ marks on the time line.

5.5.10 Analog Black to Marks

This function measures the amplitude and duration of the audio in a selected region, placing End of Track and Start of Track marks in locations that approximate the end of one track and beginning of the next. Both amplitude and duration are user defined. The default amplitude is set in the Editing Tools tab of the Windows > Preferences window.

When invoking this function, the Analog Black to Marks modal dialog appears. In the dialog, the default parameters can be changed, after which the Analog Black to Marks function is started by selecting OK. By clicking on the Cancel button, the operation is stopped without further action.

Note that the results of the Analog Black to Marks function is never as accurate as the Edited Black to Marks function, discussed in section 5.5.11 below. The accuracy of the mark placement depends entirely on the accuracy of the parameters used so, you may want to zoom in and, with the Show Track Scale in dB preference set (Editing Tools tab of the Windows > Preferences window), visually estimate amplitudes of your fade outs and noise floor. The result of the Analog Black to Marks function should always be checked for errors and unintended placement.

5.5.11 Edited Black to Marks

The Edited Black to Marks command automatically places Start and End of Track PQ marks at the beginning and end of all Fade Ins and Fade Outs respectively. To use the Edited Black to Marks command, you must first select either segments or a region.

5.6 The Selection Menu

Set In Point	[
Set Out Point]
Set In & Out Points	^⌘[
Clear In Point	^[
Clear Out Point] ^
Clear In & Out Points	^ \
Nudge Right	►
Nudge Left	►
Move In Point...	⌘[
Move Out Point...	⌘]
Move In Point to Out Point	⌘ \
Find & Set Points	⌘ \
Select Nudge Size	►
Set SRP	⌘;
Lock SRPs from Selection	
Unlock SRPs from Selection	
Clear Selected SRPs	^;
Drop Edit Point at Play Head	\
✓ Edit Point to Playhead	⌘⌘ \
Move Edit Point to	►
Edit Point to Next Peak	
Select Start to Edit Point	⌘ -
Select Edit Point to End	⌘ =
Selection from Selected Segments	
Select Segments To End	⇧ ⌘ →
Select Segments To Start	⇧ ⌘ ←
Select Segments from Selection	

Figure 5.10: The Selection menu

5.6.1 Set In Point

The Set In Point command drops an In Point at the location of the Edit Point. There can only be one In Point in a Panel at any time.

Note that the IN, OUT and DUR time fields at the top right of the Project window are always active and fully editable. These fields allow you to precisely set the location of, and duration between, the In and Out Points.

5.6.2 Set Out Point

This command places an Out Point at the location of the Edit Point. There can only be one In Point in an EDL at any time.

5.6.3 Set In & Out Points

If there is a selected region in the Panel, then Set In & Out Points will create an In Point at the start of the selected region and an Out Point at the end.

5.6.4 Clear In Point

Clear In Point will, if present, remove the In Point.

5.6.5 Clear Out Point

Clear Out Point will, if present, remove the Out Point.

5.6.6 Clear In & Out Points

Clear In & Out Points will, if either is present, remove both the In Point and the Out Point from the Project.

5.6.7 Nudge Right/Left

These commands makes it easy to slightly move or “nudge” an In and/or Out Point to the right or left. When you select this command, a submenu comes up allowing you to advance or retard an In Point, an Out Point, or both simultaneously.

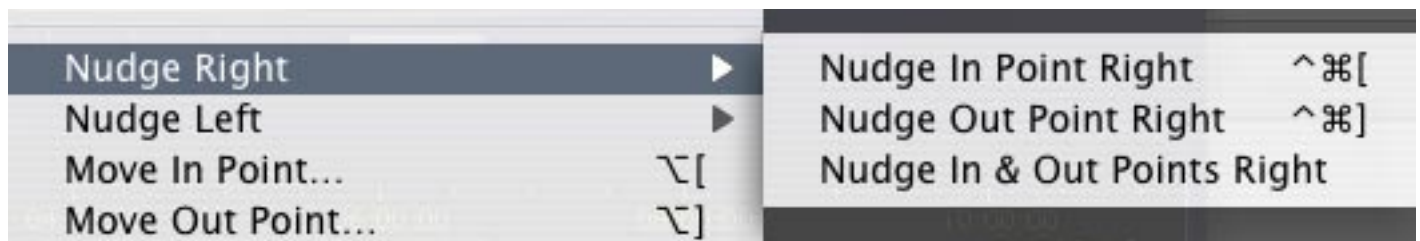


Figure 5.11: The Nudge Right command and submenu

The nudge amount is set in the Time Display tab of the Windows > Preferences window. See section 5.8.4 for more information on the Time Display preferences.

5.6.8 Move In Point/Out Point...

When you select either of these commands, this brings up the Edit In/Out Point modal dialog.



Figure 5.12: The Edit In Point dialog

When you enter a new time code address in the Edit In/Out Point dialog and click Move, the appropriate Edit Point will move to the new location. Besides manually entering a new location, you can also use the Where button to load the address of the Playhead or other Edit Point, if present. The SRP button loads the locations of any existing SRP while clicking the Cancel button leaves the Edit Point at its original location.

5.6.9 Move In Point to Out Point

This command forces the In Point to replace the Out Point.

5.6.10 Find & Set Points

This command places an In Point at the beginning and an Out Point at the end of a selected segment. More specifically, this command places Edit Points at the edit events for the black fades defining the boundaries of the segment(s). If multiple segments are selected, the In Point is placed at the beginning of the first selected segment, and the Out Point is placed at the end of the last selected segment.

Note that this command does not operate on selected regions. Also note that edit event locations can affect Mark placement. See section 4.1.4 above for more information on edit events inside fades.

5.6.11 Select Nudge Size

This command allows you to select one of the three nudge presets used by the Selection > Nudge Right/Left and Edit > Nudge Segment commands. The presets are defined in the Time Display tab of the Windows > Preferences window. See section 5.8.4 for more information on the Time Display preferences.

5.6.12 Set SRP

This command places an SRP or Selection Reference Point in the selected Panel at the location of the Playhead.

5.6.13 Set SRP with Text

This command places an SRP in the selected Panel at the location of the Playhead while selecting that SRP's associated label field for entry.

5.6.14 Lock SRPs from Selection

This command locks all SRPs within a selected region.

5.6.15 Unlock SRPs from Selection

This command unlocks all SRPs within a selected region.

5.6.16 Clear Selected SRPs

This command removes all SRPs within a selected region, whether they are locked or not.

5.6.17 Drop Edit Point at Playhead

This command moves the Edit Point to the current location of the Playhead.

5.6.18 Edit Point to Playhead

This command toggles a mode on or off whereby, when playback is stopped, the Edit Point jumps to the location of the Playhead.

5.6.19 Move Edit Point to...

This command has a submenu, with ten possible choices.

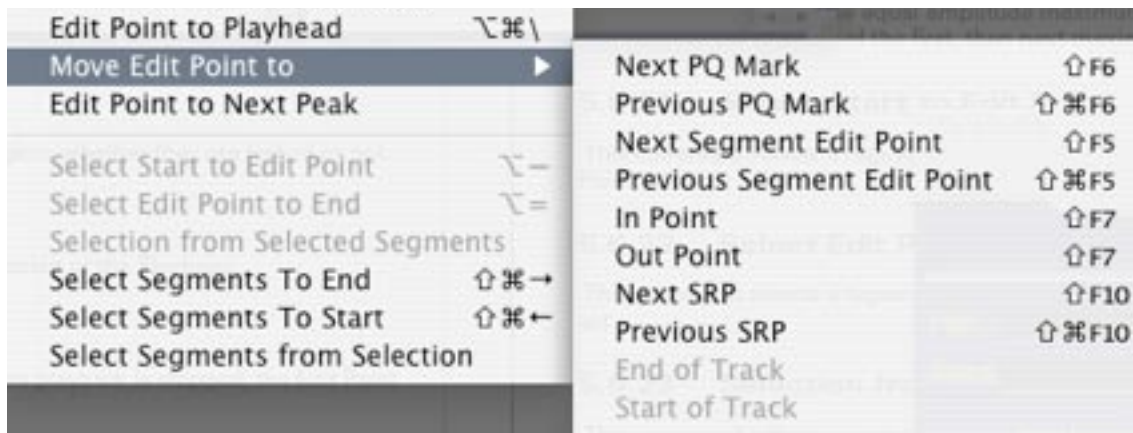


Figure 5.13: The Move Edit Point to submenu

With this set of choices, the Edit Point can be quickly moved to a number of predefined positions:

- The next PQ mark
- The previous PQ mark
- The next Segment Edit Point ...the Black Fade or Crossfade
- The previous Segment Edit Point ...the previous Black Fade or Crossfade
- The In Point
- The Out Point
- The next SRP
- The previous SRP
- The End of Track ...the last Fade Out of the Project
- The Start of Track ...the first Fade In of the Project

5.6.20 Edit Point to Next Peak

This command examines the amplitude of all audio samples in the selected region or segments, and moves the Edit Point to the location of the maximum sample within the selection. If there are more than one equal amplitude maximum samples, then the command moves the Edit Point to the location of the first, then next maximum samples in turn.

5.6.21 Select Start to Edit Point

This command selects a region from the first Fade In of the Project to the location of the Edit Point.

5.6.22 Select Edit Point to End

This command selects a region from location of the Edit Point to the last Fade Out of the Project.

5.6.23 Selection from Selected Segments

This command selects a region from the first Fade In of the first selected segment to the last Fade Out of the last selected segment.

5.6.24 Select Segment to End

This command selects all segments from the Edit Point to the last segment in the Project, including the segment in which the Edit Point is located. If the Edit Point has not been placed, the command selects all segments from the first selected segment to the last segment in the Project.

Note that, to quickly determine if the Edit Point is placed somewhere in the Project regardless of zoom level, simply check the left DUR or duration field at the top of the Project. Since the Edit Point is really a zero duration selection, the DUR field will show a zero value whenever the Edit Point is present, even though it may not currently be in view.



Figure 5.14: The DUR field showing the presence of the Edit Point

5.6.25 Select Segment to Start

This command selects all segments from the first segment in the Project to the Edit Point, including the segment in which the Edit Point is located. If the Edit Point has not been placed, the command selects all segments from the first segment in the Project to the selected segment.

5.6.26 Select Segments from Selection

This command selects all segments that are part of the selected region, including the segments in which the start and end of the selection is located.

5.7 The View Menu



Figure 5.15: The View menu

5.7.1 Move Forward/Backward

These commands move the contents of the Panel forward and backward along the time line. The zoom factor or magnification stays the same.

5.7.2 Zoom In/Out

The zoom commands change the zoom factor or magnification, expanding or reducing the time scale by 90%, with 10% overlap from the previous view for visual context. Zooming in provides more detail while zooming out lets you see more of the overall program.

5.7.3 Zoom In Around In/Out Point

These commands change the magnification of the waveform display while centering the waveform display on the In Point or Out Point. The amount of time shown around the In or Out Point is defined by the Zoom to In/Out setting in the Time Display tab of Windows > Preferences. See section 5.8.4 for information on the Time Display tab.

5.7.4 Zoom In/Out around Edit Point

These commands change magnification while keeping the waveform display centered on either the Edit Point and is very handy for determining context. The amount of time shown around the In or Out Point is defined by the Zoom to In/Out setting in the Time Display tab of Windows > Preferences. See section 5.8.4 for information on the Time Display tab.

5.7.5 Zoom In/Out around Playhead

These commands combine a Zoom In/Out command while keeping the waveform display centered on the Playhead, also very handy for determining context.

5.7.6 Zoom to Previous/Next

These commands are like Undo/Redo for zoom commands. PreMaster CD remembers the last lower resolution (out) zoom level. To return to an prior zoomed out level, choose Zoom to Previous. To return to the more recent zoom level, choose Zoom to Next.

5.7.7 Zoom around Playhead

This command zooms with the Playhead in the center of the waveform display, and is very handy for determining context. The level of zoom is determined by a submenu.

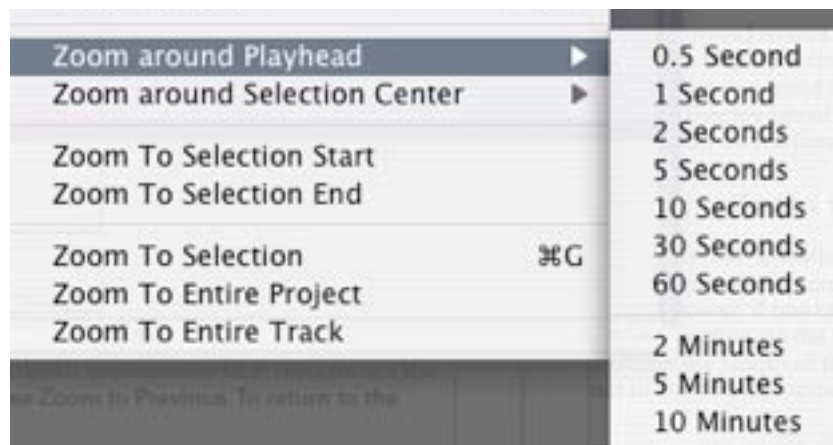


Figure 5.16: The Zoom around Playhead menu

The amount of time chosen in the submenu indicates the total amount of time shown in the display after the Zoom Around Playhead command is selected. The amount of time will be equally divided between the area to the left and right of the Playhead position.

5.7.8 Zoom around Selection Center

This command is similar to Zoom around Playhead, except that instead the display is centered around the centre of a selected region or selected segment(s).

5.7.9 Zoom to Selection Start/End

This command zooms the waveform display to the start or end of the current selection with the start or end of the selection centered in the waveform display and is very handy for refining a selection's boundaries. The amount of time shown around the selection boundaries is defined by the Zoom to Sel Start/ setting in the Time Display tab of Windows > Preferences. See section 5.8.4 below for information on the Time Display tab.

5.7.10 Zoom to Selection

This command zooms to the currently selected region such that the selection is centered in the waveform display and covers a preset percentage of the waveform display area. The amount of time shown around the selection boundaries is defined by the Zoom to Sel Start/ setting in the Time Display tab of Windows > Preferences. See section 5.8.4 for more information on the Time Display tab.

5.7.11 Zoom to Entire Project/Track

Under normal operation with a stereo Project, these two menu commands work identically. These commands zoom so that the entire program is shown across the entire waveform display. However, if one of the two Panels contains more audio information, stretching over a longer duration on the time line than the other channel, the Zoom to Entire Track command will zoom to the length of the selected track, which will then be different for the two tracks when not in stereo edit mode.

5.8 The Windows Menu

The Windows menu provides access to the Mark Info window, the meters and Master Fader, and the Preferences window.

5.8.1 Mark Info

For more information on the Mark Info window, see sections 5.5 discussing the Mark Menu and section 3.10 discussing the specifics of the Mark Info window.

5.8.2 The Preferences Window

Some of the functions and commands within PreMaster CD can be changed to adhere to your preferred values or behavior. All of these preferences can be adjusted in the Windows > Preference Window

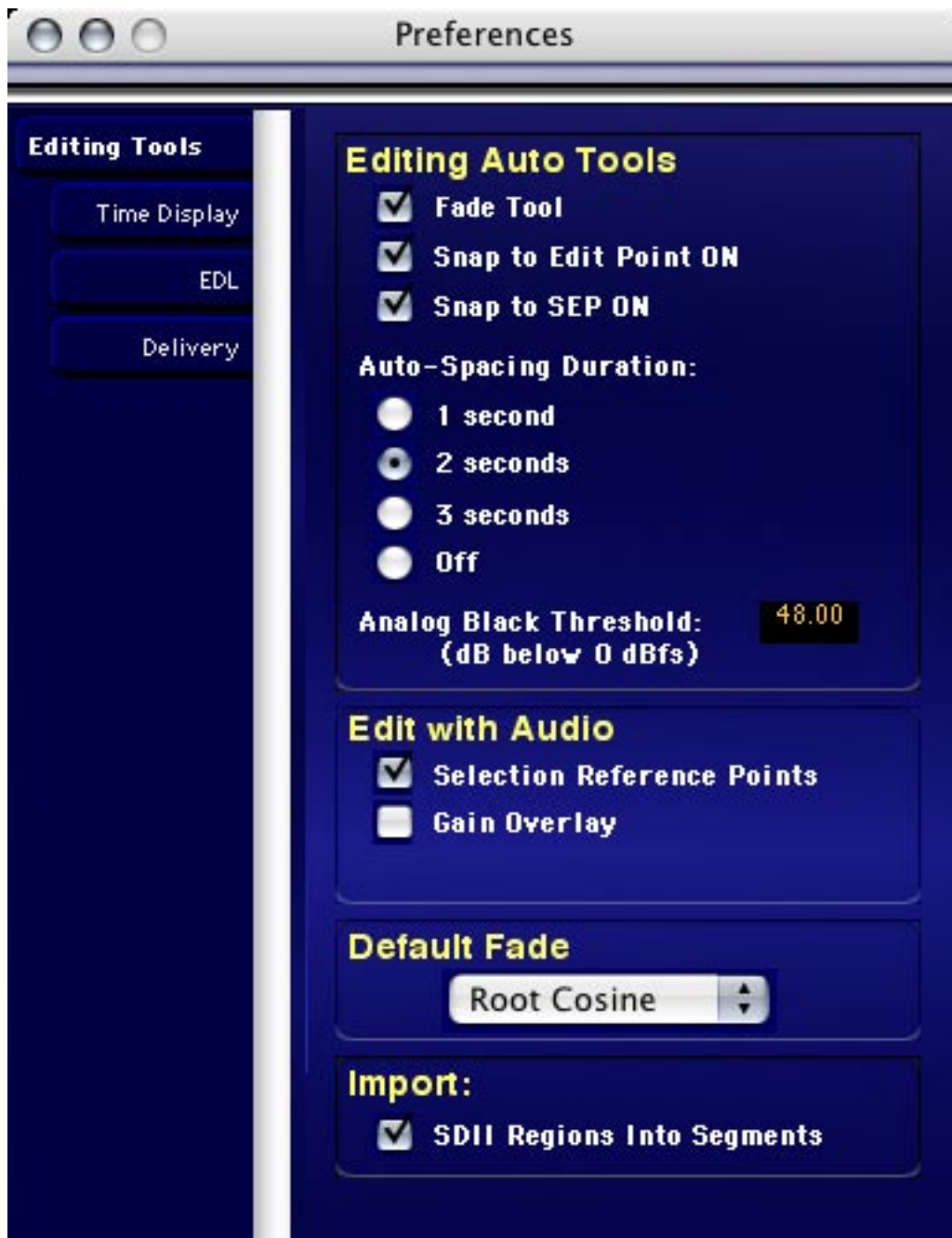


Figure 5.17: The Preference window showing the Editing Tools tab

The Preference window is displayed by selecting the Windows > Preferences command.

5.8.3 Setting Preferences — Editing Tools Tab

5.8.3.1 Editing Auto Tools

The Editing Auto Tools section has the following options:

FadeTool: When checked, the FadeTool will be enabled for editing. To learn more about the FadeTool and its properties, see section 3.8.1 and 4.1 for a full description.

Snap to Edit Point ON: When checked, dragging a segment near the position of the Edit Point will cause the segment to auto-snap. This feature is really only applicable when dragging audio into a Project from the Finder or another open Project.

Snap Zone ON: When the zone snap is checked, dragging a segment near the start or end of another segment will cause the segment to auto-snap to the red or blue snap locations. See section 4.2 for more information on the drag & drop, auto-snap function.

Auto-spacing duration: As described in section 4.2, Auto-Space uses a pre-selected time value to space the segments. Here, this value can be selected between 1 and 3 seconds. Alternatively, Auto-Space can be turned off as well.

Analog Black threshold: This field shows the default value used by the Mark > Analog Black to Marks command for the amplitude threshold. This value, expressed as dB below 0 dBFS, sets the loudness threshold below which a Start of Track or End of Track mark will be placed. See section 3.9.4 for more information on automatically placing PQ Marks.

5.8.3.2 Edit with Audio

Selection Reference Points: When editing, this setting causes SRPs to move along with their associated segment. They are also included with the audio when it is copied to the clipboard.

Gain Overlay: When editing, this setting causes gain nodes to move along with their associated segment. They are also included with the audio when it is copied to the clipboard.

5.8.3.3 Default Fade

This selector determines the default fade curve used when any new fades are created PreMaster CD. The five curve options are:

- Cosine
- Root Cosine
- Linear
- Root Linear
- Exponential

Section 4.1.2 briefly discusses the five curve shape options.

5.8.3.4 Import

SDII Regions Into Segments: When on, Sound Designer II regions, if present, will automatically be converted to separate segments upon opening in PreMaster CD. When off, the entire SDII image will be imported as one continuous segment.

5.8.4 Setting Preferences — Time Display Tab

5.8.4.1 Time Display

The Time Display time code format selector allows you to preset the display time code format to 75 frames per second, 30 fps NDF, seconds or samples. Compact Discs use a special time code format, 75 fps, not used elsewhere while 30 fps NDF or “30 non-drop,” 30 frames per second non-drop frame, is the legacy standard used by the original, 1600/1610/1630 series of video cassette-based CD preparation systems.

5.8.4.2 Nudge A/B/C

The values in these fields define the amount of time that segments will be ‘nudged’ when the Edit > Nudge Left/Right commands are applied. For a complete description of the working of these commands, see section 5.2.13.

5.8.4.3 Zoom to In/Out

The time value entered here defines the amount of time in the total display after a View > Zoom Around In/Out Point command. See chapter 5.7.3 for a full description of these commands.

5.8.4.4 Zoom to Selection

The time value in this field defines how much time will be displayed when the View > Zoom to Selection command is applied. For a full description of this command, see section 5.7.10.

5.8.4.5 Play Around In/Out Point

The values in these fields define how much time will be auditioned when the Play > PlayTo/From In/Out Point commands are invoked. For a full description of these commands, please see sections 5.4.10 and 5.4.11.

5.8.4.6 Show Subframes

When enabled, all time fields at the top of the Project display additional time code subframe information.

5.8.5 Setting Preferences — EDL Tab

5.8.5.1 View

The View section has the following options:

Show Segment Names: When checked, segment names will show in the Title Bar. When unchecked, the Title Bar of segments remains empty.

Background Waveforms: When checked, waveforms will be generated in the background upon opening sound files from other DAWs. When unchecked, no graphical “waveform files” will be produced automatically. The File > Build Waveform... command will manually generate waveform files.

Zoom Factor (%): When zooming in or out, the display will be zoomed by the factor defined in this field. The default 90% means that 90% of the current waveform view will be zoomed, with 10% overlap for visual context. This preference only applies to selections.

5.8.5.2 Display Auto Tools

The Display Auto Tools has the following options:

AutoScale On: When enabled, the display is scaled vertically so that the maximum peak within the entire Panel becomes full scale. This preference provides overall amplitude scaling while maintaining visual context between loud and soft passages.

Scale to View: When enabled, the display is scaled vertically so that the maximum peak within the currently visible waveform becomes full scale. This preference provides local magnification, excellent for fine editing, but requires that you refer to the numeric vertical scale to determine the general amplitude.

Show Track Scale in dB: When enabled, the amplitude scale is shown in dBFS, or dB full scale referenced to a “full” 24 bit AES/EBU data word. When off, the Panel’s amplitude scale is shown as a non-dimensional normalized value ranging from 0 to ± 1 , equating to or silence or full scale, respectively.

5.8.5.3 Playing Auto Tools

The Playing Auto Tools section has the following settings:

Autoscroll Playhead: When selected, the Playhead will move as normal until it reaches the right edge of the waveform display. Then, the Move Forward command automatically takes place, moving the waveform view to the right.

AutoScroll Track: When selected, the Playhead stays centered in the waveform display while the underlying waveform display continuously scrolls.

5.8.6 Setting Preferences — Delivery Tab

5.8.6.1 Delivery

Keep DDP Image: This check box retains the directory or folder containing the DDP files set that forms that basis for all CD-R deliveries. See section A1.4 for information on using the DDP file set for replication.

Emulation Mode: The Emulation Mode check box causes PreMaster CD to emulate a CD-R “burn,” allowing you to validate your Project’s settings without writing to a disc. While dis-

abling writes to your optical mechanism in this mode, PreMaster CD does write a CD's worth of data, approximately 650 MB, to your hard disk.

Close Session: The Close Session check box causes PreMaster CD to create a Disc-At-Once Orange Book CD-R with a closed Table of Contents. If that check box is left unchecked, then PreMaster CD creates a Track-At-Once Orange Book CD-R, allowing you to later add additional tracks. In general, a Disc-At-Once CD-R more closely resembles a replicated disc and so is likely to play in a wider range of transports and behave more like your replicated deliverable.

Write CDText: This check box causes PreMaster CD to write CDText-specific CD+G metadata to a delivered CD-R. CDText metadata is not included in DDP file sets. See section 3.10.1 for specifics about CDText.

CD Write Speed: The speed selector calls out the speeds that the target mechanism and host are capable of providing for your delivery. When choosing CD-R delivery speed, remember that the speed is inversely proportional to pit jitter. That is, higher speeds will induce more jitter in the CD's physical pit structures while lower speeds will result in less jittery pit structures. Lower jitter is generally better in terms of subjective audio quality, because it requires less vigorous clock regeneration in the digital-to-analog converter or DAC to attain a reasonable amount of jitter in the final analog output.

5.8.6.2 Offsets

Start Offset: It takes a typical CD player about two to twenty frames to fill its buffer and start producing valid audio data after it has located the correct Track Start. The Start Offset backs times the Track Start time that the player reads to ensure that the beginning of the track will not be cut off by the player.

End Offset: The End Offset prevents the player from muting too early at the end of the track. This offset value applies to all End of Track marks, including the last.

Track 1 Offset: This setting allows the Start of Track Mark for Track 1 to have its own offset value. This is because Track 1 on a Compact Disc is different from the remaining tracks and requires an extra long offset to allow CD transports to initialize prior to the onset of audio data recovery.

Splice Offset: If a Start of Track mark is not preceded by an End of Track mark from the previous track, it is considered to be a "splice" or segue. The Splice Offset applies only to the special case of splices. The Splice Offset must always be equal to or less than the Start Offset. Splice Offsets are typically a bit more than half of the normal Start of Track offset.

Minimum Index Width: This field sets the minimum time between Index marks. According to the Red Book standard, Index marks should be at least 1 second apart. End marks that are closer to the Start than the Minimum Index Width are ignored.

Disable Offsets: If this button is enabled, the offsets shown in the offset windows will not be subtracted from the PQ mark times, either for display or for delivery.

5.8.6.3 Output

Dither On Output: When on, dither will be applied to the output at all times, redithering the output to 16 bits of resolution. When off, both the monitor and delivery outputs will be bit transparent. The DITHER indicator in the upper right of the Project window reflects the current state of the Dither on Output preference. Section A1.2 includes a discussion of redithering.

Appendix 1 Best Practices

A1.1 Introduction

Although versatile in many ways, not every function that PreMaster CD offers is the best way of structuring your CD creation and replication workflow. Some solutions are better than others, either for quality reasons or other reasons beyond the scope of this manual. In this appendix, we'd like to provide some guidelines in order to get the best out your software and establish a smooth and efficient production flow.

A1.2 Source Material Considerations

PreMaster CD handles a variety of source file formats. It is therefore very tempting to 'grab' what you need and add it to your Project. However, some source material might be in formats other than the final 44.1 kHz sample rate and 16 bits word length necessary for CD production. PreMaster CD determines the characteristics of the files you import based on the metadata they contain. It will warn you if the sample rate is not the required 44.1 kHz where necessary, while resolutions longer than 16 bits are rounded down and redithered to 16 bits during the delivery stage. Although all of the conversions implemented by PreMaster CD are of very high quality, you may consider modifying your audio material beforehand with your favorite utilities.

A note on redithering...AES/EBU data contains an "essence" or payload of 24 bits of linear PCM-encoded data, sampled at up to 192 kHz. Audio Compact Discs, on the other hand, carry only 16 bit data because they were designed as a distribution format, not origination formats. That's one very good reason not to use CD-DA discs, "audio CDs," as a mastering source. Your mastering engineer always appreciates source material at the highest possible quality in order to produce the best possible result.

Because all your material destined for inclusion in a final CD replication master must already be at a 16 bit word length, any material using 17 to 24 bits must be word length-reduced to match the CD-DA standard. This is usually accomplished by "rounding down" longer length words to 16 bits. Because the audio data is being modified, it must also be redithered or subtly randomized with an injection of tiny amounts of "shaped" noise in order to prevent distortion. In the Window> Preferences > Delivery pane, you will find that PreMaster CD has a default preference to always redither the data when delivering either a CD, DDP or when simply playing back audio. This is necessary whenever any audio data is modified, as with a fade or gain change, in order to "linearize" or reduce subtle distortion in the resulting data. Redithering is always a trade off between lower distortion and an elevated noise floor. PreMaster CD uses an exclusive, spectrally shaped "2nd order" or triangular PDF redithering scheme. PDF or Probability Density Function describes the amplitude versus frequency plot of the dither generator. Our shaped dither is an excellent trade off between audibility and optimal linearity.

It's a good practice to prepare all source material needed before moving forward with sequencing, editing and finishing a new replication master. By organizing your source material

and storing all relevant data in the same directory, your projects will be highly portable and you'll avoid situations where files have "gone missing" from a job because they were not included in the Project subfolder.

A1.3 Hardware Considerations

PreMaster CD is fully compliant with Mac OS 10.4.3 and higher. Therefore, sound material can be used from any drive that your computer can access. This includes network-attached and removable drives as well near-line optical drives. That said, not all mountable storage devices are suitable for reliable real-time or higher speed reads and writes of sound files. In order to ensure a smooth and uneventful workflow, we suggest the following guidelines:

1. Reserve the drive containing your operating system, the "boot volume," for just that, the operating system.
2. Use a dedicated, separate direct-attached hard disk, with more than enough free space, to store, record and playback all of your sound files. Optimize the performance of this dedicated drive by regular maintenance.
3. Speaking of maintenance, be sure to regularly check your boot volume for problems with a proven file system utility, like Alsoft's DiskWarrior < www.alfsoft.com >.
4. Although you may find it will actually work, never use network, flexible media or optical drives to record or playback sound files due to their excessive latency. Always copy files from those drive types to a dedicated, local, direct-attached hard disk first, then use that disk for all PreMaster CD work.
5. Do not use audio files with the same file name within a Project. Rename beforehand, where necessary, with a descriptive name for later ease of archiving and restoration.

A1.4 Delivering DDPs

Finally, it was mentioned in section 3.10 but bears repeating...DDP file sets created by PreMaster CD, always in their enclosing folder, can be copied to any writable medium you choose, CD-ROM, DVD-R, Jazz, Zip or hard disk, for transport to your replicator. Check that the medium you choose has enough space to hold the file set. Also check with your replicator to determine which medium they can handle and whether they are even capable of using DDP as an premastering format. Many bargain companies are not ready to handle DDP deliveries so, we at Sonic Studio suggest you find a reputable facility that does accept DDP file sets of your valuable masters.

Appendix 2 Keyboard Shortcuts

File & Project Shortcuts

New Project	command + N
Open Project	command + O
Save Project	command + S
Close Window	command + W
Open Sound File	command + shift + O
Quit (application)	command + Q

Playback Shortcuts

Stop/Start Playback	spacebar
Play Selection	command + spacebar
Play from Playhead	option + spacebar
Repeat Play	command + option + spacebar
Play to In Point	F5
Play from In Point	F6
Play to Out Point	F7
Play from Out Point	F8
Play between In & Out Points	command + control + F5
Hide Playhead When Stopped	option + P

Editing Shortcuts

Undo last Edit	command + Z
Redo last Undo	command + shift + Z
Select All	command + A
Deselect All	command + D
Cut	command + X
Copy	command + C
Paste	command + V
Paste (Insert)	command + option + V
Paste (Overlay)	shift + V
Delete Selection	delete (backspace)
Clear Selection	option + delete (backspace)
Create Crossfade	control + G

Create Crossfade from In/In & Out Point	control + option + G
Replace	F1
Insert	F2
Replace Left	command + F1
Replace Constrained	control + F1
Set In Point	left bracket
Set Out Point	right bracket
Set In & Out Points	control + option + left bracket
Clear In Point	control + left bracket
Clear Out Point	control + right bracket
Clear In & Out Points	control + backslash
Nudge In Point Right	control + command + left bracket
Nudge Out Point Right	control + command + right bracket
Nudge In Point Left	option + command + left bracket
Nudge Out Point Left	option + command + right bracket
Nudge Selected Segment(s)	numeric keypad + or -
Move In Point	option + left bracket
Move Out Point	option + right bracket
Move In Point to Out Point	option + backslash
Find & Set Points	command + backslash
Drop Edit Point	backslash
Edit Point to Playhead	option + command + backslash
Move Edit Point to Next PQ Mark	shift + F6
Move Edit Point to Previous PQ Mark	shift + command + F6
Move Edit Point to Next Segment Edit Point	shift + F5
Move Edit Point to Previous Segment Edit Point	shift + command + F5
Move Edit Point To In/Out Point	shift + F7
Move Edit Point to Next SRP	shift + F10
Move Edit Point to Previous SRP	shift + command + F10
Select Start to Edit Point	option + dash
Select Edit Point to End	option + equal to
Select Segments to End	shift + command + right arrow
Select Segments To Start	shift + command + left arrow
Change Crossfade duration	shift + click/drag with Crossfade Tool

Viewing Shortcuts

Show Text View	option + T
Show Gain Overlay	option + G
Refresh	command + R
Standard Track Size	option + 5

Large Track Size	option + 6
Move Forward	right arrow
Move Forward/Backward	command + option + control + click/drag on waveform
Move Backward	left arrow
Zoom In	down arrow
Zoom Out	up arrow
Zoom In Around In Point	command + arrow left
Zoom Around Out Point	command + arrow right
Zoom Around Edit Point	command + arrow down
Zoom Out Around Edit Point	command + arrow up
Zoom In Around Playhead	option + arrow down
Zoom Out Around Playhead	option + arrow up
Zoom to Previous	command + P
Zoom to Next	command + option + P
Zoom to Selection	command + G
Zoom to Selection	command + option + click/drag on waveform
Zoom to Entire EDL	command + E
Zoom to (Time Line) Selection	command + click/drag right on time line
Zoom to Waveform selection	command + option + click/drag on waveform

CD Prep

Create Track Start Mark	F9
Create Track End Mark	F10
Create Index Mark	F11
Delete Marks	command + F12
Edited Black to Marks	shift + F12
Mark Info (window)	command + M

System

Audio I/O Setup	option + A
Preferences	command + comma
Select Nudge Size A	control + 1
Select Nudge Size B	control + 2
Select Nudge Size C	control + 3

Appendix 3Contextual Menus

Control-Click...

In the Waveform —

With only the Edit Point placed within a segment:

Create Segment = Create Crossfade command

With a selection active:

Create Segment = Create Segment from Selection command

With a segment selected:

Create Segment = Create Segment from Selection

Reveal Selected Segments in Finder — shows the location of the selected segment with Mac OS browser

With Gain Overlay on —

On a Gain Node:

GainOverlayNode Locked — locks the selected Gain Nodes

GainOverlayNode Unlocked — unlocks the selected Gain Nodes

Lock Nodes from Selection — locks all nodes within the current selection

Unlock Nodes from Selection — unlocks all nodes within the current selection

Lock All Nodes in track — locks all nodes in the Panel

Unlock All Nodes in track — unlocks all nodes in the Panel

With segments —

On the Title Bar:

Help — not implemented

Move Segments = Move Segment Command

Segment Gain — opens the Segment Gain window

Reverse Polarity = Reverse Polarity command

Set Polarity — not implemented

Reset Polarity — not implemented

Build Waveforms = Build Waveform command

On a segment's Drag Bar:

Create Segment — not implemented

Reveal Selected Segments in Finder — shows the location of the selected segment with Mac OS browser

On a selected region's Drag Bar:

Create Segment = Create Segment from Selection command

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