BB2

Portable 2-channel SADiE

series 5

SADiE

SADiE BB2 User Manual

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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.

Please take a little time to read this reference; it will pay off in time saved later.

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

MOVING AROUND THE HELP FILE

Words that are yellow and underlined contain jumps to other topics, pop-up information, and hyperlinks to the Internet.

To navigate around the help file, use the "Next" and "Previous" arrow buttons at the top of the window to turn the pages of the chapter.

Throughout the help file the following symbols have been used:

Where a specified function is available as a keyboard "Hotkey".

Where a function is available on the BB2J if present.

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 click.
Double-Click	Press and release the left mouse button twice in quick succession.
Right-Click	Press and release the right mouse button once.
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.

The computer keyboard is used for typing in names, and for Hotkeys, which are useful shortcuts to many functions. There are also modifier keys on the keyboard, used in conjunction with Hotkeys. These are 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.

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Prism Media Products Ltd, The Old School, Stretham, Ely, Cambridgeshire, CB6 3LD, United Kingdom.

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GETTING STARTED

DIGITAL AUDIO EDITING

Sound waves in analogue audio can be represented by a varying electrical signal. This can be stored on tape as a varying magnetic image and on vinyl as physical variations in the wall of the groove. With digital audio, this signal is sampled very frequently, and converted to a stream of numbers. These numbers are kept in binary form (consisting of only ones and zeroes), which can be stored on a computer hard disk and is in a form that can be manipulated by computer software. These numbers can later be re-converted to recreate the analogue wave form.

In SADiE™, the software can achieve complex editing operations by telling the computer to find and play back different sections of the audio on the hard disk at different times. This has the effect of cutting sections out, varying the running order and mixing sections together, whilst the source material recorded on the hard disks actually remains unchanged; it is only the instructions for replaying it that are altered. The great advantage of this is that edits can always be undone and many different versions of the same edit can be produced (hence the term "non-destructive editing").
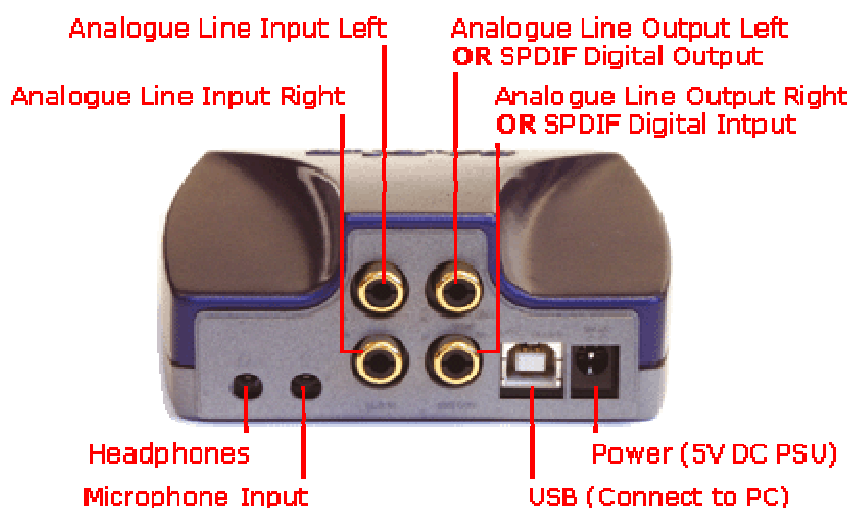
THE SADIE SYSTEM

A SADiE system will comprise a host computer (which displays the user interface on a monitor and tells the system what you want it to do), running the SADiE software, and a separate BB2 audio unit, appropriate to the system you have bought, and containing Digital Signal Processing (DSP) chips.

The DSP chips are dedicated to manipulating the audio to professional standards, leaving the host computer's power free to handle the control and display functions of the interface. The Software is modelled on the familiar studio concepts of a tape machine, razor blade, etc. Just like a tape recorder, the system has inputs for recording material in and outputs for playing it out again. The difference is you can do a lot more with it while it is in SADiE.

> Please note that the BB2 and BB2J both require connection to the host PC via a fast **USB2** port. A standard USB port (which has the same connector) will not work - you should ensure you are using a fast port before you start to install the SADiE hardware.

CONNECTING THE BB2

Analogue Line Input Left
Analogue Line Input Right
Analogue Line Output Left OR SPDIF Digital Output
Analogue Line Output Right OR SPDIF Digital Intput
Headphones
Microphone Input
USB (Connect to PC)
Power (5V DC PSU)

Your BB2 should come with a USB2 (A to B) cable, and a 5V DC power supply (PSU), with a mains plug appropriate to your geographical location.

> NOTE: The BB2 unit is a fragile piece of precision equipment and should be handled with care to ensure good working order is maintained. If you have a BB2J the buttons require only the lightest of touches to operate.

Your USB2 cable will have an "A" type end and a "B" type end.

USB "A" Type connector   USB "B" Type connector

1. Connect the Power Supply to the BB2 unit, and plug in to an appropriate mains supply.

2. Plug the "A" type connector in to a USB2 or Hi-Speed socket on the back of your PC, and plug the "B" type connector in to the USB socket on the BB2 unit.

3. If this is the **first time** you have connected the BB2 to this computer, and the software has not yet been installed, after a short while, a Windows' "Welcome to the Found New Hardware Wizard" message box will appear. On this first occasion only you should **press the cancel** button. This may be followed by another message warning that your hardware may not work correctly. This is OK – the software installation will resolve this. Now proceed to **Installing the Software** below……

4. At other times, once the software has been installed, whenever you connect the BB2 you should wait for Windows' plug-and-play routine to complete and allow Windows to install the hardware drivers automatically. Wait until there is notification that the hardware is ready to use before running the SADiE BB2 software.
    NOTE:- we occasionally get calls from users who have cancelled the Windows plug-and-play routine and in this case the hardware will not work, and there will be an error message on starting the software. You must allow Windows to complete this procedure.
   Allow Windows to find the driver automatically; if it asks for a location for the "SadieUsbLibw.sys" driver, it will be found in the *c:\windows\system32\drivers* folder.

INSTALLING THE SOFTWARE

1. Before installing the software, you should connect power and then a USB lead between the PC and the BB2 unit as per the previous page.

2. You will have been provided with a CD-ROM containing the software installer. Place the disk in the CD-ROM drive. It should auto-run and a menu will appear.

    (NOTE: If the CD does not auto-run, press the Windows™ "Start" button; select "Run" and type: "D:\autorun" - if you are installing from CD-ROM. In this example D: is the letter of your CD-ROM drive. That may not be the case, so use the correct letter for your drive.)

3. Press the "BB2 or PCM2" button on the main menu, and then press the "Install SADiE v5 Software" button on the next page.

4. Follow the instructions on screen as you run through the setup program. You will be asked which software (of four possible choices) you wish to install – you should choose PCM2 (and BB2 if you wish to be able to run the cut-down software).

5. A PCM2 icon to run the full SADIE5 software will appear on your desktop, along with a BB2 icon if you'd chosen to install that software too.

6. When the software installer reports that it is finished, you can double-click on the PCM2 icon to run the SADiE software.

7. The **first time you start** the PCM2 or BB2 software, a message will appear……
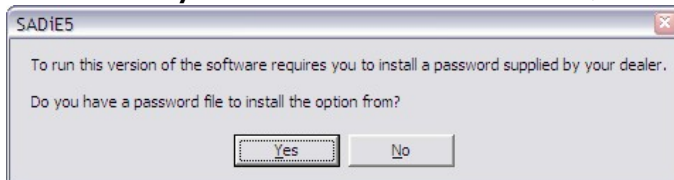
– say **Yes**, and then navigate the browser to your CD-ROM's root directory where you should see an "**SPW**" file which contains authorisation codes.
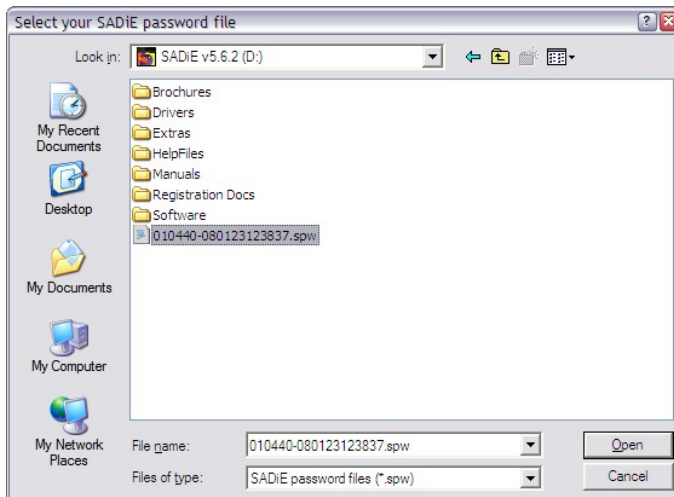
8. This will install any other plug-ins that you may have bought, along with 30-day evaluation period licences for other plug-ins. The list of the plug-ins that are installed is found in the **Help** menu of SADiE, under the **Plugins** item.

9. The SADiE software will start.

SADIE BB2 BASICS

SADiE BB2 is an editor. SADiE edits audio in a manner which is called "non-destructive" - SADiE *never* changes or deletes data in the audio file; instead you work in SADiE with an **Edit Decision List** - also known as a **Playlist** or **EDL** for short.

The **EDL** thus provides a sequence for playing out the audio files, to include the edits, fades, level changes etc. you've designed.

The advantage of this method is that you never lose sections of audio - imagine a scenario where in editing the beginning of a sentence, you have mistakenly removed the very start of the first word - in SADiE, it's the simplest thing to extend an entry out again to recover this audio, however if this section had been deleted from the audio file, to recover this error would be difficult or impossible.

PROJECTS

SADiE BB2 has the concept of **Projects**: everything that is stored in one folder on the PC is deemed to belong to that Project. The name of the Project is the same as the name of the Project folder on the disk drive.

PLAYLIST

Your main working environment is the **Playlist** itself - think of your **EDL** as your working document - when you save in SADiE BB2, you are saving a file with the extension **.EDL**.

AUDIO FILES

The other important elements of your project are your audio files. *When you record into a Playlist, the audio files are stored in the project folder.*

OTHER FILES

Any other type of file can be stored inside the SADiE project folder - either by copying or moving them inside Windows Explorer, or by importing them into the project. SADiE can display these other items (which could be documents or picture files relating to the project which you wish to keep together) and allow quick access to open them with their associated Windows program.

STARTING SADIE BB2

The first time you start the SADiE BB2, you may wish to decide where your work is going to be stored (but it's possible that an administrator has made that decision for you already).

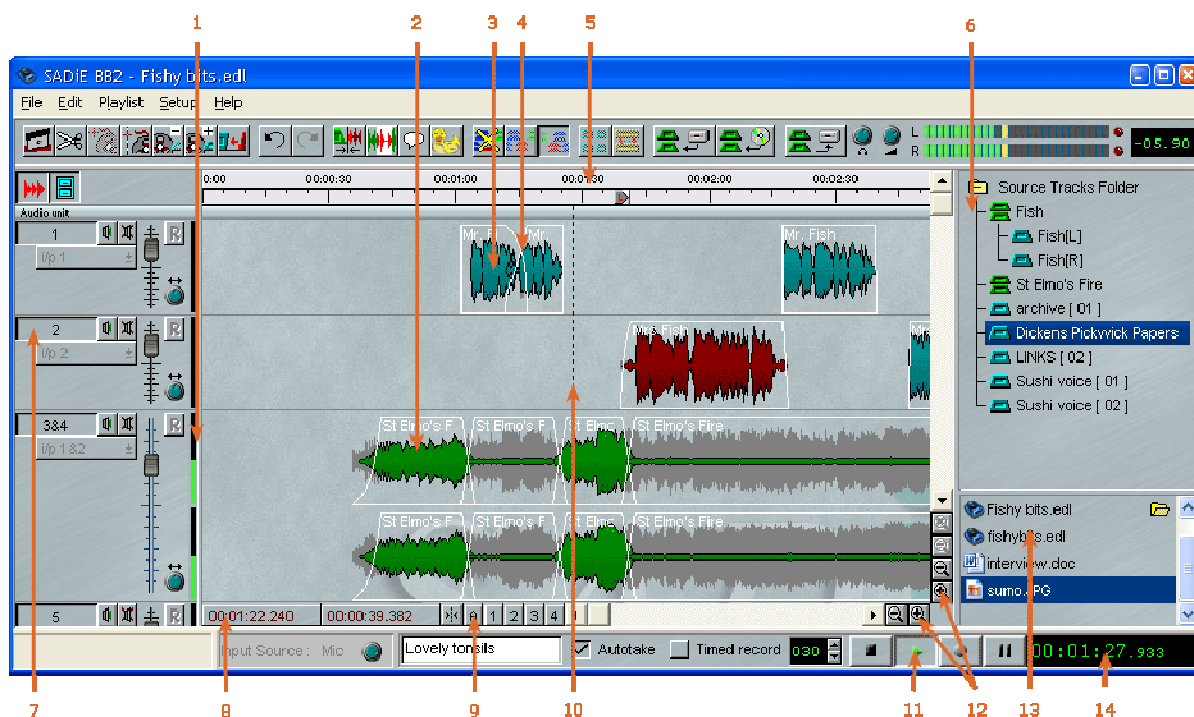At first the SADiE main window will appear, but empty of contents.

1. Select the **File** menu at the top left of the screen

2. Select the **New** item and the following box will appear:
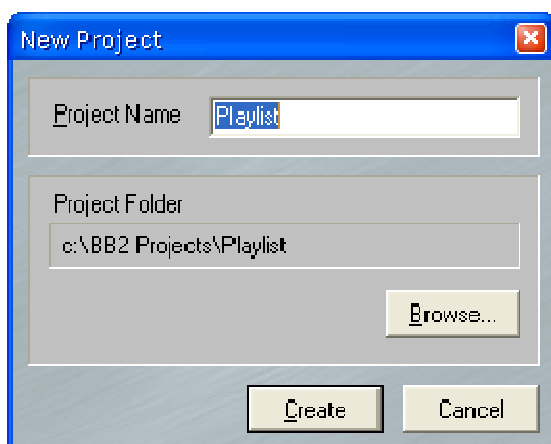
If this hasn't been set already, SADiE BB2 will default to creating it's first Project in the C:\BB2 Projects folder, inside a sub-folder with the same name as the Project.

3. You may:
   i) just type a name for your project and carry on using the C:\BB2 Projects as your main BB2 folder. or ....
   ii) type a name for the new project, then press the Browse button to select a different folder that can be accessed by your PC. (for network folders, you must have privileges to *write* to the folder). When you select this new *master* folder, it will remain as master folder until you change again via this New Project dialog box.

4. SADiE BB2 will open an empty Playlist - you're ready for action now!

THE PLAYLIST DISPLAY

1. Meter showing audio output for each stream
2. Stereo Clip shown as a profile
3. Mono Clip shown as a profile
4. Crossfade between Clips
5. Time bar
6. Clipstore
7. Stream Control Buttons
8. Mouse Time Display
9. Preset Zoom Buttons
10. Current Time Cursor / Timeline
11. Transport Controls
12. Zoom and Scroll Controls
13. Project Window
14. Time Display

The main SADiE window, filling the whole screen, has a title bar and menu bar in common with most Windows applications. The menu bar contains words that reveal drop-down menus. For example, the File menu is displayed by clicking on the word "File".
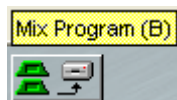
For most common tasks, however, the system has been designed to be operated by pressing on-screen buttons (by pointing and clicking with the mouse), or by using the hardware controllers. Buttons on the screen have a 3D appearance and should look "depressed" in their On position.

At the bottom of the screen, the status bar describes on-screen buttons when you point at them.

Resting the mouse pointer over a button displays the button name in a yellow box (and any Hotkey for the function in brackets), and the status bar at the bottom of the screen describes its action. Most menu commands and button actions are available as Hotkeys on the computer keyboard. Some are also available on the BB2J where applicable.

On some desktops, the Windows Task bar along the bottom of the screen may obscure the SADiE BB2 status bar. If this is the case, click with the Right-mouse button on the Task Bar, select Properties, and make sure that "Keep the Task Bar on top of other Windows" is not ticked. Then press "OK".

BB2J

BB2   BB2J

Some users will have chosen to purchase the BB2J variant. This version of the hardware comes complete with 9 pre-programmed shortcut buttons, and a fully functional Jog wheel, enabling you access to all of SADiE's main functions, without having to touch the mouse, minimising the risk of RSI.

There is a button key available for display in the SADiE software, to help you get to grips with the functions. Go to the "Help" menu, and select "BB2J Button Key". The lights will light a brighter red and the writing will turn white when a function is in use. The play spacebar will turn green during playback.

 Further details of these functions will be found in the relevant sections of this help file, wherever you see the icon.

TUTORIAL

TUTORIAL

This section will take you through simple recording and editing. It is recommended that you do this tutorial to save time later. The editing involved is quite basic, and it will serve as a good exercise whatever your area of work. You need to have already been through the Starting SADiE section above.

TUTORIAL - RECORDING

You will be recording in some source material. Your connections will depend on your source. See Connecting the BB2 for details. Plug in either an analogue or digital source as appropriate, and connect a set of headphones for monitoring.

STARTING SADIE BB2

If you haven't yet started SADiE and made a brand new project follow the instructions above (Starting SADiE).

> On some desktops, the Windows Task bar along the bottom of the screen may obscure the SADiE BB2 status bar. If this is the case, click with the Right-mouse button on the Task Bar, select Properties, and make sure that "Keep the Task Bar on top of other Windows" is not ticked. Then press "OK".

RECORDING AUDIO

You are about to record three Tracks. First, a voice piece that will require editing, then two short pieces of music to mix in with the edited speech. Speech is best to demonstrate basic editing because it is quick and easy to make edits that are obvious, but choose any material you feel would be best. For simplicity, all the audio for this tutorial will be recorded in stereo, so you should create a stereo Stream in the Playlist at this point.

1. First right-click over the small Stream control buttons of Stream 1.
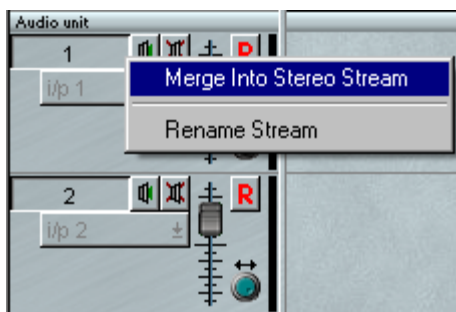
Select "Merge into Stereo Stream", as shown above. Streams 1&2 will then be combined into a stereo Stream with a single set of control buttons. Now do the same on Stream 3 to merge Streams 3&4 into a stereo Stream, which will be used later.

> NOTE: In future you can save space on your audio disk by recording mono material as mono Tracks. See Recording for more details.

2. Check that SHOW ALL PROFILES in the top left corner of the Playlist is pressed IN; or F7 on the keyboard to view the Clips as waveform profiles (which give a visual display of the audio); the waveform will draw as you record.

3. At the bottom of the SADiE window to the left of the Play/Stop buttons are some controls for new recordings.
First we need to choose where to record the audio from.

Right-mouse click on the words "Input Source" and a menu will appear to allow you tom choose between **SPDIF** (if you have connected to the SPDIF digital input) , **Line** (Analogue Line Input) or **Mic** (the microphone input).

Select the input source appropriate to your input equipment; for the purposes of this Tutorial, if you have a microphone then it's simplest to plug that in and record any old nonsense into the BB2.

4. Name the Track by clicking in the white name box, next to the transport controls and typing "Vox1", then pressing the   Return key. You can use the   Backspace key to correct mistakes.
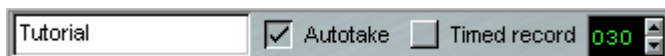
5. Press the R RECORD ENABLE buttons on Stream 1&2.

6. Press RECORD to start recording immediately. Play your source material or chatter away into the microphone.

7. When you have two or three minutes of audio, or have run out of breath, press STOP to stop recording, and stop the player (or stop talking if that's possible - yes I know how exciting this can be !).

8. You have now recorded a Track called "Voice" and a stereo Clip with the same name will appear on the stereo Stream 1&2 of the Playlist.

9. Release the RECORD ENABLE button on Stream 1&2.

IMPORT FROM CD

Let's import some music for this Tutorial from a CD. We'll need something appropriate as Intro music or a Jingle, and another piece that we'll use as a Music Bed.

1. Place a CD in the CD or DVD drawer of the PC. Wait a short while. The PC may be set to Auto-play CDs and may open Windows Media Player or some other application. If this happens, close the other application.

2. At the top of the Playlist, click the "Import CD Tracks" button (the centre of the three Import/Mix buttons shown below).

3. The "Import CD tracks" window will appear.
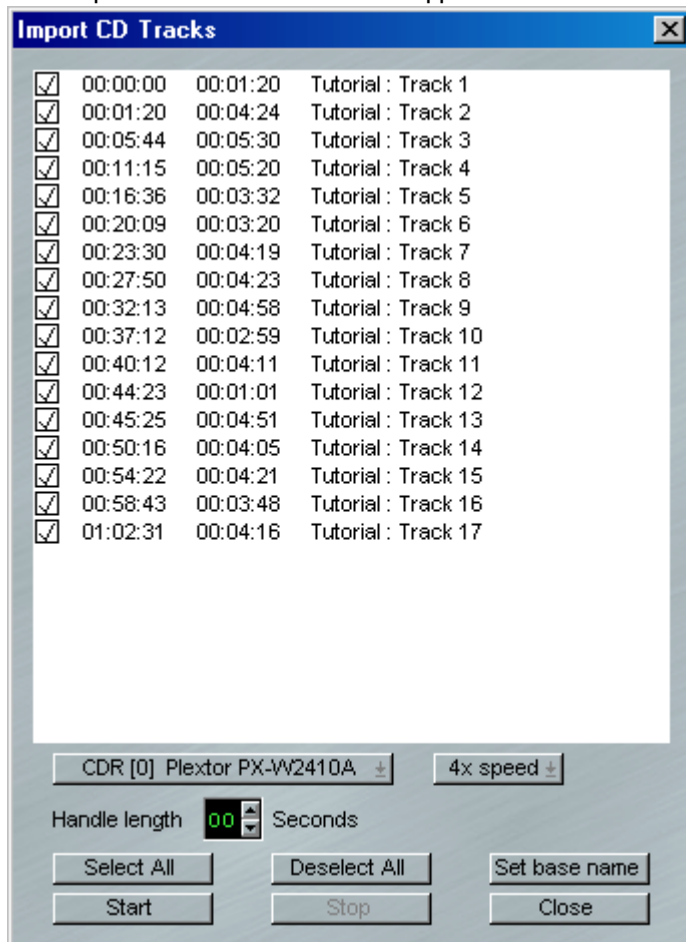
4. Select your CD-ROM device.

5. Select the tracks you wish to import, using the tick boxes next to each track. ("Deselect All" first)

6. Set the CD name (shown here as "Tutorial") using the "Set base name" button.

7. Press the "Start" button to begin importing the track(s). A blue bar will show the progress of the import.
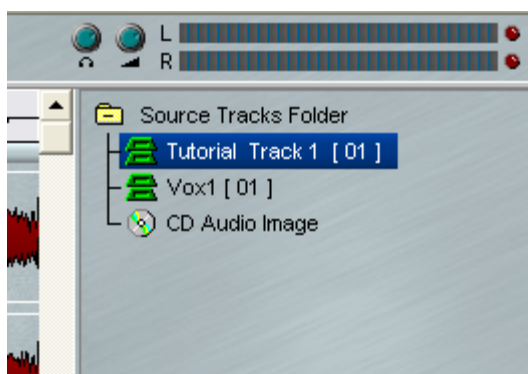
8. Once the import is complete, you can close this window, and your imported tracks will appear in the Clipstore (shown here highlighted). You can now use them as you would any other clip.

9. Click on a CD track and holding the mouse button down, drag this and drop it into the main playlist. Repeat with the second CD track.

TUTORIAL - PLAYING THE PLAYLIST
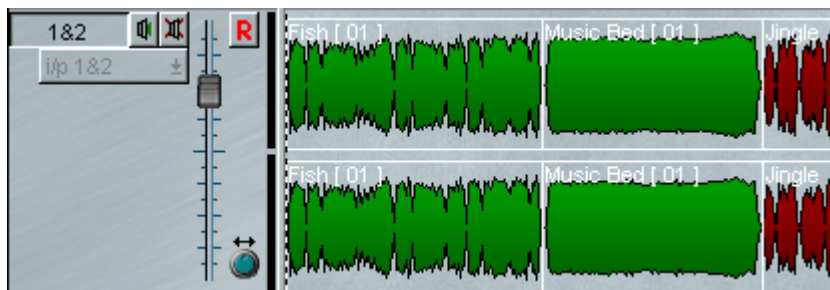
You now have at least three Tracks in the Playlist. *(Some silly fool has renamed one of them "Fish" in the picture - don't worry about it !)* You can view all of them by pressing the horizontal ZOOM OUT button a few times.

1. Double-click the STOP button or press the keyboard "Home" key to zero-locate to the beginning of the Playlist.

2. You can now Play back the Playlist, by pressing , or by pressing the space bar on the Keyboard or BB2J which duplicate the Play and Stop functions.

The Timeline will move left to right across the Playlist, and the current-time display in the Transport Controls will match the time in the time bar at the top of the Playlist. The Transport Controls rewind, fast-forward, stop, play and pause buttons will do what you expect, but there are much faster ways of getting around in the Playlist. (See Playing and Locating for more details.)

*   Double-click in the white area of the time bar (notice that the exact time you are pointing to is indicated by the mouse time display). Playback will start immediately from that point. Single-click anywhere in the time bar to stop playback. Single-click anywhere in the time bar when playback is stopped to locate the Timeline to that point.

*   To view parts of the Playlist not currently on display, scroll the window 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. The Scrollbars will not work during Playback.

*   You can zoom in and out both horizontally and vertically with the two pairs of magnifying glass buttons at the ends of the Scrollbars. This is a useful way of getting at different parts of the Playlist as well as changing your overall view.

    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.

Practise getting around the Playlist to play different sections.

TUTORIAL - ARRANGING THE PLAYLIST

Now you need to change the order of your Clips. Set the zoom level so that all three Entries are in view again.

1. Click on the Clip "Vox1" to select it. It will turn red. You can now drag it with the mouse to a later location in the Playlist and drop it after "Jingle".

    NOTE: Red is a warning! After moving the selected Clip using the mouse, it is a very good idea to deselect it by clicking on a blank, grey area of a Stream.

    You can select more than one Clip for moving by holding the Shift key whilst clicking on several clips.

2. A clip can also be moved using the cut and paste tools.

    Select the clip and then press CUT and it will be removed from the Playlist to a temporary "paste buffer".

    Press PASTE and position the mouse where you want to re-insert it (the mouse pointer changes to a reel of tape). Paste the clip back in with a single click.

    If you press COPY instead of CUT, it won't remove the Clip, 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 Clip remains in the paste buffer, so you could paste in more copies. CUT, COPY and PASTE will therefore move, remove and allow you to repeat Clips in the Playlist in just the same way as you would with text on a word processor.

3. Slip is a useful function for keeping Clips in Sync with one another. Press the first ENABLE the SLIP button and then the third SLIP RIGHT button. Select a Clip. When it turns red, all the following Clips will turn dark blue indicating that they will move with the red one.

4. To move a Clip to the left so that it butts up to the one before it, select it and press REMOVE GAP.

5. If you make a mistake whilst working on your Playlist, you can step backwards through your actions by pressing UNDO. REDO steps you forward again.

Practise moving your Clips around in the Playlist. When you have practised enough, leave yourself with just the three Clips starting some time after 00:00, and in the following order: "Jingle", "Vox1", then "Music Bed".

TUTORIAL - SAVING YOUR WORK

At this point a real edit session, you might have created a complex EDL arrangement, so this is a good time to save your work.

1. Go to the "File" menu and select "Save"

2. Alternatively use the keyboard Hotkey Ctrl + "S".

TUTORIAL - EDITING THE SPEECH

Make sure that SLIP Left and Right are enabled. Experiment with playing the EDL and changing the horizontal and vertical zoom settings. If you are viewing the waveform profiles, you should be able to see where the words and spaces in the Clip "Vox1" are as the cursor passes over them.

You can quickly scrub through the Playlist using keyboard Hotkeys. This is "Shuttle" mode (like spooling forwards and backwards across the heads of a tape machine). With "Num Lock" turned on the following number pad Hotkeys apply:

- 1 = Shuttle backwards at half speed / 3 = Shuttle forwards at half speed
- 4 = Shuttle backwards at normal speed / 6 = Shuttle forwards at normal speed
- 7 = Shuttle backwards at double speed / 9 = Shuttle forwards at double speed

These Shuttle facilities are locking. Press the Hotkey once to start Shuttling, press again to stop. Practice this on the speech as you are now going to find and mark two edit-points between which you want to remove the audio, just like on a 1/4" tape machine.

1. Identify where you want to make the first edit, by playing or scrubbing. Why not just remove a couple of words, or perhaps your voice artist has made some mistakes that you want to get rid of? Scrub to a position just before the words you want to remove.

2. Press RAZOR CUT. Now scrub to just after the mistake, and press RAZOR CUT again.

3. Use the ZOOM buttons to find a suitable degree of magnification. Don't worry too much about being very accurate, as this is non-destructive editing; you can always use UNDO to go back and have another go, or adjust the edit later.

4. You will see that you have now divided the clip "Vox1" into three clips. To complete the edit you need to remove the middle clip (between the two razor cuts you have just made) and join up the remaining bits.

5. Make sure you still have SLIP RIGHT enabled. Select the middle Clip by clicking on it and turning it red, then press CUT. The Clip will be removed from the Playlist and, if you have SLIP on, the following Clips will be automatically moved forward to butt up to the first one. Play over the edit. If you don't like it, press UNDO a few times and do it again.

> NOTE: Although you have just deleted a Clip from the Playlist, no audio has been lost from the hard disk. The original Track is unaffected - you have just removed the instructions to play that part of it in this particular Playlist.

That's all there is to cut-and-splice editing with SADiE. Do a few more edits to get the hang of it, but leave some edits until later when you'll try another method. After all that editing, save your work again.

TUTORIAL - ADJUSTING THE EDITS

Play through the edits you have done so far. Let's just pretend for a moment that you are not yet God's Gift To Hard Disk Editing and there is an edit that you'd like to tweak a bit. To do this you need to go into Playlist Editing mode.

1. Press the PLAYLIST EDITING button on the Playlist toolbar and select the earlier of the two Clips at the edit point to be adjusted.

2. Position the mouse over the Clip just before the edit point, so that the mouse pointer changes to a symbol, then click and hold the mouse button, whilst moving side to side to jog or up and down to shuttle the audio. This will adjust the out-point (the "left hand" side of the edit point). The Clip being adjusted turns a brighter red. Now select the Entry after the edit, position the mouse over the Clip just after the edit point so that the mouse pointer changes to a symbol and scrub to adjust the in-point (the right hand side of the edit).

3. Listen to the result by playing over the edit in the normal way. You can now adjust other edits by selecting the Clips before or after them and scrubbing with the appropriate mouse symbol.

Come out of Playlist Editing mode by releasing the PLAYLIST EDITING button.

TUTORIAL - BOTH AT THE SAME TIME

You can also use Playlist Editing to remove the unwanted material in the first place.

1. Listen to some more of the speech. As soon as you hear the next mistake that needs editing, make a single razor cut. This can be done during playback, or whilst shuttling through. The initial cut doesn't have to be accurate as you are going to adjust it straight away.

2. Stop playback. Go into Playlist Editing mode and adjust the out point (left-hand side of the edit point) as before.

3. Now go to the right hand side of the edit by selecting the next clip. Adjust the in-point (right-hand side of the edit point) as before, and you can lose all of the unwanted audio by slipping it "into the cut".

Use whichever method you prefer to do the rest of the edits in the speech. It is easier to remove very small bits of audio with Playlist Editing.

Lastly, you can "top and tail" the speech by using Playlist Editing to trim the in-point of the first clip and the out-point of the last. Save the Project again.

TUTORIAL - MIXING IN THE MUSIC

You should now have a clip called "Jingle", another called "Music Bed", and lots of clips called "Vox1" as the result of your editing.

1. Although not essential, it is a good idea to group all the "Vox1" clips together. Click on "Edit" on the menu bar, then "Select All" (or press Ctrl + "A" on the keyboard). Deselect the two music Clips by holding Shift on the keyboard while clicking on them with the mouse.

2. Press GROUP SELECTED EDL ENTRIES. They will be redrawn as a single block in the Playlist and can be moved around together easily.

Now you need to move the music clips to Streams 3&4 so you can control them separately.

1. Turn SLIP off, as you want to move the music without moving the speech.

2. Select the two music clips and use Ctrl +   on the keyboard to move them down to Streams 3&4.

3. Position them so that the Playlist starts with "Jingle", then the edited Voice group, starting before "Jingle" ends, and finally "Music Bed", starting before the speech ends.

4. At any time you can break a group back down into its component Entries by selecting it and pressing UNGROUP. Do this now to view the profile of the speech again.
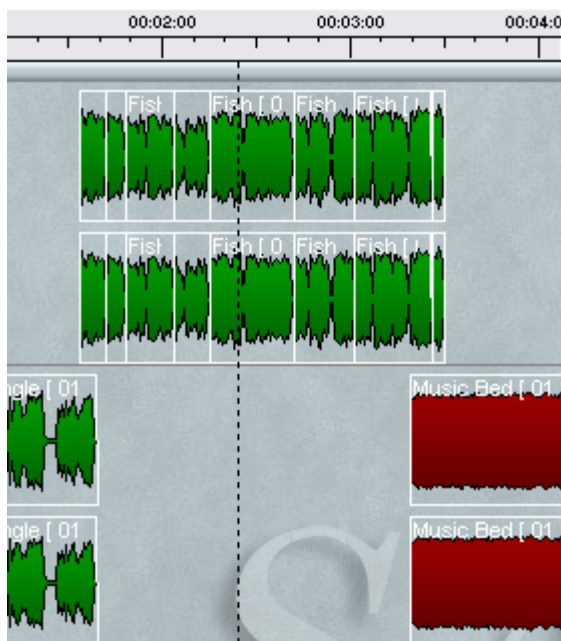
If you play your Playlist now, the levels will quite obviously be wrong, as the music will drown out the speech where the two overlap. Time to do a mix.

1. Press the REGION EDITING button on the toolbar.

2. When Region Editing is enabled, the mouse cursor will change to a   pencil tool. You are going to draw a region where the "Jingle" and "Vox1" clips overlap. Click at the position in the Playlist where the overlap starts, then whilst holding the mouse button down, drag the mouse to the right, and when you reach the point at which it ends let go of the mouse button. The region will be coloured dark red, and you'll notice the Left and Right locators are positioned at the start and end of the region respectively.
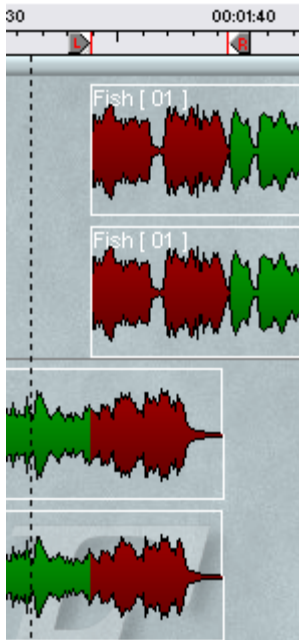
3. Press the REGION DUCK button. The Region Duck window will appear.

4. Click in the Stream boxes, so that a tick appears in the boxes next to 3 and 4, and all others are blank. Click Ok. The "Jingle" clip will be cut at the left locator for the region, and a crossfade of the length specified will be inserted. The new clip created will be 10dB lower.

5. Repeat for the overlap of "Vox1" and "Music Bed". Your Playlist should then look something like this:
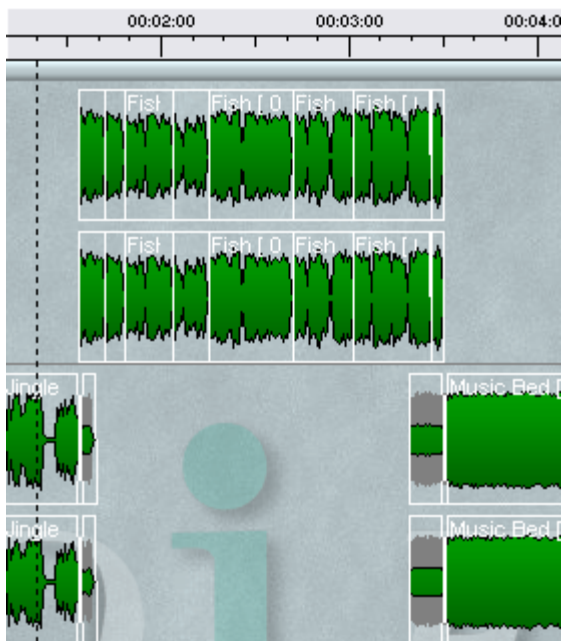
6. Play back the Playlist. If you're happy with it, save your work. If you're not, Undo it and have another go, altering the levels, and the crossfade lengths.

TUTORIAL - THE FINISHED PRODUCT

There are many ways to complete your work and create a 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 Playlist and recording from SADiE's (digital or analogue) outputs.

You can also use the Mix Program facility to create a "Master" audio file.

TUTORIAL - 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:

    - Clicking on the window close button ☒ on the right of SADiE's main window title bar, OR

    - Double-clicking on the BB2 icon on the left of SADiE's main window title bar, OR

    - Selecting "Exit" from the "File" menu, OR

    - Pressing Alt + "F4" on the keyboard.

2. SADiE will warn you if there is anything that has not been saved.

3. When the SADiE window has closed, click on the "Start" button on the Windows Taskbar, then "Shutdown" and follow the instructions on screen for shutting down the computer.

4. Windows will either power down the computer, and will tell you when it is safe to turn off the power.

RECORDING & IMPORTING AUDIO

RECORDING AND IMPORTING AUDIO

When you record new audio using SADiE, you are recording a "Source Track" directly to a hard disk drive.

Audio is recorded using the Playlist and transport controls. The Source Track is placed in the Playlist as a Clip, starting from where the Timeline appears at the start of the recording.

SADiE can record both mono and stereo Tracks, and labels them as such in the Clipstore and Playlist. Stereo tracks are still treated as a single Track when moved around, but they can be ungrouped to two mono tracks to be worked on individually.

SADiE can also import existing audio from a hard drive to use in your Playlist, or can "rip" tracks from an audio CD.

IMPORTING SOURCE TRACKS

You can import existing audio tracks in to your Clipstore for use in your Playlist.

1. At the top of the Playlist, click the "Import Audio" button (the left-most of the three Import/Mix buttons shown below).

2. The "Import Source Tracks" window will appear.
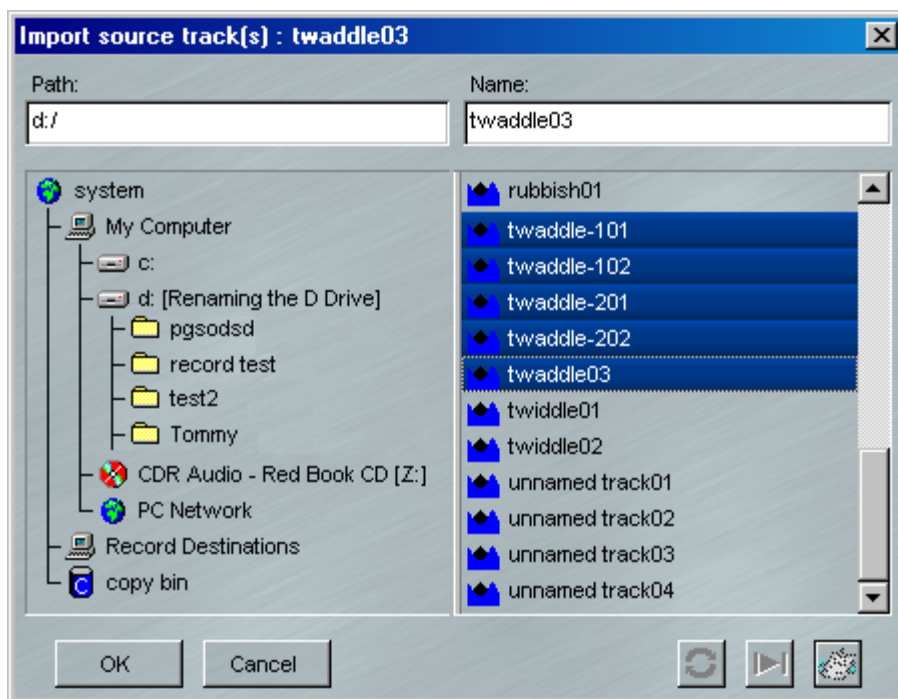
   This window works in the same way as Disk Manager and Windows Explorer. The files in the right hand pane with a blue icon are audio tracks which you can click on to import. You can select more than one file by holding down the keyboard Ctrl key whilst clicking the tracks you require. Selected tracks will turn dark blue (as above).

3. Once you have made your selection, click the "OK" button. The window will close, and the tracks will appear in your Clipstore, ready for use.

RIPPING FROM A CD

SADiE can "rip" audio from an audio CD, using the PC CD-ROM.

1. At the top of the Playlist, click the "Import CD Tracks" button (the centre of the three Import/Mix buttons shown below).

2. The "Import CD tracks" window will appear.
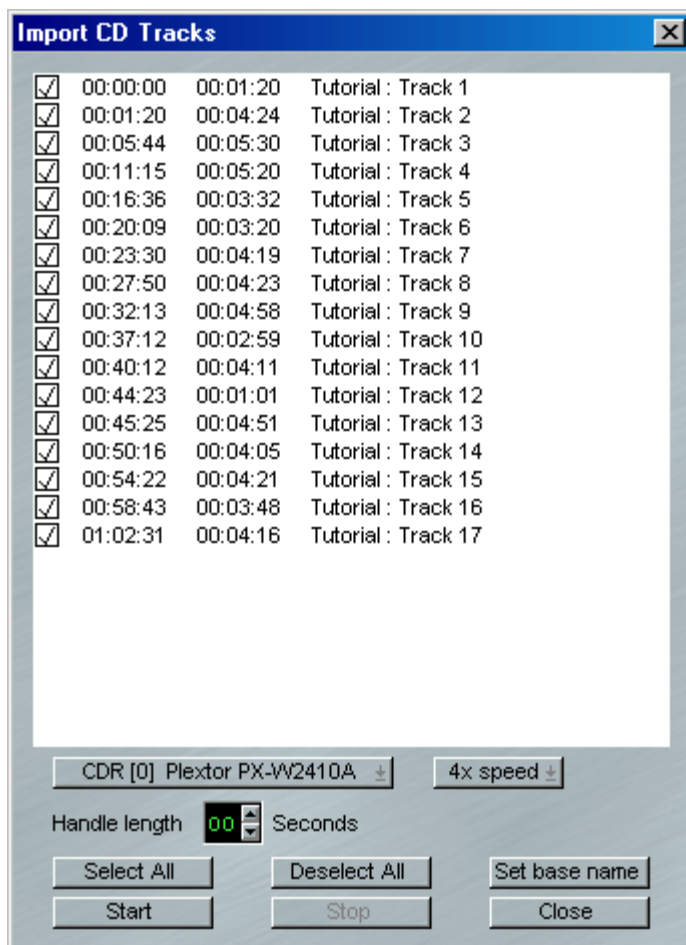
3. Select your CD-ROM device.

4. Select the tracks you wish to import, using the tick boxes next to each track.

5. Set the CD name (shown here as "Tutorial") using the "Set base name" button.

6. Press the "Start" button to begin importing the track(s). A blue bar will show the progress of the import.

7. Once the import is complete, you can close this window, and your imported tracks will appear in the Clipstore (shown here highlighted). You can now use them as you would any other clip.
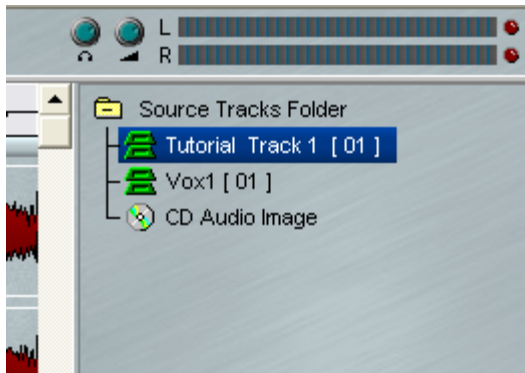
RECORDING A TRACK

SADiE can record from a variety of analogue and digital sources, both mono and stereo.

1. Select your input source, by right-clicking on "Input Source" at the bottom of the Playlist. Select from Microphone, Line Level, or SPDIF Digital. There is a level control on a rotary knob to adjust the input level of the source.

2. Go to the "Setup" menu and select "Audio".
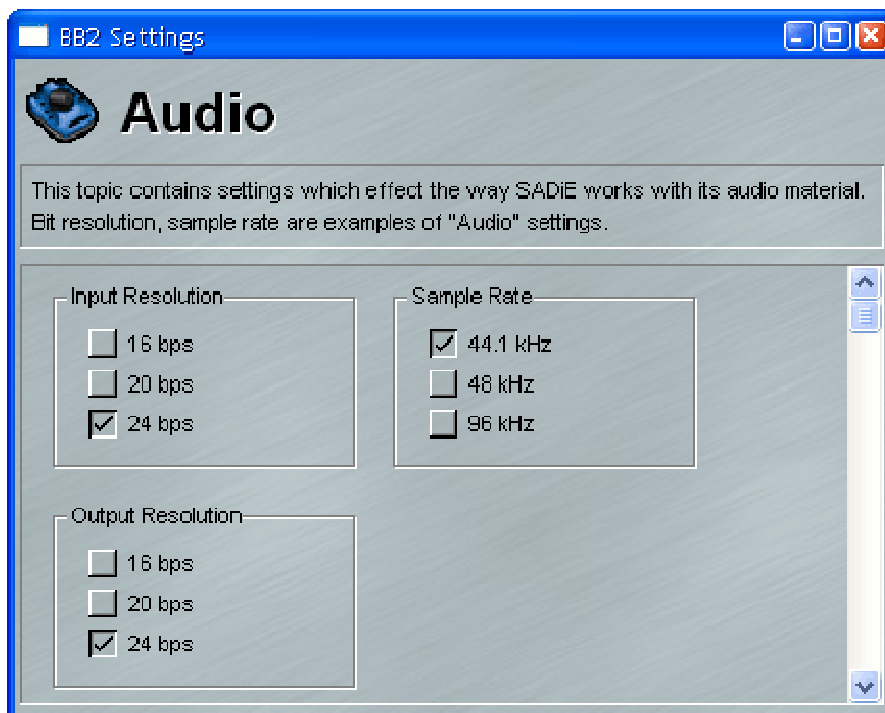
Select the Sample Rate and input resolution appropriate to your source. You can also alter the input source and input level in this window.

3. Type a name for your track in the white "Record Track Name" box to the right of this. If you desire, tick the "Autotake" box. This adds a two digit number to the name you type so that you don't have to type a new name each time you record a new Track.
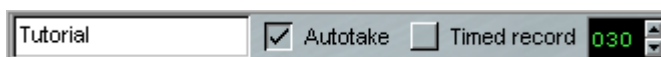
4. If you wish to record for a specific length of time, tick the "Timed Record" button, and use the up and down arrows to set the countdown timer (showing minutes).

5. Press the **R** RECORD ENABLE buttons on the Streams you want to record to.

6. Press ▪ RECORD to start recording immediately or press ▶ PLAY to play the Playlist (you will be in record-standby and the record button will flash) and hit RECORD to drop in ("punch-in").

7. Press ▪ STOP to stop recording.

MAKING CUTS DURING RECORDING

The RAZOR and SCISSORS buttons will work during recording, dividing the Clip as it is being placed in the Playlist. There are more on these in the Editing section. Using these will not affect the Source Track in the Clipstore, only the Clip in the Playlist. This can be a useful way of marking edit points that you will need to return to later.

If you press PAUSE while you are recording, the current Source Track will end. A new one will begin when you release the pause button again. This can be useful to "edit-out" unwanted sections of the incoming signal. Recording will resume as a new Source Track, so you must use Autotake, otherwise SADiE will assume you want to re-record using the previous Track name.

DROPPING IN AND OVERDUBS

When you record into a Playlist that already has Clips in it, these will be replayed as you record. Therefore you can record, for example, a singer on Stream 3 whilst 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. This is known as overdubbing. Record enable **R** the stream you wish to record to, and press ▶ PLAY. The record button will flash to indicate you are in record standby. Record in the usual way. You will hear the existing Clips play back as you record.

You may also wish to record on the same Stream as an existing Clip to replace a section. This is known as dropping in. Record enable **R** the stream in question and press ▶ PLAY. The record button will flash to indicate you are in record standby. Listen to the existing Clip and then press ▪ RECORD at the point to start the drop in. SADiE will replace the existing Clip with a Clip of the new recording up to the point where you drop out of record. The whole Source Track can still be found in the Clipstore. If you don't want to replace a Clip, record on a different Stream.

WORKING IN THE PLAYLIST

THE DISPLAY

THE PLAYLIST
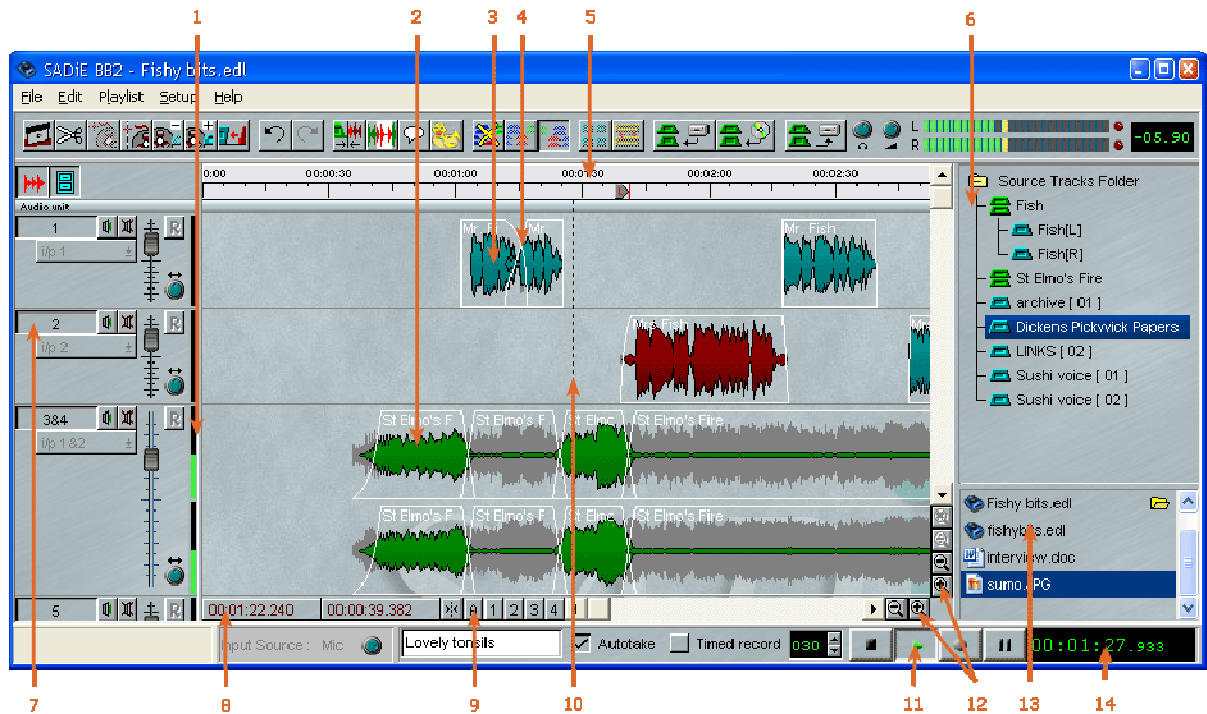
1. Meter showing audio output for each stream
2. Stereo Clip shown as a profile
3. Mono Clip shown as a profile
4. Crossfade between Clips
5. Time bar
6. Clipstore
7. Stream Control Buttons
8. Mouse Time Display
9. Preset Zoom Buttons
10. Current Time Cursor / Timeline
11. Transport Controls
12. Zoom and Scroll Controls

The main SADiE window, filling the whole screen, has a title bar and menu bar in common with most Windows applications. The menu bar contains words that reveal drop-down menus. For example, the File menu is displayed by clicking on the word "File".

At the bottom of the screen, the status bar describes on-screen buttons when you point at them.

Resting the mouse pointer over a button displays the button name in a yellow box (and any Hotkey for the function in brackets), and the status bar at the bottom of the screen describes its action. Most menu commands and button actions are available as Hotkeys on the computer keyboard. Some are also available on the BB2J where applicable.

> On some desktops, the Windows Task bar along the bottom of the screen may obscure the SADiE BB2 status bar. If this is the case, click with the Right-mouse button on the Task Bar, select Properties, and make sure that "Keep the Task Bar on top of other Windows" is not ticked. Then press "OK".

ADDING AND REPEATING CLIPS

ADDING CLIPS TO THE PLAYLIST

Click and hold on the Clip you want in the Clipstore and drag 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 place the Clip into the Playlist. This does not use the Paste Buffer.

REPEATING CLIPS

To repeat one or more Entries, either:

1. Copy them and then paste them in at a new point, as described below

2. Select them and then hold the Ctrl key whilst you click and drag a copy with the mouse to the required position.

PROFILES

SHOWING CLIPS AS PROFILES

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

 Function key F7 on the keyboard also operates the SHOW ALL PROFILES button

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

NOTES ON PROFILES:

• Depending on the performance of your PC, the profiles may update slowly when you are playing the Playlist, particularly at the higher horizontal zooms.

• 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.

LEVEL RESPONSIVE PROFILES

Profiles of the Clips in the Playlist are drawn proportional to the current clip level. This means that waveforms will grow and shrink to show fade in and outs, and any clip-wide level changes that have been made. A "ghost" of the original profile will appear behind the Clip.
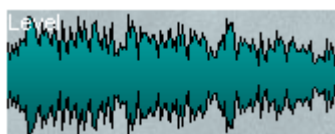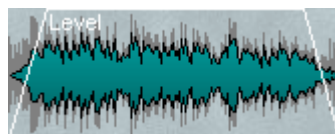
Original   Altered Levels with "ghost"

PROFILE DISPLAY MODES

When displaying profiles, there are 8 different types of waveform profile available, visually boosting different parts of the dynamic range. For example, 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. 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; the high numbers will make lower level audio look "fatter". Type 1 is the default.

SCROLLING AND ZOOMING

When the Playlist is playing back, the audio will appear stationary, and the Timeline will scroll across it.

You may want to move around your Playlist or change which part or how much of it is displayed. This can be done either by scrolling so that a different part is in the window, or by changing the magnification by zooming in or out.

There are two Playlist Scrollbars with attached zoom buttons. The one along the bottom of the Playlist scrolls and zooms horizontally (left and right along the time bar). The one at the right-hand side scrolls and zooms vertically (top and bottom) so that you can reveal any Streams not currently in view.
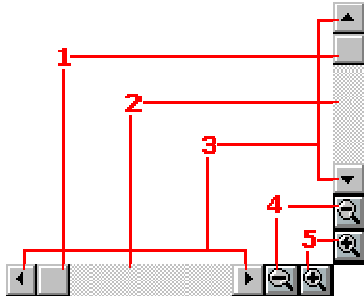
1. Click and drag the box for coarse scrolling
2. Click either side of the box to scroll one window width
3. Click or hold down the arrows for fine scrolling
4. Zoom out
5. Zoom in

You can press the zoom buttons repeatedly, until you reach maximum or minimum magnification. Alternatively, there are options for "Vertical Zoom" and "Horizontal Zoom" levels under the Playlist menu. These clickable zoom menus are also available if you hold the Ctrl key down when you click on the normal zoom buttons with the mouse.

For users who have a mouse with a wheel, you can use it in the Playlist in the following ways:

- Wheel = Vertical scroll (as per other applications)

- Ctrl + Wheel = Vertical Zoom in/out

- Shift + Wheel = Horizontal Zoom in/out

If you have a BB2J you can, alternatively, press the top right button on your BB2J controller (labelled "Zoom" on the button key), and turn the jog wheel to zoom horizontally in and out.

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

To the left of these is a "Centre display on Timeline" button, so that if you have scrolled or zoomed in the Playlist and the Timeline is off screen, you can jump quickly to it, without having to scroll or zoom.

There are Hotkeys available for these Preset Zoom Functions:

- F8 - Zoom to All

- F9 - Zoom Preset 1

- F10 - Zoom Preset 2

- F11 - Zoom Preset 3

- F12 - Zoom Preset 4

- C - Centre display on Timeline

NOTES ON ZOOMING:

- During playback you can zoom in or out, but the Timeline will always remain on view.

- The Playlist will always stay centred on the position of the Timeline, and so when you zoom in it will be wherever the Timeline is.

- When zooming out, at the minimum zoom levels, all Clips are shown as blocks and not profiles.

STREAM COLOURS

Playlist streams can be "colour-washed" for identification. This is available from the menu that appears by right-mouse clicking over the stream button - a "Colour.." item will appear.
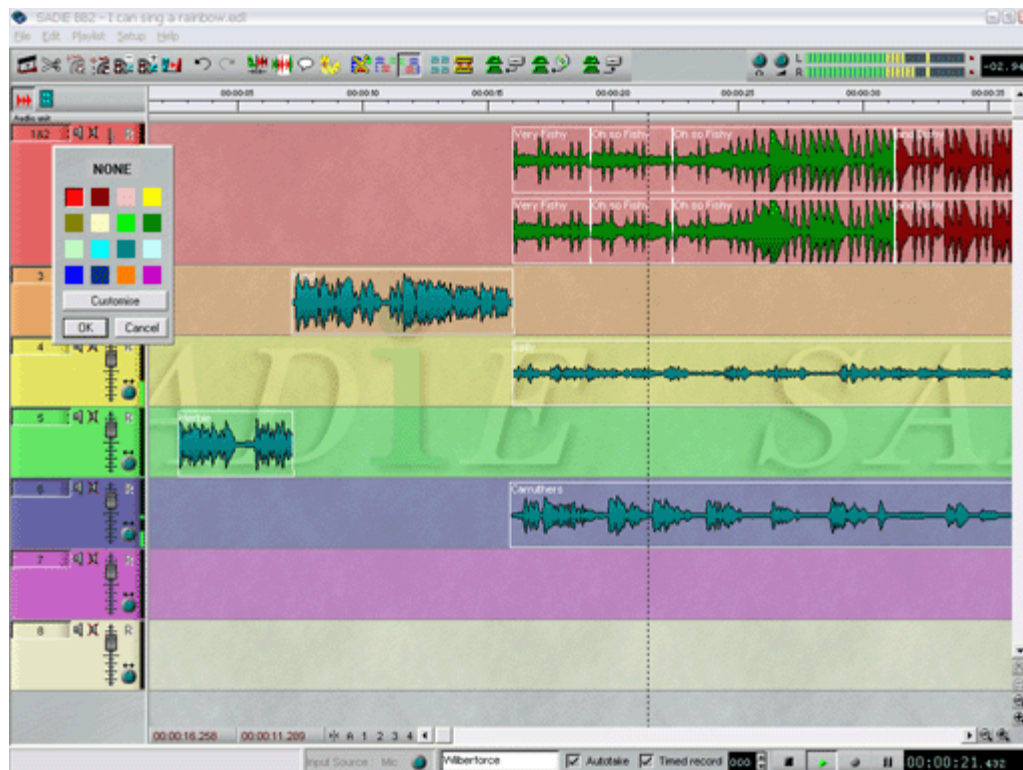
On selecting this the colour palette appears from which you can choose the colour. Double-clicking on the colour will select and close this colour palette.

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

Stream colours are saved with the Playlist.

PLAYLIST STREAMS

Whether you are rearranging Clips that were not recorded in their final playback order, building a Playlist from the Clipstore, or creating different versions of the same material, you will want to move Clips around, add them to, and remove them from the Playlist.

Where you place Clips horizontally in the Playlist determines at what time they are played back. 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 and view them. It is very easy to move Clips around in time and between Streams, so you can always change your mind!

NOTE: You can place as many Clips 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.

STEREO STREAMS

You can merge two adjacent mono Streams to create a Stereo Stream so that they can be controlled together. When you record onto a stereo Stream you create a Stereo Source Track whereas recording onto two mono Streams produces a two-channel Source Track.

Right-click over the Stream control buttons, and select "Merge into Stereo Stream":
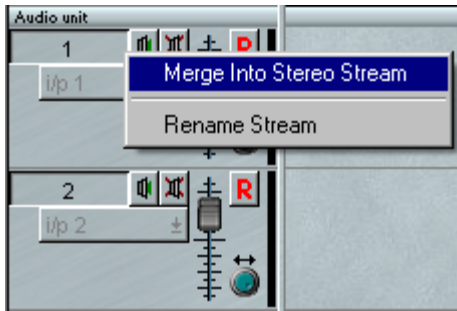
When Streams are merged, they retain separate channels of audio but they have a single set of Stream control buttons, so they can be muted, soloed, or enabled/disabled together, and can also be record enabled together for speed.

RENAMING STREAMS

The name of the Stream appears on the STREAM 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!

ENABLING AND DISABLING STREAMS
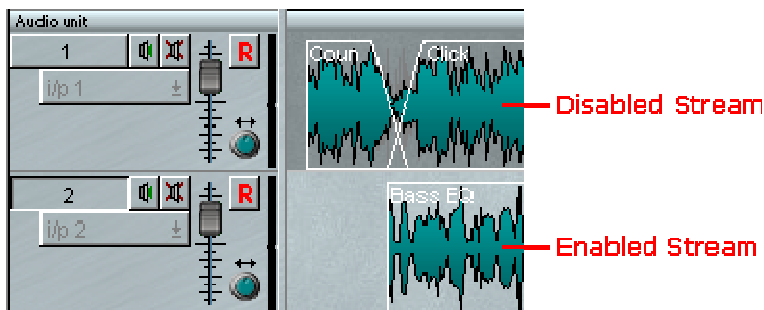
Enabling and disabling streams provides a means of separating some streams from others for certain editing functions, and of allowing you to select a stream or sets of streams that you are working on without affecting others. Disabled streams are shown with a darker grey background than enabled streams. When a stream is disabled, it will play back as usual, but is not affected by any Playlist cutting or editing functions.

The STREAM NAME button displays the Stream name and clicking on this enables/disables that stream. 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.

PLAYING AND LOCATING

TRANSPORT CONTROLS
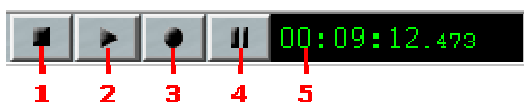
1. Stop
2. Play
3. Record
4. Pause
5. Current Time Display

The Transport Controls are a permanently available toolbar in the bottom right corner of the Playlist.

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

If you have a BB2J, PLAY and STOP are also activated by the long black button under the jog wheel,

along the bottom of the controller.

Double-clicking in the time bar activates PLAY. A single click in the time bar activates STOP.

EXTRA PLAY FUNCTIONS

Additionally the Playlist Menu provides some useful extra play functions:

- Play Selected Clips - This previews only the selected clips and can be used to quickly play one clip or several, separated from the Playlist.

- 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 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

STREAM SOLO AND MUTE
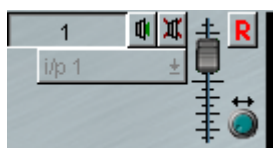
Each Stream has its own control buttons for soloing (listening to that Stream alone) and muting (silencing that Stream).

You can also activate these using keyboard Hotkeys: Ctrl + the Stream number to Solo, Alt + the Stream number to Mute.

There are some extra possibilities with solos, to allow you to solo more than one stream at a time.

Additive Solo mode - SHIFT-clicking on a solo button will ADD it to the soloed streams.

ALT-click on any solo button while multiple streams are soloed will turn all soloing off.

ALT-click on any solo button when no streams are soloed, will revert the soling to the previous state (so that you can ALT-click, ALT click to compare before and after solos)

CTRL-click on a Solo button makes that stream **Solo Safe**. Any further solo operation will not mute that stream. The solo button gains a yellow background to display that a stream is Solo Safe.

LOCATING

There are several ways of locating the Timeline to points in the Playlist:

1. 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 Timeline to that point.

   NOTE: Scroll or zoom out to access parts of the Playlist that are not currently on view (see The Playlist Display).

2. 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 Timeline.

   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. End with the keyboard   Return key.
   - Click on "Zero" to Zero-locate, followed by "OK".
   - Click on the up / down arrows to adjust the time. These nudge the lowest units. Hold the keyboard Shift whilst clicking to nudge seconds, Ctrl to nudge minutes. Finish with "OK".

3. Using the Transport Controls

    Double-clicking on the STOP button is a quick and easy way to get the Timeline back to Zero.

    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.

4. Using Hotkeys

    There are two very useful default Hotkeys on the computer keyboard:
   - "Home" will locate to the start of the first Clip in the Playlist.
   - "End" will locate to the end of the last Clip.

5. Using the BB2J

    If you have a BB2J, with none of the buttons activated, moving the jog wheel will move the Timeline location across the Playlist.

LOCATING TO CLIP IN AND OUT POINTS

 The Timeline will locate to the in or out point of the previous or next Clip on any enabled Stream when you use these keyboard Hotkeys:
- Select previous Clip -   Left Arrow
- Select next Clip -   Right Arrow

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 **,** (comma - the key with < above) and **.** (full stop - the key with > above)

LOCATOR POINTS

There are a pair of Left and Right points for looping and drop-ins:

Shift + Left Click in Timeline OR Shift + Ctrl + F11	Set Left Locator
Shift + Right Click in Timeline OR Shift + Ctrl + F12	Set Right Locator
Shift + F11	Go to Left Locator
Shift + F12	Go to Right Locator
Shift + Ctrl + Alt + F11	Clear Left Locator
Shift + Ctrl + Alt + F12	Clear Right Locator

Markers will appear in the Playlist time bar to show the position of these locator points:
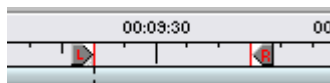
Locator memories are stored with the Playlist, and apply to only that Playlist.

NUMBERED LOCATORS

There are ten more locators available. These also appear along the timeline.

These are set and used by keyboard keys, following a similar logic to the Left and Right locators. Thus

Shift + Ctrl + F1	Set Locator number 1
Shift + F1	Go to Locator number 1

TRANSMISSION MODE

This mode enters Play, and locks out the Keyboard and Mouse, to prevent accidental key strokes which could interrupt an important Playback, for example when playing out to external equipment.

To enter Transmission Mode, hold Ctrl. whilst starting playback in the usual way. The following box will appear:
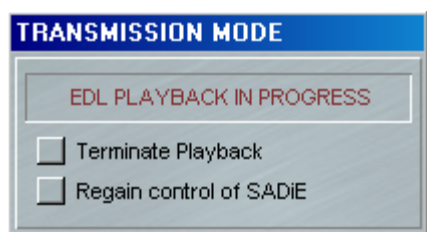
The only way to escape from transmission mode is to click on one of these two options. "Terminate Playback" will stop playback and allow you full control of SADiE. "Regain control of SADiE" will allow you full control, but will continue playback.

AUDIBLE SCRUBBING

Scrub is a useful generic method of hearing audio whilst quickly moving the virtual playback head (Timeline). There are two ways to scrub. Shuttle moves large distances through the audio in either direction whilst hearing the audio scrub past the Timeline. Jog scrubs the audio left to right to find a particular edit point, like nudging the Timeline backwards and forwards for short distances.

You can quickly search audibly through the Playlist using keyboard Hotkeys to "Shuttle" through the audio. There are three default fixed shuttle speeds. With "Num Lock" turned on the following number pad Hotkeys apply:

- 1 = Shuttle backwards at normal speed / 3 = Shuttle forwards at normal speed
- 4 = Shuttle backwards at one-and-a-half times speed / 6 = Shuttle forwards at one-and-a-half times speed
- 7 = Shuttle backwards at double speed / 9 = Shuttle forwards at double speed

These Shuttle facilities are locking. Press the Hotkey once to start Shuttling, press again to stop. The double speed Shuttle functions are also available on keys J and K to make things simpler for laptop users. You can change the default speeds in the setup page.

If you have a BB2J, you also have the facility to Jog through the Playlist, this is more like nudging backwards and forwards through the audio. Simply press the top left button on your BB2J controller (labelled "Scrub" on the button key) to activate the Jog function, then turn the Jog wheel. The audio will play back only while you are turning the wheel and in the direction you are turning, and the speed of jog will depend on how fast you turn the wheel.

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.

UNDO AND REDO

Pressing UNDO can reverse the last change that you made to the Playlist. Press UNDO again to reverse the change before that, and so on, stepping back through the history of your actions.

REDO will step forward through the action history, if you UNDO too many times.

Undo and Redo are also available on the "Edit" menu. This also gives a description of the operation to be undone or redone.

There are up to 50 levels of undo available.

These functions are also available as keyboard Hotkeys:

- Ctrl + "Z" = Undo
- Ctrl + "Y" = Redo

MANIPULATING CLIPS

SELECTING CLIPS

To perform any function on a Clip it first needs to be selected:

- To select one Clip, click on it. It will turn red to show it is selected.
- To select more than one, hold the Shift key whilst clicking on the Clips to select.
- To select adjacent Clips, click, hold and drag the mouse to draw a box around the Clips to be selected. Don't start the box on a Clip that is already red, or you will find you are moving it!

- To select all the Clips in the Playlist, click on the "Edit" menu, then "Select All".

- To deselect individual Clips, hold Shift whilst clicking on them again.

- To deselect all Clips, click on a grey bit of a Playlist Stream.

NOTE: Selected Clips are red. Red is a warning! Once selected it is quite easy to move Clips by mistake, so always deselect them when you have finished.

There are several Hotkeys for selecting and deselecting Clips:

- Right Arrow = Select Previous

- Left Arrow = Select Next

- Ctrl + A = Select All

- Esc = Deselect All

If you have a BB2J, you can position the Timeline over a clip using the Jog wheel, then press the bottom left button (labelled "Select" on the button key) to select the Clip.

RENAMING CLIPS

To rename a clip right-click over the Clip itself and select "Edit Entry Name". Type the appropriate name, and then press Return ( ).

Press "Y" on the Keyboard to rename the currently selected Clip. This Hotkey will only work on a selected Clip which is currently displayed on the screen.

CUT, COPY, AND PASTE

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

Clips are pasted into the Playlist from a temporary store called the Paste Buffer. The Paste Buffer can contain Clips that you select to cut or copy from within the Playlist. So you can move Clips by cutting and pasting them somewhere else, and you can repeat them by copying them and pasting the copy somewhere else.

These tools are on the Playlist toolbar.

CUTTING AND REMOVING CLIPS

Select the Clip(s) required, then press CUT ENTRIES TO PASTE BUFFER

NOTE: The previous contents of the Paste Buffer are replaced each time it is loaded. If you want to remove a Clip from the Playlist 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 will be useful if the Paste Buffer already contains something you want to paste in later.

COPYING CLIPS

Select the Clip(s) required, then press COPY ENTRIES TO PASTE BUFFER

PASTING CLIPS

Once you have loaded the Paste Buffer, by Cutting, or Copying you can then paste the Buffer to the Playlist:

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(s) will be positioned. The mouse time display will give you the exact EDL time. Click to paste the Clip(s) into the Playlist.

This function is available as keyboard Hotkey, by pressing Shift + "V"

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

Pressing the PASTE TO CURRENT TIME button will place the contents of the paste buffer into the Playlist at the current time. Under normal circumstances, this will be with the entry's start time to the current time.

NOTE: Multiple Clips cut or copied from the Playlist 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 EDLS TO ANOTHER EDL

The paste buffer can be loaded with an entire Playlist 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 Playlist you want, then press "Ok".

The PASTE button will have been pressed for you so you can immediately paste the selected Playlist into your current Playlist. 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.

PASTING BETWEEN EDLS

You are able to copy selections between EDLs that are in the same project.

1. Select some entries; select COPY ENTRIES TO PASTE BUFFER by one of the methods above.

2. Open the destination EDL by double-clicking on its icon at the bottom of the Clipstore (press V to open the Clipstore).

3. Then Paste the entries into the new EDL usign any of the methods above.

MOVING CLIPS

You can move Clips around the Playlist in many ways:

1. Cut and Paste them as described above.

2. Select Entries, and then click and 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.

3. Nudge them 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), using keyboard hotkeys.

You can also move Entries when using Playlist Editing mode.

PLACEMENT OF CLIPS

REMOVE GAP (BUTT)

To butt a selected Clip up against the previous Clip on a Stream, press the REMOVE GAP button. The start of the selected Clip's fade-in will be changed to coincide with the start of the preceding Clip's fade-out.

This function is also available as a keyboard Hotkey, by pressing "F4"

SNAP TO CURSOR

This is a very useful tool for synchronising Clips. Right-click over the Clip you want to move and select either "Snap entry in-point to current-time" or "Snap Entry's end to current-time". The Entry will jump to a new position with either its in or out-point on the Timeline. This is useful:

- On the fly whilst listening to music to run alongside speech. A voice Clip can be snapped to the Timeline during playback.

- After positioning the current-time cursor by double-clicking on the current-time display and typing a new value.

With a single Clip selected, these functions are also available as keyboard Hotkeys:
- "I" = Snap entry in point
- "O" = Snap entry's end

SLIP

Slip is a useful function for keeping Clips in Sync with one another.

Turns the Slip function on and off

Enables Slip for all Clips to the Left (earlier in the time line) of the selected one.

Enables Slip for all Clips to the Right (later in the time line) of the selected one.

With the Slip function on and a Clip selected, other Clips on enabled Streams will turn dark blue and will automatically be moved with the selected Clip:

- Moving a Clip by nudging, dragging it with the mouse, using Remove Gap, or by any editing functions will cause Slipped Clips to move with it.

- If right Slip is selected, removing a Clip from the Playlist will cause later Clips to be brought forward by an amount equal to the selected Clip's duration. This means that removing a Clip between two cuts in continuous audio will automatically remove the gap that would otherwise be left.

- If right Slip is selected, pasting a new Clip into the Playlist causes Clips after it to be moved back by an amount equal to its duration, e.g. they make room for it!

GROUPING CLIPS

Any number of Clips may be grouped together. They will be redrawn as a single block in the Playlist and this can be renamed and edited as if it were one clip. This is useful for convenience of display, if you are repeating operations on the same group of Clips, or to avoid accidentally undoing edits.

Select the Entries you want to group and then press GROUP SELECTED EDL ENTRIES.

NOTE: When selecting lots of Clips it may be easier to select all the Clips in the Playlist and then deselect the ones you don't want included in the group. Click on the "Edit" menu, then "Select All" (or press Ctrl + "A" on the keyboard). Deselect Entries by holding Shift on the keyboard while clicking on them with the mouse.

A group can be broken down in to its component parts by selecting it and pressing the UNGROUP button.
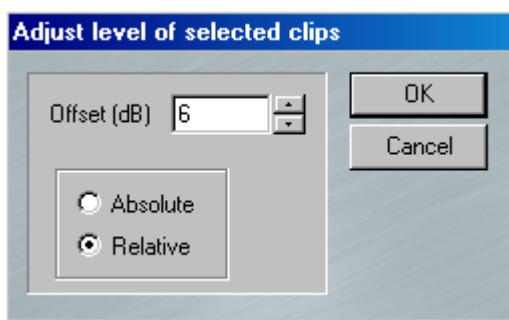
When a Clip or group is selected, these functions are also available as keyboard Hotkeys:

- "G" = Group
- "U" = Ungroup

When editing a Group clip, you will only be allowed to edit the starts and ends of the clip, and will not be able to perform and edit that would break any internal edits.
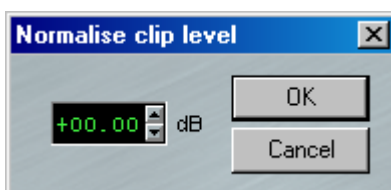
ADJUSTING CLIP LEVELS

To adjust the level or single or multiple selected clips, go to the "Playlist" menu, and select "Adjust level of selected clips". The window which appears allows you to make an absolute or relative change to the level for all the selected clips. The level is changed by typing a value in the box, or clicking on the nudge buttons.

This function is also available as a Hotkey, by pressing "L" when the desired clips are selected.

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. Each clip will be normalised individually (this also applies to the individual clips inside (yellow) group clips). Set the "Normalise clip 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.

This function is also available as a Hotkey, by pressing "N" when the desired clips are selected.

EDITING

EDITING

SADiE provides the user with a fast and intuitive interface for editing. With stereo Clips, the two channels are always edited simultaneously if they were recorded together, unless a stereo Clip is first ungrouped as described under Grouping Entries.

There are three editing techniques at your disposal:

1. Simple cut-and-splice editing in the Playlist using the Scrub functions to accurately locate edit points, and making "razor-cuts", just as you would on tape. This creates separate Clips 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 Clip, as well as fade durations.

3. Region Editing - the previous editing methods are Clip based, but region editing is useful for cutting, copying areas that haven't yet been defined as Clips. You can, for instance, use region editing to remove a complete section of the Playlist across all streams.

RAZOR AND SCISSORS

Pressing the RAZOR button, divides the Clips under the Timeline on any enabled Stream into two at the Timeline position.

If you have a BB2J you can, alternatively, press the bottom right button on your BB2J controller (labelled "Razor" on the button key)

Whereas the RAZOR button always cuts at the Timeline, when you press the SCISSORS button, the mouse-pointer will change into a dinky scissors icon with a cross hair to show the exact cutting point (mouse time). 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: When using the RAZOR, if there are Entries at the cut point on other Streams which you don't want to be cut, disable those Streams first. The SCISSORS function cuts only on the Stream the mouse icon is over, providing a useful alternative to the RAZOR if working only on one Stream.

- Holding the Ctrl key whilst scissor-cutting, cuts across all enabled streams at the mouse time.
- Holding the Alt key whilst scissor-cutting, cuts at the current (Timeline) time rather than at the mouse time, on the Stream which the mouse icon is over.
- Using Ctrl + Alt cuts on all streams at the current (Timeline) time, the same as the razor.
- Right clicking while you have the scissors selected disables them and returns the cursor to its normal "select" mode.

CUT AND SPLICE EDITING

1. Scrub through the audio to locate your edit point.

2. Before cutting, you should disable any Streams that contain Clips that you don't want to edit. Pressing the ⬚ 1 STREAM NAME button enables/disables Streams for cutting. Disabled Streams appear a darker grey.

3. Press the RAZOR button. All Clip(s) on enabled Streams will be divided at the Timeline.

4. If you are trimming a Clip's beginning or end, you can now simply remove the unwanted Clip material to the left or the right of the razor-cut. If you are removing material from within the Clip, you will need to locate and make a second razor-cut so that you can remove the material between them. Select (by clicking on it) the unwanted material and remove it (either, by using CUT TO PASTE or right-clicking and selecting "Delete"). If you have SLIP on, the resulting gap will be automatically joined up.

5. 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.

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 (useful if you can see where to cut from the waveform profile) and so skip the process of scrubbing to locate the edit point.

PLAYLIST EDITING

PLAYLIST EDITING WITH THE MOUSE

In this mode, when a Clip is selected in the Playlist, it will change to a waveform profile and its In and Out points 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 Clip, and the in-point of the next, you can use Playlist Editing to 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.

*   You can adjust an existing edit.

*   You can adjust the join between two unrelated Clips, such as a music Clip fades and speech starts over it.

To use Playlist Editing:

1. Activate PLAYLIST EDITING mode with this button on the Playlist toolbar.

2. With the mouse, select the Clip you want to adjust. It will turn bright red.

3. Depending where you point the mouse over the Clip, a handy little graphic at the mouse cursor will appear to tell you which bits of the Clip are going to move.

Cursor	Area	Operation
	In-point	Fade-in moves
	In-point	Body and Fade-out move
	Main body	Whole Entry moves
	Out-point	Fade-in and Body move
	Out-point	Fade-out moves
	Main body while holding CTRL key	Moves the body of the entry but leaves the In and Out where they were.

4. When the appropriate mouse graphic for your chosen function is displayed, click and drag the mouse over the Clip profile to move through the audio. When you release the mouse button, the edit adjustment is done! You can also enable "Scrub" to hear the changes being made.

> NOTE: Scrub is useful for quickly losing large amounts of audio 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 Clips move when you release the mouse button will be determined by whether you have selected a SLIP mode (see Placement of Clips).

NOTE: The time display in the Transport Controls will show you the time of the In or Out point being adjusted and this (or the new duration) will appear alongside the Clip on the Stream. When moving the whole Entry, the Stream display shows the in and out times.

5. To hear the edit play it back as normal.

IN PRACTICE Playlist Editing is much quicker to do than to read about! Try it out to familiarise yourself with the functions and what they do.

FADES AND CROSSFADES

There are four more mouse graphics 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:

Cursor	Operation
	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 by holding the keyboard Shift+Alt key (for coarse changes) or the Alt key (for finer adjustments), as you move the mouse over the edit point:

Cursor	Operation
	Fade-in shape
	Fade-out shape

WITH A BB2J

PLAYLIST EDITING WITH A BB2J

If you have a BB2J, all the major editing functions are available to you on the controller, minimising the use of your mouse. Enable Playlist Editing mode in the usual way, and then simply press the buttons detailed below (see the button key for more details) and move the jog wheel to alter the specified points.

Buttons on BB2J	Equivalent Cursor	Operation
IN		Fade-in moves
IN + EDL/SRC		Body and Fade-out move
OUT + EDL/SRC		Fade-in and Body move
OUT		Fade-out moves
IN + XFADE		End of the Fade-in
OUT + XFADE		Start of the Fade-out

You can also enable "Scrub" to hear the changes being made.

REGION EDITING

![icon] REGION EDITING
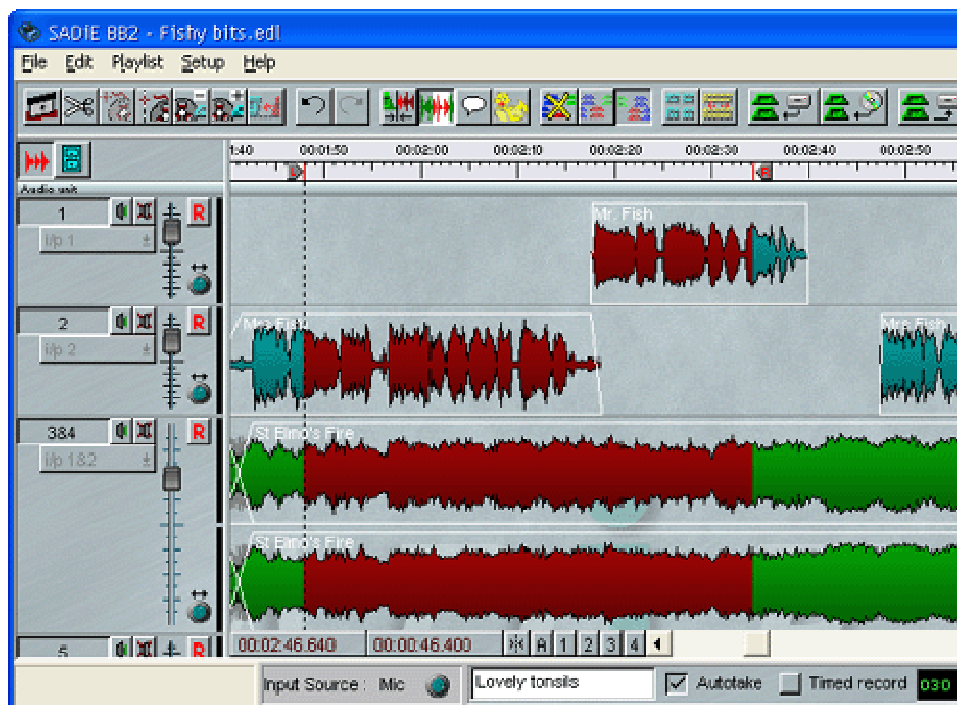
The basic principle of Region Editing is that you firstly define a "region" of the Playlist, and next perform another action on that region; you may want to delete it, move it or copy it elsewhere for instance. The region is defined between the standard Left and Right Locators, and across all streams enabling you to more easily edit across all enabled streams.

You could use the region editing tool for removing a section, 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.

There also keyboard Hotkeys for the Region Editing functions and this can speed up operation significantly.

![icon] To enable Region Editing, press the REGION EDITING ENABLE button; region editing is turned on when the button is pressed in.

![icon] DEFINING AND ADJUSTING THE REGION

DEFINING THE REGION

When Region Editing is enabled, the mouse cursor will change to a   pencil tool, which signifies that you are ready to define a new region.

To define a Region, with 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 mouse to the right, 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 dark red, and you'll notice the Left and Right locators are positioned at the start and end 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.

ADJUSTING THE REGION

Clicking with the mouse outside the defined 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.

When the mouse is close to the start or end of the region, the mouse cursor will change to a ⟨HMC⟩ left pointing or a ⟨HMP⟩ right pointing arrow shaped cursor. Clicking and dragging one of these cursors allows you to adjust the region start or end.

⟨image⟩REGION EDITING FUNCTIONS

To see the sort of thing you can do with Region Editing simply press the keyboard "Delete" key. Assuming you have Slip off, you will see the region disappear, and razor cuts are made to tidy up the ends of the clips left behind.

Press UNDO, and then set SLIP to be RIGHT. Press "Delete" again and this time the region disappears, but all clips to the right are slipped to fill in the hole.

⟨icon⟩ Press UNDO. This time press the CUT button. The same thing as before will happen: the region disappears and clips move left to fill the hole.

⟨icon⟩ 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.

⟨icon⟩ Alternatively, you can use the COPY button to leave the original region unchanged (and un-razored) to allow you to paste a copy of the region elsewhere in the list.

NOTE: You may want some streams of the Playlist NOT to be affected by any region editing. Region editing only works on streams that are currently enabled (see Enabling and Disabling Playlist Streams).

⟨image⟩REGION DUCK

You can automatically "duck" or drop the level of a defined region, for example to lower the level of music under a section of speech. In our example here, Stream 1 contains a voice over, and Streams 2 and 3 contain a background music track.

1. Define the region as described above, for the section of audio you wish to the lower the level of.
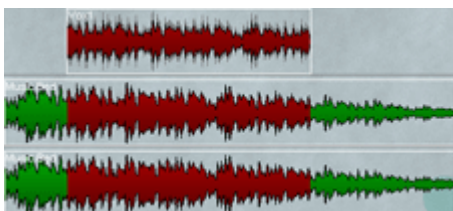
2. ⟨icon⟩Press the REGION DUCK button. The Region Duck window will appear.

3. Select the amount you want to drop the level by in dB, either by typing in the box, or using the nudge buttons.

4. A default crossfade will be placed at either end of your ducked audio. You can set the length of the transition here, either by double-clicking and typing a time, or by using the nudge buttons.

5.   Finally, select the streams which contain the audio to be ducked by placing a tick in the relevant box. Click Ok. The ducked material will be cut at the left and right locators for the region, and a crossfade of the length specified will be inserted.
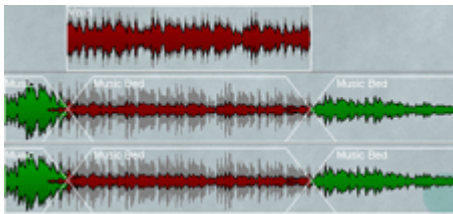
This function is also available as two slightly different Hotkeys, if you press "D" a Duck is performed automatically using the parameters that were last set; whereas "CTRL+D" gives you the standard Duck dialog box. Quite often you will set up duck parameters once and these may work fine for most other duck operations in the project - using the "D" key saves you a key stroke.

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.
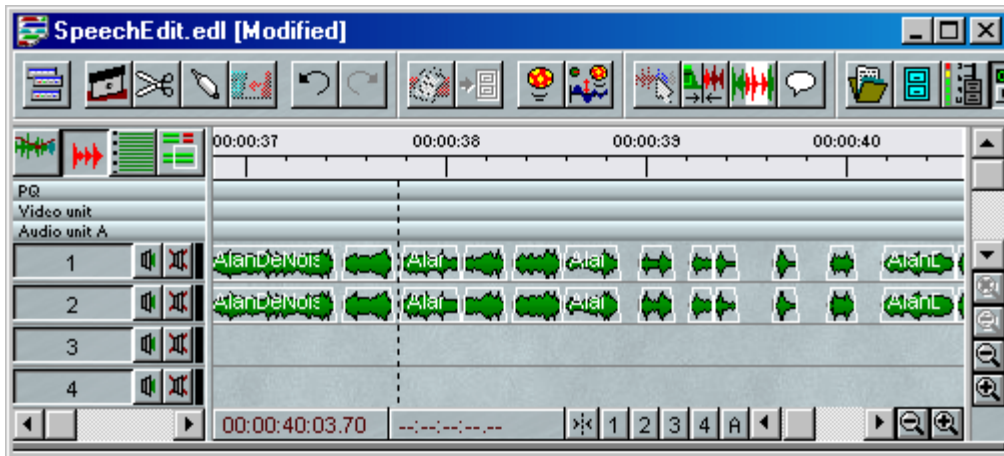
Gated Entries
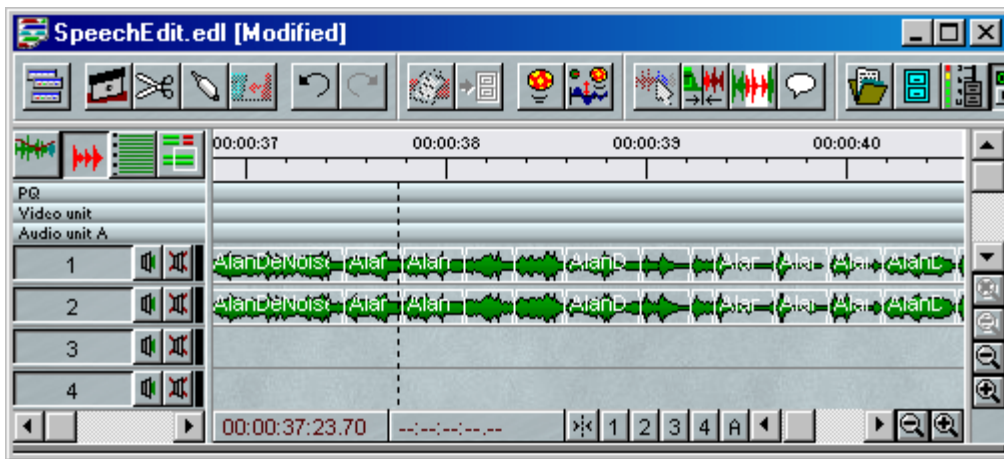
Spliced Entries

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
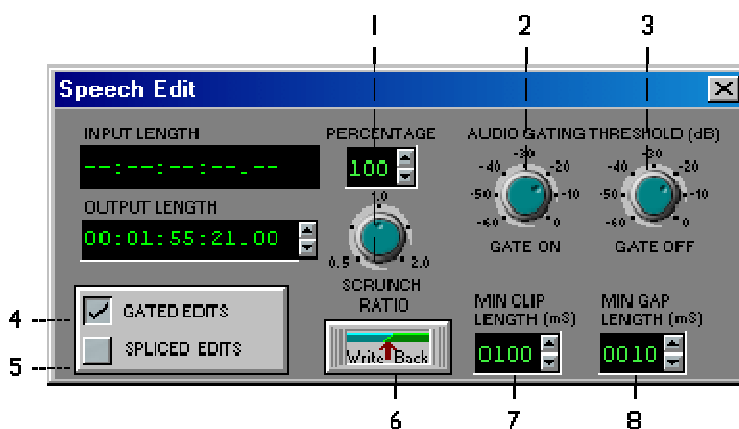
1: Time Scrunch ratio - Sometimes it is impossible for the process to scrunch to the desired amount (if there is insufficient silence), and so it will warn you with a message and set itself to the nearest scrunch ratio it can. To enable the process to scrunch further, the gate on and gate off values 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

You will notice that alongside each stream there is a small fader and pan or balance pot.

Every stream has this fader and pan-pot; in addition there is a single knob for Master Level, at the top of the screen next to the output meters.

The stream faders are always after any clip level changes (using the "Adjust Level" function).

The level of the audio at the main phono outputs is adjusted by the Master level, however the Headphone

Output has an additional gain control after the Master level.

The number (-5.90 in the picture) by the side of the meters is a peak hold display measuring in dbFs. 0db is the maximum possible digital audio level.

The Peak display will hold the maximum level until play is restarted. You can release the Peak hold by double clicking on the number.

Faders and pans can be returned to 0db and centre respectively by holding the CTRL key whilst clicking on them.

MIX PROGRAM

MIX PROGRAM

The purpose of the **Mix Program** button is to allow you to re-record your edited audio to new files, either :-

- As preparation for writing the files onto CD,

- To "Master" files, which will be stored on a server or Playout system,

- To mix or bounce clips into a single entry in the Playlist, perhaps to "lock" finished edits, or to allow more tracks by mixing down several tracks into stereo.

Users of the full SADiE software will know this function as **Bounce** - Mix Program is the same thing, but simplified.

Pressing the **Mix Program** button (the right-most of the three Import/Mix buttons shown) will show the Mix Program Window as below:
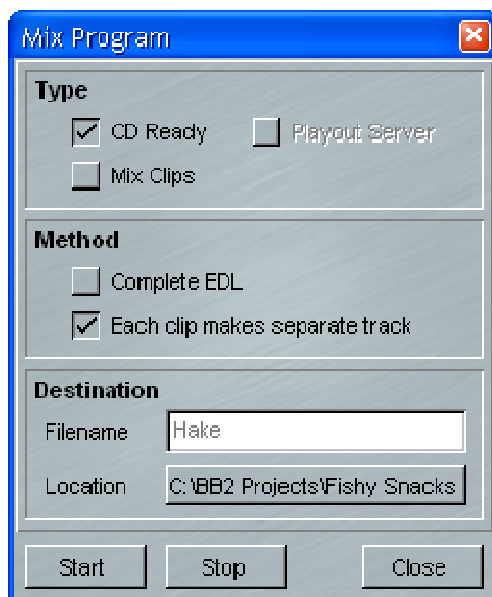
WRITING A CD WITH THE BB2

Writing an audio CD with SADiE BB2 is a two stage operation:

1. Prepare the CD Tracks using the **Mix Program** function.

2. Burn the tracks to CD using Windows CD burning software.

Note :- you should be working at 44.1KHz sampling rate, unless the application that you intend to use for burning the CD can accept and can sample rate convert 48KHz files. When you use CD Ready in Mix Program SADiE BB2 always creates a 16-bit stereo interleaved file (and dither is applied as part of the bounce to cope with any bit depth truncation).

CD READY - MIX PROGRAM

In practise you will either want your whole Playlist to become a single CD Audio track, or else you will want to divide your Playlist clips into separate CD Tracks.

WHOLE PLAYLIST TO A SINGLE CD AUDIO TRACK

Using **Mix Program**, choose the **CD Ready** type, select **Complete EDL** as the method.

You are going to be creating a single Stereo WAV file which will be a Mix Down of the entire playlist. So you will need to **type in a name** for this file. By default the mix-down file will be recorded into your Project folder, but **Location** allows you to change the folder if you wish.

Before you press Start, just check that you are happy with your levels and the way the Mix sounds - the faders (including the Master fader, but not the headphone level) do have an effect on the final product.

When you press **Start** the whole playlist will play through, but silently and usually quicker than real-time; when it's finished, your mix-down audio file will be in the location chosen - there will also be a Clip in the clipstore to allow you to review it.

Then move onto the final "Burning to an Audio CD" stage.

SEPARATE CD TRACKS

If you want different segments of your Playlist to become separate CD tracks, you must Group clips in such a way that each yellow group clip represents a single track on the Audio CD.

It may also be advisable to name these group clips - the separate CD-Ready files we're about to create will be named according to the group clips' names.

You may also wish to delete any stray clips that you do not want to be mixed into CD tracks - the Mix Tracks process works on the entire Playlist.

The rest of the procedure is very similar to that for the Complete EDL above.

Open **Mix Program**, choose the **CD Ready** type, select **Each clip makes separate track** as the method. You cannot enter a filename - these are created automatically. But you may choose to change the **location** - as usual, the default will be the current project folder.

As before, check that you are happy with your levels and the way the Mix sounds - the faders (including the Master fader, but not the headphone level) do have an effect on the final product.

When you press **Start** the whole playlist will play through, but silently and usually quicker than real-time; when it's finished, the separate mix-down audio files will be in the location chosen - there will also be Clips in the clipstore to allow you to review them.

The files will be named according to the clip names, however the names will be prefixed by a number according to the order the clips were placed in the original playlist. Most CD burning software will order multiple files alphabetically when they are dropped into a project, hence the numerical order will ensure the correct order can be easily retained on the CD.

BURNING TO AN AUDIO CD

Every computer that has a CD-R or DVD-R drive will have some software for writing Audio CDs. Follow instructions for your own PCs burning software.

If in doubt, Windows Media Player on Windows XP is able to write simple Audio CDs :

1. Media Player is usually found under Start/All Programs/Accessories/Entertainment/....

2. Open Media Library, click on Playlists.

3. Click on New Playlist.

4. Many methods for adding files to this playlist exist, perhaps the easiest is to find the files in Windows Explorer, then drag them from Explorer into the Media Player playlist.

5. Then click on "Copy to CD or Device" and press "Copy Music".

MIX CLIPS

The **Mix Clips** type in **Mix Program** will mix any red-selected clips down into a single stereo file. The original clips are replaced by the new one in the Playlist.

Mix Clips always produces a 24-bit stereo interleaved BWAV file.

ADDITIONAL NOTES

PROJECTS

PROJECTS

On the right-hand side of the SADiE BB2 window, you can show (press hotkey V) a vertical bar that shows us all the elements that make up your Project. It is split into two halves:

- The "Clipstore" otherwise known as the "Source Tracks Folder" which holds all the source audio material that the project is using.

- The "Project Window" which shows all other elements that are related to the project, perhaps some more Playlists, or external elements such as documents, pictures or expense claim forms. Double-click with the mouse on a file in this lower section, and it will open - EDLs open in SADiE; other files will open with their associated program such as MS Word, Excel etc.
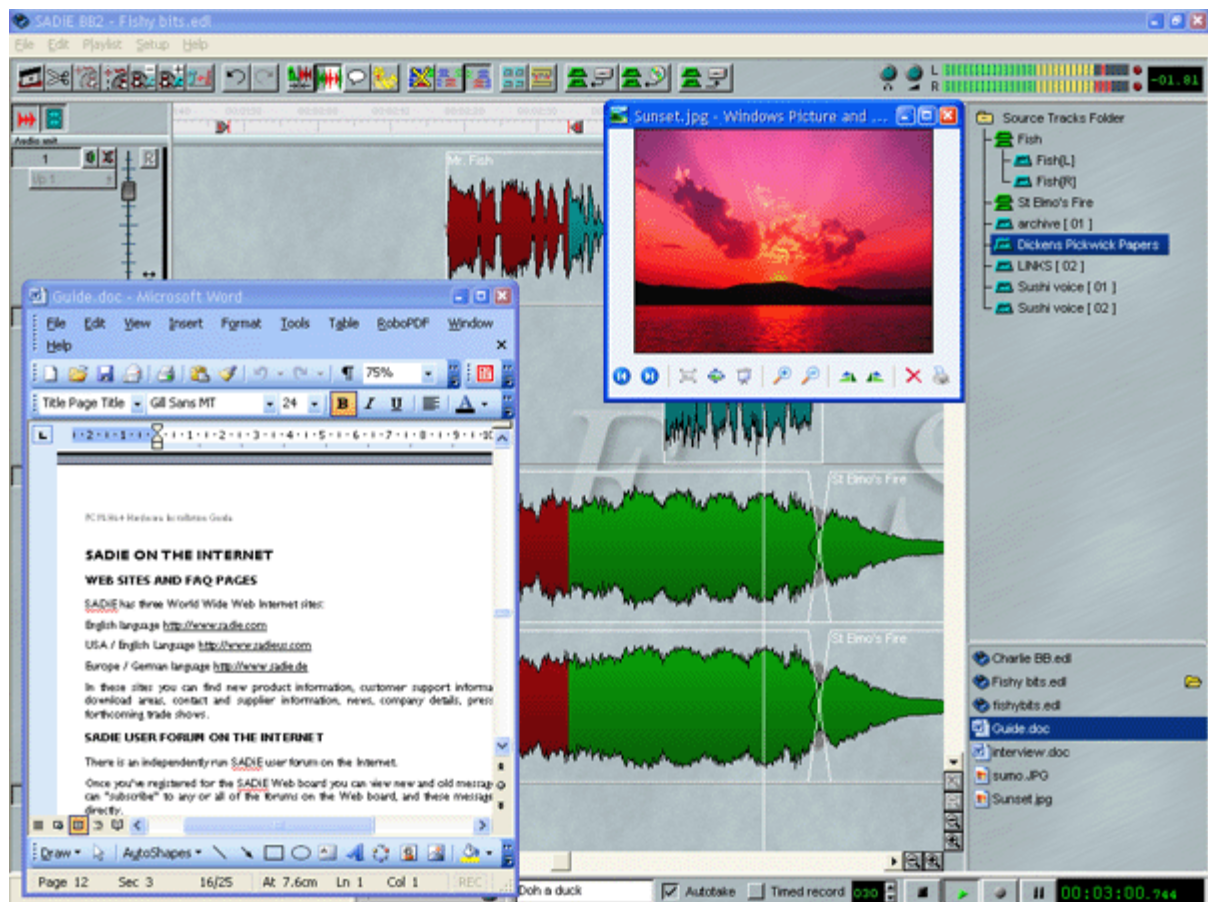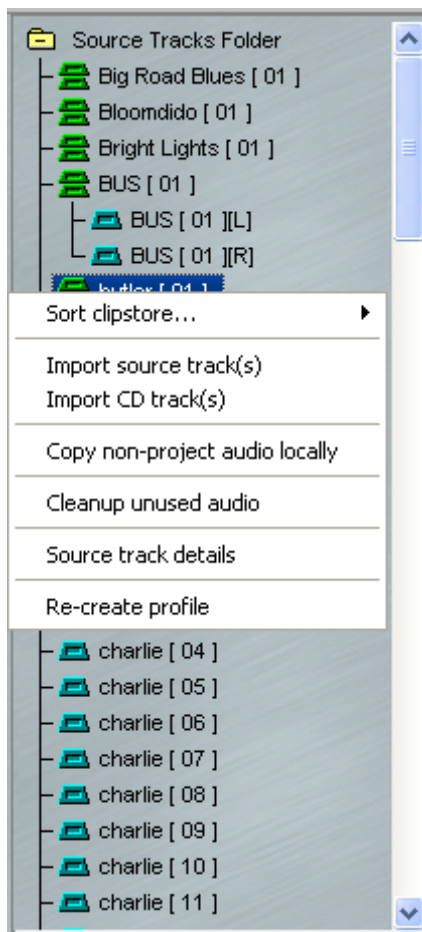

CLIPSTORE

The Clipstore holds the Source Audio Tracks which you are using in your Project.

Any new recordings that you make will be stored in the same folder as the EDL i.e. the Project Folder.

However it is possible to import audio files into your project from other disc drives or directories.

To do this, right-mouse click anywhere in the clipstore and you will see the menu.

Select **Import Source Tracks** to browse and import audio files (further description of this is available in the Importing Source Tracks Section).

When you import audio files from another disk or directory the audio is played from the files' original locations, and no copy is made in the Project Folder.

However note that the **Copy non-project audio locally** function will look in the clipstore for any audio files that are outside the Project Folder, and copy them INTO the Project Folder. This is a good way to ensure that all the files for the project are in one place, to help, for instance, if you are backing up the project to another disk drive, or CD- or DVD-ROM.

Cleanup unused audio is a way of deleting files that are not in use. This will remove any audio files that are not used in any of the EDLs in the current project. Audio files that are external will be removed from the project, but not deleted. Audio that is inside the Project Folder will be deleted.

PROJECT WINDOW
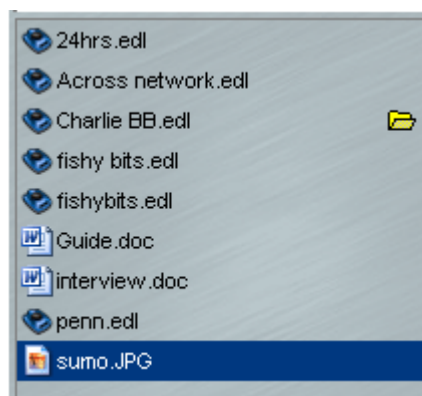
The bottom third of the right hand side bar is the Project Window, which is used to display all the non-audio files that are stored in the Project Folder.

Double-clicking on a file in this list will open it. If it's a SADiE BB2 EDL file, then the currently open EDL will close first. Other files will be opened with their associated Windows program.

To import a non-audio file into the Project, use the right-mouse-click menu **Import** item and browse for the file. A copy of the file will be made in the Project Folder.

It is also possible to copy files into the Project Folder under Windows' Explorer. Any files in this folder will appear after using the **Refresh** command in the Right-mouse-click-menu.

THE DISK MANAGER

DISK MANAGEMENT

SADIE BB2, as with all SADiE Series 5 systems, 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 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 un-mount removable drives.

The left hand pane of the Disk Management window shows a "tree":
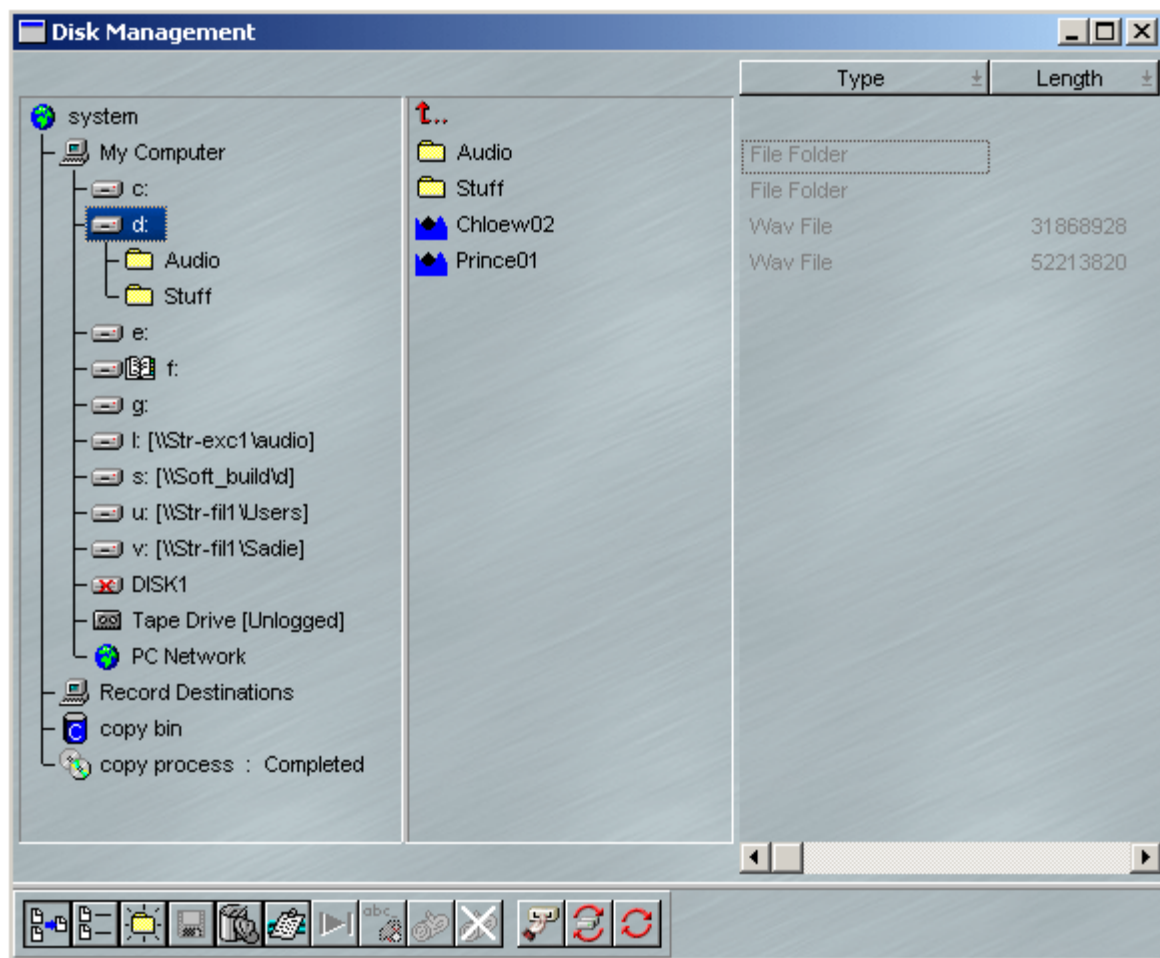
Double-clicking with the mouse on each branch of the tree opens or closes the contents of that branch, so that you can browse down through the levels to find a particular file.

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.

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 EDLs.

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.

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.

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:

Name	ID	Free Space	Used Space	Time Available
c:	0	15991.18MB	3540.95MB	0026:24:16
d:	0	0.00MB	81.68MB	0000:00:00
audio	0	17197.42MB	35296.19MB	0028:23:46
Copy Bin	n/a	n/a	0.00MB	n/a

NB. Time Available calculated at Resolution: 16, Sample rate: 44.1 kHz, stereo

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.
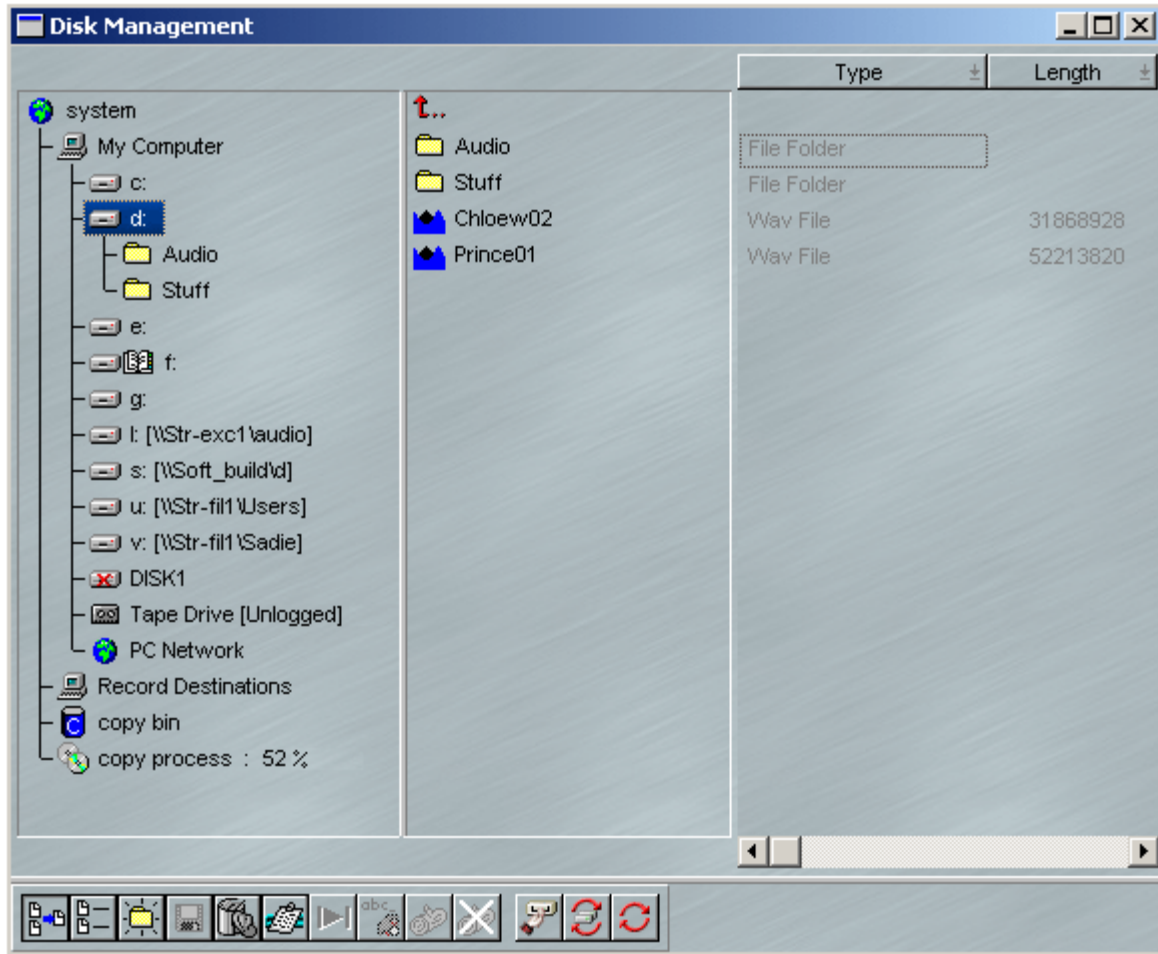
During a Copy process, a new "copy process" branch appears on the left, and clicking on it displays the progress of the copy, which files have completed, and how far the others have got.

Note that the Copy Bin has it's own "Used Space" entry in the System Storage Properties window. This will help you check how much space you need for your copy operation.

--------New Copy Process

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.

REMOVABLE DRIVES

SADiE BB2 provides a means to safely remove, not only standard Windows Removable drives, such as Firewire or USB drives, but also drives which Windows doesn't normally register as "removable" - such as SCSI Drives (of course the seasoned SADiE user will know better and may have been using SCSI drives in removable caddies for many years !)

Hoewever, beware. 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. However, older versions of SADiE, with their own dedicated SCSI busses made this a little safer; under Windows it is particularly dangerous to remove a drive with removing it first in software.

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 lose some files from 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.

SETUP MENU OPTIONS

AUDIO SETUP

The first item in the Setup Menu is for setting up your system Audio settings:-

- Sample Rate. This is a measure of quality, however, running the system at 96KHz sample rate will halve the number of channels of audio in the Playlist (44 and 48KHz allow 8, 96KHz allows 4). If you wish to import files from CD, and/or use SADiE to prepare files to go onto Audio CDs then you should work at 44.1KHz sampling rate.

- Bit Resolution. There is no overhead on the system if you run at 24bit (as opposed to 16bit). The only reason to work at 16-bit would be if you were interchanging with another application that cannot work with higher bit rate files.

It's quite possible that your administrator will have set this up for you. Once set there may be no further need to change these settings.
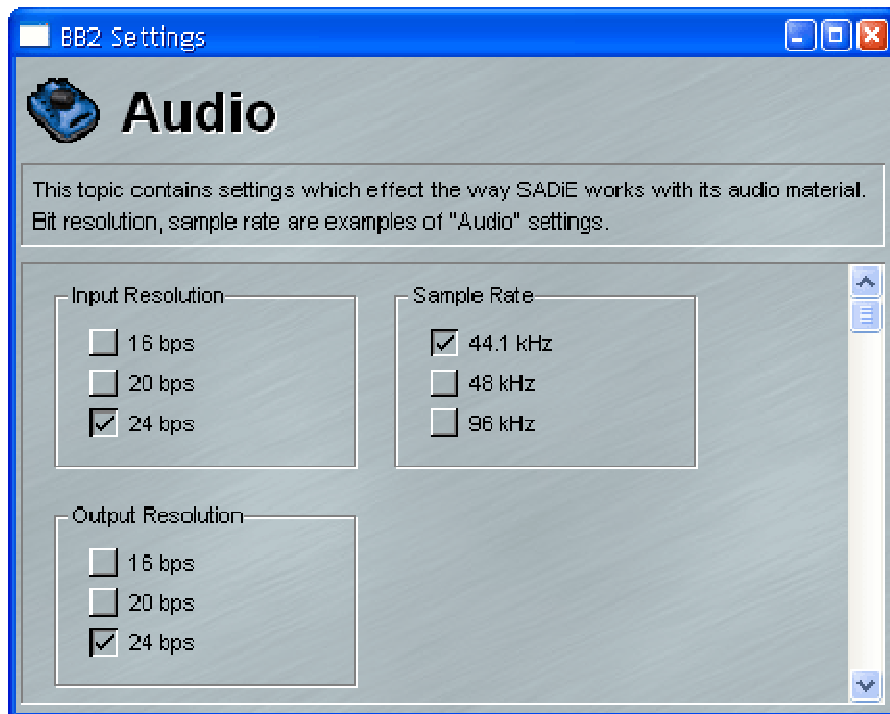
DEFAULT CROSSFADE SETUP

Every clip in SADiE has short fade up at the start and a fade down at the end. Also every time a razor cut is made to divide a clip in two, this cut is actually a short crossfade.

The length of the default settings for every clip's fade up and down, and for every razor cut's crossfade length is set under the Setup Menu , **Default Crossfade**.

Normally a short fade length of approximately 20ms with linear shapes will be just fine for most purposes.
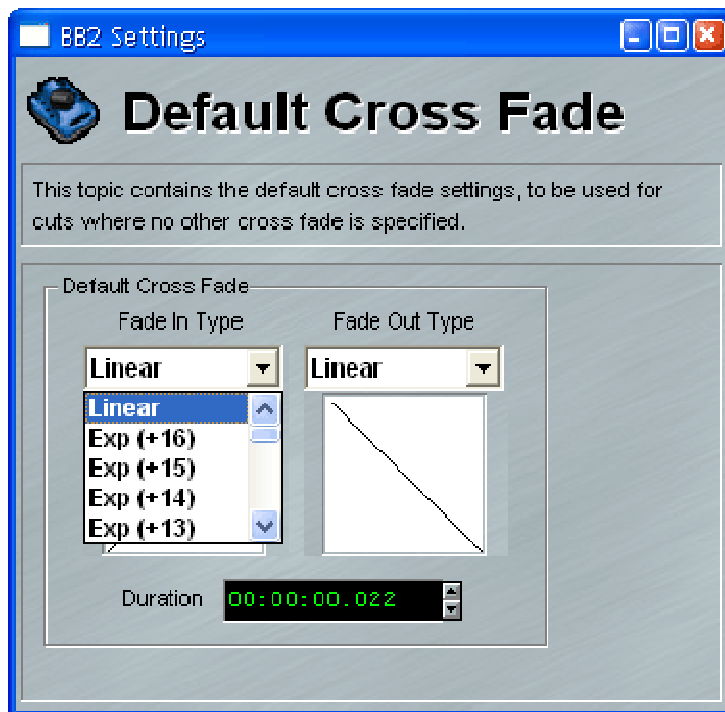
FIXED SPEED SCRUB SETUP

This page under the Setup Menu allows you to adjust the speed settings for the "shuttle" functions which will play the Playlist forwards or backwards at speed (slow or fast).
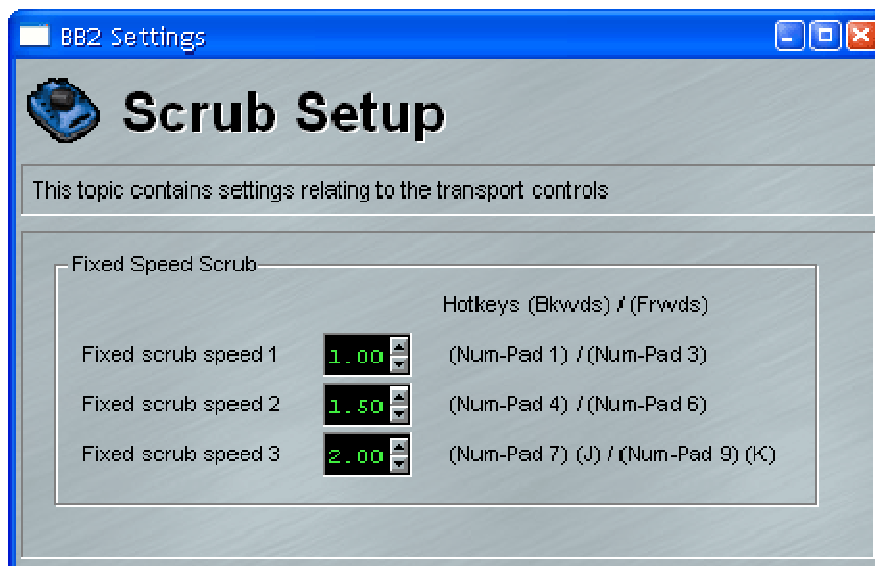
HOTKEY GUIDE

CUSTOMISING HOTKEYS

As standard, the SADiE BB2 software comes with a fixed set of hotkeys, which cannot be changed by individual users, in order that in a workplace with multiple BB2s, you can always guarantee that every machine is operated by the same key strokes.

The standard BB2 hotkeys are listed in this manual, and also from the Setup Menu by selecting **List Hotkeys**. This will display in a page that can be printed.

However the BB2 is available with customisation of hotkeys as an option which can work in two different ways:

1. Hotkeys installed by an administrator with a "in-house" default set. The current hotkey set can always be viewed from the Setup Menu, **List Hotkeys**.

2. Free customisation by every user.

If free customisation is enabled, then the Setup Menu will have the option **Hotkeys..** which will open the Hotkey Setup page in which the hotkeys are changed.

🔥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.
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 AutRepeat fucntion to an exisitng 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.

BUTTON GUIDE

BB2J BUTTONS

The BB2J variant of the hardware has nine dedicated keys as well as the Jog wheel.

A reminder as to the function of the keys, as well as lights showing you their current status is available by selecting **BB2J Button Key** from the **Help** menu.

Also the **CTRL-F7** hotkey will toggle this on and off.

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 a BB2J 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.

OTHER SOFTWARE

INSTALLING THE PCM2 SOFTWARE

If you have purchased the BB2 with PCM2 software, follow this procedure:-

1. First install the BB2 software.
2. Then connect the BB2 unit.

3. Then from the Installation CD-ROM, install the PCM2 software. The BB2 must be connected when you install the PCM2 software. You will either be asked for a password (which you may have received via e-mail) , or the password will be on the CD-ROM and load automatically.

UPDATING SOFTWARE

From time to time software updates may appear. If you wish to load the new version you should:-

1. First you must un-install the current version. From the Start button, open Control Panel, and select Add or Remove Programs.

2. If you are running PCM2 software, you must first remove SADiE PCM2.

3. Then remove SADiE BB2 (you must also do this if you have SADiE PCM2 software).

4. Then install the new copy of SADiE BB2.

5. If you have PCM2 you should install that again. At one point you will be asked if you wish to use a different serial number. Unless you do have a different password, you should answer No and continue the installation.

BB2 FAQS & TROUBLESHOOTING

- **If SADiE does not start when your BB2 is connected:**

  Is it connected correctly ?

  Is the Power Supply connected correctly ?

  Is it connect to a **USB2** port (NOT a standard slow USB port) ?

- **"Hi-speed Device plugged into non-Hi-speed USB hub" message.**

  Is the BB2 connected to a USB2 port ? Or just standard USB ? It must be a USB2 port.

  Is the power connected to the BB2 ? This message can sometimes occur if you connect the BB2 without it being powered first.

  If you ignore this message, the PC may crash !

- **Do I really need to connect the Power Supply ?**

  It is recommended that DC power is used in all modes. The BB2 may function in analogue only mode without DC power, but it may not be as reliable or offer the best sound quality.

  You will not be able to use the SPDIF input or output, unless the Power supply is connected.

  The "Hi-speed device into non-Hi-speed....." message above is a sign that the power supply is not connected.

- **My PC won't go into Standby with SADiE running**

  This is deliberate and to avoid interruption of a mission-critical task such as a recording or playback. You will see a message of the sort "System Standby Failure.. The Device driver for the 'OpusSys' device is preventing the machine from entering standby……………………………..".

- **What do the L.E.D.s on the front of the BB2 mean ?**
  Top Left   - Activity .. lights up whenever there is a command being executed
  Bottom Left - Powered Up .. this usually flashes quickly, if it's not flashing then the unit has not initialised.
  Top Right   - Record .. Red (flashes in record ready, full on during record)
  Bottom Right - Playback .. Green during playback.

BB2 - INPUT AND OUTPUT SPECIFICATIONS

Samples rates of 32 kHz, 44.1 kHz, 48 kHz and 96kHz are supported by the BB2 for both analogue and digital IO. Technical figures are listed for 44.1kHz only and use external DC power.

INPUTS

DIGITAL INPUTS

The BB2 supports a two-channel digital input on a co-axial RCA Phono socket. This is commonly referred to as SPDIF.

SPDIF/AES INPUT

RCA Phono socket: AC coupled.

- Accept levels between 200mVpk-pk and 2.5Vpk-pk (nominally 500mVpk-pk) at all sample rates

- Accept digital protocols to S/PDIF (consumer, IEC 958) or AES (professional AES3-1992) format, 32 – 96 kHz

- Input Impedance: 75 ohms +/- 5%

ANALOGUE INPUTS

The BB2 supports 2 channels of analogue input from either RCA Phono sockets at audio line-level, or from the 3.5mm stereo socket (microphones). Note that only one pair of inputs may be used at a time.

For both sets of inputs the conversion used is: 24-bit 128-times over-sampling multi-bit delta sigma converters, one per channel, simultaneous conversion, up to 96kHz sample rate.

RCA Phonos (Line In)

- Nominal Level for peak digital audio (sine wave):   2 VRMS (8.239 dBu)

- Input Impedance: 47 kohms

- Frequency response: 20Hz - 20kHz, +0/-0.1 dB, AC coupled.

- Total distortion and noise with 1kHz applied at peak level: > -93dB

- L/R Channel matching: better than 0.2dB

3.5mm Stereo Jack (Microphones)

Microphones may be either dynamic or electret-condensor types. Phantom power is not provided.

- Nominal Level for peak digital audio (sine wave):   -45 dBu (4.3mVRMS)

- Input impedance: 620 ohms

- Frequency response: 20Hz - 20kHz, +0/-1.0 dB, AC coupled

- Total distortion and noise with 1kHz applied at peak level: -69 dB

OUTPUTS

The BB2 has two sets of outputs, a pair of RCA Phono sockets with shared analogue/digital functionality, and a 3.5mm stereo headphone output jack.

DIGITAL OUTPUTS

The BB2 supports a two-channel digital output on a co-axial RCA Phono socket.

SPDIF/AES OUTPUTS

RCA Phono female connector: AC coupled.

- Generates digital protocols to S/PDIF (consumer, IEC 958) or AES (professional AES3-1992) format, 32 – 96 kHz +10%, depending on software selection.

- Output level: 500mVpk-pk +/- 10%

- Source impedance: 75 ohms +/- 5%

- Symbol jitter < 12ns pk-pk RMS

ANALOGUE OUTPUTS

The BB2 supports 2 channels of analogue output from RCA Phono sockets. For monitoring, a stereo headphone output is also available at the same time.

For both sets of outputs the conversion used is: 24-bit 128-times over-sampling multi-bit delta sigma converters, one per channel, simultaneous conversion, up to 96kHz sample rate.

RCA Phonos (Line Out)

- Level for peak digital audio (sine wave): 0.8 VRMS (0.28 dBu)

- Output impedance: < 10 ohms

3.5mm Stereo Jack (Headphones)

- Output impedance: < 10 ohms

- Maximum Headphone output power: 30 mW into 32 ohms
                                                                       40 mW into 16 ohms

ANALOGUE PERFORMANCE, INPUT TO OUTPUT

RCA Phonos (Line In to Line Out)

- Frequency response: 20Hz - 20kHz, +0/-0.1 dB, AC coupled.

- Total distortion and noise with 1kHz applied at peak level: -102dBfs (-93dBu)

3.5mm Stereo Jack (Headphones)

- Frequency response: 20Hz - 20kHz, +0/-0.1 dB, AC coupled.

- Total distortion and noise with 1kHz applied at peak level: -100dBfs (-91dBu)

Test Notes

1) All THD+N figures use the following filters:

- 400Hz high pass

- 22kHz low pass

- A-weighted

- RMS response

2) All controls in Sadie (headphone volume, microphone gain etc) adjusted to their default values.

POWER REQUIREMENTS

Power is supplied to the unit from an external DC supply (provided with BB2).

Current consumption: 490mA at 5V

INTERFACE

BB2 requires a USB2.0 connection to a host PC.

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SADIE BB2 REGISTRATION

All fields with a star (*) are mandatory.

*Name:	
Company:	
Address:	
*Country:	
Phone number:	
*Email address:	
*Serial number of product:	
*Make and model of computer to be installed on:	
*Basic computer description (processor speed, amount of ram, OS):	
Type of work:	
Are you an existing SADiE user \ owner:	
*Where did you buy the product?	
*Date of purchase:	
Where did you hear about the product?	
What made you choose SADiE BB2?	

Tick this box if you do not wish to receive offers and product information from SADiE	

Fax to

Prism Media Products +44 1353 648867