

SADI6 Software User Operation Manual

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SADiE6 SOFTWARE USER MANUAL

INTRODUCTION

SADiE™ has been designed to be simple and intuitive to learn and use. Despite this, you will find the manual and on-screen help valuable in explaining the underlying concepts of the system, suggesting methods of completing common tasks, and as a technical reference. We have tried to keep the manual and on-screen help as concise and clear as possible. In a comprehensive and professional system such as SADiE, there are many methods for performing specific tasks and you will develop your own methods as you become more familiar with the system.

We appreciate this manual is a fairly hefty book, and it's not expected that a user would read it in one sitting. However..... [read this instead](#). The SADiE6 Overview section is about 30 pages which will cover most things you need to know for making a recording and editing it.

[Getting Started](#) explains the concepts behind the system and the terminology used and gives you a quick guide to getting your system working for you. The SADiE6 Overview section is your tutorial.

Recording, Using the Playlist, Arranging an EDL, Editing, Mixing, and File Management provide details about common tasks.

[Specific Applications](#) contains notes on operations relevant to more specialised areas of work.

Customising SADiE explains the user settings available for changing the way the system works or how it appears on screen.

Please take a little time to read the manual; it will pay off in time saved later. If you cannot find the answer to a problem in the manual or this help file, then please contact our technical support.

To Access the SADiE Web site go to www.sadie.com.

See also the [Software Licence Agreement](#).

MOVING AROUND THE HELP FILE

Words that are blue and underlined contain jumps to other topics, pop-up information, and hyperlinks to the Internet. Some graphics have jumps and pop-ups associated with them. Some larger graphics have multiple "hot" areas, click on buttons to see descriptions and other links.

To navigate around the help file, use the arrow buttons at the top to turn the pages of the chapter.

Throughout the help file the following symbols have been used:



For other operations on the screen using the mouse.



For operations using the hardware controllers.



Where a specified function is available as a Hotkey. Please see the [Hotkey Setup](#) section for details on how to set your Hotkeys.

The following terms are used in describing mouse movements:

Click Press and release the left mouse button once. To "press" an on-screen button, point at it and single-click.

Double-Click Quickly press and release the left mouse button twice.

Right-Click Press and release the right mouse button.

Drag Click and hold the left mouse button over the chosen item, move it with the mouse to a new position, and then release the button.

Right-button clicking with the mouse over many areas gives you a menu of alternatives for that part of the screen; remember to try this everywhere! On screen button names will be printed in **BOLD**, and their picture shown in the margin.

Hardware controller instructions will usually follow the mouse description, and the controller's button names will be printed in **BOLD**. The **SHIFT** button of the hardware controller is used in conjunction with other buttons (e.g. **SHIFT + MUTE** is the solo function), but it does not need to be held down. The function keys **F1-F12** can be set by the user (see [Customising SADiE](#)). Hardware controller users should also read all the mouse instructions. See the look up table of [Hardware Controller Functions](#).

The computer keyboard is used for typing in names, and for Hotkeys, which are useful shortcuts to many functions. They can be customised to your own preference and so are not referred to at every point in the manual; look up the default Hotkey settings in [Customising SADiE](#).

On the keyboard you will use the Shift key (marked ↑), the Control (marked Ctrl) key, the Alt. Key and the Return (↓) key (duplicated by the Enter key).

Ctrl + X means hold the Control key while pressing the X key.

ON-SCREEN HELP

Within the SADiE program, resting the mouse pointer over a button displays the button name in a yellow box, and the status bar at the bottom of the screen describes its action.

For those reading the PDF manual, SADiE also has a Help File, which you can see by clicking on "Help" in the menu bar, then selecting "Help on SADiE 6" (but you've already had some success on that front, otherwise you wouldn't be here, would you?) This help file is similar in terms of text and structure to the manual, however there are a few additional topics (and tips) in the help file. The latest help file will always be available in the downloads area of our [web site](#), if you choose not to install it with the software.

Another advantage of the help file is its searching facilities - pressing the **INDEX** button allows you to type in words/functions/buttons etc. to search for and the Help topic will be displayed instantly. Additionally the **SEARCH** button will allow you to search through the Help file for occurrences of any word you type.

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GETTING STARTED

SADiE6 OVERVIEW

The following topics describe the fundamental functions in the SADiE6 software - recording, importing and editing. There is further detailed explanation of these functions later in the manual, which may duplicate some of this however it's recommended that you read these pages to help you master some of the simplest concepts, and make your earliest tasks with SADiE run more smoothly and quickly.

You can open the full SADiE Help file, by going to the **Help** menu and selecting **Help on SADiE6**.

[Some Basic SADiE Terms & Concepts](#)

[Clipstore](#)

[Ingesting Audio 1 - Recording with SADiE](#)

[Mixer](#)

[Ingesting Audio 2 - Importing Existing Material](#)

[Project Management](#)

[Ingesting Audio 3 - Importing Audio CDs](#)

[Customising SADiE](#)

[SADiE Projects and Project Folders](#)

[Bouncing](#)

[Using the Playlist](#)

[Quick Start CD Writing](#)

[Editing](#)

AUDIO HARDWARE

[SADiE Digital Audio Editing Systems](#)

[SADiE DSP Systems](#)

[SADiE Native Systems](#)

[SADiE6 Applications](#)

[Installing SADiE6 Software](#)

[Audio Hardware](#)

You can open the full SADiE Help file, by going to the **Help** menu and selecting **Help on SADiE6**.

SADiE6 OVERVIEW

BASIC SADiE TERMS & CONCEPTS

PROJECT:

A Project is a folder, located on a PC Drive, where SADiE creates the files, or *project components*, that are used in the editing, compilation and mixing process. By ‘managing’ the project you basically add, remove, name or update these components; this is more easily done within SADiE itself, via its ‘Project Management Window’. The project components comprise the basics: EDLs, Clipstores & Mixers (as many of these as you wish), and can also include any other Windows™ document - Word Docs, PDFs, pictures, etc), which may be of use in your work. On top of this, the Project Folder normally contains all the audio you use within a Project. Although audio can be referenced to external locations, it is advisable to keep it in the Project Folder (and there is a function to do this) so that copying and backing up becomes a simple Drag & Drop process under Windows™. SADiE’s Projects are created, saved & loaded again either as you first launch SADiE, or from within the application itself.

EDL - ‘Edit Decision List’:

An EDL is a file created using SADiE’s™ Playlist window. It shows the ‘Clips’ joined together as you want them, with all their basic levels, cross-fades, automation data, names and so on. This file is the one we edit with the various tools of the Playlist window, together with a number of ‘hot keys’ and the hardware controllers if you are using them, and is the window in which we spend most of our time editing and compiling.

The EDL basically tells SADiE which parts of which raw audio tracks to play, in which order, at which level, etc. It has to be saved if you are to use it again and is normally saved within the Project.

CLIP:

A ‘Clip’ is a reference to all or any part of a raw ‘track’ of audio. It is the Clips that are edited and manipulated within SADiE, never the original audio. There can be many Clips in an EDL, each referring to either different audio tracks, different parts of the same track or even many clips referring to the same part of a track, all playing back at the same time if you wish. Clips can be duplicated many times without duplicating the original audio track.

CLIPSTORE:

The Clipstore component of a project contains clips that refer to the raw audio ‘tracks’ on the hard-drive(s). There is always a ‘Source Tracks Folder’ within the project’s main Clipstore; this contains clips that refer to entire audio tracks so that they can be dragged into your Playlist and edited. Other clips can be put into the Clipstore that have already been edited in the Playlist for repetitive use or use in the future. A Clipstore is one of the components of a project and extra Clipstores can be imported from other Projects.

EDL ENTRY:

A Clip becomes an EDL entry when you place it into an EDL (basically a SADiE EDL just sees a ‘list’ of entries, but displays them to us as Clips for easy editing and manipulation). So, when you see the term ‘Entry’ referred to it simply means the Clip within the EDL.

AUDIO TRACK:

An audio 'track' is the actual audio as it was originally ingested (recorded, imported, ripped from CD or internally bounced) into the project and put onto the hard disk. You never edit this audio itself, just the Clips that refer to it.

STREAM:

The 'streams' are the linear parts of the Playlist where you place your clips, building up the EDL that makes your production. You can add or remove streams as necessary. The streams have their own sets of controls that affect the clips *on those streams* such as mute, solo, record enable, etc. Streams can be mono, stereo or multi-track and can be changed whenever desired, added to or removed by right-clicking in the Stream control area.



Best Practice: select (or create) a stereo Stream to record stereo material, so that the two channels remain in sync no matter how you manipulate them in SADiE.

How the audio on a Stream is played out of SADiE is determined by the relevant Stream's mixer channel - this can determine the pan/balance, level, EQ, dynamics and so forth.

MIXER:

The Mixer is where you route audio around the SADiE system, and generally balance the mix of your work. Each 'Stream' on the Playlist will normally have a 'mixer strip' in the Mixer assigned to it, enables you to control the level and pan position of all the Clips on that particular Stream. Each of these mixer strips has its own EQ, dynamics (compression, etc) and auxiliary sends to the outside world (hardware permitting) as well as other tools including Direct X and VST plug-ins - these are all just inserted onto mixer strips.

Many of the mixer operations (levels, panning, EQ, aux sends) can be 'automated' so that your movements can be remembered and played back.

A Mixer is one of the components of a Project and saved & loaded with that Project.

HOT-KEYS:

These are user-defined keyboard shortcuts to make your workflow faster. You can create a Hot-Key for virtually any function within SADiE. There are default ones, and user-defined ones, and you can load them up as desired from the Environment>Hotkeys menu. If you select Load you will find some pre-defined ones, and selecting the 'SADiE 5 using BB2' set will enable the BBC-friendly key set, referred to in this training guide.

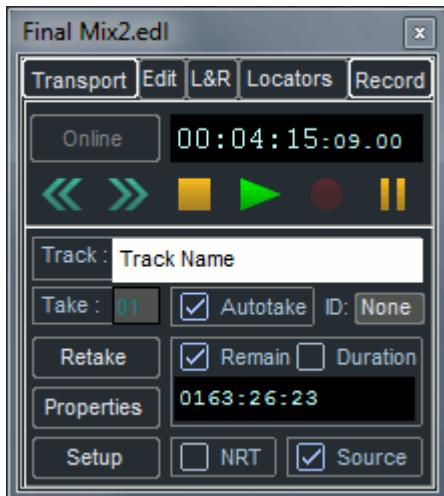
more...

INGESTING AUDIO I

RECORDING WITH SADIE

To make a recording in SADiE you need to have set up a few things first. Once set up they will remain this way, even when you exit SADiE, unless you change them again.

You can do this via the Transport Window:



Generally the quick key for this is F10, but you can also open it with the icon in the toolbar

In this window, click on the 'SETUP' button at the bottom and you will go to SADiE's™ 'Audio Settings' window. In here you should change the audio source to either digital (AES) or analogue depending on where the source audio is coming.

In the Setup window, you can also change whether SADiE 6 is using ASIO hardware, internal Windows™ Media drivers or its own hardware (if you have it connected) - see [earlier](#) in this section.

If you have selected Analogue as your input then you may need to change the sample rate at which SADiE will record the audio. Make sure that this is the same as the rest of the audio within the project if possible.

NOTE: If you have selected a digital input then, when you hit the record button, SADiE may ask you if you want the sample rate changed to reflect that of the digital source. Always click yes if it asks you so that the 'profiles' (pictures of audio you see on screen) will be properly matched.

Once this is set up, close the settings window. Back in the transport controls, you should name the track of audio you are about to record. Click to the right of where it says 'Track', enter a name, *and then hit return*.



Best Practice though not essential to name your new recording, SADiE will force you to do so unless 'Auto-Take' is enabled (see below).

Auto-Take: you might want to turn on 'Auto-Take'. This will put a number after the track name so you don't have to name each take. With Auto-Take enabled, you *could* leave the name blank and SADiE will call the track "Un-named Track-01" and increment this number with each subsequent recording.

Next, decide whether you want a mono or stereo recording. For mono, chose a mono stream to record on to, choose a stereo stream for a stereo track.



Click on the green 'record enable" button in the stream controls to the left of the streams.

To get a level, click on the pause button on the transport controls (you may get a level as you hit the 'R' button on the stream controls, depending on the set up of your SADiE).

When you are ready to start recording, hit the RECORD button in the transport controls (if you just hit the pause button again you will not be recording, just playing - though you can hit the RECORD button at any time to 'drop-in' to record whilst playing).

You will notice the 'Profiles' (pictures of the audio) being created in the Playlist as you record. Assuming you don't stop SADiE, you can actually razor or scissor cut this audio, rename it and move it from stream to stream (select the Clip and CTRL-Down/Up Arrow)whilst it is recording!

Recording Quick Guide

- **Open the Transport Controls.**
- **Hit SETUP - confirm audio settings, close Setup Window.**
- **Name the Track to be recorded**
- **Arm the stream with the green "LED" button on stream controls.**
- **Hit RECORD button.**

more... 

INGESTING AUDIO 2

IMPORTING EXISTING MATERIAL

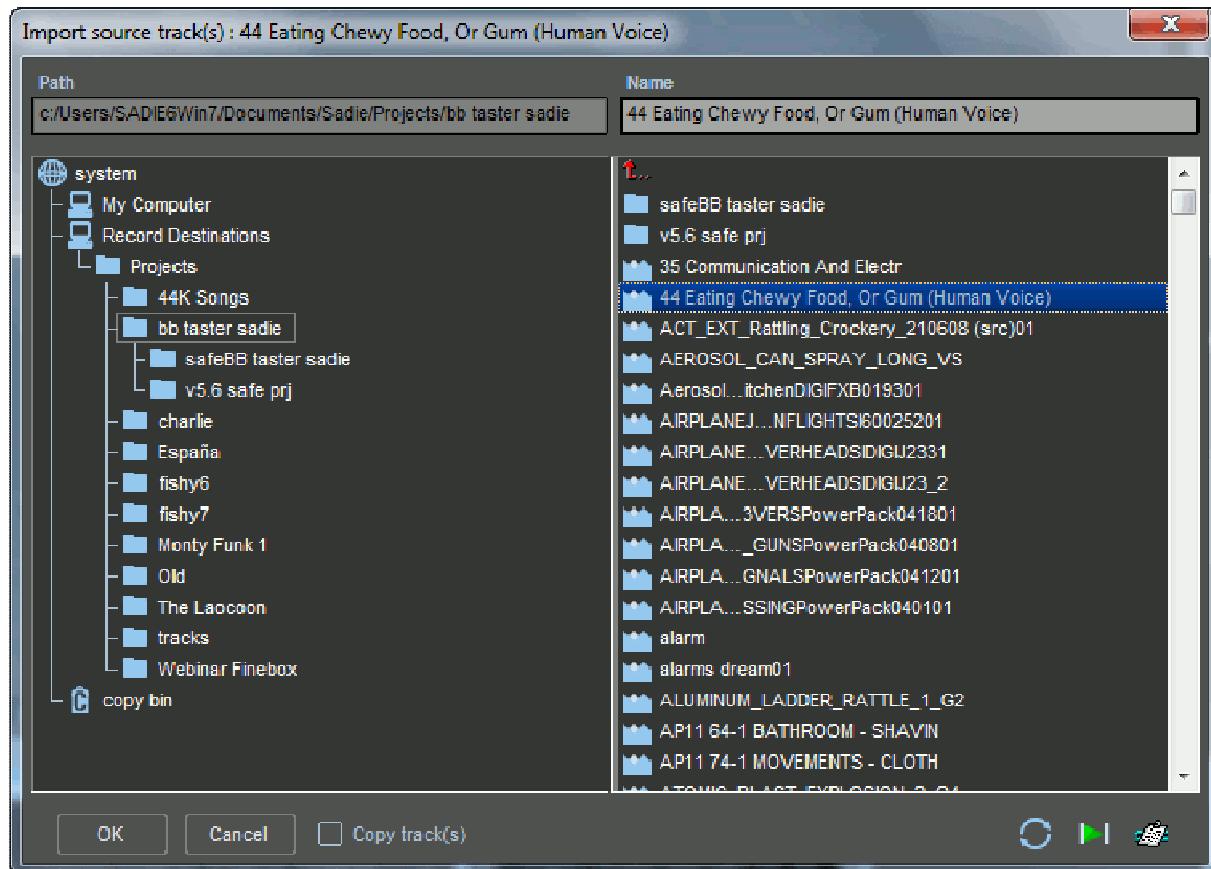
If you already have the material in the system because it:

- already exists in another project
- exists on any other accessible Windows™ PC drive (including the network or CD-Rom)
- was recorded onto a Compact Flash card using a portable recorder, and you have it (or a card-reader) attached.

... then this audio can be **Copied and Imported** directly into your project folder. This of course is very much faster than loading material in real time!

Here's the process:

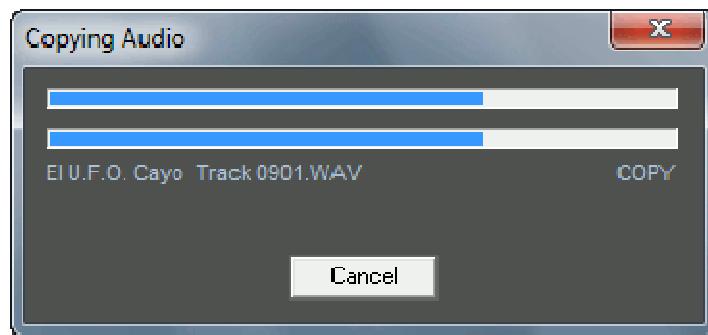
1. Open the Clipstore.
2. Select **COPY AND IMPORT SOURCE TRACKS**. This will open a window where you can find the audio you want to Copy & Import. On the left hand panel of this window, double-click on 'System' to reveal 'My Computer' and all the drives connected to it.



- Click on the Drive that contains the audio you want (you may need to REFRESH if you have recently changed a drive or Flash Card - to do this click on the little button at the bottom right of the window with the blue circular arrows).

Double click on this Drive to reveal the folders or files, which shows up as little blue icons on the right hand side.

- If you want to audition your audio before 'copy and importing', then select one of the little blue icons and click on the green arrow button next to the refresh button. Select all the audio files you want (by CONTROL or SHIFT-clicking them) and then click the 'OK' button at the bottom of the window.
- The audio files you selected will then be **COPIED** and **IMPORTED** into your Source Tracks folder ready for you to drag & drop into the EDL.



These audio files are now part of your project and are, once copied, physically located in your project folder.

The audio will be represented as 'Source Tracks' within the Clipstore. Simply drag & drop them into the Playlist window to start editing them...

 **Best Practice:** unless you really want to, always choose '**Copy & Import**' rather than just 'Import' Source Tracks. By Copy & Importing the audio is actually duplicated and copied from its original location into your Project Folder, so that you don't need the original drive to always be

attached, and keeps all your Project material together. **Copy & Import** also performs a 'Sample-Rate Convert' so that the imported audio matches the sample-rate of your EDL.

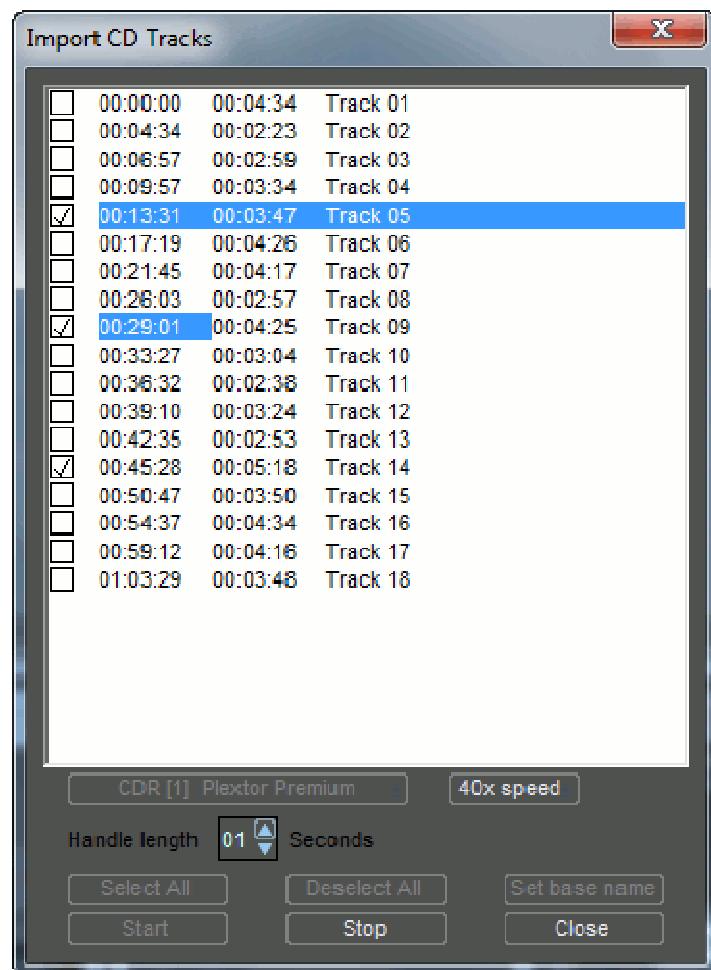
more...  

INGESTING AUDIO 3

IMPORTING AUDIO CDS

You can import audio from a CD into SADiE 6, easily and quickly. Here's how to do it:

1. Insert your audio CD into the PC's CD drive.
2. Open the Clipstore as with other importing.
3. Right-Click in within the Clipstore and select 'Import CD Tracks'
4. All the tracks on the CD will appear (you may have to wait for a few seconds for the CD to be read...)
5. All the audio tracks default to being selected so you may want to click on 'Deselect All' and then tick the tracks you want. You may also wish to click on 'Set Base Name' and enter the name of the CD (if it doesn't contain CD Text). SADiE will then title the audio in the Source Tracks Folder by that name.
6. You can right-click on a track in the list to audition it.
7. Click the 'Start' button and off it goes! When it has finished importing, close the CD Import window and remove the CD from the PC.
8. You can now drag and drop the audio you want into your Playlist.



CD Import is actually a ‘background task’; you can in fact close the CD Import window once you have started importing, and carry on working within the EDL!

Note: from within the Clipstore, just drag and drop individual audio files, **not the CD icon itself!**

more...  

SADiE PROJECTS AND PROJECT FOLDERS



A ‘Project’ in SADiE is the way to organise all the audio, EDLs and other components of your SADiE work in one place. This is normally achieved through SADiE’s ‘Project Manager’ window, which simply manipulates the folder on the PC drive that is created when you create a new project.

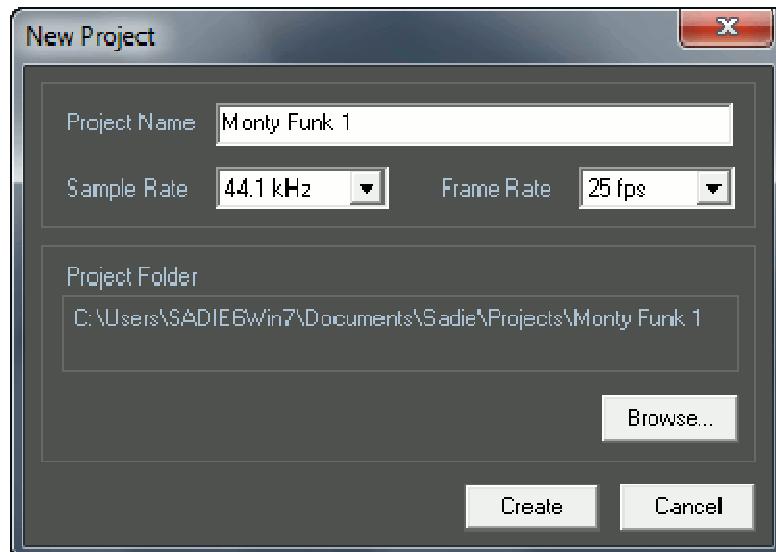
This Project Folder contains all the components of your project (EDLs, Mixers, Clipstores) *and* all the audio you have ingested (by either recording, copying, ripping a CD or internally ‘bouncing’).

It makes sense to work this way as you then just have one folder which can be copied or moved around any Windows™ system for backing up or moving to other SADiE machines.

Note: a project’s EDL could refer to audio files not in the project folder but we need to ensure that this isn’t the case by following the procedures for ‘Copying and Importing’ audio files into our Project Folders in this guide.

Creating a New Project in SADiE

Launch SADiE and select ‘New Project’ in the Project Startup Menu that appears



... or from within SADiE if it is already running, choose ‘New Project’ from the Project drop-down menu.

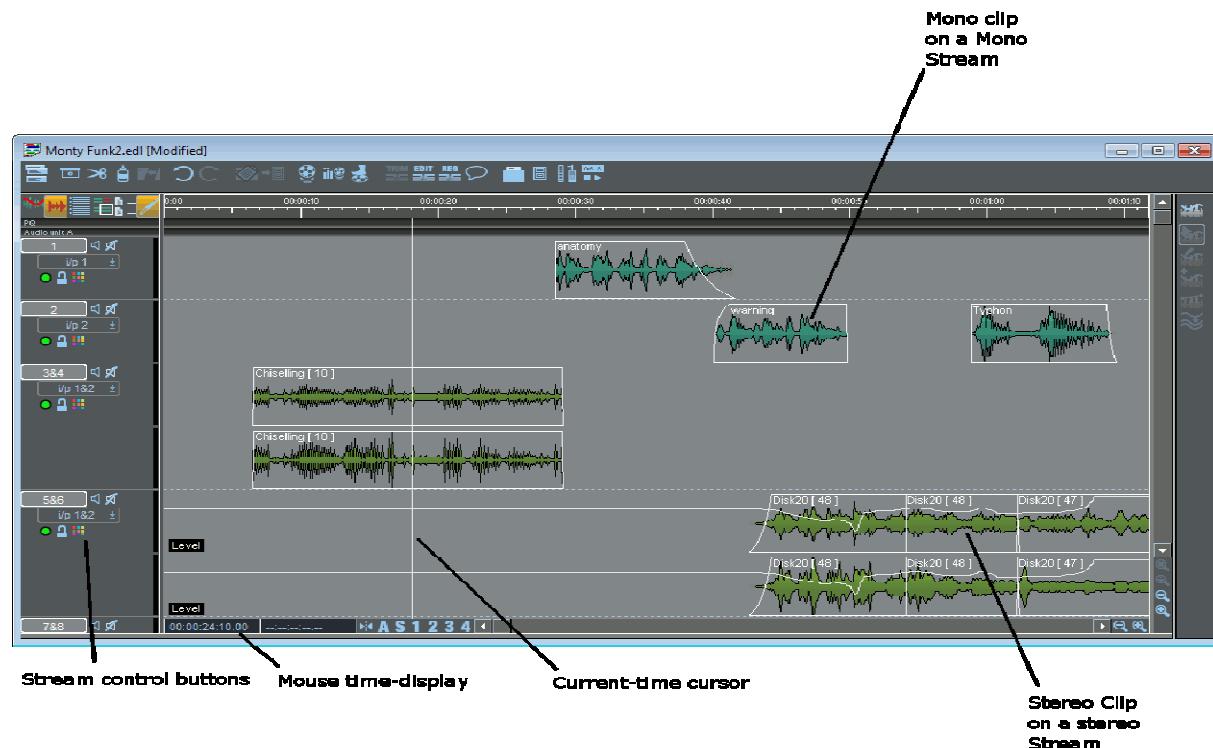


Best Practice: Assuming SADiE has been setup appropriately, the location you chose for creating your Project at the creation stage will be the place everything (Project components *and* audio) goes. You can also setup SADiE to always look in a certain location for creating new Projects, and this will be the place it first looks to open existing Projects.

NOTE: It is possible to set SADiE to record audio to a different location, though this is clearly not advisable in most circumstances as you could end up with Project components and audio on different drives!

more...  

USING THE PLAYLIST



THE PLAYLIST

The Playlist is a window that is used to create and manipulate your EDL - 'Edit Decision List'.

An EDL or in SADIe is basically like a word processor document; you can cut, copy, paste, add clips of audio & save the file. When you first start a new Project, SADIe will open a Playlist window containing an empty EDL, named after the Project. You can then build up the EDL by recording directly into it, or by pasting in Clips from the Clipstore, and editing. You can save this EDL as another within the same project if you wish by selecting 'Save As...' under the File dropdown menu.

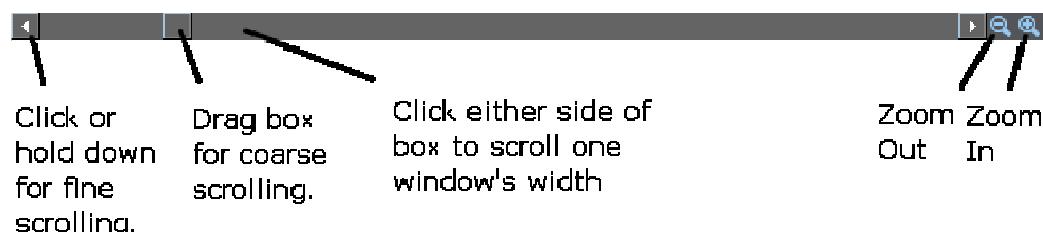
All the EDLs in your Project can be opened via the 'Project Window'.



Best Practice: save your Project via 'Save Project' under the Project dropdown menu. This saves ALL the EDLs (and indeed all other components) at the same time. This way you don't have to save each component separately, and reduces the risk of forgetting to save anything!

Alternatively of course, you may want open an existing Project and do further work on that EDL. As SADIe is 100% non-destructive editing, you can work on an EDL made years before and simply continue to manipulate the edits.

SCROLLING & ZOOMING



When moving around the Playlist to access different parts of your EDL, you may want to change which part, or how much of it is displayed. These scrollbars work in the same way as any word processor.

You can also use the Hot-Key (default: SHIFT-Left/Right Arrow) to zoom in and out.

PLAYING BACK THE AUDIO USING THE TIME-BAR

As well as using the transport controls and space bar for playing & stopping SADiE, you can also use the mouse in the time bar at the top of the Playlist window.

- Double-click in the white time-bar area to start playback immediately from that point.
- Single-click anywhere in the time-bar to stop playback.
- Single-click in the time bar when playback is stopped to locate the current-time cursor to that point.
- Keep double-clicking in the time-bar to play from that point to find something you are looking for.

You can set up SADiE so that you can double click anywhere in the Playlist, rather than just the time-bar, to start and stop, even on a clip itself. Do this via the 'Setup' window.

MANIPULATING CLIPS ('EDL ENTRIES') IN THE PLAYLIST

You can view the clips in the EDL as either blocks (representing bits of tape) or as profiles - a graphic waveform display that accurately represents the original audio.

You manipulate Clip(s) by first clicking on it (them) so that they turn red. Whatever you do next - drag, CTRL-Drag to copy, cut/copy/paste, level change (default Hot-Key 'L'), Remove Gap, delete, etc - will affect only those Clips selected.

If you want to select more than one Clip, either SHIFT-select multiple Clips, or 'rubber-band' them as you would do sections of text in a word-processor. To de-select ALL clips, just click in a blank area of the Playlist.

Note: EDL "ENTRIES": don't be alarmed when you see the word 'entry'. This just means one of the clips in the EDL (each clip is actually an 'entry' in the edit decision 'list').

RENAMING CLIPS WITHIN YOUR EDL

Right-click over the Clip itself and select "Edit Entry Name".

RAZOR-CUT

 The RAZOR-CUT button (on the main Playlist Tools toolbar or default Hot-Key F5) in the Playlist divides the Clip(s) under the current-time cursor into two at that point.

 You also have the option of using the "scissors" to make cuts. Whereas the RAZOR button always cuts at the current-time cursor, and across all Streams (unless you have disabled them for cutting), when you press the SCISSORS button (on the main Playlist Tools toolbar), the mouse-pointer will change into a scissors icon with a cross to show the target point. You can then make a freehand cut anywhere in the Playlist, which will cut only the clip over which you clicked - useful if you can see exactly where to cut from the waveform profile.

CUT, COPY & PASTE

These techniques can be used to remove, move and add EDL Clips in the same way that text is manipulated in a word processor.

Note: when cutting or copying Clips, they are in fact 'loaded' into a temporary store called the 'Paste Buffer'. This buffer is what is then 'pasted' into the EDL at the point you wish. So you can move Clips by Cutting & Pasting them in somewhere else and you can repeat them by copying them and pasting the copy somewhere else. This paste buffer continues to keep its contents until you cut or copy another selection, or close SADiE. Thus you can continue to paste the same content many times by just pasting again and again.

These tools are on the Playlist PASTE toolbar, but you can also use the standard Windows™ Hot-Keys: CTRL-X, CTRL C, CTRL V...

Cutting (Removing) Clips from the EDL



Select the Entry/Entries as described above, then:

Press CUT ENTRIES TO PASTE BUFFER.

Copying EDL Clips to the Paste Buffer



Select the Entry/Entries, then:

Press COPY ENTRIES TO PASTE BUFFER.

Pasting clips into the EDL

NOTE: The Paste Buffer first needs to be loaded from cutting or copying EDL Clips as described above. If it is not loaded, its button picture will appear faint.



Press LOAD PASTE BUFFER TO CURSOR. When you move your mouse pointer (or cursor) over the Playlist Streams, you will see that it has changed to a reel of tape with a cross indicating where the in-point of the Clip/Clips will be positioned. The mouse time display will give you the exact EDL time. Click to paste the Clip/Clips into the Playlist.

You can also paste by right-clicking the mouse at the point you want to past and select 'Paste'



Pressing the PASTE TO CURRENT TIME button will place the contents of the paste buffer into the Playlist at the current time.

Multiple Clips cut or copied from the EDL will be pasted back with the same time and Stream relationships between them.

NOTE: To cancel pasting and drop the paste symbol from the mouse pointer, press the button again, or right-click with the mouse.

To repeat one or more Clips, either:

- Copy them and then paste them in at a new point, as described above.

Or:

- Select them, and then hold the Ctrl key whilst dragging a copy to the required position.

REMOVE GAP



This is a useful tool (on the main Playlist Tools toolbar) for moving any selected Clip to the left so that it butts up to the previous Clip on that Stream. The start of the selected Clip's fade-in will be changed to coincide with the start of the preceding Clip's fade-out.

SLIP - KEEPING EVERYTHING IN SYNC

Probably one of the most important functions of SADI6, certainly for radio production, is the 'Slip' function. When enabled, this makes ALL clips to the right (or left if desired) of a selected Clip(s) move by the amount of that selected Clip.

Therefore, if you select a Clip and move it, everything that starts after the beginning of this Clip will move by that amount, keeping all subsequent edits intact. Similarly, if you cut a selected Clip, all subsequent Clips will move up by that Clips duration. If you paste a Clip with Slip enabled, all subsequent Clips will move out of the way by the pasted Clips duration. If you Remove-Gap on a selected Clip, with Slip-Right enabled, it will butt up accordingly, bringing the rest of you EDL with it.

This is fundamental to radio programme making where you are not tied to a time-code - without it you would have to keep selecting all Clips in the EDL to the right of the clip you are moving and ensure they are all selected so that things don't go out of sync later.

To Enable Slip: click on the ‘Slip Enable’ icon in the Slip toolbar, and MAKE SURE either Slip-Left or Slip-Right is also selected (once you have first chosen Slip-Left/Right it will remain the selection each time you enable Slip, so you only have to do this once). Generally Slip-Right is the option to choose for radio and Podcasting work.



Tip: if you have the SADiE-BBC Hot-Keys loaded, the Hot-Key for Slip is ‘S’ – this will speed up your workflow enormously.

SNAP TO CURSOR

This is a very useful tool for synching up Clips. Right-click over the Clip you want to move and select “Snap In-Point to Current-Time”. The Clip will jump to a new position with its in-point on the current-time cursor.

This is useful:

- On the fly whilst listening to music to run alongside speech. A voice Clip can be snapped to cursor during playback.
- After positioning the current-time cursor by double-clicking on the current-time display and typing a new value.
- After positioning the cursor by scrubbing with the Edit section of the transport controls, perhaps scrubbing to picture to find a visual synch point.

GROUPING CLIPS

Any number of Clips may be grouped together. They will be redrawn as a single block in the Playlist. This may be for convenience of display, for repeated operations to the same group, or to avoid accidentally undoing edits. You can rename a group, and store it in a Clipstore, so a heavily edited piece can be stored as if it were a single Clip.



First select the Clips you want to group, then press GROUP SELECTED EDL ENTRIES (Hot-Key **G**).

Groups may be further grouped with other Clips or other groups and a hierarchy is formed.



At any time you can break a group back down into its component parts by selecting it and pressing the UNGROUP button (Hot-Key **U**).

UNDO & REDO



Pressing UNDO can reverse the last change that you made to the EDL.

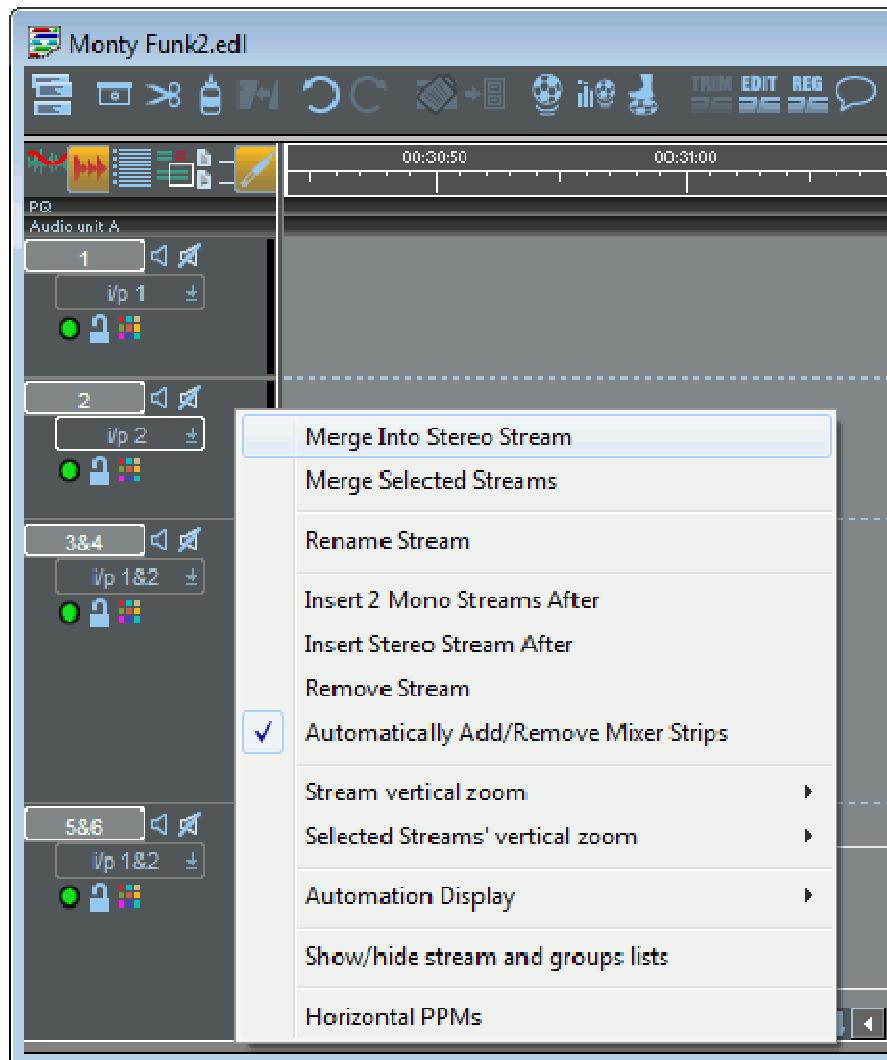
Press UNDO again to reverse the change before that, and so on, stepping back through the history of your actions. The maximum number of undo levels is set in the Setup window and can be up to 50. REDO steps you back the other way after using undo.

You can of course use the standard Windows™ Hot-Keys: CTRL-Z (Undo) and CTRL-Y (Redo).

CHANGING THE LAYOUT OF STREAMS

You may want more or fewer Streams than your current Playlist contains. There is no limit to the number of Streams a Playlist may contain, only to the number of Clips the system hardware can play back at the same time.

You can also merge any number of Streams so that they can be controlled together and reduced in height to save display space.



Stereo Streams can be added to the Playlist or created by merging two mono Streams. When you record onto a stereo Stream, you actually create a stereo 'Audio Track', whereas recording onto two mono Streams actually produces a two-channel 'Audio Track'.

Right-click over the small Stream control buttons to:

- “Merge Into Stereo Stream” merges two adjacent Streams.
- “Insert Streams” will insert a pair of streams
- “Remove Stream” will remove the one you clicked on and renumber them.
- Right-clicking on merged Streams gives you options to change how they are displayed and to ungroup them again.

more...  

EDITING



SADiE provides a fast and intuitive interface for editing. With stereo material, the two channels are always edited simultaneously.

There are a number of ways of editing within SADiE. For general editing, the PLAYLIST EDITING mode provides a fast way of accessing the ins, outs & fades of individual clips on the Playlist. However, for the fine-tuning of edits, the TRIM EDITOR provides a way of accurately 'trimming' between two clips. With both methods, you can manipulate the cross-fades between Clips as well as Clip levels.

The Trim Editor however, provides an extremely powerful tool for 'de-umming' your work, designing music edits and creating powerful cross-fades that seem impossible at first.

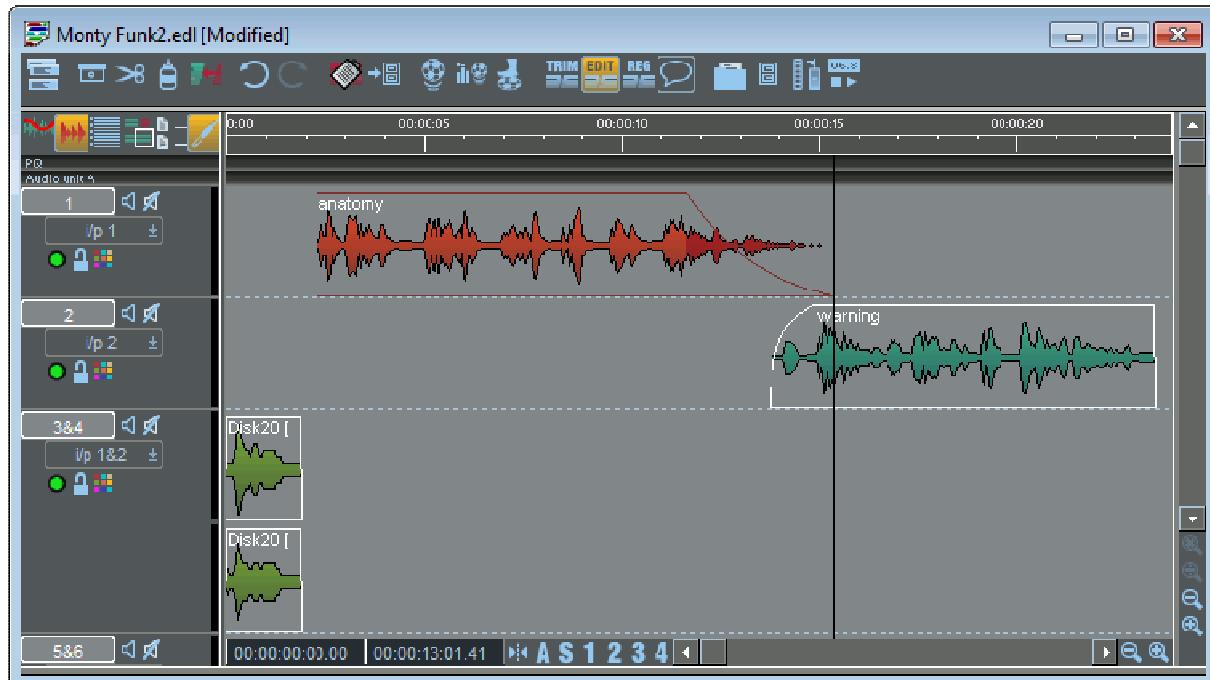
PLAYLIST EDITING MODE

Whenever you make a 'razor' or 'scissors' cut to divide an EDL Clip into two, you will actually create a new fade-out and fade-in at that point.

In Playlist Editing mode, when a Clip is selected in the Playlist, it will change to a waveform profile and its in, out & fade points can be adjusted.



Activate Playlist Editing mode with this button on the Playlist toolbar.



Then, with the mouse, select the Clip you want to adjust - its graphic profile will be shown in red.

Depending where you point the mouse over the Clip, a handy little graphic at the mouse pointer will appear to tell you which bits of the Clip are going to move as follows:

• Mouse Graphic	Point Selected	Operation
	In	Fade-in moves
	In	Body and Fade-out move
	Hot	Whole Entry moves

	Out	Fade-out moves
	Out	Fade-in and Body move

FADES & CROSS-FADES

There are four more mouse symbols which let you increase the length of the fades at the in and out points by dragging out the start or the end of each fade. Overlapping them will create cross-fades.

Hold the keyboard Ctrl key as you move the mouse over the edit point:

Mouse Graphic	Click and Drag
	Start of the Fade-in
	End of the Fade-in
	Start of the Fade-out
	End of the Fade-out

If you want to alter the type of fade curve, you can, with Playlist editing still enabled, simply hold down the ALT key. Your mouse pointer will turn into a wavy line; click and drag it to change the shape of the fade in or fade out.

That said, greater flexibility for adjusting crossfades is possible with the Trim Editor.

USING THE TRIM EDITOR

The Trim Editor is primarily intended for 'trimming' the edit between two clips. The Trim Editor is opened and loaded with the two Clips in question selected from the Playlist. You then make precise and fine adjustments to the edit in the Trim Editor itself, writing the result back to the Playlist once you are happy.

As well as how tightly one Clip joins to another, you can also adjust *how* they join, for example how a piece of music fades down under a voice-over, how one piece of atmosphere cross-fades into the next, or how one word merges to the following one. This timing and the quality of cross-fade is crucial to the pace of the person speaking if you are editing speech, the timing of the music if you are music editing, or the flow of sound if you are merging atmospheres for sound design..

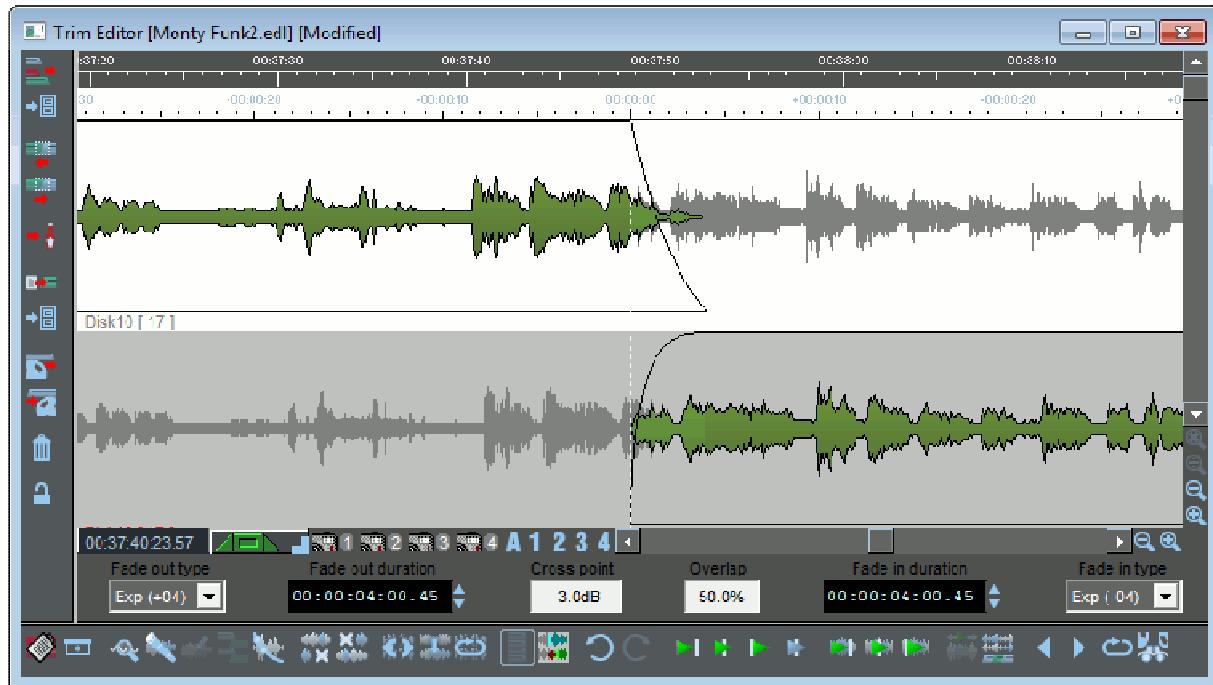
Because the Trim Editor is so precise, you can easily trim between words, parts of words, letters and phonemes if you are speech editing. Having cut out a chunk of speech, say, in the Playlist, you can trim the join, precisely merging the letters together. For example if the result of your cut is 'So this...(cut)saves us time and money', and the joined up Clips are between 'this' and 'saves' you could end up with two s's. By merging one s into the other, you effectively get a more natural 'So thi' saves us money'. This elision in speech has been crafted more naturally, and therefore far more convincing that a straight butt-edit.... assuming this is appropriate for your interviewers way of speaking!

Once you are happy with the many things you can do in the Trim Editor, you then Write Back the edited version to the Playlist

OPENING THE TRIM EDITOR

Select the Clips you want to load into the Trim Editor, either side of the edit in question. They do not have to be on the same Stream.

Press the OPEN TRIM EDITOR button on the Playlist toolbar. A Trim Editor window will now appear containing the Clips that you loaded.



In the example above, two Clips have been loaded from the Playlist.

The main difference in the way the Clips are displayed here is that because each is drawn on a different line, the profile of the whole Audio Track from which it comes can be shown. The parts that are being used and will be played as Playlist Clips are in green (or red when selected), and the parts not being used are shown in grey.

This makes it possible to see what you are losing as well as what you are keeping in - which can aid editing decisions, since the grey bits are always available to be pulled back into the green side of an edit point.

The Trim Editor has the following features in common with the Playlist:

- An EDL time bar which you can double-click on to start and stop playback. The **current-time cursor** (playback head) is fixed in the middle of the window while the waveform profile of the audio scrolls past. There is also a second time bar, which shows time relative to the edit point.
- Scrollbars to move the display horizontally and vertically.
- Magnification buttons to zoom in or out of the display. Greater magnification is possible here than in the Playlist.

ADJUSTING THE EDIT:

Once you have selected which parts to move, simply click on them to move them, as in the Playlist.

 To hear the audio as it moves across the edit point, press the audio scrub button. Then click & hold the clip and move the mouse left-right to jog and up-down to shuttle.

To hear the results of your adjustments, you can:

- Start playback from any point in the Trim Editor's time bar (double-click).
- Use any one of the following preview buttons, which have the advantage of playing you a pre-set amount either side of the edit point and then returning the display to it.



Plays up to the edit point, plays through the edit point, and plays from the edit point.

Note: The play through preview is the one that lets you hear how the edit will sound in the Playlist. It also usefully resets the display to the edit point. The up-to and from previews are useful for determining which side of the edit unwanted sounds may be.



Preview in context - when pressed, all previews will include the other audio in the source EDL as well as the current contents of the Trim Editor. When you are happy with the adjustments, WRITE-BACK what you have done, as described below.

TRIM EDITOR FADES AND CROSS-FADES

The fade lengths of Clips in the Trim Editor can be adjusted graphically, with the mouse on the profile display as follows:-

At each in/out point there is actually a fade-in or fade-out (however short) and these fades have a start and an end. Move the mouse pointer over the fade. It will change to a double arrow. You can then click & hold to move the start of a fade to the left and the end of a fade to the right, so lengthening the fade and setting it to where you want over the audio.

Fades are shown in lighter green on the profile and turn dark blue when selected to move. The type of fade curve can be altered in the Clip Details window for the Entry by double-clicking on the clip in question.

Once the fade-out of one Clip overlaps with the fade-in of the next Clip, you have created a cross-fade. There is a useful tool available when there are two Clips in the Trim Editor:



Mirror & Align Fades - aligns the start of the later Clips fade-in with the start of the earlier Clips fade-out, and alters the length of the later Clips fade-in to match the earlier Clips fade-out. This results in a matched cross-fade between the two Clips.

With two Clips in the window, selecting either fade automatically selects them both. Then the whole cross-fade between two Clips can be moved easily in relation to the audio.

When you are happy with the adjustments, WRITE-BACK what you have done...

WRITING BACK THE FINISHED EDIT

The Trim Editor is actually a temporary area for adjusting edits. Once done, the edit (and any other changes you have made) needs to be written-back to a Playlist, which will then be updated.



If you have loaded the Trim Editor from a Playlist, press WRITE BACK TO SOURCE EDL to update that Playlist.

OTHER TRIM EDITOR TOOLS:



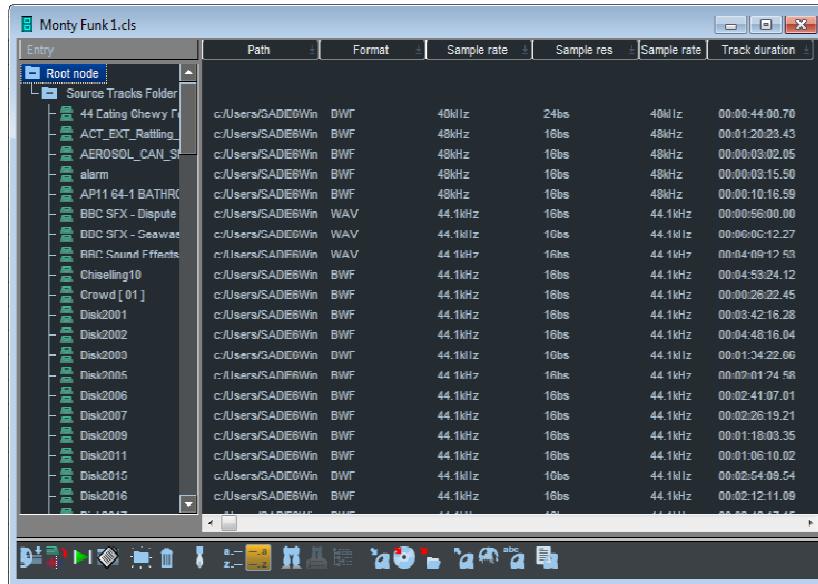
The four SNAPSHOT buttons allow you to store and recall four different arrangements of the Clips in the Trim Editor, so you can compare different attempts at an edit. Click once to take a snapshot, and the button will turn blue to show it has a snap stored. After making adjustments, click on the button again to return the Trim Editor to the stored snap. The button of the displayed snap will turn red. To overwrite a button with a new snap, hold Ctrl. while clicking on it.

more...

CLIPSTORE



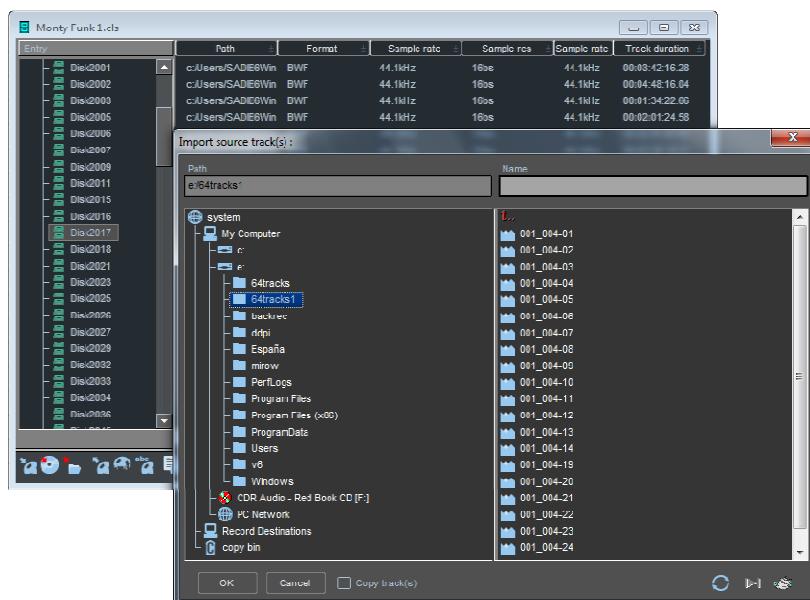
Every piece of audio on the hard disk is represented by a clip, which can be accessed via the Clipstore. When you make a recording within your project, or otherwise ingest material, a clip will appear in your Clipstore (if you are actually recording, it will also be drawn on the Playlist).



You simply drag any clip from the Clipstore and drop it onto a stream on the Playlist.

If you need to get a piece of audio that wasn't recorded as part of your project, it won't initially appear in your Clipstore . . .

. . . however, you can import audio at any time into your Clipstore by right-clicking in the Clipstore...



This then takes you to a window where you can select a location, then the folder, then the specific audio track or tracks to import.

When you then hit OK a clip will be drawn of the audio you chose and this clip will be put into your Clipstore.

more...  

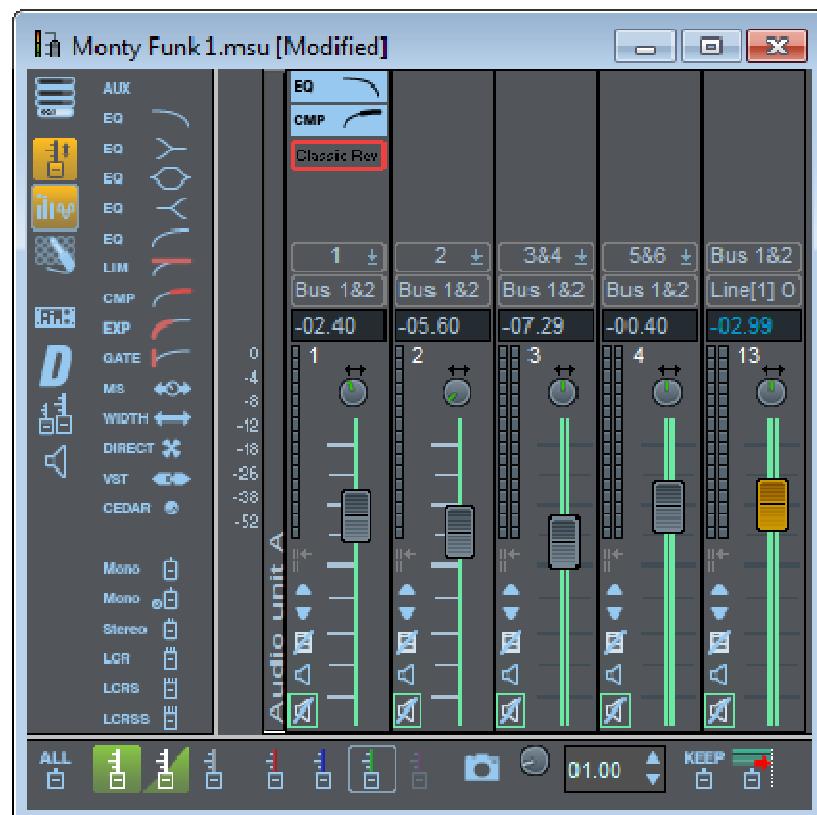
THE MIXER



SADiE has a very powerful mixer to allow you to mix your work. The normal procedure is to edit your clips on the Playlist and compile them into the right order/positions. Once you've done that, it's time to start mixing the sound.

Although the mixer is extremely powerful, in normal operation there is basically nothing to set up. Even if you create or take away streams from the Playlist, the mixer will automatically create/remove faders for each stream for you.

To manipulate the mixer, open the mixer window (which may be minimised at the bottom of the screen - if it's not there, open the project manager and double click on the mixer icon).



Each stream on the Playlist will have associated with it a 'Channel Strip' fader in the mixer.

You use this fader to control the level of all the audio on that particular stream.

Where you have stereo streams, you would normally have a stereo fader (these are single faders that control both sides of the stereo stream together), but you could have two mono faders panned left & right if you prefer.

To change a pair of mono faders into a stereo fader, simply RIGHT CLICK over one of the faders & choose "Make Stereo".

If you want to change the pan position of a mono stream to the centre, Double-click over the little pan control at the top of the fader, then click on the tiny "c" button on the right - this 'centres' the pan control.

LEVELS & PANNING



Now you have your faders matching the Playlist, you are able to control the levels of audio as they pass from the Playlist, through the Mixer to the outside world. To change the level, simply click on the fader controlling the stream you want with the mouse, hold it and move it up & down. To change the pan position within the stereo mix, click & hold the little pan button at the top of the fader. If you wish you can double-click on the pan control and move the little slider, type in a figure (double-click on the little number - use the + & - keys plus a number), click away from the slider and this new position is set for that stream.

To reset the fader to 'zero' i.e. no change, click on the little fader lock button. This also locks the fader - you can unlock it again & the fader will stay put.

AUTOMATION

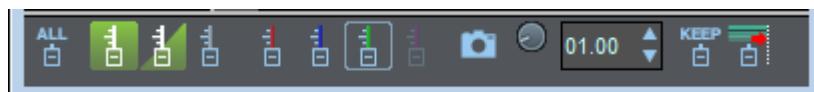
Now, the really clever bit is to be able to 'automate' the movements of the fades & pans as the EDL is played back through the Playlist.



To do this you need to enable the Automation function with this icon (normally to the left of the faders).

When this button is active (it lights up bright yellow to warn you), every move you now make with the faders/pans/EQs/Dynamics/VSTs will be recorded 'into' the clips on the Playlist. Consequently, if you then move a clip around or cut/copy/paste it, the automation data will go with it. There is no problem therefore in doing some automation and then continuing editing.

If you want to see what the automation looks like in your EDL, switch on the 'Show All Automation Data' button at the top left of the Playlist. You will also then be able to manipulate it directly on the Playlist.



You will notice that when you first switch on automation, there will be a little toolbar created with fader buttons and the red button will be active. This is known as 'overwrite' mode and when you move the fader it 'overwrites' any fader automation data into the clips you are controlling.

When you stop playback, the green button will be active. This green button is 'auto-update' which means that the faders will playback according to how you first moved the faders, but if you 'grab' the fader at any time it will go into 'write' mode for the period you hold the fader. When you let go again the fader will 'auto-return' back to its original level. This allows you to build up a basic mix and then go back and tweak it at any time by just touching the faders! (This of course works better with the SADiE Fader Panel as it has touch sensitive, motorised faders - but the function works perfectly well with just the mouse).

There is no need to save anything else other than the project as the automation data is now recorded into the clips, which are on the EDL (which gets saved with the project).

You can record pan, EQ, dynamics and VST automation in exactly the same way - just click & hold pan controls whilst playing.

The automation data has been written into the clips but you can switch off automation at any time by just hitting the automation (yellow) button again. The data is still there, just not commanding the faders to move. You can turn it on and off as you wish.

SNAPSHOT AUTOMATION

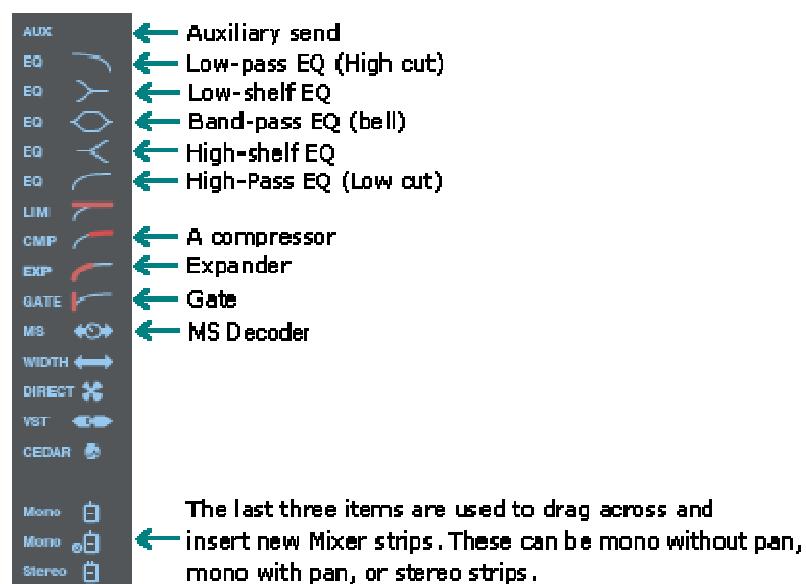
 This is a brilliant function if you want to change the level of a number of clips at the same time. You simply select the clips you want, click on the little camera button on the automation toolbar, change the level of the fader that controls the stream the selected clips are on, then click the camera again.

The clips are set at the new level.

EQS & DYNAMICS

If you want to change the EQ of a stream, you can do that within the mixer either for a whole stream or you can automate it to affect as much of it as you wish.

Above each channel strip you should see at least one little box, which can contain a process. To the left of the faders is a 'palate' containing the processes.

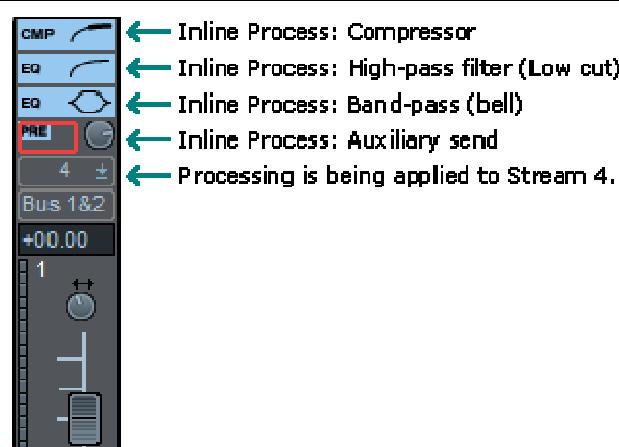


You simply click & hold on the process you want from the process palate and drag & drop it into the little box above the fader. The process is now active and waiting for you to use it.

You can drag & drop more processes into these boxes. If you need to see more just make the mixer larger.



Tip: hold your mouse over the process palate and a message will tell you which process you are about to select.



To change the settings of a particular process, once you have dropped it into your mixer strip, simply click on it and its parameters will appear for use to manipulate.

If you want to automate the movements of these processes, you need to switch off the 'automation disable' button in the top right of each process. Then, with the mixer automation switched on (yellow button - remember), you can change the processes and these changes will be recorded.



AUX SEND



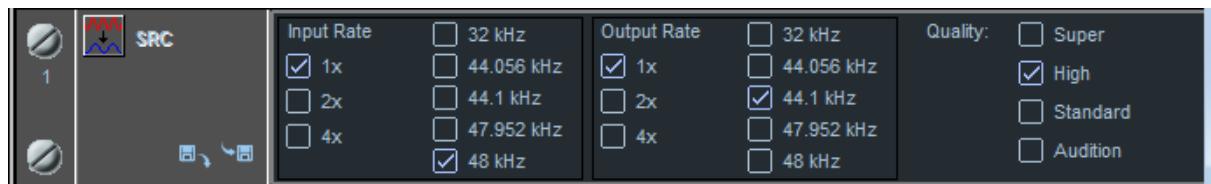
You can also send a level from the channel to the outside world via the aux send control. Drag & drop the 'aux' process to a spare slot above the fader you want to send. Click on the process and select the output to be a spare output of your SADiE. You can then use this control to send a level from the stream to an external effects unit for example.

Deleting Processes

To delete a process, simply RIGHT CLICK on the process in the channel strip and select 'Delete Process'.

SAMPLE RATE CONVERSION, VARISPEED & "TIMEMOD"

This is a very powerful feature of SADiE. If you need to change the sample rate, varispeed or timestamp stretch an EDL you can do it with these processes. Firstly open the Process window with this icon. You will then have a representation of an effects rack. Select the Sample Rate Converter from the toolbar at the top and drag it onto the 'rack'. You can then change the input & output sample rates.



Try the Varispeed and Timemod also. In Timemod, you can select a clip or number of clips and it will tell you the length of your selection, you can then just type the new length you want and it will do just that - keeping the original pitch.

These three processes will change the output of SADiE, that is the whole EDL will change. If you just want to process a single clip or group of clips, then set up this process as you want it and 'Bounce Down' the selection through the 'Bounce Window' (see notes).

Make sure you then switch off the process afterwards (right click to the left of the process) otherwise it will still be processing!

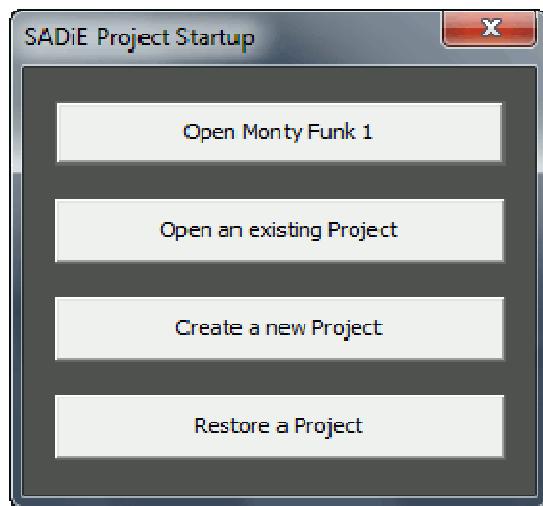
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PROJECT MANAGEMENT



In SADiE, the work we do is managed within a 'Project'. Basically this is a folder on your PC's hard disk that contains all the EDLs, Mixers and Clipstores; this folder to ALSO hold all the audio. Each time you save, you are updating these files.

When you first log into SADiE, you are presented with a window as shown below.



With this window, you can either:

1. Open the Project that was last worked on (the current Project).
2. Open an existing Project that you have previously saved.
3. Create (and name) a new Project.
4. Restore a Project that has been backed up to a storage device.

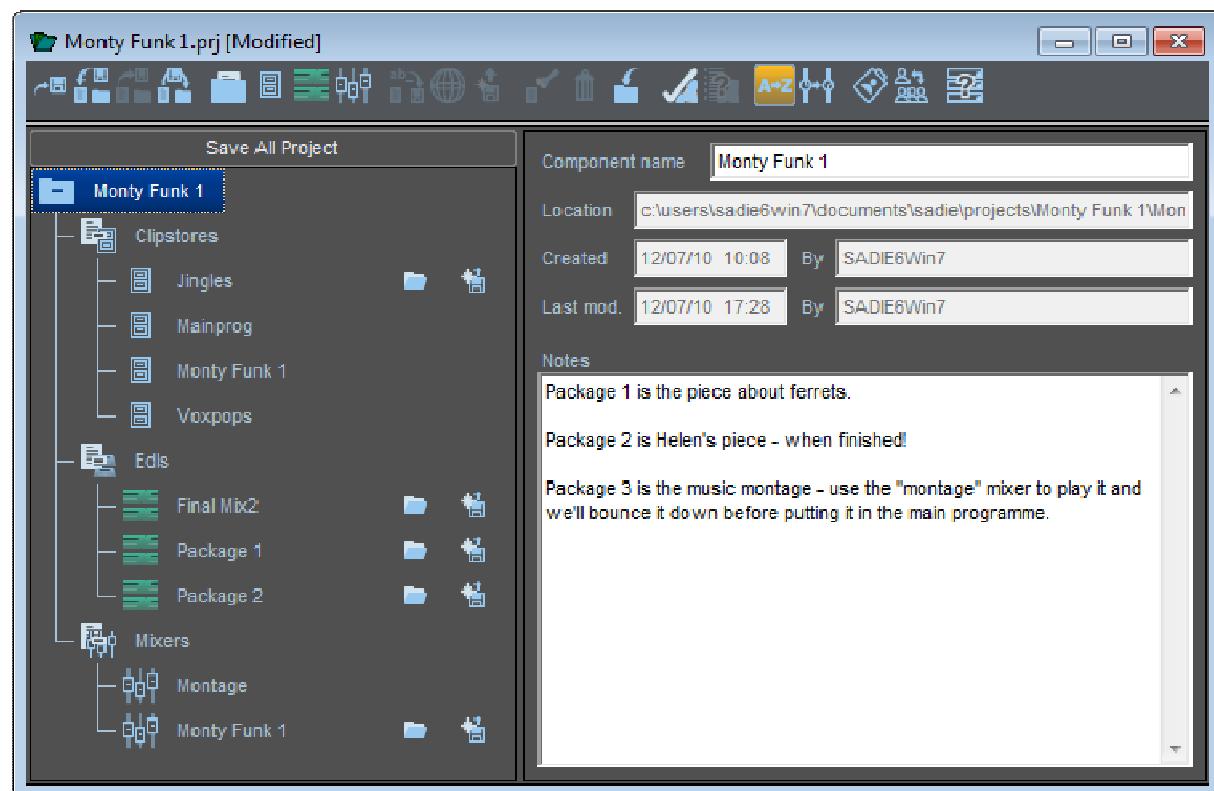
When you create a new Project . . .

1. If SADiE detects more than one audio disk connected, you will be asked which disk you want to use to record to.
2. Then you will be asked to give the Project a name and the Project window will open. SADiE will have created a new EDL, Clipstore and Mixer, each named after this Project name. These will start off in a default state and after use in the normal way can be saved, closed and re-opened as part of the Project.

Once you are working in SADiE, the best way to save your work is by selecting "Save Project" from the Project drop-down menu at the top of the screen. This saves ALL your work (i.e. all the EDLs, Mixers, Clipstores) within your project in one go.

THE PROJECT MANAGEMENT WINDOW

You can also open the Project Management window at any time. This is normally minimised at the bottom of your screen. From within this window you can manipulate the project and create new EDLs, Mixers & Clipstores. You can also import EDLs from other projects.



Tip: If you cannot find a window (eg the Mixer) because it is hidden or has been closed, open the Project Management window. Then just double-click on the icon representing that window and it will open.



To create a new component (EDL, Mixer or Clipstore), just click on the icon and give it a name.



If you need to import a component from another project, then just click on this icon.

more...

CUSTOMISING SADiE



There are several things you can set-up in SADiE to make it look and work the way you want. Once these settings are set up, you won't have to change them again, even after you close down SADiE. Basically these settings fall into three areas:

TEMPLATES

There are two kinds of template you can set up, one for the Playlist and one for the mixer. The template is just a way of telling SADiE how many streams you want in your Playlist and whether they are to be stereo or mono. Also included in the Playlist templates are any locators you may want pre-set up and the sample rate. For those wanting to make CDs, there is a 'PQ' stream that can be shown - this is included in your template.

USER SETTINGS

These belong to a specific user (i.e.: the one who logs onto SADiE at the beginning of a session).

The settings file (or '.ini' file) is automatically loaded up as you log on and includes your favourite system settings such as default crossfades, hot keys etc. You change these from the SETUP window. As you make a change, the file is saved automatically.

One of the settings however is the use of templates mentioned above. This setting tells SADiE how you want to use the templates (i.e.: each time you create a new Playlist or mixer) or that you don't want to use them at all (i.e.: stick with the default 16 mono streams & 16 mono faders).

THE DESKTOP

This is just a small file that you can set up from within SADiE that determines the position of all the Windows™. It will also remember the icons toolbars you have set up, their positions on the screen and the zoom settings you want.

Here's how you set it all up . . .

Log on to SADiE and create a new project. In the Playlist window, delete the Streams you don't want, make them mono or stereo, or create new Streams. You do this by right clicking in the stream controls (the area to the left of the streams themselves). Next, set the sample rate to the way you want it to be each time you create a new Playlist (open the transport controls (F10), then click on SETUP).

Next, with the Playlist window the active window, go to the File Menu and select "Save Current Playlist As Template". Call it something like 'Default'.

Now go to the mixer and set it up how you wish. If you made mono streams in the Playlist, make the faders mono in the mixer and pan them to the centre. Create stereo faders for the stereo streams (again, right click on the faders).

Next, with the Mixer window the active window, go to the File Menu and select "Save Current Mixer As Template". Also call it something like 'Default'.

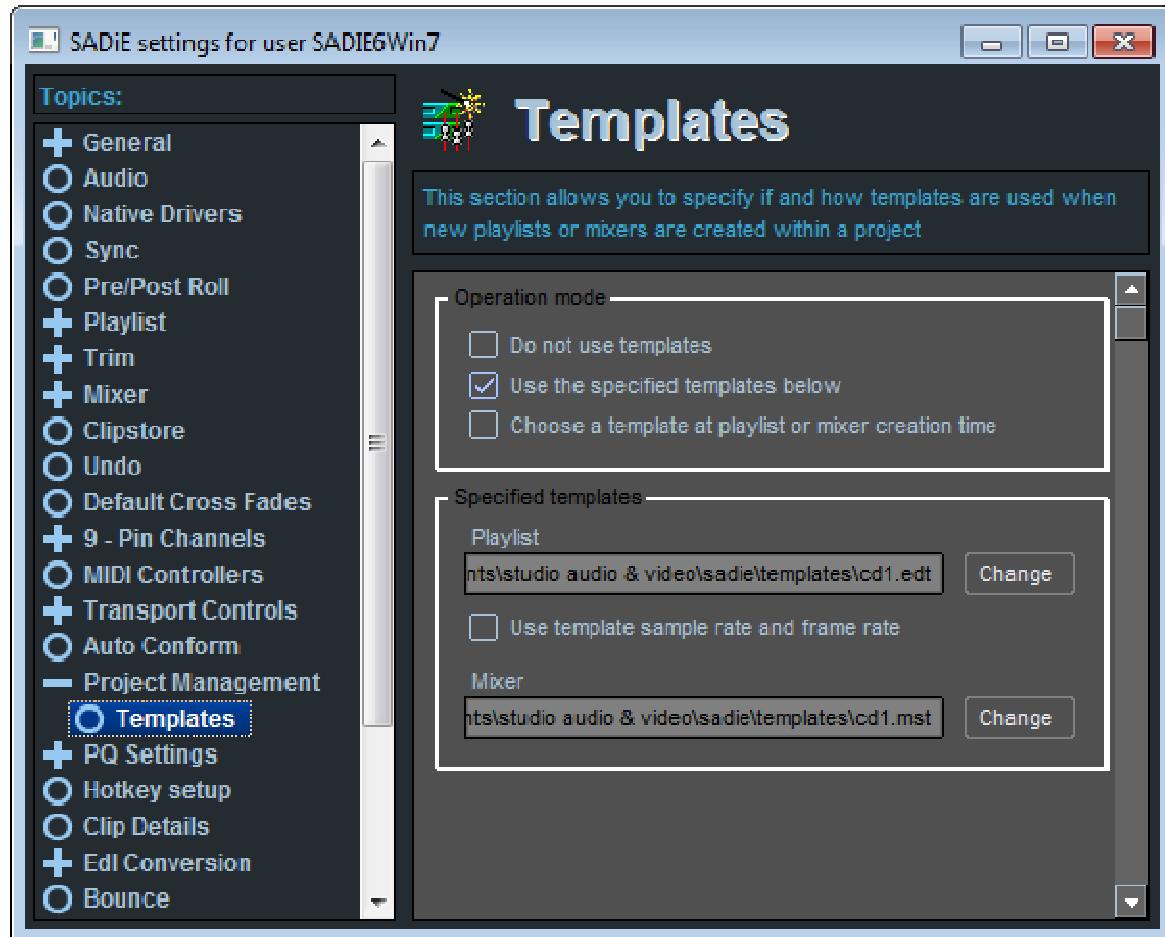
You now have two templates stored. You now have to tell SADiE to use these templates when you create new Playlists or Mixers (or when you create a new project).

SETTINGS

This is very simple to achieve. You go to the Set Up window under Windows™ menu. In this window you can change the settings of SADiE. As you make a change, the file is updated automatically - no need to save anything.

There are many settings you can make, but there are a few that are crucial for efficient working. Here are some essential suggestions:

If you have created templates for the Playlist & Mixer (see above) then you tell SADiE to use them here in the setting window. Double click on 'Project Management' about half way down on the left side of the window. On the right you will see three options. Select "Use Specified Templates" and click on the select buttons - chose the templates you saved earlier.



Trim Window Setup:

We suggest that you select trim window on the left side and make sure of the following. Make sure "Trim Slips Follow Playlist Slip" is UN-TICKED.

more...  

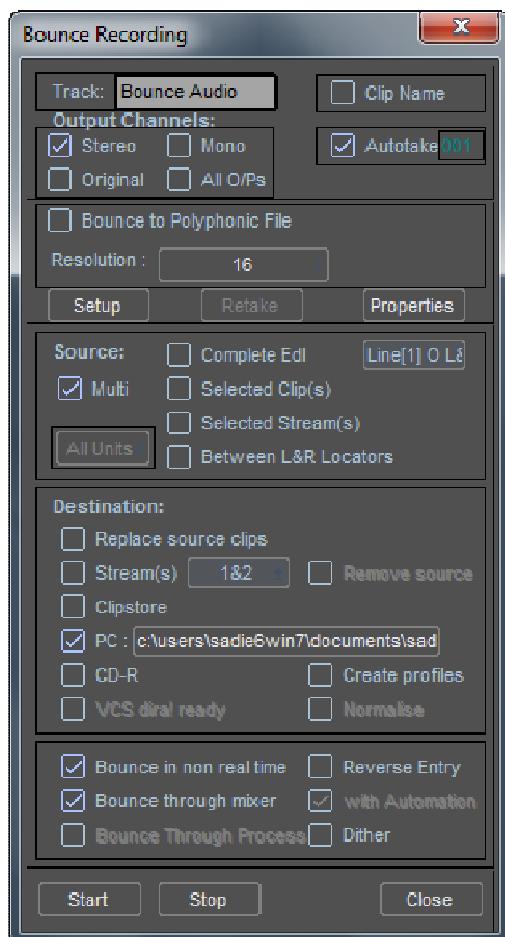
BOUNCING



Clips may be permanently grouped together by re-recording them internally as a new track of audio. The bounce button is on the Playlist Toolbar.

You may choose to bounce entries down for a number of reasons:

- Convenience. You want the mixed or processed result to always appear as a single EDL entry, or you don't want to bother with setting the Mixer or Automation to process the required entries every time you play the EDL.
- There is not enough DSP power available to carry out the processing you require in real time and/or play the number of simultaneous Entries you require. Process the necessary entries through the Mixer and 'bounce down' your selection. Then you can use the processed versions in the full EDL.
- First, select the clips in the EDL. You normally re-record these clips through the mixer, so check the mixer balance is correct.



Click on the bounce icon  to open the Bounce Window.

You need to enter a name for the recording. The first section of this window serves the same purpose as the Record tab of the Transport window.

Next tick Selected Clips in the Source section.

The Source section tells Bounce what to re-record - Complete EDL or Selected Streams are the other possibilities.

We must choose, in the Destination section, what's going to happen to the new track after re-recording:

Stream - tells Bounce to put it into the same EDL on streams specified in the pop-up list.

Auto-replace source clips - only works in conjunction with Stream - when this is ticked, at the end of the bounce process, the source clips are deleted.

Clipstore - leaves the Playlist unaffected, and places the new track into the current Clipstore.

PC Disk - makes a bounce recording directly to your PC's hard disk.

The bottom section allows you to choose Bounce in non real time. If this is selected the bounce will be performed as quickly as possible, but will not be audible. The other two options allow you to turn off automation and/or the mixer for the bounce.

Press Start. The process will start, and during the bounce the ball icon in the Bounce button will "bounce". Be careful not to click on the time-line in the Playlist or press transport buttons - you will stop the bounce.

Special Bounce Functions:

Multi-Bounce - with MULTI selected as the source for the bounce, every entry in the EDL will be re-recorded as a separate audio file on the audio drive. If you want a group of entries to become a single audio track then simply group the entries - a Group Entry is treated as 1 entry. You must have Autotake selected - the new tracks will be automatically named using this function.

Reverse bounce - The reverse option in the Bounce window allows you to make a backwards copy of an EDL entry or entries. Note also that right mouse clicking over an entry will initiate the Bounce window with Reverse enabled. Otherwise the Bounce window works in the normal way.

Reverse cannot be used in conjunction with Resample, Varispeed or Timemod.

Note that the Bounce records the Output of the mixer including any level changes or processing.

Home... 

QUICK START CD WRITING



INTRODUCTION

A later section of this manual - the [CD Mastering](#) section of the **Specific Applications chapter** - give a more full and technical description of the PQ editing and CD writing process. This section describes a basic "Quick Start" method of burning a CD-R from your Playlist.

WHAT EQUIPMENT DO I NEED?

Assuming you have a SADiE system you will also require a CD recorder drive to be attached to your computer.

As of SADiE v6, almost every CD-R and DVD-R drive is supported for writing CD Audio disks, whether attached by i.e. IDE, SATA, Firewire or USB

Unsupported Drives

Please see the note about CD-R media before proceeding.

PREPARING THE PLAYLIST

It is assumed that you have completed editing your Playlist, and now everything in the Playlist needs to be recorded onto CD-R. If you have any "loose" items and clips hanging around at the end of the Playlist that are no longer required then delete them now. The CD-R process will copy the entire Playlist to CD-R, and hence if you have a clip sitting at i.e. 14 hours where all the others are placed around 2 or 3 minutes onwards, then it may attempt to burn a 14+ hour CD: not possible! (CD-R blanks are usually a maximum of about 79 minutes long).

You must also have PQ editing enabled. If this is the first time you've written a CD-R then it may not be enabled for your Playlist. Take a look at the top of the Playlist, just above the topmost stream; there will be a thin bar labelled "Audio Unit A". If PQ Editing is enabled there will be another thin bar above this labelled "PQ".



If PQ Editing is not enabled see this note.

There are a few rules for this process:

- CD-R's are written with a sample rate setting of 44.1 kHz. CDs will only accept 16-bit audio, so if your Playlist uses 20 or 24-bit audio, then it will be truncated (and you should really use one of the [Dither](#) plug-in options if you are reducing the resolution of the audio). It is possible to write a CD from audio at a different sample rate, for this you will require the "CD Master SRC" software option (which is included in the Mastering and Sound Suite SADiE packages) - in this case you should perform the PQ editing at the material's current sample rate and then when you write the CD, the sample rate conversion process will take place while the CD is being burnt to disc.

- CDs can only be written using Outputs 1&2 (or in the case of an LRX, the first pair of outputs found); anything routed to extra outputs will be ignored, and thus you should mix down to stereo before writing. Other outputs *will* play however, thus you could route to external effects units etc. and burn the CD in real time.
- CD-R's can only be written from the first unit of Multi-card systems.



CREATING PQ FLAGS

You would normally want to mark the start of every track on the CD, and this is done with PQ flags, which mark both the start and end of every track. There are other flags and codes that can be set, but these aren't covered in this exercise. You can read up on PQ flags in PQ Lists Overview.

A small point of terminology here: the word Track is used to define the music track on the CD. SADiE also refers to a Track as the name for the original unedited recording. In this section Track will be used to refer to CD tracks.

The simplest way to place the PQ flags is by using SADiE's automatic "Generate PQ List" function, but first you should understand the ground rules for this function.



GENERATE PQ LIST places a Track Start flag on the beginning of every EDL entry, and a Track End on the end of every EDL entry.

However, it is possible that is not exactly what you want to do! You have (presumably) edited your Playlist and it could be that every CD track contains a number of edits.

There are some parameters for **GENERATE PQ LIST** that allow you to ignore certain edits for the Auto-generate, however for now you'll set these to a "catch all" setup, and you will then use the **GROUP ENTRY** function, and group entries into their CD tracks. Then when the **GENERATE PQ LIST** function operates, it will see only these Group clips and place the flags in relation to these, rather than the hundreds of edits inside.

PQ FLAG SETTINGS

Open the "PQ Settings" section of the [Setup Window](#), and then click on "PQ Flags".

Set **Minimum track length** to 10 seconds: 4 seconds is the minimum allowed on a CD.

Set **Minimum Gap length** to zero. If it is not zero, the "Generate PQ function" will look for gaps between entries onto which it can place flags, and thus any crossfade or butted edits will be ignored: this may be appropriate for your Playlist, but the method described will always work.

While you're on that setup page, tick **Auto name tracks** to have your CD track names copied from the clip names (for when you are choosing to write a CD with CD Text.)

GROUPING ENTRIES

You will have already done this if you've been through the Basic Tutorial, but let's quickly go over this again.

Before you do the grouping, it may be worth checking that the entries that begin and end every CD track are reasonably tightly edited. It is not a problem if they aren't as you can fix this later by manually tweaking the position of the PQ flag, but if for instance there is 3 seconds of silence inside the first entry, **GENERATE PQ LIST** will place the CD flag at the entry start and *not* the music or audio start, hence your CD will start playing the track way too early.



Press the **SELECT TOOLBARS** button on the Playlist toolbar again. Select "Group" to reveal the Group toolbar.



Now select all the entries that make up the first CD track. You can do this by dragging across them with the mouse so that they turn red.



Press **GROUP SELECTED EDL ENTRIES**. They will be redrawn as a single yellow block in the Playlist. You can rename this group (right-click on the entry and select "Rename") if you like, but it will make no difference to the CD.

Now do the same for all the other tracks, and you'll end up with the exact same number of yellow entries in the Playlist as you're going put onto the CD-R.

GENERATE PQ LIST

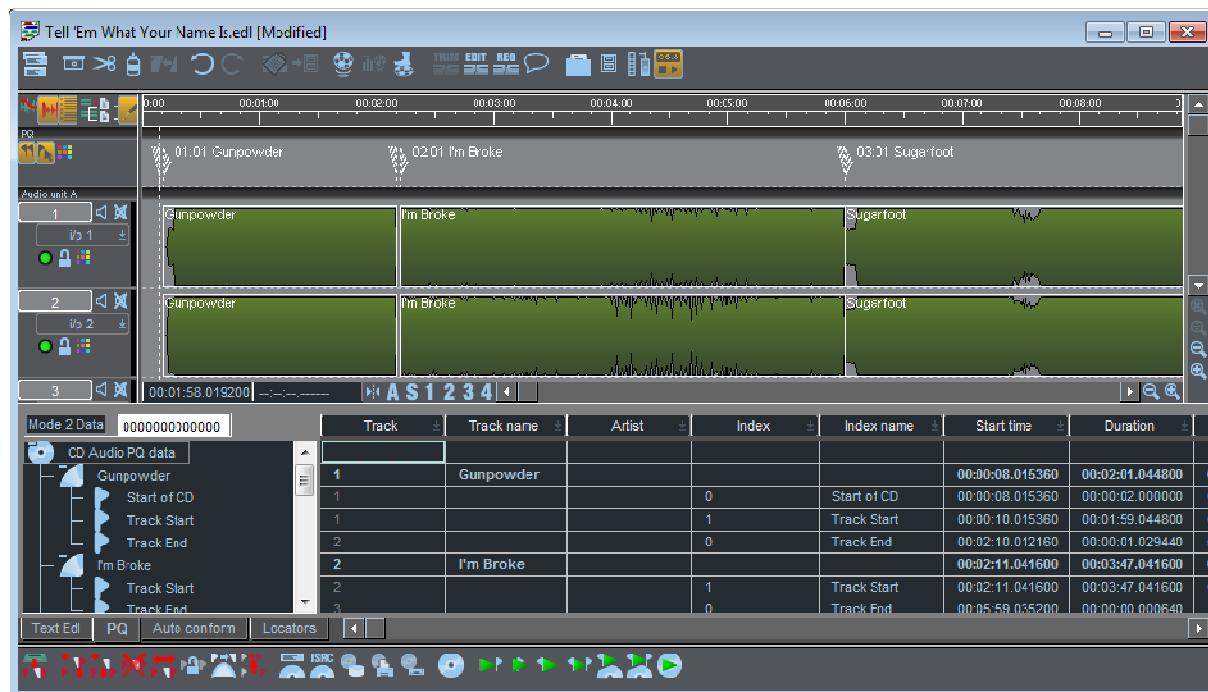


Press the **TEXT PANE** button in the left corner of the Playlist and then select "PQ" from the tabs at the bottom left. If necessary drag the edges of the Playlist window or the border between the Playlist and the text pane. This will show a blank PQ list (just a CD icon and the words "CD Audio PQ data" will be seen), and the PQ toolbar will appear, usually attached to the bottom edge of the Playlist. Also the PQ Stream opens up at the top of the Playlist. This is where PQ flags are going to be displayed (but there won't be any yet).



Press the button for **GENERATE PQ LIST**. This is the left most button on the PQ toolbar.

Huzzah! As if by magic all the little PQ flags will place themselves onto the beginning and end of every one of these group entries.



Where there are gaps between tracks, there will be a space between the right-pointing "Start" flag and the left-pointing "End" flag, but some may be at the same position, where there is a gap or crossfade between tracks.

CD TEXT

If you would like to include CD Text on the disc, you can use the **Track Name** and **Artist** fields in the PQ table to type these fields (or change the automatically created labels if necessary). You may also wish to edit the **CD Title** and **Artist** for the whole disc in the PQ Title Editor dialog which appears when you press the



More detail about CD Text appears [later in this manual](#), but a key fact about CD Text which confuses many people is that it has nothing to do with the titles and other information that appears when you put a disc into a computer and read it with i.e. Windows Media Player or iTunes.

ISRC & UPC/EAN

It's also possible to include ISRC codes (in the ISRC column of the PQ table) and UPC/EAN bar code (in the Mode 2 Data box) information on the CD. This is explained later in the [CD Mastering](#) section of the manual.



Tip: if the **ISRC** column of the PQ table is not visible, try scrolling to the right. If it's still not visible, right-click on a column header, select **Insert After** and right click on the new column header to change it to show **ISRC**.



EDITING PQ FLAGS

CHECK THE FLAGS

You can now audition the starts of every track. Change the zoom a little so that you can see a bit more detail at the track starts.



The PQ toolbar has a number of Preview options, but go for **PREVIEW COUNTDOWNS**, which plays through all track starts and ends (for a few seconds before the end flag to a few seconds after the start flag).

This preview uses the standard setting for Pre/Post Roll. If it is not giving you enough select the "Pre/Post Roll" section of the [Setup Window](#) and change the top pair of times to make them longer.

EDITING THE FLAGS

There's a good chance that this has all worked out perfectly and there's no need for further tweaking. However, if some flags are not exactly where you want them, you can manually move them.

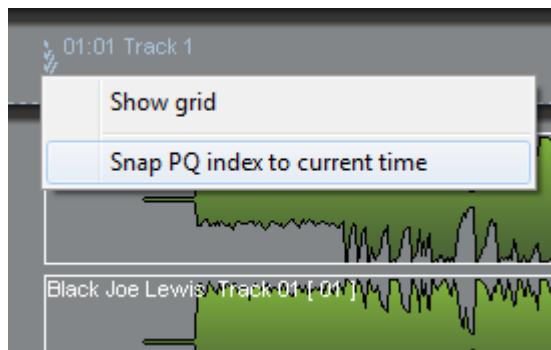
When you move the mouse over the PQ stream, the cursor changes to show a flag, or, when you are over a PQ flag, it becomes a hand. With the hand you can click and drag the flag to a new position.

There are a couple of rules however:

- You're not allowed to place a "Start" Flag (whose flag points rightwards and will be marked, for instance, 03:01 Track 3) to a position before the previous CD track's "End flag" (the nearest one that's flying in the opposite direction).
- You're not allowed much movement on the very first Track start flag (01:01) and its corresponding grey end flag. This is a special flag; the space between the 'Start of CD' flag and Track 1's start does *not* play on the CD. This flag serves no real purpose other than to conform to the Red Book CD specification, but it has to be greater than 2 seconds, and less than 3 seconds before the Track 1 "Start" flag. You can move the two of them 1 second at a time, but this can be very tedious, and so there's another method of moving flags, which is useful for accurate placing of all PQ flags.

SNAP PQ FLAGS

If, when the mouse is over a flag and the cursor is a hand and you right-mouse-click, you will see a menu:



Selecting "Snap PQ index to current time" moves the selected flag to where the dotted current time marker is positioned. Thus you can place the current time to the exact position you want the flag to be, either by eye, or of course by scrubbing the Playlist to position it audibly, and then use this option move the flag.

When used on Track 1's flags (either right- or left-pointing one), they will move together, and so you can move them while retaining their "PQ legal" relationship.

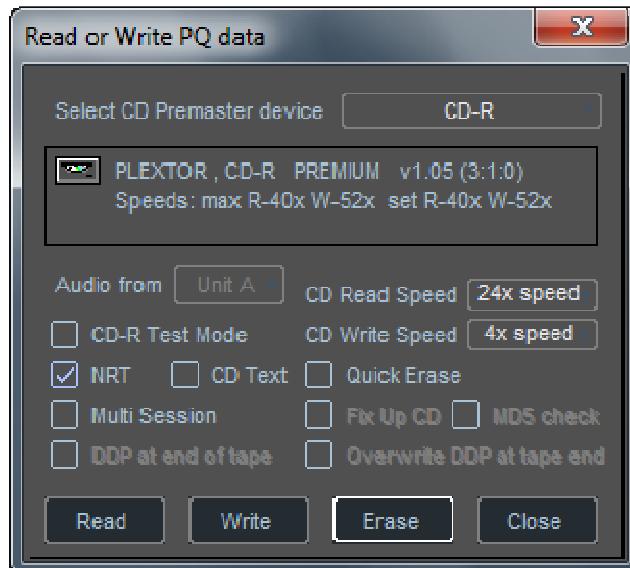


WRITING THE CD-R

Having tidied all the flags and performed your final previews, it is now time to write everything onto the disc.



On the PQ toolbar, press the **READ/WRITE PQ DATA** button. The 'Read/Write PQ data' window will appear.



This window is where you decide which type of master to make, and exactly what's displayed will depend on the device.

The options shown under "Select CD Premaster Device" here will depend on the type of SADiE system you are using and whether you have the Mastering options. You may be able choose between CD-R, PQ Burst, Tape drive (for DDP Tapes), DDP to Hard disk, DDP Image on PC disk, or DDP Image on SCSI disk. As this is the Quick start CD-R section, our main interest here is burning an Audio CD-R and so the more advanced CD Pre-Mastering options are described elsewhere, although the different methods are very similar.

Select CD-R (if it's not already selected)

CD-R

1. From the drop-down list of 'CD Pre-master devices', select the CD or DVD drive you wish to write the Audio CD to. The model of the drive and information about its current speed settings are shown towards the top of this dialog.
2. Choose your **CD write speed**. This choice is largely your own. A faster speed is not necessarily the best, and it will depend on the speed your PC/drive combination is able to perform best at. The complexity of the playlist should not be a factor in your choice of write speed, as SADiE creates temporary files before writing to the CD.

3. If you wish to include **CD Text** on the Disk, then tick the **CD Text** option. Otherwise de-select it. There is more detail about [CD Text](#) later in the manual.

Note: 'Burnproof' is not longer an option as with earlier SADiE versions, and will always be enabled on a drive that supports it or similar technology to ensure a continuous write.

3. Press

WRITE

The top section of the "Read/Write PQ" dialog under the CD drive name will report the status of the CD writing process.

- a. During the first phase, the Playlist will appear to play at speed, but silently - this is a "non-real-time" process and during this the report will be "Mixing Audio Files". During this time, SADiE is creating the final mix, using the current mixer and its settings and processing, before writing this mix to the CD-R.
 - b. Once that's finished, the report will be .. "xx% of Track 1..." as the CD write phase continues, and finally, after "Writing Lead Out", the CD write is complete.
 - c. At the end of the CD write phase, the disk will eject, and a message will appear asking you if you wish to burn further copies of the disc. If you choose to write another disc, the "Mixing Audio files" phase will be skipped and the CD writing will start immediately.
4. **Close** the "Read/Write PQ" dialog when you are finished.

CD WRITING WITH SAMPLE RATE CONVERSION

As mentioned earlier, it's possible to write a CD from material which is at a sample rate other than 44.1KHz. To do this you must have the "CD Master SRC" software option (available in the Mastering and Sound Suite variants of SADiE6).

The procedure is the same as with 44.1KHz material. You should add and edit the PQ marks at the audio material's own sample rate and then the process to sample rate convert to 44.1KHz will take place while the CD is being written.

The writing process is identical to the standard method, but it's possible that the "Mixing Audio Files" phase will take a little longer as there is an extra Sample Rate Convert process at this time. But the CD write phase will be as normal. You are able to choose the quality of the Sample Rate Convert process in the Setup Window.... PQ Settings\DDP Details\SRC Quality.

COMPARISON WITH EARLIER VERSIONS OF SADIE

For those that are familiar with earlier versions of SADiE, it should be noted that SADiE6 has a completely new CD writing engine, and that there is no longer a requirement to write to a Plextor CD writer, or to have a copy of Nero on the PC.



PLAYING THE CD-R

You can playback the finished CD-R, directly from the disc via the CD-R device. The simplest method uses the [CD Import Window](#) which is available from .. **File** menu \ **Import.. \ Import CD Tracks**.

This window lists the tracks on the CD, and you can play individual tracks by .. **right-mouse-click** on the Cd track and select **Preview**.

There is an [alternative method](#), as described later in the manual, which is more appropriate for checking the details of the disc and allows you to read back the PQ flags into an EDL.

There is also more discussion on Bouncing from CD-R [later](#) in this chapter.

AUDIO HARDWARE

SADiE DIGITAL AUDIO EDITING SYSTEMS

SADiE systems have been used for editing tasks since the earliest days of the age of digital audio. SADiE was designed by practising audio engineers who developed original techniques to ensure that audio is recorded and manipulated to the highest quality and in a safe and robust way. Years have passed and technology has changed, but these techniques have proved time and again to be a strong basis for audio systems, and are able to provide powerful & flexible workflows for today's audio professionals.

SADiE systems consist of the SADiE6 software program plus some audio hardware that will allow the software to play and record audio. A PC running Microsoft Windows will also be required for control and interface. SADiE6 software is able to operate with two distinct types of audio hardware. Functionality will be largely the same, however the interaction with the hardware will be slightly different in these two modes:-

[SADiE DSP Hardware](#)

Until SADiE version 6, all SADiE systems required dedicated hardware DSP cards or modules. SADiE retains support for using SADiE DSP hardware to input, output and process audio, but also allows operation without it...

[SADiE Native](#)

SADiE6 can alternatively play and record using Windows or ASIO compatible audio hardware, whereby all audio processing is performed by the PC's CPU.

Throughout this manual it will be mentioned if any features apply only to SADiE DSP hardware or to Native hardware.

SADiE DSP SYSTEMS

A SADiE DSP-based system will comprise a host computer (which displays the user interface on a monitor and tells the system what you want it to do), to run the SADiE software and specialised audio hardware, appropriate to the system you have bought.

Audio is processed by either the Digital Signal Processing (DSP) cards or a USB-connected unit which will also provide analog and digital audio interfaces. The DSP cards are dedicated to handling the audio to professional standards, leaving the host computer's power free to handle the control and display functions of the interface.

The DSP cards have three main advantages over native operation:-

1. The SADiE DSP cards run with near-zero latency on input to output, which gives some advantages in recording applications, particularly in voice-over work or overdub recording.
2. The SADiE software has direct control of all the functions of the hardware, and so all the hardware setup controls are fully integrated into the SADiE software application.
3. The H64 and LRX2 Live systems are tuned and optimised for multi-track recording applications, in order to provide reliable operation in high-pressure situations.

This current version of SADiE can be operated on a number of different SADiE DSP hardware platforms:-

-  LRX2
-  PCM-H64
-  PCM-H8
-  PCM-H16
-  PCM8
-  PCM4
-  BB2*
-  BB2-J*
-  LRX

A brief description of these is included in the "[Additional Notes](#)".section.

* The BB2 and BB2-J hardware was sometimes known as "PCM2" when packaged with the full SADiE software, but the correct name for the hardware has always been BB2 or BB2-J. Thus if you think you have a PCM2, then it can operate with SADiE6 software.

SADIE NATIVE SYSTEMS

SADiE 6 software can use third party hardware for audio I/O. SADiE6 supports hardware that has drivers that use either ASIO or WDM protocol.

In practise, most sound cards and modules of reasonable quality will be provided with an ASIO driver, and it is preferable to use this as latencies and reliability will usually be improved. WDM support is provided to allow use of a computer's built-in sound device, which may not be supplied with ASIO drivers.

Many audio devices are compatible - manufacturers such as Emu, MOTU, RME, Lynx, Avid, Edirol, Focusrite and many others are suitable.

[Prism Sound](#), the company that owns and develops SADiE, also manufactures some high quality audio interfaces, and SADiE may be purchased in packages with these.

[Prism Sound Orpheus Firewire Recording Interface](#)



[Prism Sound Dream ADA-8XR modular converter](#)



SADIE6 APPLICATIONS

The SADiE6 software is supplied in application-specific editions that are tailored to certain types of work.

- Radio Producer
- Post Suite
- Mastering Suite
- Sound Suite

This manual contains instructions for all features, and it will be mentioned if any feature does not appear in a particular edition.

SADiE6 software use is controlled by a licensing scheme. It may be tied to one of four devices:

1. To a particular PC
2. To a USB key / dongle
3. To a licence server
4. To a SADiE DSP card or USB unit

INSTALLING SADiE6 SOFTWARE

It's quite possible that you will be reading this after having installed the software - the process is straightforward and guided by directions in the software installer. However, if you are one of those who prefers to read the manual before jumping into the software (bravo!) here are some instructions.

The SADiE6 software installer is provided either as a download or on a Installation CD-ROM.

INSTALLING FROM A DOWNLOAD

- I. If your computer has an existing installation of an earlier version of SADiE, you should **uninstall** this first - go to the Start Button / Control Panel / Add/Remove Programs (or Programs / Uninstall a Program), then select the older SADiE program and uninstall it.

NOTE: When you uninstall SADiE software, no data - i.e. projects, audio, desktops, hotkeys, or user settings will be removed or deleted - just the application's program files are removed.

2. Go to the download page on our website www.sadie.com. You may be asked to complete a form with some personal details including a return email address before you are allowed to complete the download. You should receive a reply that includes the download link within one minute - if you don't, check your spam folders for the email. Select the SADiE6 Software, by pressing the **download** button.
3. Depending on your browser, you may be asked where you would like to save this file - choose a location that you will be able to find!
4. On completing the download, your browser may offer to open or run the file, alternatively, navigate to where you have saved this installer using "My Computer" or "Windows Explorer" and double click on the installer.
5. Follow instructions in the installer. There may be some choices to be made, but if in doubt is wisest to go with the defaults offered.
6. Once the software installation has completed, you will see a SADiE6 shortcut on your desktop. Double-click on that shortcut in order to start the SADiE software.
7. When SADiE6 starts for the first time, your system will be checked for a software licence. If you don't have a licence, and have never used a time-limited demonstration copy of SADiE6 on that PC, then the software will operate for a further 30 days. There are no restrictions to operation during the demonstration period
8. If no licence is installed, after the demonstration period, you will be asked to install one. This licence can take several forms:-

- Locked to PC

To authorise SADiE on a PC, it first has to be running the trial version. Then follow the instructions for [Requesting a Licence](#). This will require you to send a file via email to the SADiE office, who will send you a file which will unlock the installation.

- USB Key / Dongle - if you have this USB key, SADiE6 will run as long as it is correctly installed and attached to the PC. Instructions for [Installing the Dongle](#) are [here](#).

INSTALLING FROM A CD

- I. If your computer has an existing installation of an earlier version of SADiE, you should **uninstall** this first - go to the Start Button / Control Panel / Add/Remove Programs (or Programs / Uninstall a Program), then select the older SADiE program and uninstall it.

NOTE: When you uninstall SADiE software, no data - i.e. projects, audio, desktops, hotkeys, or user settings will be removed or deleted - just the application's program files are removed.

AUDIO HARDWARE

SADiE6 is able to use SADiE DSP hardware, or native audio hardware using either an ASIO or WDM driver.

When you start SADiE6 the software will search for audio hardware to use, but it may also be possible that you have a choice of hardware.

In either case, you may need to become familiar with SADiE's Setup Window to set some of the initial parameters for your hardware. Clicking on the **Setup** button on the Transport Controls will open the Setup Window and take you directly to the main **Audio Setup** page. Alternatively, click on **View** in the top menu bar, choose **Setup Window**, and then click on the page you require - in this **Audio**.



Tip: Some of the pages of the Setup Window have a **+** plus-sign before the page name. *This is significant!* It means that there are hidden sub-pages within that topic. **Double-clicking** on **Audio** will reveal another page, which is relevant at the moment

SADiE DSP HARDWARE

By default, if **SADiE DSP hardware** is found, then SADiE6 will operate with that. Control of that hardware is from the Setup pages inside SADiE - for instance **Audio** setup will allow you to change i.e. Sample Rate and Resolution; double-clicking to reveal **Further Audio Settings** will allow you to change audio clocks.

With SADiE DSP hardware, there is no setting for buffers - this is set automatically to ensure that the hardware performs to its best capabilities and generally with near-zero latency all the time.

NATIVE HARDWARE

It's quite possible that your computer may have more than one audio interface card or module. SADiE is able to use only one device at a time, but you can switch between those that are available.

Most PCs have some kind of audio hardware on-board - for instance SADiE may be able to play through your laptop's speakers, and the key to selecting where your audio will play out and record from is to set an audio **driver**.

The first time you run SADiE6, if it doesn't find SADiE DSP hardware, it will choose to use the **default WDM driver** which is likely to be your computer's on-board sound card.

If you're satisfied with using that, then there's no more to be done, but to choose another native driver...

- It has to be installed, and the device must be connected. You may need to consult the Audio device's own documentation to find out how to operate it and about its capabilities.

- In the
click
Drivers
page.

**Setup
Window**, and
Native
to reveal the

-

Notice the **ASIO/WDM** radio-buttons at the top right of the page. These select between the selected ASIO driver (details in the top half of the page) and a WDM driver (as selected in the bottom half of the page).

- In the picture here, SADiE is using the "Sigmatel" WDM driver, which is for my laptop's speakers; if I were to press the ASIO switch, it would change to use the "Prism Sound Orpheus" unit. In order to choose another device, find it in the drop-down list box, and tick ASIO or WDM, whichever is appropriate.
- Having made your choice of native audio hardware, it's wise at this point to check its operation. Play some audio through it and listen to it. If appropriate, record some audio through it (alright, I know you haven't reached that part of the manual yet, but you can always leap further onwards to [here](#).)

Buffers

It's possible at this point that you may have to adjust the buffer size. SADiE users have been protected from this in the past, because SADiE DSP hardware sets up its own optimal buffers. There are thousands of articles on the internet about how to set your ASIO buffer sizes, however in very simple terms:-

- The computer takes a finite time to pass audio.
- The buffer controls that time - sometimes you are offered a buffer size and count, sometimes it's measured in times.
- If the buffer is set short, then it becomes more likely it is that audio will not pass through without corrupting. If the computer cannot process the audio data quickly enough, it will not process a few (or a lot of) samples and you may hear a "glitch".
- If the buffer is set long, then it's more likely that playback and recording will be reliable, however when you record, this buffer delay (a.k.a. latency) will translate into a delay between the sound being produced, and you hearing it once it's progressed all the way through your system. For instance a singer may find it distracting to hear her voice delayed in the headphones. However, in some situations (i.e. if you're not a singer and you're not recording an overdub) this delay may not really be a problem, and thus you are better off setting the buffer long and reducing the risk of playback glitches.

Note: SADiE's handling of audio data works as before - if the SADiE software engine has not enough resource for playing the audio, playback will stop with a "Disk too Slow" or "DSP too Slow" message to tell you that you have run out of computer power. However in a native system, once SADiE has passed the audio data to a device for playback to your speakers, it is out of our control. If you are hearing an audio corruption it is more likely that this is occurring outside the SADiE software. The most likely cause of a corruption is a buffer that is too short.

some Things to Watch out for:-

- Control of a **WDM** driver's parameters is limited to what we can see on SADiE's setup page - you can change the size and length of the buffers.
- **WDM** devices are restricted to two channels in and out.
- A **WDM** device may not follow SADiE's sample rate! Many devices are designed to sample rate convert audio as it is played.
- **ASIO** devices have their own control panel, which is accessed from the **Control Panel** button on SADiE's Native Driver setup page, or from some other shortcut that the device's driver installation will have installed.
- **ASIO** devices may have many more inputs and outputs with different types of connections - digital or analog. SADiE will be able to use them *as long as they are enabled on the hardware*. You may need to consult your hardware's manual to find out how to configure the inputs and outputs. You may find that if you radically change the configuration of an ASIO device (i.e. adding or removing numbers of channels) you may need to de-select and re-select the driver in the **Native Drivers** setup page for SADiE to refresh its idea of what the device can offer.

- **ASIO** devices should follow SADiE's setting for sample rate (in the main **Audio** setup page), however some may be limited in terms of what rates are on offer. Otherwise, you will find all other controls for an **ASIO** device - buffers, clock source, level controls etc. - in the device's own control panel.
- There are some notes on operation with some specific third party devices [later in the manual](#).

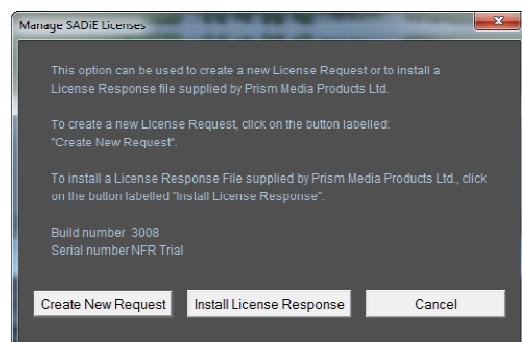
REQUEST A LICENCE

To authorise SADiE6 to run locked to a specific PC, at any time during the trial period, first:-

Request a Licence

The **Help Menu** in SADiE

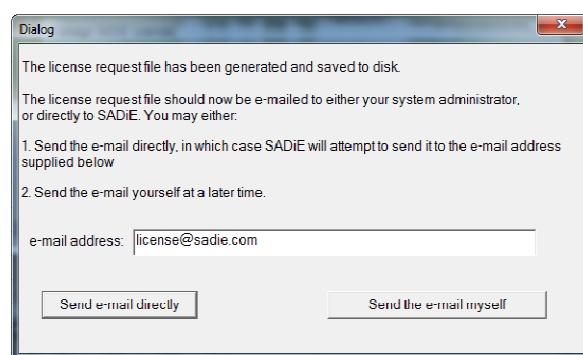
Choose the **Manage Licences** option



Select **Create New Request**



You will be asked for a few details, and then, on pressing OK you will save a '.arq' file - a licence request. Remember where you have saved this!



Having saved this, the file needs to be emailed to license@sadie.com - SADiE will ask if you want to do this automatically or manually. You will need an email client to be installed on your PC for the automatic operation to work.

Note: If nothing happens when you press 'Send e-mail directly' then your email client is not working., and so you should resort to the manual method.

To 'Send the e-mail myself', find the ARQ file (it will usually be in your Documents folder and will be named something like 'Sadie6_yourcompany_yourpc.arq') then attach it to an email and send it to license@sadie.com.

The SADiE office will process this request as soon as possible, and you will be sent a Licence Response file, which takes the form of a '.ARP' file, which will usually include your company name and the name of the PC to which it is licensed.

To Install the Licence Response

Again, from the **Help menu**, choose **Manage Licences**, then from the next dialog box choose **Install Licence Response**.

Browse to the '.arp' file, press OK, and then SADiE will automatically install the option you have purchased.

If you wait until after the trial period has elapsed before requesting your licence, you will not be able to open SADiE. But you will be offered an option to allow you to make the licence request, which follows the same procedure as above.

INSTALLING A DONGLE

If you have purchased a USB key (also known as a 'Dongle') for licensing your copy of SADiE6, you will be able to run SADiE at any PC which has that particular dongle installed.

The procedure involves running an installer, which a) installs a driver for the dongle and b) installs a key file ('.LIC') for the dongle. Your dongle will have been provided with either a CD or a USB memory stick containing the key file and the installer. To install the SADiE dongle on a PC, you will need both the dongle and the CD or memory stick.

1. Before connecting the dongle, run the 'SADiE Dongle Installer.EXE'.
2. The installer will be semi-automatic; you will be asked to confirm some details at various stages. Press 'enter' throughout. At the end of the installation you will be required to restart the computer, so it's wise to make sure everything is saved and closed first.
3. On restarting the PC, connect the dongle to a USB port. You will see the PC installing the driver for the dongle. After a period of time (which may be quite a while – Windows may wish to go to Windows Update and satisfy some User Account Control requirements) you will be able to start SADiE. Subsequent re-insertion of the dongle will be quicker.

RECORDING & IMPORTING AUDIO

RECORDING OVERVIEW

If you have read this book in the right order, you will have already covered the Recording process, however this section and those that follow go into more detail than was covered in the "[Getting Started](#)" section.

When you record a Track (SADiE's name for an audio file) you are always recording directly to one of your hard disks.

There are two ways of recording source Tracks. If you record using the Playlist and Transport Controls, SADiE will place the Track as an EDL Entry in sync with the position of the current-time cursor during recording. This is like recording to a multi-track tape machine.

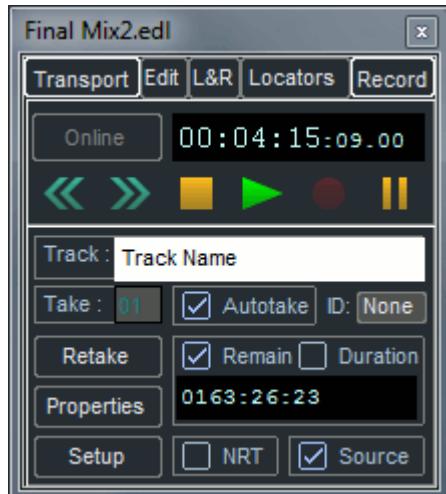
Alternatively, you can use the Background Recording window, which doesn't place the Track in a Playlist, but actually lets you work on and replay another Playlist, whilst recording "in the background". In either case, the Track will always be available in the relevant Clipstore's Source Tracks folder, or available to be imported into the Tracklist of any Project . so that you can paste it into any Playlist.

Modern workflows often use file-based methods of **importing** or **ingesting** audio material. In a later part of this section you will find topics describing the Importing of audio from disk drives or from CDs.

RECORDING TO THE PLAYLIST

RECORDING TO THE PLAYLIST

NOTE: If you have already been using a Playlist and now want to record unrelated material for different work, you may want to open up a new, empty Playlist to record into. This can be done under the File menu. However, it is more useful to create a new [Project](#); this will give you a new Playlist and set you up for keeping track of all your work.



1. Open the Record section of the Transport Controls.
2. Press **SETUP** which takes you directly to the Audio section of the main Setup window, so that you can check or change:
 - i. The input source that you are recording (AES Digital, SPDIF Digital, Analogue or Optical digital). Depending on your hardware, some of these options may not be available. If you have an LRX or PCM-H64 with a mixture of Input cards, it may be possible to record from mixed format inputs - see "[Selecting the Audio Input Sources](#)" later in this chapter which has more detail on input selections.
 - ii. The input sample rate and resolution.

NOTE: With an analogue input, the sample rate and resolution will determine how the signal is converted to digital audio. The bit resolution of your hardware will determine the maximum bit depth possible. Of course, you can use external converters to convert an analogue signal to other sample resolutions before being feeding it to SADiE as a digital input. With digital input, SADiE's sample rate needs to match that of the input signal, otherwise your material will play back at the wrong speed, and the profile will not line up with the audio.
3. Enter a name for the Track you are about to record by clicking in the white Track name box. Finish with the Return key (**↵**).
 - i. The **AUTOTAKE** button adds a two or three character take number to the name. This number increases automatically each time you enter record. This saves you retyping a name each time when recording multiple takes. For the purposes of this Help file, it is assumed that you have Autotake ticked, so that if you go into record repeatedly, there is no need to type a new Track name. If you don't have Autotake set, when you go into record and the current Track name exists already, you will be warned and will have to change the name in order to carry on recording.
 - ii. The **RETAKE** button lets you delete the last take and so keep the take number for the next attempt.
 - iii. **PROPERTIES** brings up a box showing details that will be stored with the Track, some of which you may want to enter or change at the time of recording. See the next section for a description of each.

4. Check that the **RECORD SOURCE** button for each Stream that you want to record onto is set correctly.

- i. You can change the recording source by pressing the  INPUT SELECT button and selecting from the drop-box that appears.
- ii. Normally you will be recording direct from the system's physical inputs, but you can also record from the outputs of Streams, internal busses, or the whole system. This enables you to "bounce-down" material in SADiE, or use a Mixer channel strip to apply EQ, dynamics processing or digital level control to the input before it is sent to the recording Stream.

5. Press the  RECORD ENABLE buttons on the Stream(s) you want to record onto.

- i. If you have "E to E" selected in the Mixer section of the Setup window, you will now be able to monitor and check the level of the input signal. See [Recording Levels](#), below.

- ii.  There are Hotkeys available to Record Enable the first 32 Audio Streams. There are also Hotkeys to Record Enable all Streams, and to Disarm all Streams. These are set in the Playlist Record Enable section of the Hotkey Setup.

6. Press  RECORD to start recording immediately, or play the Playlist (you will be in record-standby and the record button will flash) and hit RECORD to drop in ("punch-in") on the fly (see [Dropping in](#)).

Pressing PAUSE before you press record will put you in record-standby mode, with input monitoring. If you press PAUSE while you are recording, the current Track will end. A new one will begin when you release the pause button again. The small time display at the bottom of the Transport Controls shows the *duration* so far of the Track being recorded, or the amount of *remaining* time available on the relevant audio disk, depending which button is selected above it.

7. Press  STOP to stop recording.

* **Note** there is an optional appearance for the record enable buttons. As default they appear as a Green circle, which changes colour to display the record status, however it is possible to revert to the old-style Red R buttons. See the Multi-track Rec Enable setting in [Playlist setup](#)

- Record Tab

MONITORING THE RECORDING

There are two functions that determine how the input is monitored during a recording.

I. E TO E MODE

This is a setting (under View menu, Setup window, Mixer , E to E mode). More usually you would want to hear audio from the physical input when you press the  RECORD ENABLE buttons for the streams; this is the default setting and "E to E on record enabled streams" ticked. You do have the option to disable this. This determines what happens when the Playlist is stopped.

2. MONITOR SOURCE

This is a tick-box on the Transport Controls Record Tab, which determines what happens during playback but before you punch into record.

This toggles monitoring to be "from source" or "off tape". When ticked, you will hear the source, and hence the new recording. When unticked, you will always hear any clips that are currently on the stream; if there are none then it will be silent. You can toggle the SOURCE button during playback

to switch between input and what's already on the stream. When the  RECORD button is pressed, you will always be monitoring the input source, as the entries underneath are always replaced.

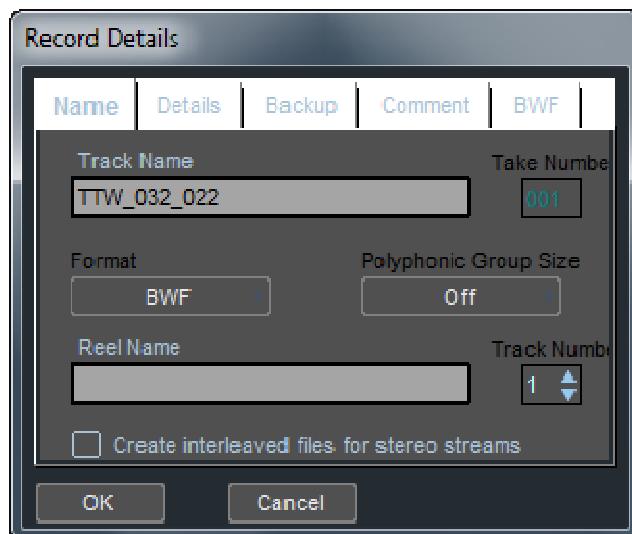
Below is a table, which describes what will be monitored with the various combinations of E to E and Source Monitoring.

E-E	SOURCE	Playlist stopped, Record enabled	Playlist playing, Record ready	Playlist playing, Recording
OFF	OFF	Nothing	EDL Entries	Input Source
ON	OFF	Input Source	EDL Entries	Input Source
ON	ON	Input Source	Input Source	Input Source
OFF	ON	Nothing	Input Source	Input Source

Note that there are hotkeys for setting the source monitor condition for *individual streams* - go to Hotkey Setup; Category "Playlist - Monitor Source".

TRACK PROPERTIES

The Properties button on the Transport Controls displays, and allows editing of, information that will be stored with each Track. After recording, it can be accessed from the listing of Tracks in the Project window.



The key settings here are Audio File Format and Number of Channels.

- **"Format"** allows you to select the file format of the Track to be recorded here. See [File Formats](#). If you leave this set to "Native", SADI6 will use the recording format appropriate to the formatting of the disk being used.
- **Number of Channels**
"Polyphonic Group Size" and the option "Create Interleaved files for stereo streams" control how many streams of audio are grouped in each audio file recorded. More details on this appears in the [Multichannel Tracks](#) section later in this chapter

The remaining entries in Record Details are mostly for information only

- The "Reel Name" and "Track Number" boxes are only used for Autoconforming.
- The "Start Time" and "Length" are for later display only.

- On the "Details" tab, the "Sample Rate" and "Resolution" will normally follow the input settings in the Setup window. However, you can set this Track to be recorded at a lower sample resolution than the current input setting.

NOTE: You can record with Varispeed on. This may be useful for performing frame-rate conversion using the 24/25 and 25/24 pre-sets.

The following legacy features are only available for SADiE3 format files:-

- "Emphasis" sets either of the two standard emphasis flags for the Track (and you'd need a strong requirement for this feature to enable it in this day and age !)
- "Backup" references for the Track will be displayed in the Tracklist in the appropriate Project window; see the section on [Archiving](#).
- "Comments" can be entered for the Track, if recorded to a SADiE 3-formatted disk. These will then be displayed for later viewing of the Track Properties box.

RECORDING LEVELS

The Mixer's meters and the small PPM's alongside the Stream controls will give some indication as to the input level, however you may find it useful to open the [Metering Window](#) or display the [Horizontal PPMs](#) when recording, in order to view the Input PPM's. Otherwise Stream strips can show levels Pre-fader, whereas Output mixer strips will show level and peaks Post-fader (hence if you've applied any level changes in the Mixer, they will not show the input level). If your Stream and Output faders are at 0dB, then the metering on the Output faders will be displaying the same as the Input meters.

If you do set up a Mixer strip to control the system input it is possible to apply digital level control to the recording. However, this control is after the analogue-to-digital converters, so any adjustments necessary to analogue input signals in order to avoid overloading or under-modulating the converters must be made externally (e.g. on your mixing desk).

Adjusting the fader of such a Mixer input strip will affect the level recorded on the audio disk. Note that you can overload the recording if you increase the level, so watch the meters. You can't improve a noisy signal that results from converting analogue at too low a level.

If you don't apply any input level adjustment, digital input signals will be optimally transferred as 1:1 copies.

RECORDING IN NON-REAL-TIME

Certain recording operations, such as internal bouncing down with processing, are not restricted to real-time operation, by the need to work at the same rate as the equipment supplying the audio input. When **NON-REAL-TIME** is selected, these tasks will be carried out as fast as possible. Of course, if you want to listen to the audio as it is recorded, you must work in real time.

MAKING CUTS DURING RECORDING

 The **RAZOR** and **SCISSORS** buttons will work during recording, dividing the Entry that is being placed in the Playlist. This can be a useful way of marking edit points that you will need to return to later.

 If you operate the **PAUSE** button during recording, you can "edit-out" the incoming signal until you release it again. Recording will resume as a new Track, so you must use Autotake, otherwise SADiE will assume you want to re-record using the previous Track name.

An alternative pair of functions exists which can be used to mark edits and also remove unwanted sections during recording. These are the "Clip In (and Out) point to current time" Hotkeys, as described under [Quick Edit](#).

OVERDUBBING

When you record into a Playlist that already has EDL Entries in it, these will be replayed as you record. Therefore you can record, for example, a singer on Stream 3 in sync with, and listening to, a stereo guitar already recorded on Streams 1&2; or a voice-over on Stream 1, while hearing a music bed already on Streams 3&4. You can even use the automation to record a mix of the level changes for the music bed while you record the voice-over. When overdubbing, you will probably want to drop into and out of record as described below.

DROPPING IN AND OUT OF RECORD

Once you have record-enabled your chosen Stream(s), you can drop into record ("punch-in") manually as follows:

1. Play the EDL from any point (the Record button will flash red to indicate that you are in record-standby). You will not be monitoring the input, (unless you have selected E-to-E mode in the Mixer section of the Setup window).
2. Hit the record button when you want to drop in. If there is an EDL Entry on the Stream at this point, SADiE will replace it with an Entry of the new recording up to the point where you...
3. Drop out or record by pressing the play button again.

NOTE: As this is non-destructive, the underlying recording has not been erased. It is still available by using Undo when using any of SADiE's editing modes, or returning to a previously saved EDL. Additionally, the whole Source Track can still be found in the Clipstore. If you don't want to replace an EDL Entry, record on a different Stream.

NOTE: You cannot use the record-enable buttons on each Stream to actually drop in. These must be pre-set, and the record button used to do the drop-in.

Automatic drop-ins can be set up as follows:

1. Open the L-R locators section of the Transport Controls



2. Set the Left and Right locators to the points you want to drop into and out of record. There are several ways you can do this:
 - i. Click on the L and R buttons to set them to the current time, either on the fly during playback, or when stopped. The red indicator will show that a point is stored in the button memory. The time displays show the EDL time set, OR
 - ii. Hold the Shift key and click at the required point in the Playlist time bar. Use the left and right mouse buttons for L and R points respectively.

Once set, clicking on a button will locate to that point (this is not allowed during playback) and markers will appear in the Playlist time bar to show the position of each. Dragging these with the mouse will adjust the points. Other ways to adjust them are described in "[Using the Playlist](#)".

3.  Press the **DROP-IN** button. Once you have record-enabled your chosen Stream(s), when you play the EDL, SADiE will drop into record at the Left locator point and drop out at the Right.



Pressing **LOOP** causes playback to repeat between the left and right locator points. In the Transport Controls section of the [Setup window](#) (accessible from the "View" menu), you can set pre and post-roll times. These determine how much of the EDL SADiE plays either side of the L and R points.

Thus you can repeat a section, recording in sync each time, until you have the take you want. A new Track is created for each drop-in.

NOTE: SADiE actually records a second or two after any dropout and a second or two before an automatic drop-in. These pre and post-handles allow later edit adjustment.

Double-click on an L or R button, or click while holding the Ctrl key, to clear the button's memory.

MULTICHANNEL TRACKS

When SADiE records, however many streams are recorded, the "Track" in the playlist (and in the Source Tracks Folder of the clipstore) is grouped into one entry.

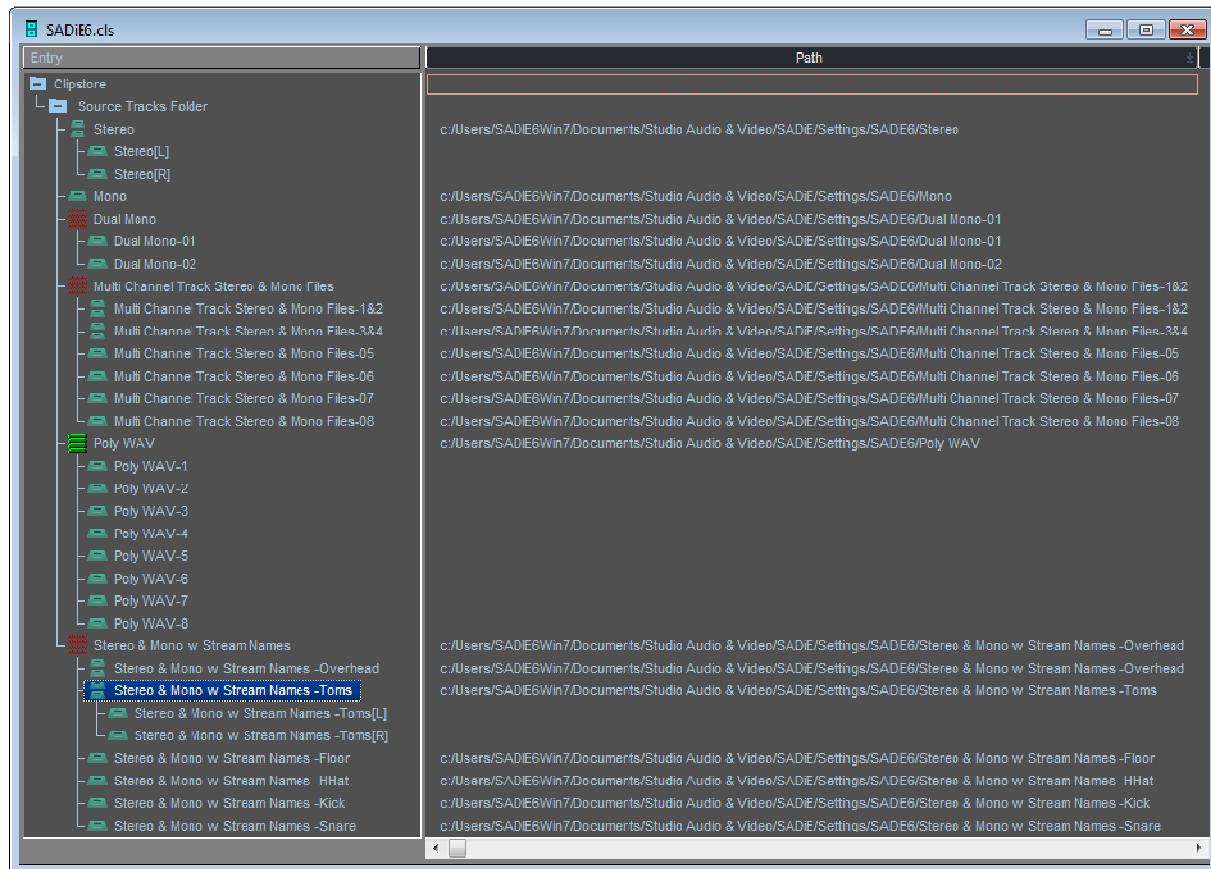
The files recorded that comprise the Track could be mono, stereo or multi-channel interleaved, depending on the settings at the time of recording.

For example, you might want to record eight channels of drums, from a stereo pair of overheads and six individual mono microphones. The resulting Multichannel Track could be made up of one stereo and six mono parts. As a single Track, it will be treated as a whole when moved around the system, but the component parts are accessible by opening up the tree structure in the Clipstore, or using the **UNGROUP** button.

The parts of Multichannel tracks are identified by the name of the stream to which they were recorded, and so stream numbers will be appended, unless you have renamed the Streams before recording (see [Arranging an EDL](#)).

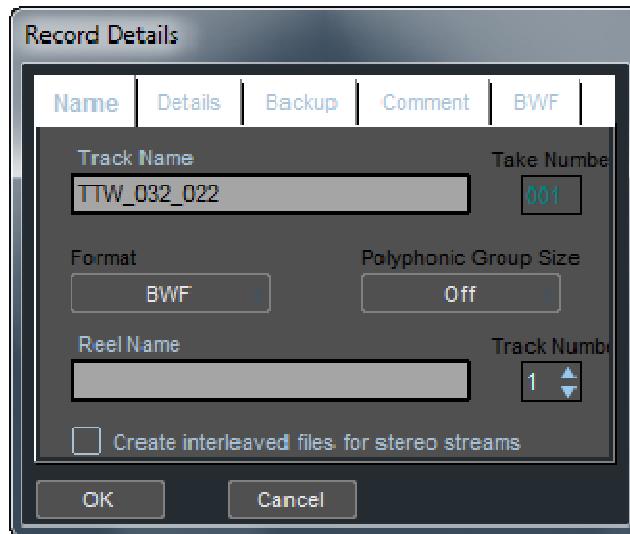
The picture below shows a clipstore displaying a variety of channel formats.

SADiE6



The number of channels in the recorded files is controlled in the Record Details dialog, which is opened by pressing the **Properties** button on the Transport controls.

Alternatively, the **Polyphonic Group Size** selector is also available in the **Record** page of the **Setup Window**.



Stereo

To record two streams to a single stereo file:

Polyphonic Group Size

Off

Create interleaved files for stereo streams

Ticked

Stereo interleaved files will be recorded for stream that are Stereo-merged (right click on the stream controls and choose **Merge into Stereo Stream**).

Stereo interleaved files will be created by a **Bounce** with these settings when **Stereo** is selected for "Output channels".

Mono

If the streams are NOT stereo-merged, and two channels are recorded, a **Dual Mono** pair of files will be recorded. Similarly if "Create interleaved files for stereo streams" is unticked, then Stereo files will not be created.

Multi-Channel Stereo and Mono

When you're recording more than two channels, and **Polyphonic Group Size** is **OFF**, if "Create inteleaved..." is NOT ticked, then **ALL MONO** files will be created.

If "Create inteleaved..." IS ticked, then the files will be made stereo or mono according to the stream merging - in the example above called "Multi Channel Track Stereo & Mono files", streams 1&2 were stereo merged, as were 5&6; 3, 4, 7 and 8 were mono streams.

Multi-Channel Interleaved Files - "Polyphonic WAVs"

When **Polyphonic Group Size** is **ON** and set to a number (which will be any number up to 16) any multi-channel recording (more than ONE stream) will have its streams grouped into single files according to the Group Size number, and any stream merging is ignored.

So in the example above, the "Poly WAV" track was recorded with a Polyphonic Group Size of 8, and 8 streams were recorded. If the Polyphonic Group Size had been greater than 8, the result would have been the same - the Polyphonic Group Size defines the largest width of file that can be created, and so if more than 8 streams had been recorded, more than one 8 channel polyphonic WAV will be created.

If 64 channels had been recorded with a Polyphonic Group Size of 8, then 8 x 8ch Poly WAVs would be created.

If 63 channels were recorded, 7 x 8ch Poly WAVs and 1 x 7ch would be made.

During recording, red lines are drawn in the playlist to show where the file breaks appear.

NOTE ON POLYPHONIC WAV PERFORMANCE. Recording with Poly WAVs will use more processing resources than recording many mono files, and is not recommended for larger recordings, or recordings where the stream count is close to the limits of the system.

You should also be sure that any other application that may be receiving the files can support Polyphonic WAV files, and in particular the channel width that you are creating. Every audio application can work with mono files, and most with stereo files, but the support for Polyphonic WAVs is not so widely spread.

It is well known that Avid prefers polyphonic WAVs for ingest, however there are some versions of Avid which can only support a maximum of 4 channels in a single file, and so the SADiE user should check first.

Unless you're sure that you need to record to polyphonic WAV files, it's safer to stick with multiple mono files.

POLYPHONIC WAV MAXIMUM SIZE. WAV and BWF files cannot exceed 4GB in size, due to the use of a 32 bit unsigned integer to record the file size. Some other applications may limit this to 2GB.

Thus when for instance you are recording 16 channel Poly WAVs, the maximum record time is 1/16th of what it would be if you were set to record to 16 x Mono WAVs at the same sample rate (doubling the sample rate will halve the maximum record time for same-format files).

The maximum length for a 16 channel Polyphonic BWF at 48KHz 24-bit is approximately 30 minutes, whereas if this were recorded with 16 x Mono files, approx. 8 hours recording would be possible.

In SADiEMTR the stereo stream is recorded to a single stereo interleaved file, if you were to add a Stereo Mixdown stream to the 16ch. example, the maximum record time for 16 channels PLUS a Stereo Mixdown would be approx. 4 hours - limited by the maximum possible size for the Stereo Mixdown stream.

It's possible that when recording multiple files together, they may have slightly different file sizes if you are using metadata - i.e. the stream named "Maybe it's because I'm a Londoner" will use marginally more disk space than if it were named simply, "1".

Only WAV, BWF, WAVE64, and BWF- WAV64 formats can be recorded as polyphonic files.

(There has been much discussion as to the correct term for a WAV file that contains multiple channels of audio, but in the popular vernacular, "Polyphonic WAV" or "Poly WAV" seem to be prevailing. My apologies to the Audio Engineering Society for my use of the popular but arguably incorrect term "polyphonic")

SETTING THE AUDIO INPUT SOURCES

The available audio input sources will depend on your hardware; SADiE can record from analog line, analog microphone, digital AES or digital MADI or combinations thereof.

Also the LRX2 and H64 have different I/O configurations -

- A non-MADI LRX2 allocates input numbers from 1 to 48 to each card based on its position in the unit. This is independent from its format type - 1-16 will be allocated to the slither in Slot 1 (if it's an input card) followed by 17-32 in Slot 2 and so on. There is no need to choose between AES and Analog because i.e. an analog card in Slot 1 will use inputs 1-16, and an AES card in slot 2 will use inputs 17-32. To use the first AES input, simply record enable a stream that has Input 17 selected as its input. You will still need to switch between Mic and Line, which is set on each stream by clicking on the Mic/Line button or else in the Audio IO setup page (see below).
- An LRX2 with MADI has the maximum of 64 inputs and outputs assigned to MADI and has selectors in the **Audio IO** setup page to allow you to choose which channel numbers any other input cards will occupy.
- the H64 input numbers are set by the position of the slither card. For instance an analog input slither in slot 5 and an AES slither in slot 9 would BOTH be assigned to Input numbers 1-16, and you will need to select which format (AES/Analog) to use in software.

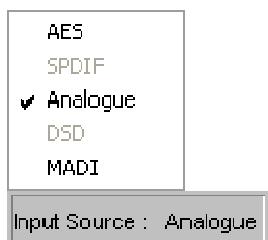
If this is an H64, then there are **TWO** areas of the Setup window where you can select the input source:

Globally

The main Audio Setup page allows you set to change all inputs from, for instance Analogue to AES, and also allows you set up Input and Output Resolution and sample rate settings.



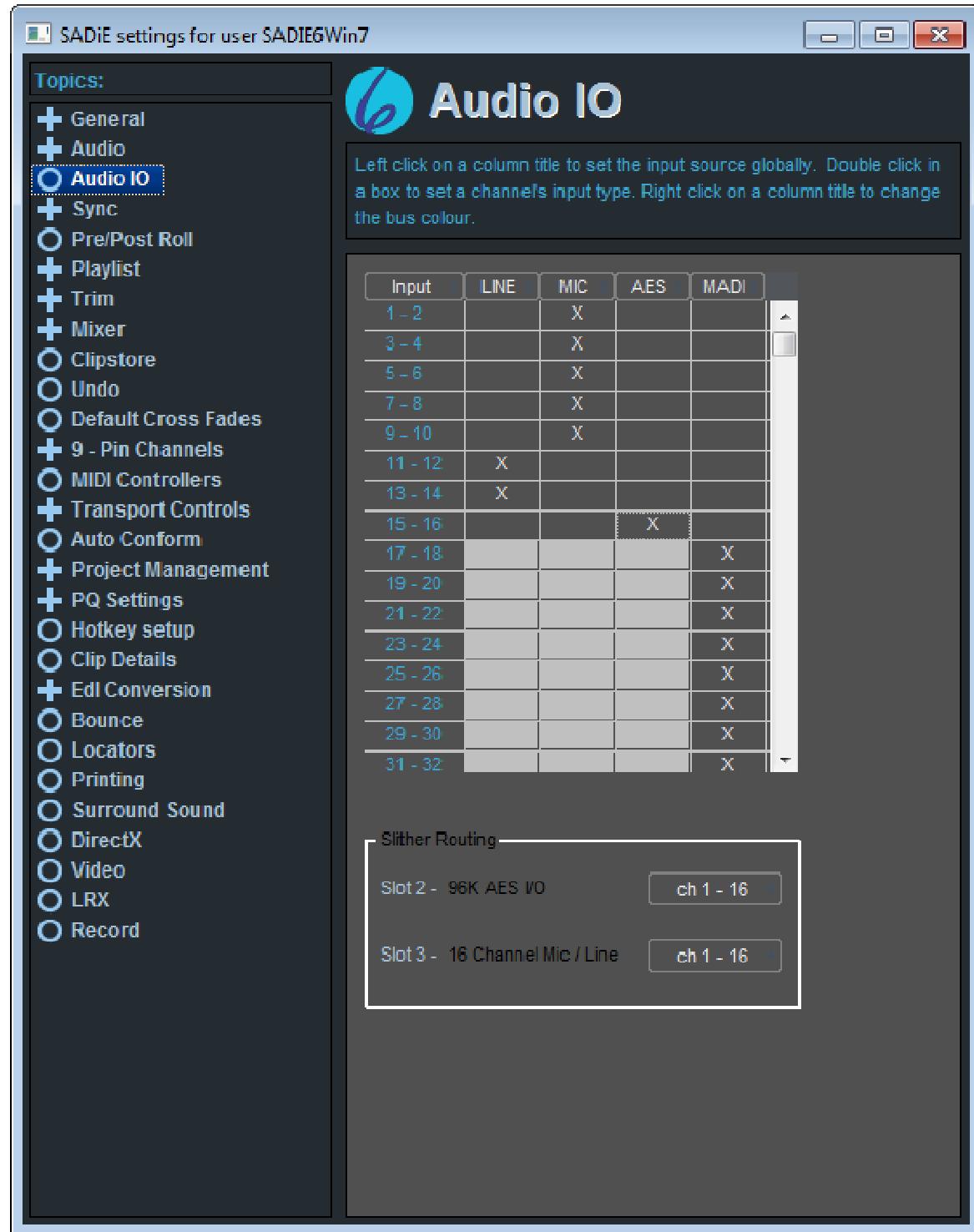
It's also possible to change the Input Source globally, by right-clicking on "Input Source" at the bottom of the Playlist.



On an LRX2, Inputs cannot be source-selected globally other than in the **Audio IO** Setup page.

Mixed Input Formats

However it's likely that you may want some inputs to be Analog, others AES, or perhaps some inputs Line & others Microphone level. The input format for each physical input is set in the **Audio IO** setup page.



This lists every input pair, and has columns for Line, Mic, AES, or MADI (depending on what your hardware supports). You can double-click in the boxes to select the source for each input pair.

Inputs must be switched in pairs (i.e. you cannot have Input 1 Line level and Input 2 Microphone level) and in the case of MADI, must be switched in banks of 16 channels.

If you double click on the header button of any column, all inputs will be switched globally (where possible) to that format.

If you have an LRX2 with a MADI card the **Slither Routing** selectors will appear (otherwise it won't). These allow you to allocate input numbers to the other two slither cards (if they exist).

Notice that the column header buttons are coloured and these colours are replicated on the Input buttons in the EDL to help identify which format your input is set to.

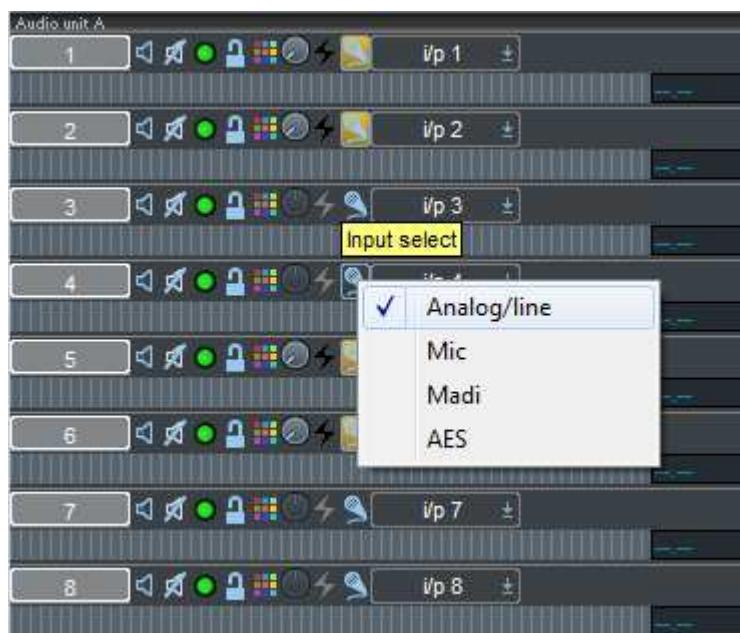
56+8 MADI & Slither Configuration

You may have noticed above that I said that MADI must be switched in banks of 16. There is an exception to that rule on the LRX2 in that it's possible to switch the top eight channels (i.e. 57 to 64) out of MADI and into Analogue, Mic or AES, in order to accommodate the situation where your console may be feeding you 56 channels of standard MADI, and you may wish to use the remaining 8 channels on the LRX2 for, for instance, audience microphones. But only channels 57-64 can be switched from MADI as a bank of eight - all other inputs must be switched in groups of 16.

At 96KHz sampling rate, MADI switches in banks of 8, and of course the "56+8" exception becomes a "28+4" exception.

Input Select Buttons in the EDL

Additionally the Input Source can be selected in the EDL using the little microphone icon  alongside each stream. Pressing the button will display all possible options.



The usual restrictions on grouping apply - Analogue, Mic & AES switch in channel pairs, MADI in banks of 16, and the LRX2 56+8 exception.

On an H64, changing the input source globally will override the Audio IO Matrix selections and set every input to the global setting.

MICROPHONE LEVEL ADJUSTMENT & PHANTOM POWER

If you have a Microphone slither as an input card (available on LRX and H64 systems), any inputs set to Microphone will have an input level control and a phantom power switch.

Phantom Power

For inputs for which you wish to set a 48V phantom power press the  Phantom button, which will turn red  to warn that it is enabled.

Note that it may be dangerous to connect certain devices to the Mic input whilst Phantom Power is enabled. When you exit SADiE MTR the phantom status is saved but the phantoms are switched off. When you re-enter the program you will be asked if you wish to re-enable them or start the program with phantoms disabled.

Input Level Adjustment

Microphone input levels are adjusted by :-

The LRX Faders - these are multi-function, and their function is changed by means of the black button just to the right of the eighth fader.



The "Alt" function is not supported and so pressing this button twice from the standard "Output" state will change the faders to operating the Mic input level adjustments.

To adjust input levels on inputs higher than 8, press the **Bank Select** button just above the Fader Mode Select button.

Alternatively, which is the only method on an H64, Playlist streams that are set to record from a Mic input have a blue pot to adjust input level.



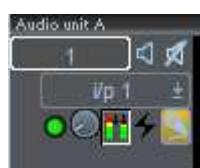
Analog Line and Digital Inputs have no input level adjustment.

'sensitive' mode

When adjusting Mic input levels, the faders can be switched to make them more sensitive. Press the **SHIFT** button, then touch and release the fader. A small dot appears in the number display, and the fader will move to a central position to allow you to adjust around the standard, "coarse" level position.

Level PAD Button

Later model Microphone Slither cards have the facility to reduce the input level in order to accommodate particularly loud sources.



If the Pad button  appears then your Mic card does have this facility. Pressing this button in will reduce the input level by 20db.

Some users have requested that the line input level be adjustable - the 'Mic' setting with the pad enabled is equivalent to an adjustable line level - the Line setting is a fixed and thus predictable level.

OPTIMISED RECORD MODE

In critical recording situations, where the recording is a simple "capture" operation and little replay, and no overdubbing is required, it may be advisable to enable **Optimised Record Mode** to ensure that all SADiE performance is dedicated to recording rather than attempting to replay any audio.

Under normal circumstances, any existing audio is always played on a record enabled stream to allow the user to punch out and immediately switch to playing "off-tape".

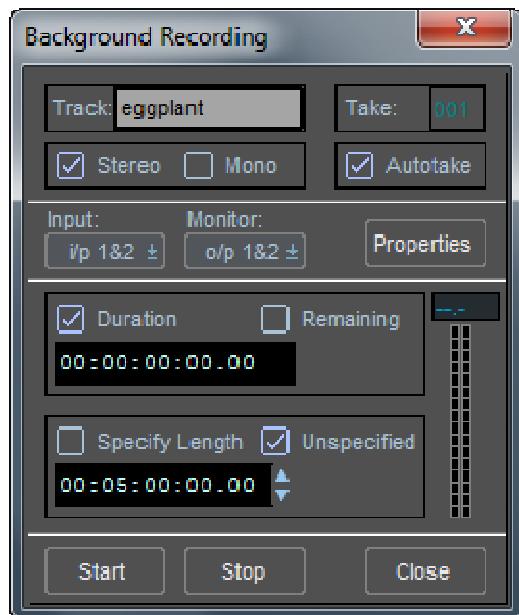
When Optimised Record Mode is enabled, there is never playback from a record enabled stream thus relieving the processor of any unnecessary work. And therefore in this mode you will not be able to listen to what you've just recorded until you disable the record buttons for those streams.

To enable Optimised Record Mode, go to the View menu / Setup Window / Record and tick the Optimised Record Mode option.

BACKGROUND RECORDING

In many ways this is the quickest and easiest way to record a mono or stereo Track that you can then access from the Source Tracks folder in the Clipstore. What's more, you can carry on other work in a Playlist while the new Track is being recorded.

As with [Recording to the Playlist](#), described above, first make sure you have the correct settings in the Audio section of the main [Setup window](#). This is accessible from the "View" menu or from the **SETUP** button in the Transport Controls.



1. Open up the Background Recording dialogue box from the "View" menu.
 2. Enter a name for the Track you are about to record by clicking in the white Track name box. Finish with the Return key (→).
 - i. The **AUTOTAKE** button adds a two or three character take number to the name, and this number increases automatically each time you enter record. This saves you retying a name each time, when you are recording multiple takes.
 - ii. The **PROPERTIES** button is described under Playlist recording.
 3. Select whether to record a Stereo or Mono Track.
- NOTE:** If the material you are recording into SADiE is mono, don't record it as a stereo Track, otherwise you will be using twice as much disk space as necessary.
4. Press the **INPUT** selection button to determine which inputs you are recording from.
 5. The **MONITOR** selection button determines what outputs you can monitor the recording on. Note that if you intend to play anything through your current Mixer while background recording, you cannot monitor the recording on the same outputs used for the Mixer. With a multi-card system, you can only monitor on the same unit as the input.
 6. Press **START** to begin recording.
 - i. Check the recording level on the meters. Any adjustments necessary to analogue input signals in order to avoid overloading the system's analogue-to-digital converters must be made externally (e.g. on your mixing desk).
 - ii. Depending what you select, either the *duration* of the Track being recorded, or the *remaining* time available on the audio disk will be displayed in the small time display.

7. Close the box and recording will continue in the background while you do something else.
8. To stop recording, open the window again and press **STOP**.
 - i. Alternatively, if you select **SPECIFY LENGTH**, you can use the time display below to enter the length of time that the recording is to last. It will then stop automatically.

METADATA AND MIRRORING

METADATA AND MIRRORING

There is an alternative and more accessible method for putting metadata into the file you are recording.

What is Metadata ? In this context we are using the word metadata in a fairly narrow sense to mean "data that is not audio data that is stored in an audio file".

There are plenty of ways of putting metadata into an audio file already in SADIE - for instance sample rates, bit rates, & timestamps are usually stored in all audio files.

The BWF format file has a number of extra fields that can be (reasonably) freely used for user data - for instance information and memoranda about the recordings that someone further down the production chain will be able to use to help identify the recording.

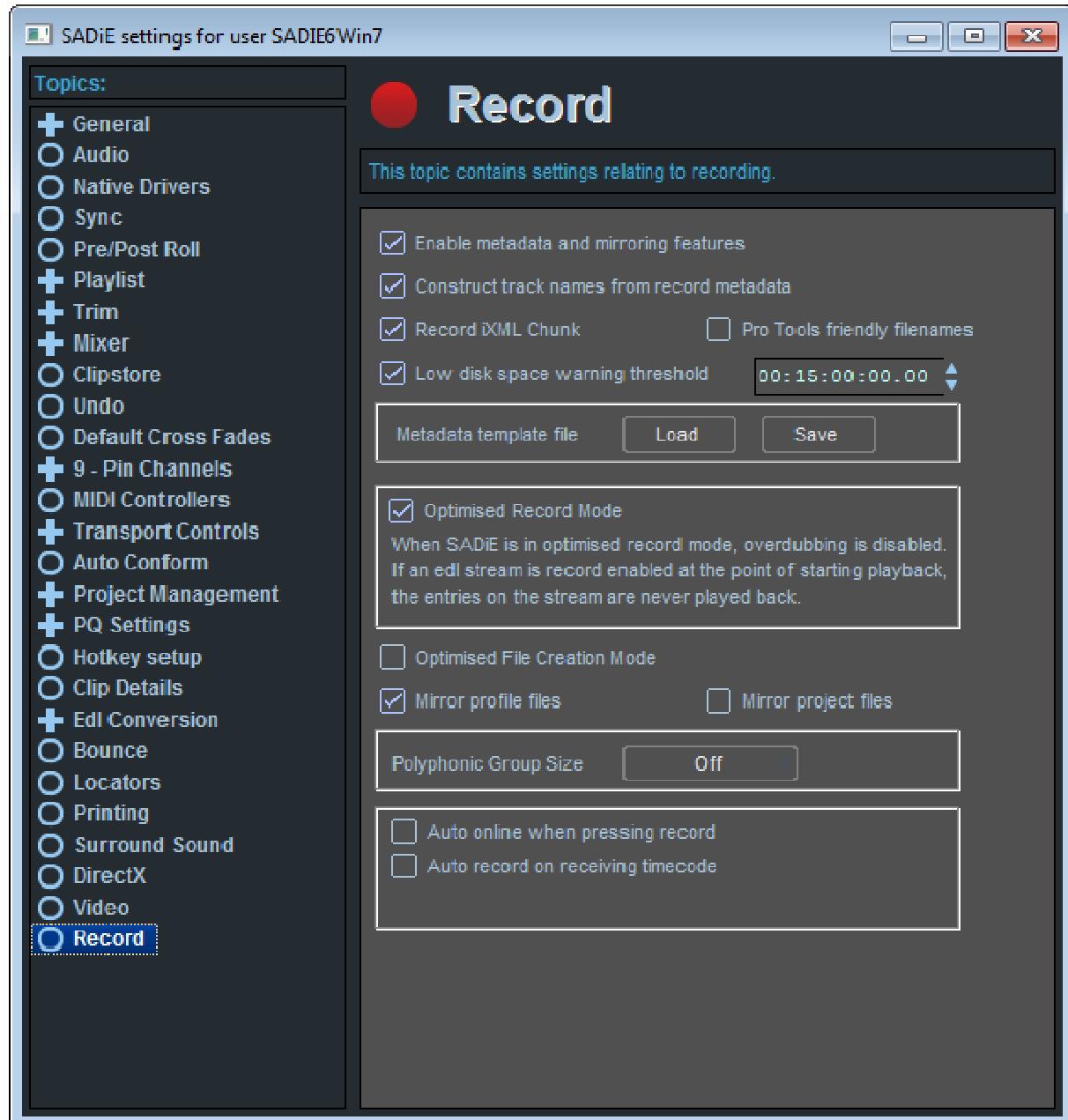
The Metadata function in SADIE uses the **BWF Description** field and a separate **iXML Chunk** area of the file. These are primarily used in Film and TV location recording.

When Metadata mode is enabled, it's also possible to "mirror" (duplicate) the recordings to an alternative disk drive.

A third optional facility provided by this interface is to have all file names be constructed automatically from chosen metadata fields, rather than manually typing into the "Track Name" field in the Transport Window.

ENABLING METADATA MODE

There is a topic in the Setup Window called **Record** which has a switch to turn on this mode - "Enable metadata and mirroring features" and associated functions.



When Metadata Recording is enabled:

- Metadata will be put into the BWF Description field (Metadata recording cannot be used with any other audio file format)
- Audio will be recorded to the location specified in the **Record Configuration Dialog** and not the usual Record Destination. However in the usual way, files will always be in a sub-directory which uses the project name - i.e. for a project called "prjname" recording to the d: location - files will be in a d:\prjname directory.

CONSTRUCT TRACKNAMES FROM METADATA

When "Construct Tracknames from Record Metadata" is ticked, the "Track Name" field in the Transports Window is not be used for naming the files (in fact if you click on it or use the hotkey to edit it, the Record Configuration Dialog will be brought forward) - files will be named based on metadata and the settings you have applied. More detail to explain how to set this up follows.

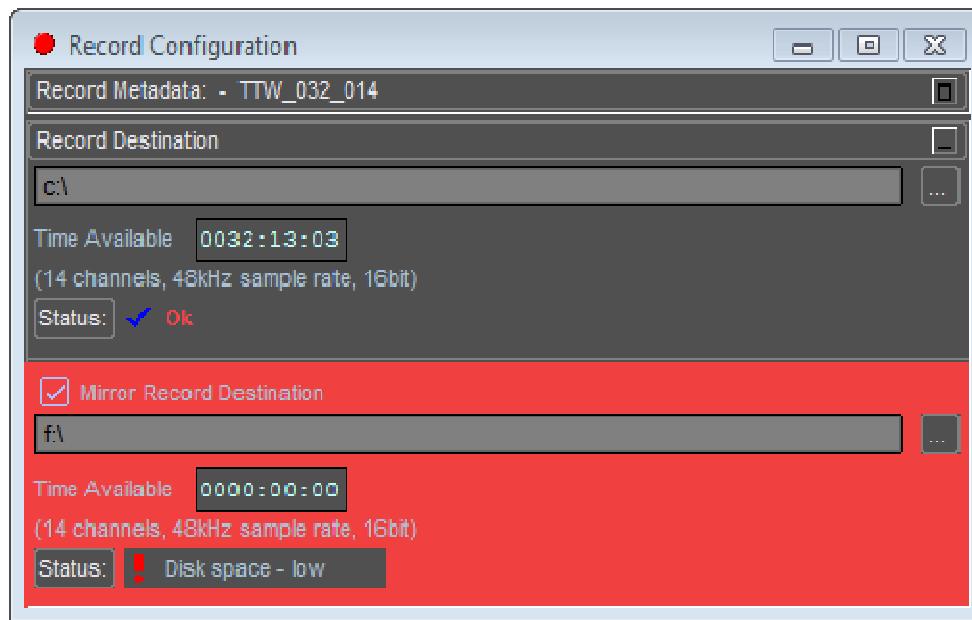
RECORD IXML CHUNK

When this is selected, any metadata will also be put into an iXML chunk in the BWF file. SADiE's [iXML implementation chart](#) is in the Additional Notes section at the end of this manual.

You'll find technical information about the iXML chunk at www.xml.info.

LOW DISK SPACE WARNING

When "Low Disk Space warning threshold" is ticked, the Record Configuration Dialog will display a warning when either the primary or mirror record locations remaining disk space goes below the setting (for the number of tracks currently in record).



METADATA TEMPLATE FILE

There are buttons to allow you to save and load different Metadata Setups. Having [customised the metadata](#) fields that you wish to save to recordings, you can save the configuration as a template.

SADiE is provided with two templates which will set you up for standard operation:-

`record_metadata_template.xml` and

`us_record_metadata_template.xml`

The only difference is that the U.S. template is set to label Scenes as a Number AND letter - i.e. Scene 10C, whereas in the general template the Scene is labelled numerically.

OPTIMISED RECORD MODE

The text underneath the setting explains this - when this is enabled, SADiE's DSP is reserved for recording and never attempts to play clips on a record enabled stream.

OPTIMISED FILE CREATION MODE

You should only need to enable this if you are recording fairly large multi-tracks and the project is large.

When the number of files in a disc directory becomes larger, Windows takes longer to read it. Thus when you are adding new files, a refresh of the directory can take some time when there are thousands of files.

And at the point of stopping a recording, lots of files are being closed, but also the same number of files are being created, and you won't be allowed to punch back into record until the new files are ready.

When "Optimised File Creation Mode" is enabled, SADiE will make lots of files in preparation for recording, to minimise the activity at crucial moments like dropping in and out of record.

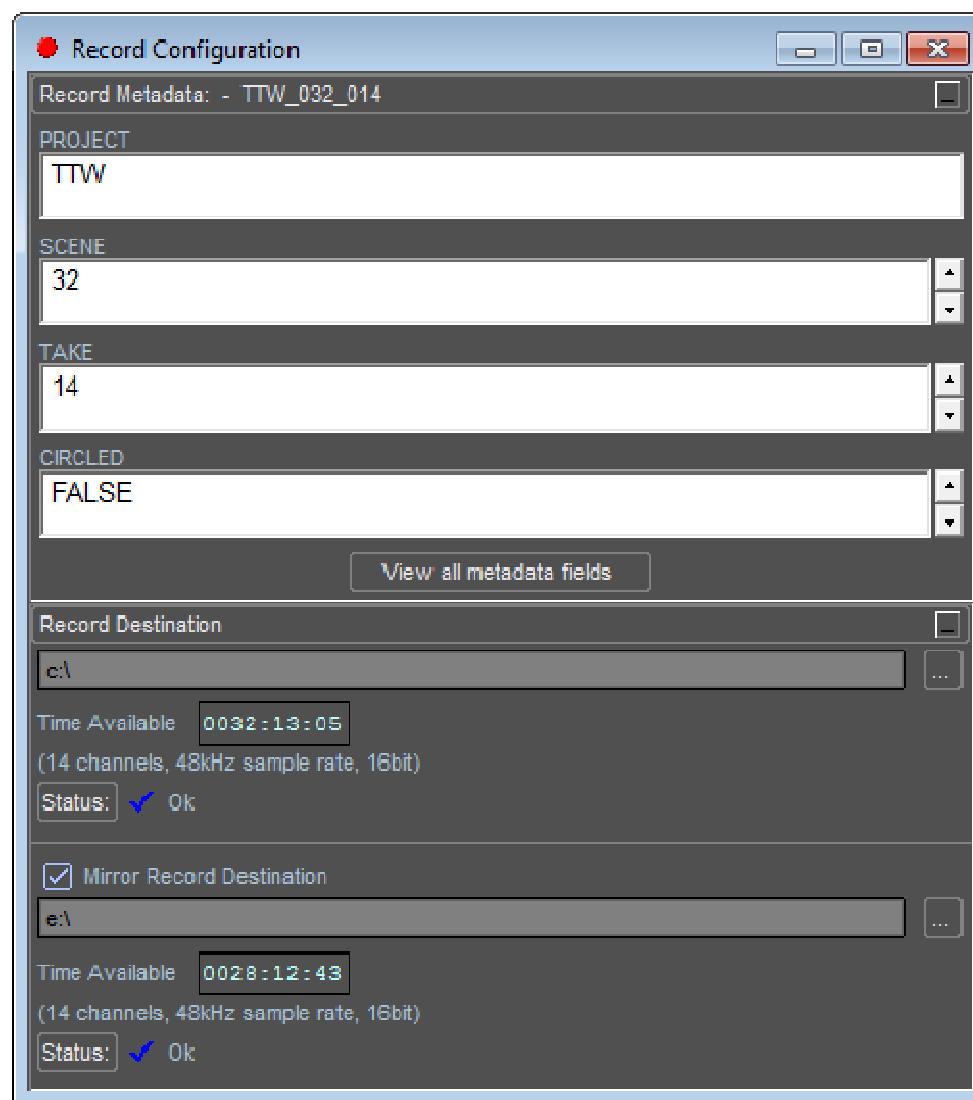
When this mode is enabled, the record directory will contain possibly hundreds of zero byte files called i.e. 123.pre which are made in readiness for recording. While they're being recorded they will of course increase in size, but there may be a delay between the recording ending and the files getting their correct names - this is all tidied up at a less busy moment.

THE RECORD CONFIGURATION DIALOG

This is the interface for entering metadata and setting up where audio files will be recorded to when "Metadata and Mirroring" mode is set.

You can access this window by selecting the **Record Configuration** option from the **Project** menu, but this is only accessible if you have [enabled Metadata and Mirroring](#) mode.

Also if you are set to automatically name tracks using metadata, clicking in the Track Name field of the Transport controls, or using its hotkey will open the Record Configuration.



The top section of this dialog is used to enter text or numbers into the Metadata fields, the bottom section allows you to set up both the primary and the mirror record destinations.

The "Record Metadata" and "Record Destination" bars can be pressed to minimise one or other of the sections.

Note that when a record error occurs (for instance "**Disk Space - low**") the Record Destination section will always pop up (even if the dialog is closed).

SCENE AND TAKE FIELDS

The Take field is set (by default) to automatically increment for every new recording, but it can be manually edited.

There are three special hotkeys (which can be assigned to any key in the [usual way](#)) that control the way the Scene number changes).

As mentioned in the previous topic, there are two Metadata Templates that define slightly different behaviour of the Scene field - the "general" template where the Scene is purely numeric and a "U.S." template where the Scene is numeric with a letter modifier - i.e. "Scene 10C".

The three "Scene" hotkeys are found in the "Record Metadata" Category of Hotkey Setup and are called:

"Advance Scene Letter",

"Advance Scene Number"

"Advance Scene Number, Reset Letter"

When using the US template, you should set two hotkeys for "Advance Scene Letter", and "Advance Scene Number, Reset Letter", whereas if you're using purely numeric Scene numbers all you'll need is the "Advance Scene Number" key set.

The take number always resets to 1 after changing a Scene number.

CUSTOMISING METADATA

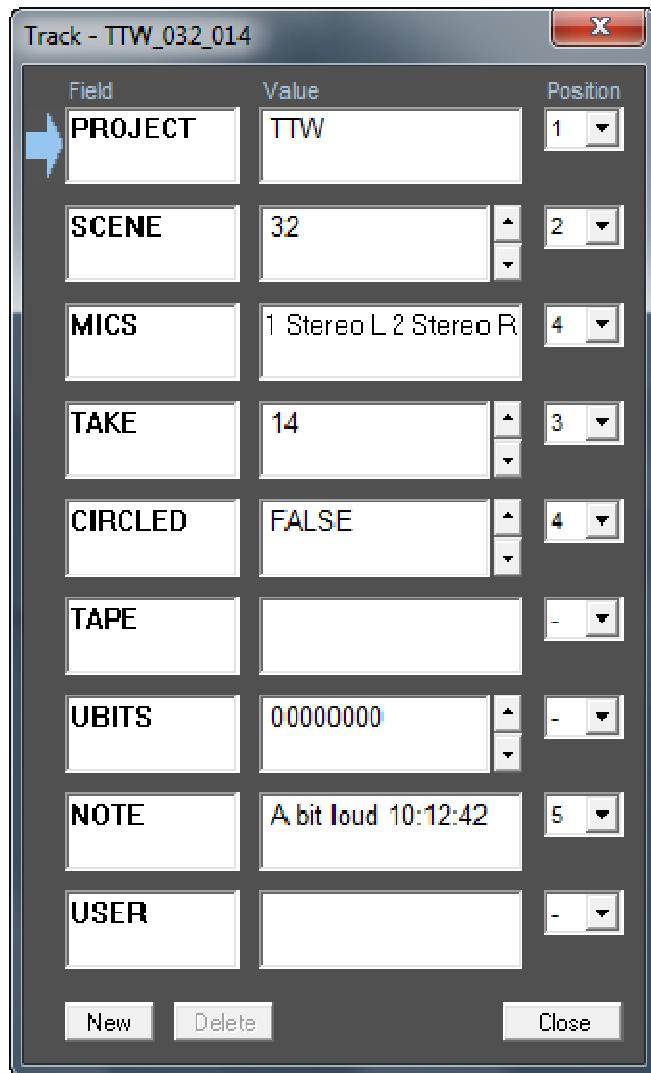
It should be noted that the **BWF Description** field that is used to store this metadata with the audio is restricted to 256 characters, and so if you use labels or data that are too long, then some data will have to be truncated.

If used, the **iXML chunk** has no such restriction.

If you press the **View All Metadata Fields** button you will see the following window, which allows you to add new metadata fields.

Each field has a "Field" box for the metadata's name, a Value, and a position.

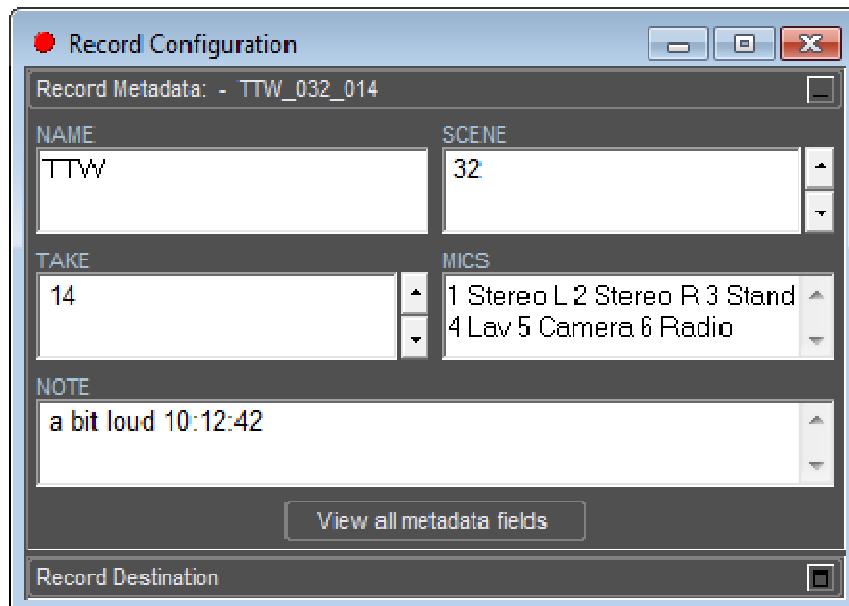
The position determines which order the fields are presented in the main Record Configuration Dialog. Note that you must set a contiguous sequence of position numbers and not miss out any (you will be warned if you do).



New and **Delete** buttons allow you to make a new metadata field and delete the selected one.

Notice that in this example I have made a new field called "MICS" - this is not a standard metadata field, but these fields can be freely named.

In this case I've used this field to describe the microphones used and which channel of the recording they are assigned to. But none of this is set in stone - you may add a "Notes" or even "Fishybits" field if you like (but of course you may expect some raised eyebrows from post production engineers if your metadata is too ... non-standard)



Notice also that in the Field Editor above there some fields which have no "position". They will not display on screen, but they will be included in the BWF Description.

Note that "Originator" is a special field, and will be placed into the **Originator** field of the BWF.

As an example, the above dialogs produce a BWF Description field as follows :

```
sSCENE=32
sTAKE=14
sNOTES=a bit loud 10:12:42
sNAME=TTW
sMICS=1 Stereo L 2 Stereo R 3 Stand 4 Lav 5 Camera 6 Radio
```

METADATA RIGHT MOUSE MENU

Right mouse clicking in a metadata field will show this menu, which allows you to set the behaviour of the data in that field.



Font lets you choose the font for display in the Record Configuration

Numeric Only sets the field's value to numeric only and in that case there will be increment/decrement arrows by the side of the value.

Auto-increment will increase a numeric value by one every time record is entered

Multi-line allows a carriage return character to be used in the value. It's been noticed that users find it difficult to avoid pressing the Return key to confirm the data entry (but this is not necessary - the metadata is updated continuously) - turning Multi-line off will ignore any returns and thus not allow new lines in metadata fields.

Default Value lets you set the initial value for the field.

User Editable allows you to edit the value (or disable editing).

Add to track name Only fields with this value ticked will be included in the track name when "Construct Tracknames from Record Metadata" is ticked in the Record Settings page.

The example above will produce a file name "TTW_032_014" if the Name, Scene and Take fields are added to the track name.

Add label to track name when Add to track name is selected also, this will also include the field name in the track name, for instance you could make the track name "TTW_SCENE032_TAKE014" by ticking this for the Scene and Take fields.

[**Metadata Templates**](#) can be saved and loaded from the Setup Window/ Record page.

iXML

If you create custom metadata fields that don't exist in the iXML specification, these will appear in the USER part of the iXML chunk. So for instance the MICS field in the example above is non standard, and so will appear as "MICS=1 Stereo L 2 Stereo R 3 Stand 4 Lav 5 Camera 6 Radio" in the USER field in the iXML.

See the [iXML Implementation Chart](#) for details on the specified iXML fields.

MIRROR RECORDING

When you're in Metadata Mode, you also have the option to make SADiE put copies of all recordings onto a second disk drive - **Mirror Recording**.

Performance considerations

Although it's not the same burden as recording twice the number of tracks, there is always an overhead when mirror (either mode) is enabled. When you're recording large numbers of tracks you should not turn on mirror just because it seems like a good idea, and you should perform tests to check that your disks and PC can handle it. A modern (as of 2007) PC and disks with an H64 or LRX2 should be able to cope with recording 48 tracks mirrored fairly easily, but it's wise to test first for numbers above that.

Enabling Mirror

The Record Destination section of the Record Configuration Dialog sets where the files are recorded to.

Note that to enable the Record Configuration Dialog, you must have enabled [Metadata and Mirroring mode](#).

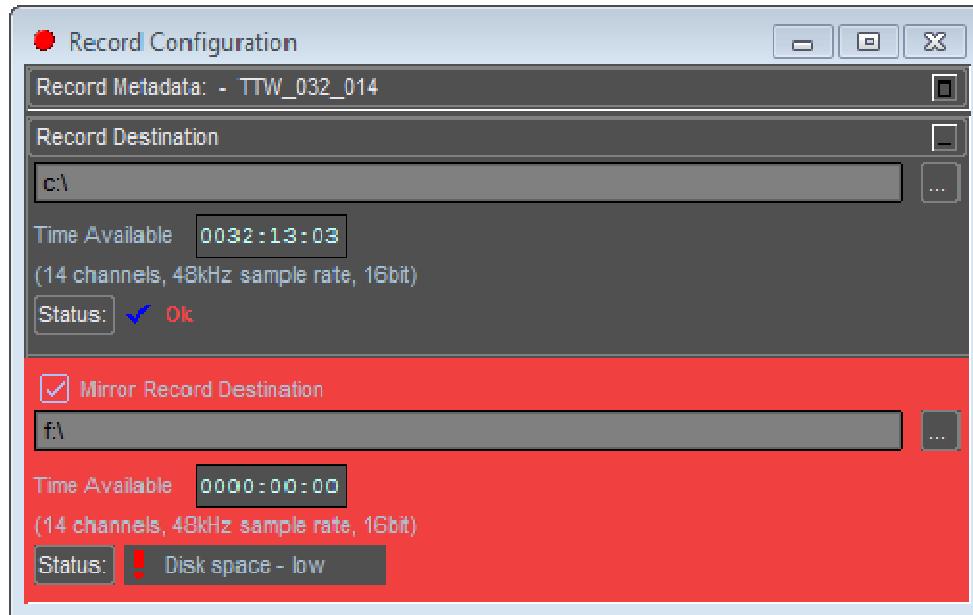
For a project named "prjname" the primary destination will record files into a "prjname" subdirectory of the chosen location i.e. d:\prjname in the example below.

The mirror destination will replicate the primary record destination's path.

In the example below the mirror files will record to the f:\prjname directory, however as examples: -

- if the primary destination had been d:\audio, then a mirror destination of f:\ will place the files in m:\audio\prjname,
- if the mirror destination were f:\projects files would be placed in f:\projects\audio\prjname.

Therefore in most cases you only need to select a root directory for the mirror destination in order to replicate the primary path.



When a mirror is set, audio will be recorded to both locations simultaneously.

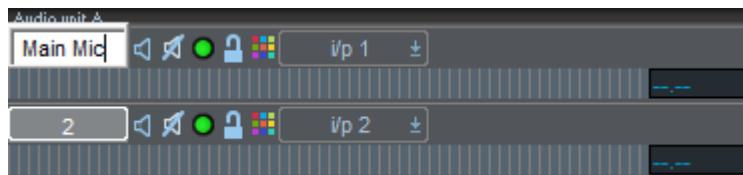
For mirroring to DVD-RAM, which is not usually fast enough to keep up with mirroring larger multi-track recordings, there is a [Delayed Mirror](#) function available in the SADIEMTR software.

STREAM NAMING

The Stream buttons are initially numbered from 1 upwards, with the Stereo Mixdown stream named "Stereo".

The stream name will be appended to the filenames as they are recorded, and these names will also appear in metadata as track names. Therefore you may wish to change these from numbers to make the filenames more descriptive.

You can rename the stream by right mouse-clicking over the Stream name button and choosing "Rename".



Additionally, there are hotkeys to allow you to move from stream to stream and rename the stream without using a mouse:

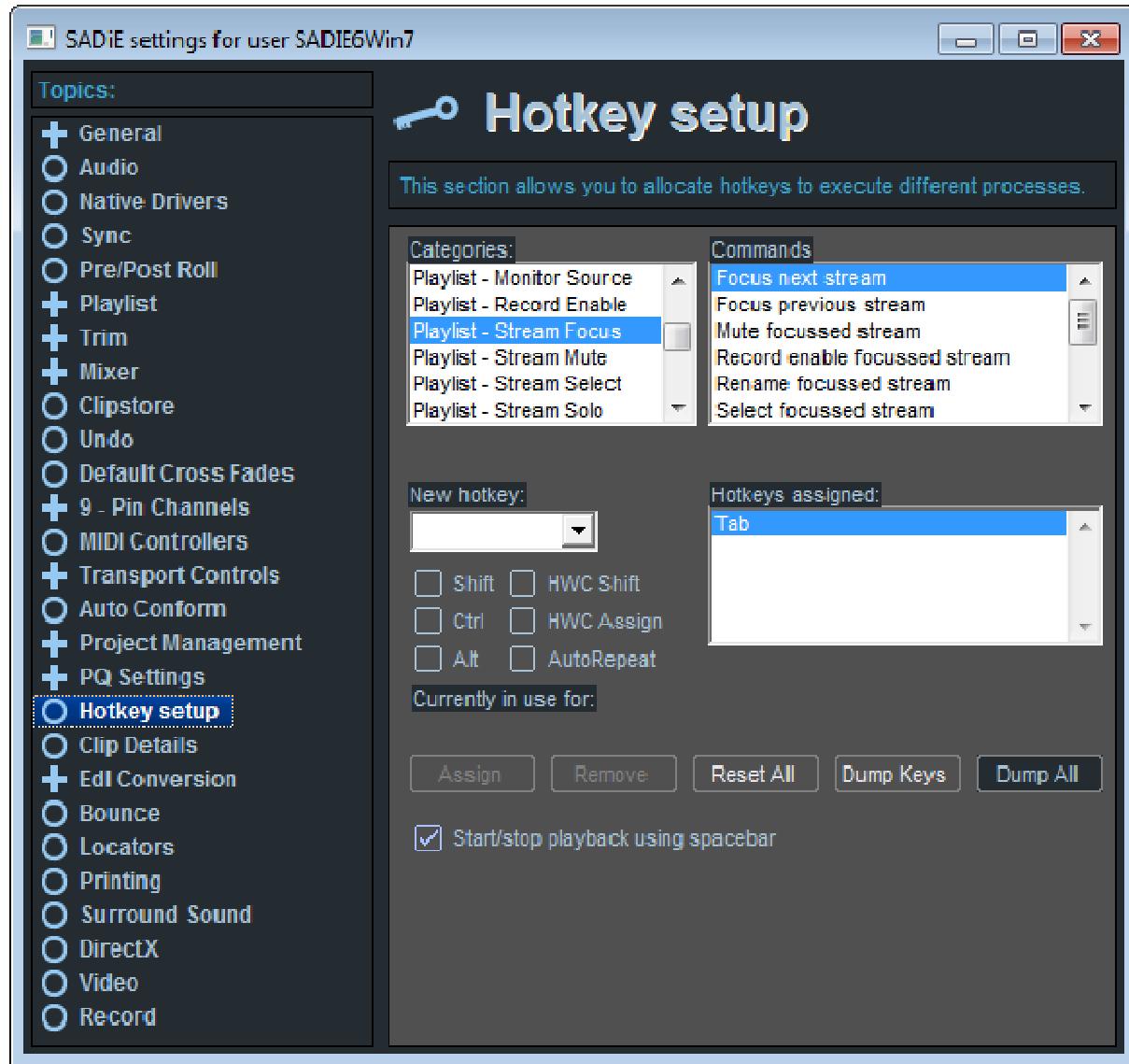
(suggested hotkeys are described, you may prefer to set your own)

TAB - to move to the next Stream - the button will be outlined in red to show you which stream is focussed.

SHIFT-TAB - to move to the previous stream.

Q (because it's close to TAB on some keyboards - other languages may have a different key that's more appropriate positioned) - to rename the Stream.

To name the streams the routine would then be TAB; Q; type name; ENTER (to confirm - ESC cancels) TAB; Q; type the next name .. and so on.



To set up these hotkeys, go to the View menu; Setup Window; Hotkey Setup.

Choose Category "Playlist - Stream Focus"

Choose "Focus next Stream" under "Commands"; choose the key from the drop down list under "New Hotkey" then press assign.

You'll also want to assign "Focus previous stream" and "Rename Focussed Stream".

TIME STAMPING

When recording into the Playlist, the position of the current-time cursor as you record indicates the "time-stamp" that will be applied to the Track. You can see the start time recorded in the Track Start column of the Clipstore. So, when you are recording in sync (either by being synchronised to external equipment, or by overdubbing in sync with other material in the Playlist) the new Track will always carry a record of its correct original EDL position. If you move it, or store it in a Clipstore, it can always be replaced in a Playlist in the correct sync by using the "[Autoplace by Track Start](#)" function.

When background recording, the Track will always be time-stamped from zero.

The Time-stamp of an entire track can be changed, using the "Resync Track" function. This is a permanent change, and there is no way of undoing this process; this is potentially a very dangerous thing to do unless you are sure that you want to do it. The function is found by right-mouse clicking on a single EDL entry. It works by changing the Track Start time of the Source Track so that the currently selected entry becomes perfectly in sync.

EDL's find the correct audio to play by searching the associated Source Tracks for the correct Entry Time range, and so if you change the time stamp you will change the Entry times. EDL's that reference the track you are resynchronising will be adjusted to use the new Entry times *but only if they are open* when the "Resync Track" process takes place. If an EDL that uses the track is closed, it will have no knowledge of the sync change, and thus will play the wrong audio, or not be able to find the Entry time range if it now no longer exists.

For these reasons, the undo history is re-set when you resynchronise a track.

NOTE: Time stamping can only apply to Tracks that are recorded in a file format that can hold a time stamp. For instance, simple WAV or AIFF format files cannot hold a time stamp, and thus will always be time stamped from zero. SADiE native format and BWF (Broadcast Wave) can be time stamped.

CHOOSING A DISK FOR RECORDING

When recording, it is possible to record to one specified disk drive, to alternate disk drives or, if you have a Multi-card system, to choose a different drive for each unit.

In addition, under [Metadata Mode](#) it's possible to duplicate - "Mirror" - your recordings to a second drive.

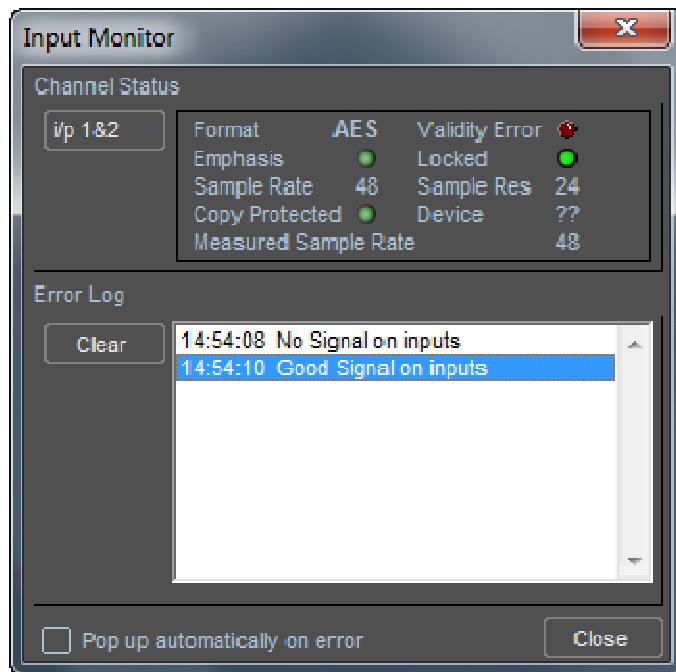
SADiE calls the directory to which recordings may be made a **Record Destination**. And we call the working edit files - the Project, Playlist/EDL, Mixer and Clipstore **Project Components**.

There are four basic working modes which determine how Record Destinations are chosen:-

1. **Record to Project Component Directory.** The recommended and simplest method, whereby the audio files are always recorded into the same directory as the Project Component files. You chose this directory when you made the project. This mode is selected by the switch in:- View Menu / Setup Window / "Record to Project Component Directory".
2. **Legacy "Two Directories"** - Project Components to one directory, audio recordings to another. To work in this mode you will have to nominate a Record Destination - you can do this either in Disk Management, or (having already created and opened a project) by going to the Project Menu / Select Record Destination and pressing the ADD button to add a new Record Destination.
3. **Metadata and Mirror mode** - Project Components to one directory; audio recordings to locations chosen in the **Record Configuration** Window. To enable Metadata mode, go to View Menu / Setup Window / Record and tick "Enable Metadata and Mirroring Features". Record Destinations are set by pressing the little  button beside the Record Destination and Mirror Record Destination displays, and then pressing the ADD button if you need to add new locations.
4. **Record to Removable Drive Only.** This mode allow you to always record to a removable USB, Firewire or SCSI drive and for drives to always be allocated the same drive letter. Enable this in : View Menu / Setup Window / Project Management / Record to Removable Drive Only. You will also have to set up SADiE's [Removable Disk Administrator](#), for which there are details in the File Management chapter of this manual.

More detailed information on file locations is also in the File Management chapter [here..](#)

INPUT MONITOR WINDOW



The Input Monitor Window is called up from the "View" menu. It reports on the state of the digital inputs to the SADiE system. On enabling a digital input, the top box of the window will display Channel Status information and the list below will log errors if and when they appear. The logging will tell you the time of day if there is no playback, or the EDL time if an error is logged during recording. If the error has an EDL time, double clicking on that line in the list will locate the EDL to the correct position.

If you tick "Pop up automatically on error" you can hide the window and it will re-appear should anything need reporting.

Errors may be caused by poor connections or dropouts on digital tape, and are often detected when DAT machines are in pause or shuttle modes.

IMPORTING AUDIO FILES

IMPORTING AUDIO FILES

SADiE provides a number of ways of Importing (otherwise known as Ingesting) Audio files into a project.

- **Audio associated with EDLs**, or external Interchange formats (such as AAF, OMF, AES3I, Pro Tools sessions etc.) will usually be imported at the same time as the EDL is converted and attached to the project. If however the file's location has changed substantially from the reference contained in the EDL, it may be necessary to import the files manually by the next method to link them to the EDL.
- **Import Source Tracks** - you can browse for files that are located on local or network disk drives (or CD-ROM, DVD-ROM etc) and import them - this function is accessible either from the Clipstore or from Disk Management.
- **Import from CD** - this function is available from the Clipstore and copies audio from Audio CDs.

WHERE ARE THE AUDIO FILES STORED ?

THE PROJECT HOME FOLDER

A SADiE project always has a "home" directory into which audio that is first digitised within this project is stored.



You set this in the Project Window - press the Select Audio Disk button (or right mouse click anywhere in the Project window and choose "Select Audio Disk"). This will offer a root directory (or a number of them if you have set up more "Record Destinations"), and the Project's home folder will be a sub-folder of the same name as the Project.

So, if your Record Destination is "C:\Audio" then the audio belonging to a Project called "Project Name" will be stored in a folder called:

C:\Audio\Project Name

However it is possible to use files that are not inside this "home" directory - in fact files in any directory on any disk drive that can be seen by the PC - whether local or across a network, can be imported and used in the Project.

There are two methods of importing audio into a project a) Import b) Copy and Import which are described below.

The method you choose will depend on your workflow, but the fundamental rule is that

Audio files in a Project's Home Directory belong to that Project; files that are situated in any other directory do not !

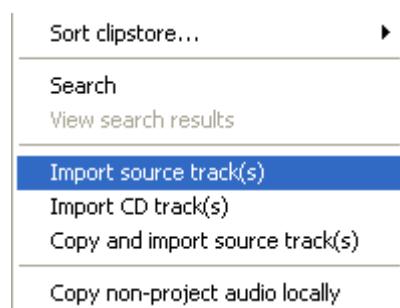
Thus when you delete a project, its Home Directory (or directories) and the Audio files inside will be deleted.

If Project A is using audio situated in Project B's home directory, when Project B is deleted, Project A will no longer be able to link to these "foreign" imports (you've just deleted them !).

Note : if you change a Project's home directory during the life of the Project, then it has a memory of its previous "home" folders; when it comes to deleting the project, any earlier home folders and their contents will be deleted.

IMPORT SOURCE TRACKS

If you right mouse click anywhere inside the **Clipstore** window, a menu will appear which will contain the items we're interested in here:



These options are also available under the **Import** item of the **File** menu.

Import source track(s) - Files will be imported into the Clipstore for use in the project, but they will remain in their original location. They will be "foreign imports" and do not belong to this project.

It is also possible to import source tracks from their original location by dragging them from a file viewer such as Windows Explorer or Disk Management. Some Sound Effects Database applications may also support drag and drop of files. You can drop files to the EDL in order to place them directly, or else drag to the clipstore.

Drag and Drop files always leaves files in their original location.

Copy and import source track(s) - Files will first be copied from their original location to the Project's current Audio Disk ("home" folder). The copies in the home folder will then be imported into the clipstore for use in the project. The original files are untouched, and are not associated with this project. The new copies however are in the project's home folder and thus now belong to this project.

Sample Rate Convert on Import - note that if you use "Copy and Import" on files that are at a different sample rate from your current global setting, SADiE will offer to automatically convert them as it copies. Sample Rate Conversion is applied at "Super" quality.

This function may have wider uses - for instance to sample rate convert all the source files in "Project A", just create new project, change the sample rate and Copy-and-Import the files from Project A.

Additionally these functions are available in Disk Management, by right-mouse-clicking on a folder, file or multiple selection of files.

When used from the Clipstore, either of these opens a Disk Management window; you can browse through folders to find the audio you wish to import.

You can select multiple audio files using CTRL or SHIFT modifiers to select. You can also import an entire folder's contents by selecting a folder on the left side of the import window.

Compressed Audio Files can be imported from MPEG (including movies) or WMA formats. When a compressed file is imported, a new linear audio file is created, thus "Import and Copy" and "Import" perform the same function in this case. See [Compress Audio](#) for more detail.

It's also possible to import audio from an AVI file - right mouse click on the AVI clip in the clipstore and select Rip audio from AVI file.

COPY NON-PROJECT AUDIO LOCALLY

Also of interest here is the **Copy non-project audio locally** function. This will look for any "foreign imports" that are imported into the project from external folders, and copy them to the Project's current Audio Disk (home folder). With this function you can make the external files "belong" to the project.

You could perhaps choose to use the standard Import function over the Copy & import because of the extra time it may take to copy larger files; but then use the "Copy non-project audio locally" function at a more convenient time to pull these imports into the project folder.

I should point out that the term "locally" in the name of this function is a misnomer - it will only copy files locally if the Project's home folder is a local one (as is perhaps more usual) but in the situation where Project Folders are on a remote server then of course files will be copied to the server.

Note that in the case where the project has a history of having several home folders, audio files that are in a folder which was once a home folder, but is not one at present will not be copied. However, if that location is no longer a Record Destination, you will be asked if you want to copy these "recently-orphaned" files to the current Home Folder.

IMPORTING FROM CD

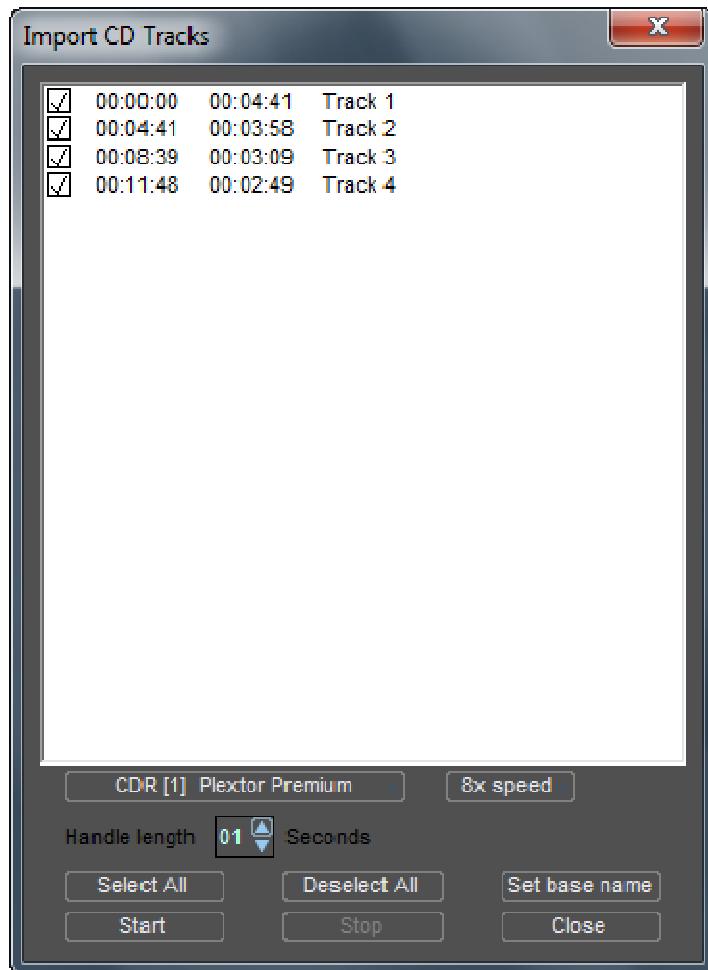
This provides a simple method for copying audio from Audio CDs, and at the same time imports the newly created audio files into the current project.

Automatic Sample Rate Conversion will be applied where needed – i.e. if your current system Sample rate is not 44.1KHz, then the SRC will be performed as part of the import process. Sample Rate Conversion is applied at "Super" quality.

Right mouse clicking inside the Clipstore Window, and also Right Mouse clicking over a CD drive in Disk Manager, will now offer the menu item:

Import CD Track(s)

This option is also offered under the Import item of the File menu.



(note as with many CD operations, this box may take a little while to pop up, if you've only just inserted the CD.)

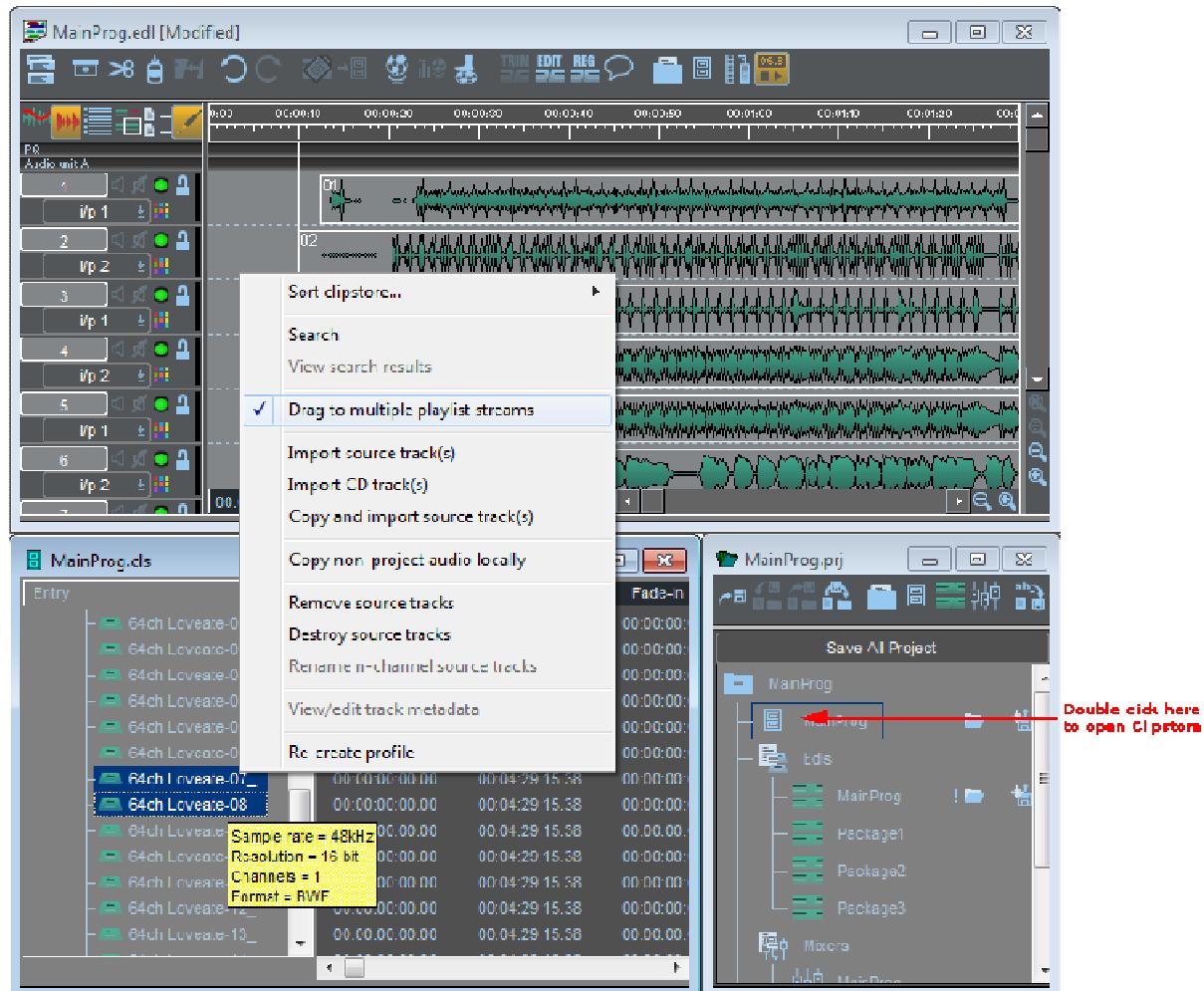
The tracks on the CD are listed in order, with their timings. If the CD has CD text, then the track names will be displayed above, otherwise they will be called "Track 1", "Track 2" etc....

- Preview individual tracks by right-mouse-clicking against the Track name or number.
- Select the tracks you want to copy by ticking the boxes to the left.
- Select the read speed. In practise we feel it's best to set it to a speed which is comfortable, rather than the highest speed possible. At the highest speed it may have to stop and start frequently (which could make the copy slower than if a slower speed had been chosen). As with all Audio CD copying, the quality and reliability of data copied cannot be guaranteed (but in practise and with clean disks it's usually perfect).
- You may wish to set a handle. With a handle set to Zero, the track copied will start at its ID1, and continue until the next track's ID1 flag. Thus no countdowns are accounted for. In order to be certain not to clip the start of a track, or where the track is from a segue, you may wish to increase the "handle" so as to copy n seconds of audio prior to the track start and after the track end.
- When the audio is copied, the file will be automatically named by its track name or number. Set base name allows you to add a global title to all the copied tracks (i.e. you may choose to add the Artist or album name)
- Press Start to start the copy process. It is possible to run this as a background process.

DRAZZING CLIPS TO THE PLAYLIST

Having imported files, you will probably need to place them in the Playlist for editing and sequencing.

The files will be listed in the **Clipstore** - you will need to view the clipstore first - either by choosing it from the "Windows" menu - the click on the entry called *projectname.CLS*, or else by double clicking on the blue filing cabinet icon in the Project Window as below.



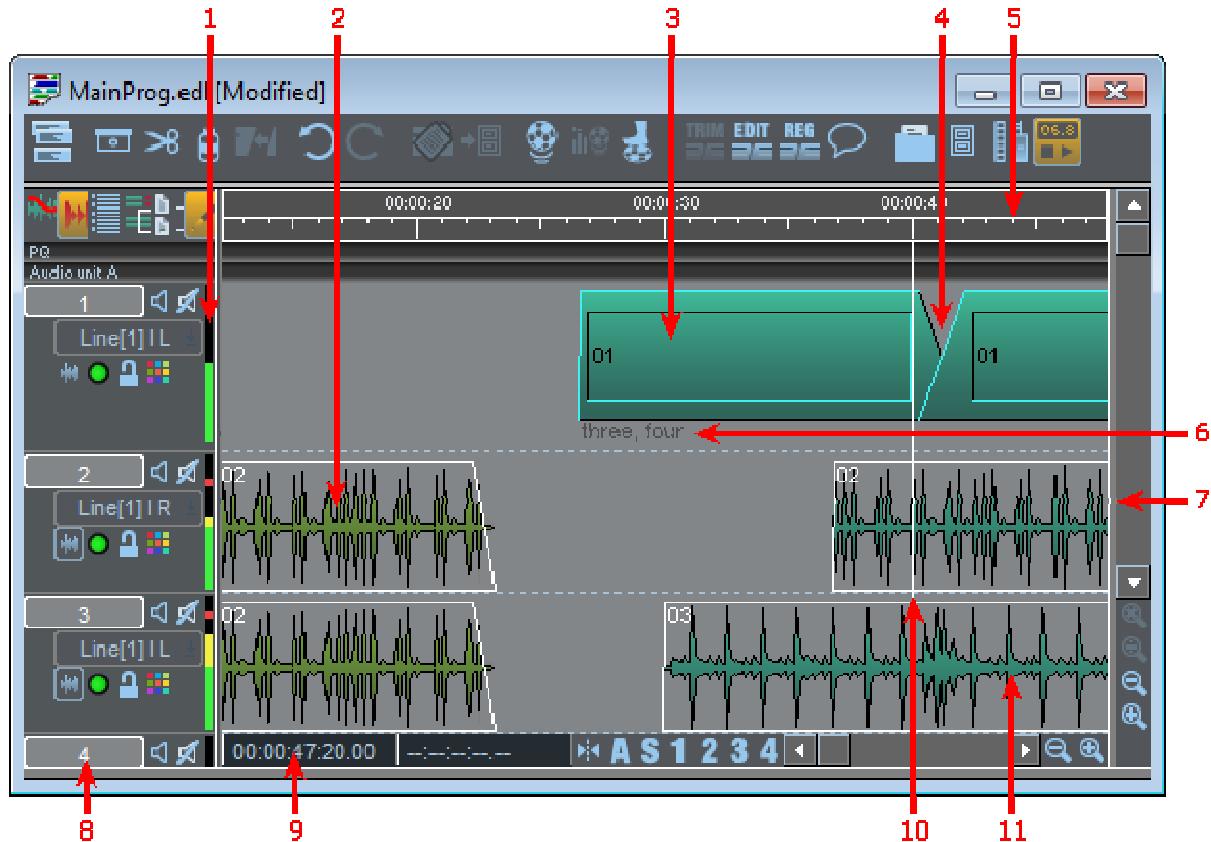
You can drag single or multiple clips to the Playlist and they will either drop with their start at the mouse pointer's position , or else follow an [Autoplace](#) rule if Autoplace is set.

If you are dragging multiple files to the Playlist, there is a choice of how they will be dropped - either in order on the same stream, or if you select the "Drag to multiple playlist streams" option by right mouse clicking on the clip, the clips will be dropped so that they start at the same position on consecutive streams.

THE PLAYLIST

THE PLAYLIST DISPLAY

THE PLAYLIST



- | | |
|--|---|
| 1. Meter showing audio output from each stream | 7. Drag border to reveal second Playlist view |
| 2. Stereo EDL Entry shown as a profile | 8. Stream Control buttons |
| 3. Mono EDL Entry shown as a block | 9. Mouse time display |
| 4. Crossfade between Entries | 10. Current time cursor |
| 5. Time bar | 11. Mono EDL Entry shown as a profile |
| 6. Stream showing Entry comments | |

FADE DISPLAYS

The Playlist Entry Display section of the [Setup window](#) provides two options for the way fade-outs, and so crossfades, are drawn:



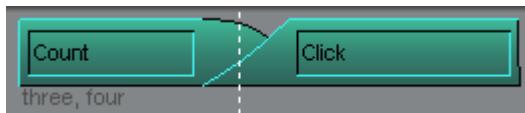
"Show fades on all streams as cuts"



"Show fades on all streams as splices"

FADE SHAPES

The Playlist Entry Display section of the [Setup window](#) also provides an option for the shape of the fade used on a clip to be represented visually in the Playlist:



"Show fades as curves"

It is recommended that you use this with "Show fades on all streams as cuts" as crossfades look pretty odd when the fade down is shown as a bottom left to top right curve as well as the fade up. But if that's how you like it...

-3 dB AND -6 dB POINTS

The **-3 dB** and **-6 dB** down points for a crossfade can be displayed on the fade curves, by right clicking in the Playlist, and selecting "Clip Display", "Show -6dB and -3dB markers". It also available as Hotkey "DB Down Markers" in the Hotkey Setup. It is best to have "Show fades as curves" set under "Setup Window", "Playlist", "Playlist Entry Display", as to be honest, it looks a little odd if you have "Show fades as splices" rather than as cuts.

DISPLAYING COMMENTS

Right-clicking on the Stream also lets you show or hide any comments you want to associate with the Entry (shown as "three, four..." in the above example). You can write comments in the [Clip Details Window](#) under "Clip Dialogue".

CONFIGURING THE STREAM CONTROL BUTTONS

It's possible to change which buttons are displayed to the left of the Playlist streams, and so to economise on display space you may want to remove buttons that you don't use regularly.

See [Playlist Stream Controls](#) in the "Customising SADiE" chapter.

SHOWING ENTRIES AS PROFILES



The **SHOW ALL PROFILES** button in the top left-hand corner of the Playlist switches between displaying all EDL Entries as solid blocks and waveform profiles.



The small profile control button on each Stream does the same for that Stream only.

NOTE: The Stream control buttons can be revealed or hidden by dragging the border between them and the Streams themselves, or by using the Scrollbar beneath them.

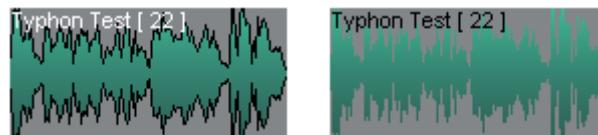
Function key **F12** on the keyboard acts as **SHOW ALL PROFILES**.

The Profile Display setting is saved in the user settings, and thus SADiE will open in whatever state it was left in.

When displaying profiles, there are 8 different types of waveform profile available, visually boosting different parts of the dynamic range. You can change the profile type in "Profile Display Mode" on the "Playlist" menu, to find one more suitable to the audio you are working with. Note that the "Playlist" menu only appears on the menu bar when the Playlist is the active window.

The "Profile Display Mode" setting also applies to the Trim Window, as you are very likely to require the same view there also. The "Trim" menu also allows you to change the setting, but for this one instance of the Trim Window; thereafter the profiles revert to the Playlist setting. You should therefore change the setting from the Playlist rather than the Trim Window if you wish to change the global setting.

The waveform profiles can also be displayed with or without a black outline for visual clarity. This setting is found in the "Playlist Entry Display" section of the [Setup Window](#).

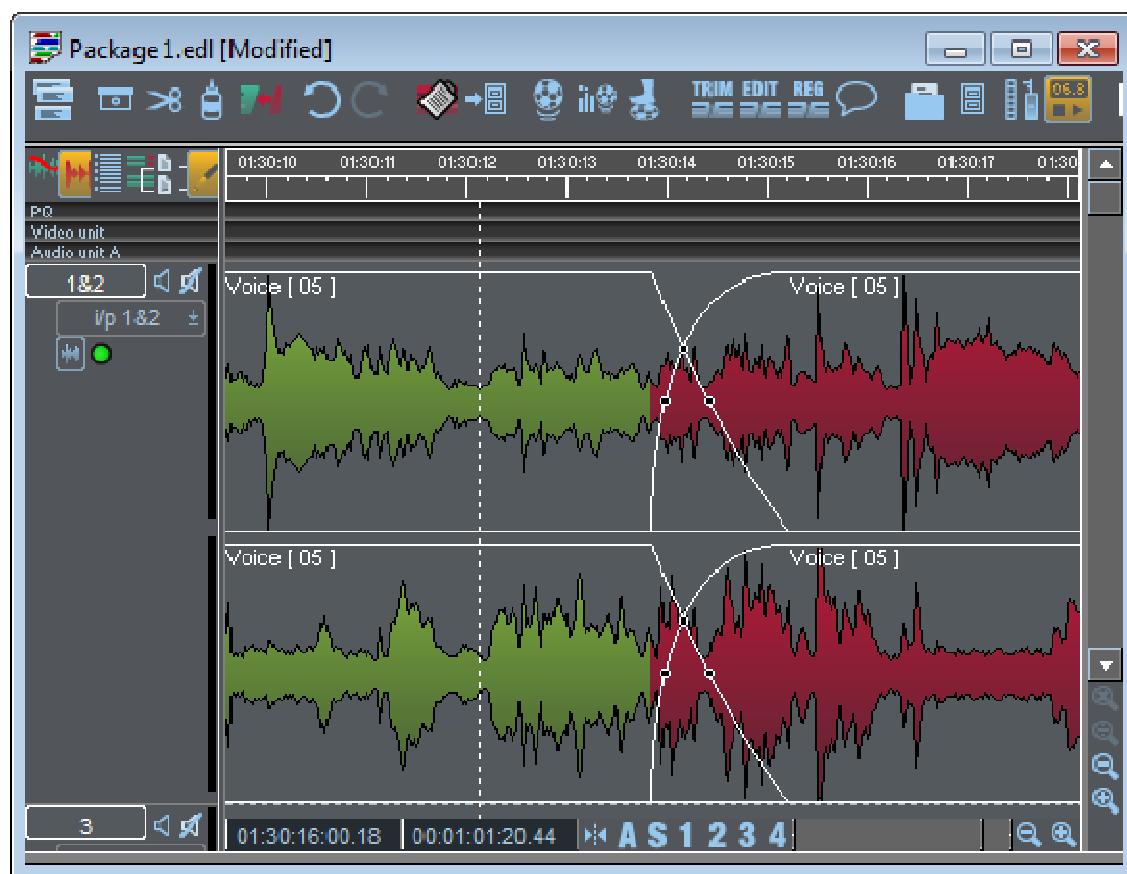


NOTES ON PROFILES:

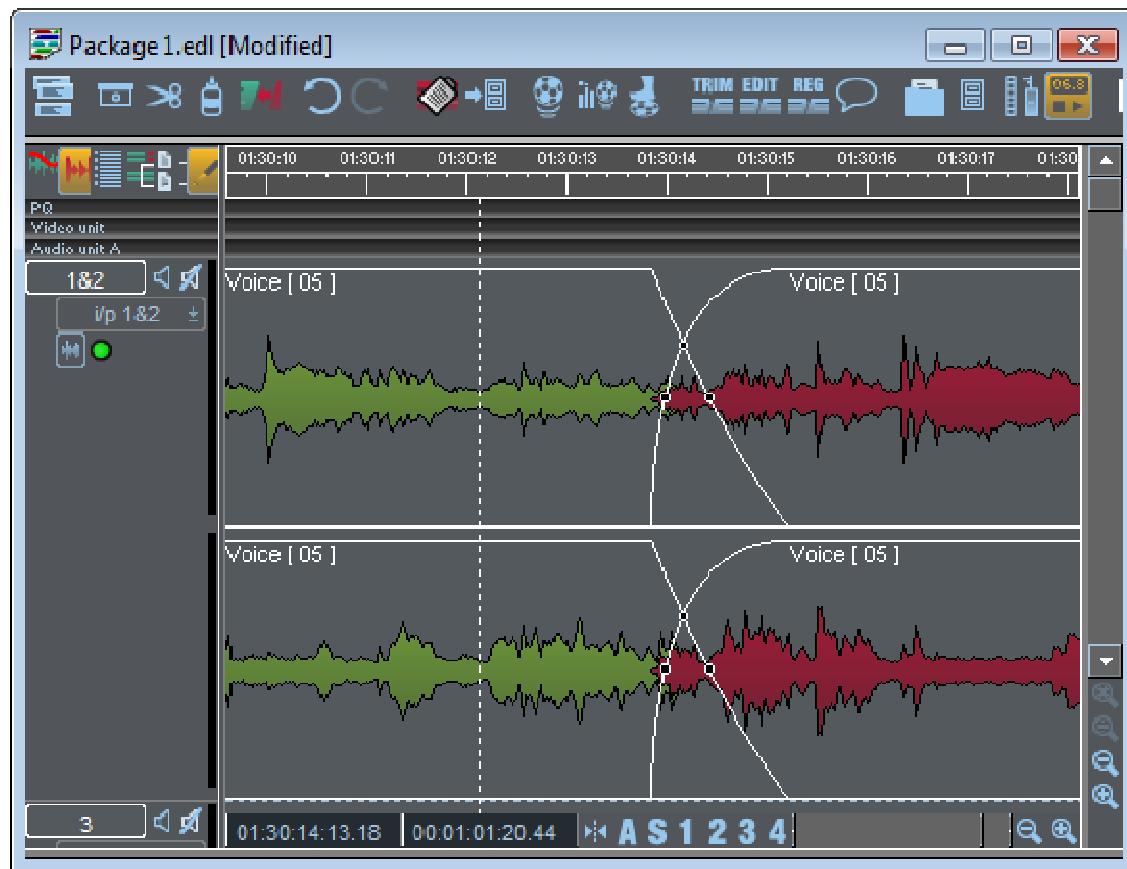
1. The profile display for higher zooms can be altered to suit your personal preference. As default, the higher resolution Horizontal zooms from zoom level 16 to 21 are drawn as a bar graph but there is an option in the Playlist Display Setup page (under the "View" menu, select "Settings", "Playlist", then "Playlist Display"); select "Show higher zoom waveforms as lines" which will display these as a point-to-point line graph.
2. Depending on the performance of your PC, the profiles may update slowly when you are playing the Playlist, particularly at the higher horizontal zooms above zoom 15. As default, when you press play whilst viewing at a zoom level greater than 15, the waveforms are not displayed again until you press stop, however you can choose "Keep updating profiles when playing (slow)" in the Playlist Display Setup, and SADiE will attempt to re-draw the screen whilst playing.
3. There is an option to change the zoom level at which "Profiles" (e.g. those on disc) become "Waveforms" (e.g. those that are displayed on-the-fly). The display around horizontal zoom 14 and 15 can look a little "blocky", so there is an option to calculate these as and when they are required. If you choose the option to "Keep updating waveforms when playing (slow)" you see find a slight performance issue, particularly when running multi-track Playlists. This will use some DSP as well as PC resources for displaying. You have to restart SADiE for a change to this to take effect.
4. The highest three horizontal zooms (zooms 22 - 24) are the only zooms at which you will be able to see single samples. These zooms are always drawn as point-to-point lines.
5. See also [Recreate Profiles](#).

LEVEL-RESPONSIVE PROFILES

There are facilities in the Playlist and Trim windows to draw the profiles of the clips proportional to the current clip level. This means that waveforms will now grow and shrink to show fade in and outs, and any clip-wide level changes that have been made. This option is found in the "Playlist Entry Display" section of the Setup Window; "Draw profiles proportional to clip level". It is also available as a Hotkey.



Clips without level response



Clips with level response

Both clips shown in the examples above have had a drop of 3dB in relative level, hence the narrower waveform in the second example.

There is also a facility to view a "ghost" of the original profile behind the level responsive waveform to serve as a reference when editing.



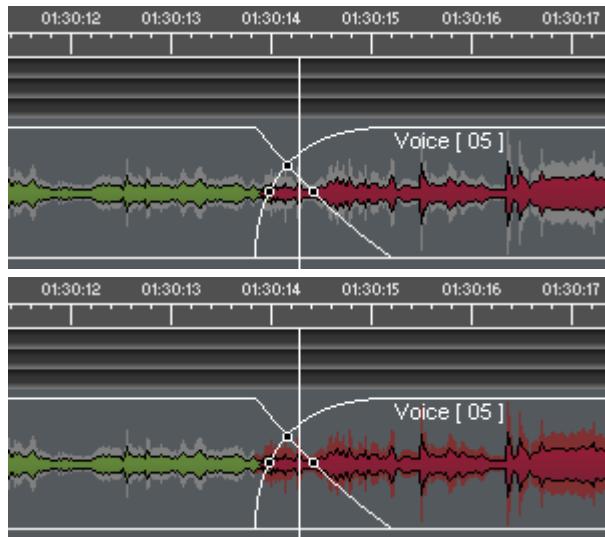
Clips with level responsive waveforms and ghosts of the original profile

It is recommended that black outlines are enabled in the "Playlist Entry Display" section of the Setup Window, as when clips are being edited they also turn grey, and will seem to disappear into the "ghost" profile, unless they are outlined in black. The "ghost" profiles are enabled using the right-click menu in the Playlist "Draw ghost profiles of original audio".

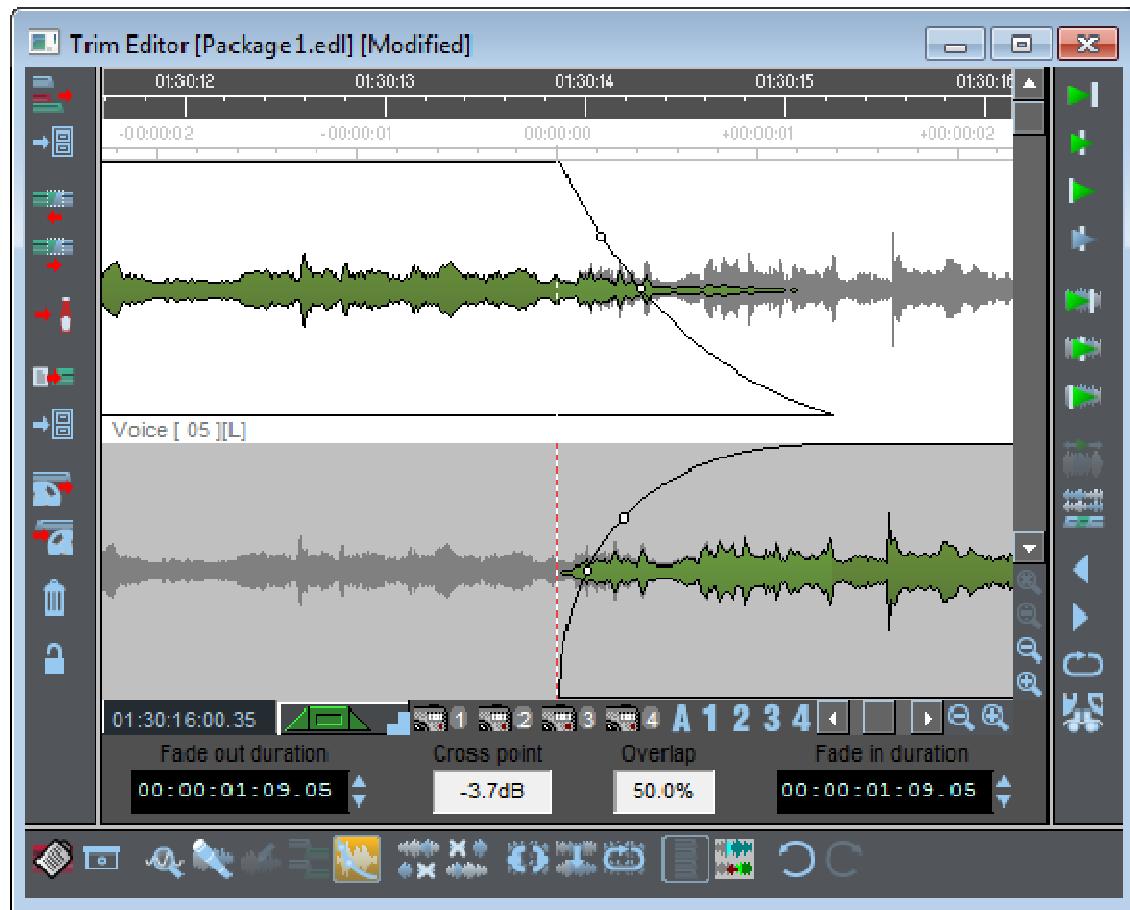


When entries are selected in the Playlist, they normally change colour to red. The ghost profile (if displayed) also changes to red, otherwise if level has been changed significantly, it can be difficult to see that the clip is selected. This re-colouring of the ghost profiles can be disabled in Setup / Playlist / Playlist Entry Display / Draw original clip profile in red when selected.

The picture on the right shows a clip with ghost profile drawn in red, in the left it's drawn in grey.



The facilities are also available in the Trim Window, and the setting here will reflect the setting in the Playlist. However, in the Trim Window the "ghost" of the original profile is always shown.



SCROLLING AND ZOOMING

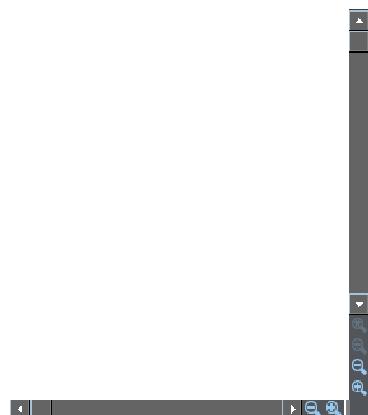
When the Playlist is playing back, the audio will ordinarily appear stationary, and the timeline will scroll across it. There are options for the timeline to appear [stationary](#), and for scrolling to be turned off, so that the timeline will move off the edge of the screen. This option is available under the "Playlist" Menu.

When moving around the Playlist to access different parts of your EDL . you may want to change which part or how much of it is displayed. This can be done either by using the [Navigator Window](#), or by scrolling and zooming on the Playlist.

To do this, you will either need to scroll it so that a different part is in the window, or change its magnification by zooming in or out of the display. Don't forget that you can also change the size of the whole Playlist window.



There are two Playlist Scrollbars with attached zoom buttons. The one along the bottom of the Playlist display scrolls and zooms horizontally so that you can view a later or earlier part of the EDL. The one at the right-hand side scrolls and zooms vertically so that you can reveal Streams that are not currently in view.



1. Drag box for coarse scrolling
2. Click either side of the box to scroll one window width
3. Click or hold down arrows for fine scrolling
4. Zoom out
5. Zoom in

You can press the zoom buttons repeatedly, until you reach maximum or minimum magnification.

Alternatively, under the Playlist menu (when the Playlist is the active window), you can jump directly between different levels of horizontal and vertical magnification. These zoom menus are also available if you hold the Ctrl. key down when you click on the normal zoom buttons with the mouse.



Select **ZOOM** for horizontal magnification, **SHIFT + ZOOM** for vertical magnification, and adjust with the wheel.

Without **ZOOM** or **CLIP**, or **STREAM** selected and without Jog or Shuttle modes selected by the **SCRUB** button, the wheel will move the current-time cursor up and down the Playlist, which will scroll accordingly. In this mode, all of the small LED's by the wheel will be off.



Additionally EDL Streams can be zoomed individually. Right-click in the area to left of the stream. There are two options for zooming: "Stream vertical zoom" changes the zoom setting for just that stream, and "Selected streams' vertical zoom" changes the zoom setting for all enabled (light grey) streams, (to allow setting changes for groups of streams, or to return all streams to the global zoom control).



A S 1 2 3 4 There are 4 preset zoom buttons to the left of the horizontal Scrollbar, and a button labelled "A" that will "Zoom to All" (e.g. the entire Playlist). The preset zoom level assigned to each button can be changed by right clicking on the appropriate button and selecting a new zoom level.



To the left of these is a "Centre display on Timeline" button, so that if the timeline is off screen the display can jump quickly to it, without having to scroll or zoom.



These functions are also available as Hotkeys.

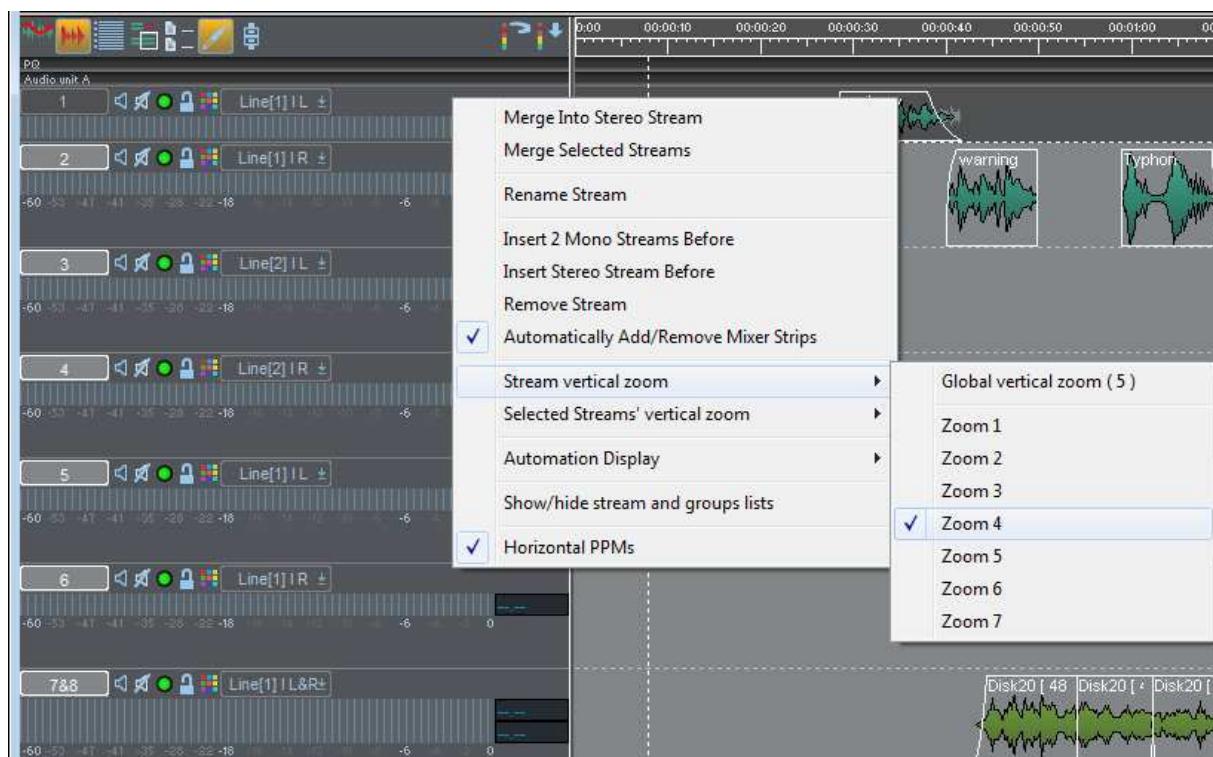


For users who have a mouse with a wheel, it works in the Playlist as follows:

- Wheel = Vertical scroll
- Ctrl + Wheel = Vertical Zoom in/out
- Shift + Wheel = Horizontal Zoom in/out

STREAM-BASED VERTICAL ZOOMS

Each stream may be set to be a different height from the others. Right-mouse click on a stream and from the menu choose **Stream Vertical Zoom** and then a zoom number from the sub-menu.



You can also change the vertical zoom of a number of streams by first making sure that they are the only "selected" or "[enabled streams](#)", then using the similar **Selected Streams' Vertical Zoom** menu item.

When you set individual vertical zooms this way, they are separated from the global zoom and will not change height with the global vertical zoom buttons.

NOTES ON ZOOMING:

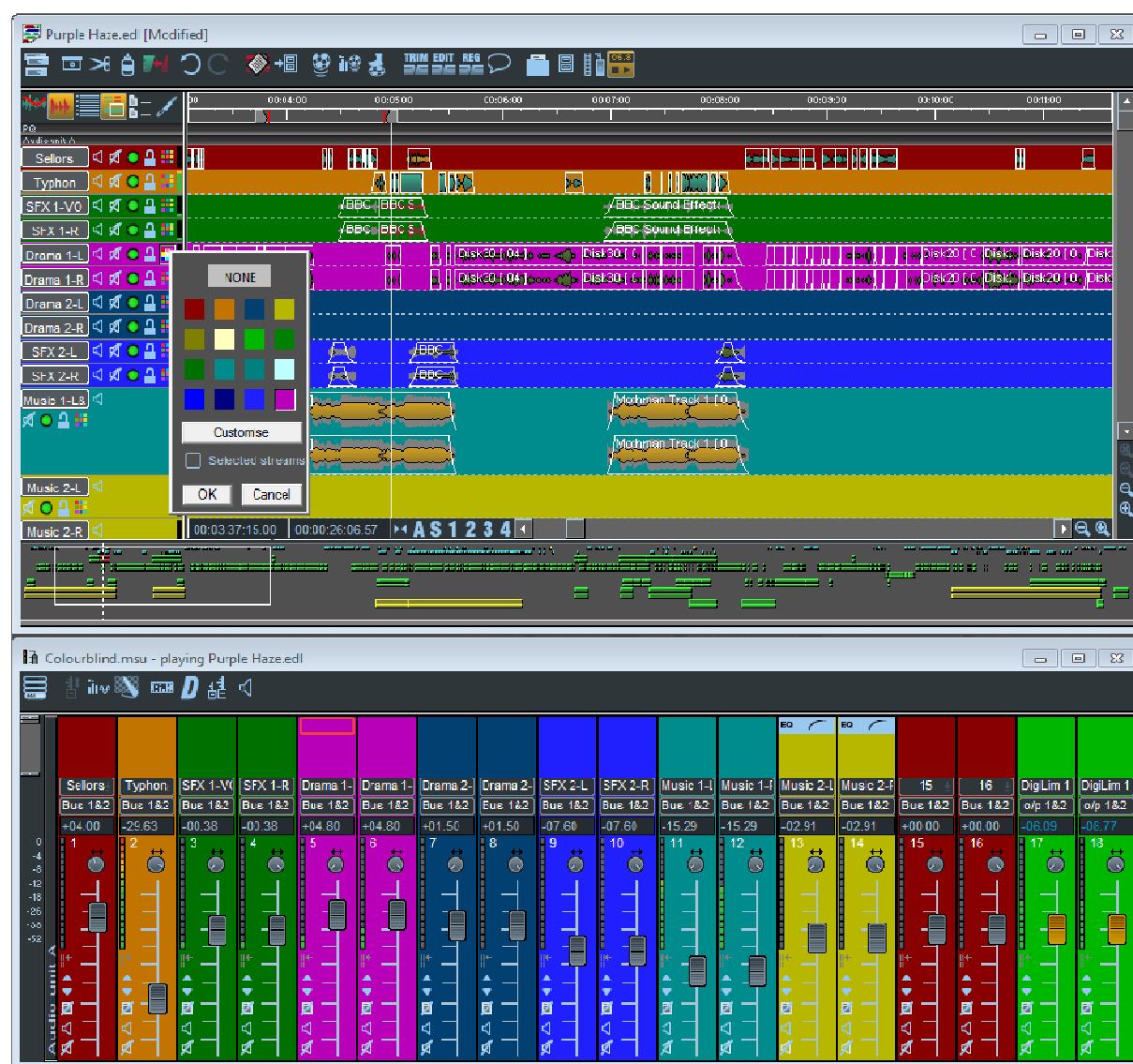
1. During playback you can zoom in or out, but you cannot override the automatic scrolling that keeps the current time on view.
2. The Playlist will always stay centred on the position of the cursor. Reposition it before zooming in, if necessary.
3. At the extreme settings of zooming out, all Entries are shown as blocks and not profiles.
4. If you want to quickly switch between two different vertical and horizontal zoom settings, save them in two different [Desktops](#). You can then switch between the Desktops by using the keyboard shortcuts to the "Desktop" menu; press Alt + D, followed by the number of the desktop file listed.

5. Where an EDL contains PQ or Video Streams, these have only two size settings, "Large" or "Small", set by right-clicking in the grey area to the left of the stream.

There is another way you can change the way the profiles look on screen. For instance if your audio is very quiet, the waveform on screen may be very small, or alternatively if the audio level is very high and not terribly dynamic it may look like a thick straight line. Under the "Playlist" menu, the "Profile Display Mode" option offers 8 alternative ways of viewing the profile; the high numbers will make lower level audio look "fatter". Type 1 is the default. See also [Notes on Profiles](#).

STREAM COLOURS

Each stream has a "Colour"  button which allows you to apply a "colour-wash" to the background of the streams, for easier identification of some streams.



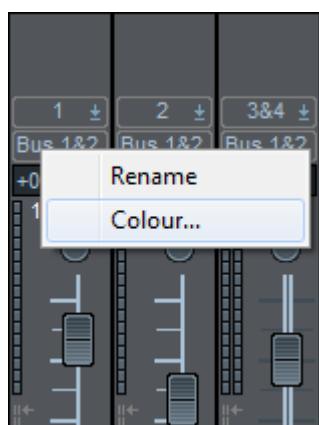
Tip: If your colour buttons are not displayed, you can turn them on and off in the Setup Window \ Playlist \ Playlsit Streams page, by ticking the 'Colour' box.

On pressing this the colour palette appears from which you can choose from the 16 available colours. Double-clicking on the colour will select and close this colour palette.

There is also the possibility of customising any of the 16 possible colours using Windows normal colour choice dialog.

You can apply the same colour to multiple streams by first [enabling those streams](#), then using the "Selected Streams" tick box.

The eagle eyed amongst you will also have noticed that (aside from this author's colour blindness) the mixer strips are colour-coordinated to match the streams that feed them. You can also re-colour Busses, as well as inputs and Outputs by right mouse clicking over them as in the picture, then choosing the "colour" menu item. The colour will also follow through the mixer - the master fader in the above example is green because Bus 1&2 which feeds it has been coloured green.



This right mouse click menu is also available on the stream button if you have chosen not to display the colour button.

Stream colours are saved with the Playlist; the colour palette is saved in the user profile. If you customise any of the 16 colours in the palette, EDLs using that colour number from the palette will load with the new customised colour.

STATIONARY TIMELINE

There is an option to fix the Playlist Timeline marker to the centre of the Playlist's main area during playback. This has been requested by users (particularly those in Post Production) for some time, and gives some advantages over the "moving time line and page-turn" method. This is perhaps particularly useful when mixing, in that you are much less likely to be "surprised" by something forward of the current time suddenly appearing due to a "page-turn".

It may or may not be appropriate to your method of work, and hence this is invoked in a Setup page (but of course you can change that setting at will). Additionally a status display can be set for Stationary Timeline, and in the usual way, double clicking on this display will turn the mode on or off. The option for this is found under the "Playlist Display" section of the [Setup Window](#).

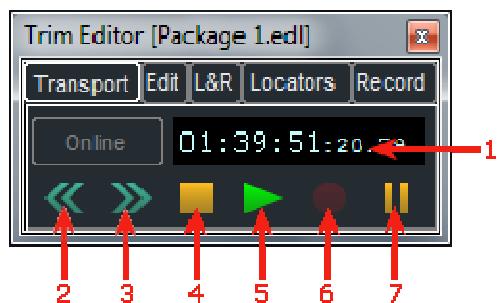
You may find that the PC's performance (and its graphics card performance) may have an impact on how quickly the SADiE screen re-draws, and this playback mode will always be slower than the original "moving timeline" method (although if your PC is powerful enough you shouldn't be able to detect any difference).

There is an option to have stationary point at between 10 and 90% on the Playlist screen. Notice that in this mode the Current Timeline is not actually locked to the stationary point, and by the usual method of clicking in the top time bar you can move this line (for positioning it for razorng for instance). However, the Current Time will always jump back to the stationary point when play is started.

If the Playlist's first clip is close to 00:00:00, you will find that under certain zooms, the Current Time line will move from left to right (in the original way) until it gets to the centre, at which point the line will fix and the clips will start to move. This will only happen at times when centring the display would otherwise show an area of the Playlist that would be before 00:00:00.

PLAYING AND LOCATING

TRANSPORT CONTROLS



1. Current Time Display
5. Play
2. Rewind
6. Record
3. Fast Forward
7. Pause
4. Stop

The Transport Controls are a permanently floating toolbar, so they will always appear on top of other windows. You can hide them by clicking on their close window button  and display them again from the View menu.

If you don't need the full Transport Controls, the status bar at the bottom of the screen can contain a simple Play/Stop/Current-time display version. To show it, from the View menu select the Setup window and go to the "Status Displays" section under "General".

The Transport Controls apply to the active window, so to play the EDL, then the Playlist needs to be active (with a coloured title bar). If it is not, click anywhere in the Playlist or use the hardware controller's **WINDOW** button to select it.



The **PLAY**, **STOP**, and **PAUSE** buttons in the Transport Controls are duplicated on the hardware controllers. Note that there may be a brief delay when pressing **PLAY** while SADI6 compiles the current EDL.

PLAY and **STOP** are also activated by the spacebar on the computer keyboard.

PAUSE, when released, gives you an instant start.



Double-clicking in the time bar activates **PLAY** (see [Locating](#)).

A single click in the time bar activates **STOP**.

The **ONLINE** button in the Transport Controls and on the hardware controller has two functions:

1. It enables timecode synchronisation (master or slave as selected in the "Sync" section of the [Setup window](#)).
2. It enables 9-pin external machine control of any of up to four machines. These can be selected individually by right clicking on the button. The 9-pin section of the [Setup window](#) sets which 9-pin channels these are connected to.

Note that right-mouse clicking on the Online button allows you to quickly change between LTC Master and Slave mode as well as selecting 9-pin devices.

Additionally the Playlist Menu provides some useful extra play functions:

- Play Selected Entries - This previews only the selected entries and can be used to quickly play one clip or several, separated from the EDL.
- Auto-Return on...
 - ...Stop - Creates a temporary locator at the point at which play starts, and when play is stopped the timeline will jump back to that point.
 - ...Play - As for stop, but the timeline will only jump back to the locator when play is restarted.

This function is available as a status bar option, like Autoplace. It is also available on Hotkeys with some extra functionality:

	Return on Stop enabled	Return on Play enabled	Off
Space in Stop	starts playback at current time and drops marker	locates to marker and starts playback	starts playback and drops a (hidden) marker
Space in Play	stops playback, locates to marker	stops playback, stays where it is	stops playback, stays where it is
Alt + Space in Stop	starts playback at current time and drops marker	starts playback at current time and drops marker	locates to (hidden) marker and starts playback
Alt + Space in Play	stops playback and stays where it is - doesn't Return to the marker.	stops playback and stays where it is - doesn't Return to the marker	stops playback, locates to marker

TIME DISPLAY WINDOW

For applications where exact time is important, there is a re-sizable time display window available.



This window can be displayed via the "View" menu, and the two buttons will be named according to their current setting. Pressing either button shows a menu to allow you to change how time is displayed in this window.

The left side button in the picture has options to determine what time is being displayed:

1. Current - displays the current absolute time within the Playlist.
2. Countdown - counts down to the end of the final entry in the Playlist.
3. Play - counts the time up from the last point at which play started.
4. Start - counts the time up from the beginning of the first entry in the Playlist.
5. Start of Clip - counts the time from the beginning of any EDL entries that are selected in red. If no entries are selected the Time Display will show --:--:--. The timer will also show a negative value if the current time is before start of the first selected clip so as to count down to its start.
6. End of Clip - the same as "Start of Clip" except that this references the end of the last selected EDL entry.
7. PQ Track - counts the time from the previous PQ track start flag. When playing before the Start of CD, after the End of CD, or if no PQ flags are present, the Time Display will show --:--:--.

The right side button in the picture allows you to change the format of the time display:

1. Auto - this Time Display will follow the global setting under Setup / General / Time Format
2. The other five options allow you change the format to make this Time Display show a separate format to that shown by the Transport Controls and the timeline.

As with other Windows, you may click in the top left hand corner of this window and set it to "Always on Top".

If you right-mouse-click in the time display a menu will appear which allows you to:

Show Title Bar

Show Toolbar

These allow you to remove the Title Bar and/or Toolbar to make the Window occupy less screen space. If you remove the Title bar, it's not so easy to change the position of the window, although you can still resize the window.

This right-mouse-click menu also repeats the function of Mode and Time Format buttons.

STREAM SOLO AND MUTE

Each Stream has its own control buttons on the left for soloing and muting individual streams. They duplicate the solo and mute buttons controlling those Streams on the Mixer strips or hardware controllers.

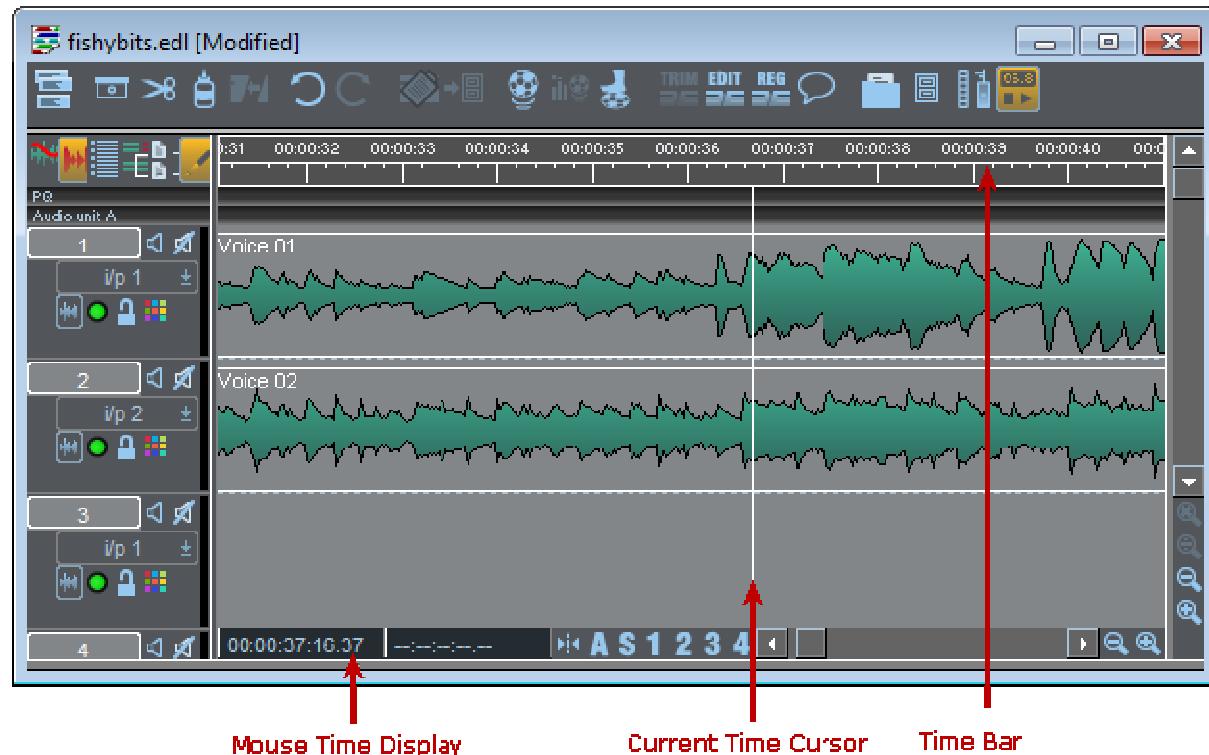
 There is a **MUTE** button above each fader. **SHIFT + MUTE** is solo.

NOTE: Solo and Mute buttons are grouped when you group their faders in the [Mixer](#).

LOCATING

LOCATING CURRENT-TIME CURSOR TO EDL POINTS

There are several ways of locating the current-time cursor to points in the EDL:



USING THE TIME-BAR



Double-click in the white time bar area at the top of the Playlist to start playback immediately from that point. The mouse time display will show the exact time you are pointing to.

Single-click anywhere in the time bar to stop playback.

Single-click in the time bar when playback is stopped to locate the current-time cursor to that point.

NOTE: Scroll or zoom out to access parts of the EDL that are not currently on view (see [The Playlist Display](#)). You can also move around the Playlist using the [Text EDL](#).

USING THE CURRENT-TIME DISPLAY



Click, hold and drag the mouse up or down over any field of digits in the time display (e.g. the hours, minutes or seconds, etc.). Their value will increase or decrease, and the more you move the mouse, the faster they change. Release to set the new value and locate the current-time cursor.

Alternatively, double-click on the time display.



The box that pops up allows you to:

- Directly type in the time that you want to locate to (or use the mouse cursor to drag across and overwrite only part of the displayed value). End with the keyboard ↵ Return key.
- Click on "Zero" to Zero-locate, followed by "OK".
- Use the up / down arrows to adjust the time. These nudge the lowest units. Hold the keyboard Shift to nudge seconds, Ctrl to nudge minutes. Finish with "OK".



There is a "Locate to time..." Hotkey available to open this box, found in the Transport Controls section of the Hotkey setup.

USING THE TRANSPORT CONTROLS



Double-clicking on the  **STOP** button is a useful and quick zero-locate.



The **REWIND** and **FAST-FORWARD** buttons are latching with the speed of wind increasing the longer they operate. Using the time bar as described above is usually quicker and easier for most operators.

USING HOTKEYS



There are two very useful default Hotkeys on the computer keyboard:

- "Home" will locate to the start of the first Entry in the EDL.
- "End" will locate to the end of the last Entry.

There also options in the Hotkey Setup for Locating to previous/next cue points and quantisation points.

USING THE HARDWARE CONTROLLERS

-  Without Jog or Shuttle modes selected by the **SCRUB** button, the wheel will move the current-time cursor up and down the Playlist. The scale of movement is related to the magnification of the Playlist, so use zoom if necessary. The current-time display in the Transport Controls and the EDL time display on the hardware controller will indicate the exact time you are locating.

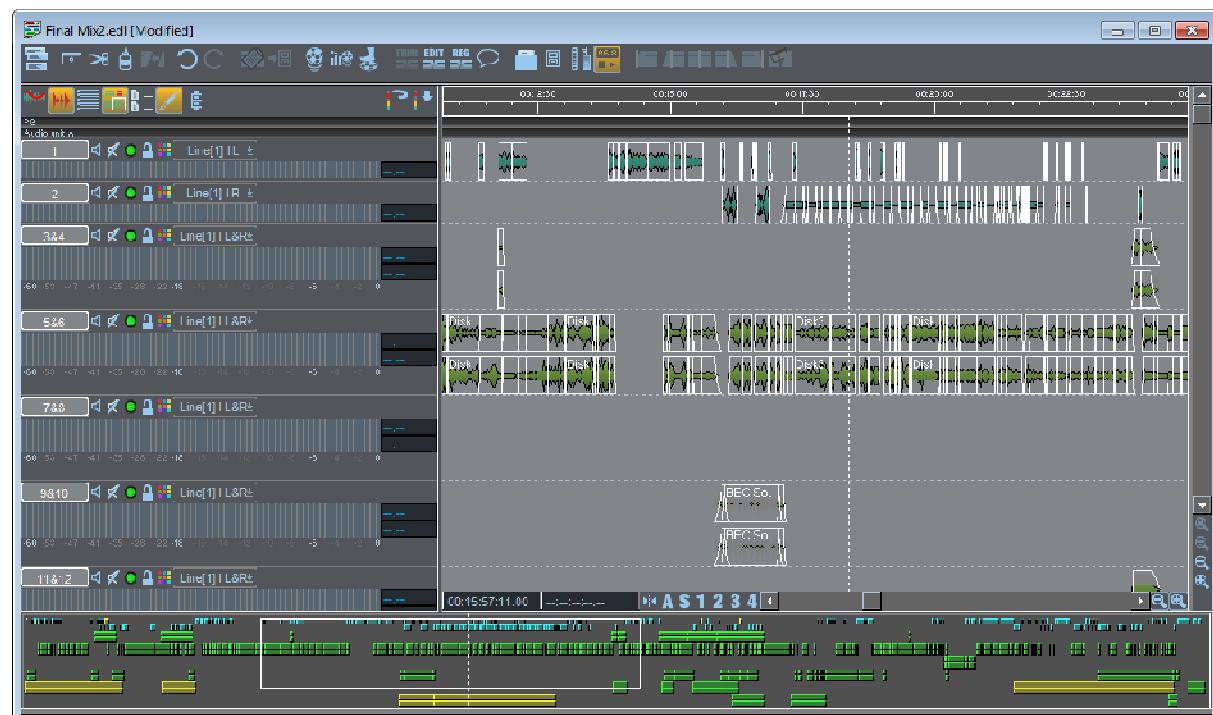
NOTE: To move the current-time cursor, make sure that neither **ZOOM** nor **CLIP**, nor **STREAM** modes are selected. The small LED's by the wheel should all be off.

-  **END** will locate to the end of the last Entry in the EDL.

SHIFT + END will locate to the start of the first Entry.

NAVIGATOR WINDOW

The button in the top left corner of the Playlist Window turns on and off the display of the Navigator Window.



The Navigator Window is a bar that is attached to the bottom of the Playlist, which shows a block view of all the clips in the entire Playlist. This gives you an easy view of the whole EDL, and operations in this Navigator Window will allow you to quickly and easily locate, scroll and change zoom on the main Playlist display. This should significantly speed up the process of getting about in the Playlist as now you can see an outline of the whole list, and quickly jump to an area that you can see displayed in this Navigator.

OPTIONS

There are two simple options to determine how Navigator displays:

Under the "View menu", "Setup Window", "Playlist", "Playlist Display" (which is revealed by double-clicking on Playlist on the left-side of the Setup Window) "Start navigator window display" from:

- "Time Zero" (which will show any unused time at the start of the EDL), or
- "Start of first clip" (which will start the navigator display at the beginning of the first clip, as in the picture above)

COLOURS

The colours in the Navigator will reflect the colours in the Playlist and show whether clips are selected (Red), part of a Slip selection (Blue), or being edited (Grey), etc. You will not see waveforms in the Navigator, merely clip blocks.

NAVIGATING

You will see an **outlined white box** on the Navigator, which shows the area of the Playlist that is in the current view.

A **single click** inside the Navigator will move this white box to a new position (both horizontally and vertically) and update the Playlist accordingly. The box is positioned so that the click position is central in the display. (Of course when a Playlist is in playback and set to scroll, Navigator operations such as this could change the focus to somewhere that isn't close to the current timeline, and so the Playlist display will flick to the new position but then the playback will override this repositioning back to the area that's being played.)

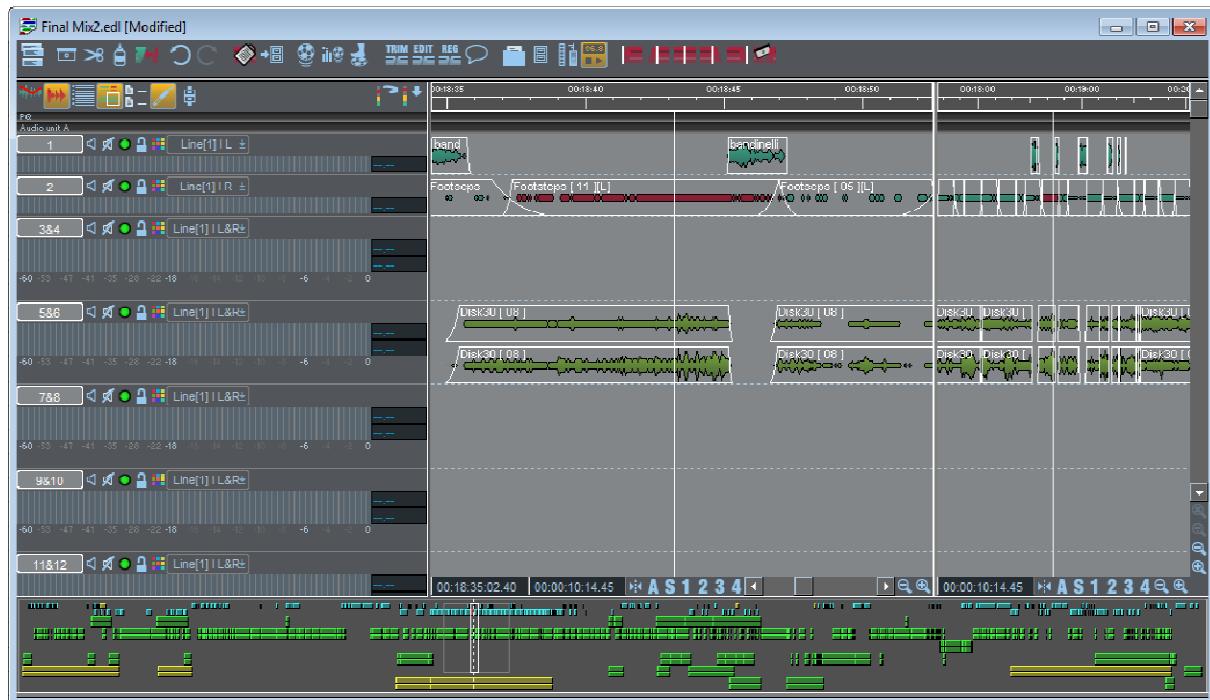
Drawing a box in the Navigator (by clicking with the left mouse button, dragging and releasing.) will scroll and zoom the Playlist to view the selected area. Again vertical and horizontal size and positioning of the box has an effect (so for instance it's very quick to focus on a group of clips on higher numbered streams). When you draw a box, you'll find the size of it will be changed to fit into a standard zoom and that the vertical scrolling is adjusted so as to view a whole Stream.

Holding the **Ctrl** key and **dragging the box** will scroll the Playlist display as you drag the box.

Double-clicking anywhere in the Navigator will re-position the box as with a single click, and then put the Playlist into playback within that Navigator box.

SPLIT PLAYLIST VIEW

If you are in the habit of using the secondary Playlist view you will be pleased to hear that operation of this is included in the Navigator.



If you're not familiar with this view (try dragging the right-hand edge of the Playlist) there is a line between the main grey area and the vertical scroll bar where the mouse cursor changes to a double-bar with left/right arrows. Clicking and dragging here will reveal this second view. The second view can be used to show different zooms or different areas of the Playlist, and using the option under Playlist Display section in the Setup window, you can choose "Time lock split views" (or not) to determine whether this second view will scroll with the main view (or not).

Operation of Navigator is much the same as with the main view, however we use the **Shift** modifier for the second view, and the view-box for the second view is drawn in grey. (In the picture above the second view is showing the whole EDL so the grey line is not so easy to see.) Thus:

Shift + click moves the grey box.

Draw a box + Shift defines the grey box and thus area of focus of the second view.

Shift + Ctrl + drag the box to scroll the second view.

Shift + double-click to play in the second view.

LOCATING TO IN AND OUT POINTS



The current-time cursor will locate to the in or out point (whichever button is down in the Transport Controls) of the previous or next EDL entry on any enabled Stream when you use these keyboard Hotkeys:

- Select previous Entry (default is **Ctrl + Alt + B**).
- Select next Entry (default is **Ctrl + Alt + N**).

See [Hotkey settings](#).

There are also Hotkeys available for "Locate to Selection start" and "Locate to Selection end" under the Playlist section of the Hotkey setup. These are set to **Ctrl + Home** and **Ctrl + End** by default.

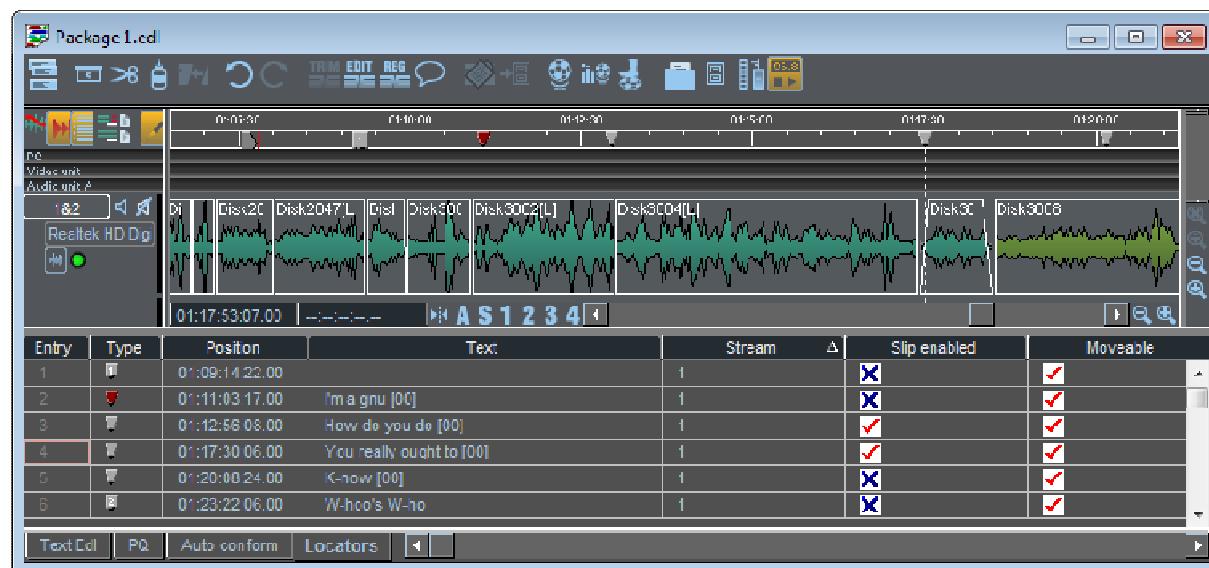


PREVIOUS and **NEXT** buttons do the same as the Hotkeys described above.

LOCATORS AND MARKERS

There are three different types of Locator that can be used to mark specific times in the Playlist. These markers are always saved as part of each Playlist. They appear as markers along the timeline, but each type can have different properties.

- A single pair of Left and Right points for looping, automatic punch-in recording and region editing.
- Ten numbered locator points each with their own dedicated hotkey sets for Setting, Locating to (Go To), and Clearing.
- Any number of Named locator points which have text attached. These have a generic set of hotkeys for Setting, Locating To (Go To next and previous locator), Clearing, Renaming etc.



THE LOCATOR TABLE

There is a table showing the locators and their individual properties, which can be seen at the bottom of the Playlist window by pressing the "Show/Hide Text Pane" button at the top right of the Playlist, and then selecting the "Locators" tab.

This works in a similar fashion to the Text EDL:

- you can edit parameters in the table
- you can re-order by clicking on the column header.
- you can double-click in the Entry number column to start playback from that locator; single click here locates without starting playback.

QUICK SET LOOP POINTS

A setup option (View menu \ Setup Window \ Locators \ 'Allow quick set loop points') can enable a special function that is used in conjunction with the Locator Table.

Double-clicking on a locator's entry number in the table will start playback, but with this feature enabled, the L and R locators are set on the selected locator, and the next one in the EDL respectively. Therefore, if you also enable the Loop function (on the L&R tab of the Transport Controls) and set up suitable locators, it's very quick to hop from one section to another.

For instance, having marked the beginning and end of various sections this can be a useful feature for Soundcheck Assist, when using a SADiE recorder to record and sound-check a concert.

SETTING LOCATORS

Locators can be set using either

- Mouse - clicking on buttons in the Transport Controls' Locators pane.
- Hotkeys
- Hardware Controller - has dedicated keys for the numbered and L & R locators.

This is described in more detail below.

LOCATOR PARAMETERS AND FEATURES

1. Once set, locators can be dragged with the mouse to re-position them. This is only allowed if they are set to be "Moveable" either in the table, or from the menu that appears when you right-mouse-click over the locator. There is a setup option to allow locators to default to "moveable" or not.
2. Locators can be set to follow slip rules (or not). When edits in the Playlist are causing entries up- or down-stream to slip, then so will the Locators. There are setup options to determine the default state, but individual locators can be set to slip or not, hence some locators can be fixed time marks, and others can mark audio events. The Slip state of a locator can be changed, either in the table, or by choosing the Slip item from the menu that appears when you right-mouse-click over the locator.
3. ~~Named~~ Locators have text, which can be viewed in a yellow help-bubble that appears when you hover the mouse over the locator. This text can be edited, either in the table, or by choosing the Edit item from the menu that appears when you right-mouse-click over the locator.
4. ~~There is the concept of a “Current Named locator” – you can click on a locator and it changes colour to red. A number of hotkeys (under the “Transport- Locators” section of hotkey setup) can be set to work on the “Current Locator” :-~~

~~"Delete current named locator"~~

~~"Edit text of current named locator"~~

~~"Next...." and "Previous named locator" which selects the next (or previous) locator, and locates the timeline to its position. If the timeline is not at the Current Locator position, then the first press of a "Next" or "Previous" will locate to current locator.~~

5. There are two hotkeys for setting named locators: "Insert named locator at current time" (which auto-names it from the text alongside the "Get" button in the Locators pane of the Transport Controls.)
6. Quick Locators - There is a hotkey which sets a numbered locator, and auto-increments the number as you drop the locators. The hotkey is set in ... Setup \ Hotkey Setup in the Transport - Locators category, and the hotkey is called 'Insert quick locator at current time'. There are also hotkeys for 'Go to Next...' and 'Go to Previous Quick Locator'.

MULTI-DIMENSIONAL LOCATORS.

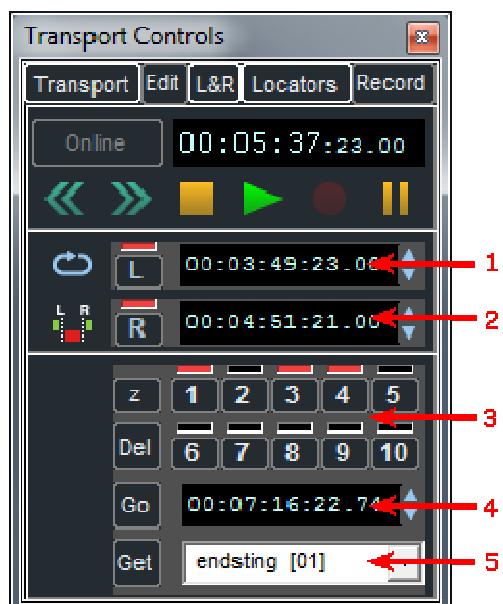
If the setup switch in Locators Setup \Multi-dimensional locators is ticked, then when you capture a locator position, the Horizontal and Vertical Zoom as well as the Vertical streams view is captured, and recalled when you "Go To" to that locator. There are fields in the Locator Table for these :- Stream, Vertical Zoom and Horizontal Zoom where their values can be changed or disabled. For instance it would be possible to save just Stream and set V- and H-zoom to be unspecified if you so wished.

STORING AND RECALLING LOCATOR POINTS

With the mouse in the Transport Controls



Open the L-R and Locators sections of the Transport Controls:

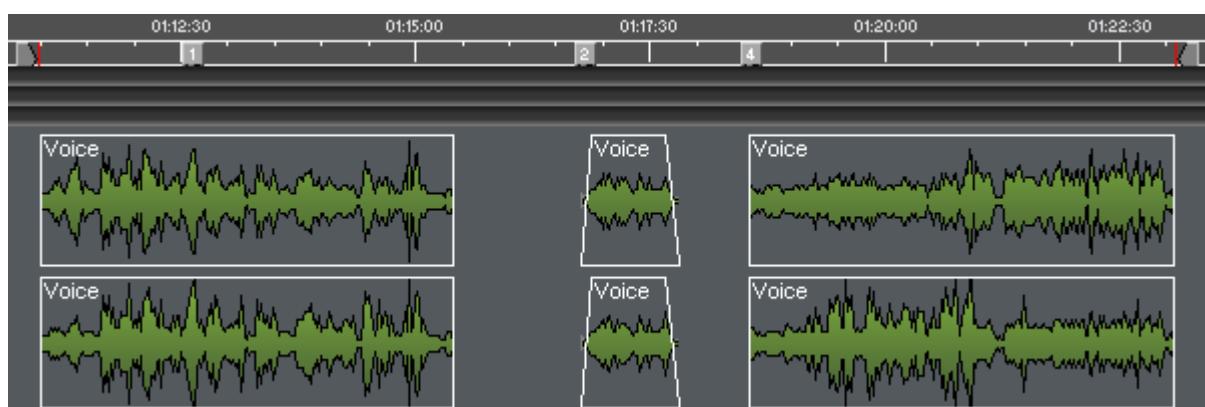


1. Left locator time display
2. Right locator time display
3. Numbered locators
4. Named locator time display
5. Named locator name box

The **LEFT**, **RIGHT** and **1-10** numbered locator points can be set in the following ways:

1. From the current time by clicking on their buttons. This can be done on the fly (during playback), or when stopped. The red indicator will show that a point is stored in the button memory. The L and R points have time displays to show their EDL times.
2. The L and R points can also be set by holding Shift and clicking at the required point in the time bar with the left and right mouse buttons respectively.
3. Once set, click on a locator button to locate to that point. (This is not allowed during playback.) Clicking on Z will locate to zero.
4. Double-click on a button, or click while holding the Ctrl key, to clear its memory.

Markers will appear in the Playlist time bar to show the position of these locator points:



Pressing **LOOP** causes playback to be repeated between the left and right locator points.



Pressing the **PUNCH-IN** button causes SADiE to drop into record at the Left locator point and drop out at the Right (see [Recording](#)). The pre and post-roll times for these are set in the Transport Controls section of the Setup window (accessible from the View menu).

Named locator points appear with a small triangular symbol on the time line and can be set as follows:

- I. Click in the white name box at the bottom of the Transport Controls and type in a name ("endsting" in the above example).

2.  Each time you press **GET**, SADI6 will store a locator point with the name you typed and a number added to it, e.g. endstng [01], endstng [02], etc. The EDL time of the point currently in the name box is displayed above it.
3. You can type in a new name at any time and start storing points with that name.
4.  Press the arrow next to the name box to drop down a list of all your named locator points and select the one you next want to locate. It will appear in the name box.
5.  Press **GO** to locate to the point in the name box.
6.  Press **DEL** to delete the locator in the name box. The next one in the list will replace it. Repeat to delete them all.

The Left, Right and currently displayed named locator can all have their values adjusted or reset by using their time displays in the following ways:



1. Click, hold and drag the mouse up or down over any field of digits in the time display (e.g. the hours, minutes or seconds, etc.). Their value will increase or decrease - the more you move the mouse, the faster they change. Release to set the new value.
2. Use the up/down arrows beside the display to nudge its value by the lowest units. Hold Shift to nudge seconds, Ctrl to nudge minutes.
3. Double-click on the time display itself.



The box that pops up allows you to:

- i. Directly type in a new value (or use the mouse cursor to drag across and overwrite only part of the displayed value). End with the keyboard ↵ Return key.
- ii. Click on "Zero" to set to 00:00:00, followed by "OK".
- iii. Click on "Cur Time" to set to the current time, followed by "OK".
- iv. Use the up/down arrows to adjust the time, as above, followed by "OK".
4. The L and R locator points can also be adjusted by dragging their markers in the Playlist time bar.

NOTE: Locator memories are stored with the EDL, and apply to only that EDL.



Setting Locators with Hotkeys

The Numbered and L and R locators have Hotkeys for "Set Locator", "Go To Locator" and "Clear Locator". The "Go To Locator" Hotkeys will always set the locator if it's unassigned, then locate to the set point on a second push. The "Set Locator" function puts the current time into the locator whether currently assigned to something else (e.g. overwrite locator) or not.

To store a new Named Locator you have the choice of:

- Press the hotkey for "Insert named locator at current time" or
- the hotkey for "Insert and edit named locator at current time"

Thus you would either allow the locator to be named from the default name, or type in a name as you place the locator.

Other named locator hotkeys (i.e. delete, rename, etc.) work on the currently selected named locator (it will be displayed with a red triangle symbol).

Setting Locators with Hardware Controllers

- ☞ On the hardware controllers press **LOCATE** followed by **F1-F10** to set or go to locators 1-10, and **LOCATE + F11** and **F12** for the Left and Right locators. To re-set a stored locator point, press **SHIFT + LOCATE + F1-F12**

The Hardware Controllers have no dedicated hotkeys for setting Named Locators, however these can be set in the usual way onto the user-definable F-keys.

ADVANCED PLAYLIST OPTIONS

SPLITTING THE VIEW

- ☞ If you drag the right hand edge of the Playlist (inside the Scrollbar) inwards, you can open up a second view of the Playlist that has its own zoom buttons, Scrollbar and current time cursor. This could be useful if you want to jump back and forth between different places in the EDL or have one view in zoomed in close and the other showing you a larger section. Clicking with the mouse will switch between active views.

You are able to change the synchronisation between the split Playlist views. Under the "View" menu, select "Setup", "Playlist", and then "Playlist display". Tick "Time lock split views" and the current time will update synchronously in both panes; unticked, they will move independently.

STREAM UNITS

Streams are grouped into "units", which may be closed down or opened up for display. This is done by double-clicking on the thin divider bar containing the unit name, to the left side of the EDL streams.

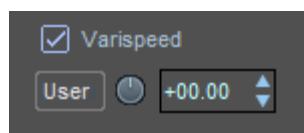


Your hardware platform and the work you are doing will determine the number of unit dividers available.

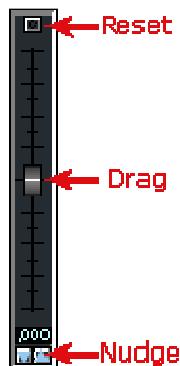
There can be unit dividers for an audio unit (whose streams contain the audio clips), a PQ stream, and "mixer-only" streams if applicable.

VARISPEED PLAYBACK

Use the "View" menu to display the [Setup window](#), and then select the Audio section.



The Varispeed controls in the Sample Rate part of the window adjust the Record or Playback speed up to a maximum of $\pm 10\%$. Whereas an analogue tape machine does this by varying the speed of the capstan motor, SADiE varies the current playback sample rate.



Reset Clicking on the check button enables Varispeed, and the knob just below it controls the speed. Click and drag up and down to adjust. A small fader will pop up to indicate the setting and the numerical display on the right will indicate the percentage speed change.

Double-clicking keeps the pop-up fader on view and allows you to adjust it more finely (click on a grey bit of the window to hide the fader).

You can also adjust the setting by entering a percentage value directly into the numerical display in any of the following ways:

1. Click, hold and drag the mouse up or down over the digits on either side of the decimal point. Their value will increase or decrease, and the more you move the mouse, the faster they change. Release to set the new value.
2. Use the up/down arrows beside the display to nudge the value by whole percentage points. Hold Ctrl. to nudge by decimal points.
3. Double-click on the time display itself and directly type in a new value ending with the keyboard ↵ Return key.

You can now turn Varispeed off and retain the setting for the next time you turn it on again.

The square button drops down a selection list of useful pre-set Varispeed settings, for example to convert from 24 frames per second to 25 and vice versa. Select "User" to return to adjustment with the knob. It may be useful to do this during recording.

NOTE: As Varispeed works by changing the sample rate, the digital output from SADiE will be non-standard and may not be accepted by other digital equipment, especially DAT machines. SADiE's Digital to Analogue converters will work from about 30 kHz to 50 kHz to produce a valid analogue output, although they may temporarily mute if you change the Varispeed setting too quickly. Varispeed of individual Clips or EDL Entries by amounts much greater than 10% can be done with the "Resampling" section of the Process window.

TRANSMISSION MODE

This mode is a means of locking out the keyboard and mouse to prevent accidents during an important playback.

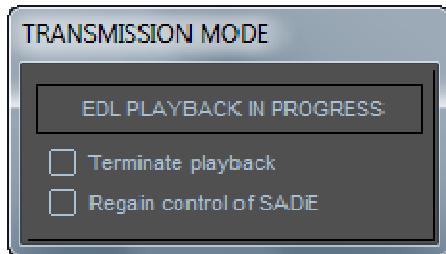
To enter Transmission Mode, either:

- Hold Ctrl. whilst starting playback in the usual way, OR
-



Use the keyboard Hotkey (set in the "Hotkeys" section of the Setup window) after starting playback. The default Hotkey is Alt + X.

The following box will appear:



The only way to change anything now is to click on one of the two buttons.

AUDIBLE SCRUBBING

To quickly search audibly through the Playlist:



Reveal the Edit section of the Transport Controls:



Click and hold the mouse button over the Scrubwheel:

- Moving the mouse up/down gives you forward/reverse shuttle. The more you move from your original position, the faster it goes. This is like spooling tape against the heads.
- Moving the mouse right/left gives you forward/reverse jog. This is like nudging the reels back and forth.
- You can move between jog and shuttle modes without releasing the mouse button.



Select jog or shuttle mode with the **SCRUB** button. (Make sure you haven't got **STREAM**, **CLIP** or **ZOOM** selected.) The LED's next to the wheel indicate the mode. Then use the wheel!

FIXED SPEED SCRUBBING



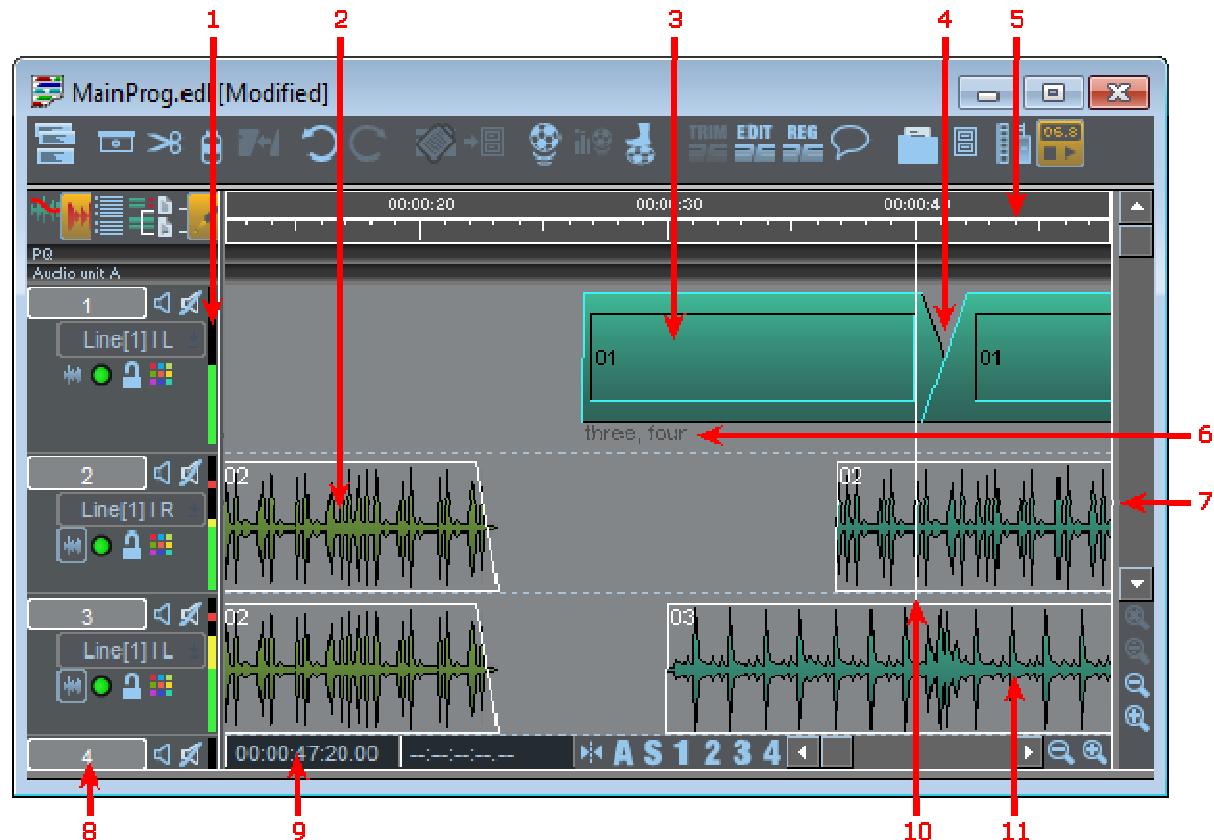
There are hot-keys available for putting the Playlist (or Trim window, or clips in the Clipstore) into audible scrub at a fixed speed.

By default, these are set to be on the numeric keypad of the keyboard (you must have Num Lock On), and three different fixed speeds can be set up at once. For instance Keys 1 and 3 will play backwards and forwards at half-speed, 4 and 6 will do the same at normal speed, and 7 and 8 at double speed.

The key assignments are set in the usual Hotkey section of the [Setup window](#), under "Transport", "Edit Controls". The three speeds can be changed in the Setup page too, this time under the [Scrub Setup](#) sub-section of "Transport Controls".

ARRANGING AN EDL

OVERVIEW TO ARRANGING AN EDL



- | | |
|--|---|
| 1. Meter showing audio output from each stream | 7. Drag border to reveal second Playlist view |
| 2. Stereo EDL Entry shown as a profile | 8. Stream Control buttons |
| 3. Mono EDL Entry shown as a block | 9. Mouse time display |
| 4. Crossfade between Entries | 10. Current time cursor |
| 5. Time bar | 11. Mono EDL Entry shown as a profile |
| 6. Stream showing Entry comments | |

The EDL in SADiE is like a word processor document; when you first switch SADiE on and create a new Project, the system will open a Playlist window containing an empty EDL named after the Project. You can then build up the EDL by recording directly into it, or by pasting in Clips from the Clipstore. Alternatively, you may open an existing Project and EDL to play back or do further work on.

NOTE: After making any changes in the Playlist, you will need to save the EDL. See [File Management](#).

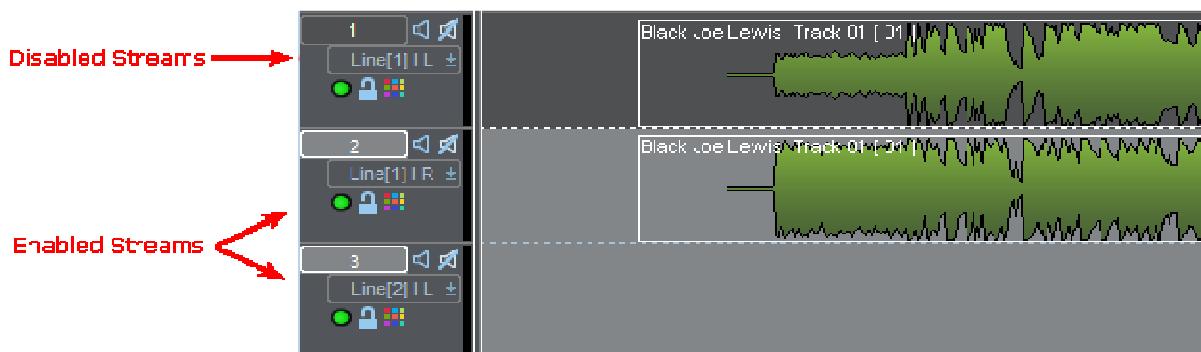
Whether you are rearranging EDL Entries that were not recorded in their final playback order, building an EDL from the Clipstore, or creating different versions of the same material, you will want to move Entries around, add them to and remove them from the Playlist.

Where you place Entries horizontally in the Playlist determines at what time they are played back in the EDL. The choice of where you place them vertically, e.g. on which Stream they are placed, will depend on how you want to control them with the Mixer. It is very easy to move Entries around in time and between Streams, so you can always change your mind!

NOTE: You can place as many Entries as you like on top of each other on the same Stream, although this will not make them easy to view, and they will all play back together.

PLAYLIST STREAMS

ENABLING AND DISABLING STREAMS



Enabling and disabling streams provides a means of separating some streams from others for certain editing functions, and of allowing you to select a stream or sets of streams that you are working on without effecting others.

Disabled streams are shown with a darker grey background than enabled streams. When a stream is disabled, it will play back as usual, but is not affected by **SLIP** (when enabled) or **RAZOR** functions. This also provides a means of selecting entries on streams when you are working with multi-track projects. It is easy with the mouse to click anywhere in 2 dimensions. With the Hardware controls, the wheel will set your time (horizontal) position in the Playlist ; the selected streams determine the vertical position.

When selecting entries with the Hardware controllers, the entry underneath the current time on the topmost enabled stream will be selected first when you press the **EDIT/SELECT** button. Repeatedly pressing **EDIT/SELECT** will select other entries on enabled streams in turn, but ignore those on disabled streams. Also the **PASTE** function always pastes entries to the topmost streams. Thus in multi-track projects, it is a good idea to enable the stream you are currently working on and disable others, to make sure you can quickly select the entry you want to work on, particularly if you are working with hardware controllers.

1

The **STREAM NAME** button displays the Stream name and clicking on this enables/disables that stream for the editing, **SLIP** and hardware controller operations described in the following sections. The Playlist will start with all Streams enabled. Holding the **Shift** key when clicking this button acts on the group of Streams above it that are all the same status. This is like using the Shift key to select items from a list in most Windows applications. Additionally there is a "reverse" enabling function; if you hold the **Ctrl** key when clicking the stream button, then this stream will be enabled and all other streams will be disabled.

NOTE: The border between the Stream control buttons and the Streams themselves can be dragged to the left or right to hide or reveal the buttons.



On the hardware controller select **STREAM** and use the wheel or **PREVIOUS/NEXT** to highlight a Stream, then hit **EDIT/SELECT** to enable/disable it. **SHIFT + EDIT/SELECT** acts on the group of Streams above it that are all the same status.

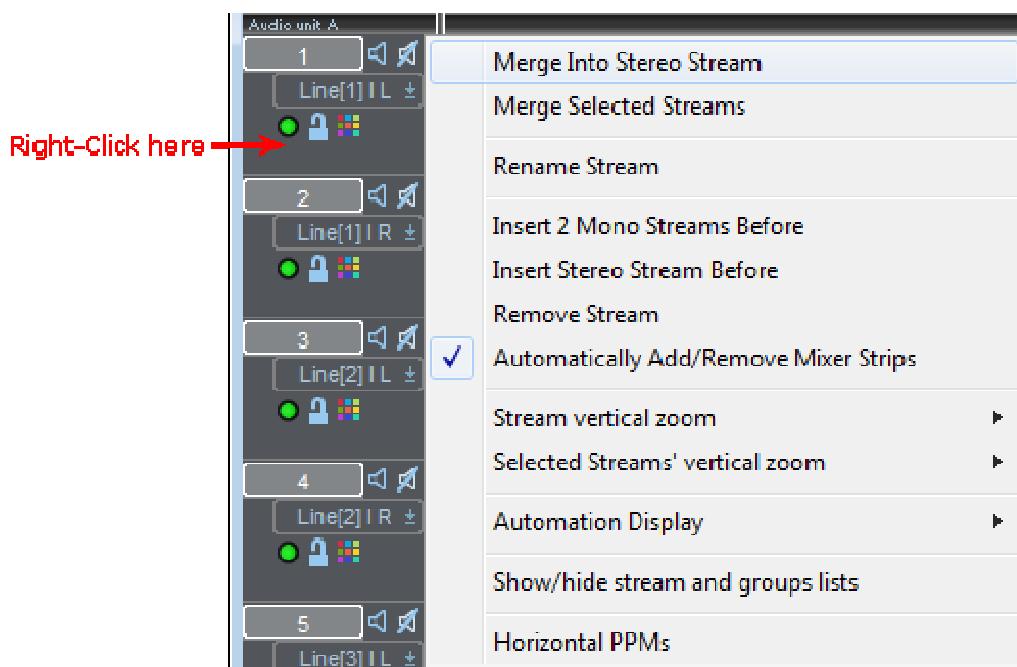
CHANGING THE LAYOUT

You may want more or fewer Streams than your current Playlist contains. There is no limit to the number of Streams a Playlist may contain, only to the number of Entries the system hardware can play back at the same time, with the required processing.

You can also merge any number of Streams so that they can be controlled together and reduced in height to save display space.

Stereo Streams can be added to the Playlist or created by merging two mono Streams. When you record onto a stereo Stream, you create a Stereo Track, whereas recording onto two mono Streams produces a two-channel Track. (See [Recording](#))

Right-click over the small Stream control buttons:



- "Merge Into Stereo Stream" merges two adjacent Streams. (Odd numbered Streams are merged with the one after, and even numbered Streams with the one before.)
- "Merge Selected Streams" merges all enabled Streams together.
- "Rename Stream" is described below.
- "Insert Streams" will insert a pair (before odd numbered Streams or after even numbered ones), and renumber all Streams accordingly.
- "Remove Stream" will remove the one you clicked on and renumber remaining Streams.

When Streams are merged, they retain separate channels of audio but are linked in the following ways:

- I. They have a single set of Stream control buttons, so they can be muted, soloed, or enabled/disabled together. Merging Streams is also useful when recording Multichannel inputs, as you can use a single record enable button.

NOTE: The mute and solo buttons of merged Streams are linked to those of all Mixer strips to which they are routed.
2. Automation data on merged Streams is edited together. Stereo Streams are therefore necessary if you want to edit automation data for left and right channels of stereo material together (see [Editing Automation Data](#)).

Right-clicking on merged Streams gives you options to change how they are displayed and to ungroup them again:

<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="padding: 2px;">View One Channel Only</td></tr> <tr><td style="padding: 2px;">View Half Height</td></tr> <tr><td style="padding: 2px;">Merge Selected Streams</td></tr> <tr><td style="padding: 2px;">Un-Group Streams</td></tr> <tr><td colspan="2" style="border-top: 1px solid black; padding: 2px;">Rename Stream</td></tr> <tr><td style="padding: 2px;">Insert 2 Mono Streams Before</td></tr> <tr><td style="padding: 2px;">Insert Stereo Stream Before</td></tr> <tr><td style="padding: 2px;">Insert 2 Mono Streams After</td></tr> <tr><td style="padding: 2px;">Insert Stereo Stream After</td></tr> <tr><td style="padding: 2px;">Remove Stream</td></tr> <tr><td style="padding: 2px;">Stream vertical zoom ▶</td></tr> <tr><td style="padding: 2px;">Selected Streams' vertical zoom ▶</td></tr> <tr><td style="padding: 2px;">Automation Display ▶</td></tr> </table>	View One Channel Only	View Half Height	Merge Selected Streams	Un-Group Streams	Rename Stream		Insert 2 Mono Streams Before	Insert Stereo Stream Before	Insert 2 Mono Streams After	Insert Stereo Stream After	Remove Stream	Stream vertical zoom ▶	Selected Streams' vertical zoom ▶	Automation Display ▶	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="padding: 2px;">View One Channel Only</td></tr> <tr><td style="padding: 2px;">View All Name / Source Buttons</td></tr> <tr><td style="padding: 2px;">Merge Selected Streams</td></tr> <tr><td style="padding: 2px;">Un-Group Streams</td></tr> <tr><td colspan="2" style="border-top: 1px solid black; padding: 2px;">Rename Stream</td></tr> <tr><td style="padding: 2px;">Insert 2 Mono Streams Before</td></tr> <tr><td style="padding: 2px;">Insert Stereo Stream Before</td></tr> <tr><td style="padding: 2px;">Insert 2 Mono Streams After</td></tr> <tr><td style="padding: 2px;">Insert Stereo Stream After</td></tr> <tr><td style="padding: 2px;">Remove Stream</td></tr> <tr><td style="padding: 2px;">Stream vertical zoom ▶</td></tr> <tr><td style="padding: 2px;">Selected Streams' vertical zoom ▶</td></tr> <tr><td style="padding: 2px;">Automation Display ▶</td></tr> </table>	View One Channel Only	View All Name / Source Buttons	Merge Selected Streams	Un-Group Streams	Rename Stream		Insert 2 Mono Streams Before	Insert Stereo Stream Before	Insert 2 Mono Streams After	Insert Stereo Stream After	Remove Stream	Stream vertical zoom ▶	Selected Streams' vertical zoom ▶	Automation Display ▶
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Stereo Streams

Multiple Streams

NOTE: Be careful if choosing to view one channel only, as there may be audio material coming up that you won't see.

A NOTE ABOUT STEREO ENTRIES:

Stereo EDL Entries can be placed on any odd/even pair of adjacent mono Streams as well as on stereo Streams. Audio editing will always affect both channels unless the Entry is deliberately split into two mono ones with the **UNGROUP** button described below. However, we recommend that you use stereo Streams in your Playlist for the following reasons:

1. Recording onto stereo Streams creates stereo Tracks.
2. Mixer automation for stereo material is edited on both channels.
3. Single Stream control buttons are easier to use.

A stereo Stream can be routed to either two mono Mixer strips or a stereo strip.

If you wish to save your customised Playlist to be used again, save it as a [Template](#).

RENAMING STREAMS

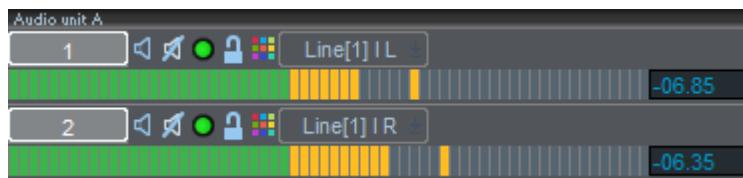
1

The Stream name appears on the long name button on the left hand side. By default, Streams are labelled with ascending numbers, but you can change this to any 8-character name. Right-click over the small Stream buttons and select "Rename Stream", type in the new name, followed by Return (↵). To avoid confusion, don't give the same name or number to different Streams!

NOTE: The layout of Playlist Streams (how many merged Streams, single Streams and their names) is saved when you save the EDL displayed in that Playlist. The Setup window allows you to specify the default arrangement of stereo and mono Streams when new Playlists are created.

The Stream names are used as part of the file name when recording; this is discussed earlier in the "Recording" chapter [Multichannel Tracks](#), and hotkeys for Stream naming described in the [Stream Naming](#) page under "Metadata and Mirroring"

METERS IN THE PLAYLIST

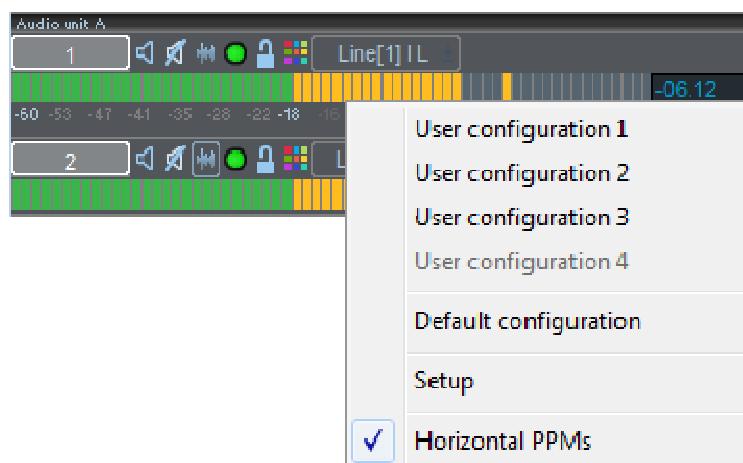


Each Playlist stream can have a 64 segment level meter which displays Input levels when the stream is record enabled, or playback level (pre-fade) when in playback.

To enable meters in the Playlist, right-mouse click on the stream control buttons and tick the **Horizontal PPM** option.

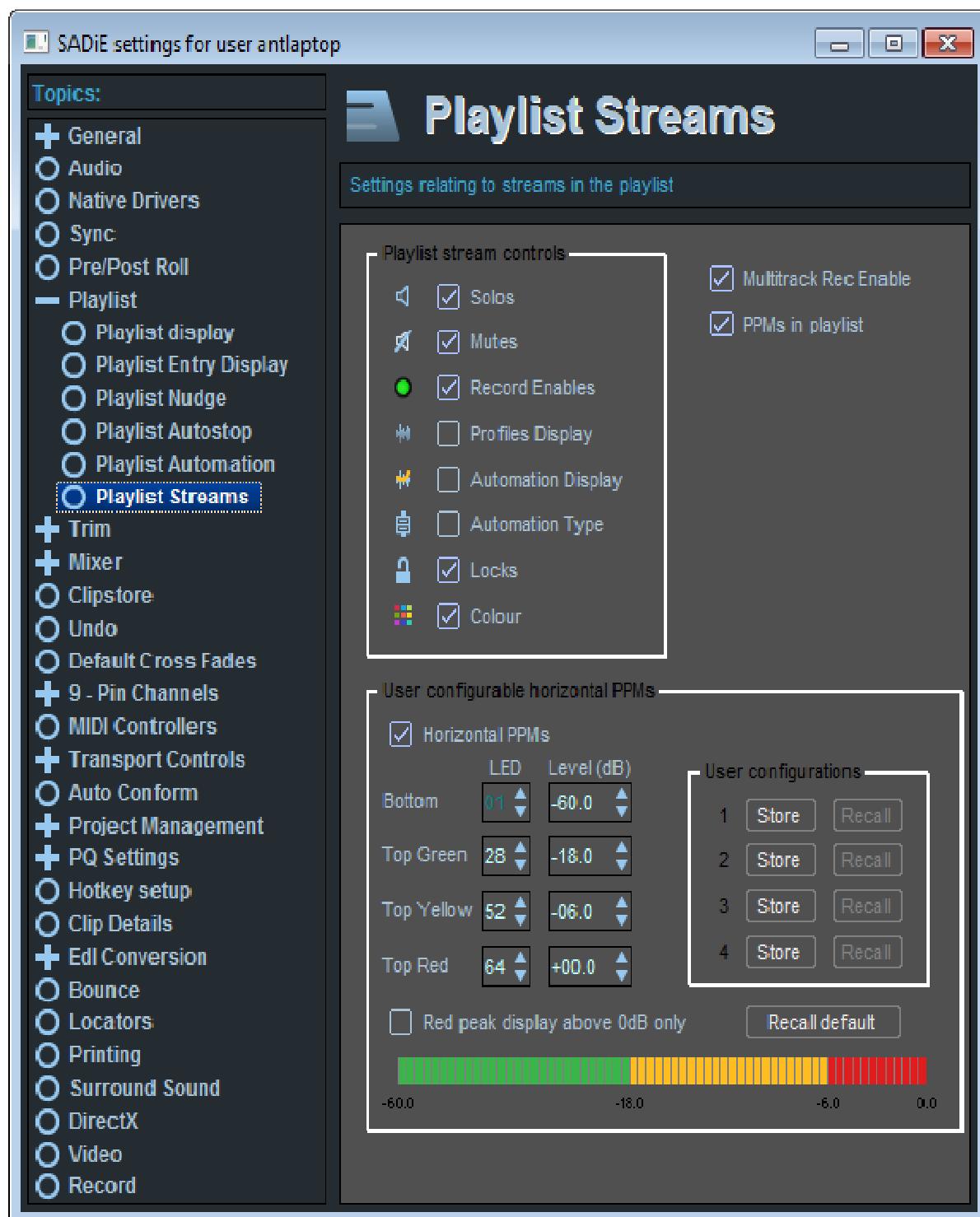
These can be customised to suit your screen layout, and to allow you to change the focus of level ranges and the thresholds at which the meters change colour.

Once they're displayed, if you right-mouse-click on the meters, the PPM menu will appear:



which allows you to instantly change between presets, and provides a quick link to the Setup page.

The Setup page for this is a sub-page of Playlist Setup, called **Playlist Streams**.



Changing the LED numbers will change the point at which the colours change.

Changing the Level values will change the scaling and the level at which colour changes.

You can reduce the "Top Red" LED number and that will reduce the overall length of the whole meter, but ensure that the Yellow and Green top LEDs are a lower number than the Red one.

There are four stores for you to save your own presets. There's also a button to recall the factory defaults.

Normally the numeric peak hold displays will turn red when the level goes over the "Top Yellow" value, but there is a setup option to revert to SADiE meters' normal behaviour of only going red when level goes over 0db.

You can turn off the display of these meters from within the setup page by un-ticking "Horizontal PPMs".

In SADiE5 the Horizontal meters mode will match that of the mixer strip the stream is feeding. Mixer PPMs are pre-fade for strips from an EDL stream to a bus, but post fade for strips that go directly to an output.



TOOLBARS

All windows have a number of toolbars that can be docked to edge of the window or "floated" anywhere on the screen. Right-click on a toolbar to show a menu that allows this "docking". To view toolbars that aren't currently displayed, there is an option under the "View" menu; click on "Toolbars", then select the window the toolbar belongs to, to show a list of all the toolbars relating to that window.

The Playlist particularly has a large number of buttons controlling editing functions, and depending on your style of working with SADiE, you may find you don't use some of the buttons, or perhaps you always use Hotkeys or hardware controls for certain functions. You will notice that the Playlist toolbars are split into a number of separate small toolbars each containing related buttons. This allows you to keep your desktop tidier by displaying buttons that you use regularly. Alternatively there is a Playlist toolbar named "Classic tools" which shows a selection of the most widely used buttons from other toolbars, but grouped into a single toolbar.

It is worth spending a little time thinking about the tools you use often, and arrange them on the screen to your liking. When you are happy with your layout (the entire screen layout), then save a desktop. Loading this desktop will push the toolbars to where you docked them. If you want SADiE to start up with this desktop every time, then go to the "Environment" window and select "Save Desktop as Startup Desktop".

For the Playlist toolbars, there is a button on the main Playlist tools bar, and the classic toolbar, which allows you to quickly turn on and off all of the other Playlist toolbars.



This button is called the **SELECT TOOLBARS** button, and pressing this will show the following menu:

- Group
- Bounce
- Load/save
- PQ Tools
- Edit
- Windows
- Classic Tools
- Autoplace
- Slip
- Lock streams
- 3 and 4 point edit
- Nudge
- Region Editing Tools
- Quick edit
- Playlist Tools
- Auto Conform Tools
- Playlist Automation
- Paste

The ticked items are already being displayed; clicking on one of the others will display it.

When a toolbar is displayed "floating" (e.g. not docked to the window), then you can hide it again by clicking on the close window button in its top right hand corner. Otherwise a right mouse click on a docked toolbar will offer the "hide" option.

The operation of most of the buttons on the toolbars is discussed [elsewhere](#) in the manual.

The "Windows" toolbar has some special functions to allow you to bring to the front of the screen, respectively, the Project window, the Clipstore, the Mixer, and the Transport controls.

The "Automation Edit" toolbar is special in that opening the toolbar enables the automation editing function, and you have to hide the toolbar to turn it off.

There is one other toolbar for the Playlist (not available from the Select Toolbars button): select "View", then "Toolbars", then "Classic". This displays most popular Playlist buttons on one big toolbar, in a similar layout to that which existed in SADiE software versions up to v3.70.01. This is for users who have become accustomed to that particular layout. Again, docking this toolbar and removing others, then saving your desktop "as Startup desktop" will allow you to start up SADiE with the view that you are familiar with.

If you can't find a button, look here: [Playlist buttons](#).

MANIPULATING EDL ENTRIES

MANIPULATING EDL ENTRIES

SELECTING ENTRIES

To perform any function on an EDL Entry, it first needs to be selected:



- To select one Entry, click on it. It will turn red to show it is selected.
- To select more than one, hold the Shift key whilst clicking on them.
- To select adjacent Entries, click, hold and drag the mouse. You will see it draw a box as you move it vertically and horizontally. Draw the box to cover the Entries you want to select as a batch.

WARNING: Don't start the box on an Entry that is already red, or you will find you are moving it!
Holding the Shift key whilst drawing the box will prevent this.



- To select all the Entries in the EDL, click on the "Edit" menu, then "Select All". Alternatively press Alt, E, and S on the keyboard.
- To deselect individual Entries, hold Shift whilst clicking on them again.
- To deselect all Entries, click on a grey bit of a Playlist Stream.

NOTE: Selected Entries are red. Red is a warning! Once selected it is quite easy to move Entries by mistake, so always deselect them when you have finished.



- To select Entries, do either of the following:

1. Position the current-time cursor over the required Entry (by using the wheel in the Move Cursor mode, e.g. with no other modes like Jog, Shuttle, Clip, Stream or Zoom selected) and press **EDIT/SELECT**. The button will cycle through selecting all Entries under the cursor on enabled Streams. Pressing **SHIFT** and then **EDIT/SELECT** will let you select a second Entry. Holding **SHIFT** down will let you select more than two Entries.
2. Select **CLIP** mode and use the wheel to cycle through selecting Entries on enabled Streams. Pressing **SHIFT** before using the wheel selects multiple Entries. Press **CLIP** again to exit this mode.
3. Press **PREVIOUS** or **NEXT** to select the previous or next Entries on enabled streams. If none are initially selected this will begin with the last or first Entry. Pressing **SHIFT** and then **PREVIOUS** or **NEXT** will let you select a second Entry. Holding **SHIFT** down will let you select more than two Entries.



- To deselect individual Entries, position the cursor over the Entry, disable all lower numbered Streams, press **SHIFT** and then **EDIT/SELECT**.

To deselect all Entries, position the current-time cursor on an empty (grey) bit of the lowest numbered, enabled Stream and press **EDIT/SELECT**.

NOTE: When several Entries are already selected, selecting a single Entry will deselect the rest. For example, pressing **NEXT** will quickly deselect all other Entries.



There is a Hotkey available to "Select Entry". This will select the clip under the current time on the topmost enable stream. If there are clips under the line on higher-numbered streams, then pressing this button again will select the next clip down and so on.

There is also a Hotkey to "Select All", duplicating the Edit Menu command.

RAZOR CUTTING AND GLUING

RAZOR CUT

-  The **RAZOR-CUT** button in the Playlist and **RAZOR** on the hardware controller divides the Entry under the current-time cursor on any enabled Stream into two at that point. This is primarily for editing, but can also be used to create a new Entry that you can then change in any of the ways described in the rest of this chapter.
-  Mouse users have the option of using the "scissors" to make razor-cuts. Whereas the **RAZOR** button always cuts at the current-time cursor, when you press the **SCISSORS** button, the mouse-pointer will change into a dinky scissors icon with a cross to show the target point. You can then make a freehand cut anywhere in the Playlist. This is useful if you can see exactly where to cut from the waveform profile.

NOTE: With the **RAZOR**, if there are Entries at the cut point on other Streams and you don't want them to be cut as well, disable those Streams first. The **SCISSORS** function cuts only on the Stream the mouse icon is over, providing a useful shortcut to disabling Streams before using the razor blade.

Holding the Ctrl key whilst scissor-cutting cuts across all enabled streams.

Holding the Alt key whilst scissor-cutting cuts at the current time rather than at the mouse time.

Using Ctrl + Alt cuts on all streams at current time, much the same as the razor.

Right clicking while you have the scissors selected disables them and returns the cursor to its normal "select" mode.

GLUE

-  Any razor cut where no editing has been done to the Entries either side may be repaired; press the **GLUE** button, position the cross-hair of the glue cursor icon over the join and click again.

RENAMING ENTRIES

-  Right-click over the Entry itself and select "Edit Entry Name". Type the appropriate name, and then press Return (↵).
-  There is a Hotkey available for this function, but this will on one clip only, and it must be on screen at the time.

NOTE: You can also rename Entries in the [Clip Details window](#) and the [Text EDL](#).

CUT, COPY, AND PASTE



These techniques can be used to remove, move and add EDL Entries in exactly the same way that text is manipulated in a word processor.

Entries are pasted into the EDL from a temporary store called the Paste Buffer. This can be loaded from the Clipstore to add new Entries to the EDL, but is also loaded with Entries that you cut (remove) or copy from the EDL. So you can move Entries by cutting and pasting them in somewhere else and you can repeat them by copying them and pasting the copy somewhere else.

These tools are on the Playlist PASTE toolbar.

CUTTING AND REMOVING ENTRIES

Select the Entry/Entries as described above, then:



Press **CUT ENTRIES TO PASTE BUFFER.**



Press **CUT.**

NOTE: The previous contents of the Paste Buffer are replaced each time it is loaded. If you want to remove an Entry from the EDL without it being loaded into the Paste Buffer, select it and press the keyboard Delete key, or right-click on it and select "Delete Entry". This may be useful if the Paste Buffer already contains something you want to paste in later.

COPYING ENTRIES

Select the Entry/Entries as described above, then:



Press **COPY ENTRIES TO PASTE BUFFER.**



Press **COPY.**

PASTING ENTRIES

NOTE: The Paste Buffer first needs to be loaded from cutting or copying EDL Entries as described above, or with a Clip from the Clipstore, (see below). It is also possible to load Entries to the Paste Buffer from the [Trim Editor](#). If the Paste Buffer is not loaded, its button picture will appear faint.



Press **LOAD PASTE BUFFER TO CURSOR.** When you move your mouse pointer (or cursor) over the Playlist Streams, you will see that it has changed to a reel of tape with a cross indicating where the in-point of the Entry/Entries will be positioned. The mouse time display will give you the exact EDL time. Click to paste the Entry/Entries into the Playlist.



This "Paste to Cursor" function is available as a Hotkey in the Playlist section of the [Hotkey setup](#).

NOTE: To cancel pasting and drop the paste symbol from the mouse pointer, press the button again, or right-click with the mouse.



Or pressing the **PASTE TO CURRENT TIME** button will place the contents of the paste buffer into the Playlist at the current time, exactly as with the **PASTE** button on the Hardware Controller. Under normal circumstances, this will be with the entry's start time to the current time, but of course, if [Autoplace](#) is on, then the Autoplace rules will be followed.



Use the wheel to position the current-time cursor to the time at which you want the Entry to start. (Make sure the wheel is not in **STREAM**, **CLIP**, **ZOOM**, **JOG** or **SHUTTLE** modes; all the LED's by the wheel should be off.) The display in the Transport Controls, or the EDL time display on the controller will show the exact time.

Press **PASTE** to insert the Entry/Entries with their in-point at the current time.

NOTE: Multiple Entries cut or copied from the EDL will be pasted back with the same time and Stream relationships between them. After pasting, the Paste Buffer is not emptied, so you can paste further copies as many times as you like.

PASTING WHOLE EDL'S TO ANOTHER EDL

The paste buffer can be loaded with an entire EDL that has been previously saved. On the menu bar, select "File", then "Load to Paste". An "Open EDL" box will appear allowing you to select the EDL you want, then press "Ok".

The **PASTE** button will have been pressed for you so you can immediately paste the selected EDL into your current EDL. This is very useful for compiling work that you have built up in sections; for example, edited tracks compiled into albums, scenes compiled into reels, etc.

MOVING ENTRIES

You can move entries around the EDL in many ways:

1. Cut and Paste them back in at a new time, as described above.
2. Select Entries, and then simply drag them with the mouse to a new location or Stream. The Playlist will scroll automatically if you move the Entry near its edges.

NOTE: While you are moving the Entry, the mouse time display will change to show the start time you are about to set when you "drop" it. Red is a warning! Once selected it is quite easy to move Entries by mistake, so always deselect them when you have finished.

There is an option in the [Setup Window](#) to display guide lines for the entry start, end of fade-in, start of fade-out, hotspot, and entry end. These can also be displayed for grouped entries.



There is a [Hotkey](#) toggle available for each of these functions.

3. Nudges

You can nudge EDL entries by small amounts left/right (earlier/later in the EDL) or up/down (to different Streams without changing in and out times and so maintaining sync):



Press the **SELECT TOOLBARS** button, and then select "Nudge" from the menu, to reveal the Nudge toolbar.



The buttons nudge the selected Entry/Entries left/right/up/down. Each press of the left/right buttons nudges by a fixed amount. This can be set in the "Playlist Nudge" section of the [Setup Window](#), which is displayed from the "View" menu. An alternative nudge amount is available by holding the Alt Key whilst nudging.

On the computer keyboard, Shift+Ctrl + the cursor keys (the ones with the arrows) duplicates these nudge buttons (with default hotkey settings)



Function keys **F1, F2, F3, F5** are also marked with arrows indicating that (with default hotkeys) they duplicate the Autoplace toolbar nudge buttons when pressed after the **ASSIGN** key.

ALT-nudge - you may nudge entries by an alternative amount by holding the ALT key whilst pushing these buttons. In the Setup Window, the "Playlist Nudge" sub-topic of "Playlist" allows a setting for this, as well as the standard nudge.



Variable Nudge - CTRL and clicking on Nudge Left or Nudge Right will show the small number entry dialog above, allowing you to type in a time in order to make a precise position change to the entries. As with other nudges, there are two hotkeys (left and right) for this in Hotkey Setup, under the "Playlist - Autoplace" category.

You will also notice that the nudge time is remembered for the next time you want to use it, so that if you are repeating the same movement, you can just press the hotkey followed by "Enter" to confirm the nudge amount.

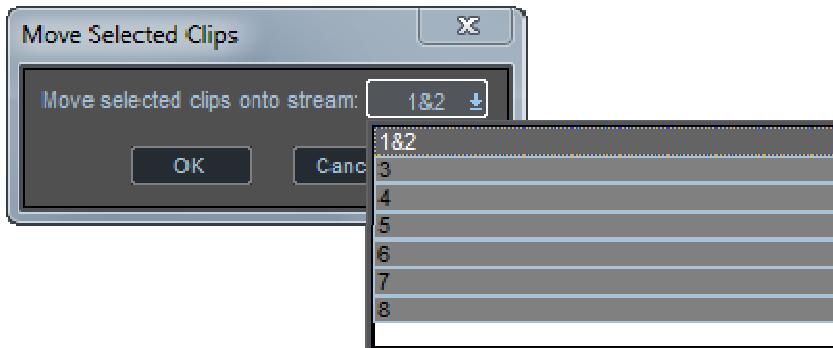
4. Use the [Clip Details Window](#) or the [Text EDL](#) to adjust their start times.

NOTE: You can also move Entries when using [Playlist Editing mode](#).

CHANGING STREAMS

You may wish to move EDL entries to another Playlist stream, without changing the EDL time. There are 3 different ways of achieving this.

1. If you hold the ALT key down while dragging and dropping entries with the mouse, the stream can be changed but the EDL time cannot.
2. The up and down nudge buttons on the Nudge toolbar (described above), change the stream of an entry, one stream at a time.
3. "Move selected clips onto stream..." option in the "Playlist" menu, forces entries to a new stream.



Select the new stream from the drop-down list, and however many streams the entries were on previously, they will be moved, without changing the EDL time, to the new stream.

ADDING AND REPEATING ENTRIES

ADDING NEW EDL ENTRIES



Click and hold on the Clip you want in the Clipstore and drag it (actually a "copy" of it) to the Stream and time that you want it to start in the Playlist. You will see that the mouse pointer has changed to a reel of tape, with a cross indicating where the in-point of the Clip will be positioned. Release the mouse button to paste the Clip into the Playlist. This does not use the Paste Buffer.



Alternatively, select the Clip in the Clipstore by clicking on it, press the **LOAD TO PASTE** button and then paste it into the EDL from the Paste Buffer. The Playlist **PASTE** button will have been pressed for you!



Use the **WINDOW** button to make the Clipstore the active window and then select the Clip you want either with the wheel or the **PREVIOUS/NEXT** buttons. Press **COPY**.

Return to the Playlist with the **WINDOW** button. **PASTE** the Clip into the Playlist as described above.

NOTE: You can place as many Entries as you like on top of each other on the same Stream, although this will not make them easy to view.

REPEATING EDL ENTRIES

To repeat one or more Entries, either:

1. Copy them and then paste them in at a new point, as described above, OR
2. Select them and then hold the Ctrl key whilst dragging a copy with the mouse to the required position.

PLACEMENT OF ENTRIES

REMOVE GAP



Press the **REMOVE GAP** button (on the main Playlist Tools toolbar) to move any selected Entry to the left (e.g. forward in time) so that it butts up to the previous Entry on that Stream. The start of the selected Entry's fade-in will be changed to coincide with the start of the preceding Entry's fade-out.



On the keyboard this "Snap entry..." is available as a Hotkey under the Playlist section of the [Hotkey Setup](#). The default is F6.



Remove Gap can be set to a Hardware Controller Hotkey **F1-F12**. The default is **F6**.

NOTE: The **SLIP** facility described below will automatically remove gaps left after cutting Entries from the EDL.

SNAP TO CURSOR

This is a very useful tool for synchronising Entries. Right-click over the Entry you want to move and select either "Snap in-point to current-time", "Snap end-point to current-time", "Snap Hotspot to current time", or "Snap fade in-point to current time". The Entry will jump to a new position with either its Hotspot, its fade in-point, or its in or out-point on the current-time cursor. This is useful:

- On the fly whilst listening to music to run alongside speech. A voice Clip can be snapped to cursor during playback.
- After positioning the current-time cursor by double-clicking on the current-time display and typing a new value.
- After positioning the cursor by scrubbing with the Edit section of the transport controls, perhaps scrubbing to find a sync point in one piece of audio, to which you need to reference the start, end or hot spot of another.



These snap functions are also available as Hotkeys.

PREVIEW

The standard Editing preview functions are available in the playlist for playing up to, from or through the current position. These are available as hotkeys, or on the Transport Controls edit pane. The Pre- and Post-roll for the preview is set in the Setup Page / PrePost Roll, and three different sets of times can be set. Using the CTRL or SHIFT modifier key with the preview buttons will preview with different pre and post roll times.

GRID LINES

From the Playlist right-click menu, you can select "Show Grid". This will show a series of major and minor grid lines across your Playlist for easy alignment and positioning of clips. The position of the grid lines will be dependant on the Time Display selected in the Setup Window, and on your Zoom level.

AUTOPLACE

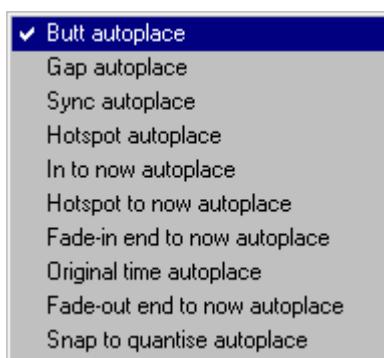
All of the functions for positioning Entries described above are affected by further options provided on the Autoplace toolbar.



Press the **SELECT TOOLBARS** button, and then select "Autoplace" from the menu, to reveal the Autoplace toolbar.



There are several different Autoplace Options available. Clicking on the second button will reveal a menu for selecting your Autoplace Option:



The second button will change appearance depending on the Autoplace Mode:



Autoplace an Entry to butt up to the previous one on that Stream. The start of its fade-in will coincide with the start of the previous Entry's fade-out (like Remove Gap).



Autoplace an Entry with a pre-set gap separating it from the end of the previous one. The gap can be set in the Playlist section of the Setup window, displayed from the View menu.

NOTE: The above two functions are handy for roughly putting together an EDL that you are going to fine tune later.



Autoplace an Entry in sync with the EDL time when the Track was recorded.



Autoplace an Entry so that the Hotspot rather than the in-point goes to the EDL time shown by the mouse time display (or the current-time display when using the hardware controller).

NOTE: The Hotspot is a useful marker that you can set at a particular point within a Clip or Entry and then use as the reference when placing it. For example, when you place a sound effect of a screech of car tyres followed by a crash, it is probably the crash that you want to position accurately. The Hotspot may actually be outside the in and out points of the Entry you are placing; you wouldn't include the sound of the clapper board recorded at the start of a dialogue Track, but you can still use it as the Hotspot in order to place Entries from that Track in sync. To set or adjust the Hotspot, see Chapter 5, Editing, and the [Clip Details Window](#) section of this chapter.



Autoplace an Entry with its in-point at the current time. This can usefully be done on the fly, whilst listening to the rest of the EDL to get the "feel" of where you want an Entry to start.

NOTE: As SADiE loads the EDL into memory when you start to play it, you will not hear any changes you make during playback until the next time you start it.



Autoplace an Entry with its Hotspot at the current time. Use in the same way as the above.



Autoplace an Entry with the end of its fade-in at the current time. Use in the same way as the above.



Autoplace an entry or group of entries at the original EDL time. Thus when used in the same EDL, an entry will snap to the same time (but you can move it up or down a stream as with nudge for instance). This is perhaps most useful if you want to copy and paste entries from one EDL into another. Use this to snap the entries to the same EDL time.

Additionally this can be used with a certain type of SD2 format audio file; with other audio workstations it is possible to embed the EDL time into the audio file. With this "Autoplace to original time" mode, when dropped into the EDL, these SD2 files will snap to the EDL time from the original workstation.



Autoplace an entry with its end point at the current time, similar to "Autoplace Now", and "Autoplace Hot-now" as above.

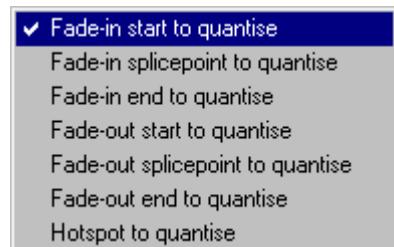
NOTE: The Autoplace functions: Now, Out-Now and End-now, are available for single entries on the Entry menu that appears when you right-click on an entry (e.g. "Snap In/End/Hot point to current time").



Autoplace an entry to snap to the nearest quantisation point. There are two further buttons here, for setting up quantisation:



Allows you to select which part of the clip to snap to the quantisation point:



Allows you to select a suitable quantisation level. You can either quantise to grid lines or to a note value in Bars and Beats.



SLIP

All of the functions for positioning Entries described above are affected by further options provided on the Slip toolbar.



Press the **SELECT TOOLBARS** button, and then select "Slip" from the menu, to reveal the Slip toolbar.





Turns the Slip function on or off.



Pre-selects Slipping of Entries to the left of the selected one.



Pre-selects Slipping of Entries to the right of the selected one.

With the function on and an Entry is selected, other Entries on enabled Streams will turn dark blue and will automatically be moved in the following circumstances:

- Moving an Entry by nudging, dragging it with the mouse, using Remove Gap, or by any editing functions will cause Slipped Entries to move with it.
- If right-hand Slip is selected, removing an Entry from the EDL will cause later Entries to be brought forward by an amount equal to its duration. This means that removing an Entry between two cuts in continuous audio will automatically remove the gap that would otherwise be left.
- If right-hand Slip is selected, pasting a new Entry into the EDL causes Entries after it to be moved back by an amount equal to its duration, e.g. they make room for it!

NOTE: The current Autoplace and Slip settings can be displayed on the Status bar at the bottom of the screen. Right clicking on them will then bring up a box to change settings. This avoids taking up screen space with the toolbar. Double clicking on the status boxes, will toggle them between On and Off, thus you can set the Autoplace or slip type with the right mouse, and turn it on and off, by double clicking. Use the "View" menu to display the [Setup window](#), double-click on "General" and select the Status displays section. You can then choose which displays are shown.



NOTE: The hardware controller has a **SLIP** button, which operates the **SLIP ON/OFF**. You will need to set your slip type with the mouse. All slip and Autoplace types, along with Autoplace and Slip **ON/OFF**, can be also assigned to Hotkeys.

GROUPING OF ENTRIES

GROUP ENTRIES

Any number of Entries may be grouped together. They will be redrawn as a single block in the Playlist. This may be for convenience of display, for repeated operations to the same group, or to avoid accidentally undoing edits. You can rename a group, and store it in a Clipstore, so a heavily edited piece can be stored as a single Clip.



Press the **SELECT TOOLBARS** button on the Playlist toolbar again. Select "Group" to reveal the Group toolbar.



Select the Entries you want to group and then press **GROUP SELECTED EDL ENTRIES**.

NOTE: When selecting lots of Entries it may be easier to select all the Entries in the EDL and then deselect the ones you don't want included in the group. Click on "Edit" on the menu bar, then "Select All" (or press Alt, E, S on the keyboard). Deselect Entries by holding Shift on the keyboard while clicking on them with the mouse. (On the hardware controller make sure no in, hot or out edit points are selected, position the current-time cursor over the Entries and press **SHIFT + EDIT/SELECT.**)

Groups may be further grouped with other Entries or other groups and a hierarchy is formed.



At any time you can break a group back down into its component parts by selecting it and pressing the **UNGROUP** button.

MAKING ENTRIES STEREO AND MONO



To make a stereo entry into two mono entries, select the entry and push the **UNGROUP** button.

You can make a mono entry into a stereo entry, only if the mono entry was originally part of a stereo one, and therefore another leg exists. Right-click on the entry and select "Make Stereo". This option will only be available if the audio exists.

NOTE: You can **UNGROUP** a Multichannel Entry into its component parts, or a stereo Entry into its left and right mono parts in order to treat them separately. For example, you might introduce a time shift between the two channels, or delete one channel from the EDL completely; especially useful when working with M&S stereo or material you thought was stereo when you recorded it, but turns out to be mono!

BOUNCE-DOWN

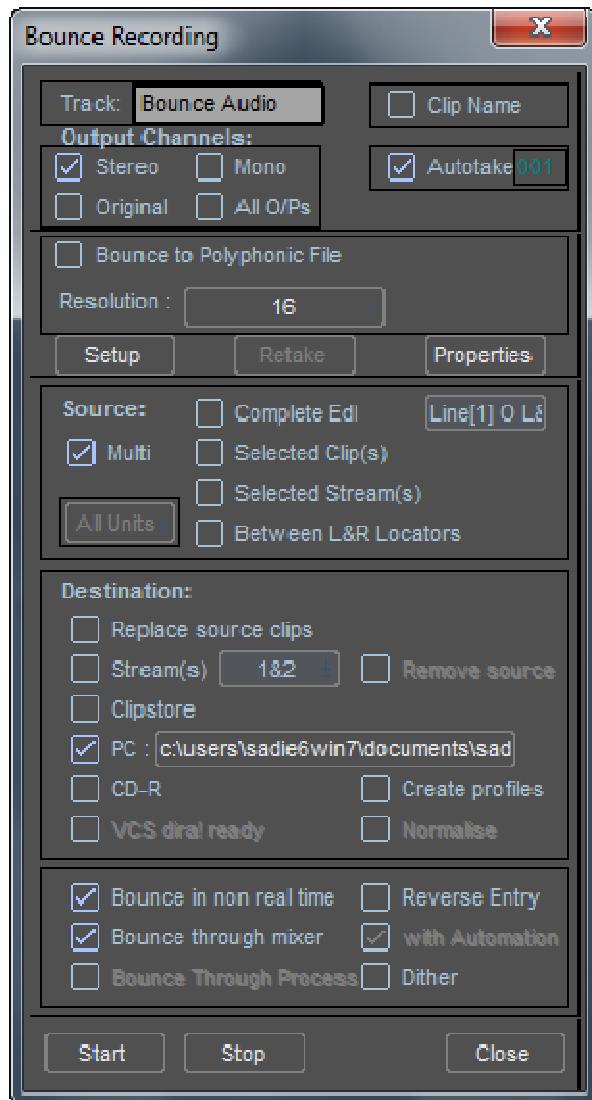


BOUNCE-DOWN

Entries may be permanently grouped by re-recording them internally. The Bounce Window provides a simple method for doing this.



Press the **SELECT TOOLBARS** button on the Playlist toolbar again. Select "Bounce" to reveal the Bounce toolbar.



You may choose to bounce entries down for a number of reasons:

- To create a "master" mix file. Nowadays it's increasingly more likely that you will be asked to deliver masters as files, rather than on a tape or other recordable medium.
- Convenience. You want the mixed or processed result to always appear as a single EDL Entry, or you don't want to bother with setting the Mixer or Automation to process the required Entries every time you play the EDL.
- To clear disk space. You want to re-record small parts of one or more much longer Tracks that you can then delete (as described under [Audio Disk Management](#)).
- There is not enough DSP power available to carry out the processing you require in real time and/or play the number of simultaneous Entries you require. Process and re-record the necessary Entries with "Non-real-time" selected in the Transport Controls' Record section. Then you can use the processed versions in the full EDL.
- Bounce can provide convenient "batch" processes for sample rate converting or resampling
- To export to a compressed audio format (n/a in DSD mode). SADiE works only with linear digital audio formats, but is able to import or export compressed formats such as MPEG or WMA. To export to compressed formats uses a variant of the Bounce Window that is launched from the **Compress Audio** button. This is described in more detail later in this section.

BOUNCE OVERVIEW

The Bounce Window can re-record a group of clips, with or without the mixer, automation or processing, so that they become a single mono, stereo, or Multichannel track. There are many possibilities but let's follow a fairly simple example where you are re-recording some edited clips to form a "master" stereo track

1. First, select the clips in the EDL. These clips will be re-recorded through the mixer, so check the mixer balance is correct.
2. Click on the bounce icon to open the Bounce Window.
3. The first section of this window serves the same purpose as the Record tab of the Transport window, so enter a name for the recording.
4. This is going to be a stereo mix-down so select "Stereo" under "Output Channels" and at the bottom tick "Bounce through mixer" because we do want to include some level changes we've made on the mixer.
5. Next tick "Selected Clips" in the Source section. The Source section tells Bounce what to re-record; "Complete EDL" or "Selected Streams" are the other possibilities. The new recording is made through the mixer, so check that "o/p 1&2" are chosen from the pop-up list; SADiE will record what is appearing on these outputs.
6. Choose, in the "Destination" section, what's going to happen to the new track after re-recording:
 - i. "Replace Source Clips" will place the new track on the topmost stream occupied by the source clips, and will delete all the source clips when the bounce is finished.
 - ii. "Stream(s)" - tells Bounce to put it into the same EDL on streams specified in the pop-up list. The "Remove Source" tick box will delete the source clips after the bounce. This mode is useful if you want to push the result of the bounce to a new stream
 - iii. "Clipstore" - leaves the Playlist unaffected, and places the new track into the current Clipstore.
 - iv. "PC" - this is explained in the "Special Bounce functions" section below. It is unadvisable to choose this option unless you have a specific need to.

The bottom section allows you to choose "Bounce in non real time". If this is selected the bounce will be performed as quickly as possible, but will not be audible. The other two options allow you to turn off automation and/or the mixer for the bounce.

Press "Start". The process will start, and during the bounce the ball icon in the Bounce button will "bounce". Be careful not to click in the time-line in the Playlist or press transport buttons, as you will halt the bounce.

Bounce Resolution

The **Resolution** setting in the Bounce Window is independent of the General resolution setting in the 'Properties' window which is opened from the Bounce Window or the Transport Controls, however you still need to use Properties if you wish to change file format.

OUTPUT CHANNEL SETTING

The Output Channel setting determines the channel width of the resulting track.

Stereo and **Mono** are obvious – a two channel or single channel track is recorded.

Original will create a new track with the same number of channels as the source clip. However this can only be used for bounces that are not through mixer, because of course the mixer changes the channel width. Original works for group clips and multi-channel clips. Note that clip level changes are included in the bounce, but Bounce through Mixer is automatically turned off.

When Original is used with Multi-bounce (which is a batch process that bounces many clips singly – described below) each individual source clip will determine the number of channels in its respective bounce track – i.e. if you have three clips in the EDL that have 2, 1, and 16 channels, the resulting three clips will be 2, 1, and 16 channels wide.

All O/Ps (all outputs) is the converse – the number of physical outputs in use by the mixer determines the width of the resulting bounce.

When this is set you will be forced to Bouncing through the mixer, and all Physical Outputs in use will be re-recorded internally except any that are used only for Aux sends.

If you do want to record Aux sends, then route them to an intermediate bus and to the output via a fader. Existence of a fader routed to a physical output causes everything routed to that output to be re-recorded. Thus if outputs used by an Aux send are also being used elsewhere, then the audio sent via the Aux send pot will also be re-recorded.

If you regularly require "flat" bounces (e.g. NOT through the mixer), then use Original mode.

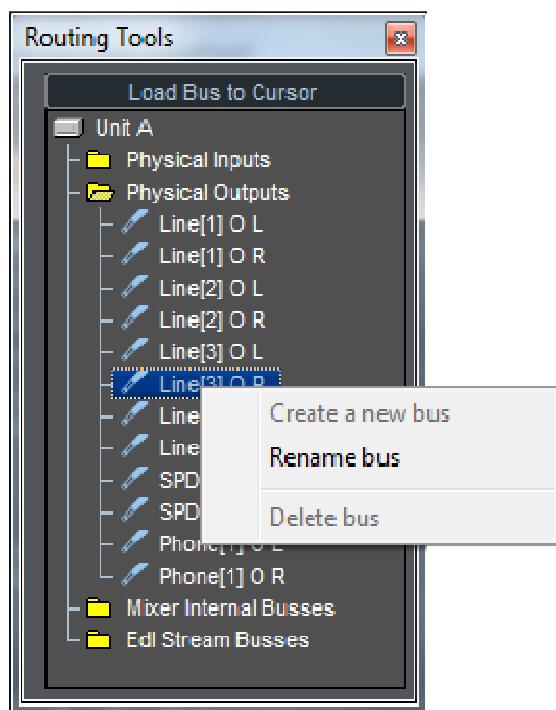
All Output bounces can be performed in Non Real Time.

There is a small feature in SADiE that is particularly relevant now for Surround "All output" bounces. Any bounce will have the output number or name appended to the new file that's created, and thus you can append channel labelling to the Bounce files by renaming the Outputs appropriately.

The easiest way to do this perhaps is in the Routing toolbar.



Press the **ROUTING** button on the Mixer



Double click on "Physical Outputs" and then again on "O/p 1 & O/p 2... O/p 5" to view each Output individually.

Then right mouse click on each separate O/p and rename them as:

O/p 1 **L**, O/p 2 **R**, O/p 3 **LS**, O/p 4 **RS**, O/p 5 **C**, and O/p 6 on its own to **Sub** if that's the output you're using for the Sub.

(you can choose your own nomenclature here: i.e. LeftRear or Left Surr or LR will do)

The resulting bounce files will be called something like:

Bounce-L01.WAV...

where "Bounce" is the track name you've typed, "-L" represents the channel, and "01" is the take number (which will only appear if you have auto-take switched on).

Labelling bounces in this way will make channel assignment easier once the files have made their way to the DVD author.

Bounce to Polyphonic File

When 'Bounce to Polyphonic file' is ticked, any multi-channel bounce (i.e. using 'All Outputs' or 'Original' with a multi-channel source) will create a single interleaved file with the same number of channels as are being bounced. The maximum number of channels supported is 32.

SPECIAL BOUNCE FUNCTIONS

1. **Multi-Bounce** - with **Multi** selected as the source for the bounce, every entry in the EDL will be re-recorded as a separate audio file on the disc drive. If you want a group of entries to become a single audio track then simply group the entries; a Group Entry is treated as one entry. You must have either **Autotake**, or **Clip Name** selected, as the new tracks will be automatically named. "Autotake" will use the Bounce track name as the main part of the name and increment the take number for every bounce. "Clip name" will use the source clip's name for every track. If "Autotake" is not switched on in conjunction with "Clip Name", and if duplicate names are found during the multi-bounce, a take name will be added anyway, and you will be informed this has happened at the end of the multi-bounce.
2. **PC** - Bounce to PC Disk: Of course every bounce is to the PC disk, however this provides a facility for bouncing to a directory that is different to the project's record directory. This can be useful when Master mixes are being created, they can automatically be "exported" to a pre-defined directory. There is a button alongside the PC option which shows where the "PC" bounce will go – pressing this button allows you to change to a different destination directory. There is also a tick box called "Create Profiles" which is connected to PC bounces, and this allows you to choose whether the profile files that SADiE uses for displaying waveforms are created or not.
3. **Reverse** - this option in the Bounce window allows you to make a backwards copy of an EDL entry or entries. Note also that right mouse clicking over an entry will initiate the Bounce window with Reverse enabled. Otherwise the Bounce window works in the normal way. Note that as usual the Bounce records the Output of the mixer including any level changes or processing.
Reverse cannot be used in conjunction with any Non I-I process, such as Resample or Timemod.
4. **Bounce Pre/Post Roll** - There is a setup option in the **Bounce** page of the Setup Window, which allows you to add audio at the beginning and end of the file that is created. The length of these is defined by the time fields in the setup option. Usually silence is inserted, however if this is a bounce-through-mixer and the mixer is producing audio outside the bounds of the bounce source material (i.e. a delay or reverb) then i.e. the reverb tail will be included in the bounced file. This is also useful if you are producing material that requires a short silent pre- or post roll for i.e. computer audio use.

Note that if the new bounced clip is being inserted into the EDL, it will insert at its original length, and the pre- and post-roll audio won't be seen until you edit the clip to make it longer.



COMPRESSED AUDIO

SADiE records and plays back only high quality linear PCM files, but includes the facilities to import and export some compressed audio formats.

The functions for **Exporting** and **Importing** to and from compressed audio formats use existing encoders and decoders installed on your computer along with Windows Media Player, and so the formats and qualities available will depend on your installation. If you are upgrading or freshly installing Windows Media Player, we advise that you use Media Player 10 (or higher), and that you then re-install SADiE in order to re-configure this feature.

Windows Media Player 10 or 11 are currently available from www.microsoft.com as a free download.

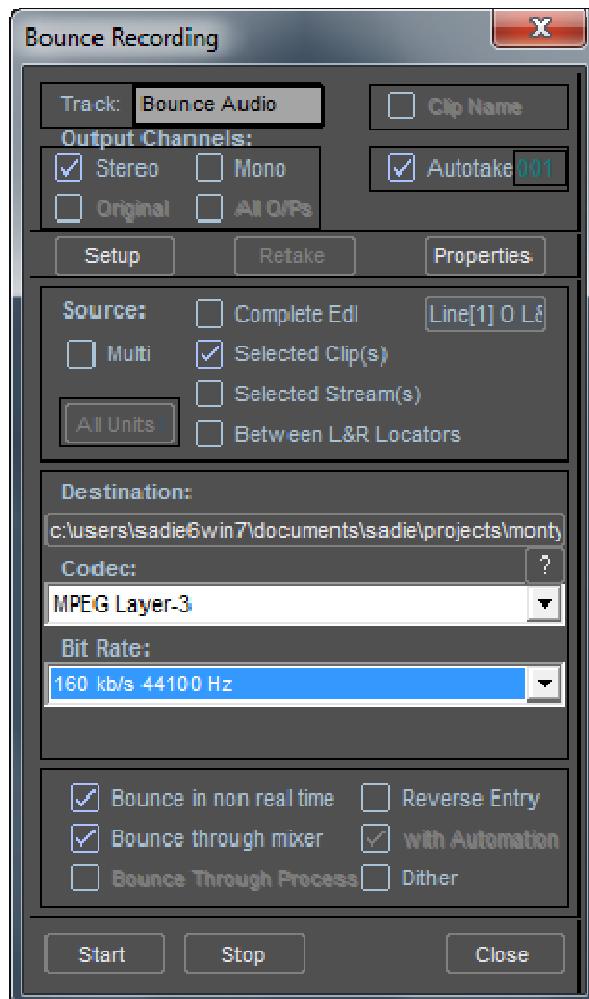
You will also need Windows XP and Service Pack 2 to run this feature.

Windows Media Player 10 or higher offers encoding to the most common PC formats - i.e. MPEG 1 layer-3 (MP3).

Media Player 10 can decode a wider variety of formats than it can encode, and so you will find that WMA, MPEG 1 layer 2 files and other formats can be imported.

EXPORTING TO COMPRESSED AUDIO FORMATS

The  **Compress Audio** button reveals a variant of the bounce window, which can mix down and re-record the EDL, or clips within it, to create a new audio file in a compressed format.



Operation is very similar to the normal bounce window. For example:-

- I. First, select the clips in the EDL.
2. Click on the  **Compress Audio** icon to open the Compressed Bounce Window.
3. The first section of this window serves the same purpose as the Record tab of the Transport window, so enter a name for the recording.
4. Select "Stereo" or "Mono" under "Output Channels" and at the bottom tick "Bounce through mixer" if you want to include some level changes made on the mixer. (See note below on stereo/mono.)
5. Next tick "Selected Clips" in the Source section. The Source section tells Bounce what to re-record; "Complete EDL" or "Selected Streams" are the other possibilities. The new recording is made through the mixer, so check that "o/p 1&2" are chosen from the pop-up list; SADiE will record what is appearing on these outputs.
6. Next select the location and format for the bounced file.
 - i. Select the folder where the file is to be placed by pressing the long button (**c:** in the picture) underneath **Destination**:
 - ii. Under **Codec:** select **MPEG Layer-3**

iii. Under **Bit Rate** choose the quality - the higher the number for kb/s and Hz, the higher the quality will be, and of course the larger the file size will be. If you are only offered 56kb/s for the MPEG Layer-3 format, then that is the limit of the encoder on your machine - install Media Player 10 then re-install SADiE.

7. The bottom section allows you to choose "Bounce in non real time". If this is selected the bounce will be performed as quickly as possible, but will not be audible during the operation. The other two options allow you to turn off automation and/or the mixer for the bounce.

Press "Start". The process will start, and during the bounce the ball icon in the Bounce button will "bounce". Be careful not to click in the time-line in the Playlist or press transport buttons, as you will halt the bounce.

Note on bit rates and stereo files. The most common encoder installed by Windows Media Player 10 creates only mono files at rates of less than 96kb/s.

IMPORTING FROM COMPRESSED AUDIO FORMATS

Importing of WMA or MPEG files works through the normal "Import Source Tracks" or "Copy and Import Source Tracks" in the clipstore. It makes no difference which of these you choose - a "copy and import" process runs in either case. On import the compressed audio file is converted to SADiE's current record format (see Properties on the Transport Controls' record tab) at the current sample and bit rate.

If sample rate conversion is required, i.e. SADiE's current sample rate is different to the compressed file, then a sample rate conversion will be applied by Windows Media Player (this isn't using SADiE's own SRC function).

SADiE is able to import files with the extensions:

.WMA
.MP3
.MPG
.MUS
.MP2

Note that some WMA files are copy protected, in which case it will not be possible to import them.

The Compressed Audio Import and Export feature is available as a software option - contact your dealer for details of how to obtain it.

UNDO AND REDO

 Pressing **UNDO** can reverse the last change that you made to the EDL. Press **UNDO** again to reverse the change before that, and so on, stepping back through the history of your actions. The maximum number of undo levels is set in the Setup window and can be up to fifty.

REDO steps you back the other way after using undo.



UNDO is at the bottom right of the panel and **SHIFT + UNDO** is redo.

NOTE: Undo and Redo are also available on the menu bar under "Edit". This may be useful as it also gives a description of the operation to be undone. Note that the "Edit" menu Undo and Redo commands can also apply to the Mixer and Clipstore, if either is the active window.

NOTE: The Undo memory is cleared if Streams are removed from or added to a Playlist.

LOCKING CLIPS AND STREAMS

There are facilities for Locking clips, more aptly described as a "Sync Lock". This is not a "Full lock" or "Write protect".

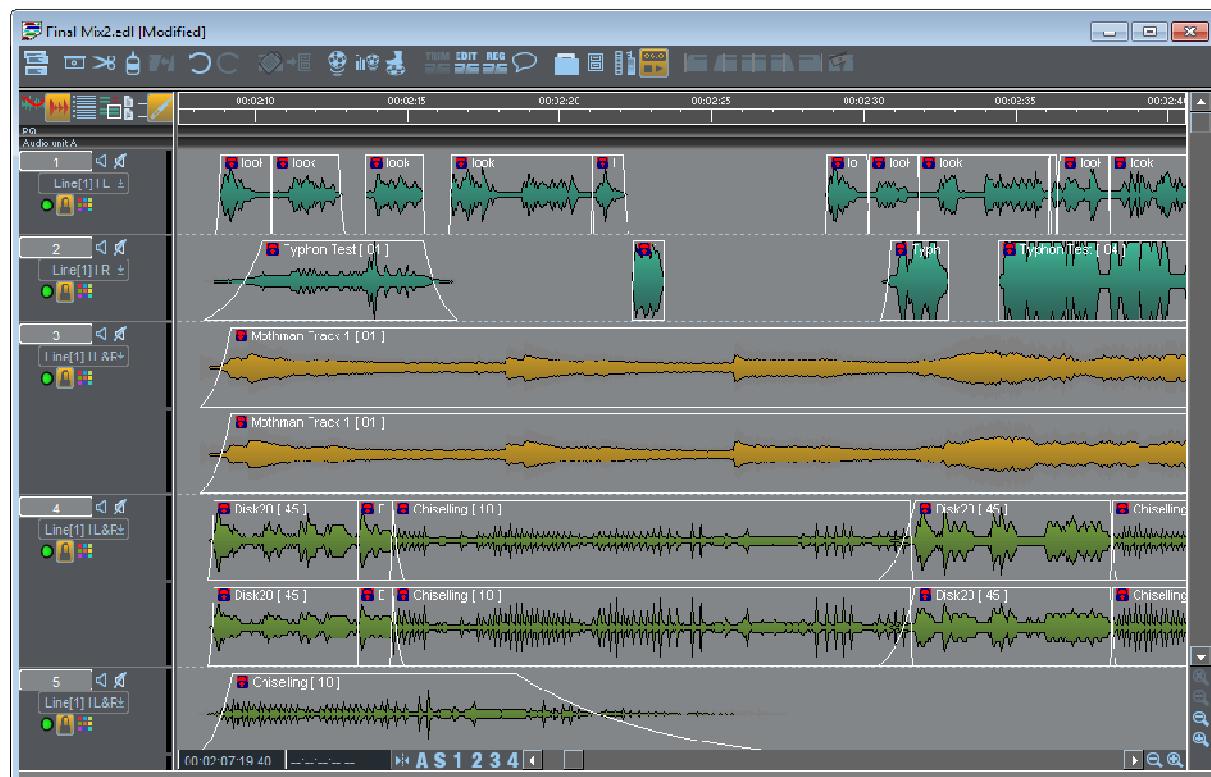
Clips in a Playlist can be locked individually and multiple selections of clips can be locked and unlocked using a Hotkey ("Lock selected Clips" and "Unlock selected Clips" under the Playlist section of Hotkey Setup) or the options at the bottom of the Playlist menu, and also Streams can be locked by using the little padlock buttons in the left side of the Playlist.



The **STREAM LOCK** buttons toggle (locked/unlocked) the status for all clips on that stream, and these buttons can be set in groups by using a similar logic to that used for Stream enabling, e.g. Shift + **LOCK** will lock all streams above the stream being locked up to the next stream above that changes status. There are two new buttons on a new Lock Streams toolbar for the Playlist to **LOCK ALL STREAMS** and **UNLOCK ALL STREAMS**.



When clips are locked, they will show a new red **LOCKED** icon in the top left corner (assuming there's space to display this). A yellow **LOCKED** icon shows that some clips within a group clip are locked (and others not).



Note that locking works on two levels. Clips that are locked individually (or as a multi-selection) cannot be unlocked by a Stream unlock. Likewise Clips that are on a locked stream become unlocked when you move them (by using Alt + drag or Nudge Down) onto an unlocked stream. This allows different methods of utilising the locks (stream or clip based or a combination of both).

Locked clips can still be edited, but no functions that may cause a sync-slip are allowed. Thus you will be allowed to nudge up or down a stream, and you can Playlist edit in the "EDL" mode, but you cannot nudge left and right or perform "Source" style edits. Also the new "Set In point" style editing is allowed (because it doesn't slip audio).

You can't pick up a locked clip and move it, but you can "Alt + drag" a clip to change its stream. If you move a selection that contains a mixture of locked and unlocked clips, only the unlocked clips will move. If you group together any selection that contains a locked clip, then the whole group clip will become locked. The group will act as if it is single locked clip. However, the padlock symbol will be yellow instead of red, to denote that only one physical clip is locked.

If you lock a single stream that contains stereo or n-channel clips, then the other legs of the clip on unlocked streams are considered to be locked (until you ungroup the clip).



The **LOCK** button matches the **LOCK STREAMS** buttons in the Playlist. Therefore, pressing **LOCK** will lock all streams, and press **SHIFT + LOCK** will unlock all streams.



There are Hotkeys available for these functions

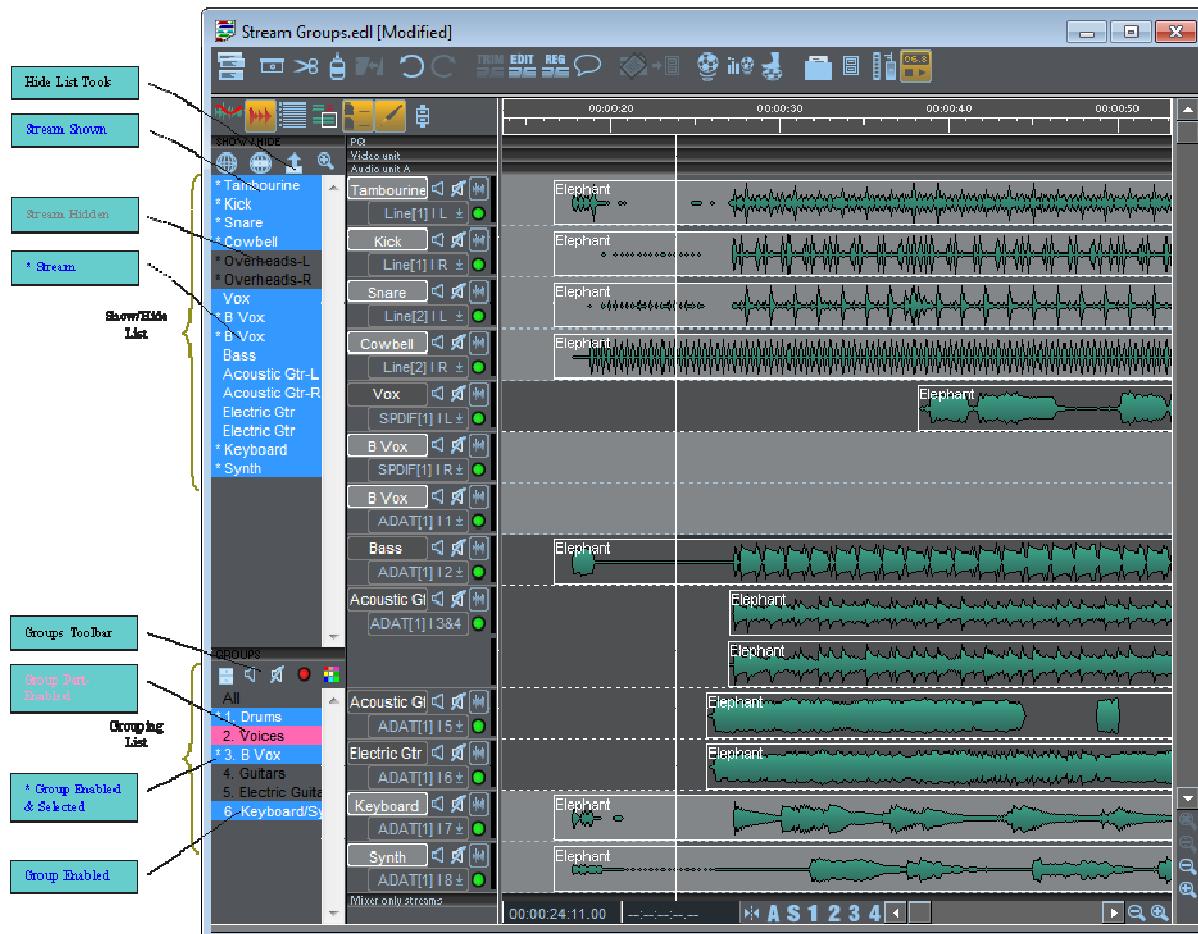
GROUPING PLAYLIST STREAMS

GROUPING AND HIDING STREAMS

Right Mouse click somewhere in the left hand side of the playlist, over the stream labels, and select the menu item "Show/Hide Stream Groups Lists". The Hide & Group tools will appear on the left side of the main Playlist window.

The **top half** of this vertical strip is for **Hiding** and **Showing** playlist streams.

The **bottom half** gives us tools for **Grouping Playlist Streams** so that certain actions can be performed on multiple streams quickly, for instance for enabling editing, or slip, or razor, and also for mute, solo and record enable functions.



STREAM GROUPS

To Create a New Stream Group **FIRST** enable some streams, disable streams that are not part of the group, **THEN** press the “Create New Group” button.

[Enabling and Disabling of streams](#) is achieved by pressing  the Stream Name buttons. Shift-clicking on those buttons changes ranges of streams; Ctrl-clicking on a stream disables all others.

Enabled streams appear with a light grey background (button down) and Disabled streams have a dark grey background (button up).

The grouping functions are always enabled, but you will want to see their interface to set up stream groups.

Right Mouse click somewhere in the left hand side of the playlist, over the stream labels, and select the menu item Show/Hide Stream Groups Lists

This will reveal a new vertical strip divided into two sections, and eight buttons and the Playlist will look something like the picture above.

Stream Grouping List

This bottom section is initially empty apart from the word “All”, but this is where you will see stream groups as you create them.

First, enable a few streams in your playlist and disable the others.

 The left most button is **Create New Group**. Press it; you'll be asked to type a name for the group; that name will appear in the list.

Click on the word “All” and all streams will become enabled. Click on your new group’s name in the Groups List and the stream enabling will revert to the way it was when you saved that group.

Make some more groups – enjoy yourself !

CTRL-click on a group to add it so as to select multiple groups.

Right-mouse-click (RMC) on a group name displays only that group. CTRL-RMC adds a new group to those displayed.

Streams ARE allowed to belong to more than one group.

You will notice the colouring of the background to the group name will change when you enable groups, or enable/disable individually.

- When a group name is displayed with a blue background it means that all of the streams belonging to that group are selected. (Blue may not be blue if your Windows colour scheme has been changed.)
- When a group name is displayed with a pink background it means that some of the streams belonging to that group are selected.

Thus, at a glance you can reliably determine whether streams are enabled or not.

Other functions can be applied to selected groups :-

(selected groups are those that have the * asterix by the side – the last one(s) you clicked on)

 Solo group(s)

 Mute group(s)

 Record Enable Selected Streams

And another right-mouse click menu on the four buttons shows a few more functions:

- Save Group – you can alter the stream grouping with this : i) Select the group ii) change the stream enabling iii) RMC over the Groups Toolbar and select Save Group iv) press OK – the name of the Group you’re re-saving will be displayed to show you that you’re saving the correct one.

- Delete group

- Rename Group

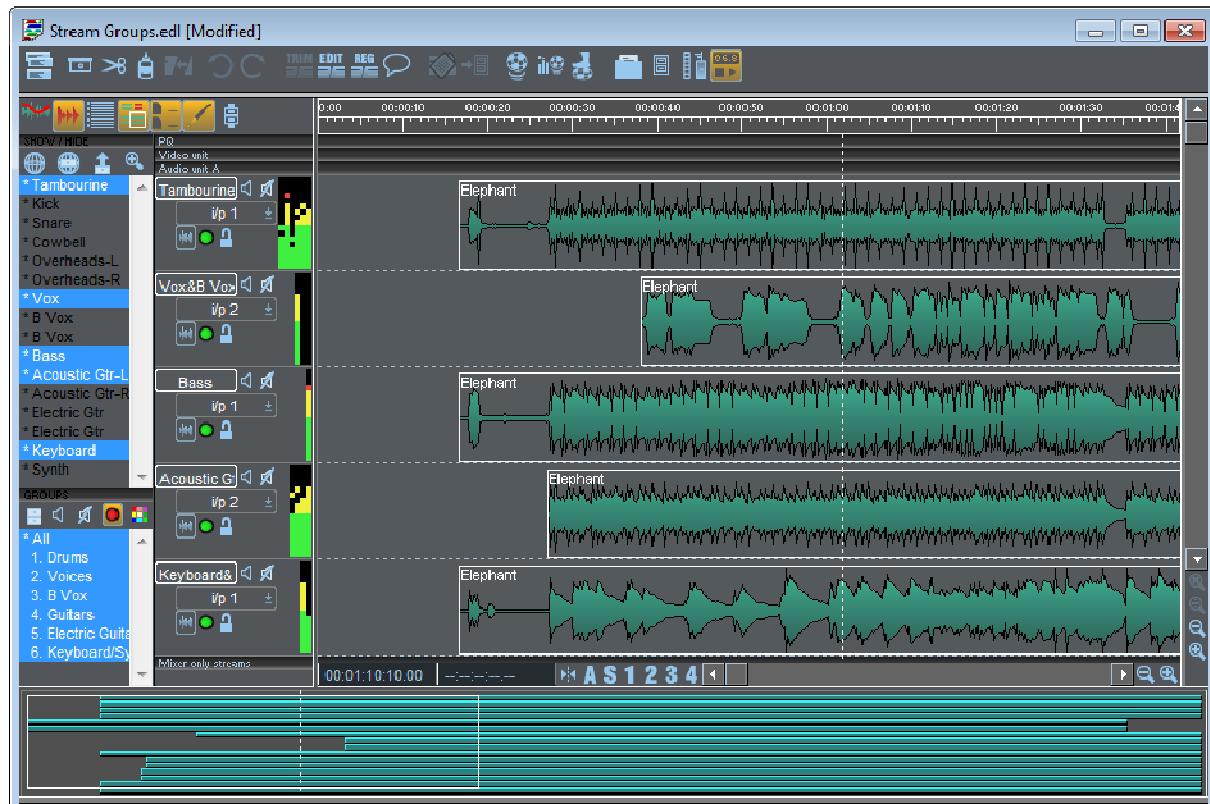
- Enable/Disable All
- Reverse Enabled/Disabled
- Unmute all streams
- Activate/Deactivate Streams (which makes Enabled Streams Active, disabled streams inactive – inactive means that those streams will not play and will not use DSP resources – i.e like ALT-clicking on a stream button.)

Note also that ALT-clicking on a group toggles that group inactive/active.

DISPLAY GROUPS AS ONE STREAM

This function, found in the Right-mouse-click menu of the Grouping List, or as a hotkey, will "collapse" all streams in the same group down to a single stream. The single stream select button will change colour to cyan and show the name of the group. This is useful for very large playlist where perhaps you are working with stems - it may be useful to simplify the view of the playlist.

As an example this is a 40 track Playlist made up,a grouped into 5 or 6 channel stems



You can choose which stream is viewed by right-mouse-clicking on the cyan stream button and selecting **View next channel**.

You can choose to **View All Channels** of a specific group, again from the right-mouse-click menu on the stream button, and once in this state you can revert to **View One Channel Only** again with a right-mouse-click.

Display All Streams in Groups found in the Right-mouse-click menu of the Grouping List, or as a hotkey, will revert the entire playlist to its usual view.

Display All Streams in Selected Groups also found in the Right-mouse-click menu of the Grouping List, or as a hotkey, will explode only the selected group to view its component streams.

NOTE that if a stream is a member of more than one group, it only appears in one display group under this regime, and it will appear in the first group to which it was joined.

HIDING AND SHOWING STREAMS

THE Show/Hide List

The top section is called the “Show/Hide List”. This provides secondary functions for hiding streams or groups of streams. There will see a number or name for every playlist stream. If you click on a single number/name, that stream will be hidden.

- Streams number/names with a blue background are being displayed
- Streams number/names with a grey background are hidden
- Streams number/names with an * asterix by the side are enabled.

Thus at a glance you can see which streams are being shown, hidden or are enabled, as you can see on the picture above.

The buttons along the top are fairly self explanatory:-

 **Show All**

 **Show Enabled Streams** (and thus hide disabled streams)

 **Enabled Streams at Top**

Right Mouse clicking over any of these buttons will show a menu that includes these functions and a couple more:

Hide All Streams (not as useless as you might imagine); **Auto Zoom on Show/Hide**.

A couple of these need a little more explanation.

Enabled Streams at Top is a mode – as you change the enabling of streams (and thus as you edit different sets of streams) they will be pushed to the top of the display to avoid you having to keep scrolling up and down the playlist. This is not a permanent re-ordering of streams, only temporary.

Auto Zoom on Show/Hide - as the number of streams being displayed changes, the vertical zoom will change also, thus when you show less streams they will be bigger.

Auto Zoom Selected Streams - vertical zoom will change to ensure that enabled streams are always viewed

CLIP DETAILS

CHANGING ENTRY CHARACTERISTICS

The Clip Details window lets you alter the way EDL Entries in the Playlist are replayed as well as providing another way to alter their positions in the EDL and labelling.

NOTE: The Clip Details window can be equally well used to alter the details of Clips in the Clipstore. This will affect the way they are replayed when they come to be placed in an EDL. If you want to store different versions of Clips in the Clipstore, change their name before writing them back to it. For example, a Clip called "Splash" could be loaded into the Clip Details window, have its level adjusted and name changed to "Quietsplash" and then be written back to be used as an alternative version.

NOTE: Although each Clip Details window only refers to a single Clip or Entry, you can have several Clip Detail windows open at the same time.



First select the single Entry or Clip you want to adjust. Then load it to a Clips Details window by pressing the **CLIP DETAILS** button (red on the Playlist toolbar, blue on the Clipstore toolbar).

NOTE: In the Playlist section of the Setup window there is an option to open the Clip Details window by double-clicking on the Entry.

The Clip Details window has a row of buttons along the bottom providing:



- A "Write-back" button which updates the Playlist or Clipstore with the new details.
- Buttons providing four ways of loading new Clips/Entries into the existing window for alteration. Each is described by the on-screen help. Remember to write back one Clip's details before loading the next.
- A preview button for hearing the Clip/Entry with the changes you are making in real time.
- A Close button for closing the window when you've finished with it.

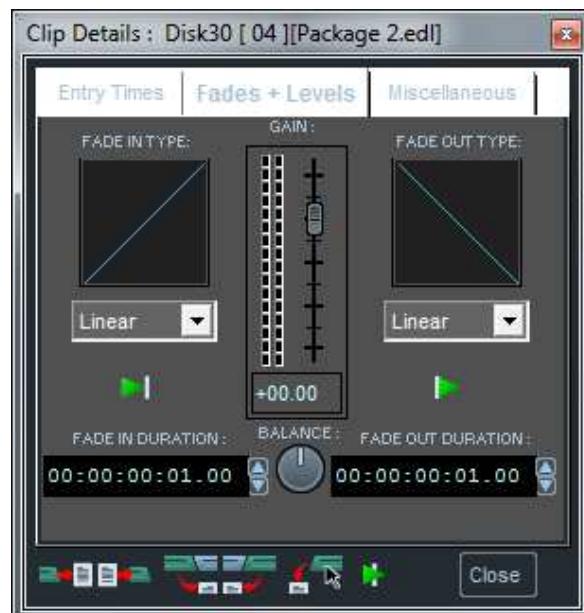
There are three tabs along the top, which reveal three different sections:

[Fades and Levels](#)

[Entry Times](#)

[Miscellaneous](#)

FADES AND LEVELS



The Fader changes the level the Clip /Entry will be replayed at. There is a PPM meter next to the fader to check the level.

NOTE: This sets the Entry's replay level relative to others on the same Stream, which will then be affected by the faders of the Mixer . It is useful for changing the level of a single Entry without bothering with Mixer automation.

The Balance control is a true stereo balance, or offset, adjusting the relative levels of the left and right channels of stereo material. It will not be active for mono Clips/Entries. Click and drag it left and right to adjust. A small fader will pop up to indicate the setting. Double-clicking keeps pop up open and allows you to adjust the pop-up fader:



Nudge Drag Centre

The rest of this section displays the details of the fade-in (on the left) and the fade-out (on the right). Every Clip or Entry in SADiE has a fade-in and fade-out, the length of which can be adjusted from the whole of the Clip's duration right down to zero, and the curve of which can be selected from a list of 117 different types.

NOTE: The default fade-ins and fade-outs which result from starting and stopping recording, and from making razor-cuts when editing can be set in the "Default Crossfade" section of the [Setup window](#). A standard time of 21 milliseconds/40 timecode subframes/1 CD frame (the "General" section sets how times are displayed) will give smooth edits for most purposes. For fine editing, like removing clicks and pops, you might want to reduce this by at least half. Note that zero-length crossfades are likely to cause clicks unless you use the Trim Editor at its highest magnification to make sure the waveform either side of the edit point does not jump in level.

To adjust a fade length, do one of the following:

1. Click, hold and drag the mouse up or down over any field of digits in its time display (e.g. the hours, minutes or seconds, etc.). Their value will increase or decrease; the more you move the mouse, the faster they change. Release to set the new value.
2. Use the up/down arrows beside the display to nudge its value by the lowest units. Hold Shift to nudge seconds, Ctrl to nudge minutes.
3. Double-click on the display.



The box that pops up allows you to:

- i. Directly type in a new duration (or use the mouse cursor to drag across and overwrite only part of the displayed duration). End with the keyboard ↵ Return key.
- ii. Click on "Zero" to enter zero, followed by "OK".
- iii. Use the up/down arrows to adjust the time, followed by "OK".

NOTE: Fade lengths can also be adjusted graphically in the [Playlist](#) and the [Trim Editor](#).

To change a fade type, press the ▾ down-arrow button next to the name of the current type.

The drop-box that appears lets you choose from 117 fade curves. Either use the Scrollbars and select the new fade with the mouse, or type the first letter of the fade you want, followed by ↵ Return on the keyboard. Alternatively you'll find that if you select the fade type, the keyboard up and down arrows enable you to move through the list of fades. Each fade's shape will be displayed above as you do this.

The fade curve is drawn in the box above the name. There are 7 different logarithmic and exponential curves:

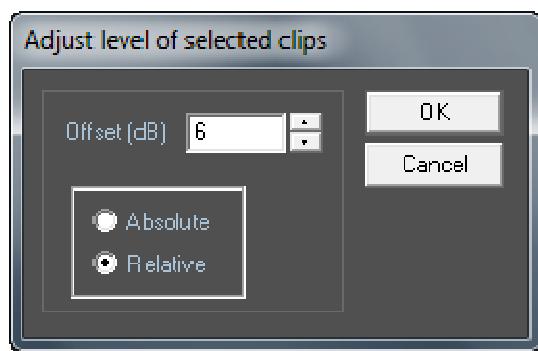
- Exponential fade-outs are good music fades.
- Short logarithmic fade-ins are useful for taking the edge off an abrupt start of speech.
- Linear fades are a good default for other crossfades and edits on most material.

Buttons are provided to preview just the fade-in or fade-out, with a pre-roll and post-roll time set in the pre/post roll section of the Setup window. Equal Power curves can be found by using the negative partner of a positive fade curve. More details about these fades can be found in the [Trim Fades and Crossfades](#) section.

NOTE: The default fade types which result from starting and stopping recording, and from making razor-cuts when editing can be set in the "Default Crossfade" section of the Setup window, displayed from the View menu.

NOTE: Setting a long Entry fade-out (for music and effects, for example) is a useful alternative to using fader automation in the Mixer.

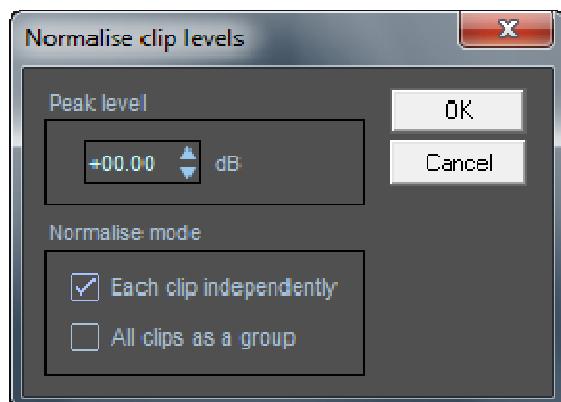
ADJUSTING LEVEL OF SELECTED CLIPS



Multiple (or single) selected clips can have their level altered using the "Adjust level of selected clips" option in the "Playlist" menu. This allows absolute or relative change to level for all the selected clips. The level is changed by typing a value, or clicking on nudge buttons. This function is also available as a Hotkey.

When using this function with a keyboard, you'll find that you can use the A (absolute) and R (relative) keys in place of Return to change the type of level change to apply and to confirm the action with the one key push.

NORMALISE



The normalise function automatically adjusts clip levels in order that the maximum peak in that clip reaches a specified level (set by the user). This option is available from the 'Playlist' menu. First you should select the clips that you wish to normalise.

Set the 'Peak Level' by typing a number or using the nudge buttons, and on pressing 'OK', SADiE will analyse the clips to find the highest peak, and will then lower or raise the level accordingly. The time taken to perform the Normalise will depend on several factors and will vary from Clip to Clip.

You can choose one of two modes -

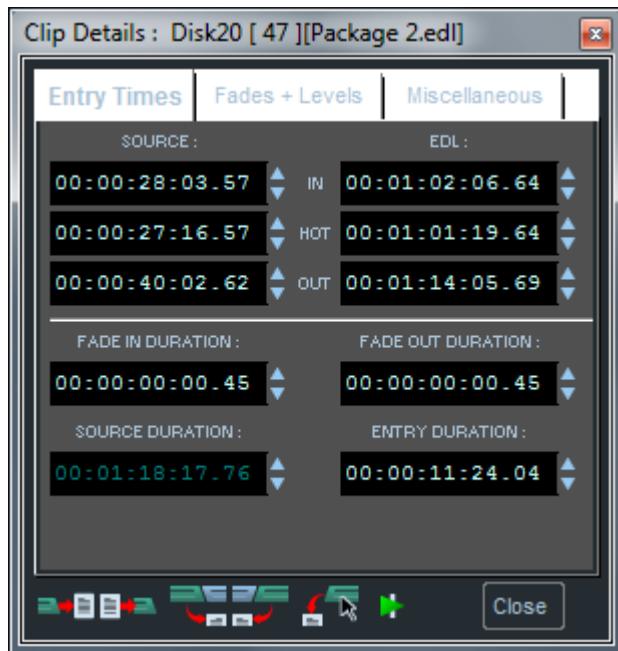
- each clip will be normalised independently (this also applies to the individual clips inside (yellow) group clips), and so the peak level will be found for every clip, and every clip may have its level changed by a different amount.
- All clips can be normalised as a group - the peak level will be found in the single loudest clip, and thus all clips will have their level raised or lowered by the same amount.

The time taken to perform the Normalise will depend on several factors. Part of the process involves looking at profile files. However, if the original track was not recorded with SADiE v5.2 or higher, then the profiles may not be accurate enough. And so for older tracks, the normalise function will trigger a "Recreate profiles" process. Additionally the normalise analysis itself will take longer if the track is heavily compressed and already peaking consistently at the same level. Outside of these two conditions, normalise takes between 20 and 50 seconds for every hour of stereo material (44.1K).



There is a Hotkey available for this function.

ENTRY TIMES



This section displays the times at which the in-point, Hotspot and out-point of this particular Entry or Clip occur in:

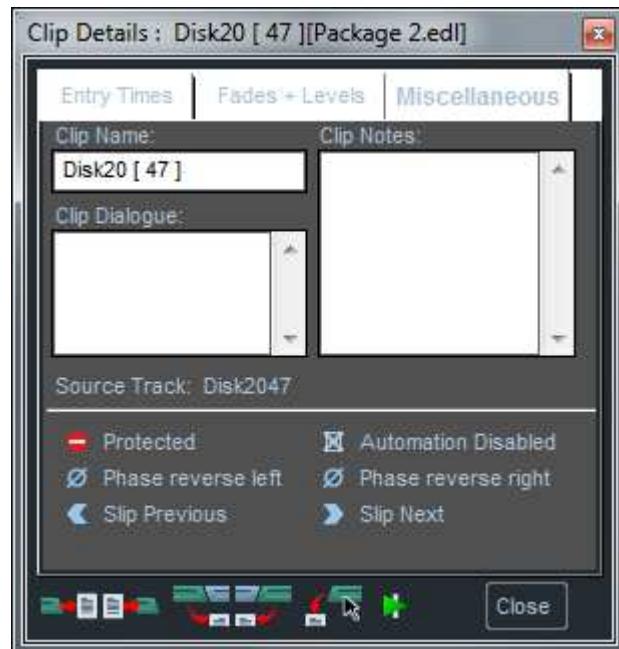
- I. The Source Track - the times define what portion of the original recording is being used for this Entry/Clip.
2. The EDL - the times define at what time that portion will be replayed and will be blank for Clips in the Clipstore .

The fade durations are also displayed here as well as the overall duration of the Entry/Clip. Source Duration is the length of the original Track as it was recorded.

All of the above times (except the source duration) can be altered in the same way as described for fade durations in the above section.

The values are interactive, following the same logic as Source/EDL Playlist editing. So, for instance, if you change the Entry duration, the EDL out time will change accordingly.

MISCELLANEOUS



Here you can change the name of a Clip /Entry, and write text for dialogue or notes that may be shown alongside the Clip in the "Comments" area of the Playlist Stream. The Playlist Display section of the Setup window sets whether dialogue or notes are displayed.

There are right-mouse-click menu items and associated hotkeys to allow direct editing of the Clip Notes and Clip Dialogue fields. The hotkeys are in the 'Playlist' section of Hotkey Setup and the functions are called 'Edit Clip Notes....' and 'Edit Clip Dialogue of Selected Entry'.

Use the mouse to position the cursor to enter text, or drag across text you want to overwrite.

Five other buttons affect the way the Clip/Entry behaves:

- Protects the Entry from having its Source times changed, so it is always the same bit of audio.
- Causes all Mixer automation data in the EDL to be ignored for this Entry.
- Phase reverses the left or right channel of stereo Clips/Entries (or the whole mono Clip/Entry).
- Slip all previous Entries
- Slip all following Entries when you write back changes that move this Entry in the EDL. These will initially reflect the Slip status of the Playlist but can be used to override it when writing back, just like the Trim editor's Slip buttons.

TEXT EDL

TEXT EDL

The Playlist is a graphical representation of the EDL. Often, however, it is useful to view and edit the EDL in text form, as a "cue-list" of Entries to be played, in order.

[Displaying the Text EDL](#)

[Using the Text EDL](#)

[Viewing and Printing the Text EDL](#)

[Working with more than one EDL](#)

DISPLAYING THE TEXT EDL



Each Playlist has a Text EDL underneath it, which can be revealed by pressing the **TEXT PANE** button, then selecting the tab marked "Text EDL". You can adjust the boundary between the text pane and the Playlist by dragging it with the mouse.

NOTE: Enlarge the Playlist window by dragging its outer borders if necessary. You can also open the Text EDL in a separate window; ensure the Playlist is active and then from the "Window" menu select "New Window" and choose "Text EDL".

Entry	Entry name	Track name	EDL start time	EDL end time	Entry duration
1	BB_TASTER_V19_DCP_BITC	BB_TASTER_V19_DCP_BITC	10:00:00:00.00	10:12:18:13.00	00:12:18:13.00
2	BTTDV3.01.new.01	BB_TASTER_V19_Exported_01_295	10:00:20:11.00	10:00:22:10.00	00:00:01:24.00
3	denoise [02]	denoise [02]	10:00:29:16.00	10:00:40:13.10	00:00:10:22.10

For each Entry, the Text EDL shows in columns most of the details that would be shown in the Clip Details window. The display scrolls vertically through the EDL and horizontally through the different columns.

USING THE TEXT EDL

The Text EDL is fully interactive with the Playlist display, and so all the hardware controller functions on the Playlist will still apply. However, you can perform several operations directly on the Text EDL display with the mouse:

- Select Entries by clicking on the Entry number in the "Entry" column. Holding the keyboard Shift key whilst selecting another Entry selects all Entries between them. Holding the Ctrl key lets you select/deselect any number of Entries.
- Start playback from the in-point of any Entry by double-clicking on the Entry number.
- Stop playback by clicking on any Entry number.

Every Entry detail that can be altered in the Clip Details window described above can also be altered here by double-clicking on the display in the relevant column. You can even type in a value in dB for the level! Finish with the ↵ Return key, or the Escape key to cancel.

You can navigate inside the Text EDL using the keyboard. Use the up/down/left/right arrows keys to move through the table. The Enter key opens up a field for editing, and then you can type in new values as above, press ↵ Return to confirm, or Escape to close the field without making a change.



NOTE: The effect of changing EDL times in the Text EDL depends on the **LOCK** buttons in the Playlist. For example, when Entries are locked, setting a later start time will trim the beginning off the Entry, whereas when they are not locked, it will move the Entry in the EDL.

Additionally you can change Streams in the relevant column by typing in the new Stream number, or the lower numbered of the two Streams for a stereo Entry.

The following details, which relate to the original Track, cannot be changed and are for display only:

- Track name
- Sample Rate at which it was recorded
- Sample Resolution (in bits per sample) at which it was recorded
- Offset between its original time in the EDL during recording and its time in the present EDL. (Offset represents how much out of sync. it is, where sync. is relevant.)

VIEWING AND PRINTING THE TEXT EDL

CUSTOMISING THE TEXT EDL DISPLAY

You can rearrange the columns in the Text EDL to suit yourself. Right-click on the grey column heading buttons and select the options that you want from the drop-box. (This works in all of the windows with these heading buttons, Disk Manager, Clipstore, etc) "Insert Column" inserts a duplicate column, which you can then redefine by clicking on its heading button and selecting the required display parameter from the list. "Delete Column" does just that. Dragging the dividers between the heading buttons changes the width of columns. Left click on the column headings to sort the entries by that heading.

PRINTING THE TEXT EDL

The Text EDL can be printed out as arranged on screen. It will print in exactly the order displayed. This is available on the "Playlist" menu under "Print Text EDL".

- "To Printer" prints directly to the printer. Beware that in normal circumstances you are likely to be displaying far more Text EDL fields than will fit, width-wise on a normal sheet of paper in a normal (readable) sized font, and therefore you will need to customize the display before printing.
- "To File..." prints to a text file that can be imported into another application for further manipulation.

The "Printing" section of the [Setup window](#) allows you to set the number of characters per line, and also the delimiting character. This is particularly useful for importing the list into a spreadsheet or database.

WORKING WITH MORE THAN ONE EDL

You may open several Playlists and create EDL's in each of them. This may be useful to create alternative versions of a piece of work.

To copy an entire EDL from one Playlist to another:

- Save the EDL in Playlist A.
- Create a new Playlist B (in the Project window, or the File menu).
- Load the saved EDL to the paste buffer (under the File menu).
- Paste it into Playlist B.
- You now have two identical EDL's and you can make different changes to each of them.

To copy EDL Entries from one Playlist to another:

- If both Playlists are visible, hold the Ctrl key and the Shift key and drag the Entry from one Playlist to the other, OR
- Copy to the paste buffer, make the other Playlist the active window, and then paste into it.

EDITING

EDITING OVERVIEW

EDITING OVERVIEW

SADiE provides the user with a fast and intuitive interface for editing. With stereo or Multichannel material, the two (or more) channels are always edited simultaneously if they were recorded together, unless a stereo/Multichannel EDL Entry is first ungrouped as described under [Grouping Entries](#).

There are four editing techniques at your disposal:

1. Simple cut-and-splice editing in the Playlist uses the scrub function to accurately locate edit points, and make "razor-cuts", just as you would on tape. This creates separate EDL Entries so that unwanted material can then be removed.
2. Playlist Editing allows you to make and also adjust edits by altering the in-point and out-point of any Entry. At the same time, you can adjust an Entry's [Hotspot](#).
3. The Trim Editor is a separate window that works like Playlist Editing, but also provides:
 - i. Greater viewing detail - higher magnification of profiles down to waveform level for removing clicks and microphone pops and the ability to see the profile of the original Track outside the edit points, e.g. the bits that you're not using at this point.
 - ii. The ability to adjust more than one EDL Entry simultaneously. For example, by moving the fade-in of one Entry and the fade-out of the next Entry together, you can slip the crossfade between them along the audio. Many other possible combinations are equally useful.
 - iii. The ability to "top and tail" a Clip from the Clipstore, and to create a new Clip from an existing Track.
4. Region Editing - other editing methods are entry based, but region editing is useful for cutting, copying areas that haven't yet been defined as entries. You can for instance use region editing to remove a complete section of the Playlist across all streams.

All edit functions can be achieved by using both the Hardware Controllers and the mouse. You will find that the hardware controls often provide a quicker method of editing, particularly for repeated actions, but there may be some times when it is appropriate to use the mouse instead. The following sections describe the edit functions from both perspectives.

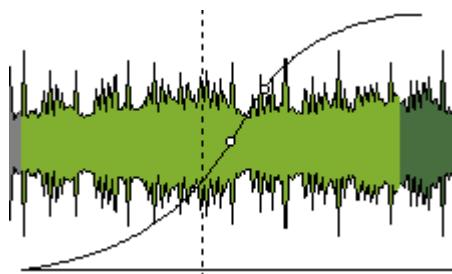
SYNC OR NON-SYNC EDITING

If you work in an audio-only field like radio, when you cut out material, you will usually want to slip everything else along the EDL to fill up the gap, like joining up two bits of tape. Enabling **SLIP** will do this for you. For safety, pre-select both left and right Slip (see [Placement of Entries](#)).

If you are working to picture and for some music applications, much of the time you are likely to want your audio material to be fixed to the EDL so that it remains in sync. This means you will have **SLIP** off. But you can enable slip on some streams by [enabling/disabling streams](#) to perform edits that require this.

SADiE makes it easy for you to work either way, and to switch between modes as necessary.

FADE SHAPES



Whenever you make a "razor-cut" to divide an EDL Entry into two, you will actually create a new fade-out and fade-in at that point. SADiE can do this in either of two ways. These are set in the "Playlist" section of the [Setup window](#).

- Splice-cut mode - the fade-out and fade-in overlap to make a perfect crossfade. This will undoubtedly be what you want to do normally.
- V-cut mode - the first Entry fades out before the next starts to fade in, so there is no overlap. This is really only necessary when you are reaching the DSP limit of how many Entries SADiE can play at once. This obviously creates a "drop-out", although it is often not noticeable in clean speech if you are laying music or effects underneath.

The default fade lengths and curve types that are created when you make a razor-cut can be set in the "Default Crossfade" section of the [Setup window](#). A standard default of 20 milliseconds/40 timecode subframes/1 CD frame (the "General" Setup section sets how times are displayed) and a linear curve will give smooth edits for most purposes. For repeated fine editing, like removing clicks and pops, you might want to reduce this to less than 5 milliseconds. If you are just doing the occasional fine edit, you don't need to change the default, as each crossfade time is easily adjusted in the Trim Editor or Clip Details window.

NOTE: Zero-length crossfades are likely to cause clicks and are best avoided.

There are 117 possible fade shapes.

These are:

Cos	(+01 and -01)	Cosine
Cosh	(+01 and -01)	Hyper Cosine
Exp	(+01... +16 and -01... -16)	Exponential
Linear	(Just linear)	Linear
Log	(+01... +16 and -01... -16)	Logarithmic
Pow	(+01... +16 and -01... -16)	Power
S	(+01... +16)	S shaped

These are selected in the drop-down boxes in the [Clip Details](#) window. The [Trim Window](#) allows the "dragging" of Log, Pow, Exp and S fade shapes to different "depths", as well as saving and loading of fade shapes to and from a file.

Most of the curves have a corresponding opposite curve (denoted by a minus sign), which will provide an equal power crossfade when the two are used together. For example if Log (+08) is combined with Log (-08) for a crossfade then the crossover point of the edit will be -3 dB.

The Pow set of curves is based on: $y = x^p$ ($0 \geq x \leq 1$).

The value of p is a constant for a specific curve and varies from 7/6 to 22/6 in steps of 1/6 over the set Pow (+01) to Pow (+16).

Older versions of SADiE had only 20 curves, and SADiE will automatically converts users' default crossfade and EDL conversion settings to the new regime. Old EDL's are also upgraded on loading.

EDITING IN THE PLAYLIST WITH HARDWARE CONTROLLERS



BASIC EDITING

CUT AND SPICE EDITING

- I. First disable any Streams you do not want to cut on:
 - i. Select **STREAM** and use the wheel or **PREVIOUS/NEXT** to highlight a Stream, then hit **EDIT/SELECT** to enable/disable it. **SHIFT + EDIT/SELECT** acts on the group of Streams above the highlighted one which are all the same status.
 - ii. Deselect **STREAM** (and make sure you do not have **CLIP** or **ZOOM** selected either).
2. Use the **SCRUB** button to select jog, shuttle or move cursor modes (indicated by the small LED's next to the wheel) and locate your edit point with the wheel.

- i. "Jog" is the equivalent of rocking the reels of a tape recorder back and forth: The more you move the wheel, the more audio you hear.
- ii. "Shuttle" is the equivalent of spooling the tape across the heads; the more you move the wheel, the faster the audio goes forward or backwards.
- iii. "Move cursor" mode (all LED's off) lets you quickly locate the current-time cursor without audible scrubbing.
- iv. There are also Hotkeys for three fixed forward and reverse scrub speeds and a scrub-pause. These can be assigned to the keyboard, or the hardware controller's function buttons, under "Edit Controls" in the "Hotkey" section of the [Setup window](#). The default keys are on the keyboard's number pad. The speed for each Hotkey can be set in the Scrub Setup section of the Transport Controls, Setup window.

NOTE: You will hear all Streams that are not muted, so you may choose to solo the relevant Stream(s). Use **SHIFT + MUTE** above the hardware faders. If you are using machine control of a VTR, hit **ONLINE** to scrub the picture in sync.

3. Press the **RAZOR** button. The Entry/Entries on enabled Streams will be divided under the current-time cursor.

NOTE: If you are trimming an Entry's top or tail, you can now simply remove the new Entry to the left or the right of the razor-cut. If you are removing material internally, you will need to make two razor-cuts so that you can remove the new Entry between them.

4. Select the relevant Entry by moving the current-time cursor over it and pressing **EDIT/SELECT** and remove it by pressing **CUT**. If you have **SLIP** on, the resulting gap will be automatically joined up.
5. Play the finished edit by moving the cursor back a bit and pressing **PLAY**. If you don't like it, use **UNDO** and do it again or adjust it using [Playlist Editing Mode](#).



PLAYLIST EDITING MODE

In this mode, when an entry is selected in the Playlist, it will change to a waveform profile and its In and Out points and Hotspot can be adjusted.

Playlist Editing has the following uses:

- After making a razor cut as described above, by adjusting the out-point of the preceding EDL Entry, and the in-point of the next, you can remove (or repeat) material at the edit point. The initial razor-cut doesn't even have to be that accurate, as the adjustment will fine-tune the edit.

NOTE: If you are using the razor to make cuts "on-the-fly" during normal speed playback, you may want to use the option in the Playlist section of the Setup window which stops playback when you make a cut.

- You can adjust an existing edit.
- You can adjust the join between two unrelated EDL Entries, such as the way a music Entry fades and speech starts over it.
- You can adjust an Entry's Hotspot.

There are six possible adjustments, from selecting **IN**, **HOT**, or **OUT** and either **EDL** or **SOURCE** mode. (Source mode is with the button LED on.)

EDL The EDL time of the **IN** or **OUT** point of the Entry is adjusted, as well as its time in the source Track. This will be most used when working to picture, as the profile (and so the audio) is fixed to the EDL, and sync is maintained. The Hotspot can be moved without moving the audio.

SOURCE The **IN** or **OUT** point being adjusted remains at the same EDL time, but it's time in the **SOURCE** Track is adjusted by slipping the profile. This will be most used for sound-only editing. With **HOT** selected, the whole entry can be moved and will scrub across the current-time cursor.

Note: this describes the newer logic of the Hardware Controller buttons as set when the "Hardware Controller Edit>Select is select only" setup option under Setup;Playlist; Playlist and Trim Edit; is ticked. The older method is described later.

- I. Select the entry to be adjusted by using the wheel to move the current-time cursor over it. To activate Playlist Editing on that Entry, you should press the In, Out or Hot button, depending on which of the three points you wish to edit. The entry will turn brighter red, and the "Edit" LED by the wheel will flash.

NOTE: If you have Entries on several Streams at this point, you will be selecting the one on the lowest numbered, enabled Stream. If necessary, disable Streams as described for cut-and-splice editing. If you have just made a razor-cut, you will have done this already.

2. Adjust the edit point with the wheel. The **SCRUB** button will select:
 - i. "Jog" mode - the more you move the wheel, the more audio you hear.
 - ii. "Shuttle" mode - the more you move the wheel, the faster the audio goes forward or backwards.
 - iii. "Move" mode (no LED permanently on) - quick adjustment without audible scrubbing. This is sometimes useful if you can tell from the profile exactly what you want to do.



You can also adjust the edit with various Hotkeys, which may be assigned to the keyboard or the Hardware Controller function buttons under "Edit Controls" in the "Hotkey" section of the [Setup window](#):

- i. "Nudge Edit Point" Hotkeys will adjust the edit in small increments which are pre-set in the "Trim Edit Nudge" section of the [Setup window](#).
- ii. There are three fixed scrub speed Hotkeys for forward and reverse adjustment, and a scrub-pause key. The default keys are on the keyboard's number pad. The speed for each Hotkey can be set in the Scrub Setup section of the "Transport Controls", [Setup window](#).

NOTES: Shuttle is useful for losing large amounts of material at an edit point, just like dumping tape onto the floor. The time displays on the controller will indicate the time at which the selected edit point occurs in the Source Track and in the EDL. When moving a whole Entry (**HOT + SOURCE**), an on-screen display on the Stream will show the EDL in and out times. If **SLIP** is on, whether previous or subsequent Entries move when you finish an edit is determined by which Slip mode is pre-selected and which Streams are enabled to be slipped (see [Placement of Entries](#)).

4. Press **PREVIEW** to play across the edit point with the pre and post-roll times set in the Setup Window (under "View" on the menu bar). Note that alternative pre and post-roll times can be set in the Setup window.
5. Press **the selected edit point (In Hot or Out)** again to turn Playlist Editing off and confirm the edit, choose another edit point by pressing i.e Out, Hot, In, or select other entries with **NEXT** and **PREVIOUS**.

IN PRACTICE Playlist Editing is much quicker to do than to read about!:

- For most non-sync editing (**SLIP** and **SOURCE** on), in your chosen **SCRUB** mode locate the edit point with the wheel, press **RAZOR** to make a cut, move the cursor back a bit, hit **OUT**. Adjust the left side of the edit with the wheel then press **NEXT** and adjust the right side.
- Edit sync material in the same way with **SLIP** off and in **EDL** mode. For extra safety, you will have **LOCK** on as well.

Generally it is safest to confirm each edit by pressing **In**, **Hot** or **Out** to turn Playlist Editing (and the LEDs on the three keys) off. You are then free to use the wheel without accidentally re-adjusting the last edit.



FADES AND CROSSFADES

To adjust the length of fades **IN** or **OUT**, and overlap them to create crossfades, press **CROSSFADE** to move the inner point (e.g. the end of a fade-in or the start of a fade-out) and **SHIFT + CROSSFADE** to move the outer point (the start of a fade-in or the end of a fade-out).

The type of fade curve can be altered in the [Clip Details](#) window for the Entry, or in the [Text EDL](#).

Greater flexibility for adjusting crossfades may be possible with the [Trim Editor](#).

Further details on the use of Hardware Controllers can be found in [Hardware Controller Functions](#).

EDITING IN THE PLAYLIST WITH A MOUSE



BASIC EDITING

RAZOR OR SCISSORS?

Mouse users have the option of using the "scissors" to make razor-cuts.

Whereas the **RAZOR-CUT** button always cuts at the current-time cursor, when you press the **SCISSORS** button, the mouse-pointer will change into a dinky scissors icon with a cross to show the target point. You can then make a freehand cut anywhere in the Playlist (useful if you can see where to cut from the waveform profile) and so skip the process of scrubbing to locate the edit point.

The following editing instructions describe scrubbing to locate and then using the razor-cut, but remember that the scissors have the same function.

CUT-AND-SPICE EDITING



1. Display the Edit section of the Transport Controls by clicking on the tab at the top.
2. Click and hold the mouse button over the Scrubwheel and drag it to scrub the current-time cursor along the EDL:
 - i. Moving the mouse up/down gives you forward/reverse shuttle. The more you move from your original position, the faster it goes. This is like spooling tape against the heads.
 - ii. Moving the mouse right/left gives you forward/reverse jog. The more you move, the more you hear. This is like nudging a tape machine's reels back and forth.

You can move between jog and shuttle modes without releasing the mouse button.

NOTE: You will hear all Streams that are not muted, so you may choose to **SOLO** the relevant Stream(s) with the small Stream control button.

NOTE: If you are using machine control of a VTR, hit **ONLINE** in the Transport Controls to scrub to picture.

NOTE: Don't position the Scrubwheel too near the top or bottom of the screen, or it will restrict the amount of movement you have for shuttling.

Locate your edit point and release the mouse button.

There are also Hotkeys for three fixed forward and reverse scrub speeds and a scrub-pause. These are assigned to the keyboard under "Edit Controls" in the Hotkey section of the Setup window. The default keys are on the keyboard's number pad. The speed for each Hotkey can be set in the "Scrub Setup" section of the "Transport Controls", [Setup window](#).

3. Before you make a razor-cut you should disable any other Streams that have EDL Entries at this point that you don't want to edit. The  **STREAM NAME** button enables/disables Streams for cutting. Disabled Streams are darker grey.
4.  Press the **RAZOR CUT** button. The Entry/Entries on enabled Streams will be divided under the current-time cursor.

If you are trimming an Entry's top or tail, you can now simply remove the new Entry to the left or the right of the razor-cut. If you are removing material internally, you will need to locate and make a second razor-cut so that you can remove the new Entry between them.

5. Select (by clicking on it) the relevant Entry and remove it (**CUT TO PASTE**). If you have **SLIP** on, the resulting gap will be automatically joined up.
6. Play the finished edit by double-clicking in the time bar just before it. If you don't like it, use **UNDO** and do it again or adjust it using [Playlist Editing Mode](#).



PLAYLIST EDITING MODE

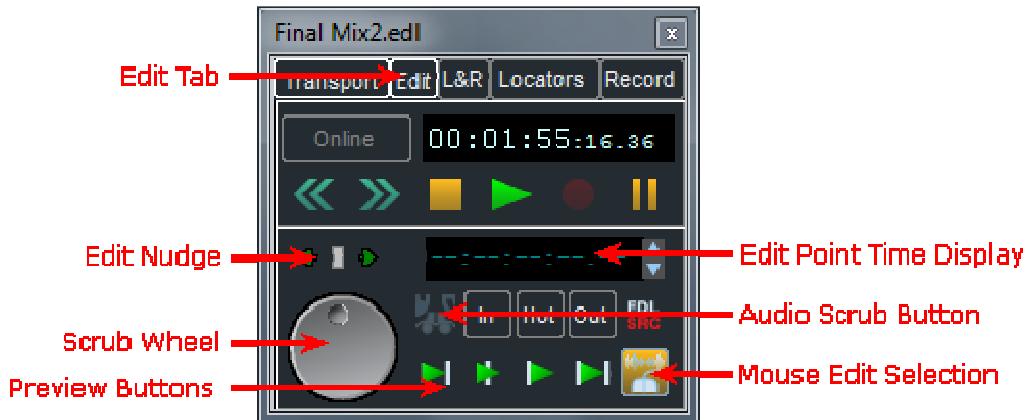
In this mode, when an entry is selected in the Playlist, it will change to a waveform profile and its In and Out points and Hotspot can be adjusted.

Playlist Editing has the following uses:

- After making a razor or scissors cut as described above, by adjusting the out-point of the preceding EDL Entry, and the in-point of the next, you can remove (or repeat) material at the edit point. The initial razor-cut doesn't even have to be that accurate, as the adjustment will fine-tune the edit.

NOTE: If you are using the razor to make cuts "on-the-fly" during normal speed playback, you may want to use the option in the Playlist section of the Setup window which stops playback when you make a cut.

- You can adjust an existing edit.
- You can adjust the join between two unrelated EDL Entries, such as the way a music Entry fades and speech starts over it.
- You can adjust an Entry's Hotspot.



1. Display the Edit section of the Transport Controls by clicking on the tab at the top.
2. Activate **PLAYLIST EDITING** mode with this button on the Playlist toolbar.
3. With the mouse, select the Entry on whichever side of the edit point you want to adjust. The Entry turns a brighter red.
4. With the **MOUSE EDIT SELECTION** button down (the default position), depending where you point the mouse over the Entry, a handy little graphic at the mouse pointer will appear to tell you which bits of the Entry are going to move. When you click the mouse button, the **IN**, **HOT**, **OUT** and **EDL/SOURCE** buttons automatically select what will be adjusted as follows:

Mouse Graphic	Point Selected	Mode Selected	Operation
	In	EDL	Fade-in moves
	In	Source	Body and Fade-out move
	Hot	EDL	Hotspot moves
	Hot	Source	Whole Entry moves
	Out	EDL	Fade-out moves
	Out	Source	Fade-in and Body move
	Main body/ Hot while holding CTRL key	Source	Moves the body of the entry but leaves the In and Out where they were.

5. The mouse graphic is probably enough to tell you what will happen when you edit, but if you ever want to manually select the editing adjustment by turning **MOUSE EDIT SELECTION** off (for example, to move the Hotspot when it coincides with the in point), a description of the two modes may be useful:



EDL Mode: The EDL time of the In or Out point of the Entry is adjusted, as well as its time in the Source Track. This will be most used when working to picture, as the profile (and so the audio) is fixed to the EDL and sync is maintained. The Hotspot can be moved without moving the audio.



SOURCE Mode: The In or Out point being adjusted remains at the same EDL time, but its time in the Source Track is adjusted by slipping the profile. This will be most used for sound-only editing. With **HOT** selected, the whole entry can be moved and will scrub across the current-time cursor.

6. When you have the mouse graphic you want, click and drag the mouse over the Entry profile, to either jog or shuttle it, as described in [Cut-and-Splice Editing](#). When you release the mouse button, the edit adjustment is done!

4.



You can also adjust the edit in small increments by "nudging" it with the **EDIT NUDGE** buttons in the "Edit" section of the Transport Controls or buttons above the Scrubwheel. The nudge steps are set in the "Trim Edit Nudge" section of the [Setup window](#). There are two settings:

- i. Pressing the buttons.
- ii. Holding Alt. while pressing the buttons.

The buttons can be pressed repeatedly, or held down. You will not hear the audio when using them.

5. NOTE: Shuttle is useful for losing large amounts of material at an edit point, just like dumping tape onto the floor, but you don't have to worry about stepping on it.

NOTE: Whether previous or subsequent Entries move when you release the mouse button will be determined by whether you have selected a **SLIP** mode and which Streams are enabled to be slipped (see [Placement of Entries](#)).

NOTE: The time display in the Transport Controls edit section will show you the time of the In/Hot/Out point being adjusted in either the EDL or the Source Track, and both of these (or the new duration) appear alongside the Entry profile on the Stream. When moving the whole Entry, the Stream display shows EDL in and out times.

6. To hear the edit you can either play it normally, by double-clicking in the time bar just before it, or use the preview buttons, which play a pre-set amount either side of the edit point:



PLAY THROUGH EDIT plays through the edit.



PLAY TO EDIT plays just the left-hand side of the edit and



PLAY FROM EDIT plays just the right-hand side. **TO** and **FROM** can be useful for assessing which side you still need to adjust.



PREVIEW EDIT will play the selected EDL Entry, from one edit point to the next.

7. You can cancel a preview while it is playing with a second press of its button.
8. There are three pre-roll and post-roll lengths available by pressing:

- i. Only the preview button.
- ii. Shift + the preview button.

iii. Ctrl + the preview button.

The lengths of each are pre-set in a dedicated section of the [Setup window](#).

IN PRACTICE Playlist Editing is much quicker to do than to read about!:

- Normal non-sync editing (**SLIP** on) means making a cut, hitting the **PLAYLIST EDITING** button, selecting and adjusting the left side of the edit with  and  and  and 

FADES AND CROSSFADES

There are four more mouse symbols which let you increase the length of the fades at the in and out points by dragging out the start or the end of each fade. Overlapping them will create crossfades.

Hold the keyboard Ctrl key as you move the mouse over the edit point:

Mouse Graphic	Click and Drag
	Start of the Fade-in
	End of the Fade-in
	Start of the Fade-out
	End of the Fade-out

The type of fade curve can be altered in the [Clip Details](#) window for the Entry, or by holding the keyboard Alt key, or Alt + Shift keys as you move the mouse over the edit point (as in the [Trim Editor](#)):

Mouse Graphic	Click and Drag
	Fade-in Shape
	Fade-out Shape

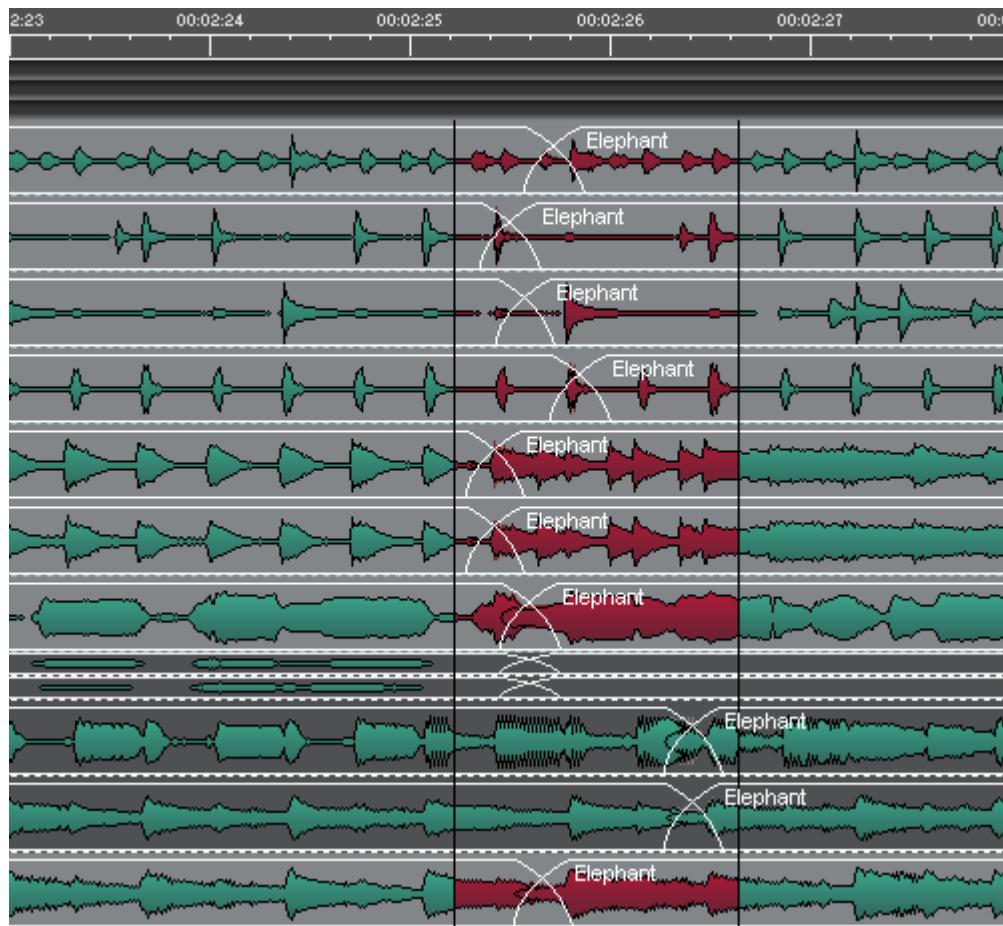
Greater flexibility for adjusting crossfades may be possible with the [Trim Editor](#).

MULTI-TRACK PLAYLIST EDITING

So far we have only discussed adjusting the edit points and fades of a single Playlist Entry, however it's possible to apply these same functions to :

- Two entries on a single stream (thus we are working on the **Edit point** between the two entries, much like working in the Trim Window.) A group clip (i.e. a yellow clip that contains a number of edited entries) is considered to be a single entry, and only the start and end of the group clip can be edited, and thus not the internal edits.

- Entries on multiple streams - even though they may (or may not) be grouped together into group clips, by selecting them together, you may still edit them all together.



When two entries on a stream (or two entries on any number of streams) are selected for Playlist Editing, the following functions are available on the pair:-

- The standard Playlist Edit (PLE) functions for In Out and Hot point editing, and in both EDL and Source modes as described above.
- Fade lengths and Fade shapes as above.

In addition :-

- The **crossfade** between each pair of entries (i.e. the Out point of the first entry, and the In point of the second) **can be moved** to change the position of the crossfade - i.e. change the **edit point** to be earlier or later without changing the timing relationship of the two entries.
- The **length of the crossfade** can be adjusted by using the standard CTRL-click&drag modifier when the mouse is over the edit point.
- The **crossfade shape** can be adjusted in the usual way using the SHIFT-ALT and ALT modifiers.
- Fade lengths and Shapes can be **mirrored** from the Out fade of the first to the In fade of the second (and vice versa). This is only available on a keyboard shortcut, and uses the same hotkey that has been set for the same function in the Trim Window. - i.e. Setup/Hotkey Setup/Trim Window/Crossfades: Mirror (L to R and R to L).

SELECTING ENTRIES FOR PLAYLIST EDIT

Some rules apply to determine how entries are edited together.

STREAM ENABLING AND GROUPING

Note that Playlist Edit (PLE) works in conjunction with the [stream grouping](#) functions – ***Playlist Edit and Trim only operate on streams that are enabled*** (the stream grouping functions allow quicker ways of enabling/disabling streams).

SELECTING ENTRIES

When the entries are being selected, a decision is made as to how the clips will be edited together.

If the selection has **two clips on each stream** then the decision is simple – when you select and move the fade out of the first clip on any stream, then the fade out on the first clip of every stream will be moved, along with the fade in of the second clip on every stream. In other words – you move the **Edit Point** between the pairs of clips.

If the selection includes **three or more clips on any stream**, playlist editing will not be allowed.

For the situation where **one clip per stream** is selected, or else **a mixture** of one clip on some streams, two on others, then the method of selecting the clips becomes important.

Clip Selection across all streams

ALT-select. If you hold the ALT key and click and drag the mouse pointer horizontally, all clips in the “region” selected will be selected when you let go of the mouse button. Thus you can select streams without viewing them. This is like the “box-drawing” method but works on all clips vertically.

Box-Selection

Whilst you are dragging a box to enclose a selection, a region will be drawn, until you let go and the entire entries are drawn in red.

When ALT-selecting OR Box-selecting, the clip in- or out-points enclosed by the region/box will determine which ends of the clips go into edit together.

MULTI-TRACK EDITING

When you’re ALT-selecting , if you want to work on a “two clip” **EDIT** (i.e. there are “outgoing” clips on the left side of the edit, and “incoming” clips on the right side) then you should select across all clip ends that are included in the edit. SADiE can edit multiple clips together even if they do not have the same beginning or end times, or the same length fades. By ALT-selecting the “region” encompassing the edit, you choose which edit is being worked on.

To change between adjusting one side of the two-clip edit (perhaps you want to adjust the outgoing fade out without adjusting the incoming fade in ?) then just ALT-scratch across the left (or right) side of the edit (you don’t have to come out of Playlist Edit first).

You can change selection on the fly, thus putting different selections into Playlist Edit. Note also that you can change the streams that are *enabled* on-the-fly, to change which streams are being (or not being) edited. Thus you should disable streams that you do not want to edit. You can use the ALT-selection method to select all clips (except those on disabled streams) vertically. Alternatively, you can use normal box-drawing, & shift-selecting methods to determine the clips that you wish to edit.

When you are working with multiple clips in a “two clip” edit, then selecting and dragging the edit point will move both the fade out and the associated fade in. Likewise ALT-drag will change the fade shape (SHIFT-ALT drag being the “coarse” control as normal) for both points.

Note that ALT-clicking inside the “edit” or “crossfade” area will perform a fade-shape change, whereas ALT-clicking outside this area will perform the “vertical-select” function.

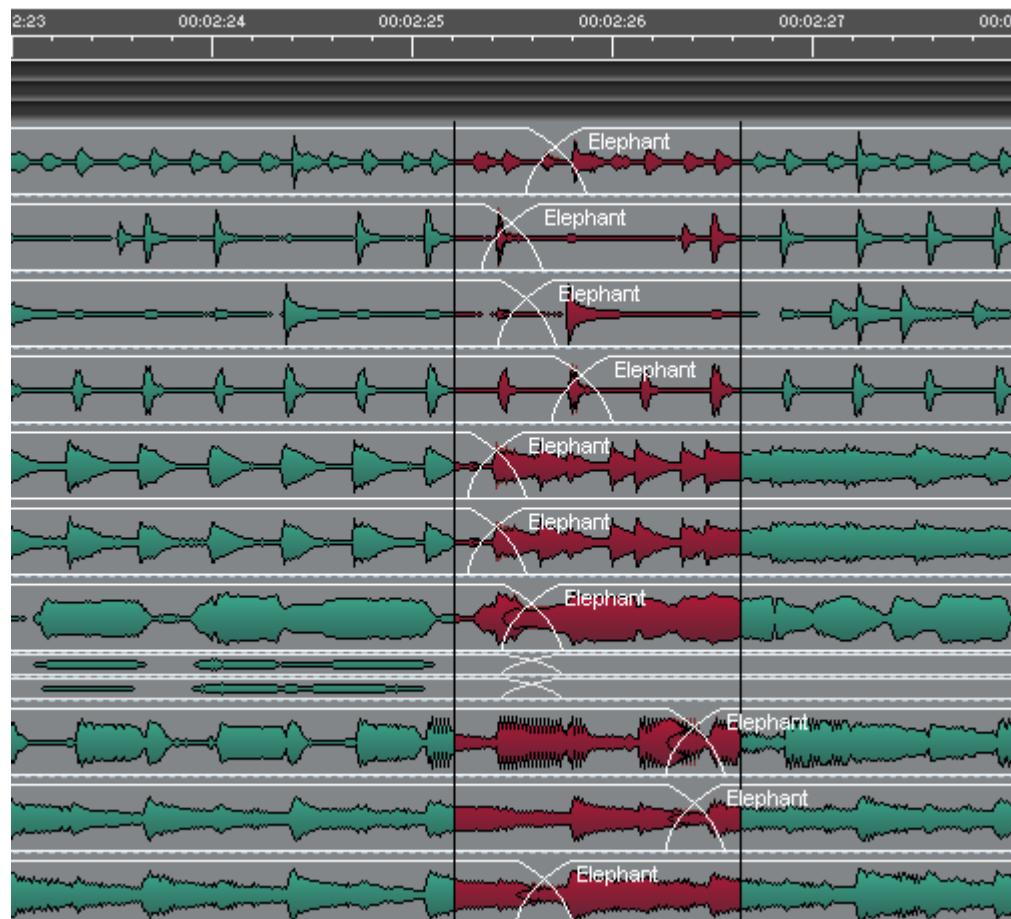
If, by mistake, you select a region that includes more than two clips on any single stream, a message will appear telling you to reduce the number of clips per stream in the selection.

Yellow group clips are treated as a single clip, but when they are in PLE, you cannot adjust the internal edits, only the start and end of the yellow clip. You can only move the start and end of a yellow group up to the next internal edit – any further would break the internal edit which is not allowed. (It is assumed that you grouped the clips together to “lock” the internal edits)

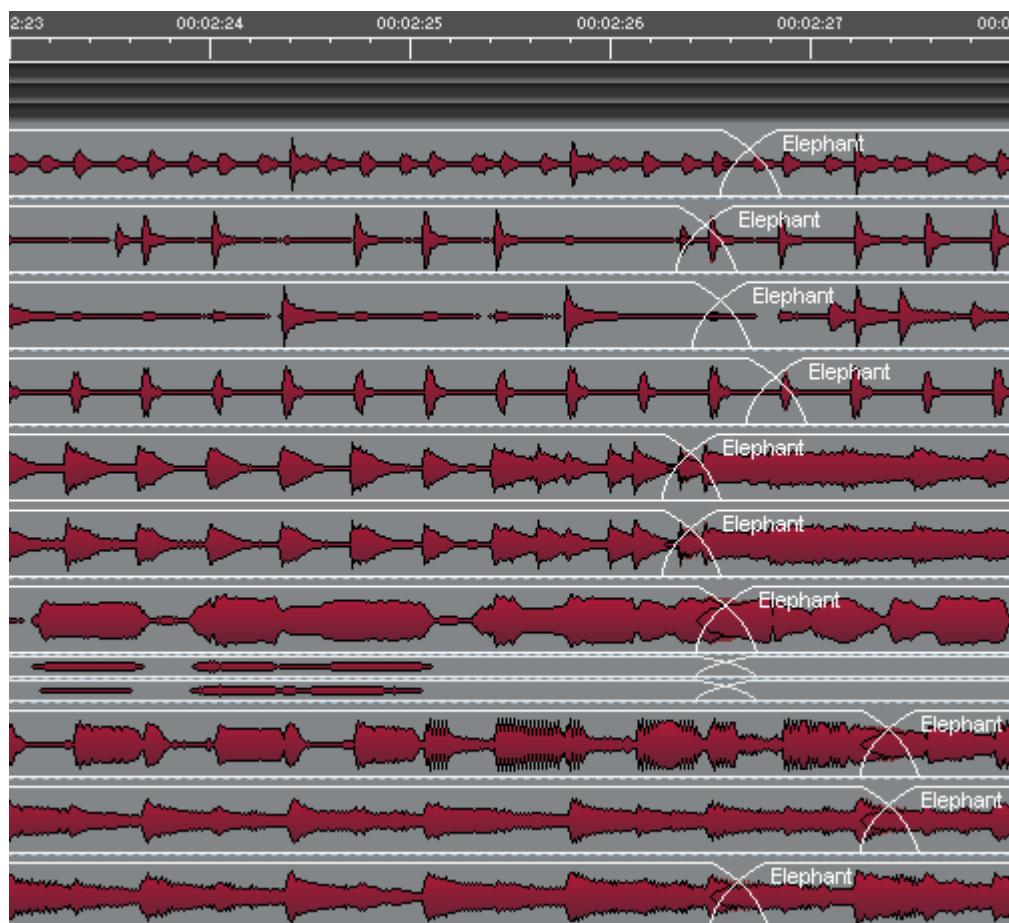
EXAMPLE SELECTIONS

Two clips per stream

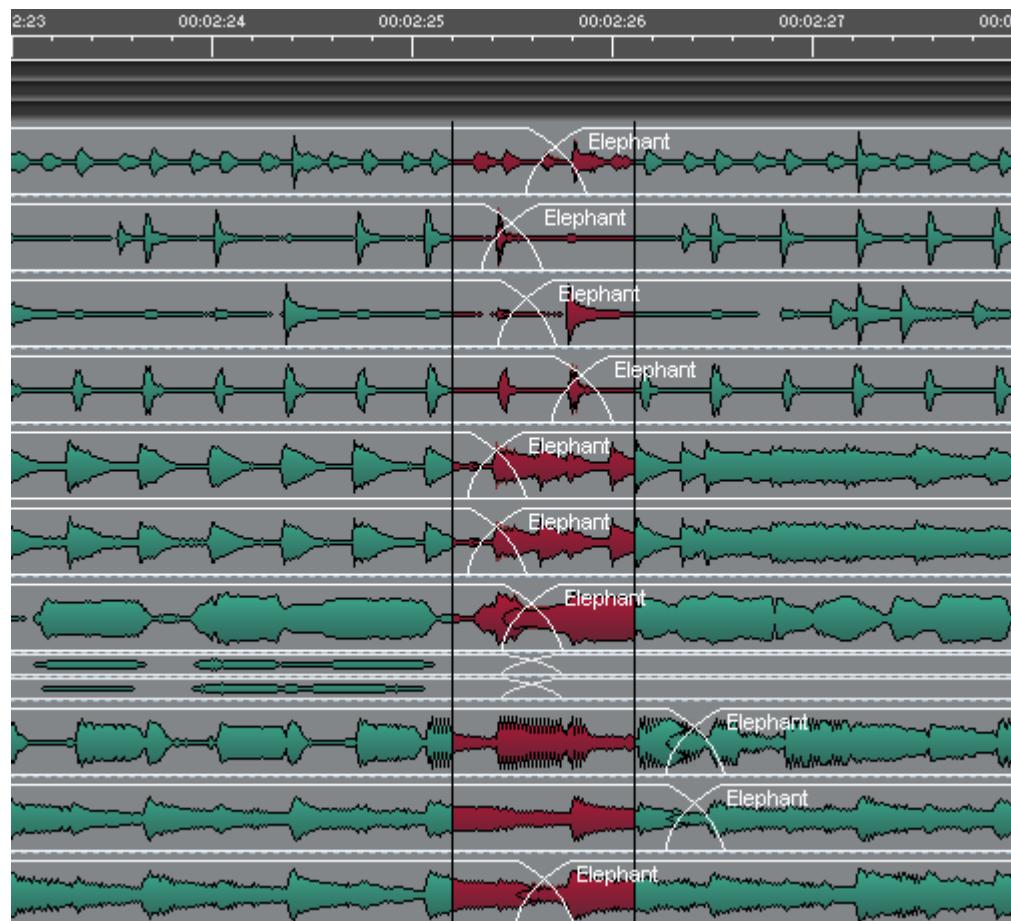
Example 1. Alt-Selecting across all streams



On each of these twelve streams a crossfade is enclosed in the Alt-selected region, and thus on every stream, when you click and drag the crossfade edit whilst in PLE, all of the edit points will move together as below. You can see that I've moved the crossfade across all streams about one second to the right



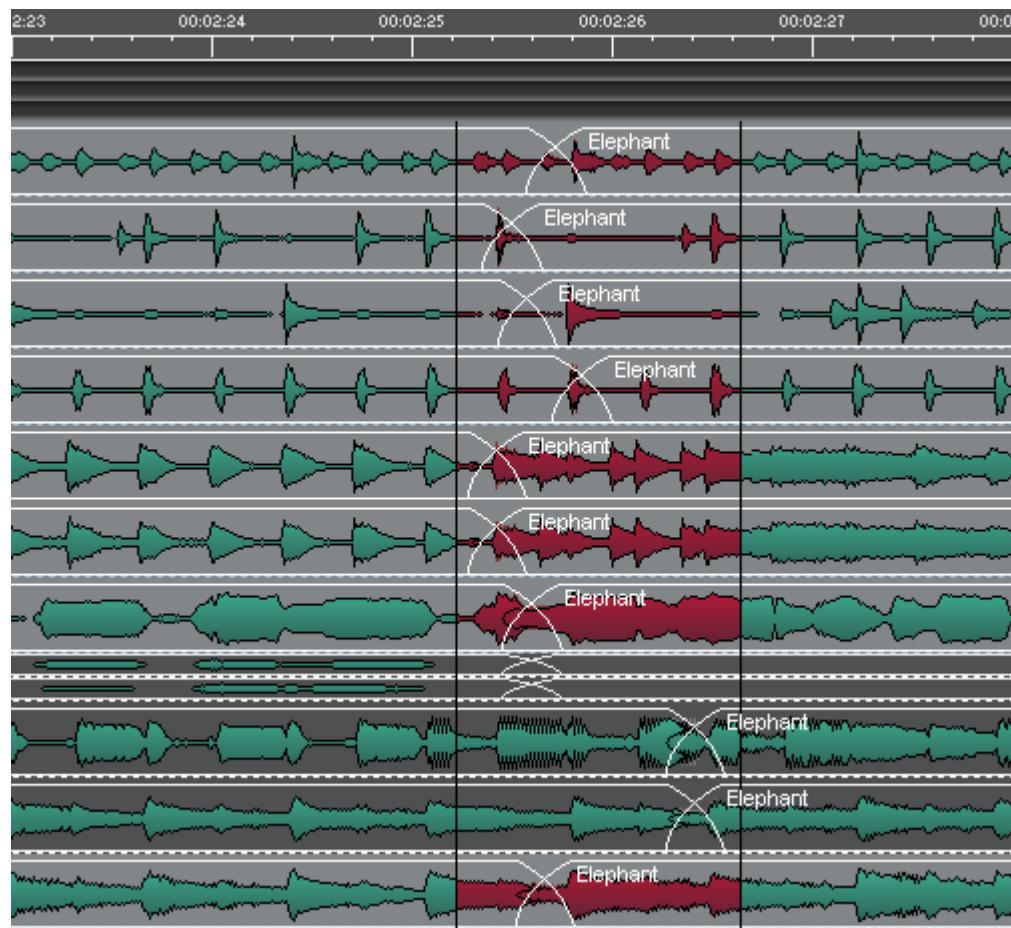
Example 2 – Selective ALT-selecting



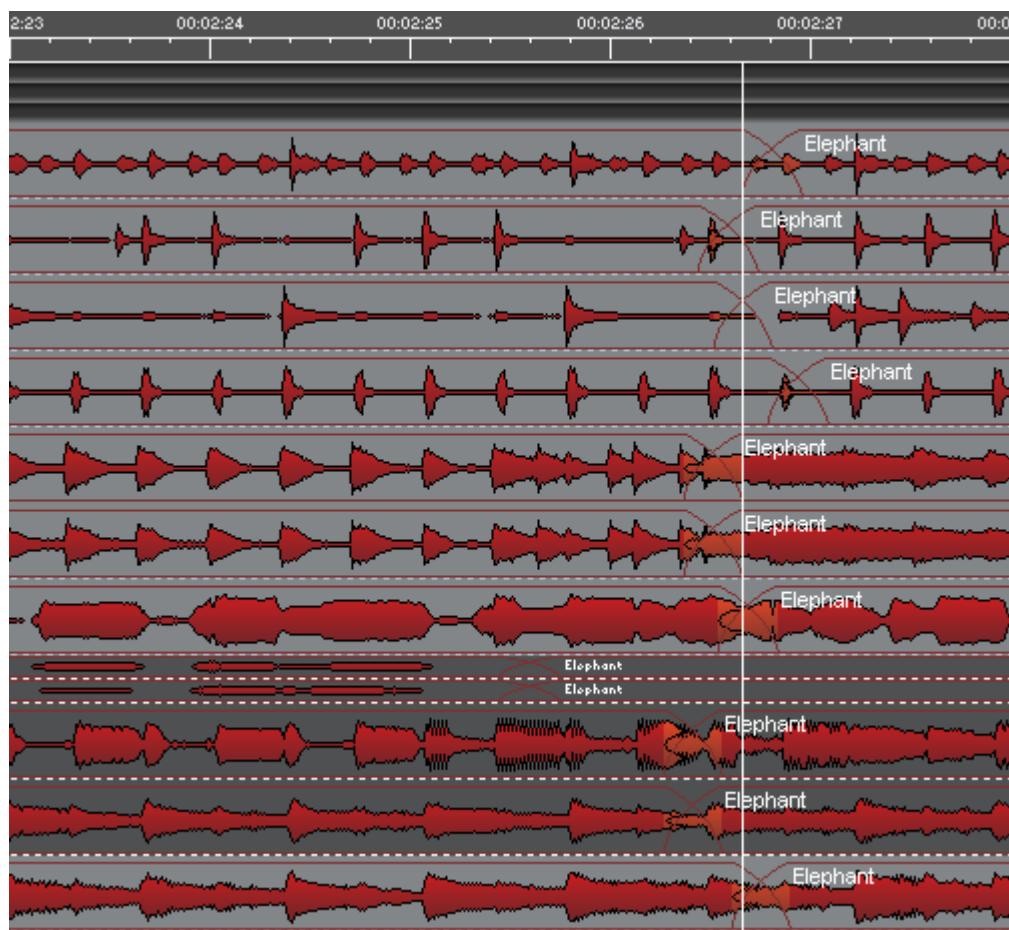
In this example, you can see that edits on streams 10, and 11 are not enclosed by the ALT-select region, but it does touch the left-hand-side clips on those three streams. And so as below, when you click and drag on the edit point (and in this case I've moved it one second to the left) those two right-side clips are not edited (and in this case a gap is created).



Example 3 – Using Stream enabling/disabling in conjunction with ALT-select

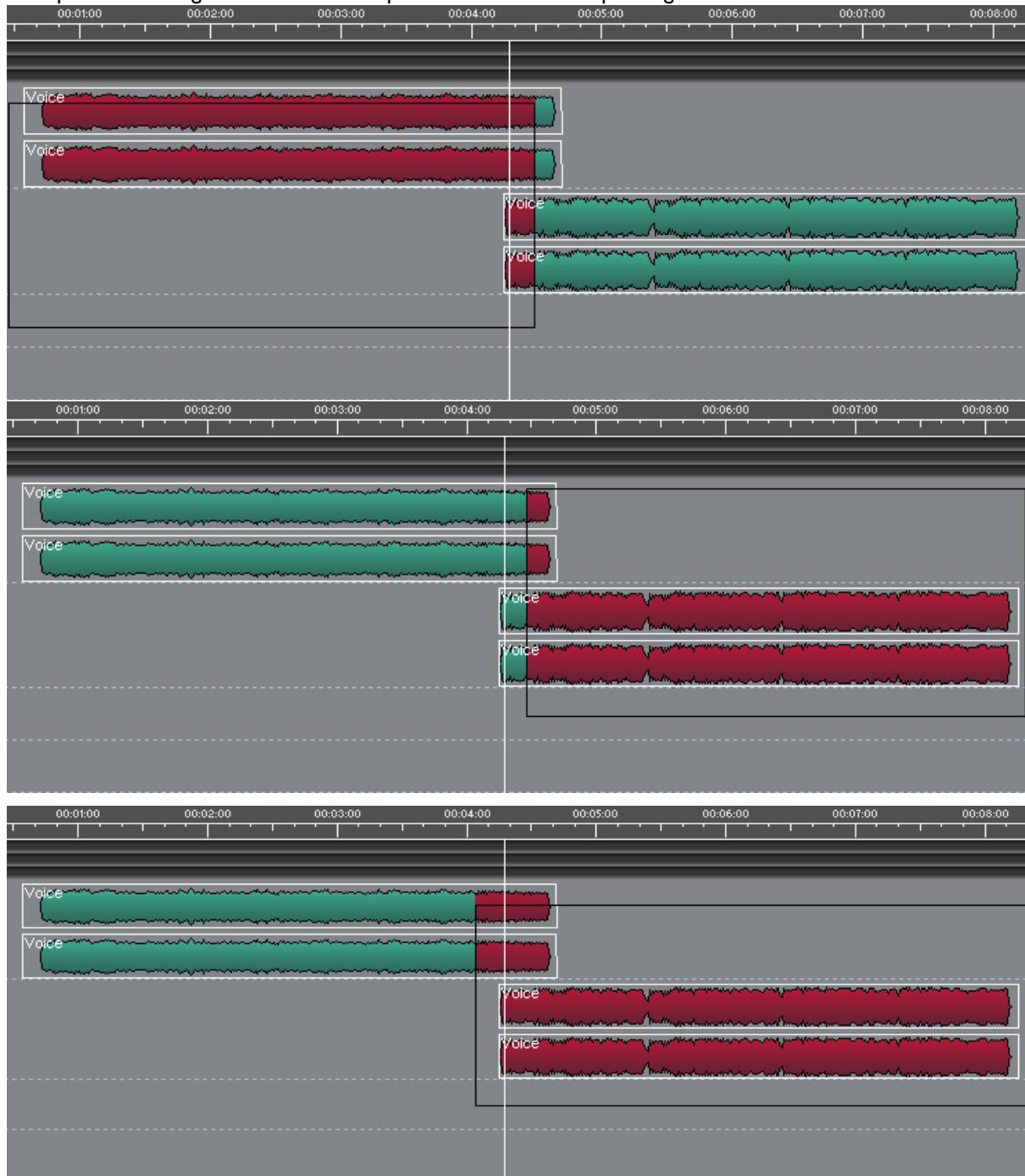


Here, I have disabled streams 8,9,10,11 (dark grey) and used ALT-select to enclose all the crossfades. Then I dragged the crossfade one second to the right – you can see below that the crossfades on the enabled streams have moved together, but those on the disabled streams have not moved.



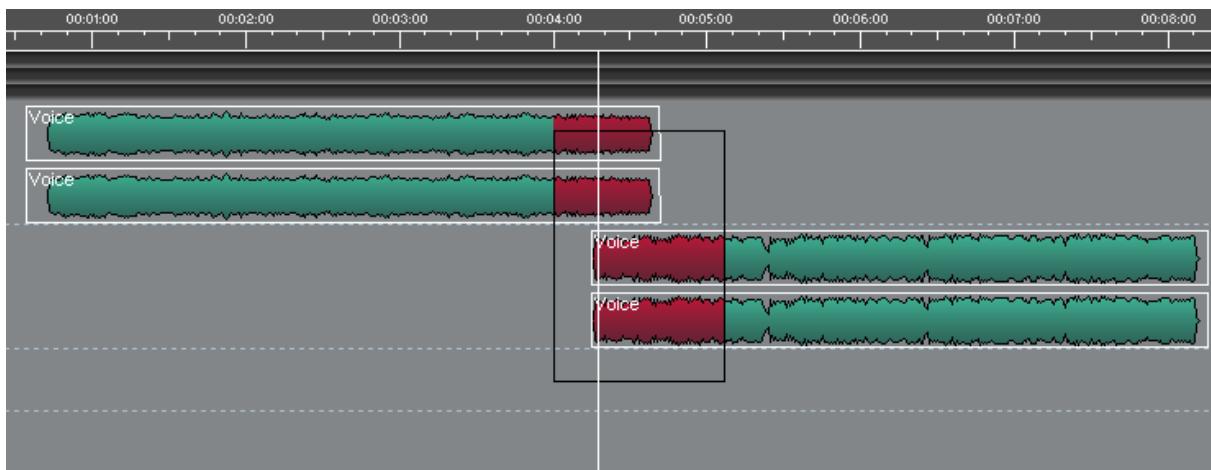
One Clip per stream

Example 4 - Selecting the Start of both clip or the End of both clips using Box-selection.



In any of these three examples, the **In points of both** clips will be edited together. Likewise, the **Out points of both** clips will move together. In this case, ALT-Selection of the same regions would have the same effect.

Example 5 - Selecting the Start of the lower clip and the End of the top clip (i.e. the Edit point between a “chequer-boarded edit pair”):



In this example, the edit between the two clips is selected and so when you adjust the end of the top clip, the start of the lower clip will move at the same time. Editing the start of the top clip, or the end of the lower clip, will edit each of them alone.

EDITING IN THE PLAYLIST WITH HOTKEYS

QUICK EDIT



The Quick Edit Toolbar is available in the Playlist (from the usual **Select Toolbars** button).

These functions are also available as hotkeys. The most useful of these are (found under Playlist section of Hotkeys setup):

- Clip In-point to current time
- Clip Out-point to current time
- Clip Hotspot to current time

These act on a single selected clip in the Playlist and will move the Clip's In-point, Out-point or Hotspot to the current time cursor, without slipping the audio. Thus if you press "Clip In-point to current time" whilst the current time is inside a selected clip, this is much the same as making a razor cut on that clip and deleting the first of the two clips that are produced. In other words, this will perform an "IN-EDL" style Playlist edit without having to open the Playlist edit function. And if the current time is positioned outside the clip, then the clip will be extended to that new position (if enough source audio exists).

Note also that this works during record. Pressing the "Out" key when recording will finish the clip that was in record, and start a new clip (which automatically becomes selected in preparation for a new "Set In/Out" action). Pressing "In" during recording moves the in point of the "growing" clip. Note this does not make a new track; it's similar to (but perhaps a bit more elegant than) the method ofrazoring to split clips during recording. To smooth the operation of these functions during record, there is a Setup option (under Playlist/Playlist Entry Display) called "Auto-select recording clip on entering record". This will save you having to click on the clip that is "growing" in the Playlist.

There are two additional Hotkeys available for this way of editing:

- Clip In-point fade to current time
- Clip Out-point fade to current time

These again act on a single selected clip in the Playlist and will move the inside edge of the Clip's In-point fade, or Out-point fade to the current time cursor, without slipping the audio. Thus if you press "Clip In-point fade to current time" whilst the current time is inside a selected clip, the end of the fade in will jump to the current time, thus shortening the clip. If the current time is positioned outside the clip, then the clip will be extended to that new position (again, if enough source audio exists). This can be particularly useful for aligning a crossfade.

These "Quick edit" keys can be used in conjunction with a set of "Snap" Hotkeys so as to perform a quick "top and tail" operation and then move the edited clip to a new position. Another important Hotkey for this type of editing is the "Locate to time..." Hotkey found in the Transport Controls section of the Hotkey setup. This opens the time box in the Transport Controls to allow quick movement to another time.

For example, you have dropped a rough clip into the Playlist that needs to be synchronised to a video event (although of course there are a number of uses for these facilities).

1. Select the clip in red
2. Scrub or otherwise position the current time to the beginning of the audio (i.e. mark the top)
3. To check your position you may wish to preview up to, from or thru this point - you can use the standard "Transport - Edit Controls" Preview hotkeys (default F1, F2, and F3) for this.
4. Press the key for "Clip In-point to current time" deletes the rough start of the clip.
5. Similarly scrub or position to the end of the audio and use "Clip Out-point to current time" to edit the tail of the clip.
6. Now scrub or position the current time over the Audio sync point (a clapper or audibly recognisable event) and press "Clip Hot-spot to current time" key.
7. Now press Online, and scrub the picture to the Video sync point that matches the Audio sync point (Hot-spot) you've just marked.
8. Now press the Hotkey for "Snap entry hotspot to current time" and the clip will jump to match the video and audio sync points.

This procedure, or variants of it can be used to provide a number of speedy and tidy "edit and place" functions, whether or not your application is synchronising to picture.

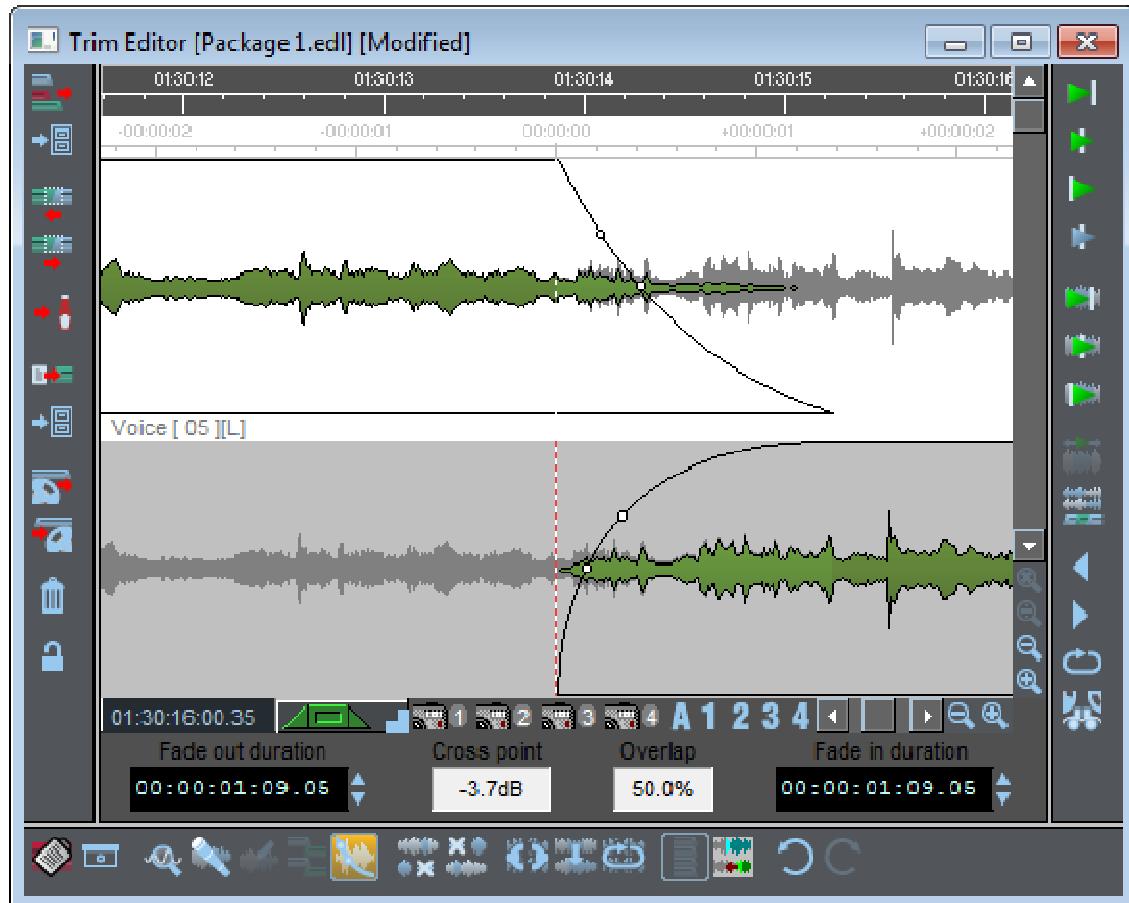
The "Snap" keys are set under Setup/Hotkey Setup/Playlist and are called: "Snap entry fade in point to current time"; "Snap entry hotspot to current time"; "Snap entry in point to current time"; and "Snap entry's end to current time".

TRIM EDITOR



OVERVIEW

The Trim Editor provides similar facilities for editing to Playlist Editing, but adds extra tools, more preview variations, and a different style of view.



As an example, the picture above shows a single channel of an edit that may have many more channels. The green sections on the top "stream" show the outgoing entry, the green sections of the lower "stream" shows the incoming entry. The grey segments display "out-takes" - this is the audio we are "throwing away" to create the edit.

The Trim Window's display of these grey "out-takes" can be a very useful visual tool for aligning edits.

Entries are loaded into the Trim Window for editing, and then when you're happy with the edit you will write it back to the Playlist - allowing you to try out different edits "off-line" before confirming the changes back to the Playlist.

You can load any number of EDL entries into the Trim Window, but for simplicity's sake, let's first cover the situations with one or two entries loaded, then we will see how these ideas can easily be extended to working with many entries spread across multiple streams of the EDL.

As with Playlist Editing, a group clip - either a yellow one or a multi-channel green group clip - is considered as being ONE EDL entry. The Trim Window cannot change any internal edits in Yellow group entries without first un-grouping the entry.

You might load it with **ONE Clip or Entry**:

- To "top and tail" a Track selected in the Clipstore and store it back there as a new Clip for later use.
- To top and tail a single Playlist Entry, removing unwanted material either side of a bit of dialogue, for instance.
- When you want to search through a Track to define a new Clip; say you need to grab a breath or a word. In this instance you will probably load the Trim Editor from the Track in the Clipstore, define the new Clip and paste it straight into your EDL.

You might load it with **TWO Entries** from the Playlist:

- To make fine adjustments to an edit. All edits are a join between two Playlist Entries, so it is the Entries either side of the edit point that will be loaded.

- To adjust any other join between two Entries. For example, how a piece of music fades down under a voice-over, or how one piece of atmosphere crossfades into the next.

OPENING THE TRIM EDITOR

From the Playlist or the Text EDL:

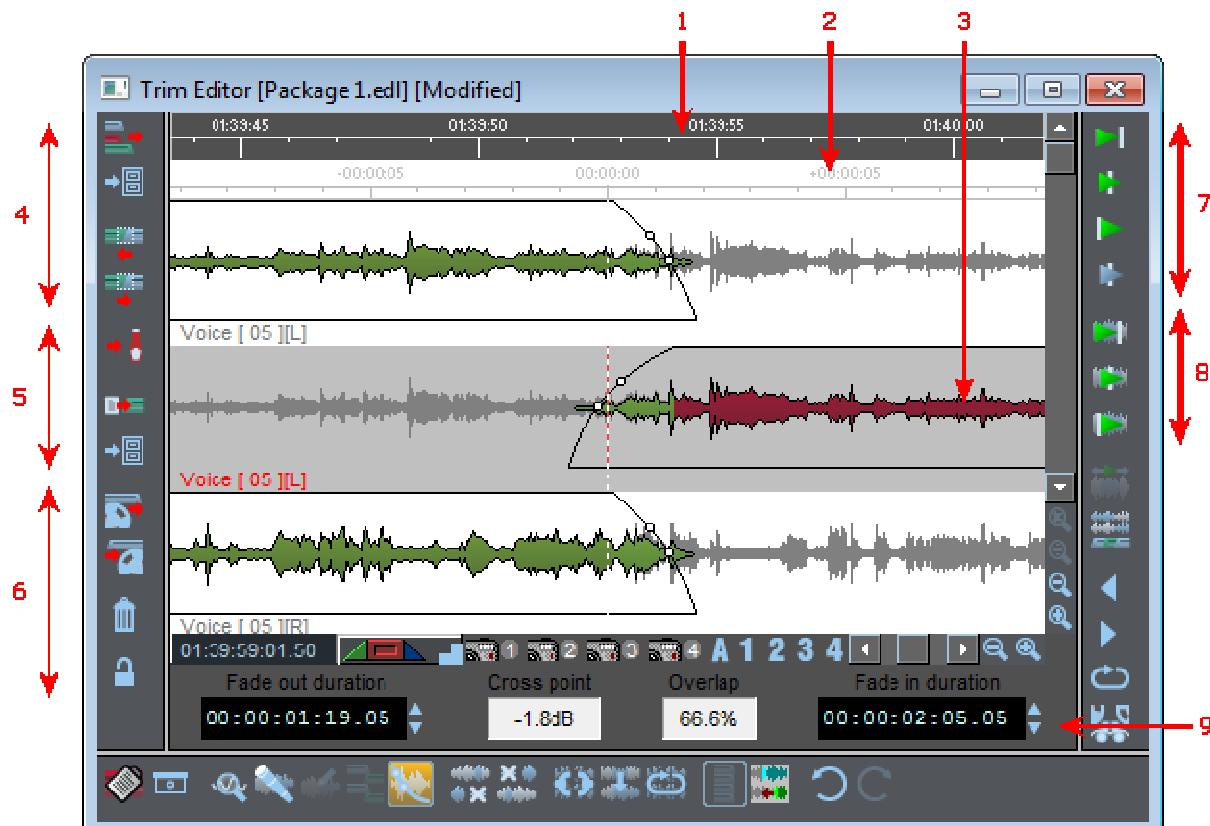
- Select the Entry or Entries you want load into the Trim Editor. Selecting Entries is described fully in [Arranging an EDL](#). They do not have to be adjacent, or on the same Stream, but the streams they are on must be [enabled](#).
-  Press the **OPEN TRIM EDITOR** button on the Playlist toolbar, or the designated function button on the hardware controller.

From the Clipstore:

- Select the Clip that you want to load.
-  Press the **LOAD CLIP TO TRIM EDITOR** button on the Clipstore's toolbar.

On the hardware controller, you can designate two Hotkey commands to function buttons: one to open the Trim Editor, and another to load the selected Clip in the Clipstore.

A Trim Editor window will now appear containing the Entries or Clips that you loaded:



- EDL Time Bar
- Time relative to edit
- Cross point
- Overlap
- Fade in duration
- Paste buffer buttons
- Preview edit

- | | |
|------------------------------|--------------------------|
| 3. Selected clip highlighted | 8. Preview selected clip |
| 4. Load buttons | 9. Crossfade Details |
| 5. Write-back buttons | |

In the example above, two Entries have been loaded from the Playlist: a stereo Entry called "Music", followed by a mono Entry called "Voice". The right channel of "Music" is displayed below "Voice" so that you can zoom in on just one channel of each Entry, which is generally clearer and quite sufficient for editing. This viewing order can be changed; see [Other Trim Editor Tools](#) at the end of this chapter.

The main difference in the way the Clips are displayed here is that because each is drawn on a different line, the profile of the whole Track that it comes from can be shown. The parts that are being used, and will be played as Playlist Entries, are in green, and the parts not being used are shown in grey.

This makes it possible to see what you are losing as well as what you are keeping, which can aid editing decisions, since the grey sections are always available to be pulled back into the green side of an edit point.

The Trim Editor has the following features in common with the Playlist:

- An EDL time bar, which you can use to start and stop playback. In the Trim Window, the current-time cursor ("playback head") is always fixed in the middle of the window while the waveform profile of the audio scrolls past. There is also a second time bar, which shows time relative to the edit point.

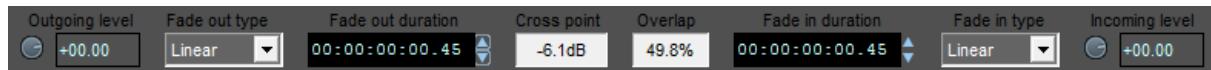
NOTE: In the case of Clips loaded from the Clipstore, the EDL time bar will show the "time stamp" given to the source Track when it was recorded into SADiE.

- Scrollbars to move the display horizontally and vertically.
- Magnification buttons to zoom in or out of the display.

NOTE: When the Trim Editor is the active window, a "Trim" menu appears on the menu bar. This allows you to change profile types to find one more suitable to the audio you are working with, and to jump between zoom magnification levels. There is also the "User Zoom" function, described below, under [Other Trim Editor Tools](#).

- A small time display showing the mouse pointer position. The current-time display in the Transport Controls will show current EDL time for an active Trim Editor.

CROSSFADE DETAILS



A "Two-clip" Trim window will also display the Clip level for both clips, plus the fade shape and duration for the outgoing (top) clip's fade out and the incoming (bottom) clip's fade in, positioned to the left and right side respectively of the bar near the bottom of the Trim. This avoids the need to open Clip Details windows to adjust these common parameters. A "One-clip" Trim window will have the clip level knob and details for both fade in and fade out. This bar will not appear at all if more than two clips are in the Trim window.

There is also a display on this bar (if you have two clips loaded) which displays the "dB down point" of the cross fade. The "dB down point" is the fade curve value at the point where the fade in and out curves cross each other.

If any of these displays are not visible, stretch your trim window horizontally.



SELECTING WHAT TO ADJUST

Editing in the Trim Editor is very similar to using Playlist Editing mode.

NOTE: As the Trim Editor can move Entries in the Playlist, just like Playlist Editing, you need to decide whether to have the Playlist **SLIP** function on or off.

All Clips in SADiE have three parts: a fade-in, a body and a fade-out. (Unless deliberately lengthened, the fades will be very short and so possibly not immediately visible, the usual default time being 21 milliseconds.) Adjustments in the Trim Editor are made moving any of these parts in relation to the time shown in the time bar.



To select which parts of which Clips will move, either:

- Select them directly by clicking on the required parts of the profile, OR
- Highlight the required Clip (it will be shown with a grey background) by clicking anywhere on its profile. Then select the required parts on the "blade" shaped Clip icon at the bottom of the window. This icon allows you to select fades when they might be too small to point at on the profile:



Fade-in Body Fade-out

With nothing selected, all parts are green on icon and profile.

Hold the Shift key whilst selecting parts of Clips to:

- Add them to those already selected to be moved, OR
- Deselect them from those you have selected to move.

NOTE: The Edit section of the Transport Controls can also be used to control the Trim Editor, and is fully interactive with it. The **IN**, **HOT**, **OUT**, and **EDL/SOURCE** buttons will select the corresponding parts of Clips that would move in Playlist Editing. They also move the display to the selected edit point.

AUTOMATIC SELECTIONS



In order to speed up the most common tasks, when two Clips are in the window, these selections are made automatically when using a mouse:

- Selecting the earlier Clip selects its fade-in and body (like adjusting the Out-point in Playlist Source Mode).
- Selecting the later Clip selects its body and fade-out (like adjusting the In-point in Playlist Source Mode).
- Selecting the fade-out of the earlier Clip or the fade-in of the later Clip selects both, e.g. the crossfade between them can be slipped against the audio.

Hold the Shift key while selecting if you want to override the above and select only the part you are pointing to.

NOTE:- when more than two clips are loaded into the Trim Window, the Automatic selections will follow the same rules as above when  the **Multi-track Auto Select** button is enabled. There is more detail on the selection rules for [multiple entries](#) later in this manual.



Using the hardware controller to control the Trim Editor follows the same rules as editing in the Playlist. Select the Clips with the **PREVIOUS** and **NEXT** buttons, or **CLIP** + the wheel, and select **IN**, **OUT**, or **HOT** points in **EDL** or **SOURCE** mode to select the corresponding parts of clips.

Note also that pressing the **SHIFT** key before **PREVIOUS** or **NEXT** will add to the selection, e.g. if **IN- EDL** mode is selected on the right hand clip, **SHIFT + PREVIOUS** will add the left hand clip's **OUT** point; in other words, with two clips this selects the whole Edit point.

When selected in Trim, fades turn dark blue and Clip bodies turn dark red, on both the icon (which is always representing the highlighted Clip) and the Clip profiles. Here are some examples:



Body and fade-out will move. Same as adjusting **IN**-point in **SOURCE** mode .

 Fade-in selected to move. If selected on one Clip only, same as adjusting **IN**-point in EDL mode .

 Body only will move, thus adjusting what part of the source audio is used between fixed in and out points.

 Whole Clip will move in relation to EDL time. Same as **HOT + SOURCE** .



ADJUSTING THE EDIT

Once you have selected which parts to move, use the mouse or hardware controller wheel to move them, as in the Playlist. The mouse can be used either over the selected Clip's profile, the "blade" Clip icon, or the Scrubwheel in the Transport Controls.

NOTE: For mouse users, using the **IN** and **OUT** buttons and Scrubwheel in the Transport Controls is the easiest way of moving in and out points in EDL mode.



To hear the audio as it moves across the edit point, press the **AUDIO SCRUB** button (this is available in the Trim Editor as well as the edit section of the Transport Controls). Then move the mouse left and right to jog, and up and down to shuttle. On the hardware controller use the **SCRUB** button to select jog or shuttle mode for the wheel.



For fine adjustment, you may prefer to use the **EDIT NUDGE** buttons, which will move the selected parts in fixed steps that you can set in the Trim Edit Nudge section of the Setup window. There are two settings: pressing the buttons, or holding Alt. while pressing the buttons.

These duplicate the edit nudge buttons in the Transport Controls and can be pressed repeatedly, or held down. You will not hear the audio when using them.

To hear the results of your adjustments, you can either:

- Start playback from any point in the time bar (on the hardware controller when no edit points are selected, the wheel will position the display and then you can use the **PLAY** button), OR
- Use any one of the following preview buttons, which have the advantage of playing you a pre-set amount either side of the edit point and then returning the display to it.

The top three preview buttons duplicate those in the Transport Controls edit section, which are also used for Playlist Editing mode:



PLAY THROUGH EDIT plays through the edit.



PLAY TO EDIT plays just the left-hand side of the edit.



PLAY FROM EDIT plays just the right-hand side. **TO** and **FROM** can be useful for assessing which side you still need to adjust.

NOTE: There are three pre-roll and post-roll lengths available by pressing: only the preview button, Shift + the preview button, or Ctrl + the preview button. The lengths of each are pre-set in a dedicated section of the Setup window.

NOTE: The **PLAY THROUGH** preview is the one that lets you hear how the edit will sound in the Playlist. It also usefully resets the display to the edit point. The **PLAY TO** and **PLAY FROM** previews are useful for determining which side of the edit unwanted sounds may be.

The next three preview buttons play only the selected (highlighted) Clip, including its out-takes (the grey bits):



PLAY SOURCE THROUGH EDIT plays through the edit.



PLAY SOURCE TO EDIT plays just the left-hand side of the edit.



PLAY SOURCE FROM EDIT plays just the right-hand side. **TO** and **FROM** can be useful for assessing which side you still need to adjust.

You can cancel a preview while it is playing with a second press of its button



The loop button will cause the selected preview action to repeat continuously. You can continue to make adjustments while the preview is repeating.

There are also some special function preview buttons:



Play Out-takes - this plays the grey parts of the clips around the edit point. This allows you to hear the sections you are "throwing away" for comparison.



Play entire track mode - this button can only be pressed when a single clip is in the Trim Editor. When pushed in, you will hear the whole source track, both coloured and grey areas, when playing or previewing in Trim.



Preview in context - when pressed, all previews will include the other audio in the source EDL as well as the current contents of the Trim Editor.

When you are happy with the adjustments, **WRITE-BACK** what you have done, as described below.



If you're not so happy with your edit - Undo and Redo buttons are available in the Trim to step backwards and forwards.



TOPPING-AND-TAILING AND DEFINING NEW CLIPS

When you load only one Clip (or multiple clips but only one per stream - described under [Multi-track Entries](#) later) into the Trim Editor, you can top-and-tail it by adjusting its in and out points with the mouse or hardware controller wheel in the usual way. Use the **IN** and **OUT** buttons (in the Transport Controls or on the Hardware Controller) to select which you are adjusting.

To define a totally new Clip, load the Trim Editor with the Track from which the Clip is to come. You can do this either by loading the whole Track from the Clipstore, or by loading a Playlist Entry, which contains the required bit of the Track.



The **DRAW CLIP** button turns your mouse pointer into a pencil symbol. Drag it along the waveform profile from the new in-point to the new out-point to define a new Clip. Right clicking will turn this function off.

You can make fine adjustments by top-and-tailing the new Clip before giving it a new name (see below) and writing it back to the Clipstore, or pasting it into the Playlist.

NOTE: DRAW CLIP is only available when there is a single Clip in the Trim Editor.



A similar result can be achieved by the different method of marking the **IN**, **HOT** and/or **OUT** points "on-the-fly" whilst playing. There are three Hotkey-only functions that are assigned in the "Trim" page of the "Hotkey" section in the [Setup window](#):

- Set In-point to current time
- Set Hotspot to current time
- Set Out-point to current time

Pressing these while playing one clip in the Trim window (or whilst in stop also) will set the respective edit point to the current time. The default setting for these functions is F7, F8 and F9 on the keyboard.

These can work with multiple entries in Trim, however will only apply to the single highlighted entry.

When happy with the adjustments, **[WRITE-BACK](#)** as described below.

The drawing of clips and marking of edit points "on-the-fly" are useful ways to prepare a clip before you drop it into the Playlist.

For instance you may be cutting out a sound effect from the larger track in which it was recorded. So, you may load the raw track into the Trim window, playing and marking its start and finish with the "Set In-point etc." functions, and then writing the edited clip into the Playlist once it is tidy.

To help with this method, there is another "Trim" Setup option called "Write back single clips with Autoplace", so after preparation of clip in the Trim Window, you would move back to the Playlist, and mark the position for the new clip in the Playlist by scrubbing to that position and enabling/disabling streams appropriately. Set "Autoplace to Now", or maybe "Hot-Now", and then pressing the **[WRITE-BACK](#)** button automatically places the new sound effect at the position you've marked in the Playlist, with respect to the start point, (or Hotspot if that's the Autoplace mode you're using).

You can see that the Trim Window behaves slightly differently when it contains just one clip and the **DRAW CLIP, SET IN POINT, and WRITE BACK WITH AUTOPLACE** functions become available. These are specifically designed to speed up this process of preparing and spotting effects.



ADJUSTING THE HOTSPOT

The Hotspot of each Clip is shown as a vertical red line, which can be moved:

- By positioning the mouse over it and, when the pointer changes to a double arrow, dragging it to a new position. The small time display will show the time you are setting.
- By selecting **HOT** and **EDL** mode, and using the Scrubwheel in the Transport Controls.
- By selecting **HOT** and **EDL** mode and using the wheel.
- In the [Clip Details window](#).

When you are happy with the adjustment, **[WRITE-BACK](#)** what you have done, as described below.



RENAMING CLIPS

Double-click on the Clip name. A box will appear in which you can edit the name before writing the Clip(s) back:



FADES AND CROSSFADES

The lengths of fades of Clips in the Trim Editor can be adjusted:

I. By setting numerical values for them in the [Clip Details window](#).

2.  Graphically, with the mouse on the profile display:

- i. At each in/out point there is actually a fade-in or fade-out (however short) and these fades have a start and an end.
 - ii. Move the mouse pointer over the fade. It will change to a ↔ double arrow. (See the note on Short Fades below)
 - iii. You can then move the start of a fade to the left and the end of a fade to the right, so lengthening the fade and setting it to where you want over the audio.
3.  By pressing **CROSSFADE** to move the inner point (e.g. the end of a fade-in or the start of a fade-out) and **SHIFT + CROSSFADE** to move the outer point (the start of a fade-in or the end of a fade-out).

Fades can also be edited around their mid point by holding down the control key; Ctrl + dragging the start/end of a fade in/out, will also change the fade out/in edge's position.

Fades are shown in lighter green on the profile and turn dark blue when selected to move. The type of fade curve can be altered in the drop-down box at the bottom of the trim window, or in the Clip Details window for the Entry.

Once the fade-out of one Clip overlaps with the fade-in of the next Clip, you have created a crossfade. There are two useful tools available when there are two Clips in the Trim Editor:



MIRROR FADES alters the length, position, and shape of the later Clip's fade-in to make it an equal-power partner to the earlier Clip's fade-out.



ALIGN ENDS is similar to mirror, but aligns In to In and Out to Out

NOTE: Hold down the Shift key when pressing this button to mirror the other way round, e.g. altering the earlier Clip to match the later one.



Fade in/out pairs can be linked using the **LINK** button. An edit to one fade will then automatically be reflected in the other. For instance moving the end edge of the fade down will move the end edge of the fade up. You can combine this with the Ctrl key to move all four fade edges together.



The **-3 dB** and **-6 dB** down points for a crossfade can be displayed on the fade curves using the toolbar button, or right clicking on the fade. This display option is also available in the Playlist on a right-click menu. It is best to have "Show fades as curves" set under "Setup Window", "Playlist", "Playlist Entry Display", as to be honest, it looks a little odd if you have "Show fades as splices" rather than as cuts.

With two Clips in the window, selecting either fade automatically selects them both. Then the whole crossfade between two Clips can be moved easily in relation to the audio, simply by clicking and dragging. The overlap of a cross-fade can be edited by selecting a fade pair (dark blue) and then holding down the Ctrl key whilst dragging one of the fades. The percentage of overlap is displayed in the new bar near the bottom of the Trim window.

When you are happy with the adjustments, [WRITE-BACK](#) what you have done, as described below.

Short Fades

When the fade is very short on screen, it may be difficult to select the 'whole-fade' with the mouse (you'll perhaps not see ↔ icon - only the ↔ double arrows).

If you hold the '**ALT Gr**' modifier key (usually to the right of the space bar), only the ↔ icon will display when you're over the clip end and thus you can more easily select the 'whole-fade'.

Conversely, there is a mode available from right-mouse-clicking in the Trim Window - '**Don't allow dragging of fade edges**'. When this is ticked, ONLY the 'whole-fade'  is offered, and you can use the 'ALT-Gr' modifier when you need to select a fade edge - in much the same way that CTRL works in Playlist Edit.

FADE SHAPES

If you right-click over a fade, and select "Fade Type" from the menu, you will be offered a number of different fade types. Each of these types may have a number of different values (or "depths"). Except for Linear and S-shaped, there are positive and negative versions of each type.

All of these 117 fade shapes can be freely used, however (conceptually) the positive ones are considered "master" shapes, and the negative fades' main purpose is to provide an equal power partner for each respective positive shape. The Cos, Cosh, and some of the Pows are included for compatibility with earlier versions of SADiE.

The Log and Exp shapes give a large variety of curves from deep convex through Linear to deep concave. If you Alt + click and drag the fade shape left/right, you can alter the "depth" of the fade for Exp and Log fades; the depth can be dragged from Exp (+16) through Exp (+01), and Log (+01) to Log (+16). If you set the Fade type to negative Exp or Log, then it can be dragged through a different sequence. Remember these are the equal power partners for the positive shapes, so some of the negative shapes can appear mildly S-shaped.

There are other "Alt + drag" sequences for Pow+, Pow-, and S shapes.

Pressing Alt + shift when dragging will allow you to drag through ALL available fade shapes. To allow enough sensitivity to select individual shapes, you will perhaps have to move a long way to drag through the entire range. However, note that you can press Shift whilst Alt-dragging to allow you to jump to the next range, then let go of Shift to continue Alt-dragging the depth in the new range.

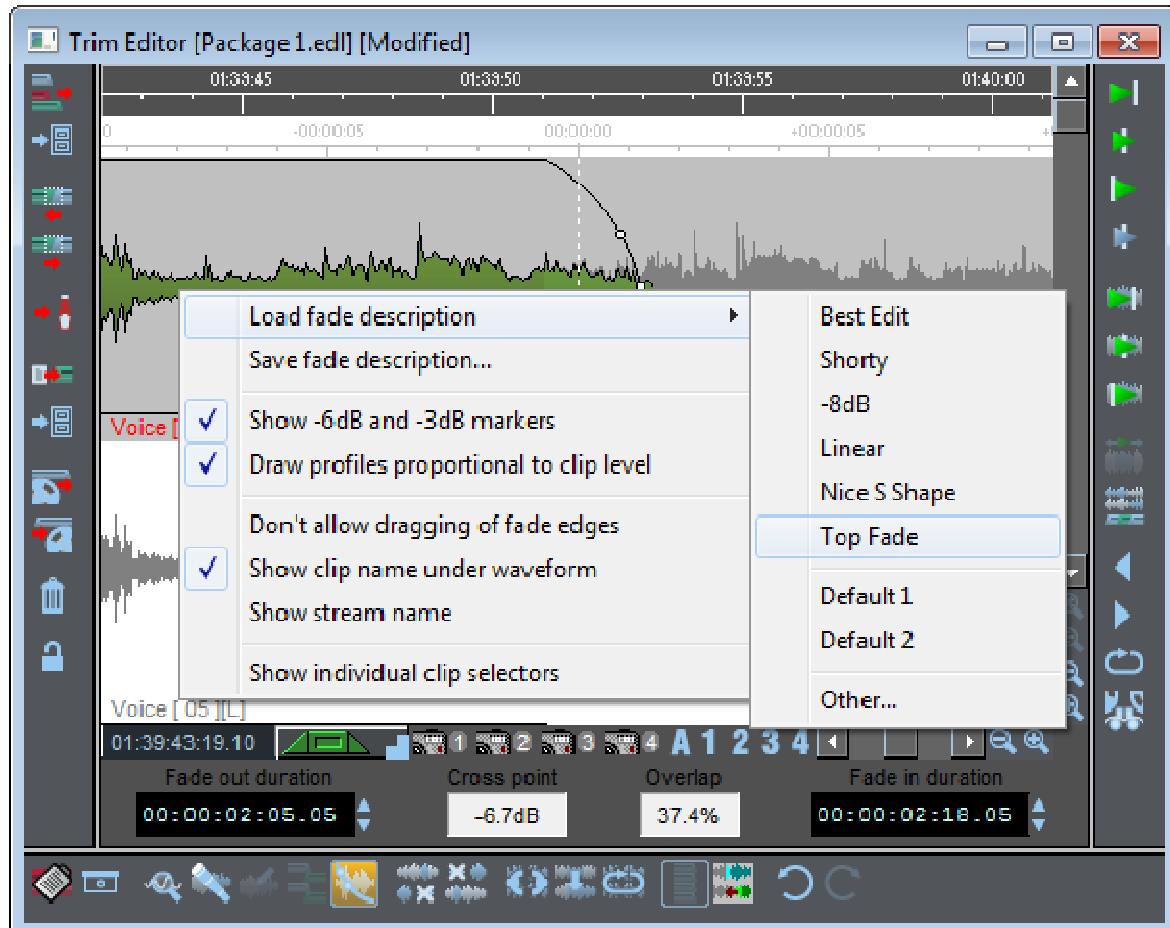
If you press Ctrl and Alt while dragging the fade, the other fade in the crossfade pair is changed to the negative equal-power-partner shape and the depth of both fades will be dragged simultaneously.

Remember also that [saving and loading Fade Descriptions](#) will give you an alternative quick method of changing the fade shape. Also, clicking on the "Fade In type" and "Fade out type" boxes (or any fade selector box, e.g. in [Clip Details](#) or the [Setup window](#)) and pressing the Up and Down arrow keys on the keyboard provides another quick way to change the fade shape.

SAVING AND LOADING FADE DESCRIPTIONS

You can save a crossfade curve as a "*.FAD" file. This saves the fade shapes, fade lengths, and the overlap for the central fade down and fade up pair in a Two-clip Trim edit. This is known as a "**Fade Description**".

To save a fade description, right-click anywhere in the clip display area of the Trim window, and the menu that appears has the option: "Save Fade Description". Selecting this will show a standard Windows Save dialogue where you can give the Fade Description a name. Note that the default directory on the PC drive into which fade descriptions are saved (which is also the default from which they are loaded) is the template directory for the User. The usual place for this is "C:\SADiE5\bin\templates\username".



Similarly, to load a fade description, right-click in the Trim window and select the option "Load Fade Description". This in turn shows another menu. This lists:

- The last Fade Descriptions you have saved or loaded (up to 16, and they are listed in the order you used them),
- A **Default** option (which will load the Default Cross Fade from the main Setup Window),
- **Other...** which allows you to browse the PC drive for Fade Descriptions that don't appear in the list.

The Load Fade Description menu can also be accessed via a Hotkey (you can set this in "View menu", "Setup Window", "Hotkey Setup", "Categories", "Trim Window", "Commands", "Load Fade Description"), in which case it appears in the top right corner of the Trim.

This is a standard Windows menu, and so when it appears you can select which fade you want to load by using the down/up keys then pressing Enter.

EXCEPTIONS

LOADING AND SAVING ONE FADE ONLY

So far we've only described what happens when there are two clips in the Trim Window, and you can see that in this case we are concentrating on the EDIT point and thus loading fades in pairs. A fade description file always includes two fade shapes, lengths and overlap, however this can be loaded into a single fade, both in the situations where there are two clips in the Trim or only one (or even more than two).

The fades that are loaded depend on which clip areas are selected, however this is streamlined for the case where there are two clips, in order to make the loading of the edit pair simpler.

IN A TWO-CLIP TRIM WINDOW

If you have selected ONLY one fade of the central pair (e.g. the fade out of the top clip or the fade in of the bottom clip) by Shift-clicking on the fade area to make it dark blue (and NOT highlighting the other half of the pair in dark blue), then ONLY one fade shape and length is loaded from the Fade Description. Obviously if your selection is a Fade In, then the saved Fade In shape will be loaded; if it's a Fade Out then the Fade Out of the pair is loaded. If you save when a single fade is selected in this way, then a single fade is saved (and not its partner).

Note that, the outer fades are not considered, and if for instance an entire clip is selected (both fades in dark blue and the body in red) then only the central fade is considered for loading and saving Fade Descriptions.

With any other selection of areas with two clips in the Trim, then the pair is loaded. This means that when you have two clips in the Trim window you cannot load fade descriptions into the outer fades (e.g. the Fade In of the top clip or the Fade Out of the bottom clip). This makes loading the edit pair much easier as it's the simplest default, besides which the outer fades are considered to be part of the previous or next edit.

IN A ONE-CLIP TRIM WINDOW

If there is only one clip in Trim, then this special case does not apply (because an "edit point" isn't defined).

The Load and Save Fade Descriptions menu items will only appear with a right-mouse click if a fade's area is selected in dark blue. Likewise the Hotkey requires a fade area to be selected in order to show the Load menu.

The selected fade is obviously the one that is active for saving and loading Fade Descriptions. Note that when you save a single fade to a Fade Description file, if this is loaded back into a pair of fades, the half of the pair that wasn't saved is loaded as a mirrored equal and opposite fade shape (e.g. as if you'd pressed the mirror button after loading a single fade).

FADE DESCRIPTIONS THAT BREAK THE RULES

The Fade Description always loads with respect to the centre (in terms of time) of the existing Fade Out on the top clip. There may be times where, due to insufficient audio or "out-takes" being un-available in the recorded audio file, the Fade Description may not be able to load with complete accuracy, and in these cases the length and/or the overlap of the Cross fade will be adjusted to fit the audio that does exist. If this happens you will see a warning when you load the Fade Description.

COMPLICATED?

No not really. In short, the main thrust of the Fade Descriptions is to load and save EDITS. When many fades exist in the Trim, SADiE needs to know which ones are active for loading, and so the correct ones need to be selected. But the default method of loading into the "edit pair" without having to select anything covers the vast majority of the scenarios that this is aimed at in a quick and efficient manner.



MAKING A LOOPABLE EDIT



The **LOOPABLE EDIT** button is only available if there are two Clips in the Trim Editor.

This function copies the fade at the start of the right hand clip to the start of the left hand clip, and similarly the fade at the end of the left hand clip is copied to the end of the right hand clip.

The normal situation for using this is when you want to make a single clip loop correctly. The procedure is as follows:

- Roughly razor the clip to suit.
- Make another copy of the clip in the EDL and **REMOVE GAP** to butt the two copies together.
- Open the Trim Editor and load the two clips.
- Perform the edit.
- Pressing **MAKE A LOOPABLE EDIT** will copy the fade attributes for the edit that works to the outside points of the two clips. Now both clips are identical.

- Write back to the EDL.
- Make multiple copies of the clip to suit.

This would normally be with one clip duplicated. It will work with different pieces of audio, but only if they have the same time stamps.

CLIP DETAILS

 The Clip Details window for the selected Clip can be opened by pressing **CLIP DETAILS**, or by double-clicking on the Clip (an option in the "Trim Editor" section of the [Setup window](#)).

The Entry times in the window are fully interactive with adjustments to the profile in the Trim Editor. Other details can be adjusted here before the Clip is written back.

[Click here](#) for a full description of the Clip Details window.

WRITING BACK THE FINISHED EDIT

The Trim Editor is a temporary area for adjusting edits. Once done, the edit (and any other changes you have made) needs to be "written-back" to a Playlist or Clipstore, which will then be updated.

 If you have loaded the Trim Editor from a Playlist, press **WRITE BACK TO SOURCE EDL** to update that Playlist. (It's a sauce bottle! Not very funny I agree.)

If you loaded the Trim Editor:

- From the Clipstore with a Clip that you now want to place in an EDL according to its Track time (recorded "time stamp"), OR
- From a different EDL to the one you want to write to,

 Make the Playlist window containing the target EDL active, and then press **COPY TO ACTIVE EDL**.

NOTE: Before you write back, as the EDL has not yet been updated, you can play it to hear how the edit was before your Trim Editor adjustment.

 If you want to save the edited version of a single Clip in the Clipstore, press **WRITE TO CLIPSTORE**. You may want to rename the new version first.

 If you want to insert the edited version(s) of Clip(s) into a Playlist at an EDL time of your choosing, press **WRITE TO PASTE BUFFER** and then paste them into the Playlist.

NOTE: There is an option in the "Trim" section of the [Setup window](#) to allow "Auto close trim window when writing back to source". This is often more convenient when you are using Hotkeys or the Hardware controller, and helps you to avoid opening multiple Trim windows by mistake.

WRITING BACK AUTOMATICALLY

In the Trim Editor section of the Setup window, you can select the option to write back the contents of the Trim Editor to the current Playlist automatically each time it is loaded:

- With the **LOAD NEXT/PREVIOUS EDIT** buttons, OR
- By using the **RAZOR-CUT** button.

This makes it quick and easy to work through an EDL while staying within the Trim Editor, if you wish.

NOTE: Loading with any of the other buttons does not write the current edit back automatically. This is so that if you make a mess of an edit in the Trim Editor, you can reload it from the Playlist and try again.

RELOADING

When you have finished working on one edit, and have written it back, you may want to keep the Trim Editor open to do another one.

NOTE: The following buttons on the Trim Editor's own toolbar reload it with different Entries or Clips, whereas using the Trim Editor buttons in the Playlist and Clipstore again will open a second Trim Editor.

 **LOAD FROM EDL** reloads the Trim Editor with the Entries selected (highlighted in red) in the Playlist or Text EDL.

 **LOAD FROM CLIPSTORE** reloads the Trim Editor with the Clip selected in the Clipstore.

 **LOAD PREVIOUS/NEXT EDIT** reloads the Trim Editor from the same EDL, moving one Entry backwards or forwards. Using these buttons you can easily move along the edits in the EDL to check or adjust them.

 **LOAD PREVIOUS/NEXT EDIT FROM EDL ON SAME STREAM** are much the same as the similar red-arrowed buttons described above and reloads the Trim Editor from the same EDL, moving one Entry backwards or forwards but *staying on the same stream*. Thus it's not necessary to enable or disable streams when you're working along a single stream of audio.

 **LOAD FROM PASTE BUFFER** reloads the Trim Editor with the contents of the paste buffer. This may have been cut or copied from any EDL/Playlist or Clipstore.

MAKING A NEW EDIT

Pressing the Trim Editor's own **RAZOR-CUT** button cuts all the Entries/Clips in the window at the current time position (and can be done on the fly while playing back). This has the same effect as having **RAZOR-CUT** them in the Playlist and loaded all the edits so formed into the Trim Editor. You will need to have written back your previous edit adjustment first, unless you are set to [write back automatically](#).

Razor in the Trim Window cannot be used when there are more than two entries loaded into Trim.

MAINTAINING SYNC

 The **LOCK CLIPS** button prevents you from selecting and moving the body of Clips or Entries while they are in the Trim Editor, and therefore safeguards accidental loss of sync to picture or sync with music when writing back. If the **LOCK STREAMS** button on the Playlist toolbar is down, this button in the Trim Editor will be down when it is loaded from that Playlist. You can then release the button to override the lock status for this edit only.

 The **SLIP LEFT** and **SLIP RIGHT** buttons only apply with one or with two Entries loaded.

The logic these buttons follow is controlled in the "Trim" section of the [Setup window](#).

"Trim Slips Auto-follow EDL Slip settings":

- When this is ticked, the positions of these buttons on opening the Trim Editor will reflect the **SLIP** setting of the Playlist. They can then be changed to override the setting for this edit only. **SLIP LEFT** will cause EDL Entries before the earlier one in the Trim Editor to move with it when writing back. **SLIP RIGHT** will do the same for Entries after the later one. With this setting, you only have one global Slip setting to consider for Playlist movements, Playlist editing and Trim editing.
- When this is not ticked, the positions of these buttons are completely independent from the **SLIP** settings in the Playlist. The settings of these buttons are held over for future Trim sessions. You might want to use this setting if, for instance, you do most of your editing inside the Trim Editor and only perform coarser manipulation in the Playlist window. This setting is perhaps more familiar to SADiE v2 users.

NOTE: If you are working with sync material you will want to keep Playlist and Trim Slips off, so that slipping one Entry doesn't alter the sync of others. If you are working with sound-only material (like editing for radio) you will need to keep Slips on to avoid gaps opening up in your material as you edit. Remember that Slip is disabled when writing back from a Trim Editor containing more than two Entries; if you need to slip, use Playlist Editing instead.



OTHER TRIM EDITOR TOOLS

The four **SNAPSHOT** buttons allow you to store and recall four different arrangements of the Clips in the Trim Editor, so you can compare different attempts at an edit. Click once to take a snapshot, and the button will turn blue to show it has a snap stored. After making adjustments, click on the button again to return the Trim Editor to the stored snap. The button of the displayed snap will turn red. To overwrite a button with a new snap, hold SHIFT and CTRL together while clicking on it.

NOTE: Even if you don't use the snapshots, you can write back an edit to the EDL, try to improve it and write back again. Then the Playlist undo and redo buttons can be used to move through the different attempts. Any of these can then be reloaded into the Trim Editor.

NOTE: please don't confuse these camera snapshot buttons to the ones used for automation !



The **USER ZOOM** button turns your mouse pointer into a magnifying glass, which you can use to draw a box around the part of the profile you want to zoom-in on. The degree of magnification will be determined by the size of the box you draw.



The **RETURN** button (it's supposed to be a telescope !) takes you back to your previous magnification level.



The **EMPTY TRIM WINDOW** button empties the Trim Editor of all Clips/Entries.

The **VIEWING ORDER** button is available with more than two Clips in the window:



When it is *up*, the left channels of all the stereo Clips in the Trim Editor are displayed above all the right channels.



When it is *down*, both channels of each Clip are drawn together.

NOTE: For most editing, it is generally sufficient and clearer to just view one channel of each Clip. This is done with the button up, setting the window's size and magnification to show just the left (or right) channels of all the Clips in it. Have the button down when you want to see both channels of each Clip.

MULTI-TRACK ENTRIES IN THE TRIM WINDOW



When more than two EDL entries are loaded into the Trim Window, the **Multi-track Auto Select** button becomes active and enabled.

When this is enabled, SADiE will group entries together and auto-select segments of these entries together so as to easily and quickly perform standard styles of editing across multiple streams.

Remember, except for the case where there is a single entry loaded, the Trim Window is mostly concentrating on **Edit Points**, i.e. the Out of the Outgoing going clip and In of the Incoming clip. When you load two clips it's obvious which is the outgoing and which is the incoming (the clip that starts first goes on top if you weren't sure), however you can't necessarily apply that rule across the board.

Thus we have a set of rules to determine how clips will be auto-selected in Trim. In practise, for the majority of edits the selections made will be the obvious ones, but to give most flexibility for editing SADiE allows clips that do not have the same In or Out points (but are close together) to be edited together.

You can always disable the Multi-track Auto select function and select segments on your own by clicking and shift-clicking to add them to the selection.

I shall describe some example scenarios in the pages that follow.

Mirror is available for Multitrack entries - the fade on the clip you have last selected will be the one to which others will align when you use Mirror.

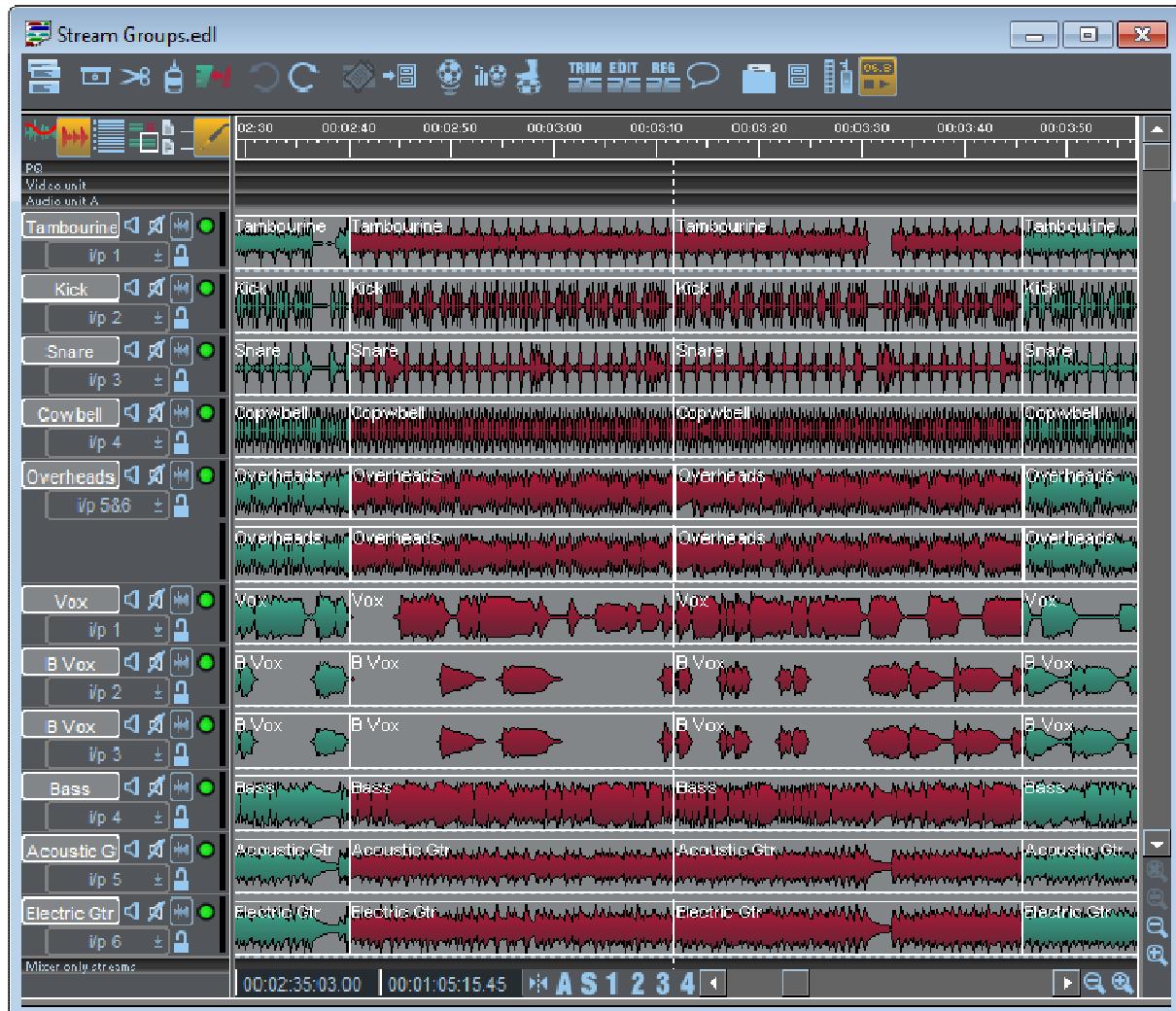
Razor is not available if there are more than two entries in Trim.

As with Playlist Editing, a group clip - either a yellow one or a multi-channel green group clip - is considered as being ONE EDL entry. The Trim Window cannot change any internal edits in Yellow group entries.

MULTI-TRACK TRIM EXAMPLE I

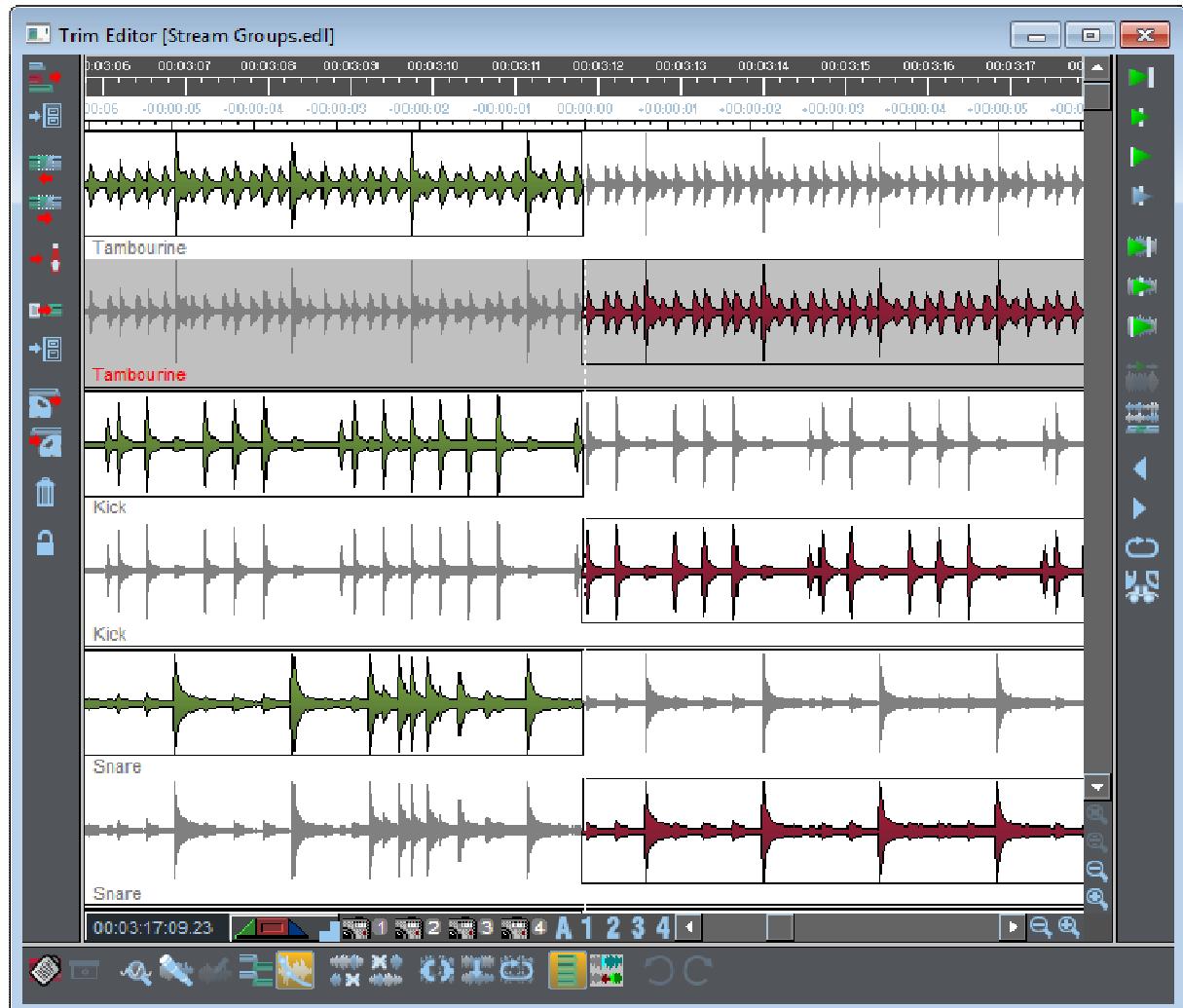
Two EDL Entries selected on every stream

This one's not difficult - on every stream we have an Outgoing and Incoming clip - as normal, the clip that starts first is the Outgoing and appears on the top stream of the Trim window.

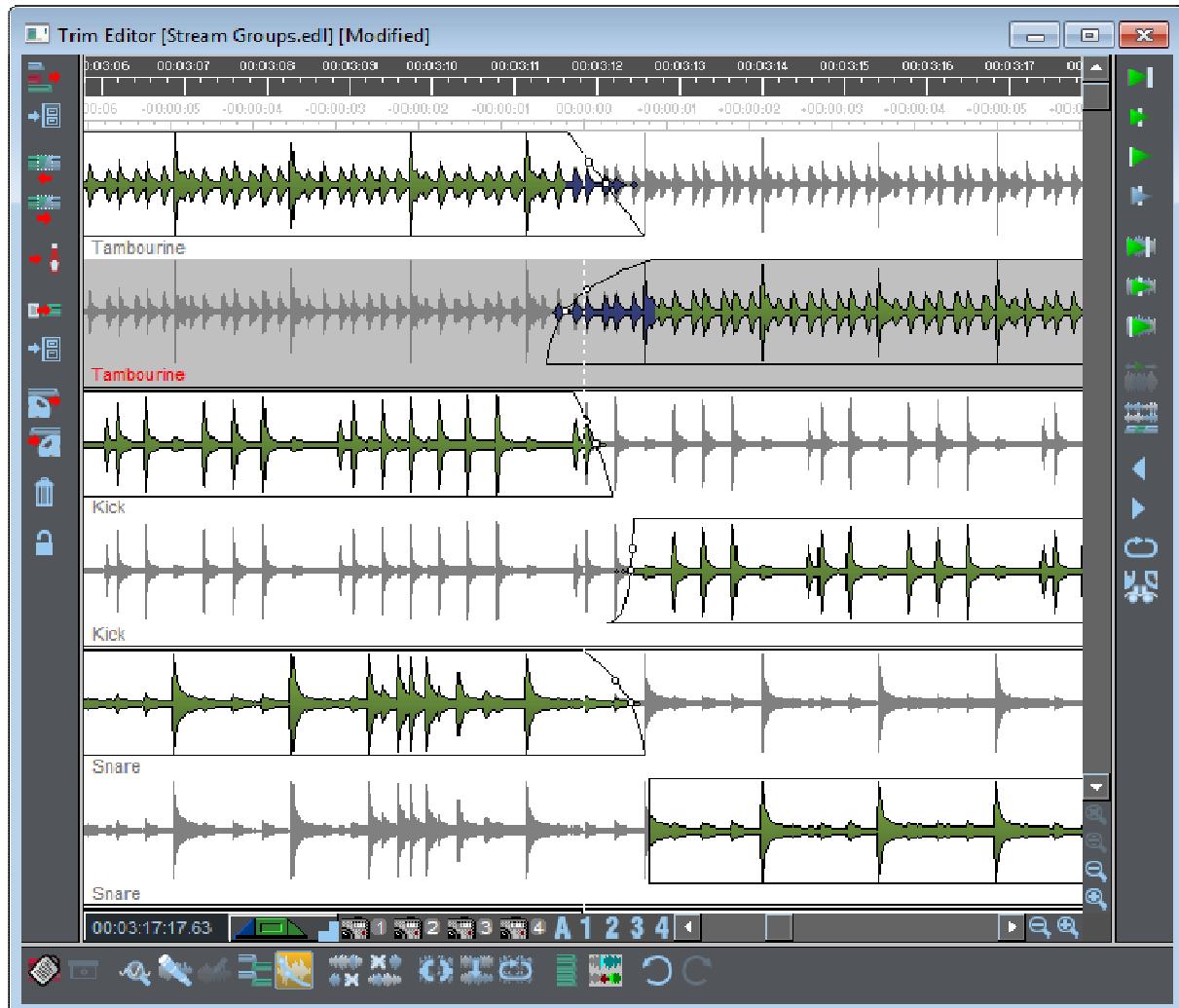


This is of course the most usual situation we'll have to deal with - we have a number of streams of audio, you made a razor cut across all of them, now you want to tidy up the edit between them. Simple. In this situation all the outgoing clips are at the top of each pair in the Trim Window, and all the Incoming clips are at the bottom as you can see below. When the Multi-track Auto Select button is enabled (and it always will be when you load the Trim Window) then it's as if you'd grouped all the outgoing clips together, grouped all the incoming ones together and we are doing a two clip edit.

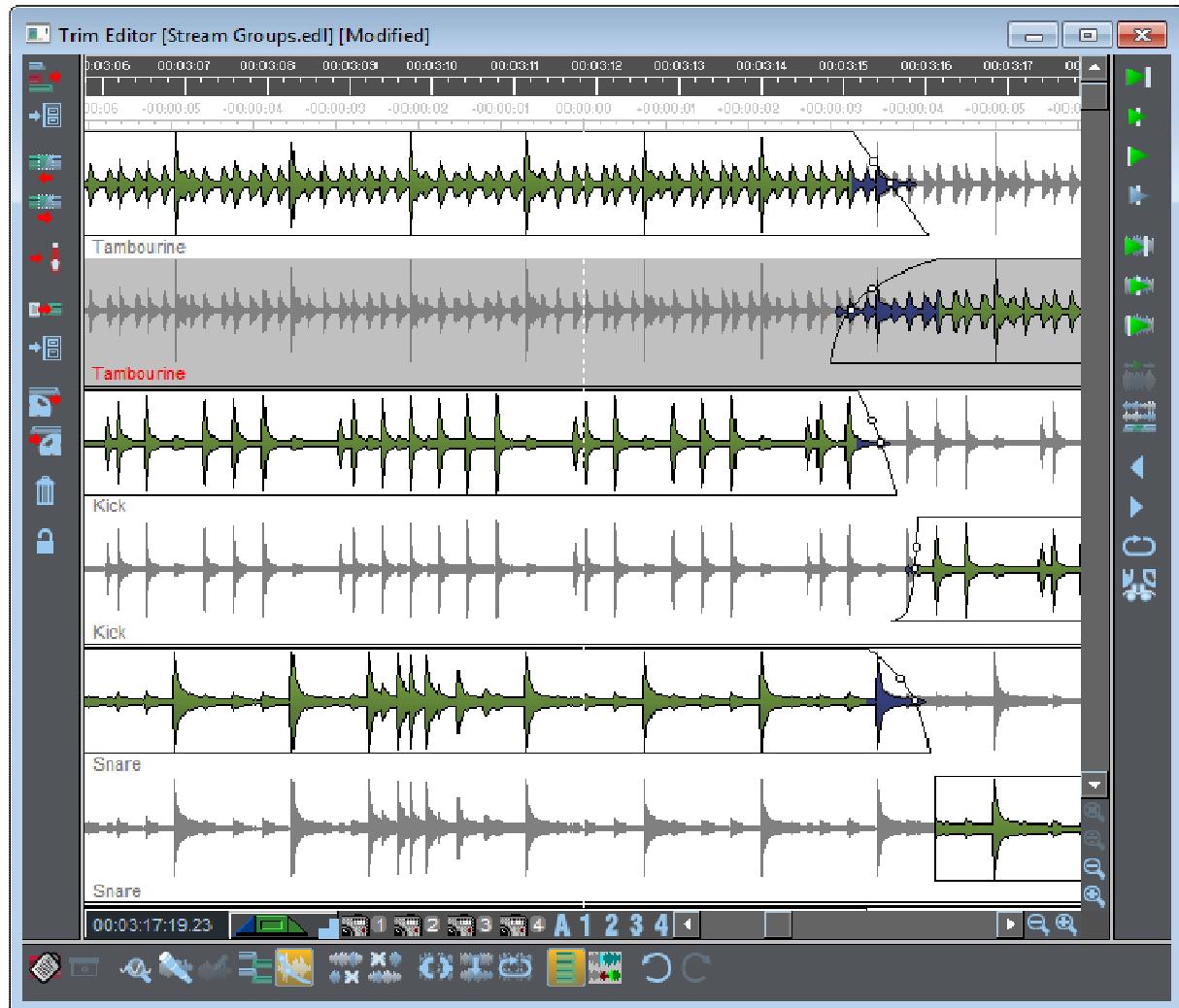
The observant among you will see that I've performed what's known in the trade as a In-Source edit on the Incoming entries and slid them a couple of drum beats to the right.



We can go further, and by deselecting the Multi-track Auto Select button, and now we can change some of the edits individually - in this example the first three streams were loaded as a green group clip, and thus they will retain this grouping. I've pulled out a longer crossfade on these and adjusted the next pair of streams individually as well.



Now, just for good measure, I've pressed the Multi-track Auto select again, and now everything links up again - with a single click on the crossfade I've been able to drag the entire edit point across all streams little to the right, but still retaining its uneven edges and differing crossfades on some legs.

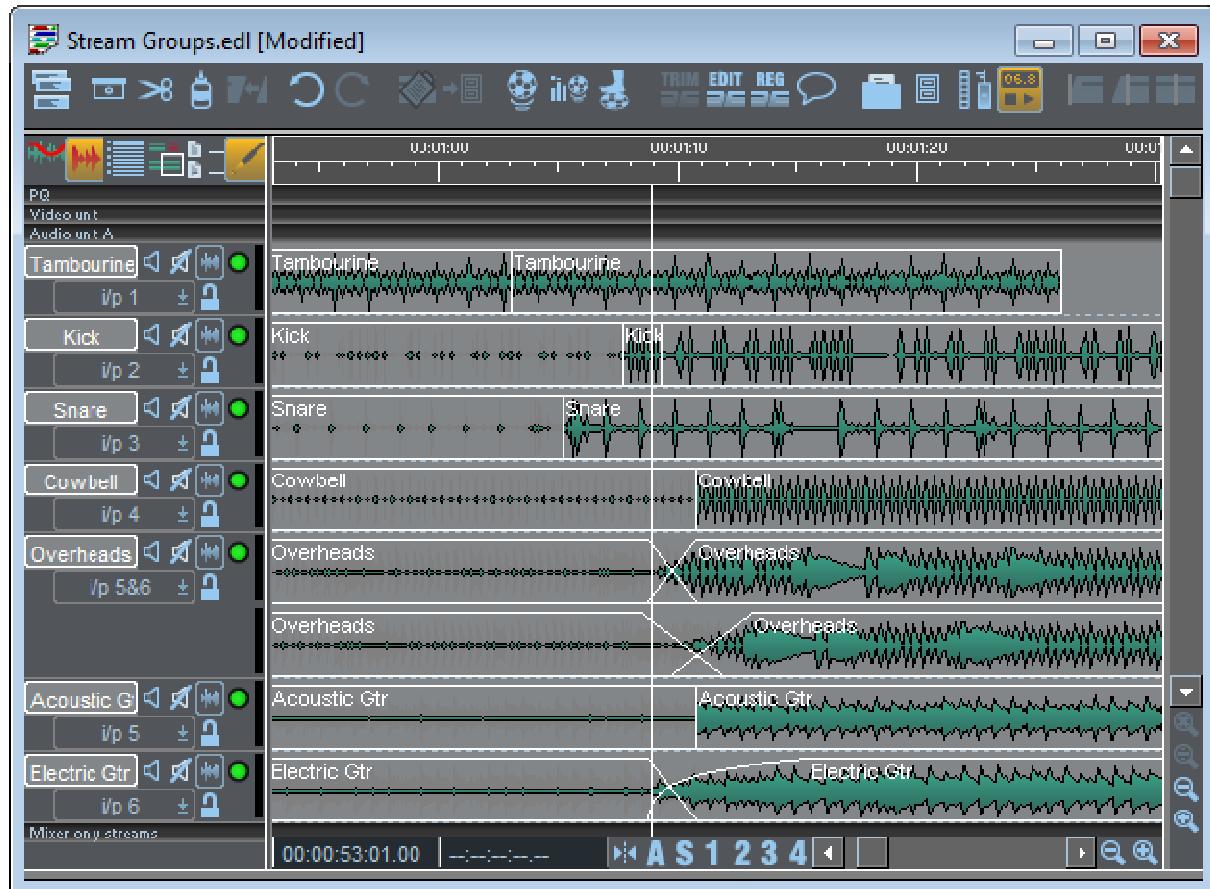


Q.E.D.

MULTI-TRACK TRIM EXAMPLE 1A

The two clip per stream rule still applies where the edit is not the same on every stream.

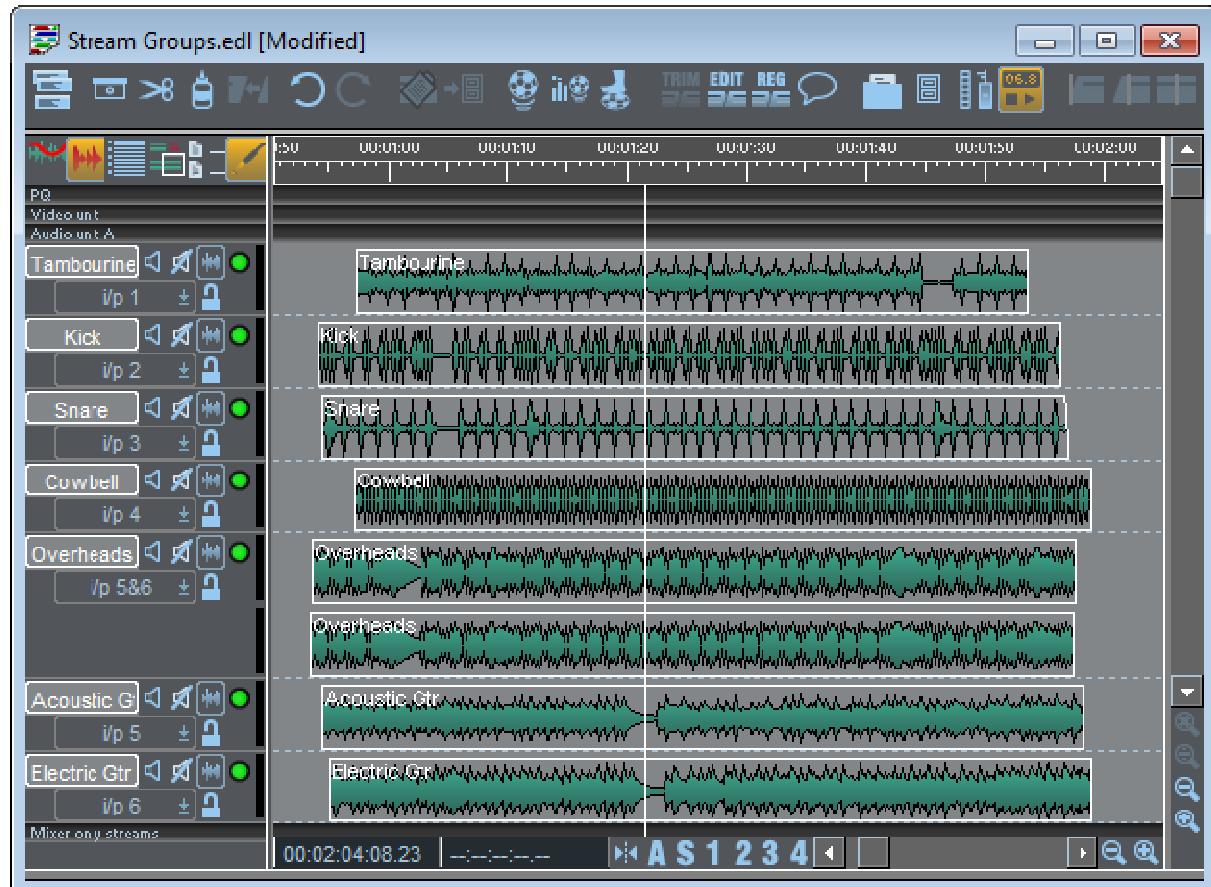
This is an extreme and probably foolish example, but the same rules from the previous example will apply - all the clips to the left of the horribly uneven edit will be the Outgoing set of clips, all to the right are the Incoming, and when you select one clip in each set, all clips will be selected.



The important thing is that, much the same as with Multi-track Playlist Editing, it doesn't matter if the edit is offset a little on some legs of the edit, by enabling and disabling the Multi-Track Auto Select button you can either treat the entries as a single edit, or edit each clip or fade edge individually as you require.

MULTI-TRACK TRIM EXAMPLE 2

One EDL Entry per stream



Again, it's fairly obvious what should happen here - this is really just a single multi-channel entry, and we want to use the Trim Window to top and tail it.

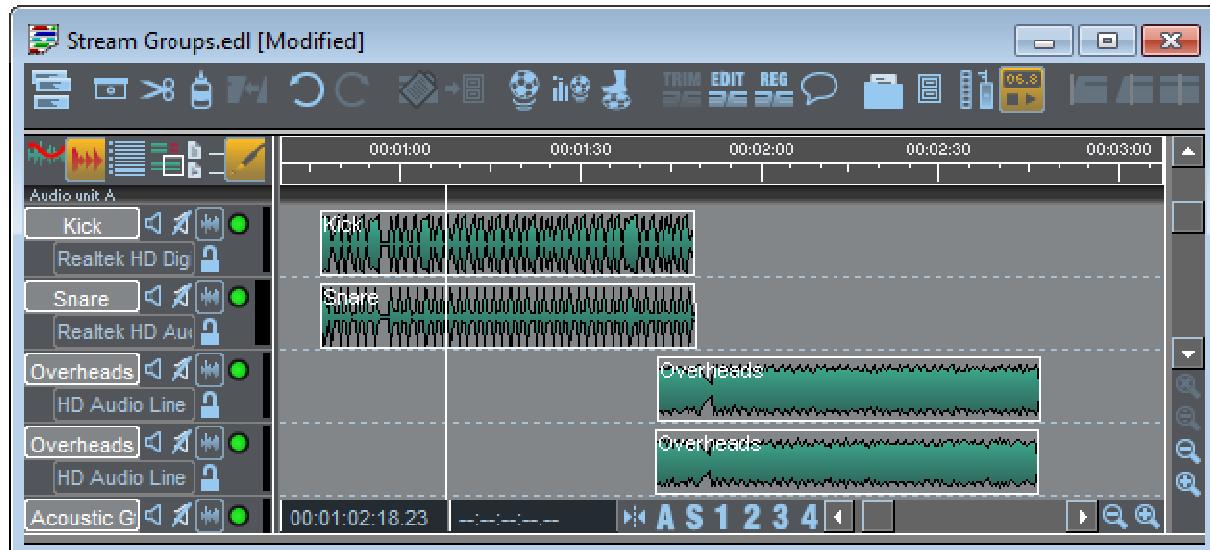
The ends in this example are a bit ragged, and as before, with Multi-track Auto Select enabled, they will all be moved together, and retain the offsets.



TIP: The Mirror function can be used to align the In or Out points on every stream - the fade on the clip you have last selected will be the one to which all others will align when you use Mirror.

MULTI-TRACK TRIM EXAMPLE 2A

One EDL Entry per stream "Chequerboard"



It's quite common to need to edit between clips that are on different streams, but if this were to follow the same rule as the last example, then when you moved the out point of the clips on the first two streams, it would change the out point of the clips on streams 3 and 4 and NOT their In points which is what you would want.

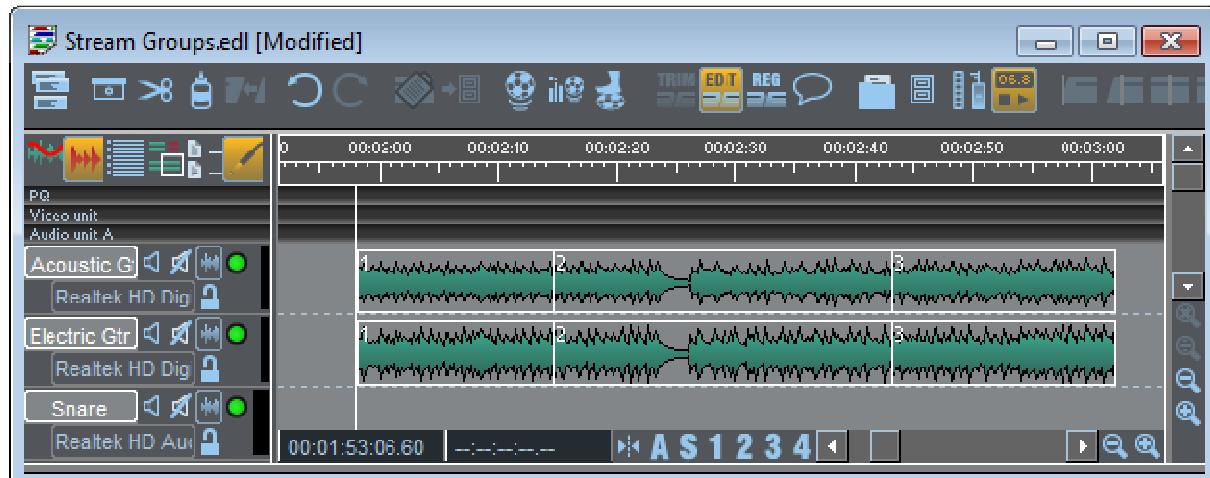
In the example above, the clips on stream 1&2 are loaded on top as the outgoing clip, those on streams 3&4 are the incoming side of the edit. As you'd expect, the edit proceeds exactly like Example 1.

But the key thing is how SADI6 knows the difference between this situation and the last example.

The rule is quite simple: The clip that starts first is always an Outgoing clip, those that start before the half-way point of that clip are outgoing clips; those that start after the half-way point are on the Incoming side of the edit.

MULTI-TRACK TRIM EXAMPLE 3

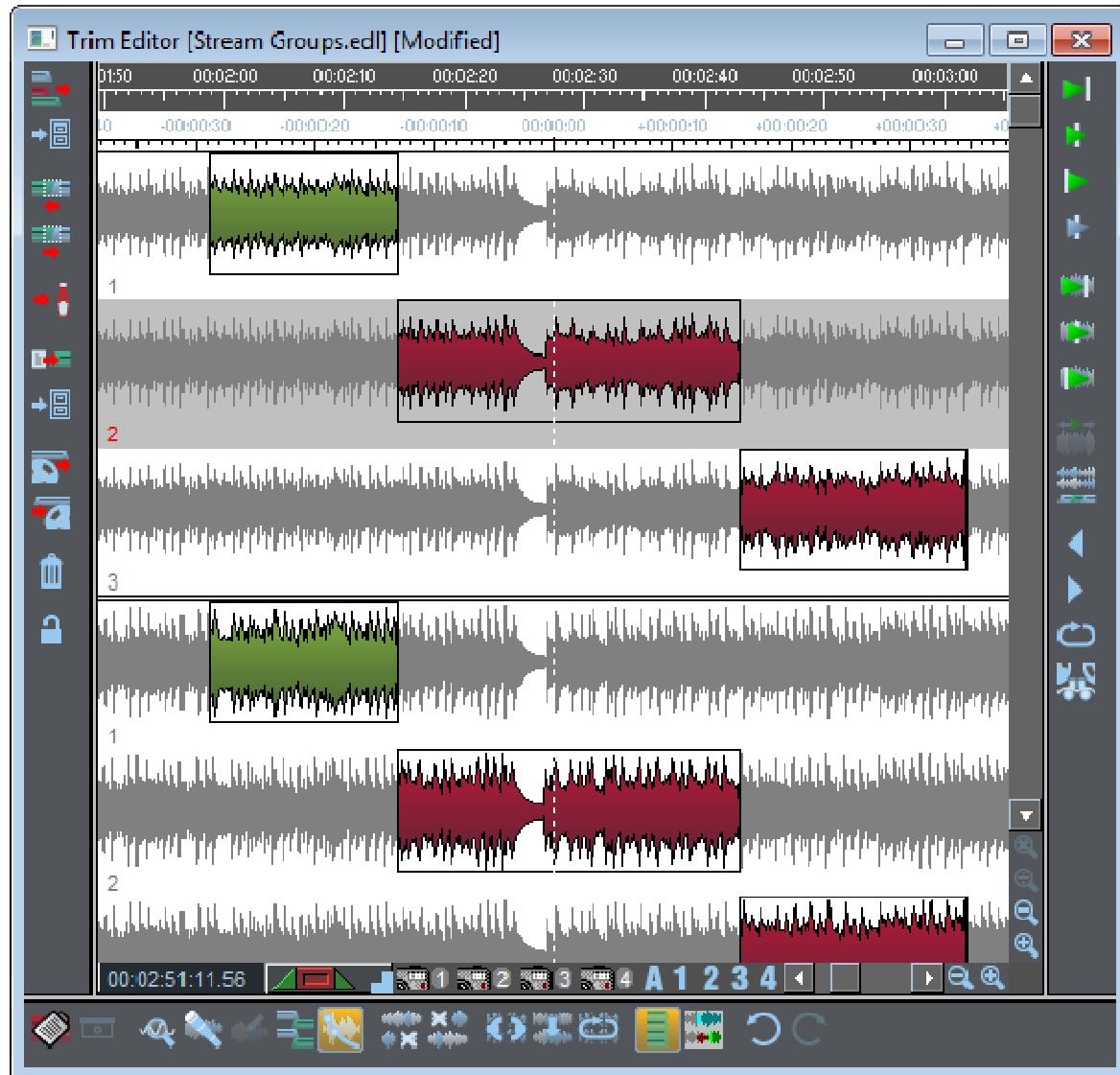
Three or more EDL Entries on a Stream



Following on from the last examples, we shall now see how the Trim Window can handle **multiple edit points**.

In this very simple example, it's obvious that there are TWO edits, and you will see that you can edit them together in the same Trim Window session.

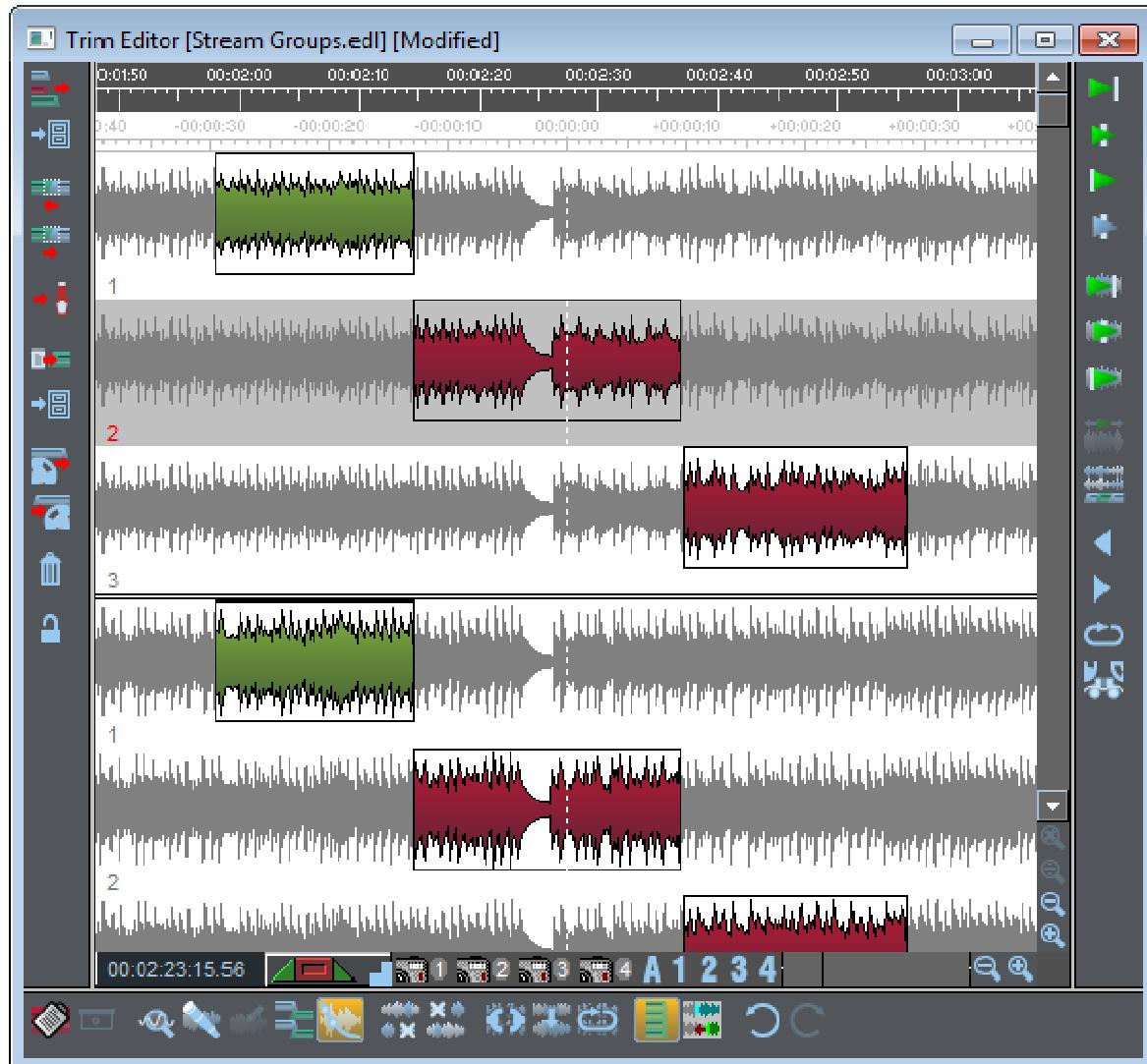
When these three clips are loaded to Trim, SADI6 will not only auto-select the appropriate segments depending on where you click, but also Slip clips inside the Trim window when they are not involved in the Edit Point that's being focussed.



Firstly you can see the Trim streams show two (stereo) groups of three. The first edit will be between "1" and "2" and the second edit between "2" and "3"

In the picture above, I have clicked in the left hand half of "2" so as to select its In point in Source mode. SADiE has also auto-selected the whole of "3" and as you can see in the next picture, when I slide "2" leftwards, "3" follows.

This internal Slip is always applied in such a situation unless you deselect the Multi-track Auto-select button.



To work on the second edit, it's best to first de-select by clicking in an empty or grey area, then click on either the right-hand half of "2" or the left side of "3". You will see the mouse cursor change to show the edit mode.

Summing Up

All these rules will combine to allow multiple edits on multiple streams to be edited in Trim.

You should be a little careful when loading different numbers of clips from each EDL stream - if the clips are reasonably well aligned the obvious auto-selections will be made, but if the edges are very uneven you may find the Auto-grouping doesn't work the way you want it to - SADIe's only human !

THREE AND FOUR POINT EDITING

THREE AND FOUR POINT EDITING

OVERVIEW

"Three Point Editing" and "Four Point Editing" refers to a method of working which utilises a traditional Source/Destination style of editing. Conceptually this is a little like online editing with VTR decks.

In SADiE terms this means having your original source material in one Playlist, and copying this audio into the correct position in a "Destination" Playlist (this is perhaps your "Master Edit").

Three and Four Point editing copies audio marked using the Region Editing Tools Left and Right locators in a Source EDL, and then pastes it into an area marked similarly in a Destination EDL.

The terms "Three" and "Four" Point refer to the number of Left and Right markers set. If you have Left and Right marked in both EDL's then it is a Four Point Edit. If one of the four possible markers is left unset, then it is a Three Point Edit.

The procedure is much the same for both Three and Four point edits.

PREPARATION



First you need the correct tools to hand. Press the **SELECT TOOLBARS** button, and then select "3 and 4 point edit" from the menu, to reveal the "3 and 4 point edit" toolbar.

Dock it wherever is convenient. Save a desktop and/or default desktop if need be.



If you're using keyboard "Hotkeys", it may be worth reviewing which Hotkeys you are using for setting the Left and Right locators. I've personally found it worthwhile moving these to the [and] square bracket keys, and using modifiers for "Go to" and "Clear". These Hotkeys are found under: "Setup", "Hotkey setup", "Transport – Locators".

A few suitable suggestions (but this is entirely up to you) are:

- Clear Left Locator **SHIFT + CTRL + [**
- Clear Right Locator **SHIFT + CTRL +]**
(These two are new Hotkey functions)
- Go to Locator Left **SHIFT + [**
- Got to Locator Right **SHIFT +]**
- Set Left Locator **[**
- Set Right Locator **]**

While you are in Hotkey Setup, set some keys for the two 3&4 point editing tools and a couple more useful facilities (which are found in the Region Editing section of Hotkey Setup). Again, it's your choice! Of course the choices here are based on an English keyboard.

- Three and Four Point Edit =
(This is the =/+ button above the] key. This is the "Do it" button for a Three and Four Point Edit)
- Enable Three and Four Point editing mode -
(i.e. the -/_ key to the left of the =/+)

And a couple more which will probably come in useful:

- Snap Left and Right to cuts #
(This is to the left of the Enter key. There is also a button for this on the Region Edit toolbar, to the right of the L and R buttons).
- Source/Destination focus toggle '
(This is immediately to the left of the #. This allows you to flip between the Source and Destination EDL's without using a mouse).

You may alternatively wish to set up some Hotkeys on a Hardware Controller Jog panel.

TWO PLAYLISTS

You cannot do a Three or Four Point Edit unless you have TWO Playlists (and only two Playlists) open. Thus this function won't be possible if you are working with the Playlist Setup option "Restrict to one open Playlist" ticked.

If there are fewer or more than two Playlists open at the moment you initiate Three and Four Point Editing, then you will be warned appropriately and you will not be able to continue.

So, you have a Playlist open that contains your source material, and another Playlist open ready to be the destination.

It doesn't matter where these Playlists are positioned on the screen as you'll see soon.

To initiate Three and Four Point Mode, press the **THREE AND FOUR POINT MODE** button on the SOURCE Playlist; this is important as it determines which is the Source for the edit and which is the Destination, get the wrong one and you'll be going in the wrong direction.



If you're using the Hotkey to enable Three and Four Point Editing make sure the correct EDL is focused by clicking on it with the mouse.

At this point, the desktop will be rearranged to display the Source Playlist in the bottom half of the screen and the Destination at the top. The only other windows visible will be those that have been set to "always on top" and the Transport window, which you may want to close or move. Also Region Editing is now enabled in both EDL's.



If you've set the Hotkeys, you will see that once Three and Four Point Editing is enabled, you can use the "Source/Dest focus toggle" to move back and forth between the two EDL's.

FOUR POINT EDITING

Just go for it - the operation will be obvious when you see it.

First try this with the mouse: scratch the mouse over a region in the Source Playlist, and then do similar across a Destination region.

Press the **THREE AND FOUR POINT EDIT** button on the Source Playlist (or the Hotkey) and the Source Region will replace the Destination region. Entries to the right of the Destination region will be slipped to fit the new region (the Source Region is unlikely to be exactly the same length as the Destination region was).

Simple really - it's just a copy and paste/replace operation.

The intention is that this provides a quick and easy compilation function, and thus the result will be as accurate as your placement of the Left and Right markers. You may find you will want to use Playlist Edit or the Trim window to tidy up the beginning and end of the new inserted region.

In practice you may use scrub tools, or you could place the Left/Right markers on the fly whilst playing to define your Source and Destination regions more accurately.

THREE POINT EDITING

Three point editing is quite similar, and uses the same controls. The only difference is that one of the four markers is not defined. Thus there are effectively four different types of Three Point Edit, depending on which of the four markers is missing.

When this is the case, SADiE will copy the source region and paste and replace it into a region the same length in the Destination Playlist . and hence there will be no slipping.

The four scenarios are:

1. Destination Right missing

The Source region is pasted, starting at the Destination Left mark, replacing Destination material for the Source duration

2. Destination Left missing

The Source region is pasted with its end at the Destination Right mark, replacing Destination material backwards from Destination Right for the Source duration.

3. Source Right missing

The Source region's end is defined by the length of the Destination region; this Source region is then pasted into the Destination Region.

4. Source Left missing

The Source region's start is defined (backwards from Source Right) by the length of the Destination region; this Source region is then pasted into the Destination Region.

The first method is particularly useful for quick left-to-right compilation into an empty Playlist, moving the Destination Left mark to the end of the Playlist after each 3 point edit.

Or perhaps you have an area of the Destination Playlist that needs filling with ambience. Mark the region to be filled, then place the Source Left marker in a section of ambience in the Source. Pressing the Three and Four Point Edit button fills the Destination with the correct length of ambience.

CLEARING MARKERS

If you've set a region with both Left and Right markers, you'll have to remove one to perform a Three Point Edit. You can do this with the Hotkeys (Clear Left/Right locator), or by double-clicking on the L or R button in the L&R pane of the Transport Controls.

SNAPPING MARKERS TO EDITS

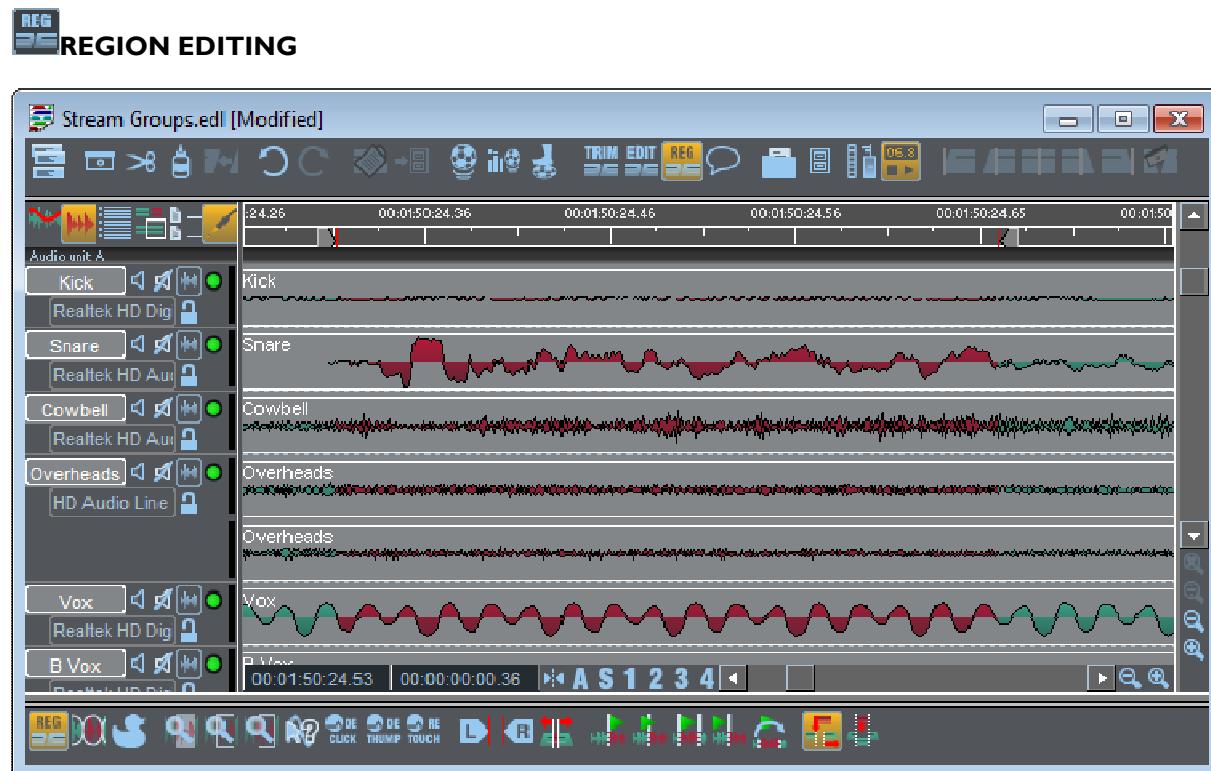


The "Snap L&R to cuts" button on the region edit toolbar and corresponding Hotkey are useful if you want to position the L&R markers exactly on the start or end of a clip. Pressing this button/Hotkey will move BOTH markers from where they are to the closest clip start or end on enabled streams.

This is useful for replacing entire clips or sequences of clips. Also you can mark a silent region this way in order to fill it with a 3&4 point edit.

Note: This doesn't place the markers exactly at the start or end, but half-a-default-crossfade after a start (or before an end) so that a default crossfade will be produced by the 3&4 Point edit function. However the behaviour is different if you have Cut mode set to "V Cut" in the Playlist Setup window.

REGION EDITING



Region Editing adds another set of editing tools to your palette. The basic principle of Region Editing is that you firstly define a "region" of the Playlist, and next perform another action on that region; you may want to delete it, move it or copy it elsewhere for instance. The region is defined between the standard Left and Right Locators, and usually across all streams enabling you to more easily edit across all streams of a multi-track.

You could use the region editing tools for removing a section of a multi-track, or for moving it or copying it elsewhere. Another possible use for region editing is for simple speech editing tasks. Where you otherwise may use razor cutting and Playlist editing, defining a region and deleting it can be very quick, particularly for repetitive tasks.

 Region editing functions are available on Hotkeys, and this can speed up operation significantly.

ENABLING REGION EDITING

To access Region Editing first you must be able to see the Region Editing Toolbar.



 If this is hidden, then pressing the **SELECT TOOLBARS** button, and choosing "Region Editing" from the drop-down menu can reveal it. The above toolbar will appear, and in the usual way you can dock it to an edge of the Playlist or allow it float, by dragging it around the desktop, or by right mouse clicking and selecting, for instance "dock to top".



To enable Region Editing, press the **REGION EDITING ENABLE** button; region editing is turned on when the button is pressed in.



DEFINING THE REGION



DEFINING THE REGION WITH THE MOUSE:

The mouse cursor will change to a pencil tool, which signifies that you are ready to define a new region.

To define a Region, when your mouse is the pencil tool, click at the position in the Playlist where you want the region to start (it doesn't matter which stream you are over when you click, anywhere between the time bar and the bottom of the Playlist will do), then whilst holding the mouse button down, drag the region rightwards, and when you reach the point at which you want the region to end let go of the mouse button. The region will be coloured red, and you'll notice the Left and Right locators are positioned at the start and end of the region respectively.

To help you mark the region, you will notice that the two time displays at the bottom left of the Playlist will be displaying current cursor position and the duration of the region respectively.

You can also start at the end of the region and drag leftwards towards the start, whichever method is most convenient.



DEFINING THE REGION WITH THE HARDWARE CONTROLLER:

All of the region editing functions can have Hotkeys assigned. Notice that the Preview buttons are linked to the Transport Edit controls' preview buttons, and similarly the Select Region Start and End buttons are the same as the In and Out buttons.

Having enabled region editing, you can set the region start by setting the Left locator, and the region end with the Right locator, in the usual way.

Also the hardware **IN** and **OUT** buttons give you a way of setting the region. Once you're in Region edit mode, pressing the **IN** button while the Playlist is scrubbing makes the Left region marker jump to that position. Scrubbing from there moves the Left marker as you scrub. If you press **IN** when the Playlist is stopped, then the current time will locate to the left marker. You have to be careful to stop the scrubbing when you've positioned a marker (press the **STOP** button), otherwise when you come to move on to the **OUT** point, you will jump the Right marker as soon as you press **OUT**, rather than jump **TO** the right marker (which happens when you're not scrubbing).

A most important factor is that the region doesn't have to start at an entry's start point; it can begin anywhere in the Playlist and can contain any number of entries. Under normal circumstances in SADiE, we are manipulating EDL entries or clips, but that's not the case at the moment in region editing.

BASIC REGION EDIT FUNCTIONS

To see the sort of thing you can do next just press the Delete key on the keyboard. Assuming you have Autoplace and slip off, you will see the region disappear, and razor cuts are made to tidy up the ends of the entries left behind.

Try a few more things: **UNDO** to put the region back, or set **SLIP** to be **RIGHT**. Now press Delete again. This time the region disappears, but slipping everything to the right, leftwards, fills in the hole.



Define another region; you will still have the pencil cursor. This time press the **CUT** button using the mouse. The same thing as before will happen: the region disappears and entries move leftwards to fill the hole.



Now go to the end of the Playlist and press **PASTE** and the mouse cursor changes to the usual paste icon. Clicking in the Playlist will now drop a copy of the whole region into the Playlist.



Of course you can use the **COPY** button to leave the original region unchanged (and un-razored) and allow you to paste a copy of the region elsewhere in the list.

NOTE: You may want some streams of the EDL to be unaffected by any region editing. Region editing only works on streams that are enabled (lighter grey), so to make the region ignore a stream press its stream name button so that it is in the "out" position. With region editing the "Ctrl-enable" function (clicking on a stream name button while pressing the CTRL key on the keyboard) can be a quicker method of enabling the correct stream; this function is a "reverse" function and disables *all* streams apart from the one you've Ctrl-clicked on.



ADJUSTING THE REGION

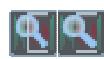
There are many ways of adjusting the region's bounds once you have defined it.

1. Clicking with the mouse outside the region, gives you the pencil tool again, and will start making a new region. You could use this method to redraw the region from scratch again.
2. When the mouse is close to the start or end of the region, the mouse cursor will change to a left pointing or a right pointing arrow shaped cursor. Clicking and dragging this point allows you to adjust either the region start or end.
3. The region start and end are the Left and Right Locators, so changing these, in the Transport Controls' L-R Tab in the usual way will adjust the length of the region.
4. You can scrub the start and end of the region - either using the Transport controls, Edit pane jog wheel, or using the Hardware controller wheel. The **SELECT REGION START** and **END** buttons determine which end of the region is being scrubbed.

The Region Editing toolbar has three tools that help you zoom in on the relevant part of the region (the whole region, or it's start or end) quickly:



ZOOM IN ON REGION changes the zoom so that you can see the entire region in the Playlist.



ZOOM TO REGION START and **END** set the zoom to horizontal zoom 15 so you can see some detail on the entries at the start and end of the region.



In a similar way, the **SELECT REGION START** and **END** buttons move the focus to the start and end of the region without changing zoom. Note that the Hotkeys to operate these buttons are the same as for the Transport Edit controls' **GO TO IN** and **GO TO OUT** respectively.



PREVIEW TOOLS



The **PREVIEW** tools operate around the selected point of the region (start or end as set by the **START** and **END** markers), and as you would expect from the icons, they play from the point, through the point, the whole region, and to the point respectively.



PLAY EDIT WITHOUT REGION is a special preview tool, which performs a dummy edit, then previews it. On pressing this button, the Playlist will re-draw itself, as if the region had been deleted, then preview from before the Left marker to after the Right marker. Having previewed, the Playlist will undo this dummy edit, and draw itself back to where it was beforehand. You would normally use this tool with **SLIP** on, otherwise this preview will play silence for the duration of the region.



There is a Hotkey available for this function



OTHER REGION EDITING TOOLS



RAZOR CUT REGION puts a razor cut at either end of the region, and turns off region editing.

REGION INSERT and **REGION OVERWRITE** modes determine what happens when you paste a region into the Playlist. First you have to cut or copy a region to the paste buffer.



In Insert mode, when you paste a region into the Playlist, a razor cut is made across the Playlist at the paste position you selected, then the region is pasted at that position. Any entries underneath the region remain as they were. *But if you are in Slip (which is really how this mode is supposed to be used) then (for instance with Slip Right enabled) the entries to the right of the paste position are slipped left by the length of the region - in other words, the Playlist is cut in half and slipped to make room for the region.*

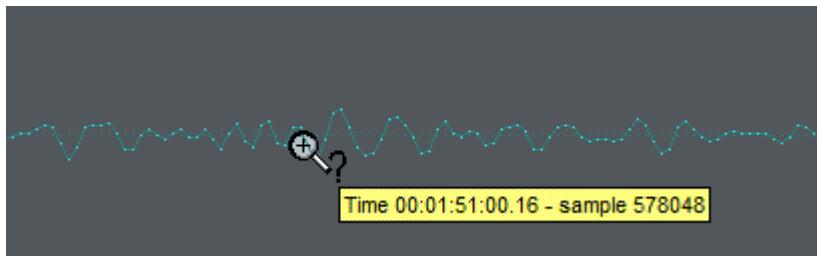


In Overwrite mode, when you paste a region into the Playlist, entries underneath the region are cut and deleted to fit the region in. This mode is not supposed to be used with Slip.

Note that Insert and Overwrite have no effect if Region Editing is turned off; the normal rules for pasting clips into the Playlist apply.



Show sample values is a tool that is not specific to Region editing (in fact you have to turn Region editing off to use it).



When this button is pushed, *and* the Playlist is displaying at one of the highest three horizontal zoom levels, then the cursor changes to a "magnifying glass" and passing this over the waveform displays the time of that sample and its sample value as a 24 bit number, e.g. a decimal number between -8388608 and +8388607. Holding the Shift key down while using this tool will show the sample value as a hexadecimal number.

REGION DUCK

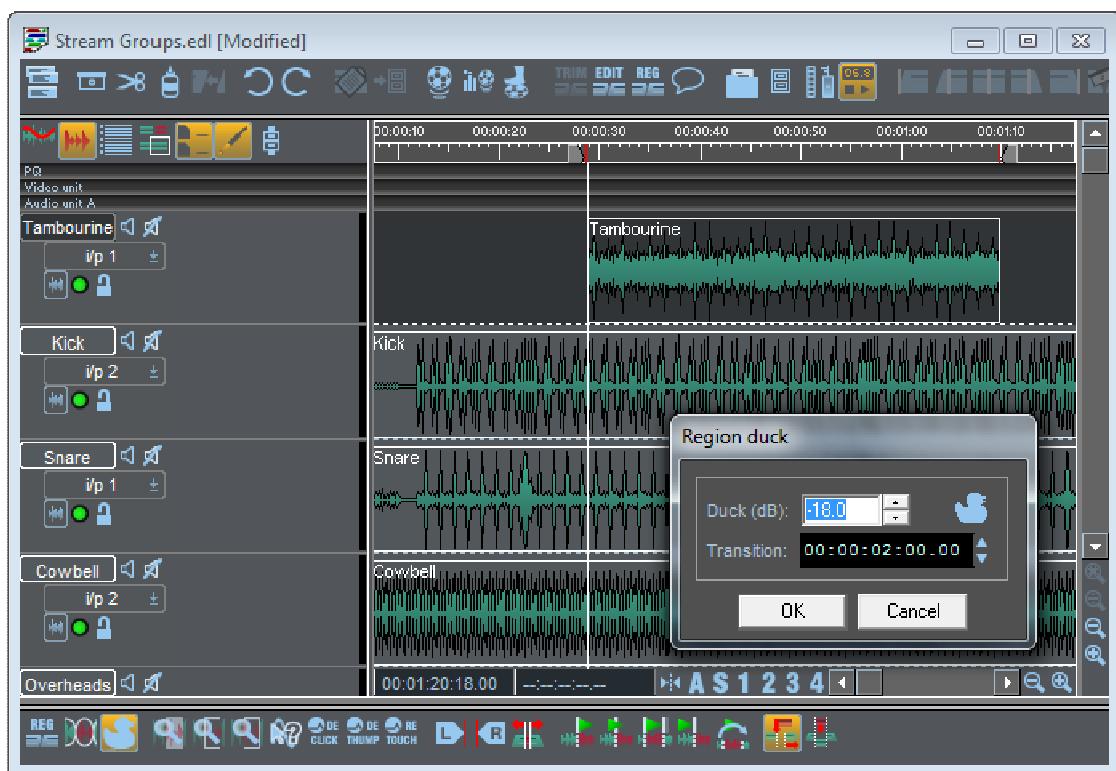
The Duck function is an automatic feature that can be used for lowering the level of, for instance music, underneath, for instance, speech.

The idea being that the music (ideally on say stream 3&4) starts first, then the speech (on streams 1&2) comes in; the music will lower in level and continue underneath. When the speech finishes, the music level will rise again back to its normal level.

There are other ways to achieve this, for instance using the Automation Dip feature; this method applies a Clip level change, and thus is independent of the mixer.

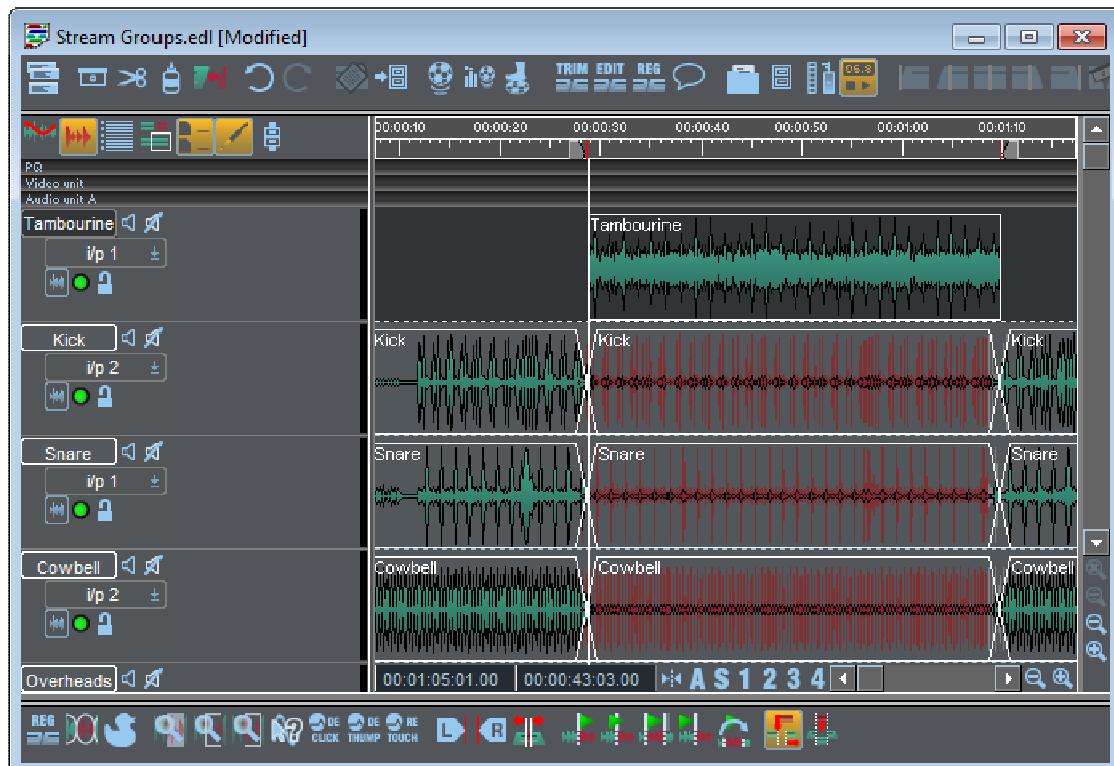
Duck works in conjunction with the Left and Right locators, which of course can be set by using hotkeys or Region Edit. You will need to view the Region Toolbar or set some hotkeys.

1. Set the L and R locators at the beginning and end of the “speech” audio.
2. Disable any streams that you do not wish to be lowered in level.
3. Press the  “Duck” button on the Region toolbar.



4. The Duck Dialog will appear. Here, you can set a “Duck level” – this is the relative level by which the music’s level will lower. And also you can set a Transition time – this is the time that the music will take to reach the lowered level; it takes the same time to return to its normal level.

5. On pressing OK, all enabled streams will be razored at both the left and the right locators; a linear crossfade of length determined by the "transition" time is made; all clips between left and right locators will have their level reduced by the Duck level.



If edits or cross-fades already exist in the area around the left or right locators, it may not be possible to apply the correct fade up/down time. If necessary and if there are lots of edits in these areas, you could bounce the music before applying a duck.

Note that there are two hotkeys (under Region Editing) for Duck – one (Region Duck) which displays the settings and allows you to change them, whereas the other (Region Duck no configuration) will perform a Duck immediately. This way you can set the duck once, and then use the single-shot key to perform subsequent quick-ducks. Or quack-ducks if you're so inclined.

SPEECH EDIT



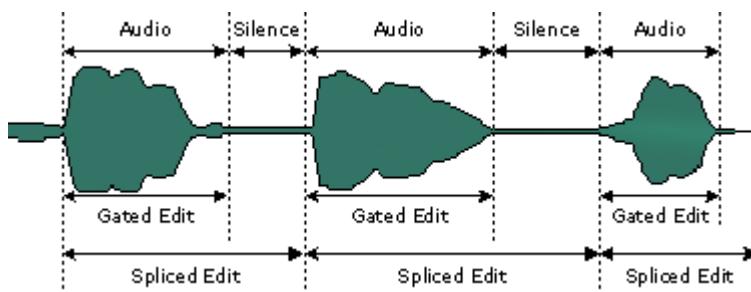
SPEECH EDIT

Speech Edit serves two basic functions. Firstly, it can act as a high quality time scrunch for speech (or any audio where there are periods of "silence"). Secondly, it can also be used to perform semi-intelligent edits on a given clip, effectively saving a lot of time in the Edit Window finding words or removing periods of silence etc.

The speech edit process works by scanning the selected clips or EDL entries to find periods of "audio" and "silence". Once it has located all the regions where it thinks audio is contained, it then forms an EDL in memory from the audio in the original clip, but with cuts at the start and end point of audio.

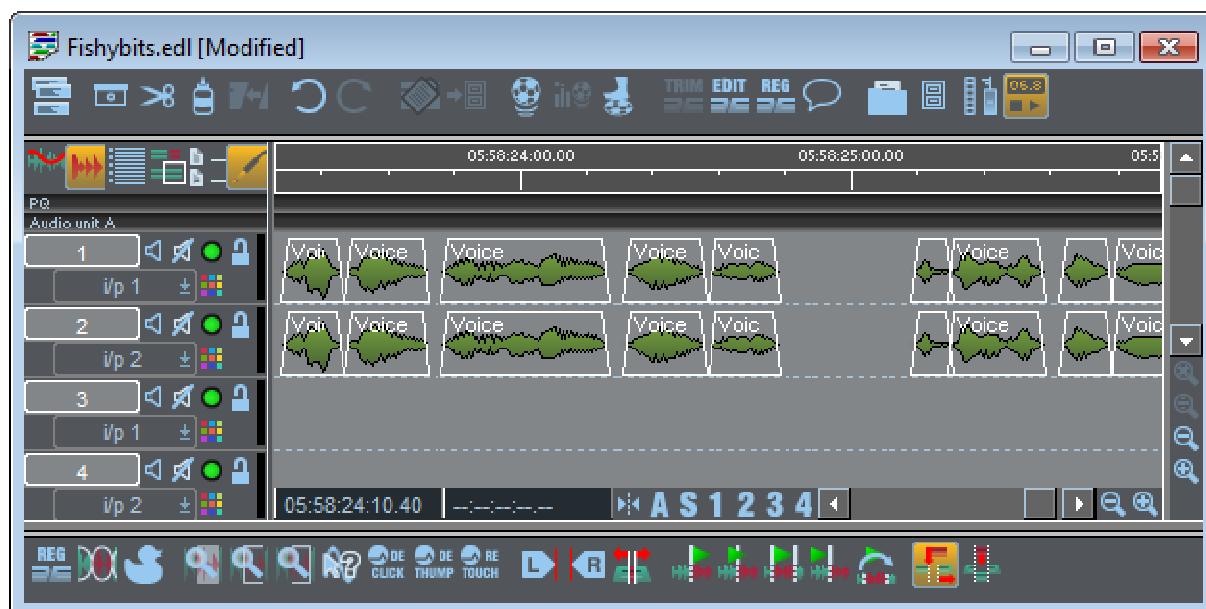
This process can operate in the usual way by recording another track. However, since the process works by forming an internal EDL, the facility is also provided to "write back" the EDL into the Playlist and see the edits made. This means that edits can be fine adjusted in the trim window.

HOW DOES SPEECH EDIT WORK?

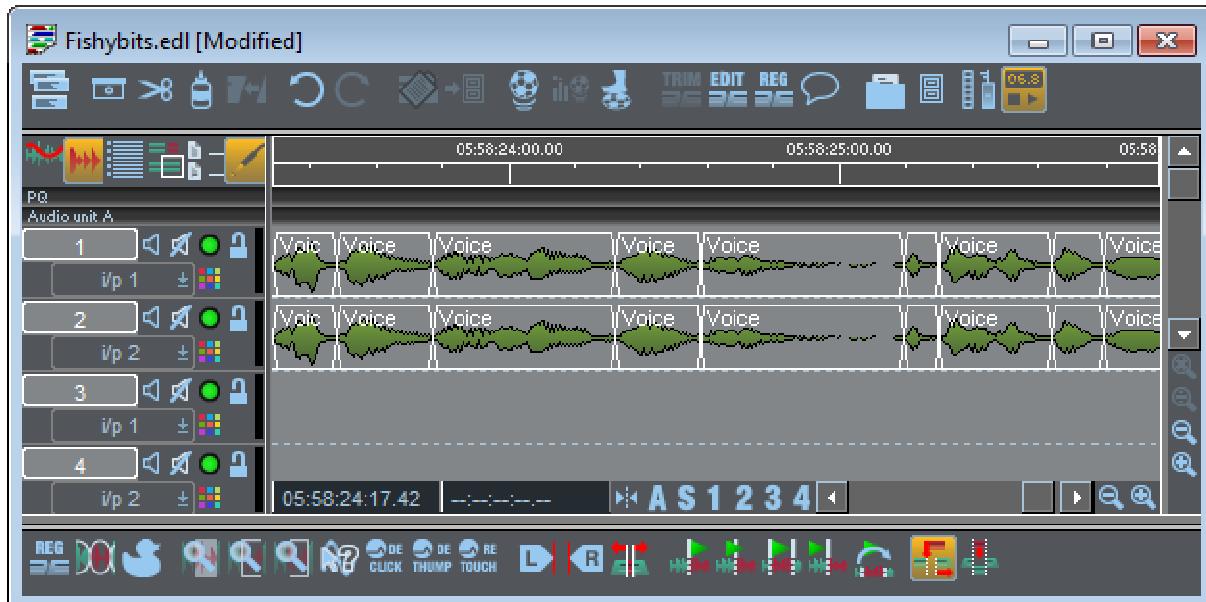


The diagram above shows a typical speech waveform. When an audio level is found above a "gate on" threshold, audio is assumed to have been located. When the level then falls below a "gate off" threshold, the audio is deemed to be finished and "silence" has been found.

The process performs edits on the EDL entries in two ways. It either forms clips only out of the regions it has deemed to be audio (gated edits) - this works well for audio recorded in quiet environments. The other editing mode using "spliced edits", forms clips which have their start point at the beginning of the audio section, and the end point at the start of the next audio section. In this mode entries are joined by a "splice" or crossfade type edit, and so if you are working in 8 stream mode, entries will checkerboard across 2 (for mono) or 4 (for stereo) streams. At the "butts", linear crossfades of around 10 milliseconds are inserted. This mode enables good edits to be made on audio with noisy or ambient "silence" (e.g. cricket commentary), although it has the drawback that where audio originally only took up one stream, it would now take two. It is therefore most effective with only one clip playing at once, and so it's probably better to perform the Speech Edit process before laying on other tracks.



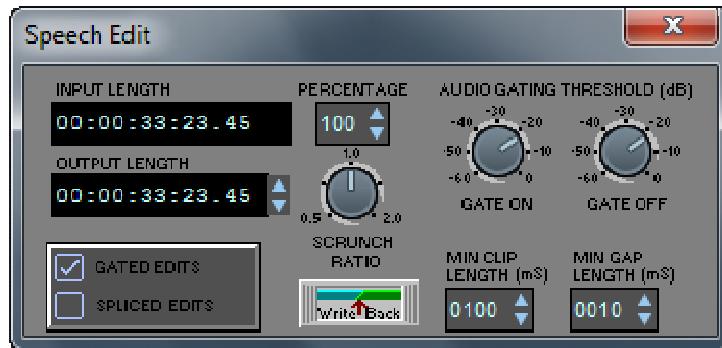
Gated Entries



Spliced Entries

As the process locates regions of audio and forms them into EDL entries, it can also reduce the length of the regions of "silence" (or expand them) to perform time-scrunching. For gated editing mode, this means placing the entries closer together in the EDL (or further apart). In spliced edit mode, only time reduction can be performed, by bringing the end points of clips forward in time (i.e. reducing the length of the "silence" in the clip) but still butting the subsequent clip to the end of this one. This still produces smooth crossfades.

CONTROLS



1: Time Scrunch ratio - Sometimes it is impossible for the process to scrunch to the desired amount (if there is insufficient silence), and so it will warn you with a message and set itself to the nearest scrunch ratio it can. To enable the process to scrunch further, the gate on and gate off values can be increased, or the minimum clip and gap lengths can be reduced. If reduction to the minimum possible length is performed, all the gaps are removed, rather than scaled down in length (which is the normal mode of operation) so speech can begin to sound unnatural.

2 and 3: Gate On and Gate Off - These pots control the threshold where audio is detected, as described above. Increasing them means that more audio is treated as silence, so higher time reduction can be performed, but with the loss of some audio. Higher thresholds will be required for audio with background noise. Gate off can never be greater than gate on. Usually keeping them the same works OK.

4 and 5: Gated/Spliced Edits - These buttons switch between the two forms of clip formation as described above.

6: Write Back - As explained above, the resulting edit list in memory can be written back to your current Playlist instead of recording a new track. This allows edits to be trimmed in the trim window for fine adjustment.

NOTE: If the scrunch ratio is 1.0 and spliced edits are used, then the entries can even be "glued" back together if unnecessary or undesired edits have been made.

7: Minimum Clip Length - has a similar effect as the minimum gap length, but can't be too short, otherwise the disk won't be able to keep up with the number of clips created (unless bounce in non real-time is used). Longer lengths (500 milliseconds upwards) can enable distinct words and phrases to be identified and cut into sections which are easily editable.

8: Minimum Gap Length - this specifies the smallest region of "silence" that the processor will treat as a "gap" which can be reduced. Increasing this value means that only large pauses can be detected, and may mean the audio can't be scrunched as much (but does mean that the process can detect large areas of silence for editing purposes). If the value is small, it can even find gaps inside words and so can compress further at the risk of sounding unnatural.



APPLICATIONS

Below are just a few possible uses for Speech Edit:

EDITING

To actually make use of the process to perform edits rather than time scrunching, longer gap and clip lengths are more useful. Working with a ratio of 1.0 in spliced mode is probably the most effective way of working. Using this method, you should be able to quickly locate regions of speech you wish to omit and edit them. When you've identified which of the new entries you wish to remove, and you delete them with AUTO-SHIFT switched on, the gap will automatically close up.

SILENCE REMOVAL

It can be used as a simple gate to replace ambience with digital silence. As above, you would use a Scrunch ratio of 1.0, but use Gated edits, so that "silence" below the thresholds is removed.

TIME SCRUNCHING

To scrunch audio, gated or spliced edits can be used. If the minimum gap length is shorter, more silence can be found to reduce. If it won't scrunch enough, increase the threshold so that more silence and less audio can be found. Large scrunches may reduce the gaps between words so much that a lot of emotion/feeling can be lost from the speech.

TOP AND TAIL

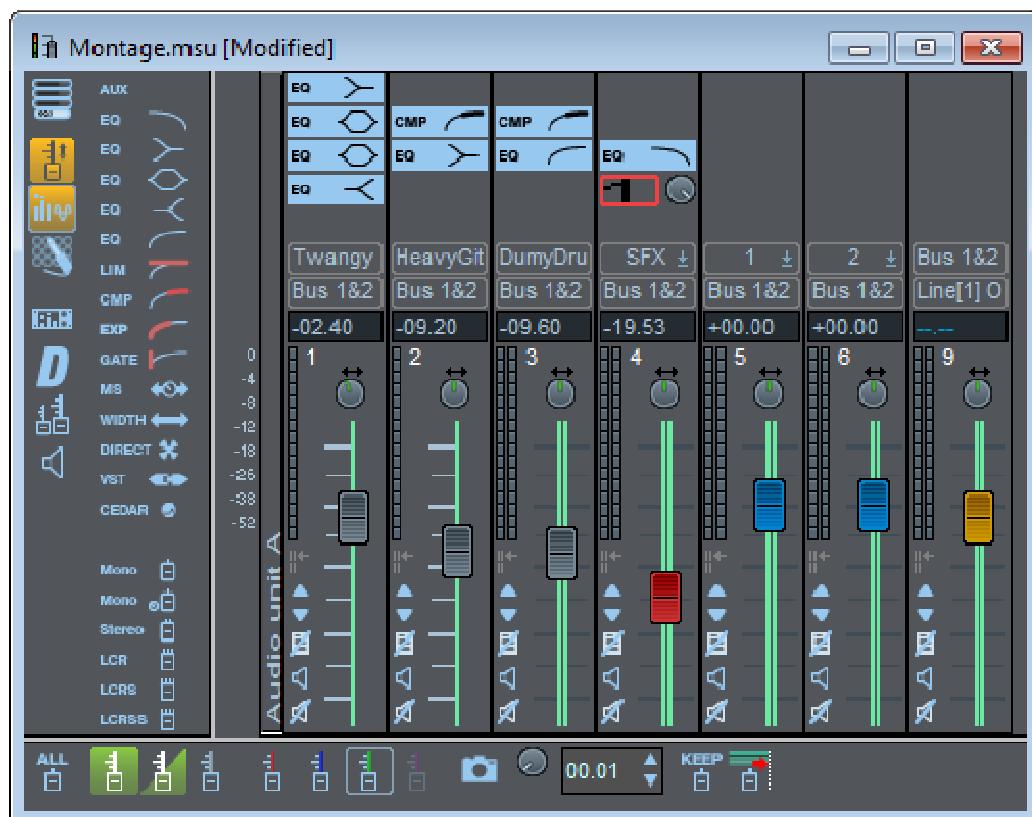
If you've recorded several music tracks, set the minimum gap and minimum clip lengths high (about 5,000 ms). You can then use Speech Edit to find the gaps and split the recording into separate entries.

MIXING AND PROCESSING

THE MIXER



THE MIXER



The Mixer window in SADiE routes audio signals between the currently active Playlist and the outside world. On each Stream you can control levels, pan positions and auxiliary sends as well as process the audio, by applying equalisation or compression for example.

You can:

1. Set and leave these controls when playing back an EDL .
2. Adjust them in real time during playback.
3. Record the adjustments you make and have them reproduced using the [Automation](#) described later in this chapter.



If you have closed the Mixer for your current Playlist, you can display it again with the **SHOW MIXER** button on the Playlist toolbar.

NOTE: In addition to using the faders of the Mixer to control the playback levels of Streams, you can set the level of individual EDL Entries. See the [Clip Details window](#).

The Mixer is made up of channel strips which each have an input and an output. The simplest Mixer strip consists of a fader, a pan control and an input selection button whose label indicates what that strip is controlling. Other displays and buttons may be added to the strips.



This is the Mixer's configuration toolbar. If it is not currently displayed on your Mixer, you can bring it back with "Toolbars" on SADiE's "View" menu.

The first six buttons add or remove displays for every strip:



Fader grouping buttons - see [Grouping Faders](#).



Inline process buttons - see [Processing](#). Each button represents a blank section into which you can insert processes like EQ and dynamics for each strip. To reveal more buttons, enlarge the Mixer window vertically.



Strip output selection buttons.



Phase Reverse Controls.



Displays "long faders". In this view, all faders are twice as high as usual and thus have a twice the resolution. Moving the fader with the mouse will give you 0.20 dB steps instead of 0.40 dB as in the normal view.

The last five buttons turn on or off other Mixer displays:



Turns on Mixer automation and displays the automation toolbar (see [Automation](#)).



Displays the Process Palette toolbar from which you choose which processes to insert into a Mixer strip, and lets you add new strips to the Mixer.



Displays the Routing toolbar.



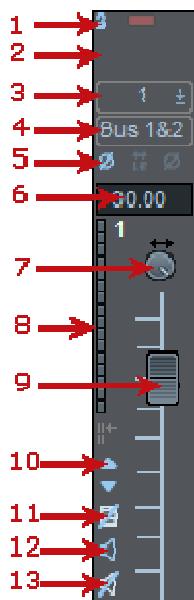
Brings up the Process Window, which acts as an "outboard rack" for other processes..



Shows the [Metering Window](#).



A MIXER CHANNEL STRIP



1. Fader Grouping button - see [Grouping Faders](#)
2. Inline Process button (empty) - see Processing
3. Input Selection button - this strip is controlling the audio of Stream 1
4. Output Selection button - this strip is routed to internal Bus 1 and 2
5. [Phase Reverse](#) control and left/right swap for stereo strips
6. The peak level of audio through the strip. Figures above full digital coding level shown in red. Double-click to reset. Shows fader level in blue when fader is moved.
7. Pan pot - click and drag to adjust. A small fader will pop up to indicate the setting. Double-clicking allows you to adjust the fader directly.
8. PPM - Peak Programme Meter display
9. Fader - drag it!
10. Nudge the fader in 0.1 dB steps
11. Resets the fader 0 dB gain. Fader is disabled whilst button is down.
12. Solos this strip
13. Mutes this strip

NOTE: The peak level displays act as an indicator of the margin available before reaching full digital coding level. On channel strips routed to SADiE's inputs and outputs, they will show you how close you are getting to overload. However, SADiE's Streams have over 1000 dB of headroom so you will not overload this part of the system. Double-clicking resets them individually, Ctrl + double-click resets all strips. Overloads on outputs can be logged using the [Log Overloads Window](#).



Each hardware controller fader panel has eight faders which control the Mixer strips indicated by the LED's above them:

ASSIGN + \leftarrow and \rightarrow select the next and previous bank of eight Mixer strips for control by the eight faders.

SHIFT + a fader's **SELECT** button allows you to reassign a single fader to a different Mixer strip. Move the fader and the LED changes to indicate the new strip. When you let go of the fader, it is reassigned. Use this to set the function for the single fader on the edit panel, perhaps to control a stereo master strip.

A **MUTE** button is provided for each strip.

SHIFT + **MUTE** solos the strip.

ASSIGN + \uparrow changes all the faders from controlling level to controlling the pan-pots. The LED at the top left will display "Pn"

ASSIGN + \downarrow changes back to level control. The LED shows "Fd".

MASTER FADER One fader can be designated to be the Master Fader, by right mouse clicking on that fader and ticking the "Master Fader" option. This fader will then always be controlled by the single fader on the Jog Panel, or in the case of the LXR, the Master Fader.

NOTE: As you will see from the following sections, the Mixer is very flexible. You can save any Mixer configuration for later recall. See [File Management](#).



GROUPING FADERS

To link (or "gang") on-screen faders so that they move as a group, press the **FADER GROUPING** button on one of the strips. It will flash. You can then press the grouping buttons of other faders you want linked with it. They will light up indicating that they are part of the group. Finally release the flashing button. Moving any of the faders in the group will now move them all and their buttons will light to indicate the link.

Faders can be set at different levels before being linked and the offset between them is calculated so that they reach the bottom of their travel (fade out) together. This maintains relative stereo positions. Pressing any of the linked group's fader reset buttons will lose the relative offsets.

To change the level of only one fader within a group, move it whilst holding down the keyboard Shift key.

To remove a fader from a group, select one of the others in the group, and then release the button of the fader you want to remove. Finally release the flashing button.

NOTE: You can make as many groups as you like, but each fader can only be in one group. Mute, solo and fader reset buttons are also linked.



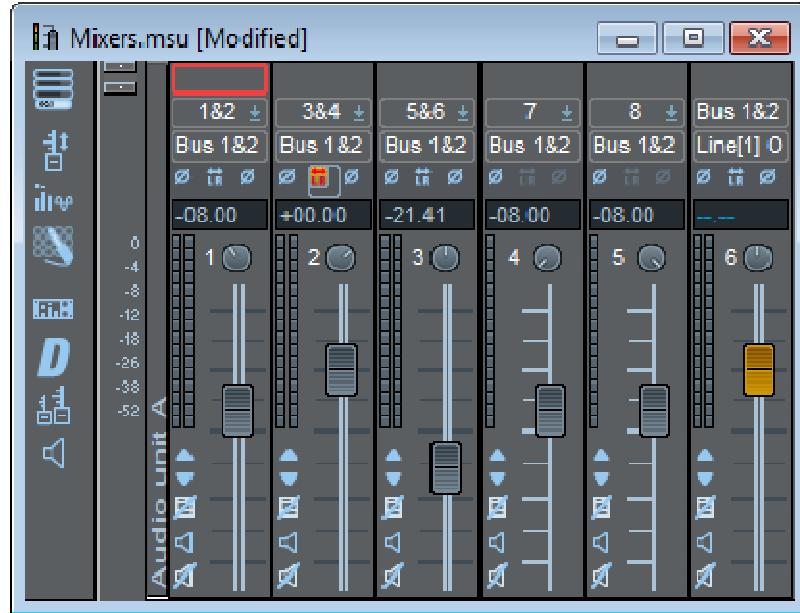
NOTE: Hardware controller faders are not affected by grouping when moved physically; the feature is designed to make it possible to move more than one fader with a mouse. The best way of grouping hardware faders is with your fingers!

Right-clicking on a grouped fader will reveal an option to "Invert fader polarity". This means that if you push it up, the others will go down.



PHASE REVERSE CONTROLS

The Phase Reverse Controls button on the mixer configuration toolbar enables another set of buttons for each strip in the mixer.



These buttons allow you to reverse the phase of the audio through the strip, and in the case of stereo strips, the button in the middle will swap the left and right sides of the stereo signal through the strip.

If the button is pushed in and red, then the function is on. Grey buttons cannot be selected.

Because these are potentially dangerous buttons if selected by mistake, there is an option in Setup, on the "Mixer Strip Display" sub-section of the "Mixer" page to **ENABLE PHASE CONTROLS**. When this is not ticked, the phase controls cannot be displayed.

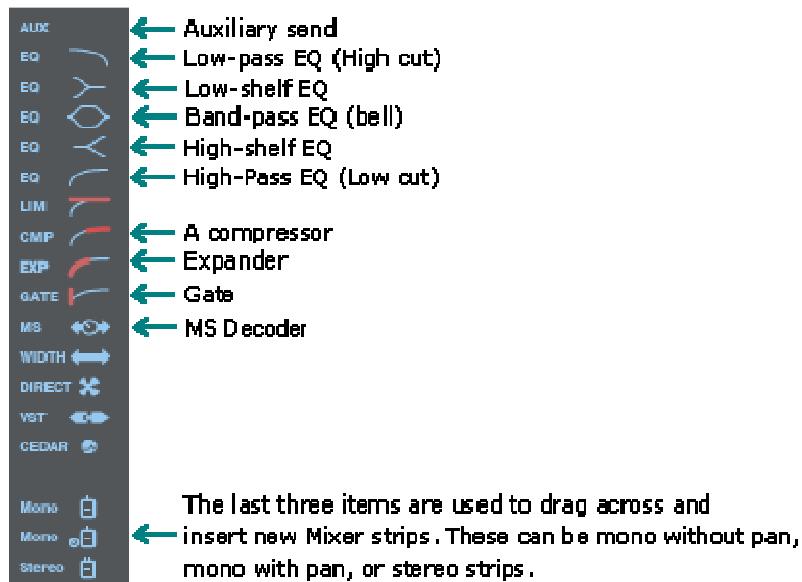
MIXER PROCESSING AND PLUGINS



INSERTING PROCESSING IN MIXER STRIPS

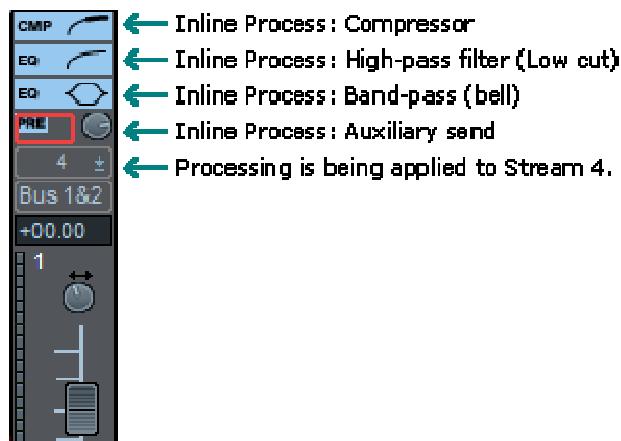
To allocate processes to a Mixer strip, and therefore to process the audio going through it, display the Process Palette toolbar.

This shows you all the available processes you can insert inline on individual Mixer strips:



* holding the ALT while dragging an Aux drops a PFL into the strip.

So, if you wanted to apply compression, followed by two bands of EQ, and then take an auxiliary send from the audio on Stream 4 of your Playlist , you would drag those processes into the Mixer strip that is controlling Stream 4. It would then look like this:



To remove an Inline process from a strip, right-click on its button and select "Delete Process".

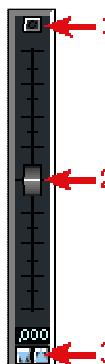
Note that you can insert the same process into every strip that is fed directly from a stream, by press the keyboard's CTRL key whilst dragging a process onto a strip.



ADJUSTING MIXER PROCESSING



Click on any process button in the strip. This will bring up a scrolling display of the controls for all processes in the strip.



1. Centre
2. Drag
3. Nudge

2 The controls on the screen appear as familiar rotary knobs. Click and drag the mouse up or down to adjust them. A small fader will pop up temporarily to indicate the adjustment and the numerical display on the left will indicate the exact setting value. Double-clicking keeps the pop-up fader on view and allows you to adjust it more finely (click on a grey bit of the window to lose it again). You can also adjust the setting by entering a value directly into the numerical display in any of the following ways:

- Click, hold and drag the mouse up or down over the digits (on either side of the decimal point, where there is one). Their value will increase or decrease, and the more you move the mouse, the faster they change. Release to set the new value.
- Use the up and down arrows beside the display to nudge its value by whole units. Hold Ctrl to nudge by decimal points.
- Double-click on the time display itself and directly type in a new value ending with the keyboard ↵ Return key.

At the top of each section are three buttons:

1. A bypass button for that section.
2. A name button that allows you to change the section to another process.
3. A button to disable the automation for that section



Bypass Process Name Disable Automation



At the bottom of the mixer strip bypasses all processing. There is a Setup option, in the "Mixer Strip Display" sub-section of the "Mixer" page, that allows you to alter the function of this bypass button so that only equalisation is bypassed, thus leaving dynamics, Aux sends and M&S unaffected.



Press **SELECT** above the fader of the strip you want to adjust. The number of the strip will appear in the LED above the Rotary Shaft Encoders (Knobs to you and me).

↑ and ↓ then move through the processes on that strip, selecting each in turn for adjustment and outlining its display.

EQ and **CMP** select the Equalisation and Compressor sections directly.

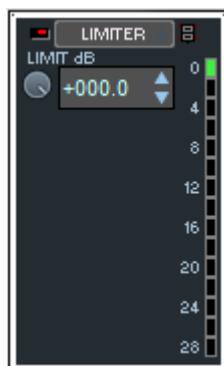
The knobs A to F now control the on-screen knobs in the selected process, from the top downwards.

ASSIGN + MUTE above the relevant fader bypasses all processing.


DYNAMICS

The Dynamics processing has been designed to sound and act as much like a traditional analogue studio unit as possible, with a slightly "soft knee" to produce a natural effect.

The Limiter - A basic level limiter. This isn't a look-ahead limiter and so cannot possibly guarantee to clamp the level down to a set level. This should not be confused with the [Mastering limiter](#).



Limit - The threshold above which signals are limited.



Attenuation - The delay between the signal dropping below the Threshold and gain being reduced.

Restore - The delay between the signal exceeding the threshold and gain returning to normal.

Input Range - The input level range between the expander starting to operate and reaching its maximum gain reduction.

Maximum Attenuation - The maximum gain reduction.

The Gate reduces the output by a fixed amount when it falls below a given Threshold.



Attack - The delay between the signal dropping below the threshold and the gate "shutting" and reducing the level.

Release - The minimum delay before the gate will reopen.

Maximum Attenuation - The amount of gain reduction when the gate is operating.

The Compressor reduces dynamic range by reducing its gain in proportion to the level of the signal: the higher the level, the more gain reduction.



Attack - The delay after a transient before the compressor starts reducing the level.

Decay - The time after the transient before level is returned to normal.

Threshold - The level above which compression is triggered.

Ratio - The amount of gain reduction then applied.

Makeup Gain - Boosts output level to compensate for overall gain reduction. Be careful, as it will go very loud!

Note, that the algorithm of the Compressor has changed from v5.2 onwards to give more realistic responses. It has been reported that, with the quickest attack times, the output can be distorted with some material. This is because the compressor may be tracking too quickly, which can cause the level to be changed too quickly and by potentially large amounts. However, it was felt that allowing a fast attack still has some value; this can be used to catch a momentary peak more quickly for instance.

Due to this algorithm change, if you load a mixer that was last saved with v5.1 or earlier, the compressor values will be translated to the closest match on the new compressor, thus the values shown on screen will appear to be different to those that were saved in the earlier version. However, the new compressor will be set up to sound very similar.



EQUALISATION

SADiE's Equaliser is divided into five sections with different slope characteristics. The frequency controls of all sections cover the full audio bandwidth of 20 Hz to 20 kHz. Here is a control strip with all five sections:



A low-pass filter (steep high frequency cut) with a slope of 12 dB/octave.

The frequency controls set the -3 dB point.



A high-pass filter (steep low frequency cut) with a slope of 12 dB/octave.

The frequency controls set the -3 dB point.



Low-shelf EQ (low frequency cut and boost) -60 dB to +20 dB.

The frequency controls set the -3 dB point.



High-shelf EQ (high frequency cut and boost) -60 dB to +20 dB.

The frequency controls set the -3 dB point.



Band-pass EQ (bell-shaped boost and cut) -60 dB to +20 dB.

The Q control sets the bandwidth. The higher the Q, the narrower the bell.

The frequency control sets the centre frequency.

The cut and boost controls operate symmetrically apart from at the extremes, where the -60 dB cut is provided to allow "notch" filtering with high Q settings.

See the full frequency plots of the Equaliser.

AUXILIARY SENDS

 Mixer Strip Knob



Full Control Display

The Auxiliary Send level knob can be adjusted on the Mixer strip as well as on the full control display.

The routing button allows you to route the signal either to an internal bus or to the outputs. Note that the bypass button for this section acts as Auxiliary Send on/off.

For Aux Sends on Mono strips, a "Stereo" button is available - when this is ticked the output of the Aux will be stereo, and a pan pot is also made available.

SOLOS

The Solo function allows you to hear one channel alone, and thus mutes all other channels.

There are alternative modes in which the Solo switching logic can operate:- "Additive" and "Exclusive" modes.

The default setting is "Additive", but it's possible to revert to "Exclusive Solo" (which is the only way SADiE has worked up until v5.5), by going to Setup/Mixer/Mixer Strips and changing the "Primary Solo Mode" back to "Exclusive". It's possible to use either mode, whatever your default setting, by using modifiers.

Solo buttons are on the mixer, but can also be displayed at the left side of the Playlist.

Additive Mode

When you press a solo button , all other strips apart from output & bus strips will be muted. When you press a further solo button, that strip will be unmuted to ADD to the strips that are soloed. To turn solo off

and return to the state before Solos were started, you should either press the new "UnSolo" button  on the Mixer Toolbar (it has a picture of a speaker – like a large version of the solo buttons), OR mouse-click any Solo button whilst holding the ALT key on the keyboard.

Exclusive Mode

Is the logic prior to v5.5. When you press a solo button, all other strips apart from output & bus strips will be muted. When you press a further solo button, only that strip is soloed, and all other strips, including the first strip that was in solo, are muted.

SHIFT-Solo

If you click a Solo button with the SHIFT key pressed, the logic will be reversed. I.E. If you are in "Additive" mode, SHIFT-Solo will perform an Exclusive Solo; if you are in Exclusive Mode, SHIFT-Solo will perform an Additive Solo.

Unsolo All/ Restore Last Solos

The new Solo button on the Mixer toolbar, as mentioned above is provided to turn off Solos when in Additive Mode, however notice that it also remembers the previous Solo state, and so toggling that button when Solo is disabled, re-instates the previous Solo state. This key can be set to a hotkey in Setup/Hotkey setup/Playlist – stream solo "Unsolo all...." (right at the bottom)

Solo Safe

Solo buttons can be made "Solo-Safe" by clicking on them whilst holding the CTRL key. Solo-Safe means that a strip cannot be muted by Soloing any other strip. When a strip is in Solo-Safe its solo button goes to yellow. Solo-Safe is applied at the moment of making a strip safe – i.e. if you're Soloing another strip already, then the Solo-Safe strip will be unmuted.

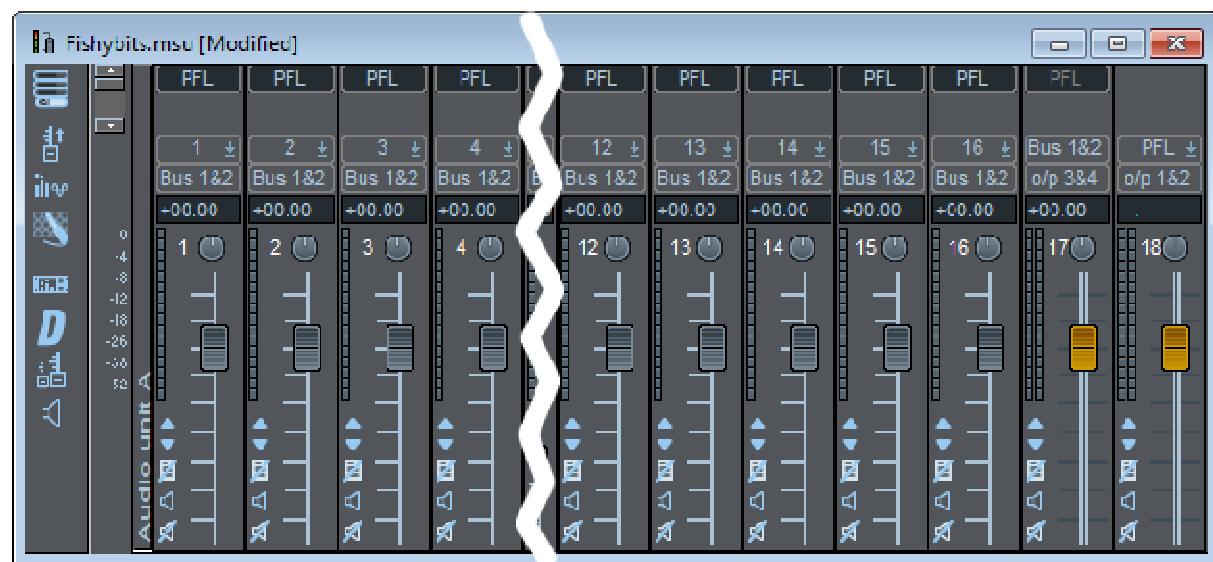
Back-lit Mixer buttons

The background of the mutes, solos and other stream control buttons are brighter when pressed - if you prefer to not have the background "back-lit" and retain the legacy grey there is a setup option under View Menu / Setup Window / Mixer / Mixer Strips.

PFL

A PFL (Pre Fade Listen) function has been added to the mixer, however this is not setup as standard, and if you wish to use PFL you must set it and route it yourself.

Here are step by step instructions on how to route a mixer to perform PFL.



The picture shows how. For a step by step description tho.....

1. I'm assuming we're starting with a simple default 8, 16, 24 ,or 32 etc into 2 mixer.
2. Stereo merge the Bus1&2 to O/P1&2 faders if they aren't already.
3. Set the Output of this stereo fader to another Output – i.e. O/p3&4 . This is the Master Output and will be unaffected by PFL functions.
4. From the process palette, and holding ALT and CTRL together, drag an "Aux" onto strip 1. ALT-Aux gives you a single PFL; CTRL-any process drops a single process into every stream strip.
5. Also ALT-Drag a single PFL into the Bus1&2 to Mon L/R Master fader.
6. Right mouse click on the last PFL "blob" on your Master fader and select "Master PFL" – the writing will go grey.
7. Drag a new stereo fader into the mixer (#18 in the picture) and route it from the bus named PFL in the drop down list; set it's output to the output that you want to hear the PFL on – in this case it's set to O/P1&2.

Fader 17 in the picture is sending the master stereo mix to Mon L&R that will be unaffected by the PFL functions. If you only want to monitor on i.e. the Headphones, it's still best to set up this "dummy" output (or a dummy bus).

When no PFL buttons are pressed, the PFL bus on Strip 18 is receiving audio from the strip that is marked as Master PFL (the grey blob and fader 17 in the example). The PFL bus will receive the pre-fade signal from this "Master PFL Strip".

When a (black) PFL button is pressed, the PFL bus switches to receiving the signal direct (and pre-fade) from the strip on which the PFL button is pressed.

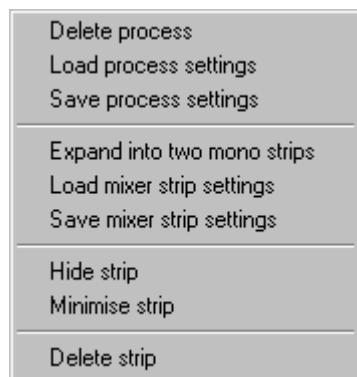


SAVING SETTINGS

To save the layout of the Mixer . save the Mixer Setup file. This can be done with the File | Save command when the Mixer is the active window, or from the Project window, as described in [File Management](#).

NOTE: Processing control settings are saved as part of the Mixer [Automation](#).

You can also save Process settings and Mixer strip settings for a single strip. Right mouse click on the process section of a strip and this menu drops down:



"Save process settings" saves the pot settings for a single process, which can be reloaded into the same process or one on another strip.

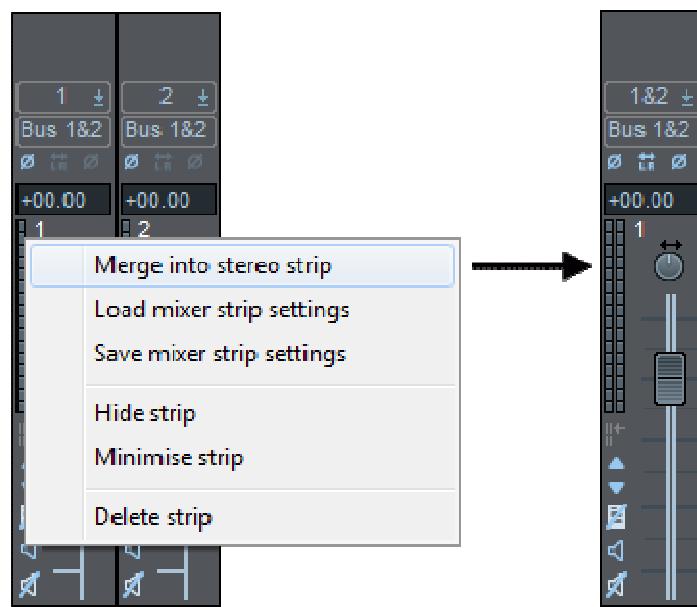
"Save mixer strip settings" saves the whole mixer, all processes and their pot and fader settings, which can be reloaded onto another strip.

If you wish to save your customised Mixer to be used again, save it as a [Template](#).



PROCESSING STEREO

To apply processing equally to the two channels of stereo material, it needs to be routed through a stereo Mixer strip. You can merge two mono Mixer strips into a stereo one by right-clicking over the fader:



Then insert the required process into the stereo strip.

MS DECODER

 The MS Decoder allows you to simply convert audio recorded as Mid and Side into its Left and Right components.

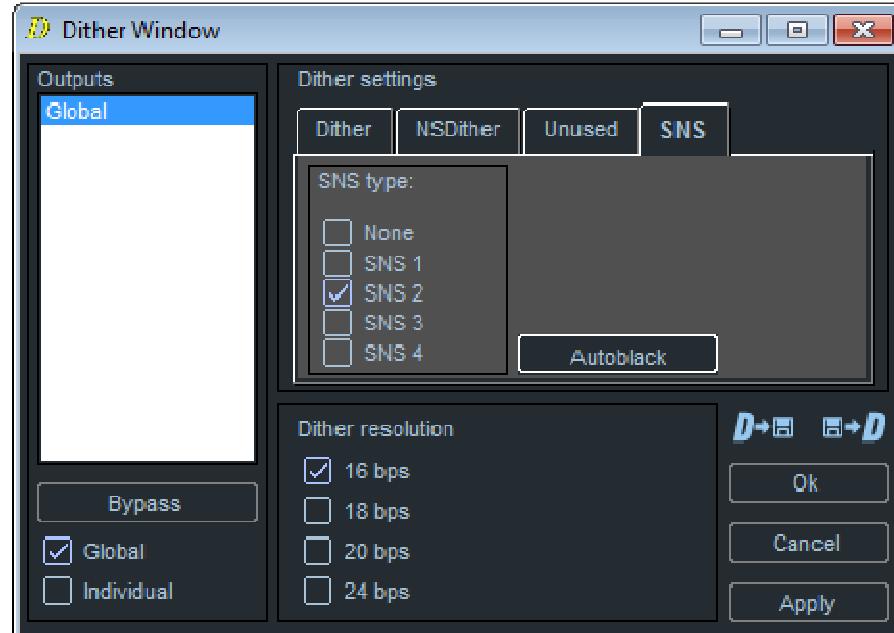
The knob lets you adjust the stereo width, and there is a push button for **SWAP INPUTS** in case the "M" signal is on the right side of the stereo recording. As with **AUX SEND** the knob can be adjusted on the mixer strip without opening the whole process strip. This process can only be added to a Stereo strip.

DITHER WINDOW

Dither and Noise Shaping can be applied to outputs in the Dither Window.



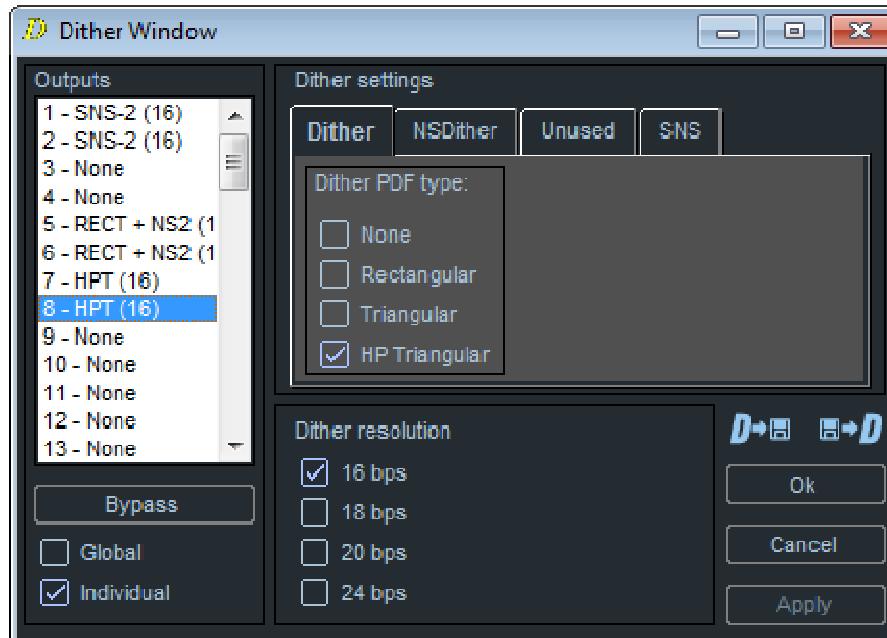
To access this, press the D button on the Mixer Toolbar



Dither can be applied either globally or to individual output channels. When using this new interface, dither is always applied at a point between the Bus called i.e. O/P 1&2 and the physical output, so it is always last in the signal path.

PPMs that measure output level, will be measured after the dither.

Note however that the master **Output Resolution** setting in Setup / Audio determines the bit resolution at which the AES stream is truncated and at which the sub-code in the AES stream is set. If your master Output resolution is set to 16bit, then any dither applied at a Dither Resolution of 24bit will be truncated, and hence have no effect at the output (you will be warned if you try this.)



Operation is simple. You have “radio” buttons to select Global or Individual. When it's set to Global, you can change :-

- The **Dither Resolution**, which is the bit resolution at which the dither is being applied. Dither will add noise to the least significant bits.
 - The **Dither Type**. Clicking on one of the three tabs allows to choose between and set parameters for:- 1) Dither, this is the standard unshaped dither that is available on all SADiE systems; 2) NS Dither – this adds noise shaping to the normal dither types 3) SNS is similar to NS Dither but uses noise shaping filters designed by Prism Sound. NS Dither and SNS are options and can only be used if they are installed.
- There is a further description of [NS Dither](#) (a.k.a. HiDither96) [SNS](#) in the Process Window section of this manual.

(If you select NS Dither without choosing any noise shaping, then this uses the standard Dither settings.)

When it's set to **Individual** you can alter the Dither Type and the Dither Resolution for each output pair.

To change the parameters, select the output you wish to effect by clicking on it , it becomes highlighted in blue; (note that the usual CTRL-click and SHIFT-click options apply for selecting multiple items in the list), choose the Type and Resolution, and press Apply. Pressing OK is the same as Apply, but will close the Window. Pressing Cancel will exit the window without making any changes (since the last time you pressed Apply or OK).

Note that the Bypass and the SNS Autoblock buttons can be changed without pressing Apply (this is so that you can apply the function in real time so as to A/B the effect of dither). If you exit the Dither Window by pressing Cancel, the state of these will revert to the way they were before you entered the Dither Window.

All Dither Window Settings are saved with the mixer, and thus will be saved with mixer templates also if you wish. The default state is Global Off.

Additionally there are buttons in the Dither Window to enable you to Save or Load dither settings.

DITHER IN THE BOUNCE WINDOW

When you're bouncing, there is a Dither switch in the bounce window to allow you to choose between a) no dither (un-ticked) b) or (ticked) using the settings in the dither window (if they are set to OFF, then there will be no effect.)

Note that Dither will apply (when this is ticked) for bounces that use the mixer and those that do not.

If you are applying dither as plugins in the process window (see below) then this "Dither" switch has no effect (neither ON nor OFF).

DITHER IN THE PROCESS WINDOW

An alternative method for applying dither exists in the [Process Window](#), whereby Dither or Noise Shaping plug-ins can be routed into busses.

This method pre-dates the Dither Window which was first introduced in v5.3 software, but this is still available a) for users that wish to retain their existing methods and work-flow and b) to allow mixers created with earlier versions of SADiE to still work.

Note that the Dither Plug-ins in the Process Window follow slightly different rules with respect to

- Position in the signal path – this is where you routed them.
- Dither Resolution – this is always at the master Output resolution.

You should be aware that it's possible to apply dither twice. Of course with the freedom of routing that's always been possible, it's just that now there are two different places to apply it – it's your choice which tool you use.

POWR

The POWr algorithm that was available in earlier versions of SADiE is no longer supported. If you load an old mixer that contains POWr you will be offered the opportunity to replace it with SNS, which has a number of similar and high quality noise shaped dither algorithms. More [detail about SNS](#) algorithms appears later in the manual.

IZOTOPE PLUGINS

IZOTOPE OVERVIEW

SADiE6 includes a bundle of creative VST plugin tools designed by processing specialists iZotope.

These appear in the standard VST plugin list, but unlike other third party options you may add yourself, the iZotope plugins are installed alongside SADiE and are logged automatically.

To use the iZotope plugins, drag the  button from the Process Palette into a mixer strip in the top grid area. The complete list of VSTs appears, from which any of the iZotopes may be selected.

In the VST list they are named as follows-

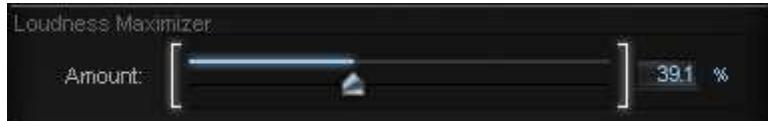
Analogue Delay	AnalogueDelayAdvanced
Chorus & Flanger	ChorusFlangerAdvanced
Reverb	MasteringReverbAdvanced
Multiband Compressor	MultibandCompressorAdvanced
Parametric EQ	ParametricEQAdvanced
Phaser	PhaserAdvanced

Pitch Shift	PitchShiftAdvanced
Simple Mastering	SimpleMasteringAdvanced
Single Band Compressor	SingleBandCompressorAdvanced

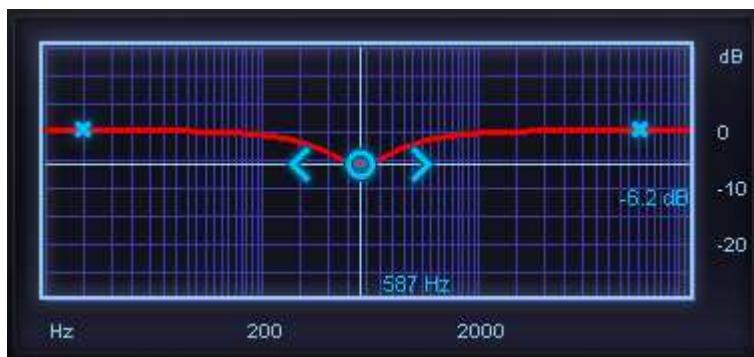
The following pages give a short description of the controls of these plugins.

The plugins have common control features:-

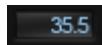
- **Sliders** - you can drag a slider left and right to decrease or increase the parameter value. If you click on a slider, the keyboard up/down arrows can be used to increase the value.



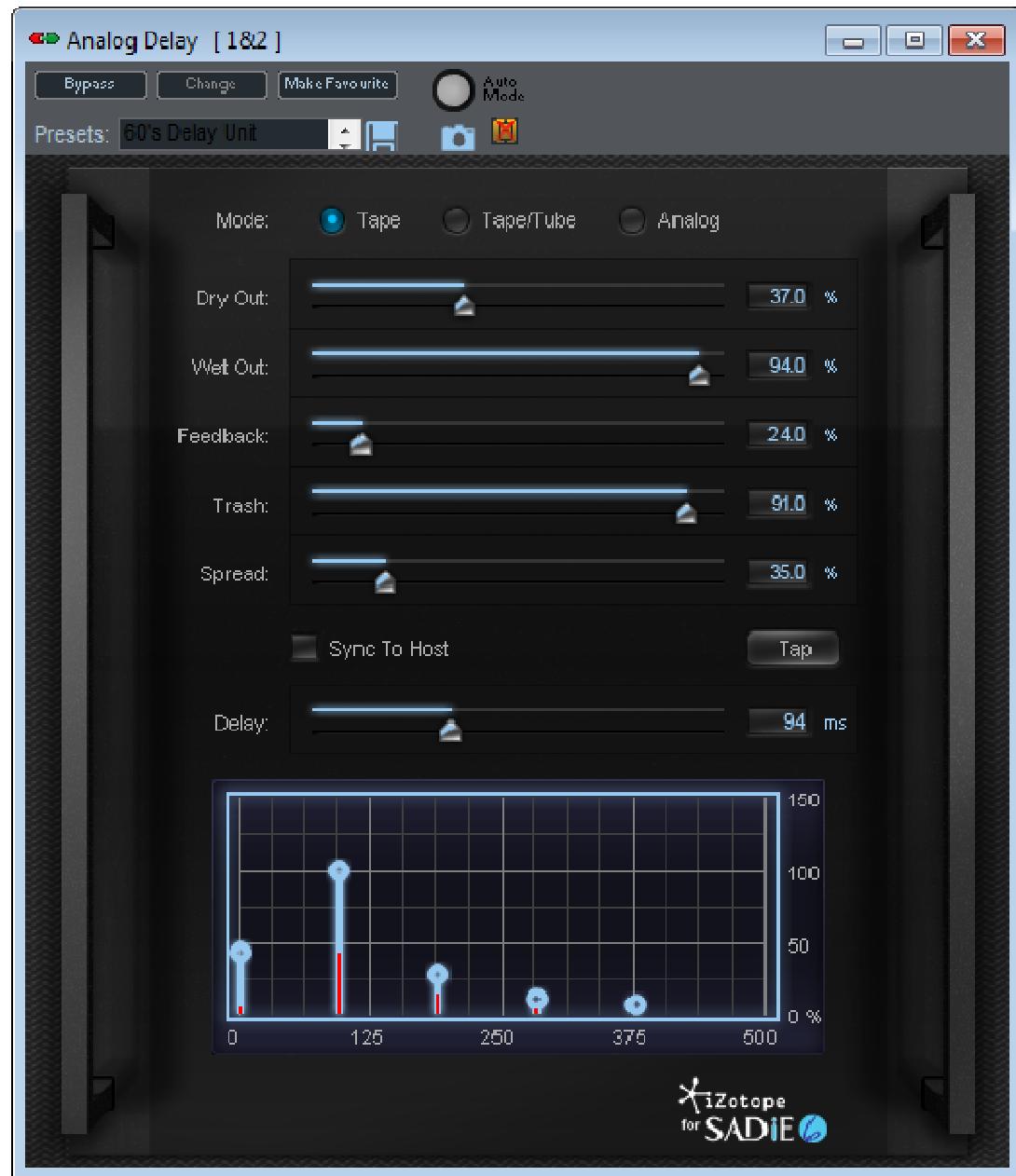
- **EQ Graphs** have crosses and dots in their graphical display which can be moved with the mouse to change i.e. gain frequency and Q.



- **Numeric Fields.** Click, hold and dragging up or down with the mouse increases or decreases the value. Double clicking allows you to type a new value.



IZOTOPE ANALOGUE DELAY



The **Analogue Delay** process is of course not an analogue process, but is digitally modelled to replicate the effect of an analog delay line.

The graphical display has interactive elements that can be adjusted with the mouse.

- dragging the second 'stalk' left or right changes the spacing between all taps and adjusts the **Delay** parameter.
- dragging the circle on top of the second 'stalk' up or down adjusts the amount of delay - i.e. the **Wet Out** parameter.
- dragging the circle on top of the first 'stalk' up or down adjusts the amount of the un-delayed signal - i.e. the **Dry Out** parameter.
- dragging the circle on top of the third 'stalk' up or down adjusts the level of the third and subsequent taps - i.e. the **Feedback** parameter. Of course, when the third stalk is higher than the second one, the signal increases in level as time goes on - i.e. feeds back which is not always a desirable effect, but can produce some interesting creative effects.

- CTRL-clicking in the display changes zoom level.

IZOTOPE CHORUS & FLANGER



IZOTOPE REVERB

The Mastering Reverb is a general purpose unit designed to add some atmosphere to a mix. It includes two algorithms - Plate or Room and a time spectrum analyser to aid adjustment.

IZOTOPE MULTIBAND COMPRESSOR

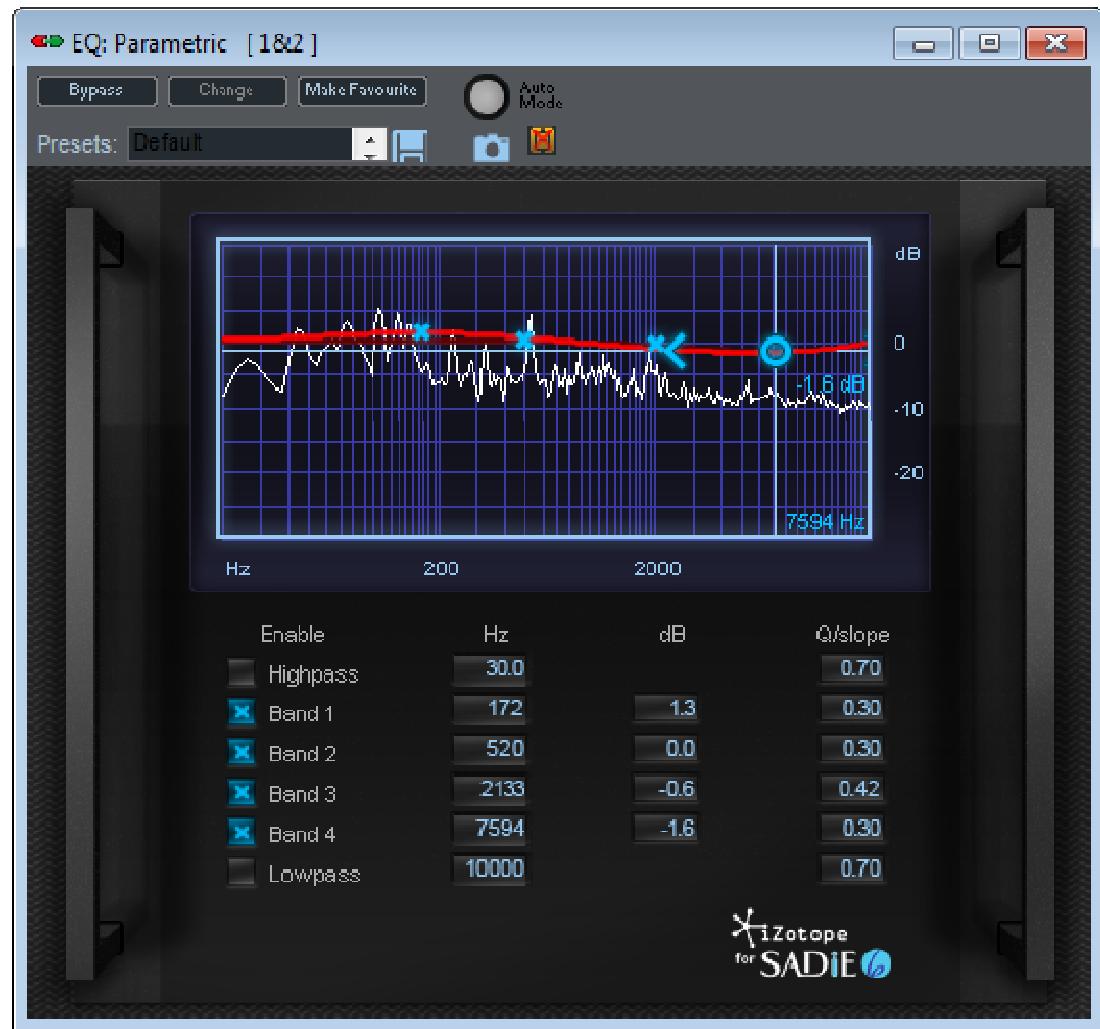


The Multiband Compressor is a powerful tool which allows you to apply compression in four independent frequency bands.

There are controls to allow you to precisely set the cross-over point between bands, which can also be adjusted by grabbing the white vertical dotted lines.

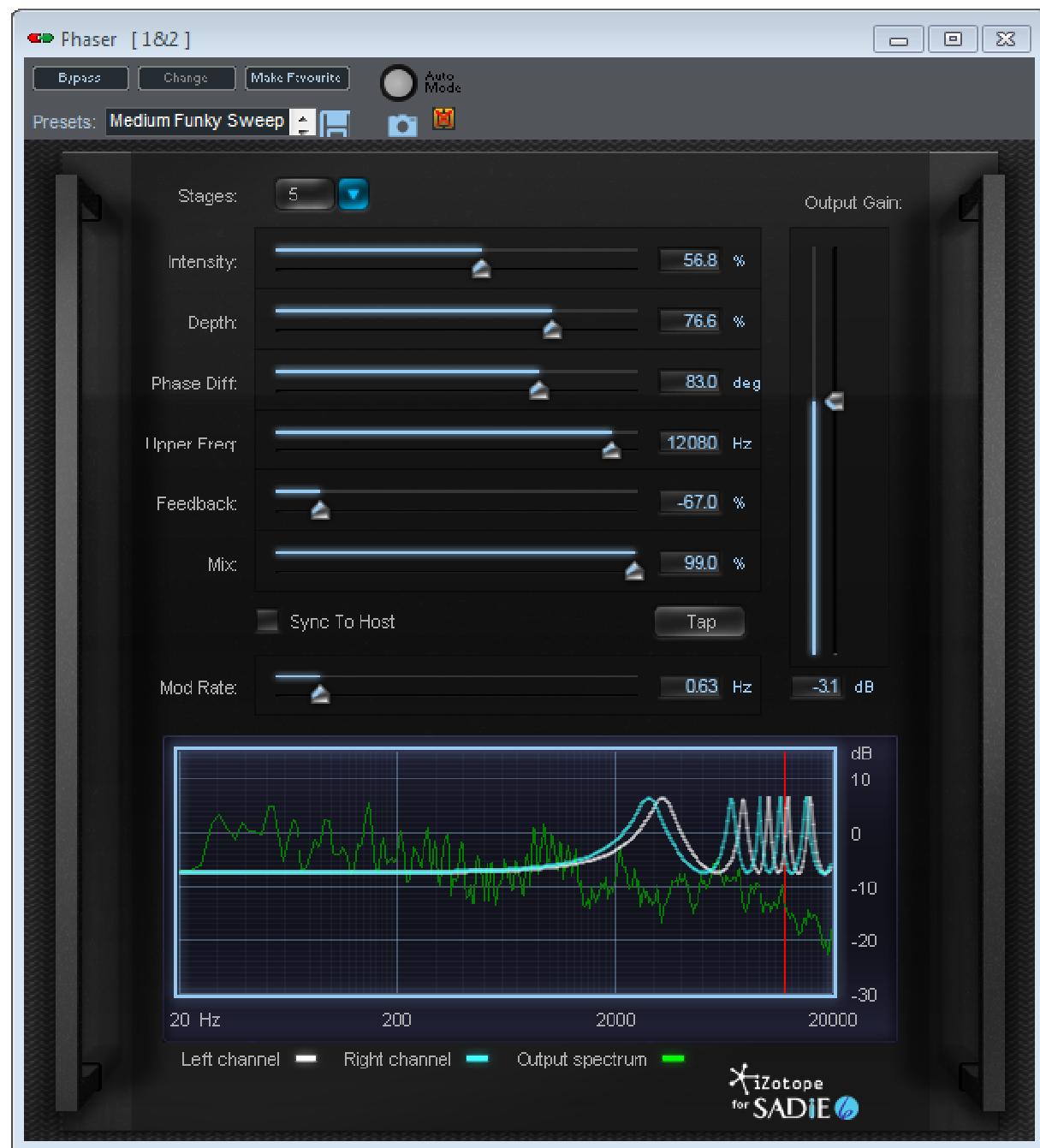
Each band has standard compressor controls for Threshold, Gain, Ratio, plus Attack and Release. The 'S' and 'B' buttons in each band will Solo or Bypass respectively.

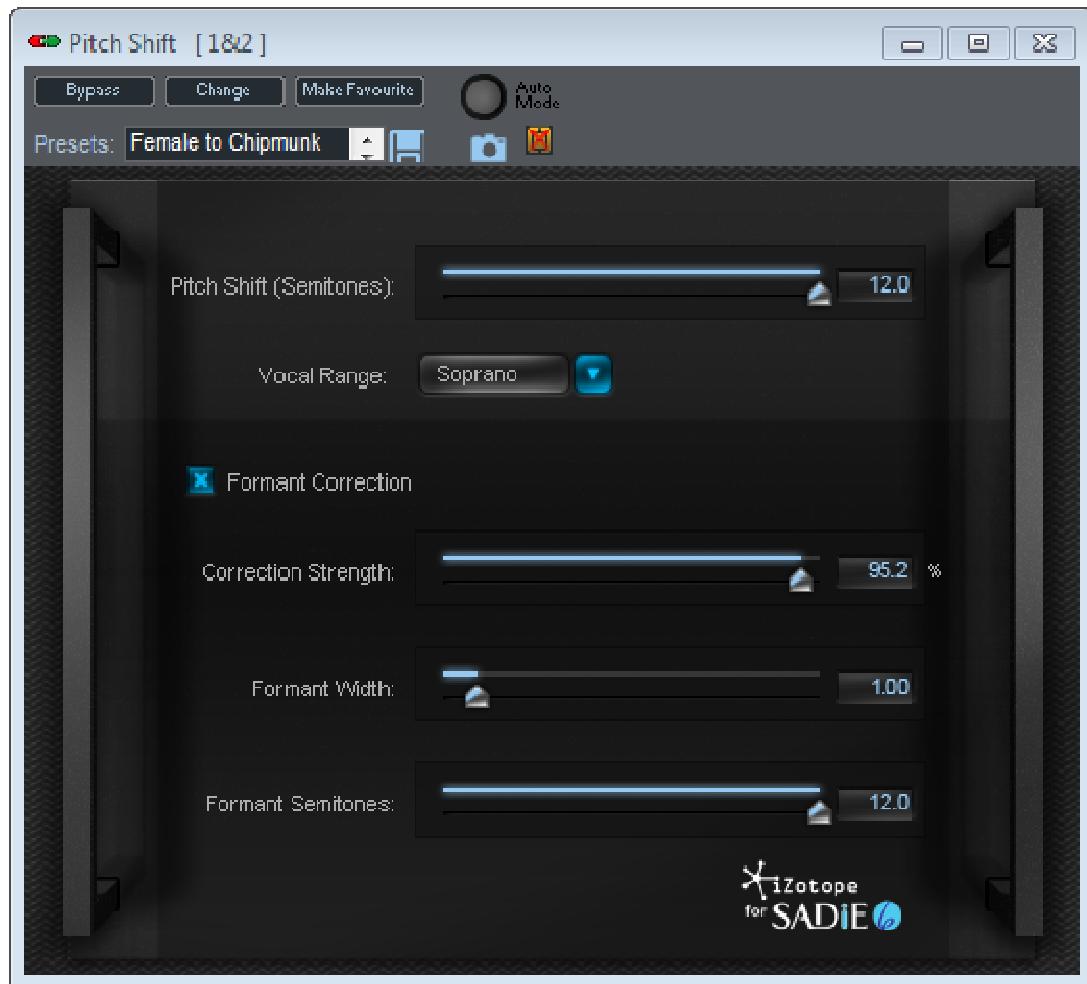
The Output Gain control allows you to control overall level, and the 'Link band controls' option gangs together all controls for global tweaks.

IZOTOPE PARAMETRIC EQ

The Parametric EQ offers 4 band pass filters, a Highpass and Lowpass filter with adjustable slope. There is a graphical display of the curve, and it also incorporates a real-time spectrum analyser for visual feedback.

IZOTOPE PHASER



IZOTOPE PITCH SHIFT

Pitch Shift is a real time pitch changer that includes optional formant control to create a more natural transposition.

IZOTOPE SIMPLE MASTERING

The **Simple Mastering** plugin includes a number of processes in one package to simplify the process of finishing or mastering your project:-

- A 3 band Equaliser, with graphical control and real-time spectrum analyser
- A reverb control to add a little 'space' to a dry-sounding mix.
- An Exciter can be used to 'brighten up' or 'add sparkle' to a dull sounding mix.
- The Widener adjusts the stereo width.

- The Loudness Maximiser allows you to create a fuller and louder master by limiting dynamic range and increasing the perceived overall level of the mix
- The Output Gain allows you to fine tune the overall level.

You would normally apply this to the master output strip of your mixer, but ... there are no rules!

IZOTOPE SINGLE BAND COMPRESSOR



In addition to the standard slider controls, the Compressor's graphics have some interactive elements:-

The thin meter in the right side of the control panel is a 'Level Histogram' and is showing a view of the history of the level over time. CTRL-clicking in this display changes the zoom of this display (left click for zoom in, right click for zoom out). The red line in this display is the threshold setting and can be moved with the mouse.

The 'Curve Level Meter' to the right of the Level Histogram shows the dynamics curve, and the top two white dots can be moved with the mouse to alter threshold and ratio; clicking on the ramp line allows you to alter the Output Gain. CTRL-clicking on this display changes the zoom level.

The red 'LED' meter between these is a Reduction Meter and shows how much gain reduction is being applied.

DIRECTX & VST PLUGINS

DIRECTX PLUGINS

SADiE software can manage and utilise DirectX-compliant audio processing Plugins. DirectX Plugins can now be loaded directly into the mixer strip for real-time playback (or non-real-time bouncing through the mixer).

There are an increasing number of PC-based Plugins available, some of excellent quality, some not so impressive, some costly to purchase, others available as freeware. This architecture within SADiE gives you access to a great number and variety of audio processing modules, and of course the choice of Plugins is your own and will be determined by your applications' requirements.

You will of course need to purchase Plugins should you wish to use them. Some may be available from SADiE dealers, others can be found for sale and download on the Web.

You should be warned that the field of PC Plugins is rife with incompatibilities, and thus SADiE cannot guarantee that if you install any Plugin it will work with SADiE. The fact that a Plugin works fine with one application does not mean it will work with every application. Also it is fairly well known that "pirate" or "cracked" versions of some Plugins may exist, and you cannot assume that the cracked version of a Plugin is the same as the commercially available version, or that it will work as well. SADiE of course cannot condone the use of cracked Plugins, as we have a responsibility to all the other software developers working in this field.

"Bad" and particularly "cracked" Plugins can cause performance problems on the PC, and so you do risk effecting SADiE's operation by loading unknown Plugins.

Demo versions of Plugins can often be downloaded that may have some restrictions on use; a limited period of use is quite common, as is the idea of muting or corrupting the signal with bleeps periodically. Often demo Plugins may throw up "registration" dialogue boxes and warnings on loading, and these may appear invasive and cause certain operations to appear slow. There is nothing SADiE can do about this.

On the positive side, SADiE has worked hard in conjunction with other developers to provide some recommended Plugins that work in a consistent and reliable fashion, and these can add a significant amount of extra flexibility to SADiE.

The wide number of available Plugins includes those for: EQ, compression, multi-band compressors, limiters, reverb, pre-amps, vintage equipment emulation, microphone modellers, guitar amp emulation, flange, chorus, distortions, pitch shifters, harmonisers, vocal re-tuning, and more. There also exists a subset type of Plugin, which can emulate an instrument or synthesiser. These do not require audio input, but are driven by a MIDI input (which you would thus have to make available on the PC in order to use).

OPERATION WITH SADIE

The [Process Palette](#) now has a new button labelled "DirectX", which, in the same way as with the EQ and dynamics blobs, you can drag and drop onto a mixer strip in the top grid area. On dragging and dropping, a "Select DirectX Process" window will pop up displaying a list of all available DirectX Plugins. Click on one to select it. A DirectX "Slot" will appear, displaying the Plugin's own interface.



Clicking on this button on the mixer strip also opens up the DirectX "Slot" which can be used to change the Plugin and will display the Plugin's own interface.

There may be a small wait when you first load a Plugin. Sometimes they will validate a software protection mechanism when first loading. A few Plugins may have restricted usage, and may only allow a limited number of instances of the Plugins, but this mostly this isn't the case.

Unlike with SADiE4's "routing" buttons, DirectX Plugins do not have to be routed. They sit in-line in the mixer strip in which they reside. Press play and you will immediately hear the effect (unless the process is flat or bypassed of course). Each DirectX slot and hence Plugin has its own bypass button, although some may also have their own bypass.

FAVOURITES

If you have a particular Plugin that you use on a regular basis you can make it a "Favourite" Plugin so that it will appear at the top of your "Select DirectX Process" window. When you are displaying Plugin in its relevant "Slot", simply click on the "Make Favourite" Button at the top of the window, and this Plugin will appear as a Favourite at the top of your list, every time you select a DirectX Plugin.

If you no longer wish a Plugin to appear as a Favourite, select it in the "Select DirectX Process" window and click on the "Remove Favourite" button.

PC OPERATION AND PERFORMANCE

DirectX is an architecture which works entirely under Windows, and hence uses the host computer to process the audio. Therefore the performance of the PC, and what other software is running on the PC will determine the performance of audio in the DirectX chains. This in turn may have a knock-on effect on SADiE's performance. The more Plugins you use, the more PC processing power you will require. Some Plugins can use significantly more processing power than others.

CHAINING PLUGINS

If there are a number of DirectX Plugins placed in one Mixer Strip, they will be sent in a single chain to the PC for processing. Therefore, four Plugins in one strip will use less resource (in terms of the PCI bus bandwidth) than four processes running in parallel on four separate strips. This is because in the latter scenario four times as much audio is being sent to the PC. If there are other SADiE native EQ's and Dynamics processors in the same Mixer strip, and even if the DirectX Plugins are interleaved with the native ones, the entire DirectX chain will sit at the beginning of the mixer strip chain.

LATENCY AND BUFFERS

Latency is a delay caused both by the action of sending digital audio from SADiE to the PC and back again, and also any internal processing delays inside the Plugin. SADiE has mechanisms for dealing with these delays.

On a stream strip (one that feeds directly from the Playlist), the DirectX "send and return" delay is automatically negated by advancing the Playlist entries by a fixed amount. There will be no change in the EDL itself, but the entries are advanced so that they *return* from the DirectX chain in correct sync. This does not accommodate the Plugin's own processing delay. In practice, many Plugins are latency-free. However, there are Plugins which deliberately produce delays (reverb and delays of course), and others which employ look-ahead techniques which need delays. Some processes may have delays caused by the amount of processing they require.

On non-stream strips, latencies are automatically accommodated by delaying strips that do not go through plug-ins. This delay WILL use memory resources in SADiE (and the bigger the delay, the more memory it uses).

There is a default setting for the "DirectX Buffering", in the DirectX section of the Setup Window. The default is 200ms. Some Plugins may require a larger buffer, perhaps 300ms, to operate correctly on some PC's, and so if a Plugin returns "DirectX too slow" on playback, it may be worth changing this setting. It will increase the overall latency (by this amount), but this is the figure that is used for the stream advancing to accommodate latency.

PLUGIN ARCHITECTURES

SADiE's DirectX support requires DirectX version 7 or 8. With the addition of "Feature Pack I" SADiE can also use [VST plug-ins](#) which have the advantage of adding support for automation of parameters.

SADiE runs on a PC platform and therefore cannot utilise TDM, RTAS, MAS or other Mac based Plugins.

SAMPLE RATES

The sample rates supported will be determined by the Plugin itself. The Waves Bundles for example (www.waves.com) have a number of Plugins that operate at all sample rates up to 192KHz. Read the Plugin's own documentation for details.

MONO, STEREO, AND MULTICHANNEL

Some Plugins can operate Mono to Mono, Stereo to Stereo, or Mono to Stereo. Many of the Waves Plugins offer a different module to handle each of the three variants. If a Plugin cannot support the channel format, SADiE will do its best to warn you when it loads. However this is only possible if the channel support is registered in the Plugin. Otherwise SADiE may give you a "playback error" if the channel format is incorrect.

Some stereo Plugins are happy to run in mono, others less so. SADiE does not currently support plug-ins using greater than two channels

PLUG-IN PRESETS

Many Plugins come with their own mechanism for saving settings and are often bundled with presets. They may have their own facilities for saving and organising user presets.

Where possible, SADiE will save the Plugins' parameter settings when the mixer is saved. Some Plugins may require some "customisation" to save settings. For instance Antares Autotune requires a registry change to enable saving of the Graphical mode "capture".

SPECIFIC PLUGINS

We are collecting more information about operation of specific Plugins as we test them and are made aware of them. We have concentrated first on Plugins that have a reputation for high quality or that perform unique or unusual tasks. Details of some of these follow.

Waves

Antares Autotune v3

TC Powercore

VST PLUGINS

SADiE supports VST plugins. VST plugins are native plugins, running on the host PC, and follow a protocol designed by Steinberg Media Technologies. VST plugins are common on both the PC and Macintosh platforms.

But from the user's point of view they behave much the same as DirectX plugins, except that in SADiE we have added the ability to record and replay parameter automation.

As with DirectX, there is a button on the Process Palette  which can be dragged and dropped into a mixer strip in the top grid area.

A list box, similar to the DirectX list will appear, to allow you to choose a plug-in. As with DirectX there's a scheme for nominating "favourite" plugins whereby the favourites appear at the top of the list.

In the usual way, clicking on the VST plugin's button in the top of the mixer strip opens its control page. Note that there is a setup option under DirectX to make VST and DirectX controls appear on screen with "always on top" set.

Finding VSt plugins

VST plugins are not registered with Windows in the same way that DirectX are - they may be just a single DLL file, and have to be registered by the host application. SADiE registers VST plugins on start-up.

If when the "Select VST process" dialog is called, this list is empty, you will need to tell SADiE in which directory to look for plugins. This is in the expected Setup page - View Menu; Setup Window; DirectX; VST Plugins Main Directory. SADiE will search this directory and any sub-directories for VST plugin DLLs.

This defaults to C:\Program Files\Steinberg\VSTplugins - this directory would be present if you have any Steinberg products installed, however a number of VST plugins also default to installing into this directory.

Ideally you should install all your VST plugins to a single directory (or sub-directories of this single directory) but SADiE allows you to specify a secondary directory to search for plugins.

When you set or change these directories, SADiE will re-register VST plug-ins found in these locations.

Automating VST Plugins

All VST parameters can be automated, in much the same way that you would automate, for instance, a SADiE EQ section. You can record parameters by touching and moving them with the mouse during playback. VST parameters can be recorded using Snapshot and Overwrite automation modes, with the new Automation Snapshot options in the Clip right-mouse-click menu, and the Camera snapshot button on each VST plug-ins top bar.

Every parameter can be displayed (one by one) as a line on the clip, and this line can be edited using standard Automation Edit tools. The list of parameters will appear (when automation lines are set to display) in a drop-down list when you right-mouse click over the Stream name buttons; select Automation Display; then select the plug-in name. Some plugins have a large number of automatable parameters.

SADiE cannot re-colour the controls on the VST plugin, however a little LED on top bar of the VST plug-in will change colour when you touch a control to show you which automation mode you're in.

Auto-return is near-instantaneous for VST parameters, and does not follow the normal Auto-return time.

 The Automation Disable buttons work in the usual way - allowing you to turn automation on or off for individual VST plug-ins. There is a switch, on the DirectX Setup page, that allows you to set the default state of these buttons.

Latencies

VST plugins in SADiE use the same buffer length as DirectX plugins (set in the DirectX Setup page). Latencies are accommodated in normal playback by means of automatic advancing and delaying inside SADiE - you don't normally have to worry about latency. Some process-intense VSTs may have long latencies but these will be reported by the plug-in to SADiE, and will be automatically 'dialled out'. There is the possibility of an uncompensated latency if the plug-in does not correctly report its latency, but this is rare.

VST plug-ins (along with DirectX and all other plug-ins) can be disabled during Scrub - this is advisable as the latencies make scrub highly inaccurate. There is a Setup option under Setup / Mixer / Plugins / Bypass in scrub.

Waves plug-ins as VST

It is known that there are some difficulties with regard to VST versions with early Waves plug-ins. SADiE will operate well with v5 Waves plug-ins and higher.

Waves VST plug-ins may need to be reset on inserting them into the mixer - use the "Load" button inside the plug-in and use the "Full ... reset" option if necessary.

Support for VST plug-ins is available as a software option - contact your dealer for details of how to obtain it.

VST is a trademark of Steinberg Media Technologies GmbH.

ROUTING



DESCRIPTION OF MIXER ROUTING

The default routing arrangement in SADiE will cover normal recording, editing and mixing tasks, but the system is very flexible and can provide many more facilities.

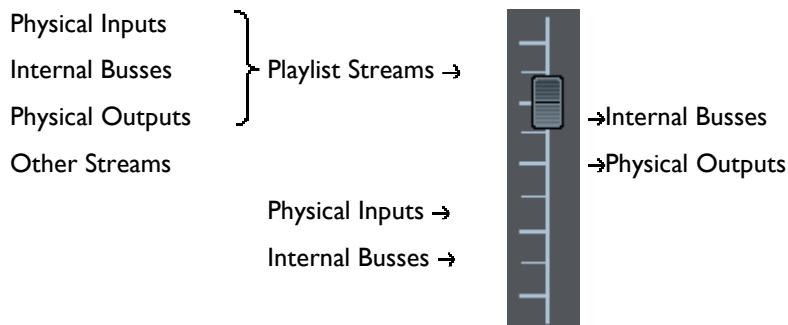
Creating other routing arrangements is like making connections between the different items of equipment in a studio.

Connections are made in two ways:

1. By selecting from a list of possibilities for the inputs and outputs of Mixer strips and for the recording source for Playlist Streams.
2. By using the Routing toolbar described below.

The following diagram shows all the possible connections that can be made between the physical inputs, the Playlist, the Mixer strips, internals busses and the physical outputs. The Mixer's internal busses can be thought of as potential subgroups waiting to be used and will allow you to route signals through extra Mixer strips and thus to different parts of the system.

PLAYLIST STREAM	MIXER STRIP INPUT	MIXER STRIP OUTPUT
RECORD SOURCE	Selection button	Selection button
Selection button on each Stream	on mixer strip	on mixer strip



Clicking on the selection buttons gives you a pop-up list to select from.

The common default routing arrangement in SADiE is to have Playlist Streams recording directly from the physical inputs and each Stream playing through a Mixer strip. These are then routed to two more strips, acting as master faders (via internal busses one and two), and then to the required outputs. In other words:

INPUTS → PLAYLIST STREAMS' RECORD SOURCE (selected on the Stream record source buttons), and
PLAYLIST STREAMS → MIXER STRIPS → INTERNAL BUSSES 1&2 → "MASTER FADER" STRIPS → OUTPUTS

For 8 streams, this is done as follows:

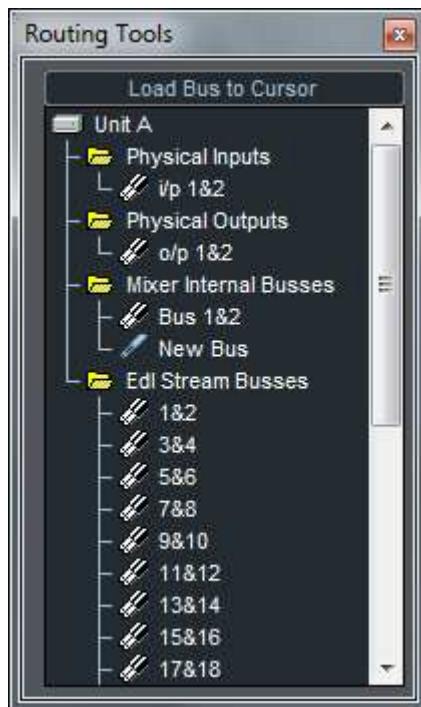
Mixer Strips	Strip Input	Strip Output
I-8	Playlist Streams I-8	Busses 1&2
9	Bus 1	Physical Output 1
10	Bus 2	Physical Output 2

If you prefer, you can have a single stereo strip for the master fader instead of two mono strips. Merge them together by right-clicking over the left-hand one's fader. Repeat to separate again.

Other arrangements can be achieved by using more internal busses. Selecting "New Bus" on any of the routing selection buttons creates a new, automatically numbered bus that can then be picked up by all other selection buttons.



The routing toolbar is displayed by pressing the **ROUTING** button on the Mixer configuration toolbar.



This displays the busses you are using. Double click to open up the folders for each type of bus. Double-clicking on stereo busses will reveal two mono busses. Double-click to close again.

You can make routing connections from here by selecting a bus, hitting "load bus to cursor" (or by simply dragging with the mouse) and then "dropping" the other end of your imaginary patch cord on: a Mixer strip input or output button, a Process Window unit's input or output button, or a Stream record source button. Doing this with "New Bus" will create an automatically numbered new bus.

Naturally, you can only connect stereo busses to stereo strips/Streams, and mono busses to mono strips/Streams.

Now you may want more strips in your Mixer to accommodate the new busses. To add a new strip, drag across one of the following symbols from the Process Palette and drop it where you want to insert it.



Mono fader strip without pan pot. Output will be mono.



Mono fader strip with pan pot. Output will be stereo.



Stereo fader strip with balance (offset) control. Output will be stereo.

To delete a whole strip, right-click near the fader. This also lets you change the fader's appearance.

[Here](#) are some suggestions for routing arrangements.



SUGGESTED ROUTING ARRANGEMENTS

EQUALISATION AND DYNAMICS ON RECORDING

Instead of routing the physical inputs directly to the Playlist Streams for recording, you can route them via a Mixer strip. This allows you to apply EQ or Dynamics processing before the material is recorded onto the hard disk. The extra routing required would be:

INPUT → NEW MIXER STRIP → NEW INTERNAL BUS → PLAYLIST RECORD STREAM

BOUNCE-DOWN

There may be times when you require more flexibility than the [Bounce Window](#) allows, and so routing can be set, with or without [Processing](#) and [Automation](#) to achieve this.

To mix together and re-record selected Streams:

REQUIRED PLAYLIST STREAMS → MIXER STRIPS → NEW INTERNAL BUS → RECORD STREAMS

To bounce the whole Playlist, or soloed Streams: OUTPUTS → RECORD STREAMS

SUB-GROUPING STREAMS FOR PROCESSING

REQUIRED PLAYLIST STREAMS → MIXER STRIPS → NEW INTERNAL BUS → NEW MIXER STRIP (with processing) → INTERNAL BUSSES 1&2 → MASTER FADER STRIPS → OUTPUTS

EFFECTS SENDS AND RETURNS

MIXER STRIP AUX SENDS → SPARE OUTPUT → EXTERNAL DEVICE → INPUT → NEW MIXER STRIP → MONITORING OUTPUT

Note that you do not have to have SADiE in record to monitor the effect return when it is routed like this.

Or, if you want to record the effects return:

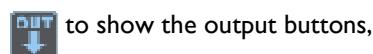
MIXER STRIP AUX. SENDS → SPARE OUTPUT → EXTERNAL DEVICE → INPUT → NEW INTERNAL BUS → RECORD STREAM

Here's an example of a mixer with Aux Sends set up for routing through outboard equipment:



To create this:

- If the toolbars don't look quite like the picture, press:



to show the output buttons,



to show the mixer process slots, and



to show the process palette toolbar.

- From the process palette, drag and drop a new **Stereo** stereo fader onto the mixer (this is strip 1 in the picture) and an **PRE** Aux send onto each of the next two strips for Streams 1&2.
- Press the output button on the new stereo fader and select Bus 1&2.
- Press the Aux send button (it will say "Pre" at the moment and have a blue pot on it) on strip number 2 (e.g. for stream 1) and the Mixer Strip will pop up, as in the picture (although the picture is displaying the mixer strip for strip 3). Press "Pre" and it will change to "Post" and press the button marked "Output 1" and change it to "Output 3".
- Do the same for the next strip (strip 3 for stream 2), but this time choose "Output 4" (see note).
- Connect up your reverb unit. Connect SADiE's outputs 3&4 to the inputs of the reverb, and connect the outputs of the reverb into SADiE's Input 1&2. Whether you do this as an analogue or digital connection will depend on your situation. If it is analogue then just check your Input source selection in Audio Settings. If it is digital then you will have to consider clocking (see note on clocking).

Now, when you play SADiE, the Aux sends control how much of the signal on Playlist streams 1&2 are sent to the reverb, and the Fader on strip 1 controls how much reverb is returned into SADiE's mix. The last two strips of the mixer still control overall level because the reverb is fed back into the master bus (Bus 1&2).



MIXER ROUTING TUTORIAL

A mixer is a means of connecting many pieces of equipment and multiple channels of audio, and mixing them together to produce a stereo (or Multichannel depending on configuration) master that you can listen to, or record onto another piece of equipment.

SADiE's mixing desk simulates a real mixing console, in the same way that the Playlist is simulating a multi-track tape recorder/player, and can be designed in a multitude of different ways.

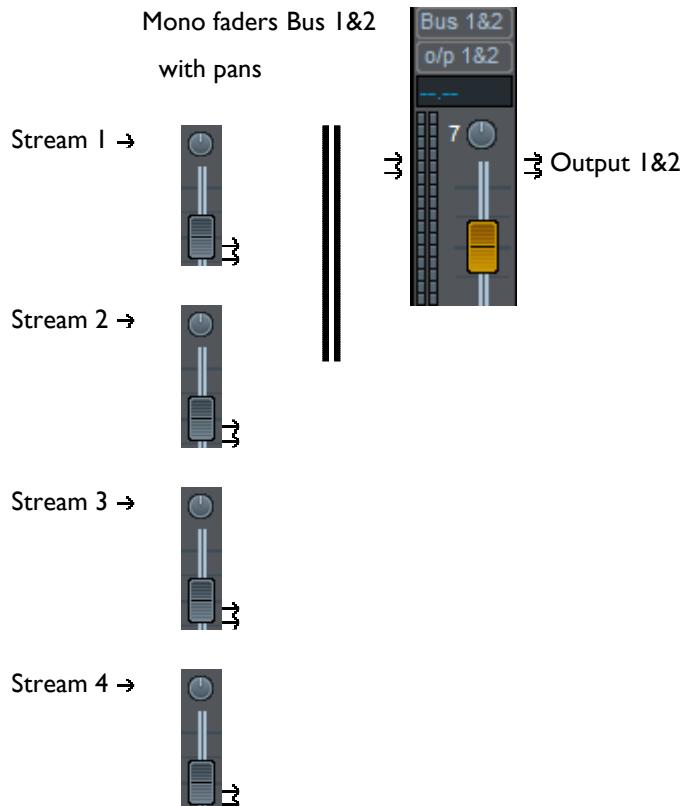
The vast majority of audio devices have Inputs and Outputs, and you are creating a continuous signal by passing the output of one device to the input of a second one. This next device processes the audio in some way (could be just level or pans or it could be more complex processing like reverb for instance) and then you connect the output of the second device to the input of a third and so on.

Let's first consider the most basic setup, for instance you have a 4 track Playlist and you want to listen to all 4 tracks, mixed together into one stereo output.

You have 4 streams in the Playlist that must be connected via virtual "cables" to Outputs 1&2 so that you can listen to them. The concept of "busses" is perhaps one of the more difficult, but this is crucial to any understanding of mixer routing. You will use these as intermediate links to help connect everything together, and to allow us to use devices like pan pots.

In the real world a bus is a long strip of copper cable that runs along the desk. When you connect signals to a bus, they are added together, and then you can take that single signal and pass it onto something else, a physical output for instance, or perhaps you would send them to a reverb unit or similar.

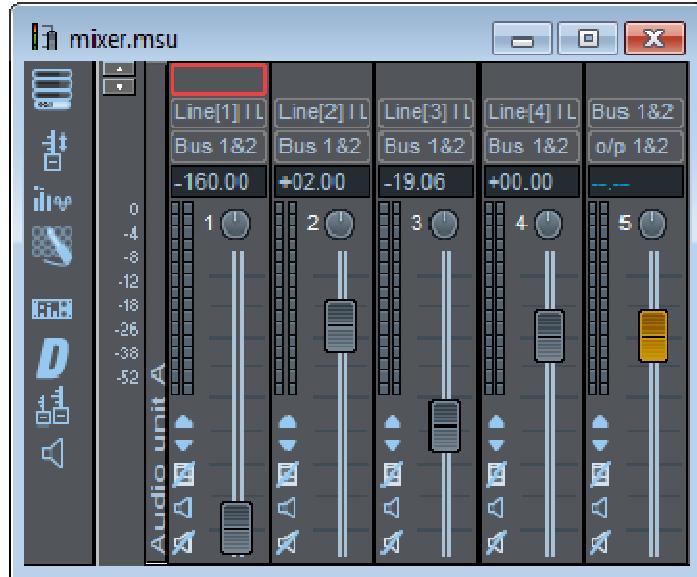
So in your simple stereo setup you have 4 Playlist streams, each of which you connect with wire to a fader strip. The reason you are connecting them to a fader strip is to allow you to change the level of that stream, and also a pan pot on the strip allows you to feed some of each signal to the left side of your stereo image and some to the right. So each stream has now been converted, by the pan pot, into a stereo signal.



Now connect all 4 stereo signals together by means of the Bus. The left side of each pan pot is connected to this "copper cable" called Bus 1 and the right side to Bus 2. You could have connected them directly to the physical outputs and you would be able to hear the mix down in that way, but the reason for creating a Bus is so that you can put another fader between this Bus and the physical outputs in order to give a level control over the entire mix.

In SADiE you can ignore the connecting cables, but you have to decide where the input and output of every device is coming from and going to respectively.

So your basic mixer described above, with all the buttons showing, looks like this:



NOTE: If you are changing the routing of your mixer, it is important to view the Output Bus buttons; these are revealed by pressing the button on the toolbar that is third from the top in the picture above (the one with OUT and a bus on it). If you cannot see this, the issue will be confused even further.

The important buttons here are the two rows labelled:

I 2 3 4 Bus 1&2

Bus 1&2, Bus 1&2, Bus 1&2, Bus 1&2, o/p 1&2

These two rows are respectively, the "Input Bus Buttons" and the "Output Bus Buttons" and are used to select input and output for each fader strip. Press the button and select from the drop down list to change the selection.

From the left, you have 4 mono faders, each with a pan pot. The inputs of these faders are named I,2,3,4 and these are names of the Playlist streams. The outputs of these first 4 faders are all going to Bus 1&2.

The last fader on the mixer (the yellow one) is your master level control. This is gathering up everything that is appearing on Bus 1&2 and sending them, via the fader, to the outside world by using Output 1&2. So it takes its input from Bus 1&2, and its output is set to Outputs 1&2 (labelled o/p 1&2).

The next stage might involve introducing a plug-in into your mixer. For this example you'll put a Stereo Width process in the chain, although this routing method could easily apply to any stereo plug-in.

You are going to break the chain in the first example, between Bus 1&2 and the master fader and slot the Plug-in in between. Thus Bus 1&2 are now going to be connected to the input of the Plug-in, and then to complete the chain again, you're going to connect the output of the Plug-in back onto the input of the master fader.



Open up the Process "Rack" by clicking on the **PROCESS WINDOW** button.



An empty 19" rack unit will appear, and you can drag the appropriate icon (**STEREO WIDTH** in this case) from the toolbar onto the empty rack.

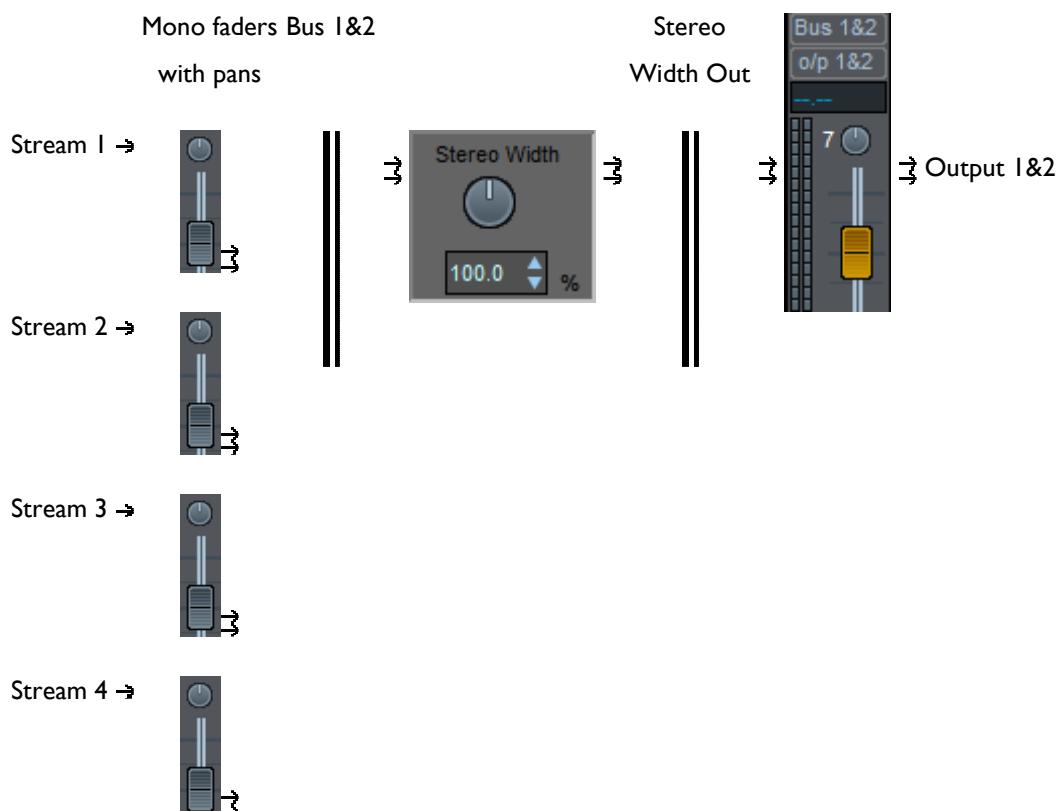
It will look a little like this:



When the Plug-in is first dragged onto the rack, the routing buttons on the left hand side of the Plug-in will say (for its input) "Stereo Width 1 In" and (for its output) "Stereo Width 1 Out". These are names of the new busses that the Plug-in has created in order to connect it up. In this example you won't use "Stereo Width 1 In", because you are going to connect Bus 1&2 directly to the Plug-in (and thus all 4 streams will be going through the Plug-in and being processed for width).

So, click on the top, input bus button for the Plug-in and select Bus 1&2, leave the bottom output button as it is. You now have to connect the output of the Plug-in back into the mixer. Go back to the main mixer, and click on the top button on the yellow master fader, selecting "Stereo Width 1 Out" as per the picture above. Done!

Your routing diagram now looks like this:



As you can imagine this routing allows for many, many complex possibilities, and it does require some care if your mixer is going to include a number of different plug-ins operating on a number of different streams of audio. When you have built a mixer that you feel you'll want to use again, then you may want to save it as a [Template](#). The whole purpose of a mixing desk is to provide these complex interconnections, but the fundamental concepts are:

- A device's output connects to another device's input.
- Busses provide a means of adding signals together and routing them onto another area of the mixer.
- In SADiE terms a fader or plug-in's input can be from a Stream, Bus or Physical Input, and its output can be a Bus or a physical Output.
- An audio signal must eventually make its way to a physical output. Just follow the signal path through all its routes if you're seeing error messages.

REORGANISING THE MIXER



REORGANISING THE MIXER

You may find the mixer can get cumbersome and take up too much screen space, or perhaps you would like to change the order of your faders so as move related strips closer together.

It is possible to change the layout of your mixer on the screen, in three different ways:

1. [Dragging and dropping faders to move them to another position.](#)
2. [Hiding strips that are not in permanent use.](#)
3. [Minimising faders to make them smaller.](#)



CHANGING THE ORDER OF MIXER STRIPS

To move a fader strip to a different position in the mixer . just click in any area of the strip, holding the mouse button down, and drop it in a new position.

The easiest point to pick it up is on the PPM meter, as most strips have an active area surrounding the fader itself.



When you've "caught" the strip, the cursor will change as shown, and if you drop it over the left side of another fader, it will dock to the left, or on the right side, it will dock right side of that strip.

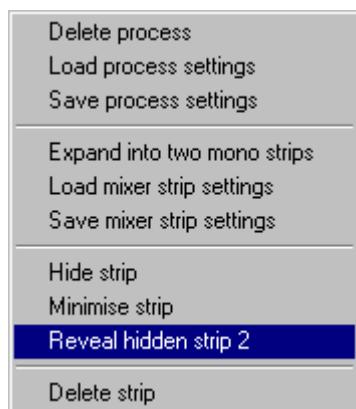


If you drag it off the edge of the mixer, the cursor will change to look like a waste bucket, and dropping it then will delete the strip.

The strip movements, as with any other reorganisation of the mixer can be "undone", with the Edit menu undo function.



HIDING AND REVEALING STRIPS



Clicking with the right mouse button on any part of the strip will bring up strip menus, which have hiding options appropriate to that strip: "Hide strip" or "Reveal hidden strip?", and "Minimise Strip" or "Maximise Strip" (described below).

When a strip is hidden the line between strips is darker, and strips either side will have the "Reveal hidden strip" right mouse menu option.

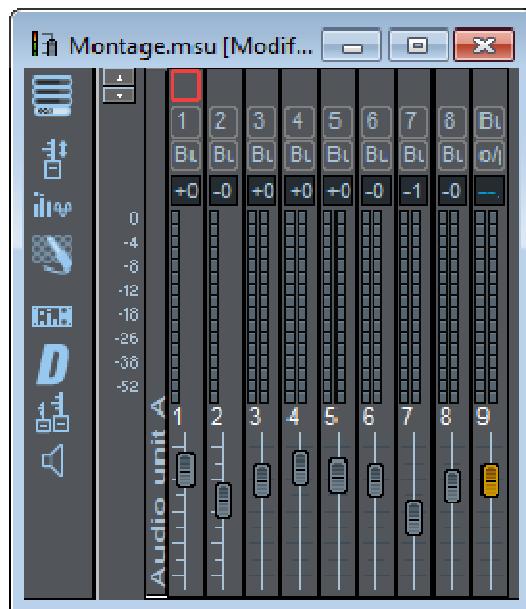
You can reveal strips, one at a time by selecting this menu option.

You can "Reveal all hidden strips" by right mouse clicking on the mixer unit divider bar to the left of each mixer unit; this is the bar with "Audio unit A" written vertically up the screen.

Double-clicking on the mixer divider bar will hide and reveal the whole mixer unit.



MINIMISING AND MAXIMISING STRIPS



Right mouse clicking on a strip will offer either:

- "Minimise strip" as you can see in the picture above, or
- "Maximise strip" to return the strip to its normal size.

A minimised strip shows as much information as possible in the limited space (you will notice there isn't room for pan-pots. You can minimise and maximise strips individually, or again by right mouse clicking on the mixer divider bar.

THE PROCESS WINDOW AND PLUGINS



THE PROCESS WINDOW



The **PROCESS WINDOW** button on the Mixer configuration toolbar brings up a Process Window, which is effectively an outboard rack of stereo processing units. Each of these is represented by a symbol at the top left that you drag into the empty rack space.

When a process unit is in the rack, stereo internal Busses named after it will be created. These are normally connected to its input and output. You can then patch signals to and from these busses (as described in the Routing section above) to route them through the process.

Each unit also has input and output selection buttons, normally connected to the busses named after the process. However, you can use the buttons to connect signals from SADiE's physical inputs, outputs and other busses directly to and from the process without going through the Mixer. If you do this, of course, you must remember that the Mixer busses named after the process are no longer connected to it!

To remove a process unit from the rack, right-click in a blank, grey area of the unit.

A number of processes are available. Some are provided free of charge, but other third-party plug-ins can be purchased. Contact your dealer for availability and pricing.

PLUGINS



PLUGINS



Online Processes:

- [Dither](#)
- [Reverb](#)
- [Stereo Width](#)
- [Mastering Limiter](#)
- [Graphical Equalisation](#)
- [Prism Sound SNS](#)
- [HiDither 96](#)

Non I-I Processes

- [Sample Rate Converter](#)
- [Resampler](#)
- [Timemod](#)

To enable any of the on-line processes, drag the appropriate icon onto the "19 inch rack" and patch it into the mixer using the busses.

The Offline Processes mentioned operate in a different way, using the Offline Processing Window to "bounce" audio in non-real-time.

CEDAR Sound Restoration Tools:

- [CEDAR DeClick](#)
- [CEDAR DeThump](#)
- [CEDAR DeCrackle](#)
- [CEDAR DeNoise](#)
- [CEDAR Retouch](#)

Demo Plug-ins

Offline Processing



DITHER offers three different types of dither. As an alternative to the Process Window, Dither can be applied in the Dither Window.

REVERB has buttons for room size plus controllable Pre-delay, Reverb time, Absorption, Brightness and Mix (of input signal and "wet" processed signal)

STEREO WIDTH has a single width control

There are of course a number of ways to connect up these effects. For instance with the reverb you may want to set up **AUX** sends on the mixer strips, routed to bus "Reverbln", and then drag a new stereo strip to route the "ReverbOut" bus back to the main bus. In this case you would probably need the reverb "Mix" control set to 100%. However, Dither is perhaps more appropriate applied "in-line" between the main bus and the output. The choice is yours!

Note that these three plug-ins are stereo processes. The settings of each of these can be saved and re-called and a later date, using the "disc" icons.



The Mastering Limiter plug-in allows you to add gain to a signal before it is limited to a set level. You can define the limiting in -dBFS to avoid overloads. The Limiter enables the audio material to achieve "loudness" while avoiding digital clipping. This is achieved by analysing the waveform on either side of a peak and reducing the gain to avoid distortion.

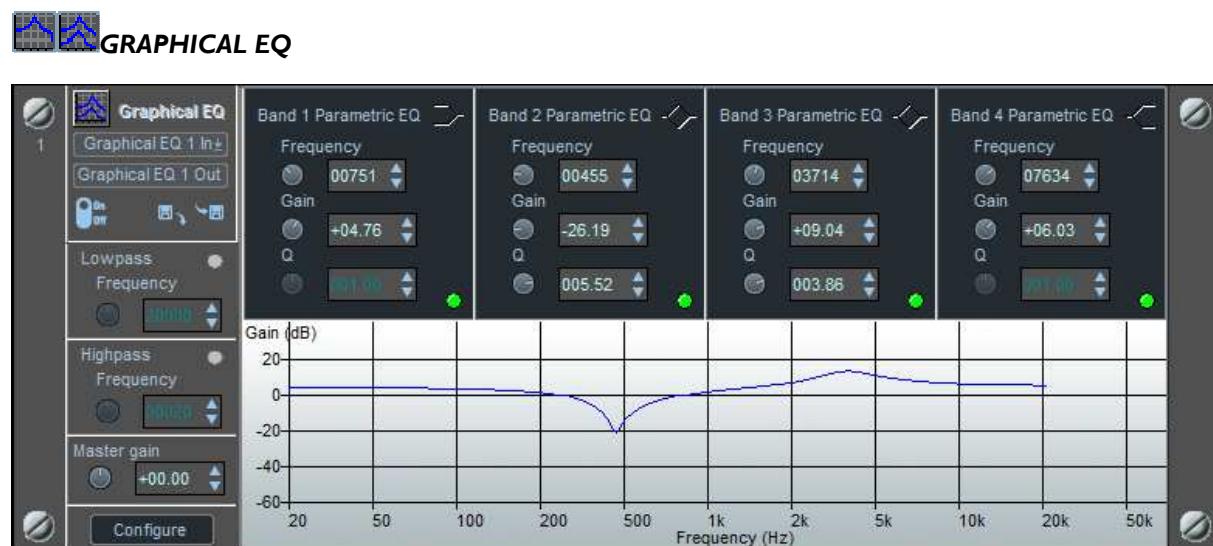
As with other normal plug-ins, this module patches into the mixing desk via the internal busses. There is an "LED" array that displays the amount of gain reduction.

There are two icons for the Mastering Limiter in the process window: one creates a mono process, the other is stereo.

- Gain - adjust this to add pre-gain to the signal to "push" it into the limiter.
- Limit - sets the maximum peak level.
- Release - sets the release time for the gain reduction.

- Impact - sets the rate of change of gain reduction. This is a little like the more familiar attack function but on a microscopic scale. A sound with a fast attack (say, a piano) would require a high impact setting, as the transient nature of the sound would need the gain reduction to react very quickly, whereas a smoother sound would benefit from a lower, more damped setting.
- Hysteresis - increasing the value of this reduces the sensitivity of the process to avoid the limiter being triggered by high transient, low level, gain changes. Note that the range of this control is reduced as you increase the gain.

Note that because this process performs some analysis on the audio waveform, there is a delay of 50 ms: the process must receive some audio before it can start calculating.



The Graphical EQ is an all-in-one unit comprising 4 individual parametric EQ modules, low pass and high pass filters, master gain, along with a graphical display of the EQ curve.

This routes into the mixer in the usual way, using the internal busses.

The four EQ's and high/low pass filters operate in the same way as a normal SADiE EQ process.

The green "LED" bypasses the associated EQ section, without affecting the graphical representation.

The **CONFIGURE** button allows you to choose the function of the 4 EQ's, between high or low shelf, or bandpass, and how many are enabled.

There are 4 presets for changing the scaling of the graph where greater precision is required.

The **CONFIGURE** page also contains a preset for de-emphasis. You can save and reload settings for the Graphical EQ using the usual Plug-in save and load buttons.



Prism Sound's SNS Super Noise Shaping is used to reduce longer word lengths to standard 16 bits, while retaining a high degree of perceived dynamic efficiency and very low noise.

SNS can operate at sample rates between 44.1 kHz and 192 kHz.

The four SNS algorithms are designated SNS-1 to SNS-4, in increasing order of the degree of shaping. SNS spectra are adjusted automatically to provide optimum subjective advantage at each different sample rate. The algorithm is chosen by ticking the appropriate box.

SNS-1 provides the smallest subjective noise advantage, but only applies limited noise-lift at quite high frequencies. In many applications, particularly those where the program material is already quite noisy, this type of shaper is preferred.

SNS-2 is a happy medium. It provides a good amount of subjective lowering of the noise floor, but with addition of only moderate amounts of high-frequency noise. It also has the advantage that the noise floor remains subjectively white, even when artificially amplified. In the fifteen years since Prism Sound first developed the four SNS curves, SNS-2 has been the most widely preferred.

SNS-3 and **SNS-4** are ‘optimal’ shaper designs – their shaping is quite extreme in order to get the maximum theoretical subjective improvement in noise performance based on an average human low-field sensitivity curve. This results in the addition of larger amounts of high-frequency noise. These shapers are only really useful if the original recording has a very low noise floor.

It is difficult to assess the difference in sound between different noise shapers for any given program material, since their effects are at very low amplitudes. It is tempting to audition noise shapers by using a low signal level and boosting the shaper output by tens of dBs in the digital domain prior to monitoring. Using this method it is easy to hear that the noise floor of more extreme shapers is clearly not white – switching, say, from SNS-1 to SNS-4 sounds like shhhhhh..ssssss as the noise is shifted towards the higher frequencies. However, this is not really a meaningful test since the sensitivity of the ear at different frequencies is very dependent on level, and the design of the more extreme shapers is in any case intended to render the noise floor completely inaudible at normal listening levels. Ultimately, the only ‘right’ choice of noise shaper is the one which sounds best for the material. SNS-2 is a good starting point for most situations.

Additionally the "Auto Zero" function is provided. At 16 bit resolution, when the input drops below -84 dBFS SNS will turn off and output silence after about 1.5 seconds. It will then come on again as soon as the level comes back up above -84 dBFS.

The Prism Sound SNS logo shown above is found on many of the world’s finest CDs, and is recognised as a standard of technical excellence. The logo, and accompanying sleeve note, is available by contacting sales@prismsound.com.

Prism Sound SNS is included in the Mastering Suite and Sound Suite variants of SADiE6.



When a signal is quantised some of the detail within the signal is discarded and as a result an error is introduced. This error can be heard as noise and is correlated to the input of the quantiser. The noise signal can be very noticeable to a listener if the original signal is simple or of a low level. It is therefore desirable to try and reduce this correlation and subsequently produce a random noise signal. The use of dither does just that. It linearises the non-linear transform characteristic of a quantiser and reduces the harmonic distortion for low-level signals. To summarise, the use of dither has two effects on the input signal to a quantiser; firstly it reduces the correlation between the noise and the input signal, and secondly it increases the total noise in the system. In essence, dither is a low level additive signal that causes the quantised signal to jump randomly between quantisation levels, which when averaged by the ear forms a smooth transition between the levels.

As the noise level has been raised by the addition of a dither signal, it is desirable to try and shape the noise to reduce the overall audible effect. Noise shaping filters are used to match the curve of the noise signal to that of the frequency response of the human ear. This reduces the noise signal where the ear is most sensitive, (between 1 kHz and 8 kHz) and increases the noise where the ear is less sensitive (above about 14 kHz). An average response is taken for the human ear and so the effect of noise shaping will be slightly different for each listener. When using a high sample rate, for example 96 kHz, (if your hardware supports 96 KHz) it is possible to keep the noise floor lower for most of the human hearing range and move most of the noise signal to frequencies that are completely inaudible.

SADiE's HiDither 96 noise-shaping dither plug-in offers 5 different noise shape types, two of which are optimised for 96 kHz audio material. The other three are designed for 48 kHz and 44.1 kHz audio. Additionally Shape 1 is designed for use with emphasis.

On the pages that follow are the plots for a -90 dB sine wave at 1 kHz passed through the different HiDither algorithms. The graphs for 48 kHz will be slightly different as HiDither uses slightly different filters; you can see the graph change in SADiE when you change sample rate.

NOTE: Shape 1 is designed to be used in conjunction with emphasis on the audio signal. This shape boosts the dither noise, in such a way that when de-emphasis is applied (for instance by the CD player) both the signal *and* the dither signal are de-coded. Therefore it is inadvisable to use this shape unless you are using pre-emphasised audio.

Graphs

A 1 kHz sine wave, at -90 dB, with no dither

A 1 kHz sine wave, at -90 dB, with high pass triangular dither

 using noise shape 1 at 44.1 kHz

 using noise shape 2 at 44.1 kHz

 using noise shape 3 at 44.1 kHz

 using noise shape 4 at 44.1 kHz

 using noise shape 1 (for high sample rates) at 96 kHz

 using noise shape 2 (for high sample rates) at 96 kHz



NON I-I PROCESSES

Non-one-to-one plug-in processes (or Non I-I as we shall call them) are so-called because the result of the process is a different length (in terms of time) from the input.

As a general rule these are not routed in the same way as normal plug-ins. You will notice that they have no bus buttons to allow this.

Instead, when you drag and drop a Non I-I process into the "rack", the process will take effect across *all* outputs. So all playback (real-time or non-real-time), will pass through the process

These are mostly fairly DSP intensive processes, and so only one Non I-I plug-in can be used at a time.

There are different qualities available on some Non I-I processes. A lower quality process will use less DSP power, and hence you will be able to playback more audio in real time through the process. But for the highest quality result, it is usually necessary to bounce the result back to hard disc in non-real-time, using the Bounce Window. Because the Bounce Window always re-records an Output, any bounce with a Non I-I process plugged in will include the Non I-I.



SAMPLE RATE CONVERTER



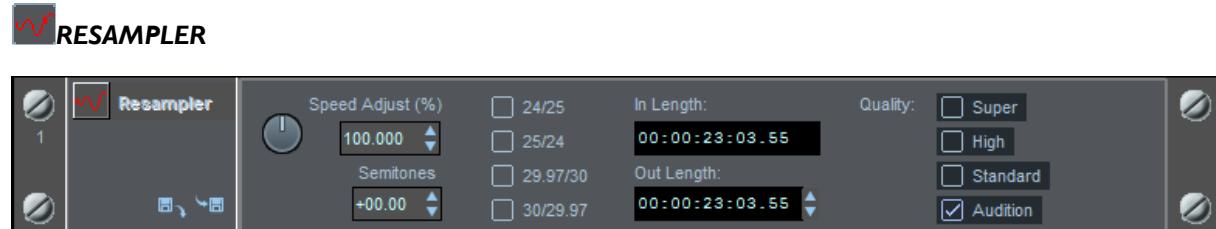
The Sample Rate Converter or SRC is a Non I-I process with presets to convert audio from one of SADiE's standard sample rates to any other.

The five normal sample rates have a button each, and the 2x and 4x buttons enables the double and quadruple sample rates for 88.2/96 KHz rates and 176.4/192 KHz (if your hardware supports these higher sample rates).

The Audition quality is the most likely to be playable in real-time. The High quality is often sufficient for most high-quality applications.

See Sample Rate Conversion for a step-by-step procedure of how to perform a Sample Rate Conversion.

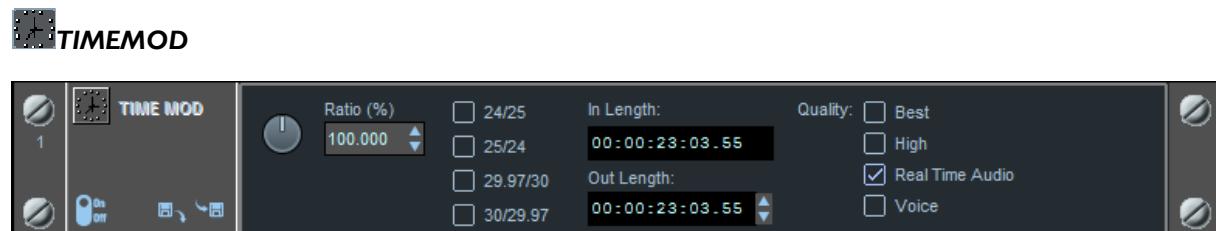
There also details of Test Plots for the Sample Rate Converter.



The Resampler Non I-I process uses the same algorithms as the Sample Rate Converter above, but has a different interface for setting the rate change. The Resampler performs a digital Varispeed, changing both length (in terms of time) and pitch.

All of the controls are linked and provide different methods of setting this change.

- Speed Adjust - allows you to type in the percentage change.
- Semitones - allows you to type in the pitch change you are trying to achieve.
- 4 Presets - automatically sets the resample for 24 to 25 frame conversion, 25-24 etc.
- In and Out Length - the In length is the total length of the Selected entries (in red) in the current EDL. You can type the new total length for these entries in the Out Length time field.
- Quality - as with the SRC, the Audition quality is the most likely to work in real-time, but you may want to use a higher quality setting for more critical work.



The Timemod Non I-I process performs a change to the length (in terms of time) without changing pitch.

As with the Resampler, the controls are linked and provide you with different ways of setting the length change.

- Ratio - allows you to type in the percentage length change.
- 4 Presets - automatically sets Timemod for 24 to 25 frame conversion, 25-24 etc.
- In and Out Length - the In length is the total length of the Selected entries (in red) in the current EDL. You can type the new total length for these entries in the Out Length time field.
- Quality - the Timemod quality settings refer to the frequency range that the signal analysis is carried out on. The only practical effect is on the low frequencies, e.g. low frequency signals are less affected when using higher quality settings. The "voice" setting just analyses the signal within the limited bandwidth that speech signals occur.

NOTE: the Timemod algorithm has been designed to work with only standard sample rates (e.g. 48 kHz, 44.1 kHz and *not* 96 kHz).



OFFLINE PROCESSING



The Offline Processing Window (available by pressing the button on the Playlist toolbar, or by selecting it from the View menu) provides a way of "Bouncing" audio through an offline CEDAR process.

You operate this window in a similar way to the normal Bounce process: select some audio in the Playlist, open the Offline Processing window, and after the process has been performed the new audio will be added to the Playlist.

For details of how to operate specific Offline Processes please refer to the following:

[CEDAR Auto DeClick](#)

[CEDAR DeCracke](#)

CEDAR SOUND RESTORATION



CEDAR SOUND RESTORATION

SADiE has a full suite of optional plug-ins for Sound Restoration that have been designed by CEDAR Audio Limited of Cambridge, who are world-leaders in Sound Restoration technology.

This section of the manual contains brief discussions on operation of the CEDAR plug-ins within SADiE, but for more background information on Sound Restoration processes and the methods used by the CEDAR plug-ins, we suggest you take a look at [CEDAR Audio's web site](#).

The different processes available in SADiE are designed to work by methods that are appropriate to the process being performed: some are fully automatic and "off line", others can be operated and adjusted in real-time.

As of SADiE v5.4, all the Cedar processes can process multi-channel audio.

The CEDAR plug-ins that are currently available for SADiE are:

DECLICK

DeClick allows two differing "off line" or "non-real-time" methods for removing clicks, can perform at high speed without sacrificing CEDAR quality, and addresses the widest possible range of scratch and click removal problems.

[Auto DeClick](#) allows the user to process part or all of an entire Playlist as an Offline process. Remarkably, there is no need for user-controls, and the automatic process will cope with even the most severely damaged audio. Auto-DeClick uses CEDAR's sophisticated click detector to detect the click, then removes and replaces it with an interpolation based on the surrounding few milliseconds of audio. This process is completely automatic. The speed of auto-DeClick processing will depend on the specification of your PC.

[Manual DeClick](#) is a similar process, however this is optimised for longer clicks than can be recovered by the automatic process, and allows the user to identify the click first. Manual DeClick incorporates a CEDAR algorithm capable of restoring clicks and other problems (such as drop-outs and digital errors) of durations up to 2,000 samples. It uses SADiE's region editing feature to highlight the damaged audio, and is particularly suitable for repairing optical soundtracks.

CEDAR's interpolator is based on the technique of signal modelling. By analysing the signal over a region of several milliseconds it can build a model of the underlying resonant signal (such as music or speech) and then use the information to replace each click with an interpolation that fits this resonant model.

DETHUMP

Thumps are lower frequency non-musical sounds that are often encountered during the DeClicking process, and cannot be corrected by any of the normal DeClick methods. Unlike ticks, clicks, and scratches, these often retain real signal information throughout their durations, and a suitable algorithm can use this to interpolate extreme lengths of damaged signal.

SADiE's [DeThump](#) is the only process of this nature. Like Manual DeClick, this requires that you mark the start and end points of the problem using the waveform display. You can then invoke DeThump to remove the damaged signal and replace it with an interpolation based on the retained good information within the thump, plus information within the surrounding, undamaged signal.

DeThump can analyse and restore a damaged signal of up to 50,000 samples (approximately one second) duration.

This makes DeThump the world's best tool for removing many of the previously intractable problems associated with optical soundtracks, as well as for restoring damaged cylinders and discs. For modern material, DeThump will cure microphone thumps and remove many other low-frequency disturbances within the signal.

DECRAKLE

The term "crackle removal" is slightly misleading because the CEDAR crackle removal algorithms remove a range of high density, small amplitude, short duration, and additive impulsive disturbances. These can cause a variety of degradations with differently perceived sounds. Crackle is frequently confused with clicks and ticks. This is not surprising, given that it too comprises many short-duration impulsive signal disturbances.

CEDAR [DeCracke](#) is automatic, much like Auto DeClick, and operates as an "Offline" and "non-real-time" process.

DENOISE

CEDAR [DeNoise](#) is a sophisticated process that uses an enhanced version of spectral subtraction to identify and remove broadband noise from recordings.

The user can snapshot the noise "fingerprint" and use this curve with other controls to manipulate DeNoise in real-time which means that you can audition the results while the audio is playing. This makes the process quick and simple, and helps to ensure that you achieve high quality results every time. When you are satisfied with the results, you can use SADiE's bounce function to re-record the DeNoised result, in non-real-time.

Users can also manipulate this noise reduction "fingerprint" curve using the mouse, and this makes DeNoise particularly versatile; suitable for restoring vintage soundtracks and 78 rpm discs (which have highly coloured noise spectra) as well as modern recordings on good quality media.

RETOUCH

[Retouch](#) offers tools that localise unwanted sounds accurately in both time and frequency. Once identified, those sounds (whether tonal or broadband noise) are replaced with audio derived from the surrounding, good signal. All other audio remains untouched.

WHICH ORDER?

The order in which restoration processes are carried out makes a great deal of difference to the quality of the result. The correct sequence is DeClick, DeThump, DeCracke and lastly DeNoise. This is because large clicks make it difficult for the DeCracke process to identify and remove the tiny clicks and crackles that constitute surface noise, buzz, and other such problems. Furthermore, if clicks are presented to any DeNoise process they confuse it and create unmusical side-effects. Conversely, denoising first will make it almost impossible to identify and remove clicks and scratches at a later time.

De-Crackling should be the second process because small crackles will also cause problems for DeNoise. Consequently, DeNoise should always be the final process in the restoration chain.

The CEDAR Audio DeClick, DeThump, DeCracke and DeNoise modules are third party plugins - contact your dealer for details of how to obtain them. They are available as individual plug-ins or as combined packages.



AUTO DECLICK

Auto DeClick uses Offline Processing (a function that is similar to Bounce) e.g. audio is re-recorded but instead of using the mixer and inline or plug-in processing, it uses a user-selectable process during the re-recording.

The procedure is similar to bounce:

- Select the audio that you want to process, e.g. the "Source" for the bounce.
- Tell SADiE what you want to do with the finished result of the bounce, e.g. select the "Destination" for the bounce.
- Press **START** and SADiE performs the action, the result is as you specified in "Destination".

EXAMPLE:

Let's assume you have a recording in the Playlist recorded from a scratched record.

- I. Select the audio that needs to be sent to the DeClick process. You can do this by any of the usual methods allowed by bounce:
 - i. Complete EDL - the whole EDL will be processed. Make sure there are no clips hiding several hours down the Playlist otherwise the bounce will take hours!
 - ii. Selected Clip (s) - you select EDL entries in red to be processed.
 - iii. Selected Streams - enable the streams containing the audio, disable all the others.
 - iv. Between L-R Locators - use [Region Editing](#) to define the region of the Clip(s) to be processed.

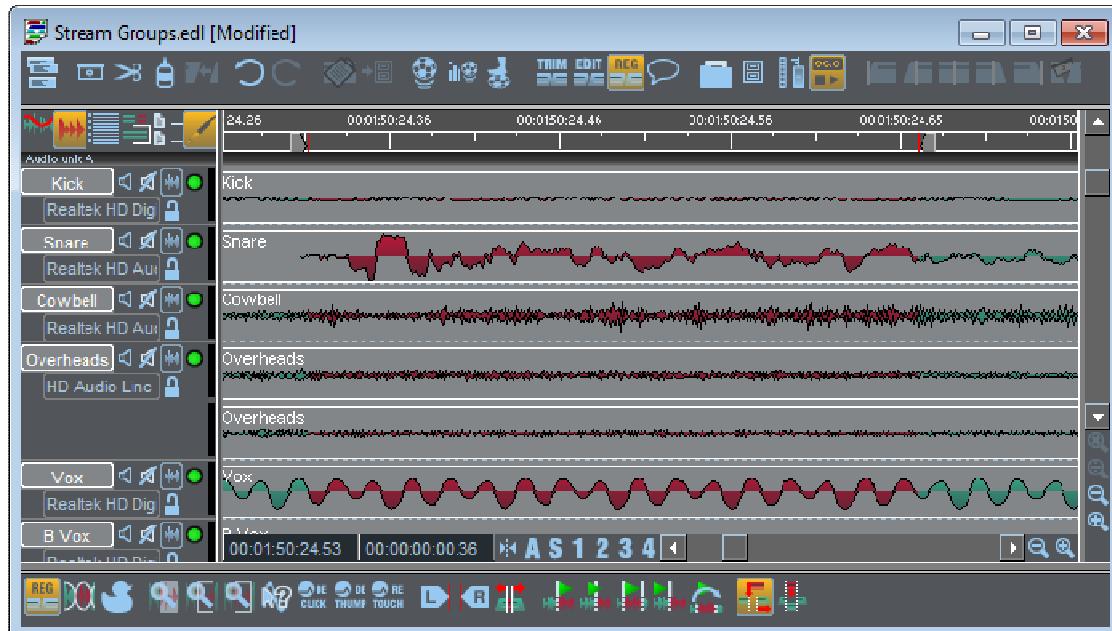
For the sake of this example, and because you'll need Region Editing to use Manual DeClick, the last method will be described, although you may find the other methods more appropriate. In practise you're likely to be doing the restoration before any editing has taken place and so Selected Clips may be fine; just click on the clip you're going to DeClick. The region edit method gives you the advantage of being able to quickly top and tail the material before processing and hence you don't waste time processing audio that you're going to throw away immediately.

2. Turn on Region Editing.

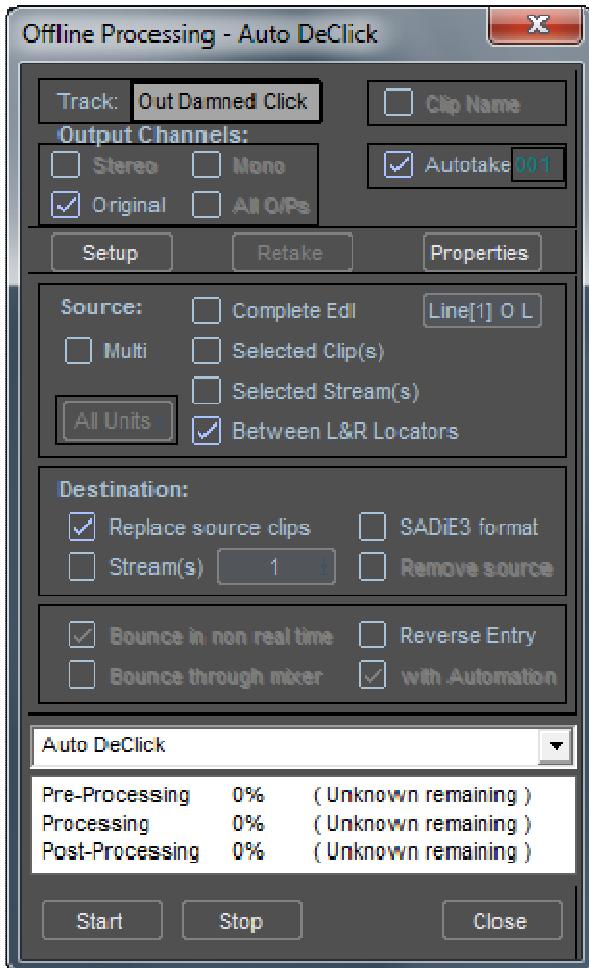


If this toolbar does not appear on the screen (on the Playlist window or floating), then you need to go to the "View" menu, select "Toolbars", then "Playlist", then "Region Editing" to display this. Then press the left-most button as shown above.

3. Now, when your mouse is hovering over the Playlist, the cursor is shown as a pencil. Click where you want the region to start, and drag the mouse leftwards, and let go of the mouse when you reach the end, the region will be defined in red. You can now fine tune the beginning and end to suit, by moving the mouse cursor over the beginning or end of the region and dragging with the left mouse button pressed.



4. Enable the streams you wish to De-click by using the stream enable buttons - enabled streams are displayed with a pale grey background and will be processed, disabled ones appear with a dark grey background and will not. See [Enabling and Disabling Streams](#) in the "Arranging an EDL" chapter for more detail.
5. When you're happy that you've selected the right sections of audio, press the **OFFLINE PROCESSING** button or the Playlist toolbar, or alternatively go to the "View" menu again, this time select "Offline Processing". (If "Offline Processing" is grey then DeClick is not correctly installed.). This window will appear:



5. From the top, check that the settings here are correct:
- Track - Track name for the new recording (Autotake on if you wish)
 - Source - For this example select "Between L-R Locators"
 - Source Output - Select the output(s) that the clips are currently playing back through. In this example the clips should all be on stream 1&2 (or just 1 if it is mono). If the source clips are part of a multi-track EDL, and if you're using Region Editing to define the source, you should enable only the streams that the source material is on, and disable all others.
 - Destination - "Stream" will be ticked. Here you can select where the DeClicked result will end up. In this example, you'll tick "Replace source clips." and leave stream 1&2 selected so that the new clip replaces the old one. However you may choose to untick "Replace..." and put the new clip onto stream 3&4 so that you have both original and processed clips side by side in the EDL.
 - Bounce in non-real-time - This will be handled automatically, and so you won't need to touch this.
 - Auto DeClick - This section is different to the normal bounce. Select this from the drop-down list of Offline processes.

When you're happy that these settings are correct, press "Accept". Note that the Offline Processing window, like the Bounce window, is "exclusive" and so you won't be able to click the mouse anywhere else in the program while this is open. If you do want to re-adjust the region, then press "Close" on the Offline Processing window first.

The Auto DeClick will proceed, the bottom section of Offline Processing reporting the progress. "Pre-processing" is loading up the source, "Processing" is the actual DeClick working, and "Post-Processing" is returning the new audio to the specified destination in the EDL. The speed of operation will be affected by the performance of your PC, and its own disk drive.

When "Post-Processing" reaches 100%, the new recording will be put into the EDL in the streams previously occupied by the original material, and you can play it back to listen to the splendid results of the DeClick process. You may have seen some warnings as the Auto DeClick progressed; a fairly common one is "This track contains one or more clicks too long for Auto DeClick to repair. Try using Manual DeClick on them. If you get this message then take its advice; Manual DeClick will handle much longer clicks and so may do the trick.



MANUAL DECLICK

Manual DeClick is initiated by a similar method to Auto DeClick, however it must be stressed that Manual DeClick uses a completely different algorithm to process the clicks to the Auto process. With Manual DeClick, the user defines the click, and so Manual DeClick processes the whole region selected. Manual DeClick can work with clicks up to 2000 samples long.

EXAMPLE:

1. Find the click by eye and ear while playing or scrubbing the EDL *
2. Enter [Region Editing](#), and draw across the click with the pencil tool as above, except this time the area you're highlighting will be much shorter.



To zoom in quickly on the click, press the **ZOOM IN ON REGION** button on the region editing toolbar.

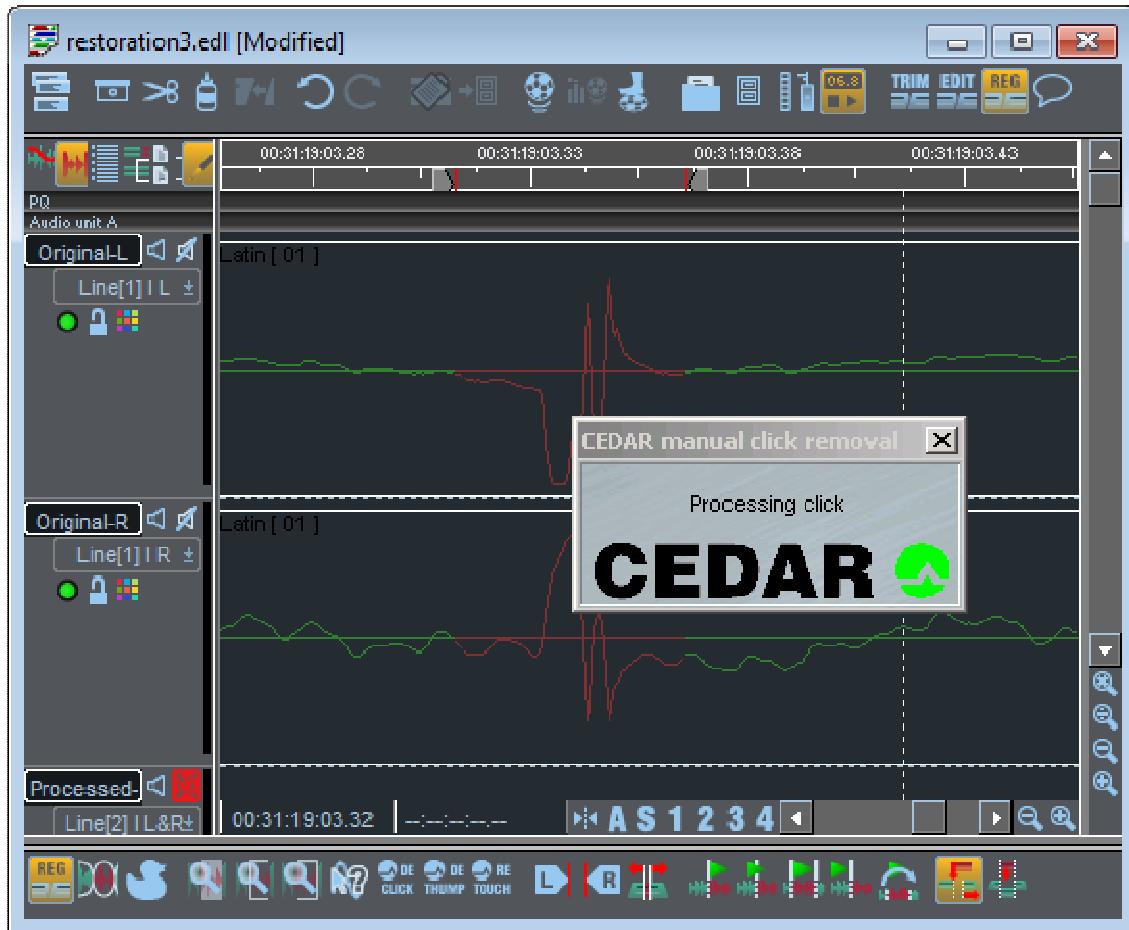
3. It may be necessary to repeatedly draw across the click and press this zoom button to zoom right in onto the click.

If this is multi-track material, be sure to [enable streams](#) that you wish to de-click, and to disable any streams containing audio that you do not want to de-click.



Try using Hotkeys for this (the default Hotkey for this is Shift + Z). The sequence "Hotkey, draw, Hotkey, draw etc." helps you zoom in much quicker than repeatedly pressing the normal zoom buttons.

3. When you're satisfied that the click is highlighted (you can audibly check the region by using the preview buttons on the region editing toolbar), press the **DeClick** button, again on the region editing toolbar.



A message as shown above will appear on the screen briefly, and then when it disappears, the region will be replaced by a new DeClicked region. When you zoom out a little (Hint: try Shift + X - this is "Zoom to region start" and will zoom the Playlist out to a preset zoom level which you can set for yourself in the Playlist Display section of the [Setup Window](#)) you will see that a larger area has been replaced. Manual DeClick always replaces with a clip around 8000 samples long, although only the centre region will be DeClicked.

NOTE: If there are repeated instances of DeClicked areas very close together in your Playlist, then you may find that your hardware may not be able to play them. An error message may be "SADiE cannot play this EDL because there is not enough DSP memory available". To resolve this you will have to re-bounce all the little clips together to create one longer section. It is advised that you choose a region (L-R locators) as the source for this "consolidation" bounce. The Manual DeClick process gives its replacement clips zero length crossfades, and so if you wish to bounce Selected Clips, you would have to set your default crossfade to zero to avoid changing the crossfade. If you bounce a region, all this is taken care of.

It is important to recognise the difference between the Manual and Automatic DeClick processes; with Manual DeClick the user identifies the click, and thus if you include areas with no click in your region, they will be processed as if they are clicking. An artefact of this is a possible drop in level if you DeClick a long region where no click exists. So it is important with Manual DeClick to select only the click and no extra audio on either side.

* You may find that your scrub settings are not appropriate for such fine detail scrubbing, either with the mouse or the Hardware controller, because the default settings are more general-purpose. If you open the Setup Window (View menu), and double click on Transport Controls on the left side to open Scrub Setup (for mouse) or Scrub Wheel (for Hardware controller), there are some parameters that can be adjusted to give you tighter control.



WHAT ARE THUMPS?

Thumps are non-musical low frequency sounds. They are often caused by large clicks or discontinuities that induce low frequency resonances in the record or playback mechanism.

RESTORING THUMPS

The CEDAR DeThump process doesn't just remove the thump, it replaces it with an estimate of the signal's low frequency content derived from the surrounding audio. This ensures that there is no audible low-frequency dropout such as would be caused by punching in a high pass filter.

PROCEDURE

The method for using DeThump is more or less identical to that for Manual DeClick; read the [DeClick example](#) first.

1. Find the thump. Use a combination of the scrub control and the waveform display to try to locate the thump. Normally the thump can be made clearly visible in the waveform display by using the magnification buttons.
2. Manual DeClick any HF transient at the start of the thump. Most thumps have a large impulsive discontinuity at the start of the thump. You should first remove this using CEDAR manual DeClick.
3. Set your Left and Right locators around the thump. Use the region editing tools to set the start and end points of the thump. You will probably need to extend the end locator beyond the visible end of the thump to make sure that you capture the oscillation decay. (You can hear this decay even if you can't see it on the display.) Experience will dictate how far to extend the position of this locator.



4. Invoke DeThump. Click on the **DeThump** button on the Region editing toolbar.
5. Set the cycles parameter. You now have to estimate how many cycles of the thump occur in the marked region. This gives the algorithm an estimate of the thump's fundamental oscillation frequency.

NOTE: Because thumps are long there is a great deal of signal information lost, and DeThump will be unable to replace the thump with a perfect estimate of the missing signal. This effect is especially true at higher frequencies. As a consequence of this, it is vital that the cycles parameter is set as low as possible (subject, of course, to the thump being satisfactorily removed). If the cycles parameter is set to too high, DeThump will assume more signal destruction than has, in fact, occurred. It will then inappropriately replace good HF signal.

6. Click on "Ok". The thump removal should take between 15 seconds and 2 minutes depending on PC performance and thump length. Not quite enough time to make a cup of tea.

The progress window has an Abort button to terminate the processing should you wish to do so.

7. As with DeClick process, SADiE will replace the DeThumped clip along with a handle either side.

DETHUMP SPECIFICATIONS:

Minimum thump length: 100 samples

Maximum thump length: 50,000 samples

Sample rates supported: 44.1 kHz and 48 kHz

Minimum number of cycles: 1.00

Maximum number of cycles: 99.99


DECRAKLE

Operation of DeCrackle is identical to that of Auto DeClick. DeCrackle uses Offline Processing (a function similar to Bounce) e.g. audio is re-recorded but instead of using the mixer and inline or plug-in processing, it uses a user-selectable process during the re-recording.

Therefore the procedure is similar to bounce:

- Select the audio that you want to process, e.g. the "Source" for the bounce.
- Tell SADiE what you want to do with the finished result of the bounce, e.g. select the "Destination" for the bounce.
- Press "Start" and SADiE performs the action, the result is as you specified in "Destination".

EXAMPLE:

Let's assume you have a recording in the Playlist recorded from a scratched record.

1. Select the audio that needs to be sent to the DeCrackle process. You can do this by any of the usual methods allowed by bounce:
 - i. Complete EDL - the whole EDL will be processed. Make sure there are no clips hiding several hours down the Playlist otherwise the bounce will take hours!
 - ii. Selected Clip (s) - you select EDL entries in red to be processed.
 - iii. Selected Streams - enable the streams containing the audio, disable all the others.
 - iv. Between L-R Locators - use [Region Editing](#) to define the region of the Clip(s) to be processed.

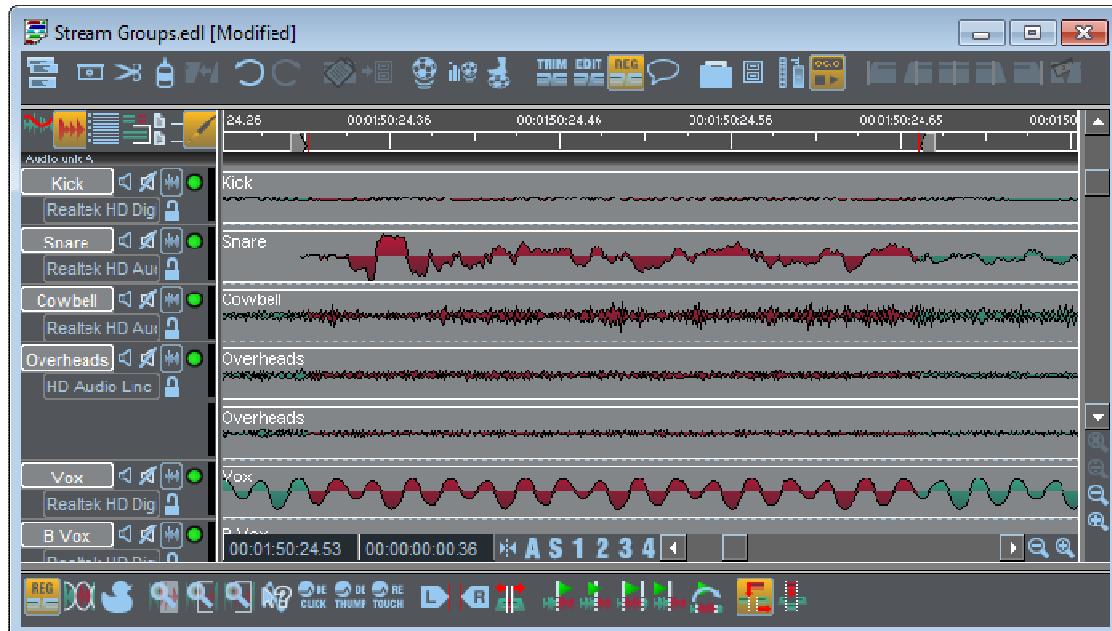
For the sake of this example, the last method will be described, although you may find the other methods more appropriate. In practice you may be doing the restoration before any editing has taken place and so Selected Clips will be fine - just click on the clip or clips you're going to DeCrackle. The region edit method gives you the advantage of being able to quickly top and tail the material before processing and hence you don't waste time processing audio that you're going to throw away immediately.

2. Turn on Region Editing.



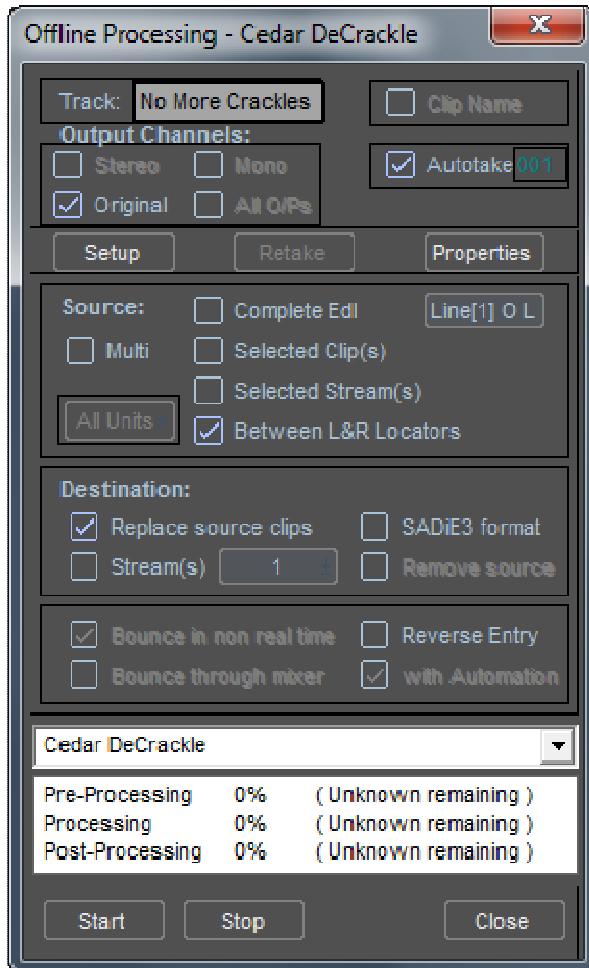
If this toolbar does not appear on the screen (on the Playlist window or floating), then you need to go to the "View" menu, select "Toolbars", then "Playlist", then "Region Editing", to display this. Then press the left-most button as shown above.

3. Now, when your mouse is hovering over the Playlist, the cursor is shown as a pencil. Click where you want the region to start, and drag the mouse leftwards, and let go of the mouse when you reach the end, the region will be defined in red. You can now fine tune the beginning and end to suit, by moving the mouse cursor over the beginning or end of the region and dragging with the left mouse button pressed.



4. Enable the streams you wish to De-click by using the stream enable buttons - enabled streams are displayed with a pale grey background and will be processed, disabled ones appear with a dark grey background and will not. See [Enabling and Disabling Streams](#) in the "Arranging an EDL" chapter for more detail.

5. When you're happy that you've selected the right sections of audio, press the **OFFLINE PROCESSING** button or the Playlist toolbar, or alternatively go to the "View" menu again, this time select "Offline Processing". (If "Offline Processing" is grey then DeClick is not correctly installed.). This window will appear:



6. From the top, check that the settings here are correct:
 - i. Track - Track name for the new recording (Autotake on if you wish)
 - ii. Source - For this example select "Between L-R Locators"
 - iii. Source Output - Select the output(s) that the clips are currently playing back through. In this example the clips should all be on stream 1&2 (or just 1 if it is mono). If the source clips are part of a multi-track EDL, and if you're using Region Editing to define the source, you should enable only the streams that the source material is on, and disable all others.
 - iv. Destination - "Stream" will be ticked. Here you can select where the DeClicked result will end up. In this example, we'll tick "Auto-replace..." and leave stream 1&2 selected so that the new clip replaces the old one. However you may choose to untick "Auto-replace..." and put the new clip onto stream 3&4 so that you have both original and processed clips side by side in the EDL.
 - v. Bounce in non-real-time - This will be handled automatically, and so you won't need to touch this.
 - vi. CEDAR DeCrackle - This section is different to the normal bounce. Select this from the drop-down list of Offline processes.
7. When you're happy that these settings are correct, press "Accept". Note that the Offline Processing window, like the Bounce window, is "exclusive" and so you won't be able to click the mouse anywhere else in the program while this is open. If you do want to re-adjust the region, then press Close on the Offline Processing window first.
8. DeCrackle will proceed, the bottom section of Offline Processing reporting the progress. "Pre-processing" is loading up the source, "Processing" is the actual DeCrackle working, and "Post-Processing" is returning the new audio to the specified destination in the EDL. The speed of operation will be affected by the performance of your PC, and its own disk drive.

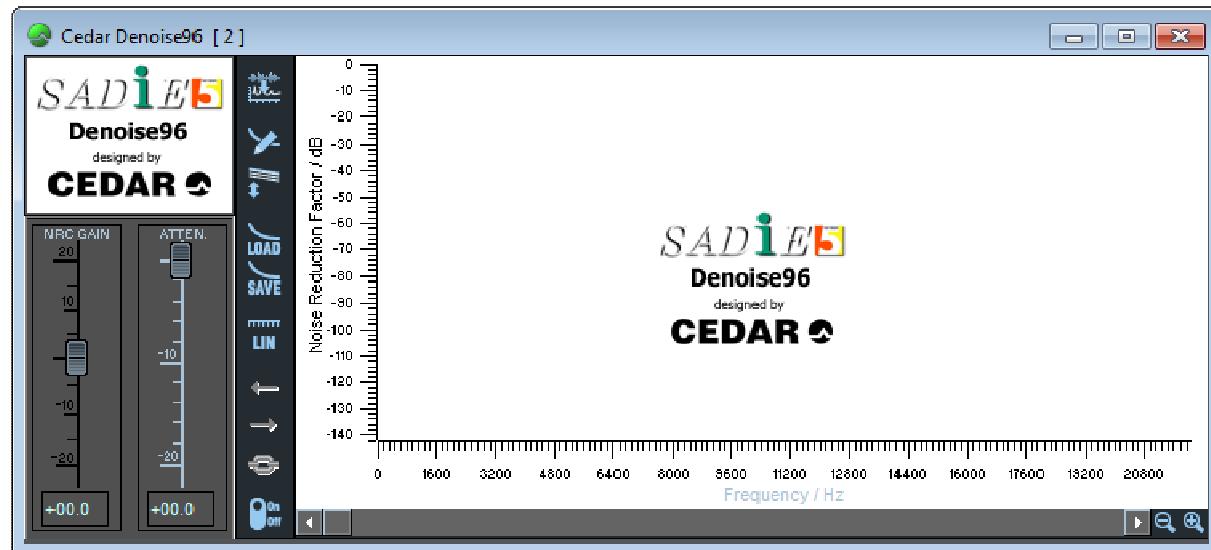
- When "Post-Processing" reaches 100%, the new recording will be put into the EDL in the streams previously occupied by the original material, and you can play it back to listen to the splendid results of the DeCracke process.

DENOISE

(Installed as an option to SADiE systems. Speak to your dealer for details)

Unlike the other Cedar processes, which are "offline", Cedar Denoise96 is a real-time process which operates in SADiE's mixer. It can be inserted into the mixer with two different methods:

- In the [Process Window](#) drag its icon  from the toolbar, and then use the routing buttons (Denoise96 | In and Denoise96 | Out in the picture) to connect it into the mixer.
- From the [Process Palette](#) drag the Cedar Denoise button  into the top section of a mixer strip (this doesn't require further routing).



Designed by CEDAR Audio, this is a broadband noise reduction system that works by removing from the audio signal a "fingerprint" sample that is displayed as a frequency plot called the Noise Reduction Curve (NRC).

In order to use DeNoise effectively, you need to find a representative bit of noise-only signal. This needs to be ½ to 1 second for best results. If necessary, copy the noise sample and repeat it in the Playlist . butting each Entry to the last to effectively "loop" it.

 Play the material and press the **SAMPLE NOISE** button during the period of clear noise. Release it to stop sampling. The noise spectrum that has been sampled will be displayed as the NRC.

NOTE: No advantage is gained from a sample longer than a second, unless you deliberately want to average a varying noise, such as the "swishing" effect from an old disc. The danger of averaging, however, is that the resulting NRC will not be correct for the noise at any point in the noise cycle. Experimentation will pay off. Avoid sampling over a hard start or end to EDL Entries as the transition to or from no signal may cause a transient.

You can now replay the material and adjust the Attenuation fader to the desired amount of noise reduction.

The NRC Gain fader is normally set to its mid-point of zero. At this setting the system will attenuate (by the set amount) the level of noise that was sampled. Increasing or decreasing the NRC Gain alters the sensitivity of the system to the noise sample. This can be used to fine-tune the result, or to compensate for higher or lower noise levels than the sample. Note that if the nature of the noise changes, the NRC will no longer be appropriate.

 The bypass button allows you to compare signals before and after processing.



The graph displaying the NRC curve for the whole audible spectrum can be magnified and scrolled with the zoom buttons and Scrollbar.



You can switch between a linear and logarithmic frequency scale for the NRC. Using a logarithmic scale shows more detail at the low frequency end and will therefore be useful when examining the curve to remove rumble or hum.

The NRC can also be manipulated and re-drawn by hand:



First select either the left, right or both channels for manipulation (applies only when using a stereo unit). The selected channel's NRC will be drawn in a bolder line on the graph.

The curve is made up of a lot of nodes, or points, about every 50 Hz. These will be shown by a dot when the mouse pointer is over them, like the data line for fader automation. You can:

1. Click and drag each node to manipulate the NRC.
2. Draw (drag out) a box around part of the curve and then again click and drag to raise or lower that section. This may be useful, say, if you have sampled some noise, but only want the system to remove the low-frequency component of it.



When you raise or lower a section of the NRC, this button determines whether that section is modified in ratio to the gain or attenuation you are applying (button up), or whether it maintains its shape when moved ("Fixed" - button down).

3. Press this button and re-draw by hand part or all of the curve. When you release the button, the previous curve for that section will be replaced.



The NRC can be saved and re-loaded with these buttons. Thus you can set DeNoise to remove a previously encountered noise sample.

PEAK METERING

PEAK METERING

Each strip of the mixer has a line of "LED's" to display peak levels going through that strip. The Fader decimal display (the number in red in the drawing left) is a dual-purpose display. The information it shows depends on settings in the Setup page. You can identify what it is displaying by the colour of the number:



Cyan - not displaying peaks, this is the fader level offset value.

Green - the peak level detected through that fader. This is reset automatically only when you start play, or you can manually rest it by double clicking on the number (Ctrl + double click resets all peak meters)

Red - the peak level detected through an output fader, but this is greater than zero. Actually, it is impossible to produce an output greater than 0 dB, so this is the level SADiE has calculated it would have been. In fact this shows that there have been a number of sequential full-scale samples on the output. This can be reset in the normal way.

Yellow - the peak level detected through a stream or bus fader that is greater than zero. In this case samples aren't truncated; because of SADiE's floating-point internal calculations approximately 1000 dB of headroom is allowed internally. This can be reset in the normal way.

In the Setup page you can choose which type of display (Fader level or Peak Hold) is being shown. Under the "Mixer" section, inside its sub-section "Mixer strip display", you can choose between:

- Only show peak levels on output strips
- Show fader positions on all faders
- Show peak levels on all faders

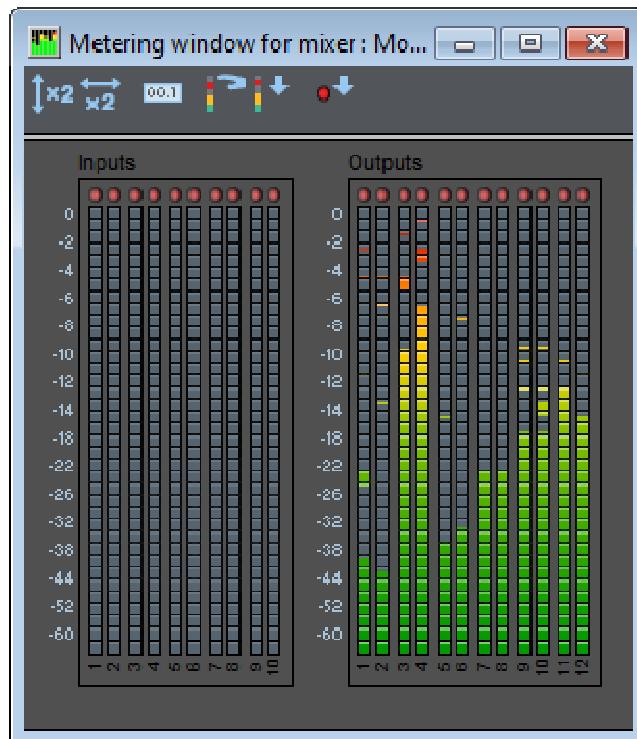
NOTE: Peak displays on Output faders are post-fader; on other types of fader strip they are pre-fader.

As output levels are much more critical than internal levels, the peak displays on Output faders are measured more frequently than those on other types of fader strip. This will explain any apparent discrepancy between for instance a stream strip peak and an output strip - it is the output peak that is correct.

Output peaks are measured every 4 samples, which is adequate for most applications. However in extremely critical situations such as mastering, these can be switched to being measured every single sample. See Mixer setup "Mixer Output PPM type"; "standard"; is 4 sample accurate, "mastering" is 1 sample accurate.

The [Log Overloads Window](#) can be used to create a list of these peaks. You can use the [Metering window](#) for a separate PPM display.

METERING WINDOW

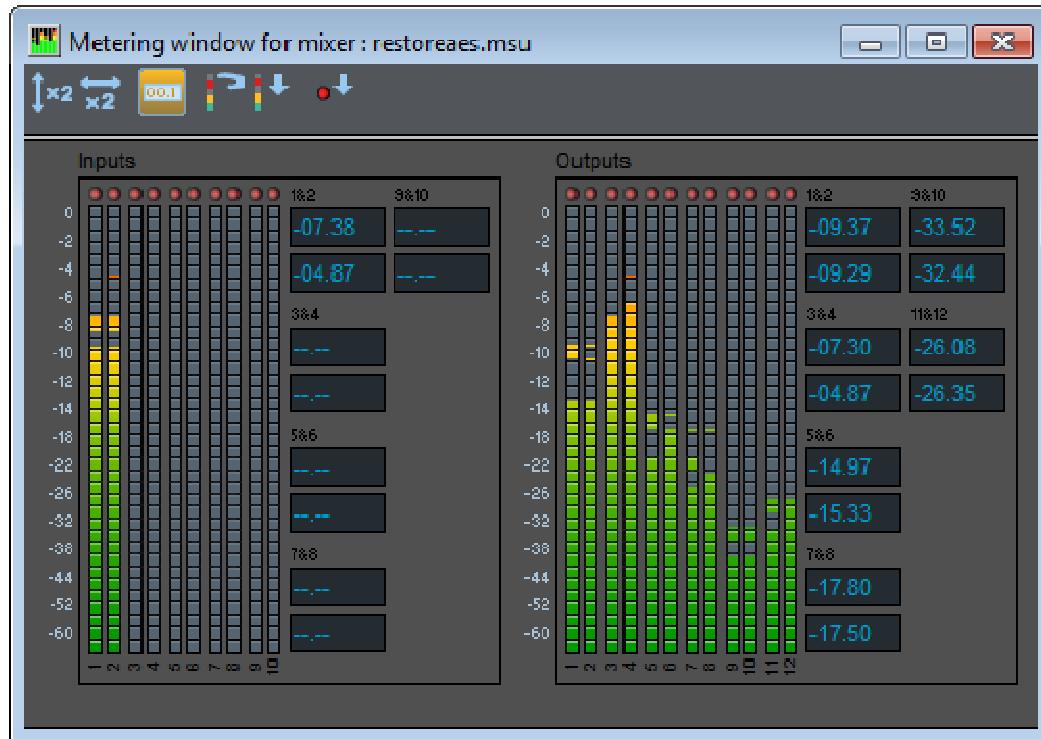


 The Metering Window is viewed by pressing the **SHOW METERING WINDOW** button on the Mixer Toolbar. This gives a separate window displaying a PPM "LED" style meter for every physical input and output in the system. The number of meters will depend on your hardware. The PPM scales are set to be the same as displayed by the normal mixer meters - this can be changed in the Mixer page of the Setup Window.

The toolbar (which can be viewed or hidden in the usual way) offers some options as follows:

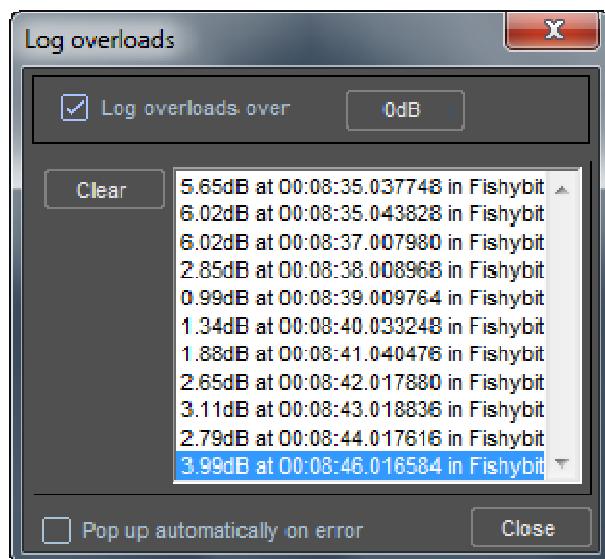
-  Enlarges the PPM displays vertically so that they appear double height.
-  Enlarges the PPM displays horizontally so that they appear double width.
-  Views or hides the numeric Peak Level displays.
-  Toggles the peak hold mode - when the button is pressed, the highest peaks are held until the Clear Peaks button is pressed.
-  Clear Peaks - all held peaks are cleared down - both on the PPM meters and the numeric Peak Level displays.
-  Clears the Clip LED's at the top of each PPM strip. The Clip LED's glow brighter red when an "over" is detected, whether Peak Hold is enabled or not.

NOTE: There is an option in the "Mixer Peak Displays" section of the [Setup window](#) that allows you to choose to clear all meters on going into playback or to hold them every time you play audio. This applies to the normal mixer meters and the Metering Window.



For reasons of economy with screen space, the numeric Peak Level displays are displayed on the right side of each bank of inputs or outputs.

LOG OVERLOADS WINDOW



The Log Overloads window is called up from the "View" menu, or set to pop up as an error is detected.

The Log Overloads Window can be set to capture Audio Overloads on all digital audio outputs, whilst a Playlist is playing. The accuracy of this is determined by the "Mixer Output PPM type" setting as explained above.

To enable, tick Log Overloads, and set a threshold above which you want the window to record the Overs. A list will appear below, recording the peak level, the EDL time that level occurred, the name of the EDL in which it occurred and the output which was peaking. Double clicking on an item in the list will locate the EDL to the correct time, so that you can review the problem.

In order to produce a definitive, accurate list of peaks in an entire Playlist, SADiE effectively has to "listen" to the whole EDL, which involves playing the Playlist, through the mixer along with processing, and analysing the output signal.

Errors can be logged as you play and edit the Playlist, but to speed up the process and produce a definitive Overs log, you can do a final play-through of the EDL with **NON-REAL-TIME** checked in the Transport Toolbar (at the bottom of the Record pane)

See also [Peak Metering](#)

AUTOMATION



AUTOMATION OVERVIEW

SADiE can record the positions and movements of the following controls: fader level, mute, pan, mixer strip processes (e.g. Aux. send level, equalisation, and dynamics) and VST plug-ins, and then automatically replay them. You can update the automation data by making new adjustments as the old control movements are being replayed. This applies whether you are using a mouse or the hardware controllers. The advantage of the hardware controllers, of course, is that you can make more than one adjustment at a time. (It is not possible to control VST plug-ins from the Hardware Controllers)

Automation data is retained as part of the EDL, so that changes to mixes can be undone and redone using **UNDO** and **REDO** (in the playlist! not the mixer), and you can change between mixes by saving and loading different EDL's. The data is tied to the EDL Entry that it affects and will move with it to different EDL times and even different Playlist Streams, so you can edit the Playlist after mixing.

When you scrub the Playlist, the automation data will still be followed; just watch those faders fly!



Automation is enabled for the whole Mixer from this button on the Mixer's configuration toolbar.



On the hardware controller the **AUTO** button will enable automation when the Mixer is the active window.

When enabled, the Mixer automation toolbar will be displayed.



This selects the modes that determine how automation data is recorded and replayed. On the hardware controller, they are selected with the buttons at the bottom left of the fader panel. (Note: to enable Full Disconnect mode, press **SHIFT + AUTO-RETURN**)

Whenever the position of a control is being recorded, it will be outlined in red (by a red ident on knobs and a red stem behind faders). Hardware controller faders will have their red "write" LED lit.

Whenever data from a control is being replayed, it will be outlined in green and hardware controller faders will have their green "replay" LED's lit.

Snapshot & DRAWING Automation

The coloured automation mode buttons apply more to the methods of recording automation dynamically. SADiE also includes functions to allow you to **Snapshot** automation - that is, to apply fixed values for the duration of an EDL entry. Also, by viewing automation as lines, it's possible to edit those lines by **Drawing** automation.

These topics are covered later in this manual; first we will discuss dynamic automation and its modes.



Each process section on the Mixer strip has a **DISABLE AUTOMATION** button that will stop movements of its controls from being recorded or replayed. Individual EDL Entries can have their recorded automation data disabled in the Clip Details window so that it will not be replayed (see [Arranging an EDL](#)).

NOTE: Process sections (EQ and dynamics) default to having automation ENABLED so there is no need to enable them before recording adjustments. For EDL Entries the default is also (as always) automation enabled. When process automation is recorded, you have to put the whole process section into write, thus if you have any previous automation, the whole section will overwrite even if you only touch one knob. For that reason if you are recording, for instance, a sweeping equalisation, it is best to write stationary parameters first. This isn't a problem with a hardware controller because you can adjust more than one control simultaneously.



AUTOMATION MODES

The following automation modes are sensitive to a control being "touched". With the mouse, this means clicking on it, hardware controller fader knobs are touch-sensitive.



OVERWRITE mode - applies to all controls. Any previously written data is replayed until you touch a control. Its position will then be recorded and will continue overwriting any previous data until you stop or change modes. The control will be outlined red; hardware faders show their red 'write' LED.

DISCONNECT MODES



FULL DISCONNECT mode - applies to all controls. Any previously written data is replayed until you touch a control. It then affects playback levels only and the previously recorded data will not be changed. The control will be outlined grey, and the hardware controller fader LED's will be off. After returning to another mode, each disconnected control will stay that way until it is touched. You can return all controls to playback by pressing AFFECT ALL followed by AUTO-RETURN



SAFE DISCONNECT mode - applies to all controls. As with Full Disconnect mode, any previously written data is replayed until you touch a control. It then affects playback levels for ONE playback pass and the previously recorded data will not be changed. The control will be outlined grey, and the hardware controller fader LED's will be off. The next time play is pressed, unlike with full disconnect mode, all controls will return to play back existing automation immediately.



TEMPORARY DISCONNECT mode - applies to all controls. As with Full Disconnect mode, any previously written data is replayed until you touch a control. It then affects playback levels only and the previously recorded data will not be changed. The control will be outlined grey, and the hardware controller fader LED's will be off. In Temporary Disconnect mode, controls remain disconnected until you change mode, at which point they will be returned

...in short, there are **THREE DISCONNECT MODES**. Once in a disconnect mode, you touch a control to disconnect it, but there are three ways of taking it out of disconnect:-

Full - controls remain disconnected until you manually return them to re-play automation.

Temporary - controls remain disconnected until you change automation mode.

Safe - controls remain disconnected only until the next time you press play.



NOTE that the **KEEP** button must be pressed for the Safe and Temporary disconnect modes to appear any different. When **KEEP** is disabled, the mode will change to Auto-return after a pass in Temporary disconnect, but to allow Safe Disconnect to be used as a Safe mode, once you're set to Safe, it will stay that way irrespective of the state of **KEEP**.



AFFECT ALL - causes the above modes to immediately affect all controls. This is the equivalent of touching all the controls in the Mixer . So, if you press **AFFECT ALL** and then switch, say, to **OVERWRITE** mode, all control positions will be overwritten from that point. This button can also be used, in stop, in conjunction with **AUTO-RETURN** to put all

controls back to playback mode. If you're already in auto-return, then press another mode, say, **DISCONNECT**, then press **AFFECT ALL** followed by **AUTO-RETURN**.



AUTO-RETURN mode - applies to fader and pan controls only. Any previously written data is replayed until you touch a control. It will then enter overwrite mode until it is released, when it will return to replaying the previous mix. While the hardware controller's faders are being moved, the "write" LED will flash, and while they are returning, both LED's will flash.



The time taken for the control to return can be adjusted with the adjacent knob and display. The knob brings up a pop-up fader that shows you a precise time in seconds; the display indicates the nearest whole second. Note that only faders, pans and surround controls such as Width and divergence can auto-return smoothly. Mutes cannot auto-return. EQ processes will "snap" instantaneously back to the previous setting.



TRIM mode - applies to faders only, indicated by a blue fader stem and both hardware fader LED's lit. Entering this mode causes all faders to immediately move to a middle position. The previously recorded data will be replayed, but can be offset by the amount you move a fader. This is useful if you have a complicated mix where you got all the moves right, but the whole thing needs to be a bit quieter or louder. Note that you will not see the faders moving, but the automation data can be displayed on the Playlist Stream, as described below.

NOTE: When you run a pass in Trim mode, on pressing stop, the final offset will be applied for the rest of EDL on that stream (e.g. the offset is written to end). If you don't want this to happen, you can press the **AUTO-RETURN** (green) button during playback, and the Trim/offset will stop being applied from that point onwards (with an **AUTO-RETURN** to join it up).

TIP: You can change modes during playback, depending on what you want each adjustment to do. For example, after making an overwrite adjustment for several minutes, you might want to switch to auto-return, touch the fader and have it return to the previous mix. You can also select a mode and reposition a control before starting playback, so that the adjustment takes effect immediately.



Once data is recorded, when you next play the EDL, SADiE will automatically switch to **AUTO-RETURN** mode. You can inhibit this automatic switching by pressing the **KEEP** button, which keeps you in the selected mode each time you stop and start playback.



The **WRITE TO END** button writes the current position of all controls that are outlined red (hardware faders "write" LED) to the end of the EDL. Playback must be stopped to use this function. There is a Hotkey available for this function.

TIP: Write to End, of course, writes a constant value to the end of the EDL, however there may be times when you would like to write the same value for i.e. the next ten minutes, without playing through in real time and holding the fader. **Automation Drawing** is good for this - when using the **Line tool**, if you hold the **CTRL** key while dragging a line, the new line will be drawn at a fixed value.



SNAPSHOT mode buttons allow you to record a constant mixer setting throughout an Entry or groups of Entries. See [Snapshot Automation](#) for a detailed description.

NOTE: If you have used fader grouping buttons, movements of linked faders are recorded as if they are all being moved individually. So, if the link is later removed, the automation will still replay the original movements. Linking faders after their movements are recorded has no effect on the way they are replayed.

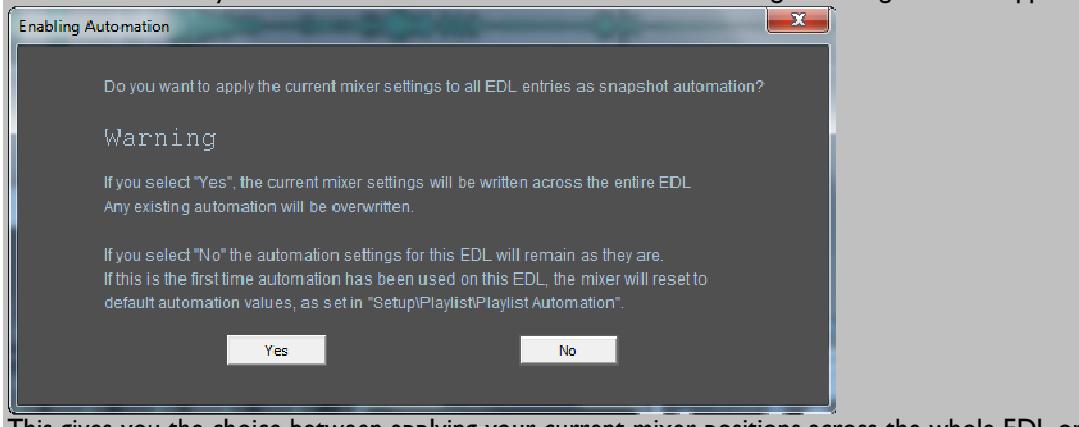
NOTE: Automation data is tied to EDL Entries, so control movements where there is no Entry may be ignored.



RECORDING AND REPLAYING A SIMPLE MIX

1. Get a rough mix together before you enable automation. That way you can experiment with different settings without all your twiddling being recorded and annoying you when it is replayed.
2. Once you have your initial fader and processing settings, you can enable automation and they will become your starting point for recording.

NOTE: When you first enable automation the following message will appear:



This gives you the choice between applying your current mixer positions across the whole EDL or resetting everything to default (there are settings for what default fader and pan settings should be in the Playlist/Playlist Automation Setup page). For the purpose of this exercise, you should click "Yes" which will apply your mixer balance.

3. Play your EDL and move any control you want recorded. You will initially be in **OVERWRITE** mode.
4. Replay that part of the EDL and the positions and movements of the controls will be reproduced. Unless the **KEEP** button is down, you will see that **OVERWRITE** mode has automatically switched to **AUTO-RETURN** mode.
5. If there is any section of the mix that you want to correct, play over it and re-adjust the fader. Hold onto the fader until you want to return to the previous mix. If you want to re-write a long section, switch back to **OVERWRITE** mode and you won't have to hang on to the fader.

NOTE: Holding Ctrl and clicking on a mute button in **OVERWRITE** mode will start recording its status without actually operating the button. This can be used to overwrite a previously recorded button operation.

6. Having finished recording automation you may find it useful to put the automation into **SAFE DISCONNECT** mode by pressing this button. If you touch any faders they will stop re-playing automation, but not write any new automation, and the next time you go into play, they will return to re-playing automation.



AUTOMATION AND SCRUBBING AUDIO

Automation cannot be recorded whilst scrubbing audio. While you are scrubbing, automation will be re-played, but if you touch or move a fader or other control, it will enter **DISCONNECT** mode until you stop scrubbing again.



When jogging or shuttling audio using the hardware controller wheel, you should be aware that on stopping, the Playlist remains in scrub, albeit at zero speed. This way you can pick up the scrub and move on instantaneously. But this does mean that if you touch controls (say, to set a new level, starting at the point you've scrubbed to) you will still be in **DISCONNECT** mode. Pressing play at this point will return the controls to playback mode.

Thus if you are using scrub with the hardware controller to accurately mark a position from whence you wish to record some new automation, on finding your position you should press **STOP**. Now you will be able to put your fader into overwrite and its status will continue after hitting play.

This is not the case with the mouse method of scrubbing because when you let go of the mouse button the EDL stops. Likewise with the Hotkey, fixed-speed scrubs.



SNAPSHOT AUTOMATION

Whereas other automation modes are designed for recording dynamic changes to the mixer controls, the Snapshot Mode allows you to apply the same settings throughout an Entry or group of Entries.

This feature has a number of uses. For instance:

- You can quickly set a level on a group of Entries without having to play across them in real time
- You may want to set a different pan on alternating Entries on the same stream.
- Snapshot EQ's are perhaps more useful in many cases than dynamic changes

Note: Snapshot automation records ordinary automation data onto an EDL entry, in the same as you would if you held a fader or pot constant for the length of the clips. This is not a special type of automation, merely an quick way of writing automation data if it is going to be constant. However, because you need to select EDL entries on which to apply the snapshot, streams that have no entries, like mixer only streams (bus faders, output faders etc.) cannot be "snapped".

RECORDING SNAPSHOT AUTOMATION

There are two methods for recording snapshot automation to EDL entries; one method using a mode in the **Mixer**, another using menu items available by right-mouse-clicking in the **Playlist**. Mixer mode is possibly slightly easier for setting up initial settings by ear, however the playlist menu (or hotkey) method is much quicker for copying automation settings by eye. But it's up to you - use the method you prefer.

MIXER SNAPSHOT MODE

1. Pressing the "camera" icon on the Automation toolbar enables **SNAPSHOT** Mode. You will notice the violet **SNAPSHOT READY** button will be pressed and all other Automation mode buttons are disabled except for **DISCONNECT**.
2. Select the Entries in the Playlist that you want the automation to be applied to. You can change your mind about this whilst in **SNAPSHOT** mode; the automation will only be applied to the Playlist Entries selected in red when **SNAPSHOT** Mode is exited.
3. Set the mixer controls (faders, pans, mutes, EQ's etc.) either in play or stop. Unlike other automation modes nothing is recorded as you go along. When you touch a mixer control it will be outlined in violet. If you want to change a control without putting it into **SNAPSHOT** Ready mode, then click the grey **DISCONNECT** button before touching it.
4. Press the "camera" icon again to exit **SNAPSHOT** Mode. At this point the current position of every control outlined in violet (i.e. *only* the controls you have touched) will be set for every EDL Entry selected in red to which the control applies. For instance if you set a fader for Stream 3 but only select entries on Stream 1 then nothing will happen.

NOTE: Before you snapshot, it is advisable to have some automation recorded. When you first start automating none exists at all. If a snapshot is the first thing you do, you will find that the snapshot is applied across the *whole Stream*. Thus if you wanted to for example individually EQ or level change just one entry, then you should snapshot the "flat" settings for the EQ or the base level to the all entries in the stream first.

PLAYLIST SNAPSHOT MENU

This method allows you to snapshot all controls on the mixer strip(s) relating to any red-selected EDL entries, without having to enable the controls first - all controls are snapped at their settings at the current time.

You have the choice between:-

Snapshot All Automation (on the first level menu) (this is every automatable control - level, pan, divergence, stereo width, Aux send, EQs VSTs and Dynamics)

.....or on a second level menu under Snapshot Automation...

Processes (all EQ, Dynamics sections. Auxes and VSTs)

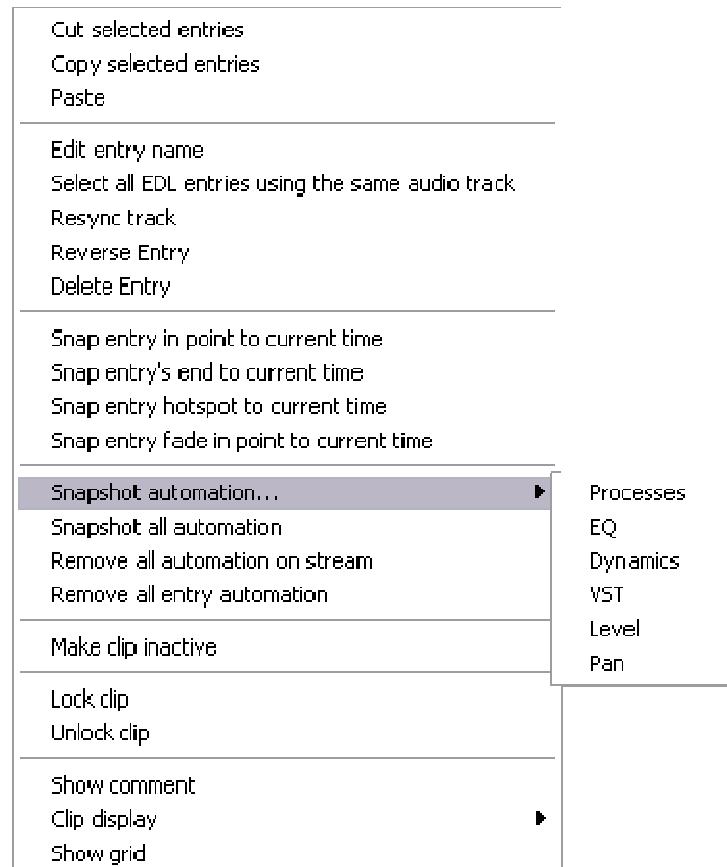
EQ (all EQs)

Dynamics (all Compressors, Expander, Gates)

VST (all VST processes)

Level only

Pan only



- I. First you will need to set the controls of the processes to the setting you want to snapshot.
a) You can do this in real time, by playing and changing the controls to suit. However if automation is already enabled, then you will not want to record more automation while you are setting up, neither will you want to set something and have it auto-return to its previous setting. Thus it's suggested that you use one of the three **Disconnect modes** to set up the snapshot. For now we'll use Temporary Disconnect.

First check that the **Keep**  button is pressed in.

Set [Temporary Disconnect mode](#) by pressing the  green halved automation mode button on the mixer's automation toolbar. Twiddle your knobs until you're happy with the result.

or b) you may wish to copy the control settings from somewhere else in the playlist. Snapshot always snaps the controls at an instant in time. If you place the current time at the position where the automation is correct in the source clip, the controls will be set ready to be snapped. The source clip must be on the same stream for this to work, and automation must be enabled - this won't work if the controls are disconnected.

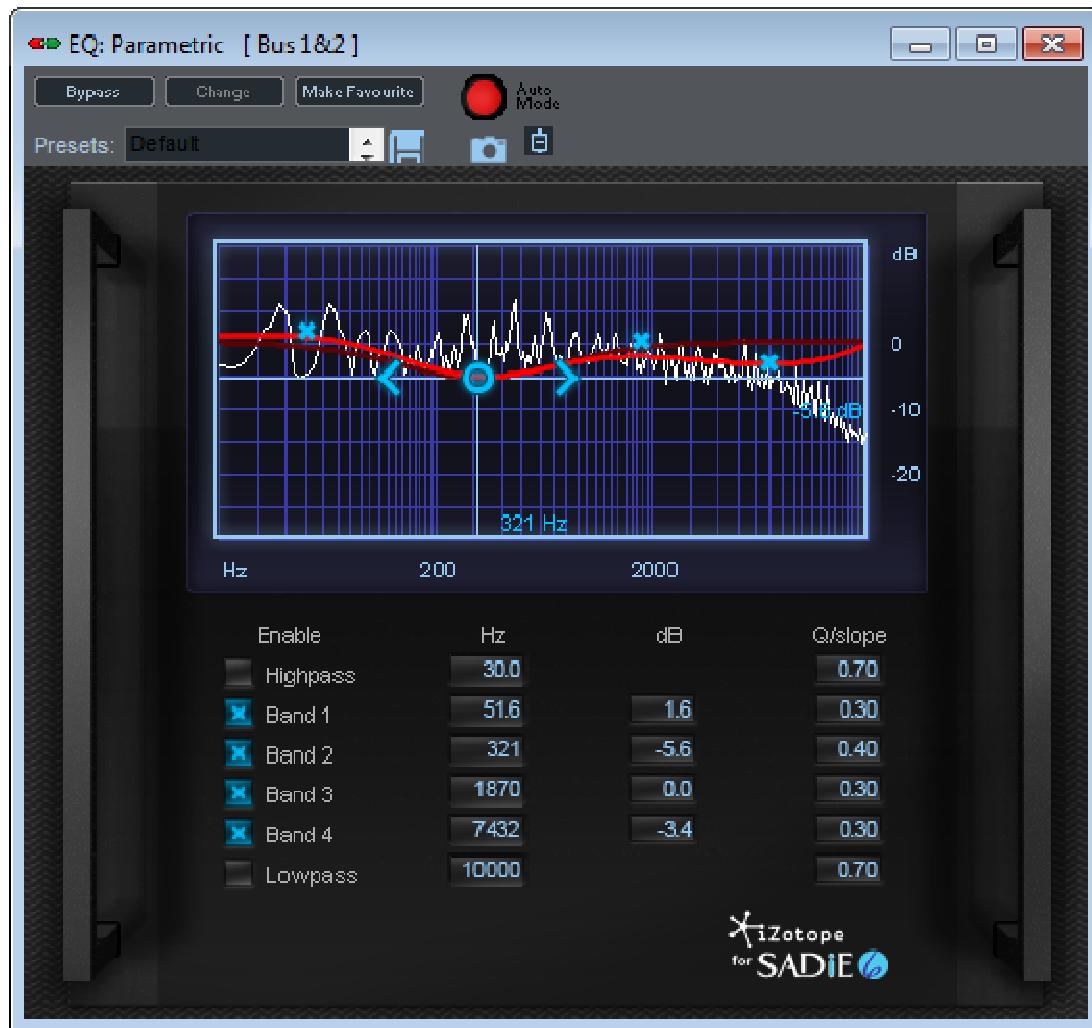
2. By one means or the other you have set the controls to how you want them to be snapped. Now select the EDL entries to which you wish the snapshot to apply.
3. Right-mouse click over one of the selected clips and the above menu will appear.
4. Choose Snapshot All automation, or one of the sub-menu items to suit. The snapshot will be applied.
5. If you had disconnected any controls, you will wish to return them to playback before reviewing the snapshot (if they're disconnected they will not play). On the mixer's automation toolbar press the  green AUTO-RETURN mode button.

There are hotkeys for each of the individual Snapshot functions, which can be set in : View menu; Setup ; Hotkey Setup ; Playlist ; Snapshot All etc.

VST SNAPSHOTS

The small camera icon at the top of a VST plug-in can be used in the same way as the Playlist Snapshot menu items to snapshot the single VST processor's settings. As before:

1. Set the controls the way you want them (once again it's best to do this in **Safe Mode** otherwise you will record your movements as you find your setup)
2. Select the clips to which you want the snapshot to apply.
3. Press the camera button to write the settings at the current time to the selected clips.



AUTOMATING MUTES

Mutes and solo buttons follow slightly different rules to faders and pans during automation, because they are not variable controls, merely two state; either On or Off.

Additionally, because this is a disk editor and not purely a mixing console, there are several other ways of making your audio mute and un-mute, e.g. by editing. You may find that editing to produce a mute is more flexible and accurate. You also have the option of making a fade-up or down to suit, rather than just a hard unmute or mute.

Sometimes during a mix, there are times when you'll want to use solos or mutes to listen to one or a few streams in isolation. And of course you may not want to record those particular mutes. You can do this by switching to the grey, **DISCONNECT** mode before touching the mutes, however SADiE has a setup option that makes *all* mute operations work in **DISCONNECT** mode. You will find this in the "Mixer strip display" section of the Setup Window. The button is under "Mute automation - Disconnected". Having ticked this setting, pressing a mute will not cause that action to be recorded. Particularly if you're using other methods to perform the mute, working with this setting on may give you more flexibility.

Note that whether this mode is on or off, all **SOLOS** are always performed in disconnect mode, and thus the associated mutes are never recorded.

To mute a section of audio by editing:

- Disable (by pressing the Stream Name button on the left side of the EDL) the streams that you do *not* want to effect. Streams that you want to mute should be enabled. (See [Enabling/Disabling Streams](#))

- Make a razor cut in the Clip (s) at the mute point, and another at the un-mute point. You can make these razor cuts in the usual way, either hitting razor whilst you play, or by scrubbing up to the exact position in the EDL and then pressing razor.
- Right mouse click on the Clip(s) to be muted, and select "Make clip inactive" either one at a time, or if you have a number of clips to mute, then group them together and inactivate the group clip. Alternatively delete the clips you don't want to hear.

The advantage of this method over automating mute buttons is that you can make the mute point much more accurate. This method of inactivating the clip allows you to leave it in the EDL (for visual reference or in case you want to later change the mute point) without using any DSP resources.

If you were to use the mute button method, you can probably set the mute point relatively accurately, on the fly, however the unmute point could be tricky, because you can't hear the audio while it is muted. If you get the unmute late, then you can't scrub over the correct unmute point because you can't hear it; the automation will be playing back, and the audio will be silent at the point you want to scrub. Editing to perform mutes gives you much more accuracy and flexibility.

If you are using mute button automation, you should note that they are always in overwrite mode, whether the automation mode is set to overwrite, auto-return or trim.



DISPLAYING AUTOMATION DATA

You can display automation data for each Mixer strip. Each parameter (fader changes, pans, mutes, process parameters etc) can be displayed as a white line on each Stream routed to that strip. Stereo and merged Streams will display the appropriate number of lines. The position of the line indicates the fader level or parameter value.



The large button at the top left of the Playlist will display automation data on all Streams.



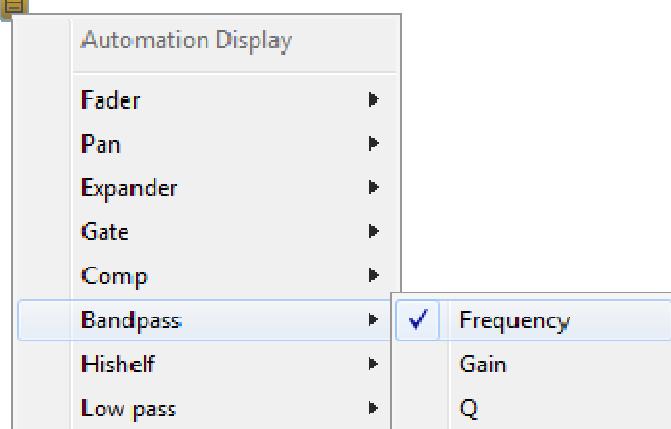
On the hardware controller this is duplicated by the **AUTO** button *when the Playlist is the active window*.



The small button by each Stream will display data for that Stream only.



The small fader button by each Stream allows you to choose which automation parameter to display. Selecting this button gives you a menu to choose from all available processes, or fader, or pan, and the sub-menu lets you choose which parameter within that process to display.

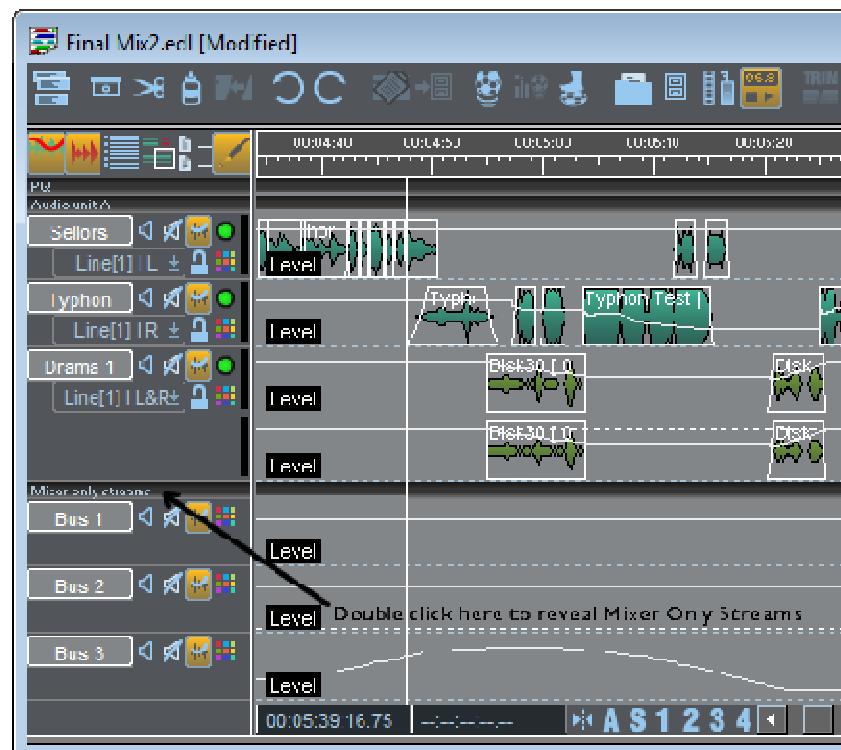


When the small "Automation type" button is displayed (go to Setup/Playlist/Playlist Streams to enable or disable it) the black and white parameter display on the left of each stream shows the same menu if you click on it.

VST automation parameters can also be displayed here; some VST plug-ins can have an extraordinary number of parameters, and some have been seen to register spurious parameters as automatable.

Automation that is displayed as a 'dotted' line is showing that automation exists on a clip, but is not being played back - usually because of the priority of a stereo fader (left leg takes priority). That 'dotted' automation will be saved, and if the entry is changed to play through a mono strip, the line will be drawn in full, and will move the fader.

MIXER ONLY STREAMS



There will usually be Mixer strips that control internal busses, input or output faders. Streams to show their data will be found in the Stream unit labelled "Mixer only Streams". Double-click on the thin horizontal bar to the left of the EDL to display or reveal this unit in the Playlist. These Streams cannot have Entries placed on them.

Automation on these streams can be edited (see below). Automation on these streams is not associated with clips as on a normal playlist stream, and thus it cannot be tied to edits. However, the mixer-only streams will respond to the slip functions - when slip is enabled, *and the mixer-only stream is enabled* the automation on these streams will follow the usual slip rules in relation to the edit. However you can disable slip on individual streams in the usual way, by pressing the stream button at the left hand side.

When slip is enabled, the automation lines will be coloured red and blue to display the effect of the slip function.

Automation on mixer-only streams can also be cut, copied and pasted as part of a region. Region edits work on enabled streams, and thus you can disable copying of mixer-only automation by disabling the mixer only streams. Conversely you could region cut, copy or paste ONLY the mixer only-automation by disabling all other streams.

Automation Auto-return periods

Whenever mixer-only automation is edited as a result of a Playlist Edit, Region Edit, Trim Edit or even a EDL Re-conform, an auto-return "smoothing" period is applied at the edit points. There is a setup page for this, under Setup / Playlist / Playlist Automation, and the auto-return period can be set differently for level, pan, EQ and other (VST, compressors, etc.) automation parameters. These can be set to be minimal if you prefer to turn this off. This does not apply to any clip-based automation.



EDITING AUTOMATION DATA

As an alternative to re-recording control movements, you can edit (alter) the data by directly manipulating the line displayed on the Playlist Stream.

To enable automation editing, first show the Automation Editing toolbar.



Press the **SELECT TOOLBARS** button on the Playlist toolbar again. Select "Automation Edit" to reveal the Automation Edit toolbar.



From Left to Right in the picture above the buttons are:

Automation Edit enable - switches this mode on and off. On pressing this button, the Playlist entries will change to grey and the automation data line will turn red to show that you are now working in this mode.

This line, however curvy it looks, is made up of straight lines joining up lots of "Automation Points" where the line changes direction. Each point is shown by a white dot and a level indication when the mouse pointer is near it.

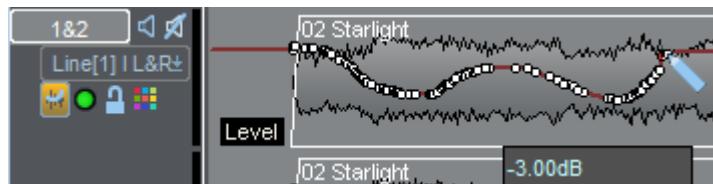
Automation Adjust - allows you to select Automation nodes, and move them.

You can use the mouse to move an existing Automation Point or draw a box around several Automation Points and move them together, either horizontally or vertically, depending on the first movement of the mouse. Hitting Delete on the keyboard will remove the Automation points within the box and replace them with a straight line.

Having selected some automation nodes, you can right-mouse-click and **Cut**, **Copy** or **Paste** this automation to another clip on another streams or at a different position in the playlist.

Notice that when you are pointing with this tool, a small box appears to show the level (in db) of the position the mouse is placed at. If you pick up any points and move them vertically, this level display box changes to show the level offset you are applying.

Draw Automation - this changes the mouse to a pencil tool to allow you to free-hand draw new automation onto the entry or stream.



If you hold the CTRL key while drawing with the pencil tool, the line will be drawn at a fixed level.

Insert Point - Adds a new point to the line and set its level.

Line - A single click with the Line tool, inserts a single point, but if you click, hold the mouse button and drag, it will overwrite any existing points, and when you let go of the mouse button a straight line will be drawn between the two points. If you hold the CTRL key while drawing with the Line tool, the line will be drawn at a fixed level.

Group Edit - when this is enabled, all channels of a stereo or multi-channel grouped stream will be affected with any automation line editing that you perform.

Right-mouse-clicking whilst using the Draw, Insert or Line tools, reverts to Adjust mode.

Holding the ALT key whilst in either Draw, Insert or Line mode, momentarily switches you back into Adjust mode so that you can change points you have just added.

Each of the buttons on the Automation Edit Toolbar can be mapped to a keyboard or Hardware Controller hotkey.

NOTE: You can remove *all* automation from an entry using an option available by right-mouse-clicking on the entry.

Automation editing in this manner is possible for every automation parameter that can be displayed.

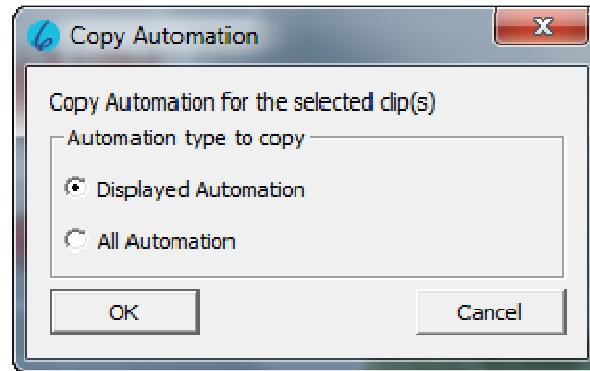


AUTOMATION COPY AND PASTE

As described above, it's possible to copy and paste automation nodes whilst in Automation Editing mode, however it's also possible to copy and paste the automation from one EDL entry to another.

To start, select the entry (or entries) which you intend to be the source of the copy, right-click with the mouse and select the **Copy Automation** option.

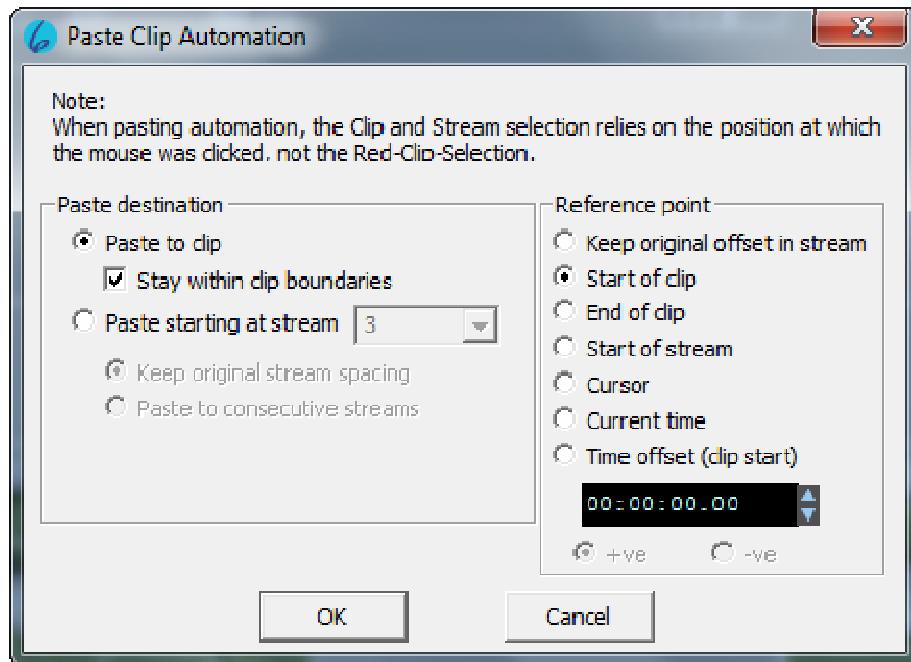
The next dialog that appears asks you to choose between copying only the automation that is currently being displayed or all automation that is on those selected entries.



Now you have to choose where you wish the automation to be pasted to. The dialog is a little more complicated in order to give you plenty of flexibility.

You don't need to select an entry in red to be the destination for the paste. The automation in the copy buffer can be pasted to either a single entry (the one that you right-mouse click on to reach the **Paste Automation** menu item) or to streams. You can choose from a number of positions (i.e. Start of clip, Current time, even the Cursor/mouse click time) to be the reference point for where the automation in the copy buffer starts.

So, having chosen where you want to paste the automation, right mouse click and this time choose the **Paste Automation** menu item.



The simplest option, and probably the one you would use most, is as shown.

The selection on the left side, defines how you choose which stream you are pasting the automation to.

If for instance, the automation from the source entry continues for longer than the destination entry, then unticking **Stay within clip boundaries** will let the automation continue onto subsequent entries.

You may choose **Paste starting at stream ...** for pasting onto a Mixer Only Stream, or for instance if you wish to paste onto multiple entries.

The reference point options on the right side are reasonably self explanatory - these define the exact position that the automation is pasted to.

SURROUND SOUND



SURROUND SOUND INTRODUCTION

The v3.6 release of SADiE was the first to incorporate support for mixing to the most popular surround sound formats. It has been attempted, wherever possible, to integrate the new surround sound features into SADiE as seamlessly as possible. Hopefully, this will make your step into the world of surround sound as intuitive and straightforward as possible.

As with any major new feature, there will inevitably be many questions that cannot be answered by experimentation alone. It is therefore recommended that you spend a little time browsing this document before attempting to undertake anything too ambitious. Once armed with the knowledge contained in this manual, working with surround sound will be as straightforward and logical as working with conventional left-right stereo.

If, whilst familiarising yourself with the new features, you encounter a problem that seems to defy explanation, your first port of call should be the last section of this chapter, where there are listed solutions to a number of the most commonly encountered problems.

SURROUND TERMINOLOGY

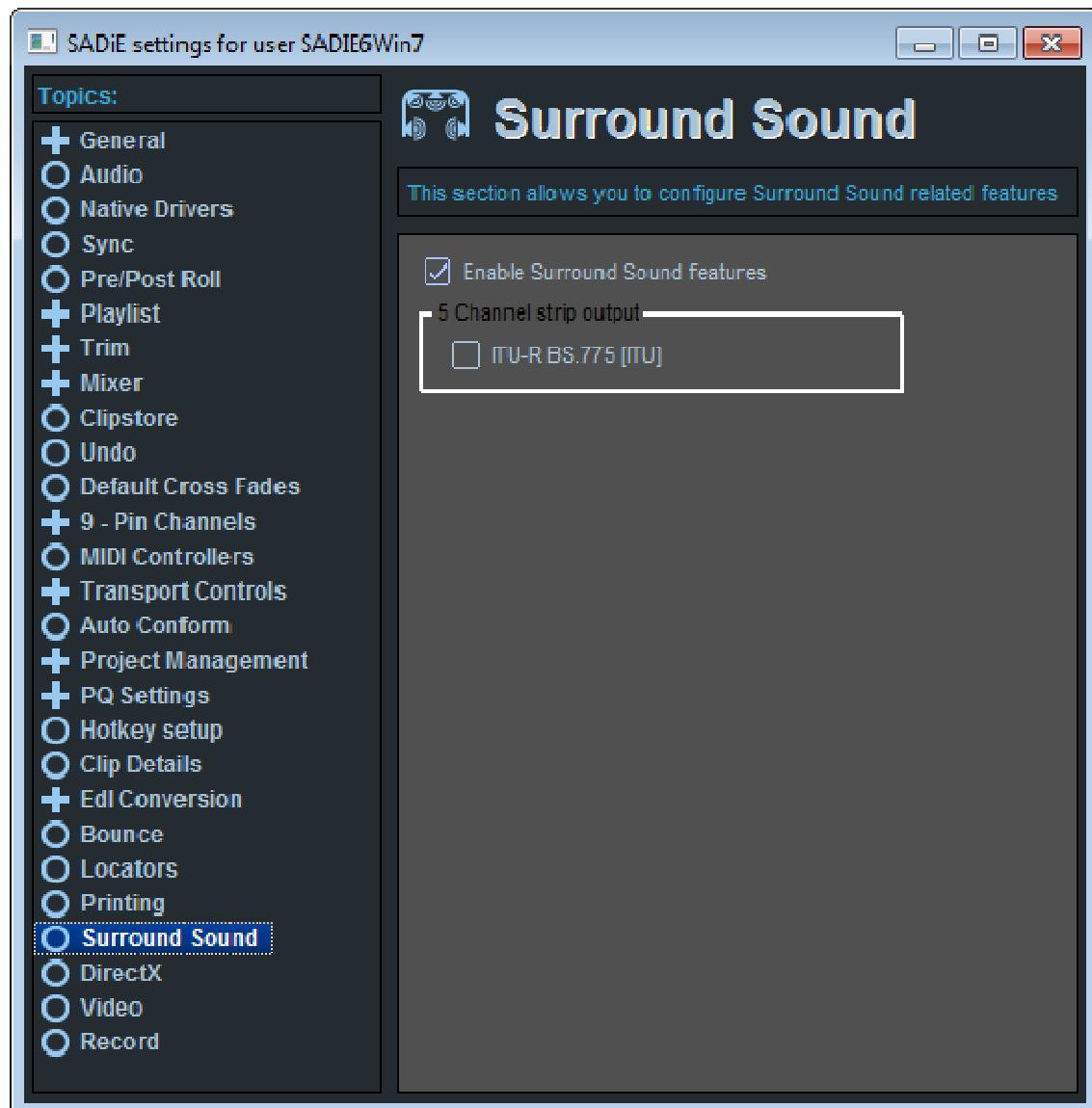
For many people, stereophonic implies two channels, left and right. This perception has been created by the dominance of the 2-channel, left-right format used by the music recording industry since the 1960's. There are however many "stereo" formats. Each surround format is a stereo format. Dolby™ Stereo (also known as Dolby™ Surround) for example, is a 4-channel stereo system. It is therefore important to try and break any association that you may have held in the past between the word "stereo" and the number "2"!

To avoid confusion, this manual will refer to conventional 2-channel stereo as "L-R stereo" where there is any possibility of ambiguity.



GETTING SADiE INTO SURROUND MODE

Not everyone will need to work in surround (yet!), so SADiE can hide everything related to surround sound from the user. This is the default operating mode. You will therefore need to first enable the Surround Sound features by opening the Setup window and selecting the "Surround Sound" topic from the left pane. This will display the check box that allows the Surround Sound features to be activated.



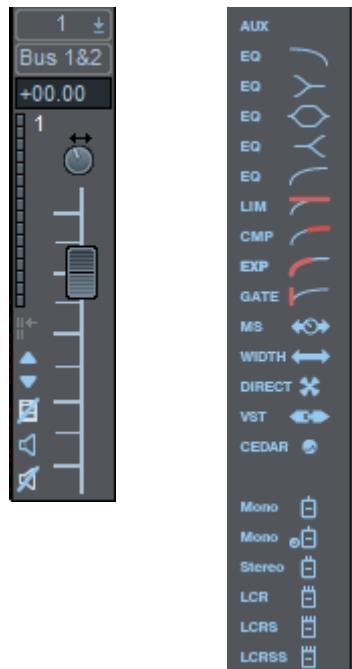
Once activated, the features will not actually take effect until the next time a mixer is created or opened. It is therefore important to remember that if you switch modes whilst a project is open, you will need to close and then re-open the currently open mixer. This should be done from the mixer component in the project window rather than the mixer window itself. Better still, only change the mode whilst you don't actually have a project open. Most users will probably just enable the surround sound features once and then leave them enabled indefinitely. Having the features enabled does not restrict your ability to continue creating and working on non-surround sound projects.

If your system currently has the Surround Sound features turned off, and you attempt to load a mixer containing surround sound format strips then SADiE will automatically offer to turn the Surround Sound features on, so that it can successfully complete the load. If you decline the offer then SADiE will abort the loading of the mixer.

The state of the "Surround Sound enabled" check box is stored in the user's INI file and can therefore be set depending on each user's needs or preferences.



DIFFERENCES WITH SURROUND ENABLED



You can tell at a glance if surround sound is enabled by checking if the pan pots on the mixer strips have a small left-right arrow legend above them (as in the example strip to the left). There is also a new button beneath the PPM display area that is used to switch the PPM display between front and rear channel metering. This button will always be disabled on conventional mono and L-R stereo strips.

The Process Toolbar will also have three extra strip type buttons labelled **LCR**, **LCRS** and **LCRSS** appended to the end. Note that you may have to resize the mixer to bring these extra buttons into view.



SURROUND FORMAT BUSSES

The key to successfully working with surround sound on SADiE is to understand surround format busses and how they have been implemented in SADiE. Once you have mastered this fundamental aspect, everything else will fall into place relatively easily.

With Surround disabled SADiE features just two types of busses: mono, and conventional L&R stereo. In actual fact, SADiE only really features mono busses. Stereo busses are little more than a convenient pairing up of two adjacent mono busses.

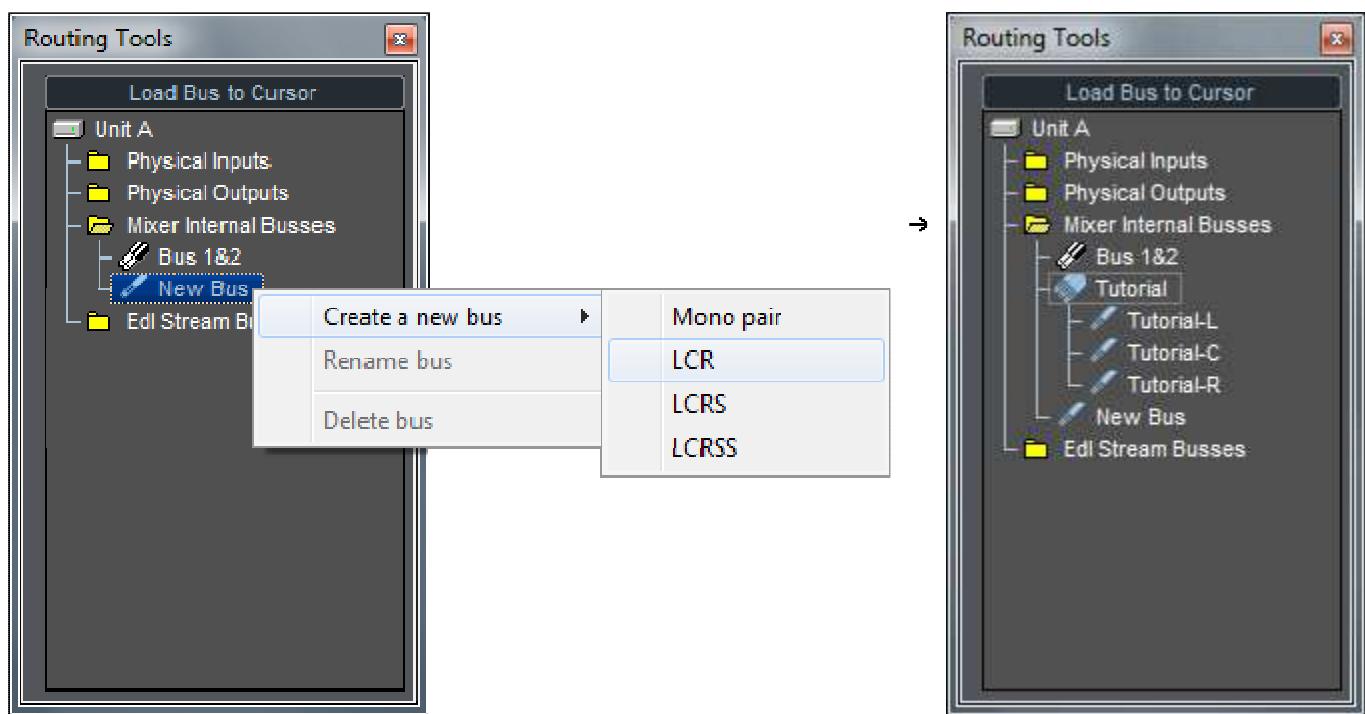
Surround sound in SADiE builds on this foundation. All busses are still ultimately derived from an arrangement of mono busses. This simply provides new "building blocks" in addition to the familiar L&R stereo pair.



THE LCR BUS

The most important new bus type is the LCR bus (Left, Centre, Right). In order to understand exactly what this new bus consists of, open the Routing Toolbar (from the Mixer Configuration Toolbar on the mixer)

Open up the Mixer Internal Busses folder and right mouse click on the New Bus entry. You will notice that the Create a new bus sub-menu offers four options. (If you do not see this sub-menu then you have not yet enabled the Surround Sound features and re-opened the mixer. See section above entitled [Enabling Surround Mode](#) for more details). The first option is a Mono pair that will create the standard L-R stereo bus with which you are all familiar. On this occasion, select the second option, LCR.



This creates a new LCR bus called LCRI. You will notice that it is placed immediately beneath Bus 1&2 in the bus tree. Double click on LCRI and you will find that it is constructed from three mono busses. Each of the mono sub-busses have an automatically generated suffix (L, C, or R) to uniquely identify them. You can rename a bus by right mouse clicking on it and selecting the "Rename bus" option. The one restriction with surround busses is that you can only rename the root bus (LCRI in this case). All of the sub-busses will be renamed automatically when the root is renamed. Try renaming LCRI to, say, Tutorial. The resulting bus tree should then match the example to the right.

Finally, to return to the starting point, delete the LCR bus by right mouse clicking on it and selecting the Delete bus option.

In most situations, you probably won't find yourself creating busses from the Routing Toolbar. Instead you'll probably create them from the familiar and more convenient "New Bus" option in a mixer strip's Input / Output routing drop down list boxes. It is, however, handy to know that all bus housekeeping can now be performed in this one place.

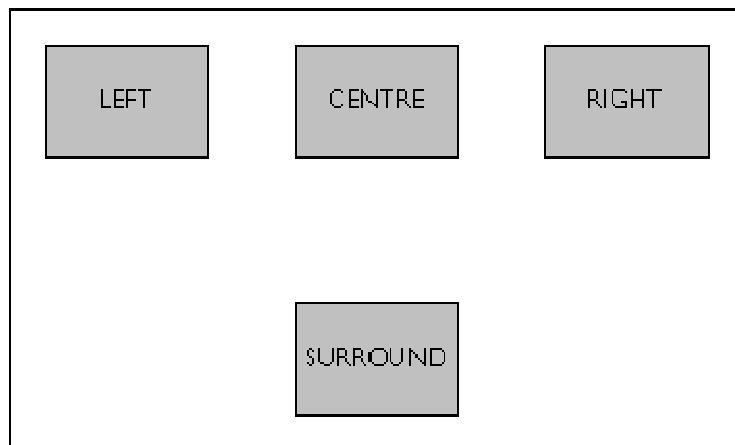


THE LCRS BUS

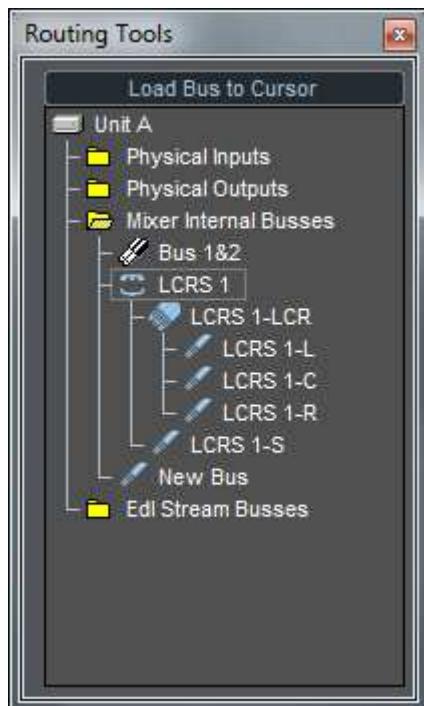
Now that you've established that SADiE has mono, L-R stereo, and LCR busses at its disposal, you can take the next logical step.

LCRS stands for "Left, Centre, Right, Surround" and represents the configuration used by Dolby™ Stereo (also known as Dolby™ Surround). This is the most common surround format in use today and consists of four channels in the following configuration.

FRONT



REAR



The "front" consists of three channels, which can be represented by an LCR bus, and the "rear", a single mono channel, which can be represented by a mono bus. To confirm this, create an LCRS bus from the Routing Toolbar by right mouse clicking on the New Bus entry in the bus tree and selecting LCRS from the Create a new bus sub-menu. The resulting LCRS bus should match the example to the right.

Once again, each sub-bus within the overall LCRS 1 bus has an automatically generated suffix that uniquely identifies not only the sub-bus itself, but also its type.

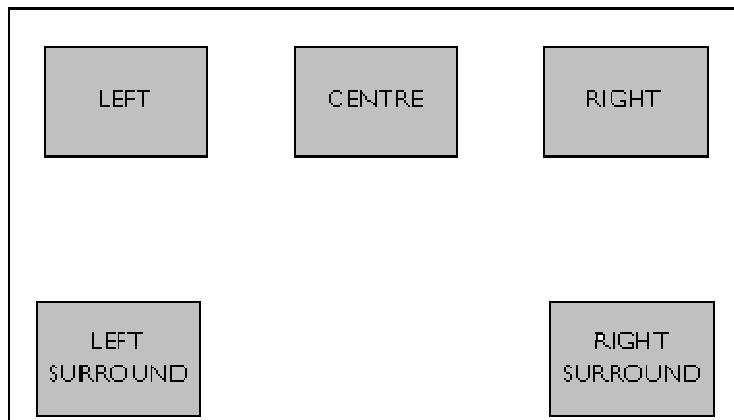
All LCRS busses will be placed in the bus tree immediately after any LCR busses.



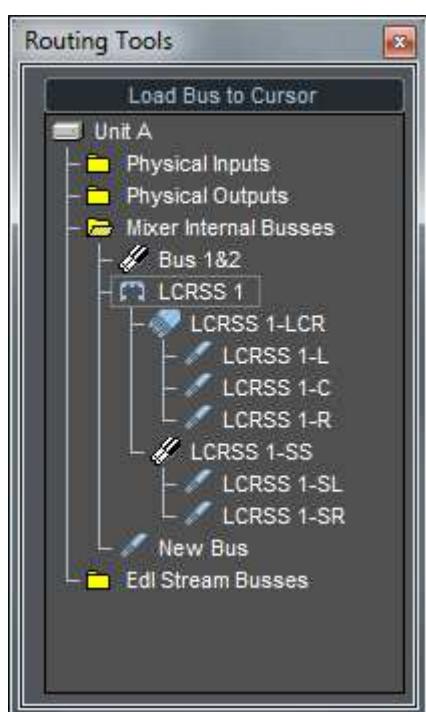
THE LCRSS BUS

The final surround bus to describe is the LCRSS bus, which is the same as the previously described LCRS bus, except for the fact that it features individual left and right surround channels. This five channel configuration is particularly significant because it forms the "5" of the increasingly popular "5.1" format used by Dolby™ Digital (SR-D), DTS Digital (DTS) and perhaps most importantly of all, Digital Versatile Disk (DVD).

FRONT



REAR



As with the LCRS bus, the front three channels can be represented by an LCR bus. The two rear surround channels can be considered a stereo pair (for bus purposes) and therefore represented by a conventional L-R stereo bus. A fully expanded LCRSS bus therefore matches the structure of the example to the right.

The "5.1" format was mentioned above when listing formats that could make use of LCRSS busses. Some users may be wondering why there is no final logical step to implement a 5.1 format bus that consists of an integral LCRSS and mono bus.

There are several reasons why it was decided not to take this approach, most of which will become apparent when you start working with mixer strips that handle surround busses. However, the reasons mainly concern the vastly differing control and processing requirements of the two busses.

This absence of an integral 5.1 style bus does not mean that you cannot produce a 5.1 mix using SADI6. It simply means that you have to consider your total 5.1 output as consisting of an LCRSS bus (to provide the main 5 channels) and a separate mono bus (to provide the ".1" or LFE channel). The LCRSS bus would typically be routed to O/p 1-5 and the mono bus to O/p 6.

The advantage with this approach is that it enables you to process your ".1" (LFE) channel independently of the other 5 channels. This is essential considering the limited frequency range requirement of the resulting channel. It also gives you total freedom when deciding what components of your overall mix to add to the channel.



SURROUND FORMAT MIXER STRIPS

Of course, all of the surround busses would be of little use without some different mixer strips to generate and manipulate them. To offer maximum flexibility SADiE offers nine new types of mixer strip in addition to the original mono/L-R stereo strips.

The new strips fall into three categories; those with an LCR output, those with an LCRS output, and finally those with an LCRSS output. Each of these three categories contain a further three strip types; one with a mono input, one with an L-R stereo input, and one with an input that matches the format of the output.

The following table summarises the input and output formats of the nine new strip types:

Input Format	Output Format
Mono	LCR
L-R Stereo	LCR
LCR	LCR
Mono	LCRS
L-R Stereo	LCRS
LCRS	LCRS
Mono	LCRSS
L-R Stereo	LCRSS
LCRSS	LCRSS

To avoid cluttering up the mixer process toolbar with nine new strip buttons we have opted to add just three buttons instead. These three buttons are labelled **LCR**, **LCRS**, and **LCRSS** and refer to the output format of the strips that they will create. The user must specify the input format at the moment of dropping the strip into the mixer.

Depending on the surround format that you work with, a typical simple surround mixer might consist of 8 mono in / LCRS out strips (one for each Playlist stream), and a final LCRS in / LCRS out strip for global processing and level control.

To help familiarise you with process of creating a surround mixer from scratch, the following section is designed to walk you through the entire process from the creation of a new project right up to the moment where you're ready to do some real work.



CREATING A SURROUND MIXER

In this example it is assumed that you are going to work with an 8 stream EDL , mixing mono material to LCRS.

The first step is to create a new project . Then you need to remove all the default strips from the mixer in preparation for dropping the new surround strips in. This is certainly the most tedious part of the whole process, although it needn't be a process that you repeat every time you create a new surround project (see section below headed [Making use of Mixer Templates](#) for more details). Mixer strips can be deleted by selecting the Delete Strip option from the right-click popup menu that appears when clicking on a strip. Alternatively strips can be deleted by dragging them off the mixer window (you will need to pick them up by clicking on an area of the strip that has no other function when clicked on, for example the PPM's or strip number).

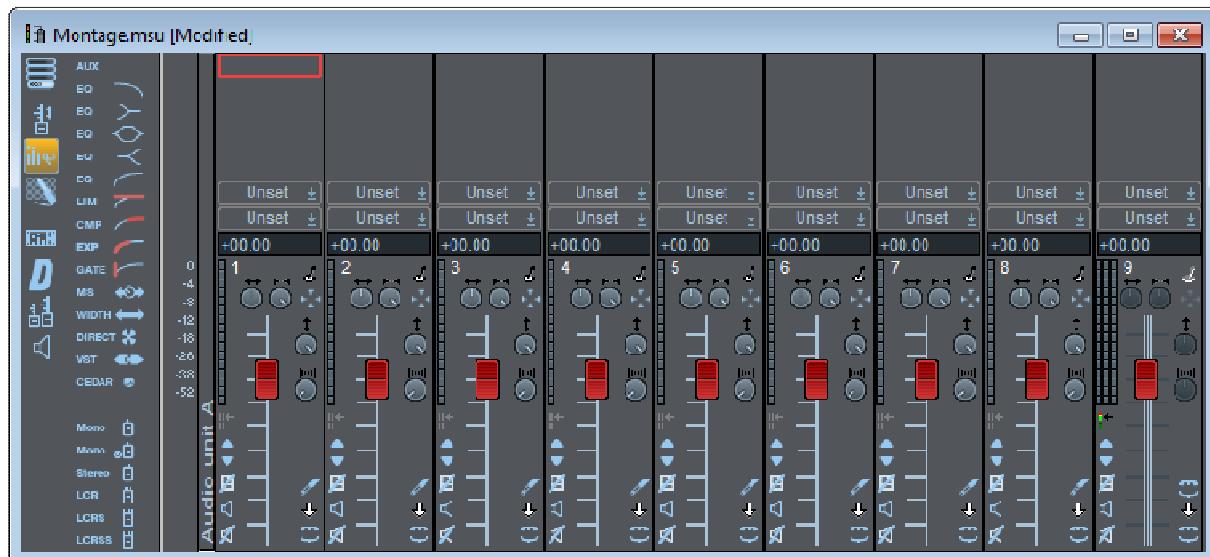
Once you have emptied your mixer, you are ready to add the new surround strips. Double click on the LCRS button on the mixer process toolbar. This will put SADiE into "strip insert mode". A small dialogue box will then appear asking you to specify the input format for your strips. Just click "Ok" to select the default mono option.

You are now free to insert as many strips as you like. All you have to do is point and click wherever you want a strip to be inserted. If the position you're pointing at is not valid, the mouse pointer will change from a mixer strip to a "no-go" pointer. For your example, insert eight strips; if you insert too many, don't worry, you can easily delete them again afterwards. When you have finished inserting strips, click the right mouse button to exit insert mode.

If a horizontal Scrollbar appeared on the mixer window whilst you were inserting your strips, make sure it is moved to its far right extreme, in order to fully reveal strip number 8.

To insert the final strip just drag and drop from the LCRS button on the process toolbar. Click on the button and drag it all the way to the right hand half of strip number 8 (or further right if your mixer window is wider than your mixer). When you release the mouse button, the dialogue box asking you to specify the input format will appear again. On this occasion select LCRS and press OK. (If the dialogue does not appear, then you are dropping the strip in an invalid position. Try repeating the process, making sure that the mouse pointer resembles a mini fader before releasing the button.)

At this point you should have a mixer that resembles the example below:



The next step is to set up the input and output routing for each strip. Currently, you will notice that all of the routing buttons are "Unset". (If you can only see one row of "Unset" buttons, enable the Output Bus buttons by clicking on the "Output bus buttons" button on the mixer configuration toolbar; the button resembles a bus emerging from a tunnel.) Before you start, make sure that your Playlist , rather than the Clipstore, is linked to the Mixer. Do this by clicking on the Playlist window and then clicking back on the mixer window.

Click on the "Input selection" button on strip 1 (the top "Unset" button), scroll down the list and select "I" (this will be "A1" if you have a multiple card system). This sets the input routing of the first strip to Stream I of the Playlist. Next set the output routing for the strip by clicking on the "Output selection" button (the remaining "Unset" button). This time your options will be more restricted. This is because apart from the physical outputs, there is nowhere to route to yet. To remedy this situation select the "New Bus" option. This will automatically create a new LCRS bus called "LCRS 1" (LCRS A1 in multiple card systems) and assign it to the output of the strip.

Repeat this process for the next seven strips, but on each occasion select an input bus one greater than the previous strip. For example select "2" as the input bus for strip 2 and "3" as the input bus for strip 3. Always, however, select "LCRS 1" as the output bus for each strip.

Finally, set the input routing of strip 9 to "LCRS 1" (the bus that carries the combined outputs of strips 1 to 8) and the output routing to O/p 1&2&3&4.

You have now completed setting up the input and output routing for your mixer and it should match the example below:

	1		2		3		4		5		6		7		8		LCRS 1	
	LCRS 1		o/p1&2&3&4															

Your mixer is now ready for use and should be saved before proceeding any further.



FLEXIBLE ROUTING

The previous example described one of the most simple mixer configurations possible. In reality, more complexity and hence flexibility are required to achieve particular results. SADiE addresses this requirement by allowing a great degree of flexibility when it comes to routing internal mixer busses to mixer strips.

For example, just because a strip has an L-R stereo input doesn't mean that you have to route a conventional L-R stereo bus to it. You could for example route the two rear channels of an LCRSS bus to such a strip; useful if you want to do some processing on just the surround component of your mix. Strips with mono inputs or outputs offer total freedom, as any individual sub-bus can be routed to them.

One particularly useful aspect of this flexibility is the potential to conserve DSP power. Imagine, for example, that you're producing an LCRS mix for a film. Much of your material may just be dialogue and you have decided that you want to keep all of the dialogue in the front three speakers. Rather than create full LCRS output strips for each channel of dialogue, you could just create strips with LCR outputs, which you route to the LCR sub-bus of your final surround mix bus. This is obviously "cheaper" in terms of DSP power as it saves the extra (and unnecessary in this case) calculations required to derive the rear channel component.

Perhaps the best part of all this is that SADiE does the hard work for you. Whenever you want to set up the input or output bus of a strip, SADiE works out all the possible valid routings for you and presents them in the drop down list box. All you have to do is browse the list and pick the appropriate one.

PPM MONITORING

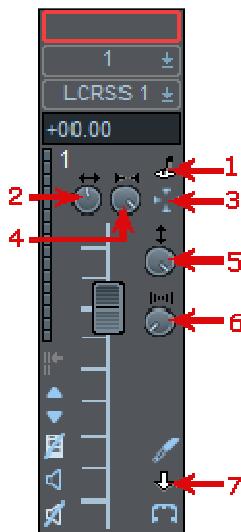
In most circumstances the PPM's meter pre-fader. The *only* exception to this rule is if a strip is routed to a physical output *and* the output format of the strip matches the input format, in which case the metering will be post-fader.



UNDERSTANDING THE CONTROLS

Although each of the surround strips has its own distinct characteristics, they all share a common interface and set of controls. Certain strips may disable some of the controls because they have no function due to the input format of the strip. Other strips may omit certain controls altogether because they have no relevance with respect to the output format of the strip. For example a strip with an LCR output does not require the front-back pan control to be present.

Below is an example of a mono to LCRSS strip (1 in / 5 out):



1. Joystick control
2. Left-Right Pan control
3. Divergence mode toggle
4. Divergence control
5. Front-Rear Pan control
6. Width control
7. Strip input/output format indicator

Each of the new controls labelled in the above example will now be explained in turn, along with specific details about which of the new strips feature each control and which do not:

- I. Divergence control - This normally controls the amount of left-right and front-back divergence. If the "Divergence mode toggle" button is down, it will only control the amount of left-right divergence. By default the control is set to maximum (full divergence) when a strip is created. The control is only enabled on surround strips than have a mono or L-R stereo input.

For more information about divergence, see the following section entitled [Divergence](#).

2. Left-Right Pan control - This particular control needs little introduction and will already be familiar to most users. It pans the front (and L-R stereo rear channels if present) between the corresponding left and right channels. This control is disabled on strips that feature the same input and output format (e.g. LCR to LCR, LCSS to LCSS and LCRSS to LCRSS).

It is important to remember that the exact behaviour of the pan control is dependent on the current position of the divergence control. For example, if the divergence control is set to its minimum value, then the pan control will have no effect.

3. Width control - This control will only be enabled on surround strips with a mono or L-R stereo input. You will probably only find yourself needing to use it if you have some non-directional L-R stereo source material that needs panning to a picture.

Reducing the width of a L-R stereo input to the absolute minimum effectively collapses it into a mono signal.

By default, the width control is set to its minimum for mono input strips and maximum for L-R stereo inputs strips.

4. Front-Rear pan control - This control only appears on strips that have an LCSS or LCRSS output and performs a similar function to the Left-Right pan control except it operates between the front and rear channels. The control will be disabled on strips that feature the same input and output format (e.g. LCSS to LCSS and LCRSS to LCRSS).

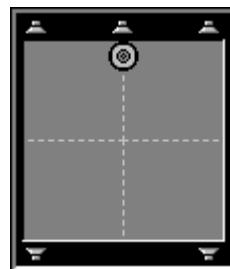
Again, it is important to remember that the behaviour of this control is dependent on the current position of the divergence control and also the state of the divergence mode toggle switch.

5. Joystick control - This is not actually a true control in its own right, but a convenient interface that allows simultaneous control of the Left-Right and Front-Rear pan controls. The control will appear on strips that feature an LCSS or LCRSS output, and only be enabled on those that feature a mono or L-R stereo input.

The control has two modes of operation:

- i. The first is invoked by a single downward click and hold of the left mouse button on the joystick control button. This will launch the joystick window with the Left-Right and Front-Rear pan positions represented by a "knob" at the appropriate position in the window. This window represents the complete surround sound field and the position can be adjusted by moving the mouse. Releasing the mouse cancels the window.
- ii. The second mode is activated by double clicking on the joystick control button. As with the first mode, this launches the joystick window and positions the "knob" at the relevant position in the window. It will, however, remain open until you subsequently click the mouse outside the limits of the control window. While the window is open you can adjust the position of the knob by clicking on the knob and dragging it to its new position whilst holding the mouse button down.

Quick centring of the joystick is possible by double clicking in either the centre of the window (on the cross hairs), or in the top centre of the window (beneath the centre speaker icon).



Joystick Control Window

- 6. Divergence mode toggle - Normally, the divergence control applies the same divergence to both the Left-Right and Front-Rear pan controls simultaneously. In certain situations, however, it can be desirable to detach the divergence control from the front-back pan control and restrict its influence to just the left-right pan control instead. This "detached" mode is activated by pressing the divergence mode toggle button into the "down" position. When in this mode the front-back pan control is always fully divergent allowing it complete front-back movement.

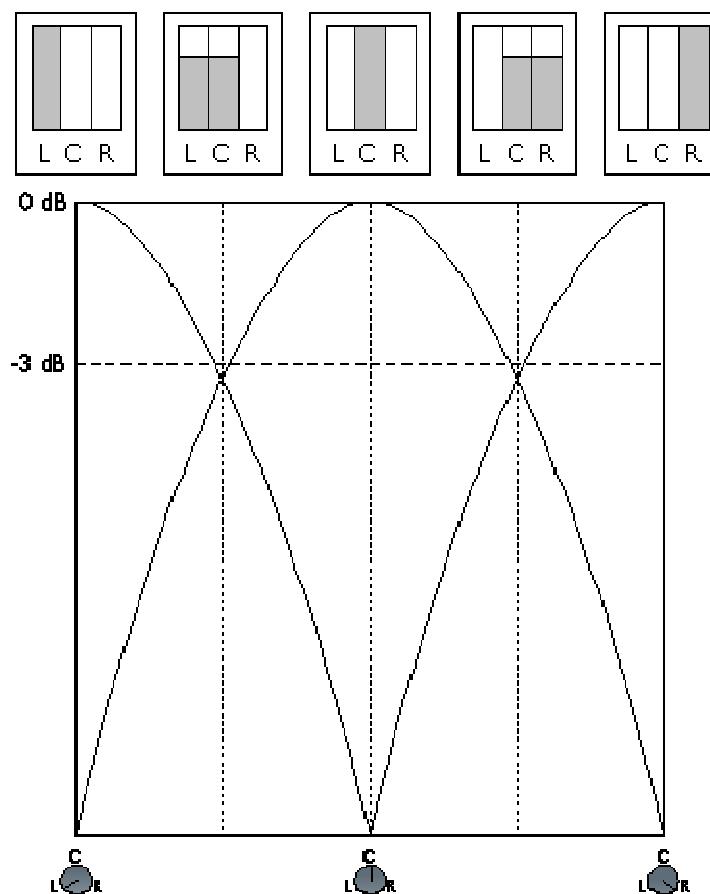
This switch will only exist on strips that have an LCNS or LCRSS format output, and only enabled on strips with a mono or L-R stereo input. It is also not automated, but its current setting is saved with the mixer.

- 7. Strip input/output format indicator - Due to the fact that all of the surround strips look very similar at a glance, this display forms a handy reminder of the input and output format of the strip. It uses the same familiar icons that appear in the Routing Toolbar: the top icon (above the downward arrow) indicates the input format, and the bottom icon indicates the output format.

Because this area of the strip allows no user interaction, it also makes a handy place to click on if you want to drag a strip to another place in the mixer, or you want to minimise a mixer strip by double clicking on it.



Divergence is an important aspect of panning, and control of it becomes a significant issue when working with pan controls that operate on 3 (or more) channels. Consider the following example that illustrates the most basic panning characteristics of a 3-way pan used to control LCR stereo:



Pan characteristics when Divergence is set to 100% (default)

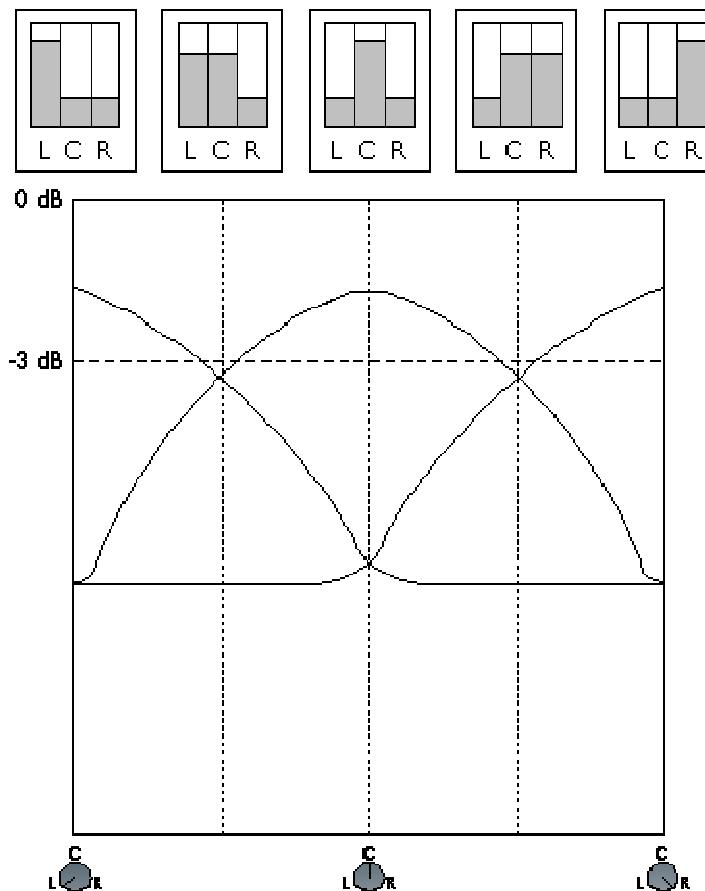
As you can see from the diagram, when the pan is hard left, dead centre or hard right, only the corresponding channel carries any signal. This movement of the signal from channel to channel is known as divergence. In this particular case the pan is said to have full divergence, because at no point during the complete pan does the signal ever appear on more than two channels at once.

In SADiE all surround strips are created with full (maximum) divergence by default, and in many cases the resulting behaviour of the pan control may be perfectly acceptable. However, consider the following situation.

Imagine you're mixing to picture and there is a particular sequence where a car drives from left to right across the entire scene. Obviously, a left to right pan of the sound of the car's engine is required to provide a convincing effect. But will a complete left to right pan with a fully divergent pan produce a convincing result, and perhaps more importantly, will it produce an effect that is acceptable to most (if not all) of the audience?

In reality, the pan will fail on both counts. Due to the fact that the sound moves completely in and out of each speaker in turn, the pan will appear to "jump" from speaker to speaker. This effect becomes more noticeable as the speed of the pan is increased. It will also fail to produce a consistent effect across the entire auditorium. People sitting in the centre (where the limited "sweet spot" will be situated) will get the best results, whilst those sitting at the far left and right extremes are going to receive disproportionate amounts of the left or right channels even though they can clearly see the entire picture.

To remedy this situation, you can decrease the divergence of the pan control, altering its characteristics so that a proportion of each signal is automatically "bled" into the adjacent channels, "spreading" the sound over a wider proportion of the stereo image. This will not only produce more coherent results for those seated at the left and right extremes of the auditorium, but will also make pans appear to glide more smoothly.



Pan characteristics when Divergence is set to 50%

As you continue to decrease the divergence, the variation in the level of each channel during a pan continues to decrease, until you reach the minimum setting (no divergence at all) where no change occurs, and the pan control therefore has no effect.

You may have gathered by now that using the divergence control is something of a compromise: too little and you create unnatural results that don't work across an entire auditorium, too much and you start to lose the benefits of stereo sound.

The ability to control divergence is especially important when mixing to picture, and will rarely be left set at its maximum value. Of course, in the case of music production there are no such constraints, so you should just consider divergence as another creative tool. It is important to remember though, that you will not be able to produce truly "natural" effects whilst the divergence control is at its maximum setting.



ROUTING SURROUND BUSSES

The two main points that need addressing, with regard to routing surround strips to physical outputs, are:

- Of the available physical outputs, which ones can surround strips actually be routed to?
- In what order will the individual mono sub busses actually appear on these outputs?

WHICH OUTPUTS CAN I ROUTE MY SURROUND STRIPS TO?

SADiE uses a simple rule to decide where you can actually route to:

- If the number of channels, n , is 1 or even you can route the bus to every n th physical output starting from O/p 1.

- Otherwise you can route the bus to every $(n+1)$ th physical output starting from O/p 1.

The second half of the rule is necessary to ensure that busses with odd numbers of channels (excluding mono busses) are treated as though they had an even number of channels. This guarantees that all busses (with the exception of mono busses) are aligned with an odd numbered output. Don't worry if you currently find all this a little confusing and meaningless. Once you start using SADiE you'll soon understand and appreciate the need for this rule. The most important thing to remember at this stage is that SADiE won't let you do anything that isn't allowed.

To save you having to work out the full implications of the above rule we have produced the table below. It clearly illustrates all the possible valid output routings for each type of bus in a system with 8 outputs. The "grey holes" do not necessarily indicate unusable outputs, only that they are unusable by a bus of the same type as the column in which they appear. For example, if you were creating a "5.1" format mix it would be perfectly legal to route your main LCRSS bus to o/p 1-5 and to then route your mono bus (representing the ".1" channel) to O/p 6.

Mono	L-R Stereo	LCR	LCRS	LCRSS
O/p 1	O/p 1&2	O/p 1-3	O/p 1-4	O/p 1-5
O/p 2				
O/p 3	O/p 3&4		O/p 5-8	
O/p 4				
O/p 5	O/p 5&6	O/p 5-7		
O/p 6				
O/p 7	O/p 7&8			
O/p 8				

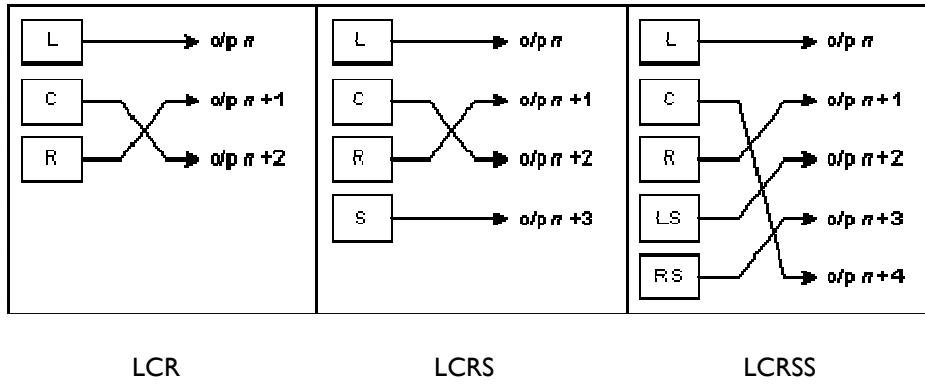
If you find yourself unable to route your strip to where you believe you should be able to, check that one or more the outputs in question are not already being used by a different type of bus in another mixer strip. The most common cause of not being able to route your LCRS strip to O/p 1-4 is an L-R stereo output strip routed to O/p 1-2 somewhere else in your mixer. Failing this, check that you don't have any Aux Send processes using the desired outputs.

IN WHAT ORDER WILL THE SUB-BUSES APPEAR ON THE OUTPUTS?

You might be forgiven for thinking that if you routed an LCR output strip to O/p 1&2&3 that the left channel would appear on O/p 1, the centre on O/p 2 and the right on O/p 3.

What actually happens in this particular situation is that the centre and right channels are "swapped over". This ensures that the left and right channels always occupy the first two outputs, maintaining compatibility with conventional L-R stereo routing. Additionally, when combined with the "odd" bus alignment rule mentioned in the previous point, it also ensures that the related left and right channels will be sent to the same AES output.

The following diagrams summarise the exact routing used for each of the supported surround formats:



For consistency, a similar rearrangement of the surround channels occurs if you route a surround format input back into SADiE through three or more physical inputs. In order to work out which channel to apply to each input, use the above diagrams in reverse, following each input back to the appropriate channel.



MAKING USE OF MIXER TEMPLATES

You may have noticed that creating a basic mixer for surround sound work can be a rather involved and tedious process. First you had to start with a standard L-R stereo mixer and then remove all (or some) of the strips before adding the required surround sound strips. Finally, you then had to set up all the routing, creating the necessary surround busses as you went.

Fortunately there is a solution to this inconvenience and it involves a feature that some users may already have experimented with in the past: Mixer Templates.

SADiE features both Playlist and mixer templates, but you'll just concentrate on mixer templates, although all of the concepts involved apply equally to both types.

Just think of a mixer template as an ordinary mixer, which you have created and saved in a special location. Actually, the only real difference between a mixer template and an ordinary mixer is its filename extension (*.MST rather than *.MSU). Once you have created one or more templates you can then tell SADiE to create any subsequent new mixers from a specific template. Alternatively you can ask SADiE to allow you to choose which template to use at the actual moment that a new mixer is to be created.

CREATING A MIXER TEMPLATE

Creating a mixer template is very simple indeed. The easiest way is to just create a new mixer using the New option on the main File menu (don't bother adding it to the currently open project when asked). You can then edit this mixer into the mixer of your choice.

Once you are happy with the mixer you have created you will need to save it as a template. To do this select Save current mixer as template from the main File menu (this option will only appear on the menu if the mixer is the currently selected window). A suitable directory will automatically be selected, so all you need to do is give it a name and press OK.

Your template has now been saved and is ready for use.

USING A MIXER TEMPLATE

To set SADiE up to use a template, you need to open the [Setup window](#) and go to the "Project Management Templates" section. This will reveal the template set up options.

By default, templates are not used. To use specific Playlist and Mixer templates click on the "Use the specified templates" option. This will enable the two "Change" buttons in the section below. Click on the one next to the edit box labelled "Mixer". You should now see your previously created template(s) listed. Make your selection and press "Ok".

From now on, all new mixers will be created from the mixer template that you have specified. Playlists will continue to be created in the normal non-template way, because no template has been specified.

If you ever want to change your choice of template or mode of working (as you inevitably will sooner or later) then just return to the Templates setup page and make your changes. All of the settings in this window are also user specific, so each user can have their own preferred template configuration.



SURROUND FAQ'S

If I create a project whilst the surround sound features are disabled, will I be able to incorporate surround sound strips into the mixer at a later date?

- Yes. The state of the Surround Sound features option when the project is created is of no consequence. If you subsequently require the surround features then just enable the option in the Setup window and reopen your project.

Inserting multiple strips into a mixer is a real "drag", especially when they are surround strips, because I have to keep responding to the "Input Format" dialogue when I drop a strip. Is there a short cut?

- Yes. Instead of dragging the strip button from the toolbar, double click on it instead. If it is a surround strip button select the input format that you require. Then simply click wherever you wish to insert a strip into the mixer. When you have finished adding strips, click the right mouse button to exit insert mode. This handy feature also works for inline processes.

I've enabled the surround sound features checkbox on the Setup window and closed and reopened my mixer, but I still don't get the surround format strip buttons.

- You probably just haven't "really" closed the mixer. You need to do this from the project window by right mouse clicking on the mixer component and selecting "Close Component" from the popup menu. Once closed, double-click on it to reopen it again. Alternatively (or if you are not working in project mode), close the mixer from the File menu and then reopen it.

I've got 4 (or more) physical outputs on my system but I don't seem to be able to route my final LCRS output strip to O/p 1&2&3&4.

- You've probably already got O/p 1&2 assigned to an L-R stereo output strip somewhere else in your mixer. Reassign the output of the offending stereo strip to a different output or bus (or delete the strip if it isn't required). If this isn't the problem check all Aux Send processes to see if any of them are using O/p 1&2. This problem can also occur with inputs and the remedy is exactly the same - except check strip inputs, rather than strip outputs.

My output channels seem to be jumbled up, and channels don't seem to be appearing on the expected outputs.

- Surround busses get re-ordered slightly when they emerge into the real world. There are several reasons for this, but the main two are:
 - To ensure that the first two outputs are always L and R (to prevent you having to re-route your output wiring when switching between L-R stereo and surround projects)
 - To keep related stereo pairs on the same AES output wherever possible.

For more information about the exact channel routing used by each of the surround formats, see the section entitled [Routing surround busses](#).

FILE MANAGEMENT

FILE MANAGEMENT OVERVIEW

Work in SADiE is held in a number of files.

These are:

- "Tracks" or Audio files - a number of file formats are allowed; see [Audio disk and file formats](#) below.

and the files we call "Project Components":

- EDL's - how and when to play back which parts of the Tracks
- Clipstores - a useful store of Clips for later use
- Mixer setups - a record of the Mixer configuration needed to play the EDL

- Projects - group all the above files as components, together with a list of relevant Tracks. A Project file can then represent all the work for a particular job.

Tracks are saved when your recording has finished, and because SADiE is "non-destructive" these audio files remain as they were recorded. As with documents in a word processor, the Project Component files need to be saved as you update them so that they can be opened later for further work or playback.

Creating, opening, saving and closing EDL's, Mixers and Clipstores can be done:

- I. From the Project window. Files created this way will become components of a Project

NOTE: We strongly recommend that you always start work within a Project, as to later create a Project from non-Project-files requires importing all components individually. It also makes saving, reloading, archiving and keeping track of your work much easier. [Working within Projects](#) is described later in this chapter, following the basic explanation of the component EDL's, Clipstores and Mixer setups.

2. From the File menu, with the New, Open, Save and Close commands.
 - "New" creates a new EDL, Mixer or Clipstore outside the Project structure.
 - "Open", "Save" and "Close" refer to the type of file shown by the currently active window (shown by a highlighted title bar). To make a window active, click on it anywhere or use the **WINDOW** button on your hardware controller.
 - "Save" saves a file under its current name, thus overwriting the previously saved version.
 - "Save As" allows you to rename the file, thus keeping the previous version.

The dialogue boxes that appear following "Open" and "Save As" allow you to open different folders to find your file or to choose the folder that you want to save it in.

3.  EDL files can be opened and saved from these buttons on the Playlist toolbar. Note that this button is "Save" and not "Save As".
4. You can also, of course, close the file shown in any window by double-clicking on the icon to the left of its title bar, or by clicking on the close window button  on the right of its title bar.

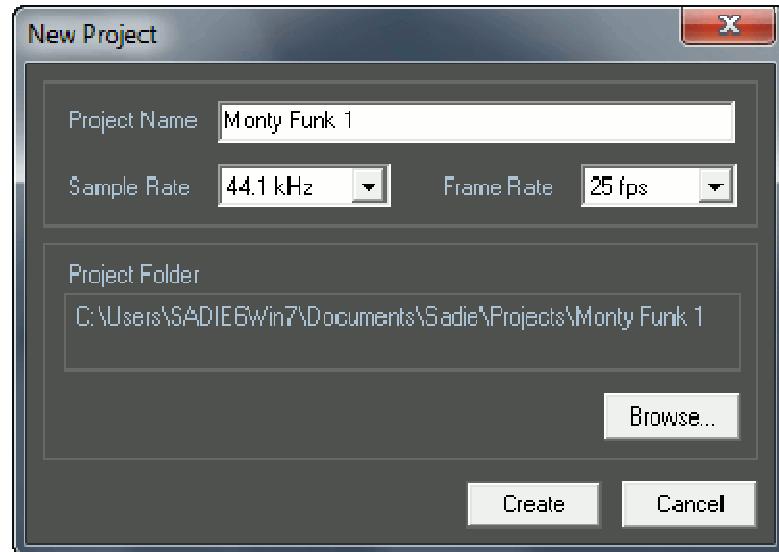
WHERE IS EVERYTHING SAVED?

There are a number of ways SADiE can be set up to store the Project Components and the Audio files that together make up your work.

SADiE calls the directory to which recordings may be made a **Record Destination**. And we call the working edit files - the Project, Playlist/EDL, Mixer and Clipstore **Project Components**.

RECORD TO PROJECT COMPONENT DIRECTORY

This is the simplest method. In the Project Management Setup page, there is a setting for "**Record to Project Component Directory**". Tick this and also decide where you want to store all your files with the "**Default Root Directory in which to create new projects**" setting. For example, if you set this to i.e. D:\Audio, then all the files - audio and Project Components - belonging to new projects will be stored in a new sub-directory - i.e. D:\Audio\projname.



If, when you create a new Project, you press the **Browse** button and set your new Project to be in a different location, then you will be asked if you would like the "Default Project Root" to be updated so that future projects are stored in the new location.

Therefore, when you start SADiE for the very first time, the simplest way to deciding where to put all your files is to use this browse button and say "Yes" to the question about Record Destinations at the appropriate moment.

LEGACY

Default Project Root plus Record Destinations.

This is SADiE earliest standard method of storing files - Project Components in one place, Audio Files in another.

In this situation, the Project Components are saved in a sub-directory of the **Default Project Root** location set in the Project Management Setup page. And audio files are stored in a sub-directory of one or more **Record Destinations**.

Of course if you choose to make the Project Root and the Record Destination the same location, then all the files will be in the same directory.

The main advantage of this method is that when you set up multiple Record Destinations. You can either:-

a) easily choose to record to a different location when you create the project. If you have multiple Record Destinations you will be asked to choose one every time you create a project.

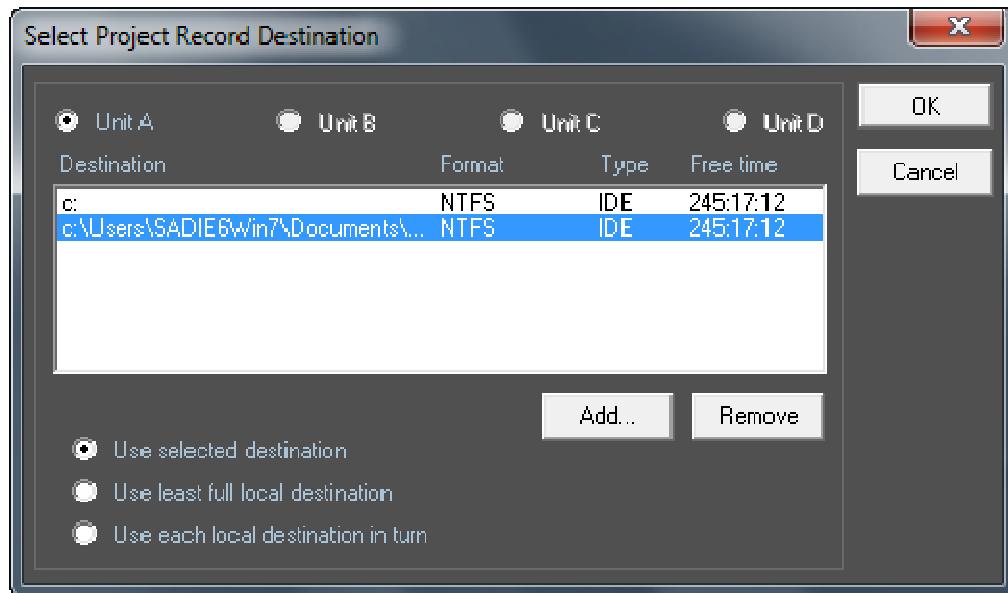
or b) record to multiple drives to spread the load when recording very large numbers of audio tracks.

Open the **Select Project Record Destination** Window (from the Project Menu).

To add a new Record Destination press the **Add** button and browse to the right directory.

It's also possible to add new Record Destinations within [Disk Management](#). The **Remove** button allows you to remove Record Destinations from the list.

At this point Record Destinations in the list are *potential* targets for audio recordings, and you must select one from the list and press **OK** to make your project record to the project directory in that location.



Other possibilities for multiple Record Destinations are:-

"Use least full local disk" which allows you to record to whichever drive has the most space remaining.

"Use each local disk in turn" will choose a different drive for every track when SADiE goes into record. The number of tracks depends on how many streams are involved, how they are grouped (a stereo track is one track not two) and what file format you are recording to. So if for instance you are recording 8 tracks and you have 4 disks connected, then each disk will record 2 tracks, and thus the load on the disks is evenly spread. If your disks start to become full when making multi-track recordings, your maximum record time is the time remaining on the most full drive.

Tracks that are recorded at the same time are grouped together in the Playlist and can be manipulated and edited as if they are one single, Multichannel clip. You can separate these clips out and regroup them, as long as they are still in the same time relationship to each other. This applies to multi-unit and multi-disk recordings as well as those on single unit systems.

The Select Project Record Destination Window can also be displayed by choosing the **Select Record Destination** item from the **Project** menu.

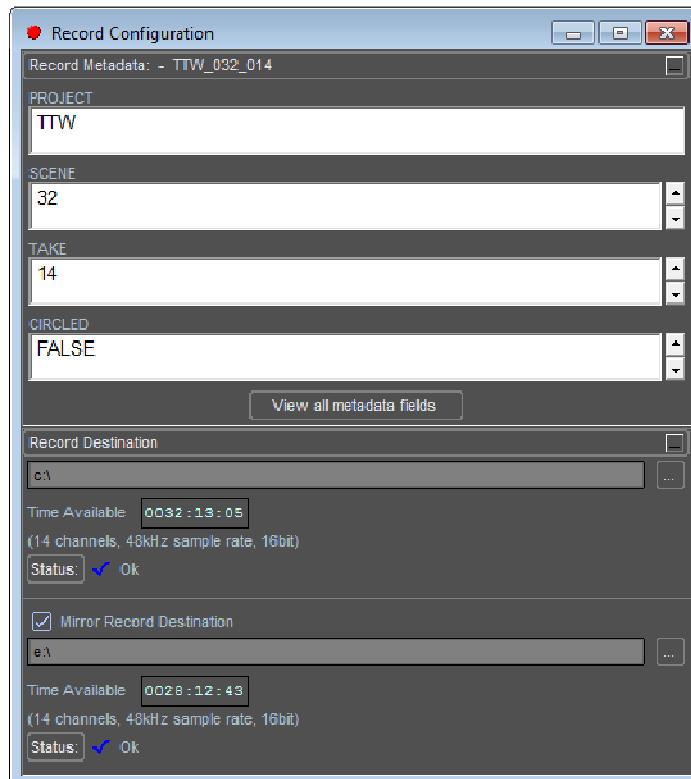
If you only have a single Record Destination set, then when you create a new project that location will automatically be chosen.

SADiE will always record to a *sub-directory* of the Record Destination and this sub-directory will have the same name as the project.

METADATA AND MIRRORING

When you are in Metadata mode and/or wish to use the Mirroring facility, the scheme is similar to the Legacy scheme above, with a separate Record Destination and Project Component directory.

However your Record Destination (and your Mirror Record Destination) is set or changed by using the  button in the Record Configuration window:



When this button is pressed the Select Record Destination as shown above will appear, and you can choose from the list (or use Add to add a new Record Destination).

EDLS

EDL files are given the file extension "*.EDL", so a typical name in full is "FRED.EDL".

Creating a new EDL opens an empty Playlist window for you to start work in.

Opening a previously saved EDL opens a new Playlist window containing that EDL.

- Any previously open Playlists will stay open and you can switch between Playlists under the Window menu, from within the Project window or by using the **WINDOW** button on your hardware controller.

Saving the EDL in the currently active Playlist window will save the file to the PC's DOS drive. The first time you use save a file, you will be asked to name it; after that, the "Save" command will save the file with the same name as before, overwriting the previous version. If you think you might want to keep the previous version, use the "Save As" command. This will let you give the new version a different name. Take care to open the folder that you want it saved in. The file extension ".EDL" will be automatically added to the name you type.

Closing an EDL closes the Playlist window that is displaying it. You will be prompted to save the EDL if it has been changed since last saved.

NOTE: The EDL file that you save includes the layout and names of the Streams in the Playlist displaying it and any Automation data, e.g. fader and other control adjustments in the Mixer. However, you will need to save the Mixer setup that goes with the EDL separately, as described below. If you work within a Project, this will be done for you when you save the whole Project.

EDL's can be saved as a [Template](#) using the "File" menu option Save current Playlist as a template. EDL templates have the file extension "*.EDT".

CLIPSTORES

CLIPSTORES

A Clipstore is a useful holding place for Clips that you may later want to add to an EDL . These may be versions of Tracks with specific fade and level characteristics, or parts of Tracks. Clips created in the Playlist window or the Trim Editor can be saved to the active Clipstore, where they can be grouped in folders.

A special folder labelled "Source Tracks Folder" will appear in the first Clipstore that is opened or created, so the Clipstore is also useful for accessing any audio on the system.

- If you are working within a Project . the Source Tracks folder will contain all the raw Tracks being used by this Project.
- If you work outside of Projects, it will contain all the raw Tracks in the root directories of all your logged audio disks.

NOTE: The Source Tracks folder is not saved as part of the Clipstore file. It is added to it to enable you to access Tracks on the audio disks. Clips in the Source Tracks folder are not editable. See [Source Tracks Folder](#).

Clipstore files are given the file extension "*.CLS", so a typical name in full is "FRED.CLS".

Creating a new Clipstore opens a new Clipstore window with no Clips in it.

Opening a previously saved Clipstore opens a new Clipstore window containing the saved list of Clips.

- Any previously open Clipstore windows will stay open and you can switch between them under the Window menu, from within the Project window or by using the **WINDOW** button on your hardware controller.

Saving the Clipstore shown in the currently active window will save the file to the PC's DOS drive. If you use the "Save As" command, or if the Clipstore has not been saved before, you will be prompted to give the file a name, and can select which folder it is saved to. The file extension "*.CLS" will be automatically added to the name you type. If you use the "Save" command, the file will be saved with the same name as before.

NOTE: You only need to save a Clipstore if you have deliberately stored specific Clips in it, as described below. In many cases, you may never want to do this and all your work will be contained in EDL's. However, it is often useful to save a list of Clips that have been "topped and tailed" or selected from much longer Tracks before you put them together in a specific order, in an EDL. It's a bit like having a shelf full of small insert reels for a particular programme, or can be used to make a library of Sound Effects.

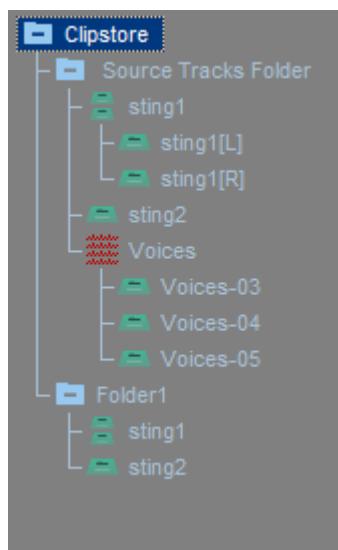
Closing a Clipstore closes the window displaying it. You will be prompted to save it if it has been changed since last saved.

NOTE: If you close the Clipstore that contains your Source Tracks folder, you can get the folder back by opening a new Clipstore or closing and re-opening an existing one.

USING THE CLIPSTORE WINDOW

 To select a Clip in the Clipstore with the hardware controller, use **WINDOW** to make the required Clipstore the active window, then the wheel will scroll through all the Clips. (Make sure it is not selected to jog or shuttle.) Alternatively, the **PREVIOUS** and **NEXT** buttons will step through the list.

 With the mouse, click on a clip to select it. As with most Windows® applications, multiple selection of items in the list can be made by selecting them while holding the Ctrl or Shift keys.



The Root Node is the "top of the tree" for this Clipstore, and Clips can sit at this level, or be grouped into folders. Double-clicking opens and closes the folders to view their contents.

Mono Clips/Tracks are shown with single blue icons.

Stereo Clips/Tracks are shown with green, double clip icons. Double-clicking on these reveals the left and right channels for separate selection.

Multichannel Clips/Tracks are shown with red icons (as "voices" is here). Double-clicking on these will reveal their component stereo or mono parts for selection.

When the mouse is hovering over a clipstore entry, a yellow "pop-up" will appear showing details about the clip and displaying metadata inside the file.

Entry	Path
Disk2048	c:/Users/SADI6W
Disk3001	c:/Users/SADI6W
Disk3002	c:/Users/SADI6W
Disk3004	c:/Users/SADI6W
Disk3007	c:/Users/SADI6W
Disk3008	c:/Users/SADI6W
Disk3012	c:/Users/SADI6W
Disk3013	
EIU.F	
Fanfa	
Fire S	
Foots	
Foots	
Mass	
Menace [01]	c:/Users/SADI6W
montverdi1 Track 1	c:/Users/SADI6W
Mothman Track 1 [1]	c:/Users/SADI6W
Mothman Track 7 [1]	c:/Users/SADI6W
null_no_comps_2543	c:/Users/SADI6W

Sample rate = 44.1kHz
Resolution = 16 bit
Channels = 2
Format = BWF
Start time = 00:00:00.000000
Length = 00:02:32.031552
Originator = NAGRA
BWF originator reference:
NAP2 5399079184156304863691

This metadata can become quite large, particularly when iXML is included in the file; [Clipstore Setup](#) has controls to allow you to filter what is displayed in the yellow pop-up.



To open or close stereo and Multichannel Clip icons with the hardware controller, select the Clip and then press **EDIT/SELECT**.



Clips can be listed alphabetically by name, or grouped by type (first stereo, then mono, then Multichannel).



Allows you to create and name a **NEW FOLDER**. You first need to select the folder that you want it to appear in - this may be the Root Node, or another folder.



The **PREVIEW** button will play the selected Clip from in point to out point, or until you release the button.



The Transport controls apply to whichever is the active window and can be used for previewing selected Clips.



Allows you to **RENAME** a Clip or a folder.



Allows you to **DELETE** a Clip (or clips) or a folder from the Clipstore.

NOTE: Deleting a Clip will not delete any audio from the SCSI disk, but it will delete the reference you have created to a particular piece of audio, with particular level and fade characteristics.



The **SEARCH** button lets you search for clip names with given text which can include the character * to represent any number of "wild" characters. The two buttons next to it review search results and return you to the full Clipstore listing.

The details columns to the right of the tree of names can be customised, as in the Text EDL . by selecting options from the box that drops down when you click on any of the headings.

NOTE: When the Clipstore is the active Window, a Clipstore menu will appear on the main menu bar. This duplicates the above buttons for **NEW FOLDER**, **SORT BY NAME/TYPE** and **SEARCH**.



STORING AND MOVING CLIPS

STORING CLIPS IN A CLIPSTORE

You may want to store the new Clip you have created by editing in the Playlist or the Trim Editor:



Select the Entry in the Playlist or the Clip in the Trim Editor and press the **COPY TO CLIPSTORE** button on that window's toolbar.



On the hardware controller, use **WINDOW** to make the required Playlist or Trim Editor the active window and **CUT** or **COPY** the Entry or Clip to the paste buffer. Then select the required Clipstore as the active window and **PASTE** the Entry into the Clipstore.

MOVING CLIPS AROUND CLIPSTORES



Clips can be copied and moved around between folders of the same Clipstore, or between different Clipstores by dragging with the mouse. Dragging moves the Clip and holding the Ctrl key while dragging copies it. You will not be allowed to alter the contents of the "Source Tracks" folder, but you can copy Tracks from it to other folders.



On the hardware controller, use **WINDOW** to make the required Clipstore the active window, then the wheel will scroll through all the clips if it is not selected to jog or shuttle. You can **CUT** or **COPY** highlighted Clips to the paste buffer and **PASTE** them into the next Clipstore and folder you select.

MOVING CLIPS TO OTHER WINDOWS



The selected Clip can be loaded to the paste buffer for pasting into a Playlist, or [dragged directly to the Playlist window](#).



The selected Clip can be loaded to the Trim Editor to be altered and the new version saved back to the Clipstore.



CUT or **COPY** the selected Clip, then **PASTE** it into the next window you select.



CLIP DETAILS



You can bring up the Clip Details Window for a selected Clip and make changes to it there, before "writing back" the new version and thereby re-saving it in the Clipstore.



USING ONE CHANNEL OF A MULTICHANNEL CLIP

You may want to use just one channel of a stereo or Multichannel Clip:

- Double-click on the Clip or Track in the Clipstore to reveal the separate parts. On the hardware controller, select the Clip and then press **EDIT/SELECT**. Stereo components of Multichannel Clips can be further opened to show separate mono channels.
- You can now select just one channel and paste it into the Playlist.



MIXERS

Mixer Set-ups are given the file extension "*.MSU", so a typical name in full is "FRED.MSU".

NOTE: There can only be one Mixer connected to SADiE's outputs, so only one Mixer window may be open at a time. Creating a new Mixer or opening a saved Mixer set-up therefore closes the existing Mixer window.

Creating a new Mixer replaces the existing one with the default set-up. This is specified in the Setup window displayed from the View menu.

Opening a previously saved Mixer replaces the existing one with the saved set-up.

Saving the current Mixer set-up will save it as a file to the PC's DOS drive. If you use the "Save As" command, or if the Mixer set-up has not been saved before, you will be prompted to give the file a name, and can select which folder it is saved to. The file extension "*.MSU" will be automatically added to the name you type. If you use the "Save" command, the file will be saved with the same name as before.



Closing a Mixer closes the window displaying it. You will be prompted to save it if it has been changed since last saved. You can re-display the current Mixer set-up with the **SHOW MIXER** button on the Playlist toolbar.

Mixers can be saved as a [Template](#) using the "File" menu option Save current mixer as a template. Mixer templates have the file extension "*.MST".

PROJECTS



To make handling the above files more convenient, they are grouped together as components of individual Projects.

Every Project also has a list of audio Tracks associated with it. This is the list of Tracks that appears in the Source Tracks folder of its Clipstore.

Each new Project that you name creates a folder of that name on your DOS drive under the path C:\Projects. This contains the files for the individual components and the actual Project file itself, which has the file extension "*.PRJ".

A folder is also created on your audio disk, to group Tracks recorded under the Project.

Once you are working within a Project, you can use the Project window to create, save, open and close all the individual components that make up your work. When you save the whole Project, all these are saved together. Next time you work on the Project, the Project window will only show the components that are relevant to that piece of work. The Source Tracks Folder that is created in the Clipstore only contains audio that is being used by the Project.

Whole Projects can be deleted to delete all associated files in one go.

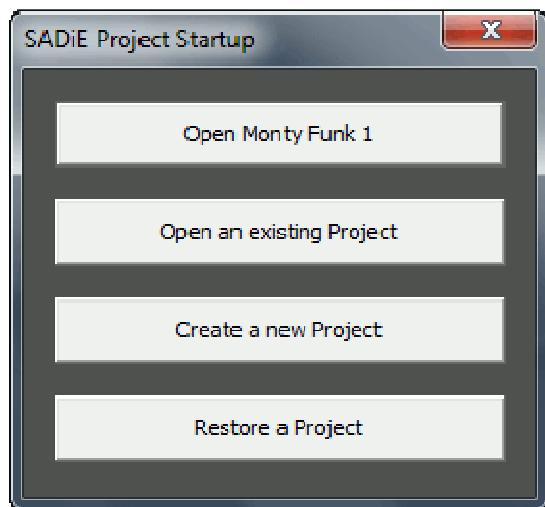
You can only ever have one Project open at a time and so must close the currently open Project before opening or a saved one or creating a new one.

Projects can be backed up to the hard disk that contains the audio Tracks, and this may be transferred to another machine or posted across a network. When you want to return to a Project that has been backed up in this way, you restore it (and its components) to the DOS drive in order to do further work.

A Project and its associated Tracks can also be backed up to other devices like Exabyte tape or MO disks for longer-term storage.



You are presented with the following box when you run SADiE:



You can then either close the box and start work with an empty Playlist and a default Mixer and Clipstore (which would have to be saved and kept track of separately, or arranged into Projects later), or choose to:

1. Open the Project that was last worked on (the current Project).
2. Open an existing Project that you have previously saved.
3. Create (and name) a new Project.
4. Restore a Project that has been backed up to a storage device.

Once SADiE is running, these facilities are provided from the full range of options in the Project menu described below.

AUTOMATIC PROJECT STARTUP

You can setup SADiE to start a project automatically. This is much like automatic log-in and Desktop loading.

- I. First find the command line:

- i. If your system is set to run SADiE automatically when you switch on, the relevant icon can be found under the Start button, "Settings", "Taskbar", "Start Menu Programs". Click "Advanced" and, in the Explorer box that appears, open the "Programs" folder and then the "Startup" folder. The SADiE shortcut icon will be in the list on the right.
- ii. If you run SADiE manually from the Start button, follow the above instructions, but instead of finding the icon in the "Startup" folder, it will be in the "SADiE Disk Editor" one.
- iii. Alternatively, you may have an icon on your Windows desktop. Right-click on the relevant icon, select "Properties" and the "Shortcut" tab of the box that appears. The command-line is in the box labelled "Target".
- iv. A typical command line is:

C:\SADiE5\BIN\SADiE5.EXE/_dc:\SADiE5\Desktops\1024def.dsk

2. Now edit the command line by clicking within it to change the text. The line may be longer than the box displaying it, but you can use the keyboard arrow keys to move it. Carefully add the path and project name for the project you want to open after the "def.dsk", for example:

C:\SADiE5\BIN\SADiE5.EXE/_dc:\SADiE5\Desktops\1024def.dsk_"D:\projects\fishsticks on toast\mackrel.prj"

Remember to keep the spaces shown as _ after "SADiE5.EXE" and after "def.dsk".

NOTE: On Windows systems, any paths that use filenames with spaces in them must be enclosed in quote marks.



MANAGING PROJECTS

Projects are created, opened and closed from the Project menu on the main menu bar. Commands that are not currently available are "greyed out" in the list.

- New Project - When you create a new Project:
 - If you have more than one Record Destination you will first be asked which one you want to use to record Tracks associated with the project. Alternatively, there is an option to use whichever Destination has most space.
 - You will be asked to give the Project a name and the Project window will open. SADiE will have created a new EDL/Playlist, Clipstore and Mixer named after the Project. These will start off in a default state and after use in the normal way will be saved, closed and re-opened as part of the Project. You can create additional components as well as one layer of "Sub-Projects" within each Project; useful for episodes within a series, for example.

NOTE: A newly created Project will have no tracks associated, and hence the Source Tracks Folder of the Clipstore will be empty. However any or all of the Tracks on the audio disk(s) may be easily imported, as described below.

- Open Project - Lets you open an existing Project from those saved on the DOS drive. The Project window will appear (if minimised it will be reduced to a box at the bottom of the screen; press its maximise button, or select it from the "Windows" menu).

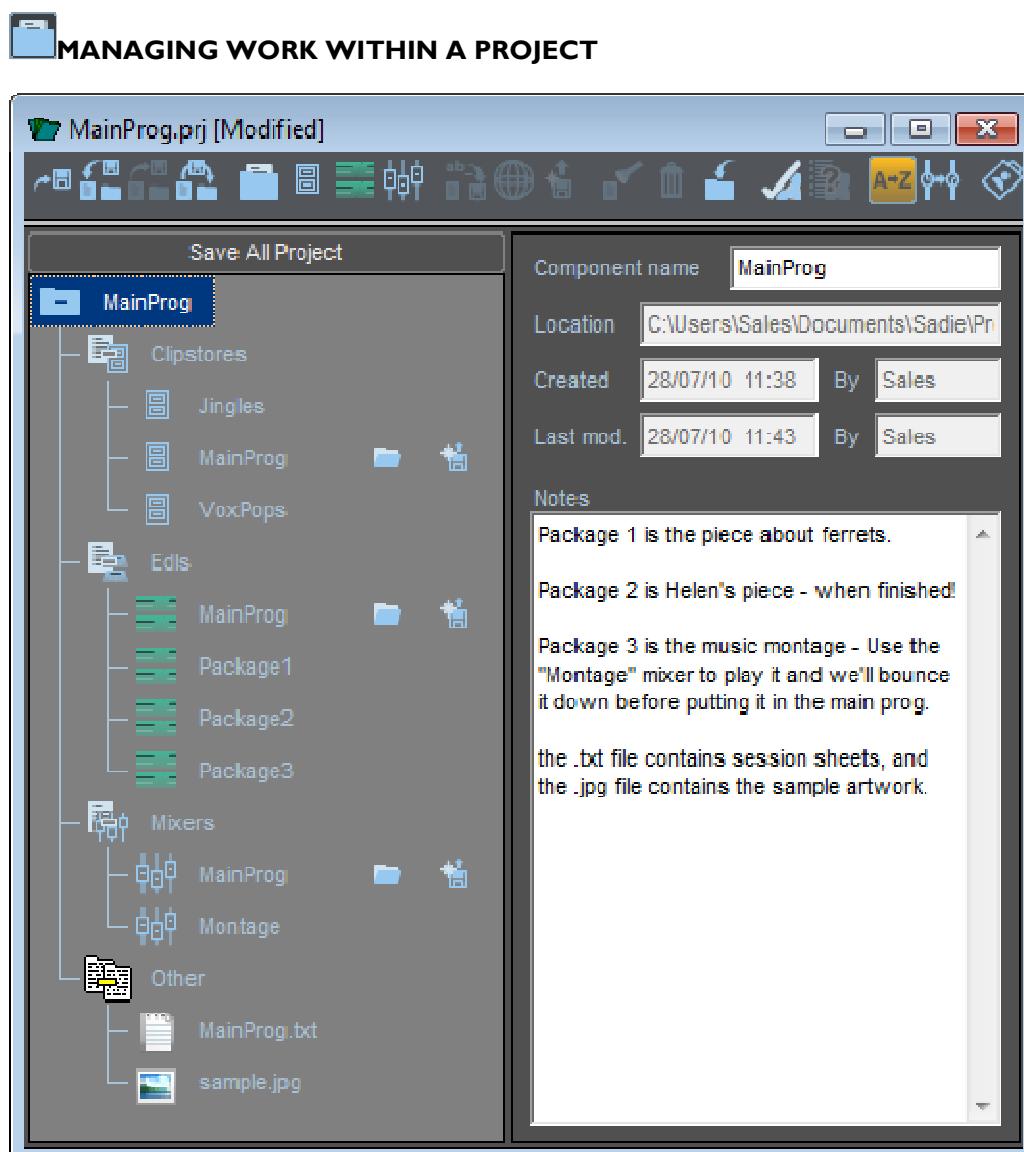
NOTE: The list of recently used files at the bottom of the File menu will always allow you to directly open your last used Project.

- Save Project - Saves the current Project and all its components that have been changed since they were last saved.

NOTE: When the Project window is active, this is duplicated by the "File, Save" command and the Hardware Controller **SAVE** button.

- Close Project - Closes the current one so that you can open a different Project to work on.
- Delete Project - Closes the current Project and deletes its folder and all component files from the DOS disk. If you are using SADiE3-formatted audio disks, you will have the option of also deleting all audio Tracks associated with the Project.

- Cleanup Project - Offers selections to enable you to automatically "Tag" or mark audio tracks for backup or deletion.
- Backup Project - Displays a box with two options:
 - "Backup project components to the audio drive" backs up the current Project components by copying those files to the audio disk being used for the Project's Tracks. The disk can then be stored or transferred to another system, or its contents posted across a network.
 - "Total project backup to a storage device" backs up the Project and all the audio Tracks in its Tracklist to another storage device.
- Restore Project - Displays a box with two options:
 - "Restore project components from the audio drive" restores a Project that was backed up to an audio disk by copying its components to the DOS drive, then asks you if you also want to open the Project.
 - "Total project restoration from a storage device" restores a Project's Tracks and components from a storage device.

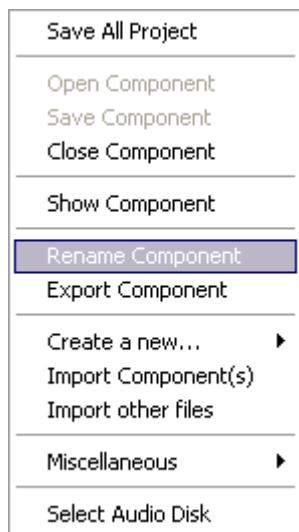


Once you have opened or created a Project . the Project window will appear and you will be able to see all its associated components in a tree structure, similar to Windows Explorer.

Double-click on folders with + and - signs to reveal or hide their contents.

Components of projects are EDL's, Clipstores, Mixers and Sub-Projects. Opening, saving and closing components from within the Project window has exactly the same function doing the same thing from SADIe's File menu; it is just a far more convenient way of doing it and keeping track of everything!

NOTE: All buttons in the Project window are duplicated by right-clicking on the relevant areas of the name tree. You may find this more convenient than identifying the buttons.



An open yellow folder will appear against open components in the Project window. A red exclamation mark will appear next to the folder when you do anything to a component (e.g. edit an EDL) to remind you that it has been changed since you last saved it. The **AUTO OPEN COMPONENT** tag means that the component will open automatically when the Project is first opened.

There is also a setup option to make the auto-open function automatic and thus to always re-open the components which were open the last time you saved a project. See Setup / Project Management / **Auto-open last open project components**



Further components may be named and created with the **CREATE SUB-PROJECT**, **CREATE CLIPSTORE**, **CREATE EDL**, and **CREATE MIXER** buttons. If right-clicking, you will find them under "Create a new..."

Rename Components

Available on the Right-mouse-click menu, and also as a Hotkey, this will allow you to rename the selected component. If you rename a component by any other means, there is a chance that the project won't find it.



The most useful way to save your work is to **SAVE PROJECT**, which will save all the components of a Project in one go.

NOTE: This is duplicated by the **SAVE** button on the hardware controller when the Project window is active, and by the "Save Project" command in the Project menu.



Existing individual components may be opened, saved and closed by selecting them and hitting the **OPEN/SAVE/CLOSE COMPONENTS** buttons. If you select the project folder at the top of the tree, and select **OPEN**, every EDL attached to the Project will open. This is important when tagging audio tracks for deletion or backup (see [Cleaning up the Project](#)).

NOTE: Double-clicking on a component will open it directly and is a useful way of bringing its window back in view.



IMPORT COMPONENTS allows you to bring a component into the current Project. For example, a Mixer saved outside of any Project, or a Clipstore from another Project. You have two options: importing the original file into this Project, or importing a copy of

it. You can select multiple components using the Ctrl or Shift keys much as you would in Windows Explorer.

Other non-component files can also be imported. Right-click within the Project tree and select "Miscellaneous", "Import other files". When the "other file" is double-clicked it will open with the Windows registered program for that file type, and when a backup is made these files are included in the backup.

NOTE: If you import the original file, it will not be moved from its current folder on the DOS drive, but the current Project will retain a link to it. If you import a copy, you can work on it and save new versions in the current Project while leaving the original where it was.



REMOVE COMPONENT removes the selected component from the listing in this Project window.

NOTE: You will also be asked if you want to delete the component file from the DOS drive. If you choose not to, it will remain in the folder where it was originally saved and can be imported into any Project or opened outside Projects.



When you open a Project, if a component file has been moved on the DOS drive or had its name changed, SADiE will not be able to locate it. A warning message will be displayed and the missing component will appear in red in the Project window. The **LOCATE COMPONENT** command will then let you browse through different folders, and when you find the missing file, will update the Project to keep note of its new location.



DISPLAY USERS and **EDIT USER LIST** let you to display or alter the list of users allowed to open the Project. The user that created the Project is its "Project Manager" (indicated by a tick in the "Manager" box), and only he/she can add or delete users from the list or promote other users to "Project Manager" status. Note, however, that System Administrators can open all Projects. The User Management software for multiple-user installations is described in [User Management](#), and is outlined in Getting Started.



SELECT RECORD DESTINATION allows you to specify which of your record destinations (if you have more than one) is used to record Tracks associated with the Project. Alternatively, you can tell SADiE to use whichever disk has most space.



TAG SOURCE AUDIO TRACKS allows you to quickly mark which audio Tracks will be backed up when "Total Project Backup" is chosen (See [Archiving](#)). The Tag marks can also be used for deleting audio that is no longer in use (see [Cleanup Project](#)).



LIST MISSING TRACKS is for removing links in the project to audio tracks that no longer exist (see [Missing Tracks](#)).



SUB-PROJECTS

Sub-Projects are a useful second level in the Project structure when different users are working on different parts of a Project. The Project that is open when you create Sub-Project(s) becomes the master Project.



The master Project will show the Sub-project as a component, but will not show all the sub-Project's own components unless they have been marked for global access to the master (with the **EXPORT COMPONENT** button). This is to mask possibly huge numbers of works-in-progress from the master and only make available the latest or best versions.

To work on a sub-Project, once it has been created, select it from the list at the bottom of the Project menu. This effectively makes the sub-Project become the current Project. To return to the master Project, use the menu list again.



BACKING UP, CLOSING, AND DELETING

BACKING UP THE PROJECT

To back-up the current Project to the audio disk, select "Backup Project" from the "Project" menu, then select "Backup Project Components to the Audio drive". All the Component files (the Project, EDLs Clipstores and Mixers) for the Project will be copied to the audio disk, which can then be removed and stored, put into another system or posted across a network.

To restore a Project from an audio disk, select "Restore Project" from the "Project" menu, then "Restore Project components from an audio drive". The Project files will be copied to your PC's DOS drive and a further box will let you open the Project for more work.

CLOSING THE PROJECT

The only way to close the current Project is from the "Project" menu. You will be prompted to save any unsaved components, and the whole Project, if you have not already done so.

DELETING THE PROJECT

The "Delete Project" command on the Project menu closes the current Project and deletes its folder and all component files from the DOS disk. If you are using v3 formatted audio disks, you also have the option of also deleting all audio Tracks in the Project's folder on the audio disk, e.g. Tracks that were recorded under the Project.

This operation will not delete audio *imported* into the Project, so a "Library" of sound effects is safe when deleting other Projects that use its Tracks.

You cannot delete a Project that contains Sub-projects; these must be separately deleted first.

SAVING PROJECTS IN V4.2 FORMAT

COMPATIBILITY BETWEEN SOFTWARE VERSIONS

For many years, SADiE has taken great care to ensure that every new version, major or minor, is able to read files from earlier versions (audio files, as well as EDL's, Projects, Clipstores, and Mixers).

This is not so difficult because the development process has been mostly linear – every higher numbered version appears later in date than a lower numbered version. Every version is likely to include some changes, but the newer version will inherit and have knowledge about the earlier version's structures. We call this *backwards compatibility*.

More difficult however is the ability for an earlier version to read files from a later version – the later version will undoubtedly contain changes that the earlier version cannot have prior knowledge of (this is easier if the versions are only a few weeks apart but with software such as SADiE which has developed over ten years, it would be too much of a restriction if file formats were not allowed to change).

Thus, SADiE v5 can automatically load files that were created from SADiE v3 onwards. (Version 3 had the ability to use v2 format audio drives, which v5 does not allow, thus if SADiE2 drives have been used for audio, it must be transferred to a SADiE3 format or FAT32 drive first)

However, as with the usual scheme of things, SADiE4 cannot load SADiE v5 projects directly. We have provided a means of converting v5 projects back to the same format as version 4.2.

Note: SADiE v2 files cannot be read directly in SADiE v5 as there is a problem with the audio disc format. However any systems running v2 software could have v3 software installed. If the project is then loaded into v3, audio files copied to a SADiE3 format disk drive, and the project is then re-saved as v3, SADiE v5 will be able to open the project.

WORKING FOR V4.2 COMPATIBILITY

You should only save as v4.2 at the moment you intend to pass the project over to v4. If you re-open the Project or continue working in v5, then the next normal save will make the project incompatible with v4.2.

If you're planning to pass the project to v4.2, then it's wise to avoid using facilities in v5 which you know are unavailable in v4.2, or at least make sure these are not in use at the point of saving as v4.2. It's not a big problem if you do, but if you can avoid this, then it will make the v4.2 saving slicker. Those facilities unavailable in v4.2 include:

1. The use of DirectX Plugins in-line in the mixer
2. A more obscure Playlist feature - SADiE4 cannot work with EDL times greater than 12 hours when the sample rate is set to 96 kHz (or 2x), and 6 hours when the sample rate is 192 kHz (or 4x).

All the audio files will need to be on a drive that can be presented to a v4.2 system so a removable 50pin SCSI drive attached to a PC SCSI card in the Series 5 system will be required. FAT32 format on the drive will give the best flexibility in both machines (SADiE3 or FAT16 or Mac would be OK, but definitely avoid NTFS which is not supported by v4.2)

SAVE PROJECT IN V4.2 FORMAT

Go to the Project Menu and select "Save project in v4.2 format". On selecting this option, you will be shown a dialogue box entitled Select the components to be saved in v4.2 format. This will list all the EDL's, Mixers and Clipstores in the project (and not any other "other files" attached to the project). By default ALL components will be selected, but you can decide not to export some if you wish.

All components will first be saved (v5 format).

Then each component will be validated for potential conversion problems.

If a v5 feature is found which cannot be translated back to v4.2 then the v4.2 save will stop.

You will be informed which feature has caused the v4.2 saving has failed, and the offending component will be left on the screen.

You have the choice now to remove the component from the Save-as-v4.2 list or to modify the component appropriately so as to conform to v4.2 – SADiE does NOT auto-modify the component.

After a failure you will have to run the v4.2 saving again until it succeeds.

This process will save the project and the selected components in v4.2 format and will also automatically pack these onto the audio drive as a PPJ component backup file so that the whole project can be physically moved to the SADiE4 system.

The Project will then be closed (to avoid overwriting in v5 format).

Loading the Project in v4.2

Log the SCSI Audio drive. From the Project menu, choose Restore Project, then select Restore Project Components form an audio drive.

The Packed project from v5 should be available in the list – select this one and load it.

TRACK MANAGEMENT

SOURCE TRACKS FOLDER

During any SADiE session a Clipstore will contain a special folder, called the Source Tracks Folder, which gives you access to the raw audio Tracks in use. Inside a Project . this will contain all the Tracks associated with the Project, and this list is saved with the Project. If you are working outside of a Project, it will contain the entire root directory of your disk. Operation of the Source Tracks Folder inside a Project will be described below in detail. However, it is essentially the same when working outside Projects.

The Source Tracks Folder provides a means of managing the audio Tracks that are being used in the current session, and adding, removing, and archiving audio belonging to your current Project should be done here. For a more global view of the contents of your discs you should use Disk Management.

There is only one Source Tracks folder and it appears in the first Clipstore opened. If no open Clipstore contains the Source Tracks Folder, then opening another, or closing one and re-opening it will make this special folder re-appear.

Tracks appear in the Source Tracks Folder if:

- They were recorded while the current Project was open, or
- They have been imported into the Project.

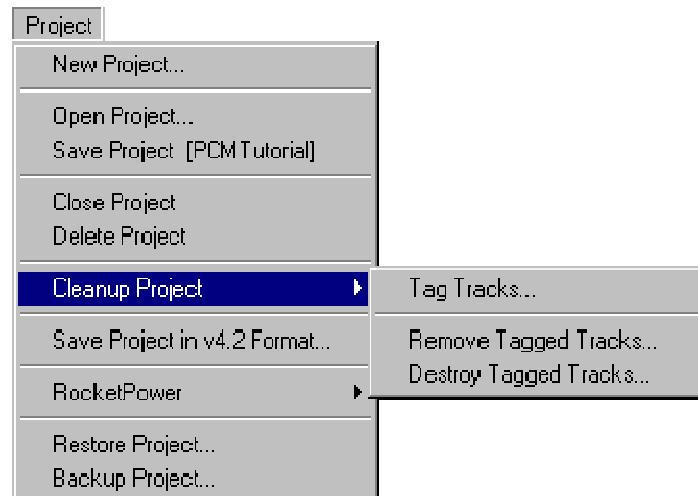
The same functions are available in the Clipstore for clips from the Source Tracks Folder as for other clips. You can drag or cut and paste these as clips into EDL's, or to other folders in the Clipstore. You will notice however, that for these Source Tracks Clips all the fields in the right-hand table of the Clipstore are "greyed out" and hence it is not possible to edit these parameters.

CLEANING UP THE PROJECT

The **CLEANUP PROJECT** functions, available under the Project menu, give you extra tools to help manage your audio tracks within the project.

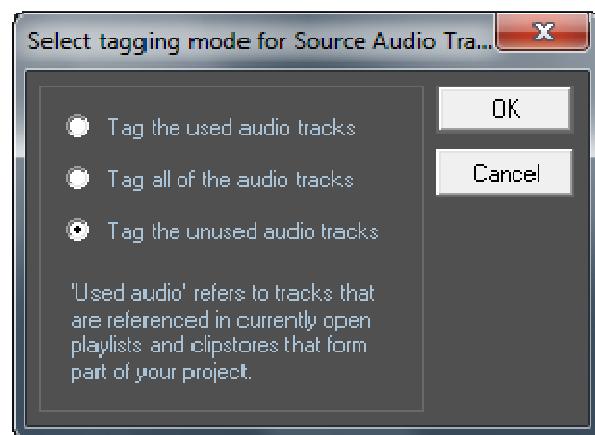
You would use these functions for the following purposes:

- To remove or delete audio that is no longer used by the project: alternative or old takes, or tracks that were imported by mistake or unnecessarily.
- To archive the project along with all or some of its audio tracks.



Choosing the "Tag Tracks" option, allows you to automatically mark or "Tag" tracks that either do or don't belong to some components of the project.

"Tag tracks" gives us this window:



"Tag the used audio tracks" operates on every EDL and Clipstore that is currently open. This includes minimised components. (There is an option to open every EDL associated with a Project - see [Managing work within a Project](#).) Note that Clipstore does not include the Source tracks folder (which does not strictly belong to that Clipstore, it belongs to the project itself). This function searches through all the open components and tags every track as "Yes" that is in use, and tags everything else "No".

"Tag the unused audio tracks" does the reverse, tagging unused tracks "Yes" and used tracks "No".

"Tag all of the audio tracks", changes the Tag mark on every track in the Source tracks folder for the project.

Inside the Source tracks folder, the Tag mark for each track can be manually changed, to allow you to override the automatic selection. You may have to change the table display of the Clipstore to show a "Tagged" column.

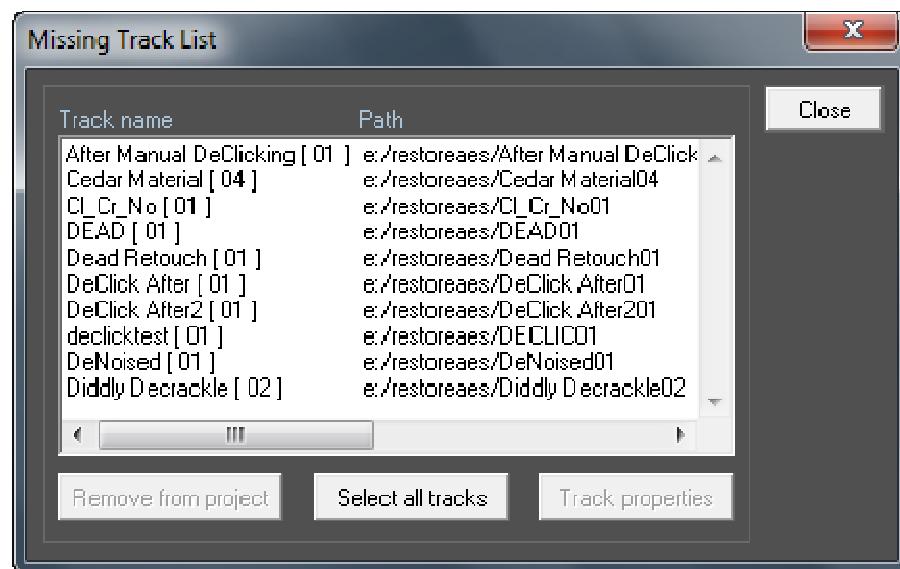
There is an extra Tag option: "Always". This is a permanent mark, and "Always" tracks are always copied, never deleted, and never changed by the auto-tagging operations. Double-clicking on the Tagged field changes a "No" to "Yes" and vice-versa; right-clicking toggles it between "Always" and "No/Yes".

To delete the tracks you've tagged, select "Remove or Destroy" from the "Project" menu: "Remove" just disassociates the tracks from the Project, whereas "Destroy" permanently deletes them (never to return!). Of course you're most likely to want to remove or destroy Unused tracks, so be careful that you've selected the right tagging option.

To backup the Tagged tracks select "Backup Project" from the "Project" menu, and then select "Total Project Backup to a storage device", and select the drive you wish to archive the project to. The backup will proceed as per the Project Backup procedure.

NOTE: "Total Project Backup to a storage device" only ever archives tracks that are tagged "Yes". Choose "Tag all of the audio tracks" in the Tag tracks window.

MISSING TRACKS



The "Source Tracks" folder of the Clipstore displays all the audio tracks that belong to the project . but there are occasions when some tracks are not available: perhaps a disc drive containing associated tracks is no longer on line.

SADiE will warn you of missing disc drives when it encounters them on loading a project, but still retains a record of these "missing" tracks. When they return the Source tracks folder will refresh. However there are times when perhaps these missing tracks are no longer needed for the project, and you may want to remove the link to them completely.



LIST MISSING TRACKS gives you a list of these tracks and allows you to permanently remove them if you wish.

SOURCE TRACKS TOOL BAR



You will notice that clicking on a Source Track makes the buttons on this toolbar change colour from grey to show that these functions are now available. Also, right mouse clicking on a Track gives different options to those shown when clicking on normal clips.

The Tracks are listed together with columns of details. The columns can be customised by selecting alternatives from the box that appears when you click on their headings buttons.

As with most Windows® applications, multiple selection of items in the list can be made by selecting them while holding the **Ctrl** or **Shift** keys.

NOTE: A newly created Project will have no tracks in the Source Tracks Folder, but any or all of the Tracks on the audio disk(s) may be easily imported.

**IMPORT TRACK** opens a portion of the Disk Manager window so that you can select:

- Individual Tracks from any audio disks,
- A whole disk or folder.
- Groups of Tracks (either by clicking on a Track while holding the Ctrl key to add it to the group selection, or clicking on the top Track in a range that want to select, then holding the Shift key and clicking on the Track at the bottom of the range).

The tracks will then be added to the Source Tracks Folder for the current Project.

There is further discussion of [Importing Audio](#) in the Recording and Importing Audio section of this manual.

NOTE: An imported Track may still belong to a Project that it was originally created with. Deleting the original Project can delete such a Track. Tracks that you want to be available to many Projects should be held in a Project such as "Library" or "Effects" that you know you won't delete.



REMOVE TRACK removes the Track from the Tracklist for the current Project without deleting it from the audio disk.



DESTROY TRACK removes it from the Tracklist and deletes it from the audio disk entirely. *It cannot be retrieved!*



RENAME TRACK allows you to change the name of the Track.

NOTE: What name gets changed by this function depends on the audio file format. With SADiE3 format files, the Track name is different from the file name on the audio disc, and so Rename Track will not change the file name, but will change the Track name in the Source Tracks Folder. You can see a Track's file name and location on the disc in the Source Tracks Folder, if you display the "Path" field in the table. It is safest not to rename Tracks or Audio Files; change the name of the Clips or EDL entries instead.



TRACK PROPERTIES shows the [Properties](#) box for that Track

FILE RECOVERY

If you exit SADiE incorrectly, either:

- Without shutting down properly (described at the end of the Tutorial), OR
- Because you suffer a power cut, OR
- Because your computer crashes (yes lets admit it, it does happen!)

SADiE will attempt to recover the Project . EDL 's, etc. that were in use at the time of the problem.

When you next run SADiE, you will be asked if you want to return to the recovered versions. This is your only chance to recover work done since the last "Save" command, so say yes!

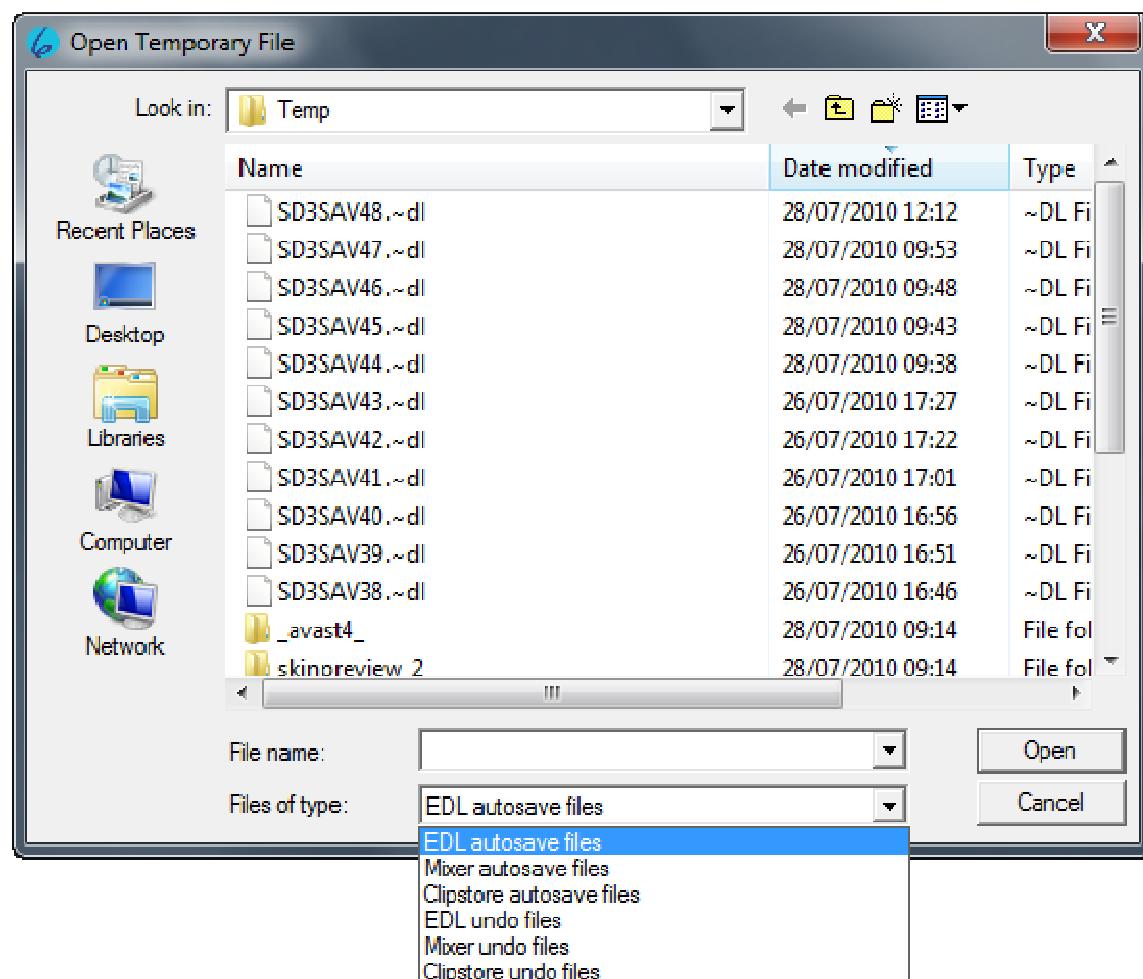
Whenever you save a file using an existing name (this happens with the "Save" command), the previous version with that name will be overwritten. However, it is not immediately lost. SADiE can keep the last version as a backup file (with the file extension ".BKE" for EDL's, ".BKC" for Clipstores, or ".BKM" for mixers).

To open a backup file, use the normal "Open" command, but in the dialogue box change the types of files listed to "All files". You will then see backup files included in the list and you can open the appropriate one.

Additionally, SADiE will "Auto-Save" any unsaved files automatically, every five minutes. These are saved to the Windows User's Temp directory and are named:

- Sd3savxx.~dl for EDL, where xx counts up to 99
- Sd3savxx.~ls for Clipstore, where xx counts up to 99
- Sd3savxx.~su for Mixer . where xx counts up to 99

These can be opened in the same way as opening a backup file, however, to help you locate the Temporary directory, the File menu has an option to **Open Temporary File** which will take you directly to the right place, and will filter out other temporary files.



Use the "Files of Type" drop down box to choose which type of file you are looking for - this directory holds both the Autosave files and the Undo files.

There will be many of these file; if you are in doubt as to which one you need, clicking on the View icon in the top right of the "Open" dialogue and selecting "Details" will give you time details for every file to help you choose, and pressing the button at the top of the date column will order the files by date.

The frequency of auto-saving, and the auto-backup function can be set in the "Auto-Save" section of the [Setup window](#).

DISK MANAGEMENT

DISK MANAGEMENT

SADIE v5 can play and record audio files to any disk drive that the Windows PC can read and write to.

Of course some devices will not have sufficient storage or performance to record a usable amount of audio (floppy disc for instance). Additionally some drives require special software for writing (CD-R or DVD-R are not really appropriate for real-time recording or playback). However, anything that operates like a normal hard drive (be it IDE, SCSI, Firewire, etc.) can be used in SADIE, as long as Windows can use it.

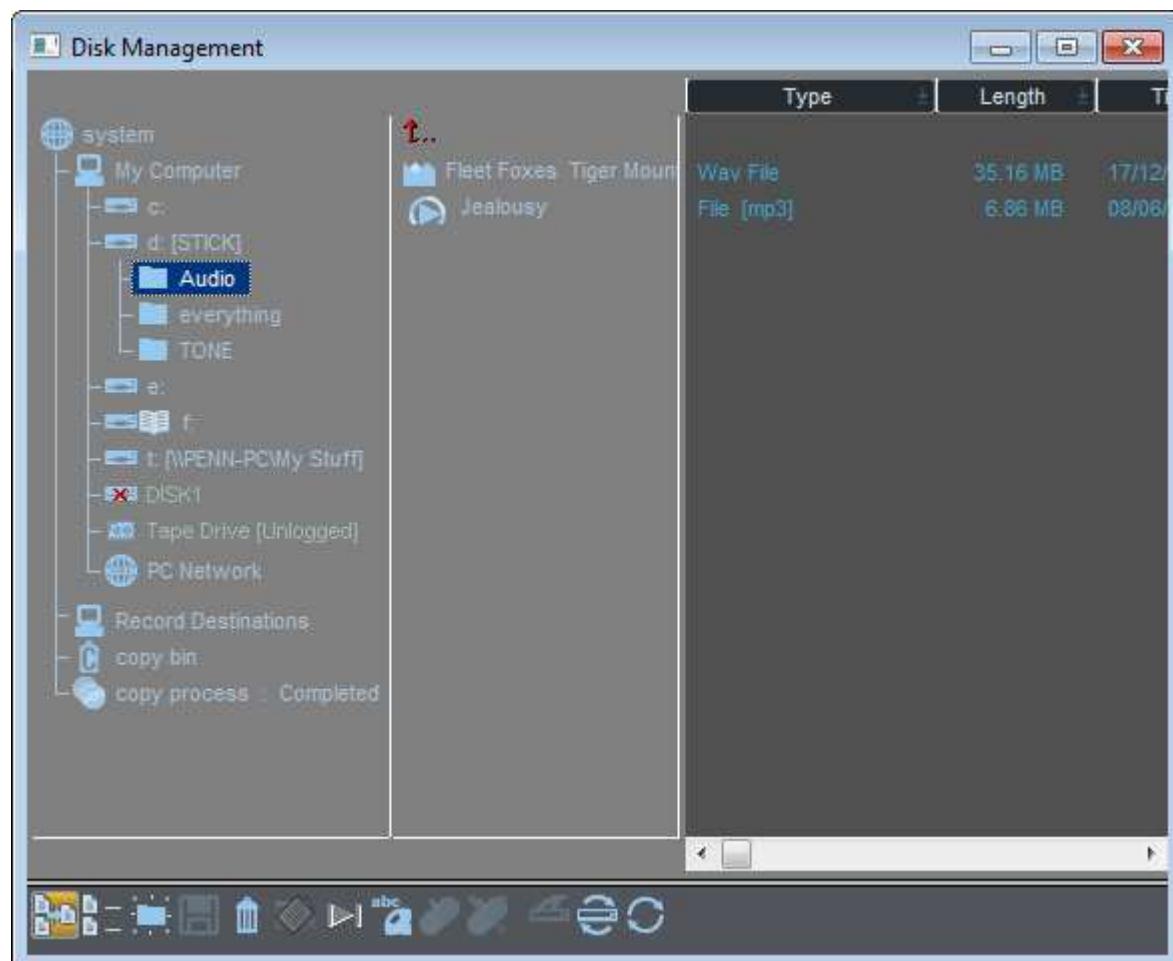
It must be noted that Windows' own User Management may set privileges for some users on certain drives, or even certain folders on drives, either locally or across a network. Therefore, if the User does not have the ability to write files to a drive under Windows, then SADIE will not be able to record files to that drive.

DISK MANAGER

Disk Manager is designed to allow you to see all of the drives, folders and files on your machine, for the purpose of copying or deleting files, and previewing audio files in the same way as you'd expect in Windows Explorer. In fact you can use Windows Explorer for some of these functions, but Disk Manager will offer you some extra, SADIE-specific functions that Explorer cannot.

Disk Manager allows you to "import" an audio file into a SADIE Project. You can also use it to mount and unmount removable drives, and to see drives that are hidden from Windows (in non Windows formats).

The left hand pane of the Disk Management window shows a "tree":



Double-clicking with the mouse on each branch of the tree opens or closes the contents of that branch, so that you can browse down through the levels to find a particular file.

System is just a name for the top of the tree. However, when you right-click on System, one function is available on the menu that appears – "Properties". You can also press the **PROPERTIES** button. The page that appears gives you details of storage capacity and usage for all drives that can be seen on the system. See [Checking space on your disk](#).

My Computer lists every drive that is currently attached to the PC. This will include:

- Lettered drives, including system hard drives c:, d:, etc, plus any network drives that are mapped to a drive letter within Windows.
- CD-ROM, CD-R, DVD-ROM, or DVD-R drives, which will probably be mapped to a letter. Normally these will appear with a "book" icon beside the drive name/letter, which means that the drive is read-only. For a SADiE-supported CD-R drive, it will appear as writeable when the appropriate media is inserted (CD-R disk). However if a CD-ROM disk is inserted, the drive will also appear as read-only.
- PC Network will show you a list of all the other systems on your network, much like the "My Network Places" within Windows Explorer. You can browse down through this tree (if you have access rights) to find, copy, and log files on other disc drives on other systems.
- Underneath, but still in the My Computer section, you may see drives that are attached to the PC, but not assigned letters under Windows, tape drives for instance. It is also possible to view and use drives that Windows cannot see – these will appear as a drive icon with a red cross through them. (More on that later.)

Any audio file that you find in the My Computer section (and is SADiE compatible) can be previewed and imported into the Clipstore using the right-click menu items. Once imported the audio files can be used in the SADiE project and edited in EDL's.

A SADiE project can therefore play back files from any drive that is visible in the "My Computer" section. It is also possible to play files from many different drives together in the same Playlist. However, this does assume that the drive and/or the network connection have sufficient performance for real-time playback of these files. You may find that copying the files to a local hard drive that has better and more predictable performance will save time in the long run. You can copy files in Windows Explorer (if the drives are visible to Windows) or [SADiE's Disk Manager](#).

Record Destinations – it is usual to set a standard target drive and/or folder for new recordings. You don't really want to have to specify a new file every time you press record. You will need to specify at least one "Record Destination" folder, which will appear in this branch of Disk Manager.

In practise, it's likely that much of your searching for audio files in SADiE will be in a Record Destination, because that's where most of your recordings are. Each Record Destination has its own tree view so you can directly browse for files in here (as well as in the main "My Computer" section).

To set a Record Destination, browse to the chosen folder under "My Computer" in SADiE's Disk Manager, then right-click, and select "Set as Record Destination". The chosen folder will be the "root" for new recordings. When you create a new project, a sub-folder of this Record Destination folder will be created and all new recordings for that project will be saved in the project's sub-folder.

You can set a number of different Record Destinations so that you can choose one when you make a new project, or perhaps, for performance reasons, you may wish to spread the audio across two or more disc drives.



You can change the current Record Destination for the project by choosing the "Select Record Destination" option from the Project Window's right-click menu, or from the button on the Project toolbar.

The **Copy Bin** is a simple tool that enables you to drag files from different sources for copying, then drag the whole copy bin to a single destination.



When you browse through your drives in Disk Manager, sub-directory folders will be shown for each Project . You can create further folders by right-clicking on the folder or disk name, or selecting it and using this button.

These project folders will contain the audio and the waveform profiles of each Track. When Projects and their components have been backed up as described in the Projects section above, it will also contain packed Project files.



These buttons on the Disk Management toolbar select whether only audio Tracks or all files are listed in the next column. On the far right, details for each file are given in columns that can be customised. Click on their heading buttons and select alternatives from the box that appears. The dividers between column buttons can be dragged to change the column width.

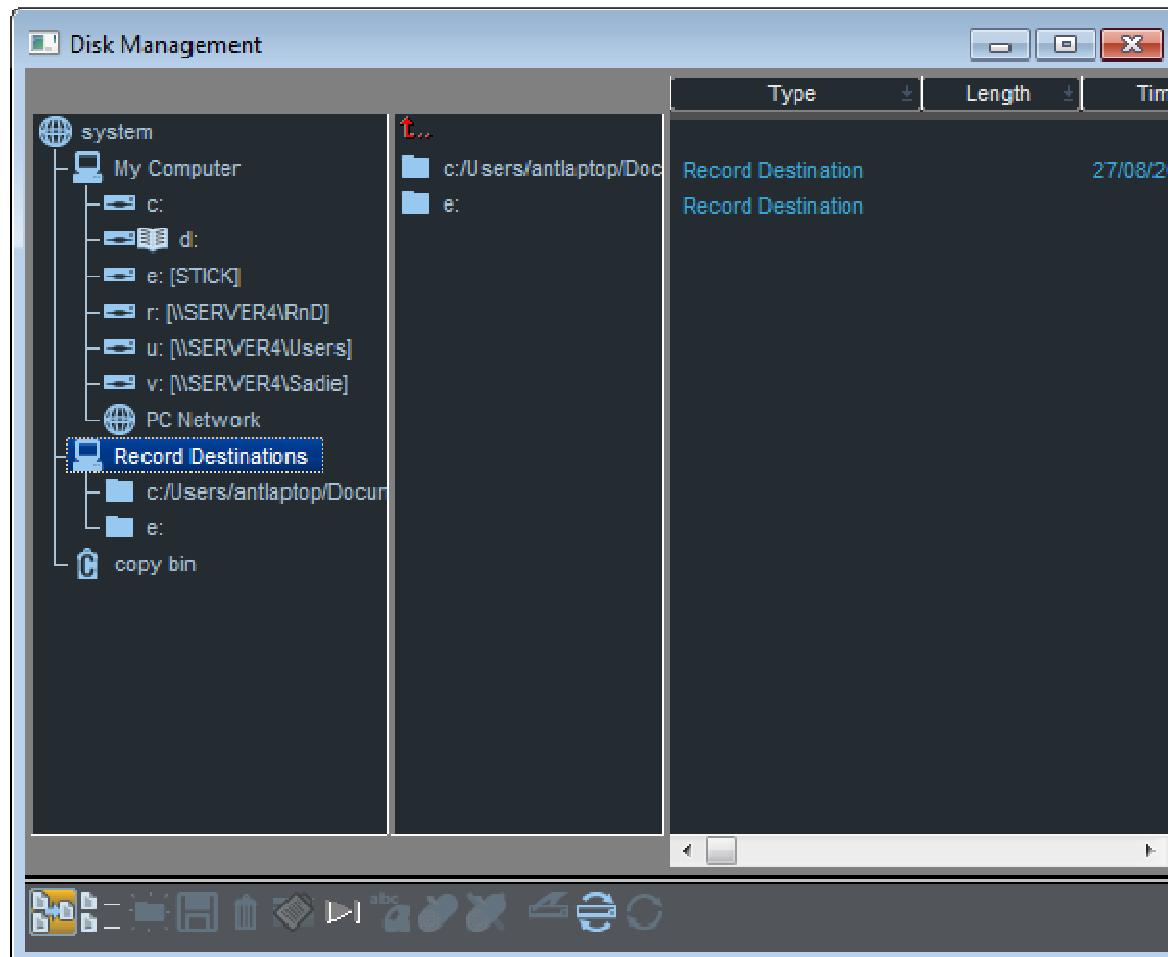
NOTE: As with most Windows applications, multiple selection of files in the list can be done by selecting them while holding the Ctrl or Shift keys.

RECORD DESTINATIONS

Before you can record in SADiE you must first have nominated at least one Disk Drive or Folder on a disk drive to be a potential **Record Destination**.

Then, every time a project is created, you will be asked to select which of the several Record Destinations shall be used by the Project. If you only have one Record Destination set then there is no question to ask !

A Record Destination is the "root" for all Project Audio files - when a Project is set to use a Record Destination, all its audio files will be in a sub-folder with the same name as the Project.



As an example, if I choose to create a new Project called "All my hard work" and I've selected "c:\Audio\Fishybits" to be my "Audio Disk", then this Project's audio files will be recorded into a directory c:\Audio\Fishybits\All my hard work\

You set Record Destinations in Disk Manager:

1. Open Disk Management from the File menu
2. Browse to a folder in the "My Computer" section in Disk Management.
3. Right-Mouse-click on your nominated folder's icon and choose "Set As Record Destination".
4. The folder will now appear in the "Record Destinations" folder in Disk Management as shown above.

It's likely that if you have just purchased a new turnkey SADiE system, a Record Destination may have already be nominated for you, but of course you can change this, and remove any unwanted Record Destinations by right-mouse-clicking and choosing the "unlog drive" option, which removes it from this list.

Note that if the option for "Set as Record Destination" does not appear, and there are no Record Destinations in the list, then SADiE has been set to record to Removable Disk only. See the topic on [Removable Disks](#).

REMOVABLE DRIVES

SADiE now includes a dedicated Removable Disk Administrator. See [SADiE Removable Disk Administrator](#) for more details.

Historically, SADiE systems have been able to only use disc drives attached to SADiE's own dedicated SCSI bus. There was never an option to use PC drives for playback and record, only import and export. Thus, removable drives have been required in order to move projects from one SADiE to another.

As operation has always relied so heavily on the use of removable drives, the facilities for removable drives, and particularly for protecting the data on removable drives, has been well developed over a period of several years.

It was never recommended, but in SADIE4 you could remove a hard drive while SADIE was recording and you would be able to recover from that situation, with a recording intact up to the moment the drive was pulled.

HOWEVER, SADiE v5 and its use of PC drives offers PC networking, interchange and the flexibility you would expect nowadays, but Windows and PC's work quite differently with disc drives in comparison to SADIE4. For performance reasons, you can never expect Windows to complete a file writing operation at the exact instant that you requested it to, or even at the moment that it reports a copy is complete. In practise, certain operations in Windows can take some time to complete – even minutes.

In short, it is **HIGHLY DANGEROUS** to remove a disc drive while it is operating and you risk corrupting the disc drive (and others perhaps) if you do so. It is EVEN MORE dangerous to remove Windows mounted drives while they are operating.

So, if you've got into the habit with SADIE4 of removing drives without telling the software that you want to unlog it, then you have been lucky so far, but if you continue this practice with PC drives, then you will surely trash a drive soon.

THE CORRECT METHOD FOR REMOVING DISK DRIVES.

Removable disk drives will have to be in a removable carrier. A number of carriers exist, but the better ones include a "HotSwap" option to allow you to safely remove the drive while the PC is powered up. However this "HotSwap" option does not override the need to remove the drive under software. Before proceeding, close any open SADiE projects.

Drives that are attached to the PC are drives that are lettered and thus belong to the PC and are under Windows' control. As suggested above, removal of Windows' drives can be more long-winded than removal of SADIE SCSI drives in older versions.



Click on the drive's name in Disk Manager, and press the **REMOVE DRIVE** button (or right-click and select "Remove Drive").

SADiE will then ask Windows if it's OK to remove the drive (so you need to wait until this conversation has completed satisfactorily). There are a number of reasons why Windows may refuse to give up the drive:

- The drive may be shared to a network. Windows almost certainly will not allow a shared drive to be removed.
- The drive may be in use by another program.
- Did you forget to close your project? If so then Windows will detect that the files are still in use and refuse to allow the drive to be removed.
- Windows may still be writing to the drive for some other reason.

If SADiE passes this inquisition successfully, you will see the message "It's safe to remove your drive now", and in this case, then it IS indeed safe to remove the drive.

However, you may well see several messages from Windows explaining why it cannot be removed. Almost always the way to resolve Windows' refusal to remove a drive is to power down the system. In fact the only foolproof and 100% safe and reliable way to remove a drive from Windows under every possible circumstance is to remove the drive when the system is powered down. If you remove a drive when Windows has warned you not to, then you are in danger of corrupting the drive. You may get away with some times, but can you afford to take that risk?

You will need the appropriate Windows Administrative privileges to hot swap drives. If a removal fails due to "access rights" or a similar message then contact your System Administrator.

If in any doubt, turn off the computer before pulling the drive out.



To log a drive that has been newly attached to the PC, click on "My Computer" in Disk Manager, and press the **SCAN DRIVES** button. SADiE will ask Windows to refresh its disk drives – this can take about 30 seconds. Take care to give the new drive time to spin up – if Windows doesn't find it first time you may have to try again.

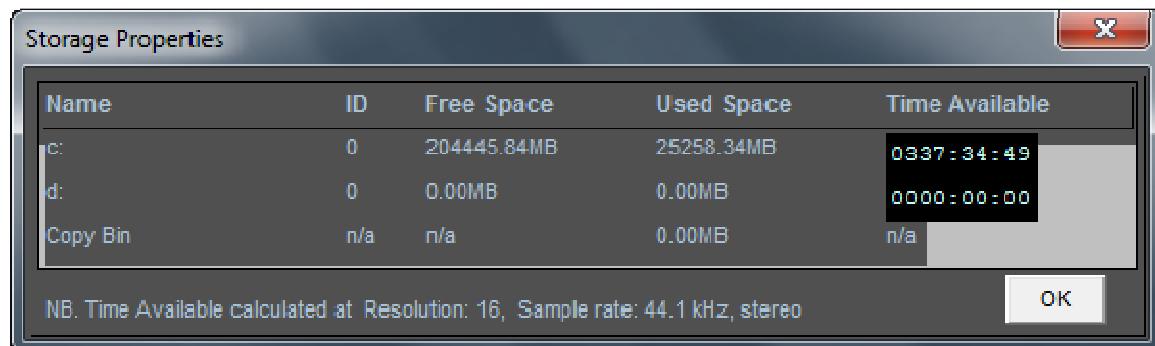
YOU MUST use the "Remove Drive" command in Disk Manager to tell the software that the drive is about to be removed before physically turning off the drive. If you remove a drive without doing this and while the PC is powered, there is a strong chance that your disk drive will be corrupted.

CHECKING SPACE ON YOUR DISK



In the tree, select the storage device you want to check and press **PROPERTIES**. A display box will tell you how much space is used, how much is available. This command is also available by right-clicking on the device.

You can also use this button to show you the storage properties for the whole **SYSTEM**, which will look similar to this:



Note that the Time Available is displayed in the format in which you are set to record.

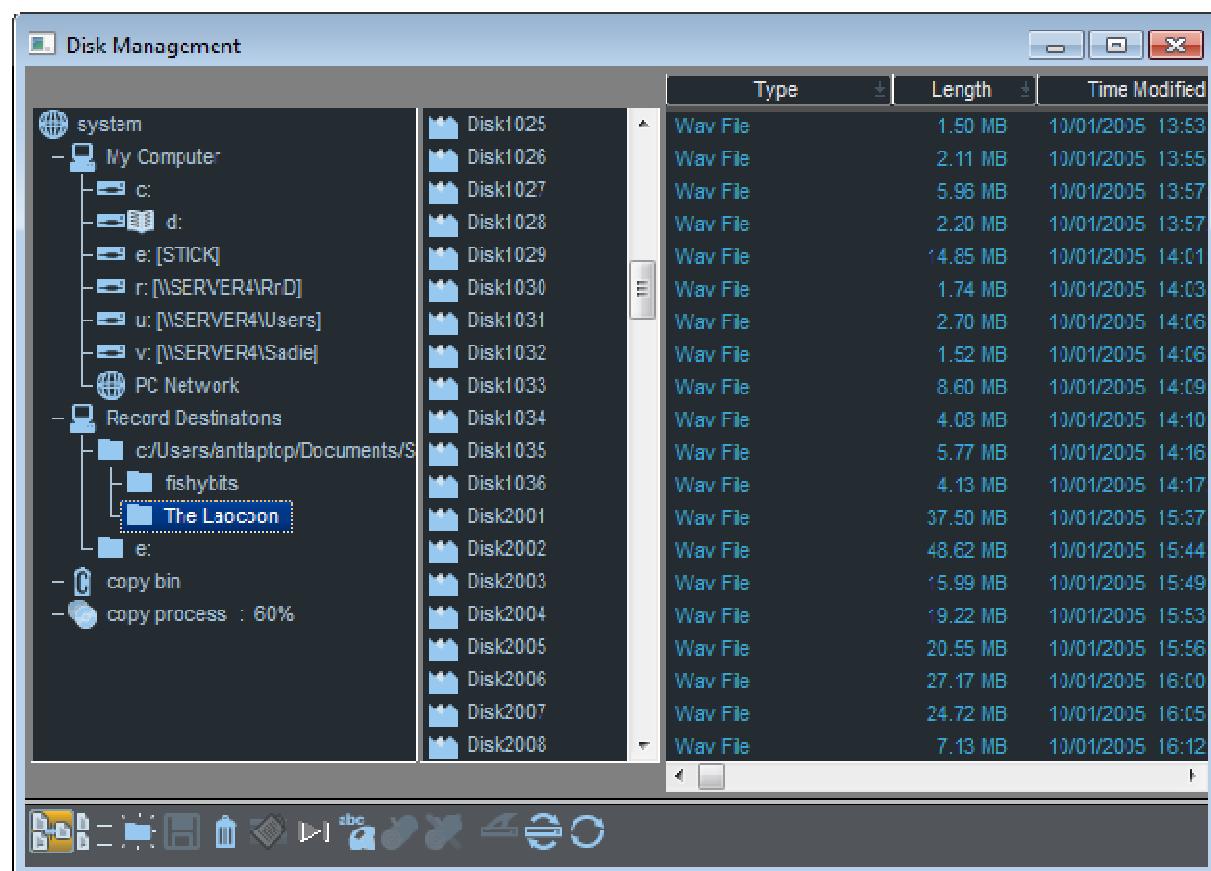
COPYING FILES

You can copy files between disks or folders by simply dragging them across and releasing them over the destination symbol. You can drag-and-drop files, or folders, or even an entire disc drive. The directory structure within folders or whole discs will be re-created on the destination.

The copy bin can be used as a temporary store when copying files from more than one folder. So, drag some files into the copy bin (from any directory, as you can use the copy bin as a "shopping basket"), then click and drag the Copy Bin to where you want the files copied to.

File copying is a background process, so you can do other work in the foreground. You will be informed when the copy is complete. The speed of copying will depend on the demand made on the system by your foreground activities; the copy may actually stop during periods of heavy playback/record, then continue as and when the processor power returns.

There are slightly different rules for Tape drives, as you can only perform a single drag and drop process at a time, either by dragging multiple files onto the Tape drive's icon, or by dragging a copy bin. You cannot drag folders or entire disk drives onto a tape drive. Although SADiE displays a directory structure on the tape, there is none; each "folder" on the Tape represents a single copy or backup session. Neither can you copy files to a CD-R.



During a Copy process, a new "copy process" branch appears on the left, and clicking on it displays the progress of the copy, which files have completed, and how far the others have got.

Note that the Copy Bin has its own "Used Space" entry in the System Storage Properties window. This will help you check how much space you need for your copy operation.

RENAMING AND DELETING FILES

Select the file and press the **RENAME** button to rename it or the **DELETE** button to delete it

from the audio disk entirely. These commands are also available by right-clicking on the file name.

WARNING: Renaming an audio file that is used by a saved EDL will mean that the EDL will not be able to find it when it is next opened. Only currently open EDL's are updated with the new name.

WARNING: You cannot retrieve a deleted file; all EDL's that refer to it will be affected.

TAPE AND CD-R DRIVES

Tape Drives will always appear in Disk Manager with a tape icon. These Tape drives may be attached to a PC SCSI card.

Windows will not assign a letter to a Tape drive, and in fact the only sure-fire way of checking that the Tape drive is properly attached, is to check in Windows Device Manager, or perhaps open Windows Backup to see if a Tape drive is available. Or, of course, if you can see this tape icon in SADiE's Disk Manager, then of course... it's there!

Tape drives can also be used under Windows, however SADiE must be closed first before a Backup program can take control of the tape.

Tape Backup devices are treated as normal disc drives by Disc Manager. You can [copy](#) to and from, and format tapes as you would an audio drive. Thus to make a backup for example, to an Exabyte tape, follow the normal copy procedure above: drag and drop files onto the Exabyte drive, or via the Copy Bin.

Copying from a tape follows the same procedure: find the files you want in the directory displayed in Disc Manager, and drag it to the copy bin or directly to the destination drive. Due to the directory structure on the tape, the Tape drive will automatically seek and copy the selected files (like a hard disk!).

You will notice that some tape drives are quite slow to react to rewind/fast forward commands, and so may take some time to reach the *n*th backup on a tape. For this reason, a tape drive (and likewise a CD-R) will not be fully logged on initial start-up; the drive is recognised but its contents are unknown until it is formally logged.

Tapes must be formatted before they can be used for backup. This is not the case with DDP tapes as it is a very different format, and backup and DDP cannot co-exist. A tape format or a DDP write will completely overwrite the previous contents of the tape.

If you attempt a copy onto an unformatted tape, you will be asked if you wish to format the tape first. Formatting a tape can take a few minutes, depending on the drive type. Ask your dealer about supported tape drives.

CD-R drives will usually appear as a Windows letter, and, depending on the medium in the drive, may have the "book" icon to denote that it is Read-only. If the drive is a SADiE compatible IDE or SCSI CD-R burner, then this can be used for writing Red Book Audio CD's.

Of course, this CD writer will also be available to Windows, and with the appropriate CD burning software, you will be able to use this drive under Windows for copying files (for backup purposes perhaps). It won't be that much use for DSD material as it is usually too large to fit any substantial amount of audio on a CD. However, you may find this useful for copying other data.

ARCHIVING

ARCHIVING

SADiE5 can archive projects to either a Tape Backup drive or to another hard disk drive. Consult your dealer about supported Tape drives.

There are essentially two ways of backing up and restoring in SADiE:

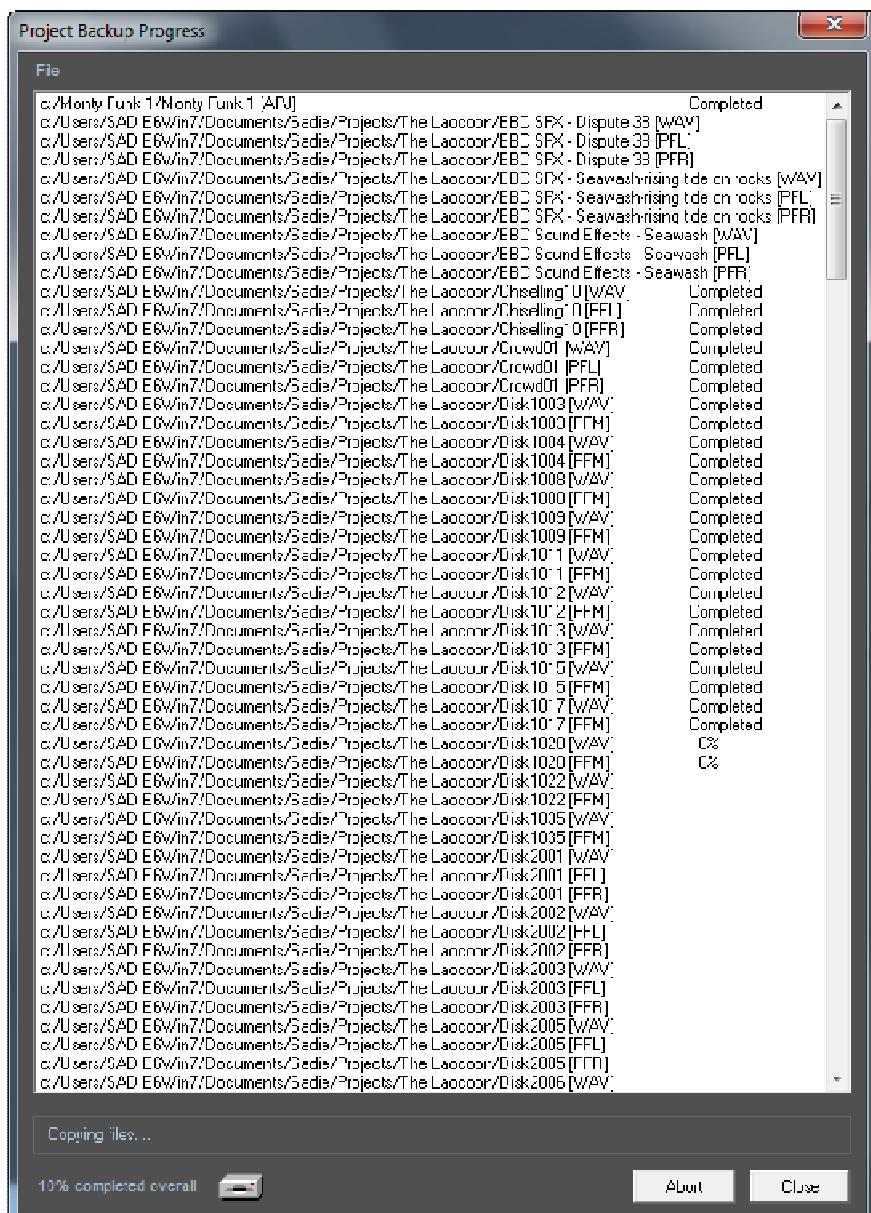
- Use the [Copy Process](#) inside Disc Management. This gives you most flexibility, as you can drag and drop exactly the files you wish onto the Tape drive. It is possible to copy your files from the PC disk (Project components, EDL's etc.) so that they can be backed up alongside the audio. See [Backing up a Project to the Audio disk](#).
- Use the "[Project Backup](#)" and "[Restore](#)" functions described below. These are much simpler to operate but hence less flexible.

There is no reason why you can't "mix and match" the two methods, perhaps using "Project backup" to archive the project, but then the normal Copy process to partially restore it.

PROJECT BACKUP

One easy method of backing up to a Hard Drive or Tape drive is by using Disc Management's [Copy process](#). However SADiE also provides a "one-shot" method of backing up a project . along with its associated audio files:

1. Select "Backup Project" from the "Project" menu, then select "Total Project Backup to a storage device".
2. The backup tape will be logged, and if necessary you will be offered the chance to format it. You will then be asked for a backup name. This is just the name of the directory on the tape, and so need not be the same as the project name, but it is wise to form a naming procedure for yourself.
3. The Project Backup Progress box will appear:



4. There will be a short pause while the Disk or Tape drive prepares itself, then the list of files will be worked through and copied to the tape. Do not be alarmed at the number of "duplicate file names"; each audio file is actually at least 2 separate files. You can see in the diagram the files marked [ADM] are the (larger) audio files, and the [PFM] files are used for displaying the waveform information. The files above are mono, so stereo audio will require 4 files. The first file above (//Hippo/Kevin [APJ]) contains the all of the project components (EDL's, Mixers, Clipstores) that belong to the project. In relation to the audio files this is trivially small.
5. Once the Abort / Close buttons are coloured in black and the backup is proceeding, you can hit **CLOSE** and allow the backup to carry on in the background, while you play EDL's in the foreground. As with the Copy process, (Project Backup is nothing but a fancy copy process) foreground demand will reduce the speed of the backup.

NOTE: Only tracks tagged "Yes" or "Always" will be backed up as part of the project. This will only not be the case if you have run the "[Cleanup Project](#)" or "[Tag Source Tracks](#)" functions.

A Project backup size report will be displayed in the Backup dialogue. This will only include the size of the tagged audio files in the project, and does not include Project components or "other files". It therefore may not equate exactly to the storage required for the backup.

This method can be used to backup the project to any suitable drive. However the project will have to be correctly restored before all the project component files match the new audio files.

In brief, EDL's and Clipstores look for audio tracks by name and full path. For instance the EDL would see a track called "KEVIN" in a directory called "FRINTON" on a drive named "HIPPO" as:

```
//Hippo/frinton/kevin
```

If you move the audio track to a new disk or directory, the EDL cannot find it automatically. Thus if you use "Project Backup" to backup a project to a normal drive, the EDL's are still looking for files on the original drive, and if you open the project again, with the original disk missing, all entries will be ghosted, even though you know the audio is on the new drive.

The correct way to deal with a "Project Backup" is to restore it to another drive. This function should not be used to move the audio tracks to another disk.

NOTE: If you're using an Exabyte tape drive it may be busy for a long time after SADiE has apparently finished with it, and you'll find that you may not be able to start another backup or restore for a few minutes.

PROJECT RESTORE

"Project Backup" provides a "Snapshot" of the current state of a project when it is backed up. Thus "Project Restore" is designed to return the Project to the same state as it was at the time of the backup. If there are any traces of the project, or a project of the same name, on the audio drive to which you are restoring or the path on the PC drive where the EDL's, Clipstores, mixers etc. reside, they will be removed or over-written by the restore process. Thus if you have continued working on the project and wish only to restore a few tracks this is not the function for you! Likewise if the backup is only a partial backup and you don't wish to disturb the existing project, then the only way to restore is by using the Disc Manager [Copy](#) function.

To restore a Project that has been archived by "Project Backup":

1. Close your current project; you must be outside projects to start a Project Restore.
2. Select Restore Project from the Project menu, then "Total Project restoration from a storage device".
3. Choose from the list of available backed-up Projects or use the "Browse for project to fully Restore" option if the project does not appear in the list.
4. The Project Restore Progress box appears. This is nearly identical to the Backup Progress box above, and reports on the progress of the restore.
5. As with backup, once the restore process has started, you can close the Progress box and continue working in the foreground, pushing the restore to the background.
6. The Project files will be copied to the normal location for projects - the "Default Root Directory for projects". The Tracks will be copied to the chosen audio disk and you can then open the Project as usual. Note that in earlier versions of SADiE, project component files always returned to the exact location they came from however from v5.6 onwards this has changed to being the system's Default Project Root and this new scheme makes it more convenient for working on multiple machines with different drive letters.

NOTE: Some Exabyte tapes can take quite some time to log, particularly if they have a number of backup sessions on them. You may find that v2 backup tapes will take even longer because there is no main tape directory. We have a tape containing many sessions of hundreds of tracks that takes about 1 hour to log! In this case it would be quicker to use v2 to restore this particular tape.

SELECTIVE ARCHIVING

If you are working inside a project . it is possible to mark files that you wish to be included in a Project Backup. You will notice that there is a "Tagged" field in the table section of the Source Tracks Folder inside the Clipstore. When "Total Project Backup" is selected, it is actually only the Tracks marked "Yes" for backup that are copied to the storage device.

In the Source Tracks Folder you can manually change Tracks' tag setting by double clicking on the field to toggle between "Yes" and "No".



TAG SOURCE AUDIO TRACKS on the Project Window toolbar brings up a dialogue box which allows you to:

- Tag all the used Tracks - this will look through all open EDL's and Clipstores in the Project, and mark Tracks used with "Yes" for backup.
- Tag all of the Audio Tracks - marks every Source Track as "Yes" for backup.
- Tag all unused Audio Tracks - this is the reverse of "Tag used tracks" above, and would be used for deleting unused audio. See [Cleanup Project](#).

If there is audio that you want to be backed up, whether or not the Track is used in open EDL's then right-mouse clicking on the backup field in the Clipstore will change the field to "Always". Tracks marked "Always" are unaffected by the "Mark Audio for backup" function.

ARCHIVING NON-PROJECT WORK

If you have work to archive that was not kept in a Project . you can use the [Copy](#) facilities in Disk Management to copy Tracks to another storage device. You will then have to copy the EDL . Mixer and Clipstore files to floppy disk, using Windows® Explorer.

FILE FORMATS

FILE FORMATS

To allow interchange with other equipment, SADiE can work with a number of different Disk Formats, and read and write and convert a number of different audio file formats. Additionally SADiE supports several different Edit list formats.

AUDIO DISK AND FILE FORMATS

If you are taking files from other systems and/or passing audio on to be worked on with another workstation (which is becoming more of a regular occurrence) then read on...

It is important to recognise the distinction between Disk Formats and File Formats. A system may require a disk to be configured to a particular format so that it can recognise its filing structure, whereas software programs will require the data files to be arranged in a certain way in order to read those files. So you may have the right disk format for a system, but unless the file formats are compatible for your software then they may not be readable, and vice versa.

SADiE deals mostly in Audio files, and usually the organisation of the PCM audio data is similar from one file format to another, but the file headers (which will contain other information about the audio - sample rate, sometimes time-code stamps etc.) will differ from format to format.

SADiE can work with a number of Disk Formats (as described above) and can play and record in a number of different types of File Format.

NOTE: SADiE can handle these different disk and file formats at the same time, so it is quite possible to be playing for instance SDII files from a Mac HFS disk, Lightworks and WAV files from a FAT 32 disk, and SADiE3 native files from a SADiE3 disc in the same Playlist. The Playlist makes no distinction between the different file types and you will have mostly the same facilities throughout. The only differences are that certain disk and file types allow for fewer characters in the file name, and some audio file formats treat stereo files differently. For instance with Lightworks a stereo file will always be two mono files, whereas a stereo WAV is one file, although the user will perhaps only notice these differences during file copying and maintenance.

You choose a file format every time you record, bounce, or use "Offline Processing or "PC audio import". To change the selection, pressing the "Properties" button on either the Transport Controls, Bounce Window, Offline Processing Window, or PC Audio import window, will show the Properties page for the file you are about to record, and you can change the details at this point.

The File format selection offered will depend on the format of the disc you are recording to. When you choose a file format, that will persist until you change to recording to a different disc drive that has a different format, when SADiE will keep using that file format if it is allowed, but otherwise will flip to "Native" (the chosen default format for that disc format).

When you're recording to multiple disk drives of different disk formats simultaneously (!!) if you choose a format that is incompatible with one of the disk drives you may be told "File is invalid". In such a case SADiE does not allow you to choose a specific file format for each drive, and you must choose one global file format or "Native".

Some settings such as sample rate will be fixed to the current system sample rate. "Bit resolution" will default to the system input setting (see the "Audio" section of the [Setup window](#)), but when you change it in the Properties window, this setting will persist until you change the system setting again. "Take number" is not editable, it is automatically created when you turn on the "Auto-Take" function and increments a number on the end of the file name.



Some fields in Properties can be edited after the recording has been made, for instance reel name, reel track number, comments and references (if allowed by the specified format), and you can access the Properties window by selecting the Track in the Source tracks folder of the Clipstore and pressing **SOURCE TRACK DETAILS**.

Files can be recorded and played back in SADiE at a number of bit resolutions and sample rates:

- 16 to 24 bit (32 bit floating-point too in the case of SADiE3 format), OR
- 32 kHz up to 48 kHz plus, OR
- double (88.2 kHz/ 96 kHz) and quadruple (176.4 kHz/ 192 kHz) rates.

Some files formats will restrict this, but if you intend to interchange this file you should make sure that the system waiting to accept it can handle these bit or sample rates. For instance you could make a 96 kHz 20 bit WAV but does the other sound card and/or software support more than 16 bit and more than 48 kHz?

The file formats supported, as of SADiE v5.4 are:

- BWF (Broadcast Wave Format) - an extension to the WAV format to include timecode stamping and other references.
- WAV - The standard Windows audio format.
- SADiE3 - SADiE3 (and SADiE4) own legacy proprietary format.
- SDII - A common format in Avid and ProTools systems. You can only record in this format in SADiE onto a Mac HFS formatted disc, because of the Macintosh resource fork structure. Note also that these files cannot be copied onto a SADiE backup tape for the same reason; the tape is essentially in a DOS format, which is incompatible with Mac files.

NOTE:- as of SADiE v5.2.2, if you have "MacDrive" installed, you will be able to record SD2 files to NTFS formatted disk drives, but the restriction over backup tapes still applies. See the SADiE5 and Mac Disks topic for more details as to how to use MacDrive.

- WAVE64 - this is a new format which has been designed to cope with the file size restriction that applies to normal WAV and BWF files. WAV files cannot be larger than approx 4GB, so if your recording is expected to exceed this, WAVE64 would be a good choice of file format. (SADiE3 format also allows >4GB file formats). For interchange it would be wise to check that the receiving application can support WAVE64 as this is nowhere near as widely spread as WAV (the current (April 2005) Windows Media Player does not support it "out of the box").
- BWF - WAV64 - this is an extension of the WAVE64 format that includes the standard BWF extensions.
- AIFF - The standard Macintosh audio format. A file of this format *can* be copied to a DOS or SADiE3 formatted disc because it has no resource fork.
- AIFC - Another standard Macintosh audio format. A file of this format *can* be copied to a DOS or SADiE3 formatted disc because it has no resource fork.

- FilmWAV - Another extension to the WAV format for Film applications.
- Lightworks - The Lightworks Video Editor's audio format.
- IDS - A proprietary format used by IDS systems.

SOUND DESIGNER 2 FILES, MACINTOSH DISK DRIVES AND MACDRIVE

SADiE3 and SADiE4 have supported HFS Mac Drives and SD2 files as if they are native, however since SADiE5's move over to using Windows' own disk drives, Mac drive support requires assistance from other utilities because Windows does not read or write Mac drives as standard.

SADiE v5.2.2 introduces a new method of reading and writing Mac disks and Mac files, and this integrates better with Windows, using a third-party utility called MacDrive.

This adds to SADiE the facilities to read and write to/from HFS+ drives as well as reading and copying Mac CD-ROMs

MACDRIVE

MacDrive is a product from MediaFour (see <http://www.mediafour.com/products/macdrive/>).

MacDrive provides a simple solution for file sharing between PC's and Mac's. Note that there are a number of similar products on the market but SADiE is only compatible with MacDrive.

After purchasing and installing MacDrive, Windows is able to access Mac formatted drives and files. Mac files don't use file extensions (i.e. .doc, .exe etc.) in the same way that Windows does, instead its files have "type" and "creator" properties to identify them. MacDrive uses "extension maps" to convert these variables into Windows recognisable file extensions.

As standard, MacDrive 5 does not have settings for Sound Designer 2 files (which tends to be Pro Tools' native audio format on the Mac). In order for SADiE to recognise the required file types, it is necessary to import the necessary extension map into MacDrive. To do this, follow these simple steps:

NOTE MacDrive version 6 now includes extension maps for SD2 files, however, verison 5 did not come with SD2 as standard. For MacDrive 5, the follow these instructions, but it's not necessary with MacDrive 6.

1. You will first need our own customised "Extensions Map file" which can be downloaded from the same place as the SADiE5 software. Copy this file (called MacExtensionMaps.macxtmap) to your hard drive.
2. Right-Click on the MacDrive symbol in the system tool bar at the bottom right of your screen. From the pop-up menu select "MacDrive Properties".
3. In the window that appears select the "Extensions Map" tab.
4. Click the "Options" button, then select "Import Extension Maps..." from the menu.
5. A dialogue will appear warning you that this will overwrite the existing map, select "Yes" to continue.
6. From the browse window open the MacExtensionMaps.macxtmap file you've just copied to your hard drive.

MacDrive will now correctly recognise SD2 files in such a way that SADiE will be able to read them from a Mac-formatted disk drive.

DUAL FORMAT CD'S

Some CD-ROMs have both Macintosh and PC volumes. Normally, when presented with such a dual-format CD-ROM, MacDrive will ignore the Macintosh (HFS or HFS+) volume, and allow the PC (ISO-9660) volume to be made accessible. You can choose to access the Mac volume, instead, by selecting the "Show Mac Files" option – Right click on the drive in Windows Explorer, select the MacDrive option from the menu, then select the "Show Mac Files" option.

COPYING SD2 FILES

SD2 files (but not AIFF) are an example of a Macintosh file type that has two "forks" - a data fork (which is the audio data in an SD2) and the "resource fork" which contains other "header" information about the file – sample rate, bit rate, number of channels etc. Resource forks are the component of a Mac file that Windows has most trouble with as Windows doesn't natively use forked files.

If you copy an SD2 file under Windows, even using "MacDrive" so as to work with its original Mac disk, you must take care note to "lose" its resource fork, and thus, when it comes to log the file in SADiE, we will not be able to read the all-important header information.

Fortunately, Mac files with resource forks CAN be stored on NTFS volumes under Windows. Thus if you are receiving the SD2 files on Mac CD-ROMs or HFS or HFS+ disk drives you WILL be able to copy the files to an NTFS drive, and SADiE will happily read the files via "MacDrive".

BEWARE however – FAT32 formatted disk drives will NOT store the resource fork, and so if you copy SD2s to one of these, SADiE will not read the files. Likewise, if you copy SD2 files from an NTFS drive to say a Windows IS9660 CD-ROM or DVD-ROM then the resource fork will be lost. Similarly SADiE tape backups cannot retain the resource fork, and thus SD2s cannot be backed up under SADiE. Thus, it may be worthwhile considering bouncing the SD2 files as soon as you receive them to some other PC-centric format such as BWF. If you carry on working with SD2s, any other SADiE system you pass them on to will need MacDrive in order to work with them.

NOTE: you cannot copy SD2 files inside SADiE's Disk manager. However copying SD2 files between Mac & NTFS drives will work in Windows Explorer if MacDrive is installed correctly with our Extension Map file. You may find that MacDrive gives you messages of the kind "File XYZ.SD2 has extra information attached to it that might be lost if you continue copying ... Macintosh Application Info / Macintosh Multimedia Resources ...". We are told that this message is less destructive than it sounds, and in practise, the SD2 files copied back to the HFS drive (under Windows Explorer) do have a resource fork. If you are worried, then just check that SADiE can preview a file in Disk Management from its new location after it has been copied – if it can, then the resource fork has copied correctly.

In practise, if you intend to work with SD2 files, then it makes good sense to retain a HFS or HFS+ formatted disk drive to keep them on.

SD2 FILES ON CD-ROMS

It's quite common practise to send files from one system to another by CD or DVD-ROM. However you must be careful because SD2 files cannot be placed on a PC / ISO-9660 CD-ROM - the resource fork will be lost.

However, it is possible to "pack" the resource fork in with the file in such a way that the packed files CAN be placed on a ISO CD-ROM. There are a couple of methods.

Note also that if someone is supplying files on CD-ROM for you to read, then either the same methods below must be used, or else he/she should supply the SD2 files on a Mac format CD-ROM. It is NOT helpful to you if they supply SD2s on a PC format CD-ROM !!

MACBINARY

MacDrive has an option (which is available as a right-mouse-click on an SD2 file inside Windows Explorer) to "Create MacBinary files". A MacBinary file is a format which is used to contain Mac files on a non-Mac disk – essentially this process wraps up the data and resource forks along with its icon, file type , file creator properties etc. into one file.

When MacDrive makes a Macbinary it will give the file a ".BIN" extension. MacDrive can also extract a MacBinary to revert it to a proper Mac file with its resource fork. Thus converting files to MacBinary format is a way of ensuring that the Resource fork is not lost when moving a Mac file across disk drives/ CD-ROMs / SADiE backups etc.

MacBinaries will have to be "extracted" to SD2 files for SADiE to be able to use them. **Stuffit** by Aladdin systems (www.aladdinsys.com) is a file compression/archive tool for the Mac (which is also available for the PC) that can decode Macbinary files.

STUFFIT

Another method would be to use Stuffit to "zip" all the SD2s into a single archive. This single file could then be placed on an ISO CD_ROM - the single file could then be "unzipped" by Stuffit in the Mac.

MACDRIVE VERSION 6 AND MAC CD BURNING

A further solution to these problems arrives in the shape of MacDrive Version 6, which now offers two further useful functions. One is the inclusion of SD2 files as standard, as mentioned above. The second is the inclusion of the Mac CD Burning under MacDrive. This is the obvious way to go now, as the receiver of the files on a Macintosh will be able to read the Mac CD, along with the SD2 files and their all important Resource Forks.

The only remaining difficulty is that you must ensure that anyone sending you SD2 files from a Mac should NOT attempt to make them "more readable" by putting them on a ISO 9660 disk, but should burn them to a Mac format CD - with MacDrive the PC can happily handle Mac CDs, and this method will retain the resource fork.

FORMATTING DISK DRIVES UNDER MACDRIVE

If you want to create files in SADiE to pass onto a Mac system, it will be useful to work with a disk drive that is formatted for the Mac, i.e. HFS or HFS+. SADiE can only record in SD2 format to Mac formatted drives. MacDrive has support for formatting to HFS or HFS+ but only for "removable" drives – i.e. FireWire, but not SCSI drives (which are not handled under Windows Removable Storage regimes.)

Additionally, however, MacDrive can format any hard drive that is already formatted for Mac. For this reason we have retained the ability to format a disk drive to Mac format inside SADiE.

In Disk Management, right-click on the drive you want to format (you REALLY DO want to format this particular drive ??); and select "Log Device Direct" (this will only be available for SCSI or removable drives). This removes the disk drive from Windows (if Windows agrees to its removal) and places the drive entirely under SADiE's own control. Now right-click again and choose "Format", and select the final option "HFS (I partition)".

SADiE will format to a single HFS partition. If you want to make an HFS+ disk, you will now be able to format this drive under MacDrive (right-click, "MacDrive", "Format disk..."). We've noticed that sometimes Windows will not allow MacDrive to format a drive if this is initiated from an Explorer window, however it seems to be successful if you initiate the format from a "My Computer" view.

FILE NAME LENGTH

In the MacDrive Properties page there is a "Save full-length MAC OS X file names" option. If you disable this option MacDrive will truncate any existing Mac files who's names are greater than 31 characters (including the extension).

MacDrive only truncates any offending file names:

1. When the above option is disabled in the properties and the apply button is clicked.
2. When the PC boots up with above option disabled.

TRACK NAMES

The number of characters you can use for the name of the recording depends on the disk and file format. SADiE allows up to 64 characters for the file name (on the disk), and 28 for Mac HFS disks.

If you are intending the interchange with Mac, then it's advisable to restrict the number of characters you put in the track names, however it's always a good idea to keep the length of file names within reasonable limits.

Also, SADiE may allocate some of the final characters in the filename automatically. For instance, if you are recording with "Autotake" the Autotake number will use two or three characters at the end of the file-name. If you are recording multi-track, then additional characters at the end of a filename are used to include the stream name (up to 10 characters) and an Autotake number.

You should be wary of changing file or track names after you have made an edit unless the EDL or clipstores using those audio files are open. The SADiE EDL, clipstore and project will be using the file name to link the EDL entries to the audio file.

Files recorded in SADiE do have other ways of linking via unique identifiers, however you may still have to re-import the file if it becomes unlinked. It is better to rename the *Entries* in the EDL.

RECREATE PROFILES

When tracks are recorded with SADiE, a "profile" file is recorded at the same time, which is used to display the lower resolution waveform views in the Playlist. These appear in the file listing in Disk Management as "*.PFL", "*.PFR", and "*.PFM" files, but only when you choose to **SHOW ALL FILES**.

However if files are recorded outside SADiE and have been copied up to SADiE's hard disk or have been brought in on a non-SADiE formatted disc (e.g. WAV, AIFF, Lightworks, SDII files, etc.), then they will not have profiles. (Files imported with "PC Audio Import" are re-recorded and will have profiles already.)

However the first time you import any of these files into the project, SADiE will detect the lack of profile and automatically make a profile file for each track. This is often quite quick, however if you import long tracks or lots of smaller ones, then you may see the profile being drawn. If you drag a clip into the Playlist, it may not immediately show its profile, but will draw it as you watch.

If you exit SADiE before a profile has finished being created it will warn you that profiles are still being recreated - if you choose to proceed with exiting, then all partial profiles will be deleted. SADiE will start to recreate them again the next time you open the project.

It shouldn't be necessary, but if for any reason you wish to make the profile file, then there is a function to start this manually; the option to "Recreate Profiles" will appear in the right-click menu on the Source Tracks Folder of the Clipstore. You can select a number of clips (using the Shift or Ctrl modifiers) and "Recreate Profiles" will work on all of them.

This option also appears for individual tracks in the menu that appears when you right-mouse click on an EDL entry.

Note that profiles are created at the sample rate at which the track is stamped, and so if for any reason the track has picked up the wrong sample rate stamp, then "Recreate Profiles" is not able to change this. The quickest way to rectify an incorrect sample rate stamp is to bounce the whole track at the correct rate.

EDL FILES

If you bring an EDL file into your PC that was created on a different system, when you open it SADiE will automatically detect any of seven different formats and ask you if you want to convert to SADiE v4 format as you open it.

NOTE: SADiE v2 EDL's differed from v3 and v4 ones in that they lacked automation data, Stream layout, etc. These can also be converted to v4 format, but you cannot use the old v2 mix files.

Alternatively, the "Convert File" command in the File menu allows you to convert files between any of the recognised formats:

Press the **SELECT INPUT FILE** button to locate and select the file to be converted and select its file type from the list that appears.

Press the **SELECT OUTPUT FILE** button to give the converted file a new file name and locate the folder you want to save it in.

You can select "From Playlist" to convert the EDL in the active Playlist to another format, and "To Playlist" when converting and importing an EDL to the current Playlist.

COPYING FILES TO AND FROM THE PC

BOUNCE TO PC DISK

There are some options inside the [Bounce Window](#) to enable you to record files directly onto the PC disk.

If you check PC disk as the destination, then the result of the bounce will be a WAV file on the selected PC disk, rather than on SADiE's own audio disk. Use this to transfer edits as complete WAV files, or simply to convert a SADiE format file to a WAV on the PC disk.

This used in conjunction with "Multi-Bounce" would enable you to mix down each entry of the Playlist as a separate WAV file on the PC disk.

See [Special Bounce Functions](#) for more details.

SPECIFIC APPLICATIONS

This section aims to do two things:

1. To offer tips for using methods described in detail elsewhere in the manual, where they may be relevant to particular areas of work.
2. To give a detailed description of several SADiE facilities that are only relevant to certain applications.

As many techniques can be applied to different circumstances, it is a good idea to read the tips for areas of work other than your own.

[Synchronisation](#)

[Synchronising Rushes](#)

[Autoconforming](#)

[Surround Sound](#)

[CD Pre-Mastering](#)

[Radio Programmes](#)

[Music Editing](#)

[AES3I Interchange](#)

[AAF Interchange](#)

[OMF Interchange](#)

[Video](#)

[Controlling SADiE with a Console](#)

SYNCHRONISATION

Whether you are working to picture, running in sync with a multi-track tape machine or recording from a timecode DAT, you will want to lock SADiE to other pieces of equipment.

SADiE can generate timecode and run as a master. You may want to do this to drive a sequencer running on MTC (Midi Timecode), or to stripe videotape. However, most mechanical machines cannot chase timecode. SADiE will not only chase incoming timecode, but can also locate to any point in an EDL instantaneously, so you will usually run SADiE as a slave to the timecode generated by other equipment.

With SADiE slaved to timecode, you can use the transport controls of the master machine and SADiE will run in sync. However, if you add 9-pin control of the master machine, you can also control that machine's transport and locating functions from SADiE.

Timecode carries both current-time and clocking information.

[Connecting Timecode](#)

[Setting up sync details](#)

[Enabling and disabling Synchronisation](#)

[Monitoring Timecode sync](#)

[Setting up 9-pin control](#)

[Using 9-pin control in sync](#)

[9-Pin Machine Control](#)

[9-Pin Slave](#)

[Working with Sync Material](#)

[Maintaining Sync](#)

CONNECTING TIMECODE

SADiE provides a number of different ways of reading timecode to suit the user's requirements.

To synchronise to external equipment you will need to consider both clocking and current time information.

SADiE's audio clock can be synchronised to:

- Digital Audio - via AES, SPDIF or Genlock/AES Ref connector
- LTC (Longitudinal Timecode) - via the LTC In connector
- Video clock - via the Video In connector

Current time can be read via:

1. LTC
2. 9-pin timecode on the RS422/9-pin port
3. VITC

Here are three suggestions for connecting up SADiE for synchronisation. There are many other combinations but these are the simplest. Explanations appear later in this chapter.

I. LTC

- i. Connect a cable from the external player's (VTR/DAT/etc.) LTC output to SADiE's LTC In. Be careful with respect to feeding balanced connections into unbalanced inputs or vice-versa. Most LTC faults are due to bad cabling.
- ii. In the "Synchronisation" section of the [Setup window](#) choose:
 - Frame rate - to suit
 - Timecode type - LTC
 - Sync mode - Slave Mode
 - Slave Mode - "Trigger Lock" for digital playback or recording, or "Chase Lock" for analogue.
 - Under "Autostart and Offset" set Autostart to 2 seconds.
 - Right-click on the **ONLINE** button and select "LTC sync"
 - No need for 9-pin connection or Video
- iii. Pressing **ONLINE** and putting the external player into play will start SADiE's EDL playing, following the player's current-time.

2. LTC WITH 9-PIN CONTROL

- i. Connect as per the LTC method, and set the Sync Setup the same. Additionally:
 - Connect a 9-pin lead between the external player and one of SADiE's 9-pin ports.
 - In 9-pin Channels Setup, enable that 9-pin port for Sony 9-pin master.
 - Right-click on the **ONLINE** button and select that 9-pin port. The menu will show the machine's name if it recognises it.
 - No need for Video cable.
- ii. When you press **ONLINE**, the transport controls will now control the external player. "Play" puts it into play and SADiE will follow. If you double-click on the EDL's time line, the external player will locate to that position before playing, and SADiE will wait for it to locate before starting. SADiE's scrub controls will jog/shuttle the external player and SADiE in sync.

3. 9-PIN SYNC METHOD

- i. This method requires no LTC lead or LTC setup. You will need a 9-pin lead between the external player and SADiE's 9-pin port. Additionally you must connect a video signal to the SADiE hardware's Video In to provide clocking sync. This could be from the external player (if it is a VTR) or could be a station video sync signal.

ii. In Sync Setup choose:

- Frame rate - to suit
- Timecode type - 9-pin
- Sync mode - Slave Mode
- Under Autostart and Offset set Autostart to 2 seconds.
- Audio Clocks
- The setting of Slave Mode on the sync setup page is irrelevant; SADiE is always in "Trigger" Mode with 9-pin timecode. Thus to avoid drifting, the audio clock must be locked to the timecode. See the notes on [Trigger](#) and [Chase lock](#).
- If you're recording digitally: Set your digital clock as normal, either "Automatic" in the "Audio" Setup section, or "Genlock" to the recorded input or Genlock input if you have a house AES/EBU signal attached to the AES Ref In (if your hardware has one). NOTE: the incoming digital audio signal must be in sync with the video reference.
- If you're recording analogue: Under the "Audio" Setup section, you should set "Internal" Clock to "Lock to Video".
- Right-click on the **ONLINE** button and select that 9-pin port. The menu will show the machine's name if it recognises it.

iii. Press **ONLINE** to control the external machine. Operation is identical to method 2 above.

NOTE: Video lock is like chase and so varies the audio clock to lock onto the video signal and increased jitter may be noticed. If you're recording or playing out digitally whilst locked to video you'll get more solid lock if you set the clock to AES/EBU. Video lock is fine for analogue recording and playback.

SETTING UP SYNC DETAILS

Select the "Sync" section of the [Setup window](#).

- Frame Rate - select the frame rate you are working to in frames per second:

23.98	High Definition
24	Cine film
25	EBU - European TV
29.97	North American TV (Colour)
29.97 drop	North American TV (Frame accurate Colour)
30	North American TV (Monochrome)
30 drop	

- Timecode Type - select the type you wish to generate, or slave to.
- No Timecode Sync - incoming timecode is ignored and no timecode is generated. The **ONLINE** button in the Transport Controls, or on the hardware controller will only enable 9-pin control.
- Master Mode - SADiE will generate timecode and output it from the relevant socket on the Breakout Panel, in one of two ways:

- Sync to Video - locks the generated timecode to the clock of a video signal connected to the "Video" BNC socket on the panel. If you set it like this and don't connect a clock source, you won't get any timecode! Used for striping videotape, with a Station Clock connected to the BNC.
- Sync to Word Clock - the normal setting, where the generated timecode is locked to the digital audio clock currently generating SADiE's sample rate. The source of this clock is selected in the "Audio" section of the [Setup window](#).
- Slave Mode: - SADiE will follow the timecode arriving at the relevant timecode input socket, in one of two ways:
 - Trigger Lock - after receiving timecode, SADiE starts at a synchronised point and then runs on its current digital audio clock, as described above. After several minutes it is possible that there will be a drift between SADiE and the timecode, unless you have a reliable station clock to which you can Genlock all equipment.
 - Chase Lock: - SADiE's audio clock follows the incoming timecode so that the sample rate is continuously varied to track it and therefore make slight variations in replay speed.

NOTE: In Chase Lock, variations in the replay sample rate from chasing a VTR will mean that the digital audio output is unlikely to be acceptable to other equipment, such as the digital inputs of a DAT recorder. It is generally best to use Trigger Lock for digital transfers and Chase Lock when doing analogue transfers.

- Timecode Slave:
 - TimeSync - turns on SADiE's TimeSync function. At jumps in incoming timecode value, which result when a machine recording field timecode is stopped and restarted, SADiE creates a new Track and automatically relocates to the new value so that EDL Entries are automatically placed at the correct point in the EDL with respect to their timecode. Similarly in playback SADiE will follow the jumps in timecode. You need to have Autotake on in the Transport Controls when using TimeSync.

Note: TimeSync can only be used when you are set to record in SADiE3 file format
 - Don't stop after valid Timecode - if this is selected, if timecode disappears for longer than the flywheel time, it will be ignored, and SADiE will continue playback.

Double-click on the + sign next to the "Sync" label in the [Setup window](#) to display the sub-section "Autostart and Offset".

- Autostart Time - sets the delay between SADiE detecting incoming timecode and starting playback in Slave mode, so that the current EDL can be compiled. The default value of 2 seconds is adequate for most situations. If you find that SADiE misses the trigger point in complicated EDL's, increase the delay. The display is adjustable in the same way as all other time displays.
- Timecode Offset - sets a fixed difference between SADiE's EDL time and the incoming timecode in Slave mode and the generated timecode in Master mode.
- Flywheel Length Frames - sets the amount SADiE runs-on after incoming timecode stops.
- Record Stop Time - sets the time between timecode disappearing and SADiE stopping record while slave to timecode
- Record Time Stamp Delay - the time between SADiE recognising a new timecode and time stamping the track it is recording. When SADiE is recording in sync it will wait until timecode is steady, and then it will time stamp the recording, back calculating the time to the start of the track. You may find that when TimeSync is enabled, during timecode breaks SADiE may recognise a number of timecode breaks and perhaps record a number of very short tracks before the timecode stabilises and the real new slate begins. If this happens, try increasing the Record Time Stamp Delay and SADiE will wait longer after a break before it starts time stamping and creating new tracks.

ENABLING AND DISABLING SYNCHRONISATION

The **ONLINE** button in the Transport controls or on the hardware controller enables and disables timecode synchronisation (and SONY 9-pin external machine control). Timecode synchronisation is enabled as follows:

Timecode Mode	When ONLINE is pressed
Master	SADiE will generate timecode when the current-time cursor is moving.
Slave	SADiE will not start until incoming timecode is present, followed by the delay set under "Autostart Time". The Transport Controls are operating the 9-pin external machine if 9-pin is enabled (except record, which is still working in SADiE's Playlist).
No Timecode sync	The Online button has no effect on synchronisation.

If 9-pin machines are enabled, right-clicking on the **ONLINE** button shows a menu where you can choose which 9-pin machine to control. If you are using LTC for synchronisation, there will be an additional option, "LTC sync" which will stop transport commands being sent to a 9-pin device when **ONLINE** is pressed.

NOTE: The Transport Controls have to be controlling a Playlist for the **ONLINE** button to be available, so a Playlist has to be the active window.

TIMECODE RECORD MODES

When SADiE is **SLAVE** to LTC, two special modes are available:

Auto online when pressing record

If your sync settings are already set to Slave to LTC, and some streams are record enabled, when you press the record button, online will be enabled simultaneously and SADiE will follow any incoming timecode. Recording will start first, and any re-positioning of the timeline to follow the LTC will happen later, so that the record start is more immediate.

This mode allows for a single button press to initiate the recording.

Auto record on receiving timecode

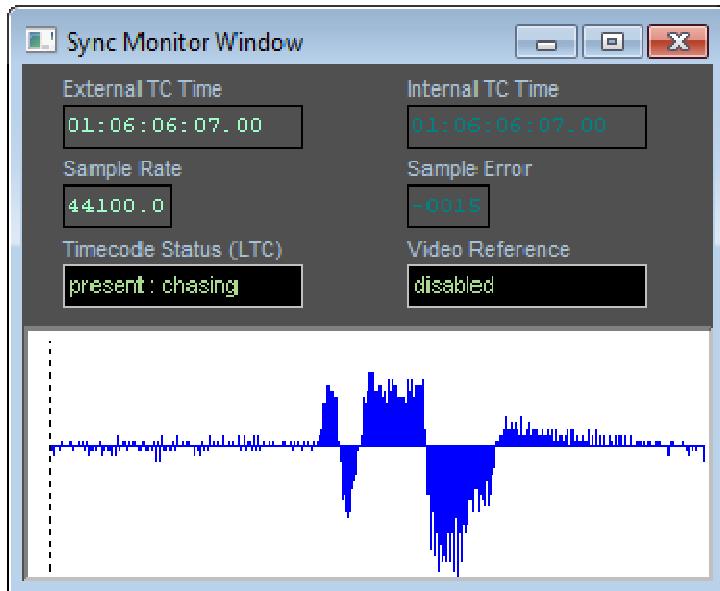
Once again, your sync settings must be set to Slave to LTC. Online must be enabled, and some streams must be record enabled. As soon as timecode is detected on the LTC input, recording will start.

In this mode, you can leave SADiE record enabled and online, and then you can control another machine and have SADiE automatically record any playback on the other machine.

You can enable both of these modes together. These are both enabled by switches in the Record page of the Setup Window.

MONITORING TIMECODE SYNC

The Sync Monitor window can be displayed from the View menu and gives you a visual indication of the quality of the incoming LTC, MTC or VITC timecode when sync is enabled.



Both the incoming and SADiE's internal timecode values are displayed at the top.

The graph continually re-displays itself and shows the sample rate variation that would have to be applied to chase the incoming timecode. Maximum and minimum variations on the graph in view are shown.

- In "Trigger Lock", this will indicate potential drift.
- In "Chase Lock", it will represent the amount SADiE has to chase to keep in sync.

In "Chase Lock", the "Sample Rate" display will show the sample rate being varied, and the "Sample Error" will indicate by how much.

The "Timecode Reader Status" indicates whether timecode is being received.

The picture above shows a very severe fluctuation in speed caused by changing Varispeed. You wouldn't normally expect this sort of behaviour, but in all honesty, the picture grabbed when it was working correctly was much less interesting!

SETTING UP 9-PIN CONTROL

Display the "9-Pin Control" section of the [Setup window](#).

- Nine-pin channels - There are four channels available on SADiE's CAT RS422 interface card, each represented by one of the four-way break-out leads connected to the card.
- One channel may be used for a set of hardware controllers. Enable them by selecting that channel to "Hardware Controllers" after they are connected.

The rest are available for control of external machines. For each machine that you connect to a 9-pin channel, select "Sony 9-pin Master".

Double-click on the + sign next to the "9-Pin Control" label in the [Setup window](#) to display the sub-section "Machine Control Setup".

- Machines - names each machine on a 9-pin channel. The name appears in the list displayed by right-clicking on the Transport Controls' **ONLINE** button, so that you can pre-select which machines SADiE will control when the button is pressed.
- Use 9-pin Locate Command and Use SADiE's Locate function - You have the choice between using the machine's own 9-pin locate command, or SADiE's own method which controls the fast forward and shuttling separately. 9-pin locate command will be more accurate, but in achieving that accuracy, may well take longer to position the tape. Which method you use depends on the 9-pin machine itself and the particular job you are working on. If for instance you are synchronising daily rushes with short timecode run-ups, it is likely to be more efficient to go for the accuracy of the 9-pin locate, whereas if you are track laying and it doesn't really matter where the 9-pin machine starts within a few frames, then choose SADiE's locate function.

- Approximate machine FF/RW speed and Allowed locate error - These are the settings for SADiE's Locate function. "FF/RW speed" is the approximate maximum speed the machine reaches in fast forward; this is the speed ratio (080 for instance means the 9-pin machine moves the tape 80 seconds during every real-time second). "Locate error" is measured in frames.
- Machine Time - selects the source of the timecode that SADiE reads from the external machine connected to the 9-pin socket.
- Machine Control Options - allows you to disable or enable record options over 9-pin. SADiE's "Machine Control windows (opened from the View menu) allow you to put a remote machine into record, but you may wish, for instance, to disable video record options on a video machine.

A few optional settings

- Always Lock to Playlist Timeline. If the slave machine is a hard disk player, this setting may be appropriate - whenever SADiE locates, a locate is sent to the 9-pin machine and so it will always follow. If you set this for a tape player, then every click in the SADiE EDL could cause a tape rewind/fast forward.

Also there are two settings for changing the behaviour of the 9-pin slave machine that are only available by modifying the registry (which you should avoid if you have no previous experience of editing the registry)

- Setting for 9-pin machines that don't set "cue up complete" status. The symptom for this is that double-clicking on SADiE's timeline doesn't put the slave machine into play - in fact SADiE is waiting for notification that the locate has completed before sending a play command. Set this to 1 to stop SADiE waiting for confirmation.
 - HKLM\Software\Studio Audio & Video\SADiE5
 - DWORD
 - PYXIS NINE PIN
 - Set value to 1
- Setting to scrub over 9-pin using locate commands instead of shuttle. This may improve performance and feel of the scrub.
 - HKLM\Software\Studio Audio & Video\SADiE5
 - DWORD
 - NINE PIN SCRUB BY LOCATE
 - Set value to 1

USING 9-PIN CONTROL IN SYNC

The **ONLINE** button in the Transport Controls or on the Hardware Controller enables and disables both timecode synchronisation and 9-pin machine control. Right-clicking over the button pre-selects which (if any) machines will be brought Online, or allows you to select LTC sync only.

To control and lock to a machine, such as a VTR, you will have set up machine control and be running SADiE as a slave to the timecode from it.

1. Make the Playlist you want to play the active window.
2. Press the **ONLINE** button.
3. Use the Transport Controls or Hardware Controller to play or scrub the audio and picture in sync.

NOTE: SADiE will lock to the VTR's playback position. You can locate the VTR by using SADiE's rewind/fwd buttons or scrubbing, going to a stored locator point, double-clicking in the time bar, or repositioning the current-time cursor and pressing **SHIFT + PLAY** on the Hardware Controller. The VTR will not re-locate if you position the current-time cursor and start playback normally.

When scrubbing audio and a remote video device together in sync, the speed at which you can scrub will be limited by the amount of audio you have in your Playlist. However, many video machines can achieve a faster jog or shuttle speed (up to 16x perhaps), and you may commonly use a very fast shuttle to locate the video. Within SADiE it is possible to disable audio scrubbing whilst still scrubbing the picture (and thus allow faster scrub speeds).



Press the **GRABTIME** button (yes it is an illogical name!) on the hardware control edit panel; this button toggles audio scrubbing on and off, whilst keeping the 9-pin device in scrub.



There is also a Hotkey for this, under "Hotkey Setup", "Transport Controls", "9-pin scrub without audio".

9-PIN MACHINE CONTROL

You can remotely control a 9-pin machine with its own separate transport controls. This is independent of the Playlist, although the two methods can be combined.

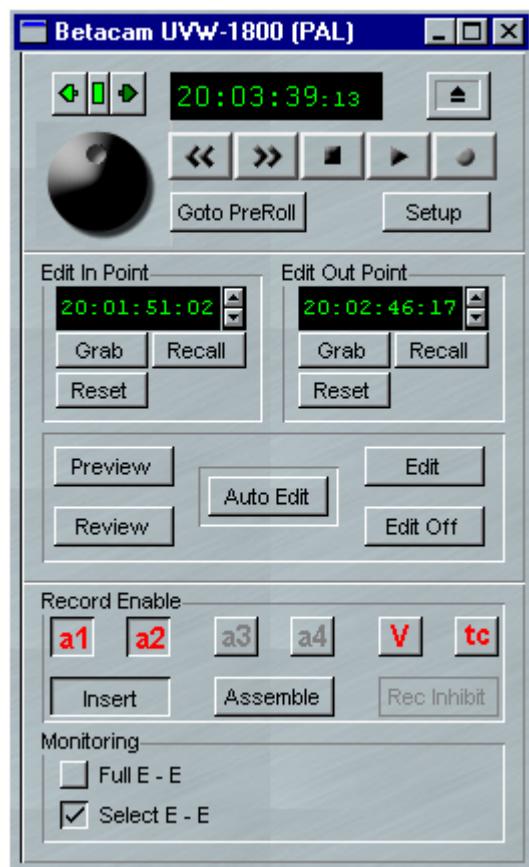
Connect and setup the 9-pin channel (see [Setting up 9-pin Control](#)). Although Sony 9-pin, or P2 protocol is a "standard", different machines will implement it in subtly different ways. For instance some machines will have 2 audio channels, some 4, and others more. Some are video machines, but of course DAT's have no video channel.

SADiE implements a generic set of 9-pin commands, but it is possible that some machines may not implement these commands in exactly the standard way.

Be sure to check the operation with your machine before working on master tapes. In particular check that your machine doesn't interpret **INSERT** as **ASSEMBLE!!** If you have trouble with 9-pin control, consult your dealer with details of the machine; they may be able to provide a custom software driver better suited to your device.

Under the "View" menu, select "Machine Control" and then choose the device you wish to control.

You will see this window:



This gives you control of the Transport and Edit controls for the remote machine, allowing you to put it in and out of record, or play and jog it independently from the Playlist.

The top section is for 9-pin Transport Controls:

- Time display - for the machines current time. This display will say "TAPE" if there is no tape in the machine, or "MACHINE !!!!" if there is nothing connected on the 9-pin channel. If there is a good time display but all buttons are grey, then the machine is probably set to local mode.
- Transport buttons - rewind, fast forward, stop, play, record. The button above "record" is for tape eject.
- Wheel and nudge buttons - are for scrub and operate in the same way as SADiE's normal transport controls; drag left/right for scrub and up/down for shuttle.
- Go to Pre-roll - locates the machine to a pre-roll before the Edit In Point.
- Setup - opens up the 9-pin setup page.

Next is the Edit section:

- Edit In point and Edit Out Point - set the edit points. These have fields for a time, and you can double click and type in a new time. Or click on a digit and drag the mouse up or down to increase or decrease that value (as with SADiE's other green time displays). "Grab" copies the 9-pin time from the 9-pin transport controls into the field. "Reset" sets it to nothing. After an edit has been performed, most 9-pin machines reset their edit points, so "Recall" will call back the last edit time.
- Preview - locates the machine to its pre-roll time, into play, then between the edit points the machine will go E-E
- Auto>Edit - actually performs the edit. It locates the machine to its pre-roll time, into play then punches into record on the enabled channels at the In point and out at the Out point.
- Review - will locate to the pre-roll time and just play until it reaches the Edit Out point. You would use this after you've performed the edit, to check it.
- Edit and Edit off - put the machine straight in (and out) of edit without using the In and Out points.

Lastly the Record Enable section:

- Record inhibit - a warning that the tape is protected.
- Insert and Assemble - choose the record mode. Assemble mode can be disabled in 9-pin setup.
- a1, a2, a3, a4, V, TC - enable the Audio 1,2,3,4, Video and Timecode channels for record.
- E-E - "Full E-E" puts all channels into "Input Monitor". "Select E-E" puts only those channels enabled for record into "input monitor".

NOTE: If you have **ONLINE** pressed, and the same machine selected for synchronising the Playlist, then both Transport Controls will operate the remote machine.

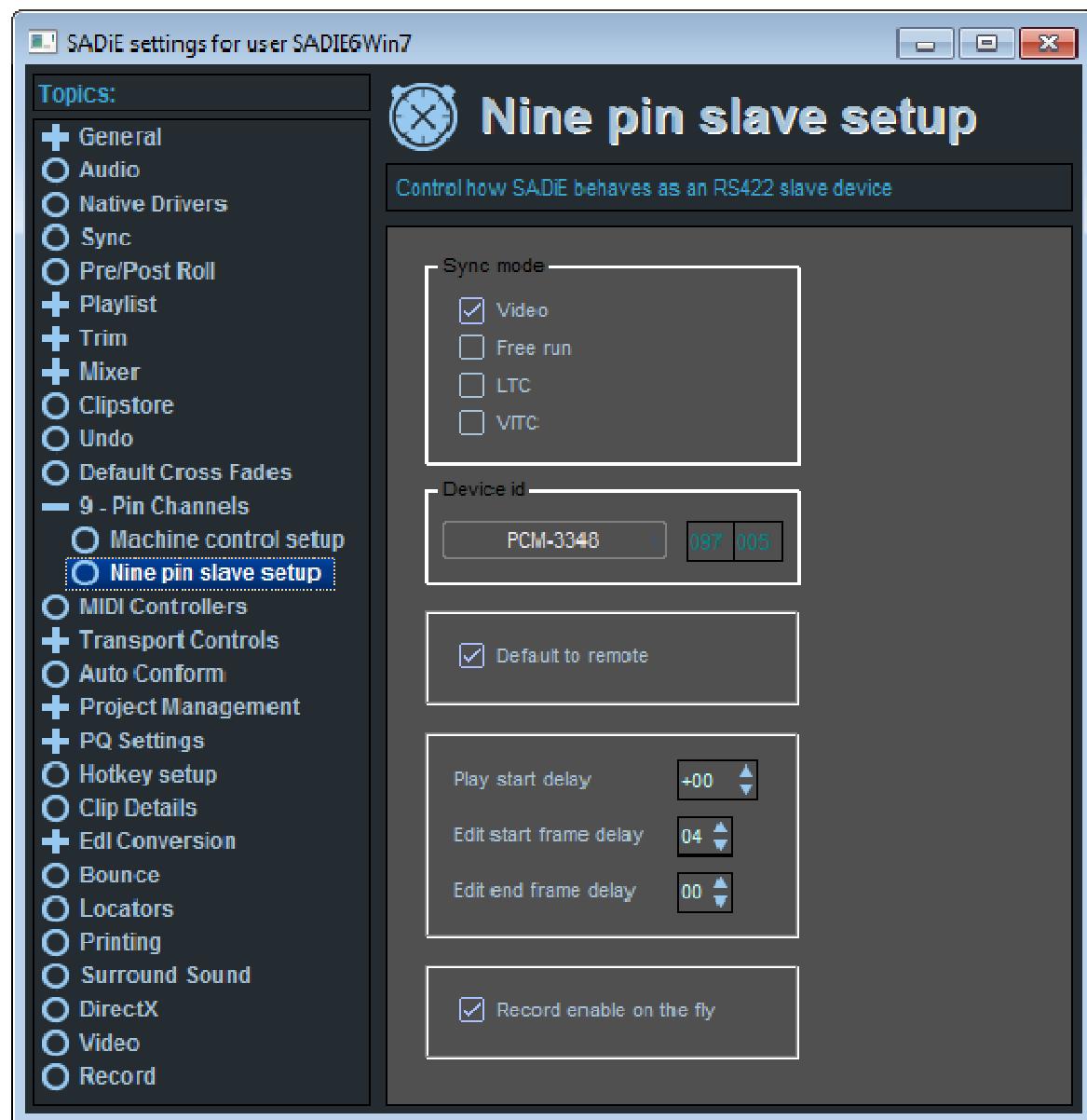
9-PIN SLAVE

It is possible to operate SADiE remotely from a third party Edit Controller, by commands over a Sony 9-pin protocol interface.

SADiE supports:

- Transport commands, play, stop, rewind, fast forward, record, scrub, 9-pin locate.
- Record enabling of streams.

A 9-pin Slave setup page exists to allow you to alter the machine emulation. Some of the parameters can be delayed to accommodate delays inherent in the control system.



SYNC MODE

This setting determines how playback is synchronised. Ideally this should be set to **Video** - Free Run is only really a diagnostic or test setting. Thus a video signal must be connected to the video input of the CAT card. Note that this setting uses the video frame edge as a playback trigger, and in this mode SADiE is expecting the 9-pin controller to be acting as a synchroniser. The source for Audio clocks needs to be set in the Audio setup page. Any video signal that the 9-pin slave playback is triggering to should be locked to any digital audio or word clock signal that the audio is locked to.

If the 9-pin controller is not a synchroniser, then either the **LTC** or **VITC** modes can be used to synchronise SADiE's playback. When set to **LTC** you will need an extra cable to feed LTC into SADiE's LTC input. In **VITC** mode, VITC will be read from the standard Video input connection (if it's present).

Note also that 9-pin slave cannot be enabled unless the setting for **Sync Mode** in the main **Sync Setup page** is set to **Slave Mode**.

DEVICE ID

The drop-down box in this section contains a number of devices that SADiE can be set to emulate. The main reason to change this would be to allow a different number of input channels to be record enabled - i.e. when SADiE is acting as a Sony 7030 DAT recorder, then most controllers will only expect to record enable 2 channels, whereas the Sony PCM-3348 is a 48 channel recorder. And emulating the GX8064 will allow 64 channels to be record enabled where the controller supports such a number.

There may be reasons for wanting to emulate a different machine; perhaps a controller offers special facilities on a particular machine. You can select "manual" from the list and then type in the Device ID yourself.

DEFAULT TO REMOTE

When the Default to Remote option is ticked, whenever SADiE is started, and whenever a new EDL is opened, the Online button will be set to 9-pin slave and enabled. Tick this if you are always controlling SADiE over 9-pin.

ENABLING 9-PIN SLAVE

1. Set one port to accept 9-pin commands in "9-pin Channels" setup by selecting "9-pin Slave" from the drop-down list
2. Select 9-pin Slave from the right-mouse-click menu on the Transport Controls' Online button.
3. Press the Online button.

LOCATING

Some Edit Controllers will offer a "quicker" method of locating which involves the edit controller itself taking over the locate by fast forwarding, shuttling and/or going into play, as opposed to sending a single "9-pin locate" command. SADiE itself offers "Use SADiE's locate" when operating as a 9-pin controller. This can sometimes have advantages when controlling a VTR - a 9-pin locate command can sometimes waste time by doing a lot of shuttling when it's close to the locate point to ensure the locate is very precise, but in many cases you can save time by going into play "within a few frames or so.."

BUT.... this "smart locate" does not work well when SADiE is a 9-pin slave - if the controller can send a single 9-pin locate command, being a random access disk device, SADiE can jump to that position instantaneously, whereas combinations of fast forward and shuttling can be very slow indeed.

Thus ensure that the controller is always sending 9-pin locate commands to locate.

FAST FORWARD & REWIND

Note that you can change the speed of SADiE's FFWD and RWND controls - see **View** menu, **Setup Window**, **Transport Controls...Fast Forward and /Rewind Speed**. This sets the speed for the "silent" FFWD and RWND and not the "Audio Scrub" shuttle, which is determined by the controller.

SHUTTLE

Some controllers will send a shuttle command in place of Fast forward or rewind. There are limits to the speed that SADiE can read audio from disk and audibly scrub; if the controller wishes to shuttle any faster, then SADiE will shuttle silently in order to keep up with the controller's time-line.

9-PIN PORTS

As standard, SADiE's 9-pin ports are wired as Masters so as to use a straight-through cable to connect to a VTR. Thus, to use SADiE as a slave, you will require either a cross-over 9-pin cable which wires TX to RX and vice versa, or else we can provide a customised 9-pin break-out lead for the CAT card with one port wired as Slave so that a straight pin-to-pin 9-pin cable will work.

The 9-Pin Slave function is an optional feature; contact your dealer for details of how to obtain it.

WORKING WITH SYNC MATERIAL

When working to picture, or other material where sync is important, you will want to:

1. Record audio material that is already in sync. When SADiE is locked to the source machine, material you record in will be time stamped with its timecode and positioned correspondingly in the EDL. This also occurs when Auto-conforming and when using SADiE's "TimeSync" feature, both detailed in sections below.
2. "Sync up" material that is not yet in sync, e.g. position it in the EDL so that it is correctly synchronised. This may take the form of synchronising film rushes, or track laying sound effects etc.

NOTE: It is often most convenient to have two EDL's open for this. You can then have one as your source EDL with the Entries in their original positions, and the second as your destination EDL into which you paste the Entries (either cut or copied from the first EDL) at their new, "synced-up" positions.

3. Then keep it in sync while you trim, edit and mix it.

MAINTAINING SYNC

Once material is in SADiE:



The **LOCK** buttons on the Playlist toolbar and on each stream can stop an individual Entry or Entries on a stream from being moved in the EDL, and so stop accidental loss of sync. Changing an Entry's EDL times in the Text EDL will not alter sync when the **LOCK** is on, but it will slip the Entry when the **LOCK** is off.

Editing follows all the instructions. To maintain sync, use Playlist Editing in "EDL mode". When you want to slip an Entry against sync, switch to "Source mode".

TRACK LAYING

This is only a suggested method, and you will probably develop your own.

The hotspot is a useful marker that you can set at a particular point within any Clip or EDL Entry and then use as the reference when placing it in an EDL. For example, when you place a sound effect of a screech of car tyres followed by a crash, it is probably the crash that you want to position accurately. It is also useful for "back-timing", to get a certain bit of music to coincide with the end of speech, etc.

- For each audio Entry (or Clip in the Clipstore) use Playlist Editing or the Trim Editor to set the hotspot at the audible cue (see Editing and Clip Details window).
- Then, with 9-pin control of the VTR enabled, use SADiE's Scrubwheel to find to the visual cue point. The current-time cursor is now at the sync point.
- If the Entry is already in the Playlist, use the Snap-Hotspot-to-Current-time function (by right-clicking over the Entry in the Playlist) to position the hotspot at the sync point, and so synchronise the Entry.
- If your Entry is not yet in the Playlist, paste it in using Autoplace set to "Hotspot to current time".

SYNCHRONISING RUSHES

SYNCHRONISING RUSHES

If you are using timecode synchronisation and 9-pin control, the audio takes for film rushes (dailies in the USA) can be put in sync in SADiE so that they can be laid back to a telecine videotape.

Three different methods are described here:

[Non-Timecode Rushes \(using Clapper boards\)](#)

[Rushes with Timecode Boards](#)

[Aaton or Arriflex Rushes](#)

NON-TIMECODE RUSHES (USING CLAPPER BOARDS)

This is a recommended method; for an alternative, see the section on [Track laying](#), which is a very similar process.

If the takes are loaded into SADiE in order, you can sync them up in the same EDL . If not, it is better to open a second, empty EDL, then one by one cut or copy the entries out of the first and paste them into the second in roughly the right place, and adjust them until they are in sync.

1. Record all the audio into SADiE, separate takes as separate Tracks.
2. Find the audio Entry for the first take and cut or copy it to the paste buffer.
3. With SADiE slaved to, and 9-pin controlling, the telecine VT, scrub the picture to the first clapperboard. SADiE's current-time cursor will now be at the sync point.
4. Paste the Clip for this take into the (second) EDL near the current time (hardware controllers will paste it at the current time).
5. Pre-select **HOT** and **SOURCE** mode and turn on Playlist Editing.
 - i. If you are using a mouse, have the automatic **MOUSE EDIT SELECTION OFF** (button up), select the Entry and press the **PLAYLIST EDITING** button.
 - ii. On the hardware controllers, simply press **EDIT/SELECT**.
6. Adjust the audio, scrubbing it across the current-time cursor to line it up on the audio of the clap.
7. Turn off Playlist Editing. The take is in sync! Repeat for the others.

Lay back the audio from SADiE to the VTR. Run SADiE in "Chase Lock" for analogue transfers.

NOTE: If you want to lay off an Auto-conform DAT at the same time, you can also connect SADiE's digital outputs to a timecode DAT machine locked to the VTR timecode output. In this case, run SADiE in "Trigger Lock".

RUSHES WITH TIMECODE BOARDS

The audio takes will have field timecode with them, assuming that this matches the timecode on the boards.

1. Record the audio takes into SADiE, locked to the audio player, with TimeSync on. Use "Trigger Lock" for digital transfers and "Chase Lock" for analogue. Remember that you must also have Autotake on in the Transport Controls.

You will then have an EDL Entry for each take, positioned at its field timecode value in the EDL . Each needs to be moved to a new EDL position representing the continuous timecode of the telecine VT. This is best done by opening a second EDL (the "New", "Playlist" command on the "File" menu) and pasting each Entry into that at the new time.

NOTE: If SADiE stops recording at the end of a single take and doesn't go back into record again, it may be because you have **RECORD STOP TIME** in "Sync setup" set too low. This is time after timecode disappears and before SADiE stops recording, and thus if it is set to zero the TimeSync operation will stop on the first timecode break.

2. **LOCK** all Entries in both EDL's. Select Autoplace "Hotspot to Current-time" in the second EDL.
3. Check that the second EDL is active
4. With SADiE slaved to, and 9-pin controlling, the telecine VT, scrub the picture to the first timecode board. SADiE's current-time cursor in the second EDL will now be at the sync point.
5. Make the first EDL active, pre-select **HOT** and **SOURCE** mode in the Transport Controls, and select the required Entry. Turn Playlist Editing on, and for safety have the automatic **MOUSE EDIT SELECTION** off (button up).
6. Read the time on the board, and enter it into the edit point time display in the Transport Controls. This sets the Entry's Hotspot to the timecode value on the board.
7. **CUT** or **COPY** the Entry, make the second EDL active and paste the Entry into it. Its

Hotspot will be positioned at the sync point, and the take is in sync.



5. Make the first EDL active with the **WINDOW** button. Pre-select **HOT** and **EDL** mode and select the required Entry (best to use **PREVIOUS** or **NEXT**). Press **EDIT/SELECT** to turn on Playlist Editing.
6. Adjust the Scrubwheel until the time in the **SOURCE** display on the controller matches that on the board. This sets the Entry's Hotspot to the timecode value on the board. Press **EDIT/SELECT** again to confirm the adjustment.
7. **CUT** or **COPY** the Entry. Press **WINDOW** to make the second EDL active and press **PASTE**. The Entry will be positioned with its hotspot at the sync point, and the take is in sync.

Lay back the audio from SADiE to the VTR. Run SADiE in "Chase Lock" for analogue transfers.

NOTE: If you want to lay off an Auto-conform DAT at the same time, you can also connect SADiE's digital outputs to a timecode DAT machine locked to the VTR timecode output. In this case, run SADiE in "Trigger Lock".

AATON OR ARRIFLEX RUSHES

The audio takes from these rushes will have field timecode with them. This timecode is also generated by the camera equipment and conventionally laid onto track 3 of the telecine VT. SADiE's TimeSync feature takes advantage of this to sync the rushes up totally automatically in just two passes of the EDL .

1. Record the audio takes into SADiE, locked to the audio player, with "TimeSync" on. Use "Trigger Lock" for digital transfers and "Chase Lock" for analogue. Remember that you must also have "Autotake" on in the Transport Controls.

You will then have an EDL Entry for each take, positioned at its field timecode value in the EDL. Because you can now lock SADiE to the field timecode on track 3, these can be positioned in sync as you lay them back to the telecine VT.

2. Feed the output of the field timecode on the VTR (usually Track 3) to SADiE's LTC input. Run SADiE in "Chase Lock" and record SADiE's analogue audio outputs to the VTR.

NOTE: If you want to lay off an Auto-conform DAT at the same time, you can also connect SADiE's digital outputs to a timecode DAT machine locked to the VTR timecode output. In this case, run SADiE in "Trigger Lock".

AUTOCONFORMING

AUTOCONFORM & RECONFORM

In broad terms, Auto-conforming involves applying an Edit Decision List (EDL) to some kind of media in order to quickly and automatically produce an edited version of those media.

The most common Auto-conforming scenario we are attempting to handle in the Professional Audio world is the situation where both video and audio have been edited in an offline video editing system; we now want to apply the same edits to the audio media (or different and perhaps better quality audio media) so that we can apply our audio skills and audio tools to enhancing the audio elements of the programme.

AUTOCONFORM FROM TAPE

Traditionally (way back at the end of the 20th century !) some of you may remember that audio was recorded onto tape media. Audio and video were recorded into a computer for offline video editing and sequencing of the programme. Because interchange was in its infancy and file processing was slow, the quickest and most efficient method of getting the audio into an audio workstation was to record it in real-time.

The video editor would provide a **CMX EDL** - a list of original source timecodes against the new edited times - and the tapes would be recorded under remote control - the audio workstation (let's call it SADiE) would "cherry pick" the audio from the source tapes - only recording the source timecode ranges that were used in the EDL. Once the audio had been recorded into SADiE, the EDL was then applied to the source material so as to replicate the video editor's audio work.

Of course, tape auto-conforming is still commonly used today, and wider use of multi-channel recorders means that extra flexibility is required of the audio editor, which SADiE can provide.

AUTOCONFORM FROM DISK FILES

In more recent times, it's becoming increasingly common to find that sound for a TV programme or film is recorded to hard disk using one of the portable recording devices manufactured by for instance, HHB, Deva, Nagra, Fostex, Aaton, Sound Devices and others.

These disk recorders may offer additional flexibility to the Sound Recordist, and rather than providing a simple mono or stereo mix of the sound, because most of the devices are multi-channel, it will be possible to capture every microphone on the set to a separate channel, along with a stereo mixdown. Thus if all this audio can be passed through to post-production, extra flexibility is available at a later stage - if the stereo mix has faults, it may be simple to remix and correct this later in the production chain.

Interchange of audio is much more sophisticated now and work in the video editor can be passed onto the audio workstation via AAF or OMF to include levels, fades and clip names.

However there are still times when the audio editor may wish to revert to the original audio - not all the channels may be used in the video edit - perhaps just the stereo mix; or the video editor may have been working with 16-bit version of the audio and we would want to revert to the 24-bit originals.

SADiE's auto-conforming facility provides tools for channel expanding and uses a number of techniques to allow re-linking an EDL to media based on meta-data in the files or other parameters.

RECONFORMING

Imagine the situation where the audio editor has received an OMF file and proceeded to "sweeten" the audio - perhaps he has substituted some auto-conformed multi-channel disk files, and he will have tidied the levels and fades and added some more sound effects.

The next day the video editor sends a new edit - it has been decided to change or re-order a couple of scenes and shorten the program a little. But if the audio editor imports the new OMF, all of yesterday's work has been a waste of time.

Reconforming is the process of applying a **Change List** to a work-in-progress EDL. The sweetened EDL can be automatically edited to match the changes between version 1 and version 2 of the video edit.

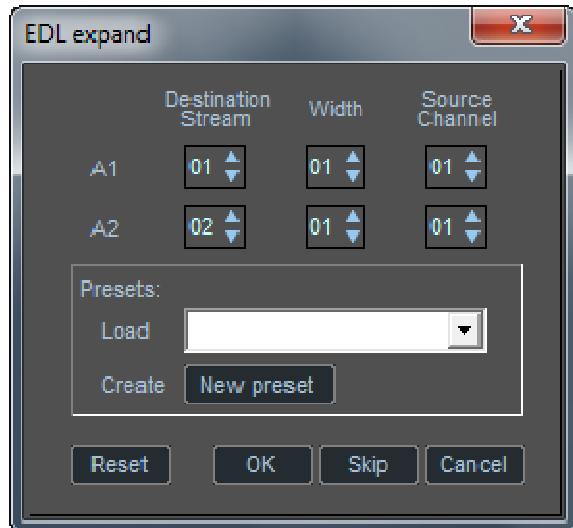
Reconform uses similar tools to auto-conform, but whereas auto-conform is editing source audio files, Reconform edits EDLs.

Autoconform and Reconform tools are available as part of the EDL Option Pack.

EDL EXPAND

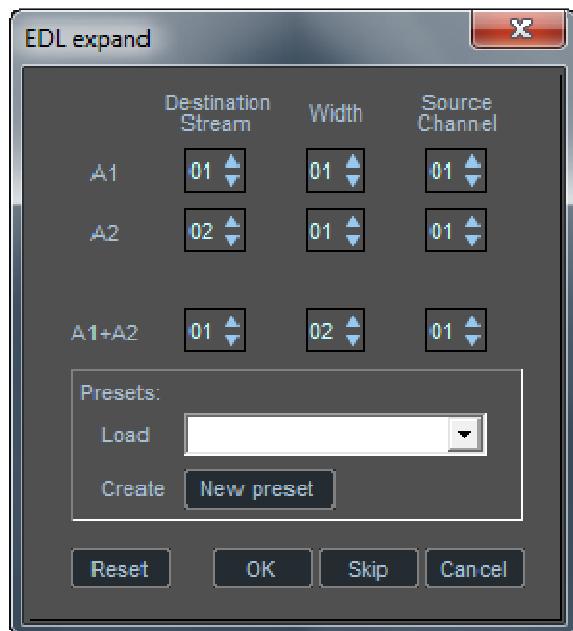
When opening a CMX EDL, SADiE offers the facility for expanding the number of channels, and offsetting channel positions for when the EDL is converted, so that the EDL can be used to conform to source material with different numbers of channels.

On selecting **Import Components(s) ..** from the **Project** menu, if you are choosing to import a CMX EDL, first you will be offered the **Convert** dialog (choose CMX 3600 if in doubt) and then you will see the **EDL Expand** dialog:



A1 and **A2** refer to the channels in the CMX list, and the channels displayed here will depend on what has been specified in the CMX.

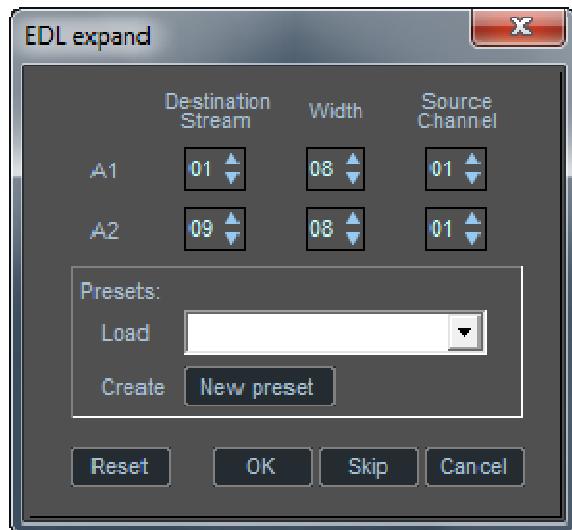
As another example, this CMX contains mono A1 ands A2 channels plus stereo items on A1+A2:-



If we press OK, or Skip, and accept the settings on the first example, the EDL looks like this:-



However, if we changed just the **Width** setting for channel **A1**, you'll see that other settings will change automatically to look like this:-



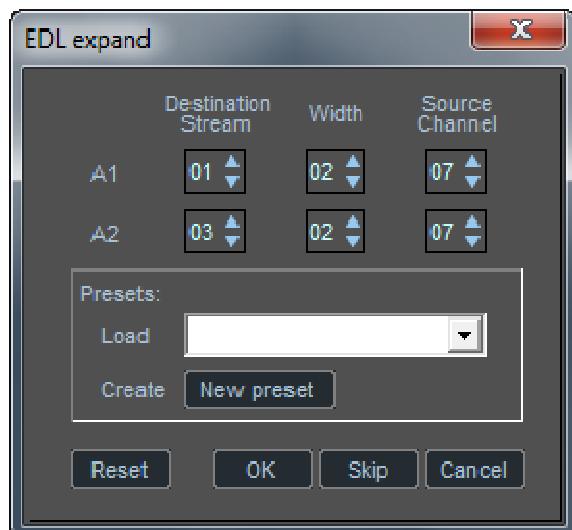
and so we have expanded the number of channels that A1 refers to to work with 8 channel material, and in the process, it automatically made A2 8 channel wide (which would be the usual case) and offset the A2 entries to start on EDL stream 9.

The resulting SADIe EDL looks like this:-

Audio unit A	Clip	Source Channel	Reel Track	Clip	Source Channel	Reel Track	Clip	Source Channel	Reel Track
1	clip 1	ip 1	1	clip 1	ip 1	1	clip 1	ip 1	1
2	clip 1	ip 2	1	clip 1	ip 1	1	clip 1	ip 1	1
3	clip 1	ip 1	1	clip 1	ip 2	1	clip 1	ip 1	1
4	clip 1	ip 2	1	clip 1	ip 1	1	clip 1	ip 2	1
5	clip 1	ip 1	1	clip 1	ip 2	1	clip 1	ip 1	1
6	clip 1	ip 2	1	clip 1	ip 1	1	clip 1	ip 2	1
7	clip 1	ip 1	1	clip 1	ip 2	1	clip 1	ip 1	1
8	clip 1	ip 2	1	clip 1	ip 1	1	clip 1	ip 2	1
9	clip 1	ip 1	2	clip 1	ip 2	2	clip 1	ip 1	2
10	clip 1	ip 2	2	clip 1	ip 1	2	clip 1	ip 2	2
11	clip 1	ip 1	2	clip 1	ip 2	2	clip 1	ip 1	2
12	clip 1	ip 2	2	clip 1	ip 1	2	clip 1	ip 2	2
13	clip 1	ip 1	2	clip 1	ip 2	2	clip 1	ip 1	2
14	clip 1	ip 2	2	clip 1	ip 1	2	clip 1	ip 2	2
15	clip 1	ip 1	2	clip 1	ip 2	2	clip 1	ip 1	2
16	clip 1	ip 2	2	clip 1	ip 1	2	clip 1	ip 2	2

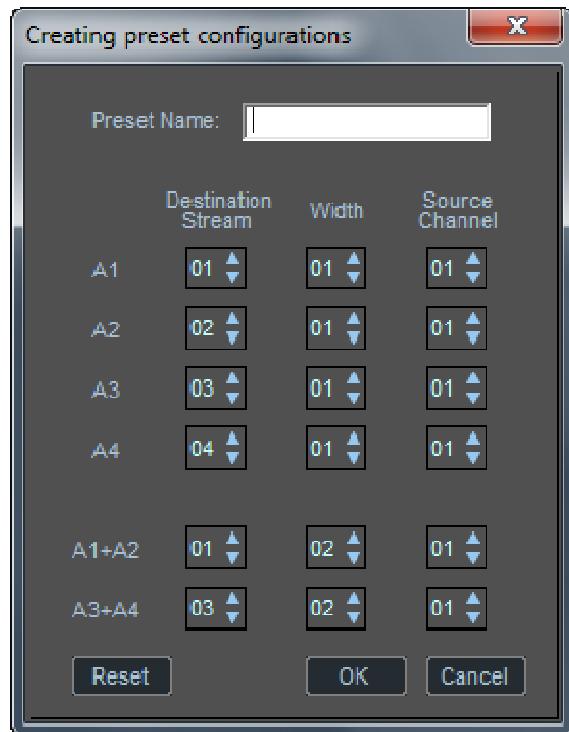
It's also possible to change the **Source Channel** so as to select different channels in the source material.

In the next example with the same EDL, we know that a stereo mixdown, which is our primary interest, exists in the source material on channels 7&8. And so we select a width of 2



The example EDL will look like a stereo version of the first, however the **Reel Track** parameter of each clip as displayed in its column in the Text EDL will be set to 7 and 8, so that when it comes to linking the files to the media, channels 7&8 will be chosen (i.e. our stereo mix).

EDL EXPAND PRESETS



You can save a number of presets so that if material comes in regular with the same channel mapping rules, then you can create and load a preset to handle it.

Pressing **New Preset** shows the Preset Configuration dialog, where you can set up rules for any possible channel in a CMX

EXPAND SELECTED CLIPS

In addition there is a function in the **Playlist menu** to **Expand Selected Clips** that can be used after a CMX has been converted (or in fact on any audio clip that has more channels available than are associated in the EDL).

Select one or more clips in the usual way, then select Expand Selected Clips - the clips will be automatically expanded to use any available extra channels of audio (as seen in the project's Source Track Folder)

AUTOCONFORM FROM TAPE



AUTOCONFORMING SETUP

To Autoconform from tape, SADiE must:

1. Have 9-pin control of the machine(s) you want to record from (see [Setting Up 9-Pin Control](#)). You can set up 9-pin control of up to four machines. Note that there is a choice of methods for controlling the way the 9-pin control locates a machine, but it is suggested 9-pin locate is more accurate for Autoconforming.
2. Be synchronised in "Slave" mode to the machine you are currently recording from. If you are recording digitally, use "Trigger Lock", if analogue, use "Chase Lock" (see the [Synchronisation](#) section). Consequently, SADiE should have both 9-pin (RS422) and LTC (timecode) connections to the source machine.

For each Entry, SADiE can record a bit more audio than has been specified in the picture editor's EDL. This means that you have pre- and post-handles available so that you can increase crossfades, adjust edits and so on. You may want to change the settings for these in the "Autoconform" page of the [Setup window](#):

- Lead Time Duration - Sets the "pre-handle" recorded at the beginning of each Entry.

- Overrun Duration - Sets the "post-handle" recorded at the end of each Entry.
- Minimum gap between takes - The gap between items on the source reel that will cause SADiE to record the next one in a new take. At gaps less than this, SADiE will continue recording the next item in the same take and as part of the same Track . A recommended setting is 15-20 seconds.

NOTE: These times are used to make the Autoconform list as described in step 7 below, so there will be no effect if you change them in the Setup window after that stage (for example, before continuing with a partly recorded list). Setting the pre- and post- handles too long may result in SADiE trying to record before the beginning or after the end of the reel!

- Additional 9-pin pre-roll - The 9-pin locate functions already rolls the 9-pin machine back to a time before the actual locate time. This Autoconform setting allows you to increase this pre-roll time to ensure that the whole of the take is recorded. You don't need to have timecode on the source tape in this pre-roll as SADiE rolls the machine backwards frame by frame. Note that this setting has no effect on the record list, and can be changed during the Autoconform process.



AUTOCONFORMING FROM TAPE

1. Select "Import Component(s).." from the Project menu. In the next dialogue box, locate the file - a CMX EDL often has a .edl extension
2. SADiE will detect that you are opening an EDL that is not in SADiE format, and the "Auto-Convert" box will appear. Select the format of the file (if in doubt, try CMX 3600), & click "Ok".
3. SADiE will then show the "EDL Expand" dialog. This allows you to expand channels in the CMX EDL so that for instance a 2 channel CMX could be applied to 8 channels (or more) of source material. This also allows you to offset channels - i.e. with 8 channel material, you may wish that a second set of 8 channels starts at stream 9. The [EDL Expand Dialog](#) is described in more detail later in this manual.
4. SADiE will automatically convert the CMX to SADiE format, expanding the channels and moving the expanded clips to the streams you have chosen. The new EDL will be added to the project and opened.
5. In the Playlist, the Entries for which audio hasn't been recorded into SADiE yet will be drawn as ghosts. At this point, if you wish, you may select and delete any of the ghost Entries that you know you don't want to be included in the list to be recorded. You can even cut them with the scissors. In the Text EDL pane, the "Audio Present" column for unrecorded Entries will read "No", and you can edit any parameters shown in black (rather than grey).
4. Display the Autoconform list, which is one of the three text panes attached to the Playlist.
Press the **TEXT PANE** button on the Playlist toolbar and select the "Autoconform" tab at the bottom left. If necessary, adjust the size of the pane by dragging the edges of the Playlist window or the border between the Playlist and the text pane.

The Autoconform toolbar will appear:



This can be floated or attached to the Playlist by right-clicking on it.

5. Press **MAKE LIST**. SADiE will compile a list of all items that need to be recorded. The name/number of each reel used in the EDL will appear in the column on the left. Selecting each reel with the mouse or the cursor (arrow) keys will display a list of items that need to be recorded from it, detailed in the table on the right.

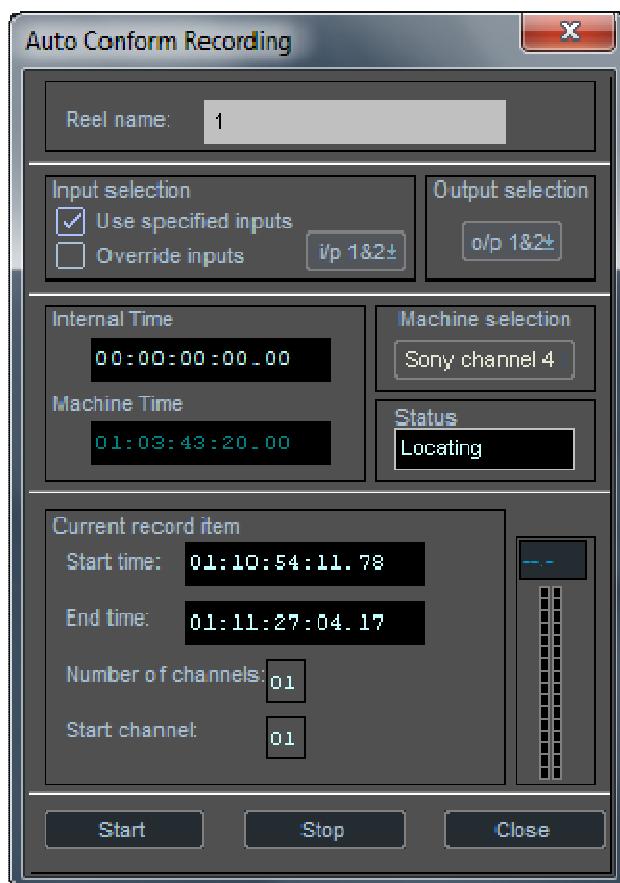
NOTE: The Autoconform list is compiled from all currently open EDL's, so don't accidentally have another EDL open that has any audio missing, or it will be included in the list. The list of items to be recorded will also remain unchanged until you **MAKE LIST** again, even if you close the current EDL and open a new one.

6. You now have the option of editing the list before you record the Entries. Each parameter displayed in black (rather than grey) can be edited by double-clicking it with the mouse. Alternatively, select it using the tab key to move between the reel list and the details table and the cursor keys to move between parameters in the table, then press the ↵ Return key.

You can:

- i. Alter the start or end times that came from the Picture Editor's EDL.
- ii. Change the "First Channel" setting. This indicates which channel(s) of the picture editing system the audio was on, and will correspond to the channels of the source reel unless they were re-allocated during the edit. To relate these to SADIe's inputs, see the description of the Autoconform Recording box in step 7, below.
- iii. Alter the "To Be Recorded" status so that individual items will not be recorded this time. This may be because you want to record certain items at a later date by doing another recording pass. Perhaps you need to take the audio from a different source, using music from the original CD rather than the Betacam reel used during picture editing, for example.
- iv.  Manually **ADD** or **DELETE** items from the list to be recorded. Note that deleting a record item is different from deleting an Entry in the EDL, as several EDL Entries may come from a single item.

- v.  From the reel list, select the first reel that you want to record from and load it into the source machine. Press the Autoconform **RECORD** button. The Autoconform Recording dialogue box will appear:



The input channels used for recording the items can be selected as follows:

- i. Use specified inputs - This setting uses the channel numbers in the Autoconform list to determine which inputs each item is recorded from. Autoconform recording can only be made two channels at a time, and so if four channels are in the list, you will have to make separate passes, recording two channels at a time and changing audio connections where necessary.
- ii. Override inputs - Channel numbers in the Autoconform list are ignored and all material is recorded from the inputs selected on the adjacent box. This will be necessary if the picture editing system has spread audio across several channels, but you are now recording it all from a stereo machine.
- iii. Output selection - Determines the outputs used to monitor the recording. As Autoconform recording is a background process, you can select different outputs from those used by your current foreground mixer and then do something else with another EDL whilst SADiE is busy Autoconforming.
- iv. Machine selection - Selects which 9-pin channel will be controlled. If you have more than one source machine, you can switch between them here, but remember to change the LTC connection so that SADiE is receiving timecode from the correct machine.

8. Press the **START** button. SADiE will take control of the machine, locating it to the correct place, running in sync, dropping-in to record each Entry, then dropping-out and locating to the next. You will see the ghost entries become solid as they are recorded, and the to be recorded status of each item in the list will change.

The **CLOSE** button closes the box so that you can do other work in the foreground while SADiE continues recording in the background. Press the **RECORD** button on the Autoconform toolbar to open the box again.

The **STOP** button interrupts the process.

NOTE: As this is a background process, the Autoconform Record box takes the place of the Transport Controls' **ONLINE** button and Record section, although you will see the Track names appearing there.

9. When all the items from the reel have been recorded, every "To Be Recorded" status will have changed to "No". Close the Record box and repeat from step 7 for each reel in turn.

HINT: If you wish to re-record the take for whatever reason, double-click on the "To be Recorded" to change it from No to Yes and you will at that point be offered the chance to delete the previous recording.

The Tracks that SADiE has recorded (and the EDL Entries) will be named after the reel that they came from, with an Autotake number added for each take. If you are recording to a SADiE3 formatted audio disk, timecode values will be included in the name.

NOTE: If you get half way through the process and decide to call it a night, simply stop recording and close down in the normal way. When you open the EDL again tomorrow, you can continue from step 6 above.

Multi-Channel Autoconforming

When Autoconforming from tape, unlike earlier versions of SADiE, v5.5 onwards will autoconform multichannel audio, depending on the channel width of the Conform List entries (which in turn will depend on the channel width of entries in the CMX EDL, and whether they have been "expanded" to larger track counts).

Of course you will also need SADiE hardware that has sufficient number of inputs.

There are no special buttons or modes - the channel width (i.e. n) of the Conform List entries determines how many channels will be put into record, always using inputs 1 - n. These will be monitored on Outputs counting from the pair selected under "Output Selection" in the Autoconform Record dialog. Thus for example if the item is i.e. 8 channels wide, it will be recorded using Inputs 1-8, and by setting "output selection" to i.e. O/P 15&16, would be monitored on Outputs 15 - 24.



AUTOCONFORMING IN BRIEF

The above list gave all possible options. In practice, most Autoconform jobs can be done in the following steps:

1. Import the CMX-type EDL into your Project, converting it as it imports.
2.  Press the **TEXT PANE** button and display the Autoconform pane.
3.  Press the **MAKE LIST** button.
4.  Select a reel in the list, put the tape in the source machine, and press **RECORD**.
5. Check the details in the Record box and press **START**.
6. When all items are recorded, **CLOSE** the box and repeat from step 4 for the next reel.



HINTS AND TIPS

RECORD STATUS

SADiE employs a new feature to avoid insufficient timecode run-ups causing problems when Autoconforming. Recording is started as soon as the source machine starts playing at the required point, regardless of whether it is supplying good timecode. When timecode is stable, it is used to time stamp the recorded Track retrospectively and thus position Entries in sync. This is why the "internal time" display in the Autoconform Record box often briefly starts counting from zero at the beginning of each recording, and flips to the correct time when the timecode is stable, and also why the start times of the Tracks will often be slightly before start times in the Autoconform list.

If the "internal time" never changes to be the same as the "machine time", and SADiE continues recording without time stamping, then this suggests that SADiE has not been able to synchronise correctly. SADiE is not receiving timecode for some reason. Perhaps there is no timecode on the tape, or bad code? Check that SADiE's sync settings are correct and that cables are good. Be particularly careful of balanced to unbalanced LTC cables; if the cold wire is shorted to ground, this is likely to make the timecode unreadable. Bad cables are the single most common reason for this type of failure.

ENTRIES NOT FILLING IN

If you find that some Entries in the Playlist are not becoming solid when they should, or the "To Be Recorded" status of record items is not changing when the item appears to have recorded, check the start times of these Tracks in your Clipstore. If they are later than the start times in the Autoconform list, SADiE is missing the very beginning of the item. Increasing the 9-pin Locate Pre-roll setting in the Setup window should cure this. At least 3 seconds is recommended for most machines.

FIND NEW TRACK

Find New Track is a command available when right-clicking a "ghost" entry in the Playlist. Ghosts are drawn when there is not sufficient audio in SADiE to play the whole Entry. However, it may be possible to edit the ghost entry leaving one that could be played. Selecting "Find New Track" will then update the Playlist, to show the Entry with audio present in a solid colour. "Find New Track" checks for tracks to satisfy the Reel name and time code range required.

This might be useful if a long record item was not quite recorded in full, perhaps because Autoconforming was interrupted just before the end, or the 9-pin locate pre-roll was set so that the very beginning of the item was missed. Make a cut in the Entry, leaving two ghost Entries, the larger of which actually has all the audio present. "Find New Track" for this and it will be drawn solid, recognising that the Track is present. Now, if you make a new Autoconform list, you will only have to record enough audio to cover the smaller Entry.

If you load a new CMX-type EDL that relates to audio that already exists, you will find that the "Find New Track" function acts automatically and so will "fill in" entries which are satisfied (reel name and timecode ranges) by existing audio. If the audio is not in the current project you will have to import it before it can match to the EDL.

CROSS-REFERRING AUTOCONFORM LIST ENTRIES AND EDL ENTRIES

The Autoconform list and the EDL are displaying essentially the same information but ordered differently. There are times when you might want to view or manipulate EDL entries that belong to Autoconform list items or perhaps even whole reel.

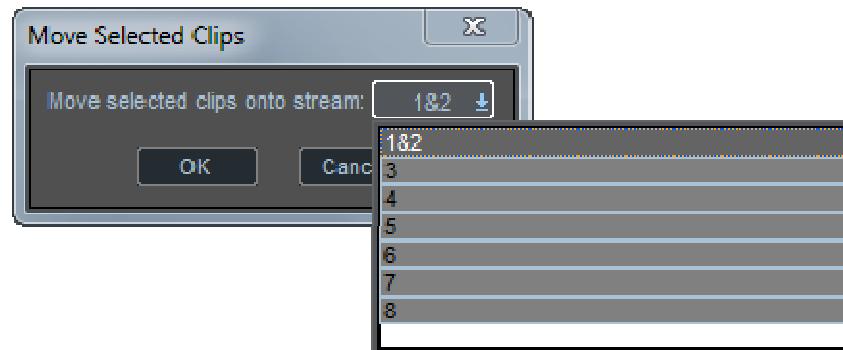
 The "Add EDL entries for item/reel to the selection" buttons on the Autoconform toolbar, searches through the current EDL for entries that come from the selected record item (or whole reel, depending on which button is pushed), and selects them in red. The next function you select, for instance copy/cut, or more complex operations like "Move Selected Clips" (see below) will operate on all the red entries.

NOTE: These add to the selection. If you only want one item or reel selected in red, then you'll have to click in an empty part of the EDL to clear the selection before you start. Because these add to the selection, you can use the function again and again to select a group of items or a number of reels.

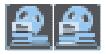
MULTI-TRACK EDIT LISTS AS MULTIPLE STEREO LISTS

As the CMX-type is the most commonly recognised format, you maybe presented with a multi-track list that has been split into several stereo lists. Alternatively the channel information may be written in the reel name, as the channel information is restricted to 2 because of the CMX format. So you may have a list with say, 4 reels referring to channels 1&2, 3&4 etc. When you convert the EDL all entries will be on streams 1&2.

If you use the "Add EDL entries for reel..." function above, a whole reels-worth of entries will be selected in the EDL. You could then use the "Move selected clips onto stream..." option in the Playlist menu, to move those clips to a new pair of streams.



MAKE STEREO / MAKE MONO

 The **MAKE MONO/STEREO** buttons, on the Autoconform toolbar change the EDL entries to be mono or stereo as well as the record item. Note that there is a **MAKE STEREO** option on the entry menu that appears when you right-mouse click on an entry. This is only available if stereo audio material is actually available for that entry.

MONO RECORDINGS

If your source material is mono and from a mono tape, the normal "Override Input channel" setting will still try to record from one side of stereo, depending on which reel channel the record item is from: left for odd number channels, right for even. However in the "Autoconform" page of the [Setup window](#), there is an option to "Always record mono items on the left channel" to further override this.

AUTOCONFORM LIST

The Autoconform list in the table page of the EDL is saved along with the EDL when you press **SAVE EDL**.

 The **MAKE LIST** button always makes a completely fresh list, searching through the EDL for any ghosted or missing items and creating a brand new record item list.

However if you are have already started the Autoconform, you may wish to retain an item in the list even if it has been recorded and it's marked "No" in the "To be recorded" field. Or perhaps you've made some edits to the list and not yet recorded these items. **MAKE LIST** will completely reset this.



But you need to add some extra entries from a new EDL! For this situation there is the **REFRESH LIST** button, which keeps your old edited conform entries intact, but adds in new conform entries for the new clips.

Or alternatively, you are given a completely new edit list that includes some extra entries. When you've converted this new EDL, you may want to continue using your old Autoconform list. In this case select "Import Conform List" from the "File" menu, and select the old EDL. This will pull in just the Autoconform list from the old EDL; you can then **REFRESH LIST** and continue, with any new entries added to the record list.

Note that "Import Conform List" doesn't merge with any existing conform list, it overwrites it.



EDL FORMATS SUPPORTED BY SADiE

This document outlines the text based EDL files that are supported by SADiE. Confusion arises when variations on a specific format are loaded into SADiE. There does not appear to be any strict rules as to the content of these files, which may cause problems when the file is being read and loaded into SADiE. To avoid these problems we have listed the types of entries that we handle. If a file contains lines other than these it is possible it will fail to load completely.

CMX

A line for an entry in a CMX file contains the following information:

Entry Number	Reel name	Channel	Edit type	Fade length (if edit type is "D")	Source start time	Source end time	Program start time	Program end time
--------------	-----------	---------	-----------	-----------------------------------	-------------------	-----------------	--------------------	------------------

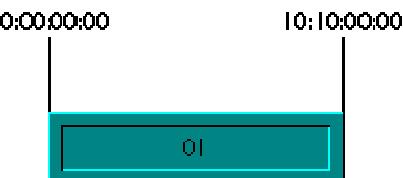
- Entry number - These are 3 digits and are in the range of 001 to 999.
- Reel name - The known maximum lengths for different formats are as follows:
 - CMX 340 – 3 characters, 0-9, that allow reel numbers from 1 to 253. This same set of reels is allowed with a 'B' on the end.
 - CMX 3400 – 3 characters, 0-9, that allow reel numbers from 1 to 999. This same set of reels can also have a 'B' on the end.
 - CMX 3400A and CMX3600 – allow 8 characters, A-Z and 0-9.

Files have been seen with longer reel names than those specified and so there is a limit of 10 characters in SADiE when importing a CMX file. A reel name of "BLK" or "BL" is used to define a silent entry or a fade to/from silence.

- Channel - The channel information for CMX files is given in Table A. Additional channel information is placed on the next line, see the comment section below for more details.
- Edit type - SADiE will only use edit types of "C" for a cut and "D" for a dissolve. All other edit types are ignored. The dissolve time for an entry is to be given in frames.
- Source and program times - These times are given in frames. See the comment section below for how the frame rate is handled when reading the file. It is possible the EDL will not be loaded correctly if the correct frame rate is not selected in SADiE.
- The entries - A general entry:

001	01	A1	C		00:00:10:00	00:10:10:00	10:00:00:00	10:10:00:00
-----	----	----	---	--	-------------	-------------	-------------	-------------

- This would give the following entry in the SADiE Playlist on stream 1:



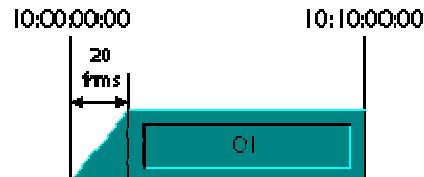
- A fade in is recognised as one of the following:

001	01	AI	D	20	00:00:10:00	00:10:10:00	10:00:00:00	10:10:00:00
-----	----	----	---	----	-------------	-------------	-------------	-------------

- Or

001	BLK	AI	C		00:00:00:00	00:00:00:00	10:00:00:00	10:00:00:00
001	01	AI	D	20	00:00:10:00	00:10:10:00	10:00:00:00	10:10:00:00

- This would give the following entry in the SADiE Playlist on stream 1:



- A fade out is recognised as the following:

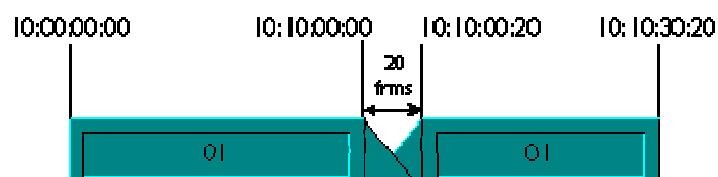
001	01	AI	C		00:00:10:00	00:10:10:00	10:00:00:00	10:10:00:00
002	01	AI	C		00:10:10:00	00:10:10:00	10:10:00:00	10:10:00:00
002	BLK	AI	D	20	00:00:00:00	00:10:10:20	10:10:00:00	10:10:00:20



- This gives the following lines for a crossfade:

001 01 AI C	00:00:10:00	00:10:10:00	10:00:00:00	10:10:00:00
002 01 AI C	00:10:10:00	00:10:10:00	10:10:00:00	10:10:00:00
002 02 AI D 20	03:00:30:00	03:01:00:20	10:10:00:00	10:10:30:20

- This would give the following entries in the SADiE Playlist on stream 1:



- Comment lines - The following comment lines are handled in the CMX conversion.

- Frame rates - If the setting is used for multiple frame rates it is possible to alter the frame rate for each reel before the EDL is loaded into the Playlist. When a frame rate change line is encountered, all subsequent entries will use the new frame rate. The user is asked whether the system frame rate in SADiE is to be altered, if a frame rate is detected that is different to the current setting.
 - FCM: NON-DROP FRAME - This will set the frame rate to be 29.97
 - FCM: DROP FRAME - This will set the frame rate to be 29.97 drop frame.
- Channels - The table in Table A shows the channel information that is used in a CMX EDL file.
- Audio mapping - The following line is used to determine the audio mapping of the entry in the file:
 0072 800 A2 C 00:00:00:00 00:00:02:20 10:02:02:23 10:02:05:18
 COMMENT: AUDIO MAPPING FROM CH1 TO CH2

This indicates that the entry on stream 2 uses audio from track 1.

Any other lines containing information regarding, for example, the speed of the video playback, the freeze frames and other channel mapping formats, will be ignored.

SONY

The format of the lines for fade information will be the same as those for the CMX format EDL's.

It can be seen that additional information is placed at the end of the line for channels 3 and 4. The channel information is described in the table in Table A.

GRASS VALLEY (GVG)

The format of the entries in these EDL's is similar to that of the CMX files. Only files containing cut entries have been tested. EDL's have been found where the entries are not in program time order. This has not posed any problems when importing to SADiE.

- Entry number - This has been found to be either 3 or 4 digits in length.
- Channels - The channel information for this type of EDL is given in Table A.

LIGHTWORKS MULTICHANNEL

- The Entries - It has been found, after discussions with people at Lightworks, that there will be no video entries as part of a Multichannel EDL. Therefore, there is no need to put in the dummy video entry that spans the length of the EDL. From this it is assumed that there is no need to insert black entries for the silence between the audio entries in the EDL. This can be added at a later stage if needed.

The format of the entries within the file is similar to that of the CMX files.

- Dump reels - The Lightworks machine that was used for the test material was not able to export an EDL that contained overlapping entries using the same reel. To get around this problem it uses a dump reel. The dump reel entries are shown in the EDL file with a reel ID of "900". The program times for these entries remain the same, however, the source times used reference a separate file. The extra file should have the same name as the EDL file, but with a "*.DMP" extension.

The source times for each stream start at the EDL start time. They usually have a handle of 1 second with entries on the same stream being adjacent. The source times in the EDL file should "fit" within the program times in the dump file, e.g. there should be enough audio for them to reference. The source times in the dump file are the actual source times of the audio. There should be no dissolve entries in the dump file as this implies that entries overlap and it would therefore require a further dump file to handle it.

General Note:

The text based EDL's that have been described only contain one piece of channel information. The user is given the option as to whether to use this information for, the stream the entry is to be placed on, or the track of audio to use, or both. SADiE handles additional lines in the EDL for channel mapping, as described in the comment section. This allows both the stream and track information to be read from the file. This information can also be exported as part of the file if required.

EDL Channels										
					GVG 6.0	CMX 340	CMX 3400 + 3600		Sony 9000	LW Multichannel
Maximum Channels Supported					Audio - 4 Video - 1	Audio - 2 Video - 1	Audio - 4 Video - 1		Audio - 4 Video - 1	Audio - 8 Video - 0
V	A1	A2	A3	A4			In edit line	Ch 3 + 4	In edit line	In edit extension
✓					A1	A	A		A1	
	✓				A2	A2	A2		A2	
		✓			A3		NONE	AUD 3	A	A3
			✓		A4		NONE	AUD 4	A	A4
✓	✓				A12	AA	AA		A1A2	
	✓	✓			A23		A2	AUD 3	A2	A3
		✓	✓		A34		NONE	AUD 3 4	A	A3A4
✓		✓			A13		A	AUD 3	A	A3
	✓		✓		A24		A2	AUD 4	A2	A4
✓			✓		A14		A	AUD 4	A1	A4
✓	✓	✓			A123		AA	AUD 3	A1A2	A3
✓	✓		✓		A124		AA	AUD 4	A1A2	A4
✓		✓	✓	✓	A134		A	AUD 3 4	A1	A3A4
	✓	✓	✓	✓	A234		A2	AUD 3 4	A2	A3A4
		✓	✓	✓						A234

	✓	✓	✓	✓	AI234		AA	AUD 3 4	AIA2	A3A4	AI234
✓						V	V		V		
✓	✓				AIV	B	B		VAI		AI
✓		✓			A2V	A2/V	A2/V		VA2		A2
✓			✓		A3V		V	AUD 3	V	A3	A3
✓				✓	A4V		V	AUD 4	V	A4	A4
✓	✓	✓			AI2V	AA/V	AA/V		VAIA2		AI2
✓		✓	✓		A23V		A2/V	AUD 3	VA2	A3	A23
✓			✓	✓	A34V		V	AUD 3 4	V	A3A4	A34
✓	✓		✓		AI3V		B	AUD 3	VAI	A3	AI3
✓		✓		✓	A24V		A2/V	AUD 4	VA2	A4	A24
✓	✓			✓	AI4V		B	AUD 4	VAI	A4	AI4
✓	✓	✓	✓		AI23V		AA/V	AUD 3	VAIA2	A3	AI23
✓	✓	✓		✓	AI24V		AA/V	AUD 4	VAIA2	A4	AI24
✓	✓		✓	✓	AI34V		B	AUD 3 4	VAI	A3A4	A134
✓		✓	✓	✓	A234V		A2/V	AUD 3 4	VA2	A3A4	A234
✓	✓	✓	✓	✓	AI234V		AA/V	AUD 3 4	VAIA2	A3A4	AI234

AUTOCONFORM FROM DISK**AUTOCONFORM FROM DISK**

You will require a CMX EDL, along with the Location Recorder's source files. Depending on the machine used, and circumstances at the time of the recording, the recorded files may :

- be mono, stereo or multi-channel files
- contain metadata describing Scene, Reel, channel, or other parameters by which they may be recognised as the correct source file.
- be grouped into directories on disk by Reel number

- d. have associated EDLs

The CMX EDL will list items by:

- Reel or Roll number
- Source Timecode range; the timestamp of the file and its length will lead us to find the correct segment of audio.
- EDL timecodes - to describe where the source segment is placed in the edit list.

Reel number and Source Timecodes should be enough to give us a unique segment of audio to fill in each entry in the EDL.

However, particularly with multi-channel source material, channel assignment may be something that the audio editor will have to change - CMX EDLs only really deal with a maximum of 4 channels. In practise, we will mostly be mapping one or two channels of the CMX EDL to multi-channel source material, but we do need the flexibility to be able to choose which CMX channels relate to which Source File channels.

AUTOCONFORM FROM DISK PROCEDURE

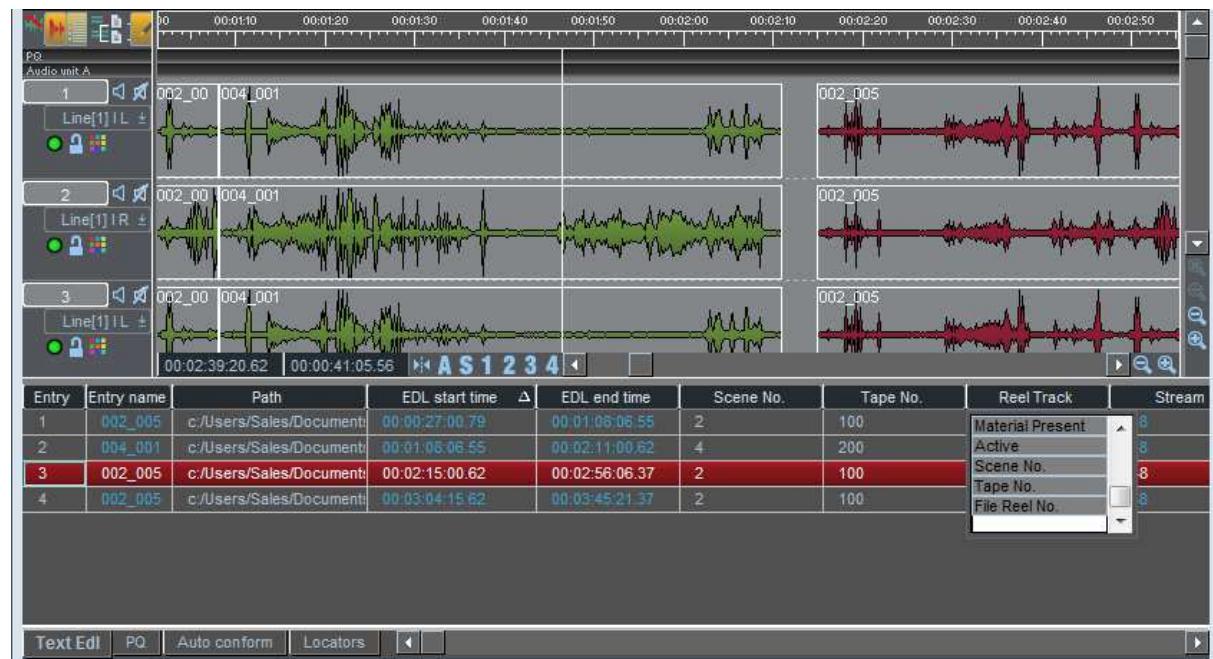
CHECK THE SOURCE MATERIAL

You may want to know some detail about your material first, and so it's suggested that you import the audio into your SADiE project to allow you to preview, view data, count channels etc.

This is not an entirely necessary stage however - SADiE can link to the audio files whether the audio is imported into the Project before or after the CMX list, and so this section is here merely to give information about some of the tools SADiE includes to give more information about the audio files.

If you use Disk Management to import the files, you can use the function **Import tree into Clipstore** to quickly import the entire contents of a folder and its sub-folders.

You may also find it useful to drag and drop some clips into a blank EDL so as to more quickly get a picture of what you are dealing with. I suggest that you drop clips into the EDL using **Autoplace-Sync** so that they snap to their source timestamp. You can use the **Text EDL** to view a number of parameters and the metadata inside the files such as Scene and Take numbers.



Note - did you know that you can sort the Text EDL by clicking on the column headers? You can also change which parameters are displayed, and their order by right-mouse-clicking on the column header.

But perhaps you have enough detail from notes to move straight to importing the EDL ? Let's move on.

AUTOCONFORM FROM DISK PROCEDURE

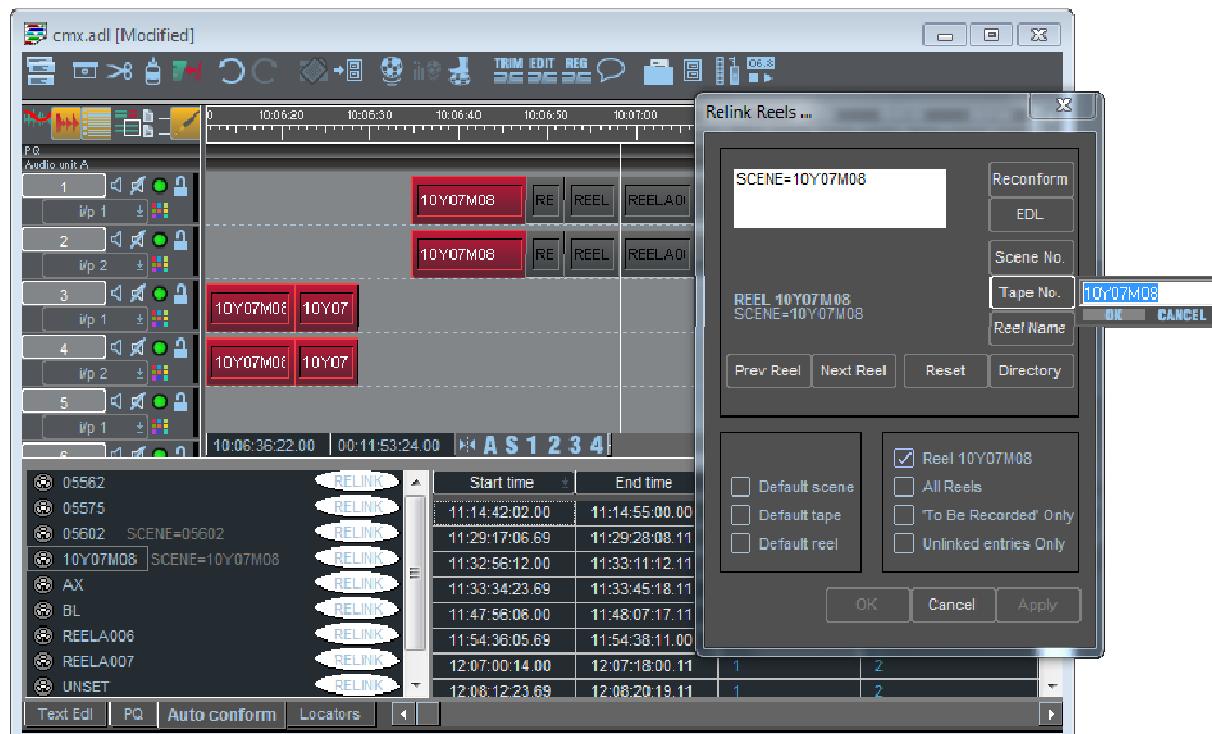
IMPORT THE CMX

1. Check the settings for handles in the Autoconform setup page. If you're conforming from files, they will make little difference, but if you set them to zero, then the Reel list will have accurate times. i.e. "Lead Time Duration", "Overrun Duration" & "Minimum gap between takes".
2. Select "Import Component(s).." from the Project menu. In the next dialogue box, locate the file - a CMX EDL often has a .edl extension
3. SADIe will detect that you are opening an EDL that is not in SADIe format, and the "Auto-Convert" box will appear. Select the format of the file (if in doubt, try CMX 3600), & click "Ok".
4. SADIe will then show the "EDL Expand" dialog. This allows you to expand channels in the CMX EDL so that if for instance you'd found 8 channel audio you can apply the 2 channel CMX to all your source material. This also allows you to offset channels - i.e. with 8 channel material, you would probably want a second set of 8 channels to start at stream 9. The [EDL Expand Dialog](#) is described in more detail later in this manual.

Note : because flexibility is important in order to be able to cope with many different scenarios, this is not the only chance you'll get to expand the channels - it's possible to run a "expand" function on clips in the SADIe EDL.

4. SADIe will convert the CMX to SADIe format, expanding the channels and moving the expanded clips to the streams you have chosen. The new EDL will be added to the project and opened.
5. Having loaded the EDL, press the  Text Pane button. Press the Autoconform Tab to reveal the Autoconform Window and its toolbar.
6. Press  **MAKE LIST**. SADIe will compile a list of all the source material for either recording or conforming from disk. The name/number of each reel used in the EDL will appear in the column on the left. Selecting each reel with the mouse or the cursor (arrow) keys will display a list of items that need to be recorded from it, detailed in the table on the right, and also select in red all the EDL entries associated with that reel.

 (It might help at this stage to turn off profile view as you may have no audio in the EDL yet).



Before you link the EDL to audio files, the Autoconform Window has a number of tools and settings to help you to manipulate the EDL and Autoconform List.

Auto-select edl entries



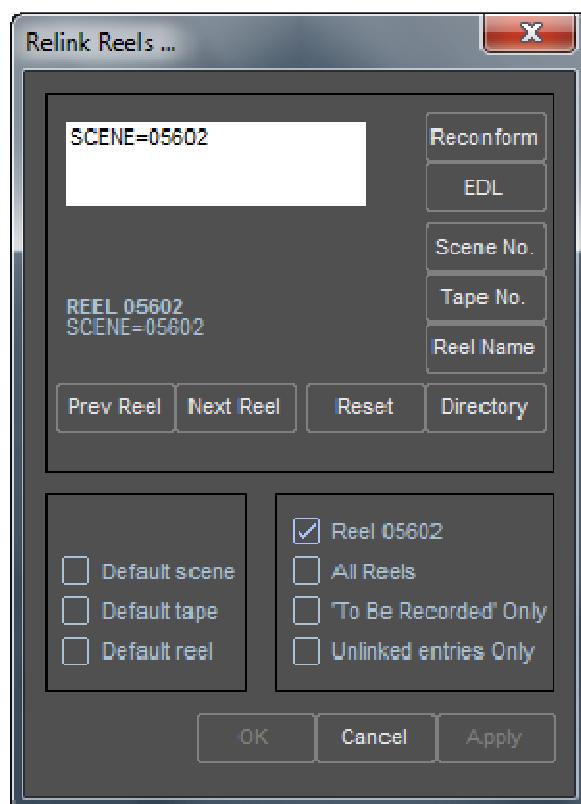
These two buttons on the Autoconform toolbar allow to enable or disable automatic selection of EDL entries (i.e. they are coloured red) when you select either Record Entries or whole Reels in the Autoconform list, so that you can apply Playlist functions to those EDL entries - like **Expand Selected Clips** for instance

The button to the right of these allows you to change the Reel name parameter in selected EDL entries (you could for instance Select -All and use this button if the Conform simple and only really uses one reel.)

AUTOCONFORM FROM DISK PROCEDURE

RELINKING

By the side of each Reel number in the Autoconform Window, there is a [RELINK](#) button. This allows you to choose how the CMX Reel or Roll number is match to data in the files.



There are six **Rule buttons** to determine which rule is used to link a Reel name to audio. Each is set by pressing the button on the right side of the Relink dialog:

Directory	Files inside the disk directory chosen will be used to link to entries belonging to this Reel.
Reel Name	Audio in the project's Source Tracks Folder that has a SADiE Reel number of the correct value will be used for entries on this Reel. Mostly only audio recorded by SADiE (since v3) has this particular metadata, however AVTransfer has an option to insert this

	into a BWF file.
Scene No. Tape No.	Scene No. and Tape No. are metadata commonly inserted into a BWF file recorded by many Location Recorders. Typing a name/number here will force the reel to link to files that include that particular value for either the Scene or Tape metadata.
EDL Reconform	<p>Unlike the other options the CMX Reel Number is mapped to an EDL and not an audio file. Thus the EDL can provide a means of mapping source timecodes to a different set of timecodes.</p> <p>There are two types of Conform to EDL option here.</p> <p>Reconform (as you might imagine) is the same process as Reconform (see later in the manual) but allows you more flexibility and the ability to specify a different Source EDL for every Reel in a multi-reel Change List. An example use for this would be where you are making a "Series Highlights" compilation and each Reel in the Change List EDL might refer to each episode of the series. With the Reconform option, the track width of the chosen EDL is retained, and the width in the Change List EDL is ignored.</p> <p>Reconform will pull in automation from an EDL and video if the video stream in the "Change List" is enabled.</p> <p>The EDL option is simpler and will treat the chosen EDL as a "source tape reel" and thus will pick streams of this EDL for "Reel-track" channels in the CMX EDL.</p> <p>Some Field Recorders (HHB Portadrive for instance) provide an AES3I EDL for each Reel and thus this may provide a simple method of linking to files made by such a recorder.</p> <p>So the main difference between EDL and Reconform mode here is that Reconform uses the entire width of the selected EDL, whereas EDL uses only the channels specified.</p>

It's possible to set multiple rules in a priority order by using the SHIFT-modifier key when pressing a Rule button to ADD a new rule.

WHEN TO LINK

The search and linking of audio files happens when you press OK or APPLY on the RELINK dialog.

However, it's possible to make the scanning for audio files automatic in the case where all the files are available either in the expected places or with the expected metadata.

This is controlled by the **Default** tick boxes by the side of Scene, Tape and Reel. In these cases the default settings for Reel to Scene/Take/Reel mapping are used and thus Reel 002 would look for metadata 002; Reel 003 would look for metadata 003 etc.

Where zeroes are included in the reel name as in our example, SADiE would be happy to find just the number. Any leading zeroes, or any other characters in the metadata string will be ignored.

WHAT DO THE RULES APPLY TO ?

On the lower right side of this Link Dialog, you can choose what the current rule will apply to.

The first line will show the currently selected Reel name (Reel 003 in the example) and thus the rule will apply to only that Reel.

However the selection below allows you to apply the rule to **All Reels** - thus if you'd chosen to look for Scene 003, then EDL entries on ALL reels would try to find a timecode range match in only files that had Scene 003 in the metadata. Or a more likely example is where all files for all reels are in one directory.

The last two are reasonably self explanatory :

"To be recorded only" will only apply the current rule to record entries that are marked "to be recorded". You can alter the "To Be Recorded" status by double clicking on Yes/No in the Record Entry.

Unlinked entries only will only apply the current rule to EDL entries that have no audio.

CD MASTERING



CD PRE-MASTERING

NOTE: CD players work to a resolution of CD frames. There are 75 CD frames to a second. Earlier PQ editors worked to an NTSC resolution of 30 frames to a second, which was less accurate than the players themselves. SADiE works to the full 75-frame resolution.

It is recommended you change SADiE's time display format to CD frames in the "General" section of the [Setup window](#) before doing any PQ work. If you don't, you will find that times will jump in steps equivalent to CD frames.

The [Quick Start CD Writing Tutorial](#) appears earlier in this manual, and this section explains some of the technical details of writing a CD or DDP master.

PO List Overview - CD-R Method

More technical description is found in these sections:

Notes on Real-Time and Non-Real-Time CD Mastering

Orange Book CDs

Multi-session CDs

CD & DDP METHOD



PO LISTS OVERVIEW

All CD's have Index points, which the player can locate and display timing information about. This lets the user play a particular item, or program the machine to play items in a certain order. PQ flags marking each index are embedded in a CD by the manufacturer.

PQ flags are described by a track number, followed by an index number.

- Track 2 Index 1 (written 02:01) is the start of CD track 2.
 - Further Index points (02:02, 02:03, 02:04...) are occasionally found within tracks. They may be used on Sound Effects discs where several variants of the same effect are given, or on classical disks for movements within a work.

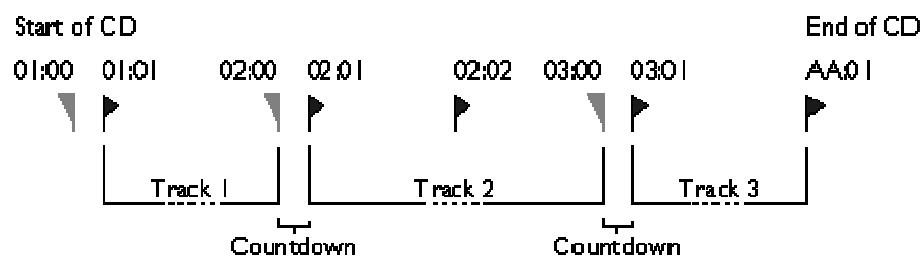
The CD player also needs a PQ flag for the end of each track.

- The flag for the end of track 1 is 02:00, and so on for other tracks.
 - The flag for the end of the last track is labelled "AA:01" and is the "End of CD" marker.

There is a special Start of CD flag, labelled 01:00. The Red Book Standard specifies that this should be between 2 and 3 seconds before 01:01 (the start of track 1).

On any CD there can be a maximum of 99 tracks, each with 99 Indexes.

Therefore a CD with only three tracks, where track 2 has an internal Index point, would have the following PQ flags:



The gap between the end of one track and the start of the next is called the countdown (or pause). This will be silence on many CD's, but may be applause or atmosphere on a live recording. You may notice when the CD is playing in a normal CD player, that when playback goes past a Zero ID (an end flag) the player's display starts counting down the time to the start of the next track (the next ID 1 flag). This is one of the differences between a Red book (disk at once) CD and an Orange book (single track at a time) CD: Orange book CD's have a standard *silent* space between tracks.

If the countdown has a length of zero (e.g. the 00 index would be coincident with the next 01 index) the 00 index is not written to the CD.

When playing a whole CD in order, a player will start at 01:01 and then play continuously to AA:01. The space between 01:00 and 01:01 is not played by the CD, and not included in the CD's total time.

When playing just track 2 (on its own or as part of a program), a player will play from 02:01 through to 03:00.



PQ LISTS OFFSETS

You will probably determine the EDL times at which PQ flags are placed with reference to the audio. These times are called "Start Times", or "User Times".

CD players vary in their speed and accuracy in locating an index, starting to play, and then fading up the volume. To avoid the possibility of clipping the start or end of tracks and to separate mechanical noise from the music, the start/user times of PQ flags are offset to obtain the "PQ Times", as follows:

- The Start of CD flag (01:00) and the first track start (01:01) are advanced by the "Start of CD Advance", typically one second.
- Subsequent track start flags (02:01, 03:01,...) and all index flags within tracks are advanced by the "Start of Music Advance", typically 12 CD frames.
- Track end flags (02:00, 03:00, etc.) are delayed by the "End of Music Delay", typically 5 CD frames.
- The End of CD flag (AA:01) is delayed by the "End of CD Delay", typically two seconds.

NOTE: After applying offsets, a 00 index is not allowed to be after the next 01 index, so it is set coincident with it. In this case there will be no countdown and the 00 index is not actually written to the CD. Very short countdowns left after offsets also are commonly removed.

Traditionally, the start of the first audio on a CD master tape is positioned at 00:02:00 (two minutes) with respect to timecode, and therefore at 00:02:00 in SADiE's EDL. The CD doesn't need to have two minute's silence on the front, so the actual CD Times are the PQ times with respect to the Start of CD flag (01:00).



SADiE'S PQ EDITOR

You can create a PQ list by manually inserting each flag, or by letting SADiE automatically generate an entire list based on the in and out points of Entries in the EDL . The flags can then be adjusted manually.

SADiE will display the positions of the flags alongside the EDL Entries and apply all the above offsets for you at the time the PQ list is first created.

To make an EDL with a PQ list you must:

- First enable PQ Editing features. This is done with the check button in the "PQ Settings" section of the Setup window.
- Then create a new EDL, which will have an extra Stream for PQ flags, displayed above Stream 1.

NOTE: If you already have an EDL that was created before you enabled PQ features, and you want to add a PQ list to it, then enable PQ Editing, "Select All" Entries under the "Edit" menu, and finally cut and paste them into a new EDL.



The PQ list is displayed as one of the three text panes attached to the Playlist . Use the **TEXT PANE** button on the Playlist toolbar and then select "PQ" from the tabs at the bottom left. If necessary drag the edges of the Playlist window or the border between the Playlist and the text pane.

The PQ toolbar and the Stream displaying PQ flags in the Playlist will also be displayed. This is in a separate unit from the Streams for EDL Entries: double-click on the unit name above the Stream control buttons to open/close it.



The **PQ SETUP** button on the PQ toolbar directly opens the PQ section of the Setup window. There are several setup sub-sections referred to below in capital letters.

AUTOMATICALLY GENERATING A PQ LIST

If your audio material is not already divided into EDL Entries, you can either put razor-cuts at all the track start points first, or choose to insert all flags manually. Manual insertion is covered by the section on editing an automatically generated list.

1. Set the offsets (described above) that will be used in the list. These are in the PQ OFFSET setup.

NOTE: The offsets set here are applied to a PQ list from the moment a list is automatically created by using the **GENERATE PQ LIST** button, or the first flag is manually inserted. From then on, they are held in the EDL and changing offset settings will not change the current PQ list, unless you destroy it and create a new one. Therefore be sure that you set them as you want before you do lots of intricate PQ editing!

The "Normalise" function is described below.

2. Set the parameters for calculating PQ flag positions based on your EDL. A 01:01 flag for the start of track 1 will be put at the in-point of the first EDL Entry. After that, SADiE will put track end flags at Entry out-points, and track start flags at Entry in-points subject to the following options in the PQ FLAGS setup:
 - i. New tracks will only be flagged when the previous track has exceeded the minimum track length, and after a gap between EDL Entries longer than the minimum gap length.
 - ii. The first index 0 length determines how much before the start of track 1 the Start of CD flag, 01:00, is positioned. Red Book recommendations are between 2 and 3 seconds.
3. In the PQ FLAGS setup, you also can set the default emphasis and copy-permit settings for each track that is flagged.

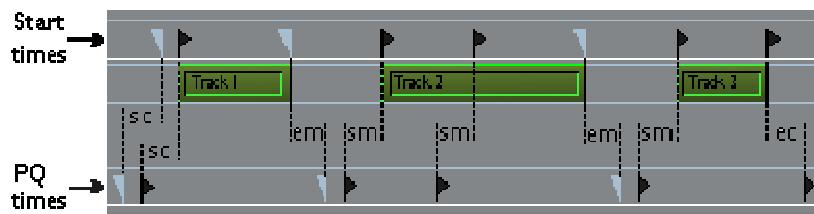
4. Press the **GENERATE PQ LIST** button on the PQ toolbar.

NOTE: A minimum gap length setting of zero will find all edits, even overlaps. The **GROUP CLIPS** function in the Playlist may be very useful for preventing certain edits from affecting the PQ list creation.

PQ LIST DISPLAY

The PQ Stream in the Playlist should now display the PQ flags.

The **FLAG DISPLAY MODE** button to the left of the PQ Stream selects whether flags are displayed at the Start times, which will line up with edit points after auto-generating (button down), or the PQ times, which are the positions after the offsets are applied (button up).



sc = Start of CD Advance sm = Start of Music Advance
 em = End of Music Delay ec = End of CD Delay

The text pane shows the details of the PQ entry at each flag:

- On the left hand side, the list is shown in a tree structure, with the whole CD at the top, tracks within it, and flags within tracks. Double-click to open/close items.
- On the right-hand side, the details of each PQ entry are shown in columns. The columns can be customised by clicking on their heading buttons, and the width of columns can be changed by dragging the dividers between the heading buttons.
- You can click on the flag names in the tree, and the track or Index numbers in the columns to select a PQ entry and locate the current-time cursor in the EDL . The entry's details and the flag in the Playlist will be highlighted in red.

Other columns include:

- Track name and Index name - These allow you to enter your own names for display purposes, and for printouts. Double-click on the names.
- Start time - Shows the start time (or "user time") of each PQ entry.
- Duration - Shows the length of time between this PQ entry's start time and the next.
- PQ time - Shows the time of each PQ entry after offsets are applied to the start time.
- PQ duration - Shows the length of time between this PQ entry's PQ time and the next.
- CD time - The PQ time of each PQ entry with respect to the Start of CD flag (01:00).
- Emphasis - Shows the setting of the emphasis flag for the following CD track: = emphasis on. Double-click to change the setting.
- Copy - Shows the setting of the copy permission flag for the following CD track: = copy allowed. Double-click to change the setting.
- ISRC - is the unique code that you can allocate to each CD track, for PRS logging purposes for example. Double-click to enter the code.



You can generate sequential codes for the whole CD by pressing the **GENERATE ISRC's** button on the toolbar. Enter the number for track 1, and the codes for all other tracks will be allocated. The country and owner parts of the code are entered in the PQ FACILITY setup.

- Mode 2 Data - also known as UPC/EAN or bar code can be entered in the box at the top left of the PQ table by double-clicking the box and typing.



PREVIEWING THE PQ ENTRY POINTS

To audibly check the positioning of your PQ entries, the following preview buttons will play the relevant parts of the EDL . with pre-roll and post-roll times set in the Setup window.

The **FLAG DISPLAY MODE** setting will affect which EDL times the previews apply to.



PLAY UP TO INDEX plays up to the selected PQ entry.



PLAY THROUGH INDEX plays through the selected PQ entry.



PLAY FROM INDEX plays from the selected PQ entry.



PLAY TRACK PAUSE plays through the countdown for the selected PQ entry.



PREVIEW CD TRACKS plays from all the track starts for the CD.



PREVIEW COUNTDOWNS plays through all the countdowns for the CD, so checking all track starts and ends.



NOTE: If you are creating an entire PQ list manually, use the [Setup window](#) to set the PQ offsets to be applied to the list before you insert the first flag. From then on, they are held in the EDL and changing the settings will not change the current PQ list. Also, the PQ DISPLAY setup has a button to enable the use of a mouse for PQ Editing in the Playlist . Some users may prefer to disable this to avoid accidentally moving flags with the mouse.

INSERTING PQ ENTRIES USING THE MOUSE IN THE PLAYLIST

The **PQ INSERT MODE** button pre-selects whether the PQ entry you insert will be:



Up - an index within the current track



Down - a track start.

Position the mouse at the desired EDL time in the PQ Stream. The mouse pointer will turn to a flag and the mouse time display will show the time you are pointing to. Click to insert the PQ entry. Subsequent entries will be renumbered.

NOTE: If you are inserting a track start, a track end flag will also be inserted before it. The default countdown duration between these two is set in the PQ FLAGS setup. The default emphasis and copy permit settings for new track flags are also set here.

INSERTING AND REMOVING PQ ENTRIES IN THE PQ TEXT LIST

Use the following buttons in the PQ toolbar to:



ADD TRACK adds a track start (with track end and default countdown) at the current-time. This is for accurately positioning flags at a point found by audible scrubbing of the Playlist.



ADD INDEX adds an index flag at the current-time.



DELETE INDEX deletes the selected PQ entry.

MOVING PQ ENTRIES USING THE MOUSE IN THE PLAYLIST

Position the mouse pointer over the flag you want to move. The flag symbol will change to a hand. You can then either:

- Drag the flag to a new location, or
- Right-click and "Snap the PQ flag to current-time". (Useful after scrubbing the audio.)



The **SLIP INDEXES** button will cause all PQ entries to the right of the one you move or delete to move with it.

NOTE: Take note of whether you are viewing Start time or PQ time, as selected by the **FLAG DISPLAY MODE** button.

EDITING PQ ENTRY DETAILS IN THE PQ TEXT LIST



You can double-click on any of the time values in the PQ list, and edit them like other time displays in SADiE. The PQ entry will move accordingly and the **SLIP INDEXES** button will determine whether all following PQ entries move.

Double-clicking also allows you to change each track's emphasis and copy permit settings and ISRC code.



The **NORMALISE** button will reduce to zero all countdowns less than the value set as the minimum index 0 length in **PQ OFFSETS**.

NOTE: This is done by moving the track end (index 0) flag up to the following track start flag. The PQ and CD times for the track end flag will not be displayed, as it is not actually written to the CD when it has zero duration.



The **EDIT HEADINGS** button lets you enter CD details for the printout and manufacturer.

Mode 2 Data

The **MODE 2 DATA** text box above the PQ list tree represents the CD's bar code. Double-click to enter the code.

TIP: If the audio for your CD is all one EDL Entry, and you don't want to remove noise or atmosphere between tracks, either:

- Put single razor-cuts at each track start point and auto-generate the PQ list with minimum gap length set to zero.
- Manually insert each track start flag after scrubbing the Playlist to locate the point, then use the **ADD TRACK** button, or paste the flag in with the mouse and snap it to the cursor.
- You can then move the track end flags back, if you want to create countdowns.



PRINTING OUT THE PQ LIST



PRINT PQ uses the Windows application Notepad to print the PQ list directly to your printer. Offsets used, CD details entered in the "Edit Headings" box and Facility details entered in the PQ FACILITY setup are included in the printout.



PRINT PQ TO FILE saves the PQ list as a text file, which you can later open and edit in any text editor or word processor.

This is available on PCM8 and DSD8 systems, or as part of the mastering package on PCM4 and H64 machines.



MAKING A MASTER

SADiE will write your finished PQ list and the audio to the following equipment:

- CD-R's
- DDP Image to Disk. This allows you to put the DDP files (including the Audio Image) directly onto a disk drive. This format is commonly known as DDPi.

Plus two legacy methods...

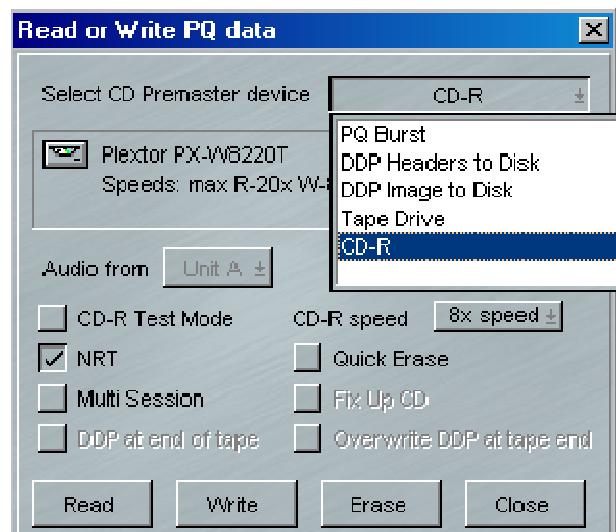
- Exabyte tape drives, using the DDP format

- If you are using SADiE5 DSP hardware, you could use the legacy "PQ Burst" option to play out to a timecode-synchronised recorder, (commonly SONY 1630/U-matic). [Synchronisation](#) is covered earlier in this chapter.

NOTE: The DDP features are only available with the Mastering Suite and Sound Suite versions of SADiE6.



On the PQ toolbar, press the **READ/WRITE PQ DATA** button. The "Read/Write PQ data" window will appear.



Select your pre-mastering device:

- CD-R - Press the **WRITE** button to create a Red book CD, complete with Table of Contents.
 - Set the CD-R Speed. This choice is largely your own. A faster speed is not necessarily the best, and it will depend on the speed your PC/drive combination is able to perform best at. The complexity of the playlist should not be a factor in your choice of write speed, as SADiE creates temporary files before writing to the CD. Please see the note about CD-R media before proceeding.
 - Press **WRITE**

The top section of the "Read/Write PQ" dialog under the CD drive name will report the status of the CD writing process.

 - a. During the first phase, the Playlist will appear to play at speed, but silently - this is a "non-real-time" process and during this the report will be "Mixing Audio Files". During this time, SADiE is creating the final mix, using the current mixer and its settings and processing, before writing this mix to the CD-R.
 - b. Once that's finished, the report will be .." xx% of Track 1..." as the CD write phase continues, and finally, after "Writing Lead Out", the CD write is complete.
 - c. At the end of the CD write phase, the disk will eject, and a message will appear asking you if you wish to burn further copies of the disc. If you choose to write another disc, the "Mixing Audio files" phase will be skipped and the CD writing will start immediately.
 - **Close** the "Read/Write PQ" dialog when you are finished.
 - You will not hear the audio while the CD-R is being written unless you deselect **NON-REAL-TIME (NRT)**. When NRT is de-selected, the "Mixing Audio Files" phase of the CD writing process, will run at real time, and so it would be possible to mix in real time whilst creating the temporary files.
- DDP Image to Disk.

- On selecting this, you will then be asked where you want to place the four (or five) files that are required. These are usually called:
 - DDPID - a small file that identifies the DDP
 - DDPMS - another small file.
 - SD - another small file, this one contains the PQ information.
 - Image.dat - a MUCH larger file that contains the audio data. This file could be over 600 MB, and thus take care that you have enough space on the disk for it.
 - If CD Text is to be included, another file CDTEXT.BIN will be included.
- You can choose DDP v1 or DDP v2. It must be set to DDP v2 to allow CD Text (and in current times, there is little purpose in choosing DDP v1)
- You could choose a networked drive for the PC disk destination.

NOTE: This function is *not* to be confused with the "DDP Headers to disk" function, which only copies the smaller PQ related files to a PC disc, and not the Audio Image.

NOTE: Some factories will prefer DDP on CD-R, DVD-R or DVD-RAM disks. SADiE can write DDP directly to DVD-RAM or MO disks. If the delivery format is to be CD-R or DVD-R you will need to write a DDP Image to Hard Disk, and then create the Master Disk using a separate burning application.

- Tape Drive - Press the **WRITE** button to create a DDP master. The SCSI Exabyte tape drive will locate itself and the PQ data and audio will be written to it.
 - If you select **NON-REAL TIME**, this will be done as fast as possible, but you will not hear the audio.
 - A message will tell you when the operation has been completed.
 - A Clip named "CD Audio Image" will appear in the Source Tracks folder of your Clipstore.

NOTE: There are some choices with regard to the format of the DDP tape. You can choose DDP version 1.00 or 2.00. This is chosen in the "[DDP Details](#)" section of the Setup window. With either version of DDP, you can choose to put the DDP files before or after the audio file; there is a tick box in the "Read/Write PQ data window" for this "DDP at end of tape". The advantage of putting the DDP files at the end of the tape is that they can be replaced at a later date (to add ISRC codes for example) and this can be done by pressing "Overwrite DDP at tape end" (but this only works if the DDP files are at the tape end). It is recommended that you check with your manufacturing plant that they will accept DDP v2.00 and/or DDP at the end of tape, as these are non-standard.

- PQ Burst - Press the **WRITE** button at the moment you want to send the PQ burst to the tape, then run the machine with SADiE in sync and record the audio.
 - The outputs used and level of the burst can be set in the PQ BURST setup; -14 dB is normal.

NOTE: It is advisable to lock SADiE's digital audio clock to that of the 1630. Connect the 1630's digital output to SADiE's digital input and select that input as the clock source in the "Further Audio settings" section of the [Setup window](#). Then run SADiE as the slave, in "Trigger lock", synchronised to timecode from the U-matic.

CD TEXT

It is possible to embed text fields in the CD in order to add title and artist information to the disc, and some CD and DVD players are able to display this while the audio plays.

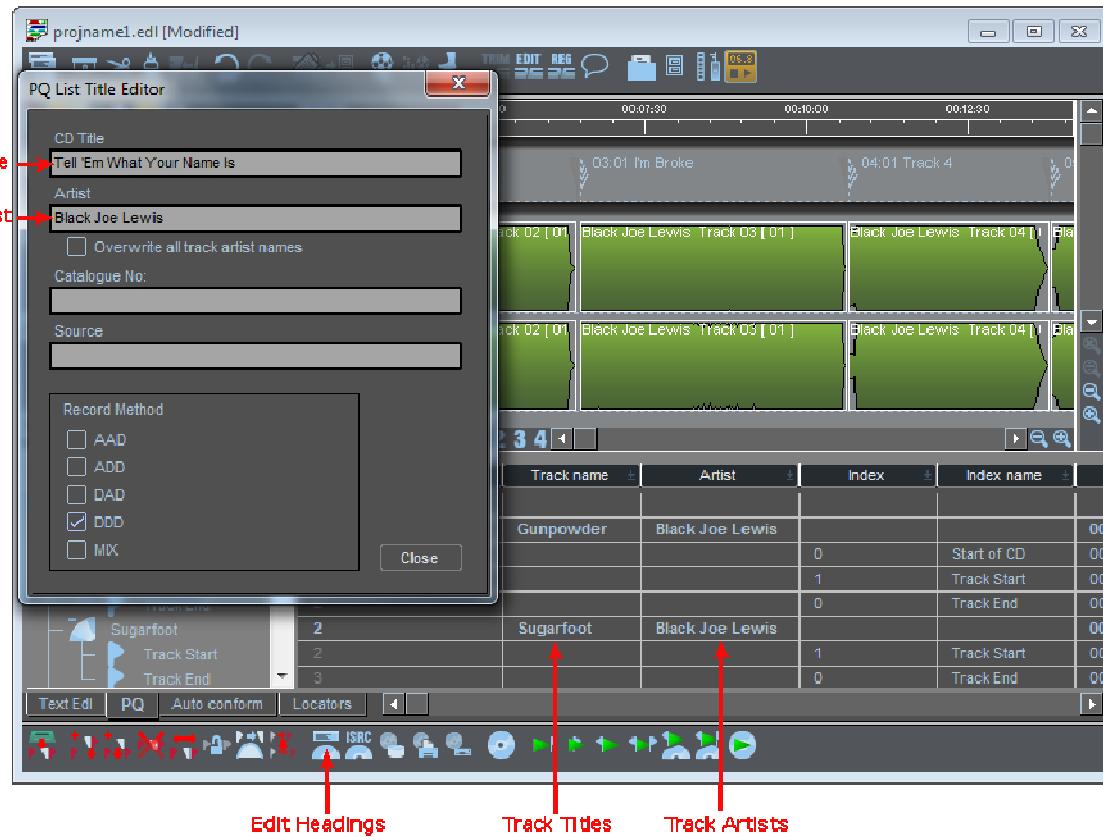
There has been some confusion about how this relates to artist, title and other information that is displayed when you log a disc on a PC in a multimedia application like, for instance, Windows Media Player. The Artist and Title information in the CD Text is NOT read by Media Player or iTunes - this data goes beyond what can be stored on the disc and is always downloaded from an internet database. Thus if you put CD Text on your CD, it will not appear in Media Player - probably because, particularly if you are mastering a new disc, this information has yet to be entered on the databases that Media Player uses to find this information.

However CD Text can be a useful addition to the disc and some record companies may require their discs to contain it.

From v6.0.2 SADiE supports the CD Text Language Code. This can be set in the PQ Settings page of Setup. As it defaults to English, you should check this if you are working in a non-English language.

CD Text can only be embedded on a CD-R master or DDP Image, and not on a DDP Tape or U-Matic master.

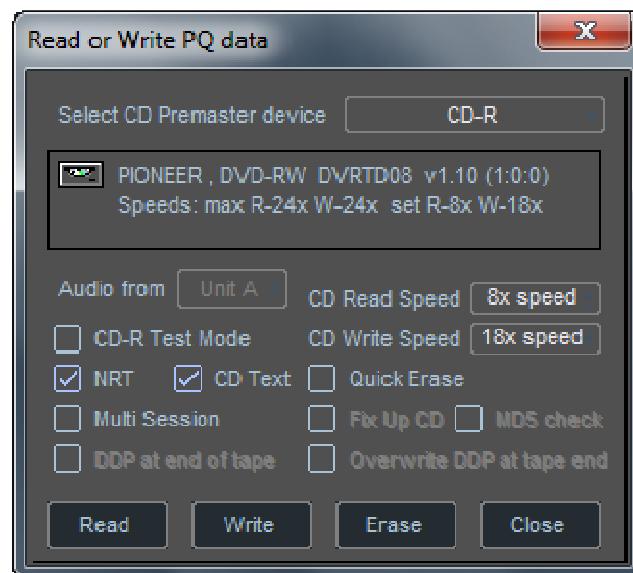
SADiE uses the fields in the PQ Editor to add Title and Artist information for each CD track. Additionally, if you press the **Edit Headings** button on the PQ toolbar, the **PQ List Title Editor** has some fields for disc information, which is used in the PQ Print out. The **CD Title** and **Artist** fields here will provide the Disc Artist and Title information in the CD Text.



The ability to add an artist for each track is provided for instance for compilation albums. You'll notice that any Track Artist fields that are empty when you fill in the Disc Artist field, will be filled in automatically (to avoid the need for extra typing when the disc isn't a compilation).

There is a limit to the number of characters that can be put on the disc as CD Text, but it's about 4600 for the whole disk, so if you have less titles you can have longer titles. SADiE will warn you when you get to the limit.

TO WRITE THE DISC WITH CD TEXT



In the usual way, when you've completed the PQ editing, and typed the artist and title information, open the PQ Read/Write Data window, choose CD-R, but make sure that **CD Text** is ticked before pressing **Write**.

CD Text may make the CD writing operation slightly more stressful in terms of processing speed, and so for example, a playlist and mixer that burns at 8X without text may not be successful with CD Text (although selecting **burnproof** will ensure it completes anyway).

CD Text is available as a software option - contact your dealer for details of how to obtain it.



VERIFYING A MASTER



On the PQ toolbar, press the **READ/WRITE PQ DATA** button and select your pre-mastering device.

- DDP tape - Press **VERIFY** and the PQ data on the DDP tape will be checked against the current PQ list in SADiE. You then have an option to **VERIFY AUDIO INTEGRITY**. This will produce a text file detailing the audio error correction rate on the master. In "PQ Settings" in the [Setup Window](#), you can choose how detailed this text file will be.

NOTE: Exabyte is a fully error-correcting data medium. It checks all data as it writes, and re-writes if necessary. Unlike the error correction on a CD, a high error count will not affect audio quality, but at worst could slow the transfer rate to a point where data transfer cannot be done in real time.

- DDP Image to Disk - Press **VERIFY** and SADiE will ask you to point to the directory containing the files. You can choose any of the four files, and then the PQ data will be verified. There's no option for verifying the audio as with DDP tapes, although DDP tapes are only verified with respect to the data integrity; it is not expected that a disc copy can fail.
- CD-R - CD-R's cannot be verified.
- PQ Burst - Press **VERIFY**, then play the PQ burst from the tape. Set the input you are sending the burst to in the PQ BURST setup. The PQ data will be checked against the current PQ list in SADiE.



READING FROM A MASTER

If you have been given a master that needs further editing, you will want to load both the audio and PQ data into SADiE:

NOTE: First create a new EDL because the PQ data you are about to read will be attached to whatever is the current EDL.



On the PQ toolbar, press the **READ/WRITE PQ DATA** button and select your pre-mastering device.

- CD-R. If all you want to do is to 'rip' audio from a CD to use in another project, then the [Import CD Tracks](#) routine is the quickest and most efficient method. Alternatively, if you need to analyse the audio and PQ flags of a CD...Press **READ**. The PQ data from the CD will be read into the current EDL and will appear in the PQ list. A "CD Image" clip will appear in the Playlist lined up with the PQ flags for playback or bouncing to an audio drive. (Note there is a small change to the method in v6.0 - the CD image file will not appear automatically in the EDL. If you go to the clipstore, Import CD Tracks, and then cancel, the image will appear in the clipstore, which will automatically place in the correct place when you drag it into the EDL.)
- DDP Image to Disk - Press **READ**. SADiE then asks you to point to the location of the DDP files. You can choose any one of them to "log" the DDP. A "CD Image" clip will appear in the Playlist lined up with the PQ flags for playback or bouncing to an audio drive
- PQ Burst - Press **READ**, then play the PQ burst from the tape to the input you have selected in the PQ BURST setup. The PQ data from the tape will be loaded into the current EDL's PQ list. Record audio from the 1630 in the usual way.

NOTE: You will be loading PQ times into from the master the PQ list. SADiE will apply the currently set offset values in reverse to derive start times. If these are different from the offsets used to generate the PQ list originally, you will find that the start times do not line up exactly with the audio. You will probably just work on the PQ times directly, but if this bothers you, either adjust all the flags' start times, and let SADiE produce PQ times according to your offsets, or work out what the original offsets must have been, set them in the PQ OFFSETS setup, then read the PQ data again.

When you read a PQ list in off DDP or CD, the times on the medium are calculated from 00:00:00, whereas it is possible that when it was originally edited, you may have had an offset in the EDL and the CD started for instance at 00:02:00. It is usually more convenient to not start at zero. This would be where the PQ print-out was timed from also.

The "EDL PQ list insert time" setup option allows you to choose the position in the EDL of Track 1 ID 0 when PQ data is read from a CD-R or DDP tape.

** T

CD SUBCODE

When reading PQ data from a CD (via a CD-R) the data SADiE can read will depend on the model of the CD-R being able to retrieve that data from the disc. The "PQ settings" page of the [Setup window](#) has two options for enabling the reading of some subcodes:

- Read ISRC from CD-R - When reading the PQ data, the disc will be located to the start of every track so as to read the ISRC information (if it exists). Thus reading PQ data will take a little longer with this ticked, but the ISRC's will appear in SADiE's PQ list afterwards. This does not work on some older CD-R's and they may crash if asked to perform this.
- Read CD-R ID Zeros - With this ticked, the read PQ data process will be similar to the ISRC setting: SADiE will hunt for ID zeros (track end flags) throughout the disc (thus taking a bit longer), and they will appear in the PQ list afterwards. This again may not work on all CD-R's, but Plextor drives should work.
- If the disc you are reading has CD Text, then this will be placed in the Artist and Title fields.



REPLAYING A CD-R OR DDP

After reading the PQ list from CD-R, DDP tape or DDP Image files on hard disk, a clip named "CD Image" will appear in the Playlist, lined up with the PQ flags. As the Exabyte or CD-R is a PC device, its audio can be treated just like a SADiE Track on an audio disk, the only limitation being the speed of the device.

The CD Image has no profiles so you won't see waveform information - just the clip outline.

You can then play the Playlist, and preview or locate to the PQ flags. SADiE will play the audio directly from the CD-R or DDP (or DDP files).



SAVING DDP PQ DATA

The current PQ list in DDP format (without the audio) can be saved like any file and read back into SADiE's PQ editor for later modification. The new version can then be saved to floppy disk and sent to the factory separately from the master tape. This is sometimes done when a detail such as the ISRC codes gets added at a later date.



On the PQ toolbar, press the **READ/WRITE PQ DATA** button and select "DDP Headers to Disk".

- **WRITE** will save the file (to the DOS drive or the floppy drive),
- **VERIFY** will compare the saved file with the current PQ list,
- **READ** will re-load a saved file to the PQ editor.

This is not to be confused with "DDP Image to Disk" as this process only copies the PQ data files and not the Audio Image file.



BOUNCING FROM A CD-R OR DDP

You can copy individual tracks or the whole CD to your audio disk by using the [Bounce Window](#). You can copy from a CD-R or DDP master tape (or Image file) or in fact any CD (as long as you're not infringing any copyright!) and you don't have to have mastered it in SADiE.

Note that a simpler method for importing whole CD tracks exists - see [Importing from CD](#), however the method described below offers extra flexibility.



1. Open the PQ Editor: press the **TEXT PANE** button, and select the "PQ" tab.



2. Read the PQ data: Press the **READ/WRITE PQ DATA** button in the PQ editor.

3. Select CD-R, Tape Drive, or DDP Image.

4. Press **READ**. After a moment (usually quite a short time), the flags from your CD/DDP appear in PQ stream of the Playlist . Also, there will be a new clip called "CD Image" lined up to the PQ flags.

5. You can now play the CD image. If it is from a CD-R it will take a little longer than usual to go into play, if it is from a DDP tape it will take MUCH longer to locate the tape.



7. If you want to bounce the entire track , select the "CD Image", open the **BOUNCE** window, and tick "Stereo", "Selected clips", "Stream 1&2", "Auto-Replace", and "Bounce in non-real-time". Press **START**.

If you want to bounce only one track, then razor cut at its start and end (you can use the PQ text pane to locate exactly to the flags, as when you select a flag on the left-hand side of the table, the EDL locates to that position. You can use this, along with the keyboard down arrow to swiftly locate and razor cut on every flag.)

It is worth choosing to view "PQ times" as opposed to "User times", as the user times will apply an offset.

For just one CD track, select it in red and perform the bounce as above. For several CD tracks, delete the ones you don't need, and use the Multi-bounce option, which bounces every clip to a separate track (you'll need Autotake ticked for this).

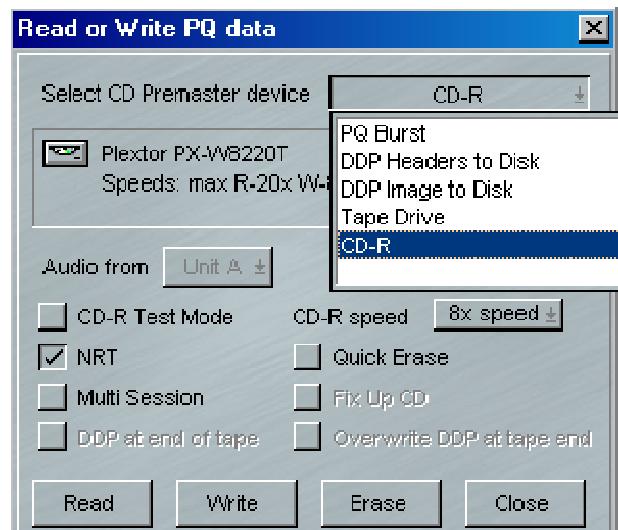
Currently, the non-real-time bounce speed is set to 2x on a CD-R drive, unless you change the setting under PQ settings. This is because we cannot guarantee the integrity of the audio at faster speeds.

There is further discussion of this in CD-R Playback Problems.

MULTI SESSION CDS

It is possible to create a CD-R disc with two sessions: one a normal Red Book CD Audio session, the other might contain data of another sort. A CD player only recognises the first session on a disc, and so will see this disk as an ordinary red book CD. A CD-ROM drive will see the data session, which could contain graphics, video or other data.

If you tick the "Multi Session" button in the "Read/Write PQ data" window before writing a CD-R, SADiE will write the red book session as normal using the PQ list, but on finishing this session, will leave the disc open for another session.



Currently the second session will have to be written outside SADiE, but this does allow you to use the powerful PQ editing tools in SADiE for the CD Audio session, and then take the disc onto a different CD authoring system to write the data session.

Multi session support is only included in the Mastering Suite and Sound Suite variants of SADiE6.

RADIO

RADIO PROGRAMMES

A few hints and tips for:

EDL START TIME

If you are not synchronising to timecode, it might seem logical to start the first Entry in your EDL at 00:00. However, this makes it more difficult to start playback from the beginning by using the mouse in the time bar, and it also prohibits the **SLIP** function from moving any Entries to the left. If you start the EDL at 00:01:00 or 01:00:00, you will leave plenty of room to the left and can easily subtract one minute or one hour from the current-time display to get an idea of your running-time. You can do this at any time by moving all the Entries along, with **SLIP** on.

USING CLIPSTORES AS YOU RECORD

If you are using SADiE to assemble a programme from lots of material that is on another medium, and not in the correct order, it may be most convenient to dedicate a Clipstore to the programme, and work from that.

Say you have a 1/4" tape or DAT with many inserts, you can record them into your Playlist in one go, but use the razor-cut between each to create separate EDL Entries. Whilst recording continues, you can rename each with a name relevant to the material (right-click over the Entry in the Playlist), then select it and save it to the Clipstore.

Then, rather than re-ordering the Entries in the EDL that has just been created, open a new Playlist, pull Clips out of the Clipstore and paste them into it in the required order. Have "Autoplace Butt" on and they will butt up together as you drop them in, and you can use Playlist Editing to fix each join later.

PICKING THE GOOD BITS

You didn't mean to, but it happened again: you came back to the office with two hours' worth of material on tape and the interview needs to be six minutes maximum!

Record it all into SADiE, whilst having a listen and getting an idea of where the good bits are. Then, with the whole interview on Stream 1, 1&2, or whatever, you can scrub-and-cut to identify the rough bits you want to use. Rather than remove the rest, drag out the bits you like and paste them onto the next empty Stream(s). Have "Autoplace butt" on and they will join up together.

You can now keep referring backwards and forwards between what you're picking and what you're leaving behind. Use the Solo buttons on the Streams to choose which you are listening to.

LIVE COMPILING

You can make a very good approximation to the old way of recording a programme of pre-recorded inserts linked by a live presenter:

- Have all your inserts ready topped and tailed in a Clipstore. If you put a number in front of their name, they will be listed in the correct order for the programme. Enable Autoplace-at-current time and have Autotake on in the Transport Controls.
- Decide which Stream(s) you are going to use for inserts, and which for the presenter(s).
- If the programme starts with an insert, paste it into the Playlist.
- Record-enable the presenter Stream, and play the first insert. Drop into record (by pressing the record button) just before it ends, and the presenter can pick up straight away with their link.
- While they are reading the link, pull the next insert out of the Clipstore, (if using a mouse, have it hovering over the correct Stream, with your finger still on the button) and paste it in on cue. Autoplace will position it for you. As SADiE is playing an EDL that doesn't know the Clip is there yet and you won't hear it immediately, so
- Stop playback, and re-start from just before the new insert (with the mouse you can do this in one go, by double-clicking in the time bar).
- You are now ready to drop into record at the next link, and repeat the above.
- After recording, the whole programme is in order, with the joins between links and inserts very likely to need no more attention. You can go through checking them and editing any presenter fluffs.

The great advantage of this is that the Presenter can hear and respond to each insert, and you get the flow of the programme. The slight delay (four or five seconds, tops) that everyone hears between each link and the following insert should not be much of a problem.

ROCK-AND-ROLL RETAKES

It is easy to record this way with SADiE:

If the artist fluffs, stop recording but keep the voice-over Stream(s) record-enabled. You can play back their last few words and drop in by hitting the record button on the fly.

If the drop-in doesn't sound too good, don't worry, as you haven't lost any of the previous take! The join between the two Playlist entries at the drop-in point is an edit that can be adjusted like any other. The previous take is there for bits of it to be pulled back in.

MUSIC EDITING

MUSIC EDITING

MULTIPLE TAKES

If the material is recorded to sync or keeps a steady tempo, you can place multiple takes on different Streams and use the solo buttons to switch between them.

Then make your razor-cuts at the edit points, delete the out-takes and swap sections from other takes using "Autoplace Butt". If you used synchronisation when recording into SADIe, different takes will share a timecode reference and you can use "Autoplace by Track time".

Tidy up the edits with [Playlist Editing](#), or the [Trim Editor](#).

AES3I INTERCHANGE

THE AES3I UNIVERSAL INTERCHANGE FORMAT

AES3I is the new standard for network and file interchange of digital audio, designed and specified over a period of 4 years by the AES Standards Body. The goal of the standard is to reintroduce to the professional audio industry the concept of universal interchange. A universal format for interchanging audio has not been present since the days of analogue tape.

AES3I defines source material alongside edited audio (including cross fades) and is text-based in the manner of a traditional EDL, which makes it easily readable and correctable if circumstances require it. The format is sample-accurate and supports Multichannel files in excess of 99 channels, as well as interchange between PAL and NTSC formats and frame rates. The format (crucial parts of which have already been ratified as an international standard) is open and non-proprietary and thus not exclusive to any single manufacturer. It was designed to be as simple as possible to implement to reduce development time, and allow access for all.

AES3I consists of four parts:

1. Disk Format
2. File Format
3. An edit list for the files residing on the disks, known as the Audio Decision List (ADL)
4. An Object Orientated Interchange (as yet undefined)

AES3I-1 specifies a disk format that is fully compatible with FAT32, allowing physical interchange on a disk. This format was chosen because, since its introduction in Windows 95B, it has been well received, and has been adopted by many DAW's and other digital recording equipment. More importantly, the majority of other operating systems can also read and write to it. It is one of the simplest disk formats for programmers to implement, which allows disks larger than 2GB to be addressed.

Structure of a typical RIFF File

```
[fmt] 96
-
-
-
[chk1] 4096
-
-
-
[chk2] 2048
-
-
-
[data] n
-
-
-
EOF
```

AES3I-2 specifies the file format as the EBU's Broadcast Wave File (BWF). This is a WAV/RIFF file with a SMPTE/EBU timecode stamp contained within the header. The main benefit of building on the WAV format is its universality across computers, DAW's, etc. Every RIFF file (and hence the WAV/BWF) is made up of "chunks" of information, which can be utilised or discarded depending on the capabilities of the receiving equipment.

Every RIFF file MUST contain a [fmt] chunk and a [data] chunk. This is the bare minimum that a piece of receiving equipment will need to open and read the file. The number that immediately follows the chunk header will define the number of bytes in that particular chunk. In the case of audio WAV files, the [fmt] chunk contains the sample rate, bit depth, frame rate, etc. The [data] chunk contains the audio PCM data. There can then be additional chunks containing extra information (marked [chk1] and [chk2] in the example). If the receiving equipment knows how to read and interpret the data in a particular chunk it will do so. If the equipment doesn't recognise the chunk header it simply skips the relevant number of bytes until it reaches the next chunk header. In this way, new chunks can be added to the file format without breaking older equipment that does not understand the newer sections.

A Broadcast Wave File contains a chunk labelled [bext] (Broadcast Audio Extension). This contains the Originator Reference, a 32 character ASCII string containing a non-ambiguous reference allocated by the originating organisation. This ensures references to a BWF file will always be correctly matched. It also, most vitally, contains a SMPTE/EBU timecode stamp, as well as other information such as copyright and recording history.

As the file is made up of chunks, simple music programs like Media Player and QuickTime can simply ignore the [bext] chunk, and search for the next readable header. This means that the BWF can contain useful and important information that more versatile equipment/software can interpret, whilst still maintaining compatibility with all WAV capable equipment. It is important to note that MONO Broadcast WAV's are the norm with AES3I, as there is no useful consensus on the use of stereo or Multichannel Broadcast WAV's.

AES3I-3 was the first section to be published in 1999 and describes the Audio Decision List or ADL. This was the hardest part and took the longest to define. Video and audio editors had become accustomed to the "human readability" of traditional CMX and Sony edit lists, using a simple word processor to modify them or to identify problems. The AES3I ADL is written in XML (similar to the HTML language commonly used on the Internet), and is readable in any word processor on any platform. The ADL is also chunk based (allowing for future expansion and functionality), and uses XML style tags to specify a number of sections. The <VERSION>, <PROJECT>, <SYSTEM>, and <SEQUENCE> sections specify general information about the ADL and where it has come from. The <SOURCE_INDEX> section describes the source material (i.e. audio files) that the ADL requires, whilst the <EVENT_LIST> section describes the individual ADL entries. The ADL is sample-accurate (unlike CMX/Sony lists which are only frame-accurate) and has provisions for video pull-up and pull-down rates. Having experienced practical implementations of this format, the specification has been reviewed to further define and clarify it.

From the outset, this specification has been designed to be very simple, built wherever possible on existing standards and traditional working methods. This simplicity tends to make the standard more robust. However, it also dictates that certain practices must be followed or the simple mechanism will not be able to cope with the errors introduced. An example of this fragility would be an ADL's "path" to the audio; if audio source files are moved, or placed in a different location, you could end up with a blank non-playing audio event. Once made in one machine, the audio and ADL files should not be moved within that machine, (i.e. moving the files into another folder, renaming the drive, changing drive letters, etc) without exporting and subsequently re-importing the project. The files are linked to their locations when the ADL is created and moving them outside the normal structure might un-link them.

A useful mechanism for repairing links is the 32-character BWF "Originator Reference" (mentioned above), which is now implemented by several manufacturers. This is a unique sequence of ASCII characters that is automatically stamped onto the BWF file at creation time and is referenced alongside each source track entry specified in the <SOURCE_INDEX> section of the ADL. By using this information the reading application can ensure that tracks are reliably identified and correctly matched with individual ADL entries.

Efforts to establish an AES3I Trade Association, to promote its adoption by manufacturers and provide an information exchange forum for the audio community at large, have proven to be over optimistic. However, with multiple manufacturers already on board¹ the testing and interoperability issues are being quickly resolved. SADiE, amongst others, are testing as many other manufacturer's files as possible to ensure compatibility issues will be stamped out more quickly than relying on a single company's proprietary format.

The specification may well be revised and amended, and like all international standards will be subject to review after 5 years. However it will evolve with all manufacturers on-board, and will not be reliant on a single company's proprietary "interchange" format. Additional sections (chunks) may even be added as supplements rather than as extensions or amendments, to ensure that all manufacturers are equally able to implement the standard. One future addition may well be to include edit automation, including gain, mute, and pan information. However, defining the specification for the transfer of this information will take a significant period of time.

One final word of caution to customers: make sure that the manufacturer who offers AES3I compatibility has truly implemented the specification. A few companies have merely implemented Broadcast Wave Files and yet claim full AES3I compliance. Though this would enable you to import the audio from these manufacturers' machines, you will NOT have a compatible edit list, which is where the real benefits lay in terms of reducing workload.

FURTHER REFERENCES:

AES Standards Publications – Only Part 1 and Part 3 are currently published as ratified standards. These are available for download in PDF format from:

<http://www.aes.org/standards/reports/AES-STANDARDS-IN-PRINT.html>

- AESSC, 2001: "AES standard for network and file transfer of audio - Audio-file transfer and exchange - Part 1: Disk format", AES3I-1-2001
- AESSC, 1999: "AES standard for network and file transfer of audio - Audio-file transfer and exchange - Part 3: Simple project interchange", AES3I-3-1999

The current status for the remainder of the project is posted at:

<http://www.aes.org/standards/policies/PROJECT-STATUS.html>

EBU BWF Specification - These are available for download in PDF format from:

http://www.ebu.ch/tech_t3285_v1.html

- EBU, 2001: "BWF - a format for audio data files in broadcasting", Tech 3285

¹ RIFF stands for "Resource Interchange File Format" as originally specified by Electronic Arts, and now wholeheartedly adopted by Microsoft and others as the most popular extensible file format.

² The following companies have so far announced AES3I compliant products: SADiE, DAR, Akai, Euphonix, Tascam, Timeline, Steinberg, Fairlight, AVTransfer, Merging Technologies, Genex, Zaxcom DEVA, HHB Portadrive, iZ-Techologies RADAR, Digigram, Waveframe, Audio-CUBE, Nagra, Sek'd.

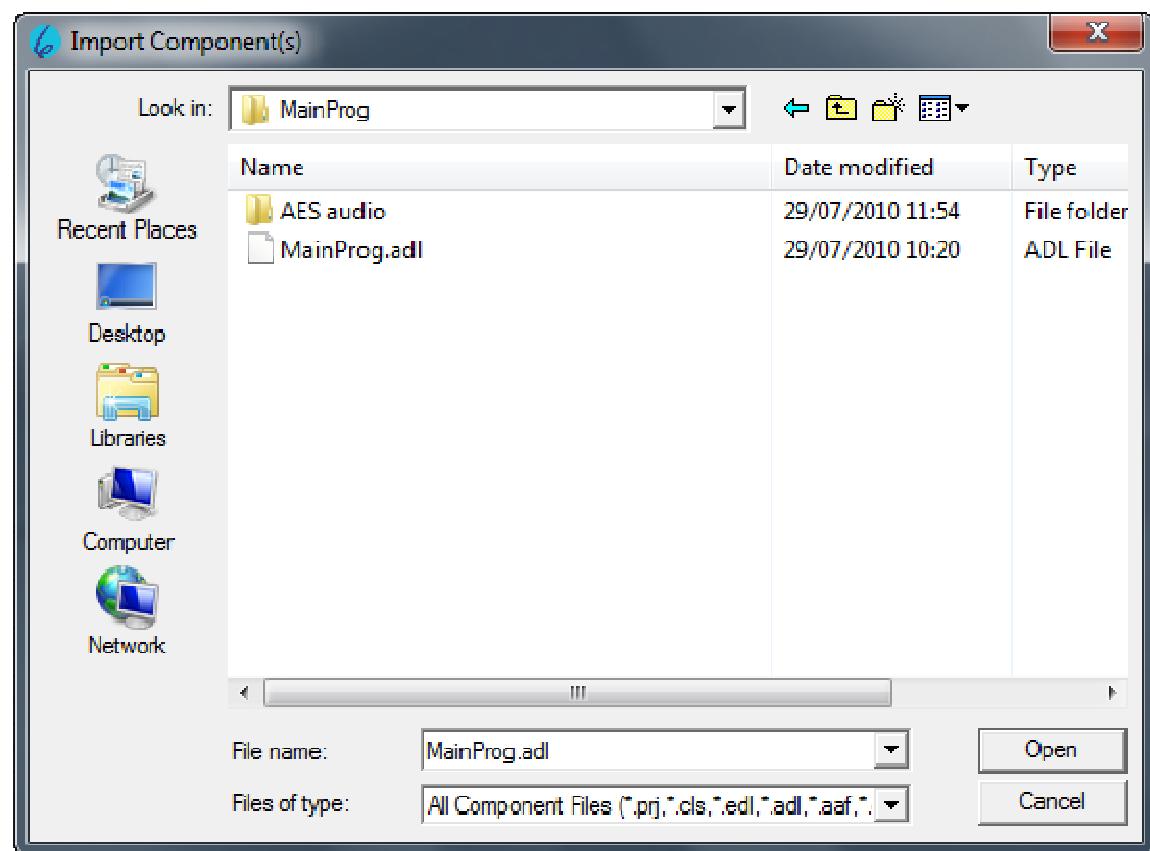
USING AES3I WITH SADIE

SADiE has capabilities for importing audio and AES3I ADL's (Audio Decision Lists). You will need to have an AES3I project, including an ADL and it's associated audio files, on a Windows compatible disk. Insert the disk into the SADiE machine. Switch on the PC and open SADiE. Cancel the Project dialogue that pops up. Set the sample rate and frame rate in the Setup Window to match the AES3I audio you'll be working on. If the sample rate is wrong, the conversion to SADiE may also be wrong. (If it is wrong, you can easily change it and run the conversion again.)

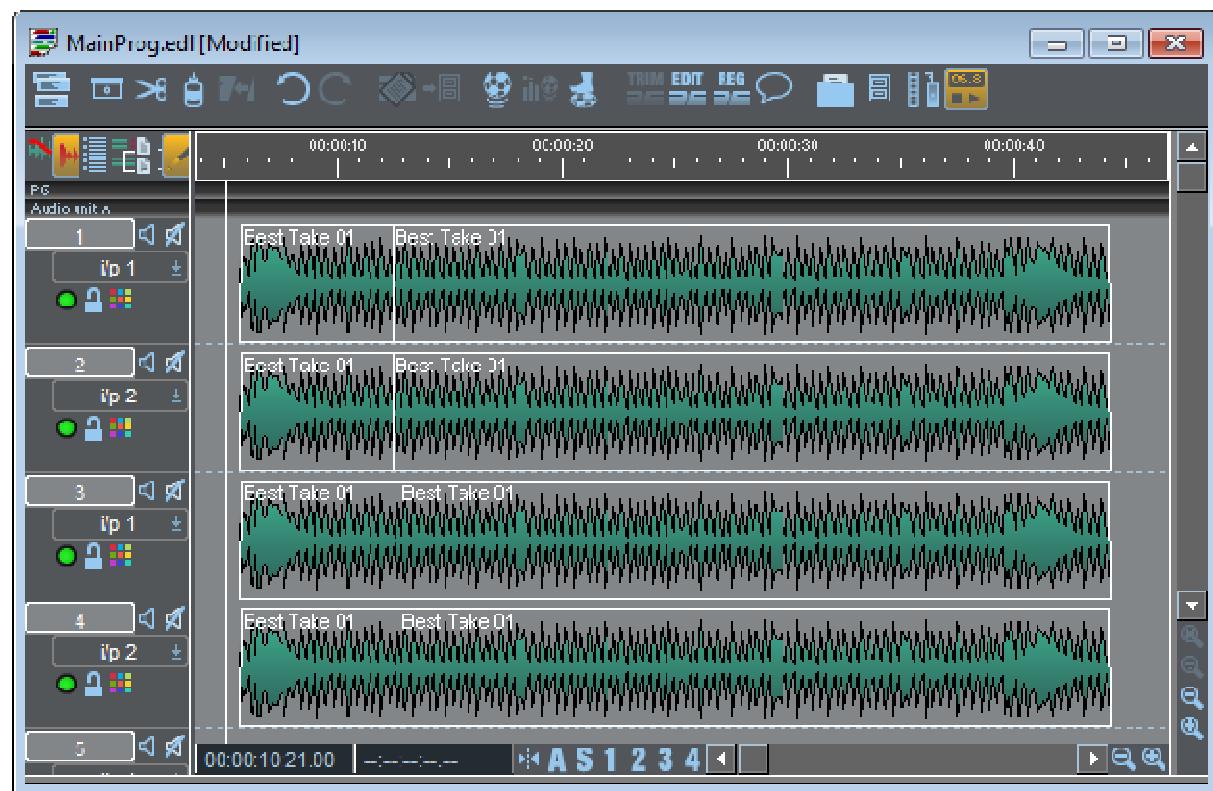
IMPORTING AN AES3I PROJECT

Open SADiE and open the project into which you wish to import the AES3I file (or create a new one). Go to the Project Menu, and select "Import Component".

A file selection dialogue will appear.



Select the relevant ".adl" file, and click "Open". SADiE will then convert the ADL, create a new Playlist (with the same name) within your Project, and will open it. The relevant audio will be imported in to your Clipstore and the profiles will slowly fill in. Once the "Profiles" have filled in with the foreign audio, you should be able to work in the normal way.



TROUBLESHOOTING AES3I

1. No clips filled in once the project is in SADiE

Open the Clipstore and check that it contains the audio files for the project. Open the Text EDL . and check the PATH column, to see where the EDL is expecting the audio to be.

If the Clipstore is empty it's likely that the path specified in the ADL is not the same as the path to the audio on the drive. The most likely reason is that the files have been moved after they have been converted in the exporting application. As the paths in AES3I are absolute, the ADL may no longer be able to find the audio files, as it will be expecting them in the original location. SADiE is able to try obvious locations (i.e. same path different drive), but may need some help. Open the Clipstore, right-mouse-click on the Source Tracks folder and select "Import Source Tracks". Navigate to the Project directory and select all of the audio files. When the audio files have been imported the clips should fill in automatically (assuming you've imported the correct files).

2. Most clips are filled but a few are not

There are two possible reasons for this:

- i. Incorrect Sample Rate – If the sample rate is incorrect, many clips may not fill in, as the audio files will appear to short by calculation at the wrong sample rate. If so, close the project, change the sample rate in the Setup Window, and repeat the AES3I Import.
- ii. Lack of Handles – SADiE clips always have a default crossfade applied to their beginning and end. In order to avoid a "dip" in the middle of a "cut" edit (one with no crossfade) SADiE extends every "cut" clip by half the default crossfade length at each end. Thus the true edit point is halfway through a fade. The value used for the crossfade length of a cut under AES3I is 1000 samples (linear). Note this only applies to "cut" edits, if a fade has been specified in the AES3I ADL then that is what will be used.

In the majority of cases, this procedure will be fine. The audio was created with handles, and so extending the clip minutely will work. However, if an entry from the Avid was used in its entirety (and includes all available samples), SADiE will be extending the clip to include samples that do not (never did) exist in the source file. Therefore the clip will remain ghosted, as the total audio required to satisfy the clip does not exist.

To solve this problem, you will need to identify which clips have not been filled in. The navigator window is of some help here, as the ghost clips will appear grey (although very small clips will be difficult to make out). The "Material Present" column in the Text EDL can also be useful, as you will be able to identify the odd "No" if you scroll down the list.

Having identified the ghost clips, a quick fix is to scissor cut very close to the beginning and end of the clip, right-click on the centre section, and select "Find new track ". The main clip should fill in, and you can delete the slivers at either end. You can then use the Playlist Edit function to stretch the clip back out again to its maximum length.

3. If in doubt...

If there is still an empty clip that cannot be filled, you will need to check whether the audio exists:

- i. Check the "Path" column in the Text EDL to verify the project is looking for the audio in the correct location
- ii. Check the Clipstore for a clip with the correct name (it may have had the last two digits converted to a SADiE take number, but this is ok).
- iii. Check the source times – double click the ghost clip in the EDL and view the Source In and Out times that appear in the Clip Details dialogue. Then inspect the track Start and End times in the Clipstore and check that the Source times fall within the Start and End times. If they don't then there has been a problem with the transfer. It could be that the audio file has lost its time stamp, or that it is a WAV file, not a BWF and so has no time stamp (this shouldn't happen but it's best to check). Either way check the whole process has been run correctly according to these instructions.

EXPORTING AN AES3I PROJECT

SADiE can also export to AES3I format.

A simple "EDI conversion" can be performed by using the normal **Convert** dialog, however there are two dedicated menu items in the **File** menu.

First click on the open Playlist that you want to export.

Then from the File menu choose either:-

Create AES3I File... will export only the ADL, and this will be linked to existing audio files. If your playlist contains files that are not BWFs (which would thus break the AES3I rules) you will see a warning to this effect.

Create AES3I File with media ... will export the ADL, as well as copying or converting the audio files to a sub-directory of the same directory that the ADL is saved to. Any files that are already BWFs will be copied; other files will be converted first (which will take a little longer).

AAF INTERCHANGE

AAF INTERCHANGE

The Advanced Authoring Format (AAF) is a multimedia file format that enables content creators to easily exchange digital media and metadata across platforms, and between systems and applications.

<http://www.aafassociation.org> is a good resource for information about AAF and includes FAQ's, technical information, and lists of AAF members. As of November 2003. AAF import and export is available on many other products including Digidesign ProTools v6.1, Avid Xpress, Media Composer, Symphony and other Avid platforms, Adobe Premiere Pro, and all GenerationQ Quantel products.

AAF import and export is now available as an option for SADiE v5 software. The information herein is correct as of November 2003

WHAT IS AN AAF?

An AAF can contain:

- Edit information – often known as the "composition" or "sequence" in other systems; SADiE users will usually refer to this as an "EDL". The edit information contained in the AAF will usually be source and EDL times for the entries, and it may also include fades, fade shapes, clip levels, and level automation data. There is the possibility of other types of data.
- Video files – SADiE cannot currently import video entries or video files. However, if a video stream is being displayed, then video entries found in an AAF will be shown as "ghost" clips along with their source times for reference.
- Audio files – these will be in AIFC or WAV format. SADiE can currently only support AIFC or WAV files at our standard sample and bit rates.

The AAF Project can be presented in two ways:

1. "linked" or "external" media – where the composition is a *.aaf file, but the audio and/or video files are separate files.
2. "embedded" media files – where everything is wrapped up in one big *.aaf file.

Both methods have advantages. With external files, there may not be a requirement to convert files and to package them and thus the process of export and import will be quicker. On the other hand, external files may be scattered across a number of drive locations, and thus the process of embedding the media into the AAF will collect everything neatly in one place; there's a lot less chance of something going missing with an embedded file. On importing an embedded file, it's easy to find the media files because SADiE has unwrapped it from the large embedded file and so will know exactly where they are. With an AAF with external files, during the transfer from one machine to another, it's quite likely that the files will have changed directory or disc drive name and thus some searching may be required.

With modern processor and disk drive performances, the act of embedding may not take such a significant extra time and it may be worthwhile for the added benefit of being more certain that your media is not missing crucial elements.

An exporting application may have options for exporting in either fashion, and it may also allow you to "consolidate" the media files before exporting. Consolidating is a process where if parts of a media file are not used in the composition/EDL then new shorter media files are made and linked to the entries in place of the larger file. Thus the AAF can be smaller in terms of data size. SADiE does not currently consolidate audio files.

IMPORTING AN AAF IN TO SADIE

The process is the same as importing any EDL into your project. The AAF to SADiE conversion, along with any unwrapping of files from an embedded AAF will happen automatically.

You have a project open. This may be work in progress or perhaps you have just made a new project into which you wish to import the AAF.

1. Select the "Project" menu on the top menu bar.
2. From this list, select "Import Component".
3. Now browse to the directory where the AAF file is located.
4. On selecting the AAF file, the "EDL Conversion" dialogue will pop up, with "AAF" pre-selected on the left hand side, as the file type. Pressing "OK" will start the conversion.
5. You will see some progress bars. The length of time taken will depend on the size of the project and also if it's an "embedded" or "external media" type AAF. An embedded file will take longer to unpack.
6. The converted EDL will open; it will have the same name as the original AAF file (but this is a new file with an .EDL extension now). You will see the clips' profiles drawing on the screen; SADiE may take a short while to create these profiles. It's a bad idea to exit SADiE during this period as you may end up with half-cooked profiles.
7. If this is an external-media AAF, it is possible that SADiE won't automatically find the external files and the clips in the EDL will be drawn in outline only as a "ghost" clip. Usually the reason for this is that the files are no longer in the same directory as they were when they were exported. If this is the case, in Disk Manager (or else using the "Import Source Tracks" function inside the Clipstore), find the directory where the audio files belonging to this AAF file are placed, and import all the files into your project's Clipstore. Disk Manager has a right-click option to "Import into Clipstore". This can be used on multiple clips or just by right-clicking on a directory name to import the whole directory if required.

When all the clips are imported into the Project, the EDL will be able to link to the audio files, and as above, the profile drawing will start.

EXPORTING AN AAF FROM SADIE

The AAF section of the EDL Conversion page in the [Setup Window](#) has some options for exporting (note there are no options for import). You can choose to:

- Export Audio – embedded in AAF or external audio files. As explained above, when you choose embedded, the audio and the edit data are packaged up into one big file, whereas external makes the AAF export in many files – one file for the edit list (the *.AAF file) plus many audio files.
- Consolidate source tracks – WAV or AIFF chooses the format that your audio files will be converted to during the export. Sample and bit rates of the original files are retained (this means 32 bit source files are not allowed). The term "consolidate" is perhaps a little confusing; currently (v5.2.1 Nov 2003) source audio files are copied and converted exactly as they are, with no possibility of reducing the amount of data to exclude audio that's not in use.
- Export clip level as - Varying fader-level automation, Fixed Clip gain, or None. SADiE has two ways of applying level to clips, either as moving fader information or as clip levels (as applied in the Clip Details Window). Currently (v5.2.1 Nov 2003) SADiE can only export one of these two sets of data. This option chooses which is included in the export.

Your choice of any of these options may be determined by the capabilities of the application that is going to be receiving the AAF file.

The procedure for exporting to AAF is therefore:

- I. Choose the exporting options above.

2. Open and select the EDL that you wish to export.
3. From the "File" menu select "Convert".
4. This will display the Convert dialogue, with a list of possible formats on two sides – "Input" and "Output" format.
5. On the left side of this dialogue select "From Playlist" and on the right select "AAF". Then press the "Select Output File" button, browse for a location that you want to export to, give the AAF file a name, and press "OK".
External audio files (if that's your choice) will be created in the same directory as the AAF file. Thus duplicate file names are not allowed for an external file export, although they are allowed in an embedded file.
6. The process will continue, with some progress bars to inform you how it's going.

SADiE currently (as of March 2006) uses the AAF v1.1 Toolkit when exporting AAF files.

IMPORTING AND EXPORTING OMF FILES USING AAF

SADiE's AAF converter can also support OMF files, both external media and embedded files. When exporting OMF, the AAF setup options will apply (thus for instance the choice of embedded or external will be that same as your setting for AAF).

When handling OMF files, SADiE's AAF converter will convert an OMF to AAF first and then import, (or conversely, for export we convert to AAF, followed by an AAF to OMF stage). This all happens internally, but will explain why an OMF may take a little longer.

It has been noted that this OMF converter will work with standard OMF files, but there could be some complex non-standard files that will fail.

OMF INTERCHANGE

OMF INTERCHANGE

This optional software plug-in allows import and export of compositions and audio files to and from OMF format.

OMF is able to include audio files, edits, clip levels, fades, "rubber band" level automation, but SADiE's ability to import these elements will depend on how and if the exporting application supports them all.

As with [AAF](#), an OMF file can be presented in one of two ways:

1. "linked" or "external" media – where the composition is a *.omf file, but the audio and/or video files are separate files.
2. "embedded" media files – where everything is wrapped up in one big *.omf file.

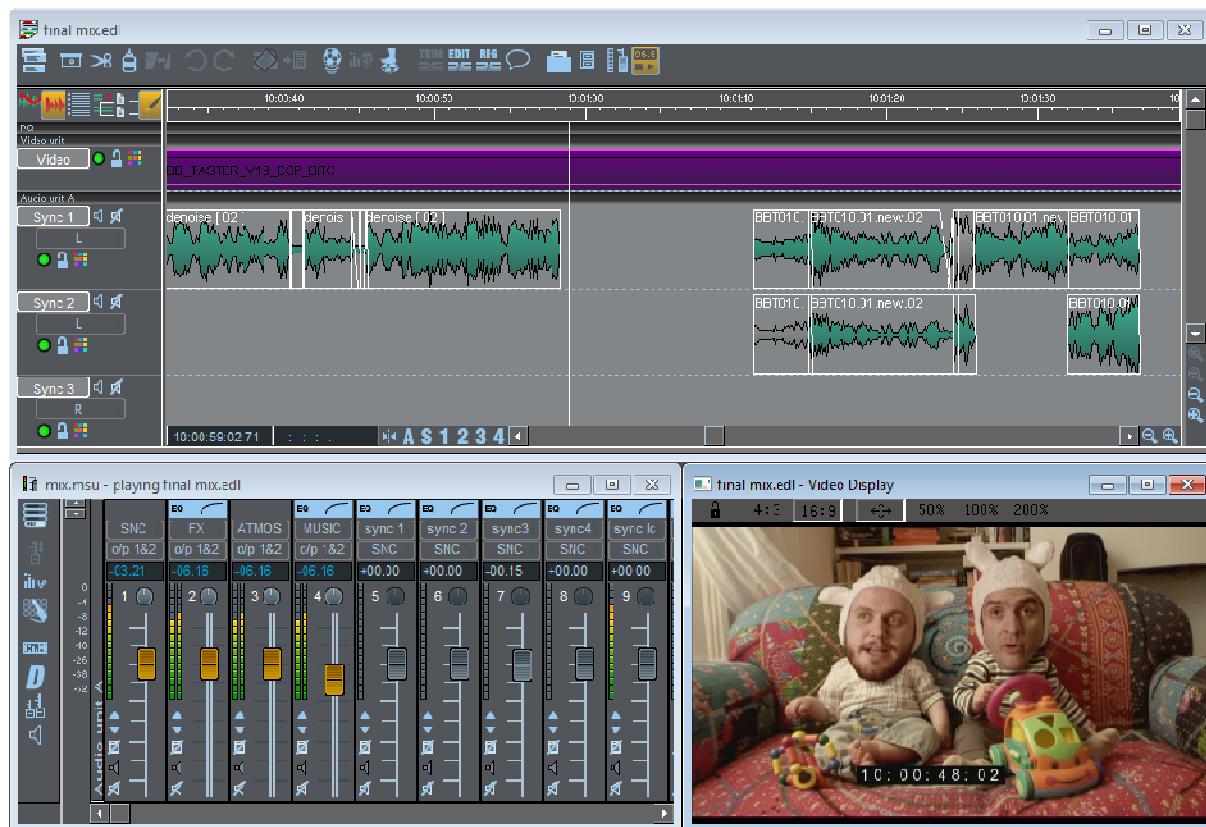
IMPORTING AN OMF

1. Open or create a Project.
2. Select the "Project" menu on the top menu bar.
3. From this list, select "Import Component".
4. Now browse to the directory where the OMF file is located.
5. On selecting the OMF file, the "EDL Conversion" dialogue will pop up, with "OMF" pre-selected on the left hand side, as the file type. Pressing "OK" will start the conversion.
6. You will see some progress bars. The length of time taken will depend on the size of the project and also if it's an "embedded" or "external media" type OMF. An embedded file will take longer to unpack, whereas an external media project will take just a few seconds
7. The converted EDL will open; it will have the same name as the original AAF file (but this is a new file with an .EDL extension now). You will see the clips' profiles drawing on the screen; SADiE may take a short while to create these profiles.

8. If this is an external-media AAF, it is possible that SADIe won't automatically find the external files. Usually the reason for this is that the files are no longer in the same directory as they were when they were exported. If this is the case, you will be shown a Browser dialog asking you to point to the first "missing" file. Once that is found, there's a good chance that all other files will be in the same directory and SADIe will be able to find them during the import process.

VIDEO

There is an optional Plugin for Video in SADIe Version 5, which adds video recording and playback capabilities to a SADIe system. When installed, and enabled in the [Setup Window](#), the software adds a video stream at the top of the EDL, which can contain video Entries. The video entries are fully integrated into SADIe and can be manipulated in similar ways to ordinary audio entries: drag-and-drop, razor, copy/cut and paste, Autoplace, Slip etc, and some editing functions operate exactly the same. The video Entries are coloured magenta to distinguish them from audio entries, and you'll notice that video Clips appear in the Clipstore and Disk Management with a  "film" icon.



VIDEO FORMATS

SADIe's Video Plugin utilises the Audio Video Interleave (**AVI**) format for playback and recording of video.

In addition, there is an additional option to allow playback of **QuickTime** movies.

Audio Video Interleave (**AVI**) is a special type of Resource Interchange File Format (**RIFF**), as defined by Microsoft. The ".AVI" file format is the most common format for an audio and video file on a Windows PC. AVI files can contain any resolution of video, and most frame rates are available (however, SADIe will only be able to accept standard frame rates).

QuickTime is Apple Inc's standard multimedia file format, and in a similar way, can contain audio and video that uses different codecs, resolutions and frame rates.

Audio content and/or video content is compressed with a specific codec and is then stored in an AVI or QuickTime file as interleaved data. There are a wide variety of codecs available. Once created, these files can then be played in Windows Media Player (or Apple's QuickTime application) on any computer, as long as the appropriate codec is installed and available.

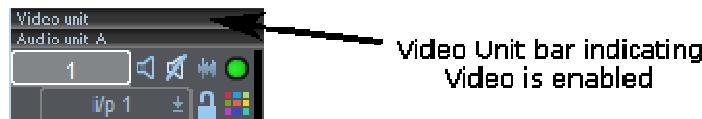
Video recorded by SADIe will be stored in DV format as an AVI file.

SADiE will not necessarily be able to play back all AVI or QuickTime files. The video file will have to be at a frame rate compatible with SADiE's capabilities (24fps, 25fps, 29.97fps drop or non drop, or 30fps). The codec will also have to be present for play back. If you are unsure if the codec is present, try playing the AVI file in Media Player (or QuickTime movie in QuickTime player) first of all. If the codec is not present the player will attempt to download an appropriate one. If this fails, you may have to ascertain which programme the video file was created with, and install it. If the AVI file will play in Media Player (or QuickTime movie in Quicktime player), generally it will play in SADiE, provided it is at a supported frame rate.

No extra hardware is required to play back preexisting video in a window on the standard computer monitor, but recording from an external source will require a DV compatible device. DV (short for Digital Video) is a digital standard for video created by a consortium of vendors, which uses Motion JPEG video at 720x480 resolution, at 29.97 frames per second, or 720x576 resolution at 25 frames per second, and is stored at a rate of 2.5MB per second. As standard, it is transmitted to the computer via an IEEE1394 (FireWire) connection.

PREPARING THE PLAYLIST

To use Video in SADiE it must be enabled. If this is the first time you've used Video then it may not be enabled for your Playlist. Take a look at the top of the Playlist, just above the topmost stream; there will be a thin bar labelled "Audio Unit A". If Video Editing is enabled there will be another thin bar above this labelled "Video Unit".



If Video is not enabled you must first enable Video features. This is done with the check button "Create Video Stream in Playlist" at the top of the "Video" section of the [Setup window](#) (found under the View menu). You can also tick "Auto Open Video Window in Projects" if you wish every Video Project to open the window automatically. Having enabled Video, every subsequent EDL will be created including the Video stream.

The QuickTime option

The playback of QuickTime files is enabled by a second plug-in option - you must have both the Video and the QuickTime options installed in order to play QuickTime movies inside SADiE.

You must choose which mode to operate under from an option in the Video page of the Setup Window.

DirectShow mode - can play only AVI's using codecs installed for Windows Media Player. In this mode the pictures can be displayed on a separate composite video monitor using a modified Matrox Parhelia card (available through SADiE dealers).

QuickTime mode - can play BOTH QuickTime and AVI files using codecs through Apple's QuickTime player. As of v5.6.0, in this mode, pictures can only be displayed in the Video Window inside SADiE and cannot be sent to an external monitor.

VIDEO IN SADIE

AVI or QuickTime Video files to be used for playback in SADiE should be placed on a dedicated video drive, in much the same way as your audio files will be. The video files could be placed on the same drive as your audio data, but this will result in a loss of performance, as the data rate for video is much higher. For best results, store on a separate drive.

Once on the drive, the clips are brought in to a Project's Clipstore in the same way as audio clips, etc. See the [Track Management](#) section for more details. Once associated with your Project, the clips can then be dragged in to the EDL in the same way as audio.

Video entries in the EDL are treated in much the same way as audio entries. All of these functions are exactly the same: **CUT, COPY, PASTE, RAZOR, SCISSORS, GLUE, REMOVE GAP, COPY TO CLIPSTORE, LOCK**, all **AUTOPLACE** and **SLIP** functions, **GROUP** and **UNGROUP**, **UNDO**, and **REDO**.

Video entries are saved as part of the EDL; they are just another EDL entry, and can be viewed as entries in the Text EDL.

Scrubbing the EDL works in the same way, and most importantly of course, the video clips scrub in sync with the audio clips.

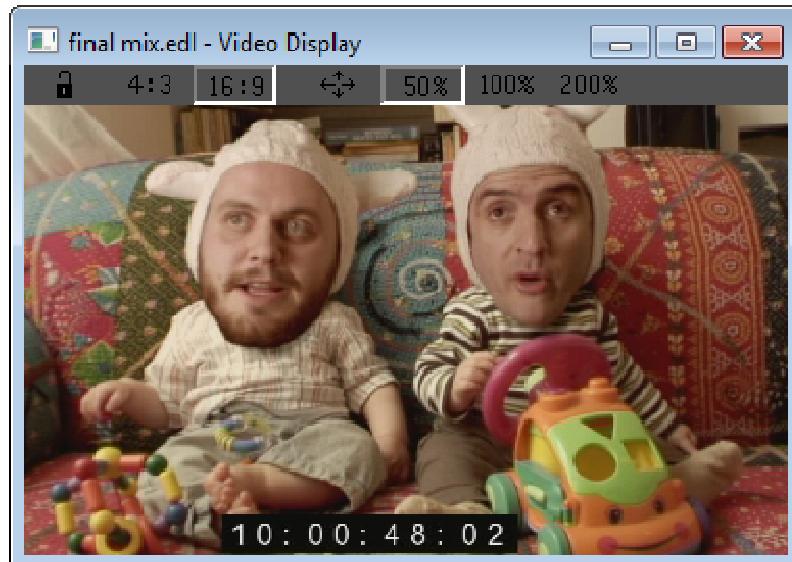
You cannot use the Playlist Editing mode, they can't be edited in Trim windows, and you can't bounce video Clips. However, you can still use [Region Editing](#), and [Quick Edit](#).

It is possible to make edits in the video stream, using the [razor and scissors](#) tools. There are a few basic areas where Video editing differs from normal audio editing.

1. There is only a single channel of video, and so there are no fades.
2. All edits are made at frame boundaries.
3. Dragging and dropping a video entry to a new position in the EDL will replace any existing video entries in the new area, shortening them to make room for the new clip.
4. The Playlist will take the resolution from the 1st clip in the EDL, so any further clips at different resolutions will be re-sized to match. This may result in reduced video quality.
5. There are three additional editing tools, that are made available by right-mouse clicking on a video entry:
 - i. "Extend entry start to fill gap" and "Extend entry end to fill gap" - these two options keep the video entry locked in time, and if more video is available in the video track that this entry is cut from, these will lengthen it forwards or backwards to meet a preceding or following entry. In other words fill the holes in the EDL.
 - ii. "Move nearest cut to current time" - you would use this if you have an edit between two video entries, that are in sync, but the edit point is not at the right position. Move the current time to a new position, and once again, only if the excess video exists in the recorded video tracks, this option will move the edit point to be at the new position.

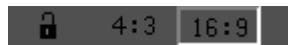
These three options are greyed out if SADI6 detects that it is not possible to do that action, if for example, there is not enough spare video to move the entry start or end.

THE VIDEO WINDOW



Playback of the Video Clips is displayed in a dedicated Video Window on screen. This is accessed from "View", "Video Window". This can be resized freely, and placed anywhere on the screen. There are tools to help you set the Window size correctly for your Video:

The first button, "Stretch to Fit" will resize the video playback as you resize the Video Window. However, irregular sizes can cause artifacts. A better option is to use one of the preset zooms, 50%, 100%, or 200% to get a more accurate picture.



The "Source Aspect Ratio" Lock button will lock the aspect ratio of the clip to the aspect ratio of the original source file. Alternatively you can use the aspect ratio buttons of 4:3 or 16:9.

GRAPHICS CARDS AND EXTERNAL MONITORING

Playback of Video Clips in SADiE utilises the "Hardware Overlay" capabilities of your graphics card, and this function will need to be switched on in the graphics card setup. This overlays the Video stream on to the normal screen display from a special separate memory.

Any graphics card with Hardware Overlay functionality can be used to display the Video Window. If you wish to run two VGA monitors you will need a card with dual VGA outputs. Note that to display the Video Window on the second screen you will need to select the VMR9 option in the Setup Window.

If you wish to view the Video Window on an external monitor you will require a card with a composite video output. Simply connect the Composite Output of the card to the Composite Video Monitor. Hardware Overlay will replicate the Video Window on an external composite video monitor. However, the Video Window must be present on the VGA monitor for Video to appear on an external monitor. The physical size of the window in SADiE itself is non-consequential, but the zoom level and aspect ratio settings will affect the external display. You will also need to select the VMR7 option in the Setup Window.

Testing in house has been performed using a Matrox Parhelia graphics card, which has two VGA outputs for dual monitor display, plus a composite video output, for use with an external video monitor. Full details of settings for this recommended graphics card are available.

There are two "VMR" options in the Setup Window:

- VMR7 - This utilises the Windows Hardware Overlay, and is necessary for playback on an external Composite monitor
- VMR9 - This bypasses the Hardware Overlay, and is designed if you require a dual VGA setup with no external monitor, and the Video Window on screen 2.

The Video Plugin utilises Windows Direct Show. The quality of playback and recording will be dependant on your graphics card, and is outside of SADiE's control. Contact your dealer for advice on the most appropriate graphics card for your requirements.

Playback to an external monitor is not currently possible (as of v5.6.0) under **QuickTime** mode.

RECORDING VIDEO

Video can be recorded in to SADiE from any DV compatible source. This can be a DV Camera, an input from a convertor box such as those made by Canopus, or any other DV device connected to an IEEE1394 FireWire port. For in house testing, good results have been achieved with the reasonably priced Canopus ADVC-100 convertor. This can take any S-Video or composite input signal and convert it to DV (and vice versa). Canopus make a wide range of convertors, from entry level to professional broadcast quality. Choose an input device of a quality appropriate to your application. Contact your dealer for more information.

Recording Video clips in SADiE is much the same as recording audio. Record Enable the Video Stream in the EDL, then press Record. With DV, if a CAT card is present in the SADiE, the video can be kept in sync. Any audio can be recorded simultaneously, by connecting the relevant inputs, and record enabling any relevant audio streams.

When recording, you will see a noticeable delay between the video and the audio, due to the inherent delay in the DirectShow recording graph. This delay will not be present during subsequent playback. Any additional external delay in the recording process (perhaps and external DV encoder) can be compensated for using the frame compensation option in the "Video" section of the [Setup Window](#). This defaults to 1 frame.

It is always best to record and store Video in SADiE on a separate drive to your audio, as mentioned previously. You can specify a root directory and drive for recording video in the "Video" section of the [Setup Window](#). Video will then be recorded in to a "ProjectName" sub directory.

IMPORT AUDIO FROM A VIDEO FILE

If you have imported an AVI file into your project which includes audio, it's often useful to be able to use that as a sync reference.

For this purpose, SADiE has the option to **Rip audio from Video file** - right mouse click on the video file in the Clipstore and select this option. This option works for QuickTime or AVI files.

The audio will be copied to a new linear audio file and will appear in the clipstore after the conversion.

TIPS, HINTS, AND TROUBLESHOOTING

Here are a few tips, pointers, hints and general information for when using the SADiE Video option:

- To be able to run AVI videos in DirectShow mode with SADiE you require:
 - Windows XP (pro or home although we have only ever tested using XP Pro)
 - Service Pack 1 (or higher)
 - DirectX 9B (or higher)
 - (XP Service Pack 2 and DirectX v9c are fine)
- To be able to run QuickTime mode with SADiE you will require:
 - the extra QuickTime video option installed
 - QuickTime Player version 7 or higher to be installed on the SADiE PC. This is available for download from www.apple.com.
- The video records to DV format AVI files at about 12GBytes an hour - 1GByte will therefore last about 5 minutes.
- **Display Hardware** - it is possible to run the SADiE Video plug-in without special hardware. If you are displaying video on the main PC monitors as opposed on a separate composite video monitor, then it's advisable to choose the **VMR-9** renderer, which does not use hardware overlay. Aside from anything else, you will be able to view the video window on either screen. If you have a Matrox Parhelia card, to view the video on the composite video output in DirectShow mode, you must select the VMR-7 renderer. More recently, a customised Matrox Parhelia card is available from SADiE distributors (this is not available from regular Matrox suppliers) which gives performance enhancements over the normal Parhelia - synchronisation between audio and video is tighter, and single frames can be displayed in stop, to avoid the inter-field flicker. Note that to work with SADiE v5.3, these customised Parhelia cards must be running with driver version 1.08.072. If you have a customised Parhelia card, the [Advanced Video Setup](#) page will be present.
- QuickTime Movies playing in SADiE cannot be displayed on the external monitor output of the Matrox Parhelia.
- The Low, Medium and High settings in the Setup Window only apply to the playback video in DirectShow mode and don't have any affect on the recording quality:
 - High quality displays - full vertical and horizontal resolution
 - Medium quality displays - half vertical and full horizontal resolution
 - Low quality displays - half vertical and horizontal resolution

When set to high quality playback, the flicker on an interlaced video monitor is unavoidable (unless you have the *customised* Matrox Parhelia card, see above), and the only way to stop it happening is to set the playback quality to medium. This restricts each frame to just a single field thereby avoiding the problem. Film will only contain a single frame, and so will be unaffected.

- SADiE utilises the graphics card's "Hardware Overlay" facility in DirectShow mode. This must be switched on in the graphics card setup for the Video Plugin to work. If your Video Window appears blank, ensure hardware overlay is switched on.

- Due to the functioning of hardware overlay on the Matrox Parhelia card with dual VGA monitors, the video image will only show on screen 1. When you put the video window on screen 2, the video window will appear black, although the picture will still appear on any external Video monitor.
- Also due to hardware overlay, the Video Window must be present on the VGA monitor for Video to appear on an external monitor. If the Video Window is minimised or closed the external Video feed will disappear. If you wish to hide the Video Window on your VGA screen resize to its smallest dimensions and place behind the EDL Window. When the Video Stream in the EDL is Record Enabled, you cannot shut the Video Window.
- Recording Video utilises Windows Direct Show. This has certain requirements for the legality of video clips. If when you are recording in a video clip, and upon pressing stop the video clip disappears from the video stream, the video that was recorded doesn't meet the requirements and so Direct Show removes it. If this happens, check the video input connections to make sure they have not come loose or are completely disconnected.
- When working with a video enabled EDL, it is advisable to only have that video EDL open. Working with multiple EDL's open takes up processing power which SADiE needs to display the video. As the performance of the PC drops, the video display will suffer before the audio quality so you may experience glitches and drop frames.

ADVANCED VIDEO SETUP

The Advanced Video Setup page is only present if you have a Customised Matrox Parhelia card, which will give improved performance for SADiE's AVI playback.

This page is available to set up the "single field on stop" function and determine which field is displayed.

In simple terms, with 50 field (@25fps) or 60 field (@29.97/30 fps) AVI files, you should set the page as below.



SADIE MTR SOFTWARE

LRX and PCM-H64 hardware can run a separate simplified interface aimed at recording called **SADiE MTR**.

This can be installed at the same time that SADiE5 is installed by ticking the appropriate box during the installation procedure.

For more details on SADiE MTR, see its [Helpfile](#).

CUSTOMISING SADIE

SAVING AND LOADING SETTINGS

Under normal circumstances, you never need to save or load your settings. As you change settings, the status is saved as you go - the next time you open SADiE your settings will be loaded from the way they were previously left.

There is a choice of whether these settings are saved in an INI file or into the systems registry - this is discussed [later](#).

It's possible to Save and load settings files to **.SST** files, using the **Environment** menu and its **Settings** submenu. This enables you to transport your settings from one machine to another, or to load different settings for different tasks.

This also includes options to:

Load Settings from a legacy user INI file..... you would use this if you have changed from using INI files to using the [Windows Username](#) - this allows you to reload your old settings.

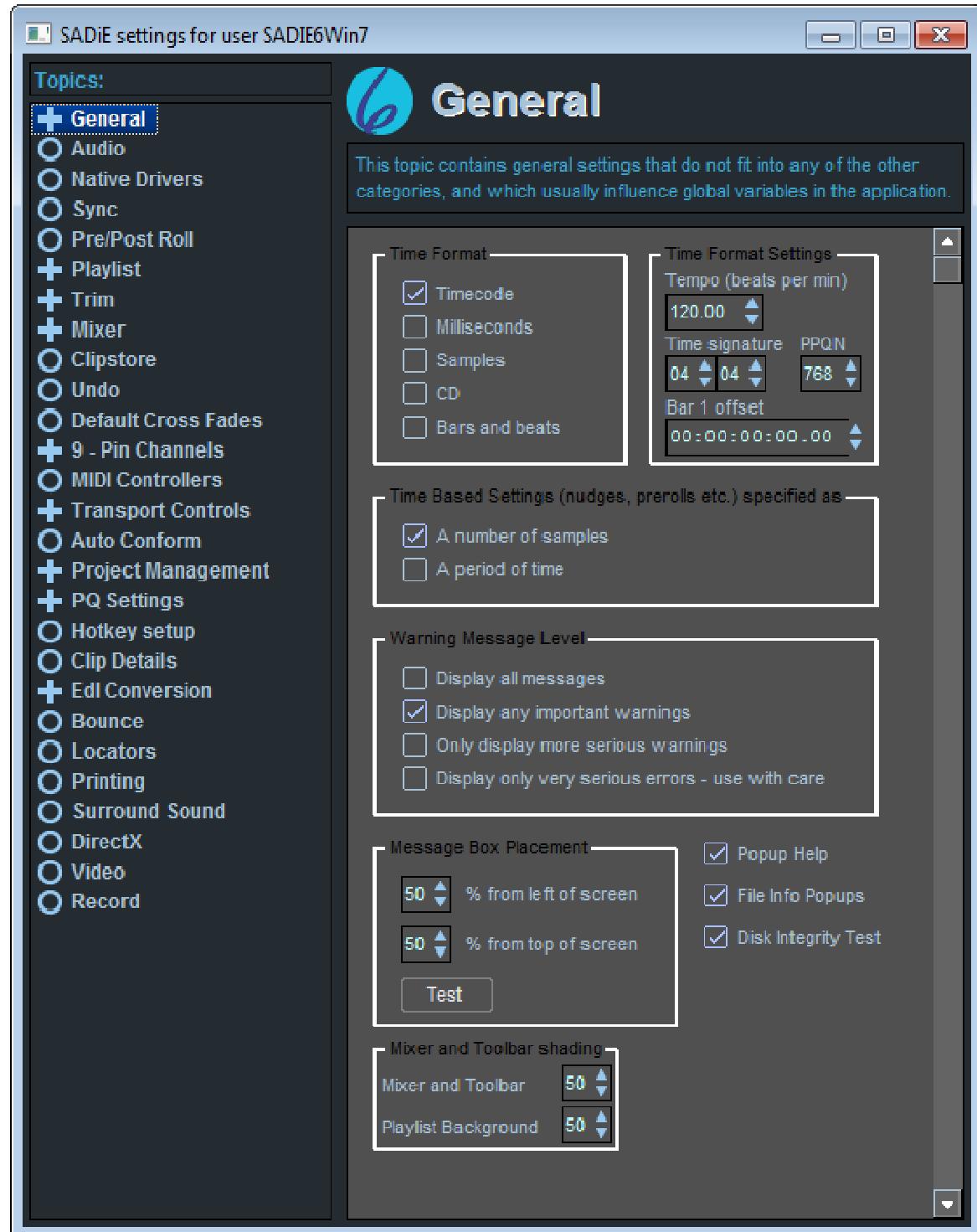
Reset All Settings.... this takes all your settings back to default state. Before the settings are reset you will be offered the opportunity to save the current settings.

It's also possible to customise SADiE to load a specific settings file when starting up. See [Automatic Log-in Desktop & Settings Load](#) for details.

SETUP WINDOW

SETUP WINDOW

The Setup window can be displayed under the View menu and allows you to change many settings that affect the way SADiE is working. These are stored for each User either in a file called "Username.INI" or in the registry, which is used by Windows® to recall them whenever you run SADiE. The [choice](#) of Registry or Legacy INI file is made during the software installation.



The settings are grouped under topics that can be selected from the list in the left-hand part of the window. Double-click on topics with a "+" next to them to reveal sub-topics for selection.

The window is fully interactive, so you can leave it open and make changes while using SADI6. Options that are currently not available (like changing sample rate while recording) will be greyed out.

This section details the options available to you for user setup. Items in **Bold** refer to options in the right hand pane of the Setup window.

GENERAL SETUP

Time Format

Selects the format for all time displays:

Timecode	Hours : Minutes : Seconds : SMPTE frames : SMPTE subframes
Milliseconds	Hours : Minutes : Seconds : Milliseconds
Samples	Hours : Minutes : Seconds : Samples
CD	Hours : Minutes : Seconds : CD Frames
Bars and beats	Bars : beats : ppqn (parts per quarter note)
Time Format Settings	Allows you to set the Tempo, Time signature, and ppqn for the Bars and beats display
Popup Help	Enables the yellow pop-up captions when resting the mouse pointer over a button.
Warning Messages	Allows a choice of four different settings. Display all messages until you are familiar with using SADiE
Message Box Placement	Allows you change the position on the desktop at which messages, warnings and errors appear.
Popup Help	When ticked this will display yellow popup boxes displaying button names when focused on a button.
Disk Integrity Test	N/A

STATUS DISPLAYS SETUP

Status displays 1-8	Lets you choose which displays of important settings are shown in any of five positions on the Status bar at the bottom of the screen. You can display any of the following:
Sample Rate	Double-clicking on the display will take you to the relevant part of the Setup window to change the setting.
Frame Rate	As above
Transport Ctrl	Simple Play and Stop buttons and current-time display. Use as you would the main Transport Controls, which you can close to save screen space. Double clicking in the time display allows you to change the current time in the Playlist . Also, clicking and dragging any digit up or down, increments or decrements that digit and hence moves the current time.
Autoplace	Right-click on the display to change Autoplace settings.
Slip	Right-click to change Slip settings.
Input Source	Double-clicking on the display will take you to the Audio Setup page, to allow you to change this.
Clock Source	Double-clicking on the display will take you to the Audio Setup / Further Audio Settings page, to allow you to change this.

Input Res	Double-clicking on the display will take you to the Audio Setup page
Output Res	Double-clicking on the display will take you to the Audio Setup page
Tempo	Double-clicking on the display will allow you to alter the tempo directly without having to go to the General Setup page.
Varispeed	Double-clicking on the display will take you to the Audio Setup page
Output Format	Double-clicking on the display will take you to the Audio Setup / Further Audio Settings page.
Record Format	Double clicking on this has no effect - this is display only.
Return on Stop	Right-click to turn Return on Stop on or off.
Scroll Playlist	Right-click to turn Scroll Playlist on or off.
Stationary Timeline	Right-click to turn Stationary Timeline on or off.
Display Titles	When selected, each display shows its description in full.

AUTO-SAVE SETUP

Create backup files	When any file (EDL . Clipstore etc.) is saved, the previous version, before the save, is renamed to "*.bk?", e.g. when you save "FRED.EDL", the old version becomes "FRED.BKE".
Auto-save files	Sets the time between automatic saves of EDL, Clipstore and Mixer files. These are saved to the Windows directory and are named: <ul style="list-style-type: none"> • Sd3savxx.~dl - for EDL, where xx counts up to 99 • Sd3savxx.~ls - for Clipstore, • Sd3savxx.~su for mixer See File Recovery for details on how to recall these filesStartup Desktop

DEFAULT DESKTOPS

There are 20 'slots' to choose which desktop to load when running SADiE on particular screen resolutions. There's more description of this feature under ['Changing how SADiE starts up'](#)

DRAG AND DROP

The setting in this page allows you to alter the behaviour when dragging and dropping audio files from i.e. Windows Explorer into the SADiE playlist or clipstore.

As standard a drag and drop will *Import* the file from its original location. If you hold the CTRL key while drag-and-dropping, the file is *Copy and Imported* - i.e. copied to the project folder and then imported.

If the option 'Copy Audio files dragged into the Clipstore / Playlist from Explorer' is ticked, the reverse is true - i.e. a drag and drop will Copy and Import and a CTRL-drag and drop will Import in place.

AUDIO SETUP

NOTE: Audio Setup can be quickly called up by double clicking on the sample rate on the bottom Status bar

Input Source	Select which physical inputs are active for routing and recording.
Input Resolution	Select the sample resolution (how many bits per sample) of the input. For analogue input, the maximum bit depth produced by your A-D (and D-A) convertors will depend on the hardware you are using, so check with the Hardware leaflet. For digital input, set to match the input data, unless you want to reduce the resolution.
Sample Rate	Sets SADiE's working sample rate, for recording and playback. Obviously, SADiE can only replay audio at one sample rate at any time, so if you mix Tracks recorded at different sample rates in the same EDL, one of them will be replayed at the wrong rate and sound speeded up or slowed down. Use the 2x and 4x buttons to switch to for example 88.2/96 kHz or 192 kHz etc.
Varispeed	Allows you to vary the sample rate for special effects. This is variably adjusting the system clock, and can't be used when recording digitally or locking to an external reference.
Output resolution	Sets the output resolution at the digital outputs, or supplied to the digital-analogue converters.
Channel Status	Ignore Sample Rate and/or Ignore Missing Signal may be enabled to turn off SADiE's error reporting when recording digitally on SADiE DS hardware. This does not function when using native hardware.
Driver Selection	This determines how the SADiE software chooses which hardware to use, if DSP hardware is available.. By default "Use DSP hardware" is selected and thus SADiE will use the DSP hardware if present, or will run natively if no DSP hardware is present. Alternatively, you can choose to "Use Native SADiE" or "Offer choice at startup" under which scheme a dialog appears to allow you to choose which hardware to use before SADiE starts.

Note on Sample Resolution: Unlike the situation with different Sample rates, SADiE can play audio with differing bit resolutions in the same Playlist . The **Input Resolution** setting sets the bit resolution for the physical inputs, and the **Output Resolution** setting does the same for the physical outputs. Thus if you are playing a mixture of 16, 20 and 24 bit audio with the output resolution set to 24 bit, then the resulting output will be a full 24 bit number. SADiE's internal processing is at 32 bit floating point, and is then truncated to the final output resolution at the physical output. Thus for instance if your entire Playlist is using 16 bit audio, but your output resolution is set to 24 bit, if there is any audio processing whatsoever (level changes, EQ's fades etc.) the resulting output will be a full 24 bit number.

You can choose to record audio at a different bit resolution to the input setting however. When you change the **Input Resolution** setting, the **Track Properties** setting (using the Properties button in Transport Controls, and is the setting for your next recording) follows this global setting, but it can then be over-ridden manually. For instance there may be reasons why you would require a 24 bit resolution on the input, but you wish to record at 16 bit resolution, and so changing **Track Properties** could force the new recording to be 16 bit. Note that the **Track Properties** remains at the last setting until you either change the global setting (in Audio Setup) or manually change it to something different.

It is generally recommended to use dither of some sort when truncating any digital signal. SADiE supports a number of different dither algorithms. You can see that any audio processed in SADiE will be truncated (unless there is no processing of any kind) to the output resolution. Dither always works at the setting of the **Output Resolution**, thus if for instance you're recording to a 16 bit DAT tape, you would want to set SADiE's **Output Resolution** to 16 bit so that the dither is operating on the correct bit. In this particular case, if the Output Resolution setting was 24 bit, then the dither would be applied to bits that would be truncated by the DAT input, and hence the dither would have no effect.

In the case of internal recordings (e.g. bounce or CD-R/DDP) the **Output and Input Resolution** settings are important to some degree. The output resolution's only use in these cases is to set the bit depth at which dither is working. **Track Properties** (which is affected by the setting of **Input Resolution** as just described) will set the bit resolution of the new recording/bounce etc. CD-R and DDP however automatically truncate to 16 bit as is the standard for these media.

FURTHER AUDIO SETTINGS

Clock Source Sets what digital audio clock is used as the reference for generating SADiE's sample rate:

Automatic When a digital input is in use (either for recording or routing to a Mixer input strip), the clock is derived from that. When no digital input is in use, SADiE's own internal clock is the reference. This is the usual setting, unless you are recording from a digital device that needs to take its clock reference from SADiE (e.g. bouncing through an external digital processor or mixer), in which case they would each be trying to follow the other, so you must use SADiE's Internal setting.

Internal Internal clock used at all times.

Genlock External clock reference used at all times. This setting is for those who use a station clock to reference all their digital equipment.

	Clock Source	Digital I/P	Analogue I/P	No I/P
Automatic	lowest numbered digital input in use	internal	internal	internal
Internal	internal	internal	internal	internal
Genlock	AES reference input	AES reference input	AES reference input	AES reference input

Output Format Selects whether SADiE produces digital output signal to the SPDIF or AES/EBU protocol. The selected format is actually supplied to all digital outputs.

Emphasis Turns Emphasis (of either flavour) on and off in the analogue domain. This is a global setting, so either everything is de-emphasised or not and thus if you need to mix material, it is best to de-emphasise by other methods (Graphical EQ has a preset for this).

Internal Clock "Free run" or "Lock to Video". This determines whether the audio clock is frame locked to a video input present on the video input of the CAT card, or not. This

will need to be set if you are locking timecode sync to 9-pin or VITC.

AUDIO IO Setup

see [Setting the Audio Input Sources](#)

MADI SETUP

MADI Format **Optical / Electrical** - determines which connectors you are using - optical or electrical on BNCs

56 / 64 channel. Traditionally MADI has 56 audio channels in the single stream at 48K (or 28 at 6K) but SADiE can also support the MADI-X alternative format which has 64 channels in the same stream. The connections are the same

Legacy 96K selects the older method of integrating 2X sample rates into the MADI stream, or (unticked) the newer method. The difference is similar to single-wire vs. Dual wire 96K.

MADI Wordclock Input Select **BNC Wordclock** - the clock for the MADI input is taken from the Word clock input.

Recovered MADI clock - a separate Word Clock cable is not used and clocks are derived from the MADI stream.

Notes on MADI clocks

1. An H64 that includes the extra Audio I/O box for AES or Analog slithers cannot clock from Recovered MADI clock and therefore a Word Clock MUST be connected to the Word clock input on the I/O box alongside the MADI input signal on the card. Not in this situation, the BNC Word clock on the MADI card is always Word Clock Out.

Conversely, a H64 that is MADI only CAN clock from recovered clock from the MADI stream. The lower BNC on the MADI card will operate as a Word Clock Output when SADiE is the master clock, but will switch to being an input when SADiE is set to slave to external clock.

An LRX2 with MADI has dedicated Word Clock in and out connectors, and can use either Word Clock or Recovered Clock.

2. In **Further Audio Settings**, to lock the system to the MADI stream, you should set **Genlock to MADI W/C** - whether or not this is the separate Word clock or a recovered clock from the MADI stream is then determined by the **MADI Wordclock Input Select** setting on the **MADI Settings** page.

MADI Wordclock Output Generate 48K Word clock at 96K

MADI Unit A Headphones Allows you assign the Output channels to be monitored on the H64 headphone output socket.

see [H64 MADI Connections](#) for details of how to connect the H64 MADI.

SYNC SETUP

NOTE: Sync Setup can be quickly called up by double clicking on the sample rate on the bottom Status bar

These settings are described in full in the section on [Synchronisation](#).

PRE AND POST ROLL SETUP

Here you can set how much SADiE plays before (pre-roll) and after (post-roll) an edit when you use the preview buttons in the Transport Controls or Trim Editor. These times also apply to the preview buttons in the PQ editor.

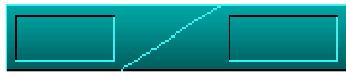
Three alternative times are available: using the preview buttons alone, with the Shift key and with the Ctrl. Key.

PLAYLIST SETUP

No. of Playlist Streams	Tick the box and set the indicator number if you want to specify how many Streams new Playlists are generated with. Otherwise, SADiE will generate Playlists with 16 Streams per audio unit by default. See also Playlist Templates	
Cut Mode	Determines the joins created between Entries when the Razor-cut is used:	
Splice	Fade-out of first Entry overlaps fade-in of next (a crossfade).	
V cut	Fade-out ends where fade-in starts.	
Stop automatically on razor cut	Applies when razor-cutting during normal playback.	
Auto-locate on cut	Means that when SLIP is on, cutting an Entry from the Playlist will reposition the current time cursor so as to take account of the slip. To be used in conjunction with the above.	
Double-click opens Clip details	Clip Details window opens when double-clicking on the Playlist Entry.	
Auto load new EDL to current if empty	If your current Playlist is empty, opening an EDL file will load it into the empty Playlist instead of creating another one.	
Autoplace options	The time display is used to set the gap between Entries when using the "Autoplace with Separation" option.	
Use Fades	When selected, the gap length includes the fade-out of the earlier Entry.	
Playlist and Trim Edit	Never Scrub crossfades edges when editing - when this is ticked, scrubbing is automatically disabled when you are editing fade edges.	
PLAYLIST DISPLAY		
Stream comment space	Choose between displaying the "comments" or "dialogue" that can be written in the Clip Details window.	
Always display mouse time in Playlist	Changes the behaviour of the little red time display at the bottom left of the Playlist. With this ticked, the mouse pointer position is always displayed there. Unticked, and this displays the In point of a clip when you pick it up.	
Time lock split views	Determines whether the secondary view of the Playlist (reveal by grabbing the edge of the Playlist on the right hand side, just inside the scroll bar, and dragging leftwards) scrolls in sync with the main view or not.	

Horizontal Zoom level...	Sets the Zoom level for "View left/right edge of region", when in Region Edit.
Start Navigator Window...	Determines whether the Navigator will display the whole Playlist from time zero, or from the beginning of the first clip.
Stationary Timeline	This option turns the Stationary Timeline on and off, and determines its position on the screen.

PLAYLIST ENTRY DISPLAY

Fade display mode	Show fades on all streams as splices:	
	Show fades on all streams as cuts:	
Fade curve display mode	Show fades as curves:	
Keep updating waveforms when playing	Determines whether waveforms are re-drawn or not when you play the Playlist whilst viewing at a horizontal zoom of level 16 or greater. Depending on the performance of your PC, this re-draw can be slow at higher zooms.	
Show higher zoom waveforms as lines	Again above horizontal zoom 16, an Entry's waveform display can be shown as point-to-point lines, or as bar graphs.	
Draw Profiles proportional to clip level	Determines whether clip profiles stay constant in size, regardless of level changes, or profiles appear proportional to any clip level changes.	
Draw black outline on profiles up to zoom...	Determines at what high zoom level black profiles disappear to make the profiles clearer	
Auto-select recording clip on entering record	Determines whether the clip currently being recorded is automatically selected (red) when entering record.	
On Copy/Move Entry show guidelines for...	Determines which Guidelines will be displayed for a particular clip when it is moved or copied. There is also an option to show these guidelines for grouped entries.	

PLAYLIST NUDGE

Nudge amount	Sets the amount by which Playlist Entries are nudged with the button on the Autoplace toolbar, or the Hotkeys.
Alt + Nudge amount	Sets the amount by which Entries are nudged when holding the Alt key and using the Autoplace buttons. The "Zoom dependent" setting means that the higher magnification you use, the finer the nudge adjustment

PLAYLIST AUTO-STOP

SADiE can be set to stop playback on reaching the end of the last entry in the EDL.

PLAYLIST AUTOMATION

Automation Autoreturn periods

Four setting the amount of "smoothing" for the four types of automation parameters when a region edit is made. These setting are also used for [Reconform](#) processes.

PLAYLIST STREAMS

Playlist Stream Controls

Allows you to enable or disable each of the controls on the left side of the Playlist :- Solos, Mutes, Record Enables, Profile Display Automation Display, Automation Type, Locks and Colour.

PPMs in playlist

Turns on or off the miniature meters on the left of each Stream.

Multitrack Rec Enable

When ticked, this changes the appearance record enable buttons to larger coloured "LEDs". The colour changes to give information about the record status:-

- record mode is disabled on this stream

- record is enabled, but playback has stopped

flashing - record is enabled, the playlist is playing, but recording hasn't yet started.

- recording is in progress.

- record mode has been enabled but there is no digital signal on the input (or it is invalid).

When unticked these revert to the legacy Red "R" buttons

TRIM EDITOR SETUP

Playlist Auto Follow

When selected, the current-time cursor in the Playlist will move to keep up with the latest edit point in the Trim Editor.

Auto write back to Playlist

Entries currently in the Trim Editor are automatically written back when you **RAZOR**, or the **LOAD NEXT EDIT** or **LOAD PREVIOUS EDIT** buttons are used.

Double click opens Clip details

Double-clicking on the relevant profile does just that!

Stop automatically when razor cutting

Applies when razor-cutting during normal playback.

Include fades when playing out-takes

Includes fades for the "Play out-takes" preview.

Draw Hotspot on the Trim waveform

Does what it says (or not)

Auto-select matching fades...

When ticked, when you click on the fade out of the left hand Trim clip, the fade in of the Right hand clip is automatically selected as well. Or not if it is unticked.

Write back single clips with Autoplace

You may use the Trim window as a means of tidying a clip from the Clipstore, before you place it into the Playlist. If this is the case, then setting this will allow you to use Autoplace settings on writing back, and so speed up the spotting process.

Trim slips auto-follow EDL settings	Ticking on this keeps the Slip setting of the Trim window the same as the EDL setting. You can over-ride the Slip setting for one edit, but on re-opening Trim, the slip will revert to the EDL setting. With this unticked, then the settings are completely independent, and so you could perhaps leave slip off in the Playlist, but always have it switched on in Trim. If most of your editing is in the Trim Window then this can be an easier method of using Slip functions.
Auto-close Trim when writing back	Closes the Trim Window automatically after a write back to source.
Auto write back to source when closing the trim window	Entries currently in the Trim Editor will write back to their source when the trim window is closed.
2 clips / groups is always an edit	When ticked, when 2 clips are loaded into the Trim they are always loaded to the left and right side as an 'edit' and multi-channel grouping logics are not applied.
Intelligent selection of 'Multi-track auto select'	Defaults to on, when this is un-ticked, multi-channel grouping logics are disabled on entering the Trim Window

TRIM EDIT NUDGE

Sets the amount by which edit points are nudged either in Playlist editing, or the Trim Editor. There is also a /10 tick box for more than one pixel per nudge, when using the Zoom dependant nudge.

Nudge amount	Applies to the on-screen nudge buttons (in the transport controls or Trim Editor), and the Transport Control Hotkeys.
Alt + Nudge amount	Applies to the on-screen nudge buttons (in the transport controls or Trim Editor), when holding down the Alt. key. The "Zoom dependent" setting means that the higher magnification you use, the finer the nudge adjustment

MIXER SETUP

Select PPM scale	Selects the scaling of the PPM level meters in the Mixer . Scales 1-3 emphasise different areas of the dynamic range and are calibrated in dBFS (decibels with respect to 0 dB, which is the maximum coding level). The BBC scale is numbered 1-7, with green segments up to PPM4, then yellow segments up to PPM6 and red above PPM6.
Output PPM type	The Mastering setting makes the peak hold displays accurate to 1 sample. This is at the expense of a little DSP power.
Peak Displays	"Clear on play" clears the peak holds every time you go into play. Unticked retains their value until you manually clear them.
Default Mixer	Tick the box and set the indicator numbers if you want to specify the layout of mono or stereo strips when new Mixers are created. Otherwise, SADiE will generate Mixers with 16 mono Streams strips and 2 mono output strips per audio unit. See also Mixer Templates
E to E mode	When selected, E to E mode gives you input monitoring on record-enabled Streams before you press the record button. E to E is cancelled when you

disable record on the EDL stream.

Mixer auto-resizing	Determines how the mixer resizes on screen.
Plug-ins bypass in Scrub	Turns off Plug-ins during scrub for the purpose of relieving the DSP power and allowing an EDL to scrub, whereas the plug-ins may have pushed it over the DSP limit if they were scrubbing too.

Window Style	Determines whether to use the Blue Mixer or the classic Grey Mixer.
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MIXER STRIP DISPLAY

Fader decimal displays	Chooses whether to display peak holds meters (green/red) or fader offset values (light blue) in the faders' small numeric displays. Note that output fader peak holds are sampled more frequently than other faders and thus will be more accurate. Also "overs" on non-output faders are unimportant anyway because these are processed internally and are still floating point numbers.
Primary Solos mode	You can choose which mode Solo works in - Additive where pressing more than one Solo unmutes that strip; Exclusive, where pressing the 2nd solo mutes the first. You can use the SHIFT key whilst pressing a solo button to apply the alternative logic (i.e SHIFT-Solo when in Exclusive does an Additive solo).
Mute automation disconnected	Disconnects and disallows mute automation.
Aux Send Default	To choose whether a new Aux send dragged to the mixer will default to Pre or Post fader
Enable phase reverse controls	Allows you to disable (for the sake of safety) the phase reverse controls.
Strip bypass only effects EQ	Leaves dynamics processors and MS decoder in line when bypassing the whole strip.
Back-lit Mixer buttons	When selected, when mixer buttons are pressed, the background is lighter shaded for clarity.
Auto-Merge Streams when merging corresponding strips	When ticked, when you make a pair of mixer strips stereo, the Playlist streams will automatically become stereo too.

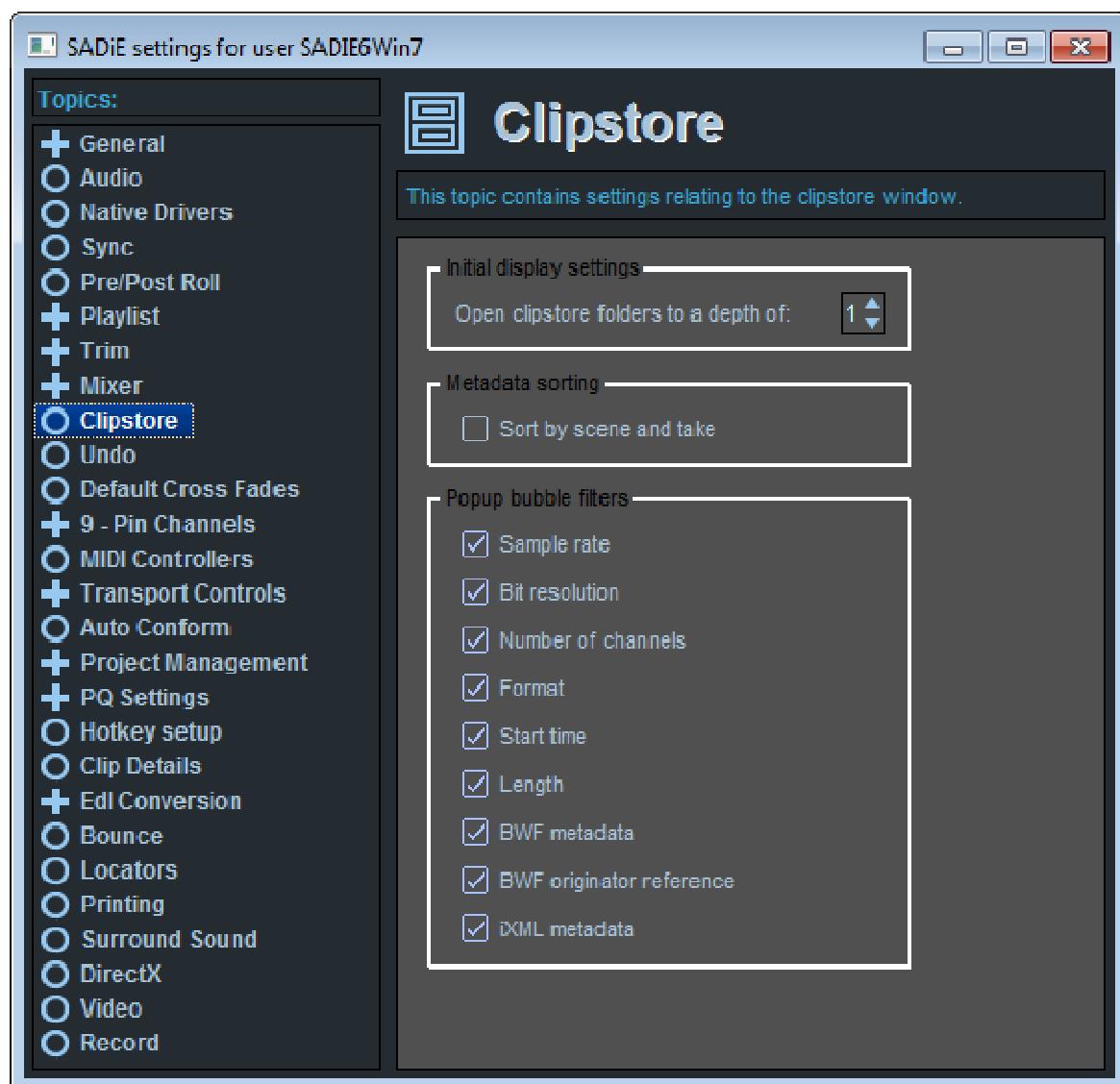
CLIPSTORE SETUP

Initial Display Settings

Sets the depth to which folders will open when opening a clipstore.

Popup bubble filters

Allows you to choose which data is displayed in the yellow pop-up bubble you see when hovering over a clipstore entry.



UNDO SETUP

Enable undo

Strongly recommended! In fact, there is really no reason not to use it. You can set any number of undo levels up to 50. More levels use slightly more disc space in the PC.

DEFAULT CROSSFADE SETUP

This sets the [fade curves](#) and lengths that are created at the beginning and end of Clips after recording and when using the razor-cut function. The normal default is around 40 subframes (20 milliseconds).

9-PIN CONTROL SETUP

These settings are described in full in the section on [9-pin Control](#)

TRANSPORT CONTROLS SETUP

Loop pre/post-roll Sets the amount played either side of the Left and Right locator points when the **LOOP** button is used.

Fast Forward and Rewind Speed Sets the speed for the Transport Controls Fast forward and Rewind buttons.

SCRUB SETUP

This section sets the sensitivity parameters for the Mouse Scrub Wheel

Mouse Jog ratio	Sets how much the audio is scrubbed for a given horizontal mouse movement. Default setting 040. Reducing this number means that a larger left/right mouse movement is required to move the audio at normal speed.
Mouse Jog Damping	Defines a rate of change of speed. This sets how quickly the audio speed responds to the mouse speed changes when jogging. Default setting 80. Damping allows you to retain a smoother playback speed, even though the mouse movements may be jerky. Reducing this number will tighten the link between mouse and audio movement.
Mouse Shuttle sensitivity	Sets the speed of shuttle for a given vertical mouse movement. Default Setting 40. Reducing this number means that a larger up/down mouse movement is required to move the audio at normal speed.
Fixed Scrub Speeds	Set three fixed shuttle speeds used by the Hotkeys for forward and reverse scrubbing. These are set by default to being on the numeric keypad (NUM LOCK on!) - 1&3, 4&6, 7&9.

The default settings are usually fine for general purpose scrubbing, but you may find that if very fine detail is required you might need to change these, and perhaps change them significantly.

The performance of scrubbing with the mouse can be altered by PC performance. You will also notice that changing the Horizontal zoom in the Playlist will have an effect on the scrub speed.

This is an example setting found to work well with CEDAR DeClick, for which you will need much finer detail than the normal settings allow:

- Mouse Jog Ratio about 5 -7
- Mouse Jog Damping 2
- Mouse Shuttle sensitivity 10

These are significantly different from the defaults, and reducing the Ratio like this means that a much larger left/right mouse movement is required to move the audio in Jog at any speed. Likewise, reducing the Shuttle Sensitivity has the same effect on shuttle. However, it does mean that you have far greater control when moving very small distances. Reducing the Jog Damping means that the scrub playback is much closer linked to the mouse movement; this reduces the "rubber-band" effect if you like.

Whilst discussing scrub, note that you can optionally turn off Plug-ins whilst scrubbing. This allows you to scrub when otherwise you would have been working right up against the DSP limit. The switch is found in the Mixer section of Setup.

SCRUB WHEEL

This section sets the sensitivity parameters for the Hardware Controller's Scrub Wheel. This is slightly more complex than setup for the mouse. The Jog function works on two levels: "Damped" for larger movements, and "undamped" when the wheel movement is smaller. The two levels have different sensitivity settings so that moving the wheel at one speed will produce a rapid movement through the audio, whereas when you slow the wheel down the sensitivity can become finer and un-damped.

Damping factor	Is equivalent to "Jog damping", and defines how quickly the audio speed changes when the mouse speed changes. Default is 87. This control is very sensitive: increasing to 99 will give you "full-on" damping. Essentially there's only +/-10 throw on this adjustment.
Damping Sensitivity	Sets how much the audio is scrubbed for a given wheel movement. Default setting 050. Reducing this number means that a larger wheel movement is required to

move the audio at normal speed.

Undamped Range	This control sets the range inside which wheel movements flip to the "undamped" sensitivity setting. This value is the number of sample blocks (blocks of 32 samples) The default is 300, thus any movement of less than 9600 samples will stay at the undamped sensitivity setting.
Undamped Sensitivity	Sets how much the audio is scrubbed for a given wheel movement inside the undamped range. Default setting 512. Reducing this number means that a large wheel movement will produce a smaller audio movement.
Undamped Offset	This smoothes the transition from the undamped range to the damped sensitivity range. Default is 64. Increasing this will produce a smoother transition.
Shuttle Sensitivity	Entirely unrelated to the other settings, this sets the sensitivity for the Shuttle mode. Default is 10, increasing this will provide a greater audio speed for a smaller rotation of the wheel.
Enable Hardware Controller Shuttle	When unticked the Scrub button on the Edit/Jog Panel is a two-way toggle between Jog and Move Cursor; when ticked it provides the three way toggle including shuttle mode.
Maximum Jog Speed	You can set a Maximum Speed for the Jog wheel as an aid to achieving a steady play speed in jog. For instance, when set to 1X, no matter how fast you turn the wheel, playback will be a steady real-time speed.
Zoom Timeout	By default, when you press the hardware controller's Zoom button, a few seconds later it will turn off, allowing the wheel to revert to scrubbing the EDL or edit. Unticking this option will allow it to remain on until you turn it off manually.

The five Jog settings, particularly the settings for the undamped range, interact to a fair degree. For instance if you reduce the undamped sensitivity and increase the undamped range, you will find that the jog never switches over to the damped sensitivity setting. Thus if you reduce the undamped sensitivity to gain tighter control for fine movements of the wheel, you may need to reduce the undamped range setting as well, and possibly the undamped offset too.

The default settings are designed for normal operation, and, because of the undamped range, the defaults will work well for fine detail work too.

AUTOCONFORM SETUP

See the [Autoconforming](#) section.

PROJECT MANAGEMENT SETUP

The default directory for project files is C:\PROJECTS and thus all files for a project called FRED would reside in a sub-directory: C:\PROJECTS\FRED

In Project Management setup you can change the working directory for the project files if, for instance, you wanted to keep the projects on a network drive.

There are two other options here which may help with workflow in specific circumstances:-

Record to Removable Drives Only

This disables the "Record Destination" in Disk Management, and forces projects to record audio to Removable drives. You must have reserved drive letters in [Removable Disk Admin](#) for this to work.

In an emergency, a user can always disable this setting and revert to recording on an internal or other drive.

Record to Project Component Directory

This setting, as suggested, forces the project to record audio to the Project's Component directory, i.e. to the location specified in the "Default Root directory in which to create new projects".

Quite simply this ensures that audio and EDLs, Mixers, Clipstores and Projects are all saved in the same location. Because this is a User setting, it has the added benefit (which may be useful in some workflows) of allowing different SADI6 users to save their entire projects into different locations.

Auto-open last open project components

When this is ticked, the "auto-open" setting will keep changing as you open/close EDLs in the project, leaving it so that when you re-open the project, the components that were open the last time it was in use will re-open again, as opposed to the normal method where the user chooses which components auto-open.

The [Templates](#) sub-section allows you set-up the how EDL and mixer templates are used.

PQ SETUP

For a full description, see [CD Pre-mastering](#).

Enable PQ Editing features Enables or disables PQ editing. The ability to use PQ is set when you create a Playlist, and thus if you need to use PQ, having previously made an EDL with it set it to OFF, then you will need to:

- Enable PQ editing in setup
- Create a new EDL
- Copy your edited entries from your original, non-PQ-enabled EDL, into the new one.

If you're using PQ, it is easiest to leave it on, but if you never use it then turn it off, and you'll get a tiny bit more space on screen.

Select PQ Audio Verify report style Applies to DDP only. This allows you to decide which type of report is created (to printer or disc) when you verify a DDP. A complete audio integrity report will run to several pages, thus you may wish to print a simpler one.

Print PQ list at 30 FPS Normally SADI6 will round PQ times to CD frames (75 frames per second) and will print times resolved to 75 frames also. If you are working with 1630/U-matic masters, you may require the print out to be 30 FPS.

Use record pre-roll before CD-R track Only applies to Orange Book audio (e.g. not SCSI) CD-R's. The use for this depends on the way your CD-R responds to the start of the CD. With this option ticked, when SADI6 starts playing the EDL, it will play x seconds (depending on the setting) before the start of the first track flag, and thus the first track flag will trigger a track start on the CD.

EDL PQ lists insert time When you read PQ data in from a 1630, DDP or CD, the first track track's start time on the Master will be 00:00:00, and the information concerning its EDL offset time does not exist, even if this was created in SADI6. This setup time field allows you to determine where the first track starts when it is read back into SADI6.

Allow initial countdown to be > 3s Otherwise known as "hidden tracks". It is usual for the time between "Track 1 ID 0" and "Track 1 ID1" to be between 2 and 3 seconds. However some PQ authors have taken advantage of a "grey" area in the Red Book specification, and placed audio in this first countdown, which (if the consumer knows the trick) can be played back on most CD players. Normally, when you place a CD in a player and press play,

playback will *always* start from "Track 1 ID 1" thus this first-countdown is never played.

However if you extend this gap (backwards as it were) then audio inside the gap can be played by pressing play, then immediately shuttle-rewinding behind the start of the CD, and playing again at the appropriate moment.

By default, SADiE disallows extended first countdowns, but this can be over-ridden (with this switch) to enable you to perform this trick if required. It is advisable to set it back to normal afterwards, as all your subsequent CD masters could end up with a "semi-legal" first countdown. There are other methods of making "hidden tracks"; sometimes placing audio after half an hour of silence is called a hidden track, but hidden tracks created in this way are more hidden!

It is advisable to consult your plant before presenting them with a master like this. These are relatively common these days, but still a little unusual, and it is best to confirm that they are able to process a master like this, otherwise it may be considered "illegal" and the hidden audio may be missed. Extended first countdowns cannot be written to DDP, as the DDP audio file is specified to start at CD time 00:00:00 and thus audio before "Track 1 ID 1" is never transferred to the DDP audio file.

Be careful with this one!

CD-R PQ reading

Allows or disallows the reading of ISRC's and Index Zeros when reading PQ from CD's. This may not work with some models of CD-R. See [Reading PQ data and audio from a master](#)

CD-R CD Text Language

Around 2010-11 some plants have been rejecting masters on the basis that CD-R masters have the CD Text Language Code set to a value of 0. The value of 0 defines the language as "Unknown" and is the recommended default value in the CD-Text specification. This is how SADiE and the majority of CD authoring systems have set this since 1996. In order to avoid unnecessary concerns over this, SADiE now allows this to be set to the user's choice. Contrary to the specification, but in the spirit of avoidance of this problem, we have defaulted this value to "English". Therefore users who work in non-English languages should check this setting.

PQ DISPLAY

Enable PQ editing in the Playlist	Allows PQ flags to be inserted or moved with the mouse. Disabling this is a way of locking the PQ list.
--	---

Auto-show the PQ Playlist Stream

The Playlist will automatically open the PQ Stream displaying PQ flags, when the EDL is loaded.

There are some other pages for selecting PQ settings:

- PQ Facility - The country code and owner code entered here will form part of the ISRC number that can be generated for each CD track. Production details can also be entered for the printout of the PQ list.
- PQ Burst - Sets SADiE's input channel for reading a PQ burst, and the output channel and level used when writing a PQ burst.
- PQ Offsets - Sets the length below which all countdowns will be removed when using the **NORMALISE** button, and the parameters for applying offsets to the PQ Entries.

NOTE: The offsets set here are applied to a PQ list from the moment you start creating it. From then on, they are held in the EDL and changing these settings will not change the current PQ list. Be sure that you set them as you want before you do lots of intricate PQ editing!

- **PQ Flags** - Sets the parameters used when automatically generating a PQ list, and when adding new track flags.
- **PQ Text Output** - Allows you to choose a format and editor for viewing the PQ printout.
- **DDP Details** - Allows you to choose between creating a version 1 or version 2 DDP master.



HOTKEY SETUP

Here you can set a wide range of computer keyboard key-presses and hardware controller buttons to duplicate on-screen commands, so avoiding the use of a mouse.

Categories First select the window in which the Hotkey will operate. Remember that Hotkeys set for the Transport Controls will affect other windows.

Commands Select the command you want to check or assign to a new Hotkey.

Hotkeys assigned This box will list what Hotkeys are currently assigned to the selected command.

New Hotkey Select a key by scrolling down the box and tick the Ctrl, Shift or Alt key(s) to be pressed in combination with it if desired.

For hardware controller buttons, select **F1-F12** and tick HWC Shift and/or HWC Assign if they are to be used in combination.

Assign Adds the selected New Hotkey to the list of those assigned to the command.

Remove Removes the selected item in the Hotkeys assigned box from the list assigned to the command.

Reset All Resets all Hotkeys in SADIe to the standard factory defaults.

Dump Keys Allows you to save the current Hotkey settings to a text file so that you can print it out. Note these dumps cannot be reloaded; this is a job for [SADIe Settings files](#).

AutoRepeat When setting hotkeys it's possible to set them to automatically repeat when the key is held down - tick "AutoRepeat" before pressing assign. If you wish to add the AutoRepeat function to an existing hotkey setting, you must Remove the old key and re-apply it with AutoRepeat set. If you don't like the repeat speed, there's a Windows setting for this in Control Panel/Keyboard.

All alphanumeric keys can be used, along with the keyboard function keys F1-F12. Certain non- alphanumeric keys can also be used:

¬ - = [] ; '# \.. /

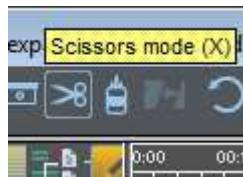
Tab, Esc, and Scroll Lock

and on the number pad (when set to Num lock on!)

/ * - +

(note that Del and Enter on the numeric pad are the same as the other Del and Enter and so are already included, but cannot be set separately)

Some key combinations are fixed to standard Windows functions i.e. CTRL-C, CTRL-V, CTRL-X for copy paste and cut; CTRL-Z, CTRL-Y for undo & redo; CTRL-A & Esc for Select and De-select All.



Hovering the mouse over any button will show the buttons name, as well as any hotkeys that are assigned to that function.

Hotkey Setup includes a switch **Start/Stop using space bar** to allow the disabling of the keyboard's space bar - normally (when ticked) the space bar will start and stop playback.

You may **Save** and **Load Hotkeys** from the **Environment** menu, select **Hotkeys** then save or load and choose a **.hky** file.

Some hotkey files are supplied as standard:-

SADiE5 compatible with BB2 This set is an extension of the default set used in the BB2 software.
Recommended for general SADiE5 use - editing functions to the fore.

dubber - groups -recording changes that set slightly with Grouping functions on the main 12 Jog Panel hotkeys, and quick-edit functions on then "Assign" bank of the Jog Panel.

CLIP DETAILS SETUP

Write back Clip on exit Automatically writes back the changes you make in a Clip Details window when you close it.

EDL CONVERSION SETUP

This sections allows you some options when converting to and from external EDL 's in the following formats: Lightworks, CMX, Sony, Grass Valley, or Lightworks Multi-track.

BOUNCE SETTINGS

Close Bounce dialogue on Start Either leaves the Bounce Window on screen or hidden during the bounce process.

PC bounce Destination Allows you to set the directory on the PC drive where Bounce to PC disk files will go.

Record Pre and Post handle Allows you to add handles to a file when using bounce.

Multi-session CD fix up When ticked a bounce to CD will automatically fix up the orange book CD after the bounce.

PRINTING SETUP

This is used in conjunction with the "Print Text EDL " function under the Playlist menu

You can set the number of characters to a line for your printer, and also, when Printing to file, allows you to set delimiting characters for import into a spreadsheet or database if required.

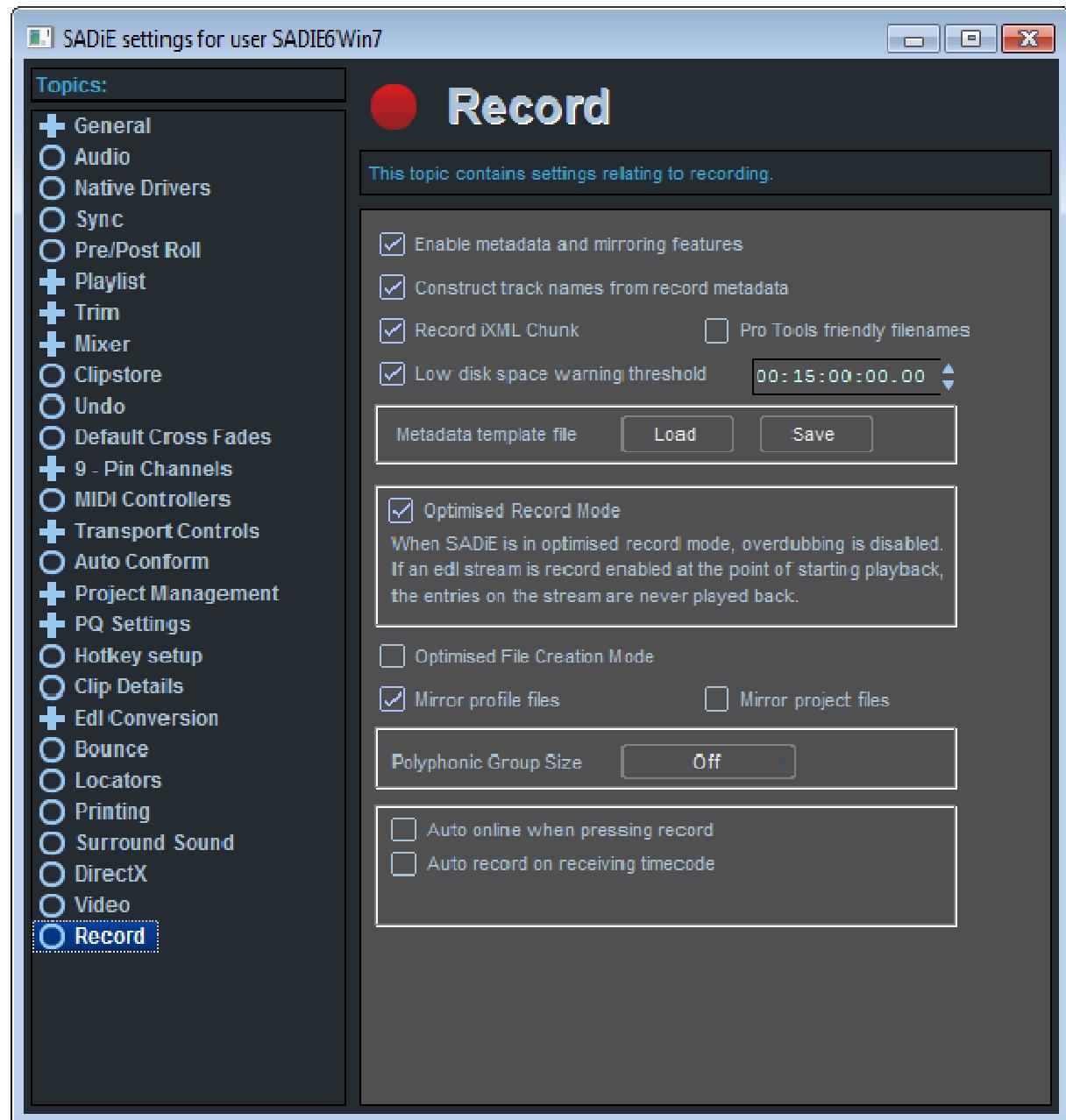
DIRECTX SETUP

DirectX Timestamp Determines the Timestamp of audio through the DirectX Plugin.

DirectX Buffering (ms) This allows you to set the buffering for the DirectX Plugin to allow for latency.

RECORD SETUP

Has settings relating to recording and metadata. This page is discussed in more detail in the earlier [Metadata and Mirroring](#) topic.



VIDEO SETUP

General	"Create Video Stream in Playlists" effectively switches video on. On creation or opening of any EDL that contains video entries, a video stream will be added at the top. "Auto Open Video Window in Projects" will automatically open a Video Window in any Project which contains a Video stream.
Playback Quality	High quality displays full vertical and horizontal resolution, Medium quality displays half vertical and full horizontal resolution, Low quality displays - half vertical and horizontal resolution. When set to high quality playback, the flicker on an interlaced video monitor is unavoidable, and the only way to stop it happening is to set the playback quality to medium. This restricts each frame to just a single field thereby avoiding the problem. Film will only contain a single frame, and so will be unaffected.

Record	Allows you to select the root directory for recording video to. You can also alter the Playback Delay compensation, in frames.
Renderer	Select VMR-7 to utilise Hardware Overlay for output to an external composite monitor. Select VMR-9 to switch it off for display on the second VGA monitor of a dual display.

PLAYLIST AND MIXER TEMPLATES

The Templates feature allows you to further customise your working environment, by allowing you to easily save custom Playlists and Mixer Setups for future use.

In normal use you will save Playlists and Mixers but these will contain other information EDL entries, Fader levels and pan and EQ settings for instance, which are of no further use. Once you have customised a Playlist or Mixer, if you save it as a Template you can use it again and again.

For instance you may always require a Playlist with 2 mono streams and 1 stereo, with a mixer that has perhaps 2 mono and 1 stereo strips with an EQ and maybe a reverb. If, having constructed this blank Playlist and mixer you save them as template files, then you can set SADiE to use these for the defaults.

To save a Playlist or Mixer as a template select the option under the "File" menu, "Save current Playlist (or mixer) as a template". The files will be saved with an EDT or MST extension.

If (and only if) you are working in a Project . you can enable Templates in the "Templates Setup" page (which is a sub-section of Project Management Setup).

The three options for using templates are:

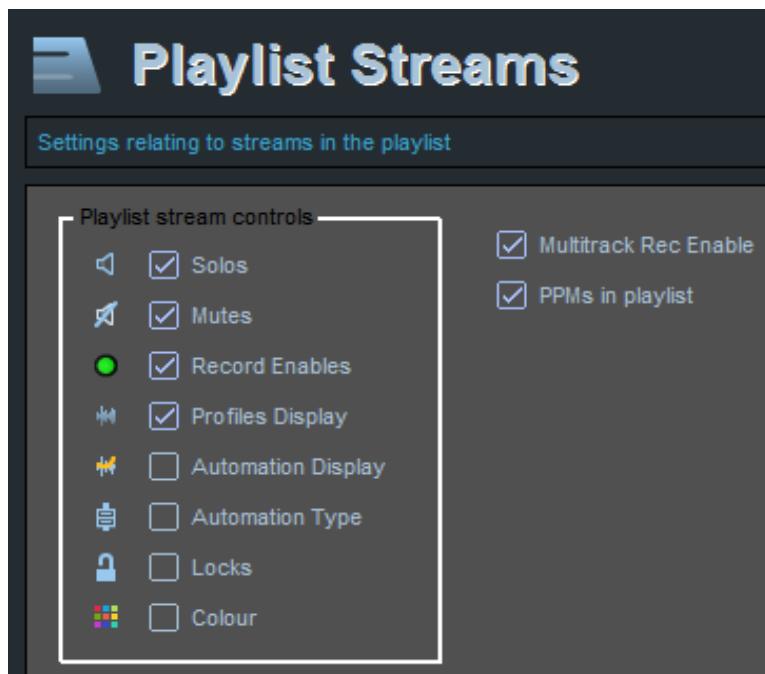
- Do not use templates - this is the default choice. Templates are disabled, and the type of EDL/mixer that is created when you make a new EDL/mixer is determined by the Setup page options (see [Playlist Setup](#) and [Mixer Setup](#)).
- Use the specified templates below - In this setup page you can choose a single EDT Playlist template, and MST Mixer template, which will automatically be used as the basis for your Playlist and Mixer every time you create a new Playlist and Mixer (either using the "File", "New" function or the **CREATE EDL** and **CREATE MIXER** buttons in the [Project window](#)).
- Choose a template at Playlist or mixer creation time - when you create the new EDL/Mixer, SADiE will ask you to name the file in the usual way, and then offer you a list of all the available templates files that appear in your own template directory.

NOTES: Templates are saved and reloaded on a user basis, e.g. the user "Joe" will find his templates in C:\SADiE5\templates\Joe (assuming C:\SADiE5 is the normal working directory for SADiE). You will notice that if you press **CANCEL** (or press the Esc key) you will bypass the template and the new EDL/mixer will be based on the Setup page setting. You will also notice that you will be first offered the template that was chosen last, and so you only need to press the ↵ Return key to use that same template again.

PLAYLIST STREAM CONTROLS

It's possible to change which buttons are displayed to the left of the Playlist streams.

In the Setup window, choose the Playlist topic, double click on it to view its subtopics and then choose "Playlist Streams".



The tick boxes beside the icons turn the controls on or off.

PPMs in playlist allows you to turn off the small EDL meters.

Multitrack Rec Enable - when ticked the standard circular record buttons are displayed; when unticked, the old style red R buttons are shown instead.

DESKTOPS

DESKTOPS

The arrangement of windows and toolbars (groups of buttons) on your screen is called a desktop. As described below, this can be saved as a file, just like an EDL. You can save several different Desktops for different tasks and then reload them to quickly rearrange the screen whenever you want. Note that a desktop will not look the same when viewed with a different screen resolution. Several Desktops files are provided with the software.

ARRANGING WINDOWS

Moving and Resizing windows with the mouse is covered in Windows® Help

The Window menu has the following commands which are standard for Windows® applications:

- "Tile" will attempt to fit all open windows onto the desktop.
- "Cascade" will arrange all open windows on top of each other, with all the title bars visible.
- "Arrange icons" will align the symbols for minimised windows along the bottom of the desktop. Again, not especially useful unless you have lots of minimised windows.
- The list at the bottom of the menu shows all open windows and is useful for quickly restoring to size a minimised one, or making active (and so bringing to the top) an obscured one.

SPLIT AND DUPLICATE WINDOWS

The "Window" menu's "New Window" command creates a duplicate of the active window so that you can effectively split it and place different parts in different places on your desktop.

For example, you may have a very large Mixer of, say 24 channels. You could put the first 12 channels in the top half of the screen and the rest below. Or, if you are using a dual graphics card to spread the desktop across two monitors, channels 1-12 on one screen and 13-24 on the other.

You might want to have two Playlist windows, one looking at one part of the EDL . and the second at a different part. You can also create a quite separate Text EDL window like this.

- Make the window you want to duplicate the active one.
- Select "New Window". An exact duplicate will be displayed. If duplicating the Playlist, you have the option of a new Playlist or Text EDL. If duplicating the Mixer, you have the option of a new Mixer or Process window.
- You can now resize the two duplicates and use their separate scroll and zoom functions so that they display the bits that interest you.
- Move the new windows where you want them on your desktop, which can then be saved as described below.

TOOLBAR DISPLAY

The various toolbars used in SADiE can be attached to different parts of their windows or floated and moved around the screen.

Right-click over any toolbar to see the list of options:

- Each toolbar can be docked to any of the four sides of its window.
- The toolbar can be floated, in which case it becomes a separate, "always-on-top" box that can be positioned anywhere on the desktop. A floating toolbar can also be re-shaped by dragging its sides in or out.
- Each toolbar can also be hidden, so that it doesn't appear on the desktop at all. To re-display a hidden toolbar, look under the View menu, where the "Toolbars" command will let you select which toolbars are displayed.

NOTE: The Transport Controls are a special toolbar that cannot be reshaped or docked. They can, however, be displayed or hidden under the "View" menu.

SAVING AND LOADING DESKTOPS

To save the current arrangement of your desktop (which includes the size and position of all windows, even if they are not currently on view), select "Save Desktop" from the Desktop menu. The save box that appears allows you to give the new desktop file a name and open the folder that you want it saved in. There is a folder for Desktops within the main SADiE folder.

To load a previously saved desktop select "Load Desktop" from the Desktop menu and find it in the relevant folder. Alternatively, select it from the list of recently used Desktops at the bottom of the Desktop menu.

The "Environment / Desktop" menu has an option to **Save desktop as start up desktop**.

If you arrange your windows in a way that suits the way you work, and then call this menu item, SADiE will always start up with this same desktop arrangement. (see also [Automatic Log-In and Desktop Load](#)).

CHANGING SCREEN RESOLUTION

WHY DOES MY SADIE LOOK DIFFERENT TO THEIRS?

A PC's display is a grid of coloured squares called pixels. Most PC's can display at different screen resolutions, (a different number of pixels) across the same size screen. A high screen resolution of 1024 pixels horizontally by 768 pixels vertically will use smaller pixels than a resolution of 640 x 480. This means the elements of any display will appear smaller, yet you can fit more onto the screen.

The choice is down to your personal preference for the size of monitor you are using. SADiE can work equally well at either 640 x 480, 800 x 600, 1024 x 768 or even 1280 x 1024. It is worth bearing in mind that the PC will be working harder if you increase the resolution, so the display may be slower to refresh. Another factor that can change the speed of operation is the number of colours. SADiE only uses 16 colours, and so if you set the display driver to use 256 or more colours, it is processing numbers unnecessarily and could work slower. Some display cards, however, are optimised to run at a certain resolution and number of colours, so there is no hard and fast rule.

Generally, 800 x 600 (often called SVGA) is a good default. You may prefer 640 x 480 (often called VGA) if you have a small monitor or a SADiE portable, and 1024 x 768 if you've got a 17" monitor. The method of changing resolution may be different for different PC's and different display cards, but the following are most common.

WINDOWS

From the Windows desktop, right-click on an empty area on the desktop and choose "Properties" from the menu that appears. Select the "Settings" tab of the box that appears. There is a sliding control to change resolution, and a selection box for the number of colours. Most changes can be done without closing down and restarting Windows, but if that is necessary, the screen instructions will warn you and you can close SADiE and save your work accordingly.

Alternatively your PC's video adapter may have its own application for setting up the display.

MESSAGE BOX PLACEMENT

In the Setup window, on the "General" page there are settings to allow you change the position on the desktop at which messages, warnings and errors appear. You can alter the percentage from left of desktop, and the percentage from top of desktop, and you're able to Test the settings to see where you've placed the messages.

This is particularly useful if you are running SADiE on a machine with more than one monitor. With the default setting, messages appear in the middle of the screen, which can be spread across two monitors on a twin screen system.

MULTIPLE MONITORS

It is possible to work with more than one screen on your PC, as there is support for multiple graphics cards in Windows. Alternatively you can buy graphics cards that have more than one monitor port.

There are a number of different ways that these screens are handled, and this will be determined by the operating system and graphics drivers.

There are a few things to watch out for, but mostly there are ways of accommodating "oddities".

"SADiE will only ever fit onto one screen" - This can happen because Windows may be set to maximise single applications to one screen. This is the standard way you are expected to work with two screens, e.g. one application on each monitor. To get SADiE to spread across two (or more) screens is *not* to maximise SADiE, but to set SADiE to run in a Normal window then resize to fit. This is set in the shortcut you use to run SADiE. Right-click on the desktop shortcut, select "Properties" and then on the "Shortcut" tab, check that "Run" is set to "Normal window". If "Run" is set to "Maximise" this could cause SADiE to only fit to one screen.

"Messages appear in the middle of two screens" - If everything is configured correctly, then messages should appear in the centre of the screen on which the mouse is settled. However, we have seen graphics cards and drivers that do not follow this convention. Sometimes updating the graphics drivers will correct this problem, but if the card insists on seeing the desktop as one big, say, 2048 x 768 screen, rather than two 1024 x 768's, then there is a setup option, under "General Settings" ([Message box placement](#)) that allows you to re-position message boxes, thus changing the distance from the left to 25%, will push the messages to the centre of the left screen in a two-screen setup.

Note that the placement of SADiE's main windows (Playlist, Mixer, etc. plus the Setup window, Disk Manager, and Transport controls) is controlled by the Desktop. If you are adding extra monitors, you may want to design a different desktop and save it as the [start up desktop](#) to make it the default.

CHANGING HOW SADIE STARTS UP

STARTING SADIE AUTOMATICALLY

To make SADiE start automatically when Windows starts:

1. Click on the Start button and point to "Settings"
2. Click "Taskbar", then the "Start Menu Programs" tab
3. Click "Add" followed by "Browse"
4. Open folders to locate the icon that you use to run SADiE. It should be under "Windows", "Start menu", "Programs", "SADiE"

5. Click "Next", then double-click on the Start Up folder.
6. Type a display name for the new icon, then press "Finish"

To stop SADiE starting automatically:

1. Click on the Start button and point to "Settings"
2. Click "Taskbar", then the "Start Menu Programs" tab
3. Click "Remove"
4. Open the folders "Programs" and "Start Up"
5. Select the SADiE icon and press "Remove"

LOADING A DESKTOP & SETTINGS

STARTUP DESKTOP

As standard, SADiE always starts with the same desktop arrangement of the windows, which is tied to a screen resolution.

If you want to change this, arrange your screen or load a DSK file that suits the way you work and then go to the 'Environment' menu, select 'Desktops' and then select 'Save Desktop as startup desktop'.

There is scope for handling the situation where a user may work at different computers (with perhaps different screen resolutions) but still wish to retain the same user settings.

On starting SADiE the resolution will be ascertained as being i.e. HHHH x VVVV and a desktop called HHHHxVVVVdef.dsk will be loaded. If no such dsk file exists, then the closest (but smaller) DSK file will be loaded instead.

Earlier versions of SADiE had a mechanism which relied on a -d or /d switch in the SADiE shortcut but this is now ignored.

There are also now 20 'settings slots' (Setup Window/General/Default Desktops) to allow you to override the automatic matching of resolution to desktop name, and to map specified screen resolutions to use different DSK files. As this is saved in the user settings file, this mapping will follow a user whose registry settings are set to follow him/her under a roaming profiles scheme..

There's an additional setup option 'Use desktop from previous session' which ignores all of this and re-loads the screen as it was when you last closed SADIE.

AUTOMATIC LOG-IN

If you are still using the legacy SADIE User Management scheme (not recommended under Windows 7 or Vista), it's possible to modify a shortcut to log in automatically.

- I. First find the command line:
 - i. If you run SADiE from the Start button or an icon on your Windows desktop, find the shortcut(s), right mouse click on it and select 'Properties'.
 - ii. The command-line is in the box labelled 'Target'.
 - iii. A typical command line could be is:
"C:\Program Files\SADiE\BIN\SADiE6.EXE"

There may be a -d switch after ...SADiE6.EXE" but this can now be ignored (and deleted if you wish)

- v. The first part of the command line, "C:\Program Files\SADiE\BIN\SADiE6.EXE" is the instruction to run the program file 'SADiE6.EXE' which runs SADiE. It gives the full location (or 'path'), of the file, e.g. it is in the 'Bin' folder, which in turn is in the 'SADiE' folder inside 'Program Files', which is on the C drive.

NOTE: On Windows systems, any paths that use filenames with spaces in them must be enclosed in double quote marks.

- i. To login a SADiE User automatically , carefully add the following to the end of the command line, after any quotation marks -

`_/uNNNNN_pWWWWW`

where "NNNNN" and "WWWWW" are your user name and password respectively. Note that here I've shown the spaces as `_` before the first oblique and between your user name and the P.

Note that this can only be used if you are using SADiE's own User Management as opposed to using the Windows User.

LOADING A SETTINGS FILE ON START-UP

Again in the command line, the `/s` switch allows you to load a saved settings file on starting SADiE. For instance, extending the basic example above (and again watch out for spaces before the `/s`) :

`"C:\Program Files\SADiE\BIN\SADiE6.EXE" /s"c:\Documents and Setting\Windowsuser\My Documents\Studio Audio & Video\SADiE\settings\MySettings.sst"`

will load `MySettings.sst` from the Windows user's My Documents area.

Note also that you can use the `/r` switch to reset settings on start-up.

DEFAULT SETTINGS

Normally, there are three circumstances under which a user's settings are set to a default state:-

1. When a new user is created - either a new Windows log-in is using SADiE for the first time, or a new user in SADiE's own User Management, depending on which scheme you are running ([more detail....](#)).
2. When you use the **Environment** menu option **Settings/Reset All Settings**. ([more detail....](#))
3. If you have customised the shortcut command line with the `/r` switch as above, then settings will reset on starting SADiE.

As standard the settings will be set to factory defaults, however there is a mechanism by which an administrator could force new defaults.

If a file named **SADIE.INI** exists in the Windows root directory (usually `c:\windows` or `c:\winnt`) then when settings are reset to default, the settings in this INI file will be used instead of factory defaults.

This INI file is in the same format as a INI settings file used by SADIE User management, and it's also exactly the same as the **.SST** files that Saved Settings are stored in.

Therefore, in order to create a SADIE.INI file to be used for default settings, you can save an SST file, and then rename it to be SADIE.INI.

Remember that all settings, including a desktop and the position of all windows, are included in the settings file. The SST and INI files are plain text and can be read and edited in Notepad, and the settings parameters are in reasonably plain English. You may wish to remove lines for settings that you don't specifically wish to impose as defaults. For instance if you create a settings file on a system with dual screens, loading this onto a system with only one screen may cause problems.

If a parameter doesn't exist in an INI/SST file, then factory defaults will be used when the settings file is loaded or reset.

A commonly used example of the use of this SADIE.INI file is when you wish to impose only a different Project Component Root directory. This normally defaults to `c:\projects`, but in order to change the default to i.e. `d:\projects` you will need to create a simple text file that includes just these two lines:

[Project Management]

Default Project Root=`d:\projects`

and then name the text file "sadie.ini" and save it to the `\windows` directory.

USER MANAGEMENT

Since SADiE v5.5 two alternative methods for handling multiple users on SADiE system are provided:

Windows Username

When SADiE is started there is no user log-in. Each Windows User Log-On on the PC has a different SADiE profile. SADiE's settings are saved in the "HKEY_CURRENT_USER" part of the registry for every Windows User which is a modern and more efficient way of handling settings than the legacy "INI" file method.

This scheme works well where users have their own Windows Log-On. This can be made to work with "Roaming Profiles" on a Windows network so that logging on to any PC on the network can give the user his/her SADiE settings.

As this user scheme fits in with Windows own users, this is managed using external Network and User management tools.

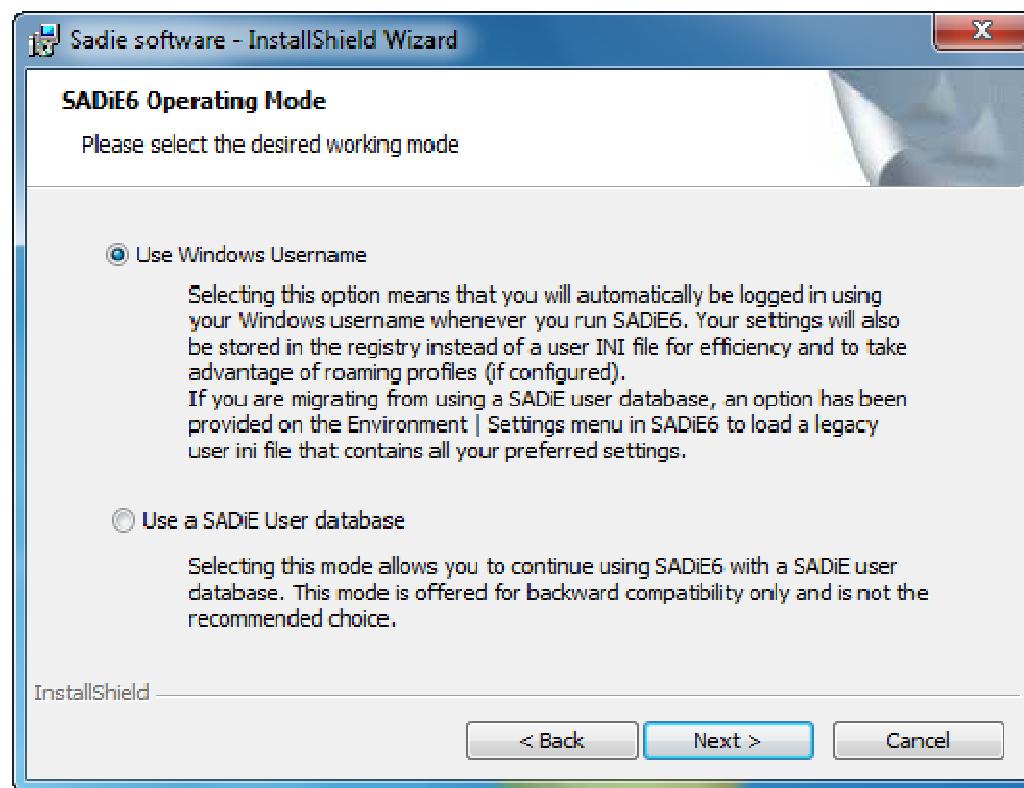
.... and the legacy method which uses.....

SADiE's User Management

Each SADiE PC is set to use a SADiE User Database either locally or across a network. When you start SADiE you are asked to enter your name and password (if it exists). Your user settings will be loaded from a file called SADiE_USERNAME.INI which is stored either locally or across a network.

This scheme does not need the user to log onto Windows separately, however the use of INI files is quite old fashioned, and Windows handles registry settings better.

Operating Mode is chosen at the point of installing the software in the dialog box as below. The newer "Windows Username" method is recommended, however for users that are taking advantage of some of SADiE's legacy user management features, there may not be enough benefit to warrant changing scheme.



To change the scheme having set it one way during the installation, you should uninstall SADiE (Control Panel / Add/Remove Programs / SADiE Software), and re-install. If you run the installer over the top of an existing installation you will not be offered this choice.



SADiE'S USER MANAGEMENT

User Management allows full access to SADiE v5 to be restricted to a list of specified users, held in a User Database. The SADiE v5 Project system further restricts access to individual Projects to a list of specified Project users (a subset of the User Database).

The "SADiE v5 User Management" application is a separate Windows-based utility for creating and altering a User Database.

All installations require a User Database even if it only contains one user. In a one-user installation the User Management Application is not strictly required, as SADiE v5 will construct a default User Database the first time it is run if one is not found.

You will need to run the Application if:

- You are setting up a multi-user system using SADiE's User Management (as opposed to using [Windows Usernames](#) to log on)
- Additional users need to be added to a system,
- An existing user wants to change their username,
- You want to point SADiE v5 at a different User Database (perhaps on a networked drive).

Each user has their own username, password (optional), management privilege level, and SADiE settings file.

Usernames and passwords are only used when operating under SADiE's User Management and not under the Windows Username scheme.



USERNAMES AND PASSWORDS

USERNAMES

A "username" is a unique name given to each user and can be up to 16 characters long. Valid characters are any unicode character. The application will validate all input, so there is no possibility of entering an illegal character accidentally.

PASSWORDS

Passwords are optional, although recommended in any system that has more than one user. The same rules for usernames also apply to passwords.

Usernames and passwords are only used when operating under SADiE's User Management.



MANAGEMENT PRIVILEGE LEVEL

This determines whether a user can run the User Management application, and what they can do within it. It also allows certain users access to all SADiE Projects.

There are three levels of privilege:

ORDINARY USERS

Most users will be created as ordinary users. They can run SADiE and gain access to projects that they are signed on to. They cannot run this application and therefore have no power to alter the User Database.

SYSTEM ADMINISTRATORS

These users can run the User Management Application and alter the User Database by adding and removing (and altering the details of) ordinary users. They also have access to all SADiE projects. This is to prevent a lowly pip-squeak of a user creating a project that cannot be accessed by anyone, however powerful.

There is no restriction on the number of System Administrators that there can be in a User Database, but for security reasons it is advisable to keep it to a minimum.

System Administrators can only be created by the Super System Administrator.

SUPER SYSTEM ADMINISTRATOR

This is the most powerful user of all. Each User Database contains only one Super System Administrator, who is appointed when the database is created.

Super System Administrators can run the User Management Application and alter the User Database by adding and removing (and altering the details of) System Administrators and ordinary users. They also have access to all SADiE Projects.



SADiE SETTINGS FILES

USER INI FILES

When operating with SADiE User Management, every user in the User Database will have their own settings file. A User "INI" file has a filename of "Username.INI", where "username" is the first eight characters of the user's username.

The files are derived initially from "SADiE.INI" (situated in the C:\windows directory). This file is also used as a default when using the "Reset All Settings" item in the Environment / Settings menu.

These "INI" files contain information on every setting in the SADiE program; fundamental things such as sample rate, record input, as well as more obscure functions hidden away inside the Setup pages. These settings are carried from session to session, so that if you change a setting, it will stay that way until you change it again. Hotkeys are stored here.

If an anonymous user logs on (e.g. presses "Skip" in the log in dialogue) then they will be considered to have a username of "DEFAULT", and therefore will use the "DEFAULT.INI" User "INI" file. It is therefore important to bear in mind that all anonymous users will share one "INI" file.

You can find out which User "INI" file is being used at any given time by opening the settings view and looking at the filename that appears in the title bar of the window.

USER INI FILE DIRECTORY

The User "INI" files are kept in a separate directory on the PC hard drive. This will be created automatically when you run the new version of SADiE (or the User Management application). By default it will be created in the same directory that contains the current User Database and will always be called "settings". Initially the directory will be empty, but as users log onto the system, User "INI" files will be created in this directory.

SADiE SETTINGS FILES

Just as you can save your Desktops to "*.DSK" files, you can save your current environment (e.g. your User "INI" file) to "*.SST" files. This is an advanced feature that most users will probably never venture into, but it can be found under the "Environment" menu on the main application menu system. Settings files can be saved anywhere and are accessible to all users (who have access to where you save them).

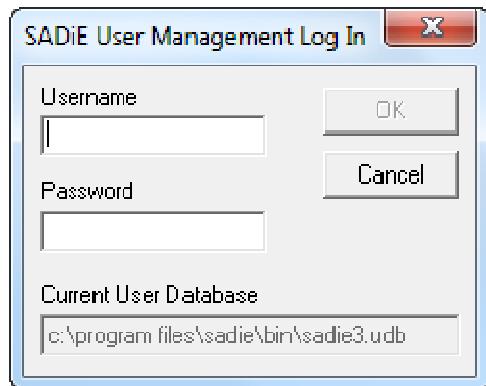
Loading a setting file will instantly reconfigure your settings and screen to the way it was when you saved the settings.



USING USER MANAGEMENT

What happens when you run the User Management application for the first time depends on whether you have already run SADiE software on the machine in question.

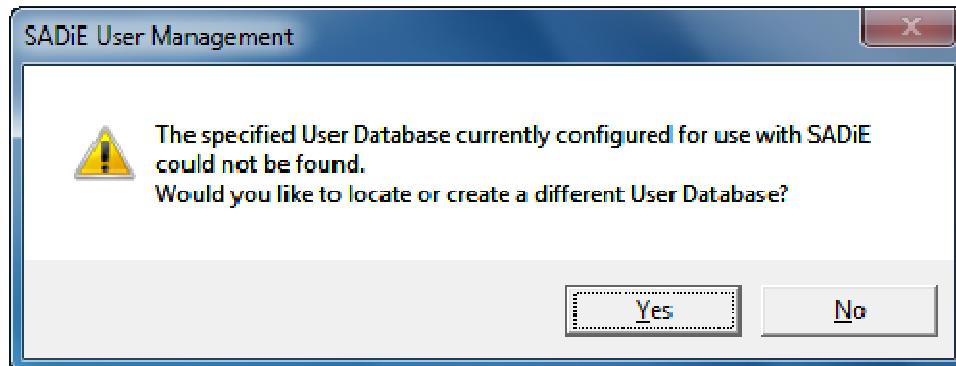
If you have already run SADiE software, the application will automatically select the User Database that SADiE created, and display the Log In dialogue box.



The path of the User Database currently being used by SADiE v5 will be displayed at the bottom of the box, as a reminder for administrators who may be maintaining several User Databases. (It doesn't matter if you're using an existing user database that was created in an earlier version of software, as long as you don't delete this if and when you remove the earlier software)

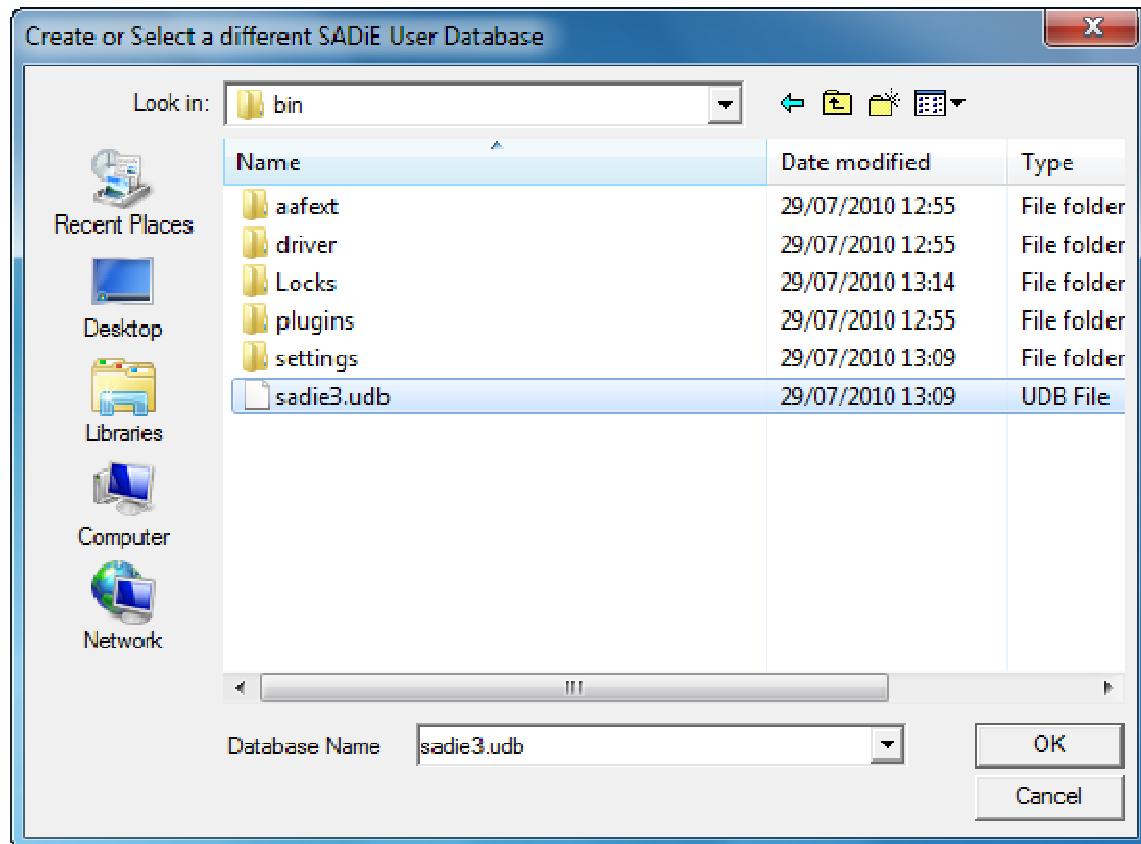
You should enter the Username (and password if there is one) of the user that was specified when SADiE was run for the first time. This user will be a Super System Administrator, who is always the first user to be inserted into a User Database when it is created.

If you have not yet run SADiE, the following message box will be displayed:



If you answer "No" at this point, the application will shut down since a User Database is required for it to run successfully.

Answering "Yes" will launch the "Create or Select a different SADiE User Database" dialogue box:

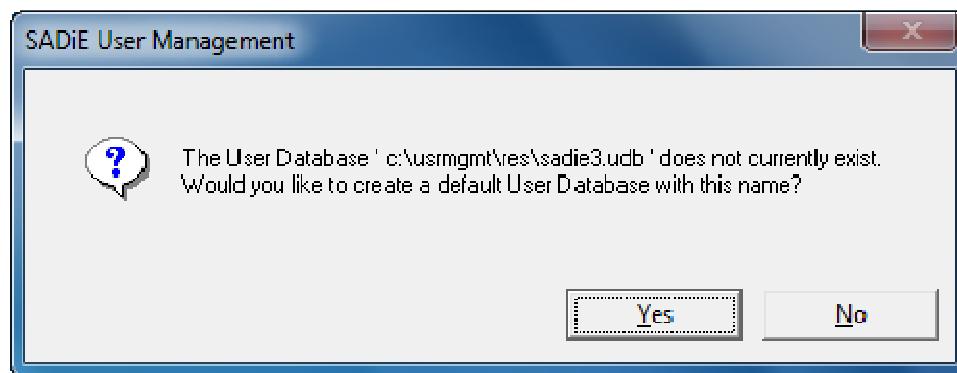


This is a standard Windows browser window and allows you to open the folder where you would like the User Database created, or locate one that already exists (perhaps on a network drive). If a User Database exists in a selected folder, it will appear in the left hand list box.

A User Database always has the filename "SADiE3.UDB".

Once you have chosen your folder, press "Ok". If a User Database already exists, the Log In dialogue will be displayed and you should log in using the identity of one of the users in the database.

Alternatively, if no User Database exists, the application will automatically offer to create one for you, displaying the following message:



Replying "No" will terminate the application while "Yes" will create a default User Database and display the following message:



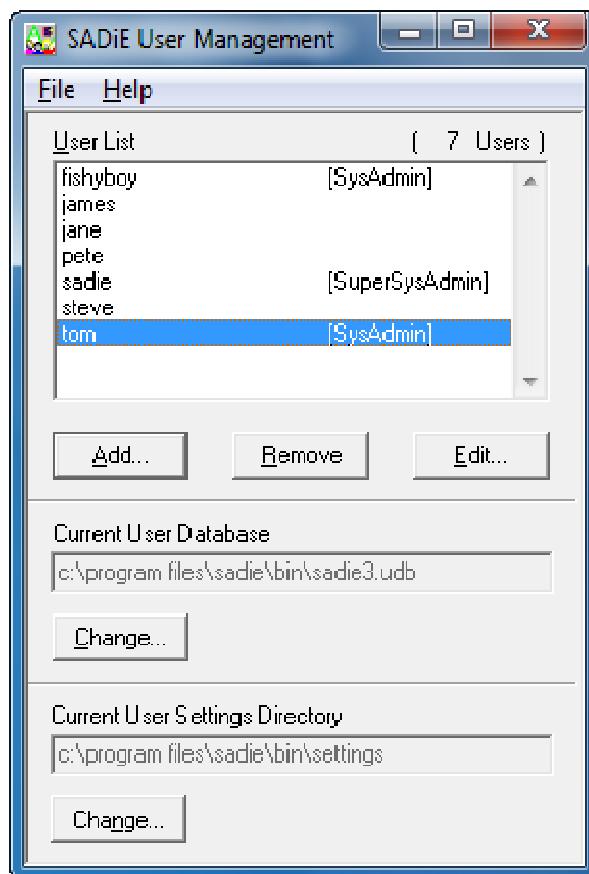
Note that the one user added to the User Database at creation time is given the username "admin" and no password. As mentioned previously, this user will be a Super System Administrator. The user will also be granted the highest possible SADIe privilege level.

Once the message box has been closed, the User Management Log In dialogue box will be displayed. You should now enter "admin" as a username and no password.



THE MAIN WINDOW

Having successfully logged on to a User Database, the main window of the application will be displayed. It is from here that all the user management tasks can be performed.



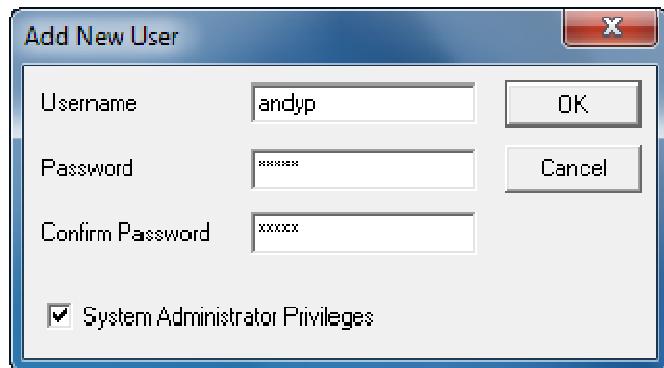
The main part of the window is occupied by a list displaying all the usernames in the selected User Database. The list is ordered alphabetically with a total user count at the top right. Initially you will only see one user, the default "admin" user that was automatically inserted when the database was created. The user's Management privilege level is shown against each username (in the case of ordinary users, nothing is displayed).



ADDING, EDITING, REMOVING, AND SAVING

ADDING A USER

To add a new user to the system, select the user in the user list and press the "Add" button (or press Alt-A). This will launch the "Add New User" dialogue box:



From here you can enter a new user's Username, password (optional), and their SADiE privilege level. A Username of SADiE5, SADiE4, SADiE3, or DEFAULT is not allowed.

If you enter a password you must enter it in both the "Password" and "Confirm Password" boxes.

If you are the Super System Administrator, you can also use the check box to make the new user a System Administrator.

When you have finished, press "Ok" to add the new user to the system.

EDITING AN EXISTING USER'S DETAILS

To edit an existing user's details, select the user in the main window and press the "Edit..." button (or just double-click on the user). This will launch the "Edit User" dialogue box, which is identical to the "Add New User" dialogue box described above.

If you are the Super System Administrator, you can use the check box to grant or revoke System Administrator status.

When you have entered all of the new details, press "Ok" to confirm, or "Cancel" to abort.

REMOVING A USER

To remove an existing user from the system, select the user in the main window and press the "Remove" button (or press Alt + R). You will be asked for confirmation before the user is removed.

Remember that only the Super System Administrator can remove System Administrators from the system. If you do not have the privilege level to remove a particular user the "Remove" button will automatically be disabled.

SAVING CHANGES TO THE USER DATABASE

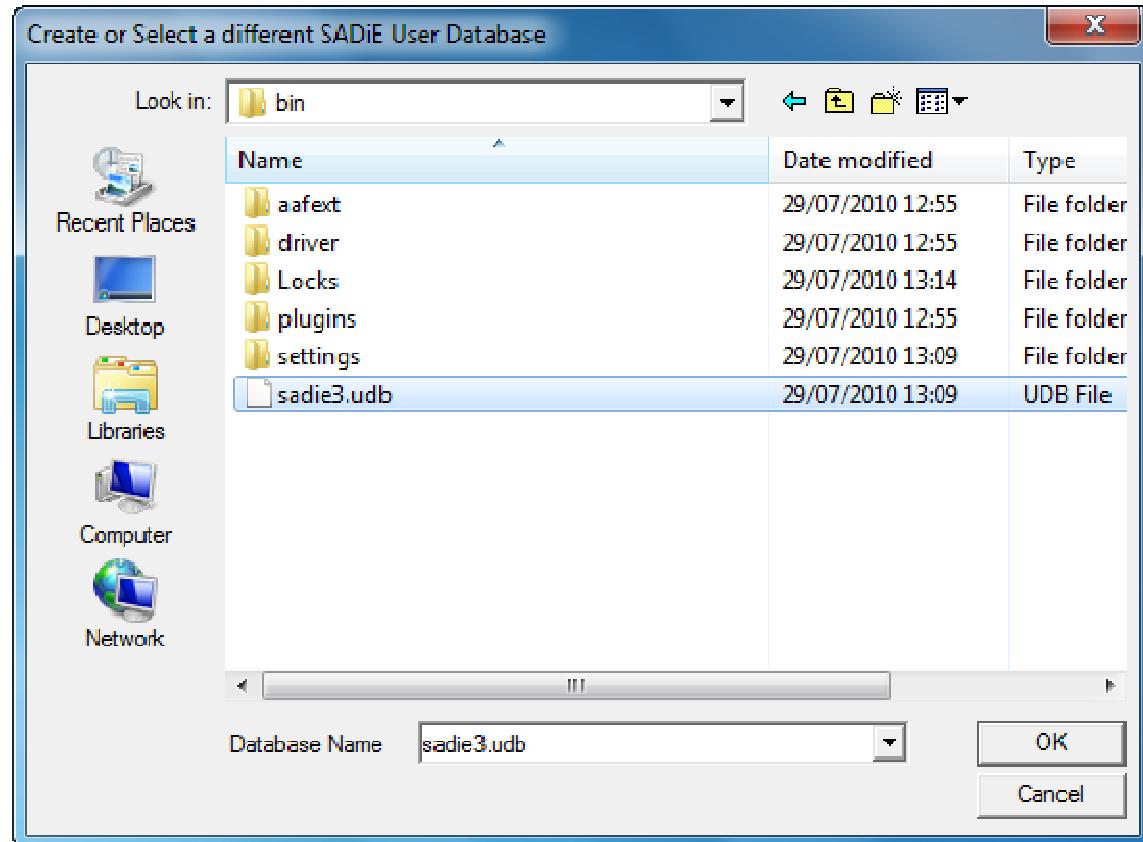
As you add, edit and remove users from the current User Database, your changes are not actually being saved to the real database file. This will only happen when you select "Save changes to User Database" from the "File" menu, or exit the application from the "File" menu.



SELECTING A DIFFERENT USER DATABASE

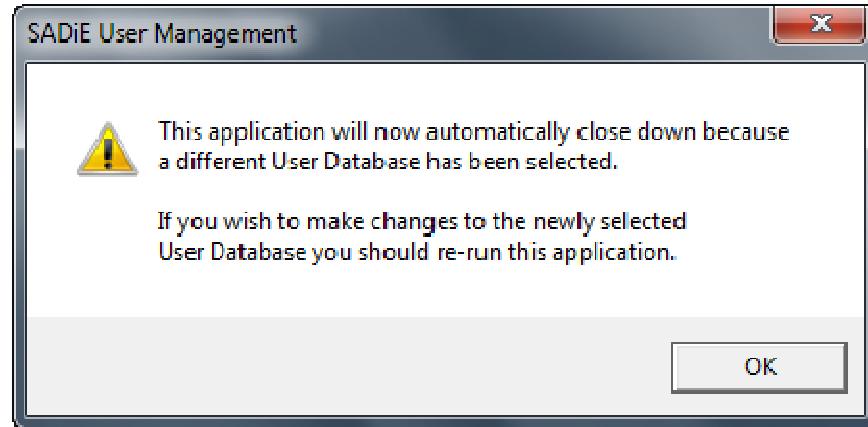
Occasionally it might be necessary to point the User Management application and SADiE v5 at a different User Database. This is likely to occur if you want a previously isolated machine to refer to a User Database on a network drive. To change the currently selected User Database press the "Change..." button under "Current User Database" in the main window.

This will launch the User Database browser dialogue box:



A User Database always has the filename SADIe3.UDB.

Locate the new User Database and press "Ok". The application will confirm that it has selected the newly chosen database and advise you that it will now shutdown:



This is done for security reasons. Should you wish to make changes to the newly selected User Database you will have to re-run the application and log in accordingly.



CHANGING THE SETTINGS DIRECTORY

You can alter the location of the settings directory, where User Settings files are saved. It will probably not be required in many situations (provided the User Database location has been configured to a sensible location). However, this is the place to alter it should the need arise. The procedure is similar to changing the current User Database above.



IMPORTANT POINTS

- Whilst User Management and SADiE v5 are separate applications, they both reference the same User Database (on any given PC).
- The start-up of SADiE v5 will not be affected by any User Management changes until the database is saved. This happens when the User Management application is exited (or when "File", "Save Changes" is selected).
- When a new User Database is created, one Super System Administrator is added to the database automatically, with the username "admin" and no password. You are advised to give this user a password as soon as possible.
- The User Database is heavily encrypted on disk and is effectively un-hackable. Any tampering with a User Database file is likely to result in it failing to be read correctly. The usual symptom is lost users.

ADDITIONAL NOTES & FAQS

ASIO DEVICES

Some ASIO devices may show different behaviour from others, and so it may be necessary to operate them in specific ways to avoid potential problems.

It is possible that **an ASIO device's Control Panel may need to be closed** before further operation in SADiE is possible.

RELEASE ASIO...

The "Release ASIO when focus moves away" option in SADiE's Setup page/Audio/Native Drivers section is not normally enabled. ASIO is generally not a multi-client protocol but you may wish to tick this option if you want to use the same ASIO device with two different software applications. Correct operation will require that the other device is also able to release the ASIO driver, and the ASIO device itself can support this.

Otherwise this should normally be un-ticked.

WDM devices can normally cope with multiple clients and most devices seem to be happy to run with ASIO and a WDM device at the same time (i.e. so that you can play in Media Player at the same time as SADiE.).

This however is not **ALWAYS** the case, and some devices have been seen which do not allow multiple applications to play at the same time. If this IS the case, and for instance, Windows Media Player gives an error message when SADiE is running (and doesn't when SADiE is not running), then we suggest that you set SADiE to release the driver when focus moves away to allow you to switch to Media Player and play audio files using the same sound device.

SAMPLE RATE CHANGING

Generally it's expected that you will change sample rate in the SADiE software and the ASIO device will follow. It's not recommended that you change sample rate in the ASIO device's own control panel.

Some devices may change their configuration when the sample rate changes. In particular a change from i.e. 48K to 96K or 192K may require the device to change the number of inputs or outputs that are allowed.

CONTROL PANELS

When a Control Panel is opened from within SADiE's Setup/Audio/Native Drivers page, some device's panels are exclusive and SADiE cannot be operated until the panel is closed. Other devices may allow this; some (such as Prism Sound Orpheus) have more sophisticated control panels which tend to need to be open to allow control.

NOTES ON TESTED ASIO AUDIO DEVICES

Prism Sound Orpheus

No known issues

SADiE

Prism Sound ADA-8XR

No known issues – the firewire option must be installed for this to be used as a ASIO device with SADiE6.

EMU1616m

This device has a fairly complex internal software mixer which may change the mapping of ASIO inputs and outputs with respect to physical inputs and outputs (see its own reference documentation for details).

This device will require a software mixer to be reloaded when changing between 1X (ie 44.1 or 48K) and 2X (96K etc.) or 4X sample rates, and will produce a dialog asking you to choose a new mixer. This works better if you set SADiE to **Release ASIO..** (i.e. ticked) – otherwise the EMU's mixer window will not redraw when the mixer is loaded.

However, the EMU's small control panel for changing buffer sizes (as accessed from SADiE's "Control Panel" button) is exclusive and you will find that SADiE may fail to respond until you close that small dialog by pressing Cancel or OK. Unfortunately this little dialog has a habit of hiding, so you may need to find it first.

MOTU 828 MkII

This device has an exclusive Control panel dialog box and so you should close it before trying to access SADiE. You may see an error message (which sometimes appears behind the main Control Panel) if you try to select SADiE before closing the Control Panel.

RME

Most RME devices have a "DDS" tab on their control panels which prohibit SADiE from changing the sample rate remotely. Thus if you set this in the RME panel, playback will always be at the rate set by the interface, rather than the rate chosen in SADiE, and you will have to manually set the SADiE sample rate to match the RME sample rate.

Other tested Devices:-

Prism Sound Orpheus, Prism Sound ADA-8XR, Focusrite Saffire, MOTU 828MkII, Lynx PCI card, Marian Trace Pro, Edirol UA20, Mackie Onyx Satellite, EMU 1616m, EMU 0404USB, Digidesign MBox2, RME HDSPe AIO, RME HDSPMADI, RME Fireface and others.

DIFFERENCES BETWEEN DSP HARDWARE PLATFORMS

LRX



The LRX is a portable USB-attached hardware unit aimed at location recording. This combines DSP processing, Hardware controller & Faders and up to 48 Inputs and Outputs (or 64 via the optional MADI interface) in a package a just little larger than the laptop that would be used to control it.

LRX is also able to run the simplified Multi-track Recording software "SADiE MTR" as well as the full SADiE6 software.

Details on the [LRX Buttons and Controls](#) are later in this manual

Two versions of the LRX exist:-

1. LRX which is capable of up to 16 channels I/O (at up to 48KHz).
2. LRX2 which is capable of up to 64 channels I/O (at up to 48KHz).

PCM-H64



Is the larger-scale multi-track workstation offering up to 64 inputs and outputs per DSP card. Input and Output interfaces are modular and include Analogue, AES/EBU and MADI options.

PCM-H64 is also able to run the simplified Multi-track Recording software "SADiE MTR" as well as the full SADiE software.

Multiple PCM-H64 cards can be installed to give more DSP power and extra I/O above 64 channels.

PCM8



Is the standard SADiE Mastering platform. PCM8 has 8 inputs and 8 outputs in Analogue and AES/EBU format.

Multiple PCM8 cards can be installed to give more DSP power and up to 32 channels of I/O.

PCM-H8 & PCM-H16

These are similar to the PCM8 with respectively 8 or 16 inputs and outputs in Analogue and AES/EBU format. However they use the same processor card as the PCM-H64, and thus have more capability for processing and can internally mix down up to 64 channels of 48K audio.

PCM4

Is a smaller-scale general purpose workstation with 4 input and outputs in Analogue and AES/EBU.

BB2, BB2-J & PCM2



These are based on the BB2 hardware platform - the BB2 and BB2-J are USB2 devices that include the SADiE DSP in an external box.

The PCM2 is a package that was supplied with SADiE5 of the BB2 or BB2-J hardware running full SADiE software, which is now discontinued. However SADiE6 software will run with hardware that was originally purchased as a "PCM2".

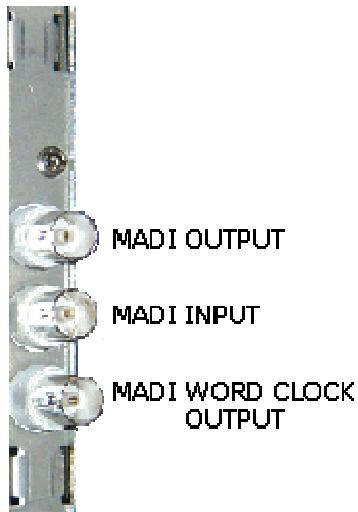
MADI CONNECTIONS

H64 MADI

If the MADI option is fitted, there will be three BNC connectors on the reverse of the TNG3 card, and an optical connector on a lead inside the PC (which will break out into a spare slot or hole in the back of the PC.)

It is possible to have a H64 system with *only* MADI I/O - in which case, only the top section of the chassis unit will be present.

The BNC connectors are -



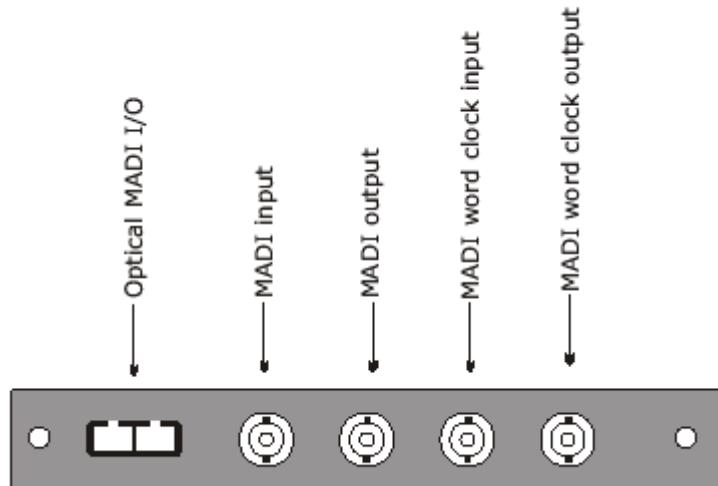
Word Clock Out - in the case where the MADI card is fitted but the chassis has no bottom I/O box (or no slithers are fitted) the Word clock connection on the MADI card is an output when SADiE is master clock, but will switch to being an input when SADiE is set to slave to external clock.

With slithers fitted, this Word clock connector is only ever an output, and you should use the standard **Word Clock In** connector on the bottom I/O box for locking to an external Word clock signal.

Note that a H64 with slithers fitted cannot use "Recovered MADI clock".

The optical cable is "handed" and thus can only be connected one way.

LRX MADI



The MADI Slither can be used in the LRX2. It has four BNC connectors for MADI and Word clock connections, as well as an optical connector. The rear plate is coloured yellow.



LRX BUTTONS & CONTROLS



FADERS	Faders can be changed to operate on a different Bank (i.e. 1-8, 9-16 etc.) using the Bank Select button, or for different functions - Output faders, pan or Input level (Mic inputs only) - with the button below the Bank button.
MASTER FADER	In full SADIe5 this can be assigned to any fader by right mouse clicking on that fader and ticking the Master Hardware Fader item. This setting saves with the mixer.
RECORD ENABLE	Record Enable buttons operate on the playlist stream of the appropriate number, and not necessarily the stream that is feeding that fader. In MTR software the stream and fader are always the same number, but a full SADIe5 mixer could be customised so that for instance all output faders were stereo, and then faders 1-8 would be controlling level of streams 1-16. Be careful – if you have stereo merged streams in a full SADIe5 EDL then two buttons will enable/disable them – so for instance pressing button 1 will record enable streams 1&2, but then pressing button two will disable them.
PFL	PFL is automatic in the MTR software, and will PFL-solo that stream to the Headphone outputs. In SADIe5 software a PFL button has to be applied to each stream (ALT-Drag a Aux Send button from the mixer palette) and then you must route a Bus called PFL to whichever output you wish to listen to the PFL on. Thus pressing the PFL button (software or hardware) routes that fader to the PFL bus. See here for detail on PFL in SADIe5. A software option can change the PFL buttons to perform Solos instead (LRX Setup page)
L.E.D. METERS	Metering LEDs- these light at the thresholds set for the green, yellow and red bands of the Horizontal Meters - these are set in Setup / Playlist / Playlist Streams.
SCRUB	Puts the wheel into "jog" mode, whereby moving the will play audio at a speed

	related to the wheel rotation.
EDL/SRC	This button is used during Editing to select the type of edit. See Playlist Editing with an LRX for more detail.
XFADE	Switching Xfade on whilst in Edit mode allows you to adjust the length of the fade at the point (In or Out) which is currently selected.
SELECT	Select will select the clip under the current time line and turn it red in preparation for another function (delete for instance)
ZOOM	When Zoom is selected, the wheel will change the current horizontal zoom setting.
OUT IN	Press In or Out to enter Playlist Edit mode on the clip under the current time line. Whilst in PLE mode, you can press the other key to jump to the other edit point; pressing the key for the edit point at which you are currently positioned takes you out of PLE.
RAZOR	Razor makes a razor cut across clips on enabled streams at the current time position.
BAR	The bar acts in the same way as the keyboard space bar - press to start playback, press again to stop. Whilst in Edit mode, the bar acts as a preview.
SET	Set sets a locator
PREV & NEXT	Prev / Next locates to the Previous or Next locator
RECORD ALL	Record enables (or disables) all selected streams
SHIFT	Allows an alternative function for other buttons
<u>SHIFTED FUNCTIONS</u>	
SHIFT-BANK SELECT	Switches the fader bank to lower numbered streams.
SHIFT-SET	Switches the Online button and hence enables either LTC generate or LTC slave. The light above SET will light to show that Online is enabled.
SHIFT-RECORD ALL	Record enables (or disables) the stereo mixdown stream in the SADiE MTR software.
SHIFT-FADER	Shift and touch and release a fader when set to adjust Mic Inputs, puts the fader into "sensitive" adjustment mode.
MODE	Mode switches the first four buttons so that they become programmable function keys. In the software these would be HWC F1 to HWC F4 respectively and are

	set in the usual Hotkey section of the Setup page. You can use SHIFT in conjunction with these buttons for another four hotkeys (which are assigned as HWC F5 to HWC F8 respectively) When the LED on Mode is lit, the other keys are user keys.
TALKBACK	Opens up the talkback microphone.
MON L&R and H/P L&R	Monitor Outputs (RCA phono connectors at the rear of the unit) and the Headphone Outputs are available in the SADiE5 software as additional output busses called Mon L&R and H/P L&R which can be routed in the normal way. In the MTR software these always monitor the Mixdown stereo stream (except when PFL is pressed)
PHANTOM POWER	Phantom Power is enabled on Microphone inputs by (currently) pressing the small "lightning bolt" icon in the left side of the EDL stream.

MTR SOFTWARE

The MTR software is a simplified single pane interface for recording and editing. Main differences from the full SADiE are currently:

- 1 stream per input is created.
- There is no configurable mixer – each stream is routed to its respective physical output.
- The top pair of streams is a mixdown stream and this can record a stereo mixdown of the other streams in the EDL. The master fader is before this stream and the mixdown stream is monitored on the headphone output.
- Pressing the top-left “Clipstore” button reveals a “Source Tracks Folder”, along with a Metadata entry page, and sections for setting the Primary and Mirror destinations for audio recording – audio can be recorded to two locations at the same time.

See the MTR Helpfile for further details.

HARDWARE CONTROLLER FUNCTIONS



HARDWARE CONTROLLER FUNCTIONS

Firstly, a blatant plug: the hardware controllers are brilliant! They really speed up your work, and after a couple of hours you'll wonder how you ever managed without them. If you've already got some, read on. If not, have a word with your SADiE dealer and try them out!

When you first connect your hardware controllers, you will need to initialise them by selecting them to a 9-pin channel. This is done in the "9-Pin Control" section of the [Setup window](#).

The controls on the hardware controllers apply to whichever is the active window on the screen. Therefore in many cases you will need to use the **WINDOW** button to select the required window before using other controls.

The **SHIFT** button on the hardware controllers doesn't need to be held down unless you are following it with more than one further button push.

The **ASSIGN** key is latching and affects other button actions until it is released.

The next pages have a list of functions for the [Edit/Log Panel](#) and the [Fader Panel](#).



EDIT / JOG PANEL

SCRUBWHEEL	Is used for audio jog/shuttle and, in other modes, selection. The mode is selected by the SCRUB button and will apply to the active window, as selected by the WINDOW button.
ONLINE	Puts the selected external machine on line for control by SADiE and puts SADiE on line for timecode synchronisation.
SLIP	Turns Slip on/off (the cross/tick button in Autoplace toolbar). Turning Slip on will enable left or right slipping as pre-selected on the Autoplace toolbar or status bar display.
AUTO	If the Playlist is active, this turns the automation display on/off for <i>all</i> Streams. If the Mixer is active, this enables automation.
LOCK	Locks all Streams to EDL time. SHIFT + UNLOCK will unlock all Streams
STREAM	Allows Stream selection: Both the wheel and the PREVIOUS/NEXT buttons select the Stream by moving a red highlight around the Stream enable button on screen. Then using EDIT/SELECT enables/disables that Stream. Pressing SHIFT + EDIT/SELECT changes the status of a group of Streams: Select one stream, SHIFT + SELECT another, and all in between will get toggled (similar to Explorer).
CLIP	The Wheel selects EDL Entries on enabled Streams in order. Used with IN/OUT/HOT , it will jump the cursor to the appropriate point.
ZOOM	The Wheel changes the horizontal zoom.
SHIFT + ZOOM	The Wheel changes the vertical zoom.
PREVIOUS/NEXT	If the Playlist is active, these select the previous/next EDL Entry and jump the cursor to the selected IN/HOT/OUT point. If the STREAM button is on, they select the previous/next Playlist Stream. If the Trim Editor is active, they select the previous/next Entry in it. If the Clipstore is active, they select the previous/next Clip in it.
WINDOW	Toggles through which window is active.

END	Moves the cursor to the end of the last Entry in the EDL.
SHIFT + END	Moves the cursor to the start of the first Entry in the EDL.
PLAY/STOP/REC/PAUSE	Produce toast from floppy disc slot! Well, what do you think???
CROSSFADE	In Playlist Editing mode this selects the inside fade point, e.g. the end of the fade-in if IN is selected, the start of the fade-out if OUT selected.
SHIFT + CROSSFADE	Selects the outside point of the fade.
EDL/SOURCE	Switches between edit modes: EDL with no light on, Source with light on.
EDIT/SELECT	<ol style="list-style-type: none"> 1. Selects Streams (as above). 2. Selects EDL Entries: With no IN/OUT/HOT point selected, it will select the Entry under the cursor on the first enabled Stream. (SHIFT + SELECT gives multiple selection as described above) 3. Turns on Playlist Editing mode: With an IN/OUT/HOT point lit it will put the Entry under the cursor into editing mode, working on the selected IN/HOT/OUT point. PREVIOUS/NEXT will then select another Entry for editing.
RAZOR	Razor cut on enabled Streams.
CUT/COPY/PASTE	Clips and EDL Entries to/from all windows. Pasting into an EDL pastes the in-point at the current cursor position on the lowest numbered, enabled Stream.
IN/HOT/OUT	In the Trim editor, and in the Playlist with Playlist Editing mode on, select the point for adjustment and jump the cursor to that point.
GRABTIME	The label on this button is highly illogical! This button toggles audible scrubbing on and off, whilst keeping an Online 9-pin device in scrub.
LOCATE + F1-F12	Sets or Locates to a numbered locator. F11 and F12 work as the Left and Right locators.
SHIFT + LOCATE + F1-F12	Overwrites an existing locator point.
PREVIEW	Previews an edit in Playlist Editing mode or the Trim Editor.
SAVE	Duplicates "File", "Save" on the menu bar, so saves the current EDL, Clipstore, Mixer, etc. The exception being when the Project window is active, the button will save the Project and all of its components.
F1-F12	Programmable function keys, which can be assigned in the Setup window. There are four banks in all: F1-F12 , SHIFT + F1-F12 , ASSIGN / F1-F12 , and ASSIGN / SHIFT + F1-F12 , giving 48 possible Hotkey actions.
ASSIGN / F5, F1, F2, F3	Nudges the selected EDL Entry up, left, down, right as per buttons in Autoplace toolbar.
F12	Default Hotkey to turn the waveform display on/off for <i>all</i> Streams

SCRUB Toggles the Scrubwheel action through Jog / Shuttle / Move cursor. There is a Setup Preference under Setup / Transport Controls / Scrub Wheel / Enable hardware controller shuttle - when unticked the Scrub button is a two-way toggle between Jog and Move Cursor; when ticked it provides the three way toggle including shuttle mode.

UNDO Undo.

SHIFT + UNDO Redo.

FADER The Jog panels fader can be assigned to any fader in the mixer by right mouse clicking on the fader on screen and ticking the "master fader" option.

FADER PANEL

MUTE Mutes the selected strip.

SHIFT + MUTE Solos the selected strip.

ASSIGN + Left/Right arrows Bank select - will select the next eight Mixer strips.

ASSIGN + Up/Down arrows Changes faders from Level control (**Fd** in top left LED) to Pan (**Pn** in LED)

SELECT Selects this strip's processing for adjustment. Strip number appears in top left LED and processing strip is displayed.

Up/Down arrows Toggles through the selected strip's processes for adjustment by rotary knobs. Knobs **A-F** control the section parameters from the top down.

EQ Allows direct selection of the EQ sections

CMP Allows direct selection of the compressor sections.

ASSIGN + MUTE Bypasses all processing on the strip.

SHIFT + SELECT Reassigns the fader to a new on-screen Mixer strip. Move the fader and the new strip number is shown by the LED, Let go of the fader and it selects.

OVERWRITE/TRIM/AUTORETURN Changes the automation mode.

These controls also apply to the single fader on the edit / jog panel.

PLAYLIST BUTTONS

PLAYLIST BUTTONS

What do all the little buttons in the Playlist do? And where can I find a function on the Playlist toolbars?

There are two tables, the first [listing the toolbars](#) and the names of each button on each toolbar.

The second [lists Playlist functions](#) in alphabetical order (including some aliases or common names), and tells you which toolbar it belongs to.

LIST OF PLAYLIST TOOLBARS AND THEIR BUTTONS

What do all the little buttons do?

Click on the link to jump to a part of the help-file which describes the button in more detail. The button names are listed as they appear, left to right, (or top to bottom) along the toolbar.

To see a cross-reference, listing functions alphabetically and telling you where to find, see [Playlist Functions](#).

Don't forget that you can find out the name of a button in SADiE by hovering over it with the mouse and waiting for the yellow pop-up box.



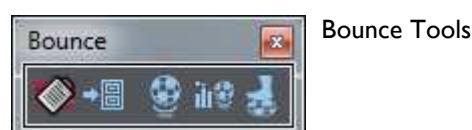
- [Select Toolbars](#) - this is a pretty important button as pressing it gives access to all the other Playlist toolbars!
- [Razor](#)
- [Scissors](#)
- [Glue](#)
- [Remove Gap](#)
- [Undo](#)
- [Redo](#)



- [Paste](#)
- [Paste to current time](#)
- [Cut](#)
- [Copy](#)



- [Group](#)
- [Ungroup](#)



- Clip details

- [Copy to Clipstore](#)
- [Bounce](#)
- [Offline Bounce](#)



- [Load EDL](#)
- [Save EDL](#)



- [Open Trim Editor](#)
- [Enable Playlist Editing](#)
- [Enable Region Editing](#)



- [Show Project Window](#)
- [Show Clipstore](#)
- [Show Mixer](#)
- [Show/hide Transport Controls](#)



- [Automation Editing](#)
- [Automation Adjust](#)
- [Draw Automation](#)
- [Insert automation point](#)
- [Line](#)
- [Group Edit](#)



- [Autoplace On/Off](#)

- [Autoplace Mode Selection](#)
- [Snap ... to Quantise](#)
- [Quantise to ...](#)



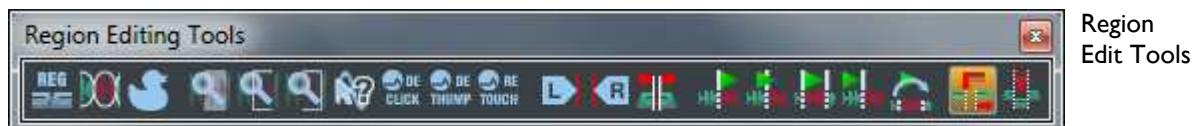
- [Slip On/Off](#)
- [Slip Left](#)
- [Slip Right](#)



- [Lock Streams](#)
- [Unlock Streams](#)



- [Nudge Left](#)
- [Nudge Right](#)
- [Nudge Up](#)
- [Nudge Down](#)



- [Region Edit On/Off](#)
- [Razor Region](#)
- [Reset Region](#)
- [View all region](#)
- [View Left edge](#)
- [View right edge](#)
- [Show sample values](#)
- [CEDAR DeClick](#)
- [CEDAR DeThump](#)
- [Select Region start](#)
- [Select Region end](#)

- [Preview from](#)
- [Preview through](#)
- [Preview whole region](#)
- [Preview up to](#)
- [Hop-over preview](#)
- [Region insert mode - when copying](#)
- [Region Overwrite mode - when copying](#)

LIST OF PLAYLIST FUNCTIONS

This is a cross reference, which lists the Playlist functions in alphabetical order and tells you which toolbar to find them on.

Toolbars referred to can be shown by pressing the [Select Toolbar](#) button and choosing the appropriate toolbar from the drop down menu.

To see a list of Playlist Toolbars and their buttons see [Playlist Toolbars](#).

Function	Alternative Name	Toolbar
 Automation Adjust		Automation Edit Toolbar
 Automation Editing		Automation Edit Toolbar
 Draw Automation		Automation Edit Toolbar
 Group Edit		Automation Edit Toolbar
 Insert automation point		Automation Edit Toolbar
 Line		Automation Edit Toolbar
 Autoplace On/Off		Autoplace Toolbar
 Butt		Autoplace Toolbar
 By hotspot		Autoplace Toolbar
 By track start (sync)		Autoplace Toolbar
 End to current time		Autoplace Toolbar
 Gap	With separation	Autoplace Toolbar

	Hotspot to current time		Autoplace Toolbar
	Now	To current time	Autoplace Toolbar
	Start time	By track start (sync)	Autoplace Toolbar
	Sync	By track start (sync)	Autoplace Toolbar
		To current time	Autoplace Toolbar
		To original EDL time	Autoplace Toolbar
		With separation	Autoplace Toolbar
<hr/>			
	Bounce		Bounce Toolbar
	CEDAR DeClick	DeClick	Region Editing Toolbar
	CEDAR DeThump	DeThump	Region Editing Toolbar
	CEDAR Retouch	Retouch	Region Editing Toolbar
	Clip details		Bounce Toolbar
	Clipstore show	Show Clipstore	Windows Toolbar
	Copy to Clipstore		Bounce Toolbar
	Copy		Paste Toolbar
	Cut		Paste Toolbar
	DeClick	CEDAR DeClick	Region Editing Toolbar
	DeThump	CEDAR DeThump	Region Editing Toolbar
	Enable Playlist Editing	Playlist Edit	Edit Toolbar

	Enable Region Editing	Region Edit	Edit Toolbar
	Glue		Playlist Tools
	Group		Group Toolbar
	Load EDL		Load and Save Toolbar
	Lock/unlock Streams		Lock Toolbar
	Mixer Show	Show Mixer	Windows Toolbar
	Nudge Down		Nudge Toolbar
	Nudge Left		Nudge Toolbar
	Nudge Right		Nudge Toolbar
	Nudge Up		Nudge Toolbar
	Offline Bounce		Bounce Toolbar
	Open Trim Editor	Trim Editor	Edit Toolbar
	Paste to current time		Paste Toolbar
	Paste		Paste Toolbar
	Playlist Edit	Enable Playlist Editing	Edit Toolbar
	Project window show	Show Project Window	Windows Toolbar
	Razor		Playlist Tools
	Redo		Playlist Tools
	Region Edit	Enable Region Editing	Region Editing and Editing Toolbar

	Duck (Region Duck)	Region Duck	Region Editing Toolbar
	Hop-over preview		Region Editing Toolbar
	Preview from		Region Editing Toolbar
	Preview through		Region Editing Toolbar
	Preview up to		Region Editing Toolbar
	Preview whole region		Region Editing Toolbar
	Razor Region		Region Editing Toolbar
	Region insert mode (when copying)		Region Editing Toolbar
	Region Overwrite mode (when copying)		Region Editing Toolbar
	View all region		Region Editing Toolbar
	View Left edge		Region Editing Toolbar
	View Right edge		Region Editing Toolbar
	Select Region start		Region Editing Toolbar
	Select region end		Region Editing Toolbar
<hr/>			
	Remove Gap		Playlist Tools
	Retouch	CEDAR Retouch	Region Editing Toolbar
	Save EDL		Load and Save Toolbar
	Sample values	Show sample values	Region Editing Toolbar
	Scissors		Playlist Tools

	Select Toolbars	Toolbars show	Playlist Tools
	Show Clipstore		Windows Toolbar
	Show Mixer		Windows Toolbar
	Show Project Window		Windows Toolbar
	Show sample values	Sample values	Region Editing Toolbar
	Show/hide Transport Controls	Transport Controls show	Windows Toolbar
	Slip left		Slip Toolbar
	Slip On/Off		Slip Toolbar
	Slip right		Slip Toolbar
	Toolbars show	Select Toolbars	Playlist Tools
	Transport Controls show	Show/hide Transport Controls	Windows Toolbar
	Trim Editor	Open Trim Editor	Edit Toolbar
	Undo		Playlist Tools
	Ungroup		Group Toolbar

CONTROL BY CONSOLE

CONTROLLING SADIE WITH A CONSOLE

It is possible to control some of SADiE's functions from a mixing console or third party hardware controller.

Currently this uses MIDI, either via MIDI DIN connectors or USB, depending on the device.

Currently (as of v5.3) we support:-

- HUI protocol
- Mackie Universal Control Protocol

Specific known working devices are :-

- [SSL AWS 900](#)

- Yamaha's current range of consoles:
- DM2000
- DM1000
- O2R96
- O1V96
- Mackie Universal Control

MIDI CONTROLLER SETUP

The top section of this page - MIDI Controller Protocol - sets up preset protocols to work with specific known devices.

"None" is a generic HUI protocol, which doesn't have the special functions for the other named consoles.

"Mackie" is the selection for Mackie Control protocol.

The bottom section - Manual Controller device configuration - is where you set up the MIDI ports, as described in more detail below.

SSL AWS 900

This describes how to set up SADiE to work with the Solid State Logic AWS 900 Analog Workstation system.

The AWS 900 connects to SADiE using three pairs of standard MIDI cables (using DIN connectors). All HUI devices require a MIDI port for each set of 8 faders. The SSL AWS 900, which has 24 faders, requires 3 x MIDI In and 3 x MIDI Out.

Thus you will need a MIDI interface with at least 3 ports in your PC in order to attach the AWS 900.

We can recommend a M-Audio Midisport 4X4 which has the advantage of being connected via USB, hence there is no need to open up the PC to install a MIDI card. You will need to install drivers for the MIDI interface; no drivers are required for the AWS 900 itself.

SETTING UP SADIE TO USE THE AWS 900

Connections

The AWS 900 has 12 MIDI DIN connectors (see section 3 of the AWS 900 manual for more detail on how to connect to the Workstation), arranged from left to right (as viewed from the rear of the console) as :-

MIDI 1 In, MIDI 1 Thru, MIDI 1 Out, MIDI 2 In, MIDI 2 Thru, MIDI 2 Out, MIDI 3 In, MIDI 3 Thru, MIDI 3 Out, MIDI 4 In, MIDI 4 Thru, MIDI 4 Out.

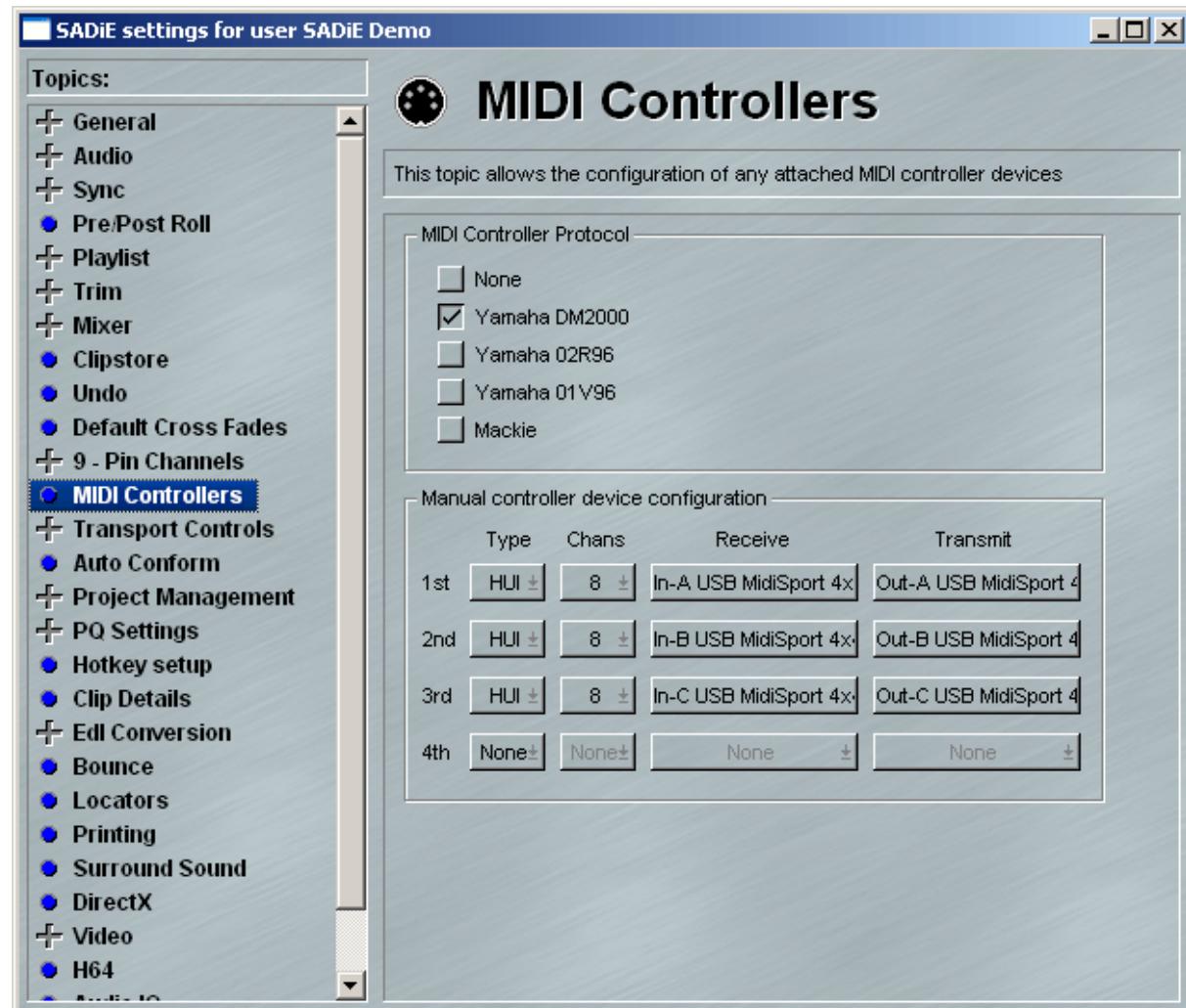
We shall only be using the Ins & Outs 1 to 3 and thus not using any Thru ports or MIDI 4.

Connect the 6 MIDI cables as follows:-

AWS 900	SADiE
MIDI 1 In	MIDI A Out
MIDI 1 Out	MIDI A In
MIDI 2 In	MIDI A Out
MIDI 2 Out	MIDI A In
MIDI 3 In	MIDI A Out
MIDI 3 Out	MIDI A In

SADiE Setup

Under SADiE's **View** menu, select the **Setup Window** item, and then view the **MIDI Controllers** page.



The top section of this window sets the Protocol, as well as setting up some of the specific controls that are available on each control surface.

For the **AWS 900** select **AWS 900**.

Now set up the first three MIDI ports as in the picture

1. Set Type to HUI
2. Set Chans to 8.
3. From the Receive drop-down list, choose the PC's MIDI A In port
4. From the Transmit drop-down list, choose the PC's MIDI A Out port
5. Repeat for 2nd and 3rd using MIDI B and C.

CONTROLLING SADIE FROM THE AWS 900

Section 5 of the AWS 900 Owner's Manual describes the console's DAW features in detail. We suggest you read that to familiarise yourself with the console's controls.

Console Focus

This is an important button in the lower centre of the Master Control Panel on the AWS 900. This switches the console between controlling the analog signals through the console, and SADiE's own internal mixer.

The button is lit in blue when the console is focused, the light goes out when SADiE is being controlled.

D-Pots

Each channel strip on the AWS 900 has a continuous pot that can control Pan, Aux sends, and levels in SADiE.

Channel Banking Controls



The AWS 900 has 24 fader channels, and so to control a SADiE with a mixer running more than 24 mixer strips, there are Channel Banking Buttons to the left of the Console Focus button.

From controlling mixer strips 1-24, pressing the Right Arrow will change to controlling strips 25-48, and another press will change to 49-72 and so on.

If the **CHANNEL** button is pressed and lit, when you press the left or right arrow buttons, the faders will scroll along one strip at a time. Thus when controlling strips 1-24 if you press the Right arrow once , the AWS 900 will change to controlling 2-25 and so on.

DAW Meters

When the AWS 900 is controlling SADiE, the meters display the levels from the corresponding SADiE mixer strip's PPM(s).

Faders

The AWS 900 channel faders will control the SADiE mixer faders. The calibration should be correct to the AWS 900 scale and the faders will be able to move from +10db to -infinity. There is currently no ALT (for level display) or grouping function - faders that are grouped in the SADiE mixer will move independently when controlled by the AWS 900. The faders are touch sensitive and thus can be used with SADiE's automation.

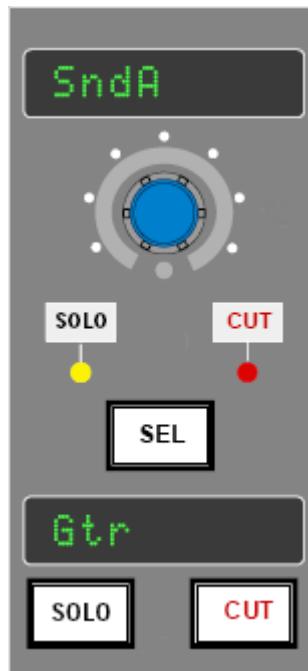
Solo & Cut

The **SOLO** and **CUT** buttons perform Solo and Mute on SADiE's mixer strips. The pair nearest to the D-Pot perform Solo and Mute when the D-Pot is being used to control level (i.e. when the AWS 900 is in console focus, with the **Channel** button pressed). The Solo and Cut buttons closest to the fader will perform Solo and Mute when the Fader is controlling SADiE's fader.

Pan

When **PAN** in the Master Control section is pressed and lit, the D-Pots will control the pan or balance controls on SADiE's mixer, and the scribble strip above the D-Pot will display **Pan**. When the Pan pot is in the centre position, the green L.E.D. below the pot lights up.

Send / Aux Sends



When **SEND** is pressed in the Master Control section, the D-Pots' function changes to controlling any Aux Send levels on SADiE's mixer.

The AWS 900 can control up to 5 Aux sends on each SADiE mixer strip.

When **SEND** is pressed and lit, the D-Pot in the Master Control Section is used to change the Aux Send on which all the channel D-Pots are operating, and the small LED scribble strip beside the **Send** button, as well as each of the scribble strips above the channel D-Pots display SndA, SndB..... SndE to show which Aux Send is being controlled.

When in **SEND** mode, pressing the D-Pot will switch the Aux send from Pre-Fade to Post-Fade (note that as this is a mixer configuration change, it can only work when SADiE is not playing).

In **Pre-Fade** the LED below the D-Pot lights up, in **Post** mode, the LED is off.

When switching between Pre and Post, the scribble strip below the D-Pot, which is normally used to display the strip's Input name, will momentarily display "Pre" or "Post".

Note that Aux Sends must be inserted into the SADiE mixer by dragging and dropping in the SADiE interface and they cannot currently be assigned and routed from the console. SndA, is the Aux send that is inserted highest in the SADiE mixer strip, SndB is the next and so on.

Input & Output Routing

The channel D-Pots can be used to change the input and output busses of the corresponding SADiE mixer strip. Because this is a mixer configuration change, this can only work when SADiE is not playing.

First press **ASSIGN** in the Master Control section of the AWS 900, the **ASSIGN** button will flash and the scribble strips above the channel D-Pots will show **ASGN** while you're in this mode.

If you now press **INPUT** you will be primed for changing the routing of any of the SADiE mixer strips' Input busses.

To change an input routing, you must first **push** the D-Pot (this is different to the AWS 900 manual) to designate which mixer strip you are routing. The Input routing drop-down display on the SADiE mixer strip will open up. Then, when you turn the D-pot, the input routing will move through the list of available streams, inputs, and busses. Pushing the D-Pot again (or pushing another D-Pot to route a different strip) will confirm the routing change. The Bus selected will be displayed in the scribble strip below the D-Pot.

Routing an Output bus uses the same method, just that you press the **OUTPUT** button in the Master Control section of the AWS 900 to assign output busses.

Transport Controls

Currently the only functions supported are:-

Fast Forward & Rewind (the double arrow buttons)**STOP, PLAY and RECORD****Jog & Shuttle**

The inner part of the jog wheel can perform three different functions:-

- a) move the timeline without audio playback
- b) Jog - the audio scrubs only when the wheel is moving
- c) Shuttle - the angle the wheel is turned determines the speed the audio will play.

The button on the AWS 900 marked **scrub** toggles between these three modes. SADiE has a setup switch to change this so that it only toggles between two modes - free-locate and Jog (which is the most sensible way to work with the AWS 900 because.....)

The outer part of the AWS 900 jog wheel always operates shuttle.

Record Enabling

The **SEL** button underneath the D-Pot can be currently used for either Record enabling the corresponding stream, or for Edit enabling.

Pressing **SEL** in the AWS 900 Master Control section sets all the channel **SEL** buttons to switching SADiE's Stream Enabling function - when the button is lit, the stream is enabled for editing and razorng.

Pressing **RDY** in the AWS 900 Master Control section sets all the channel **SEL** buttons to operate Record Enable. In the usual way, having record enabled a stream, it can be punched into record by pressing the **RECORD** button in the Transports section of the AWS 900.

Unsupported Functions on AWS 900

Currently (as of January 2006) the following functions mentioned in the AWS 900 manual are not supported, but these may be added in future:-

Section 4 Aux Mute / Pre/Post :- Pushing the D-pots when in **Send** mode switches Pre/Post. No Aux mute function currently exists.

Bypass

Edit

Default

DAW Utility buttons - Section 9 Undo, Esc, Save, Enter,

Modifier Buttons - Section 10 Shift, Control, Option, Alt,

DAW Window buttons - Section 13 Alt, Status, Trans, Mem, Mix, Edit

Section 20 Aud, Pre, In, Out, Post, RTZ, End, Loop, Q Punch, Online.

Section 21 Zoom and navigation buttons.

Section 23 numeric keypad

No automation enabling and mode functions are supported, except for the fact that fader moves will of course be recorded when SADiE's automation is enabled. "Suspend Auto" is currently unsupported.

No Plug-in editing functions are currently supported.

YAMAHA HUI CONTROL

This section describes how to set up the Yamaha consoles – DM2000, DM1000, O2R96, O1V96, which utilise a USB connection for MIDI.

Functions supported will depend on the console.

SETTING UP THE CONSOLE

Follow the instructions for the console for connecting to ProTools. These are available from the Yamaha Web site.

<http://www.yamaha.co.jp/english/product/proaudio/> has a download section for each console, and the doc you want is under “Other”

ie.

http://www.yamaha.co.jp/english/product/proaudio/download/utility_lib/dm2000/others/othersbox/dm2000_nue_ndo_2.pdf

While you're there, get the USB MIDI driver from:-

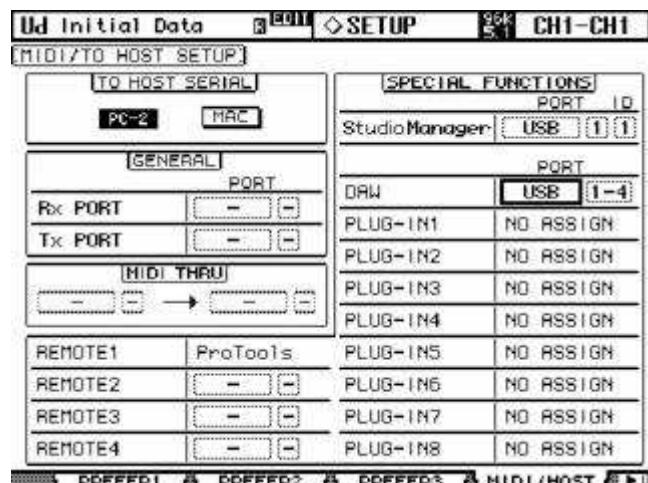
http://www.yamaha.co.jp/english/product/proaudio/download/utility_lib/usb_midi/usbmidi_win.htm

In short (there are slightly different buttons on each console).

YAMAHA DRIVERS

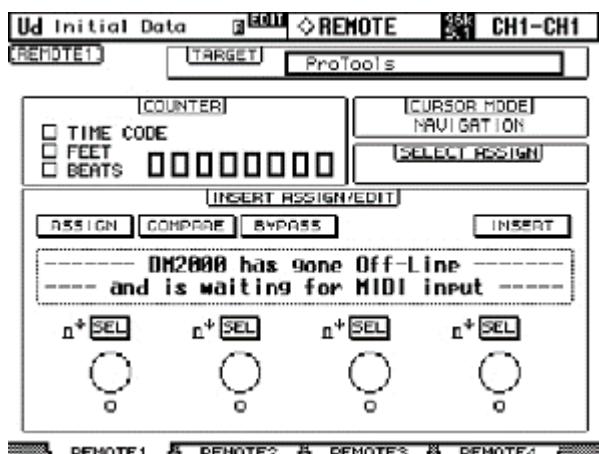
1. Copy the Yamaha USB-MIDI driver disk to the SADiE PC
2. Connect the console via a USB cable to a USB2 port on the SADiE PC.
3. At this point some “plug and play” will be triggered and the PC will ask for drivers. Point the plug-and-play dialog to the location of the Yamaha drivers.
4. You will need to re-boot the PC after installing the drivers.

TURN ON THE YAMAHA REMOTE MODE



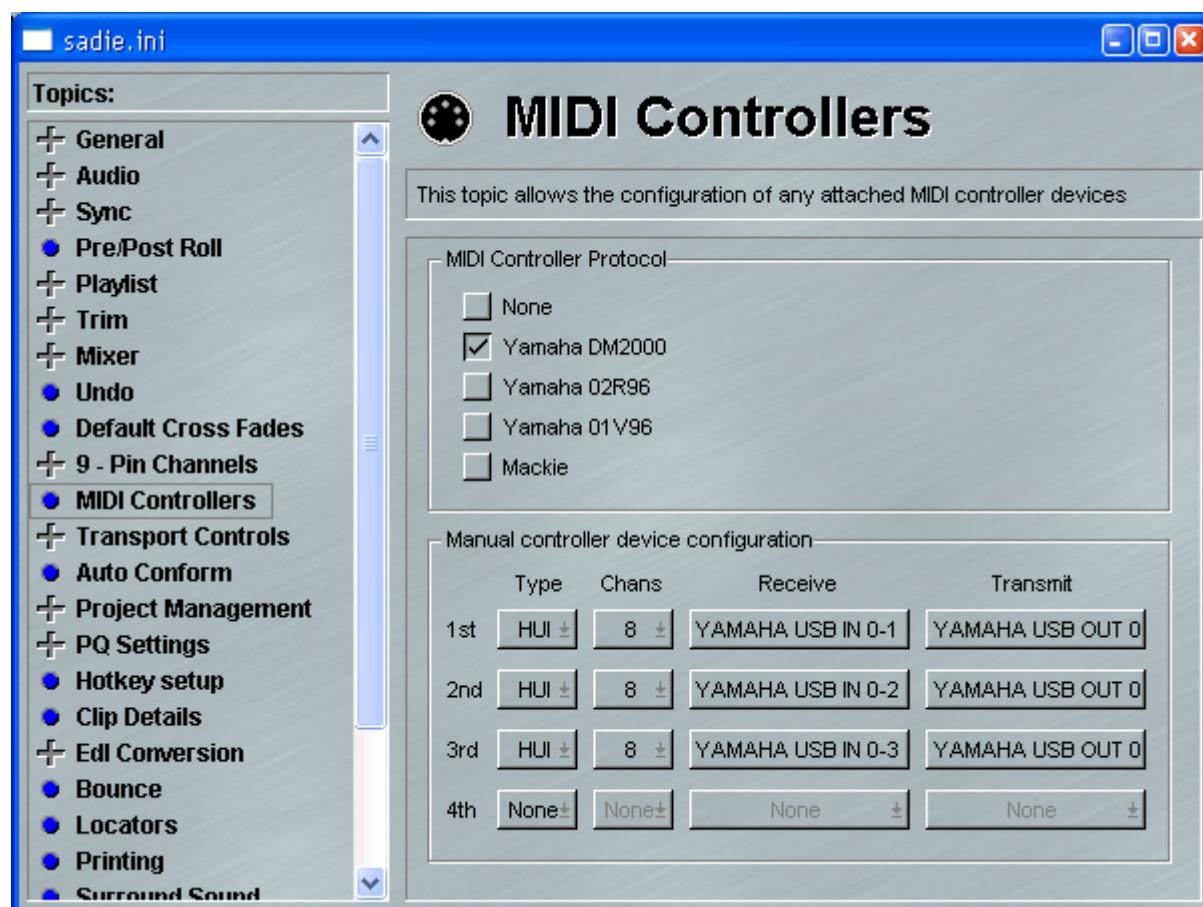
1. Use the “Display Access” button to go to the MIDI/Host page (F4 under the LCD display)
2. Move around the page using the cursor controls. Check that “To Host Serial” is set to PC

3. Move to "DAW" and select USB. On the DM2000 it will use 4 ports, on the O1V96 it's only two.
 Choose ports 1-4 (or 1-2)



4. Press "Display Access" again then F1 under the LCD to get to Remote Page 1
5. Use the Cursor keys to get to "Target" then the data entry wheel to select "Protocols"
6. Then Press the "Layer/Remote 1" Button to enable the remote layer.
7. Note that the message "DM2000 has gone off-line" will remain on the screen.

SETTING UP SADIE FOR YAMAHA CONTROL



- I. Go to : View menu; Setup Window; select MIDI Controllers on the left side; tick "DM2000". For other consoles, either select the preset if it exists, or "None". These selectors merely set up some default or custom controls for the specific consoles, you will still need to set up the MIDI ports.

2. Under "Manual controller device configuration" you will need to set the send and receive channels for the MIDI. Controllers use 1 MIDI channel for each 8 faders. Thus if the console has 24 faders (i.e. the DM2000), you must set up 3 separate MIDI channels as the diagram above, whereas i.e. the O1V96, which has only 16 faders, requires only the first two channels to be set.
3. It may be necessary and advisable to re-start SADiE after selecting this.

DM2000 AVAILABLE FUNCTIONS:

- Faders
- Solo buttons above faders
- Sel Buttons (Record enable)
- Pans and Pan displays
- "Scribble Strip" displays first few characters of the SADiE mixer strip's input
- Transport Controls
- Data Wheel locates the playlist.
- Locate Memories (1-8) Display + Locate number is store.
- User Defined keys (1-12) – these are set as "HWC F1- F12" in SADiE's hotkey setup.
- PPM displays on meter bridge.
- Time Display

Also there is a hotkey inside SADiE, (and thus triggered from SADiE, although this could be mapped to a "User Key" on the console) to "Bank Toggle". This is set under Setup\Hotkeys\MIDI Controllers. This will shift the faders and Solo/Sel buttons up by 24 (thus the faders will control faders 25-48 in SADiE).

The other three consoles that support Yamaha HUI Control will have different facilities.

O1V96

We have used the O1V96, this has some differences:

- No Pans
- Scribble strip is in the main display (Meters tab). So too are the PPM displays
- No Transports
- Data Wheel does not send MIDI messages
- No Locates
- The User Defined keys do not send MIDI. However we've programmed "Fader Mode" keys (which do) to User Keys 1-7

MACKIE & HUI CONTROL

This describes how to set up the Mackie Universal Control, but these instructions will cover any HUI controller that connects via regular MIDI connections.

INSTALLING THE MACKIE UNIVERSAL CONTROL

The Mackie Universal Control is a hardware control surface only and, unlike the Yamaha consoles, does not have any audio mixing capabilities.

The Mackie Universal Control attaches to the PC via MIDI cables (using DIN connectors). Thus you will need a MIDI interface in your PC in order to attach the Mackie.

For what it's worth, we can recommend a M-Audio Midisport 4X4 which has the advantage of being connected via USB, hence there is no need to open up the PC to install a MIDI card. In our case, we installed drivers for the MIDI interface before connecting the MIDI interface; there's no need for drivers for the Mackie Control itself.

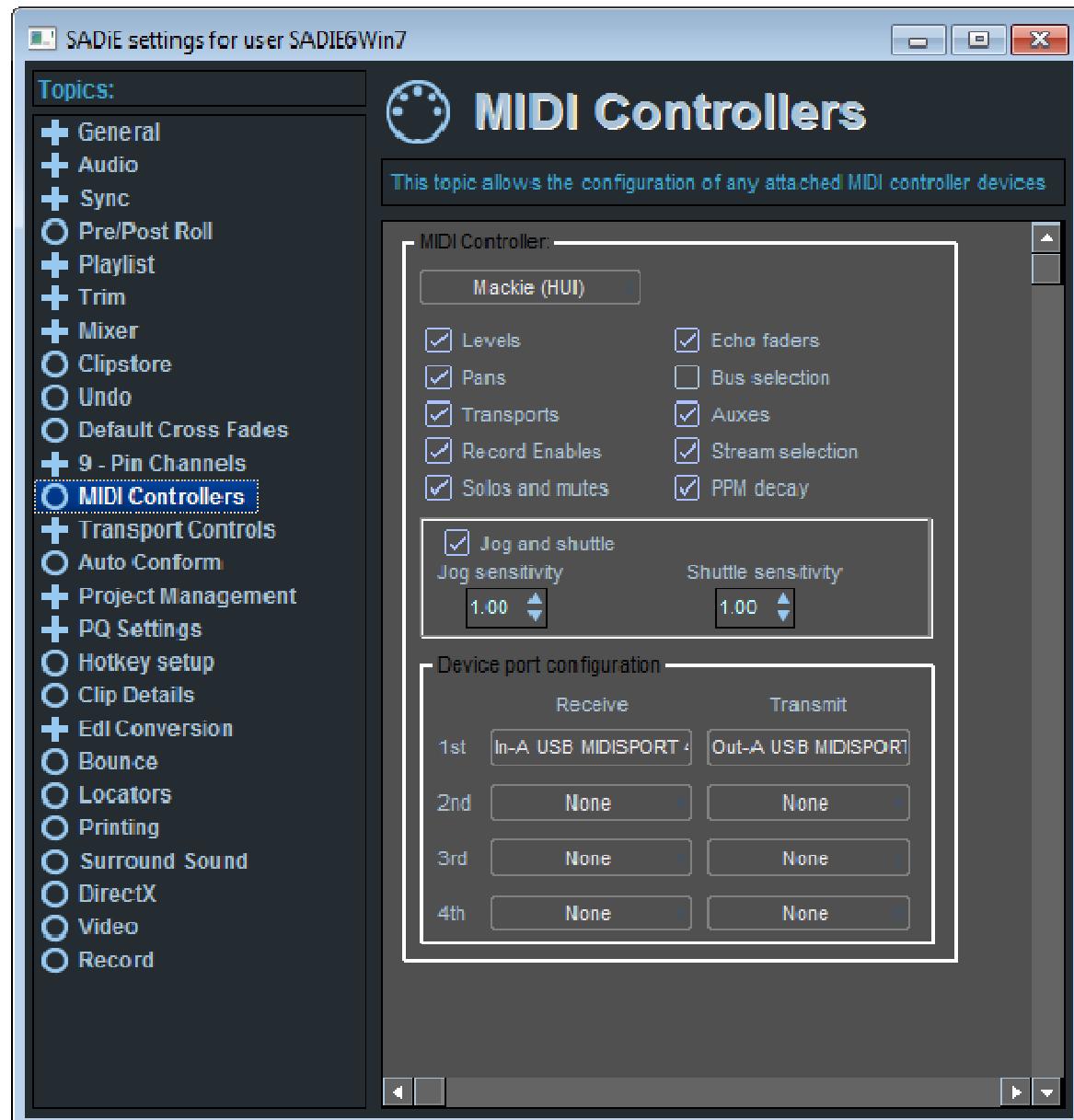
All HUI devices require a MIDI port for each set of 8 faders, thus the Universal Control will need one MIDI In and one MIDI Out, whereas for instance the SSL AWS 900 which has 24 faders, requires 3 x MIDI In and 3 x MIDI Out.

SETTING THE PROTOCOL ON THE MACKIE

The Mackie Universal Control can operate under three different protocols - "Mackie Control", "HUI", and "Logic Control"; SADiE can work with two of those - the HUI or the Mackie Control.

To set the Protocol on the Mackie,(and it's a good idea to check how this is set the first time you try it with SADiE so that you know how to set SADiE) press the Channel 1 and 2 SELECT buttons, then power up the Control. You will see a menu in the display which allows you to choose between the three protocols - press the Ch. 1 Pot for Mackie Control or the Ch4 pot for HUI.

SETTING UP SADIE TO USE THE MACKIE



Under SADiE's **View** menu, select the **Setup Window** item, and then view the **MIDI Controllers** page as above.

The top section of this window sets the Protocol, as well as setting up some of the specific controls that are available on each control surface.

For the **HUI** select **Mackie (HUI)**. This will work with the Mackie when set to HUI, or any other device that supports HUI protocol (however some devices, like the Behringer and SSL AWS 900 have their own preset).

Alternatively if your Mackie is set to **Mackie Control** tick **Mackie (Control)**.

Also you will need to set which MIDI Port(s) the Mackie Control is connected to.

As you would expect, you should connect the Mackie MIDI In to the PC's MIDI Out and vice versa.

In SADiE's MIDI Controllers setup page

1. From the drop-down list, choose the PC's MIDI In port(s) which is connected to the Mackie's Out port .
2. From the drop-down list, choose the PC's MIDI Out port(s) which is connected to the Mackie's In port .

3. Exit SADiE and re-enter to complete the setup.

MACKIE CONTROL AVAILABLE FUNCTIONS

- 8 Faders
- Solo buttons above faders
- Mute buttons above faders
- Rec/Rdy Buttons (Record enable)
- Pans and Pan displays
- “Scribble Strip” displays first few characters of the Sadie mixer strip’s input
- Stream level Metering under Scribble strip
- Transport Controls - Play, stop record etc.
- Data Wheel locates the playlist.
- User Defined keys (1-12) – these are set as “HWC F1- F12” in SADiE’s hotkey setup.
- Time Display

Also there is a hotkey inside SADiE,(and thus triggered from SADiE, although this could be mapped to a “User Key” on the console) to “Bank Toggle”. This is set under Setup\Hotkeys\MIDI Controllers. This will shift the faders and Solo/Sel buttons up by 8 (thus the faders will control faders 9-16 in SADiE).

POST TUTORIAL

POST TUTORIAL

This section will take you through simple recording and editing. You need to have already been through the [Starting SADiE](#) section above, as all the terminology used will follow the descriptions there, and it is assumed that you have started SADiE, are able to use the mouse, and have a basic understanding of Windows.

This tutorial will describe the use of SADiE running in sync, and controlling a video player via a 9-pin connection. It is assumed for the most part that you are using SADiE’s Hardware Control panels, although mouse operation will also be described.

The choice of audio material is not so important, but ideally, find some audio that is already synchronised to picture (preferably speech), along with some "wild" music and if possible some sound effects.

CONNECTIONS

You will need to connect a VTR, hopefully with 9-pin control and set up both sync and audio settings. Sync settings are described in more detail later in this manual. For now, only one possible scenario is described to keep things simple, however if your available equipment differs from that suggested, refer to the [Synchronisation](#) section.

This tutorial assumes you are working and monitoring in stereo, and operation with a single audio unit is described here.

AUDIO CONNECTIONS

You will need to listen to the SADiE, so connect outputs one and two from the breakout box to your monitoring or console.

You will need to connect some audio into SADiE. For now, connect the analogue outputs one and two of your video deck into SADiE's analogue inputs one and two on the break out box. SADiE's analogue inputs are factory set to +18 dBu on the balanced breakout box, but this may depend on your hardware configuration.

For a bit of variety, you'll need to load some music in from CD, so connect a CD player up to SADiE's Inputs three and four.

SYNC CONNECTIONS

You will need a 9-pin RS422 lead from one of SADiE's 9-pin ports on the back of the break-out box, connected to the Remote connector on the video deck. You will also need a video lead for video synchronisation; this connects to the bottom BNC connector on the SADiE's CAT card (at the back of the PC), and will be fed either from a composite output of the video deck itself, or preferably from an external synchronisation source, to which the video deck is also synchronised.

You will want to view the VTR also, so connect a video monitor.

SAMPLE RATE

It is likely that you will have a standard operating sample rate, and it's usual to be 48 kHz in many Post applications. This does cause a potential problem when you are trying to record digitally from CD, as CD is always recorded at 44.1 kHz. SADiE can play audio at differing bit rates, but cannot combine different sample rates in the same EDL. Any audio at the wrong sample rate *will* play, but it will be at the wrong speed. Thus if you are working at 48 kHz and recording from CD you will either have to record via analogue, or sample rate convert the CD on the way in; perhaps your console or other equipment in the studio can do this for you.

For the purpose of this tutorial a working sample rate of 48 kHz is assumed.

At this point it is assumed that SADiE is currently open, and you have (as was suggested in "Getting Started") created a new project called "Tutorial".

SYNC SETUP

See [Setting up Sync Details](#) and [Setting up 9-Pin Control](#) for full details.

Open up the Setup page, by selecting the "View" menu, then selecting "Setup Window".

The Setup page has several sections listed on the left hand side. Clicking on a topic in this list will show the corresponding page on the right hand side. Some pages marked with a + character have other sub-pages, which can be viewed by double-clicking on the main topic, then clicking on the sub-topic.

First click on the "9-pin Details" page:

- You have four possible 9-pin ports. If you are using a Hardware controller, this will occupy one port (usually port number one), and the Box by the side of "9-pin channel 1" will say "Hardware Controller".
- Having attached the 9-pin lead to Port number two, in this Setup page, click on the box by the side of "9-pin channel 2", and from the drop-down list choose "Sony 9-pin Master". This port will be used to control the transports of the VTR deck, and when SADiE plays, the VTR will play. Likewise SADiE and the VTR will locate and scrub together.

Next click on the Sync page of Setup:

- Choose your video frame rate.
- Tick "9-pin" in the "Timecode Type" section.
- Tick "Slave Mode" under "Sync Mode".

Now, briefly check that the 9-pin device is being controlled correctly.

CONTROLLING THE VTR



Press the **WINDOW** button repeatedly until the Playlist Window is focused. Press **ONLINE** and then press **PLAY**.

The VTR should start playing from where it is currently parked, and SADiE's Playlist will jump to that

time, and start playing (although there is nothing to play yet); the Time display will follow the VTR's time display. Press **STOP**. It stops. Now move the wheel. At this point none of the jog/shuttle/edit/mode lights on the Jog Panel should be lit. If **JOG** or **SHUTTLE** are lit (you've been jumping ahead!), then press the **SCRUB** button once or twice until they go out.

Moving the wheel should move the current time display in the Playlist, but not the VTR. Move the time forward by about 1 minute, and then press **PLAY** again. Aha - the current time jumps back to where the VTR is parked, and the VTR plays from where it left off.

So press **STOP** again, move the wheel forward by 1 minute again, and now this time press **SHIFT**, and then **PLAY**. This time the VTR will fast forward to the time at which you've just positioned SADiE's current time cursor, and then play from that point.



Mouse operation is similar. Use the on-screen transport window for transport controls (there is an **ONLINE** button to enable the 9-pin machine).

There are separate transport controls also available for 9-pin machines.

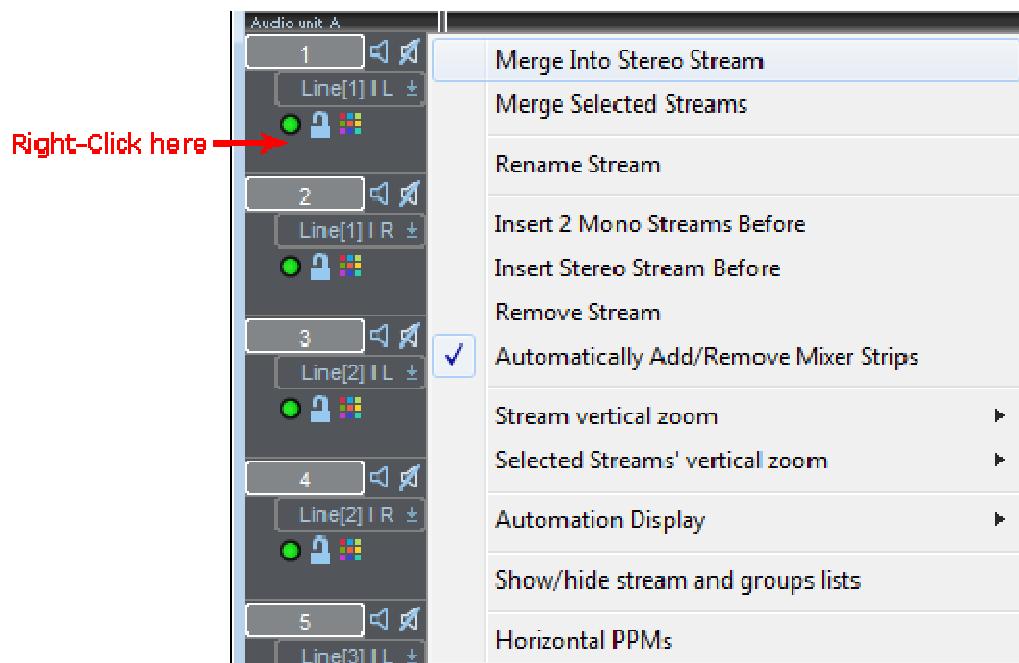
From the View menu, select Machine Control, and then from the next menu choose the device you're controlling; "9-pin ch. 2" or the name of your machine will appear.

The Machine Control Window will appear (there are [more details](#) later on). This window gives you separate remote control on the 9-pin device. Transports, and some other generic 9-pin commands are available. When this window is focused, the Hardware Controls are operating just the 9-pin machine (no need to press **ONLINE**), and you can use the **WINDOW** button to move to the Playlist to control it together with SADiE, or back to Machine Control to control it on its own.

RECORDING MATERIAL

You're going to record some audio now from the video machine.

For simplicity, all the audio for this tutorial will be stereo, so you should create a stereo Stream in the Playlist at this point. First right-click over the small Stream control buttons of Stream 1.

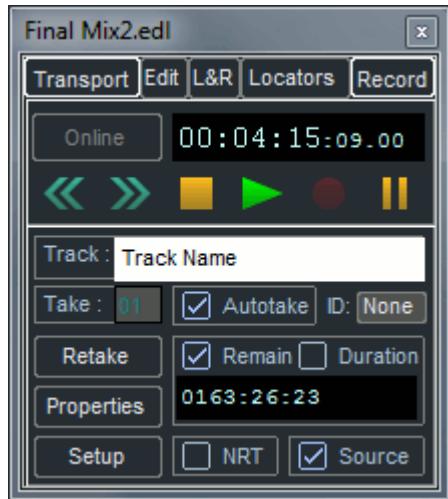


Select "Merge into Stereo Stream". Streams 1&2 will then be combined into a stereo Stream with a single set of control buttons. Now do the same on Stream 3 to merge Streams 3&4 into a stereo Stream, which will be used later.

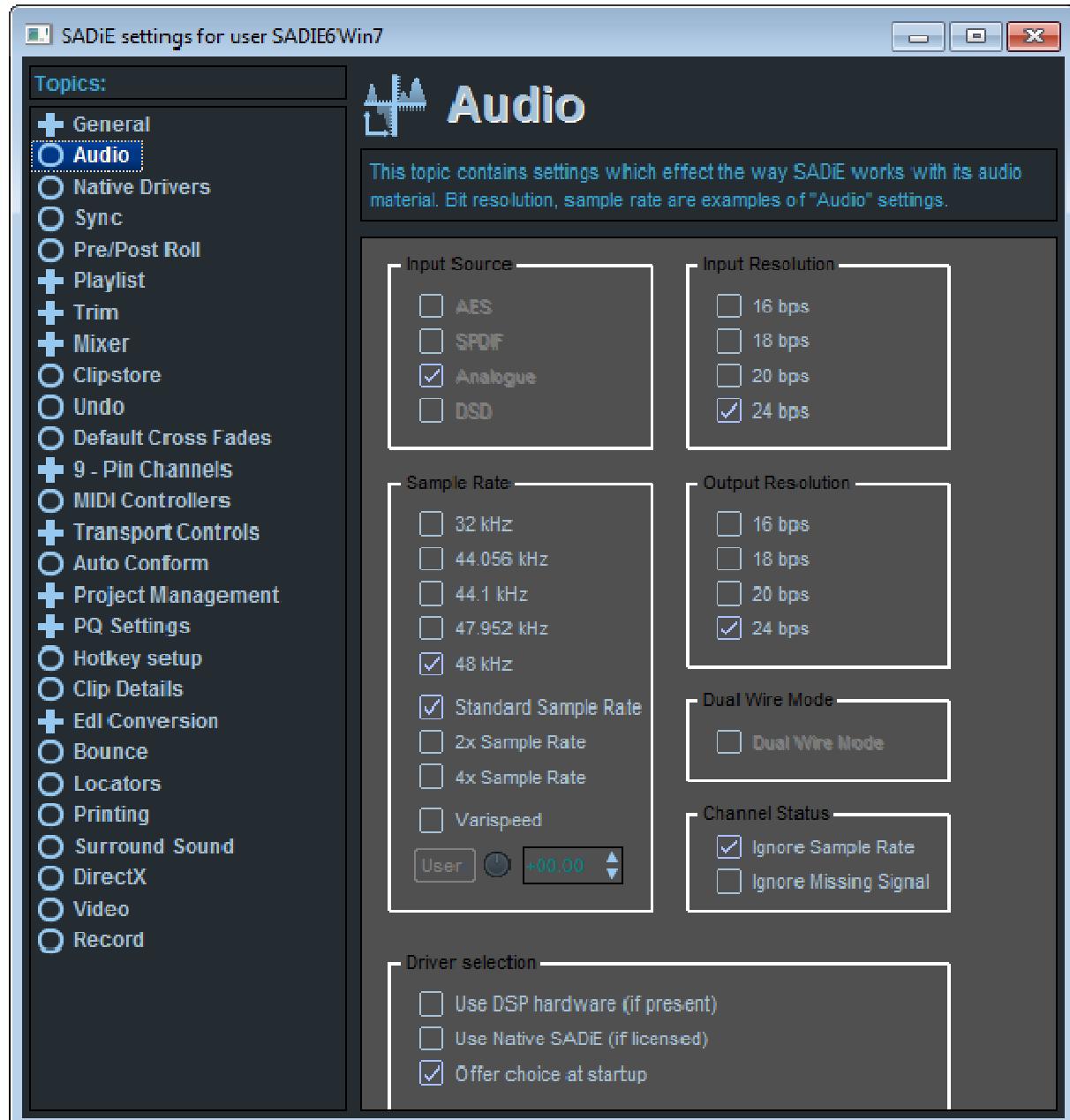
NOTE: In future you should identify mono material and save space on your audio disk by recording it as mono Tracks.

AUDIO SETUP

Open up the Record section of the Transport Controls by clicking on the Record tab.



Press **SETUP**. This will open the Audio section of SADiE's [Setup window](#).



- Select the input source appropriate to your input equipment, and the Sample Rate and input resolution appropriate to your workplace.

NOTE: If you are not sure which sample rate to use it is worth consulting your engineering staff. Choosing the wrong sample rate when recording can give you problems later on.

- Whilst in Setup, check another setting that determines how the inputs are monitored. Click on "Mixer" on the left side of the Setup window, and towards the bottom, check that "E-E on record enabled streams" is ticked.
- Close the Setup window (by clicking the close window button).

PREPARING TO RECORD



Press **SHOW ALL PROFILES** in the top left corner of the Playlist, or **F12** on the keyboard or Hardware controller to change the EDL Entries from blocks to profiles (which give a visual display of the audio); the waveform will draw as you record.

Name the Track by clicking in the Transport Controls' white name box, typing "Voice", then pressing the return key (**↵**). You can use the Backspace key to correct mistakes.

On the Record tab of the Transport Controls again, tick "Source". Input monitoring and the function of the E-E and Source options are discussed in more detail under [Monitoring the Recording](#) in the Recording chapter.

RECORDING



Press the small **RECORD-ENABLE** button on the stereo Stream 1&2 of the Playlist. This will tell SADiE to record a stereo Track and place it on those Streams.

-  With **ONLINE** enabled, press play and, as before, the VTR and SADiE's Playlist will start playing, but this time you'll hear the audio tracks of the VTR if that's what you have connected to inputs one and two. It may be necessary to adjust the level at the playback machine or mixing desk to avoid overloading SADiE's Analogue-to-Digital converters, which would produce a permanently distorted recording.

Try scrubbing (press the Hardware Controllers **SCRUB** button). Now when you turn the wheel, the VTR will jog, and you should still be hearing the audio through on the inputs. Press **SCRUB** again and now turning the wheel will shuttle the VTR. The amount of rotation of the wheel determines the speed of the VTR.

By means of scrubbing or by using the wheel (with no jog or shuttle light lit) locate the VTR to the beginning of your chosen recording and press **PLAY** (or **SHIFT** then **PLAY** if you are using the wheel in "free-run" mode).

-  The **RECORD** button will be flashing. At or before the moment you wish to start recording, press **RECORD** to start SADiE recording; you will see the time display counting.

-  Record your speech track in. When you have two or three minutes of audio, or have got too impatient to wait any longer, press the **STOP** button and stop the player. You could alternatively press **RECORD** again to stop the recording and continue the playback. If you press **RECORD** once more will punch into record again. But we only need one recording for now!

You have now recorded a Track called "Voice" and a green stereo EDL Entry with the same name will appear on the stereo Stream 1&2 of the Playlist.

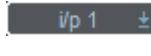
Release the **RECORD-ENABLE** button on Stream 1&2 to disable recording for now.

You can try some more playback and scrubbing in sync; you're still **ONLINE** so the VTR and SADiE are still locked.

-  Press **SHIFT** then **END**, and SADiE will locate to the beginning of this "Voice" entry. Alternatively, press "Home" on the keyboard. Press **SHIFT** then **PLAY** on the Hardware Controller, and the VTR will locate back to the start of the "Voice" entry, then start playing.

If you still have a Jog or Shuttle light lit, turning the wheel will put the VTR and SADiE into scrub. If not press **SCRUB** and turn the wheel.

You now want to record the music and sound effects. These are coming from CD (or maybe DAT) and there is a player attached to inputs three and four.

-  If you're going to carry on using the VTR as the source, then you can change the Record Source for each Stream by pressing the **INPUT** button at the left side of the stream, and choosing the appropriate input from the drop-down list.

- Enter the name "Music" for the new Track, in the Transport Window as above.
- Press **ONLINE** (to take SADiE off line)
- Press the small **RECORD-ENABLE** button on the stereo Stream 3&4.

It doesn't matter where you start recording from; this is a "wild" track and we can move it later, but perhaps you could locate the Playlist to an appropriate position, maybe 20 seconds or so before the Voice entry starts.

- Start the CD, and press the **RECORD** button.
- When the music stops, press **STOP** and stop the player again. Now you've recorded another track and there will be a second EDL Entry in the Playlist on Streams 3&4.
- Disable record on Stream 3&4, and set Streams 5&6's input to be from Input 3&4 (e.g. the CD player)
- Repeat the record process to record a third Track, naming it "SFX". It would be nice to make this recording something quite recognisable, like a single band or crash, rather than ambiance. At the end, stop both SADiE and the player.
- Finally, release the **RECORD-ENABLE** button on Stream 5&6.

PLAYING THE EDL

-  You have already created an EDL . as SADiE automatically placed Entries for each of the three Tracks in the Playlist . You can view all three by pressing the horizontal **ZOOM OUT** button a few times.
-  On the hardware controller, select **ZOOM** and adjust with the wheel.

NOTE: When zooming in and out the Playlist will always stay centred on the position of the cursor, so reposition it before zooming in, if necessary.

1. Playlist Toolbar
2. Time Bar
3. Mouse Time Display
4. Scrollbar
5. Current Time Cursor
6. Zoom Controls

LOCATING AND PLAYING

We've already seen quite a few methods of playing, locating and scrubbing the Playlist. Let's just re-cap and introduce a few other methods, using the mouse, keyboard and Hardware controllers.

Note that, because VTR's usually take a longer time to locate than a random access system like SADiE, when you are **ONLINE**, the VTR is *not* automatically located when you locate SADiE; the 9-pin locate command is sent when you press **SHIFT + PLAY**, or double-click in the Time Bar as described below. This gives you the flexibility of being able to quickly and repeatedly move through the Playlist in SADiE, without having to wait for the VTR for every move.

There are lots of ways to move around the Playlist; of course the **REWIND**, **FAST-FWD**, **STOP**, and **PLAY** buttons (both on the Hardware controller and the software screen) will do what you expect, but there are other ways of getting around in the Playlist, so try them out.

 Move the jog wheel in the console (the operation of this will depend on the status of the **JOG** switch next to the wheel). The **JOG** switch has three states, and repeatedly pressing this switch will toggle around the three states.

When the light is off, the Jog wheel moves the current time line in the Playlist freely; you could wind the wheel back so that the time line is at the beginning of an entry in the Playlist and press play to start at that time.

The next push of the **JOG** switch puts SADiE into Jog mode; moving the wheel will scrub the audio underneath the timeline at a speed determined by the speed of rotation of the wheel (and its direction). Note that the green Jog light on the console underneath the SADiE screen will be lit in this mode.

A further push of **JOG** will light the green Shuttle LED; moving the wheel will scrub the audio underneath the timeline at a fixed speed and this speed is determined by the amount and direction you've turned the wheel.

 While scrubbing quickly look at scrubbing the VTR. There's a special 9-pin control feature, which allows you toggle on/off the audible scrubbing of SADiE's Playlist, whilst still scrubbing the 9-pin device. The reason for having this function is that SADiE's audio may not be able to play at the sort of speeds that VTR's can achieve at their maximum scrub speed (which often approaches 16 or 20X).

Press **GRABTIME** on the Hardware controller while in jog or shuttle, and SADiE's audio will turn off; this is very useful for quick locating the video (and continuing to view it) if you have a fair distance to move. Press **GRABTIME** again to revert to normal picture-and-SADiE scrubbing. The name of this button does not obviously describe its function!

 Clicking with the mouse in the white area of the time bar (notice that the exact time you are pointing to is indicated by the mouse time display), will locate to that position (but *not* the 9-pin VTR yet).

Double-clicking with the mouse in the white area of the time bar will locate and start playback immediately from the selected position. When you are **ONLINE**, the mouse double click locates the VTR first. Thus double-clicking is the same as locating with the wheel, then pressing **SHIFT** then **PLAY**.

On the keyboard, you can press "Home" to jump to the beginning of the first entry, or "End" to jump to the end of the last entry.



Pressing the **PREVIOUS** or **NEXT** hardware controller buttons will select the previous (or next) entry and place the timeline at the beginning of that entry. Thus pressing these keys repeatedly will roll the timeline through each entry in turn.

You can now play back the EDL by pressing **PLAY**, (or **SHIFT** then **PLAY** when you are **ONLINE**, in order to locate the VTR first) or using the keyboard spacebar (which duplicates Play and Stop functions). Notice the current-time cursor moving left to right across the Playlist, (which will scroll automatically), and the current-time display in the Transport Controls or hardware controller reflecting the EDL time in the time bar at the top of the Playlist. Single-click anywhere in the time bar to stop playback.



To access points not currently in the window, scroll the display by using the Scrollbar along the bottom of the Playlist. You can single click or hold down the arrow buttons, or click in the bar either side of the moving box. When the system is playing back it will override scrolling in order to keep the current time in view. (Scrollbars are a standard Windows feature; see the user manual Appendix A - Windows Basics, or the Windows help file.)

Practice getting around the Playlist to play different sections. Other ways of locating to given points are covered in [Using the Playlist](#).

ARRANGING THE EDL

Set the zoom level so that all three Entries are in view. Assume for now that the piece you called "Voice" is in sync with the picture, and your task is to move the other clips to appropriate positions. Thus for now, don't move "Voice" from its sync position. There is no real purpose to the movements you are about to do except to show it can be done.

For the sake of this tutorial, it's best to take the 9-pin device off line until you wish to play anything.



Click on the Entry "Music" to select it. It will turn red. You can now drag it with the mouse to a later location in the EDL and drop it after "SFX".

NOTE: Red is a warning! After moving the selected Entry using the mouse, it is a very good idea to deselect it by clicking on a blank, grey area of a Stream, or by holding the Shift key and clicking on the selected Entry again. This keeps it safe from being moved accidentally.



You can select more than one Entry for moving by holding the Shift key whilst clicking on them, or by dragging across them with the mouse to draw out a box that covers them. Be careful not to do this on an Entry that is already selected, because you will then be moving it.

An Entry can also be moved using the cut and paste tools.



Press the **SELECT TOOLBARS** button, and then select "Paste" from the menu, to reveal the Paste toolbar.



Notice that there are a number of other toolbars that can be revealed and hidden by using this button. Your start-up desktop only shows a few of these to keep the screen tidier, but if you find you are requiring certain buttons to be on screen permanently, you can rearrange your view to suit your own style of working. (This is described further in [Toolbars](#).)



Select the entry and then press **CUT** and it will be removed from the EDL to a temporary "paste buffer".



Press **PASTE** and you can position the mouse where you want to re-insert it (the mouse pointer changes to a reel of tape) and paste it back in with a single click.



If you press **COPY** instead of **CUT**, it won't remove the Entry from the EDL, but will still copy it to the paste buffer, allowing you to paste it in somewhere else, and so repeat that section of audio.

After pasting, the Entry is still in the paste buffer, so you could paste in more copies. **CUT**, **COPY** and **PASTE** will therefore move, remove and allow you to repeat Entries in the EDL in just the same way as you would with text on a word processor.

There are other methods to try, using the mouse in conjunction with some keyboard modifiers:

1. When you hold the Ctrl. key on the keyboard, your drag-and-drop of entries will produce a **COPY** of the entry at a different time (and/or stream) location.
2. When you hold the Alt key on the keyboard, you'll find that the drag-and-drop now only allows you to move the entry up or down to another stream, and thus retains the entry's sync position.
3. Combining both of these allows you to make a copy on another stream, but at the exact same time as the original.



You've now probably made a complete mess of your Playlist , so press the **UNDO** button on the Hardware Controller (or **UNDO** on the Playlist toolbar with the mouse) a few times to get it back to the initial state. There are 50 levels of undo. **SHIFT + UNDO** (or **REDO**) is **REDO**.

These methods of arranging can also be executed using the hardware controls. There are some issues to consider; crude mouse movement of entries tends to be a little simpler because with one mouse movement you can quickly "grab" any entry you can see, but you'll find that once you're on a roll, accurate editing of the entries will be a lot faster with the Hardware controller.

ENABLING STREAMS



When you press **EDIT/SELECT** on the hardware controller, the entry directly underneath the current time will be selected in red. However, if there is more than one entry, you must also choose which Playlist stream you are pointing at. This is achieved by means of "Enabling" and "Disabling" Playlist streams. An enabled stream appears with a lighter grey background, disabled streams use a darker grey. When some streams are disabled, then the **EDIT/SELECT** button, used in this way, will select entries on the topmost enabled stream (thus if streams 1&2 are disabled, an entry on stream 3 will be selected). Enabling and disabling streams is used for other functions, but these will be discussed later.



Clicking on the stream name button  will toggle the enabled/disabled state of a stream.



Pressing the **STREAM** button on the hardware controllers will display a red border around a stream name button, which can be changed by using **PREVIOUS/NEXT** buttons or the wheel. **EDIT/SELECT** then changes an enabled stream to disabled and vice versa

Modifier keys can be used to "block" change several streams:

- Holding the Ctrl key on the keyboard, whilst clicking on a stream name button, will leave that stream enabled, whilst disabling all the others.
- With the mouse or Hardware Controller, holding shift while clicking on a stream name button (or pressing **SHIFT** then **EDIT/SELECT** whilst in Stream mode) will toggle the enabled/disabled status of all streams above that stream that have the same status. Thus with the tutorial Playlist, with all streams enabled (light grey), if you hold shift and click on Stream 5&6, then 1&2, 3&4 and 5&6 will become disabled. Press shift and click on 5&6 to re-enable them.

CUT AND PASTE WITH HARDWARE CONTROLLERS



Disable Streams 1&2, and 3&4, by pressing their respective Stream name buttons. Move the current-time cursor with the wheel so that it is over the entry "SFX". Press **EDIT/SELECT** to select the entry. It will turn red. Now press **CUT** and it will be removed from the EDL to a temporary paste

buffer. Move the cursor to a new position, after the Entry "Music" and press **PASTE**. "SFX" will be placed so that its start is at the current time. As Streams 1&2, and 3&4 are disabled, the entry is pasted back to Streams 5&6. If you disabled 5&6 before pasting, then the entry would paste to Streams 7&8 and so on.

NOTE: When hitting **EDIT/SELECT**, make sure that the **IN**, **HOT**, and **OUT** buttons above the wheel have not been pressed and lit, otherwise you will enter editing mode, which will be covered soon.

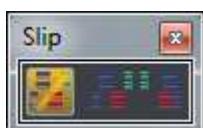


SHIFT + EDIT/SELECT will deselect the entry under the cursor or add other entries for multiple selection. Other entries can be selected with the **PREVIOUS** and **NEXT** buttons. Pressing **EDIT/SELECT** with no entries under the cursor will deselect them all. If you have the **CLIP** button selected and lit, the wheel will select entries in turn.

SLIP



Press the **SELECT TOOLBARS** button on the Playlist toolbar again and select "Slip" to reveal the Slip toolbar:



Press the first **ENABLE SLIP** button and then the third **SLIP RIGHT** button. Select an EDL Entry. When it turns red, all following Entries will turn dark blue indicating that they will move with the red one. Try it.

SLIP LEFT and **SLIP RIGHT** pre-select whether previous and/or following Entries will be slipped when **ENABLE SLIP** is pressed. This is essential when you have many Entries in the EDL and you want to open or close up gaps without disturbing previous or following edits. On other occasions you will want to move an Entry on its own and will then turn **SLIP** off.



To move an Entry to the left so that it butts up to the one before it, select it and press **REMOVE GAP**. The **SLIP** feature will apply if enabled.



Once you have pre-selected **SLIP LEFT** and/or **SLIP RIGHT** with the mouse as above, **SLIP** on the hardware controller enables/disables the feature. With **SLIP** on, you will find that cutting and pasting Entries causes Entries to the right to slip accordingly.



Use the default Hotkey - **F6** on the keyboard - to remove gaps to the left of the selected Entry.

The stream enable/disable setting determines how the Slip function works; only entries on enabled streams will be slipped. Thus be careful to disable streams that must stay in sync (e.g. Stream 1&2 in our example).

LOCK



The lock buttons on the toolbar and streams, lock streams or entries to their current EDL time. These buttons are duplicated with Hotkeys and the **LOCK** button on the Hardware Controllers.

Practice moving your entries around in the Playlist.

When you have practiced enough, leave yourself with just the three Entries in the following rough order: "Music" (on Streams 3&4), "Voice" (on Streams 1&2) then "SFX" (on Streams 5&6).

SAVING YOUR WORK

At this point, if you were doing something more exciting than this tutorial, you might have created a complex EDL arrangement, so this is a good time to save your work as a file on the computer's internal Windows hard drive.

-  Select "Save Project " from the Project menu, or press **SAVE ALL PROJECT** in the Project Window.
-  Make the Project window active with the **WINDOW** button (its the one with the green folder icon) and press the **SAVE** button. The Project window can stay minimised when you do this.

Alternatively, on the computer keyboard press Alt + P then S to use the Project menu Save command.

Saving in this way will save all the components of your "Tutorial" Project, including the EDL you have created so far.

EDITING - TOP AND TAILING

Assume that the "Voice" clip is the sync material, and that it is placed in the correct position in the Playlist already, in sync with the video it was recorded with. If sync is of no consequence to the material you've chosen then don't worry. This is just an example.

If you've made a complete muddle of your Playlist, then you can put the "Voice" clip back where it was recorded:

-  Press the **SELECT TOOLBARS** button, and then select "Autoplace" from the menu, to reveal the Autoplace toolbar.



-  Press the leftmost button **AUTOPLACE ON**, so that its cross changes to a tick.
-  Press **AUTOPLACE BY TRACK START**. Now pick the "Voice" entry up with the mouse and drop it again (anywhere) and it will snap back to its original recorded time.
-  Now turn off Autoplace, by pressing **AUTOPLACE ON** again, and then close the Autoplace toolbar by pressing the close window button  in the top right corner.

Enable only Streams 1&2 (press Ctrl and click with the mouse on its stream name button); you're only concerned with this "Voice" entry at present.

-  It will also be convenient to mute the other streams using the **MUTE** buttons on the Mixer window, or **MUTES** on the Hardware Fader Panel.

Experiment with playing the EDL and changing the horizontal and vertical zoom settings. You should be able to identify words and spaces in the Entry "Voice" as the cursor passes over them. At the moment you're most interested in the beginning and end of this clip. It is very likely that there will be some silence or background noise at the beginning that you'll want to remove.

-  Position the current time near the beginning of this entry, press **JOG** once to put the Hardware Controller into normal jog mode, and scrub the EDL until you're happy that you're as close as you need to be to the beginning of the entry.

RAZOR CUTTING

-  Press the **RAZOR** button on the hardware controller (or the **RAZOR** button on the Playlist toolbar) and the original "Voice" entry will now become two entries.



Wind the wheel backwards until it is now over the shorter entry at the beginning, press **EDIT/SELECT** to make it red, and then **CUT** will make it disappear.

That was a bit too easy really. Try another method. Press **UNDO** twice to put the beginning back to the way it was.

PLAYLIST EDITING

Position the current time near the beginning of the entry again. Now press **IN** on the hardware controller, check that the **EDL/SOURCE** button is *not* lit, and press **EDIT/SELECT**. The entry will visually change to have a red outline (to indicate that you are now in Playlist Edit Mode). Now, when you move the wheel, (in scrub or in "free-run"), the start of the clip will move, and (in scrub) you will hear the audio as the entry's new In point moves over it.

Press **PREVIEW** to hear the result of your edit.

Take this one step further. For some reason you've decided that this entry starts a bit "boldly" and would like a smooth fade into this audio. So, from the position you've left it in, now press **CROSSFADE**. Now, when you move the wheel, the graphic changes to show a ramp on the start of the entry to represent a fade in. Again preview until you're happy, switch off **CROSSFADE** and press **EDIT/SELECT** again; you have now exited Playlist edit mode, and have confirmed the changes back to the Playlist. You can switch back and forth between crossfade and In-point and you can change the zoom to give yourself a better view as well.

Press **OUT**, and **EDIT/SELECT** and you will now jump to the end of the "Voice" entry and tidy up its end.

To recap, **CUT**, **COPY** and **PASTE** allows you to delete, or move or copy clips to new positions in the Playlist. The **RAZOR** button cuts an entry into two separate entries. With **IN**, **OUT** or **HOT** selected, the **EDIT/SELECT** button puts you into Playlist Edit mode and allows fine tweaking of the beginning or end (the use of **HOT** will be discussed later) of the entry and **CROSSFADE** adjusts the fade-in or fade-out of this entry. You have been using the "EDL" mode of Playlist editing.

NOTE: All of these changes do not make any changes to the basic recording; all your editing is **NON-DESTRUCTIVE**. You are only changing the **EDIT LIST**, *not* the raw material.

After all that editing, [save the Project](#) again.

More detail on [Playlist Editing Mode](#), and its [operation with the mouse](#) is described in the Editing chapter of this manual.

EDITING THE MUSIC

Now you're going to do a slightly more complex manoeuvre. In this example, you've now decided that the music is too long, and perhaps we want to use only a couple of sections of the music.

First, unmute Streams 3&4, and mute 1&2 as you're working on the "Music" entry now. Also Enable just Streams 3&4 by Ctrl-clicking on its stream name button.

This will also enable just streams 3&4, which will be important, as you'll be doing some slipping on this music (but you don't want to slip the sync track on 1&2). Also now, turn on **SLIP** as we did above, but this time make it **SLIP BOTH** (slip left *and* right pressed, and the **SLIP** button on)

Move the current time and take a look and listen to the "Music" clip . You'll have to use some imagination, but remove some sections, then make a nice clean edit between the sections that remain.

So, by listening and scrubbing, make a **RAZOR** cut at the beginning of a section that is going to be removed. Now on the hardware controller, press **IN** and press **EDL /SOURCE**, so that the light is lit. Edge the wheel a little to the right, so that the current time is definitely positioned over the right-side entry.

Now press **EDIT/SELECT**. The entry on right side of your razor cut will go into Playlist Edit Mode, but we are now using the "source" mode for editing. This time, moving the wheel will move the whole of the edited clip through the edit point, so now the edit point is stationary and the whole entry is sliding against sync. If you move the wheel anti-clockwise, the audio will move forwards and you will be "throwing away" the audio that disappears under the In point. Or moving the wheel clockwise will move the entry in the other direction, now you will be repeating the previous section (perhaps you want to loop this section to extend it?). Using scrub, find a position that will make a nice edit (!).

You may discover that having found a decent point in the right-side entry, when you **PREVIEW**, the edit is still not perfect and perhaps you need to re-adjust the left side. You can press **PREVIOUS** and now the right side entry of this edit will go into Playlist Edit Mode, this time focusing on its Out point; **PREVIOUS** and **NEXT** toggle between viewing the Out point of the out-going (right-side) entry and the In point of the incoming (right-side) entry.

When you're happy with the first edit, do it again, later on in the "Music" piece. You may notice that on other edits, the clips previous and after the edit point will slide together (so as not to destroy the edits you've just made). This is caused by the **SLIP** function; the action of slipping an entry by using the Source mode of Playlist Editing causes the same amount of slip to happen on entries to the left and right (assuming we have **SLIP BOTH** set). Thus edits stay together.

Now you have 2 or 3 edits, and hence 3 or 4 entries comprising your music. You may want to top and tail the first and last entry too. You may have also used the Crossfade function again to smooth some these edits.

GROUPS

It may be a good idea to group these three music entries together, so that any further movement works on them all together.

Select all the "Music" entries. You can do this by dragging across them with the mouse.



Press the **SELECT TOOLBARS** button, and then select "Group" from the menu, to reveal the Group toolbar.



Press **GROUP SELECTED EDL ENTRIES**. They will be redrawn as a single block in the Playlist and can therefore be moved around together easily.



Note that you cannot use Playlist editing on group clips, and thus if you do need to tweak these edits further, you will need to ungroup the group clip, e.g. select the group then press **UNGROUP**.

Ideally your music is long enough to run all the way underneath your "Voice" clip. It doesn't matter if it doesn't; it can be "Intro" music rather than a "bed". Select all these "Music" entries with the mouse, by dragging a box around them and making them all red, then drag and drop all of them into an appropriate position. There are ways of positioning these more accurately by using Cut and Paste in conjunction with other Autoplace options, but for this is not so important; for now consider the music to be "wild".

Unmute everything to listen back to your Playlist so far. [Save the project](#) again.

To recap, the "Source" mode of editing differs from the previously described "EDL" mode in that the audio slips through a stationary edit point, whereas with EDL mode editing, it is the edit point itself that moves, and the audio remains in sync. Source mode can offer very quick and powerful editing to remove errors (umms and errs maybe) and edit music, but it does destroy the sync of the material.

SPOTTING EFFECTS

So we have a "Voice" entry on Stream 1&2 and now a set or group of edited "Music" entries on Streams 3&4. The "SFX" entry is sitting somewhere on Streams 5&6. You now want to place this sound effect at an appropriate position with respect to the rest of our audio. You can now go back **ONLINE** again, as you're going to use the picture as a reference for the positioning of this "SFX" entry.

First, tidy up the bang, or whatever "SFX" you've chosen. You can unmute everything now; the Voice track and the music may be relevant to the placement of this entry. Enable just Streams 5&6 (by Ctrl-clicking on the stream name button again), and locate close to the position of this "SFX" entry, then top and tail it using Playlist Edit to suit.

When it is tidy, exit Playlist editing mode.

Now, by using Play and/or Scrubbing the rest of the Playlist (**ONLINE** with the VTR), find the exact position that you want this "SFX" to occur, referring to the Video and the "Voice" entry.

Without moving the current time, using the mouse, drag the "SFX" entry until it is underneath the current time, close to its final position. (If you're getting good at this, you'll probably be able to see the bang from its waveform and thus be able to place it with perfect accuracy, but that would be showing off.)

-  Press **HOT** and then **SOURCE (EDL/SOURCE light lit)** and **EDIT/SELECT** to put the "SFX" entry into Playlist Editing using **HOT/SOURCE** mode. Check that you're still editing in Jog.

Now when you move the wheel, the whole edited "SFX" entry will slip in time, without changing any other In or Out edit points. Because the current time is fixed, you should be able to fine-tune the position of this bang to put it exactly in sync with your chosen position in the rest of the material.

Preview it. Sounds nice? Better oughtta save again!

CLIPSTORES

Try one more thing. Let's say that you want to use this "SFX" clip a few more times during this project . You can save this edited clip in Clipstore, so that next time you need it, it is nicely edited up and ready to drop in place.

There's a little more preparation you can do on this entry before you save it. First, with the mouse, select the edited "SFX" entry, then right-mouse-click it. Go for the Edit Entry Name option in the menu that appears. Call it "Bang" or some such other recognisable name.

Next mark a Hotspot inside the clip; this will be set as a sync marker inside (or outside if necessary) the entry, and when you re-use this entry, you can automatically place it with respect to this Hotspot-sync marker.

-  **HOT** should still be selected, and this time you'll use EDL mode (**EDL/SOURCE** light not lit), so press **EDIT/SELECT** again. This time, moving the wheel will move only a little blue vertical line within the clip; this blue line is the Hotspot. Scrub this until you're satisfied that you've marked the sync point within this "Bang", probably the point at which the "Bang" reaches its first peak, or some other recognisable point you can use for synchronisation.

Press **EDIT/SELECT** to finish editing again.

-  Now press the **COPY TO CLIPSTORE** button on the Playlist toolbar. This makes a copy of the entry, with all its edit details, into the Clipstore. Click in the Clipstore or press **WINDOW** to move to it, and you will see the new entry, "Bang".

Any Clipstore entry can dragged and dropped into the Playlist with the mouse (or Copy and Paste using hardware controller), but all the others currently in your Clipstore refer to "source tracks" e.g. original recordings, whereas the new "Bang" is an edit.

NOTE: It is worth noting that the original, unedited, Tracks that you recorded are always available in the Clipstore. Restore your Clipstore window to normal size and you will see them in a folder labelled Source Tracks. So, if you wanted to start the editing exercise all over again, you could use the original tracks out of the Clipstore.

Move on to find a new position in the existing Playlist that requires a jolly good "Bang"! Play and scrub until you've located the exact sync position for another effect.

Remember the **AUTOPLACE** toolbar? You used it above when you made a mess of our Playlist, and this helped you put the "Voice" entry back in sync. Well there are some more Autoplace options.

-  Press the **SELECT TOOLBARS** button, and then select "Autoplace" from the menu, to reveal the Autoplace toolbar.

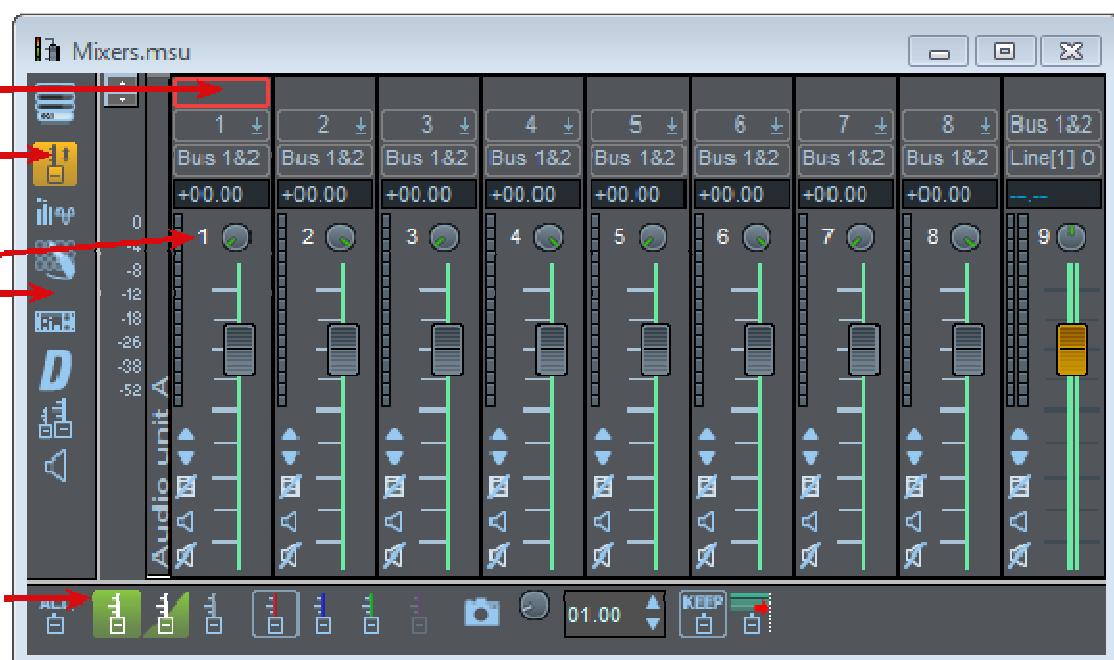


-  Press the leftmost button **AUTOPLACE ON**, so that it's cross changes to a tick.
-  This time press **AUTOPLACE HOTSPOT TO CURRENT TIME**.
-  With this Autoplace setting, view the Clipstore again. Click and hold the "Bang" clip, and drag it onto the appropriate stream (5&6 this time) in the Playlist, and wherever you drop it, it will snap so that the previous marked Hotspot jumps to the current time.
-  View the Clipstore using **WINDOW**, and Select the "Bang" clip using the wheel. Press **COPY**, then **WINDOW** to get back to the Playlist, then press **PASTE**.

Of course, if you fill up your Clipstore with appropriately pre-edited sound effects clips, then picking them and spotting them into the Playlist becomes a very quick routine.

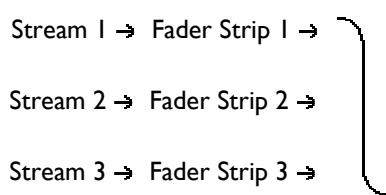
MIXING AND AUTOMATION

You've been encouraged to do a rough mix, using just the faders on the Mixer Window or Hardware Fader Panel, but let's take this just a little further.



- | | |
|----------------------|------------------------------|
| 1. Strip Input | 4. Mixer Configuration Tools |
| 2. Enable Automation | 5. Automation Tools |
| 3. Strip Number | |

The Mixer works just like a studio mixing desk with a multi-track tape machine. The default Mixer you have on screen contains a channel strip to control each Stream and two more acting as stereo masters by controlling the Mixer's internal busses one and two. So this Mixer's routing arrangement is as follows:



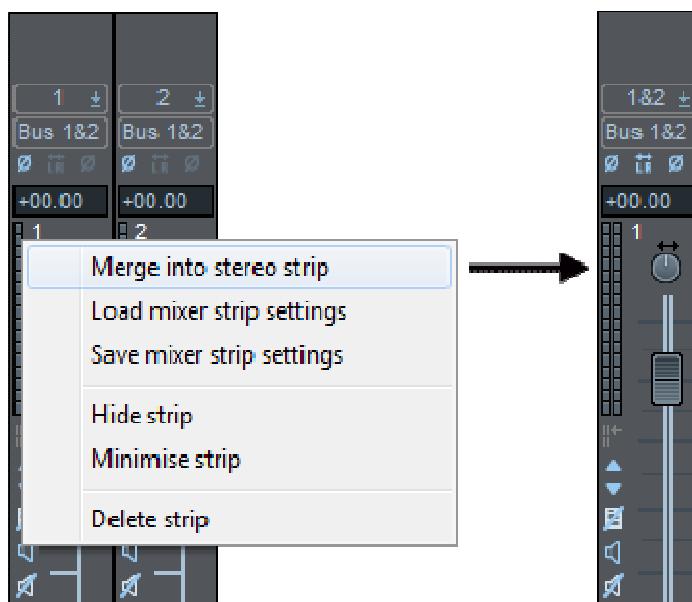
Stream 4 → Fader Strip 4 → Internal Bus 1 → Master Fader, Strip 9 → Output 1
 Stream 5 → Fader Strip 5 → Internal Bus 2 → Master Fader, Strip 10 → Output 2
 Stream 6 → Fader Strip 6 →
 Stream 7 → Fader Strip 7 →
 Stream 8 → Fader Strip 8 →

NOTE: An internal bus can be thought of as a subgroup within the mixer.



With the mouse, it is easier to have a single fader controlling both channels of audio for the stereo Entries, so let's create stereo mixer strips to go with the merged Playlist Streams:

- Right-click on Mixer strip 1, just above the fader, and select "Merge into Stereo Strip". This will combine two separate Mixer strips into a single stereo one controlling Streams 1&2.



- Repeat to merge the strips controlling Streams 3&4 into a Stereo strip. Note that the strip numbers are now different from the numbers of the Streams that they control.



If you are using hardware controllers, merging strips is perhaps less necessary as you have the added dexterity of separate fingers on separate faders. However merging streams does give you "more" faders on the panel.



Press the **ENABLE AUTOMATION** button on the Mixer configuration toolbar.



Make sure that the Mixer is the active window (coloured title bar). If not, use the **WINDOW** button. Then hit **AUTO** to enable the automation.

The automation toolbar will be added to the Mixer.



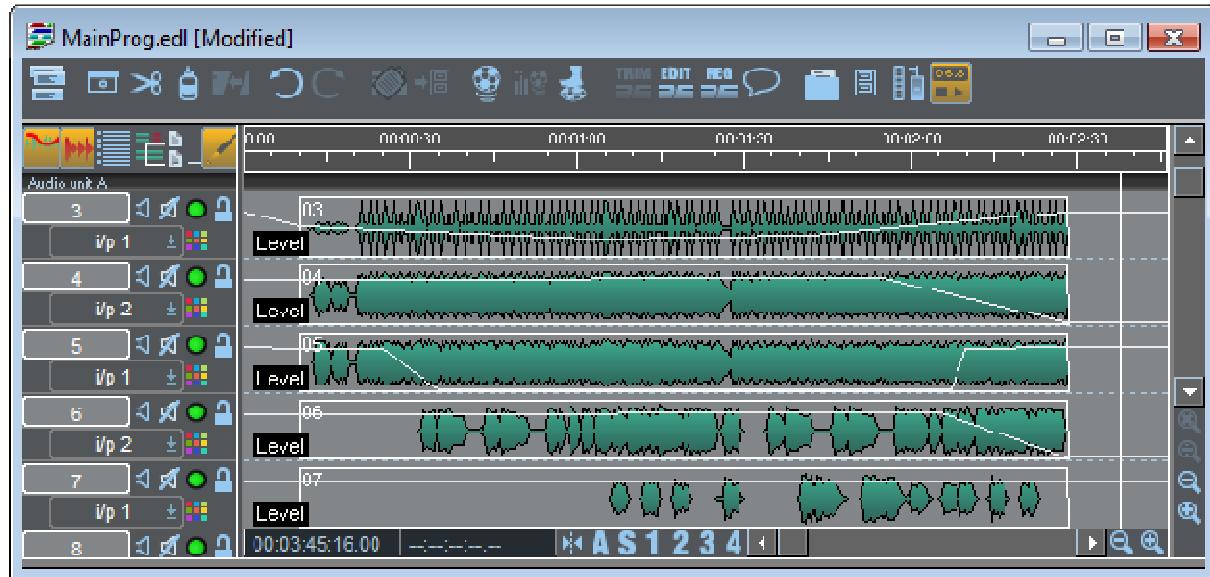
For this tutorial, make sure that the **KEEP** button is down, as this will let you try just one automation mode.

Play the Playlist from just before the start. As you see the first words of the speech coming up you can fade down the "Music" on Streams 3&4.

Play over that section again; your fader movements will be reproduced and your mix replayed.

NOTE: Because the fader movements you make are being recorded as changes to the EDL . you can use **UNDO** to go back a step and do the first mix again, or improve on it by playing it and making small adjustments.

You can view the automation moves as a line graph over the clips by focusing the Playlist (with the **WINDOW** button) and pressing **AUTO** on the Hardware controller, or by pressing  near the top left corner of the Playlist.



Go to the end of the "Voice" entry and do a mix to fade the "Music" back up again during the end of the "Voice".

When you are (reasonably) satisfied with the result, [save the Project](#) again. This will save all the components of the Project . e.g. the EDL (with its editing, Stream layout and fader automation), and the new Mixer layout.

NOTE: Each time you save the EDL within the Project, you are overwriting the previously saved version. If you want to be able to return to an earlier version of an EDL, you need to save the new one with a different name. To do this, make the Playlist active and select "Save As" from the File menu. You can then type in a different name, thus creating a second EDL within this Project.

NOTE: When you make any File command, the type of file to be opened, closed, or saved is determined by which window is active.

There is a more detailed description of [Mixer](#) functions and [Automation](#) in the Mixing and Processing chapter of this manual.

THE FINISHED PRODUCT

If you are pleased with what you have done, you can dub it onto another medium (say a DAT or 1/4" tape) by playing the EDL and recording from SADiE's (digital or analogue) outputs one and two.

If you choose to use SADiE's digital outputs, you may need to set the digital output format:

- In the menu bar, choose "View", then "Setup Window". From the list on the left, double-click on "Audio" and select "Further Audio Settings".
- In the "Output Format" section, select SPDIF or AES/EBU to match the format required by your recorder's digital input.

NOTE: The selected format is available on the XLR connector on the Breakout Panel. It is standard to use an XLR for AES/EBU and an RCA phono socket for SPDIF, and so you will need a connector converter and/or impedance match to connect to an RCA SPDIF input.

If you are very pleased with the result, you could perhaps record this back to the videotape, using the Edit controls on the [Machine Control Window](#); refer to the section in the "Specific Applications" chapter.

SHUTTING SADiE DOWN

It is important to shut down the software correctly and only turn off your computer when you have done so. If you simply turn off the power when SADiE is running, you risk losing work or even damaging the audio disk.

1. Close the SADiE main window by:
 - i. Clicking on the window close button on the right of SADiE's main window title bar, OR
 - ii. Double-clicking on the icon on the left of SADiE's main window title bar, OR
 - iii. Selecting "Exit" from the File menu, OR
 - iv. Pressing Alt + F4 on the keyboard.
2. SADiE will warn you if there are any EDL's, Clipstores, or Projects that have not been saved since they were last altered.
3. Click on the "Start" button on the Windows Taskbar, select "Shutdown" and "Yes" to shutting down the computer.
4. Windows will tell you when it is safe to turn off the power.

iXML IMPLEMENTATION CHART

SADiE v5.6 and SADiE MTR v5.6

Date: 8th January 2007

iXML v1.4

iXML Master Tag	iXML Sub Tag	Written	Read	Notes
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<PROJECT>		○	○	Project
<SCENE>		○	○	Scene
<TAKE>		○	○	Take
<TAPE>		○	○	Tape (user definable)
<CIRCLED>		○	○	Circled
<FILE_UID>		○	○	
<UBITS>		○	○	UBITS(user definable)
<NOTE>		○	○	Note (user definable)
<BEXT>		X	○	
<USER>		○	○	User (+ any non-std. fields)*

<SPEED>				
<SPEED>	<NOTE>	X	○	
<SPEED>	<MASTER_SPEED>	X	○	
<SPEED>	<CURRENT_SPEED>	X	○	

<SPEED>	<TIMECODE_FLAG>	○	○	
<SPEED>	<TIMECODE_RATE>	○	○	

<SYNC_POINT_LIST>				
<SYNC_POINT>	<SYNC_POINT_TYPE>	X	○	
<SYNC_POINT>	<SYNC_POINT_FUNCTION>	X	○	
<SYNC_POINT>	<SYNC_POINT_COMMENT>	X	○	
<SYNC_POINT>	<SYNC_POINT_LOW>	X	○	
<SYNC_POINT>	<SYNC_POINT_HIGH>	X	○	
<SYNC_POINT>	<SYNC_POINT_EVENT_DURATION>	X	○	

<HISTORY>				
<HISTORY>	<ORIGINAL_FILENAME>	○	○	
<HISTORY>	<PARENT_FILENAME>	X	○	
<HISTORY>	<PARENT_UID>	X	○	

<FILE_SET>				
<FILE_SET>	<TOTAL_FILES>	○	○	
<FILE_SET>	<FAMILY_UID>	○	○	
<FILE_SET>	<FAMILY_NAME>	X	○	
<FILE_SET>	<FILE_SET_INDEX>	○	○	

<TRACK_LIST>				
<TRACK_LIST>	<TRACK_COUNT>	○	○	
<TRACK_LIST>	<CHANNEL_INDEX>	○	○	
<TRACK_LIST>	<INTERLEAVE_INDEX>	○	○	
<TRACK_LIST>	<NAME>	○	○	
<TRACK_LIST>	<FUNCTION>	X	○	

○=YES, X=NO

* SADiE allows custom metadata fields to be created; any that are non-standard titles are added to the USER field.

PERFORMANCE CONSIDERATIONS WHEN RECORDING

Type topic text here.

SADiE5 & BB2 INTERCHANGE USING REMOVABLE DRIVES.

REMOVABLE DRIVES

By “Removable drives” we mean Firewire or USB2 drives, but this may include SCSI drives. When you are removing and re-attaching removable drives, they MUST be removed and re-logged in software first. (Details for this are in the Help file – search the Index for “Removable Drives”). If you remove the drive without first removing it in software, you are seriously endangering the integrity of the data on those drives.

COMPATIBILITY

To ensure the best compatibility between SADiE5 and BB2 you should be running the same version and build number. You can see this from the software “Help” menu under “About SADiE5” or “About SADiE BB2”.

As a rule of thumb, BB2 work can be moved to SADiE5, but the reverse is not necessarily true. BB2 has a subset of the SADiE5 feature set, and so work created in SADiE5 may use features that are not available in BB2. You can usually open SADiE5 work on the BB2, however features may be missing or unavailable.

SADiE5 PROJECTS

SADiE5 **Project Component** files (in this example called “NAME”) consists of:

NAME.prj	the project file which saves the locations of all the other component files
NAME.cls	the clipstore
NAME.edl	the Playlist or EDL (Edit Decision List) file where edits are performed
NAME.msu	the mixer.

These files are generally small. These (along with extra EDLs, clipstores, & mixers associated with the project if you so wish) will be stored in the “Project Component directory” – by default this is directory is

C:\Projects\NAME

However it's possible to change this directory under View Menu/ Setup/ Project Management / “Default root directory in which to create new projects”.

Thus for instance if you set this to be **d:\sadie**, then the Project called “NAME” will create and save its components in **d:\sadie\NAME**.

The **Project Audio** directory may be in a different place (and will be by default). Because the audio files are the bulkiest part of any project, there are good reasons to treat them in a different way – for instance in a different scenario from this you may choose to network the smaller Component files, but move the larger audio files on removable drives.

There is no default location for the Audio directory as this will depend on the system configuration.

To set the Project Audio directory, you will first need to set a “**Record Destination**”. Similar to the “*Default root directory in which to create new projects*” above, the Record Destination could be described as the “*Default Root directory in which audio will be recorded*”. Thus the audio for a project called “NAME” will be in the \NAME sub-directory of the Record Destination.

HOWEVER, before we go into any more detail on setting this Record Destination, we will move on briefly – SADiE has a setting which can automatically over-ride the Rec. Dest. and always record audio to Removable drives. For the purpose of this particular scenario, this setup option will work very well, and so there is no need to further discuss Record Destinations.

BB2 PROJECTS

BB2 “projects” are a little simplified in comparison to SADiE5 projects. They do not have a PRJ file at all, and all SADiE BB2 work is stored in a .EDL file. There are no mixers and no clipstores.

When you create a new “project” in BB2 (File menu / New), the box above will appear. In this example:-

The BB2 playlist is a file called “Playlist.edl”

And this file is stored in the location “c:\BB2 Projects\Playlist” thus its full name and location is:

c:\BB2 Projects\Playlist\Playlist.edl

Using the browse button on this dialog is a little like setting a “Default Root”. If you use this browse button to set a new location, your “Default Root” will stay in that location until you change it again. Normally, you will set that location once, and create new BB2 projects in sub directories of this same location by merely typing a new Project name.

Any files that are in the same directory as your EDL, will be deemed to “belong” to that same project, and so if you have other EDLs in that same directory, they will appear in the box at the bottom left hand corner of the BB2 screen, underneath the Source Tracks Folder. You will find that if you choose “File menu / New” to make a new EDL while you have one already open, you will be asked if you want to add the new EDL to the current project – this just means that it will make the new EDL in the same location and “project folder”.

HOW TO GET A BB2 PROJECT INTO SADiE5

Remember that a BB2 project is not really a “PRJ” file, but it’s an EDL with associated files.

A simple way to open the BB2 EDL is to create a new SADiE5 project and import the BB2 EDL.

However, we can make this all easier by keeping files in the same location, and setting SADiE5’s default file locations to be the same as the BB2’s.

REMOVABLE DRIVES

The scenario under discussion here uses removable drives, and thus the most sensible thing would be to put the components for each project - i.e. EDLs, PRJ files etc. - in the same place as the audio files, and all on the removable drive. And if we can force the removable drive to the same letter on every system, then all the files that are linked – (i.e. an EDL contains references to the full path and location of all its audio files) will be found in the same place on every SADiE system.

However, Windows itself tends to give removable drives slightly random letters – for instance it could appear at E: on one system and G: on the next. Sometimes even it may first appear at E: and then the next time it’s presented to the SAME PC, it could be moved for various reasons. This can have a number of knock-on effects – where letters are mapped to network drives, it’s possible that a removable drive could block a network map if they are using the same letter.

Thankfully, SADiE has a routine to smooth over these problems, and can be set to ensure that removable drives only appear on certain letters. This, along with the SADiE5 function to “**Always record to removable drives**” means that we can force a drive to always appear at , for instance E:, and then set SADiE to always use that drive.

STEP BY STEP

Set the removable drive letter. This function is available on both BB2 and SADiE5. Set this to be the same on every system. In this example, I will assume only one removable drive will ever be attached at the same time, but if you need more, then setup more letters.

I. Open SADiE Removable Disk Admin. First close SADiE or SADiE BB2. Then go to the **Start** button; **All Programs; SADiE5** (or SADiE BB2); select **Removable Disk Admin**

Something like the above dialog appears. This first window is information only.

2. From the File menu select Settings

The above window will appear.

We need to choose:-

A letter (or letters). Use the drop down list(s) from left to right to choose a letter. Let's go for **E:** in this example, assuming that nothing else (fixed drive ? CD ?) is currently on E:

Apply to – are you going to be using SCSI, Firewire or USB drives – tick the type(s) you're using.

Automatically re-assign drive letters. Ticking this turns the letter re-assigning function on. When a removable drive is seen, it will always (in our example) be pushed to letter E:

Tick "Automatically Generate Drive list" (it doesn't really matter).

OK.

3. **Exit** Removable Disk Admin (File menu **Exit**)

4. Do the same on every SADiE and BB2 PC (the same Removable Disk Admin application is available on both). In particular, make sure that the same drive letters are used on each PC (thus pick a letter that doesn't conflict on any of the PCs)

Set the Project Component Default Root on every system

ON BB2 SYSTEMS

5. Attach a removable drive.

6. Wait briefly for it to install itself.

7. **Open BB2** software

8. Go to the **File** menu, **New**

9. Press **Browse**. Click on the **Save In** drop down list and navigate to **E:**. Press **Save**.

10. Now type a name into "Project Name". Anything will do – you have to go through the process of making a project folder and EDL to set the new Default Root, and so you may want to delete this "temporary" project later.

11. Close that EDL

12. Just check that when you make a new BB2 project (File , New), the text in the New Project dialog box looks like this:-

ON SADiE5 SYSTEMS

5. Attach a removable drive.

6. Wait briefly for it to install itself.

7. **Open SADiE5** software. Don't open a project – press the X button in the top right corner of the Open Project Dialog.

8. Select the **View** menu, and choose **Setup**. Select the **Project Management** topic from the list on the left side.

9. Press **Browse** and navigate to the E: disk drive in the "Look In" list (which will be the removable drive that you just connected) and press OK. The white text box under "Default root directory in which to create new projects" should now say "e:\\"

10. Tick "**Record to removable drives only**".

11. Just check that when you make a new SADiE5 project (Project, New Project), the text in the New Project dialog box looks like this:-

Good.

USER SETTINGS

Windows log-ons on the BB2 and SADiE username log-ins on SADiE5 each have their own user settings. Thus, for every Windows log-in on a BB2 system, you will need to change the above settings, and likewise log-on as every SADiE user on the SADiE5 systems and change the settings as above.

DIRECTORIES

When you are using the “**Record to removable drives only**” option and you want the audio and project components to be in the same place, you must make sure that you set your project root to be in the root directory of a drive.

OPENING A BB2 PROJECT ON THE SADiE5

You will need a software version SADiE and BB2 v5.3.5 or higher to take advantage of the following facility. This can be downloaded from www.sadie.com.

When you show the **Open Project** dialog in SADiE5 this dialog lists all the directories in (in our example) E: that have a PRJ file inside, and ALSO, it will list all the directories that have just a EDL file inside. Directories with a PRJ will show a 5 icon to show they are SADiE5 projects, and the ones with just EDLs will show the blue BB2 icon to show they are BB2 projects.

On choosing a BB2 project to open, a SADiE5 PRJ will be made in the directory; any EDLs in that directory will be imported into this PRJ and the most recent EDL will be opened. A default mixer and clipstore will be made for the PRJ (you may want to set up a mixer template in the SADiE5s to suit the BB2 EDLs). Thereafter, the existence of the PRJ file in this directory will mark it as a SADiE5 project and not a BB2 project.

OPENING A SADiE5 PROJECT ON THE BB2

Quite a few functions in a SADiE5 EDL will not work in the BB2, but any EDL should open – use File, Open and navigate to the correct EDL.

Automation cannot work – if you open an EDL in BB2 and resave it, then the automation will not be effected, but as soon as you start editing, it’s quite possible that any existing automation will change. New clips will have no automation or the wrong automation when it’s taken back into SADiE5.

Mixer functions will not transfer to BB2, PQ marks, & video will not transfer. Any EDLs with more than 8 streams will have the higher numbered streams removed, and so you will lose these when they are saved in BB2.

When you “Save As” an EDL in BB2 to the same project directory, if you return the project to SADiE5 the original SADiE5 PRJ file will not have changed and thus any “new” EDLs will not be automatically associated with the project. However once you’re in SADiE5, you can use “Import Component” from the Project menu to pull these into the project.

Also, watch out, if for instance you are in the habit of using “Saving As” and incrementing a number on the EDL name to make a new version. If the SADiE5 PRJ was closed with, say NAME3 as the auto-opened EDL, and you proceed to Save As NAME4, 5, and 6, with 6 being the most current; when you open the PRJ again in SADiE5, it will be NAME3 that opens as you left it, and not NAME6 which is your most current.

On opening a project that has been through SADiE5, then BB2 then back to SADiE5, be sure to first import any new components found in the project directory.

End.

NETWORKING SADiES IN A SMALL WORKGROUP

OVERVIEW

There are many ways of networking computers, and different installations will have different requirements in terms of work-flow, storage and numbers & expertise of users.

This document describes a relatively simple method for linking a small number of SADiE systems with a simple Windows based peer-to-peer workgroup network. No dedicated File servers are used (although this method could be extended to include a server).

We are assuming that there will perhaps be some “hot-desking” – the systems are to be shared by several users who will not always be able to guarantee to get the same machine every time.

We are also assuming that all the systems are full SADiE5 systems; if any BB2 based systems are to be integrated into this scheme, the “BB2-SADiE5 interchange” document explains how to set up file locations for BB2 and how to move projects between SADiE5 and BB2 systems.

There are a number of elements which will need to be set up:-

- The Windows Network; drive shares and mapping; Windows user profiles and log-ins.
- The Sadie User database and settings.
- Locations for the SADiE Projects.
- Locations for the Audio recordings.

We are only aiming to describe the SADiE setup in this document, and there is no detail on how to configure a Windows network – refer to Windows’ own documentation.

THE NETWORK

The network will be a basic Windows XP Pro based workgroup network, using 10/100 or 1Gb Ethernet interfaces in the computers, connected through a stand alone hub/switch.

Security is up to the network administrator, but all the SADiEs will require read and write access to each others drives. However, without having a Server or Domain controller, security and Windows’ user profiles are really just an extra complication that would be better avoided. If you’re going to add a Server, then this may change the scenario.

So, for now we shall assume that each SADiE is running with a single Windows User – this could be an Administrator, but that’s not necessary as long as the User has read-write access to the appropriate drives.

For the purposes of this document, we shall assume that each SADiE system has two hard drives:-

- the C: system drive is used purely for the operating system and programs;
- the D: drive will be used to store audio and SADiE project information.
- It’s likely that each system will have a CD writer, let’s assume this is on letter E: or Z:

Also for the purposes of this document, we shall assume this setup involves 3 SADiE systems, and we shall give each of these a “friendly” name for convenience:

FRED

GEOFF

HERBERT

The drives will be configured and mapped in each system as follows:-

FRED	drive letter	
	C:	System drive
	D:	Fred’s audio drive, shared read/write as “FredAudio”
	E:	CD writer

	G:	\George\GeorgeAudio mapped to letter G:
	H:	\Herbert\HerbertAudio mapped to letter H:
GEORGE	drive letter	
	C:	System drive
	D:	George's audio drive, shared read/write as "GeorgeAudio"
	E:	CD writer
	F:	\Fred\FredAudio mapped to letter F:
	H:	\Herbert\HerbertAudio mapped to letter H:
HERBERT	drive letter	
	C:	System drive
	D:	Herbert's audio drive, shared read/write as "HerbertAudio"
	E:	CD writer
	F:	\Fred\FredAudio mapped to letter F:
	G:	\George\GeorgeAudio mapped to letter G:

NOTE that in all cases, we are sharing the **ROOT** directory of all three **D: drives**.

We will be using the “Fred” system as a file server for the SADiE user database and the project component files. This will use a small amount of PC resource, but it will mean that if the Fred machine is switched off, then all the systems will not be able to run SADiE.

SADiE USER MANAGEMENT

NOTE Since SADiE v5.5, to use SADiE User Management, all systems have to be set to use this during installation, rather than Windows Username for “Operating Mode”. Alternatively User’s settings can be controlled by settings up Windows Roaming Profiles. See [User Management](#) above for more details.

Under the SADiE User Management scenario in this example we shall have no Windows User log-ins, but we can utilise **SADiE** user log-ins in order to offer different SADiE settings and hotkeys to each user, and so that a user may change his/her own settings without effecting other users.

The aim is to centralise SADiE's user database so that every user can go to any SADiE unit and pick up the same settings wherever they log in.

It would be possible to run every SADiE system with the same SADiE User log-in name and thus ignore these benefits. But if the user names are the same on every system, then there may be a danger that SADiE will allow a project that is already open to be opened on more than one system, which is potentially very dangerous.

Thus if you plan to run without SADiE user management, stick with the default location for the user database (which would be on each system's C: drive), but make sure that each system is running with a different user name – i.e. call the SADiE user: Fred, George and Herbert respectively.

However

TO CENTRALISE SADiE'S USER MANAGEMENT

Start with the **Fred** machine.

- **Open SADiE User Management** from :- Start button; All Programs; SADiE ; User Management
- **Log In** with the Super-System-Administrator name – by default this will be either admin or sadie with no password.
- Press the **Change...** button below “**Current User Database**” and navigate by using My Network Places to \\Fred\FredAudio, & create a new directory called “**SADiEUsers**”. Go into that directory and click **OK**.
You will be told that “.....the user database doesn't exist and would you like to create one....” – click **Yes**.
In this instance this location is actually on “Fred's” internal D: drive, but it's important to use the network UNC path to set the location of the user database and NOT the D: drive – this location will exist as \\Fred\FredAudio\SADiEUsers\sadie3.udb from every PC this way.
- On pressing OK for a new user database, a message will appear saying that “....because a different User Database has been chosen the application will close....” Let it close. Then open up User Management again.
- Do the same for the “**Current User Settings Directory**” – navigate to \\Fred\FredAudio\SADiEUsers\ and press OK – a \settings directory will be created.
This will be where the *USERNAME.INI* files will be saved. Once again, use “My Network Places” to set this as a UNC path and not via the D: drive.

At this point, you could add an entry for every user. If users are to be allowed full access to every project, then they should be setup as System Administrators. Otherwise, normal Users can only open projects which they themselves have created.

Users do not need to have passwords set, and once logged in the user is able to change his/her own password within SADiE.

If you are migrating from a non networked SADiE setup, you could also copy (and rename appropriately) any *USERNAME.INI* files from the other machines into the \settings directory that you've just made. The INI file used will need to be named exactly the same as the username.

- Repeat the above procedure for changing the **User Database** and the **User Settings Directory** for both **George** and **Herbert**, pointing both of them at the newly created user database and settings directories on \\Fred\FredAudio\SADiEUsers\. Again make sure to set these via “My Network Places” NOT the F: drive.

SET THE PROJECT LOCATION

SADiE has a setting for where it stores the “Project Component” files – these are the Playlists, mixers and clipstores, but not audio files. The idea being that the smaller Project files can be stored centrally, but the larger audio files can be stored on local hard disks. This puts a lesser burden on the network. It is possible to store the audio centrally as well; however you would need a central server for this, which is outside the scope of this scheme.

It also means that the single file that opens all the referenced files – i.e. the Project file itself, is in a single location and is easy to find.

The default “Project Root” is C:\projects (but we will be changing this). What we mean by “Project Root” is that all projects are created in this directory – thus when you make a project called i.e. “prjname” then prjname.prj, prjname.edl, prjname.cls, and prjname.msu (the Project, Playlist, Clipstore and Mixer files respectively) are created inside the c:\projects\prjname directory.

So, you will need to change EVERY user’s settings to point to a central location. Once again we will be using a **UNC path** and not a drive letter, so that the location is the same on every machine.

- Open SADiE as “**USERNAME**”
- Don’t load a project for now, just press the cross in the top right corner of the Project Startup dialog.
- From the **View** menu, select **Setup Window...**
- Click on **Project Management**
- Next to **Default Root directory in which to create new projects** press **Browse**.
- By navigating through “My Network Places” set the Path to be \\Fred\FredAudio\Projects\. (you may have to create a new “Projects” directory)
- Exit SADiE and **repeat this for every user**. If there are very many users and this is an initial setup (i.e. settings files are “fresh” anyway), it may be easier to set this in one settings file (this setting is saved inside the **USERNAME.INI** file in our \\Fred\FredAudio\SADiEUsers\Settings directory) and copy and rename this to create settings files for each user.

A possible customisation would be to set every user to use a different Project Root, perhaps using his/her own name. So for instance a user “barry” would have his project root set as \\Fred\FredAudio\Projects\barry. That way, when he chooses “Open Project” he will be shown only his own projects and not those of the whole workgroup. It’s still possible to *Browse* to a different user’s projects and open them (assuming Barry has sufficient SADiE user rights). However if there is much co-operation between users then this adds an extra level of difficulty in finding and opening projects.

SET AN AUDIO RECORD DESTINATION

We will record new audio on each system’s D: drive. In a similar way to the Projects, we will set an “Audio Root” although this is called a “Record Destination” for audio. Unlike Projects, Record Destinations are set for each system, and are not saved per user.

So for each SADiE:

- Open SADiE, the user name is irrelevant.
- From the **File** menu, select **Disk Management**.
- In Disk Management, double-click on **My Computer** to open it, then double click on the D: drive.
- Create a new directory on the D: drive (if it doesn’t already exist) called “Audio” by right mouse clicking on **d:** and select **Create New Directory** and naming it.
- Right mouse click on this new “Audio” folder and choose **Set as record destination**.
- While you’re in Disk Manager, we should check that D:/Audio is the only Record Destination – Double-click on **Record Destinations**, and there will be an entry for D:/Audio. If there are any others, right-mouse-click on them and choose **Unlog drive**.

Every new project called i.e. prjname, will now record new audio into D:/Audio\prjname, which is considered to be the Project’s “home” directory.

It’s not possible under this scheme to segregate audio into separate user’s sub directories.

WORKING WITH THE NETWORK

Each User will log onto SADiE with their username and thus load their own settings (stored as \\Fred\FredAudio\SADiEUsers\Settings\username.INI)

They will create a project, which will be stored as \\Fred\FredAudio\Projects\prjname\prjname.prj

When they record audio it will be stored in the folder **d:/Audio/prjname** i.e the *local* drive of the system he/she is working on.

Perhaps at a later date, the user will continue the project, but this time on a different SADiE system.

Once again, he/she will log on with his/her own user name.

On loading the user's settings, the SADiE will offer this project as the last one that was being worked with, and so he/she opens up this project.

The project files continue to be saved to \\Fred\FredAudio\Projects\prjname\prjname.prj

However the audio files are no longer found on the system's D:\Audio directory, because the user is on a different system. Perhaps the audio is actually now on H:\Audio\prjname. This is OK. If SADiE doesn't find audio files, it will search each other lettered drive at the same relative location, and thus the EDLs will now be linked to audio on the remote drive. (This is why it's important to share the ROOT directory of each D: drive; so that by substituting a new letter, SADiE will automatically find the audio)

As time goes on, it's possible that the audio for this project may be spread around all three SADiE systems – that's OK; on loading the project, SADiE will find the audio in the obvious places.

BACKING-UP A PROJECT

SADiE has its own regimes for backing up to storage and tape drives, however cannot write a CD-ROM or DVD-ROM directly. But all PCs equipped with CD or DVD writers have some kind of software to write CDs or DVDs, and thus it may be simplest to back-up the project outside SADiE.

To make this simpler SADiE has a couple of extra facilities to make sure that all the project's files are in the same place.

1. **Copy non-project audio locally** This is an option on a right-mouse click menu in the Clipstore. Audio that is not in the current Project Home directory will be copied over, and all the EDLs and clipstores will be re-linked to the new local copies of these files as opposed to the remote versions. Note that in the scenario we're discussing, the remote copies of the files are not deleted.

2. **Backup Project Components** this is an option in the Project menu, choose Backup project, and then "Backup project components to the audio drive". This "zips" all the project components into a single file with the name "prjname.api" and puts it into the Project's Home audio directory. To "unzip" this file later, you would use the "Restore Project components" option in the Project menu.

Thus these two together make sure that all the audio is in one place, and that there is a copy of the Project files in that one directory.

Then all you need to do is to copy the single directory to a CD or DVD using a Windows based CD writing software application.

KEEPING IT TIDY

Once the project is backed up you will probably want to delete all the separate Audio directories – SADiE's own "Delete Project" regime will not delete every audio folder under this particular scenario.

A sensible backup regime is the key to ensuring that your audio disks remain tidy – if you can be sure that users are backing up their work on a regular basis, then it's going to be an easier decision as to whether to delete audio folders on a regular basis.

TURNING OFF THE SADIE SYSTEMS

Most networks rely on any servers staying running permanently. In this scenario, Fred is the server for projects and users – turning off Fred will deny all other users access to their projects. Don't turn the server off !

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