Pyramix
DIGITAL AUDIO WORKSTATION

User Manual

Contents

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0 Contents iii

10 Mixer 141

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Introduction **1**

Pyramix

DIGITAL AUDIO WORKSTATION

Thank you!

Congratulations on your purchase of **Pyramix Virtual Studio**. More than just a product, this is a gateway to the future of sound recording, editing, mixing and mastering. You have joined a worldwide community of users who have already discovered the Pyramix advantage.

> **Note:** IMPORTANT! - The first thing you need to do is register your software to acquire your Pyramix key(s) and to be included in our user support list.

Please also subscribe to the User Forum at:

http://forum.merging.com/

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Installation

Please see the **Quickstart Guide** and/or **Installation Guide** and the **Installation Guides** for any hardware you have purchased.

About This Manual

Automatically installed with Pyramix and available under the **Help** menu or **[F1]**, this manual is intended to be a comprehensive reference source for all the standard features and functions in Pyramix 6.1.

Navigation

In electronic form, all the **Contents** and **Index** entries and **Cross-references** are hyperlinks. I.e. clicking on them will jump to the relevant item.

PLEASE DO NOT PRINT THIS DOCUMENT UNLESS ABSOLUTELY NECESSARY
SAVE TREES AND INK BY USING THE HYPERLINKS

VERY IMPORTANT!

We strongly recommend you consult the other Pyramix guides for a more complete understanding of all the features and functions of Pyramix.

HOWEVER,

recognizing that most people do not read manuals until they have to, the **Quickstart Guide** will enable you to achieve (almost) instant gratification! The Quickstart Guide will introduce you to Pyramix Virtual Studio Version 6.1 and lead you through a simple set-up, recording and importing audio, simple editing, mixing, adding effects, and CD recording.

Scope

This manual is principally concerned with Pyramix software installed on workstations with **Mykerinos** cards. Although many of the features and functions described also apply to **Pyramix Native** there *are* differences. These are detailed in the Pyramix Native documentation.

Commands Reference

Automatically installed with Pyramix and available under the **Help** menu, this document lists all the commands available in Pyramix together with the default Keyboard Shortcuts.

MassCore™

MassCore is an extremely powerful Pyramix option. A truly deterministic real-time engine that does not rely on the Windows operating system. This avoids the inherent restrictions and latencies introduced by the operating system and allows the channel/track-count to be increased to an unprecedented level. **MassCore** is scalable from 16 to 384 Live I/O (768 simultaneous) channels with a massive 512 channel bus structure (At 1FS).

MassCore enables a number of new features:

• Larger Mixer configurations

• Extra 2.66ms and Ultra 1.33ms latency options

- Full Delay Compensation (VS3 and VST)

- VST inserts on Buses and Auxes

- VST Multi-channel support

- External Inserts (physical effects)

- External Monitor Inputs and Talkback

- Virtual ASIO I/O

Where features are **MassCore** specific you will see the **MassCore** logo:

Important Note

Pyramix is not only a very powerful workstation, it is also a highly configurable one, the user interface especially so. Screenshots in this manual are shown mainly with the default interface on a Windows Vista System with the graphite scheme and Aero switched on.

If you cannot find something in a Pyramix menu or toolbar that is discussed or shown in the manual, or something appears differently, please go to:

Settings > All Settings > Desktop Layout and examine the relevant tab window.

Pyramix Guides

Quickstart Guide
Automatically installed with Pyramix and available under the **Help** menu, this document is intended to enable new users to achieve good results quickly. It also aims to introduce existing Pyramix users to the new features in Pyramix 6.0.

Other Pyramix Guides

The other guides listed here are installed along with the Pyramix software and / or may be freely downloaded from the Merging Technologies website.

Installation Guide
An expanded version of the Installation chapter in the **Quickstart Guide**

Virtual Transport Guide
This is the reference guide for Virtual Transport.

Pyramix Applications Guides
These guides aim to be a useful resource for Pyramix users. They will contain set-up examples and practical hints and tips for using Pyramix for specific applications such as;

Music Recording, Editing and Mastering (in development)

SACD Production Guide (in development)

Sound for Picture (in development)

Radio Production (in development)

Guides for Pyramix Optional Features

Documentation for optional features is provided in PDF format. Some are automatically installed with the Pyramix software. Others may be freely downloaded from:

http://www.merging.com

Assumptions

This **User Manual** and the other Pyramix guides assume you are thoroughly familiar with PCs and Windows terms and concepts. If the PC is new, please ensure the machine is working correctly before attempting to install Pyramix Virtual Studio.

Conventions

Conventions used in this manual:

Names found on Pyramix screens and menus are shown in bold. E.g. **Information & Settings**

Menu and sub-menu selections are shown like this:

View > Tracks > Show all Tracks

Which means:

Go to the **View** pull-down menu, mouse down to the **Tracks** sub-menu and choose **Show all Tracks**.

All Pyramix settings have been gathered together in a hierarchical structure. **Selecting Settings > All Settings** opens the **Pyramix Settings** window with a folder and file tree in the left hand pane.

Where a dialog box has several Pages, Tabs are used to 'turn' the pages. Tab page selection is shown thus:

Settings > Keyboard Shortcut Editor : Clips

Which means:

Go to the **Settings** pull down menu, choose **Keyboard Shortcut Editor** then click on the **Clips** Tab.

Keyboard Shortcuts are shown thus: **[Shift + Alt + R]** means hold down the Shift and Alt keys then press R

Important Information

Important information is shown thus:

Note: When producing a CD image the mixer output **MUST** be stereo, not two monos.

Pyramix Virtual Studio Overview

Pyramix Virtual Studio is a powerful and flexible Digital Audio Workstation (DAW) integrating hard disk recording and editing, digital audio mixing, effects processing, machine control, video, and CD-R mastering.

Pyramix runs on the **Merging Technologies Mykerinos** hardware platform. Each **Mykerinos** board is capable of up to 128 channels of 24-bit digital audio, 64 recording and 64 playback. External access to these 128 channels is determined by your choice of physical inputs and outputs to the **Mykerinos** board.

MassCore is scalable from 16 to 384 Live I/O (768 simultaneous) with a massive bus structure. (For now this is limited in code to a total of 512 at 1FS (256@2FS, 128@4FS, 64@8FS).

With multiple boards the Pyramix workstation is capable of up to 384 channels of 24-bit digital audio. External access to these inputs and outputs is determined by your choice of daughterboard(s). Note that whilst the ADAT daughterboard continues to function normally in HDTDM (64 bus) mode it cannot be used for input when in XDTDM (128 bus) mode and is only capable of 8 outputs via Optical Output A with the same 8 duplicated on Optical Output B.

WARNING! The original **ADAT** Daughterboard requires modification before use with XDTDM mode. Failure to do this may result in data loss. Please contact your Merging Technologies Sales Partner to arrange a modification.

Program Window
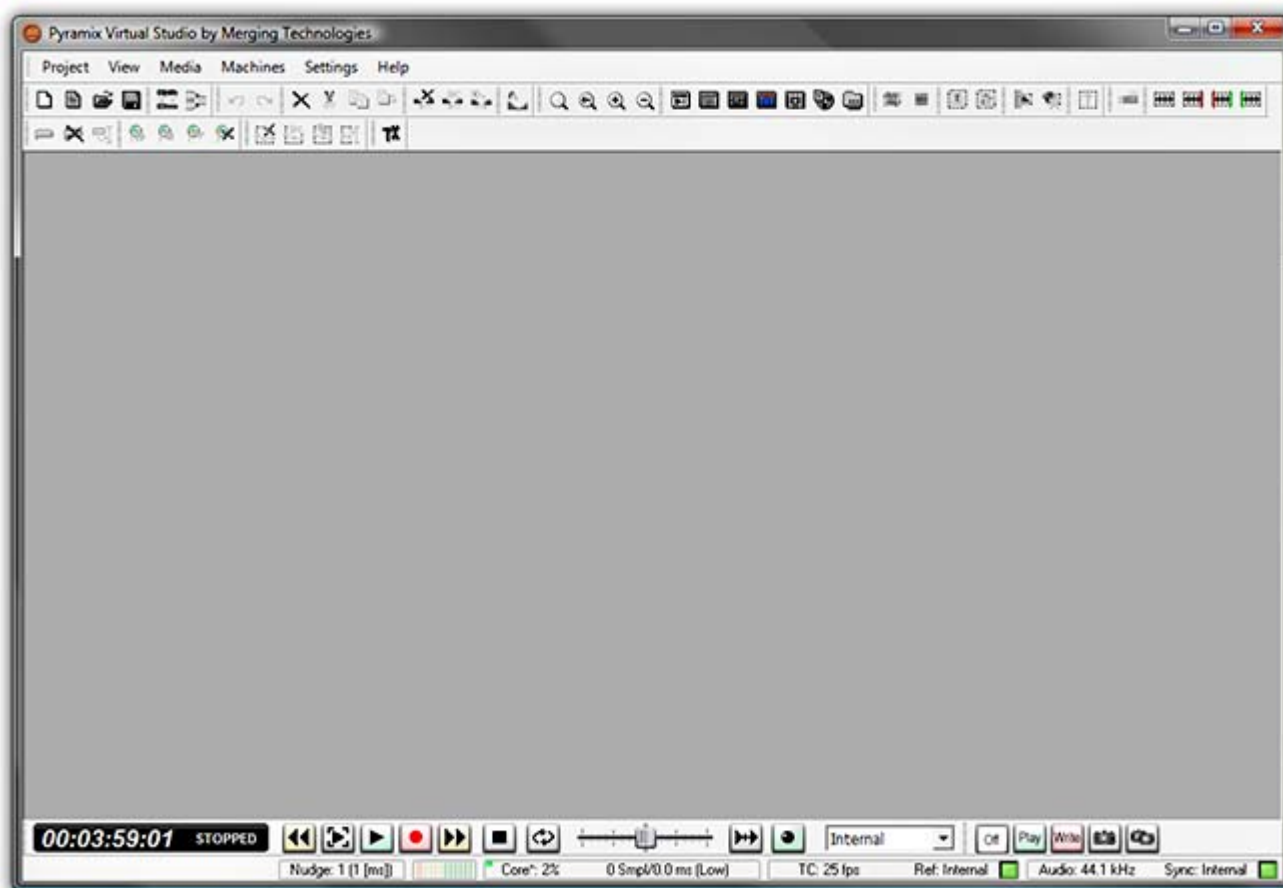
Pyramix Program Window

The main **Pyramix Virtual Studio by Merging Technologies** program window appears when the program is launched. It has dockable Toolbars across the top with a Transport bar and status information at the bottom. This main window can be resized, moved, minimized or maximized with the conventional Windows control boxes.

Project Window
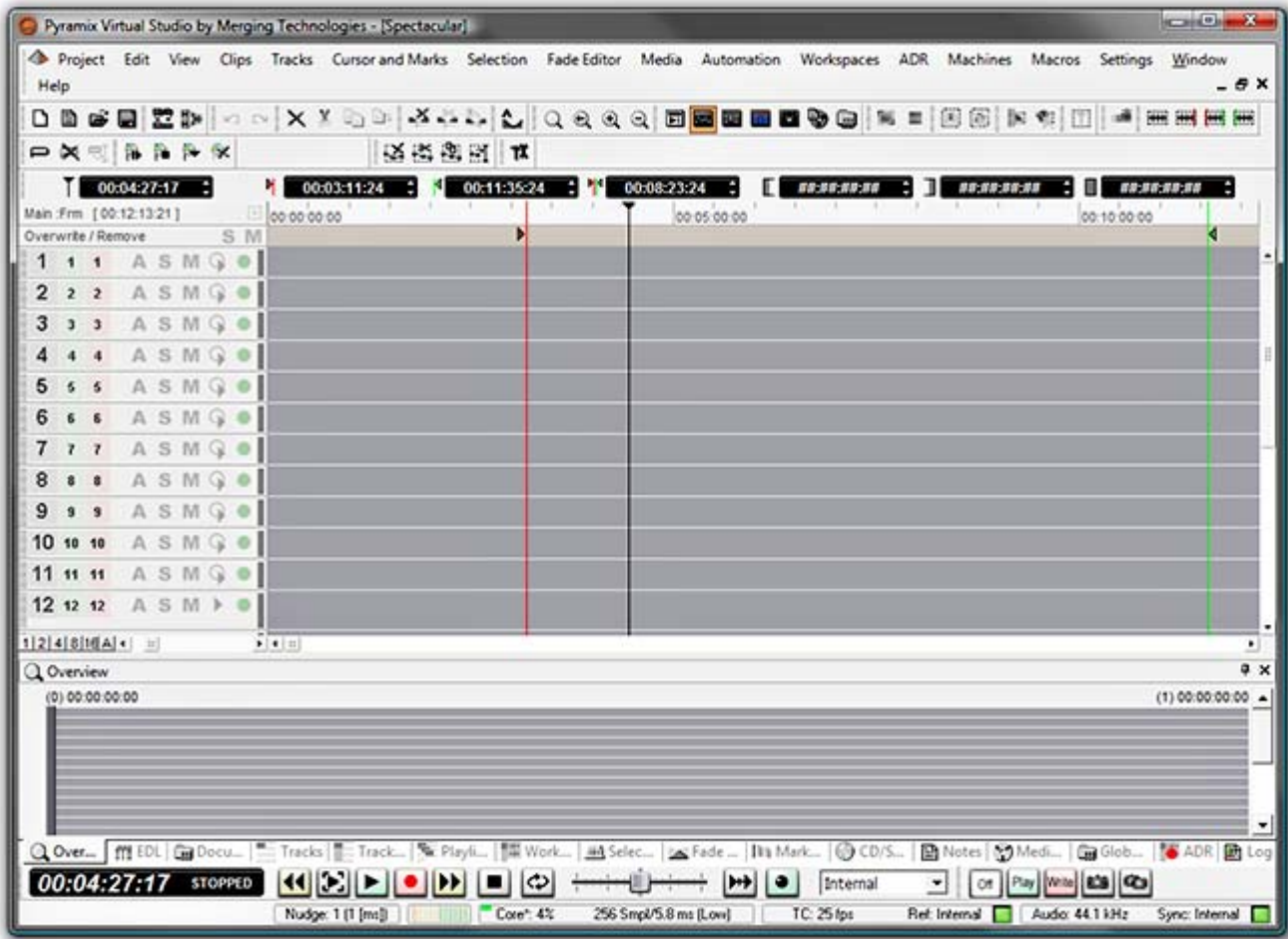
Pyramix Project Window

The **Pyramix Project** window is always completely enclosed by the main window. A **Project** window only exists if a **Project** is open, and appears automatically when a new **Project** is started. A **Project** window can be resized, moved, minimized or maximized within the main window. If the **Project** window is made large enough, two separate panels are visible: the **Project Editing Panel** at the top, contains the **Timeline** which shows a graphic representation of the **Composition**. The lower section of the screen is the **Project Management Panel**. The dividing line between these panels may be grabbed with the mouse and moved up or down, thereby varying the space allocated to each panel. The **Project Editing Panel** can be maximised to fill the Project window by clicking on the square at bottom right where the scroll bars meet. A second click restores the previous window arrangement.

Status Bar

Status Bar

At the very bottom of the Pyramix Window the **Status bar** shows:

Nudge

Currently selected nudge setting

Playback Buffer Meter

Graphic representation of the current state of the Playback buffers. When the transport is not running or there are no audio clips under the playhead cursor this will have no segments lit. In normal playback all the segments are lit. If the number of tracks approaches the disk bandwidth or buffer capabilities less segments will be lit.

DSP(Mykerinos DSP Systems) or **Core** (MassCore Systems)

DSP (or CPU) Load and Input to Output Latency in Samples and Milliseconds

TimeCode

Current Frame Rate and Reference Source.

- If the selected Reference Source is available the LED lights in Green

- If the selected Reference Source is not available then the LED flashes in Red.

- If a Pull-Up, Pull-Down or Varispeed setting produces an invalid Frame Rate, it's then displayed in Red

Audio

Current Sample Rate and Sync Source.

- If the selected Sync Source is available and locked on the LED lights in Green

- If the selected Sync Source is not available and the system defaulted to Internal then the LED lights in Red

- If the selected Sync Source is available but with a different Sample Rate then the LED flashes in Red.

Project Editing Panel

By default the **Project Editing Panel** has a number of dockable toolbars at the top, a row of TimeCode register boxes and below this the Timescale bar and Timeline tracks display. This is where much of the audio editing is accomplished. Audio **Tracks** may be created, added or deleted, and audio **clips** can be edited, moved, copied or pasted. Note that the **Project Editing Panel** automatically starts with the same number of audio **Tracks** as the number of **Input Channels** configured in the **Mixer** of a new **Project**.

Project Management Panel

The **Project Management Panel** has a number of tools for managing, navigating and modifying a **Project**. A single click on one of the tool **Tabs** at the bottom of this Panel, opens its window in the Panel. Double- clicking a **Tab** opens it as a floating window. Double-clicking the Tab of a floating window or its Caption Bar returns the window to the panel.

> **Note:** Clicking the red **X** close box of a floating Tab Window removes it from the screen. It can be reinstated as a Tab from **View > Editor Tabs**

Tab window functions can also be accessed from pull-down menus.

Any or all of the Tab windows can be shown or hidden for a Project, and moved independently and outside of the main Program window.

Tab Window functionality has been enhanced considerably in Version 6. **Please see Tab Windows on page 425**

Dual Monitors

By default the screen is horizontally divided with the Tab Windows below the Timeline. When using Dual Monitor setups, you may wish to divide the main project window vertically. With the Timeline displayed on the left screen and the Tab Windows on the right, more tracks can be viewed simultaneously. This can be achieved by checking the **Display Timeline on the Left of Tab Windows** radio button in the **Settings > All Settings > Application > Timeline Layout** page. This change will take effect the next time a Project is opened.

TimeCode Entry

TimeCode values in Pyramix can be changed by using Increment Decrement buttons, by using the on screen numeric keys or by direct entry from the numeric keypad. an **OK** button or the **ENTER** key finalizes the entry. In Pyramix numbers are entered in time code fields from right to left, a block at a time, progressively overwriting existing numbers.

This makes the most common TimeCode changes easy, I.e frames or seconds, without having to re-enter the minutes or hours.

Clicking in a register inserts a red I-beam cursor and outlines the register in green. Entries must be made in Hours : Minutes : Seconds : Frames order. So, to enter 10 Hours and 9 seconds and 15 frames, key: **1 0 0 0 0 9 1 5**. BUT if you only want to change the seconds then you only have to enter the seconds and frames E.g. to enter 9 seconds and 15 frames, key: **9 1 5** followed by **ENTER**. However, to change 10:27:10:15 frames to 10:27:09:15 you would need to key, **0 9 1 5** followed by **ENTER**. In practice most operators always enter the leading zero even when it is not required, to avoid errors.

TimeCode Register

Arithmetic TimeCode Entry

An existing TimeCode value can have time added to or subtracted from it. I.e. a relative entry. Type the number to be added or subtracted then, instead of pressing the Numeric Key Pad **Enter**, press **-** (Minus) or **+** (Plus) on the main keyboard or CONTROL + Minus or CONTROL + Plus on the Numeric Key Pad.

Automatic Fades and Crossfades

Summary

Auto Deglitching:

When enabled (Ramp length is user definable), Auto Deglitching allows on the fly Deglitching in playback when no fades or crossfades have been created.

This is set globally in **Settings > All Settings > Application > Playback/Record**

To set Auto Deglitching for individual clips use: **Clips > Properties**. Clicking in the **Auto Deglitching** field opens a drop-down list with the option to **Follow General Settings** or to set a value for the clip between **1.0 [ms]** to **5 [ms]** in 0.5 [ms] steps.

(The Auto Deglitch action is not visible on clips, since it only occurs in the playback engine)

Auto Crossfade:

Recording

Set in **Settings > All Settings > Project > Record**

When enabled (Fade Type and duration is user definable, creates a Fade/Crossfade on clips being recorded.

Playback

Set in **Settings > All Settings > Application > Editing** in the **Drag & Drop** section.

Auto-Crossfade by default - Control key for Drag & Drop

When checked, a fade will be created on clips that overlap when they are dragged on top of each other during editing.

The default X-fade can be modified in the **Fade Editor**. Simply edit a Crossfade to taste, then "overwrite" the default X fade. (Click on **X Presets : Save Preset** and choose **Default**.

Sample Rate Conversion

Pyramix can convert clips to the current Project sampling rate, automatically and on-the-fly. It can also convert in non real-time.

Please see: Real-time Sampling Rate Conversion on page 519,

 Convert - Quick Convert sub-menu on page 54

and Sample Rate Conversion on page 104

MassCore

2

Pyramix
DIGITAL AUDIO WORKSTATION

Overview

MassCore™ is an extremely powerful Pyramix option. A truly deterministic real-time engine that does not rely on the Windows operating system. This avoids the inherent restrictions and latencies introduced by the operating system and allows the channel/track-count to be increased to an unprecedented level. **MassCore** is scalable from 16 to 384 Live I/O (768 simultaneous) with a massive bus structure. (For now this is limited in code to a total of 512 at 1FS (256@2FS, 128@4FS, 64@8FS).

MassCore enables a number of new features:

•	Larger Mixer configurations

•	Extra 2.66ms and Ultra 1.33ms latency options

•	Full Delay Compensation (VS3 and VST)

•	VST inserts on Mix Buses, Aux Send and SubGroup Buses

•	VST Multi-channel support

•	External Inserts (physical effects)

•	External Monitor Inputs and Talkback

•	Virtual ASIO support

Windows Boot Choice

You will see a new screen after the **P.O.S.T**(Power On Self Test) screen before Windows starts to boot. This screen offers the choice between:

Microsoft Windows Vista (or XP Professional)

and

Merging Technologies MassCore

Please choose **Merging Technologies MassCore**.

Memory

The total amount of memory available in a MassCore machine affects the memeory available to MassCore and the number of VST channels which will be available.

The following tables demostrate this for two different machines:

Windows Vista

DELL Dimension E521 (AMD Athlon 64 X2 5000+)

Installed	Available		MassCore	VST channels
1GB	1022	->	128MB	192
2GB	2046	->	384MB	384
3GB	3070	->	384MB	384
4GB	3326	->	384MB	384

Windows XP

Intel DP35

Installed	Available		MassCore	VST channels
1GB	0.98	->	128MB	192
2GB	1.98	->	256MB	384
3GB	2.98	->	256MB	384
4GB	3.24	->	256MB	384

Core Load Indicators

In MassCore based systems two (4 with quad core CPU) Core Load indicators replace the DSP indicators in the Title Bar.

Core: xxx% or **Core*: xxx**%

The * indicates **Dedicated mode**.

The Core indicator bars section at the bottom of the screen shows two distinct MassCore engines. The upper CORE bar shows MassCore/VS3 activity in real-time, and the lower bar shows the VST plug-in engine. Both bars are there to help you gauge the amount of resources that your project is consuming and warn you if an audio "glitch" (a momentary rupture of processed data producing a discontinuous sound stream to output devices) has occurred during playback or recording.

The numeric percentage **Core** load shown is the highest of either the **MassCore Loads** (**Realtime** & **Background**) or the **VST Core Load**, depending on which one has the highest load.

MassCore Realtime Load

(light green bar, orange when heavily loaded, red when overloaded): Indicates the MassCore Load, for realtime processes.

MassCore Background Load

(dark green bar): Indicates the MassCore load for background processing, it will be displayed at the end of the MassCore Realtime load indicator. For example, the MassCore Background Load will be used by Algorithmix plug-ins for FFTC.

VST Core load

(blue bar, orange when heavily loaded, red when overloaded): Indicates VST core load for VST processing. If you experience regular VST Core load "drops", there may be red peaks and the **Core** label is replaced by VST as in this screenshot:

Core Load Indicators in Title bar

In contrast, the following screenshot shows the Core Loads when running a project with 100 Tracks and Input Strips but only a few VST plug-ins:

Core Load Indicators in Title bar

Here the highest load is **MassCore Realtime** since the indicator is higher than the **VST Core Load** indicator.

VST Core load with Quad Core

If your system is equipped with a quad core processor there are two **VST Core load** bars:

In all three screenshots the left-hand bargraph display shows disk buffering.

To see more detailed information about both Core Load Indicators, **Shift + Click** on them to open the two **Core Load** debug Windows:
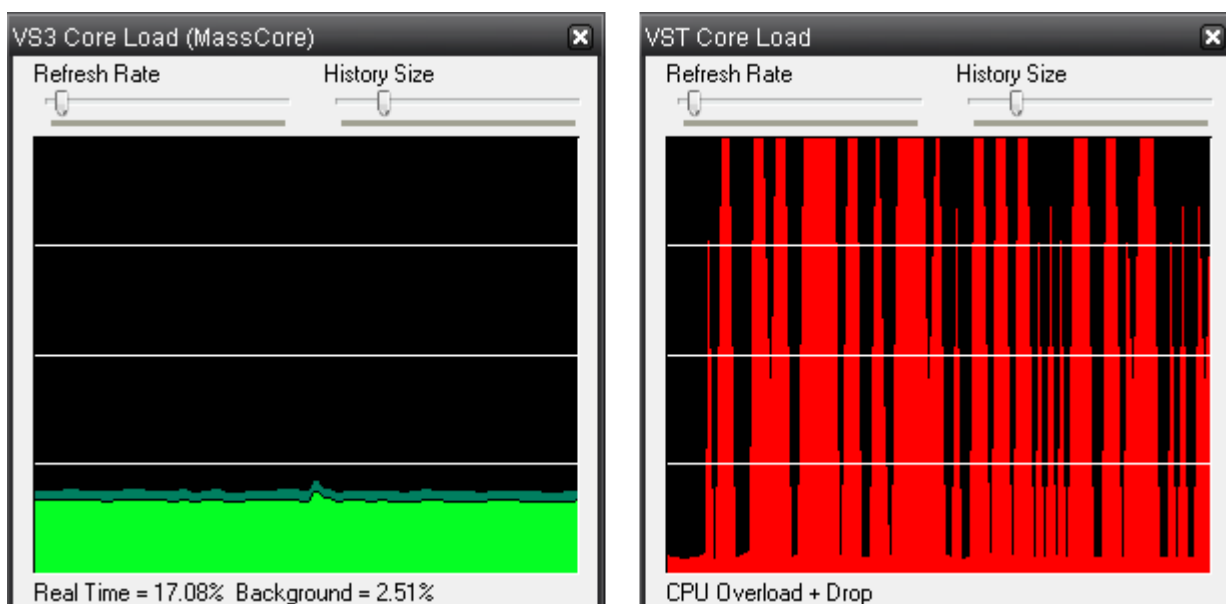
Core Load debug Windows

If the **VST Core Load** display looks anything like the screenshot above we recommend that you increase the **VST Plug-ins engine Latency** value.

In order to support some VST plug-ins which need a big buffer to be efficient (e.g. Algorithmix EQ Orange/Red,...) we recommend that you increase the **VST Plug-ins engine Latency** size up to **4096 smpl** (samples) using the **VST Plug-ins Engine Latencies** slider in the **AllSettings > Hardware > MassCore** page.

> **Note:** this value can only be adjusted when no project is open.

> **Important!** If a **Drop** (glitch) occurs, the **Core indicator** will blink. Click on it to reset it.

> **Note:** This indication may be useful if, for example, you do a Realtime Mixdown or Recording and leave the Studio for a minute to get a coffee. If, on your return, you see the **Core** blinking this would mean that you have experienced a drop, so that you probably have a glitch in you final mix or recording.

Overload Diagnosis and Cures

First determine whether the CORE indicator or the VST indicator is turning red during a glitch.

If the MassCore (CORE) indicator becomes red during playback or recording you have exceeded the capacity of the workstation. You should reduce the size of your project mixer and/or the amount of active plug-ins you are using, or try increasing the **Max Mixer Delay Compensation** slider value in the Mixer Settings page (**Settings>AllSettings>Project>Mixer>Mixer Settings**). You may also try changing the buffered read and write settings of your .pmf files from within the **Project>Record** page under **Format/(PMF)/Settings** for projects with large numbers of audio tracks (approaching machine capacity for current sample rate).

If the VST indicator becomes red you might want to increase the MassCore **VST Plug-ins engine Latency** slider value. The VST buffer size can be increased in order to support VST plug-ins that need larger buffers in order for them to work efficiently. So, if you are experiencing VST Core Loads or Peaks (100%) we recommend that you set the **VST Plug-ins engine Latency** value higher, it can go up to 4096 samples to help support certain VST plug-ins. Note that you can also monitor the VST Core load by **Shift Click**ing on the **CORE %** indicator, this will open the VST core load debug window. (See above) If you see spikes (red) during playback or an idle indicator then it may be advisable to increase the **VST Plug-ins engine Latency** (**Settings>All Settings>MassCore : VST Plug-ins engine Latencies**), this value can only be adjusted if all projects are closed within Pyramix.

Note: These bars should be ignored when loading a project, making changes in the graphical layout of Pyramix when stopped (opening pages, moving the mixer, etc.), or doing offline processes (renders, non real-time mix-downs, etc.). If the indicators become red during these phases of your work, simply click on the indicator bar to reset it.

Very Important!

For the present we recommend that you do not use more than 65-70% of the Core resources to avoid glitches or problems related to intensive graphic refresh bursts. Three colour zones have been set for the Core load indicator.

 0% to 65% Green zone (best performance)

65% to 75% Orange zone (moderate risk)

75% to 100% Red zone (performance could be at risk if major screen redraws are initiated by the user)

For ultimate performance Vista should be run on a QuadCore processor.

Pyramix V6 Latency Modes for MassCore

Pyramix V6 Latency Modes for MassCore

Mykerinos/Latency (Note1)	Low Latency (5.33ms)	Extra Low Latency (2.66ms)	Ultra Low Latency (1.33ms)
MYK-MB1	v		
MYK-MB2	v		
MYK-MB3	v		
MYK-MB4	v		
MYK-MB5	v		
MYK-X30	v	v	v
MYK-X50	v	v	v

Note 1: Latency Modes introduce relative performance penalties. Low: 11%, Extra:22%, Ultra:44%

Latency measurements are LIVE IN to LIVE OUT

Note: Please be aware that our competitors only take into account latency from **Live In** to **Record**; in our case this would means **0.665ms** in **Ultra-Low**, **1.33** in **Extra-Low** and **2.66** in **Low Latency**, but, since from **Live In** to **Live Out** is the 'real-world' figure, we calculate it as **1.33ms** , **2.66ms** , **5.33ms** respectively.

3

Projects

Pyramix
DIGITAL AUDIO WORKSTATION

Overview

Projects are the top level of Pyramix organisation. There are four types of Project. For most applications the one most commonly used is the **Editing Project**. The second type is **Digitizing Session**. As the name implies this a special type of project optimized for media acquisition.

Two further Project types, **DXD Mixing Project** and **DSD Project** are solely concerned with high-definition audio and the production of SACD masters.

There is also the option to **Load a Template**. Templates are the quickest way to configue Pyramix for a specific purpose. A wide variety of Tempaltes are supplied with Pyramix and can also provide a basis for refining your own 'User Templates'.

You can find more information about **Digitizing Sessions** here: **Digitizing Sessions on page 106**

Backward Compatibility

Even the latest version of Pyramix is capable of saving in project formats back to V4.3. Some current features are obiously not supported in previous versions but the **Project > Save Special** option offers the ability to save in all relevant previous versions back to V4.3

Editing Project

New Project
1. Launch **Pyramix Virtual Studio**

2. Choose **Project > New**.

3. The **New Project Wizard - Choose a Project Type** window will open.
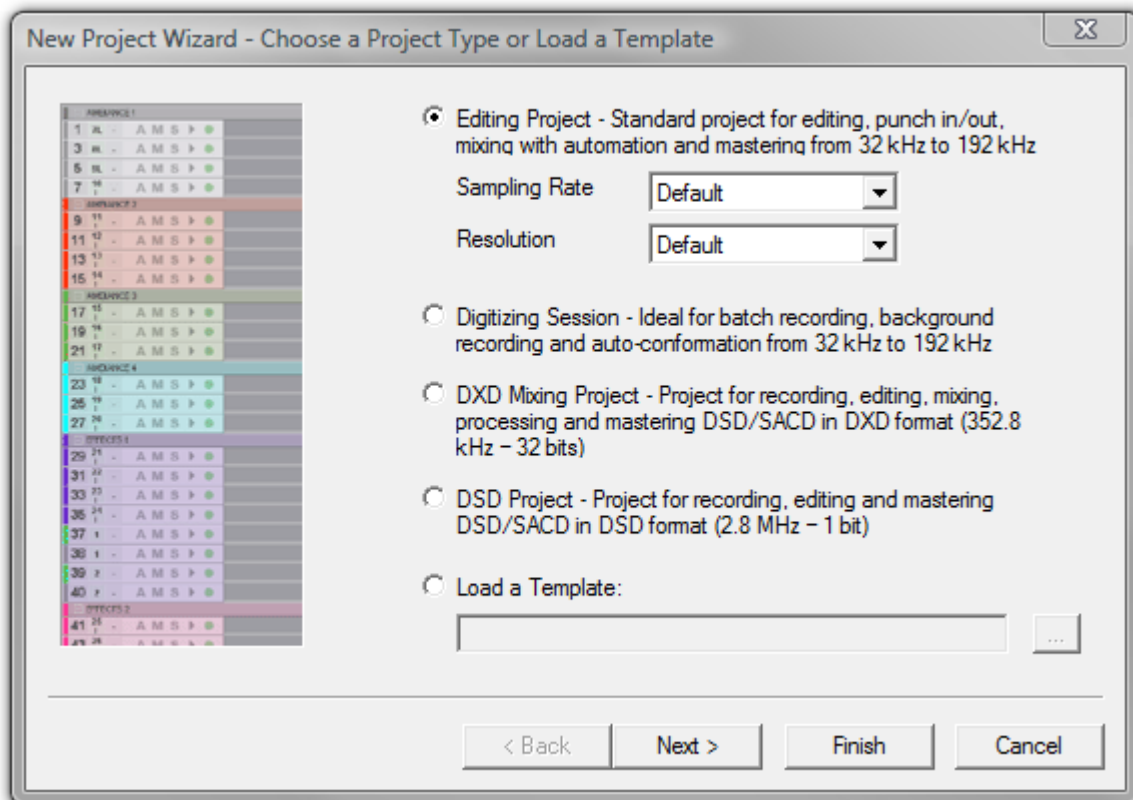
New Project Wizard - Choose a Project Type dialog

4. The default is **Editing Project** which is the type we will use.

5. Choose a suitable sampling rate from the **Sampling Rate** drop-down list. (Use 44.1kHz if in doubt and using an analogue input)

6. Choose a suitable bit-depth from the **Resolution** drop-down list. (Use 24 bit if in doubt)

7. Click **Next**. The **New Project WIzard - Setup a New Project Workspace** dialog will open.
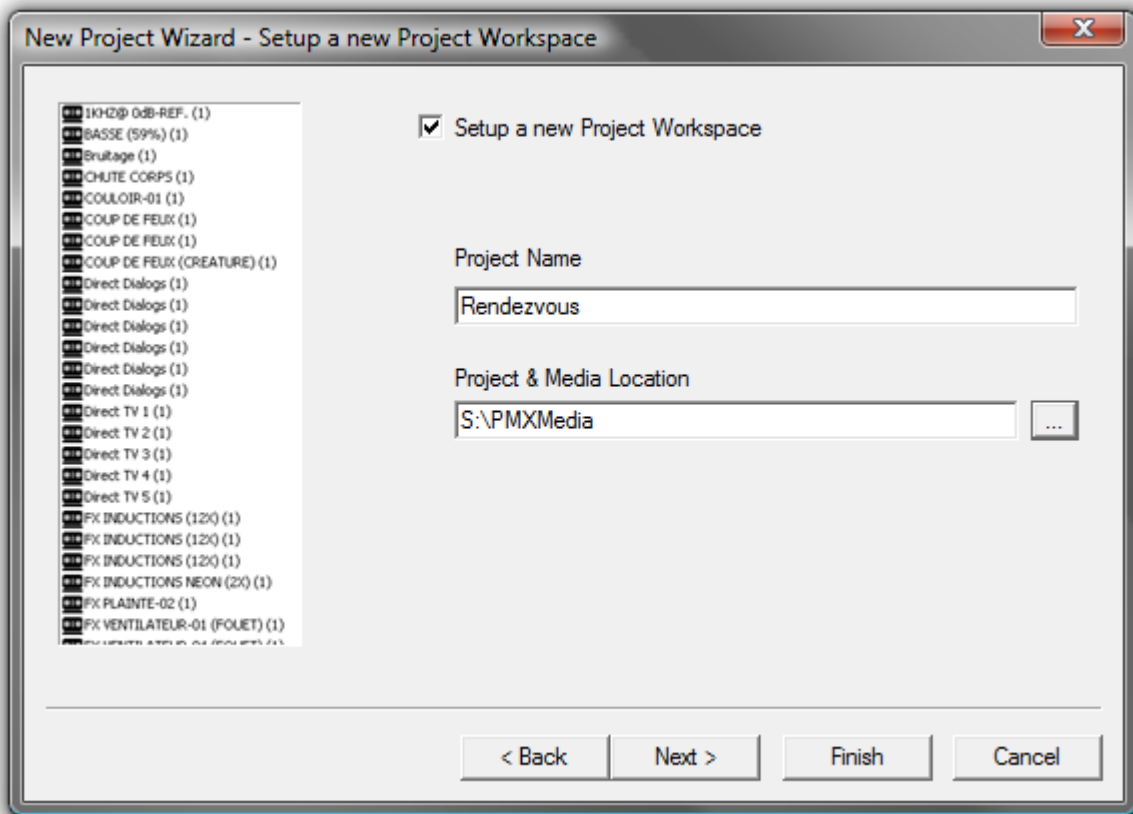
New Project Wizard - Setup a new Project Workspace dialog

8. Click in the **Setup a new Project Workspace** box to tick it.

9. Type a name for the Project and either type a suitable path to the **Project and Media Location** or use the **...** button to open a **Browse for Folder** window. This works like a Windows Explorer window and enables you to navigate to a suitable folder.

10. Click **Next**. The **New Project Wizard - Select a Mixer Preset** dialog will open.
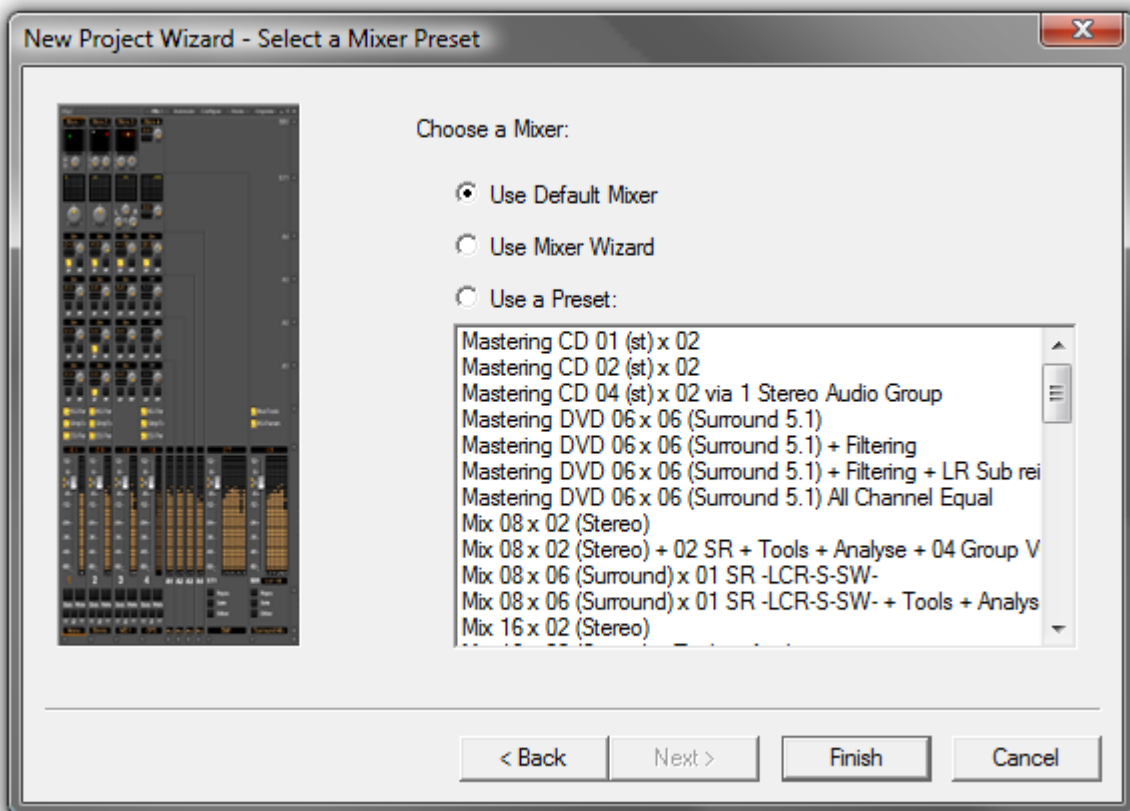
New Project Wizard - Select a Mixer Preset dialog

11. If this is the first time you've used Pyramix, choose the **Mix 08 X 02 (Stereo)** preset in the drop-down list by clicking on the name. Note that the **Use a Preset** radio button is automatically checked.

12. Click **Finish** to activate your new Project. It will open with a **Project Window** and **Mixer Window**. There will be 8 empty tracks in the **Project Editing Panel** corresponding with the **8 Mixer Input** channels.

Mixer Wizard

Please see: **Mixer Configuration Wizard on page 171**

Presets

A considerable number of pre-configured presets are supplied for common tasks. You can add your own custom Mixer Presets to the list. **Please see: Mixer Presets on page 185**

User Templates

When you have a Project with a configuration which may be useful for future Projects you can save it as a Template. I.e. the current Project minus all the Cues. Simply select:

Project > Save Template

A Browser window opens with the default Templates Folder open. Choose an existing Template folder, if appropriate, or create a new one. Name the Template and click on **Save**

Media Management

4

Housekeeping

The Windows hierarchical filing system can easily become confusing and cluttered. Complex audio projects generate thousands of more or less enigmatically named files. Keeping track of all the files used in a Project can become a nightmare even if the user is meticulous.

Pyramix uses the concepts of **Media Drives/Folders** and **Libraries** to reduce the clutter and provides management tools specifically designed for audio. This Media Management helps users to work in a structured and simple manner whilst keeping track of all the project components.

Audition Play

Master Clips in the Media Management window and all audio objects in the Library windows can be auditioned through the **Monitor** as a MONO downmix. The toolbar Play (**Space)** and Stop (**Esc**) buttons starts and stop playback of a selected object. Double-clicking an object begins playback at the start.

Media Folders

Media Folders are Windows folders or drives which contain **Media Files**. Pyramix needs to specifically mount these **Media Folders** in order to access the **Media Files** contained therein. Once mounted, suitable files are displayed as **Master Clips**. I.e. pointers to the underlying audio files. Mono and interleaved Stereo and Multichannel Media files are all displayed and manipulated as single Master Clips

These can be dragged and dropped or copied and pasted directly into the **Timeline** or into a **User library** from the **Media Management** Window regardless of format, sampling rate or bit depth.

Media Target Settings

When a Project is created, either with **Project > New** or **Project > New From Template** and a Media Folder is created or selected, the **Project Information : Project Media Folder**, the **Record : Target settings** Media Folder, the **Project > Render : Target Settings** Media Folder and the **Project > Mix Down : Target Settings** Media Folder all point to the same folder. These target settings can be changed later and each can point to a different folder.

CD Import

Pyramix can import individual tracks or entire CDs to Media folders and libraries. Track listing and other information can be automatically obtained from an online database. **Please see: CD Import on page 315**

Drag and Drop

Audio Media files compatible with Pyramix may be dragged and dropped into Pyramix Libraries. Single or multiple files can be dragged and dropped in the conventional Windows manner from browser windows and from applications that support such operations, e.g. iTunes. As a rule of thumb, if you can drag and drop a file to the Desktop, you can drag and drop to a Pyramix library.

Example:

Start Pyramix, open a Project and a library. From a Windows Browser window select one or several audio files and drag them over the library. If the selection contains compatible audio files the library will highlight. Drop the files over the library. Any compatible files will be added to the library and can be then used just like any other library file in Pyramix.

> **Note:** The converse, dragging and dropping from a Pyramix library to the Desktop or to a browser or other application is NOT supported.

Libraries

Pyramix uses libraries to help make project organization tidier. **Libraries** are used to organize project material into logical groupings. However, **Libraries** are not the same as Windows directories or folders. They are only meaningful within the Pyramix environment. A **Library** is a database, containing a collection of pointers to different types of media objects with tools designed to enable you to work quickly and intuitively.

Shelves

A library **Shelf** is a sub-folder. You can create many **Shelves** in a Library and **Shelves** can also contain further **Shelves**.
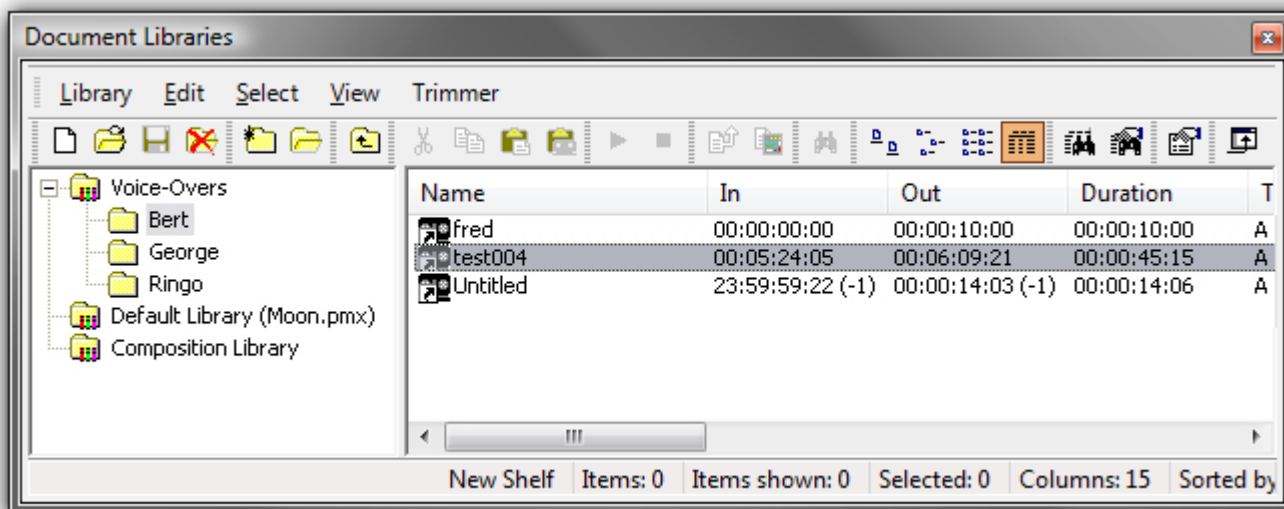
Project Libraries

When a new **Project** is created two **Project Libraries** are also created.

Composition Library

Each Project has a unique, read-only **Composition Library**. This contains short-cuts to every **Master Clip** placed on the **Timeline** (present in the **EDL**) in the current **Project**. Note that the **Composition Library** may be empty, I.e. nothing is placed on the **Timeline** but the user library(s) may contain **Master Clip**s and **Composition**s which all form part of the **Project**.

Default Library

Each new Project also creates an empty **User Library** named **Default Library ('project name'.pmx)**. This is provided to aid housekeeping and is kept with the project.

Global Libraries

Project Libraries are kept with the Project, **Global Libraries** are available to all projects and users of the system. This can be helpful for sound effects or where several users need access to the same source material to produce different end products.

User Libraries

Master Clips can simply be dragged from **Media Folders** to **User Libraries** for purposes of **clip** organization, grouping, etc. just as they are dragged into **Composition**s

Clips or **Selections** can be copied and pasted into User and Global libraries. Library items can be dragged and dropped onto other libraries, shelves or the Timeline or you can use the familiar **Cut, Copy** and **Paste** commands.

User Libraries are not restricted to storing individual **clips**. Whole **Compositions** or selected **Regions** of **Compositions**, including all the **clips** in a **Composition** in relation to each other on multiple **Tracks** may be placed in a library. To do this, select one or more **clips** in a **Composition**, hold down the **Shift**-**Alt** keys and drag the selection from the **Timeline** to the **Library**, or hold down the **Shift-Alt** keys and drag the whole **Composition** from the **Overview** panel to the **User Library**.Media Folders

User Libraries can contain **Master Clips**, **Compositions**, **Mixer Snapshots, Plug-in Snapshots**, **Fade Settings**, etc…. Each **Project** can have an unlimited number of User Libraries open, each with an unlimited number and mixture of contents.

N.B. In Pyramix **User Libraries**, there is no practical distinction between a **Clip**, a section of a **Composition** (**Region**) and a complete **Composition**. Either can be added to a **User Library** or to an existing **Composition**. This is an extremely powerful feature. Any item copied to a **User Library** from the **Timeline** appears there as a **Composition** automatically labelled **Part of 'composition name'**.

Automation in libraries

If the menu item **Edit > Enable Automation Cut/Copy/Paste** is enabled then any operation (Cut/Copy/Paste etc…) brings all automation data with it.

Library Maintenance

If media is moved or the path to it is changed (E.g. by copy, backup or moving folders etc.) Libraries referencing the 'orphaned' media can have their paths updated by simply mounting all the media folders involved and selecting **Drive > Update Media Paths** in the **Global Libraries** tab window.

Libraries (apart from the **Composition Library** and **Default Library** which are embedded in the Project) can be closed from the Library menu, but not deleted. Click on the library you wish to close to highlight it and select **Library > Close Library**. This will remove the library from the Project Library list but it can still be opened, if required, by selecting **Library > Open Library** and navigating to the library you wish to open, clicking on it to highlight it, and clicking on **Open**.

A **Shelf** can be deleted by clicking on it to highlight it in the right-hand pane and selecting **Edit > Cut**.

Practical Media Management

The Media Menu

This menu gathers together the most significant Media related commands for the current Project.

Search Media   **Opens the Media Search Tool** with the **Query** page displayed.
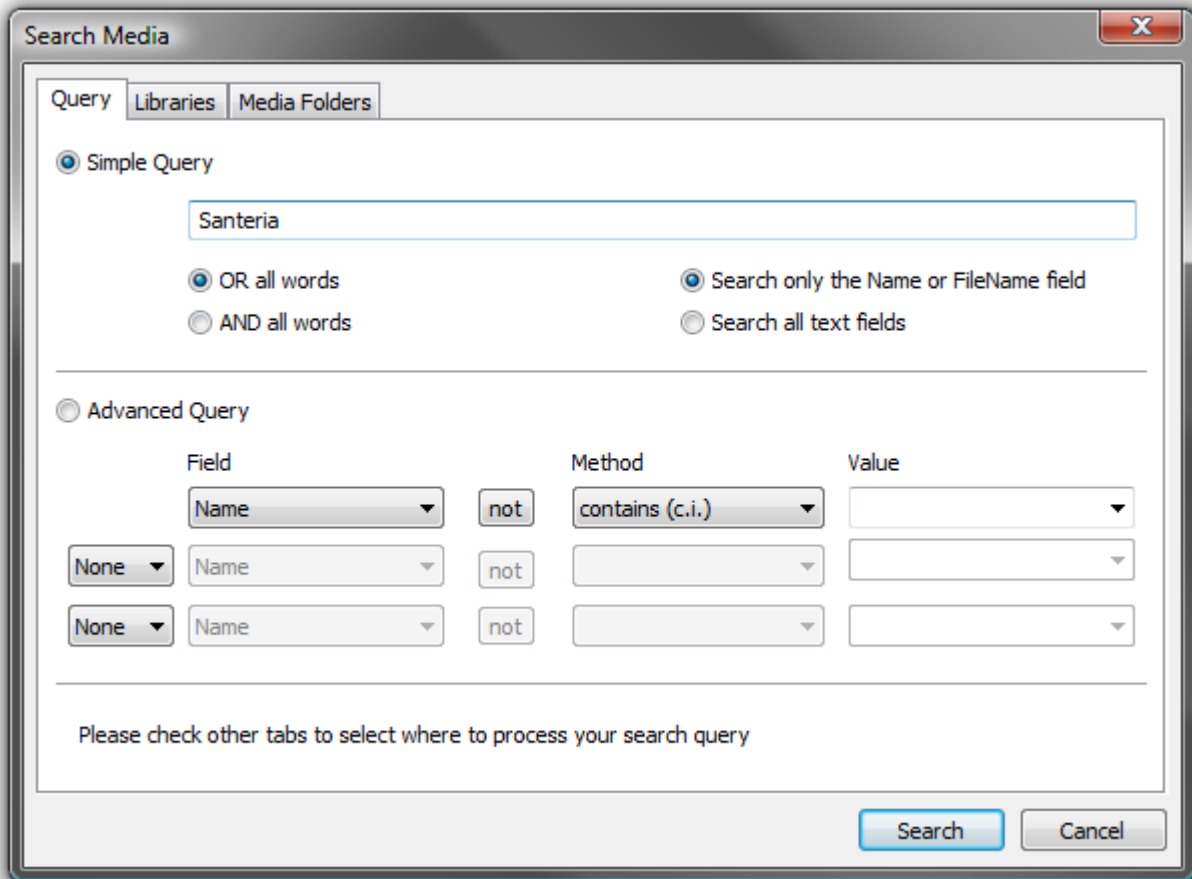
Before a search can begin, a Library or Libraries, Media Folder or Folders to search must be selected in the Libraries or Media Folders pages.

Query Page

The **Query** page offers a choice of **Simple** or **Advanced Queries**.

Simple Query

A simple search uses a word or words and does not consider case. Radio buttons offer a choice of **Search only the Name or FileName field** or **Search all text fields**. If more than one word is entered two further radio buttons give a choice of **Or all words** or **AND all words**. E.g. If you type **Car Mercedes Door** with **OR all words** selected, the search will return all Media Files with any of the three words. If **AND all words** is chosen the search will only return files with all three words in the selected field(s). The words can appear in any order.

Advanced Query

An advanced search has the same options as a search initiated from the Media Management or Library Tab windows. **Please see: Search on page 51**

Libraries Page

This is where you can choose which Library(s) to search in.

- All Open Libraries

- A list of Pyramix Projects and/or Libraries

- A list of folders in which all Pyramix Projects and Libraries present will be searched.

Libraries do not have to be opened in order to search them.

Media Folders Page

Similar to the **Libraries** page, the **Media Folders** page allows you to choose which Media Folders to search in.

- All Mounted Folders

- A list of folders containing media files.
All folders in the list will be searched using the **QuickMount Library**. If there is no QuickMount present, there is choice of **Open each file and search all metadata** within it or **Search only file names**, which is quicker.

Search Results

Search results appear in a floating Library window. The contents can be manipulated in the same ways as any other User Library.

Mount Referenced Media	Mounts all media not already mounted and used in the current Project
Auto-Mount Media	When selected, whenever a reference from an Offline library is placed in the current Project, the Media will automatically be mounted.
Select Online Clips	Selects all Clips in the Timeline whose Media files are currently mounted
Select Offline Clips	Selects all Clips in the Timeline whose Media files are not currently mounted
Select Used Media	Opens a floating Media Manager window containing all media used by the current Project.
Select Media present on Project Default Folder	Opens a floating Composition Library window with all Media present in the Project Default folder selected (highlighted)
Select Media NOT present on Project Default Folder	Opens a floating Composition Library window with all Media NOT present in the Project Default folder selected (highlighted)
Collect Media to current Project Default Folder	Copies all media files used in the current project (as shown when the previous **Select Media not present ...** is invoked to the current Project Default Folder. This function is especially useful if moving a machine or disk to another studio or where network resources may not be available.
Clean-Up Media	Opens the **Choose a Media Folder to Clean-Up** window. Choose the Media Folder you wish to clean-up and click **OK**. All media not referenced by the current Project will be permanently removed from the selected folder.

Media Management and Libraries Tab Windows

The **Media Management** Tab Window is very similar in appearance and operation to the **Document** and **Global** library Tab Windows. However, the Menus and Toolbars differ reflecting their different capabilities.

Media Browser

The **Media Management** window can operate on **Mounted Media Folders** and act as a **Media Browser** for any local or network storage locations.
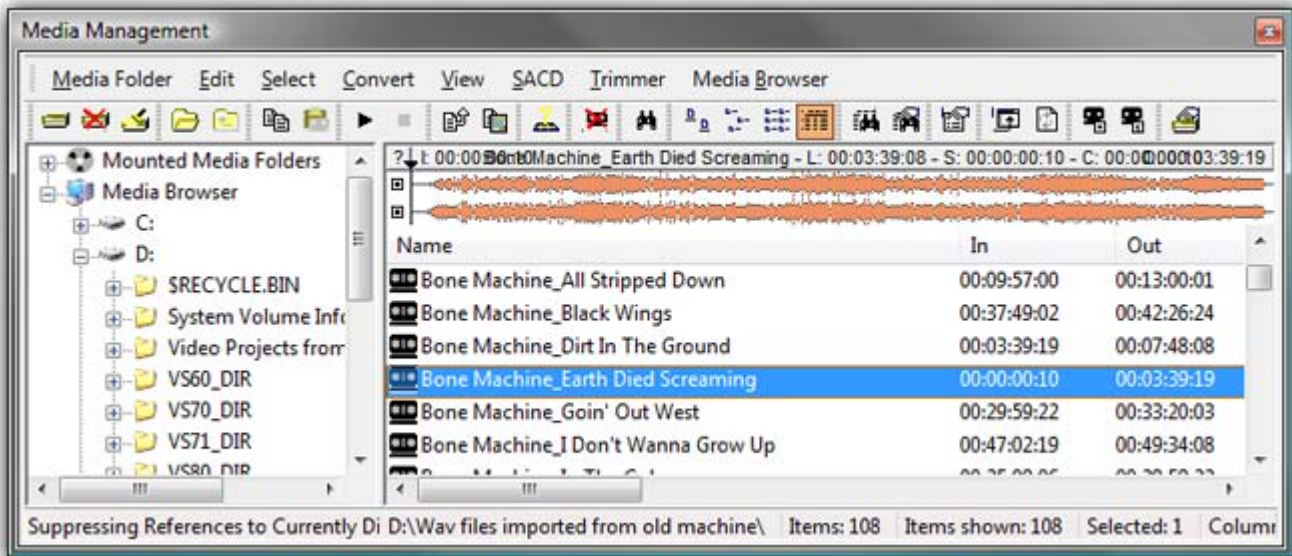
Media Management Tab floating Window

Below all **Mounted Media Folders** an "Explorer like" Tree allows Media Folders to be browsed without formally Mounting them.

When displayed in the Media Browser all recognized Media are temporarily mounted and can be auditioned and placed in the timeline.

Document and Global Libraries

There is no real difference between Document libraries and Global Libraries. The distinction is an organizational one, made to help keep complex projects manageable and to provide security features for larger facilities. Libraries designated as **Global** are available to all projects but can be opened and manipulated from the **Document Library** window. Equally, libraries created in the **Document Libraries** window can be opened in the **Global Libraries** window.

The default Project library created with every Project is stored with the Project. It can still be opened in the **Global Libraries** window by locating the **.PMX** project file in the Project's **Media Files** sub-folder.
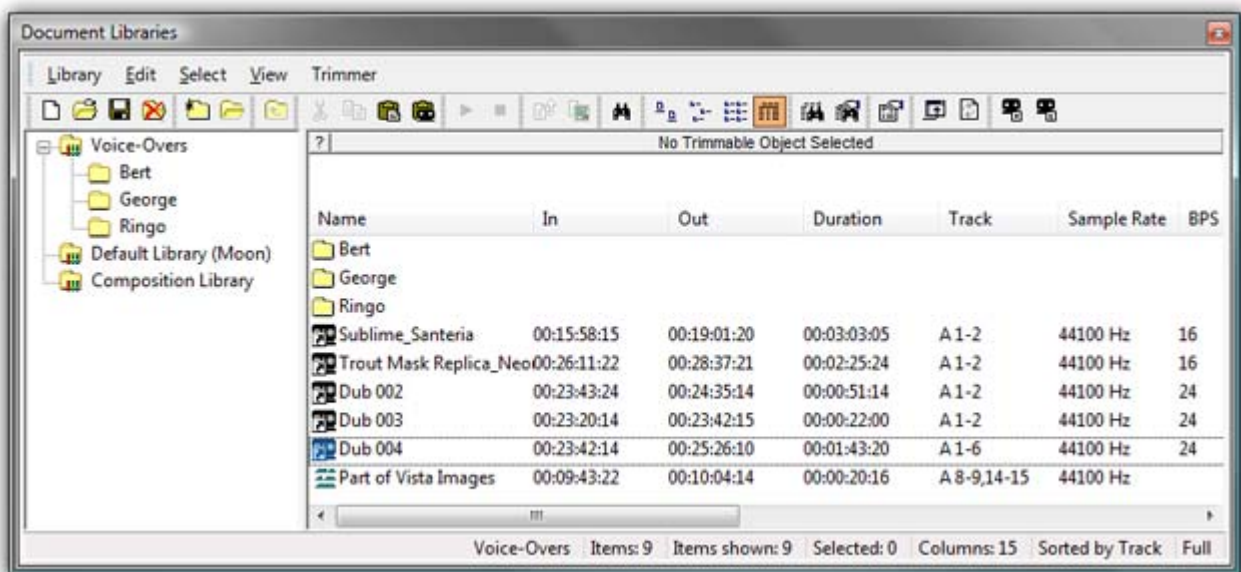
Document Libraries Tab floating Window

The left hand pane shows **Libraries** and **Shelves** associated with the project. The contents of the selected **Library** or **Shelf** is shown in the right-hand pane with information about the objects in columns. Shelves are displayed at the top with individual library items below. Clicking on the **+** or **-** signs in the left-hand pane expands or collapses Libraries and Shelves.

Libraries allow Drag & Drop operations from the Library content (right side window) to the Library/Shelf tree hierarchy (left side window).

Media Management and Library Fields

Name	Clip or Media File name
In	Clip or Media File In TimeCode
Out	Clip or media File Out TimeCode
Duration	Length of Clip or Media File
Track	Shows the tracks the Media File or Clip occupies
Sample Rate	Sample rate of Clip or Media File
BPS	Bit Depth
Format	File format e.g. **PMF**, **WAV** etc.
Creation Date	Date Media File (Clip) created
File name (Media Only)	Media File Name
Media Size (Media Only)	In bytes
Frame Rate (Media Only)	Where specified
Author	Where specified
Scene	Where specified
Take	Where specified
Notes	Where specified
Tape	Where specified
Category	E.g. **Master Clip**, **Media Folder** etc.

Tools and Menus

The Library and Media Management Window menus give access to all available functions. Many have keyboard short-cuts and a selection of functions are directly available from the Library Window Toolbar with ToolTips indicating their function.

The Trimmer

All Library and Media Management Windows have a **Composition/Media Trimmer**:

Library Trimmer
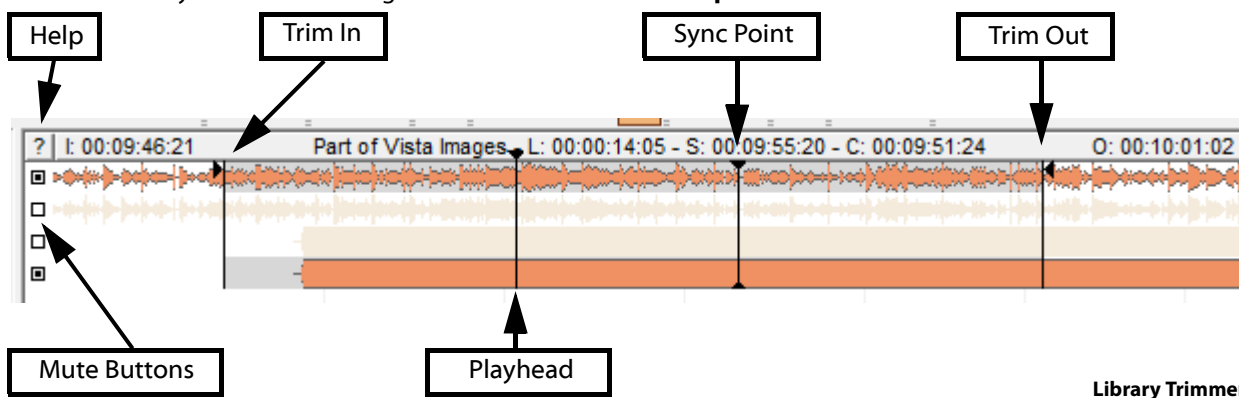
 The **Trimmer** can be shown/hidden with the menu item **Trimmer > Show**. An object highlighted (selected) in the list view is automatically opened in the trimmer. Multi-channel objects may be auditioned and trimmed. A small

square to the left of each track displayed allows tracks to be de-selected/selected for playback in the Trimmer. Clicking on the **?** at top-left opens the **Media Trimmer Commands** list:

```
Media Trimmer Commands
Click in Tracks:
   None: Drag Selection
   Shift: Set In Point
   Ctrl:  Set Out Point
   Shift + Ctrl: Set Sync Point
   + Alt to the above to Audition from the Point

Click in Track Header:
   None: Select/Unselect Track
   Shift: Unselect All Tracks
   Ctrl:  Select All Tracks

Double Click in Tracks:
   None: Audition from clicked point
   Ctrl: Reset In/Out/Sync Points

Drag and Drop:
   Drag from the List: Whole Media
   Drag from the Trimmer: Follows In/Out Points

Shortcuts:
   SPACE: Toggle Audition/Stop
   ENTER: Audition Trimmer Selection
   ESC or Numpad 0: Stop Audition
   Ctrl + 1: Show 1 Track
   Ctrl + D: Show Track Details
```

Media, Clips or Compositions can be trimmed in the following ways:

· **Double-click**: Plays the object through the Monitoring Section from the point where you double-click.

Note: If no sound is heard through the current **L** & **R** Monitor Outputs you may need to assign values to the **None** entry in the **Main Grid and Downmixes** section of the **Monitor** Please see: **Media Manager Monitoring on page 200**

· **Click & Drag**: Drag the object to the timeline or to an other library properly trimmed (from the In point to the Out point. Dragging it from the list view takes it untrimmed).

· **Shift + Click**: Sets the **Trim In** point. The point can be modified later by simply clicking on it.

· **Control + Click**: Sets the **Trim Out** point. The point can be modified later by simply clicking on it.

· **Control + Shift + Click**: Sets a **Sync Point**. The point can be modified later by simply clicking on it.

· **Shift + Alt + Click**: Sets the **Trim In** point and plays from it.

· **Control + Alt + Click**: Sets the **Trim Out** point and plays from it.

· **Control + Shift + Alt + Click**: Sets the **Sync Point** and plays from it.

· **Control + Double-Click**: Resets the **Trim In** and **Trim Out** and **Sync Point**s.

Trim In, Trim Out and Sync Points

The **Trim In**, **Trim Out** and **Sync** Points are permanently preserved for Compositions and MasterClips stored in a Library (Project or Global), but only until the next Mount or Refresh for mounted Media in the Media Management Window.

Compatibility

Because the Media Trimmer allows Trim In, Trim Out and Sync Points to be set and saved in current libraries a menu option: **Library > Save Library As 4.x** allows libraries to be saved in a format compatible with version 4.x. for maximum compatibility.

Library Menus

The **Edit**, **View** and **Trimmer** menus are almost identical in Library and Media Management windows and details can be found below. Exceptions are noted where they arise.

Library Menu

The **Library** menu allows new **Libraries** and **Shelves** to be created and existing ones to be opened and saved. When a library is opened the media used by **Masterclips**/**Compositions** may not be mounted, (E.g. on a removable drive). **Mount Referenced Media** automatically mounts the most recent location where these media were found

New Library	Create new user library
Open Library	Open existing user library
Save Library As	Save a copy of the current library with a new name or in a new location
Save Library as 4.x	Save a copy of the current library in Pyramix 4.x format for maximum compatibility
Close Library	Close current library
Mount Referenced Media	Automatically mounts the most recent location where media in the current project were found
Update Referenced Media Paths	To update a library, mount all the media folders involved then select this menu item
Import MTInterchange XML	Opens the **Import MTInterchange XML** Browser Window
Export to MTIntercange XML	**Opens the Export MTInterchange XML** Browser Window
Import OMF library (Avid Bin)	Opens a File Browser to locate the library you wish to import
Export to Akai DD Series	Opens the Export to Akai DD Series window
New Shelf	Adds a new Shelf (folder) in the current Library or Shelf
Open Shelf	Opens selected/highlighted Shelf
Up One Level	Moves right-hand pane display up one level in the hierarchy
Properties	Pops up a box with properties of the currently selected object

Edit Menu

Cut	(Not in **Media Management** Tab for safety) Cuts Object from pane. Object will be deleted unless pasted elsewhere.
Copy	Copy object
Copy Trimmer Selection	As it says
Paste	Paste object (Not in **Media Management** Tab)
Paste with Media	Pastes object complete with associated Media files to wherever the target object is stored
Rename	Rename object
Open/Audition/View	(Libraries only) Opens highlighted (selected) Clip or Composition in the Trimmer and begins audition play. Opens highlighted (selected) Shelf
Audition	Opens highlighted (selected) master Clip in the trimmer and begins audition play.
Stop Audition	Stop audition play and return cursor to beginning
Locate	Locates the Playhead Cursor to the start of the first (or only instance) of a single item selected in the Media Manager list and Selects it in the Timeline
Show Usage	Selects all instances in the Timeline of the item(s) selected in the Media Manager list and zooms the Timeline to show them.

Place   Opens the **Place** dialog:
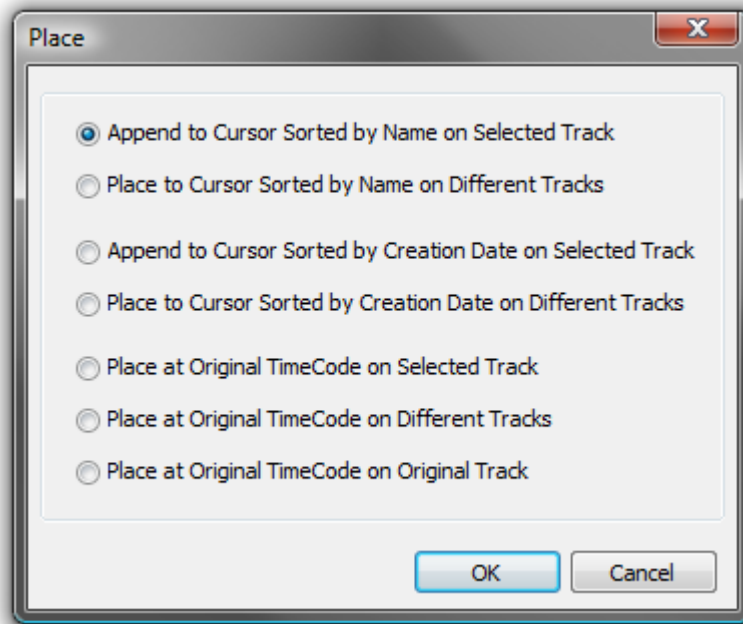
The selected object(s) will be placed in the Timeline according to the rule chosen here.

The selected object will be placed in the timeline on the selected track and Playhead Cursor position at its **Sync Point** or, if no Sync Point has been set, at its **In Point**

Placement Tool   Opens the **Placement Tool** for placing the object

Send   (Libraries only) Sends selected object(s) as e-mail attachment

Consolidate   (Libraries only) Opens the **Consolidate** dialog.
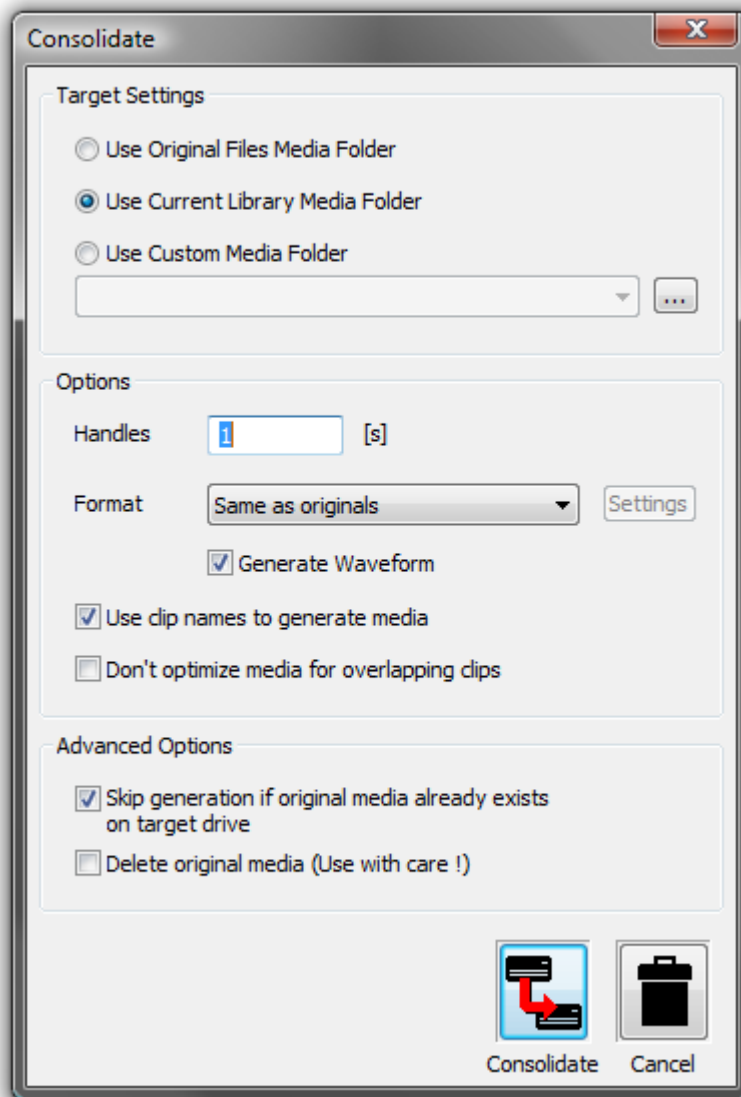
The **Consolidate** function makes a selective backup of the media segments in the selected object. I.e. instead of backing up the whole of every media file referenced by the clips in a composition, **Consolidate** backs up only those parts of the media files that are referenced by the clip segments in the **Composition**. Extra media, beyond the clip boundaries can be added using the **Handles** option. This allows further manipulation of the Composition within the limits of the handle length.

Please see also: Consolidating Projects

Delete Media   (**Media Management only**) Deletes the selected Master Clip and Associated Media Files

         Important! D**e**lete Media does what it says. This command:

PERMANENTLY REMOVES AUDIO (and its associated Waveform file(s) from the drive.

Select All   Selects all objects in the right-hand pane (**Ctrl Click** toggles selection of individual objects)

Invert Selection   Selected objects are de-selected, unselected objects are selected

Search

Search   Opens the **Search** dialog
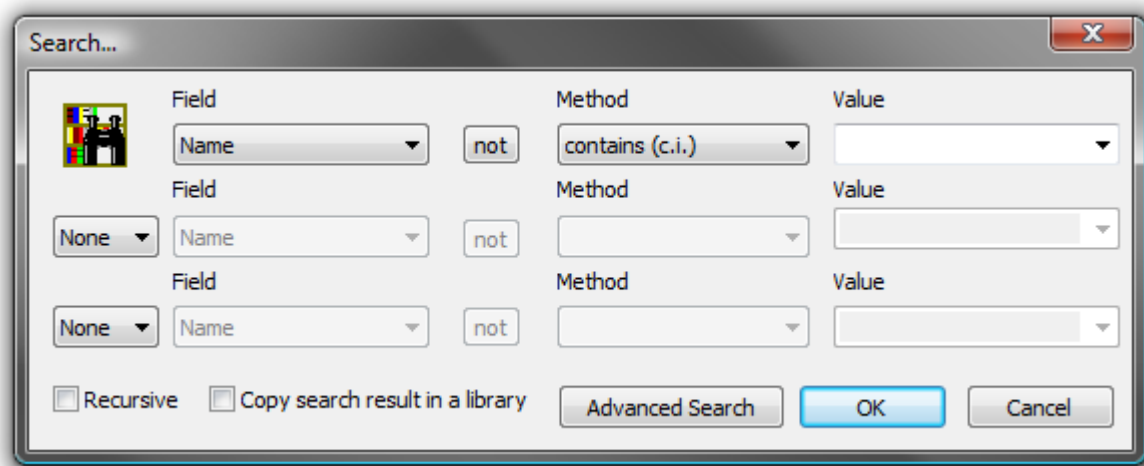
Library Search dialog

This dialog searching for specific entries using filters.

Field   This combo box shows a list of all fields which may be used as the basis for the search.

Not   When this button is pressed the query will find every entry in the library that does not conform to the query parameters.

Method   Gives a choice of filter parameters:

Value   A value can be typed in or chosen from the list. The list displays all values present in the library for the selected **Field**

Recursive   When checked, the search will encompass all sub-folders in the library

Copy search result in library

When checked, all items matching the search criteria will be added to a new library named **Search Results** in a shelf named as per the query itself. E.g. **Name contains 'D' in D:\Pyramix\Media**

The two combo boxes on the left-hand side allow two further filters to be added with a choice of **AND / OR**

View Menu

The **View** menu determines how information is displayed.

Toolbar   Turns the **Toolbar** on and off

Status Bar   Turns the Status bar on and off

Large   Show large Icons

Small   Show small Icons

List   Show as list

Detail   Show as list with details

Filter   When ticked, filters the items displayed in the right-hand pane of the Window according to the filter parameters set under:

Filter Options   (this dialog offers the same options as **Edit > Search**)

Options   Opens the **Library Settings** dialog box with two Tabs, **General** and **Columns**.
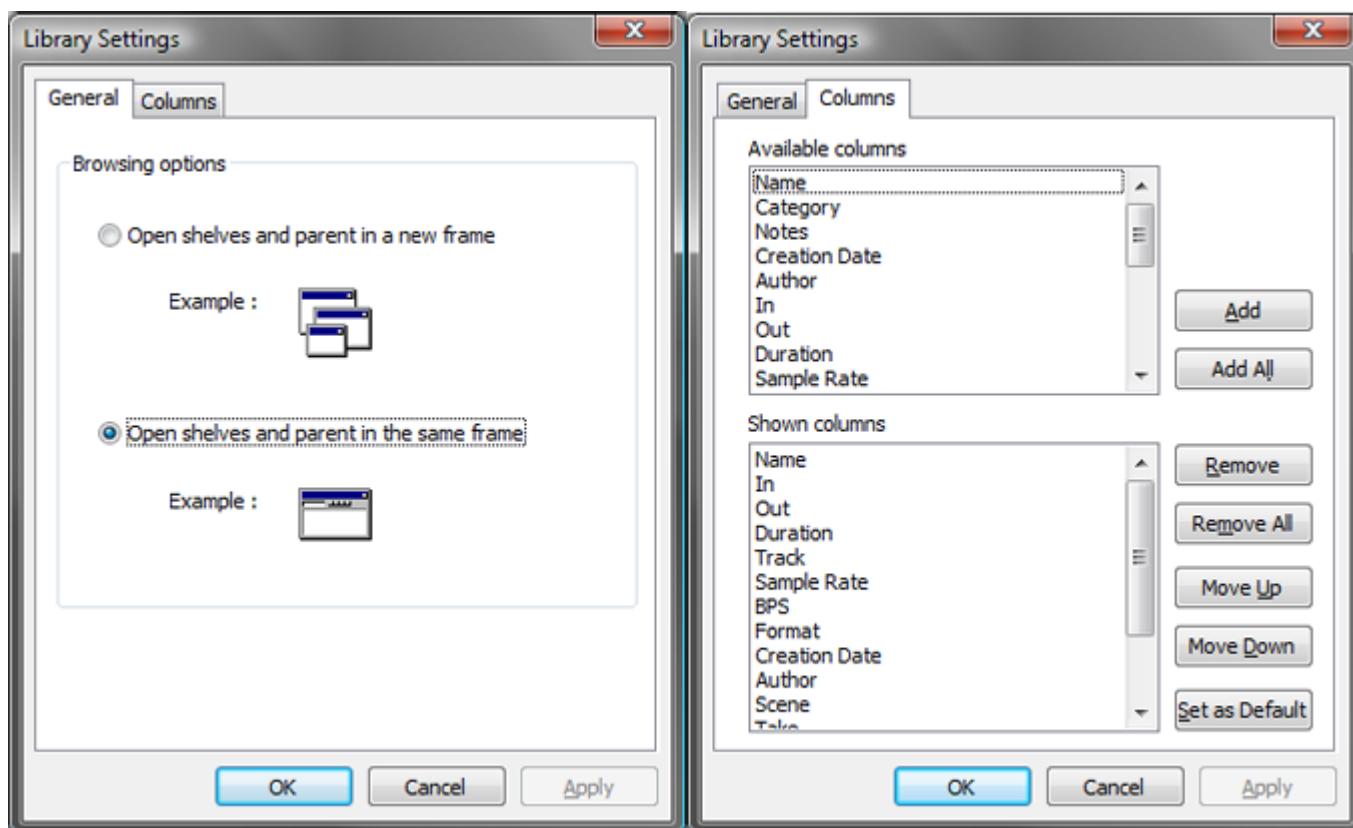
Document Libraries View menu Options General and Columns panes

The default **General** tab offers a choice of opening shelves and parent in a new frame or Opening shelves and parent in the same frame and the **Columns** tab controls what is displayed in the right-hand pane of the **Library** Tab Window. The columns displayed and their order are all customizable

New Window   Opens another instance of the Library or Media Management Window

Refresh   Forces a refresh

Trimmer Menu
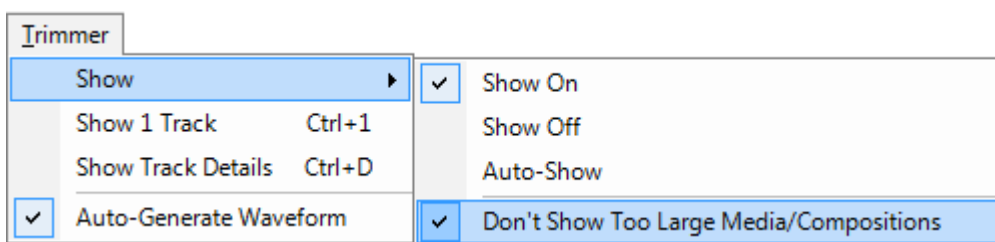
Show

Show On   When ticked the Trimmer is visible

Show Off   When ticked the Trimmer is hidden

Auto-Show   When ticked the Trimmer is only shown when a Media file is selected

Auto-Generate Waveform   Waveforms are automatically created for objects without them.

Don't Show too Large Media/Compositions When ticked Large Media files and Compositions will not be opened in the Trimmer.

Note: When this option is selected Media or Compositions with more than 16 tracks or more than 100 clips will not be shown in the Trimmer. Selecting this option avoids the loading time associated with Compositions containing a large number of clips.

Show 1 Track	Show only the first track of the object displayed in the **Trimmer**. When this option is selected **Up** and **down** arrows appear at the left of the Trimmer track display which enable any track to be displayed.
Show Track Details	The following information is displayed for each track of the selected Media file:

- Track Name
- Track Number
- Track Type (left, Right, Center etc.)
- Track File Name (If the Media is recorded in **One File Per Track** mode)

Media Folder Menu

Only available in the **Media management** window.

Mount Media Folder	Opens the **Choose a media folder to mount** dialog. Mounting a folder makes it visible to the Pyramix media filing system
Unmount Media Folder	**Unmounts** the selected **Media folder** (an **Are you sure** dialog protects from inadvertent unmounting.) Makes the selected folder invisible to the Pyramix filing system
Refresh Media Folder	Refresh works in the same way as Explorer Windows and makes visible files which have been added since the Media Management Window was opened
Create Offline/Reference Library	**Please see: Using Offline/Reference Libraries on page 67**
Create Quick Mount Libraries	**Please see: Quick Mount on page 62**
Open Folder	Opens the Media Management Library for the selected drive and directory. Double clicking on the name of the media directory has the same effect
Up One Level	Moves up one level in the file hierarchy
Mounting Rules	Opens the **Mounting Rules** dialog. This allows the user to apply special rules when attempting to mount files that contain the same 'unique' identifier. **Please see: Mounting Rules on page 63**
Properties	Pops up an info box showing properties of the selected **Media Folder**

Edit, View and Trimmer Menus

The **Edit**, **View** and **Trimmer** menus are almost identical in Library and Media Management windows and details can be found in **Tools and Menus** above. Exceptions are noted where they arise.

Convert Menu

Quick Import	Enables sound files in any supported format to be imported into a Pyramix Media Drive or Folder in either their original format or converted to the Pyramix native PMF format.

Note: Files in supported formats do not need to be converted to be used in Pyramix, a big time-saver.

Quick Export   Enables Pyramix Master Clips to be exported in any of the supported file formats with a number of options.
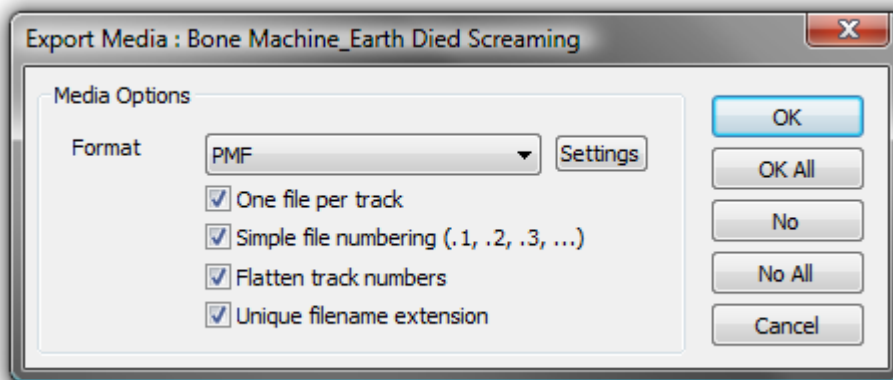
One file per track   When checked, multi-channel Master Clips are exported with a single file for each channel in the clip.

Simple file numbering (.1, .2, .3, ...) When checked resultant files are numbered (.1, .2, .3, … instead of _##001##_, _##002##_, …)

Flatten track numbers When checked, tracks are numbered 1, 2, 3, 4 instead of, for example 1, 2, 7, 8

Unique filename extension When checked, adds a unique filename extension.

Quick Convert >   Enables one or more Media files to be converted in a variety of ways (see below)

Reverse   Reverses the selection so it plays backwards

Export XML Description   Exports Media Descriptions as an XML file Select a range of media and select **Convert > Export XML Description**.

Convert - Quick Convert sub-menu
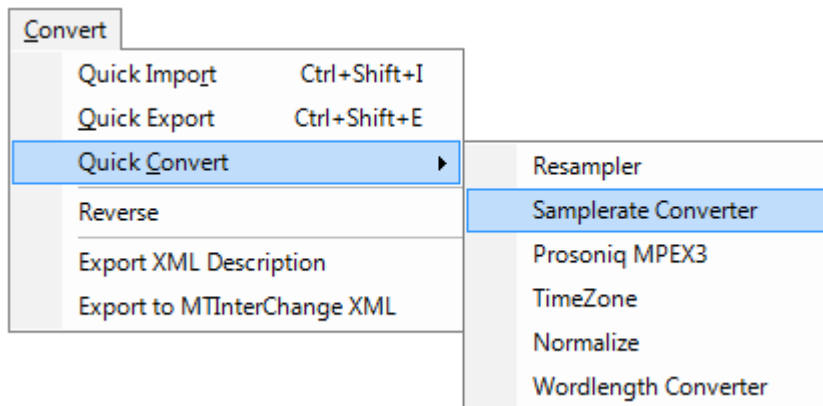
Media Management Convert - Quick Convert sub- menu

Output Dialog
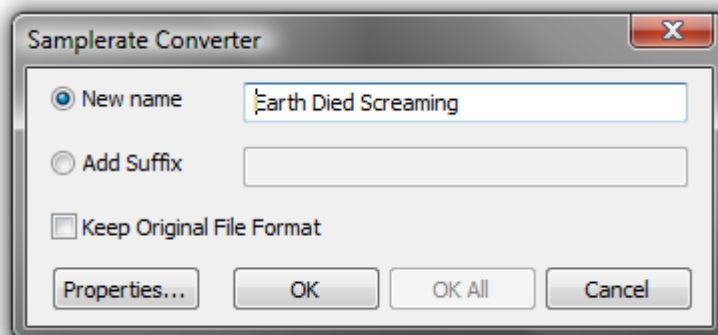
Samplerate Converter dialog

MERGING

All these options produce new media files on disk. Whichever conversion option is chosen, this dialog box will pop-up with a title reflecting the selected process. Either a new name may be chosen or the existing one kept with a new suffix. If you wish to process multiple files in one operation the **Add Suffix** button must be selected. When multiple files are selected and this option chosen the **OK All** button is available. The **Keep Original File Format** checkbox does what it says. The **Properties...** button opens a dialog box specific to each conversion type. (See below)

Quick Convert Process Properties Dialogs

Resampler Properties
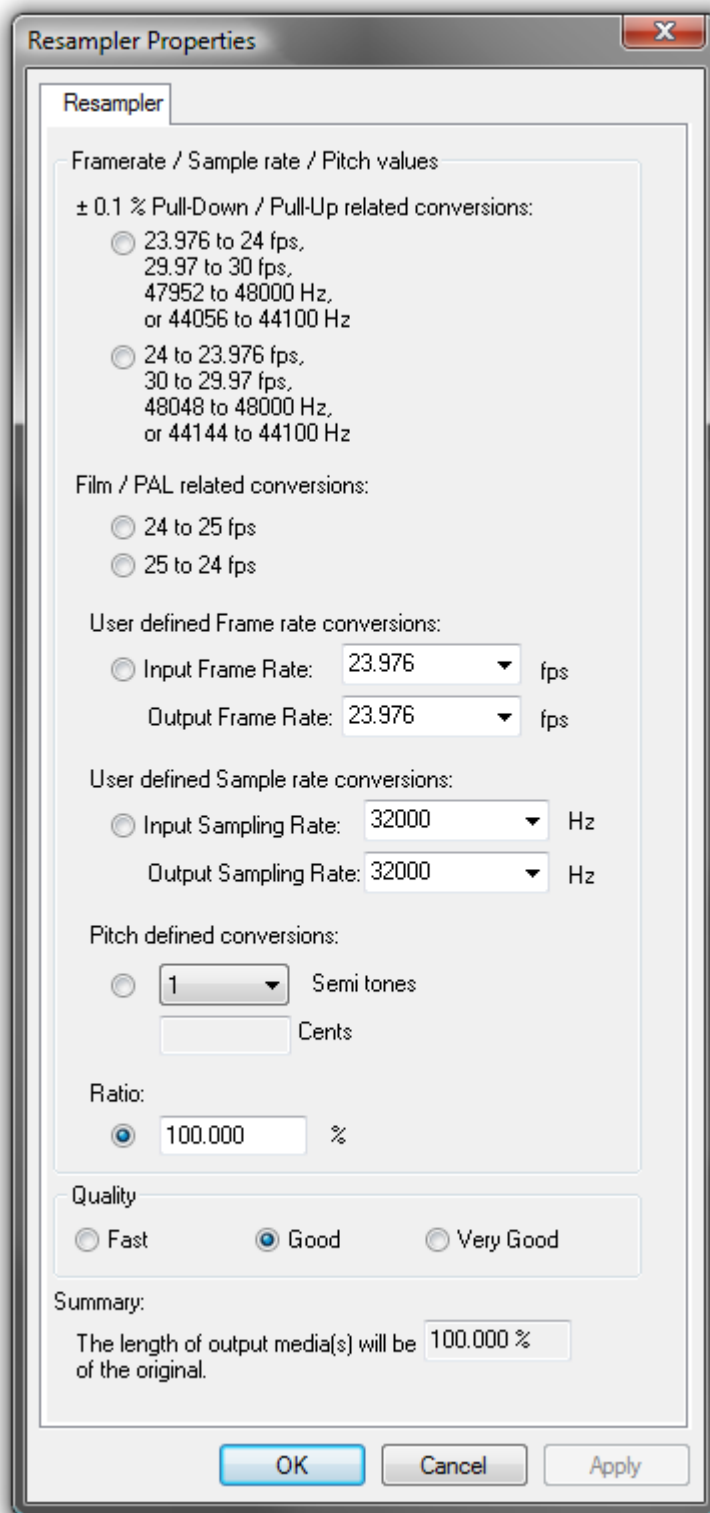
Resampler Properties dialog

This module is initially aimed at performing ±0.1 % pull-up / pull-down audio conversions, but there are several possible ways of defining the ratio between the destination length and the final length (frame rates, sample rates, pitch and ratio in percent).

The process differs from a **Time Stretch** operation since the pitch is modified. The Input and Output files have the same sampling rate but the length of the output files will be: (initial length) x (displayed ratio).

Another setting, **Quality**, has an effect on the resolution of the oversampling process of the treatment.

This module is available, like **MPEX**, in the '**Quick convert**' list of the Media Manager, the **Project** menu (to process all the media in a project), and as a '**Surround Encoder**' (**Project > Surround Processing**).

The following graph gives an indication of the effect of the three **Quality** settings on **THD & Noise**.
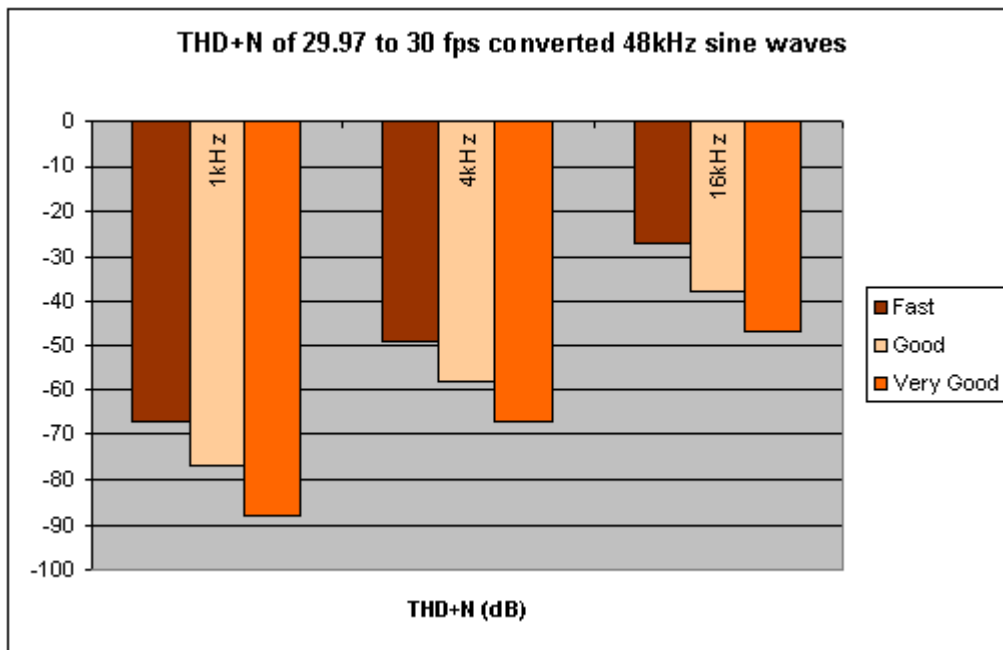
Resampler quality setting effect on THD & Noise

:Samplerate Converter Properties
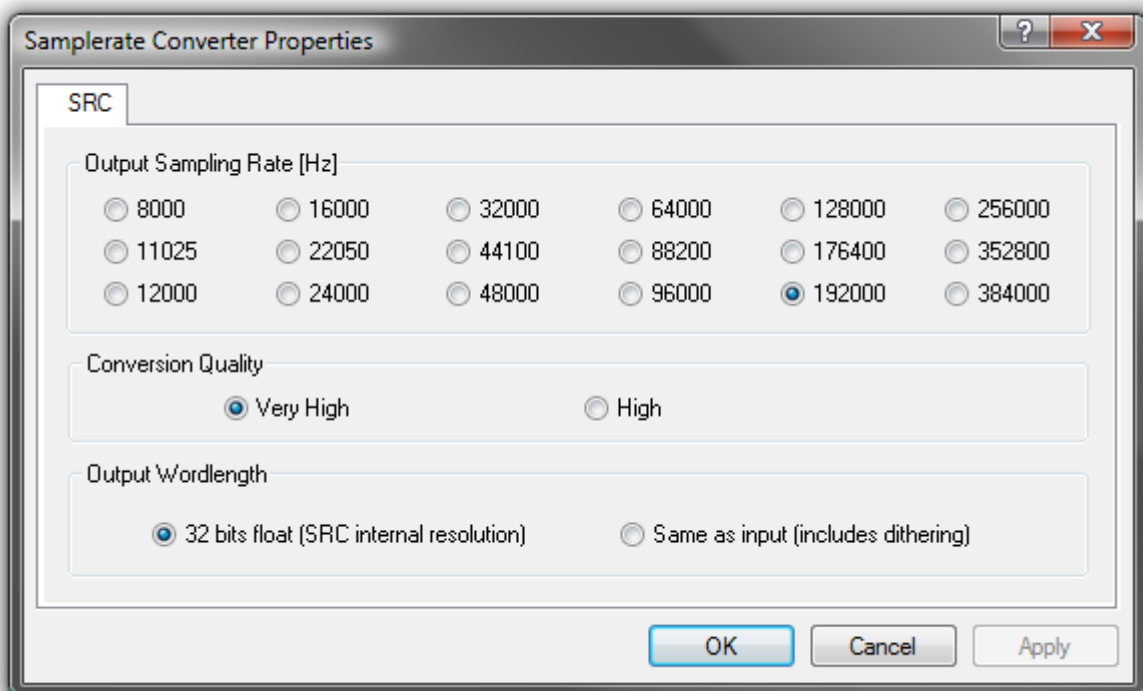
Samplerate Converter Properties dialog

Output Sampling Rate [Hz] select the desired sampling rate by clicking the relevant radio button.

Conversion Quality Select the desired quality. **Very high** offers better conversion but takes longer.

Output Wordlength Select the desired **Output Wordlength**. **32 bits float (SRC internal resolution)** (default) or **Same as input (includes dithering)**

Prosoniq MPEX3 Properties
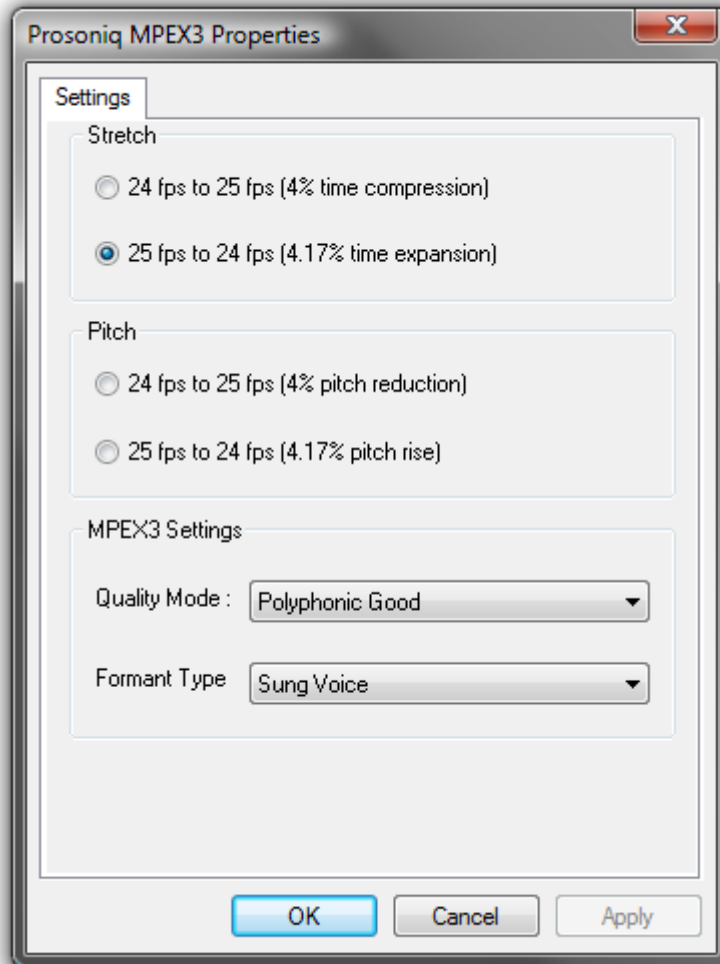
Prosoniq MPEX3 Properties dialog

Select the required conversion factor from the four **Stretch** and **Pitch** options.

Optimize **MPEX3 Settings** by making appropriate choices from the **Quality Mode** and **Formant Type** combo boxes.

Quality Mode	Single Instrument Fast
	Single Instrument Best
	Polyphonic Fast
	Polyphonic Good
	Polyphonic Best

Formant Type	Sung Voice
	Spoken Voice

TimeZone Properties - Basic
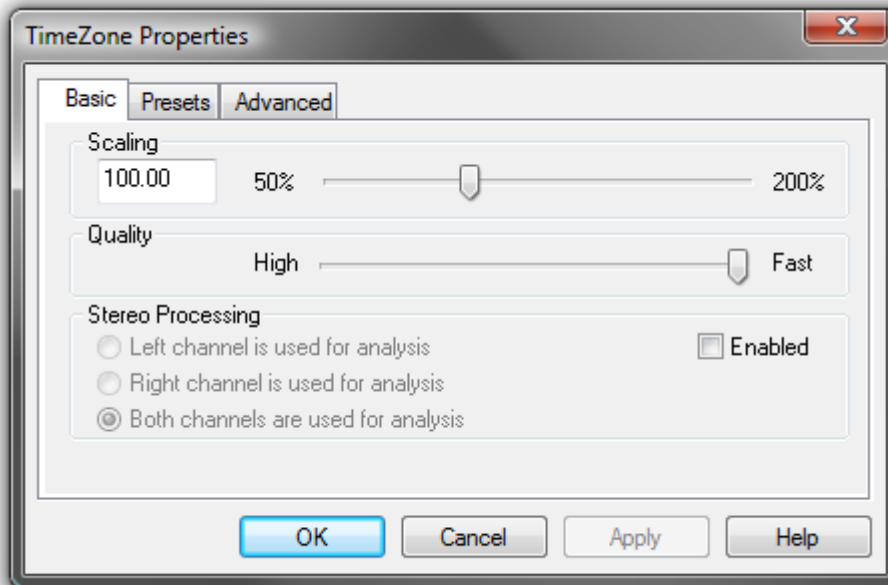
TimeZone Basic Properties dialog

Scaling Select the desired change in length in percentage by typing in the box or positioning the slider.

Quality The slider offers a choice between High Quality and Fast processing.

Stereo Processing When the **Enabled** box is checked offers a choice of which channel(s) of a stereo media will be used for analysis.

TimeZone Properties - Presets
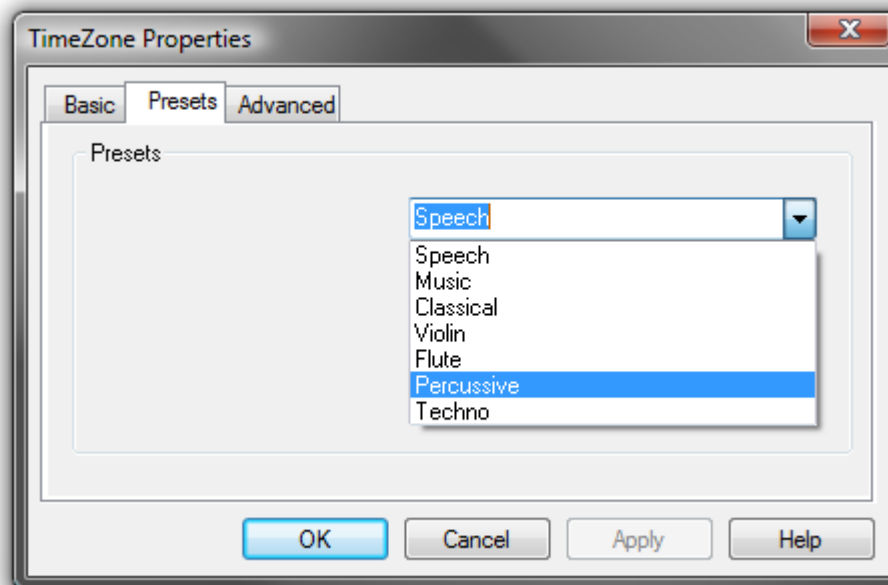
TimeZone Presets Properties dialog

The drop-down list offers a choice of algorithm presets for various sound types.

TimeZone Properties - Advanced
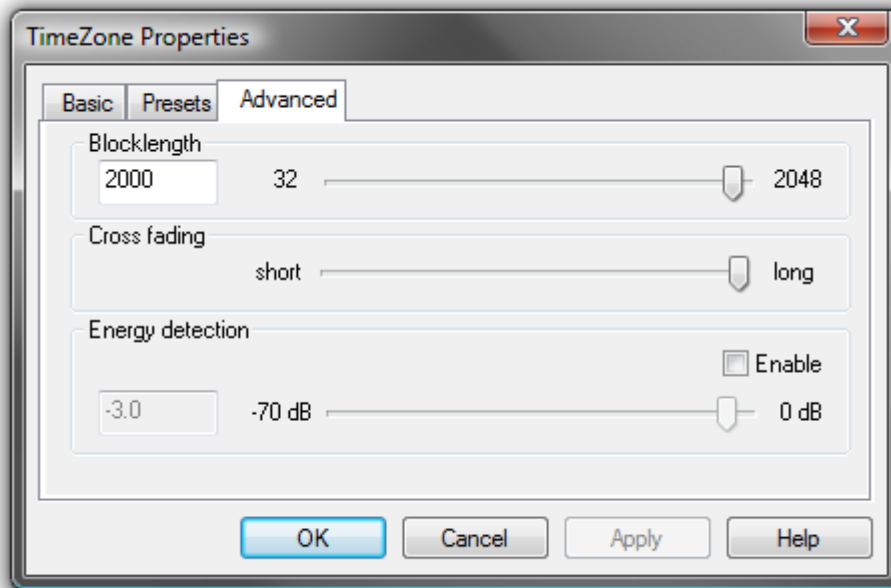
TimeZone Advanced Properties dialog

Blocklength Allows the user to determine the length of the blocks used for processing by entering a value between 32 and 2048 in the text box or by positioning the slider.

Crossfading Allows the user to vary the length of the crossfades between blocks by positioning the slider

Energy Detection When the **Enable** box is checked the user can set the threshold level by entering a value between -70dB and 0dB in the text box or by positioning the slider.

These parameters affect the quantity and character of audible artifacts and allow fine tuning of the process to suit specific material.

Normalize Properties
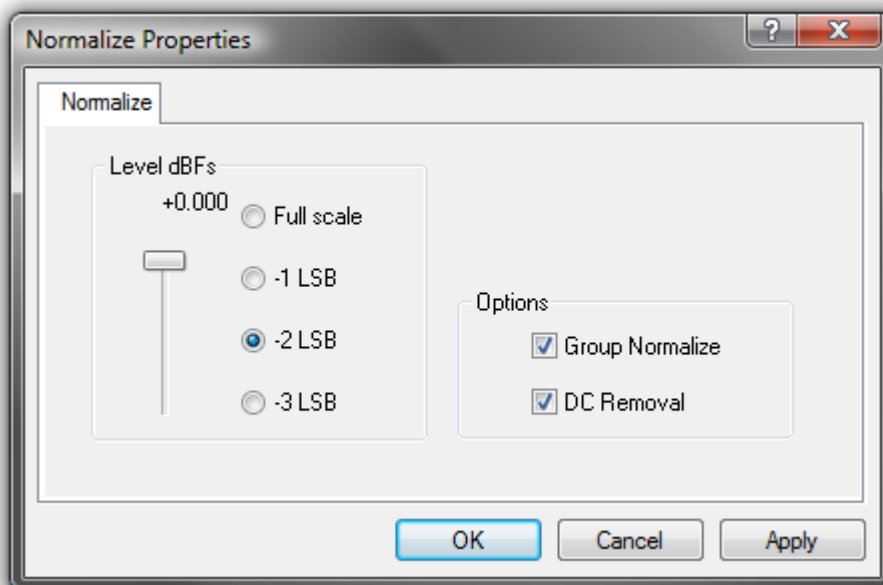
Normalize Properties dialog

Level dBfs

Here you can select from four preset values, or use the slider to specify the maximum level for the new file.

Group Normalize

When checked, the level of the highest peak in any group of clips is raised to maximum and level of the other clips is increase proportionally.

DC Removal

When checked, D.C. offsets will be removed.

Prosoniq MPEX2 Properties
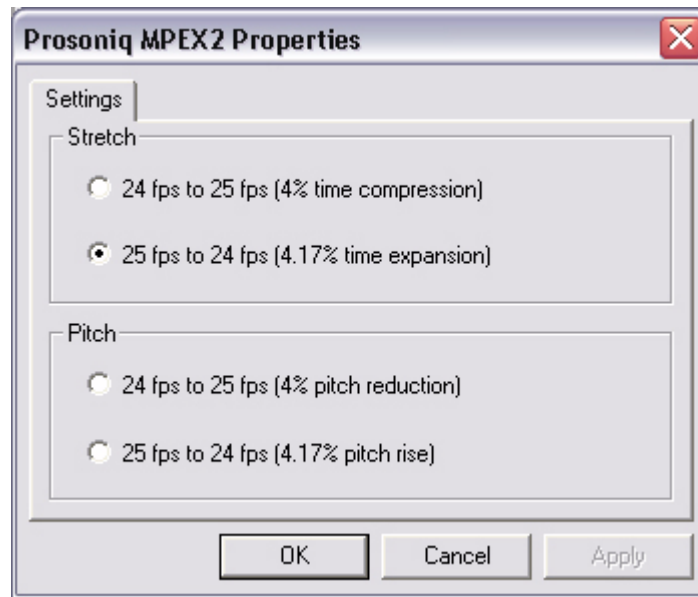
Prosoniq MPEX2 Properties dialog

Select the required conversion factor from the four **Stretch** and **Pitch** options.

Wordlength Converter Properties
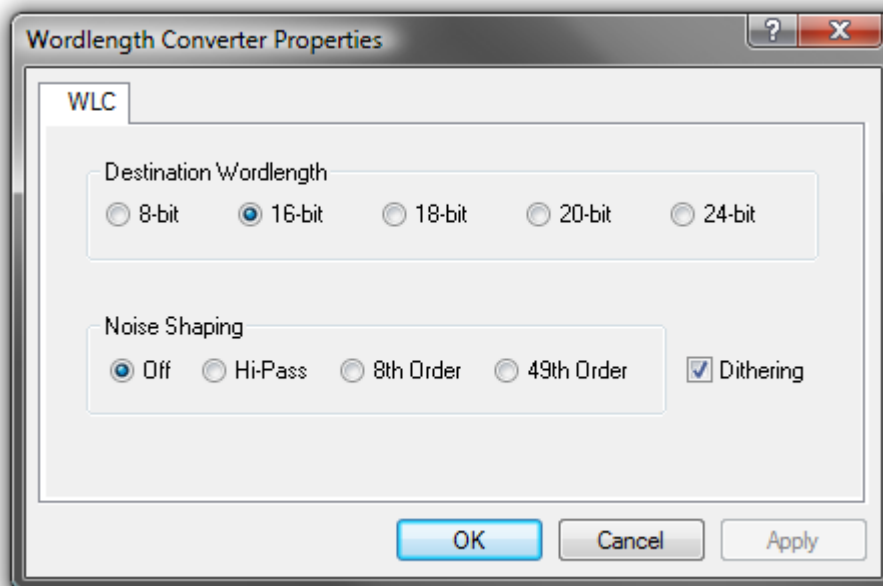
Wordlength Converter Properties dialog

Destination Wordlength

Select the desired wordlength using the radio buttons.

Noise Shaping

Select the required quality of Noise Shaping.

Hi-Pass is single order shaping with

8th Order and

49th Order offering improved quality.

A higher quality setting will produce better results, but the processing time will also increase.

Dithering When checked, If dithering is required, dithering will be applied.

SACD Menu
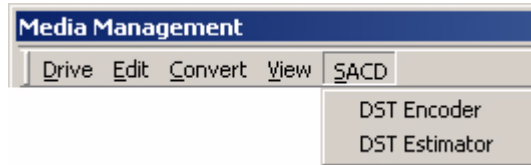
Media Management SACD menu

DST Encoder Encode an Edited Master in DST.
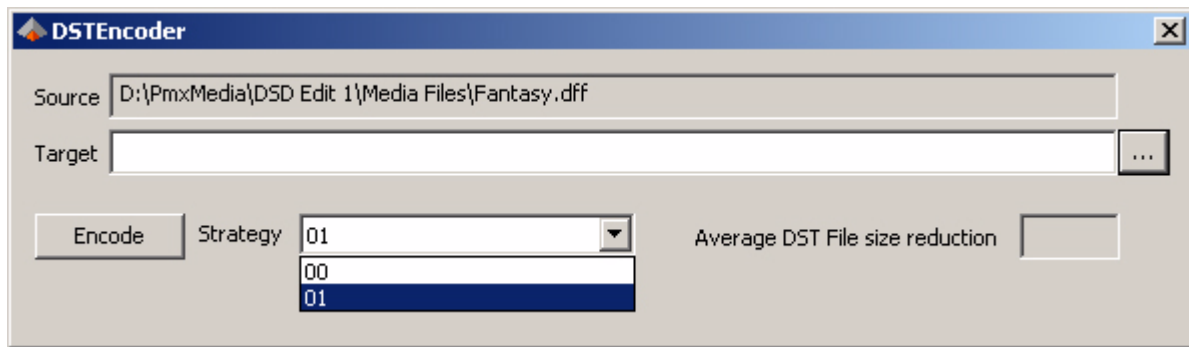
DST Encoder dialog

DST Estimator Estimate the DST encoding of an Edited Master with a graph to show the file reduction rate as a function of the audio material.

Media Browser Menu

Reconnect Media references while browsing allows Pyramix to attempt to automatically relink missing media in any open projects while browsing for easy searching. This option can be disabled for quicker browsing.

Mount Currently Displayed Media Folder allows easy mounting of the Media Folder currently displayed in the Media Browser. (Typically when the proper folder is found).

The Media Browser uses **Quick Mount** libraries whenever it can to increase browsing speed. Creating Quick Mount libraries for frequently browsed folders is therefore recommended. **Please see: Quick Mount on page 62**

Managing Media Folders
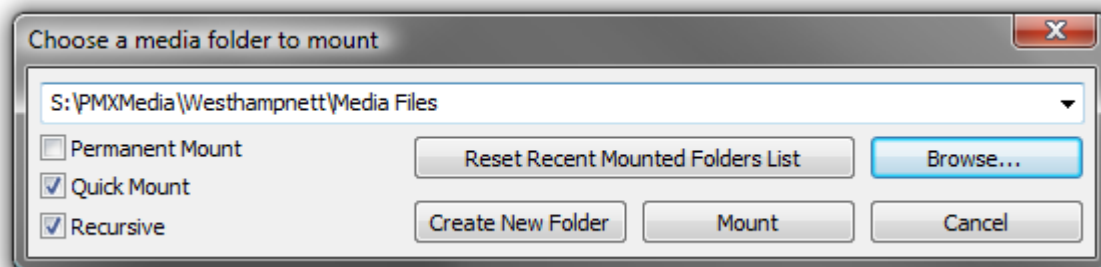
Choose a media folder to mount dialog

This dialog can be opened in several ways. From the **Media Management** Tab Window **Media Folder > Mount Media Folder** or by right-clicking a Media Drive or Media Folder entry in the right-hand pane, and from the **New** entry in **Media Folder** combo boxes in various Pyramix Windows.

The text box allows a complete path to be entered or a Media Folder or Drive can be chosen from the drop down list. Alternatively, a new Media Folder can be created by typing its name in the text box. The new folder will be created below the current one in the tree.

Permanent Mount

When checked, the chosen folder will be mounted at start up for all future Projects. (Can be useful for sound effects libraries etc.)

Quick Mount

If you check this **Quick Mount** box the system will load the 'QuickMount' library instead of parsing all the media files in the folder. (See below)

Recursive

When checked, all sub-folders of the chosen folder will also be mounted.

Reset Recent Mounted Folders List

Clears the drop-down list. The list contains all folders that have been mounted since the list was last cleared.

Browse...

Opens the **Browse for Folder** dialog box which enables any Windows drive or folder on the local machine or across a network to be selected for mounting.

Mount

Mounts the selected Media Drive or Folder. To create a new Folder, simply type a name in the text entry box and click on **Mount**. (If you want the new folder to be created somewhere other than the current path tree, either type the full path or use the drop-down list or browser to navigate to the desired directory, then add the new name in the text entry box after the path) The **Mount a media folder** info box appears:
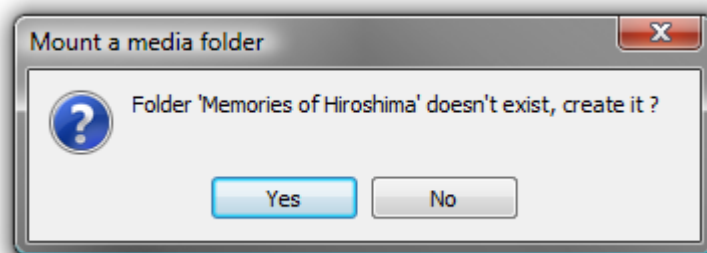
Mount a media folder info box

Click **Yes** to create the new folder, or **No** to cancel the operation.

Quick Mount

Quick Mount mode is on by default.

When a folder is mounted normally, a library called '**__QuickMount.pml**' is created and stored in the original folder. This can dramatically reduce the time taken to mount media files when a project is opened.

Note: The double underline is an integral part of the filename

If the QuickMount library is not found then a standard mount is performed and a QuickMount library is created to enable future Quick Mounts to take place.

Quick Mount libraries automatically regenerate when next mounted if anything changes in the Media Folder.

Quick Mount libraries are not regenerated if Media Folders move, are renamed or change Drive letters.

The menu option **Media Folder > Create Quick Mount libraries** creates all required Quick Mount libraries for a given drive, folder or network path, recursively. (Typically this will be carried out overnight on the whole server)

If new media files are added (or removed) to or from a previously 'Quick Mounted' folder, the Quick Mount library can be manually updated by selecting **Media Manager > Refresh**.

If the **Use Quick Mount whenever possible** check box in the **Settings > All Settings Application > Location** page is checked, permanently mounted folders are automatically 'Quick Mounted' when the application is started

Mounting Rules

This dialog allows various rules to be applied when parsing **BWF** or **Wave** files in a given folder. Pyramix always tries to group multiple mono files that are part of a single multi-track media when viewed in the Media Manager so the multiple mono files appear as a single item with multiple tracks numbered in the form A 1-2 or A 1-8, or A 1-2, 7-8, etc. Otherwise, you would see a separate entry for each mono file whether or not it is part of a multi-track 'set'. In order to achieve this in the case of **BWF** files Pyramix looks at the **BWF** header and uses the **Originator Reference** field as a **Unique Identifier** with some rules as defined by the EBU organization and some conventions adopted between various manufacturers.

It may happen that some files do not follow these rules and therefore sometimes the Pyramix Media Manager fails to properly mount these files. Sometimes some files are missing, or some tracks within a multi-track media are missing. The Pyramix Media Manager detects these conflicts at the time the folder is mounted and informs the user of such a problem, prompting him to go to the **Media Manager > Drive > Mounting Rules** menu item. The **Mounting Rules** dialog allows a variety of different rules to be applied for this or these Media Folders so all files are properly mounted.

Folders where a conflict has been detected appear in Red.

Folders where a special Mounting Rule has been applied appear in Dark Green.

The **Mounting Rules** dialog can be found in the **Media Management** Tab window in the **Media Folder** menu : **Media Folder > Mounting Rules**
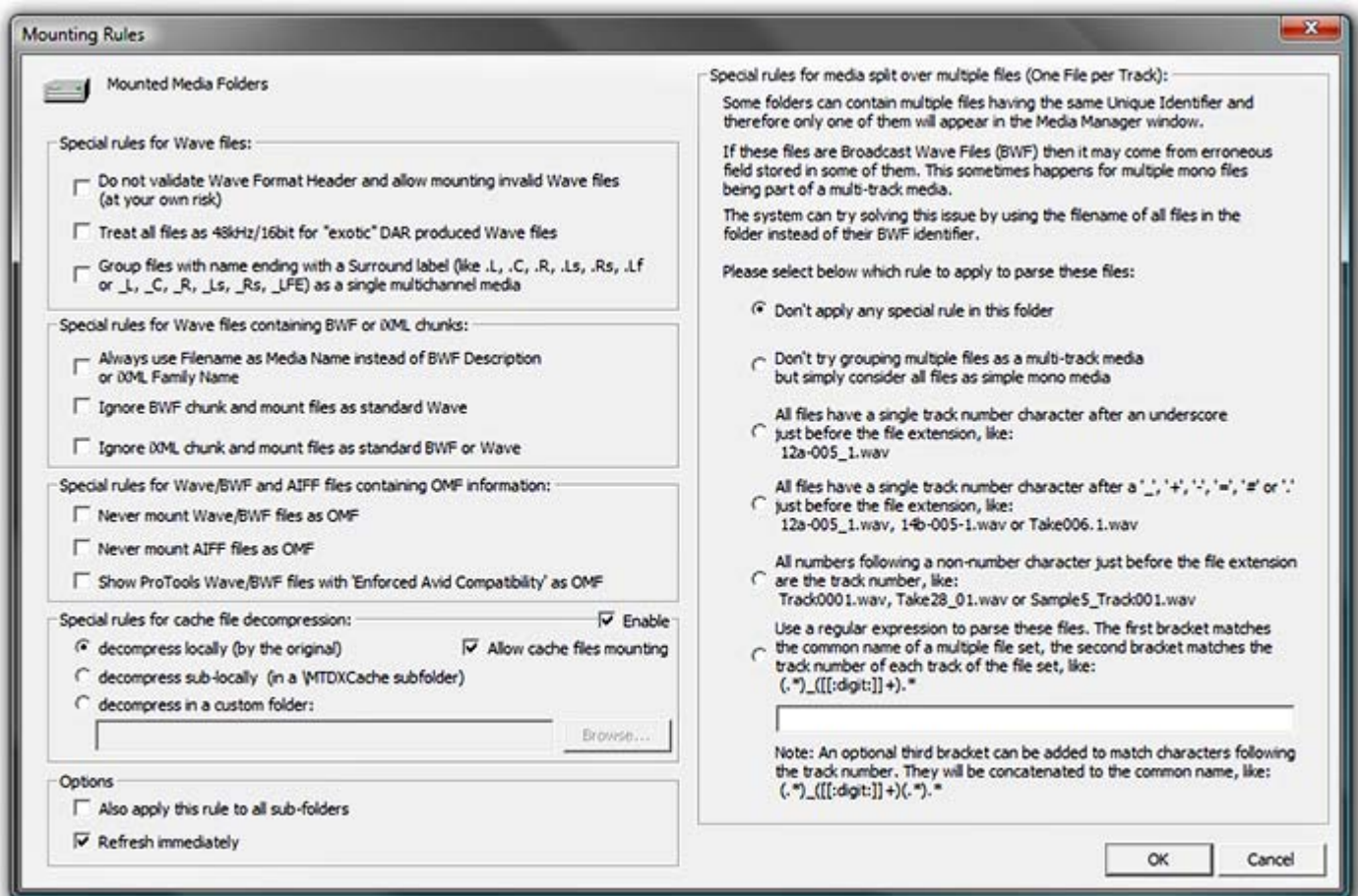
Mounting Rules dialog

Most of the dialog is self-explanatory. The description of the Rules that can be applied appears in the Mounting Rules dialog as above but for convenience, we have also listed the options on the left of the dialog below.

Special rules for Wave files
Do not validate Wave format Header and allow mounting invalid Wave files (at your own risk)

This can enable files to be mounted that do not follow the Wave specification strictly.

Treat all files as 48kHz/16bit for 'exotic' DAR originated Wave files

As it says. **Please see DAR WAV file Import on page 64**

Group files with name ending with a surround label (like .L,. C, .R, .Ls, .Rs, .Lf or _L, _C, _R, _Ls, _Rs, _LFE) as a single multichannel media

As it says. Useful when working with files generated by certain other DAWs.

Special rules for Wave files containing BWF or iXML chunks:
Always use Filename as Media Name instead of BWF Description or iXML Family Name

This will allow files recorded in Steinberg's Nuendo to be mounted and can also help with (re)conforming files from Aaton Cantar or other location recorders where the filename matches information in the EDL.

Ignore BWF chunk and mount files as standard Wave

This effectively treats Broadcast Wave files as ordinary Wave files and can help with (re)conforming as above.

Ignore iXML chunk and mount files as standard BWF or Wave

This treats iXML files as pure Wave or BWF with the same aims as above.

Special rules for Wave/BWF and AIFF files containing OMF information:
Never mount Wave/BWF files as OMF
Never mount AIFF files as OMF
Show ProTools Wave/BWF files with 'Enforced Avid Compatibility' as OMF

Special rules for cache file decompression
When compressed audio files are mounted Pyramix creates an uncompressed WAV version of the file(s) in a cache. The location of these cache files is determined by this dialog.

Locally (by the original) File(s) will be created in the same location as the original file.

Sub-locally (by the original, in a \MTDXCache sub folder). File(s) will be created in a sub folder created by Pyramix in the same location as the original file.

Custom (files are generated to the specified location). File(s) will be created in a user specified location. When this option is selected the **Browse...** button is available to open a file browser window to set the user defined path.

Enable enables the rule.

Allow cache files mounting when ticked, cache files can be mounted directly, otherwise they remain invisible, i.e. filtered out of Media Manager views.

Options
Also apply this rule to all sub-folders
Refresh immediately

DAR WAV file Import
It seems that DAR systems were strange in that they always played audio at 48khz. Even if 44.1khz audio was imported into a DAR, it would be converted to 48khz. The sample rate and bit-depth information in the WAV files was ignored as everything was assumed to be 16-bit/48khz. We've seen WAV files from DAR systems where the WAV files were identified as containing 128-bit audio or having a 10hz sample rate. So it would seem there must have been a bug in the DAR software that caused incorrect data to be stored in the WAV header. There is already code in the Pyramix WAV handler to try to catch these completely invalid parameters but, unfortunately, the WAV files from DAR don't include any manufacturer

identifier so it isn't simply a case of identifying that they are from a DAR and automatically forcing them to 48khz in Pyramix.

Offline / Reference Libraries

As the name implies **Offline/Reference Libraries** are useful for keeping track of very large projects and material on media that may not be permanently on-line.

Creating Offline/Reference Libraries

Offline libraries are created in the **Media Management** Tab Window by selecting

Media Folder > Create Offline/Reference Library.

This will open a browser Window:
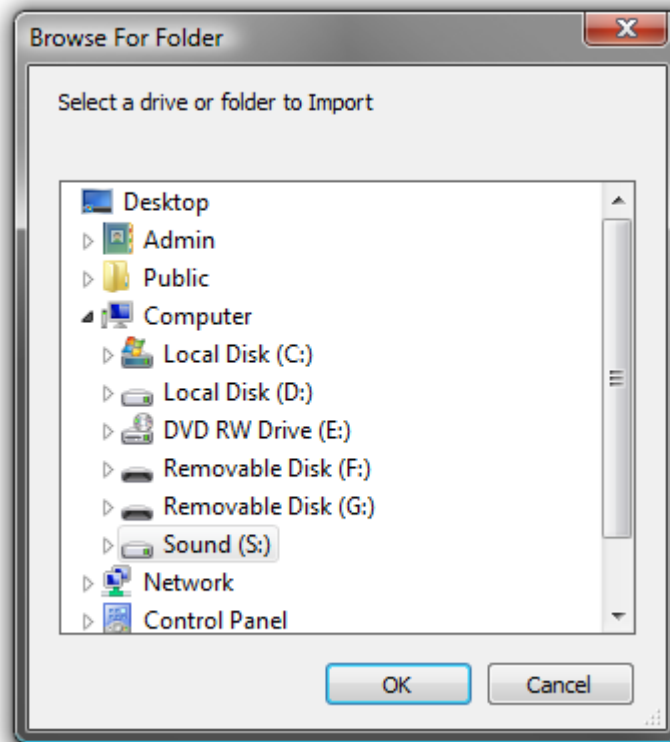
Browse For Folder - Select a drive or folder to Import

Navigate to the Media Drive or folder you wish to include in the library and click on **OK**.

A **Save As** browser Window will open:
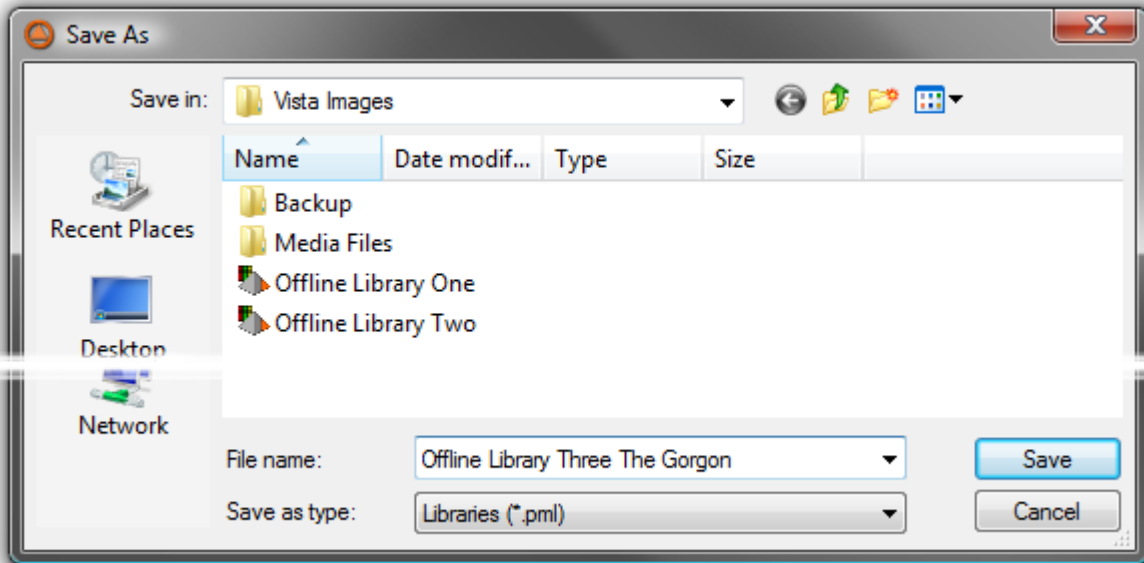
Navigate to the folder where you wish to create the new library or create a new folderthen click on **Save**. The **Create Offline/Reference Library** dialog opens:
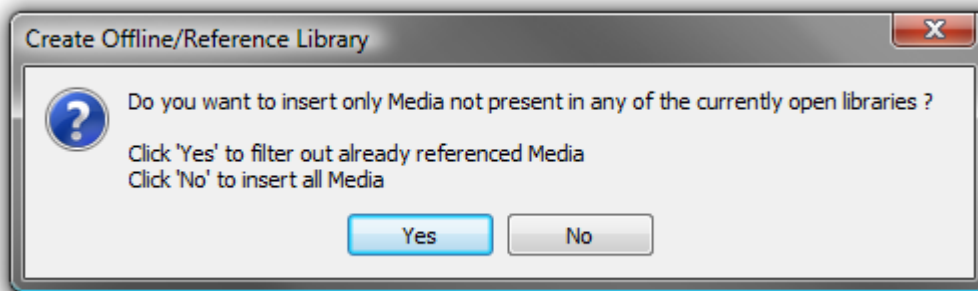
Create Offline/Reference Library dialog

Click on **Yes** to filter out Media already referenced in any library open currently.

Click on **No** to insert all Media

A Window opens showing progress. While the library is being created you have the option of aborting the process by clicking on **Cancel**:
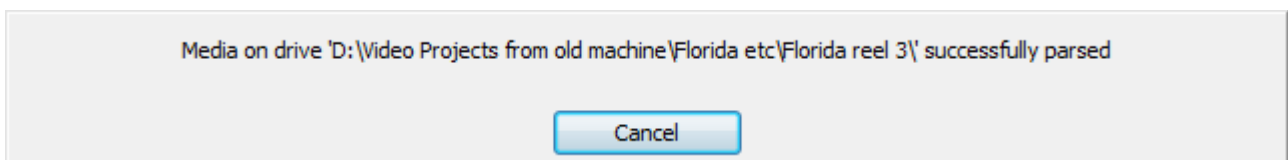
Create Offline/Reference Library progress dialog

You might wish to cancel the process if you have inadvertently included a huge archive which could take some considerable time to parse.

When the library creation process is complete this dailog opens:
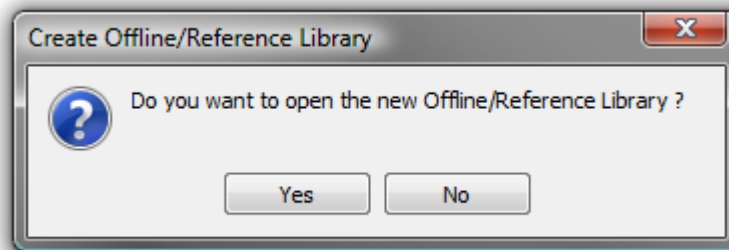
If you click on **Yes** the newly created library will be opened:
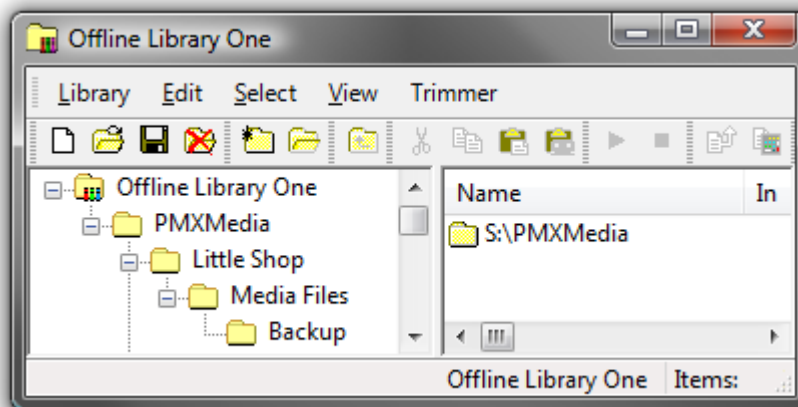
Offline/Reference Library

Using Offline/Reference Libraries

When used in the following manner Offline Libraries provide an extremely powerful organizational tool for managing very large project libraries and, for example, sound effects libraries.

Mount The Media

In the **Media Management** Tab Window, Mount all folders or disks containing your audio files (as ripped with LibraryLoader, mTools or any other source). We strongly suggest these files be in either PMF or BWF (Broadcast Wave Format) as they both have a long description field, a unique identifier and a timestamp.

> **Note:** There may well be Copyright implications when working with ripped files. Please ensure you comply with any restrictions on copying other people's material.

Create An Initial Library

Select the **Media Management** Tab Window Menu item **Media Folder > Create Offline/Reference Library** and choose **All mounted Media folders** and **Add all Media**. This will create an initial library referencing all your audio files. All the media files / disks may then be unmounted.

The library can now be re-organized, folders created, items duplicated etc. etc.

You can make searches (queries) or apply filters to your Offline / Reference library(ies) and, if **Project > Auto-mount Media** is on, each time an item is dragged onto the Timeline the appropriate audio file will automatically mount. Or this can be done this manually by calling **Project > Mount Referenced Media**.

Updating Libraries - Orphaned Entries

If the original audio files are moved or reorganized, just mount all the folders once again, load all your libraries and call the Library menu command **Update Referenced Media Paths**.

Updating Libraries - Adding new files

If new audio files are added to your media disk(s), simply mount these folders, load all your libraries and proceed as in **"Create An Initial Library"** above, **but** select the option, **Filter Media already present in other libraries**. This will create a new library containing only references to the freshly added audio files. These new items can then be copied/moved to any (or many) already existing Offline library(ies).

Tracks and Track Groups

5

Tracks

Each **Project** has a user defined number of audio **Tracks** on which audio **Clips** can be placed, or audio inputs can be recorded. Blocks representing placed or recorded **Clips** will appear on the **Track** as soon as a **Clip** has been placed or recorded onto it. The **Track** itself extends horizontally beneath the **Time Scale** bar, and multiple **Tracks** are stacked vertically.

On the left side of each **Track** is a **Header** panel with various controls and information displays. **Please see: Track Header Panel on page 73**

Some operations only apply to a selected track. A **Track** can be selected by left-clicking anywhere on the **Header** which will then appear in a darker shade of gray. However, when selecting a **Track,** be careful **NOT** to inadvertently click on any of the **Track** buttons, thereby changing a **Track** function: the **Track Name** is a good place to click in order to select it.

Adding Tracks
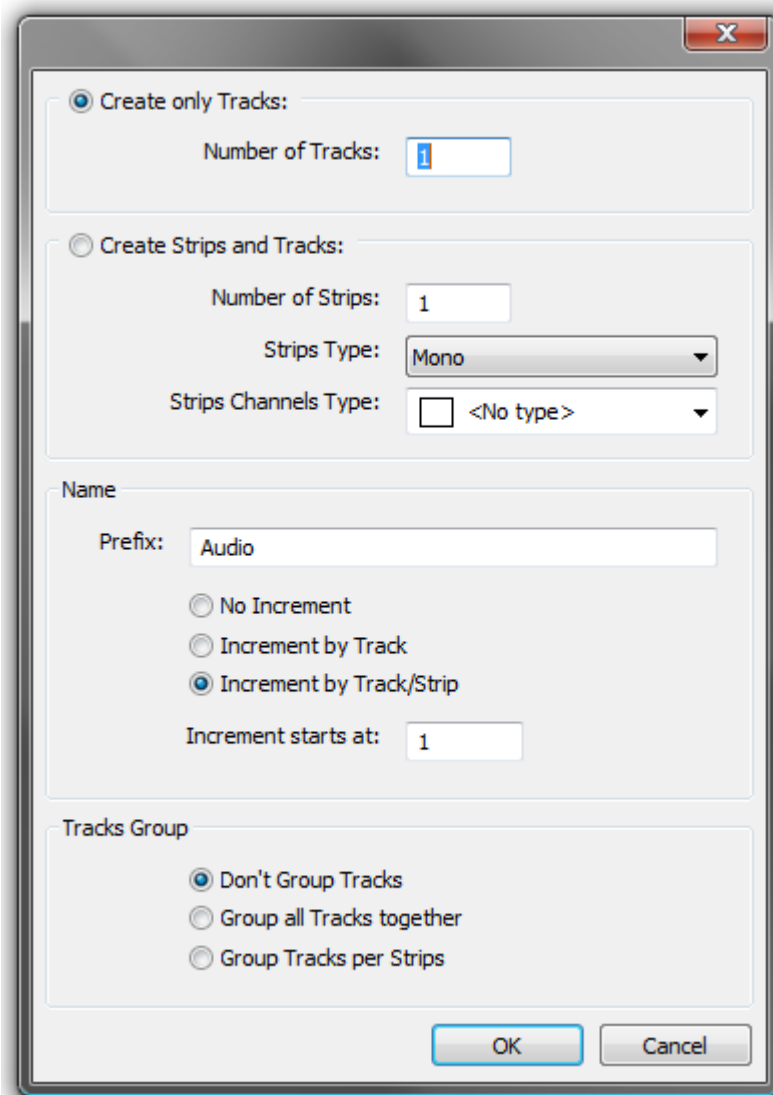
By default, a new **Project** opens with the same number of **Tracks** as there are **Input Channels** defined in the **Mixer** for the **Project.** However, **Tracks** can easily be added or deleted.

Creating tracks via paste

If a clip is dragged and dropped or copied and pasted from Media Management or a Library onto a blank area of the TimeLine where no tracks exist, sufficient tracks will be created below the last existing track to accommodate the number of channels in the clip.

Create New Tracks

New tracks are inserted below the currently selected track or, if no track is selected, at the bottom after the last existing track. To add **Tracks** to the **Timeline**, select **Tracks > New Audio Track** (or right-click in a blank area of the track header and choose **New Audio Track** from the context menu).

Create New Tracks dialog

Create only Tracks: / Create Strips and Tracks:

To simply create Mono tracks only, check the **Create only Tracks** radio button, enter the number of tracks required into the **Number of Tracks** data entry box and click **OK**. The Track(s) will be created with the default name **Audio** numbered in ascending order from **1**.

If you wish to create Mixer strips at the same time, check the **Create Strips and Tracks** radio button. Enter the number of Strips required into the **Number of Strips** data entry box. Pyramix currently supports four categories of Strip. The default is **Mono**.

Other types of strip can be selected from the **Strips Type** drop-down list.
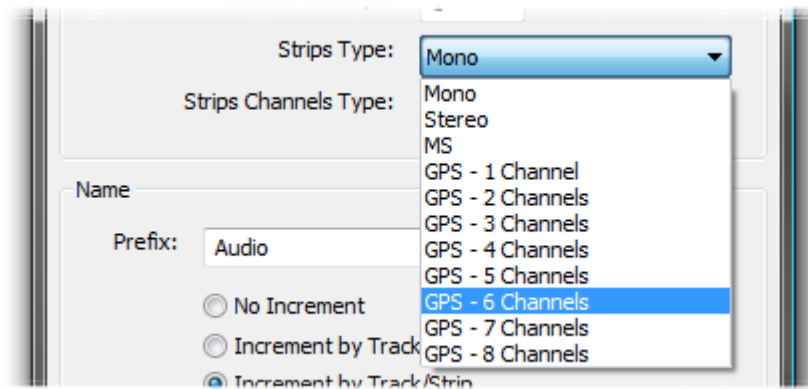
Create New Tracks dialog - Strips Type

If you choose anything other than **Mono** the appropriate number of tracks will be created to suit the chosen strip type. The strip inputs and outputs will be 'tagged' with a letter or letters indicating channel assignments depending on the choice made in the **Strips Channels Type** drop-down list.
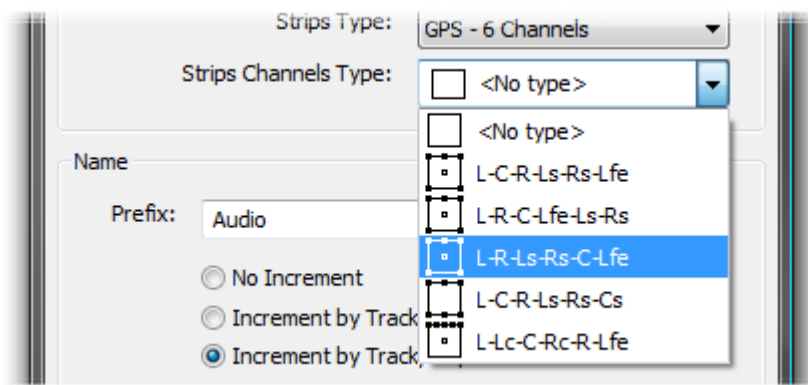
Create New Tracks dialog - Strips Channels Type

The formats on offer vary according to the Strip Type chosen. A six channel example is shown above. As a further example, if you choose **MS**. **<No Type>** is the only available choice and the strip I/O is tagged **C** and **W** for **C**entre and **W**idth since this is the logical format.

Track Types

All tracks are single channel but, when created with a Strip Channels Type format, certain functions are automatically linked, namely: Automation, Solo, Mute, Monitor mode, Record mode, Waveform display.

Naming and Numbering
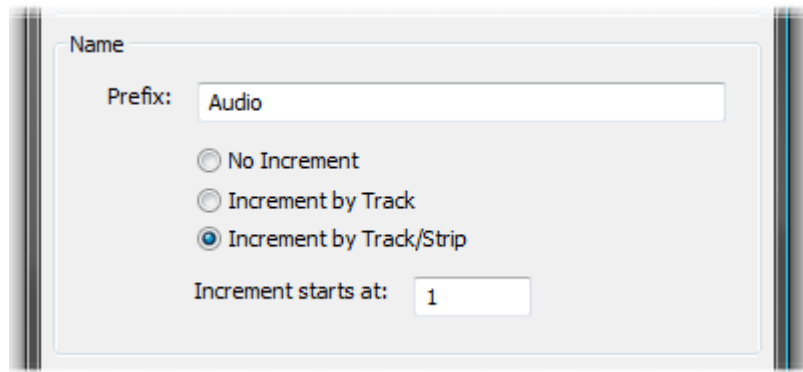
Create New Tracks dialog - Name

However many Tracks and Strips you decide to create, they can be automatically named and incrementally numbered.

If the **No Increment** option is chosen all tracks created will have the same name. I.e. whatever is entered in the **Prefix:** text entry box and no number.

If the **Increment by Track** option is chosen, each individual track will be named using the text entered in the **Prefix:** text entry box and numbered incrementally. E.g. If you enter say, **Atom** and add a 5.1 GP strip in L-C-R-Ls-Rs-Lfe format, six tracks are added. If the **Increment starts at:** number is set to, say **33** then all the track names will all be **Atom 33** as will the Strip name.

If the **Increment by Track/Strip** option is chosen in the above example then the tracks will be named **Atom 33**, **Atom 34** to **Atom 38** and the Strip will be named **Atom**.

Tracks Grouping

There are three options:
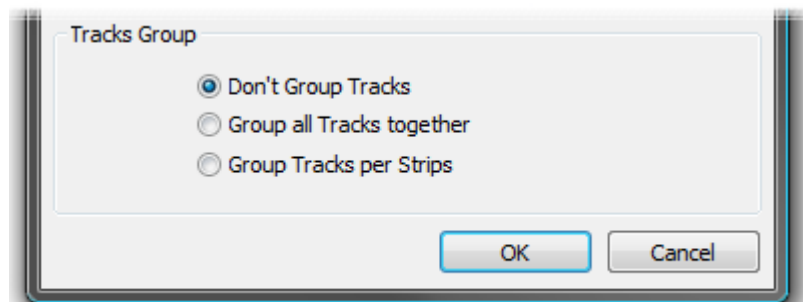
Create New Tracks dialog - Grouping

Don't Group Tracks leaves the new tracks ungrouped.

Group all Tracks together groups all the new tracks in a single group.

Group Tracks per Strips groups the tracks as they are assigned to strips. E.g. 12 Tracks assigned to two 5.1 strips would be grouped as two six-tracks.

Deleting Tracks

Single Track

To delete a **Track**, first select the **Track** to delete. Then choose **Tracks** > **Delete** from the Project window pull-down menu. The **Track** and all **clips** placed on it will be deleted. Note that only the **clip** or pointer will be deleted, not the original **Media File**.

Multiple tracks

You can also delete all tracks from the selected track to the last (highest number) by selecting **Delete to Last** instead of **Delete**.

You can also right-click in the **Track Header** to add or delete **Tracks**.

Routing Tracks to / from the Mixer

When you create a **Mixer**, Pyramix will automatically create the same number of **Tracks** as **Mixer Input Strips** (channels).

If **Connect automatically as many inputs and outputs as possible** is checked, Pyramix will attempt to automatically route the output of each **Track** to a corresponding **Mixer** channel input, so that **Track** 1 output routes to **Mixer** channel 1 input, **Track** 2 to **Mixer** channel 2, etc.

Similarly, Pyramix will attempt to automatically route each **Mixer** channel output to a corresponding **Track** input, so that **Mixer** channel 1 output routes to **Track** 1 input, **Mixer** channel 2 to **Track** 2, etc.

These default **Track I/O** assignments can easily be changed by the user. See also: **Adding Strips on page 177**

Track Header Panel

The Track Header Panel contains a number of buttons and information fields.
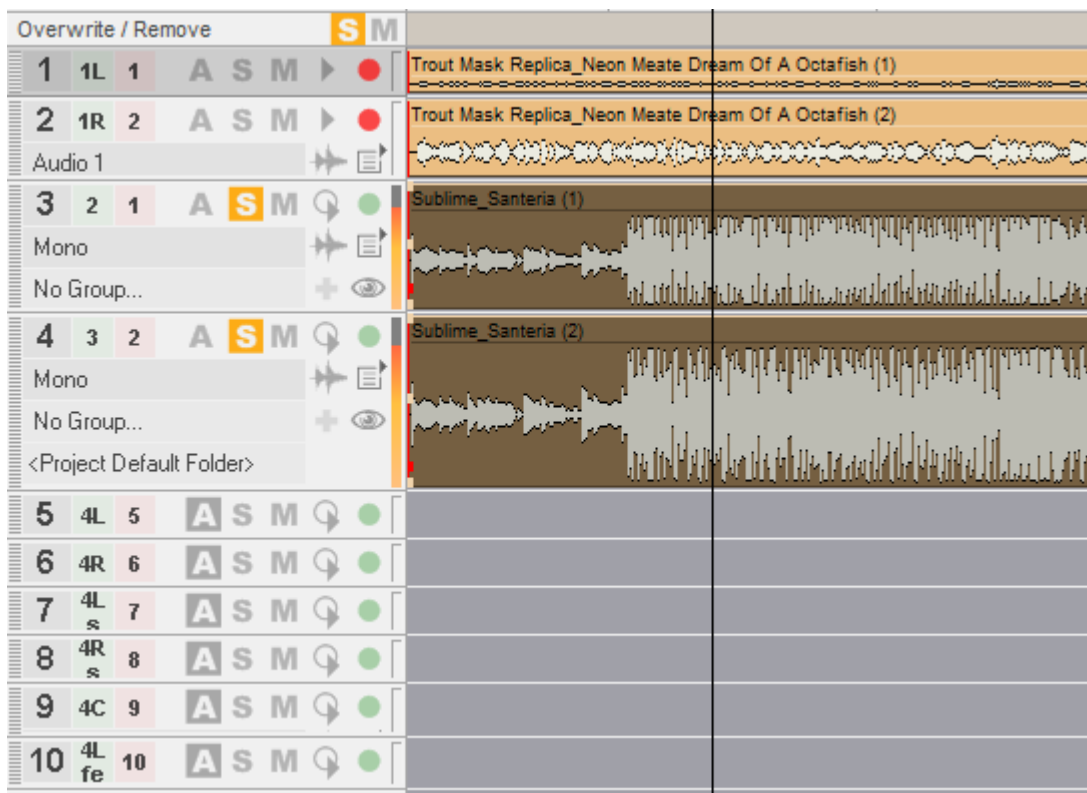
Track Header Panel

This screen shot shows Track Headers in variety of states.

In each **Track Header**, you will find a **pale green box** with a number (and assignment Tag where applicable) superimposed on it; and a **pale red box** with a number superimposed on it. The **pale green box** shows the mixer channel number (and Tag if applicable) the **Track** output is assigned to. The **pale red box** shows the number of the physical input or Internal Return Bus feeding the mixer channel and routed to the Track input.

To change a **Track Input** or **Output** assignment, just click on the corresponding **Track** input or output box, then select the appropriate **Mixer** channel or **Input** number from the corresponding pop-up list. **Note:** changing an

output assignment to a different **Mixer channel** will also change the **Input** to the input selected on the strip. If the Input assignment is changed in the Track Header, this change is reflected in the strip and vice-versa.

When **Track** inputs and outputs are not assigned, the corresponding boxes for that **Track** will have dashes in them instead of numbers.

Multiple tracks can be assigned to the same **Mixer** channel. They are therefore sub-mixed before entering the **Mixer**. This allows more tracks to be played than the number of **Mixer** channels.

Many tracks can be fed from the same physical input.

Track Header Components

The large, bold number is the **Track** number. All tracks including Virtual Tracks are numbered in ascending order as they appear on screen.

The **pale green box** shows the number of the **Mixer Strip Channel** its output is assigned to. Clicking this icon pops up a list to select from all available **Mixer Strip Channels**. If the **pale green box** shows a dash, no **Mixer Strip Channel** is selected and recording and or replay is not possible.

If the **pale green block** shows a second number, letter or letters tag in addition to the number, the **Mixer Strip** is a multichannel type and the letter(s) indicate which channel the track is assigned to. (In this case, Strip **8 Lfe**

Input source - the number shows the selected record input. When this area shows a dash no record input is selected. This can be also set directly in the Mixer Console window.

Clicking the **Track Name** area opens a text entry box where the track name can be typed. Track names default to **Mono**, **Stereo** or **Audio**.

View Automation Off - Automation data overlay is not displayed on the track.

View Automation On - Automation data overlay is displayed on the track.

Right clicking the automation icon pops up the Automation Overlay context menu with options as to what is displayed.

The **Mute** icon toggles the **Track Output** between **Un-Muted**, as shown here;

and **Track Output Muted**, as shown here.

The **Solo** icon toggles the **Track Output** between **Solo off,** as shown here and;

Solo on as shown here.

The Record icon has three possible states.

Record Safe and **Record Ready** are toggled by left-clicking the icon. **AutoPunch Ready** is enabled / disabled by holding down the **ALT key** while left-clicking the icon.

Record Safe - no recording possible.

Record Ready - Recording commences when the transport **Master Record** button is pressed and finishes either when the **Stop** button is pressed, or when the **Play** button is pressed.

Autopunch Ready - Recording commences when the previously set **Record In** point is reached and finishes when the previously set **Record Out** point is reached.

Right-clicking the Record icon opens the **Settings** Window with the **Project > Record** page selected.

The Monitor icon also has three possible states.
Note: These icons are only active when both an input and output connected.

These are toggled by left clicking the icon.

Auto - monitoring switches the associated **Mixer channel** input automatically between input and repro. Behavior depends on the **Auto-monitoring** section setting in the **Settings > All Settings > Application > Playback/Record** page. **European Monitoring** (All tracks turn to **INPUT** on stop) **OR US Monitoring** (Only Record Ready tracks turn to **INPUT** on stop)

Repro - The associated **Mixer channel** is always fed from the track replay.

Input - The associated **Mixer channel** is always fed from the track's selected **Input** source.

Expand Track Group - Grayed out unless track is member of a Group.

Collapse Track Group - Alternate state of **Expand Track Group** Only visible when the track is a member of a Group.

The Waveform icon has three possible states.

Display Waveform - by default shows **clips** as orange blocks with white waveform superimposed.

Display Blocks - by default shows **clips** as orange blocks without waveform.

Display Envelope - by default shows **clips** as orange blocks with white waveform and adds a black line which allows the gain to be adjusted using the mouse by simply clicking and dragging. Pressing the **Ctrl** key enables the drawing tool for envelopes. This also applies to **Automation curves**.

Peak Meter - If the **Peak Meter** is visible on the far right of the Track Header, clicking on it hides it. If not visible, clicking in the space where it should be unhides it.

Always Visible off

Always Visible on. When this button is pressed the track will be kept in view on the Timeline whenever possible.

Playlist opens this menu
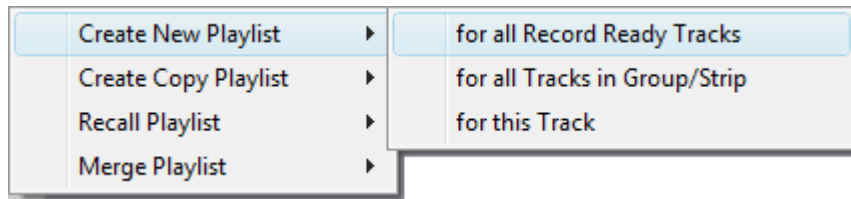
Playlist popup menu

Please see: Playlists on page 122

Track Record Modes

Each **Track** has a tri-state **Record Ready** toggle button, located to the left of the **Track** itself in the **Track Information and Setup Area**.

Tip: Right-clicking on a track arming button opens the **Settings > All Settings** window immediately on the **Project > Record** page.

Play

The **Green Dot** in the **Track Header** indicates **Record Safe** mode, the default when **Tracks** are newly created. When in this state, the **Track** cannot be recorded to.

Record Ready (Manual)

Click on the **Green Dot** once to toggle to **Record Ready** mode. This is indicated by the dot turning into the **Red Dot**. The Track will now go into **Record** mode immediately when the **Master Record** button is pressed in the **Transport Strip** or **Transport window**.

Record Punch In (Auto)

Alt-Click on the **Red Dot** to toggle to **Record Punch In** mode. This is indicated by a **Red Dot flanked by 2 red vertical lines**. In this mode, when the **Master Record** button is pressed in the **Transport Strip** or **Transport window**, the **Track** will stay in **Play** mode until the current **Mark In** point is reached, then the **Track** will go into **Record** mode. It will stay in **Record** mode until the current **Mark Out** point is reached.

Tracks Tab Window

The **Track** Tab Window shows a table where each row contains information about a single track and each column contains information and function selection fields. New tracks can be created or existing ones deleted and the order of tracks changed. All track parameters are accessible and modifiable.

Tracks Tab floating Window

New tracks can be added by clicking on the first line of the Tab Window and typing a suitable name then pressing **Enter**.

Tracks can be deleted by selecting them and pressing the **Delete** key.

The order of the Tracks can be changed by selecting and dragging tracks. Click on the symbol at the far left of the **Name** field and drag to the desired row.

Tracks Tab pop-up

Right-clicking on a selection of tracks or on all tracks (no selection) displays this context menu:
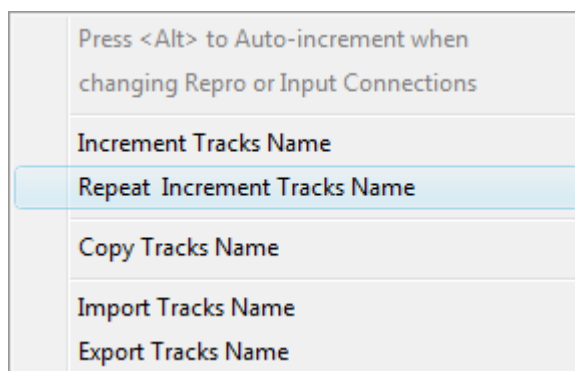
Increment Tracks Name :   Adds an incremental number after each selected tracks name, taking into account an already existing number

Repeat & Increment Tracks Name : Copies the first selected tracks name to the rest of the selection and adds an incremental number

Copy Tracks Name :   Copy the selected tracks name or all if no selection

Paste Tracks Name :   Paste the previously selected tracks name to the currently selected tracks

Import Tracks Name :   Rename the selected tracks or all tracks if no selection with names coming from a text file

Export Tracks Name :   Saving the selected tracks or all if no selection to a text file

Making Settings Changes to Multiple Tracks

Changes to Tracks settings can be made on a multiple selection of tracks. Press **Ctrl** and Click on a track to add or subtract it or press **Shift** to select a contiguous range of tracks.

Changing Repro or Input connections

Clicking in the column field to drops down a list of available connections. Highlight the required connection to select it.

With a range of tracks selected, choosing a connection from the list assigns all selected tracks to the same connection. If **Alt** is held down while choosing the selected tracks are connected in ascending order.

Track Tab Column Fields

Name

The name of the **Track**. Up to 29 characters are visible in this field but longer names are accepted. Click in the field or use **F2** to enter a new name.

Repro Connection

Shows which Mixer Input Strip (and Channel if applicable) the track is connected to. Clicking in this column field drops down a list box with all available Mixer Input strips (and Channels). Strip number on the left followed by Channel Tag with the Strip Name in brackets.

Input Connection

Shows which Input is feeding the track. Clicking in this column field drops down a list box with all available physical inputs and Internal Return buses.

Group

Shows which **Track Group** (if any) the track belongs to. (see below) Clicking in this column field drops down a list box with all available Track Groups.

Solo

If **YES** track is soloed.Clicking in this column field toggles between **YES** and blank.

Mute

If **YES** track is muted.Clicking in this column field toggles between **YES** and blank.

Record Ready

Shows the current record ready state. Clicking in this column field drops down a list box with the three possible states, **Safe**, **Record Ready** and **Auto-Punch**.

Monitoring

Shows the current monitor mode. Clicking in this column field drops down a list box with the three possible modes, **Auto**, **Input** and **Repro**.

Hidden

If **YES** the track is not visible in the Timeline but continues to operate normally. Clicking in this column field toggles between **YES** and blank.

Always Visible

If **YES** the Track will always appear on screen (if there is sufficient room) even when scrolling other tracks.

Collapsed

If **YES** the track is a member of a **Track Group** currently collapsed. (see below)

Display Mode

Shows the current Clip Display Mode mode. Clicking in this column field drops down a list box with the three possible modes, **Block**, **Waveform** or **Envelope**

Show Automation

If **YES** the automation envelope is displayed. Clicking in this column field toggles between **YES** and blank.

Show Peak-Meter

If **YES** a Peak Meter is displayed in the **Track Header**. Clicking in this column field toggles between **YES** and blank.

Size

Shows the current track display **Height**. (in pixels) Clicking in this field allows a numeric value between 24 and 511 to be entered.

Background Color

Shows clip background color. If blank, color is set to the default. Clicking in this column field pops-up a color picker. Choosing **Standard** restores to default.

Waveform Color

Shows clip Waveform color. If blank color, color is set to the default. Clicking in this column field pops-up a color picker. Choosing **Standard** restores to default.

Recording Media Folder

Shows the **Media Folder** where new recordings will be stored. Clicking in this column field pops-up a list of all mounted Media Folders.

Track Groups

Track Groups, as the name implies, enable a number of logical function linkages between tracks and several other useful methods of improving efficiency. Track groups can be created an manipulated by the user. Track Groups are also created by default when Recording or Rendering operations occur on more than one track at the same time.

Track Groups Tab Window

Opens a table where each row contains information about a single track group and each column contains Information and function selection fields.

Tracks Groups Tab floating Window

The first two rows enable new Track Groups to be created and existing ones to be duplicated by clicking on the **Name** field.

To create a new Track Group, click on **Click here to add a new Track Group**. A text entry box replaces the **Name.** Enter a suitable name and press **Enter**. A new track group will appear at the bottom of the list.

To duplicate an existing track group, click on the Track Group you wish to duplicate then click on **Click here to duplicate a Track Group**. A text entry box replaces the **Click here to duplicate a Track Group**. Type a suitable name and press **Enter**. The duplicate **Track Group** appears in the row below the **Track Group** you have just copied. Subsequent rows are moved down the table. The **Track Group** entries can be re-ordered by clicking on the symbol at the far left of the **Name** field and dragging to the desired row.

When tracks are assigned to a **Track Group** a small group track is shown in the **Timeline** immediately above the first assigned track.

Track Groups can be collapsed/expanded by clicking the little [-] or [+] on the Track Group track header.

Track Group Column Fields

Name

The name of the **Track Group**. Up to 29 characters are visible in this field but longer names are accepted. Click in the field or **F2** to edit the name.

Type

Clicking in this column field drops down a list box with current choices of **Free**, **Source**, or **Destination**.

Free is used to create General purpose Track Groups
Source is used for grouping Tracks to be Sources in the Source/Destination model.
Destination is used for grouping Tracks to be Destinations in the Source/Destination model.

Collapsed

Track Groups can be collapsed, so only one of the tracks of the group is displayed. When set to **Yes**, only the track chosen and shown in the **Collapsed Display** field is displayed in the Timeline. This field has the same function as the little [-] or [+] on the Track Group header.

If the single visible track is selected the group is expanded.

Collapsed Display

Clicking in this column field drops down a list box which contains the names of all the tracks in the group. The selected name determines which track will be displayed when the display is collapsed.

The rest of the fields

All the other column fields toggle when clicked, either displaying **Yes** or a blank. The functions described below apply when the fields are set to **Yes**.

Keep Cursor

The Group 'remembers' the position of the cursor and restores it each time one of its tracks is selected.

Free Zoom

The group has its own zooming factor, independent of the general zoom factor.

Free Markers

Track Groups can have their own list of markers that are displayed on the Track Group Scale or on the main Time-Code Scale if the Track Group Scale is hidden (see below).

Markers Locked

Locks the Markers. For the particular **Group**. **Free Markers** must be **ON**

No Selection

Clicking on clips placed on tracks of the group does not select anything, the cursor is simply placed at the position where the mouse is clicked. Clicking with the **Q** key held down allows clips to be selected on these tracks.

Auto Solo

If any track of this group is selected, the whole group is automatically Soloed.

Auto Mute

The whole group is automatically muted unless one of its tracks is selected.

Auto Record Ready

When a track of this group is selected, the whole group goes into Record Ready mode.

Auto Collapse

When none of the tracks of this group is selected, the group is automatically collapsed to display a single track. When this track is selected, the whole group is expanded.

Auto Hide

When none of the tracks of this group is selected, all tracks of the group are automatically hidden. When any track of the group is selected, the whole group is shown.

Exclusive Show

When any track of this group is selected, all tracks that are not part of this group are hidden. This is the equivalent of a Solo for the Display.

Show Scale

Toggles show/hide an independent scale for TimeCode if the Track Group is on Free Zoom and Markers if it is in **Free Markers** mode. If **OFF** then the Scale and Markers are displayed in the main Scale of the Timeline when any of the Tracks of this Group is selected.

Selection

When set to **Yes** this option ensures that any selection made within a Track Group is extended to all tracks in the group. **Selection** is disabled by default for backwards compatibility.

All other columns of the Tab Window (**Solo**, **Mute**, **Record**, **Monitoring**, **Display**, **Show/Hide**, **Size**, **Color**, **Sync**, **Automation Display**) define which of the parameters set in the Track Header or in the **Tracks** Tab window are affected by the group, I.e. which of these parameters are changed in the whole group when a change is made to an individual track of the group.

Virtual Tracks

A virtual track is a "mirror" of another existing track. It has the same output routing and contains the same clips as an existing track, but it appears in the Project Editor as a separate track.

> **Note:** Virtual tracks contain non-overlapping clips - that is, each clip on a virtual track is not allowed to overlap with clips on a related virtual track. However, clips on the exact same track can still be crossfaded. Virtual tracks can be used for the purpose of visualizing clips that may have a logical reason to appear on separate tracks of the editor, even though they will be routed to the same mixer channel. An example of typical use is to create virtual tracks to allow the display of several automation curves for a single audio track.

Creating Virtual Tracks
To add **Tracks** to the **Timeline**, select **Tracks > New Virtual Track**
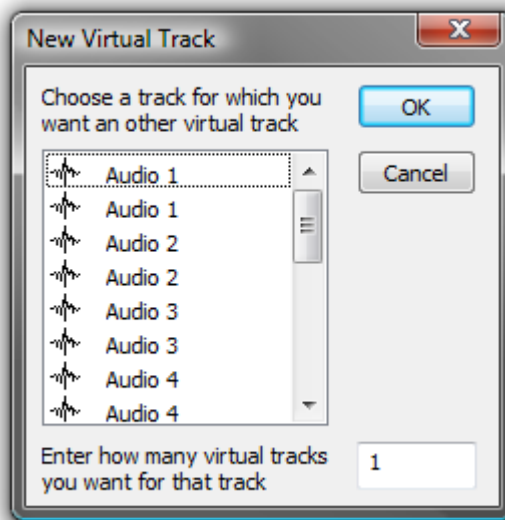
Create New Virtual Track dialog

To create a virtual track or tracks, select the origin Track in the list, type the number of Virtual tracks required and click on **OK**.

> **Note:** Virtual tracks can be created automatically to display automation data. **Please see: Create a new Virtual Track to display the selection on page 264**

Transport and Navigation

6

Pyramix
DIGITAL AUDIO WORKSTATION

Transport Control

Pyramix features a wide range of Transport Control commands including, unlike many other workstations, **Reverse Play** and Play at fractions and multiples of sync play speed both forwards and backwards. These possibilities can be attached to short-cut keys in the Keyboard Shortcut editor. Please see: **Customizing Keyboard Shortcuts on page 330**

Of course, these commands are also available via remote controllers that support them.

Navigation

Pyramix Virtual Studio offers a number of ways of navigating around a Project.

Time Scale Bars

Main TimeCode Scale Bar
Near the top of the **Project Editing Panel** is a horizontal gray area with time code numbers. This is the **Main Time-Code Scale Bar**. On the left, above the track headers, the time range, or length of the visible Timeline window is indicated.

The simplest way to move the **Playhead Cursor** within the **Project Editing Panel** is to position the mouse anywhere along the **Time Scale Bar** and left-click. The **Playhead** will immediately move to the new position. You can also left-click the **Playhead Cursor** and drag it along this bar.

Context Menu
Clicking in the left hand, Header, area of a Time Scale Bar (a small plus + sign indicates there is something worth clicking on) pops up a context menu.
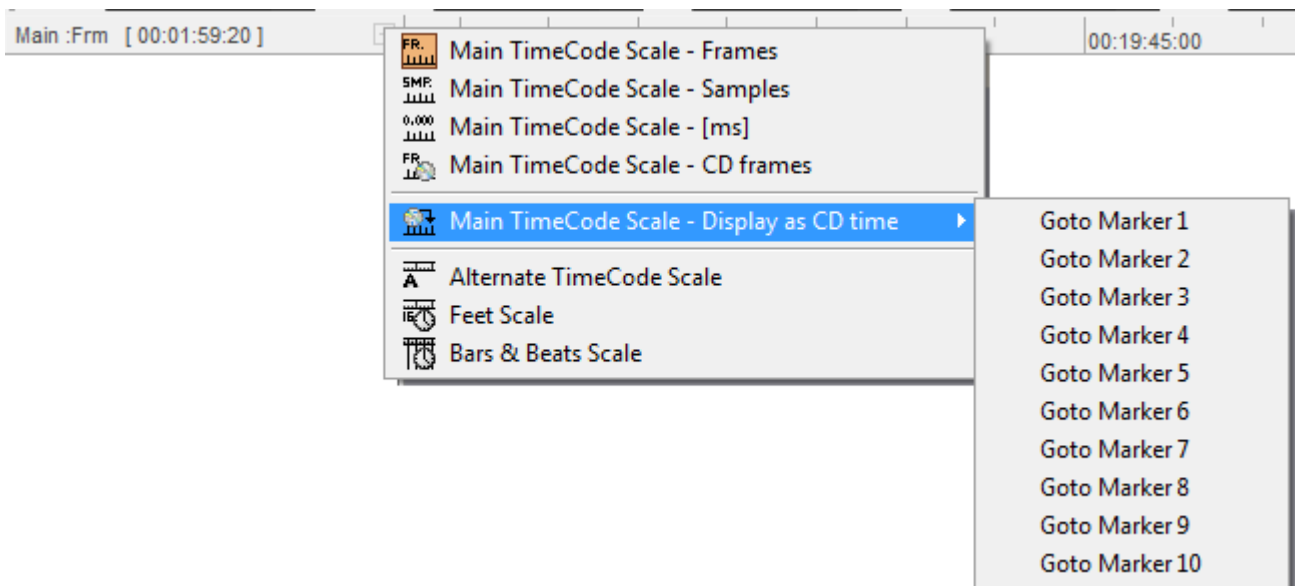
Main TimeCode Scale context menu

The first five entries offer a choice of display modes for the Main TimeCode Scale:

- Frames
- Samples
- [ms]
- CD frames
- Display as CD Time

Clicking on the arrow opens a sub-menu for direct access to Markers 1 - 10

The remaining three entries add new Scale bars beneath the Main TimeCode Scale

• Alternate TimeCode Scale

• Feet Scale

• Bars & Beats Scale

Alternate Time Scale Bar

To add an alternative Time Scale bar below the Main bar right-click in the Main bar header area and select **Alternate TimeCode Scale**

You can set up the Alternate Time Scale Bar either by right-clicking in the its Header to open the context menu or by selecting **Alternate TimeCode Scale Settings** or **View > Scales / Toolbars > Alternate TimeCode Scale Settings**:

• Alternate TimeCode Scale Settings

Choosing this pops up the Alternate Scales dialog:
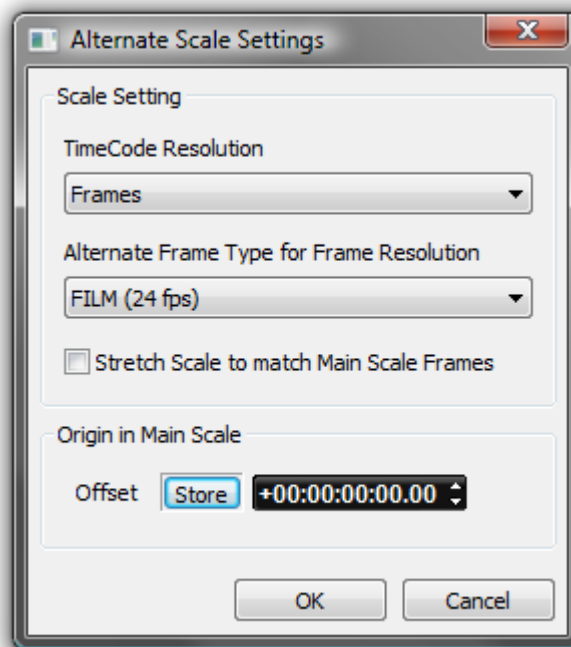
Alternate Scale Settings dialog

Scale Setting

The **Scale Setting** combo box offers a choice of TimeCode resolution to display:
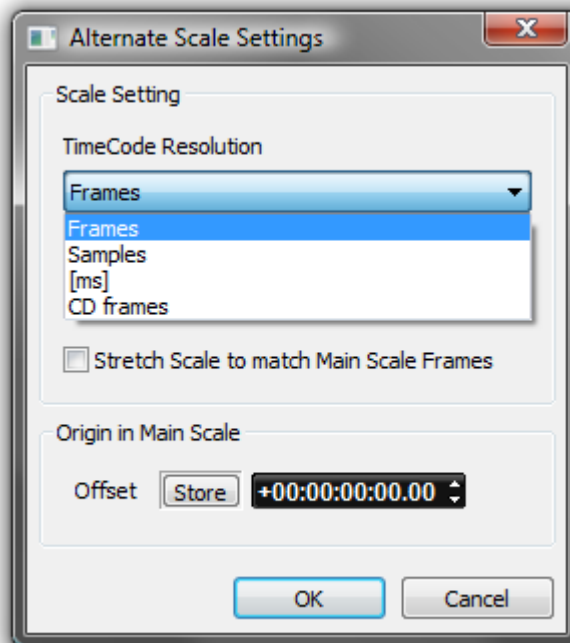
Alternate Scale Settings TimeCode Resolution drop-down menu

Stretch Scale to match Main Scale Frames (see below)

Origin in Main Scale

An Offset can set and stored. For example when versioning. I.e. making several sound versions for the same picture.

The **Alternate Frame Type for Frame Resolution** combo box offers a choice of frame types appropriate to the chosen resolution. E.g.
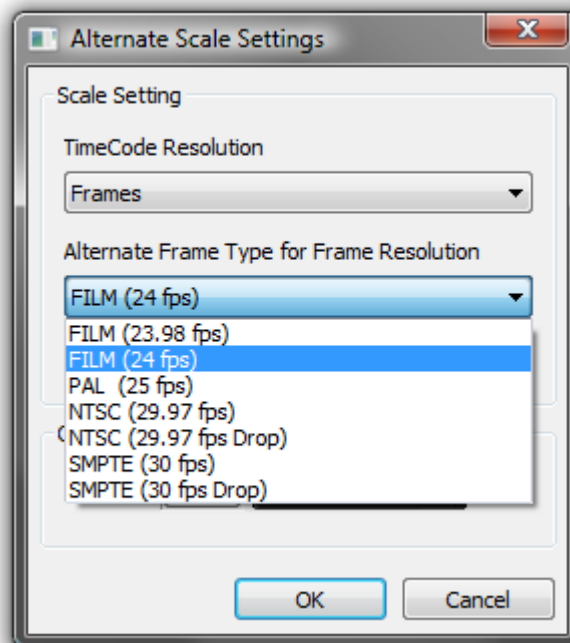
Alternate Frame Type for Frame Resolution combo box

View > Scales / Toolbars > Alternate TimeCode Scale Settings also enables selection of The TimeCode Resolution for the Alternate Scale from a choice of:

- **Frames**

- **Samples**

- **[ms]**

- **CD Frames**

When the Resolution is set to **Frames**, an **Alternate Frame Rate** can be chosen.

When **Alternate Frame Rate** is chosen, the check box **Stretch Scale to match Main Scale Frames** allows the Alternate Scale to no longer display the same time flow as the Main Scale (1 Second = 1 Second). Instead it matches the length of individual Frames (1 Frame = 1 Frame). In this case the time is not the same in both scales and this allows making comparisons between, for example, 24 frames events and 25 frames events.

The **Origin in Main Scale** option allows an offset to be set between the Main Scale and the Alternate Scale.

Film Feet Scale Bar

Like the other scale bars, clicking in the header area pops up a context menu with the extra option **Feet Settings** selecting this pops up the **Feet Settings** dialog:
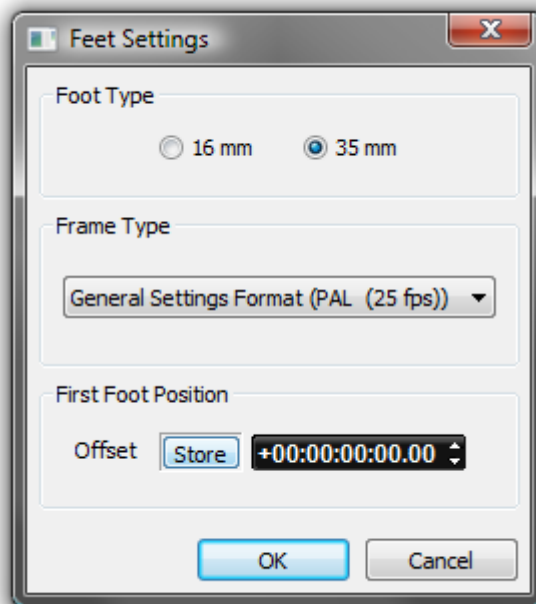
Feet Settings dialog

Foot Type

The radio buttons offer a choice of **16mm** feet (units of 40 frames) and **35mm** feet (units of 16 frames).

Frame Type

The combo box offers a choice of frame rates:
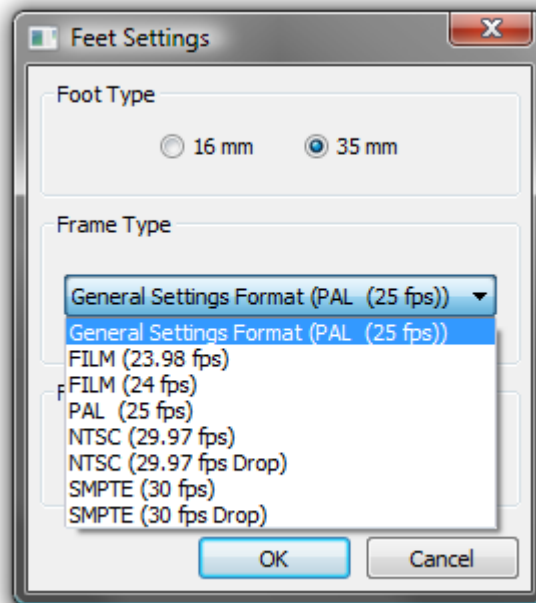
Frame Type combo box

Default is the format selected in **All Settings > Formats & Sync > Frequencies**. You may need one of the others in the context of non-linear editing workflows.

Bars & Beats Scale Bar

As with the other Scale Bars clicking in the header area pops up a context menu with show/hide for the Alternate, Feet and Bars & Beats Scale bars plus two extra options, **Bars & Beats Settings** and **Tempo Map**. The **Tempo Map** option shows the current Tempo Map below the **Bars & Beats Scale Bar**.
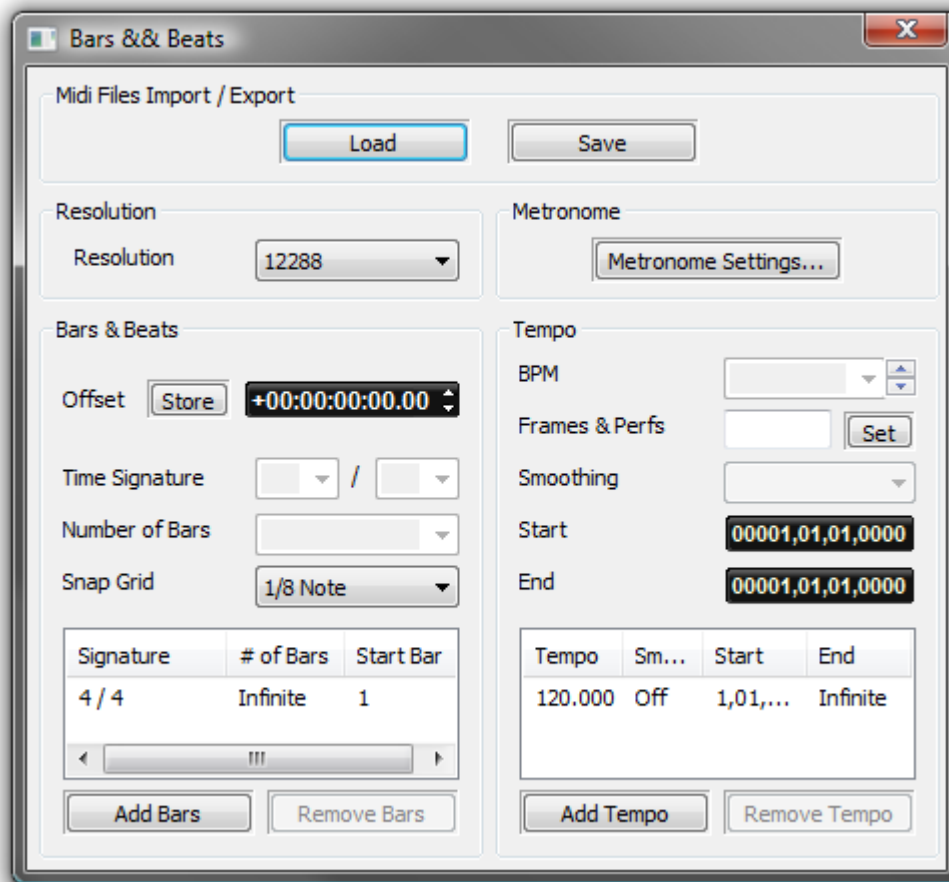
Bars & Beats Settings dialog

Midi Files Import / Export

Load

Save

Both buttons open a Browser Window to enable navigation to a file to load or a location to save to.

> **Note:** Currently, when MIDI files of type 2 are imported, only the tempo map and signature of track 1 is imported.

Resolution

Sets the clock resolution in Pulses Per Quarter Note, **PPQ**. The combo box offers a choice of values between 192 and 49152

Bars & Beats

Offset	Offsets the **Bars & Beats** scale start from the main Time Scale. Value can be typed in the TimeCode register and or nudged up or down with the increment, decrement buttons.
Store	Offsets the **Bars & Beats** scale start to the current Playhead Cursor position.

> **Note:** Offsets can be negative or positive.

Time Signature and Bars

The bottom left panel displays a list of blocks of bars in the order they appear in the 'song'. The following settings apply to the currently selected entry in the list.

Time Signature   Use the combo boxes to set the Time Signature

Number of Bars   Type a value or choose **Infinite** from the combo box dropdown list.

Snap Grid   Combo box offers a choice of **Off** or values between **Note** and **1/64 Note .**

Add Bars

Click to add a new block of bars to the list above.

Remove Bars

Deletes the selected entry from the list above.

Metronome

Metronome Settings...
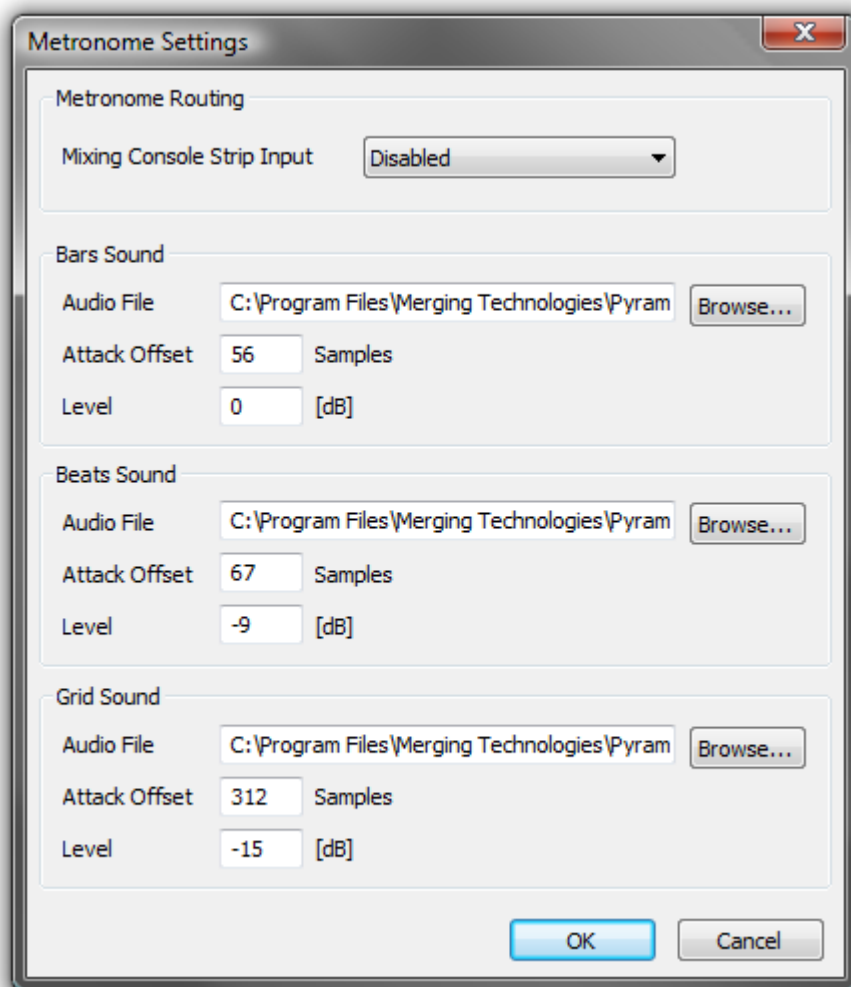
Metronome Settings dialog

Tempo

The bottom right panel displays a list of currently defined Tempos in the order they appear in the 'song'. The following **BPM**, **Frames & Perfs, Smoothing**, **Start** and **End** fields reflect the values for the highlighted (selected) Tempo.

BPM   Allows you to pick a tempo from the common values in the drop-down list, to increment or decrement in 1BPM steps with the up and down buttons or to directly type a value in the box.

Frames & Perfs	An alternative method of defining a **Tempo** used by film composers. It is based on 24 frames per second, each frame subdivided into 8 perfs, or perforations. Thus a value of 24.0 results in a Tempo of 60BPM. Perfs are entered as decimals. E.g. 12.7. Illegal entries are rounded.
Smoothing	Enables values between **Note** and **1/64 .** to be chosen. (or **OFF**)
Start	The starting point for the Tempo can be entered by typing.
End	The end point for the Tempo can be entered by typing.

The Information pane shows all currently defined Tempos.

Add Tempo

Adds a new Tempo

Remove Tempo

Removes the highlighted (selected Tempo) from the list.

Playhead Cursor Options

Four **Playhead Cursor** options will be found at the top of the **View** menu:
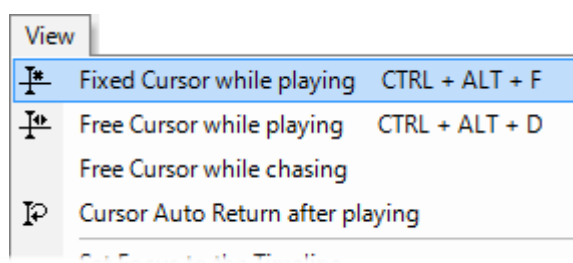
View menu (part)

Local Options
Fixed or Moving Playhead Cursor

The **Playhead Cursor** can be static with the **Timeline** moving (choose: **View > Fixed Cursor while playing)** or the **Playhead Cursor** can move while the **Timeline** remains static, 'Paging' when the **Playhead Cursor** hits the screen edge. (Choose: **View > Free Cursor while playing**).

Chase Options

When **Free Cursor while chasing** is selected in conjuction with either of the local options the Playhead Cursor and Timeline position can be freely manipulated from the workstation whenever the TimeCode Master machine is in Stop, Rew, FF, Play, Locate, etc. as well as while chasing, but as soon as Pyramix has locked to incoming Time-Code, the cursor will "jump" to current TC. This mode is useful for Cinema mixing since it allows the Sound Editor to make good use of idle moments to perform quick edits and adjustments, anywhere in the Timeline and regard-less of current TC position. This used to be the default behavior.

When **Free Cursor while chasing** is **NOT** selected, the Cursor will always be locked to TimeCode when Pyramix is set to chase, whether in Stop, Rew, FF, Play, Locate, etc. as well as while chasing.This mode is desirable for TV Post, where the Pyramix Playhead cursor and Timeline display should always reflect the current TC position.

Auto Return

Cursor Auto-Return after playing. When this is selected with either of the local options, the **Playhead Cursor** will return to the point at which **Play** began when **Stop** is selected.

Playhead Position

When **View > Fixed Cursor while playing** is selected, the Playhead position can be set in **Settings > All Settings > Application > Playback/Record** in the **Fixed Cursor Settings** section. The **Place of Cursor in Screen** combo box offers a range of choices between 1/10th and 1/2 of Screen.

Composition Information and Settings Toolbar.

Above the **Time Scale Bar(s)** and below the **Project Editing Panel Toolbar(s)** is the **TimeCode Toolbar**. This contains a number of Icons and TimeCode register boxes with increment / decrement arrows. From left to right these are;

⊤	Playhead Cursor - current position
▶I	Mark In
I◀	Mark Out
▶I◀	Mark In to Mark Out
[	Selection In
]	Selection Out
▮	Selection In to Out

All the registers accept direct keyboard entry of TimeCode.

When values are typed into the **Mark In to Mark Out** or **Selection In to Selection Out** registers, the **In** value remains fixed while the **Out** is adjusted.

Clicking on the icons beside the registers changes the view of the **Composition** in the **Timeline** as follows; Clicking **Cursor** moves the view of the **Timeline** to the current **Cursor** position with the **Cursor** in the center of the track display. Similarly, clicking on the **Mark In**, **Mark Out, Selection In** or **Selection Out** buttons centres the display on the current **Mark In**, **Mark Out, Selection In** or **Selection Out** marker positions. Clicking on the **Mark In to Mark Out** or **Selection In to Selection Out** icons centres the display on the area between the **Mark In** and **Mark Out** or the selected area, changing the zoom factor to make the area almost fill the track display.

Markers

Markers are shown in a **Markers Track** just above the TimeLine tracks display. Pyramix has several types of Marker. For information about CD and SACD Markers **please see: CD Markers on page 397** and the SACD Production Guide.
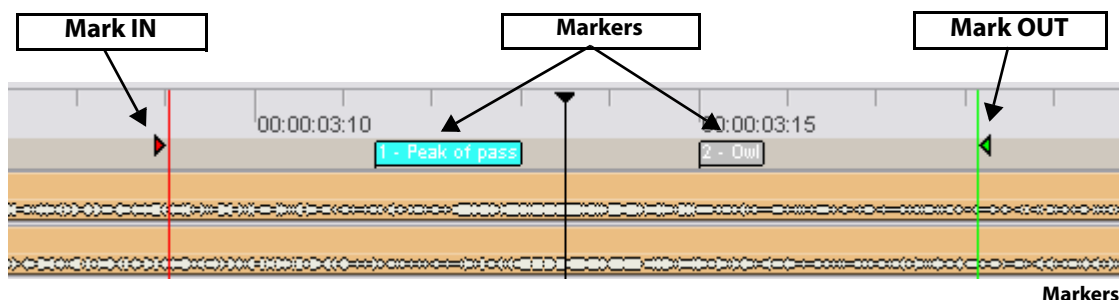
The **Cursor & Markers** menu, Toolbar and keyboard shortcuts all offer methods of placing Markers and using them for locating etc. The menu entries should be self explanatory. **Please see: Cursors & Marks on page 459**

Markers Tab Window

Markers can also be added and managed from within the **Markers** Tab Window.
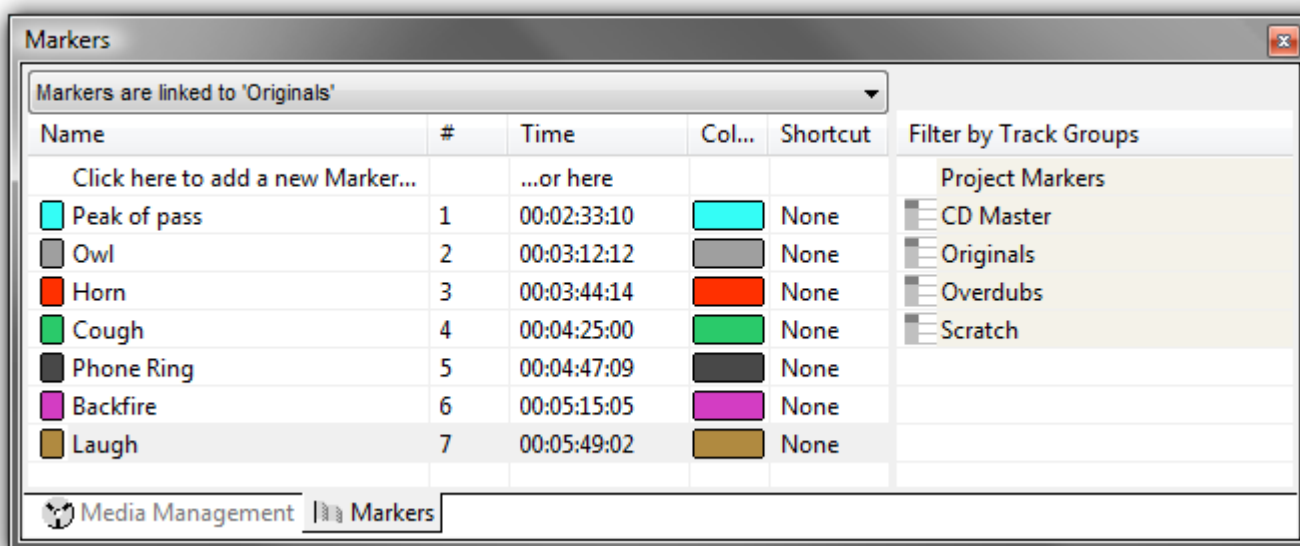
Markers Tab Window

Up to 48 Markers can be attached to shortcut keys and/or mapped to a hardware controller. Different lists of Markers can be edited by selecting the desired **Track Group** or the main **Project Markers List** in the **Markers** Tab Window. Markers are numbered in ascending order by their position in time. If a Marker is moved before or after another Marker, the affected markers are automatically re-numbered.

Clicking on the first entry in the **Name** Field **'Click here to add a new Marker'** Adds a new Marker at 00:00:00:00 This value can be edited in the usual way.

Marker colors are user selectable. Clicking in the **Color** field drops down a list box with all the available colors.

Double-clicking on a Marker's Name Field jumps the Playhead Cursor to the Marker.

Double-click with CTRL pressed plays from the marker TimeCode

Double-click with SHIFT pressed plays from the marker TimeCode with the first Preroll. This also applies to CD markers

Right-click to open a menu that enables Markers to be **Cut / Copy / Paste**d between Groups or Projects.

Markers Linking

The **Markers Linking** drop-down list menu is at the top of the **Markers Tab Window**.
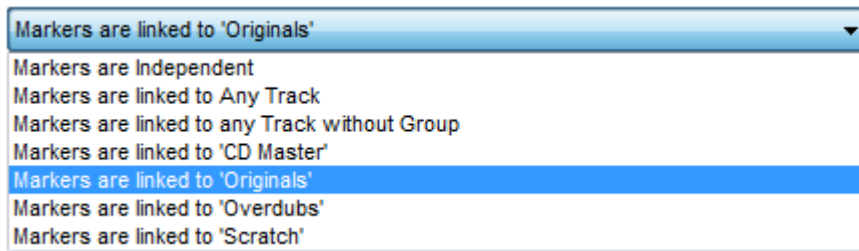
Markers Linking drop-down list menu

The selection made here determines the behavior of markers when tracks are edited.

Markers Independent (markers are locked to the scale)

Linked to Any Track (markers follow any track operation)

Linked to Tracks without Group (markers follow any track that is not a member of a group)

Linked to 'Effects', 'Music', 'Foley' etc. (markers follow any track of groups listed here)

Jog / Shuttle

Scrub Using the Middle Mouse Button

Audio can be scrubbed by holding down the middle mouse button while the cursor is in the Timescale area and moving the cursor left to scrub in reverse or right to scrub forward. The distance moved away from the current play cursor position will determine the relative playback speed. When the play cursor reaches the current mouse pointer position, or the middle mouse button is released, playback will stop.

Shuttle

The transport can be shuttled with audio output at up to 8 times speed.

Jog Settings

Jog / Scrub parameters are set in **Settings > All Settings > Application > Jog / Chase**.

Auto Jog on move

If a physical controller with a Jog/Shuttle wheel is available and this box is checked, then moving the jog wheel will automatically enter Jog mode.

Auto-Solo Selection

When checked the selected track or tracks are automatically soloed when in Jog mode.

Speed ceiling

Four Radio Buttons offer the choice of **1X**, **2X**, **4X** or **8X** nominal play speed.

Sensitivity

The value typed in the box (in seconds) determines the number of seconds the transport will move per revolution of an attached physical jog wheel.

Smoothing Filter

The value typed in the box (in video frames) determines the degree of smoothing that will be applied.

Flywheel Inertia

The slider varies the flywheel effect when jogging.

Transient response accelerator

The slider varies the jog response between the smoothest possible audio at one extreme and the greatest positional accuracy, I.e. sync, at the other.

Mouse Scrubbing Settings

There are two scrub modes, **Analog Tape Mode** and **Repeat Loop Mode**. Check the appropriate box for the required mode. The length of the loop in **Repeat Loop Mode** is related to the base sampling frequency so the loop will be 116mS long at 44.1, 88.2 and 176.4 kHz or 106ms at 48, 96 and 192 kHz.

If **Limit to speed ceiling** is selected, Mouse scrubbing will be limited to the **Speed Ceiling** set in the **Jog Settings** section.

If **Silent locate** is selected no audio will be heard when scrubbing or jogging.

Scrub Settings
Audio Quality

Two Radio Buttons offer a choice between **Standard** and **Improved** quality of scrubbed audio. **Improved** is the default. High quality scrubbing is very processor intensive so **Improved** mode is provided with a **Max simultaneous tracks** data entry box. The default setting is **6**. When more than the specified maximum number of simultaneous tracks are playing, scrub will automatically revert back to standard mode to preserve playback integrity.

Transport Controls

The **Transport Bar** brings together the most commonly used Transport Controls, Chase and Capture Offset buttons, and a Counter / transport status display.

00:36:23:18 STOPPED

Transport Bar

From left to right, the controls are as follows:

The counter shows the current **Active Machine** position and transport mode.

00:00:14:17 RECORD Counter in **Record** mode.
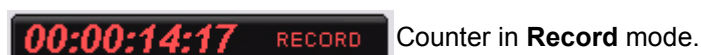
The **Rewind** button moves the **Active Machine** at an accelerated speed backwards. A second press doubles the speed.

The **Play Selection** button plays the current highlighted selection area when the **Active Machine** is the **Internal Machine** (Pyramix).

The **Play** button plays the **Active Machine** at normal speed forward. A subsequent press **Pause**s playback and another **Restarts**.

The **Record** button puts the **Active Machine** into **Record** mode.

The **Fast Forward** button moves the **Active Machine** at an accelerated speed forwards. A second press doubles the speed.

The **Stop** button stops playback.

The Loop **Play** toggle button puts the **Active Machine** into a Loop Play Mode, which continuously plays between the current **In** and **Out** points.

The **Shuttle Control** slider shuttles the **Play Head** forward (right) or backward (left) at up to 2 X play speed. It **Scrub**s the audio on all Tracks as it shuttles through the **Composition**.
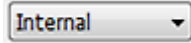
The drop down list selects which machine is currently controlled. Select **Internal** from the list to ensure you are directly controlling the **Pyramix Composition Play Head** and not some external device (I.e.RS-422 Sony 9-pin P2 controlled machine)

When the **Chase** toggle button is active, the **Active Machine** will only play back when valid time code is detected on the chosen TimeCode input port.

The **Controllers Online / Offline** button. (Green = Online Red = Offline) Toggles external hardware controllers **On** and **Off** line.

To the right of this is an area where any of the Floating Tool Palettes can be 'Docked'. By default this will have the **Automation** Toolbar docked.

Transport Control Panel

Pressing the Transport Control Panel button or **[Alt T]**, or selecting **View > Windows / Tools > Transport** opens a floating **Transport Window** displaying all available machines with individual sets of buttons and status indicators.

Transport Control Panel floating Window

Note: This Window contains a set of transport controls for each machine installed and enabled with the **Internal** Transport (Pyramix) at the top. Below the machines are displays for LTC and VT (and VITC when applicable) TimeCode Sources and at the bottom of the panel there are controls which affect hardware Remote Controllers.
Clicking on the black name bar toggles the individual area between collapsed and full. For example, **dvcam** is collapsed in the above illustration.

Important! For details of machine installation and settings **Please see: Machine on page 534** and for details of these Transport Controls **Please see: Internal / External Machine panels - Features on page 378**

Zooming and Panning

The **Project Editing Panel** allows two kinds of zoom: horizontal or **Time Scale** zooming; and vertical or **Track Height** zooming.

Time Scale Zoom and Pan

Icons on the **View Toolbar** zoom in or out at the current Play Head location.

The **Fit in window [Alt 1]**icon on the Toolbar automatically adjusts the horizontal scale to fit the selected area inside the Project Editing Panel with a small margin.

The **Previous zoom [Alt 2]** icon restores the horizontal scale to the previous size.

Zoom In [Alt 3]and

Zoom Out [Alt 4]

Holding down the **Alt** key, then selecting an area of the **Composition** by clicking and dragging the mouse to the left or right zooms in horizontally on the selected area.

Similarly, an area of the **Composition** can be selected by clicking and dragging.

The **Scrollbar** beneath the **Tracks** Pans the view of the Timeline horizontally left or right.

Track Height Zoom

1, **2**, **4**, **8**, **16**, and **A** buttons at the bottom left of the **Project Editing Panel** automatically scale the vertical Track size so that 1, 2, 4, 8, 16 or All (as many as possible given the vertical space) **Tracks** fit in the vertical space allocated to the **Project Editing Panel**.

The horizontal Scrollbar adjacent to these buttons enables continuous adjustment of the Track height.

Scroll Wheel

It is well worth while using a three button mouse with a scroll wheel.

Scroll	Scrolls vertically through the tracks shown in the Project Editing Panel
Scroll + Ctrl	Scrolls the Timeline
Scroll + Alt	Zooms the Timeline timescale
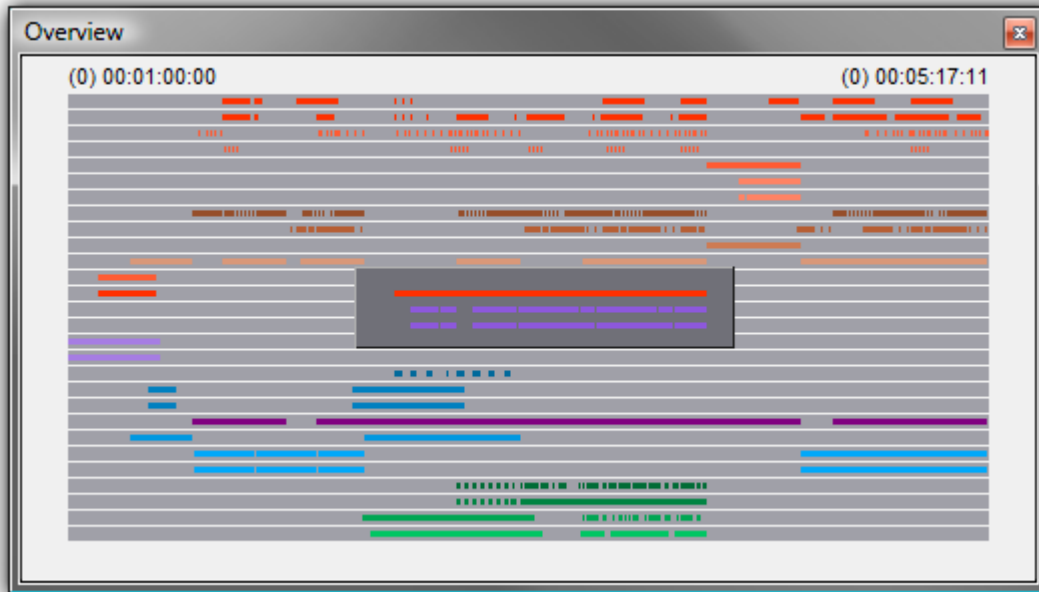
The Overview

The Project Management Panel **Overview Tab** offers a powerful and simple means of navigating around the Project Editing Panel.

Overview displays a graphic representation of the entire current **Composition**, showing the location of all **clips**. A shaded gray box indicates the location and zoom range of the part of the **Composition** which is currently displayed in the **Project Editing Panel**. **clip**s are shown as rectangles in the same color as their background on the Timeline.

Click anywhere in the **Overview** to center the Project Editing Panel display on that point. Click and drag on the shaded gray box to move the section of the Composition shown in the Project Editing Panel without changing the current horizontal zoom. The zoom range of the Project Editing Panel can be adjusted by dragging the edges of the shaded gray box in the **Overview**. An alternative method for adjusting horizontal zoom is to press the **Alt** key while clicking and dragging across the desired range for the zoom, just as you can do directly in the Project Editing Panel itself.

Recording and Acquisition

7

Pyramix
DIGITAL AUDIO WORKSTATION

Getting Audio into Pyramix Virtual Studio

There are two basic methods of getting audio into Pyramix initially: you can record audio directly into the program, or you can import previously existing audio files.

Please see also: Digitizing Sessions on page 106

Check Sync

Before attempting to record any audio please check Pyramix and the audio source(s) are synchronized as you intend.

I/O Status Window

The I/O status window can be opened by clicking in the **Sync: xxxxx** section of the Status bar (bottom right of the main Pyramix window. (the **XXX**'s are the current sync source)

This window shows useful information about the input and synchronization status of Pyramix.
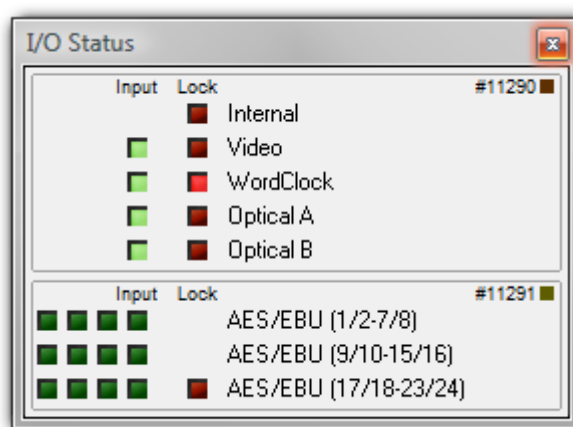
I/O Status window

Input sources

All the possible input sources are shown, each with an associated red and a green light. The green lights show the presence of a valid digital signal (This does not necessarily mean, that the sampling rate of this input matches the current clock source of Pyramix). When the red light is on and steady, Pyramix is using this input as it's clock reference and is successfully locked up.

Default Clock Source

If Pyramix is set up to lock to an external clock source but cannot get a valid signal from this source, it will switch to Internal clock. In this case the red light associated with **Internal** will be on, and the red light associated with the intended clock source will be blinking.

Sampling Rate Mismatch

If Pyramix is set up to lock to an external clock source and the sampling rate set in the Virtual Studio Mixer does not match the sampling rate of the clock source, the green light associated with the clock source will be on, but the red light will be blinking showing the sampling rate mismatch.

File Format and Disk Limitations

File Size Limitations

By design legacy SD2, WAV or BWF files are limited to a maximum of 2GB due to their 32bit signed addressing (thus 31 available bits) formats, while 32bits unsigned addressing AIF files are limited to 4GB. Please keep this in mind when recording and/or exporting to any of these formats, the 2GB/4GB limit might in fact be quite close, particularly when working with high sample rate multitrack files.

As a comparison, Pyramix, thanks to its own PMF 64bit addressing file format can generate PMF files of virtually limitless size. This makes it the file type of choice for creating single file, large multitrack projects at high sampling rates.

The WAV file format can now accomodate RIFF64 removing the 2GB limitation. **Please see: WAV and BWF on page 301**

Hard Drive Limitations

A very similar 2GB/4GB* limit can also be encountered the hard way when attempting to write large files, even in PMF format, onto storage units (hard drives, memory cards etc.) formatted using an old 32bit file system such as FAT32 or HFS.

Yet another, higher, limitation also exists with IDE ATA/ATAPI drives. This will show up at around 137GB. This may be caused by part of a system (drivers, controllers and/or old Windows version) only recognizing the 28bit addressing of the original ATA specifications, and not the enhanced 48bits available on newer equipment. This is usually solved by installing fresh and or updated Bios/Drivers/OS.

*The official limit is 4GB, but serious trouble can start at around 2GB.

Pyramix audio file format

Unless there is a good reason for using another file format for recordings we strongly recommend using the default **.PMF** file format. This will give the best performance in a number of key areas. For further information **please see: Optimizing Pyramix on page 432**

Recording Audio into a Pyramix Virtual Studio Project

Start a new Project, or open an existing one. Make certain the **Mixer** sample rate and sync source is set as desired. You will need to configure at least the same number of **Mixer** channels as **Tracks** you wish to record.

Before beginning audio capture, check or select appropriate record settings. Open the **Settings > All Settings > Project** > **Record** page (alternatively use the keyboard short-cut **Ctrl - f** and click the **Record Tab**) There are many settings in this dialog page, but for now you need only be concerned with; **Destination Drive** (**Media File** folder), **Resolution** (bit depth or word length) and **Format** (file type). As previously mentioned, unless you have a specific reason for using a different format we recommend using the default **PMF** format.

> **Note:** These settings are completely independent of the settings for **Mix-down** and **Render**.

Track Record Modes

Each **Track** has a tri-state **Record Ready** toggle button, located to the left of the **Track** itself in the **Track Information and Setup Area**.

Tip: Right clicking on a track arming button opens the **Settings > Project** page immediately on the **Record** page.

Play

The **Green Dot** in the **Track Header** indicates **Record Safe** mode, the default when **Tracks** are newly created. When in this state, the **Track** cannot be recorded to.

Record Ready (Manual)

Click on the **Green Dot** once to toggle to **Record Ready** mode. This is indicated by the dot turning into the **Red Dot**. The Track will now go into **Record** mode immediately when the **Master Record** button is pressed in the **Transport Strip** or **Transport window**.

Record Punch In (Auto)

Alt-Click on the **Red Dot** to toggle to **Record Punch In** mode. This is indicated by a **Red Dot flanked by 2 red vertical lines**. In this mode, when the **Master Record** button is pressed in the **Transport Strip** or **Transport window**, the **Track** will stay in **Play** mode until the current **Mark In** point is reached, then the **Track** will go into **Record** mode. It will stay in **Record** mode until the current **Mark Out** point is reached.

After Recording

New recordings will be processed according to the settings made in the **Settings > All Settings > Project > Record** page. **Please see: Record on page 503**

If the **Prompt for name after recording** box is checked the **Record Name** dialog appears when the recording is finished and the transport stopped.
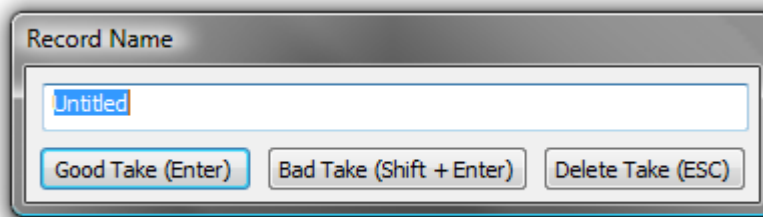
Record Name dialog

Type a name for the recording (or leave the default) then select one of the button options.

AutoPunch Mode

AutoPunch when Chasing TimeCode

If tracks are set to **Auto-Punch** mode (Alt+Click on Rec Ready button) then the system will start recording (after locking to TC) when it reaches the **Mark In** point and punch out when it reaches the **Mark Out** point.

If the Mark In is located before the current location (and the Mark Out far after) then the system will immediately record once locked and stop recording when unlocking.

Recording from a tape with Discontinuous TimeCode

Pyramix AutoPunch Mode makes this a simple operation.

Place the Mark In at 00:00:00:00 and Mark Out at 23:59:59:24 (default values for a new project)

Connect LTC Out from the tape machine into Pyramix

Set Chase mode to **HARD CHASE**

Rewind the tape

Press Play on the tape machine

Each time a valid TC is encountered Pyramix will lock and start recording a new clip, then stop when the timecode stops or jumps. A separate media will be created for each continuous section of timecode on the tape.

Safety Record Mode

Pyramix is equipped with a Safe Record mode for the Internal Machine.

Safety Record is turned off by default. It can be activated by selecting **Machines > Internal Machine >Safety Record**. When this mode is active an **S** is superimposed on the Transport Controls Record button.

Once a recording has begun the only way to stop it is to go to the Menu and de-activate **Safety Record** mode. Apart from this no key presses, mouse clicks or external control inputs will stop the recording.

> **Note:** Whilst it is possible to assign a Keyboard Shortcut to the **Safety Record** toggle, for maximum security, it might be wiser not to.

Importing Audio Files into Pyramix Virtual Studio

Different file types with different bit depths (word lengths) can be freely combined in a Composition. Simply **Mount** the **Media Drive** or **Media Folder** and drag-and-drop the required material into the Timeline.

Files with different sample rates can also be freely combined.

> **Note:** If a clip has a different sample rate to the current project the clip will play at the 'wrong' speed! E.g. in a 48kHz project a 96kHz clip will play at half speed. With most material this will be glaringly obvious, however with sound effects, smaller differences in rate (E.g. 44.1kHz - 48kHz) may well go unnoticed.

Mounting Media Folders

If many audio files already exist in a single Windows directory or folder, it is easy to mount that Windows folder as a Pyramix **Media Folder**. Once mounted, the supported files become available for use in a Project.

1. Start a **New Project** or **Open** an existing one.

2. Click the **Media Management** Tab in the Project Management Panel to open the **Media** window, or double-click to open it as a floating window.

3. Select **Media Folder > Mount Media Folder**. This opens the **Choose a media folder to mount** dialog box.

4. Click the **Browse...** button, then navigate to the Windows directory containing the audio files you wish to import.

5. Click the **OK** button to mount that Windows directory as a **Media Folder**. All supported audio file types will be seen by Pyramix, and be available for use in the Project. A check in the **Recursive** box means Pyramix will look in sub-directories of the chosen folder as well as the root. A check in the **Permanent mount** box means Pyramix will attempt to mount the folder whenever the application is launched. I.e. make it available to all **Projects**. A check in the **Quick Mount** box will create a special a library called '__QuickMountLocal.pml' (or '__QuickMountRemote.pml' depending on whether you access this folder locally or through the network) and store it the original folder. This can dramatically reduce the time taken to mount media files when a project is opened.

Sample Rate Conversion

Where the sampling rate of a **Media File** is different to the current **Project**, Pyramix offers a simple means of converting the **Media File**'s sample rate.

1. Select a **Master Clip** file or files in the main **Media Management window.**

2. Choose **Convert > Quick Convert > Samplerate Converter**. A **Samplerate Converter** dialogue box appears. Radio buttons offer the choice of two text entry fields, **New name** for the file or **Add Suffix** to the existing filename. A checkbox selects **Keep Original File Format** otherwise the file will be converted to **PMF** format as well as sample rate converted.

3. Selecting **Properties** opens the **Samplerate Converter Properties** dialog box:
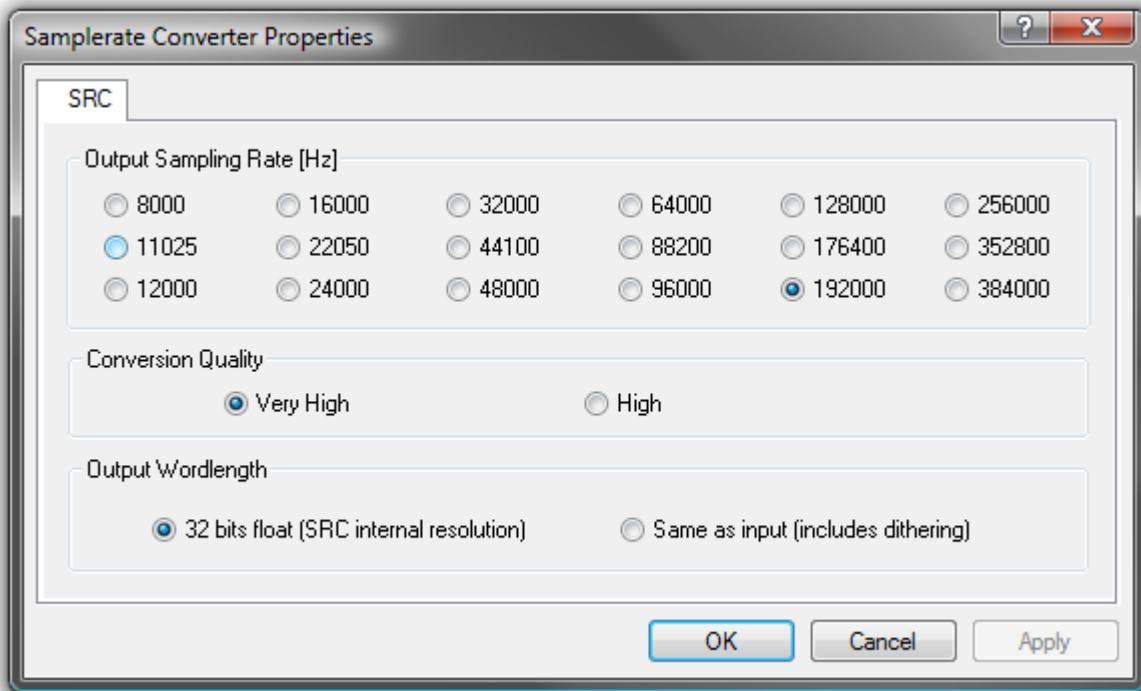
Samplerate Converter Properties dialog

4. Choose the required target sample rate by clicking on one of the **Output Sampling Rate [Hz]** radio buttons. **Conversion Quality** defaults to **High** with the option of **Very High**. The remaining option is **Output Wordlength** choose either **32 bits float (SRC internal resolution)** or **Same as input (includes dithering)** Finally click on **OK** to close the dialog

5. Choose **OK** in the **Samplerate Converter** dialogue box to begin the conversion. When converting multiple files, choose **OK** to convert the files one at a time with the possibility of changing parameters on each file or, if **Add Suffix** was chosen in **step 2,** you can choose **OK all** to convert all the selected files in one operation.
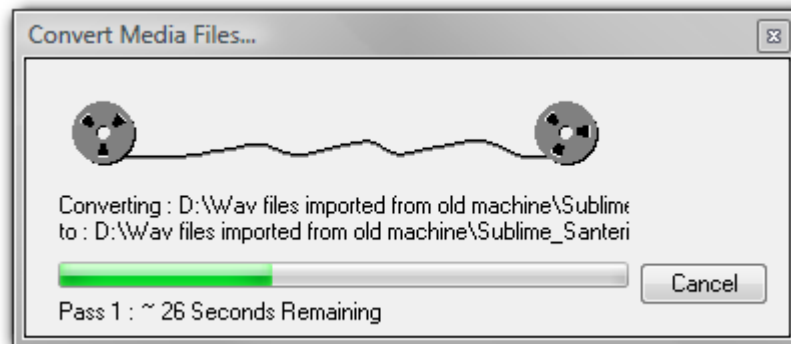
Digitizing Sessions

A **Digitizing Session** is a special type of Pyramix **Project** which is intended for efficiently loading audio material into **Pyramix.** One advantage to using a **Digitizing Session** for capture is that **Master Clips** referencing the audio **Media Files** can be generated and saved directly into a specified **Library** for later placement.
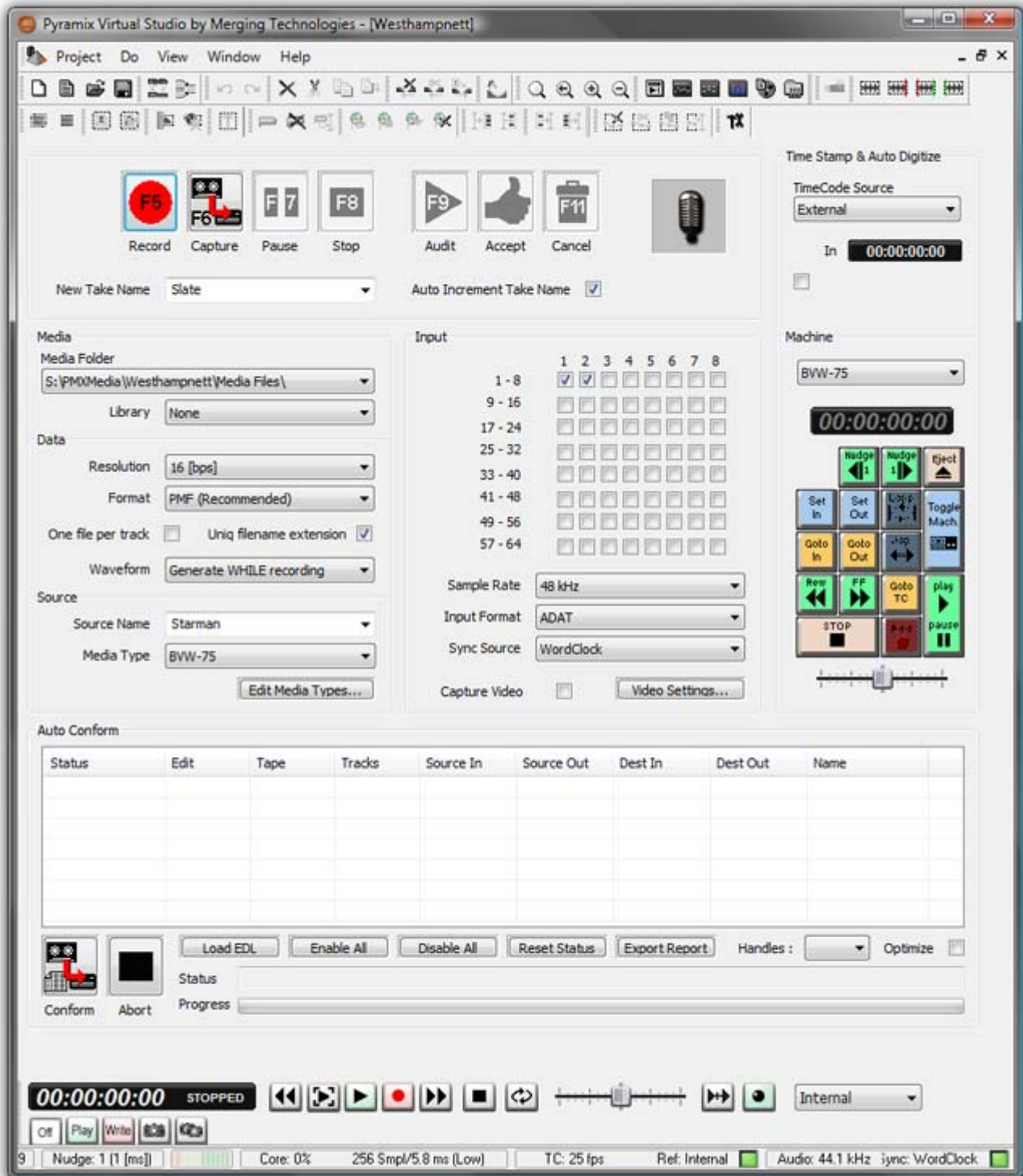
Digitizing Session Project Window

Manual Digitizing

1. In the **Media** section, choose an appropriate **Media Folder** to which to your captured files will be saved. If you wish to simultaneously save **Master Clip** references to these **Media Files** into a previously created **Library**, select that **Library** from the **Library** drop-down list.

2. In the **Data** section, choose the appropriate **Resolution** (bit depth or word length) and **Format** (file type) for the saved audio files. Check **One File per track ON** to generate a separate file for each **Track** recorded. I.e. two files for a stereo source, six for a discrete 5.1 source and so on.

3. In the **Input** radio button matrix, check **ON** for each **Input** you wish to record from. Also set the **Sample Rate**, **Input Format** and **Sync Source** as appropriate.

4. Type in a **New Take Name** to name the captured files. If the **Auto Increment Take Name** box is checked all subsequent takes will use the name typed in the **New Take Name** field as a 'seed' with a numerical suffix to denote the individual takes. E.g. Enter 'Vocal' as the New Take Name, check the **Auto Increment Take Name** box and record a few seconds, stop then record another few seconds. The first take will be called 'Vocal' and the second 'Vocal 2'

5. You can monitor incoming audio through the **Mixer**. Click on the **Show/Hide Mixer** icon to display the **Mixer**, and set levels as appropriate.

6. Any external machine can be used as the source. However, it is much more convenient to use a machine which can be controlled by Pyramix. A machine can be selected from the **Machine** drop-down list. It's control panel appears below the list.

7. Locate the required material on the source tape.

8. Click on the red **Record** button to begin recording. The system will remain in record until the **Stop**, **Pause** or **Cancel** button is pressed.

9. Press the **Stop** button to stop recording.

10. You can press the **Audit** button to audition the recording just made.

11. Press the **Accept** button to save the recording to the destination Media Folder, or press the **Cancel** button to delete the recording without saving it.

Autoconforming

1. Pyramix can record audio selectively according to an EDL (Edit Decision List) in the CMX format.

2. Follow the set-up suggestions above and ensure the source machine is working correctly under 9-pin control.

3. Click the **Load EDL** button, navigate to the directory containing the EDL you wish to load the audio for.

4. If the list is not already in **Reel** order, click the **Optimize** button. This will sort the list so that audio is digitized with the minimum of reel changing and spooling. All overlapping edits will be merged.

5. Load the first reel in the list, click the **Capture** button and Pyramix will automatically control the source machine. All the required audio in the reel will be digitized.

6. Change the reel when prompted until all the required audio has been digitized.

If you know the audio is not available for certain edits in the list, or you wish to digitize only certain edits, uncheck the box(es) in the **Status field** for the relevant entries before clicking **Capture**. The **Status** filed will show when clips have been captured which match the edits.

Enable All

Checks all the boxes in the **Status Field** for capture.

Disable All

Un-checks all the boxes in the **Status Field**. I.e. no edits are selected for capture.

Reset Status

Restores the **Status Field** check boxes to their previous state.

Export Report

Exports an **.rtf** file detailing the edits which were captured and those which were not.

Handles

Sets an extra amount of audio to be captured at each end of the edits. This allows greater freedom in editing but may cause problems in some circumstances. The drop-down list gives a choice of from **0** to **10** frames.

8
Editing

Editing in the Timeline

The **Timeline** is the place in Pyramix where audio **clips** can be edited, faded up and down and otherwise arranged into a mono, stereo or multi-channel digital audio **Composition**.
A **Project Editing Panel** containing the **Timeline** will be visible as soon as you open a **Project**.

The **Fade Editor** provides elegant alternative methods of viewing and adjusting the parameters of edits in the Timeline.

Clips and Compositions

Clips in a Composition

As with **clips** in a **Media Drive** or **Library**, **clips** in a **Composition** are just pointers to the original audio **Media File**. Any actions performed on a **clip** in a **Composition** will affect neither the original audio **Media File**, nor the **Master Clip** in the **Media Folder** or **Library** it came from. In the **Project Editing Panel**, a **clip** can be edited, short-ened, split into 2 **clips**, moved, level controlled, deleted, etc., and all actions will **ONLY** affect the **Composition**.

Once placed in the Composition, each clip by default displays a Waveform of the Media file to which it points. This Waveform display can be enabled or disabled by the user.

Sample Rate Mismatch

Pyramix allows clips of any supported sample rate to be placed in the Timeline. By default Clips that do not match the Project sample rate are converted 'on-the-fly' to the project sampling rate. (**Please see also: Real-time Sampling Rate Conversion on page 519**) To help avoid inadvertent placement of clips that do not match the project sample rate the waveform in such clips appears in a different color, by default, blue:

Sample Rate Mismatch

Note: Each clip's assumed sample rate is determined by information contained in the file header. If this information is incorrect (as with certain DAR files) the clips will not play back at the correct speed or pitch.
Please see also: DAR WAV file Import on page 64

Anatomy of a Clip

Many Edit Commands refer to parts of a clip rather than the entire clip.
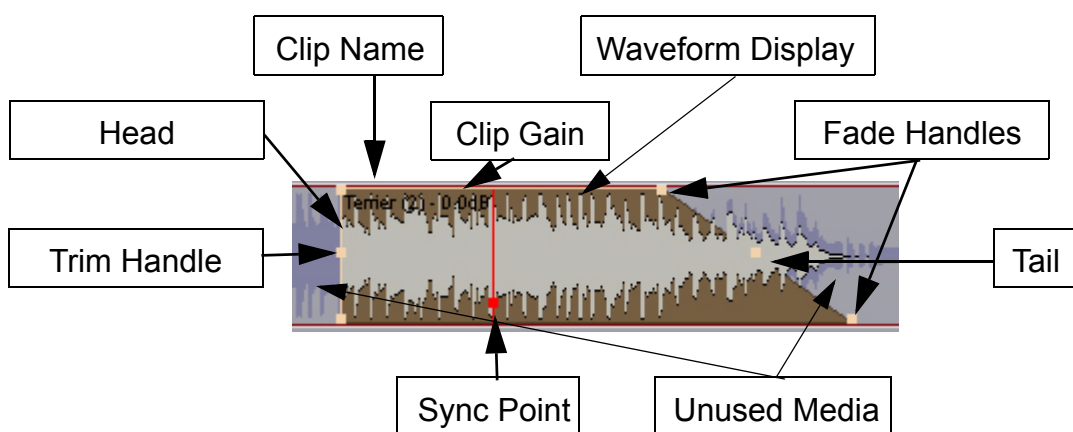
Features of a Clip in the Timeline

Once a **clip is** selected, **Trim Handles** appear at each end which are used to manipulate the **clip**. If these are diffi-cult to see or get hold of, zoom in on both axes until they are accessible. Each **Trim Handle** consists of **3 Control Points**. The **Control Points** on the left side of the **clip** allows adjustment of the beginning of the **clip**, and the **Control Points** on the right side allows adjustment of the end. Click and drag on the middle **Control Point** to move the head or tail of the **clip** as desired to shorten or lengthen the **clip**. These can be moved out to the full extent of the original audio **Media File** to which the **clip** is pointing. Select **View > Show Media** to view the unused audio (if any) as a grayed out waveform.

Head

The beginning of a clip on a Track is referred to as the **Head**. The Head may or may not represent the actual begin-ning of the Media File for the clip, since the clip is just a set of pointers to an area of the whole media file.

Tail

The end of a clip on a Track is referred to as the **Tail**. The Tail may or may not represent the actual end of the media file for the clip, since the clip is just a set of pointers to an area of the whole Media File.

Sync Point

The Sync Point is an internal reference point inside the clip. This defaults to the start of a clip until moved.The Sync Point may be moved by dragging its handle within the clip. If the Play cursor is positioned over some part of the clip, the Sync Point may be snapped within the clip to the position of the Play Cursor by choosing **Clips > Set Sync Point to Cursor**.

Trim Handle

The Trim Handle is the middle handle available at either end of the clip when the clip is selected. This handle is used to shorten or lengthen the clip (trim the clip in or out) up to the limit of the available media. To trim the clip, drag the handle.

Fade Handles

The Fade Handles are the top and bottom handles available at either end of the clip when the clip is selected. The handles are used to create a fade in at the beginning of the clip, or a fade out at the end of the clip. To create or adjust a fade, drag one of the trim handles to create the desired fade in or fade out. The top handle adjusts the fade within the clip and the bottom handle trims the clip in or out as you adjust the fade. If the Top Handle is used with the CTRL key modifier, a symmetrical crossfade is created with any adjacent clips, centered at the original end point of the selected clip. If no adjacent clip exists, then it extends or shrinks the duration of the fade while main-taining the duration of the selected clip.

Waveform Display

Clips can appear either as a block with the clip name inside, or can show the audio waveform of the media refer-enced by the clip.

Clip Name

The name of the clip is shown unless suppressed. **View > Waveform Display > Hide Clip Name when Waveform Shown**.

Clip Gain

The overall **Gain** applied to the clip is shown. This value is displayed in decibels.

Gain can be adjusted by selecting **Clips > Clip Gain**. The **Gain** window appears. If a **Region** is selected the Gain will be changed on all clips in the selection.

Locking Clips

Clips can be protected from being displaced during editing by selecting **Clips > Lock**. A locked clip cannot be moved in time or to another track until it is unlocked. **Clips > Unlock.** If you simply wish to prevent loss of sync select **Clips > Lock Horizontal Drag**.

Grouping Clips

To **Group** multiple **clips**, whether they are on the same or different **Tracks**, select the **clips** you wish to **Group** together. Now choose **Clips** > **Group**. When any **clip** in a **Group** is selected, copied, deleted or moved, all **clips** in its **Group** will be similarly selected, copied, deleted or moved.

To ungroup previously **Grouped clips** to treat them separately, select the **Group** and choose **Clips** > **Ungroup**.

Groups can be nested. I.e. one group may be inside another group. For example a stereo or multi-channel **clip** is simply a group of mono **clips**. Stereo or Multi-channel **clips** may be ungrouped into individual mono ones in the same way as any other group.

Gain Window
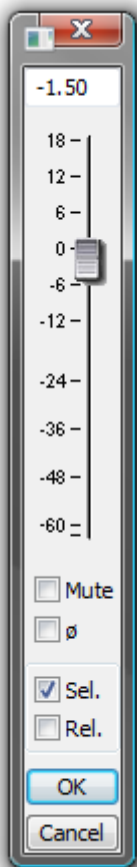
Gain Window

The Gain window allows the gain to be set for the current selection. The gain value can be typed into the box at the top of the strip or set by clicking and dragging the fader

Mute when checked, mutes the selection but retains the gain value

Sel. box (**Se**lection). When checked, the gain change will be applied to the whole selection (default is checked)

Rel. box (**Rel**ative) When checked **and** a series of clips are grouped, the gain change is relative to pre-existing levels

When neither box is checked any gain change is only applied to the clip which was last right clicked (even if others are selected)

OK button makes any changes selected in the Gain window and closes it
Cancel button cancels any changes selected in the Gain window and closes it

Clip and Selection Editing

Master Clips appear in the Timeline as blocks which can be edited on a track (or tracks, depending on how many tracks the Master Clip contains) The clip can be trimmed, split, crossfaded, and have many other operations performed on it without ever affecting the underlying media file. Each instance of a clip references the entire media file, and can always be "opened up" by using the Trim Handles to reveal more of the clip until the complete underlying Media File is visible. Clips can be dragged in the Timeline while the transport is playing.

Clip Properties

Clips > Properties opens the Properties window for the selected clip. If multiple clips are selected, opens the Properties window for the first clip selected.

Selection		
Selection		
Name	>	Sublime_Santeria
Comment	>	
Level	>	0.000
Phase Invert	>	No
Mute	>	No
Auto Deglitching	>	Follow General Settings
Clip		
Name	>	Sublime_Santeria (2)
Comment	>	
Level	>	0.000
Phase Invert	>	No
Mute	>	No
Auto Deglitching	>	Follow General Settings
Length		00:03:03:08820
Media Offset		00:00:00:00000
Original TimeCode		00:15:58:27636
Peak Level		0.0 [dB]
Media	>	
Name		Sublime_Santeria
Format		PMF
Sample Rate		44100 Hz
Word Length		16 [bps]
Length		00:03:03:05
Original TimeCode		00:15:58:15
Tracks		A 1-2
Peak		0.0 [dB]
Author		Admin
File Name		Sublime_Santeria_{1077D586-4C7C-465D-BE2F-33D609EAD1B2}.pmf
File Location		D:\Wav files imported from old machine\
File Size		33'115'136 bytes
File Creation Date		02/10/2007 14:46:33
Scene		
Take		
Tape		
Notes		
UBITS		
Media Track		
Track Number		A 2
File Name		Sublime_Santeria_{1077D586-4C7C-465D-BE2F-33D609EAD1B2}.pmf

Selection Window

Renaming Clips

Although Clips can be renamed in the **Clips > Properties** Selection Window, Pyramix offers a more convenient method of renaming clips in a logical and orderly manner.

Clips Rename open the **Rename Clips** dialog:
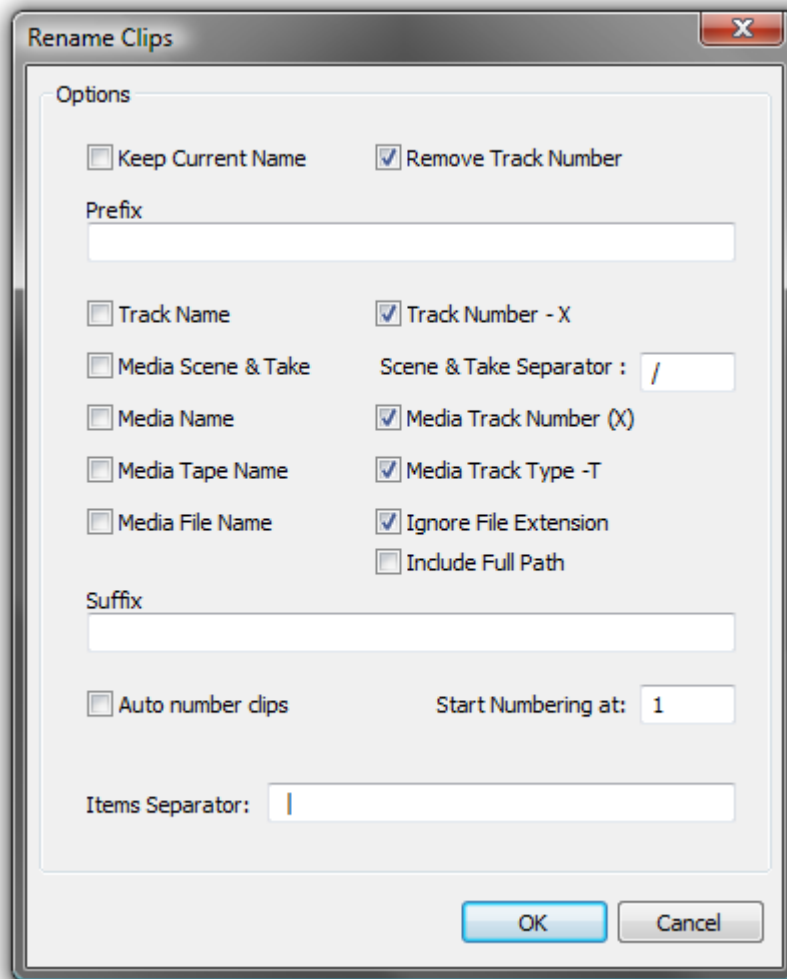
Rename Clips Dialog

The Clip Name can be composed out of user text, automatically generated data or a combination of both. The dialog box is largely self explanatory. Auto numbering is relevant where a number of clips are selected when the Rename Clips dialog is opened.

Selection Tab Window

The Selection Tab Window groups together **Selection Properties**, **Clip Properties** and **Media Properties** fields in a table.

When choosing **Selection Properties** or a **Properties** Menu item, this Tab Window is displayed. If the Tab Windows section is hidden, then the Selection Tab Window is undocked to ensure it is visible. Parameters that can be modified are marked with a '>' sign. Click on the '>' sign or on the parameter itself to change/edit it.

Selection and Clip Modifiable Fields
Name

This field shows the name of clip as it appears in the composition. This name will also be displayed in the clip block when the clip is set to Show Text.

Comment

This field shows a user comment concerning the clip. The information displayed here will also be shown in the Comment field in the EDL Tab window

Level

Available in both

Pops up a window with a fader and numerical entry box for level, and two check boxes, **Sel.**ection and **Rel.**ative. When neither box is checked any gain change is only applied to the clip on which you last right clicked (even if others are selected). If **Sel.** is checked, the gain will be applied to the whole selection (selected by default). If **Rel.** is checked and you have a grouped series of clips the gain change is relative to pre-existing levels.

If you click on the > in the "selection" part gain is applied to the whole selection, and if you click in the "clip" part, the gain is applied only to the clip which was under the mouse when you clicked.

E.g: Three clips are selected, the first at -1 dB, the second at -2 dB and the third at -3 dB. You wish to increase the gain of all the selected clips by 1dB. Check the **Rel.** box and add 1 dB either with the fader or in the numeric box. This will result in the first track at 0 dB, second at -1, third at -2.

Phase Invert

Toggles between **No** and **Yes** (Phase inverted)

Mute

Toggles between **No** and **Yes** (Muted)

Auto Deglitching

Drops down a list box with choice of **None**, **Follow General Settings** or fade settings between **1.0 [mS]** and **5.0 [mS]** in 0.5[mS] increments. This feature avoids the necessity to manually make short fades when quickly making cut edits. On any clips that do not already have a fade a small ramp is automatically applied to avoid clicks at the beginning and end. Any clips with fades previously applied bypass the Auto-Deglitching feature.

> **Note:** the global Automatic -Deglitching value is set in the **Settings > All Settings > Application > Playback/Record** page in the **Automatic Deglitching** section.

Clip Information Only Fields

Apart from the modifiable fields listed above, **clip** also shows the following information fields:

Length

This shows the total length of the selected clip segment.

Media Offset

This field shows the amount by which the start of the selected clip segment is offset from the beginning of the entire Master Clip.

Original TimeCode

This field shows the original TimeCode stamp at the head of the clip.

Peak Level

This field shows the highest level (in Decibels Full Scale) reached by any sample within a clip. This is only shown for clips which have had a Waveform display generated.

Media Information Only Fields
Name

Shows the original short name of the audio media.

Format

Shows the media format as PMF, Wave etc.

Sample Rate

Word Length

Length

Shows the total length of the media file referenced by the clip.

Original TimeCode

Tracks

Shows the tracks the media was originally recorded to.

Peak

This field shows the highest level (in Decibels Full Scale) reached by any sample within a media file.

Author

Shows the user who was logged in when the file was created.

File Name

Shows the full media filename including the unique identifier and extension.

File Location

Shows the full Windows path to the media file

File Size

Shows file size in bytes.

File Creation Date

Scene

Take

Tape

Notes

UBITS

Media Track Information Only Fields

Track Number

Shows the track number within the media file. I.e. a stereo file will have A1 and A2 for the two tracks.

File Name

Shows the full media filename including the unique identifier and extension.

> **Note:** The values shown in the **Clip**, **Media** and **Media Track** sections reflect the track clicked on in the Timeline. Where a selection contains several, possibly multi-channel, clips, clicking on the individual items in the Timeline updates the information to reflect the last item clicked.

The **Selection** Tab Window is automatically updated when the selection changes and can therefore remain floating.

Selections and Region Selections

Selection Operations

Many Pyramix editing operations can only be carried out if a clip or region is selected.

There are two ways of selecting material in the Timeline. Whole **Clip**s and **Region**s.

Clip Selection

Clicking in a clip selects it (the color becomes darker and **Handles** appear). The whole clip is ready for editing. Clicking on other clips while holding down the **Shift** key adds them to the selection. If the clip is grouped with other clips, this will select the entire group. To select a single clip in a group, first ungroup the clips, then select the desired clip.

Region Selection

A **Region Selection** is a selected area of the **Composition**. A Region can include many clips on many tracks or only a portion of a single clip. It is indicated as a darker gray rectangular area over one or more **Tracks**. When selecting a clip within a group, the **Region** is automatically extended to the whole group. This can be avoided by pressing the Shift key while selecting. A **Region** can be made by clicking and dragging the mouse across one or more **Tracks**.

Of course, keyboard shortcuts exist for making **Regions**, and this is one of the most useful ways to mark a region. The **Pyramix** default method of marking a **Region** in point is to press **[** on the keyboard: this selects everything to the right of the current **Play Head Cursor location** on the currently selected track. **]** marks a region out point: this selects everything to the left of the current **Play Head Cursor** location, up to a previously marked in point. Once a **Region** has been defined in this manner it can be extended or 'grown' across more tracks by using **Ctrl +Shift +Cursor UP** or **DOWN arrows**. **Ctrl +Alt +Shift +Cursor UP** or **DOWN** shrinks. (Assuming the standard Pyramix keyboard shortcut assignments are in use.)

Using the keyboard short-cuts, **Regions** can be easily made on-the-fly while playing or scrubbing the **Timeline**. This is particularly efficient when used in conjunction with the **Numerical Keypad** transport control short-cuts.

Dragging Clips into a Composition

The simplest way to place an audio **clip** into your **Composition** is by dragging it from a **Media Folder** or **Library**.

To drag from a **Media Folder**:

1. Click on the **Media Management** Tab to open the **Media Management** tab window.
2. Double-click on a mounted **Media Folder** or subfolder to open it. The **Master Clips** will all be listed on the right side of that window.
3. Select a **Master Clip** by left-clicking and holding. Drag the **Master Clip** into a **Track**. You can place it into any **Track**, at any point on the **Track**.

The procedure for dragging an object from a **Library** is virtually identical to that outlined above for **Media Drives**. However, access the required **Library** using the **Global Libraries** or **Document Libraries Tabs** in the **Project Management Panel.**

Copy and Paste

Another way to get objects into a **Composition** is by copying and pasting them.

1. Select an object in a **Media Folder** or **Library**.
2. Right-click on the **Master Clip**, and choose **Copy** from the pop-up.
3. Place the **Play Head Cursor** where you want to paste the beginning of the **Master Clip**.
4. Right-click on the **Track** to which you wish to place the **clip**, and choose **Paste to Cursor** from the pop-up. The beginning of the object will be placed at the **Play Head** in the **Track** on which you right-clicked. Alternatively, simply click the mouse on the track and at the time you want the **clip** to start, right -click and choose **Paste** to insert the **clip** where you placed the mouse cursor.

Selecting a Clip

Click on any clip in the Composition to select it. It will change color to indicate selection. Shift-click to select multiple clips at the same time.

Simple Copy and Paste

1. Left-click a **clip** to select it.

2. Right-click and choose **Copy** from the pop-up. (or use menu **Edit > Copy** or use **Ctrl + C**)

3. Place the **Play Head Cursor** where you want to paste the beginning of the **Master Clip**.

4. Right-click on the **Track** to which you wish to place the **clip**, and choose **Paste to Cursor** from the pop-up. (or use menu **Edit > Paste to Cursor** or use **Ctrl + V**). The beginning of the **clip** will be placed at the **Play Head** in the **Track** on which you right-clicked. Alternatively, simply place the mouse cursor on the track and at the time you want the **clip** to start, right-click and choose **Paste** to insert the **clip** where you placed the mouse cursor.

Selecting a Region

To select a region, click the mouse at one end of the region you wish to select, and drag the cursor to the other end of the region you wish to select.

A region can include more than one clip, and may extend across multiple tracks. The selected region may also include the area(s) on a track where no clip is present.

Adding Tracks to a Selected Region

With a region selected, **Shift + Click** on other tracks to add them to the selection. The tracks do not have to be continuous. For example:

> **Note:** Discontinuous regions cannot be selected horizontally.

Clip Selection Behavior

The following lists the various behaviors for a selected clip depending on different modifier keys.

When a Clip is selected:

No Modifier Key

With no key modifier, the clip can be manipulated in standard **Edit Mode**.

CTRL Key Modifier (Auto Crossfade Mode)

While a clip is selected, pressing and holding the CTRL key before clicking and dragging automatically creates a cross-fade when the clip is moved to overlap any adjacent clip. The mouse cursor changes to a hand with an X over it to indicate Auto Crossfade Mode is engaged. While in Auto-Crossfade Mode selected clips can only be moved in time, not to other Tracks.
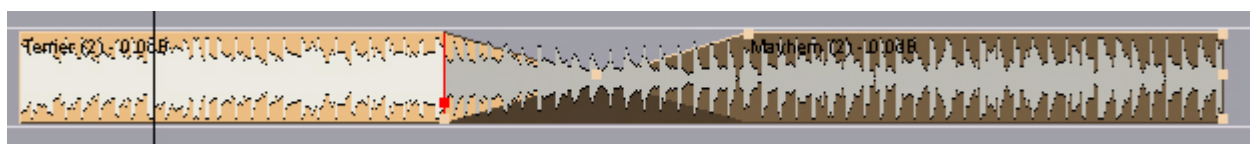
Auto Crossfade Mode

CTRL Key Modifier Option (Layering Mode)

When in the **CTRL** Crossfade mode, if the CTRL Key is released (while still holding the left mouse button) **Layering Mode** is entered. This mode allows clips to be overlapped. (Technically, the result is a crossfade with zero length fades.)

Layering Mode

CTRL SHIFT Key Modifier (Slip Media Mode)

While a clip is selected, pressing the **CTRL** and **SHIFT** keys will allow the audio contents of the clip to be slipped in time. The Media can be slipped to the extent of its availability.

CTRL ALT Key Modifier (Slip Clip Mode)

While a clip is selected, pressing the **CTRL** and **ALT** keys will allow the In and Out point of the clip to be slipped together in time while the Media remains where it is in time. Think of this as moving a "window" within the media.

ALT SHIFT Key Modifier

While a clip is selected, pressing the **ALT** and **SHIFT** keys will allow the clip to be dropped into a **Library** as a new Composition.

> **Note:** When a clip is moved over another in either within the TimeLine in Layering or Auto-Crossfade Modes or from a Library or Media Management, the clip color temporarily changes to red. This is particularly helpful where there are hidden clips on the right side of the screen that may be erased by the new clip or move.

Auto-Crossfade By Default

Auto Crossfade / Layering can be set as the default editing mode. This reverses the functionality described above. When this mode is engaged, pressing the **CTRL** key enables the Edit mode.

This mode can be engaged by selecting **Edit > Auto-Crossfade** or by checking the **Auto-Crossfade by Default - Control key for Drag & Drop** box in **Settings > All Settings > Editing**.

Clip Fade Commands

Fade In

Fade Out

X Fade   Each of these three entries on the **Clips** menu lead to sub-menus which all look like this:
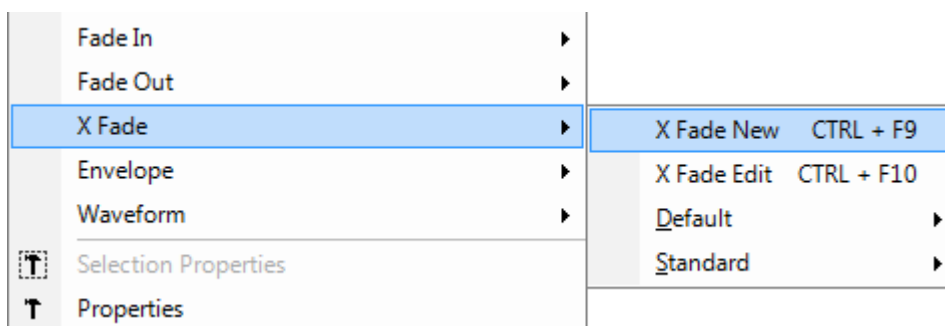
Crossfade sub-menu

New	Creates a fade when a region is defined at the beginning (**Fade In**) the end (**Fade Out**) or across overlapping clips (**X Fade**)
Edit	When chosen from either the Fade In or Fade Out sub-menus, opens the Fade Editor with the current fade. From the Cross Fade sub-menu opens the Fade Editor only when a region is defined across an existing cross fade. (**Please see: Fade Editor Tab Window on page 134**)
Default	When a clip is selected or a Region is defined which includes the clip start or end, **Fade In** or **Out > Default > Complete** recalls the length and shape of the **Default Fade In** or **Out** and applies it to the selection.**Default > Curve Only** recalls only the curve shape.
	When a region is defined on a clip or clips which are cross-faded **X Fade > Default Complete** or **Curve Only** recalls and applies the Default Crossfade length and shape or shape only respectively.
Standard	Sub-menu offers a choice of fade types
	Power Linear

Tension Linear

dB Linear

Cosine

Root Cosine

Editing Modes

The current **Editing Modes** are shown in the Markers Header. If either **Remove**, **Insert** or **Snap** modes will result in rippling of other clips. I.e. loss of sync, the **Editing Modes** are shown in Red Some of the editing commands which delete clips from, or paste clips into the Timeline behave differently depending on the current settings of the **Insert** mode and the **Remove** mode.

Edit Modes Context Menu
Clicking on the **Markers** header pops up the **Edit Modes** context menu:
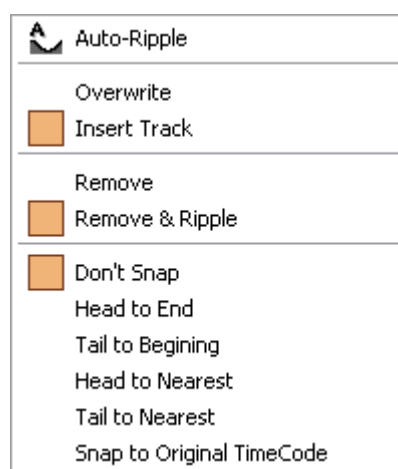
Edit Modes Context Menu

Auto-Ripple — When this option is checked (enabled) all **Insert** or **Remove** operations ripple the rest of the track

Overwrite — When checked, any clip placed so that it overlaps an existing clip will overwrite the part of that clip where the two overlap.

Insert Track — When checked, any clip placed on a track will be inserted into the track and will ripple all other material on the track later in time (to the right) by the length of the clip being inserted.

Remove — When checked any selected material will simply be removed from the Timeline. Everything else will be left intact and in the same place.

Remove and Ripple — When checked any selected material will be removed from the Timeline. Everything else to the right (after) the removed material will be Rippled (moved) to the left (earlier) to take up the space left by the removed material.

Don't Snap — No snap mode set. This mode doesn't affect the behavior of objects placed on a track. Behavior follows the existing Insert and Remove modes.

Head to End — This mode will cause the beginning of any clip placed on a track to snap to the end of the last clip on the track, abutting the head of the new clip to the end (tail) of the last clip.

Tail to Beginning — This mode will cause any clip placed on a track to snap to the beginning of the first clip on the track, abutting the tail of the new clip to the head of the first clip.

Head to Nearest — This mode will cause any clip placed on a track to snap the head of the clip to the nearest edit point or mark on the track. This includes the head or tail of existing clips on the track, as well as the Play Head Cursor, Mark In, Mark Out, Named Markers, or CD Marks. The clip will interact with existing clips according to the Insert Mode setting.

Tail to Nearest   This mode will cause any clip placed on a track to snap the tail of the clip to the nearest edit point or mark on the track. This include the head or tail of existing clips on the track, as well as the Play Head Cursor, Mark In, Mark Out, Named Markers, or CD Marks. The clip will interact with existing clips according to the Insert Mode setting.

Snap to Original TimeCode   This mode will cause any clip placed on a track to snap the head of the clip to the time location represented by the clips original TimeCode. The clip will interact with existing clips according to the Insert Mode setting.

Splitting Clips and Regions

Splitting a Selection
Splitting Clips

Edit > Split (or **Ctrl + T**) makes an edit on the selected clip(s) at the cursor position splitting it (them). If a region is defined within a clip or clips then this region is Split (edited) by using this command. Each split portion of the original **clip**(s) now becomes a new, independent **clip** in its own right.

Splitting Regions

If the Play Cursor is positioned over a selected Region rather than a whole clip or clips, then choosing the **Edit > Split** command will split the selected Region from the surrounding material at the edges of the selection area, not under the Playhead Cursor.

Once a **Region** is marked on a **clip**, simply clicking on the **Region** makes an edit. (same effect as the **Edit > Split** menu command.) This will split the **clip** or **clips** at the region boundaries. If a **Region** is across several **Tracks**, Edits will be made on all **Tracks** within the **Region**.

Cutter
Holding down the **C** key changes the mouse pointer to a cutter. Edits (cuts) are made wherever the user clicks. To make an edit with the cutter on a range of clips at the same position, just select them before cutting.

Duplicate Selection
Holding down the **D** key while clicking on the selection then dragging to a new location duplicates the selected material and moves the copy.

Holding down the **F** key while clicking on the selection then dragging to another track (or tracks if the selection covers more than one track) duplicates the selected material and moves the copy locked in time.

Moving a Selection
Simply drag a selected clip move or reposition it to another location on the same track or a different track. If a Region is selected, clicking on it will split it from the surrounding material. The resulting separate clip can then be dragged to a different location or track. To constrain a clip in time when moving it to another track, hold down the Alt, Shift and Ctrl keys at the same time while dragging the clip to the new track.

Adjusting a Region Selection
Simply position the Arrow Cursor at the edge (beginning or ending) of the region. The cursor will change shape to indicate the Region can now be adjusted by clicking and dragging. You may drag the edge beyond the other end of the region. Doing so ensures that the new selection region begins (or ends) exactly where the original region ended (or began). This also applies to the top and bottom edges of the region. For example, you can extend the selected region on one track up or down to include additional tracks.

Jog-Wheel Editing

A number of editing actions may be undertaken on a selected clip or group of clips using a jog-wheel on an external hardware controller.

First select the Clip or group of Clips, then select the desired Jog-Wheel Editing Mode from:

Edit > Jog-Wheel Editing > Move

Trim In

Trim Out

Trim Fade Out

Tim Fade In

Trim Fade In Symmetrically

Trim Fade Out Symmetrically

Trim Sync Point

Slip In

Slip Out

Slide Media

Now simply move the jog wheel to **Move**, **Trim**, **Slip** or **Slide** the clip(s)

Pressing the **Spacebar** or **Enter** confirms the change(s), **Esc** cancels.

Playlists

Playlists enable different versions of the content of a selection of tracks to be easily stored and any stored version to be recalled.

Playlists have a name (and can be renamed). A Playlist shows the list of tracks it keeps versions of. By selecting a Track Group or one or more Tracks in the **Playlist Tab Window**, you can:

•   Create a new empty playlist for these tracks

•   Create a new Playlist for these tracks containing a copy of their current content

You can also:

•   Create a new empty Playlist for all tracks in Record Ready mode

•   Create a new playlist for all tracks in Record Ready containing a copy of their current content

Double-clicking on a Playlist icon replaces the content of the tracks it references with the version it contains.

Modifications made on the tracks referenced by a Playlist are updated in the last recalled Playlist when another one is recalled. A new Playlist can be automatically created for each recording for every recorded track by checking this option in **Playlists** section of **Settings > All Settings > Project > Record**.

The Playlist icon displayed on each Track header enables:

•   The creation of an empty Playlist for each track in Record Ready Mode, all Tracks in Group or Strip, or the selected Track

•   Creating a copy Playlist for each track in Record Ready Mode, all Tracks in Group or Strip, or the selected Track

•   Recalling a Playlist. A list of Playlists that reference the selected track is presented for recalling.

•   Merging a Playlist with the current content of the tracks. A list of Playlists that reference the selected track is presented for recalling.

Edit Command highlights:

Further **Edit**ing commands are to be found on the main **Edit** menu. **Please see: Edit on page 443**

Undo   Pyramix keeps track of all edit decisions and operations so they can be undone if necessary. This menu item shows the name of the last operation. To undo this operation, simply click on the Undo (operation) menu item and the listed operation will be undone. Whenever an item is undone, it immediately shows up as the most recent item in the Redo list.

Undo History	Pyramix keeps track of the most recent edit decisions and operations and shows them here in a sub-menu. These are listed from the most recent at the top, to the oldest at the bottom of the list. To undo a whole block of operations, click on the name of the oldest operation and everything since that time (from that point in the list to the top of the list) will be undone. The name of the next operation in the list will be shown as the next Undo item, and all the items that have been undone are immediately added to the **Redo History** list. The size of the undo history is set to 32 steps by default, but it can be adjusted in the **All Settings > Settings > Application > General** page.
Redo	If an operation has been undone using the **Undo** commands in this menu, the most recently undone operation will be shown here. To **Redo** the operation, simply click on **Edit > Redo** and the operation will be Redone. Whenever an item is Redone, it immediately shows up as the most recent item in the **Undo** list in this menu. The next edit operation carried out in Pyramix will then purge this item since the operation could cause a conflict with previous operations and therefore renders the **Redo** invalid.
Redo History	Pyramix keeps track of the most recent operations that have been undone, and shows them here in the **Redo History** sub-menu. To **Redo** a whole block of operations, click on the name of the oldest operation and everything since that time (from that point in the list to the top of the list) will be Redone. The name of the next operation in the list will be shown as the next **Redo** menu item, and all the items that have been Redone are immediately added to the **Undo History** list. The next edit operation carried out in Pyramix will then purge this list since the operation could cause a conflict with previous operations and therefore renders the **Redo** list invalid.
Delete	This command deletes the selected clip or region. When a selection is deleted, other material on the track behaves according to the current **Remove** mode setting.
Cut	Cuts the current selection from the project and places it on the Clipboard. When a Selection is **Cut**, other material on the track behaves according to the current **Remove** mode setting.
Copy	Copies the current selection from the project and places it on the Clipboard
Paste>	
Paste to Cursor	Inserts the contents of the Clipboard starting at the current Playhead Cursor position. When the contents of the Clipboard is Pasted, other material on the track behaves according to the current **Insert** mode setting.
Paste Tail to Cursor	Inserts the contents of the Clipboard ending at I.e.before, the current Playhead Cursor position. When the contents of the Clipboard is Pasted, other material on the track behaves according to the current **Insert** mode setting.
Paste Sync Point to Cursor	Inserts the contents of the Clipboard with the first sync point in the Clipboard contents at the current Playhead Cursor position. Depending on where the first sync point is, the material pasted may start, end or straddle the current Playhead Cursor Position. When the contents of the Clipboard is Pasted, other material on the track behaves according to the current **Insert** mode setting.
Paste & Place	Opens the Placement Tool with extensive placement options. **Please see: The Placement Tool on page 128**
Paste to Original TC	If the Clipboard contains a single clip, insert this at its original TimeCode *
Paste to original TimeCode	Works differently with clips and Range Selections. If the Clipboard contains a single clip this will be pasted to its original time code. If the Clipboard contains more than one clip or a selection of a clip or clips this will be pasted to the time code at the beginning of where the selection was made on the next track(s) where there are no clips which would be overwritten.
Paste to End of Selection	Inserts beginning of contents of Clipboard to end of current selection
Fill Selection	This command will substitute the Clipboard contents for the selected clip or region
Replace Selection	This command will substitute the Clipboard contents for the selected clip or region and ripple following clips if there's a length difference

Loop Selection

This command will substitute a loop of the Clipboard contents for the selected clip or region without changing sync on the track. Very useful for extending effects to fit a given space.

Fit Selection

This command allows inserted clips to be fit into specified regions on the Timeline. This requires the Timezone Time compression/Expansion plug-in

Delete and Ripple

Deletes the current Selection forcing a Ripple to occur on all affected tracks.

Cut and Ripple

Cuts the current Selection and places it on the Clipboard forcing a Ripple to occur on all affected tracks.

Paste and Ripple

Inserts the contents of the Clipboard to the current Playhead Cursor position forcing a Ripple on all affected tracks.

Insert Silence

Inserts silence (blank space) into the current selection, forcing a ripple on all selected tracks.

Delete and Join

Deletes the currently selected Clip/Selection and ripples the end of the clip.

Cut and Join

Cuts and saves to the Clipboard the currently selected Clip/Selection and ripples the end of the Clip.

Delete and Ripple to Black

Deletes the currently selected clip/selection and ripples all following butted or cross-faded clips.

Cut and Ripple to Black

Cuts and saves to the clipboard the currently selected Clip/Selection and ripples all following butted or crossfaded Clips.

Stretch

Opens the Stretch plug-in dialog.
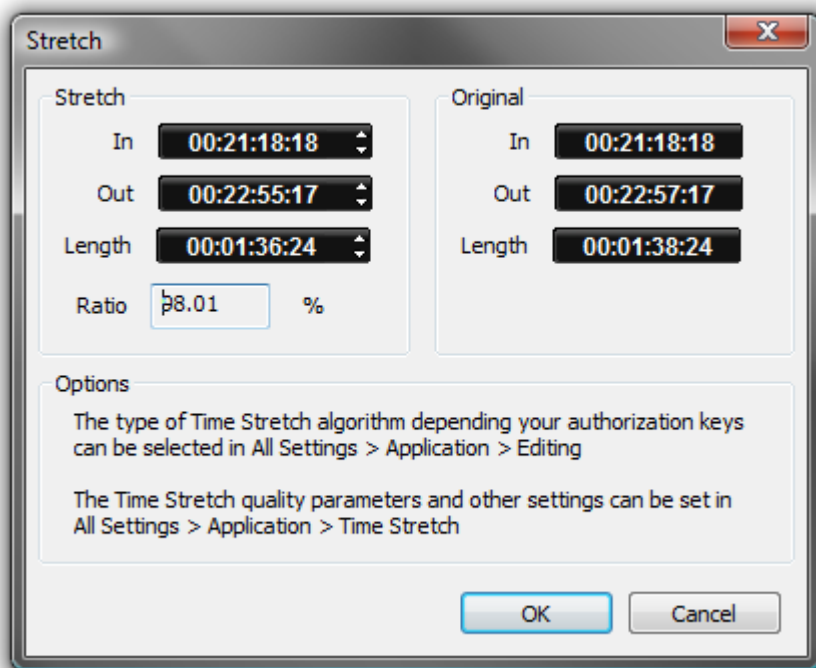
Stretch dialog

The Increment and Decrement buttons allow the In point, Out point or Length of the selection to be adjusted. The **Ratio** of stretch or squeeze is shown as a percentage. Clicking the **OK** button starts the process. **Cancel** aborts.

Depending on the available authorization keys, the Time Stretch algorithm can be selected in:

All Settings > Application > Editing : Time Stretch Tool : Selected combo box

Settings for the chosen algorithm can be made in:

All Settings > Application > Time Stretch > 'Plug-in name' Settings

Normalize   Opens the **Normalize** dialog.
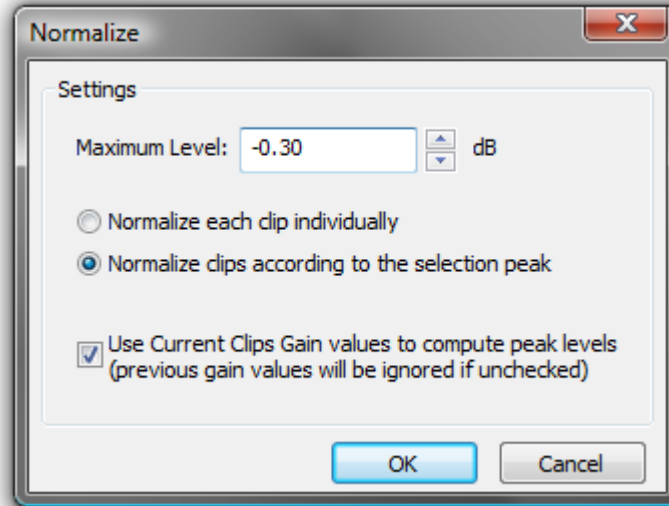
Normalize dialog

The **Maximum Level** can be set by typing or using the increment / decrement buttons. The process can be applied to:

- **Normalize each clip individually**

- **Normalize clips according to the selection peak**

Clicking on **OK** starts the process. The selected **Clip** or **Clips** are examined to locate the highest peak, then the overall gain of the clip(s) is increased so that this reaches the maximum level specified. All other selected Clips are either treated individually or raised in level by the same amount.

When in **Normalize clips according to the selection peak** mode, if the following box is checked:

- **Use Current Clips Gain values to compute peak levels (previous gain values will be ignored if unchecked)**

Then:

MaxPeak of the selection will be computed using the level of clips:

MaxPeak = Max(peak + Level)

DeltaGainToApply = DesiredMaximumLevel - MaxPeak

And then for each clip, of the selection:

Level = Level + DeltaGainToApply

Note: this check-box is grayed out when **Normalize each clip individually** is selected.

Normalize Example:

In this case with Maximum Level = -0.3 dB and "**Use Current Clips Gain values to compute peak levels (previous gain values will be ignored if unchecked)"** selected:

	Peak Level	Original Gain Value	New Gain Value
Clip 1	-18.0	4.0	3.8
Clip 2	-16.0	4.5	4.3
Clip 3	-12.0	-1.0	-1.2
Clip 4	-9.0	-2.6	-2.8
Clip 5	-3.0	1.0	0.8
Clip 6	0.0	-0.1	-0.3
Clip 7	-40.0	2.0	1.8
Clip 8	-20.0	4.2	4.0

Consolidate   Opens the **Consolidate** Project dialog box. **Please see: Consolidating Projects on page 291**

Waveform   Leads to the **Waveform** sub-menu:
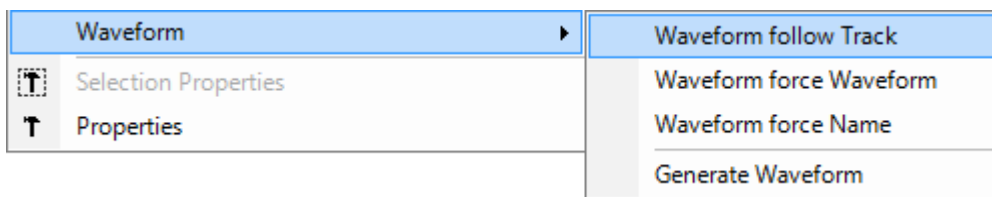
Waveform sub-menu

Follow Track   Clip displays whatever is selected for the entire **Track**.

Force Waveform   Clip displays **Waveform** regardless of the overall Track setting

Force Name   Clip displays Clip **Name** regardless of the overall Track setting

Auto Silence Removal

Edit > Automatic Silence Removal

Automatic Silence Removal operates by scanning the Selection and then automatically editing it into smaller clips by removing regions which fall below the threshold level and meet the 'Minimal Sound' and 'Silence' criteria set in the **Automatic Silence Removal dialog**.
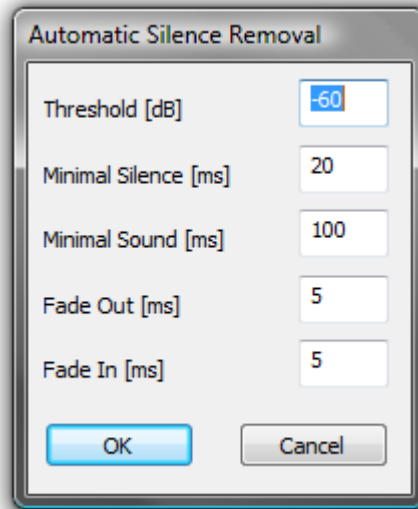
Automatic Silence Removal dialog

> **Note:** This function is non-destructive of the Media file - it edits the Clip by breaking it up into smaller Clips, not by deleting any actual audio from the hard drive.

Threshold [dB]

This field determines the threshold level in dB below which material in the clip will be removed.

Minimal Silence [ms] / Minimal Sound [ms]

Sets the shortest periods of silence and sound which can be created by removing material that drops below the threshold. Some audio material (E.g. speech) contains very short gaps. If all of these were removed, the audio would become too "chopped up". On speech the object of the exercise is usually to break it into areas where speech is present not remove small gaps between words or sentences. Some audio material may have very short transient peaks in the midst of a segment that falls below the threshold. If all of these short transients were created as clips the end result might well sound worse than the original.

The minimum setting is 10 ms and the maximum is 5000ms (5 seconds).

Fade Out [ms] / Fade In [ms]

Sets the length of the automatic **Fade Out** and **Fade In** that will be applied to all new clips created by the **Automatic Silence Removal** operation. The range for this setting is between 5 ms and 500ms (1/2 second).

Once the parameters have been set, click **OK**.

This process takes into account the current **Remove Mode** to determine whether to leave gaps between the newly created clips, or to join or ripple the clips on the track together.

Automatic Silence Removal cannot be executed on cross-faded Clips.

EDL Tab Window

The EDL (Edit Decision List) Window, is a textual and numeric representation of the same information shown graphically in the Timeline and Fade Editor. Changes made here are reflected in the Timeline and vice-versa The list shows information concerning the clips in the form of a list of text or TimeCode fields, most of which can be edited. This provides an alternate way of viewing and editing the composition. To edit a field, click in it to produce a cursor, or drag across the text in the field to select it, then type the desired information using normal text entry procedures. Fields available in the Edit Decision List Panel are:

Field	Description	Editable
Name	Clip Name	Yes
Type	Type of Clip(e.g. audio, video, midi etc.)	No
Dest In	Clip's In time in the Timeline	Yes
Dest Out	Clip's out time in the Timeline	Yes
Fade In	Clip's Fade In length	Yes
Fade Out	Clip's Fade Out length	Yes
Length	Length of Clip in the Timeline	Yes
Source In	Media TimeCode value at Clip's Head	Yes
Source Out	Media TimeCode value at Clip's Tail	Yes
Sync Source	Media TimeCode value at the Clip's sync point	Yes
Track	Name of Track Clip is assigned to	No
Comment	Comments about the Clip from the properties page	Yes

Absolute Sources in EDL View

When **View Sources in EDL View** is checked in the **Settings > All Settings > Application > TimeLine Layout** page, the original **Source In**, **Source Out** and **Sync Point** times are shown in **Absolute Time** in the **EDL** View. Absolute time is the incoming TimeCode recorded at the audio capture. When this mode is disabled, the default start time of TimeCode for the captured clip is 00:00:00:00.

The Placement Tool

Although the **Placement Tool** remains an extremely flexible paste option most important operations are directly available as single commands in the **Edit** menu. All these commands can be mapped to a keyboard key or included in a macro. In most cases, this is a far more efficient way to work.

Several different placement options for a Paste action can be chosen from the **Edit** menu or from the pop-up menu which appears if there is something to be pasted and the cursor is over a track when you right-click E.g. **Paste to Cursor**.
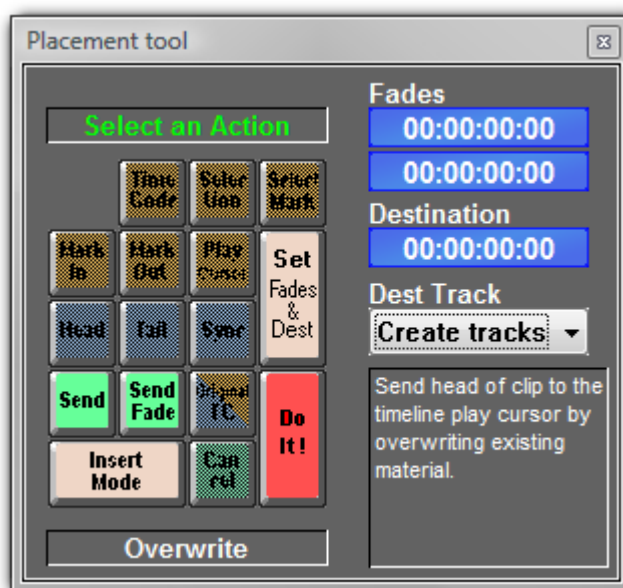
Placement tool floating Window

Open the **Placement Tool** window by selecting **Paste & Place...** from the right-click Paste options above, or choose **Edit** > **Paste Place** from the **Edit** menu.

The **Placement Tool** window allows the user to customize the placement of a **clip** in extremely powerful and flexible ways.

The button layout corresponds to the numeric pad on a standard keyboard.

.Select a **Paste Place** action by choosing amongst the sequence of lit buttons in the window.

For example, you could choose to **Send** the **Sync Point** of a clip to a typed **Time Code** location on a **Destination Track** chosen from a pop-up list; or you could **Send** the **Tail** of a clip to the **Play Cursor**. Nearly every permutation of placement is possible. Whatever action you choose, the results of your choices will be displayed as text in the lower-right corner of the window before you choose to **Do It!**

Remember to choose an **Insert Mode** to determine how the surrounding **clips** will be adjusted when the new **clip** is placed in the **Track**.

Source - Destination Editing

Concept

Source - Destination Editing is a powerful method of viewing and editing material especially applicable to editing multiple, multi-track, takes into one, 'ideal' take. Special Source and Destination Track Groups allow multiple Timelines to be visible simultaneously. Each Source and destination Timeline has its own zoom level and Playhead cursor. By taking advantage of the 'Collapse' feature, editing 48 track source material becomes almost as simple as editing mono or stereo.

Source - Destination editing can also be extremely useful in broadcast and tracklaying applications. Pyramix can have as many clip editors as you wish. Just create some tracks, group them, set the group as a Source. Set the Clip Editor track or tracks as '**always visible**' (in the **Tracks** Tab Window, so each Clip Editor always stays on top of the composition and that's it.

If there is no Destination group in your composition then the section between the Gates in the Source Group/Clip Editor is sent to the positions delineated by the **Mark In**/**Mark Out** on the selected track(s) in the composition.

Setting up a Source - Destination Environment

Templates

The quickest and easiest way to get started with Source - Destination editing is to use one of the supplied **Templates.** Choose the one which most closely matches your requirements, modify to taste and save as a **Template** for future use.

Starting from Scratch

In the Track Groups window, Create as many Source groups as there are alternate versions of the material you are editing and select their type as **Source**.

Tip: Create a Group, select its type as **Source** then choose **Tracks > Duplicate Selected Track Group** repeatedly until you have the required number of **Source** groups.

Create as many Destination groups you want to edit to (generally only one) and select its (their) type as **Destination**.

Create as many **Tracks** for each source take as you need for your editing and associate a **Group** to each of them.

Set these groups as Keep Cursor, Free Zoom, Auto-Solo and No Selection.

Select the option "Auto Select Tracks" in the Tracks menu. **Tracks > Auto Select Tracks**

Show the Source - Destination Toolbar, **View > Scales > Toolbars > Source - Destination**.

You are now ready to proceed with the Source - Destination Editing the following manner:

Source and Destination Groups have special markers called **Gate In** and **Gate Out** which can be set, nudged and auditioned:

Set the selected Track Group Gate In/Out of the selected Track Group to Cursor with the menu **Cursor & Marks > Gate In/Out to Cursor**

To remove a Gate set it again in the same position.

Gates can be dragged with the mouse by clicking on them and moving.

Gate colors:

By default, **Gates** are displayed in **Grey**.

The **Source Gates** currently selected for the next edit operation are displayed in **White**.

The **Destination Gates** currently selected for the next edit operation are displayed in **Black**.

The current Source and Destination Gates for the next edit operation are the selected group Gates or if no groups are selected the last group where Gates have been set/removed/modified.

In 3 point editing, the "virtual" missing gate of the group that has only one gate set is displayed in Grey.

Set the Cursor to the selected Track Group Gate In/Out

Cursor & Marks > Cursor to Gate In/Out

Zoom to the selected Track Group Gate In/Out.

Cursor & Marks > Show Gate In/Out

Nudge the selected Track Group Gate In/Out with the menu selection

Cursor & Marks > Nudge Gates > Nudge Gate In/Out to Left/Right.

Each nudge operation can be auditioned automatically by setting **'Audition**

after Nudge' in the **Settings > All Settings > Application > Editing** page

Audition the selected **Track Group Gate In/Out Pre/Through/Post** with the

menu selection: **Machines > Internal Machine > Audition > Audition Gate In/Out**

Pre/Audition/Post.

The space between **Gate In** and **Gate Out** can be selected with the menu

Selection > Select between Gates.

Positions of **Gate In** and **Gate Out** for each selected groups can be displayed and manually modified with the **Source-Destination Toolbar** (If not already visible show with **View > Scales > Toolbars > Source-Destination**)

Once Gates In and Out have been set, Source - Destination operations can be applied FROM either the selected Source Track Group or the last Source Track Group whose Gates have been set TO either the selected Destination Track Group or the last Destination Track Group whose Gates have been set.

Both Source and Destination Gate In and Gate Out can be set or removed

(by setting them twice at the same position) to perform any combination of Source - Destination editing operation described in the table below.

When Gates are set the following Source-Destination operations available in the Edit menu can be applied:

- Auto-Edit Source to Destination
- Overwrite Source to Destination
- Insert Source to Destination
- Replace Source to Destination
- Fit Source to Destination

When the Source has only 1 Gate then the region to edit can be automatically adjusted to the end (or beginning in case of a single Gate Out) of the clip under the Gate when the edit operation is performed. This is available by choosing the menu item:

Edit > Source – Destination Settings > Limit 1 Gate Sources to End/Beginning of clip.

When the Source has 2 Gates set and the Destination has 1 Gate set, then the behavior of the Auto-Edit Source to Destination operation can be chosen between Overwrite or Insert by choosing the menu item:

Edit > Source- Destination Settings > 3 Gates Auto-Edit does Overwrite/Insert

The menu item:

Edit > Source - Destination Settings > Auto Set Destination Gate In after Edit

allows the Destination Gate In to be set to the previous Destination Out point after any Source-Destination operation. This automatically prepares the Destination for the next operation. The Destination is also automatically centered around the new Gate In.

The menu item **Edit > Source - Destination Settings > Auto Set Destination Gate In after Edit** allows the Destination Track Group to be automatically selected after any Source-Destination operation.

All these operations works independently of the Auto-Ripple mode (they have their own overwrite/ripple modes described in the table on the next page) but follow the Auto-Crossfade settings accessible in the menu **Edit > Auto-Crossfade**.

Keyboard Shortcuts
Most **Source - Destination** operations are available as **Keyboard Shortcuts.**

2,3 and 4 Point Edits

Source-Destination operations	Source Gate In OR Gate Out Only	Source Gate In & Gate Out
Destination Gate In OR Gate Out Only	**Auto-Edit:** Performs **2 points** editing by doing the following **Overwrite** operation. **Overwrite:** Copies material **FROM** Source Gate In to the end of the Track or from start of Track to Gate Out **TO** Destination Gate In or Destination Gate Out by overwriting Destination material	**Auto-Edit:** Performs 3 point editing by doing the following Overwrite or Insert operation depending which one is selected in the menu **Edit > Source-Destination Settings**. **Overwrite:** Copies material between Source Gate In and Source Gate Out to Destination Gate In or Destination Gate Out by overwriting Destination material **Insert:** Copies material between Source Gate In and Source Gate Out to Destination Gate In or Destination Gate Out by rippling Destination material
Destination Gate In & Gate Out	**Auto-Edit:** Performs 3 points editing by doing the following **Overwrite** operation. **Overwrite:** Copies material from Source Gate In or Source Gate Out to Destination Gate In and Gate Out by overwriting Destination material	**Auto-Edit:** Performs 4 point editing by doing the following **Replace** operation. **Overwrite:** Copies material between Source Gate In and Source Gate Out to Destination Gate In by overwriting Destination material. **Insert:** Copies material between Source Gate In and Source Gate Out to Destination gate In by rippling Destination material **Replace:** Replaces material between Destination Gate In and Gate Out by material between Source Gate In and Source Gate Out by rippling the Destination material **Fit:** Replaces material between Destination Gate In and Gate Out by material between Source Gate In and Source Gate Out by stretching or squeezing the Source material

Fade Editor
9

Pyramix
DIGITAL AUDIO WORKSTATION

Fade Editor Tab Window

The Pyramix Fade Editor offers several methods for creating fades and cross-fades. Fades can be made graphically by simply clicking and dragging appropriate points on the display or by using a specialized set of faders and buttons or by directly entering numeric data. A comprehensive set of auditioning options is provided together with libraries for user defined fade shapes and fades.

The Fade Editor always displays the fades for the current selection in the main Editor. The nearest fade to the click point is automatically selected.:
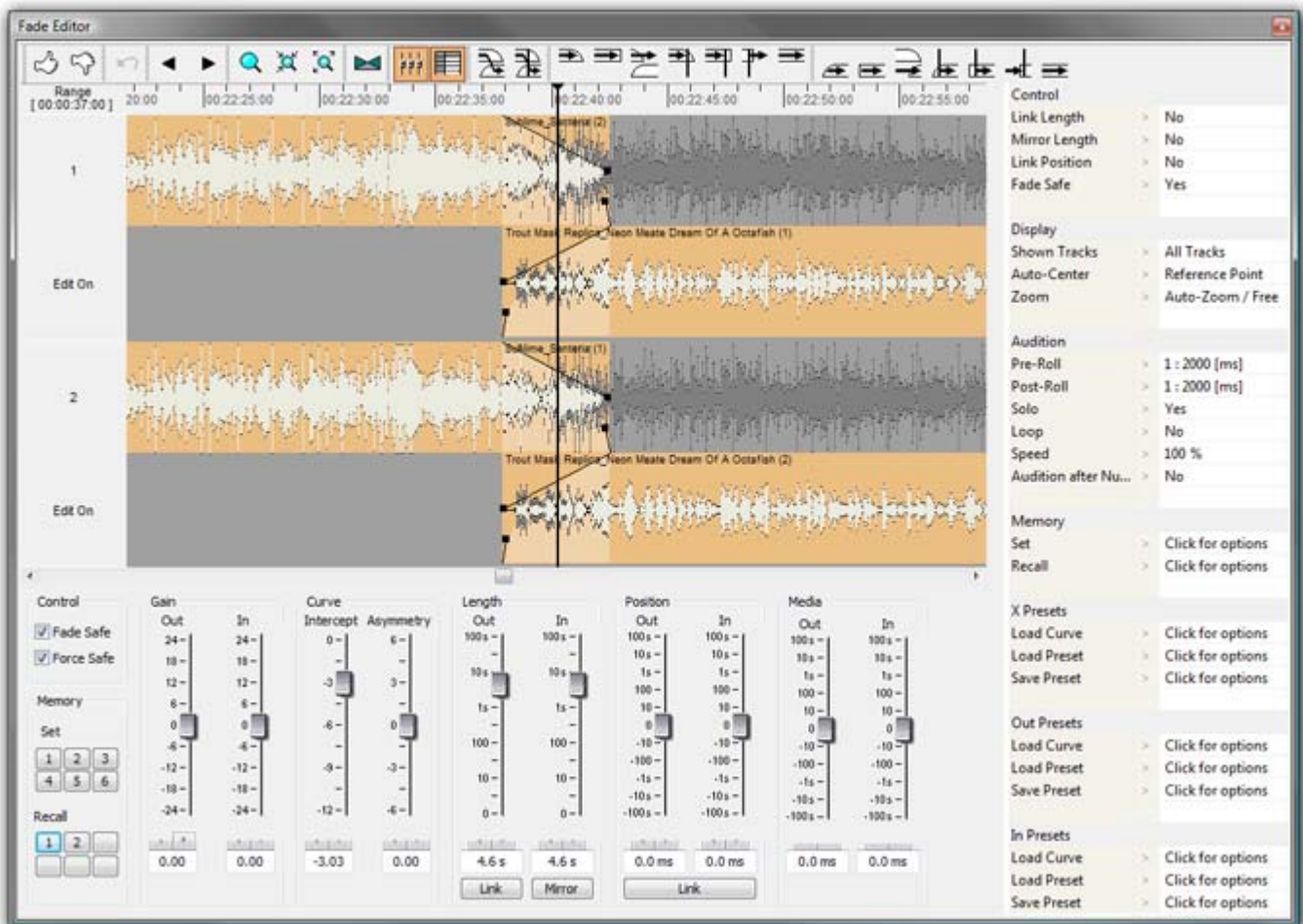
Fade Editor Tab floating Window

Toolbar

Contains these buttons:

Accept & Close Editor (Close the Fade Editor and keep the changes, in effect an 'OK' button)

Restore & Close Editor (Restore the fade to its state prior to opening the Fade Editor or selecting a new fade, effectively a Cancel button)

Undo last fade change

Select/Edit Previous Fade

Select/Edit Next Fade

Zoom around the current Fade (Reset Zoom)

Zoom In

Zoom Out

Xify (Reset the current fade to a standard Power X fade)

Show/Hide Faders & Control Section

Show/Hide Parameters & Options Section

Audition whole X Fade with Pre-Roll and Post-Roll set before and after the X Fade boundaries

Audition whole X Fade with Pre-Roll and Post-Roll set around the Reference Point

Audition Fade Out up to its End with Curve

Audition Fade Out up to its End without Curve

Audition after the End of Fade Out

Audition Fade Out up to the Reference Point with Curve

Audition Fade Out up to the Reference Point without Curve

Audition after the End of Fade Out from the Reference Point

Audition Fade Out without stopping at its End

Audition Fade In from its Start with Curve

Audition Fade from its Start without Curve

Audition before Start of Fade In

Audition Fade In from the Reference Point with Curve

Audition Fade from the Reference Point without Curve

Audition before Start of Fade In from the Reference Point

Audition Fade In before its Start

The Graphical Display

Consists of the following elements:

- The TimeCode scale displaying the Zoom range on its left.

- A Reference Point which is set by default at the edit point or in the middle of the (X) Fade. This marker can be moved by clicking in the TimeCode Scale and is just a Reference Point for Auditioning (see above) or for Auto-Center (see below)

- All tracks or a selection can be displayed (see Parameters & Options below)

- At the left of each track display The Track name of each clip is shown, with a toggling **Edit On/Off** selector. This allows one or more Clip's/Fades to be excluded from further modification.

- A Vertical Scrollbar navigates through hidden tracks if any

- An Horizontal Scrollbar navigates before and after the Fade position

- The outgoing and incoming clip fades are displayed with curves

  - The Fade Position can be moved by clicking and dragging within the Fade area (Cursor changes to hand)

  - The Fade Length can be changed by clicking and dragging on the left or right side of the Fade area. (cursor changes to **<|>**)

  - The Media of the clips can be moved by clicking and dragging outside the Fade area. (Cursor changes to hand with tape reel)

  - The Fade Curves can be modified by clicking and dragging on the Bezier Control Point Handles in the Fade black box

Waveform Color Change

The waveform color can be used to indicate where the main Playhead Cursor is in relation to the **Reference Point**. When the **Update waveform color with cursor position** checkbox is ticked in **Settings > All Settings > Application > Editing : Fade Editor** the waveform(s) color will change to the color chosen in **Settings > All Settings > Application > TimeLine Layout : Clips & Waveforms - FadeEditor Waveform Position Color** according to the location of the main Playhead Cursor and the **Reference Point** (default is centre of crossfade)

Context Menu

Right-clicking in the graphical display pops-up a context menu:

Fade In	▶
Fade Out	▶
X Fade	▶

The **Fade In**, **Fade Out** and **X Fade** sub-menus offer choices of **Default** (complete or Curve Only), **Standard**, (any of the standard fade curves) and **Load** (from the list of previously saved presets)

The Faders & Control Section

Has the following controls and displays:

- The **Fade Safe** check box in the Fader section ensures (when checked) that all following fades to the right of the one being edited are left intact while editing the current fade. This enables Auto-Ripple to be used without **Auto-Ripple** while keeping Fade synchronization clean.

- When the **Force Safe** box is checked the Fade Editor forces **Fade Safe** to enabled after each edit change.

- Six **Memory Set** and six **Memory Recall** buttons store and recall all the settings in the **Fade Editor**. The recall buttons are only numbered when there are stored parameters to recall.

- **Gain** Faders, Nudge buttons and Manual Entry Value Box (in dB) for both **Fade Out** & **Fade In**

- **Intercept** and **Asymmetry** Faders, Nudge buttons and Manual Entry Value Box (in dB)

- **Length** Faders, Nudge buttons and Manual Entry Value Box (in milliseconds. Type an **s** after any numeric entry to obtain a value in seconds) for both Fade Out & In

  - Length of Fade Out & In can be linked by clicking the **Link** button

  - Length of Fade Out and In can be changed symmetrically (centered) by clicking the **Mirror** button.

- **Position** Faders, Nudge buttons and Manual Entry Value Box (in milliseconds, type an s after any number entry for a value in seconds) for both Fade Out & In

  - Position of Fade Out & In can be linked by clicking the **Link** button

- **Media Position** Faders, Nudge buttons and Manual Entry

- **Value** Box (in millisecond, type an s after any number entry for a value in seconds) for **Fade In**

Parameters & Options Section

In this table parameters and options may be modified by clicking on **>**.

There are these sections and fields:

Control
- Link Length (see above)

- Mirror Length (see above)

- Link Position (see above)

- Fade Safe (see above)

Display
- **Shown Tracks** offers these choices:

  - **All tracks**

  - **Follow TimeLine Display**

  - **Choice of tracks**. The number of tracks selected in the TimeLine controls the available choices. So, if 4 tracks are selected, there will be the option of 1, 2, 3, or 4 tracks

- **Auto-Center**, enables automatic re-centering of the display around the Fade or Reference Point after certain operations

  - **None**

  - **Fade**

  - **Reference Point**

- **Zoom**, can be one of the following:

  - **Free**, follows only Zoom Reset, In and Out

  - **Auto-Zoom**, automatically Zooms around the current Fade after some operations

  - **Auto-Zoom / Free**, automatically Zooms around the current Fade but only when it enters the Fade Editor, thereafter, the Zoom is Free

  - **Timeline**, follows the Timeline Zoom factor

  - Choice of User defined Zoom Presets (see menu **View > Zoom**)

Audition

- **Pre-Roll** from the choices defined in the **Settings > All Settings Application Playback/Record** Page

- **Post-Roll** from the choices defined in the **Settings > All Settings Application Playback/Record** Page

- **Solo**, when **On** only the edited tracks are auditioned, when **Off** all tracks of the composition are auditioned as well

- **Loop**, any audition operation is repeated until Stop is pressed

- **Speed**, allows choice between 100%, 50% and 25% of normal play speed for auditioning

- **Audition after Nudge**, to automatically audition the Fade after nudging any parameter

Memory

- **Set**, allows saving up to 6 temporary Fades for comparison

- **Recall**, allows recall of one of the 6 temporary saved Fades

X Presets / Out Presets / In Presets

- **Load Curve**, allows loading the Curve **SHAPE** only from a choice of:

    - **Default**

    - **Power**

    - **Linear**

    - **dB**

    - **Cosine**

    - **Root-Cosine**

    - Any **User-defined** curves

- **Load Preset**, allows loading a Fade from a choice of:

    - **Default** Fade

    - Any user defined Fades

- **Save Preset**,

- **Default** Fade

- New opens the Save X Fade or Save Fade pop-up dialog box (See below)

Save X Fade
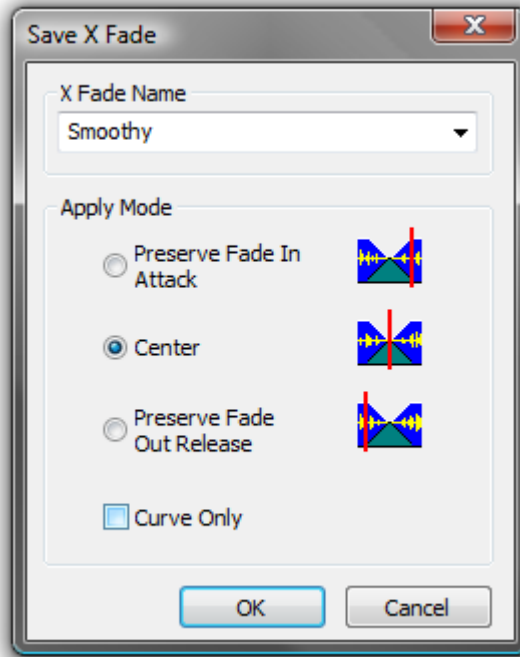
Save X Fade dialog

The dialog box opens with the cursor in the **X Fade Name box**. Simply type a name for the new preset or choose an existing one to over-write using the dropdown list. Choose appropriate options and click **OK** or hit the **Enter** key to save the preset.

Apply Mode Options

A number of options are provided which affect the way the Fade will be applied when recalled.

Curve Only

When this box is checked only the curve shape will be recalled and applied to the overlapping tracks for the duration of the existing cross-fade. If left unchecked, the original duration and positions of the start, end and reference point will also be applied to the existing cross-fade.

Preserve Fade In Attack

Fade will be aligned to the left, relative to the edge of the clip, when recalled.

Center

Fade will be centered, relative to the edge of the clip, when recalled

Preserve Fade Out Release

Fade will be aligned to the right, relative to the edge of the clip, when recalled.

Save Fade
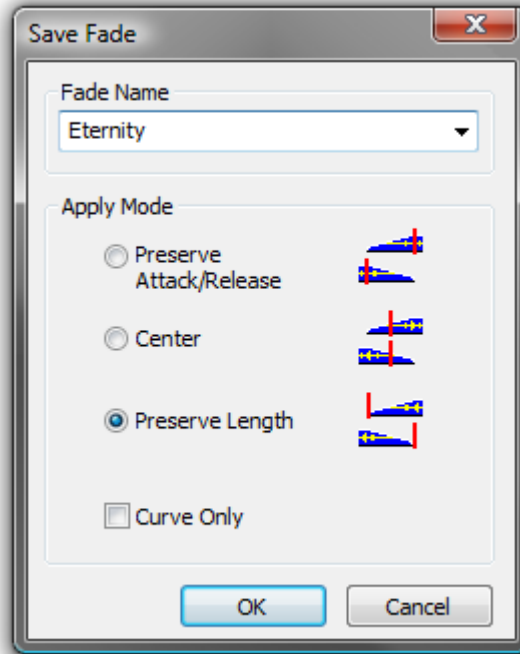
Save Fade dialog

The dialog box opens with the cursor in the **Fade Name box**. Simply type a name for the new preset or choose an existing one to over-write using the dropdown list. Choose appropriate options and click **OK** or hit the **Enter** key to save the preset.

Apply Mode Options

A number of options are provided which affect the way the Fade will be applied when recalled.

Preserve Attack or Release

Center

Preserve Length

10

Mixer

Pyramix
DIGITAL AUDIO WORKSTATION

Overview

The Pyramix Mixer has evolved into an extremely powerful tool kit. The extensive range of components and the routing and automation possibilities can be a potential source of confusion. However, the basic principles are simple and logical. Signals enter mixer strips at the bottom, go through various controls and processing to the top of the strip where they are routed to a bus or buses. The buses run horizontally and the sum of the bus signals enters the bus master strip at the top and moves down through a master fader and other controls to the output(s).

Native VS3, VST and External Insert plug-in effects can be inserted in Input Strips, Aux Send Bus masters, Sub-Groups and Mix Buses.

> **Note:** For low latency foldback when recording an artist the Direct Monitoring Strip type should be used.

The mixer can also take the output from an ASIO enabled application and merge it into the MassCore engine and I/O and send audio to the ASIO enabled application.

If you are new to Pyramix, please use one of the simpler mixer templates to become familiar with the basic features. E.g. **Mix 08 X 02 (Stereo)**

Aux v SubGroup

In Pyramix **Aux** buses are intended solely for foldback purposes. They are not intended to be used as a means of applying effects, internal or external, to a collection of sources, with the bus output re-routed back to an input strip. Effects can however be inserted into **Aux** buses in order to enhance the artists experience.

SubGroup buses are intended to be used as conventional sub-groups and, of course, can have internal VS3 and VST effects inserted and or external inserts.

Using **SubGroup** buses for mix effects ensures that the full automatic (and manual) delay compensation features will function correctly.

Mixer Pages

The Mixer user interface is arranged in five pages grouping functions in a logical manner. Most time will be spent working in the main **Mix !** page. The other pages, **Automation**, **Configure**, **Route** and **Organize**, toggle with the **Mix !** screen and are accessed from buttons at top right of the screen...

Configure Page
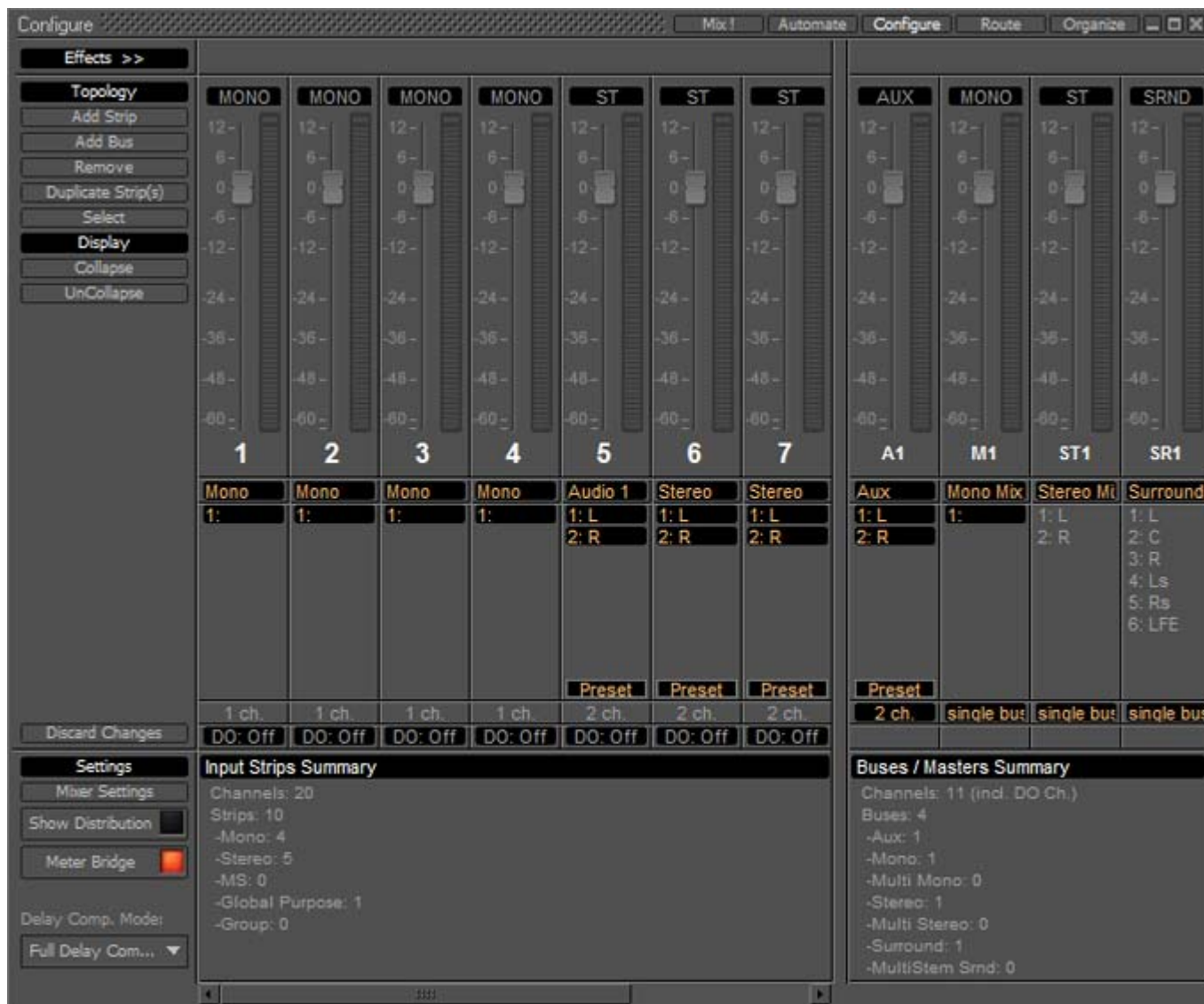
Mixer Configure Page

In the **Configure** page multiple changes may be made to the mixer without it rebuilding after each change. The rebuild only occurs when you exit the page.

Settings

Mixer Settings

Opens the **Mixer Settings** window at the **All Settings > Misc > Mixer Settings** page.

Show Distribution

When on (lit), a narrow colored bar is inserted at the bottom of each input strip. This indicates which card (in a multi-board system) is providing the DSP for the strip.

Meter Bridge

When turned on (lit) the **Meter Bridge** Window is available to be opened from **View > Windows / Tools > Meter Bridge** or the Toolbar icon. **Please see: Meter Bridge on page 211**

Delay Comp Mode

Drop down list menu:
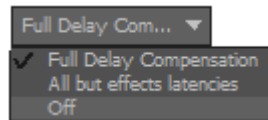
Offers the choice of **Full Delay Compensation**, **All but effects latencies** and **Off**.

Please see: Mixer Delay Compensation on page 173

Mixer Configuration Summaries

The two panels at bottom right summarize the current mixer configuration. **Input Strip Summary** lists the total number of Channels and Input Strips and the quantity of each type. **Buses / Masters Summary** lists the total number of bus channels and buses strips with the quantity of each type.

> **Note:** Rebuilding a large mixer with many effects can take some time.

Click and drag the separator bar between Strips and buses to show more or less buses. The scroll bars give access to strips currently off screen.

Direct Outputs

The **Direct Out** connection is disabled by default. It can be enabled in the **Configuration** Page by selecting the strip and clicking on the **DO: Off** box or disabled if the box shows **DO: On**. Alternatively Direct Out can be set in the **Route** Page by clicking on the Strip Header.

The **Direct Out** can be routed by Channel to any output of the HDTDM or XDTDM bus. The Direct Out can be sent Pre or Post Fader. Click on the **DO: Post** box in the Mixer I/O section to toggle. The Direct Out is currently always **Post Effects**. For multi-channel strips clicking in the box above the **DO:** box pops-up a **Set Direct Out** list:

Set Direct Out

Highlight the required channel. This will be fed to the logical output assigned in the **Mixer Route** page or by clicking on the **DO** XLR icon in the **Mix** page.

Selecting Strips

Strips can be selected by clicking on the label at the top of the strip which turns orange to show it is selected. Selection uses the conventional modifier logic: Clicking a second strip while holding **SHIFT** selects all strips in between and strips can be individually added or subtracted from a selection by clicking with the **Ctrl** key held down. **Ctrl + A** selects all strips. Strips can be selected by type using the **Select** context menu.

Strip and Bus operations

Once selected, strips can be dragged and dropped to reorganize. Other strip operations make use of the **Topology** and **Display** menu buttons. Each button pops up a list of options:

Topology and Display menus

Add Strip - Mono, **Stereo**, **MS**, **GPS** and **Group** pops up a dialog with appropriate options:
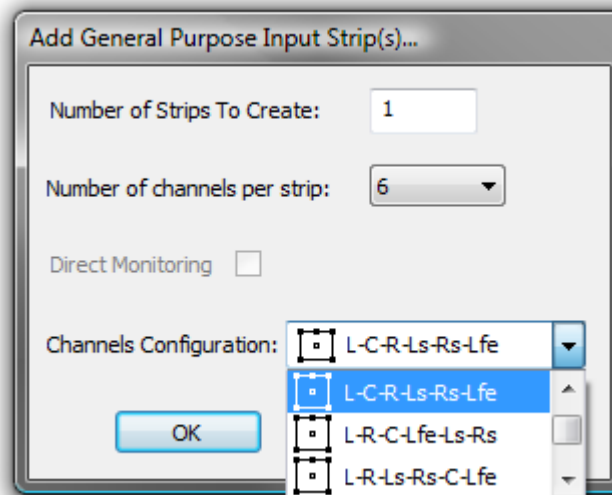
Add General Purpose Input Strip(s) dialog

Note: Notice the **Direct Monitoring** checkbox. (Grayed out in this case because it is only applicable to Mono, Stereo and MS Strips). When checked, the strip added will be a Direct Monitoring Strip. **Please see Direct Monitoring Input Strips on page 157**

Add Bus - Mono Mix, Stereo Mix, Surround Mix, Aux Send and **SubGroup** is similar:
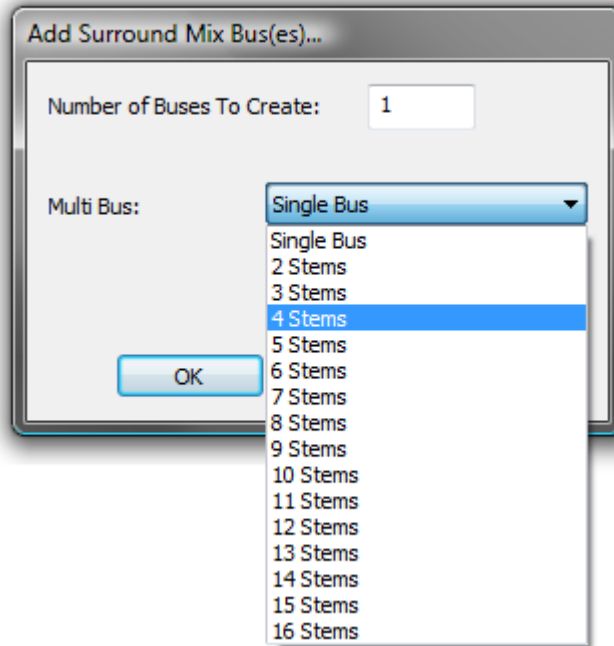
Add Surround Mix Bus(es) dialog

Duplicate Strip(s) adds a copy of the selected strip(s) to the right of the selected strip(s) including settings (pan, gain etc.) and effects.

Select Offers selection choices to speed up configuration.

All Strips

All Buses

All Mono Strips

All Stereo Strips

All GPS Strips

All Group Strips

Productivity Shortcuts

Ctrl + A selects All Strips, **DEL**ete, deletes all selected strips.

Selected Strips can be dragged to a new location in the mixer. The screen scrolls horizontally when you hit the edges of the Strip panel.

Double-clicking a Strip toggles it's collapsed/uncollapsed states.

Strip names can be edited by clicking in the name box and typing. **Tab** moves to the name box of the next strip to the right, **SHIFT + Tab** moves to the name box of the next Strip on the left.

Effect Management

Clicking on **Effects >>** expands the Effects section.

Configure Page - Effects section

This offers several methods of managing effects on strips and buses.

Configure: Effects Buttons

Add   Pops up a sub-menu with options
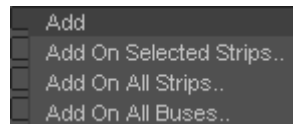
Add On Selected Strips..

Add On All Strips..

Add On All Buses..

Each of these three options opens an **Add Effect On XXX** dialog, identical apart from the title
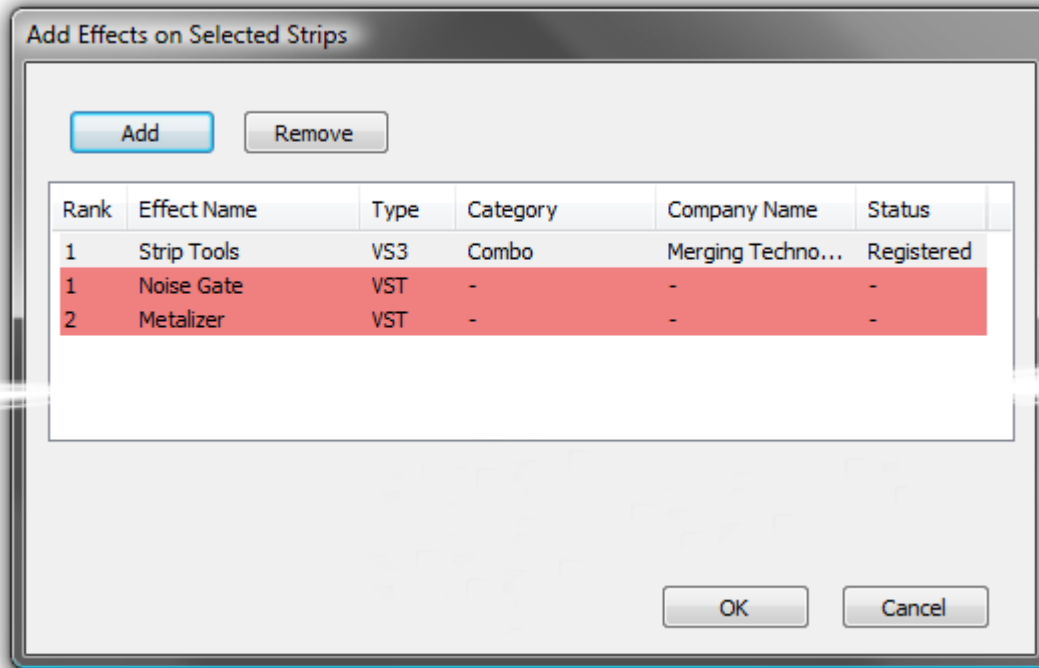
Add Effects On Selected Strips dialog

Note: That the different types of effect are shown by color. Pale Gray for VS3 and Red for VST. These colors are also used when effects are shown in containers in the Strips display.

Remove   Pops up a sub-menu with options:
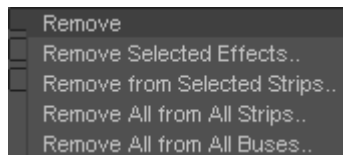
Remove Selected Effects..

Remove From Selected Strips..

Remove All From All Strips..

Remove All From All Buses..

Move Up   Moves the selected effect(s) up in the list.

Move Down   Moves the selected effect(s) down in the list.

Effects Section Containers

The Effects section of each strip is divided into two container areas by plug-in type, **VS3** at the top and **VST** below. Clicking on the **Click to Add** buttons in each container pops-up a list of available plug-ins in the relevant format sub-grouped by type. E.g. Dynamics, Restoration etc. Simply select from the list by clicking on an entry to install the plug-in in the Strip. When a Strip or Bus has many effects, the container expands to accommodate them.

Shift Order

You can change the order of the VS3 and VST containers by clicking on the **Shift Order** buttons below the containers.

Selecting, Copying and Moving Effects

You can select an installed effect with a **left-Click** then **drag and drop** to move or **Ctrl + drag and drop** to copy effects of the same type to a Strip or Bus of the same dimensions or change the order of effects within the effect type container of the strip. **SHIFT + Click**ing a second effect with an effect already selected, selects all effects between the first and last selected. **Ctrl + Click** adds to selection.

Right-clicking on an installed plug-in pops-up a context menu, for example:
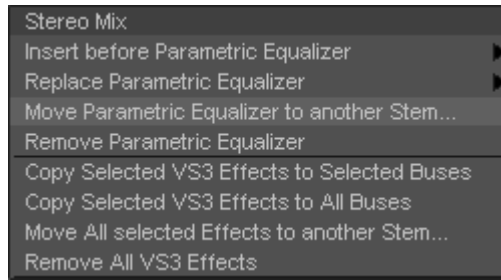
Effect context popup

Insert before (effect clicked on)   **>** drops down a list of effects of the same type that can be inserted before current the effect.

Replace (effect clicked on)   **>** drops down a list of effects of the same type that can replace the current effect. **Double-Click**ing an installed effect does the same thing.

Remove (effect clicked on)   Uninstalls the current effect from the Strip or Bus

Move (VS3 Effect clicked on) to another stem
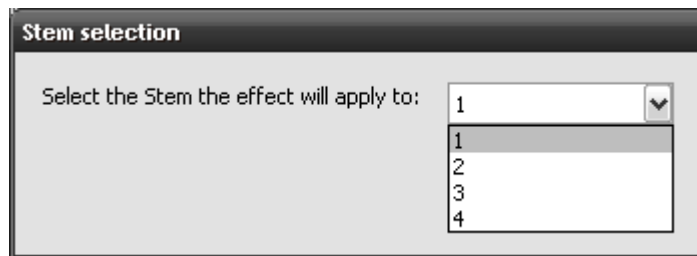
Pops up a dialog with all available stems for this bus. (Only present when the Effect is in a Multi-Stem Bus) The Iteration and Stem numbers are then shown on the Effect:

Thus **1-3** means Iteration **1** on Stem **3**

Copy Selected (Effect type) Effects to selected strips As it says. Target strips can be selected before or after selecting the effect(s)

Copy Selected (Effect type) to All Strips   As it says.

Remove All (Effect type) Effects   Removes all effect of the current type clicked on from the Strip.

Remove All Effects   Removes all effects of all types from the current Strip.

Copy All Effects to All Strips   Copies all the effects installed in the current Strip to all other Strips.

Copy All Effects to Selected Strips   Copies all the effects installed in the current Strip to all selected Strips.

External Effects Inserts

External Inserts are added in the same way as VS3 Effects. Click on **Click to Add** and choose **Other > External Insert**

Organize Page

Here, Mixer Presets and Settings can be managed:
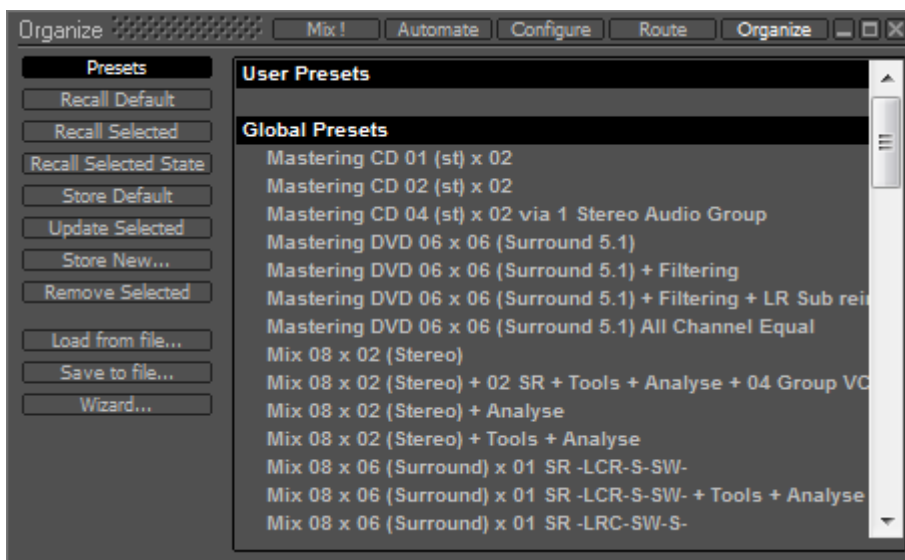
Mixer Organize Page

Presets

Storing and Recalling Mixer Presets

Mixer Presets can be saved in a user folder or added to the main Mixer Preset list either for the current user or all users.

Default Mixer

To Save the current Mixer setup as the default Mixer, select **Store Default**.

Storing New Mixer Presets

To add a preset to the main list of available Mixer presets I.e. the list which appears when starting a new project, **Store New…** and enter a name for your Mixer Preset. If the **Global** box is checked then the preset will be available for any user logged on the current machine, if not the preset will be available only for the user that created the new preset.

Removing Mixer Presets

To remove a preset from the main list, select it and click on **Remove Selected**. The **Remove Preset** dialog box appears with OK and Cancel options.

Updating Mixer Presets

To update a Preset with the current settings, highlight it in the list and select **Update Selected…** the **Update Preset** dialog appears asking if you wish to replace the 'current preset'. Choose **OK** or **Cancel**.

Recall Selected State

This option recalls parameters, panning, levels etc. from a saved mixer preset and applies these to the current mixer.

> **Note:** This only applies to strips and effects common to both configurations. If the current mixer does not have the same plug-ins etc. non-coincident items will be ignored. similarly if you recall the state of a 100 strip mixer to a 10 strip mixer the last 90 strips are ignored.

Saving / Loading Mixer Presets to / from files

Mixer Presets can also be stored in Windows folders. Select **Load from file…** or **Save to file…** as appropriate. A Windows Explorer window opens enabling a previously saved Mixer Preset to be loaded or the current Mixer Preset to be named and saved to any Windows folder.

Wizard...

Opens the **Configuration Wizard** Window

Route Page

Route brings together all routing to and from physical I/O in an intuitive matrix routing grid environment. It opens in the **Strips Input** page:
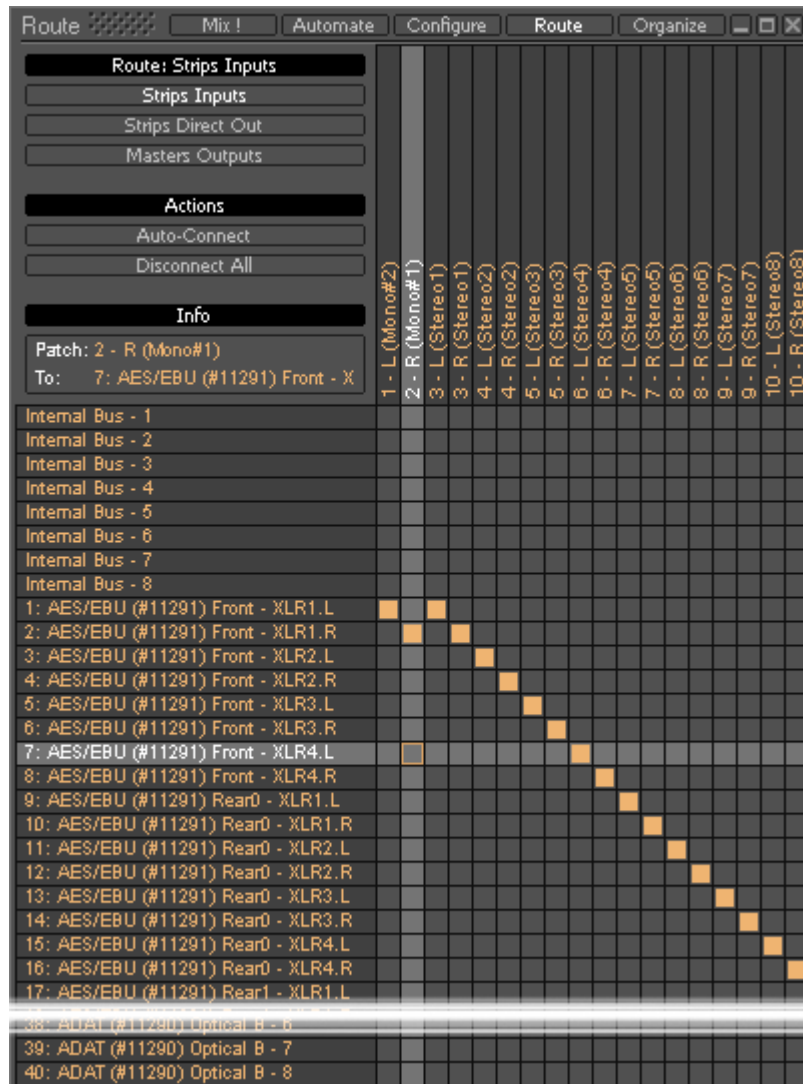
Mixer Configure Page

Strips Direct Out and **Masters Outputs** are similar.

Making Connections

When the cursor is hovering over a destination crosspoint the column and row are highlighted for ease of viewing. If the cursor is over a crosspoint which is part of a multichannel strip or bus the other channels in the group are also dimly highlighted. In **Strips Inputs** clicking on a crosspoint routes the source in the left hand column to the destination in the top row. In **Strips Direct Out** and **Masters Outputs** sources are horizontal and destinations vertical. Clicking and dragging allow multiple assignments to be made rapidly.

Right-clicking a crosspoint pops-up a context menu with options appropriate to the destination.:
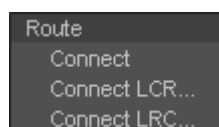
Auto-Connect

Connects all the **Strip Input Channels** to physical inputs in ascending order.

Disconnect All

Removes all crosspoint assignments.

Info

The **Info** box shows detail about the currently highlighted crosspoint.

Automate Page

UNDER CONSTRUCTION

Mix !

Basic Mixer

Automatic Delay Compensation
Indicator / Button

Stereo Bus
pop-up

Effects
pop-up

Gain
pop-up

Mixer Global
Indicators/buttons

Mute
pop-up

I/O
pop-up
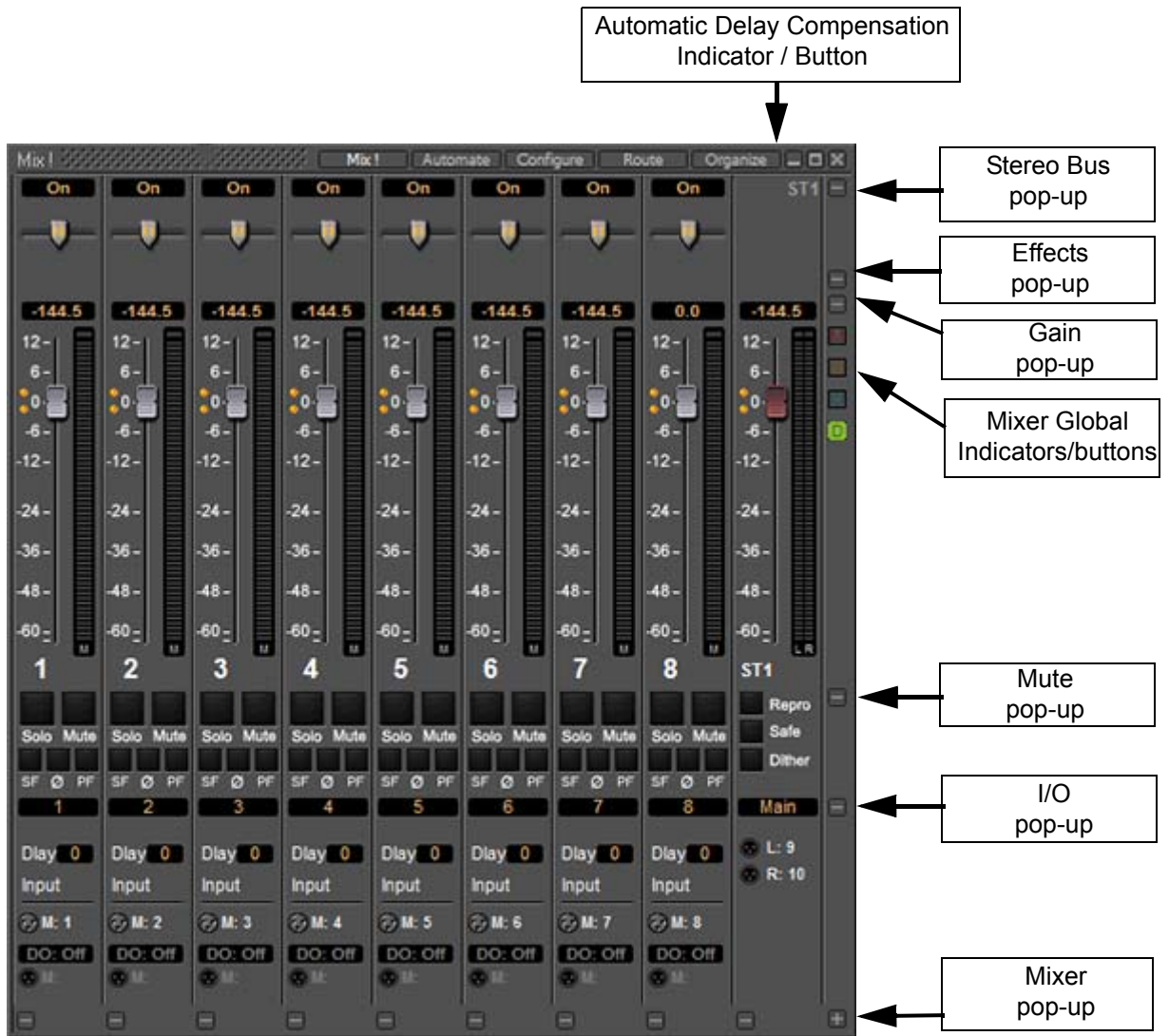
Mixer
pop-up

Simple 8 X 2 stereo mixer Window with all areas visible

Expand / Collapse

The small, grey **+ -** boxes on the right of the mixer surface toggle horizontal areas of the mixers surface shown full size or collapsed. They also pop-up context menus when the cursor is above them. (see below) Expand / Collapse and Hide can reduce clutter by concealing unused controls. This is the same mixer with all areas Collapsed:

Simple 8 X 2 stereo mixer Window with all areas hidden

Each **+ -** box also pops-up a menu relevant to the area of the mixer it deals with when the cursor is above it. E.g. :
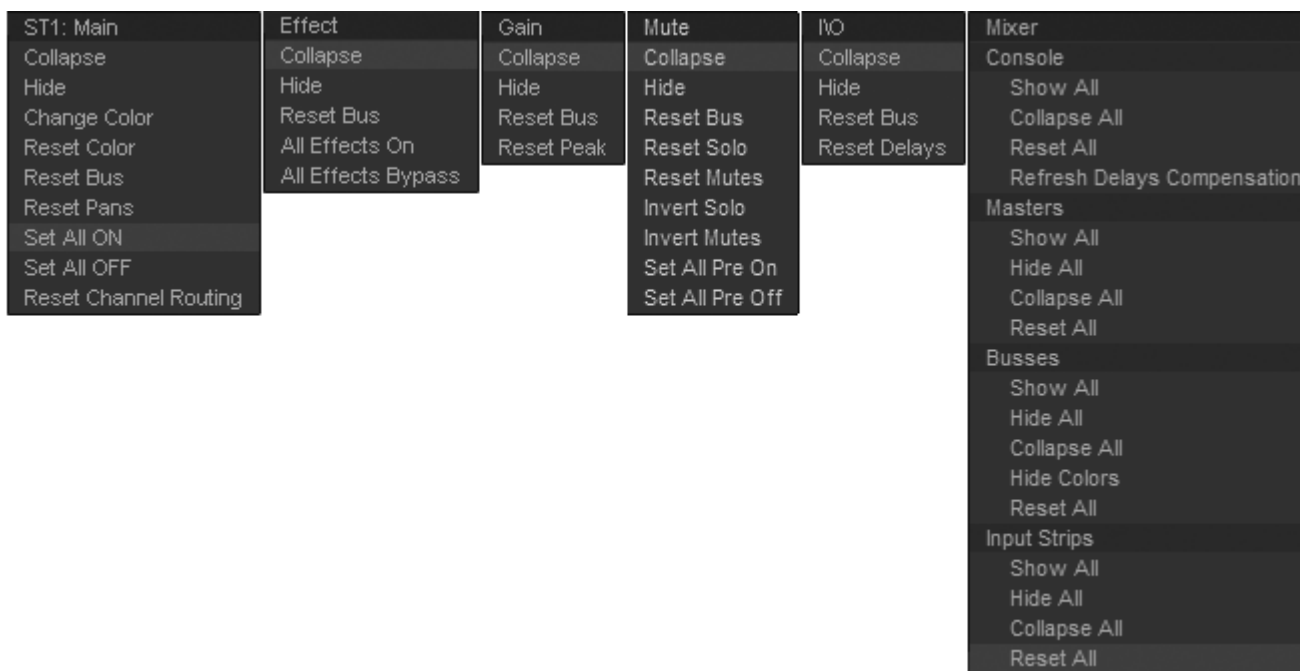
Simple 8 X 2 stereo mixer + - pop-up menus

Collapse/Hide

Choosing **Collapse** leaves a small artefact of the mixer area visible, a gray horizontal bar with a **+** box at the right-hand side. **Hide** completely removes the area from view. Choosing **Show All** in the **Mixer + -** pop-up will restore.

Resets

These context menus also provide a convenient way to restore all controls of specific types or, in the relevant sections, the entire strip or mixer to the default condition.

Bus + - context menus

The precise content of this pop-up depends on the type of bus and whether there are multiple stems:
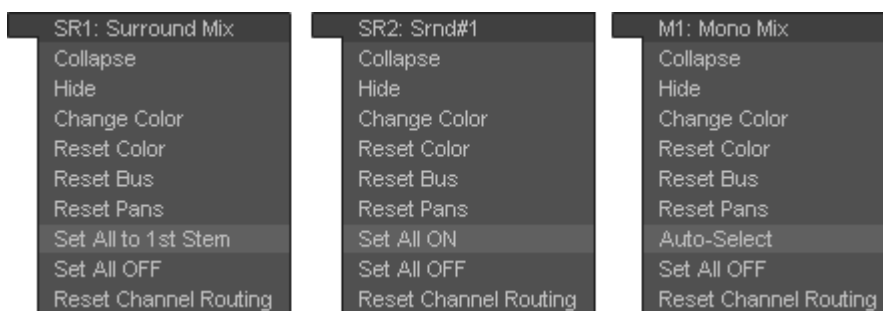
Set All to 1st Stem

As it says. All sources will be routed to the first stem of a multiple bus.

Set All ON/OFF

Activates/deactivates the routing to a Bus or Bus Stem for every Input Strip.

Auto-Select

Is exactly the same function as the one provided in the right-click menu over a Multi Mono bus from the 1st strip; ie it auto-sets the routing of every strip's channels to a Multi Channel Bus, so that (as far as possible) each Input Strip channel is routed to a Bus channel matching the same grid index (diagonal routing).

Colors

Bus paths can be colored to aid comprehension.
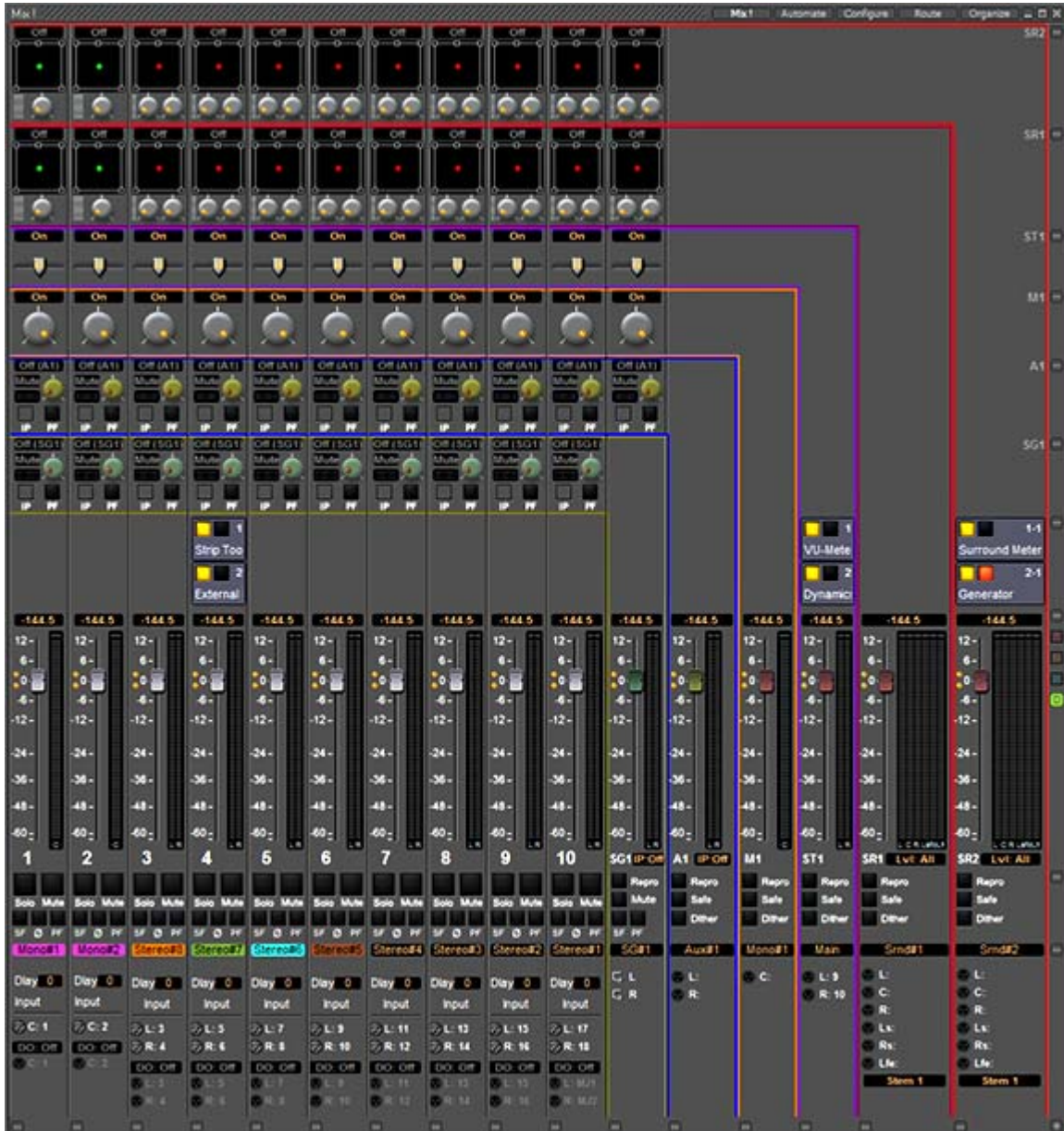
Mixer with colored bus paths

Hide or **Show Colors** hides or restores the colored lines. **Change color** allows the color of an individual bus to be altered. **Reset color** restores the color to its previous state.

Global Indicators / Buttons

The small indicators/buttons on the right-hand side of the mixer window, adjacent to the Fader row have the following functions:

MUTE - Lit when a Mute or mutes are active. Clicking on the lit button cancels all active Mutes.

SOLO - Lit when a Solo or Solos are active. Clicking on the lit button cancels all active Solos.

Overload - Lit when an Overload indicator is latched. Clicking on the lit button cancels all active Overload LEDs.

Automatic Delay Compensation Status
Please see : Delay Compensation on page 174

Two Fader Row Display

With large mixer configurations it may be convenient to show the strips in two rows, one above the other like this:
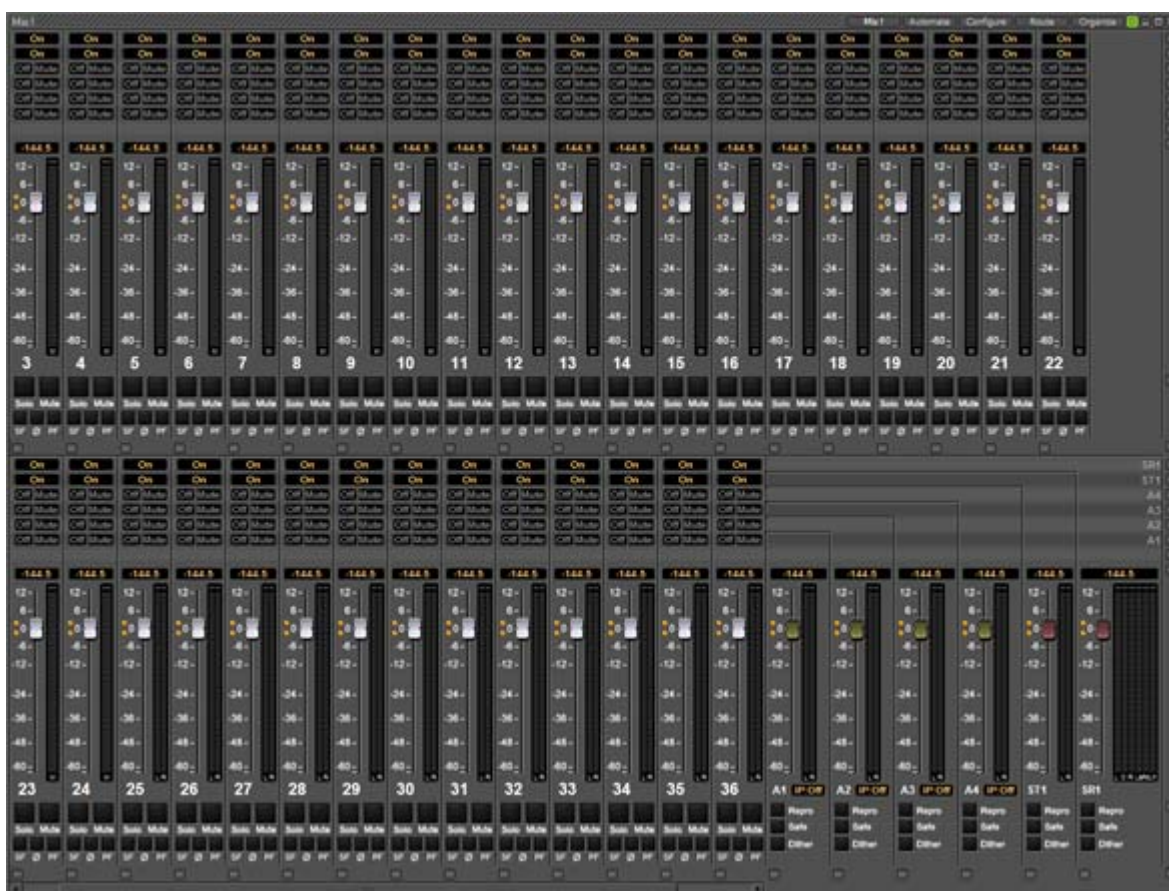
Mixer with two rows of faders

The mixer will automatically be shown with two rows of faders when the mixer is configured with more strips than can be displayed in a single row AND when there is sufficient vertical space in the mixer window to accommodate two rows. This requires that several of the buses/mutes/I/O be collapsed, as seen above, or hidden. If a bus or other mixer component is expanded or un-hidden that increases the height of the mixer window beyond the resolution of the monitor then the Mixer display reverts to single row of faders with scroll bar to access the hidden strips.

Mixer Components

Input Strips

Mixer Input Strips associated with tracks (the pale green box in the track header) are fed by and control the monitor output of the tracks. The Mixer Strip Channel **Live** (physical) or **Internal Return Bus** Input goes direct to the associated Track. When a strip has no associated track it is fed by and controls the **Live** (physical) or **Internal Return Bus** input assigned to it.

When the strip has an associated track, the track output is automatically switched between input and playback output depending on transport mode, the monitoring setting in the track header and the setting of the **Settings > All Settings > Application > Playback/Record : Auto-monitoring** option, **European Monitoring (all tracks turn to INPUT on stop)** or **US Monitoring (only Record Ready tracks turn to INPUT on stop)**

> **Note:** When strip channels have an associated track **NONE** of the strip controls, fader, mute, eq etc. affect the signal fed to the track input.

Mixer Input Strips have the same functions as the input strips of any standard mixing console providing level control, pan, mute, etc.

The following types of input strips are available:

- Mono input Strips
- Stereo input Strips
- MS decoder Strips - decode a Sum and Difference signal to standard stereo format
- GPS (General Purpose Strip)

Direct Monitoring Input Strips

Direct Monitoring Input Strips are a special version of the basic Input Strip designed specifically for recording. The principal feature of these strips is minimum monitoring latency for the artist. This is achieved by applying automatic delay compensation only to the signal fed to the main output bus. For this reason, Aux Sends and Effects cannot be installed in Direct Monitoring Input Strips and they cannot be routed to SubGroups. Three types are available:

- Mono - Direct Monitoring
- Stereo - Direct Monitoring
- MS - Direct Monitoring

> **Note:** These strips are intended for live inputs only. It is not possible to feed them from tracks.

To add a Direct Monitoring Strip right-click on a blank area of an existing strip to the right of where you wish to add it. Select **Strip > Add > Mono** -**Direct Monitoring**, **Stereo** - **Direct Monitoring** or **MS - Direct Monitoring** from the context menu as appropriate. Or use the **Configure** Mixer page. **Please see: Strip and Bus operations on page 145**

> **Note:** If Auto-Delay Compensation is turned on for the Mixer then the recording from a Direct Monitoring Input Strip will be in sync with the existing tracks while maintaining minimum latency for foldback to the artist.

Mixing/Monitoring/Aux Send and SubGroup Buses

These are the summing buses where mixer strip signals are routed to. Each bus type (Mix, Aux Send or SubGroup) has a **Repro** button in the Master section to allow this bus to output signal only when the system is playing back. No signal will be output in **Stop** or **Record** modes, for example to avoid audio feedback (howl round) in the Studio main speakers when Tracks auto switch to **Input** monitor when **Record**ing or **Stop**ped.

Mix Bus

A mix bus is the destination for the final product of your mix. The outputs of a mix bus are usually routed to a master machine to record the final mix. They can also be routed via **Internal Return Buses**. Apart from their other uses, these enable the final mix to be recorded in Pyramix. Main **Mix**ing, **Aux Send** and **SubGroup** Buses also appear in the **Monitor**.

Mix Buses are available in several formats:

Mono Mix

Provides a single mono output. Any input strip can be routed to it.

Multiple Mono Mix

Provides several mono outputs. Any input strip can be routed to any or all of them

Stereo Mix

Provides a single stereo output. Any input strip can be routed to it

Multiple Stereo Mix

Provides several stereo outputs and allows any input strip to be routed to any or all of them

Surround Mix - 5.1 format

Multiple Surround Mix - provides several surround outputs and allows to route any mixer strip onto any of them.

> **Note:** Unlike mono and stereo multiple buses, input strips can only be routed to ONE 5.1 destination stem of a multiple surround bus. This reflects their normal use. E.g. a common set-up will have three surround bus stems for Dialogue, Effects and Music. Each Input strip is routed to the appropriate surround bus by clicking on the **Stem 'X'** button. All surround bus stems can be summed for monitoring in the **Monitor**.

Multiple Mix Buses (Stems)
Mono / Stereo

When a mono or stereo multiple mix bus is added to the mixer a routing matrix box appears in the input strips with a send level control (mono) or pan control (stereo).

Mono Mix bus matrix   Stereo Mix bus matrix

The 8 by 8 matrix gives access to up to 64 output buses. Routing is shown by lit crosspoints.

Double-clicking the matrix in the strip opens the routing matrix window.

Mix bus routing matrix

Valid choices are shown in gray. Once the window is open, other input channels can be route by either selecting them from the drop-down list or using the **<** and **>** arrows to step across the mixer surface.

Surround

Up to 16 surround buses each with from six to nine channels may be added as a single **Multiple Surround Mix** output strip. The principle use of these is for stem mixing where, for example, dialog, background effects, spot effects, foley and music are recorded as separate recordings but monitored as a complete mix. Each surround bus is identified by number. In this illustration, a **Multiple Surround Mix** strip has been added to the mixer with three surround buses.
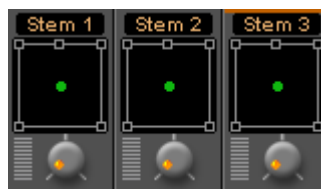
Clicking on the label above the Surround Panner pops up a list of the available stems. Simultaneously selecting more than one on a strip is not possible.

The associated **Surround Mix** output strip routing is shown below:

Multiple Surround Mix Output Routing

The top (SR1) box shows what the meters are displaying. Clicking on it cycles through each Stem and **Lvl: All** which meters the sum of all the **Stem**s The bottom box shows and selects which Stem the XLR icons refer to. Routing to physical outputs or Internal Return Buses is accomplished in the same way as other buses. I.e. right-click the relevant XLR icon and select **Connect >** etc. from the menu.

Groups

Master Group Strips - allow the grouping of faders of several mixer strips. Analogous to VCA grouping. When a group or groups are added (from the mixer contextual menu **Settings > Add Strip > Group**) A group button for each group created will appear below the strip name box on each input strip. When selected, the associated Group strip will control the grouped input strips if the **On** button is lit on the Group strip.

Channel Direct Outputs

All input strips can have **Direct Outputs**. The **Direct Out** connection is disabled by default. It can be enabled in the **Configuration** Page by selecting the strip and clicking on the **DO: Off** box or disabled if the box shows **DO: On**. Alternatively Direct Out can be set in the **Route** Page by clicking on the Strip Header.

The **Direct Out** can be routed by Channel to any output of the HDTDM or XDTDM bus. The Direct Out can be sent Pre or Post Fader. Click on the **DO: Post** box in the Mixer I/O section to toggle. The Direct Out is currently always **Post Effects**. For multi-channel strips clicking in the box above the **DO:** box pops-up a **Set Direct Out** list:

Set Direct Out

Highlight the required channel. This will be fed to the logical output assigned in the **Mixer Route** page or by clicking on the **DO** XLR icon in the **Mix** page.

Although there can be any number of Input Strips and Buses from 1 to 64 in **HDTDM** or 1 to 128 in **XDTDM**, there is a limitation on the number of Direct Out connections: The sum of the **Direct Out** connections **PLUS** all Buses channels can not exceed **64** in **HDTDM** or **128** in **XDTDM**.

Strip & Bus Channel Types

All Strips and Buses Channels have a custom type that can be manually set in the **Configuration Page** to:

- Left (L)
- Center (C)
- Right (R)
- Surround Left (Ls)
- Surround Right (Rs)
- LFE (Lfe)
- Left Center (Lc)
- Right Center (Rc)
- Surround Center (Cs)
- No particular type

Mono Strips are tagged by default to no particular type

Stereo Strips are tagged by default to **L-R**

MS strips are tagged by default to **C-W**

GPS Strip (General Purpose Strip):

GPS Strips can have from 1 to 8 channels

They can be used as Aux returns or for any kind of direct Input usage e.g. premixes or multi-channel recordings.(LCR, LCRS, etc…) By default a 2 channel GPS Strip is initialized to L-R and a 6 channel GPS Strip is initialized to LCRLsRsLfe 5.1. This can be changed/customized in the Configuration Page.

GPS Strips feeding any buses (Aux or Mix) are routed by default by Channel Type (like any other strip) but this routing can be manually changed by clicking on the Channel Routing grid (like any other strip).

Aux Send Buses:

General Purpose **Aux Send buses** provide a way to create 'auxiliary' mixes which are used to provide headphone or cue mixes for musicians etc.

SubGroup Buses
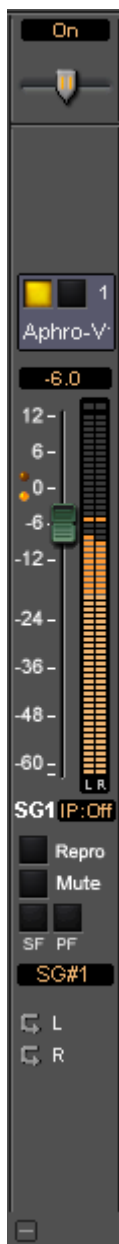
SubGroups are a special type of Aux bus which are automatically routed to buses, in exactly the same way as normal input strips, instead of having output connections. SubGroup buses offer a quick and efficient means of managing effects channels (e.g. for Reverb plug-ins or any VST/VS3 plug-in used as Send FX). When using SubGroups there is no longer any necessity to have additional corresponding return strips. In addition, this also enables the use of post-fader effects. Hover over the strip pop-up and select from the list:
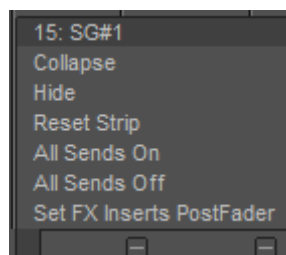
SubGroups have **Mute**, **S**olo **S**afe and **PF**, Pre-Fader metering, buttons like input strips and **Repro** buttons and **I**n **P**lace options like Aux Send buses.

Note: Please be aware that a SubGroup Bus will auto-take Internal Bus connection resources, starting from the last one. E.g. IB64-IB63 for the first two SubGroup Channels added to a Mixer. This means that you will no longer see IB63 and IB64 in the IB list.

Aux Send Bus Channels

Aux Send Buses are intended purely for folding back a mix to musicians etc. and can have from 1 to 8 channels. Channels have a custom type that can be manually set in the Configuration Page to:

- Left (L)
- Center (C)
- Right (R)
- Surround Left (Ls)
- Surround Right (Rs)
- LFE (Lfe)
- Left Center (Lc)
- Right Center (Rc)
- Surround Center (Cs)

By Default a 2 channel **Aux Send Bus** is initialized to **L-R** and a 6 channel **Aux Send Bus** is initialized to 5.1. This can be changed/customized in the Configuration Page.

> **Note:** When an Aux Send bus is added it is important to ensure that the Type for each channel of the Aux Send bus is set correctly.

Aux Send Bus Context Menu

As with other buses, Clicking on an Aux Send bus's small gray ▬ box on the right-hand edge of the mixer window Expands / Collapses the send display. When the cursor is above the box the Aux Send Bus pop-up context menu opens:

> A2: Horns
> Collapse
> Hide
> Change Color
> Reset Color
> Reset Bus
> Reset Channel Routing
> All Sends On
> All Sends Off
> All In Place
> Global Strip Channel Routing
> Apply All Strip Input Gains to Send Gains
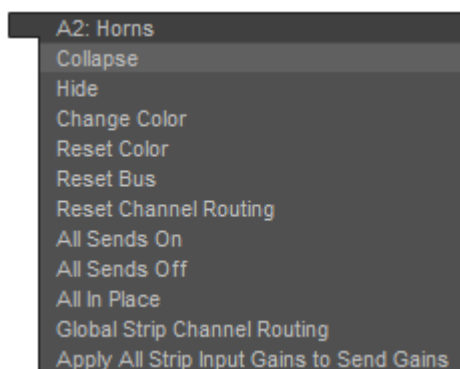
Aux Send bus pop-up context menu

Most of the entries are the same as other buses, but the last two entries are specific to Aux Send buses.

Global Strip Channel Routing

Opens the **Global Channel Routing** window for the Aux Send bus
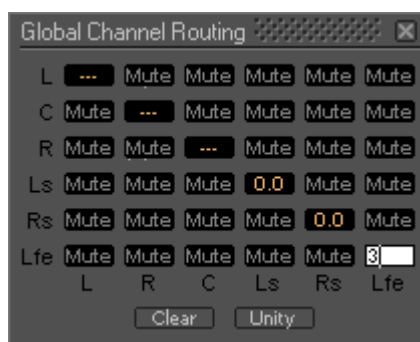
Global Channel Routing window

This routing grid groups together the Channel Types of all the input Strips present in the current mixer, shown horizontally (L, R, C, ...). The vertical channels are the Channel Types of this Aux Send bus. When a node's value is edited, the static aux send gain of all strips having this channel type is updated with the new value for this Aux Send Bus. When some strips are already set to different values for a specific node "**---**" is displayed.

Clear	Sets the entire grid to Mute
Unity	Sets the entire grid to Mute

> **Note:** Invoking either **Clear** or **Unity** will affect all Strips Aux Sends to this Aux Send Bus.

Apply All Strip Input Gains to Send Gain

The current input gain value of every strip in the mixer will be applied to all the Aux sends feeding this Aux Send Bus.

Aux Send Routing

When a Strip feeding an Aux Send Bus is of the same type as the Aux Send bus E.g. Stereo strip feeding stereo Aux Send bus 5.1, Strip feeding a 5.1 Bus the sending Strip's Channels are automatically routed to the corresponding Aux Send bus Channel Type. (Left to Left, Right to Right, etc…).

Where the sending Strip differs in Type to the Aux Send Bus E.g. a Stereo Strip feeding a 5.1 Aux Send Bus, the routing must be made manually. The same method is used if you wish to alter auto-routed values.

Static Channel Routing

Aux Send Channel Routing is set by clicking on the little grid icon adjacent to the knob on the Aux Bus send in the channel strip. This opens a **Channel Routing** window:
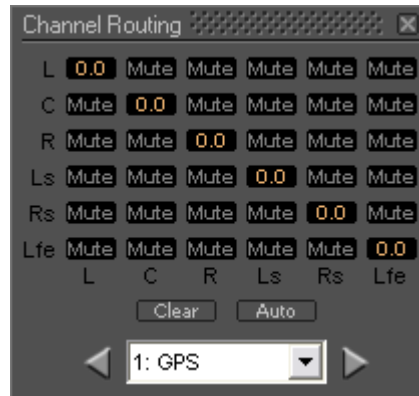
Channel Routing window

Shown here with a 5.1 channel feeding a 5.1 Aux Send Bus. Gain values can be entered for each node of the Strip/Bus crossing. Just click on any node and enter a dB value. Enter nothing (no character) or -144.5 to reset the node to Mute.

| **Clear** | Clears all nodes to **Mute** |
| **Auto** | Sets a **1 : 1** flat routing as shown above |

Aux Send Buses In-Place Panning

In-Place panning for each Aux Send bus is turned on with the **IP** button in Aux Send section(s) of each Input Strip. **In-Place** Aux Sends take the ouput(s) of the appropriate panner at the same level(s) the panner is feeding its output bus.

> **Note:** Only corresponding Bus **Types** are fed in this way. Thus if you feed a Mono Aux Send Bus typed **C**enter from a 5.1 panner and there is no signal on the centre channel no signal will be fed to the Aux Send Bus even if the signal on the left and right outputs is identical creating a 'phantom center'.

In-Place Panning Indicator/Selector

In-Place Panning Source

When an **IP** button is lit (yellow) on an Input Strip, the way in which the aux send channels are routed to an Aux Send bus is determined in the Aux return strip. For example, in a mixer configuration with an Aux Send bus, a Surround bus and a Stereo bus. Clicking on the highlighted box below the Aux master fader pops up a list of options:
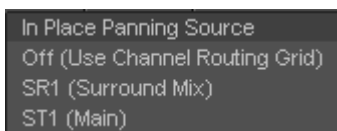
In-Place Panning Source pop-up

These determine whether the Aux send will follow one of the output bus panners or the Static Channel Assignment set in the Input Strip. E.g. for Aux Send bus 1:

Off (Use Channel Routing Grid)   Aux pan follows Static Channel Routing assignment

SR1 (Surround Mix)   Aux pan follows Surround Mix bus panners

ST1 (Stereo Mix)   Aux pan follows Stereo Mix bus panners

To make all the Aux 1 sends follow the Mixer Strip Surround Panners, click on the box below the fader and select **SR1 (Surround Mix)**

Note: When **IP:Off** is displayed in the Aux Send master strip I.e. no In-Place source is selected, then the **IP** buttons in the input strips will be grayed out. Similarly, when an In-Place source **IS** selected and the yellow **IP** button in the input strip is lit then the static routing grid is grayed out and unavailable as in this illustration.

Strip Aux sends and Channel Routing dialog

The three strips shown are **10**, **11**, and **12**. Since the **IP** button is selected (Yellow) on strips **10** and **11** the static routing grid is grayed out and thus unavailable. On strip **12** the **IP** button is deselected (dark) and the Static **Channel Routing** grid can be opened by clicking on the grid button next to the knob.

Note: The **IP** button defaults to **On** when the aux send is first turned on. If the send is subsequently turned Off (muted) then the current setting of the **IP** button is remembered when it is unmuted.

Basic Strip
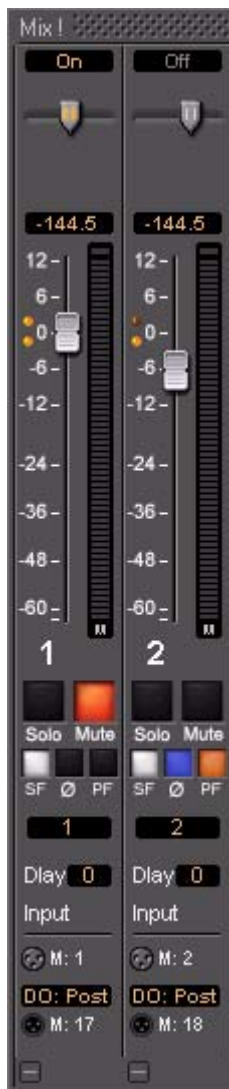
Basic Strip

A basic mono channel strip contains:

On /Off toggle switch

Pan slider to Main output bus. In this case there is just a single stereo mix bus.

Numeric display of fader output level value, if cursor is over a fader knob shows fader gain. If cursor is over pan-slider, shows current pan position. May be clicked to directly enter a fader gain value.

Level Bargraph Rotary Controls and Faders

Rotary Controls, sliders and Faders may be adjusted by grabbing them with the mouse and dragging. Rotary controls and horizontal sliders are adjusted by dragging left or right and faders by dragging up or down. Double-clicking a Fader or Rotary knob returns the value to the default. E.g. unity gain on a channel strip fader. Bargraph shows peak level

Buttons

Buttons on the main mixer surface are black when inactive. When active they 'light up'.

Solo solos the strip, **Mute** mutes the strip **Ctrl + Solo** cancels all other Solos

SAFE prevents the strip being muted by solo operations elsewhere. **Ø** reverses the channel phase. **PF** changes the metering position to Pre-Fader.

Delay A delay value (in samples) can be set in this box.

Input Clicking on **Input** pops-up a box with the choice of the strip taking its input from a physical connection or any output bus.

Logical Input and Direct Output Assignment

Right-click on the XLR icons to pop-up a drop down list of valid assignments.

Note: Direct Outputs must first be enabled in the **Configure** page.
Please see: Channel Direct Outputs on page 161

Stereo Strips

In a Stereo Strip feeding a stereo bus the single bargraph meter is replaced by a pair and the simple pan pot is replaced by a choice of **Balance** control, **Dual Panner**, **Pan/Width** or **5.x Legacy Stereo Panner** accessible from the right-click context menu. (See below)

Stereo Strips can reverse the **Phase** of both the Left and Right channels. The single button has four possible states:

Black:	No phase inversion
White:	**Left** channel inverted
Red:	**Right** channel inverted
Blue:	**Both channels** inverted

Stereo Panners

Pyramix offers a comprehensive choice of stereo panners which can be selected by right-clicking over the panner to open the context menu:
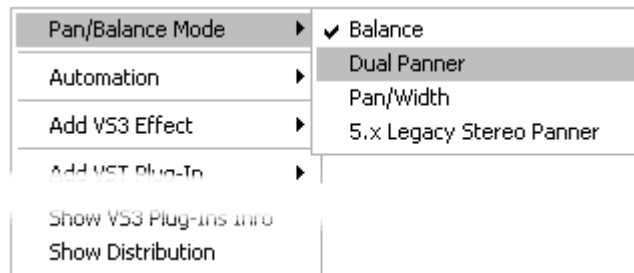
Stereo Panner context menu

- •   Mode 1: **Balance**

- •   Mode 2: **Dual Panner**

To adjust the pan (direction), left click and drag to right or left. To adjust the Width, **Ctrl + Left-Click** and drag - The distance between the cursors represents the Width value.

Note: The Width value can be negative (-100% to +100% range), and the 2 channels are then reversed. I.e. Right becomes Left and vice-versa.

Note: Since the Width range of values and Pan range of values are linked, adjusting the Pan can cause the Width parameter to be updated, but the initial Width value is linearly restored when moving the pan back to its former position, just like fader grouping on some mixer desks. To avoid this (i.e. validate the current Width value), **Ctrl + Left-Click** on the panner to reset the cached Width value.

- Mode 3: **Pan/Width**

Pan slider acts like a normal balance control. **Width** alters the stereo image width from mono to 100%. If the **SHIFT** key is held down while moving the Width slider the range is extended to 125%. I.e. Super wide. This can be helpful with overly narrow images but should be used with caution.

- Mode 4: **5.x Legacy Stereo Panner** Rotary

V5.x and V4.x legacy panner (for compatibility with older projects)

Default Position Indicators

Like other Pyramix mixer controls the panner knobs/pointers have an orange dot when at the default position.

Gearing

For finer adjustment hold down the **Shift** key whilst clicking and dragging.

Reset

To reset any of the panners to the default value simply double-click the knob/pointer.

Strip Meters
Characteristics

Meter ballistics and other parameters may be adjusted. **Please see Level Meter on page 509**

Peak Reset

To Reset Peak Hold and Overload for the entire mixer hold down **P** when the Mixer is activated.

To Reset the Peak Hold and Overload for a specific Strip or bus **Click** on the lit Overload LED.

To Reset the Peak hold and Overload of every Strip and Bus **Ctrl + Click** any Overload LED.

M&S Stereo Strips

What is M&S?

M&S stands for **Middle** and **Side**. **M&S** is a microphone technique which outputs **Sum and Difference** signals instead of **Left** and **Right** (also known as **LR**, **AB** or **XY**). These Sum and Difference signals are often known as **M&S** although this nomenclature is often a source of confusion...

Sum and Difference signals can be created from a conventional Left, Right source. For example, by using the Pyramix **MS Encoder** plug-in.**(Please see: MS Encoder on page 228)**.

Decoding M&S

A **Sum and Difference** or **M&S** decoder reconstitutes Left and Right by adding the **Difference (S)** signal to the **Sum (M)** signal to produce Left and adding the **phase-reversed Difference (S)** signal to the **Sum (M)** signal to produce Right. This is often represented as:

L = M + S and **R = M - S**

Benefit of M&S

In mixing as opposed to recording, the main practical benefit of manipulating a signal in the Sum and Difference domain is true control over the **width** of the image. Pyramix can handle these signals directly thanks to the provision of **M&S Stereo** strips.

M&S Strip controls

An **M&S** strip stereo bus send has three controls. The center knob determines the **Sum (M)** contribution to the Left and Right outputs. The **L** knob determines the in-phase **Difference (S)** contribution to the Left output and the **R** knob determines the out-of-phase **Difference (S)** contribution to the Right output. The **L**&**R** knobs are ganged by default. To move them independently click and drag with the **Ctrl** key held down.

The **Phase** of both the Sum and Difference channels can be reversed. The single **Ø** button has four possible states:

Black:	No phase inversion
White:	**Sum (M)** channel inverted
Red:	**Difference (S)** channel inverted
Blue:	**Both channels** inverted

Inverting either Sum or Difference results in the image being reversed left to right.

Note: If the **Input meters** consistently show **S** higher than **M** then either the image is very wide and unlikely to be compatible for a mono listener or the **M** and **S** inputs have become reversed at some point. Regrettably, this is extremely common when dealing with location recordings in film and TV.

Creating and Configuring Mixers

If one of the numerous mixer presets does not quite suit your application it is simple to modify an existing mixer, create one using the Mixer Wizard or design one from scratch. The Wizard can be started from an existing mixer by right-clicking anywhere on the mixer surface and selecting **Settings > Wizard...**

Mixer Configuration Wizard
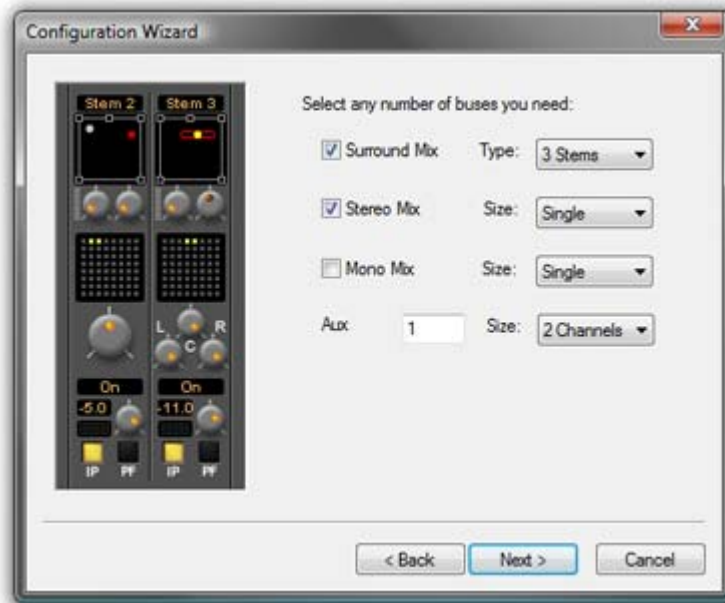
Configuration Wizard buses dialog

Select the type(s) of buses required using the check boxes and the number needed from the drop down lists on the right. Note that a single **Mono or Stereo Mix Bus** can consist of from **1 - 64** buses, and a **Surround Mix Bus** can consist of from **1 - 16** multi-channel stems. **Aux Send Buses** and **Sub-Group Buses** can have from **1 - 8** channels. Click the **Next** button to move on to the next page.
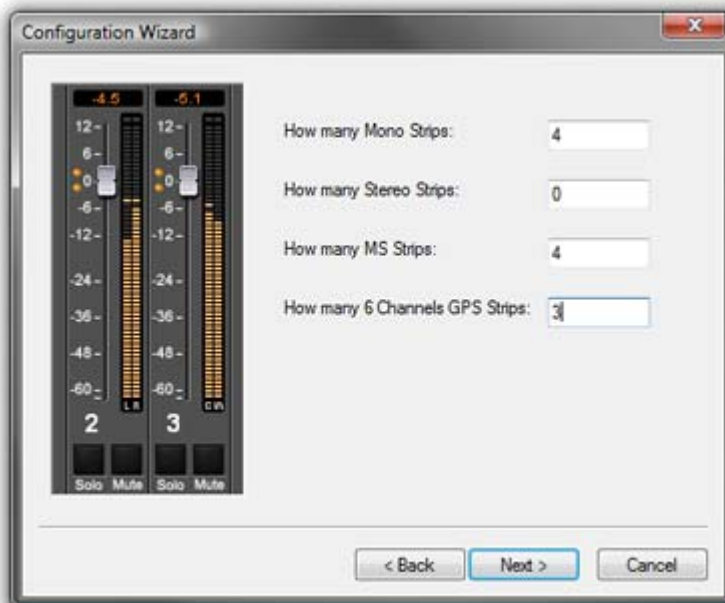
Configuration Wizard strips dialog

Select the type(s) of channel strips required using the check boxes and the number needed from the drop down lists on the right. Click the **Next** button to move on to the next page.

Configuration Wizard auto connect dialog

Checking the **Connect automatically as many inputs and outputs as possible** check-box will create the same number and types of **Tracks** as there are **Input Strips** and connect as many as possible to the available physical inputs in ascending order and output Buses to the physical I/O attached to the Mykerinos board(s) and Track outputs to Mixer Input Strips, although you can easily reconfigure this later. If the box is not ticked, the tracks will be created in the same way with Track outputs connected to Mixer strips but no physical Inputs or Outputs will be connected.

Clicking **Cancel** opens the new Project with a **Blank Mixer Window** (See below)

I/O Buses Explained

The total number of available output buses, regardless of the number of Mykerinos cards, is 64 in HDTDM Mode and 128 in XDTDM Mode. The maximum number of logical inputs and outputs to Pyramix is also 64 and 128 respectively. However, it is perfectly possible, and permissible, to have more than 128 physical inputs and outputs connected to a Pyramix system. Routing to assign physical inputs and outputs to Pyramix logical inputs and outputs is made in the **Settings > Hardware > HDTDM Routing** or **XDTDM** pages. For example: a system containing three Mykerinos boards, with MADI daughterboards has a total of 192. In HDTDM mode any 128 of these may be routed to Pyramix logical inputs and any 128 Pyramix logical outputs (less the number of assigned **Internal Return Buses**; see below), can be routed to physical outputs.

> **Note:** In a MassCore system these limits are increased massively. In fact the only limitation is the available power. For now the maximum number of buses is artificially limited in code to 512 (at 1FS, 256@2FS, 128@4FS, 64@8FS).

Input Strip Types

To make is easier to work with a variety of source **Formats** Pyramix offers a number of different types of Input Strip. These can control from one to 8 channels from a single set of controls. **Please see: Input Strips on page 157**

Internal Return Buses

Some of the time slots on the HDTDM/XDTDM bus or within MassCore can be reserved to convey **Aux Send** or **Master Output** Buses back to input strips. In effect, these are internal send/return paths. To change the number of available Internal Return Buses, close all open Projects (if any) and go to:

Settings > All Settings > HDTDM Routing or **HSR-HTDM** if using **HTDM** mode.

XDTDM Routing > PCM I/O routing or **PCM-HSR I/O Routing** if using **XDTDM** mode.

DXD Projects I/O Routing if you wish to use Internal Return Buses in a **DXD** Project.

The number of Internal Return Buses can be set using the **Internal Buses** combo box. Click on the **OK** button to memorize the setting and exit.

The number of **Internal Return Buses** you assign here will be available as possible channel strip sources in the mixer.

Mixer Delay Compensation

Summary

Mixer Delay Compensation offers a choice between:

Full Delay Compensation (including effects)

All but effects latencies

Off

This choice is made in the **All Settings > Project > Mixer > Mixer Settings** page along with a switch to turn Automatic Compensation on or off and a slider to set the **Maximum Mixer Delay Compensation**.

Delay Compensation Switching

As detailed above, Compensation can be selected in the **All Settings** menu. It can also be toggled On/Off in the Mixer context menu. Right click and select **Settings** then click on **Enable Delay Compensation** to toggle On or Off.

> **Note:** The **Full Delay Compensation** / **All but effects latencies** setting is retained when Compensation is switched on and off from the mixer window.

With Mixer Delay Compensation turned **On** and **All but effects latencies** selected:

1. Input strip set as a (normal) Input: no compensation. If a Delay is applied manually the output signal of this strip will be delayed by the applied value.

2. Input strip used as a Bus return, i.e. patched to an Internal Bus and set as a bus return (see **Input Strip Mode on page 176**): all other Output Strips are automatically delayed by the amount equal to the Bus internal processing delay.

3. Input strip used as a Bus return, i.e. where the bus signal is sent outside the workstation and returned to a physical Input: All other Strips are automatically delayed by the amount equal to the Bus internal processing delay providing the Input is set as a Bus (see **Input Strip Mode on page 176**). If a Delay is applied manually, for example to compensate for the delay in an external processor, the signal of all other output strips will be further delayed, according to the value entered.

When **Full Delay Compensation** is selected, Plug-in effects that correctly report their latency will also have their delay compensated. Further, this delay will be maintained when the plug-in is in **bypass** mode.

Please see also Mixer Settings on page 512

Delay Compensation

Delay Compensation Indicator

A small button labeled **D** on the right-hand side of the mixer adjacent to the Fader line indicates the current state of delay compensation in the mixer:

A stable **green** indicates that delays are compensated.

Stable red indicates that delays are **not** compensated.

Blinking red indicates that you need to adjust the maximum length of delay that can be compensated in order to achieve proper compensation.

Maximum Delay Compensation

Pyramix sets a default value for the maximum number of samples of delay that can be compensated automatically. As effects are added the required total delay value is calculated. If an Effect is instantiated that will exceed this limit the **Mixer error: Delay compensation** dialog appears:
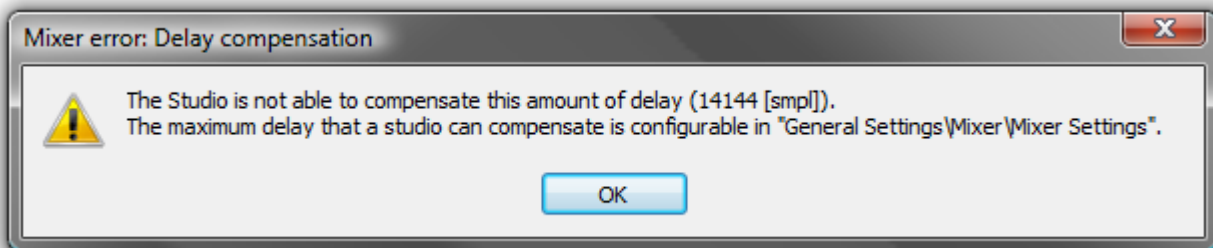
To deal with the problem either remove an effect or effects or go to **Settings > All Settings > Project > Mixer > Mixer Settings** and increase the **Max Mixer delay Compensation - Delay** setting to a value slightly in excess of that proposed in the dialog.

> **Note:** Increasing the Delay value too much steals valuable memory from MassCore.

Outboard Latency

Typical latency in ms of outboard gear ranges from 2 to 5 ms. The following chart may help you to compute the proper delay compensation values for outboard equipment:

Delay Chart

Ms	samples@44.1kHz	samples@48kHz	samples@88.2kHz	samples@96kHz	samples@176.4kHz	samples@192kHz	samples@352.8kHz
1	44	48	88	96	176	192	352
3	132	144	265	288	529	576	1058
5	221	240	441	480	882	960	1764
7	309	336	617	672	1235	1344	2470
9	397	432	794	864	1588	1728	3175
10	441	480	880	960	1764	1920	3528
12	529	576	1058	1152	2117	2304	4234
Max Delay (Auto PLUS Manual)	1216	1216	2432	2432	4864	4864	9728

Time Alignment of Recorded Clips

All recordings from Input Strips designated as **Input** are automatically time-aligned. E.g. recordings from live inputs.

Recording Bus Returns

When recording the output of an input strip taking an Aux or Bus return, for example to "freeze" a reverb track, the recorded media will be placed too early in the Timeline. In this situation it may therefore be desirable to designate this Aux or Bus return as a normal **Input** in order to ensure correct time-alignment of the recorded clip.

Note: For Power Users the **SABR** debug windows show the delay values applied to each bus / aux node and may prove useful. (Accessible by right-clicking on the Info Bar and selecting from the **Debug** sub-menu.)

Delay Compensation Detail

All digital processing takes a finite amount of time. When **Internal Return Buses** are used to route **Master** output buses back into channel inputs (by selecting an **Internal Return Bus** input from the routing pop-up for the **Bus** output, and selecting an **Internal Return Bus** output as the return channel input) all other buses not so routed must be delayed if the Mixer is to be 'time-aligned' I.e. If a signal is fed to two inputs, the first feeding the Main Output direct and the second routed back to an input via (say) an **Stereo Send** bus with the return input strip routed to the Main Output, then the second will be delayed with respect to the first. Selecting **Settings > Enable Delay Compensation** from the mixer context pop-up menu will automatically ensure both signals remain in sync by delaying the signals directly routed to the Main Output by an amount equivalent to the delay introduced by the extra processing in the second path.

Note: For obvious reasons a strip fed by an Internal Bus or buses cannot be routed back to the same internal buses.

Input Strip Mode
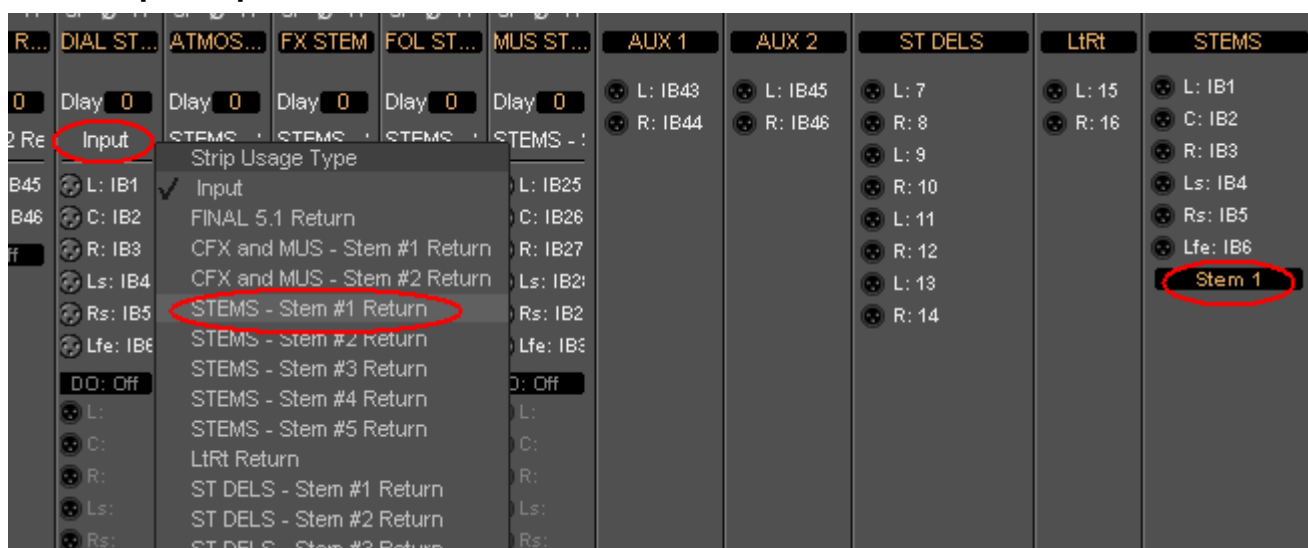
In order for Pyramix to correctly calculate the required delay you have to tell it which bus is the source for the Internal Return Bus. Clicking on **Input** at the bottom of the strip, above the XLR icon, pops-up a list of all the output buses and **Input**. **Input** is the default and means the strip is fed from a physical live input and no delay compensation is required. If any Internal or External Return Bus is ticked and **Automatic Delay Compensation** is turned on, Pyramix calculates the required delay and applies it to all Output buses not feeding a return bus.

> **Note:** Since effect inserts on Multi-Stems buses are per Stem, it is necessary to select the appropriate Stem when returning the output to an input channel or channels. Othewise Pyramix has no means of determining the correct delay compensation.

Delay vs. Delay Compensation

When the Input Strip Mode is set to **Input** the delay setting affects the only the delay on the strip's signal. When **{any Bus name} Return** is selected as the Input Strip Mode the delay setting affects the delay on all other output bus signals to ensure correct time-alignment.

Delay Compensation of External Inputs

Where an Output Bus is used to feed an external processor via a physical output and the external processor output is fed back into Pyramix via an external live input, then the necessary delay compensation must be computed and applied by the operator since Pyramix has no means of determining the delay of the external device. However, the Input Strip Mode (Click on **Input** to pop-up the menu) should be set to the bus feeding the external processor (as above) so that the input channel delay setting affects delay compensation rather than simply delaying the signal through the input strip.

Input Type pop-up

In the illustration, Group Bus **Ext Rev** feeds an external device via physical outputs **17** & **18**. The outputs of the external device are connected to physical inputs **7** & **8**. The channels' **Mode** has been set to **Ext Rev Return** and delay compensation of **256** samples applied.

In contrast **Int FX** SubGroup bus has VS3 and VST plug-ins inserted in the strip and feeds the output buses directly. There is, of course, no reason why an external insert cannot be used in a SubGroup instead of using an Output bus for this purpose.

External Insert Plug-ins

Internal VS3 Engine latency is automatically compensated except for the daughter card I/O latency (for example a Send/Return on AES/EBU takes 6 samples). Thus you have to manually set the delay of the external unit plus the I/O latency. It is not possible to change the delay or change the bypass status during playback or recording.

Determining Delay Compensation for External Effects Loops

One strategy for achieving this is to route a signal directly to an Output Bus and, via a physical output from a second Output Bus, to the external processor's input. The processor's output is connected to a physical Pyramix input and routed to an input strip. The strip mode must be set to the Bus used as the source. Then you can use impulse sounds, clicks, rimshots etc. to aid manual adjustment of the delay compensation by comparing the direct sound with the sound returning from the external processor.

Determining Delay Compensation for External Insert Plug-ins

A similar strategy can be employed here. Route the signal you wish to treat with an External Insert Plug-in to two input strips. Add the External Insert in one strip only, complete with the external processor in circuit. Delay the untreated strip until the audio is in sync with the treated audio and note the delay value. Then apply this value in the **Ext. Unit Delay** field in the **External Insert** window.

Effects Delay Indication

When the mouse cursor is hovered over a plug-in in a strip the required delay value is displayed:

Plug-in Name and Delay pop-up

Here you can see that **Angudion II** currently requires a 448 sample delay to be applied to the other output buses. This will be applied automatically when **Full Delay Compensation** is switched on.

Configuring a Blank or Existing Mixer

Configuration of the mixer control surface is accomplished via the **Configure Page**, **Route Page** (**Please see: Configure Page on page 143 and Route Page on page 151**) or contextual menus. The precise options available will depend on where you click on the mixer. If you wish to affect the entire mixer, right-click on the top bar of the Mixer window. To change options for a Bus, right-click on a blank area of the Bus strip. Similarly, for a channel input strip, right click on a blank area of the Strip. Right-clicking within a function block adds menu entries to the top of the list, relevant to the specific block.

Adding Strips

Right-click anywhere on the Faders, choose **Strip** > **Add** and select the appropriate type of strip to add or right-click anywhere on the Faders, choose **Bus** > **Add** and select the appropriate type of bus to add.

Removing Strips

To remove a given input strip, bus or group, right-click directly on it and choose **Strip** > **Remove (Strip, Bus** or **Group)** as appropriate.

Mixer I/O Assignments

To or from physical I/O

To change **I/O** assignments to or from physical **I/O** or the **Internal Return Buses,** click on the appropriate **XLR icon**. Choose **Connect Input** or **Connect Output** from the pop-up menu and choose the desired connection.
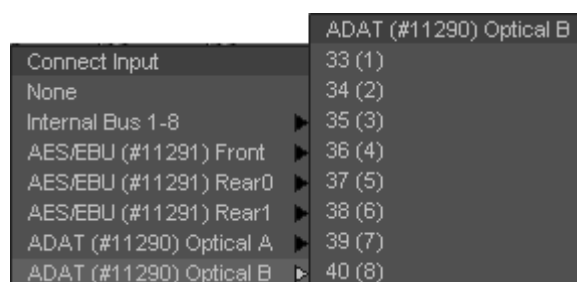
I/O assignment pop-up

When connecting a multichannel strip clicking on the header (ADAT(#11290) Optical B in the above illustration) will connect all channels consecutively.

From tracks

Note that several tracks may be routed to the same mixer input strip. Tracks are assigned to mixer input strips either automatically or manually from the **Track Header**. See: **Track Header Panel on page 73**

Effects and Plug-ins

Please see also: Effects and Plug-Ins on page 217

Mixer Strip Controls

When **Native VS3 Effects**, **VST Plug-ins** and **External Inserts** are instantiated in mixer strips each instance has a block of one or two buttons. The full Effect name, Plug-in name or **External Insert** pops-up along with the required delay compensation when you hover the mouse pointer over each block:

Mixer Strip Plug-in Controls with Name and Delay pop-up

Buttons

Each block has one or two buttons. The left-hand, yellow button is lit when the effect or insert is switched on. Switching an effect or insert off removes it from the signal chain and this may well be audible. The right-hand, red button indicates that the effect is **bypass**ed when lit. Bypassing an effect retains the same delay as when the effect is active. Further, well behaved effects will continue to calculate internal parameters when bypassed making seamless switching possible.

When **Full Delay Compensation** is selected, Effects and Plug-ins that correctly report their latency will have their delay compensated. This delay is maintained when the Effect or Plug-In is in **bypass** mode.

Please see also Mixer Delay Compensation on page 173

Native VS3 Plug-ins

These include the eq and dynamics found on a conventional hardware mixer's channel strip. To add a native plug-in when in **Mix !** mode, right-click with the mouse cursor over the strip where the plug-in is to be added.
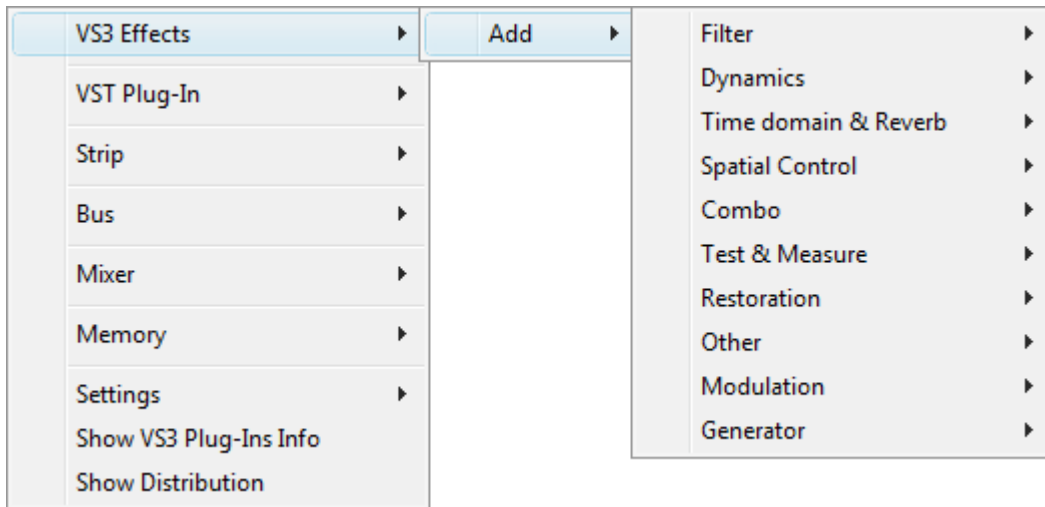
Mixer Strip Context Menu

If you right-clicked in the effects area of the strip select **VS3 Effects > Add**.
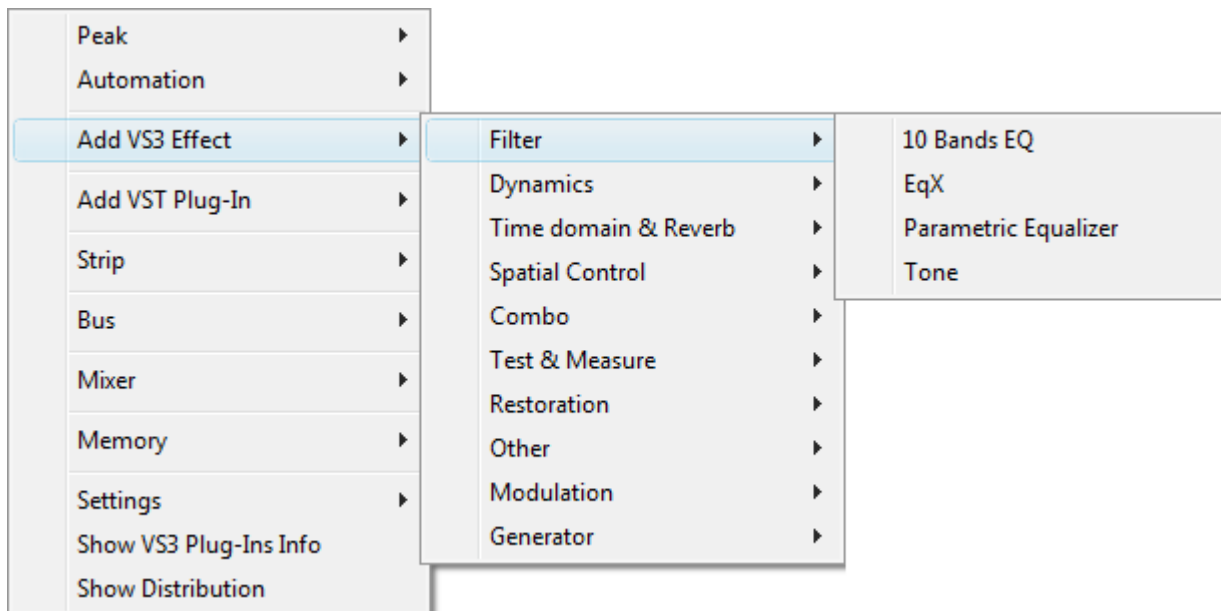
Mixer Strip Context Menu

If you clicked somewhere else, select **Add VS3 Effect**. Select an effect from the sub-menu. It will appear in the strip.

VST Plug-ins

To add a VST plug-in the procedure is the same except select **VST Plug-In** or **Add VST Plug-In**.

> **Note:** VST Plug-ins can be added at any time, even during playback, without rebuilding the mixer.

Ghost Effects and Plug-ins

Essentially, **Ghost** Effects or Plug-ins mean that if you load a project containing an effect or plug-in which is unavailable on your machine, this plug-in will appear in the mixer strip as a Ghos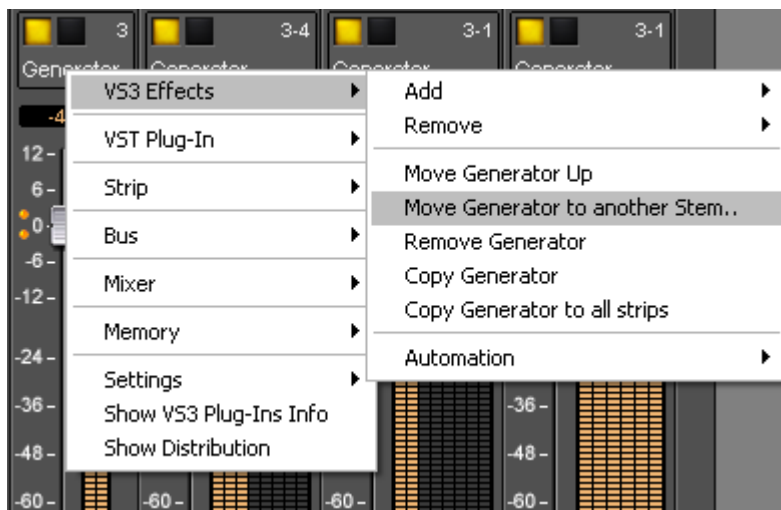t plug-in. Subsequently saving the project will not trash the missing Plug-in's state information. When a plug-in is a Ghost its name appears crossed out in the mixer :

VST Ghost Plug-in

Removing, Copying or Moving VS3 Effects and VST Plug-Ins

Mixer Strip Context Menu

VS3

Right-click on an Effect in a Strip to open the context menu and hover the cursor over **VS3 Effects**. Here you can make a number of changes to the Effects

Add	Accesses the Effects list to add a further Effect to the Strip
Remove	Accesses a list of all effects currently instantiated in the strip. You can select any of them for removal.
Move "Effect Name" Up	Moves the effect you right-clicked on **Up** the list.
Move "Effect Name" Down	Moves the effect you right-clicked on **Down** the list.

Note: The **Up** and **Down** options are only shown when a move is possible.

Move "Effect Name" to another Stem
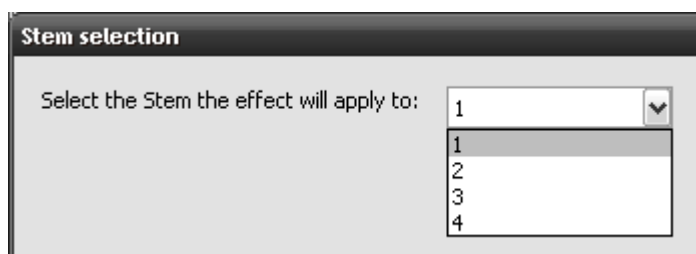
Pops up a dialog with all available stems for this bus. (Only present when the Effect is in a Multi-Stem Bus) The Iteration and Stem numbers are then shown on the

Effect:

Thus **1-3** means Iteration **1** on Stem **3**

Remove "Effect Name"   Removes the Effect you right-clicked on.

Copy   Copies the effect for pasting into another Strip (**Copy** the Effect then right-click in the target Strip and select **Paste**)

Copy "Effect Name" to all strips Copies the Effect you right-clicked on to all Input Strips, but not to any Buses, regardless of whether the original effect is instantiated in an Input Strip or Bus

Automation   Enables the Automation mode to be set for the entire Effect.

VST
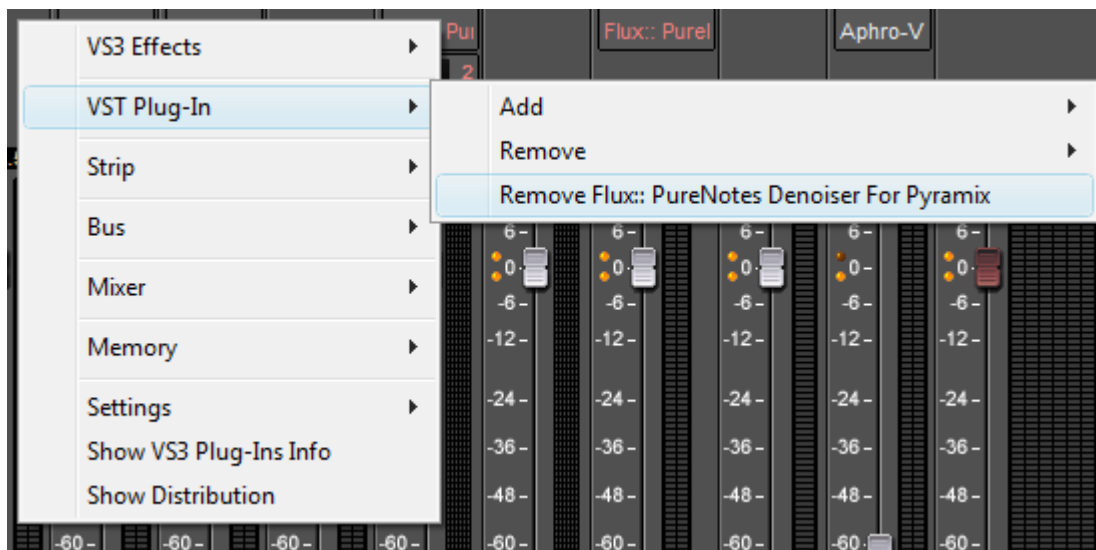
Mixer Strip Context Menu

As the image above shows, the options are simpler for **VST Plug-Ins**

Add   Accesses the Plug-Ins list to add a further Plug-In to the Strip

Remove   Accesses a list of all Plug-Ins currently instantiated in the strip. You can select any of them for removal.

Remove "Effect Name"   Removes the Plug-In you right-clicked on.

External Insert

To add an External Insert simply right-click over the strip where the plug-in is to be added and choose: **VS3 Effects > Add > Other > External Insert**
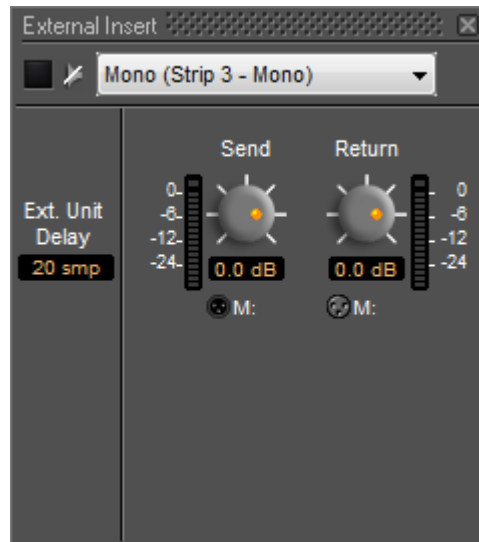
Mixer Strip External Insert Plug-in Control Window

Clicking on the **External Input** name in the strip opens the **External Insert** Control Window.

Send and **Return** Connections can be made by clicking on the XLR icons and levels set with the knobs. When you have determined the delay introduced by the I/O loop including the external effect the value in samples should be entered in the **Ext. Unit Delay** field.

Further Mixer Configuration Options

Mixer Context Pop-up menu
The entries on this menu vary according to where you right-click on the mixer surface. At the top of the menu the entries concern the specific mixer component under the mouse cursor when you right click. The next section of the menu has entries which affect the Strip. Entries from **Mixer** to the end of the menu affect the entire mixer and are available wherever the mouse is right-clicked.
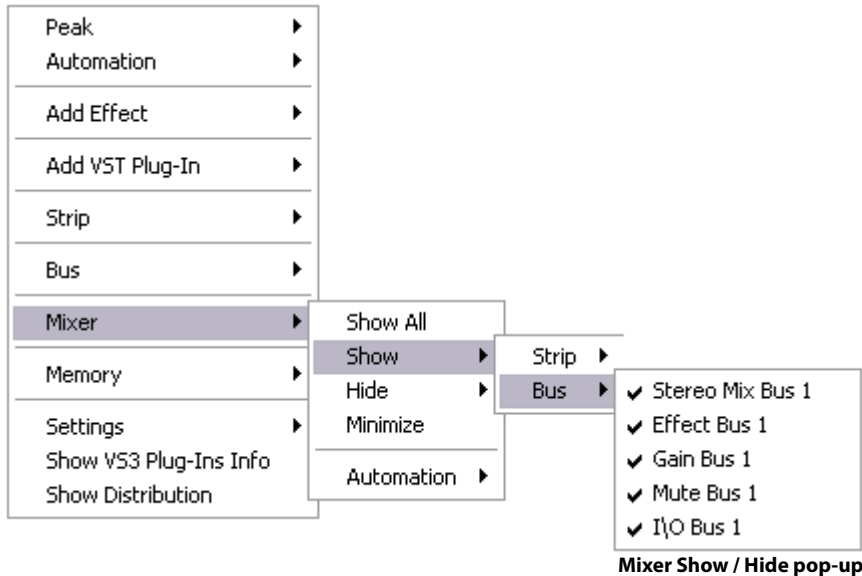
Mixer > Show

Show All   Makes all input strips and buses visible

Show / Hide >   Selects **Strip**s and **Bus**es to be shown or hidden. When checked, the Buses or strips are visible on the console surface. Both **Show** and **Hide** access the same lists.

Mixer Show / Hide pop-up

Minimize   When checked, Mixer window is minimized

Automation >

    Isolate   These menu choices toggle the Automation mode for the entire

    Play   mixer. **Please see: Dynamic Automation Modes on page 260**

    Record

    Auto-write

Memory >   The choices here enable mixer presets to be saved loaded and managed.

                            Please see: Mixer Presets on page 185

Settings >

General...   Opens the Mixer Settings window at the **All Settings > Hardware > Hardware > Formats & Sync** page. **Please see: Formats and Sync on page 480**

Enable Delay Compensation Enables Delay Compensation for the mixer

Dithering   Opens the **Dithering** window. **Please see: below and Dither on page 288** for an explanation of the need for dither

Remove   Select **All Strips**, **All Buses** or **All** to remove groups of mixer components or every component.

Auto-connect   Automatically connects the Mixer inputs and outputs using the available inputs and outputs of the installed daughter card (s) and the Mixers Preferred Monitoring Outputs

Wizard...   Launches the Configuration Wizard. **Please see: Mixer Configuration Wizard on page 171**
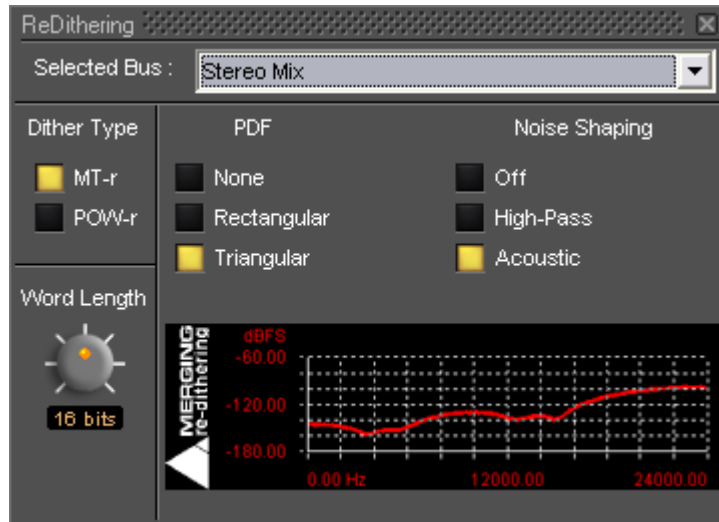
Show VS3 Plug-Ins Info   Pops up the **VS3 Plug-Ins Information** window. **Please see: VS3 Plug-Ins Information on page 219**

Show Distribution	When checked, a narrow colored bar is inserted at the bottom of each input strip which indicates which card (in a multi-board system) is providing the DSP for the strip.

Dithering Options

Dithering MT-r floating Window

To open the **ReDithering** window, right-click anywhere on the mixer surface and select **Settings > Dithering...** The **Dithering** window opens.

Selected Bus :

The combo box allows the choice of any of the Mixer's buses.

Dither Type

The Pyramix Mixer offers a choice of dither algorithms. **MT-r** and **POW-r** click the box to choose. The bottom-right hand panel changes to reflect the options available with the selected dither process.

Word Length

The output word length of the digital audio data can be varied from 8 bits to 24 bits. Click on the rotary knob and drag left and right to adjust the value.

MT-r Options
PDF (Probability Density Function)

In basic terms, the addition of a dither signal (noise) into the digital audio streams improves linearity in the reproduction of low-level signals. In other words, as signal level drops (such as in a fade out) dithering helps to maintain a smooth decay. There are three options:

None

No dither signal will be added to the data.

Rectangular

A rectangle shape dither signal will be added to the data.

Triangular

A triangle shape dither signal will be added to the data.

Noise Shaping

Noise shaping is a technique that is used to push quantization noise energy, which in linear digital systems is normally spread over the whole audio spectrum (0 Hz up to half the sampling frequency), into higher frequencies where the human ear is less sensitive to its effects. There are three noise shaping options and the graph shows the curve applied:

Off

No noise shaping added.

Hi Pass

This provides a first-order high-pass filter for the noise transfer function. This type of noise shaping takes little computational power to produce, but at the expense of not tracking the characteristics of the human ear very accurately when compared with:

Acoustic

Psycho acoustically noise shaped dither inserts an FIR-filter in the feedback path. This shapes the noise as closely as possible to the characteristics of the human ear. More taps in this type of filter allow a closer approximation to the response curve of the ear, but each tap, of course, increases the computational instructions required. The filter implemented here is a 9-tap FIR-filter, which closely approximates the curve of the human ear.

> **Note:** As usual there is no "free lunch". So **Acoustic** noise-shaping uses more resources than **Hi Pass**.

POW-r

POW-r offers the choice of three settings, **POW-r 1**, **POW-r 2** and **POW-r 3**. The graph indicates the effect of the noise-shaping.
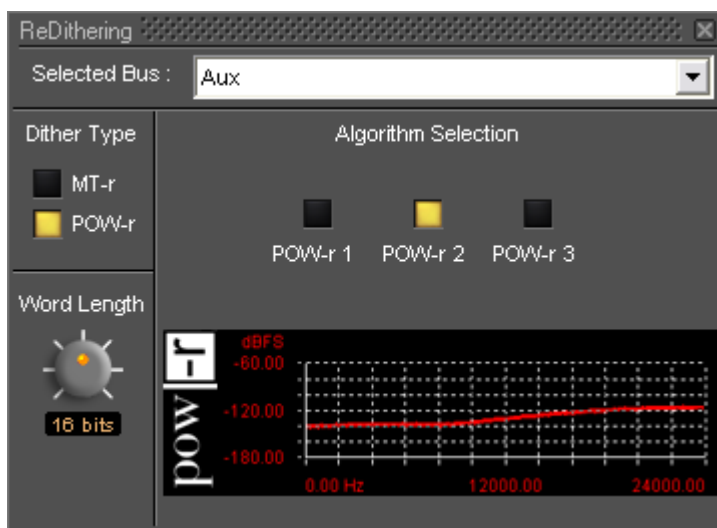
Dithering POW-r floating Window

Mixer Presets

Mixer Presets can be saved in a user folder or added to the main **Mixer Preset** list either for the current user or all users.

Default Mixer

To Save the current Mixer setup as the default Mixer, right click on the Mixing Console and select **Memory > Presets > Store > Default**.

Storing New Mixer Presets

To add a preset to the main list of available Mixer presets I.e. the list which appears when starting a new project, right click on the Mixing Console, select **Memory > Presets > Store > New…** and enter a name for your Mixer Preset. If the **Global** check box is checked then the preset will be available for any user logged on the current machine, if not the preset will be available only for the user that created the new preset.
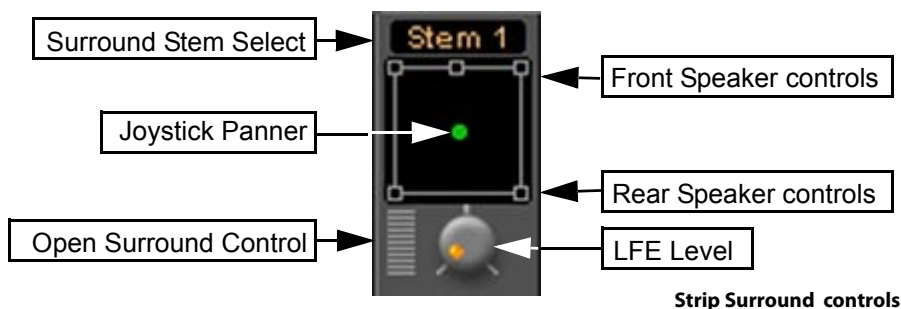
Removing Mixer Presets

To remove a preset from the main list, right-click on the Mixing Console, select **Memory > Presets > Remove > (preset you wish to remove)**. The **Remove Preset** dialog box appears with **OK** and **Cancel** options.

Saving / Loading Mixer Presets

Mixer Presets can also be stored in Windows folders. Right-click on the Mixing Console, select **Memory > Save**. A Windows Explorer window opens enabling the current Mixer Preset to be named and saved to any Windows folder. Similarly, selecting **Memory > Load** enables a Mixer Preset to be loaded from any Windows folder.

Mixer Surround Components

When a **Surround Bus** is added to the mixer an surround panner appears at the top on the **Input Strips**

Surround Stem Select — Front Speaker controls — Joystick Panner — Rear Speaker controls — Open Surround Control — LFE Level

Strip Surround controls

Speaker Controls

Double-clicking on any of the Speaker Controls toggles the mute on/off of the selected surround channel (also muting any audio routed to that surround channel output). When a channel control is muted, it is no longer displayed on the Mixer Input Strip.

Joystick Panner

Determines the position of the source within the surround sound space. To position it, simply left-click on the control and move it to the desired location. Double-clicking on this control will automatically center it.

LFE Level

Determines the level sent to the LFE (.1) output.

Surround Stem select

If a Multiple Surround Bus has been added to the mixer **Stem 'X'** appears at the top of the strip. Click on the box to select the stem you wish to route the strip to.

Stereo Input Strips.

Stereo strip surround controls

The Surround Sound Panner Position control behaves slightly differently in a Stereo Input Strip. Notice there are now two independent position controls and two independent LFE sends. One for each input channel.

Open Surround Control

The **Surround Control** window offers far more information and a greater degree of control over all the surround panning parameters than could be shown on an individual Input strip. It can be opened and closed by clicking on the appropriate area on the strip, from **View > Windows / Tools > Surround Panner** or the icon in the **View** Toolbar when an input strip with a Surround Panner is selected.

Surround Control window
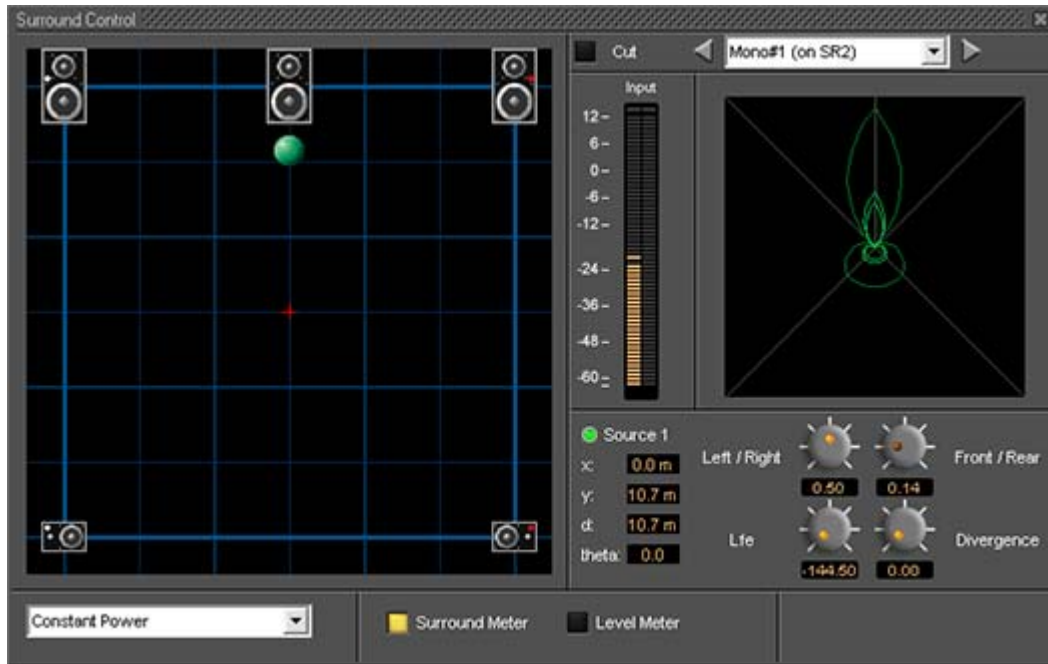
Options available will depend on whether the Mixer Channel is single source (mono) or 2 sources (stereo)

.Position/Speaker Control

When a single source is used, the Position Control is displayed as a green dot on a grid with 5 speaker icons. Each speaker icon represents a Surround Speaker Position (L, C, R, SL, SR). The position of the Green Dot determines the position of the source within the surround sound space. To position it, simply left-click anywhere within the surround sound space. To position it, simply left-click on the control and move it to the desired location or use the knobs. Double-clicking on the Green Dot automatically centers it.

Surround Panning Algorithm

The drop down list gives a choice of panning algorithms.

Constant Gain

Allows the surround panning to preserve a constant gain sum on all speakers wherever the Position Control is placed.

Constant Power

Allows the surround panning to preserve a constant power sum on all speakers wherever the Position Control is placed.

Level Meter

Toggles the main display between the **Surround Meter** and **Level Meter**. This shows the send **Levels** to each surround channel in the middle of the right-hand section and **Output** meters on the right:
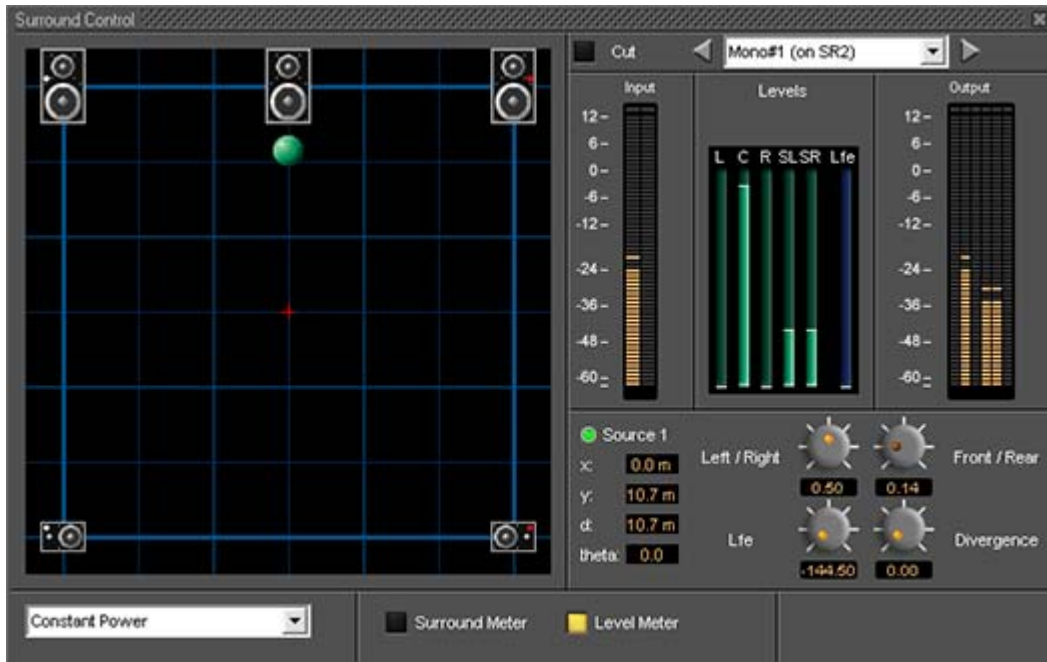
Surround Control floating Win-

Stereo Surround Control
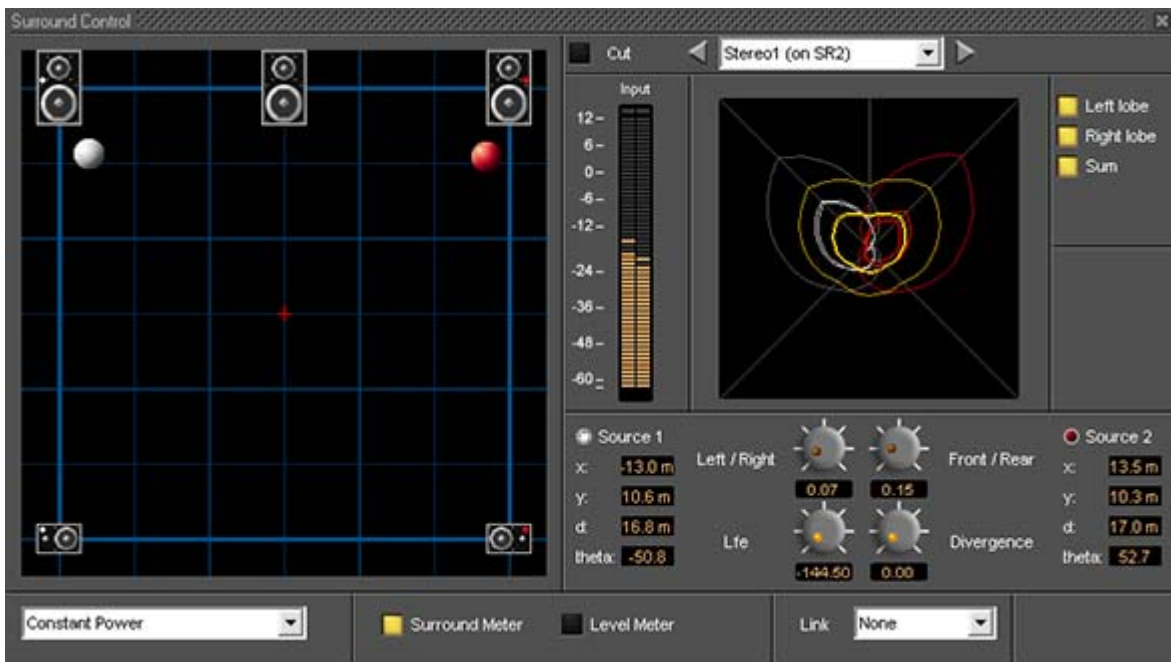
Surround Control floating Win-

Surround Meter

The Display can show static Left, Right and Summed Lobes in white, red and yellow, respectively when the buttons are lit with the actual signal in bright red.

Link
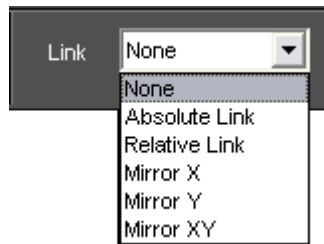
Click and drag on the red and white balls is independent and the controls are switched between **Source 1** and **Source 2** by clicking on the buttons. If a **Link** option is chosen from the combo box click and drag and the controls will affect both sources depending on the chosen linking.

Surround Control Link combo box

Strip and Bus Tools

In a multi-channel strip the clicking the show/hide **Routing** button displays the channel routing buttons. There are as many routing buttons as there are channels in the strip. Strip and Bus Tools affect all channels whose routing buttons are lit blue. In Mono and Stereo strips the routing buttons are on by default. In GPS strips only channels 1 & 2 have their routing buttons on by default.
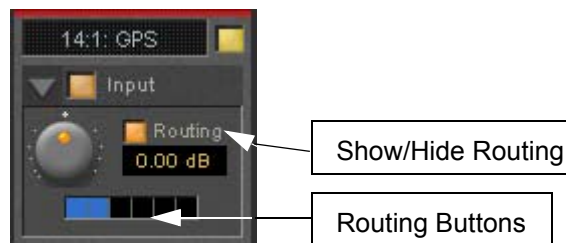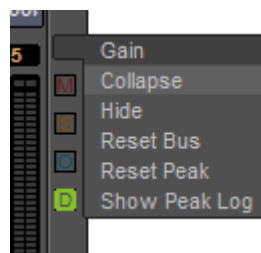

If more than one instance of Strip or Bus Tools is used in the strip this allows, for example, different settings to be applied to Front L-R and Rear L-R.

Peak Logger

The Pyramix Mixer is equipped with a Peak Logger. This has obvious applications in Mastering.

Click on the Gain Pop-up to access the Gain options:

Mixer Peak Log Window

Click on **Show Peak Log** to open the **Mixer Peak Log** Window:
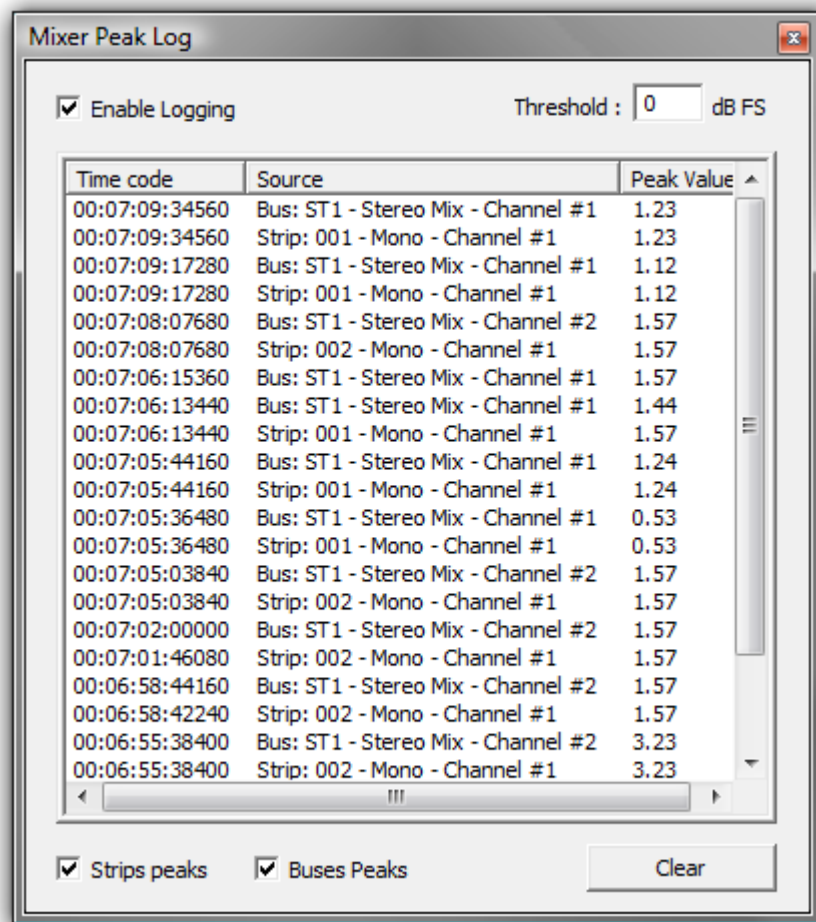
Mixer Peak Log Window

Enable Logging

Tick the box to enable Peak Logging

Threshold

Type a value here to determine the level above which peaks will be logged. Hit **Enter** on the keyboard to validate the change.

Strips Peaks

Tick the box to record Strips Peaks

Buses Peaks

Tick the box to record Bus Peaks

> **Note:** Both Strip and Bus Peaks can be recorded simultaneously.

Clear

Clicking on the **Clear** button erases all the recorded values since the last time it was pressed. (Or since Logging was enabled.)

MT ASIO Bridge

Pyramix can merge an ASIO enabled application's output into the MassCore engine and I/O and send audio to an ASIO application.

The **MT ASIO Bridge** option must first be enabled in the VS3 Control Panel (to a maximum of 96 channels with the extended Native Version) Pyramix must first be closed (if open) before the VS3 Control Panel is launched.
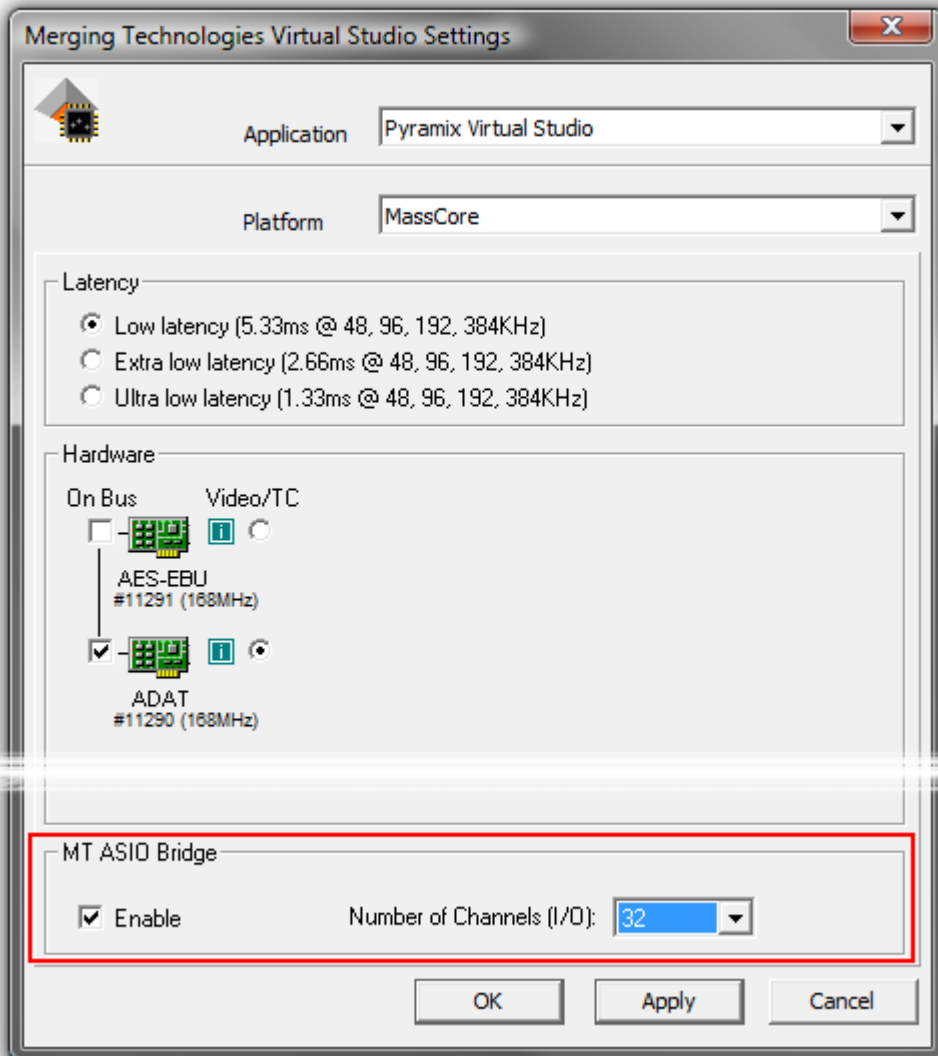
VS3 Control Panel

Once the MT ASIO Bridge option is enabled in the VS3 Control Panel new sources and destinations will show up in the Input and Output drop-down lists just like any other source and destination.

> **Note:** The number of ASIO Bridge channels available is, in part, determined by the amount of physical memory in the machine. **Please see: Memory on page 31**

Pyramix
DIGITAL AUDIO WORKSTATION

Monitor ! Window

Scope

Pyramix has a dedicated **Monitor** section. This extremely powerful tool offers comprehensive monitoring facilities including summing and downmixing for all supported formats. External Machine Inputs, comprehesive Talkback, Foldback and External Metering are also supported depending on your system specification.

The **Monitor** presents monitor outputs of all buses present in the current Mixer as sources. It is also possible to configure external sources both for recorder returns and for talkback. Sources can be summed for monitoring without affecting the Mixer bus outputs. This is useful, for example, when you need to listen to a guide track while recording.

You do not have to use the **Monitor** and disabling it will save DSP power but, with complex Mixers and routing, the Monitor helps to keep things logical.

The monitor is also used to output the audio signal from the audition function of the Media Manager and Libraries as an unformatted input. (I.e. Routed to LRC in a Surround 5.1 Speaker Set and to LR in a Stereo one)

By default the **Monitor** window is hidden. It can be opened with **View > Monitor** or the ![icon] icon in the View Toolbar.

Monitor Main Monitor ! Window

The Monitor has four pages: a Main **Monitor !** page in normal operation, a **Configure** page for setting up and two further pages for configuring **Externals** (machines) and **Talkback**.

Monitor ! page

The **Monitor !** window is divided vertically into three sections.

Sources, left-hand section:

The button top-left of the title bar enables/disables the Monitor and lights yellow when enabled. This allows DSP power to be saved when comprehensive monitoring control is not required. Below the **Enable Monitoring** button is a tree view of all buses used in the mixer. Clicking on the **+** and **-** boxes shows and hides branches in the usual way. Click on any complete bus or any available stem or any bus/stem channel to select it for monitoring. Selection is exclusive unless the **Ctrl key** held is down. Then selection is cumulative and clicking adds or subtracts Sources according to their current state.

Buses / Externals button

Note: At bottom left in the screenshot above the button labelled **Buses** indicates which sources are available for activation. Clicking on this button toggles through **Buses**, **Externals** and **Buses / Externals**

Main, centre section:
Selected Sources

<<   SR1   >>: Select previous/next Pyramix source. Only sources visible in the **Sources** section are available. I.e. If the component channels of a bus or stem are collapsed this bus or stem is switched as a unit when the component channels are visible in the **Sources** section then clicking on the **<<** or **>>** buttons steps through each available channel in turn.

<<   DA-88   >>: Select previous/next External Source. Only External Sources visible in the **Sources** section are available.

Note: Clicking on any of the **<<** or **>>** buttons cancels the selection made previously in the **Sources** section.

Selected Output

<< Surround 5.1 >>: Select **previous/next Speaker Set**.

<<   Main   >>: Select the **previous/next Downmix** defined in the Configure page.

Main area

Speakers are inactive (grayed) if they are not connected in the **Configure** page.

The **Mode** buttons at the bottom determine the function of the active Speaker buttons.

Mute: Clicking on a speaker mutes it. Selections are cumulative.

Solo: Clicking on a speaker solos it. Selections are cumulative.

SoloX: Solo eXclusive on the clicked speaker. Selections toggle.

Phase: Clicking on a speaker reverses its phase. Selections are cumulative. Useful for quick imaging checks.

In Place Works in conjunction with **Solo** and **SoloX**. Toggles between **In Place** and **Center**.

Reset: Deselect all speakers.

In Place/Center: In **Solo** and **SoloX**, toggles between **In Place** and **Center**. **Center** routes the soloed channel(s) to the Center speaker or equally to the L/R speakers if no center speaker is present. **In Place** mode is the normal Solo, SoloX mode.

Output, right-hand area
Monitor Level box Displays the current output level. Output level can be entered numerically in the box after clicking on it.

Volume Knob: sets all the output gains in a range from -144.5dB to +24dB. Double-click to set it to 0dB.

Note: Maximum permissible volume can be set in the **Configure** page.

**Mute:** button mute the outputs.

Dim: button reduces the output level by an amount set in the **Configure** page. Default value is -20dB.

Below these buttons is the

Peak Meter Selection: Indicator/Button. This indicates what the Peak Meter display below the button is looking at. (The selection also affects External Metering if you are using it) Clicking on the button drops down a list of

sources that can be metered from a choice of **Master Output** I.e.Monitor Output, **Mixer Buses** and any available **Externals**.
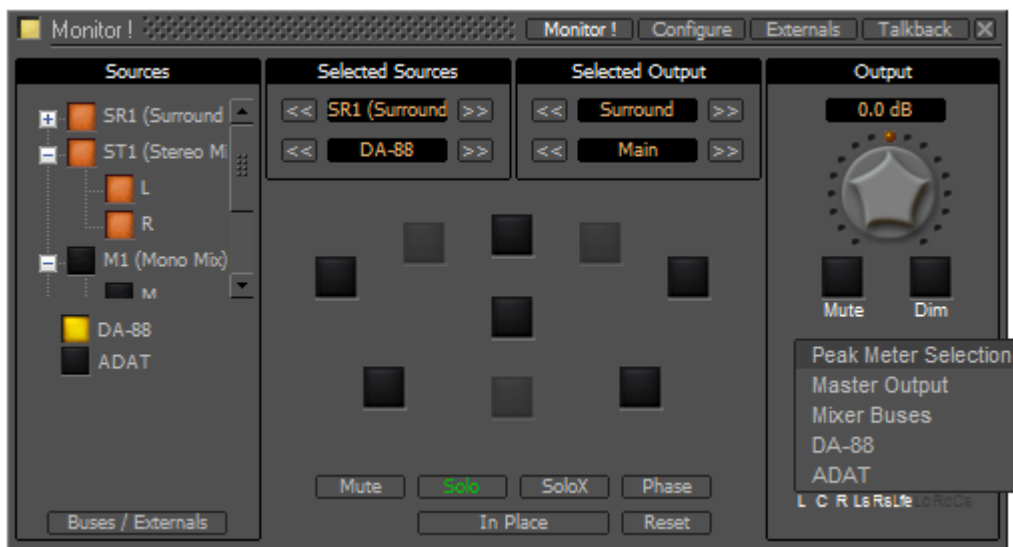
Monitor Main Monitor ! Window Peak Meter Selection drop-down

Speaker Sets

Speaker Sets are set-up in the **Configure** page.

A speaker set consists of:

A **Patch**: This connects signals to the physical outputs of the board(s). The number of connection will depend on the number of speakers you want to connect. Since the number of available live outputs depends on the selected sampling rate, the patch will differ for 1Fs, 2 Fs, 4Fs and 8 Fs sampling rates.

A **Main grid**: this matrix defines the relation between the Mixer's buses output channel types and the monitor's output channel types (thus the monitor's physical outputs). Typically, the main grid would show a diagonal for the channel types patched:

Monitor Configure Window

A set of **Downmixes** (max: 4) : A downmix is a an alternative grid which uses the same patch as the main grid. In this page you can patch the outputs of you monitor, add/remove downmixes, and defines the corresponding grids in dB (only the channel types which are patched).

Configure page

The **Configure** page enables multiple **Speaker Sets**, each with multiple down-mixes, to be created and edited. Two factory Speaker Sets (**Stereo** and **Surround 5.1** labelled on a red background at the top of the **Speaker Sets** list) are installed with Pyramix. Their Main channel to speaker Main Grid and Down-Mix assignments cannot be changed, but their output Patches from speakers in the Monitor to physical outputs can.

They and each of their down-mixes can be enabled/disabled in order to determine which ones are visible in the main Monitor page.
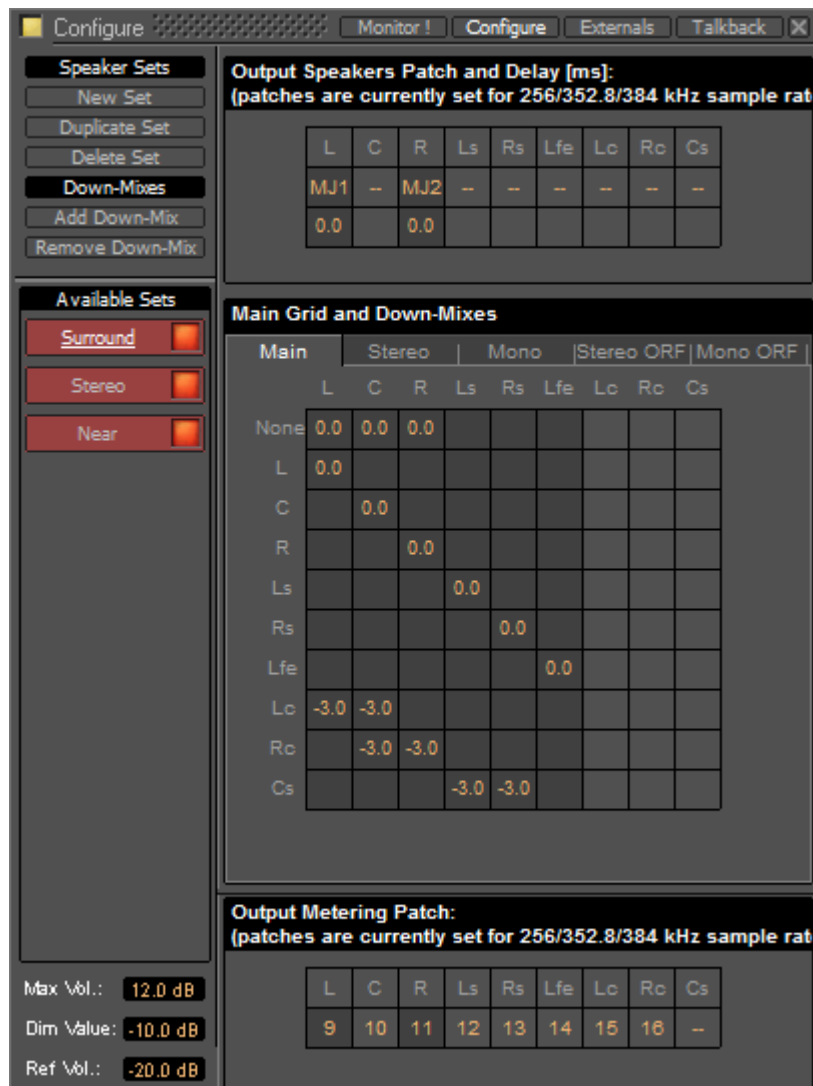
Monitor Configure Window

The **Configure** page is divided into four main areas; **Speaker Sets** and **Down-Mixes**, **Available Sets**, **Output Speakers Patch and Delay[ms]**, **Main Grid and Down-Mixes** and **Output Metering Patch**.

Available Sets

To select an existing Speaker Set in order to view or alter its settings, click on its title in the **Available Sets** list. The label will become underlined and the Set's parameters will appear in the grid. If the Set has Down-Mixes already defined there will be one or more tabs next to the **Main** Tab in the **Main Grid and Down-Mixes** area.

Two sets, **Stereo** and **Surround 5.1** are factory defined and cannot be altered. New Sets and Down-Mixes can be **Create**d, **Duplicate**d and **Delete**d using the Command buttons.

Max Vol

To set the maximum volume attainable click on the value box to highlight it and type the desired value then hit **Enter** or click elsewhere on the window to save the change.

Dim Value

To change the Dim Level, click on the value box to highlight it and type the desired attenuation value then hit **Enter** or click elsewhere on the window to save the change.

> **Note:** Only negative values are accepted. Positive values revert to 0dB. I.e. Type "**-15**"

Ref Vol

To set the **Reference Volume** level click on the value box to highlight it and type the desired value in the range -20dBfs to 0dBfs then hit **Enter** or click elsewhere on the window to save the change.

Commands

Speaker Sets

New Set

Clicking on **New Set** creates a new Speaker Set with a blank matrix Grid and adds a new entry to the **Available Sets** list with the label highlighted ready for text entry:

Monitor Configure New Speaker Set

Type a suitable name and click on a blank area or hit **ENTER** to accept the name.

Duplicate Set

Creates a new Speaker Set with a the same matrix Grid settings and Down-Mixes and settings as the set currently selected (underlined) and displayed in the grid. The new label is highlighted ready for text entry.

Delete Set

Deletes the currently selected (underlined) Speaker Set.

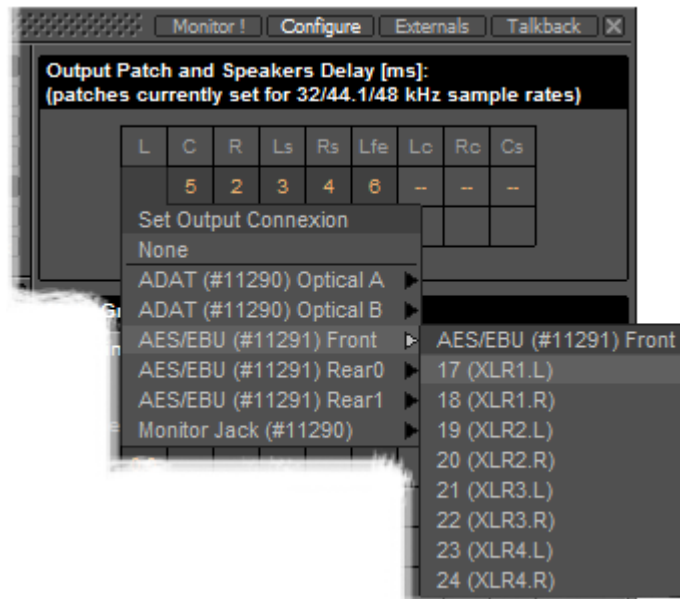### Down-Mixes

Add Down-Mix

Creates a new Down-Mix associated with the currently selected Speaker Set with a new tab in the **Main Grid** and **Down-Mixes** section.

Remove Down-Mix

Deletes the current Down-Mix

Output Patch:

This is where the Monitor's Speaker Set outputs are patched to physical outputs.

Monitor Configure Output Patch

Clicking on a cell pops up the **Set Output Connection** menu with all available physical outputs grouped by their connectors. The sub-menus list the group and the individual channels. Select an individual channel to connect it or select the group, e.g. **AES/EBU (#11291) Front** to connect the whole group in ascending order from the cell clicked on.

> **Note:** Each Speaker Set has its own **Output Patch** associated with it. This is useful where different speakers are used for different formats. If there is only one set of speakers patch all Speaker Sets to the same physical outputs.

Double Assignment

When an output of the Mixer and an output of the Monitor are connected to the same physical output then these are summed and the Mixer displays the connection in orange as a warning.

Speaker Delays

Delay can be set per Speaker by clicking in the box below the Output Connection and typing in a value. Speaker delays are typically used to compensate for the physical positioning of the loudspeakers for example where the Left Centre and Right speakers are placed in a straight line, the Centre speaker will be nearer to the listening position and should be delayed accordingly.

Saving Speaker Sets

Mixer to Monitor connection status is saved in the project.

The Speaker Set settings are saved when you leave the page to go back to the **Monitor !** page; otherwise, modifications are not saved.

Media Manager Monitoring

Note: In order to be able to audition cues in the **Media Manager** the **L** and **R None** entries in the **Main Grid** matrix must be set to a value, e.g. **0.0**
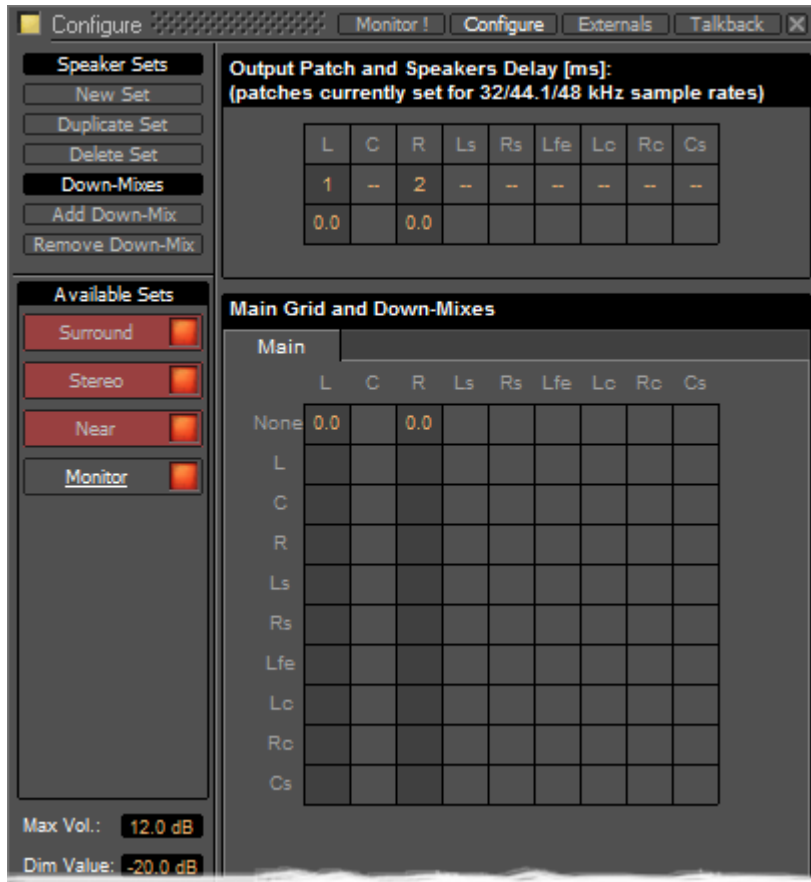
Monitor Configure Media Manager

External Metering

If you wish to use your favourite external hardware meters with Pyramix this can be achieved easily and conveniently.
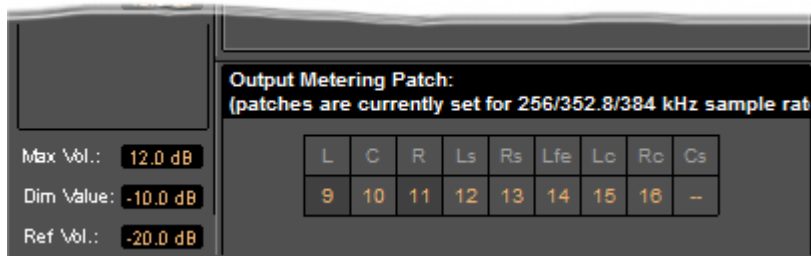
Monitor Configure Output Metering Patch

At bottom right of the **Monitor Configure** page an extra set of nine patches is provided to configure external outputs specifically for metering.

Patches are made in exactly the same way as the Speaker **Output Patch**es. **Please see: Output Patch: on page 199**

External Inputs

External devices may be added in the Monitor panel. This is useful for connecting monitoring returns from the Studio's fixed external audio devices such as recorders.

Note: This feature is currently available for Native, Mykerinos mono-board and MassCore systems. It is not currently supported on Mykerinos multi-board non MassCore systems.

Adding an External Machine

Up to 8 new externals can be added.

Monitor Externals page

Note: External machines will only be visible and available as monitor sources in the **Monitor !** page when the **Buses /Externals** button is set appropriately. **Please see: Buses / Externals button on page 194**

Each external has a dedicated input Patch. Patches are set up by clicking in the boxes below the speaker letters and choosing inputs from those available.

Talkback

Talkback facilities are provided in the **Monitor** section for studios without a separate talkback system.

These facilites are intended to be used with **GPI/O** external connections for physical talkback switches.

Please see: GPI / GPO Support on page 393 for information about setting up **GPI/Os**.

Note: Talkback is currently available for Native, Mykerinos mono-board and MassCore systems. It is not currently supported on Mykerinos multi-board non MassCore systems.

MassCore

When **Talkback** is set up and active the **Talkback** section appears at the bottom of the main **Monitor !** page:
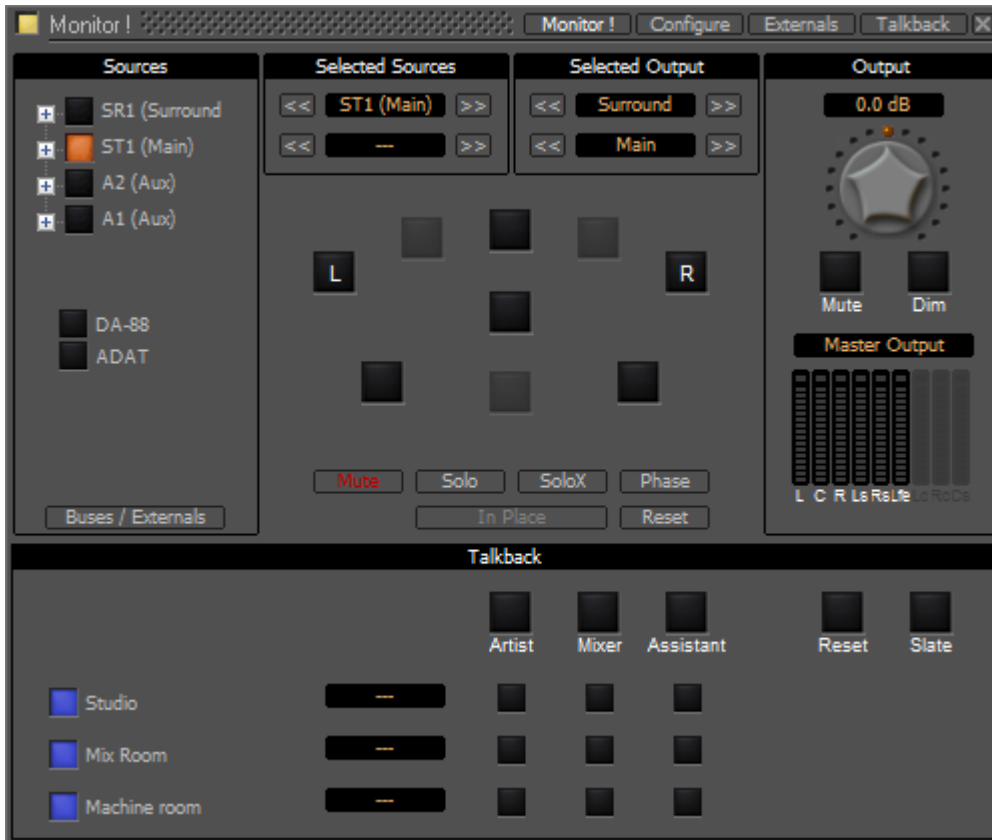
Monitor ! page with Talkback Section

Setting Up

Talkback Page

You can add up 8 Studios (Destinations) and 3 Talkbacks (Sources) in the **Talkback** page:

Monitor Talkback page

Destination

Add Adds a **Destination**

Delete Deletes the selected **Destination** or the remaining one when there is only one shown.
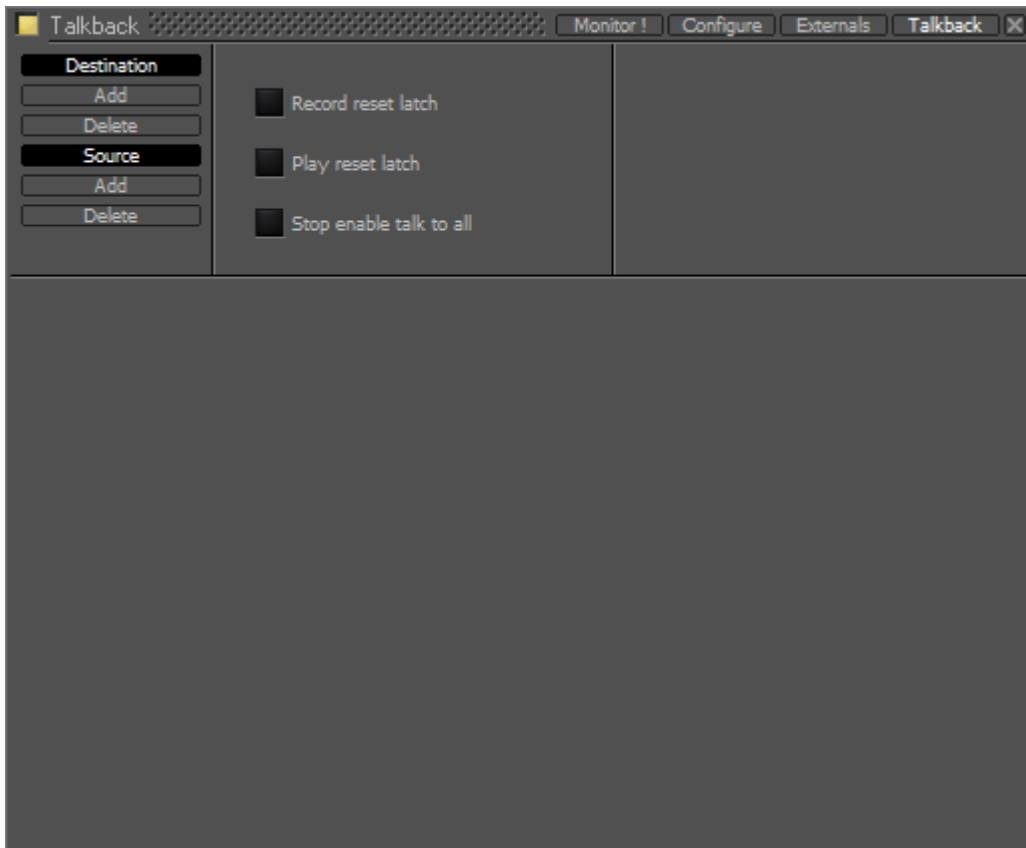
Source

Add Adds a **Source**

Delete Deletes the selected **Source** or the remaining one when there is only one shown.

Record reset latch

When lit red all active conversations are muted when the transport is in **Record**.

Play reset latch

When lit green all active conversations are muted when the transport is in **Play**

Stop enable talk to all

When lit yellow the **Talk To All** function is activated when the transport is in **Stop**.

Example

This is how you would set up talkback for a simple facility with a **Mix Room**, **Studio** and **Machine Room**.

· The **Mixer** will be able to speak to the **Vocal Booth** or the **Machine Room** independently.

· The **Assistant** will only be able to speak to the **Mix Room**.

· The **Vocal Booth** will only be able to speak to the **Mix Room**.

Note: If a seperate 'Producer' Talkback unit is required this can be achieved with a simple parrallel physical connection of buttons that both activate the **Mixer** to **Vocal Booth GPI**.

Setting Up

1. Click on **Studio Add**
    A **New Monitor Studio** box appears. Type a suitable name for the Studio, in this case, **Vocal Booth** and press the keyboard **Enter** key to confirm.
    The red button indicates that the destination is active.

    Note: The **Talkback** section will be shown at the bottom of the **Monitor !** page if any destinations are active in the **Talkback** page.

2. Notice the two boxes to the right of the name with orange dashes. Click on the left box to drop down the **Set Output Connection** menu:
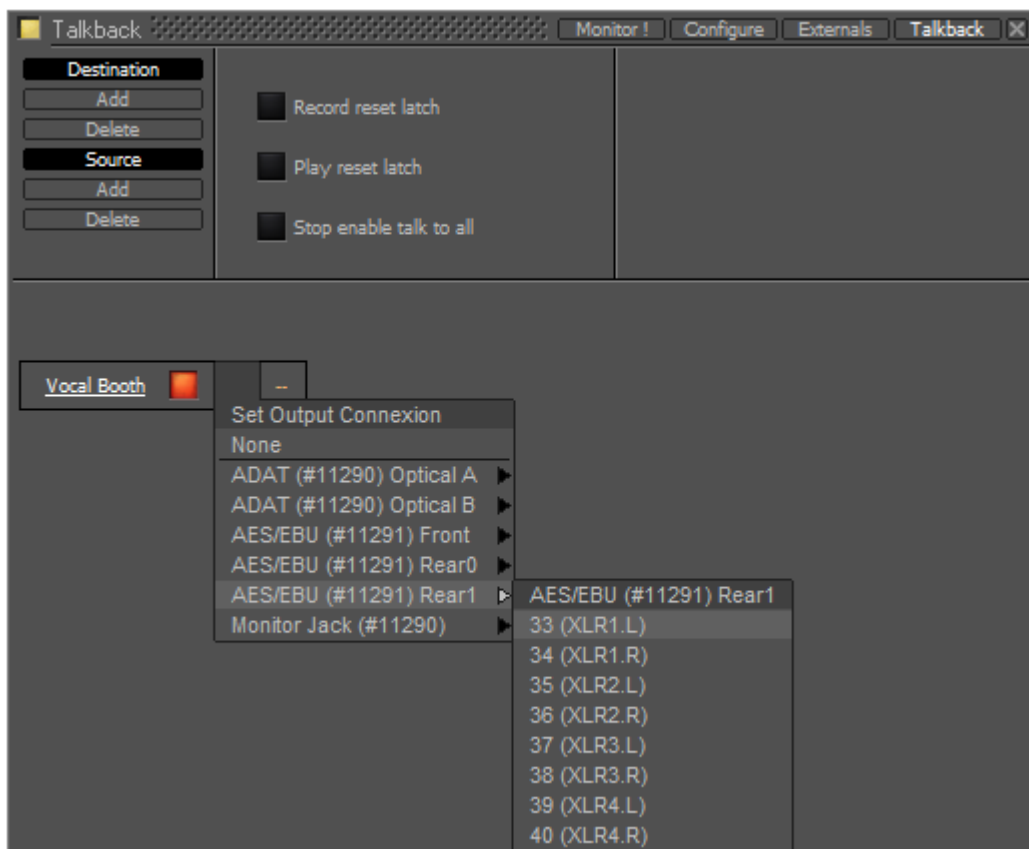
Monitor Talkback page Destination Output Connection

3. choose a suitable physical output to feed the Talkback amplifier/loudspeaker.

    Note: If you only have digital outputs then you will need a converter.

4. If you wish to have stereo talkback/foldback repeat steps 2&3 for the right-hand box. Here only the **Vocal Booth** is to be fed with Foldback so that is the only stereo destination.

5. Repeat steps 1 to 3 twice to add two more destinations.

6. Label these to suit, in this case, Mix Room and Machine Room.

You should now have something like this on screen:
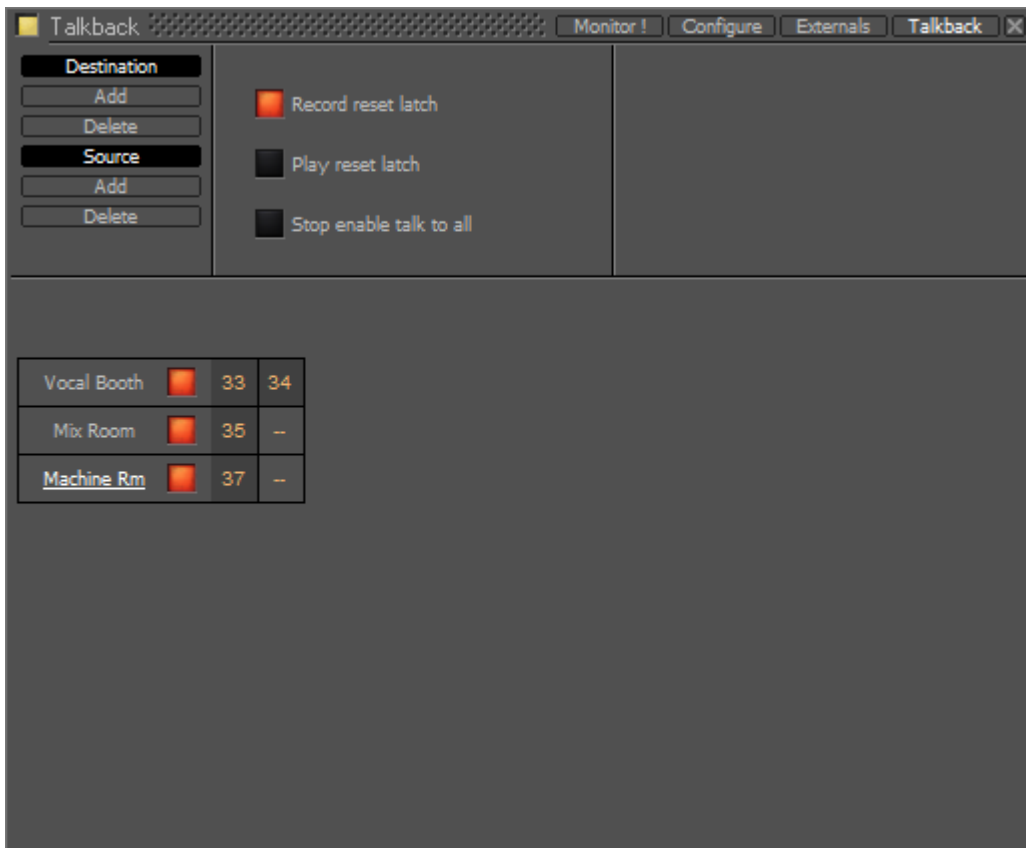
Monitor Talkback page with destinations

Note: Only the Vocal Booth has been set up as a stereo destination. If you want seperate speaker and headphone feeds to the studio just add another destination and label it appropriately. E.g **Vocal Booth HP** for maximum control.

7. Now set up the sources by clicking on **Source Add**

8. A column appears with **New Talker** highlighted in a box. Type a suitable name for the source. In this case **Mixer**.

9. Add two more sources and label them **Assistant** and **Artist**
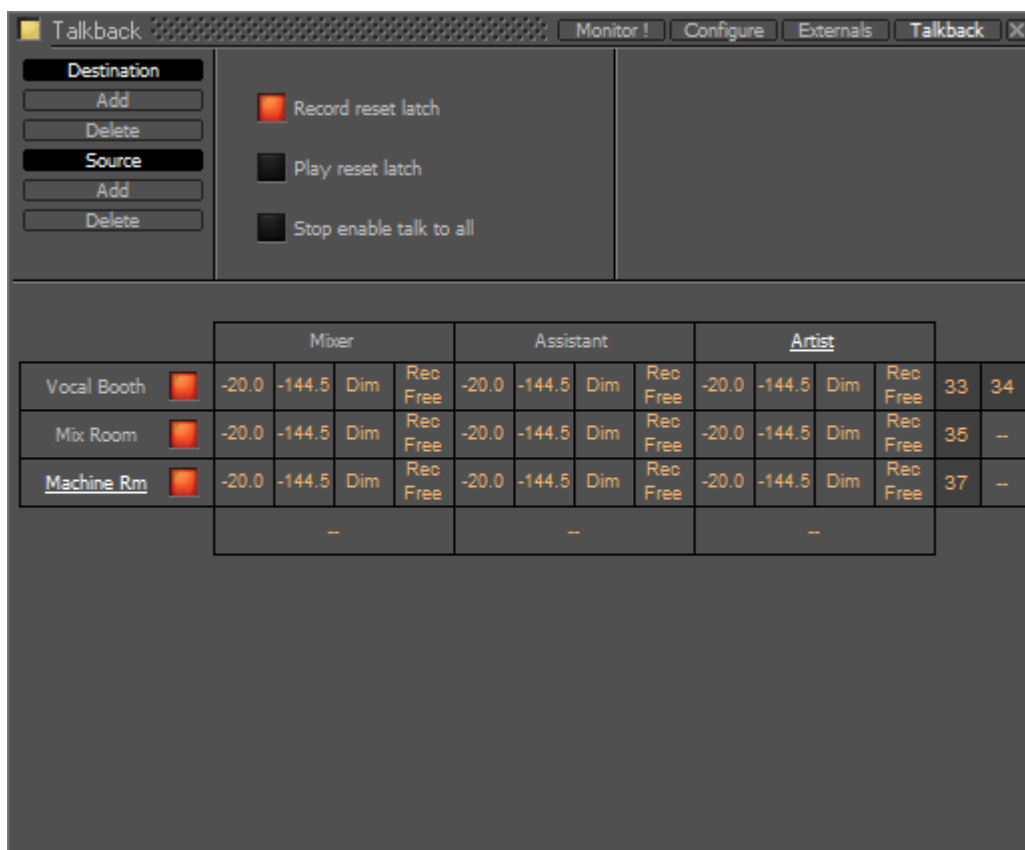
Monitor Talkback page with Sources and Destinations

10. Click on the boxes with the orange dashes at the bottom of each source column to open the **Set Input Connection** menu and choose a suitable input connection for each of the talkback microphones.

Note: If you only have line level analogue inputs you will need external mic pres and if you only have digital inputs then you will need converters as well.

11. Now the levels, **Dim** and **Mute** switching must be set.

- The boxes in the first column of each **Source** set the attenuation that will be applied to the **Destination** output when Talkback is activated from each source.

- The second column sets the send level per **Destination**. You can type **mute** or a numeric value in the box.

Note: If **mute** or **-144.5** is entered this **Destination** will be grayed out and unavailable in the **Talkback** section of the **Monitor** page. For example, it is illogical for the **Mixer Source** to talk to the **Mix Room Destination** and so on.

- The third column offers the choice of **Dim** or **None**. Selecting **Dim** means that when this crosspoint (**Source** to **Destination**) is activated by pressing the relevant **Talk** button, the **Main Monitor Output** will be dimmed.

Note: This is essential when, for example, the **Mix Room** talks to the **Vocal Booth** with the programme mic channel open to avoid howl-round and possible damage to loudspeakers and hearing.

- The fourth and final column offers a choice between **Rec Free** and **Rec Loc**.
  Rec Free means that talkback on this crosspoint can be initiated when the Transport is in Record and the **Record Reset Latch** is set.
  Rec Loc disables the crosspoint when when the Transport is in Record and the **Record Reset Latch** is set.

So, bearing in mind who is going to be allowed to talk to whom and given that it is illogical to use talkback to talk to yourself, the levels should now look approximately like this:

Monitor Talkback page with Sources and Destinations and levels set

Returning to the **Monitor !** page you will see this in the **Talkback** section:

Monitor ! page Talkback Section

(If the buttons on the left are lit blue ignore them for now) The big buttons with the labels **Mixer**, **Assistant** and **Artist** are **Talk to All** destinations (In this case only relevant to **Mixer**)

Operation

The smaller buttons vertically below the bigger, labelled Source buttons initiate talkback from the horizontal sources to the vertical destinations. These are the buttons you are most likely to want to map to **GPIs**. For example in the following screenshot the **Mixer** is talking to the **Vocal Booth**:

Monitor Talkback page : Mixer talking to Vocal Booth

> **Note:** Notice that, due to the settings made earlier, **Mixer** talking to **Vocal Booth** also **Dim**s the Main Monitor **Output**.

Talkback Button Operation

All the Talkback buttons are dual mode. A press of less than one second latches the Talkback open. A second press cancels. A press of more than one second initiates Talkback on press and cancels when the button is released.

Reset cancels all latched talkbacks.

Talk to All initiates open Talkback between all enabled **Sources** and **Destinations**

Foldback

Continuing the foregoing **Talkback** example it is also possible to add foldback to the Talkback outputs. To add Foldback to the **Vocal Booth** Talkback outputs click on the black box to the right of the **Vocal Booth** label to drop-down a list of available Foldback sources:

Monitor Talkback page : Select Foldback Source

Select the required **Foldback Studio Monitor Source**.

> **Note:** You can add a bus in the mixer specifically to produce a mix for **Foldback**.

The buttons on the left of the **Vocal Booth** label etc. toggles the foldback on and off per destination:
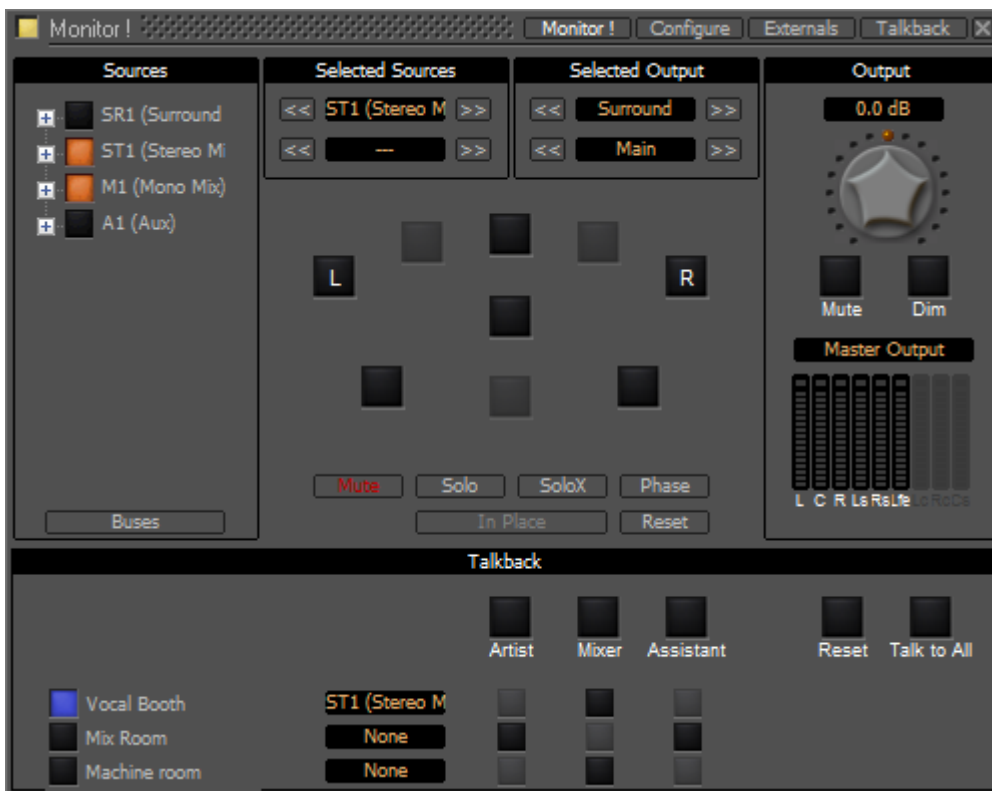
Monitor Talkback page : Foldback to Vocal Booth Active

Here, the **Vocal Booth** is fed with **ST1 (Main)** bus output. The vocals are recorded clean on **M1 (Mono Mix)** and, as can be seen above, the **Mixer Room** monitors are being fed with the sum of these buses.

Meter Bridge

12

Pyramix
DIGITAL AUDIO WORKSTATION

Meter Bridge

Scope

Pyramix has a dedicated **Meter Bridge** window.

The **Meter Bridge** can present a meter display for every Input strip and Bus present in the current Mixer and external Machine configured in the **Monitor : Externals** page.

The **Meter Bridge** also indicates the currently selected mixer strip with a yellow outline, any strips in Record Ready condition with a red outline, whether any strips are **Muted** or **Soloed** and optionally shows Ramses Groups and Fader **Automation** mode per strip.

You do not have to use the **Meter Bridge** but, especially when used with **Ramses MSC**, it offers flexible metering in one place. With complex Mixers and routing, the Meter Bridge can help to keep things logical.

> **Note:** The **Meter Bridge** is displayed "Always On Top" of other windows.

Meter Bridge Switch

Before the Meter Bridge Window can be opened it must be switched on in the **Settings** section of the **Mixer Configure Page** :

Meter Bridge Switch

Meter Bridge Window

By default the **Meter Bridge** window is hidden. It can be opened with **View > Meter Bridge** or the icon in the View Toolbar.
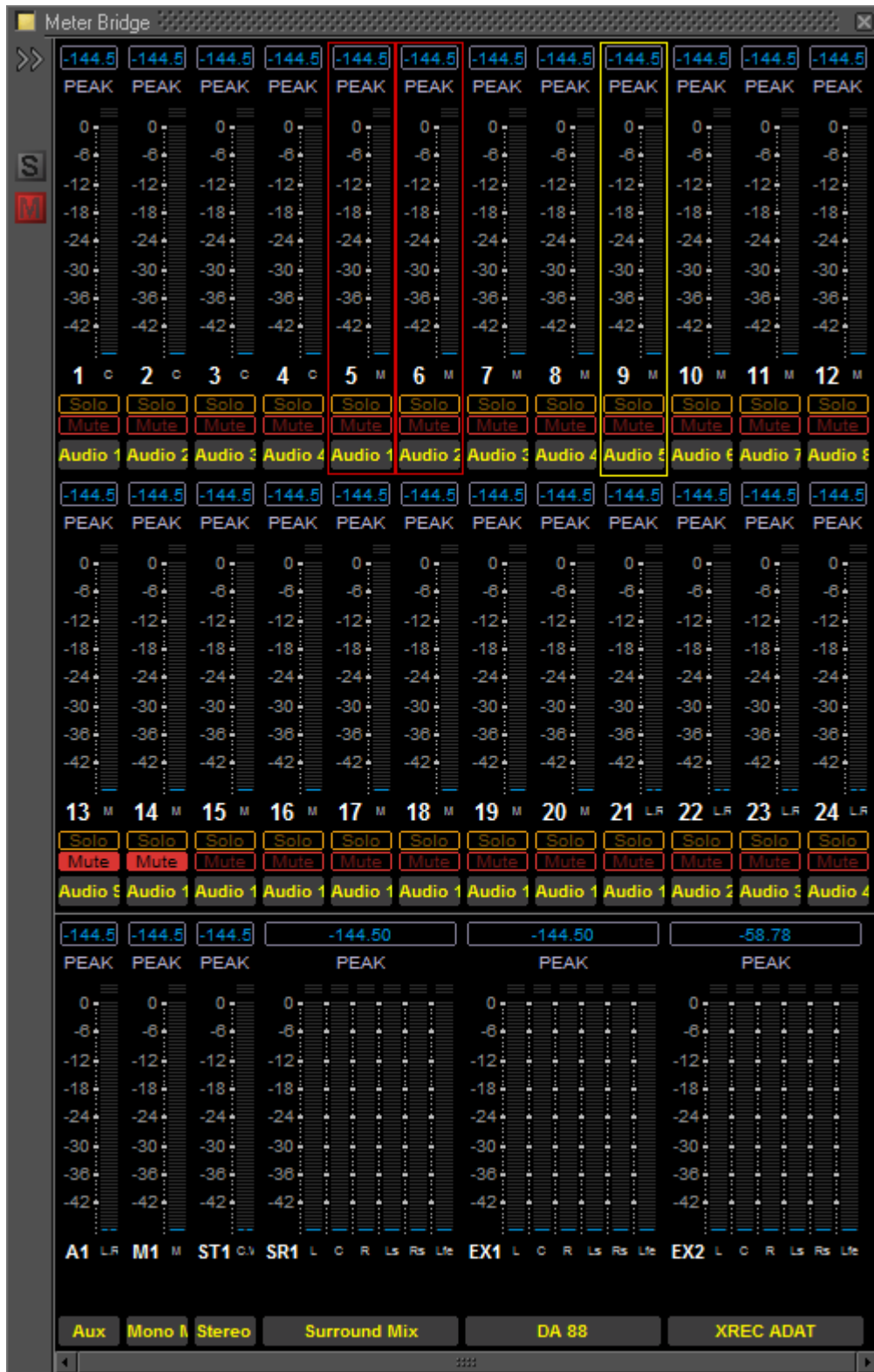
Meter Bridge Window - Triple Row Mode

Resize

The **Meter Bridge Window** can be resized by clicking and dragging the edges. (Mouse cursor changes to double arrow) Vertical resizing is limited to sensible display options. Scroll bars will appear when there is more information to display than the window can accomodate. There is a separate auto-hide scrollbar for the Input Strips so you

can keep all the Buses and Externals visible together with a contiguous section of the Input Strips of a very large mixer. (This will appear when the mouse cursor is over the right-hand edge of the top two rows.)

Global Mute and Solo Indicators

If any strip is Muted or Soloed the global indicators in the left margin illuminate.

Selected Strip and Record Ready Status

The currently selected strip is shown with a yellow outline.

Any strips currently in Record Ready mode are shown outlined in red.

Configuring the Meter Bridge

When first opened the **Mixer Bridge** appears as above. clicking on the double arrow **>>** below the Yellow Activate button opens the **Display** panel (a subsequent click on the **<<** arrows closes):
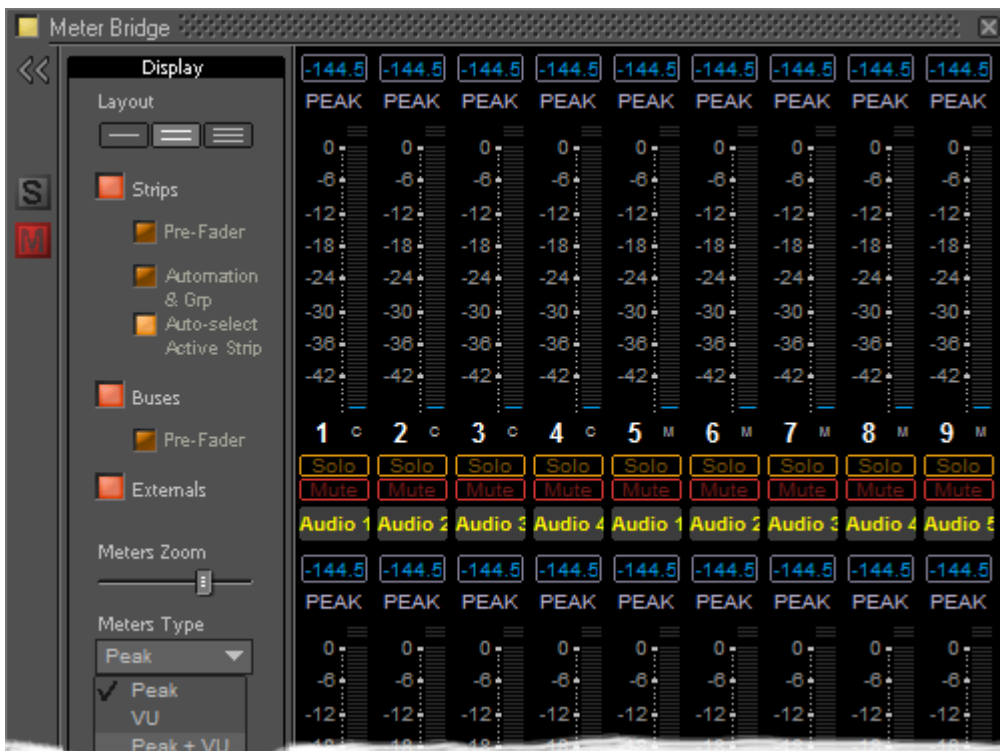
Meter Bridge Configuration : Display Section

Layout

The three buttons determine whether the meters are displayed as a single, double or triple row (default).

Single Row

Single row is useful if you only wish to display buses and or **Externals** (returns).
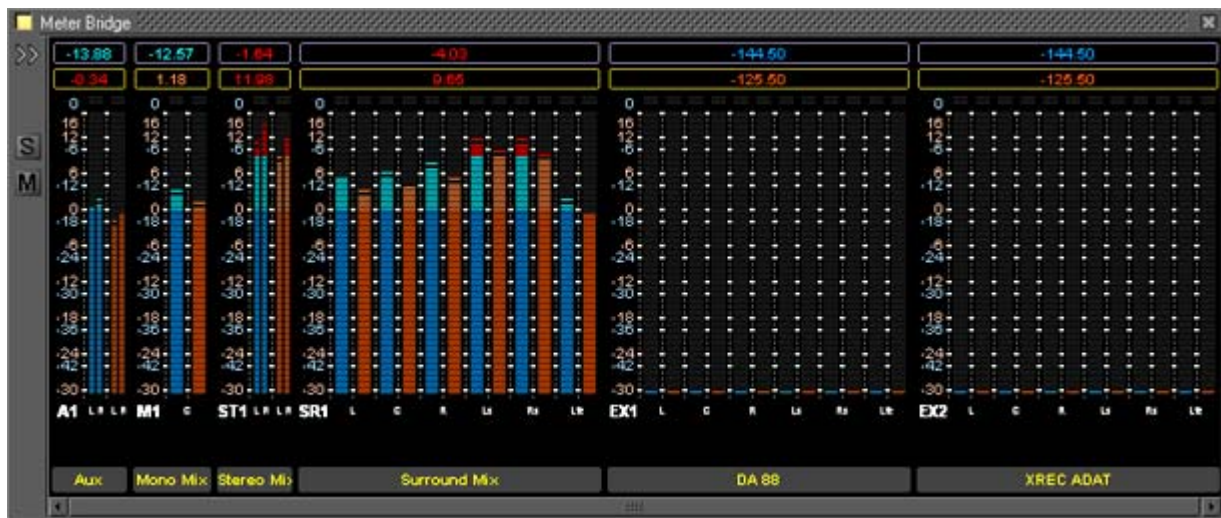
Meter Bridge - Single Row Mode

Strips

The red button shows/hides the Input Strip Meters (default is Show)

> **Note:** Show/Hide for Input Strips is only available in 'single row' display mode. Useful in applications where the Bus and External Machines are of more interest than the Inputs.

Pre-Fader

When lit, the Input Meters source is taken pre-fader. (default is post-fader)

Automation

When lit, four Fader Automation Mode indicators are shown in each Input Strip. (default is hidden)

Auto-select Active Strip

When lit, the active strip is highlighted in yellow

Buses

The red button shows/hides the Bus Strip Meters (default is Show)

Pre-Fader

When lit, the Buses Meters source is taken pre-fader. (default is post-fader)

Externals

The red button shows/hides the External Machines Meters (default is Show)

> **Note: Externals**, External machine Returns, are set up in the **Monitor : Externals** page. **Please see: External Inputs on page 201**

Meters Zoom

The slider adjusts the meter scaling. Range is from 0dB to -144.5dB maximum to 0dB to -10dB minimum. Double-clicking on the slider 'knob' resets to default scaling.

Meters Type

The drop-down offers a choice between **Peak** (default), **VU** or **Peak + VU** as seen here along with the **Automation Indicators**:
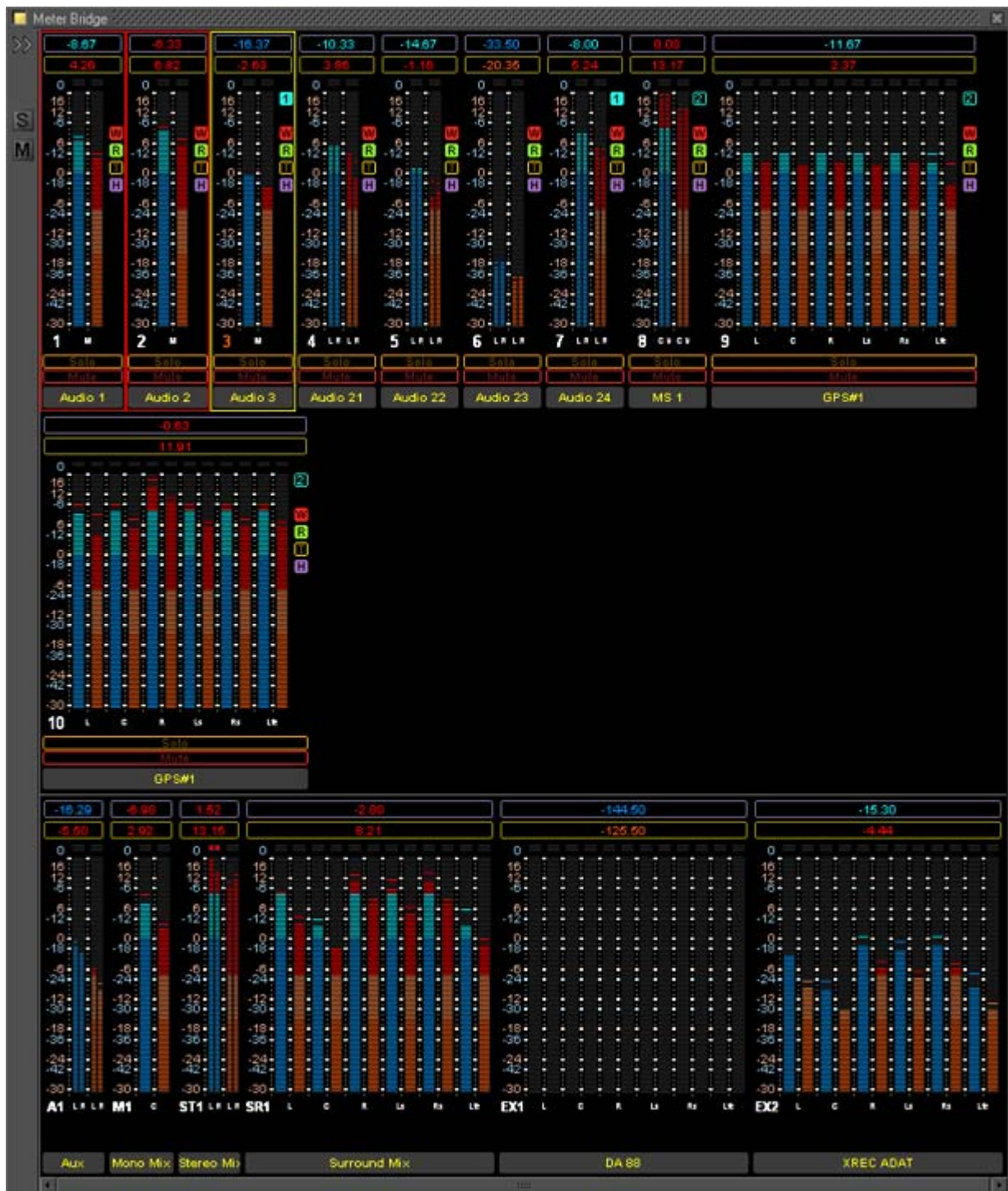
Meter Bridge - Triple Row Mode

Automation Fader Mode and Group Indicators

Ramses Group

Member of Group

**Member of selected
Strip's Group**

This indicator shows that the associated strip is a member of a Ramses MSC control Group. When in inverse video (filled in) it also indicates that the associated strip is a member of the currently selected strip's Group.

> **Note:** These Ramses MSC Control Groups are currently completely independent of the Pyramix grouping arrangements.

Automation Fader Mode

Write

Read

Trim

Hold

In the default, **Auto-Write**, mode only the **Write** and **Read** indicators are lit together.

As soon as a fader is touched with the transport in play the **Read** indicator extinguishes leaving only the red **Write** indicator lit.

If an Automation **Trim** mode is selected the yellow **Trim** indicator will also be lit.

Similarly, if a **Hold** mode is selected the purple **Hold** indicator will be lit.

Thus, in the **Meter Bridge** screenshot above, the automation is in **Auto-Write** plus **Trim & Hold** modes.

Effects and Plug-Ins

Effects and Plug-ins

This chapter describes individual effects and their components as they are applied in the Pyramix Mixer.

For rendered effects **please see : Effects Rack on page 294, Levelizer on page 296 Nova on page 296 and Prosoniq MPEX3 on page 298**

Adding and Managing Effects

Please see: Effect Management on page 147 and **Native VS3 Effects and VST Plug-ins on page 179**

Note: If a Plug-in is unregistered then **(unregistered)** will be appended to the name in the list. For more detailed information about registration status open the **VS3 Plug-ins Information** window.

VS3 Plug-In Support

VS3 Plug-ins Support and Latency

VS3 Plug-ins	Supported in Pyramix 6.0	Latency Compensated	Not Compensated
Angudion I & II	Yes	-	
Aphro	Yes	-	
Other VB Audio Plug-ins	In progress (note1)		
Bus Tools & Strip Tools	Yes	A	
DC Meter, Phase-Oscillo, VU Meter, Surround Meter, Wordlength Meter	Yes	-	
Delay	Yes	-	
Dynamics	Yes	A	
EqX	Yes	-	
External Insert	Yes	M	
Flanger	Yes	-	
Modulometer	Yes	-	
MS Encoder	Yes	-	
Parametric Equalizer	Yes	-	
Phase-Oscillo	Yes	-	
Pure Series	Yes	A	
Solera	Yes	A	
Tone	Yes	-	
DeNoiser-DeScratcher	Yes	A (note2)	A (note2)
UpMix 5	Yes	A	

A=Automatically   M=Manually

Note1 : Please see:

www.vb-audio.com

(client area) for the latest information

Note2 : Compensated in Native but not in MassCore mode

Viewing Plug-in Information

VS3 Plug-Ins Information

The Mixer right-click context menu has an option to pop-up the **VS3 Plug-Ins Information Window**T
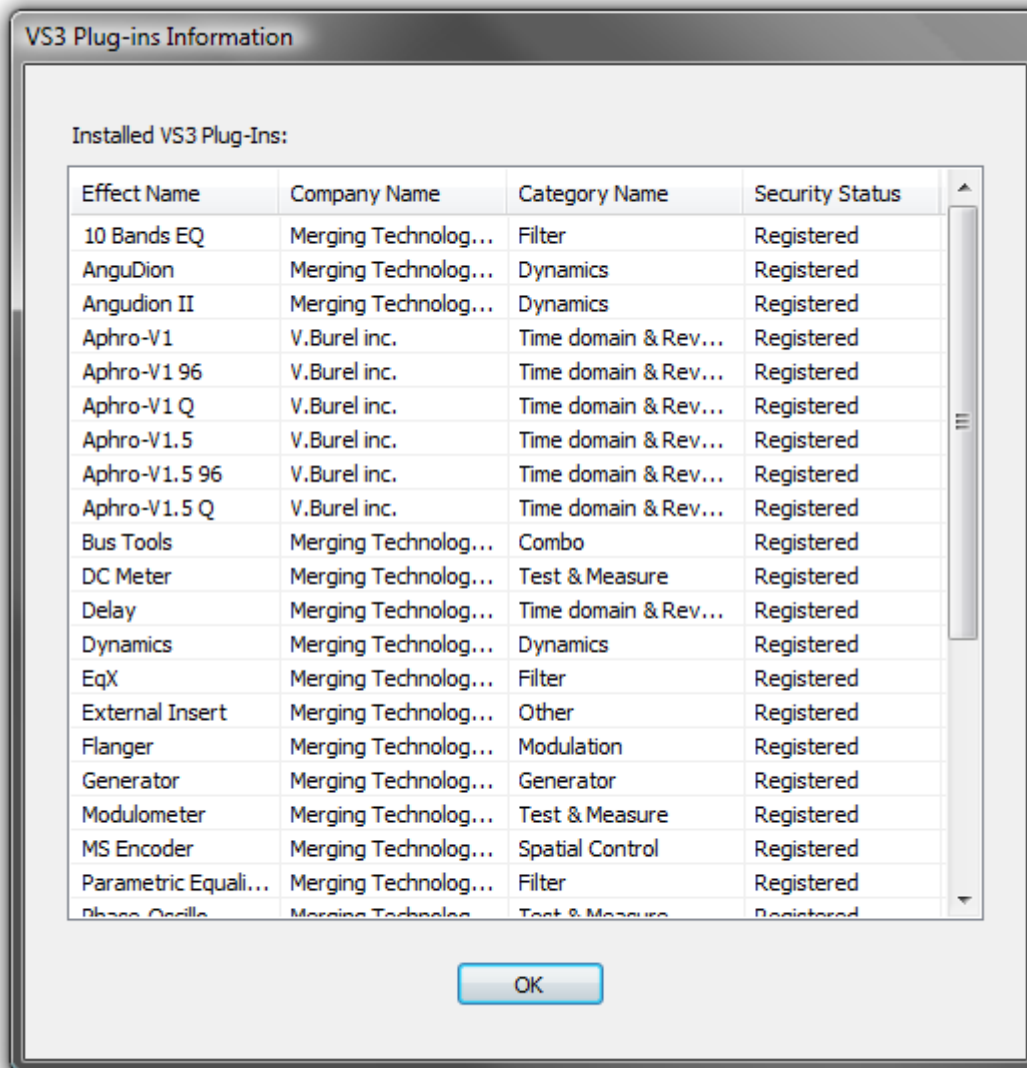
VS3 - Plug-Ins Information Window

This window shows all effects currently present on the machine. Fields show the **Effect Name**, the manufacturer/developer **Company Name**, the **Category Name** and **Security Status**. I.e. if the plug-in is currently authorized.

Common Components

Several of the following Pyramix Effects share common components.
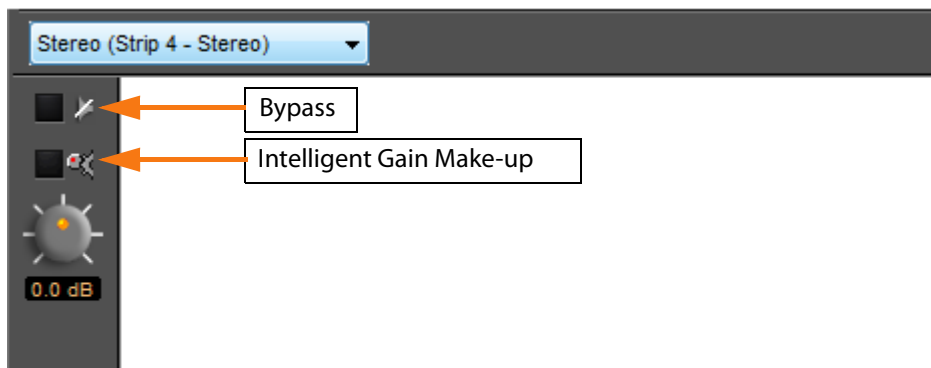
Channel Combo Box

Shows which channel has the plug-in that the window is currently controlling. Clicking the arrow drops down a list of all channels that have this plug-in assigned to them. Click on a name to selected a channel from the list. The control values will change to reflect the current state of the plug-in on the selected channel. This feature enables all instances of a particular plug-in to be controlled from the same interface window without opening duplicate windows for each channel.

Bypass Switch

The On/Off (bypass) switch when lit red the effect is bypassed but remains "in circuit". Well behaved effects will maintain their internal parameters in this state so that they can be switched back in without artefacts.

Bypass all Effects

Clicking on a bypass button with **Shift** bypasses all effects in the strip.

Auto Gain Compensation

(Only where relevant) When this switch is lit **Auto Gain Compensation** is in circuit. The function is intended to keep the output level of the plug-in approximately equal to the input level. The computed value varies as the plug-in controls are adjusted and can be further adjusted using the knob.

Output Gain

Manually adjusts the gain applied at the output of the plug-in. The value is shown in dB.

Effects Presets

Right-clicking in the Plug-in window pops-up a contextual menu which enables the plug-in to be **Reset** to its default values. **Presets** can be **Recall**ed, **Store**d or **Remove**d and **Import**ed or **Export**ed to and from libraries.
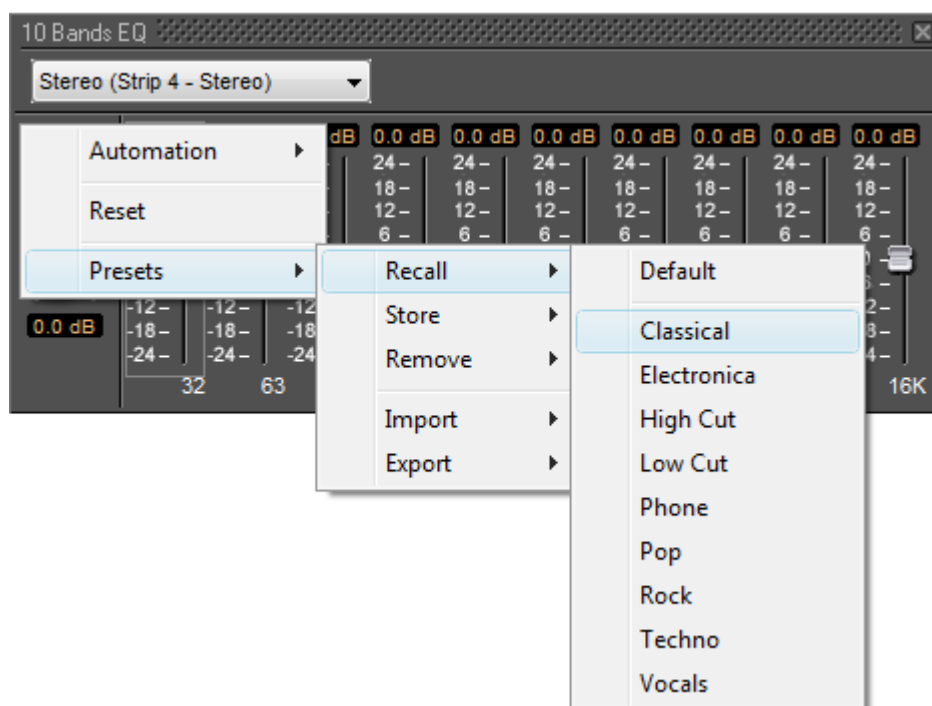
Effects Presets context menu and recall sub-menu

Choosing Presets

Click on the desired preset from the list. The plug-in's parameters will be set to the values stored in the preset.

Storing Presets

Creating a new preset stores a snapshot of the current values. **Store > New** opens the **New Preset Name** dialog box.
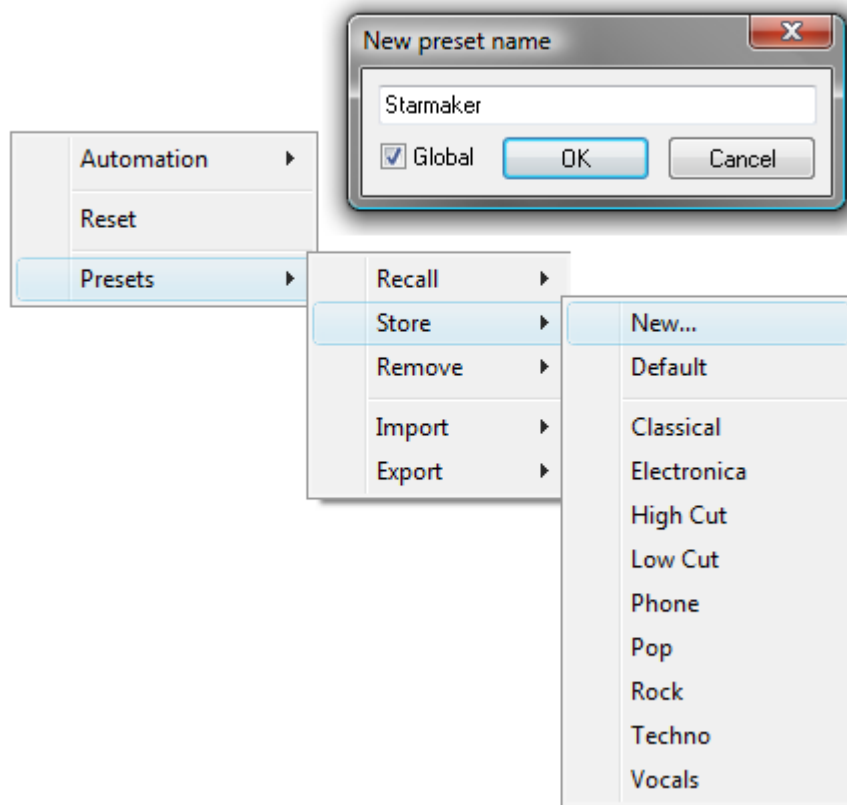
Effects Presets context

If the **Global** box is checked, the Preset will be available in all future Projects.

Default

Choosing **Presets > Store > Default** makes the current parameters the default. These can be from new values or a previously recalled Preset

Modifying an Existing Plug-in Preset

To modify or update an existing preset, set the effect's parameters to the desired new settings. Right-click and select **Presets > Store** then choose the Preset name in the list to update or modify. A **Store preset** dialogue box will appear asking if you wish to replace the chosen Preset. Click **OK** to accept or **Cancel** to reject. The new settings will overwrite the previous preset parameter settings.

Deleting Presets

To delete the current preset, right click in the effects window. Then choose **Presets > Remove** then choose the preset you wish to remove.

Effects Automation
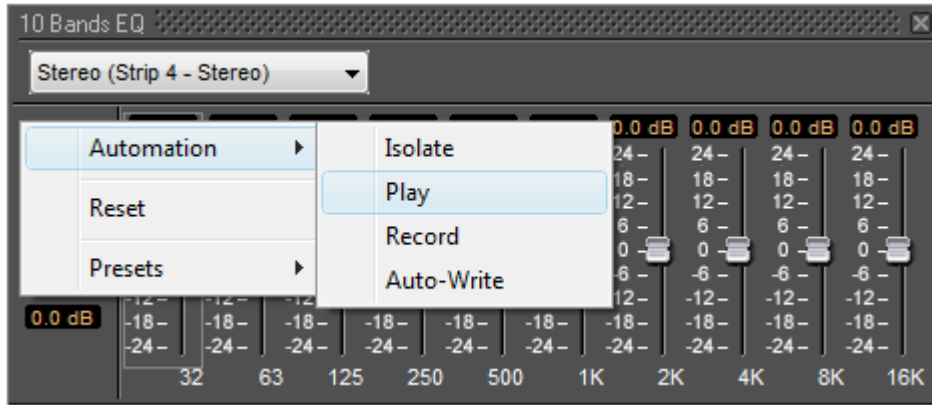
Right-clicking over the effect controls gives access to **Automation** mode selection for the plug-in. VS3 Plug-in aut-mation works in the same way as the Mixer automation.

Please see Automation on page 258

Parametric EQ

Parametric EQ floating Window

The Parametric Equalizer is a four band fully parametric EQ with independent control of boost and cut, frequency, and bandwidth (Q factor) for each band. The common controls at the top of the window behaves as outlined ear-lier. The equalizer can be operated using the rotary controls at the bottom (shown or hidden by the knob and arrow icon on the left), by directly entering numerical parameters in the boxes below the knobs or by clicking and dragging on one of the four colored nodes. Left-clicking enables level and frequency to be adjusted, right-clicking then dragging left or right allows adjustment of Q.

All bands are full range. Boost and cut of up to 24dB is available. Q can be set anywhere from 0.2 (wide) to 20 (narrow).

This button shows or hides the rotary controls.

Peaking / Shelving When lit, the lowest (red) band is switched to shelving response. In this mode the Q control for the band is unavailable.

Peaking Shelving When lit, is switched to shelving response. In this mode the Q control is for the band unavailable.

10 Bands EQ

This ten band graphic equalizer offers +/-24dB of boost or cut in any or all of ten bands, one band per octave, ranging from 32Hz to 16kHz. Double-clicking on a slider knob restores it to zero.
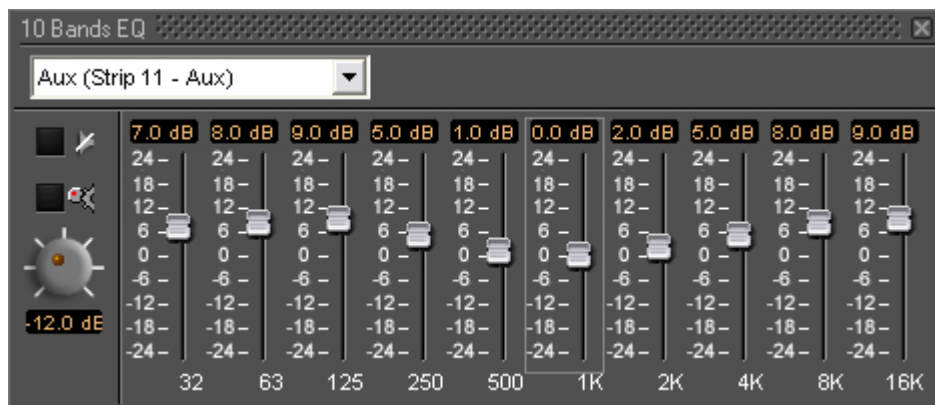
10 Bands EQ floating Window

Three Band Tone Control

A simple three band equalizer which offers a boost or cut of +/- 24dB in any or all of three bands.

Tone Control floating Window

The Low LPF is a shelving EQ with a slope of 6dB/Octave and a turnover frequency of 100 Hz, the Medium BPF has a Q (bandwidth) of 0.8 with a center frequency of 2 kHz, and the High HPF is a shelving EQ with a slope of 6dB/Octave and a turnover frequency of 8 kHz.

Dynamics Processing

A comprehensive dynamics processing module. Functions available include one gate, one expander, two compressors, one limiter, and a de-esser. The operation of each of these effects is interrelated in this comprehensive dynamics processor, and the user interface shows the operative dynamic range where each process takes effect.
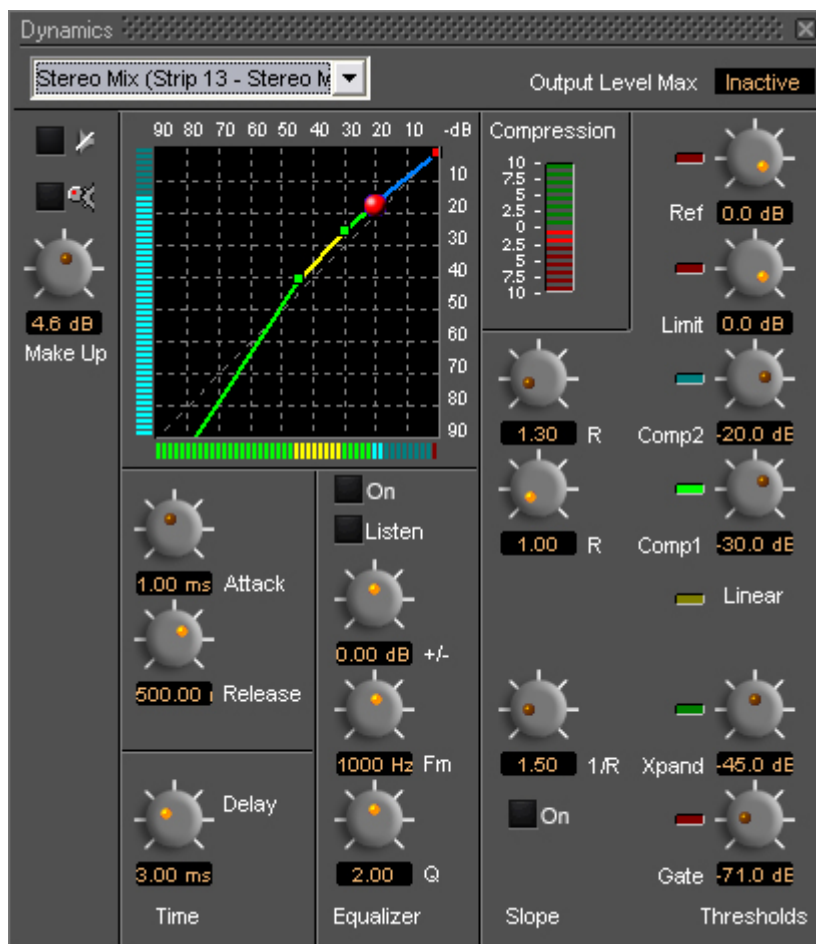
Dynamics floating Window

Output Level Max

This box shows Inactive when auto-gain compensation is on.

Thresholds

Threshold controls set the level above or below which the plug-in will affect the dynamics of the input signal. All the threshold settings are on the right of the window. From the bottom up, Gate, Expander, Compressor 1, Compressor 2, Limiter, and Input Reference Level.

Reference Level

Sets the input level reference. E.g, setting the reference level to -20 would mean an input level of -20dB is considered to be the equivalent of unity gain for purpose of calculating the input threshold levels for all dynamics processes except limiting. The reference level value is variable between 0dB (unity gain) to -30dB.

Limit

Sets the limit threshold (and ceiling).

Ratios / Slope

Limit and Gate have fixed ratios, tending to infinity. Ratio settings for the Expander and Compressors are to the left of their respective Threshold controls.

Compression Bar Graph Meter

The Compression bar graph indicator, above the ratio controls, shows the amount of overall gain reduction or increase applied to the input signal. No change is in the middle of the scale. Green 'leds' above the middle indicate gain increase, red 'leds' below indicate gain reduction. The display range of the indicator can be toggled between +/-10dB, +/- 20dB, and +/-40dB by clicking on it.

Time

The speed at which the dynamics processor responds when signals go above or below any of the threshold settings are in this section. Careful setting of these parameters make dynamics processing more subtle and less obtrusive.

Delay

Allows the main program signal to be delayed by 0.01ms to 10ms. Allows 'brick-wall' limiting since the processor has time to respond to fast transients.

Attack

Attack Time sets the response speed of the processor when a threshold level is reached within the range of .01 milliseconds to 600 milliseconds.

Release

Release Time sets the rate at which applied gain change returns to unity after the threshold is no longer exceeded. Range is 5 milliseconds to 5 seconds.

Equalizer

The equalizer is in the side-chain. I.e. it affects the key signal which triggers the effect of the dynamics processor, but does not alter the tonal balance of the main signal. This enables the response of the processor to be made more sensitive to certain frequencies than others. This is typically used to produce a de-essing effect, used to control excessive sibilance. E.g. boosting frequencies 3kHz to 8kHz range so that a compressor acts when the signal has components in this range thus reducing signal level and making the sibilance less obtrusive.

Q

Sets the bandwidth of the eq.

Frequency

Sets the equalizer center frequency in the range 20Hz to 20kHz. 24dB of **Boost/Cut** are available. The **Test** button toggles the output of the EQ between side and program chains. When **On,** the output of the EQ is heard. This can be useful when identifying sibilance etc. **On/Off** toggles the equalizer on and off in the side chain. When **Off**, the program material triggers the processor. When **On**, the signal is in effect, split. The portion sent via the equalizer is used to trigger or 'key' the operation of the dynamics processor on the normal program material.

X/Y Dynamics Response Display

This shows the threshold and ratio settings for the gate, expander, compressor 1, compressor 2, and limiter processes, and the Dynamics Processor's reference level. These are shown as a series of colored lines with control handles on a grid representing input level in dB below unity gain (0dB) on the horizontal axis, and output gain in dB below unity gain (0dB) on the vertical axis.

The legend for this display is as follows:

Process	Line Color	Handle Color	Line Slope Function	Handle Function
Gate	Red	***	Gate on/off	***
Expander	Green	Red	Expander Ratio	Gate Threshold, Expander Ratio
Linear	Yellow	Green	Linear response between Expander and Compress 1	Expander Threshold
Compressor 1	Green	Green	Compressor 1 Ratio	Compressor 1 Threshold
Compressor 2	Blue-Gray	Blue	Compressor 2 Ratio	Compressor 2 Threshold, Compressor 1 ratio
Limiter	Red	Red	Shows Limit	Limiter Threshold, Compressor 2 Ratio
Reference		Red	***	Limiter Threshold

Adjusting Dynamics Parameters

Parameters can be altered by clicking and dragging on the control knobs or by clicking and dragging the control handles in the graphic display. Handle controls are affected by other parameter settings. In some instances dragging a handle will change more than one parameter.

Dancing Star Real-time Response Indicator

A red "dancing star" inside the graphic display gives a useful indication of how the processor is affecting program material. It shows the output level in real-time when signal is present at the inputs.

Delay

The delay Plug-in provides four delay-based effects. 'Plain-vanilla' **Delay**, **Echo**, **Comb Filter** and **All Pass Filter**. The interface is slightly different when **Delay** is selected.
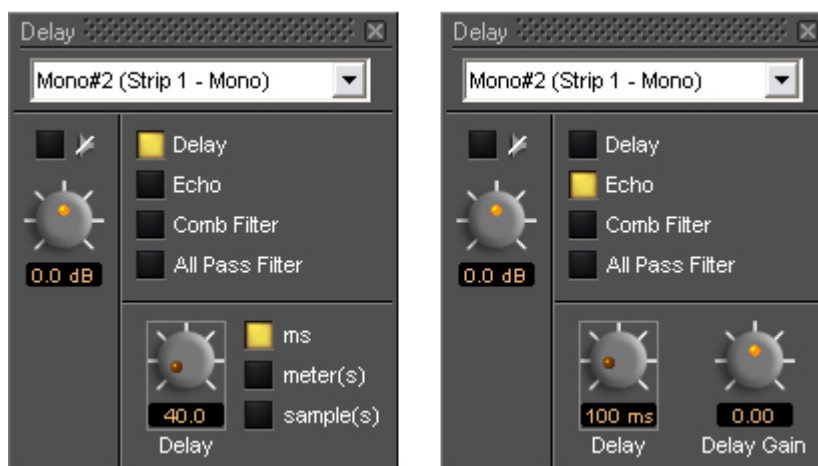
Delay floating Windows

uses a straight-through signal path at unity gain with no direct (un-delayed) signal present at the output. The length of delay can be set in milliseconds, meters or samples. The range of delay available is 0 to 800 ms. Delay time can be set with the knob, or by typing in the desired delay amount in the text box.

Echo

Echo adds a set amount of delay to the signal passing through it and then mixes this delayed signal with the direct audio source signal. The delayed signal is always at unity gain. The level of the direct signal relative to the delayed signal is set by the **Delay Gain** control as a factor between 0 (full attenuation of the direct signal), 1 (unity gain of the direct signal), and -1 (unity gain of the direct signal phase reversed).

Comb Filter

Delays the signal then feeds part of the delayed signal back to the input of the delay. **Comb Filter** has the same control parameters as **Echo**, but the audible effect is quite different because it uses a feed backward rather than a feed forward signal path. The name **Comb Filter** comes from the fact that signals with a wavelength which is an odd multiple of half the delay time are canceled by the process. This result gives a frequency response chart which looks like a comb, with some frequencies (depending on the delay time) missing, like the gaps between the teeth of a comb.

All Pass Filter

Combines the processes used in the **Echo** and **Comb Filter** effects. The result is a multiple echoed signal with a flat frequency response. The control parameters are again the same as in the Echo and Comb Filter effects. Delay Gain has a quite different effect. It doesn't affect the overall level of the output signal. It primarily affects the phase of the signals at different frequencies. If set to 1, it inverts the phase of the input signal and there will be no echo. With a gain of -1, the input signal there is no phase shift. A gain of 0 means that there is no direct signal component and the delayed signals are phase shifted by an amount dependent on their respective frequencies.

Flanger

The flanger produces the characteristic sound which was first produced by playing two copies of something, in sync but varying the speed of one copy by holding the flanges of the tape spool.
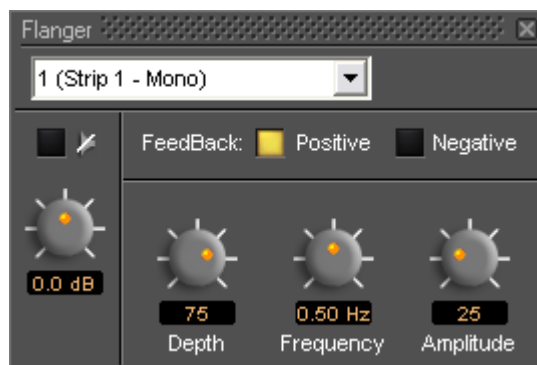
Flanger floating Window

Pyramix **Flanger** plug-in simulates this effect by time modulating the signal and feeding it back to the input either in phase (positive) or phase reversed (negative). Feedback type toggles between Positive and Negative. Depth of modulation can be varied between 0 and 100%, Frequency between 0.05Hz and 5Hz and the Amplitude of the modulation between 0 and 100%.

MS Encoder

As it says on the tin.

MS Encoder floating Window

Either input can be phase reversed, the input levels are adjustable and the both channels can be individually panned anywhere between hard left and hard right.

Encode Levels

With the controls hard Left and Right and Unity gain applied signals are encoded in this way:

M = A + B - 3dB

S = A - B - 3dB

AnguDion

Interesting! Three buttons labeled **Stooge**, **Angel**, and **Tricky**, one knob calibrated from 0 - 100

You work out what it does!

Angudion floating Window

AnguDion II

Even more interesting!

Angudion II floating Window

This time with **Wide** and **Sub** buttons and linkable **Input** and **Output** gain rotaries. **Velocity** and **Amount** rotaries flank a rotary switch with **Stooge**, **Angel** and **Tricky** options. The concentric **Wide** pot becomes active when **AnguDion II** is inserted in a stereo channel and the wide button is pressed. The **Sub** button can be selected when **AnguDion II** is inserted in a surround strip.

If you have had a play and still want to know more, please see the separate **Angudion** PDF file.

Mastering Peak/Vu Meters

| Peak | VU | Both | Both+Dynamic |
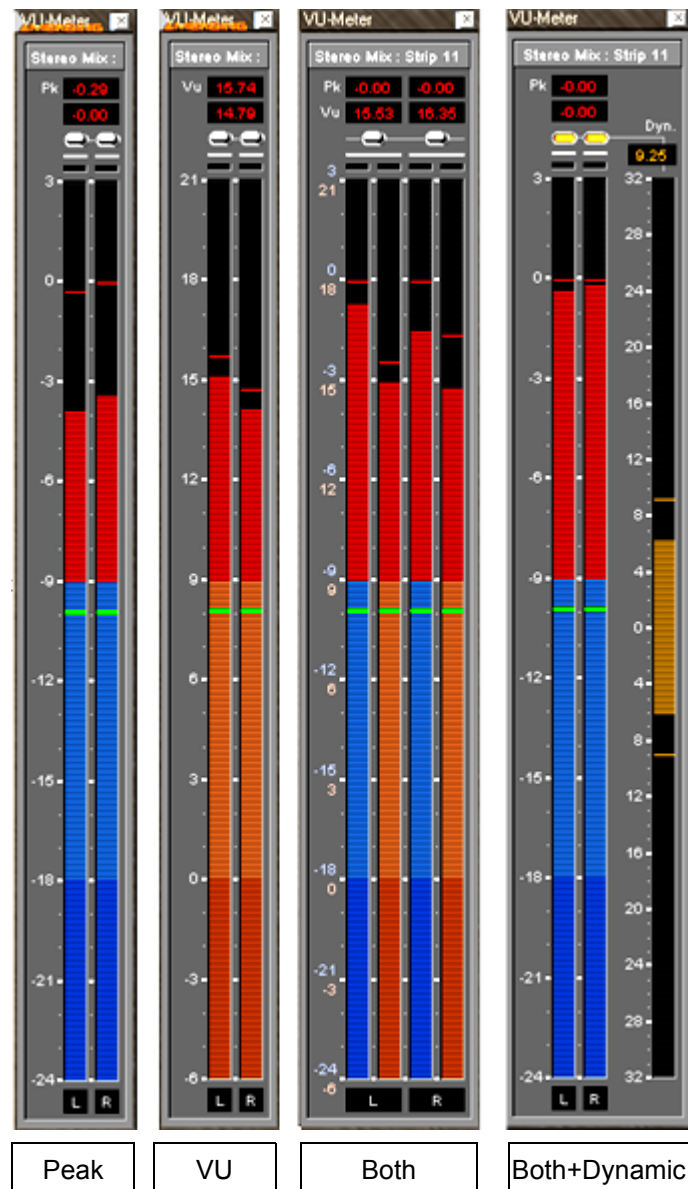
Meter floating Windows

A precise measuring instrument. The VU meter displays the audio level on every strip where it is activated in a common window. It can serve as a master level display replacing expensive external hardware metering units. Clicking on a VU meter plug-in opens the meter window. The plug-in offers three different level displays, each with the option of Dynamic range display.
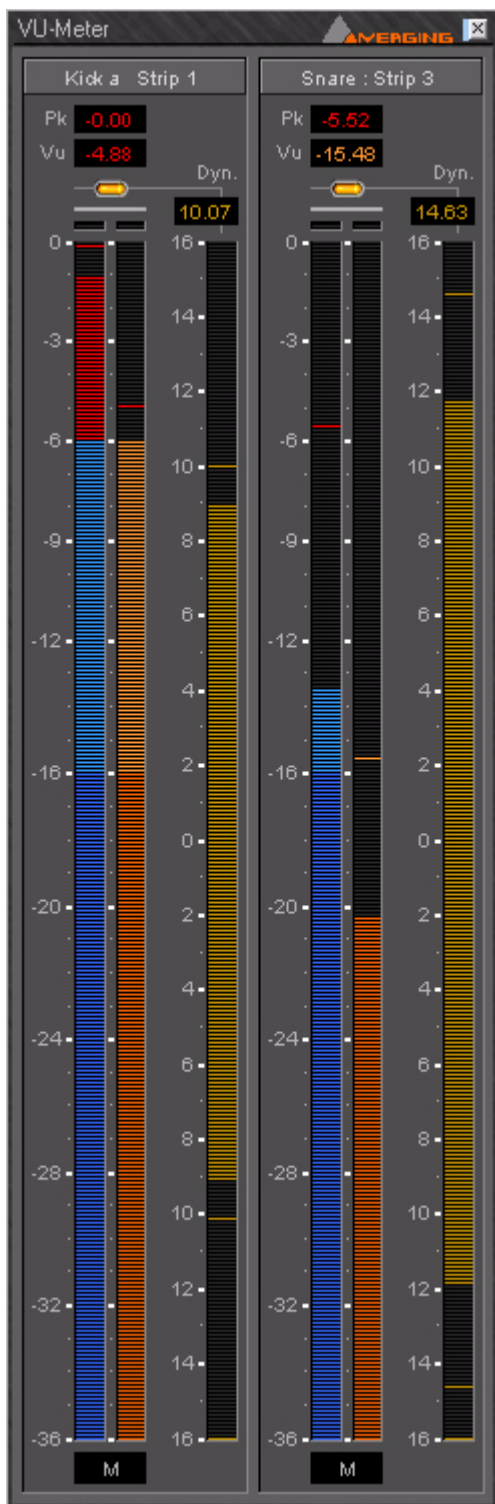
Peak-Meter

Peak Meter floating Window

This measures the peak value of the audio signal. Peak metering is very useful to check the absolute digital level of the audio signal. The Peak meter bars are blue and it has a default release time of 16 dB/second.

VU-Meter

The VU (Volume Unit) meter displays an average amplitude level. The VU meter is displayed in orange/yellow color, has a default integration time of 60 ms and a release time of 10 dB/second.

Dynamic-Meter

This display measures the instantaneous dynamic range of the audio signal. Basically this is the difference between the Peak and the VU display. If a pure sine tone is measured, the dynamics would be zero. The Dynamics meter is displayed in yellow and has a default release time of 12 dB/second.

Activating the VU-Meter

The VU-Meter can be added like any other plug-in on any strip by choosing **Add Effect > VU-Meter** from the context menu within the mixer strip. The only difference compared to other plug-ins is that when multiple instances of the VU-Meter are activated they are always displayed within a single window frame.

Display options

The Peak and the VU meter can be displayed individually with a middle mouse click anywhere within the window area of the VU meter. Each click with the middle mouse switches between the options Peak and VU, only Peak and only VU.

The Dynamics display can be activated by clicking on the switches at the top of the meter bargraphs. On multi-channel meters (stereo strips, surround mixes, etc.), the dynamics are summed together into one bargraph, allowing for example to display the dynamics of the L, R and C channels of a surround mix without the rear channels.

VU-Meter controls

Vu-Meter Controls Timing Tab

Most of the display parameters of the VU-meter can be adjusted individually. Click with the right mouse button anywhere on the VU-meter to display a dialog allowing to control most parameters of the VU-meter.

The left side of the control window contains global settings and several predefined presets, while the right side has four Tabs and a panel of controls specific to the selected tab.

Global Settings and Presets

Eight presets are defined which allow you to quickly select a set of parameters which fit best to your application.

Preset Name	Description
Def. (ref -16)	Default preset with a VU reference level of -16 dBFS
Def. (ref -18)	Default preset with a VU reference level of -18 dBFS
Fast (ref -16)	Preset with fast response times and a VU reference level of -16 dBFS
Fast (ref -18)	Preset with fast response times and a VU reference level of -18 dBFS
Slow (ref -16)	Preset with slow response times and a VU reference level of -16 dBFS
Slow (ref -18)	Preset with slow response times and a VU reference level of -18 dBFS
BBC VU (ref -16)	Preset with BBC standard settings (slower VU release time settings) and a VU reference level of -16 dBFS
BBC VU (ref -18)	Preset with BBC standard settings (slower VU release time settings) and a VU reference level of -18 dBFS

Switch Display

Clicking on this large button cycles through VU, PEAK and BOTH.

Double VU

When this button is lit, the peak meter switches to VU characteristics, thus enabling you to run 2 VU-meters with different settings at the same time.

Level Mark

When this button is lit, a mark at your desired "nominal" level (set in the **Scale** Tab), will be displayed as a gray bar. When the input signal exceeds the mark level, the bar will become light green.

Timing Tab Settings

These parameters are accessed by clicking onto the **Timing** Tab at the right side of the settings pane (see also picture above).

Peak integration

This parameter adjusts the integration time of the peak meter for rising levels measured in milliseconds.

VU integration

This is the integration time of the VU meter for rising levels measured in milliseconds.

Peak Release

This is the speed at which the peak meter falls, when the level is decreasing, expressed in dB's per second.

VU Release

This is the speed at which the VU meter falls, when the level is decreasing, expressed in dB's per second.

Dyn Release

This is the fall time of the dynamics display. It is expressed in dB's per second.

Max Level Hold Time

The highest segment reached will remain lit for a specified time after the level decreases, making it easy to see what the maximum level was. This parameter adjusts the length of time the segment remains illuminated.

Alignment Tab Settings

The alignment parameters affect the scale of the peak and VU meter. They are accessed by clicking the **Align** Tab.

Vu-Meter Controls Align Tab

VU Ref

This parameter sets the level of the 0 VU point in relation to 0 dBFS (0 dBFS is the value at which the maximum value of a sample word is reached. Anything above this level means that the signal is clipped).

If, for example, the VU Reference level is set to -16 dBFS, the VU meter would display 0 dB when the signal is at -16 dBFS.

Peak Color A/B alignment

The peak meter uses three colors depending on the magnitude of the displayed level. Below the **A** point, the color is blue. Between the **A** and **B** point, the color is a lighter blue, and above the **B** point, the color is red.

These two parameters adjust the level of the **A** and **B** points.

VU Color A/B alignment

The VU meter uses three colors depending on the magnitude of the displayed level. Below the **A** point, the color is dark orange. Between the **A** and **B** point, the color is a lighter orange, and above the **B** point, the color is red.

These two parameters adjust the level of the **A** and **B** points.

Scale Tab Settings

These alignment parameters affect the rulers of the peak and the VU meter and also the dB range of the display. They are accessed by clicking the **Scale** Tab.

Vu-Meter Controls Scale Tab

Rulers Max

This sets the maximum level of the range displayed by the peak meter. Usually you would set this to 0 dBFs, such that a digital full scale level would reach exactly the top of the scale. But since Pyramix uses Floating Point arithmetic, you might theoretically have signal levels above 0 dBFs, so it may be useful to be able to display them (of course, at the output of the mixer, such a signal has to be converted back to an integer number, and would cause digital clipping, so care should be taken with signals at these levels).

Rulers Min

This sets the minimum level of the range displayed by the peak meter, and thus influences the accuracy and the resolution of the peak and VU meter. Signals lower than the minimum are not visible on the meter.

Mark Level

Sets the position of the **Level Mark**. This is normally set to your desired "nominal" level.

Height

This modifies the height (in pixels) of the VU meter plug-in window as it is displayed on the screen.

Priority Settings Tab

The priority settings are accessed by clicking the **Priority** Tab.

Vu-Meter Controls Priority Tab

The buttons select how much CPU time of the host PC can be consumed by the plug-in, and therefore influences the redraw speed and accuracy of the VU-meter. The higher the priority, the more CPU time is assigned to the plug-in and the better the meter performs.

DSD Settings Tab

For DSD sessions special meter settings are accessed via the **DSD** Tab.
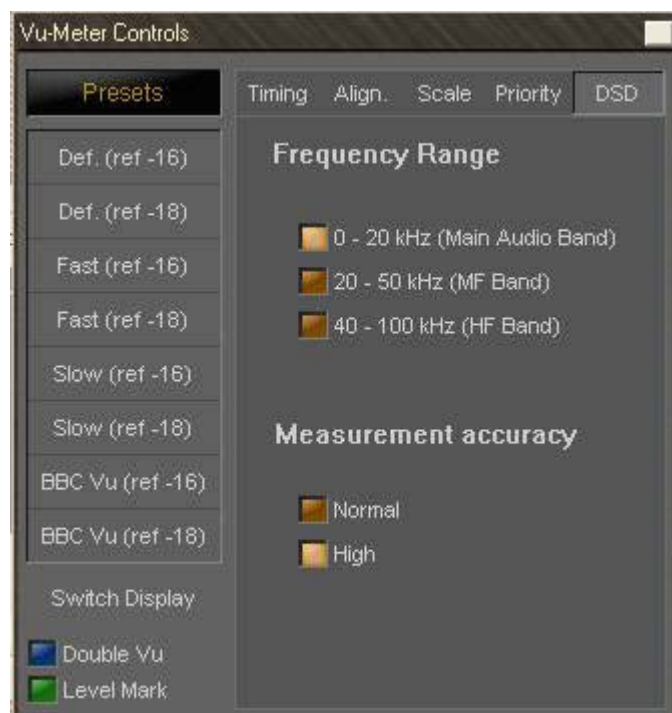
Vu-Meter Controls DSD Tab

DSD Filtering options

In the specific case of a DSD session the VU meter offers three filtering options which allow you to make sure that your DSD signal is compatible to the AES recommendations concerning the high frequency dither noise content. These radio buttons let you choose one of three possible filters which will be applied to the DSD signal before it is measured by the level meter.

The **20k** option applies a 20 kHz low pass filter to the signal, thus only the audible audio content is measured.

The **20k-50k** option applies a band pass filter with a frequency range of 20 kHz to 40 kHz to the signal. According to the AES recommendation the signal level in this frequency range should not exceed -28 dB.

The **40k-100k** option applies a band pass filter with a frequency range of 50 kHz to 100kHz to the signal. According to the AES recommendation the signal level in this frequency range should not exceed -20 dB.

Measurement Accuracy

Where maximum accuracy is required select **High**. However, this setting does require extra processing.
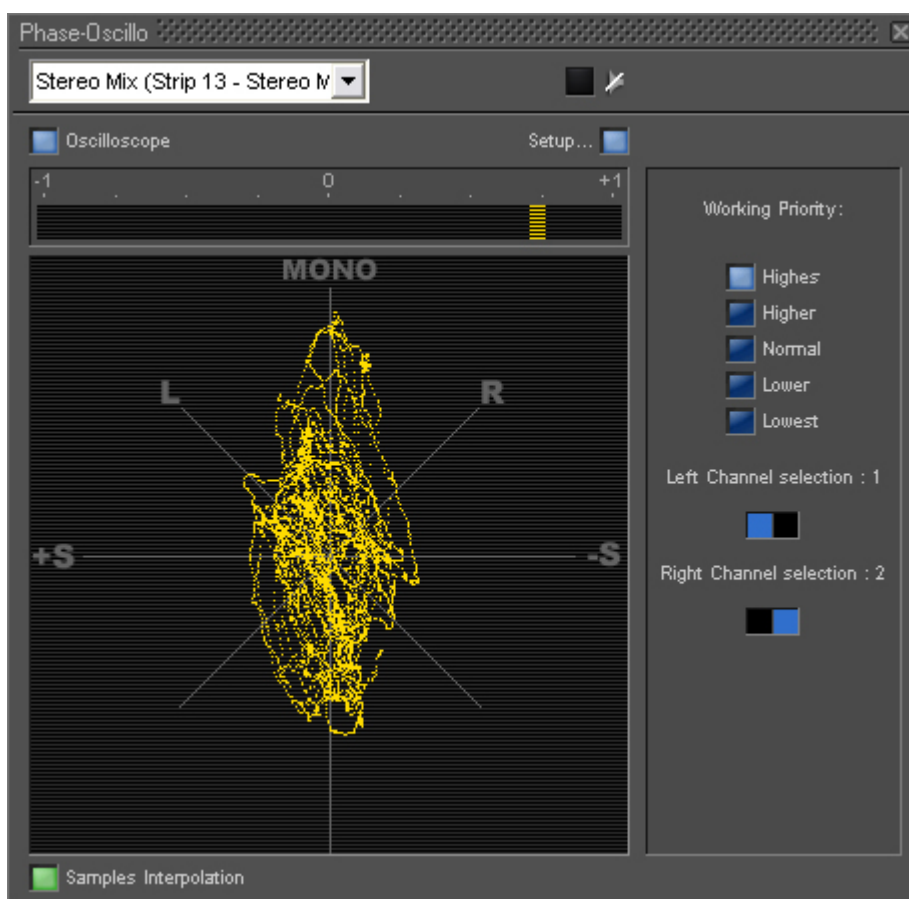

Phase-Oscillo

This plug-in combines a phase meter and a X/Y oscilloscope.

> **Note: Phase-Oscillo** cannot be used in a mono strip. If you do so, it will return an error message.

The phase meter displays the phase of a stereo signal within the range of -1 to +1. a value of +1 means that the left and right channel are completely in phase. A value of -1 means that the left and right channel are completely out of phase causing complete cancellation when they would be summed into a mono signal. A good stereo mix should be somewhere in between 0 and +1.

The oscilloscope gives you some information about the stereophony and the phasing of a stereo signal. A signal which is completely mono appears as a vertical line. If only the right channel carries a signal, it is displayed as a straight line at a 45° angle from the bottom left to the top right. If only the left channel carries a signal, it is displayed as a straight line at a 45° angle from the bottom right to the top left. If the left and right channel are out of phase, this would result in a horizontal line.

A decent stereo mix would appear as a vertically shaped cloud as shown in the example below:

Phase-Oscillo floating Window

Phase-Oscillo configuration

The Phase-Oscillo plug-in has several buttons to configure it's operation.

Oscilloscope button

This switches the oscilloscope display on and off. If set to off, only the phase meter is displayed.

Sample interpolation

When this switch is on, the samples of the signals displayed on the oscilloscope are interconnected, resulting in an increased readability of the display.

Setup

This button opens the set-up pane with further options

Working Priority

Choose one of these switches to select the amount of CPU time of the host PC which can be consumed by the plug-in, and therefore influences the redraw speed and accuracy of the oscilloscope. The higher the priority, the more CPU time is assigned to the plug-in

Drop frame display

Depending on the chosen working priority of the Phase-Oscillo plug-in might not get enough CPU time to continuously redraw the display. The drop counter displays the amount of frames which could not be drawn because of lack of CPU time since the start of the actual Pyramix session.

Left and Right channel selector

If the plug-in is inserted on a bus with more than two channels (e.g. a surround bus or a multiple stereo bus), these two selectors allow you to select the appropriate channels for the left and right input of the plug-in. On a surround bus, you might for example select the left front and right front channels to be displayed on the **Phase-Oscillo** plug-in.

Surround Meter

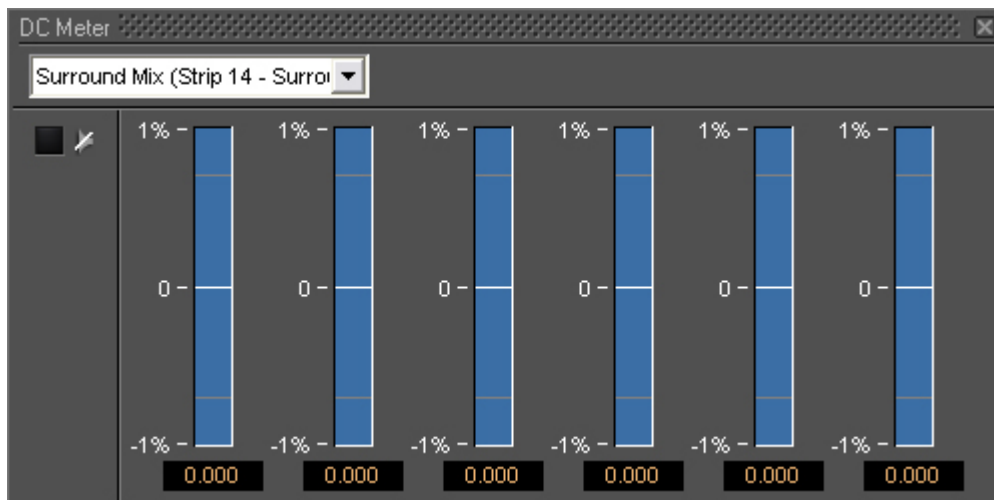Gives a very useful indication of energy distribution in a surround sound field.
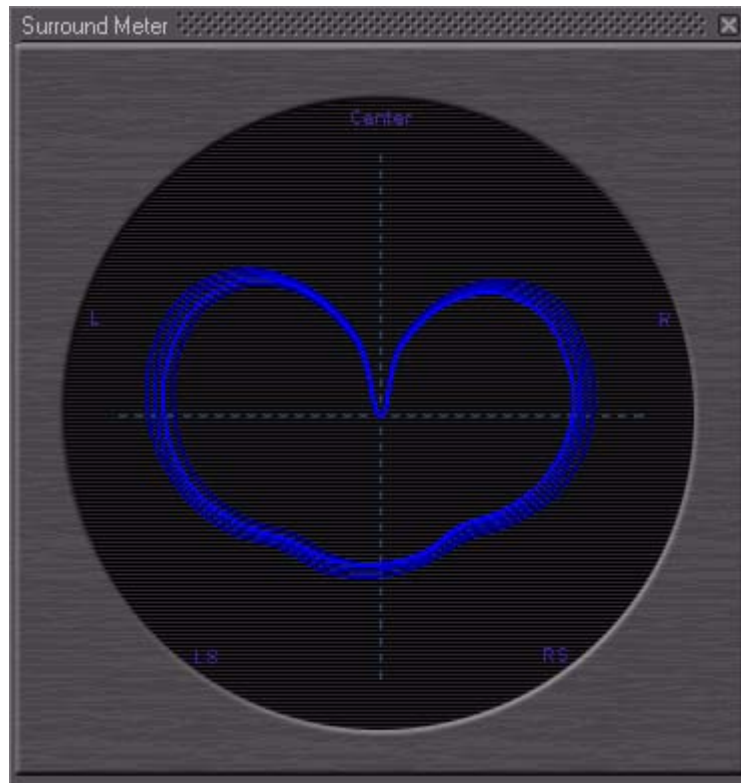
Surround Meter floating Window

The Surround Meter incorporates automatic gain ranging which maintains a meaningful display for a wide range of material. There are no settings to adjust!

DC Meter

Measures the DC content in the signal.

DC Meter floating Window
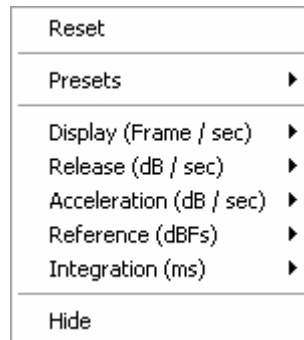
Modulometer

Modulometer floating Window

The **Modulometer** is a faithful reproduction of the classic meter fitted to Nagra portable Tape recorders.

Common operational practice to is set levels so the meter reads (average) - 8 when recording speech. This is partly due to the modulometer's characteristics as a quasi peak meter (quasi because it has the ballistics of a mechanical meter) and it also reflects the caution required in location dialogue recording where a lost take can represent many thousands of dollars. Although not by any means desirable, a low level signal is better than one with distortion from peak clipping.

Right-clicking anywhere on the window pops up a context menu. This has several options which control the behavior of the **Modulometer**.

Modulometer menu

Reset

Restores the default settings

Presets

Offers the standard **Preset** options

Display (Frame / Sec)

Sets the display refresh rate

Release (dB / Sec)

Sets the **Release** time

Acceleration (dB / Sec)

Sets **Acceleration** rate

Reference (dBFS)

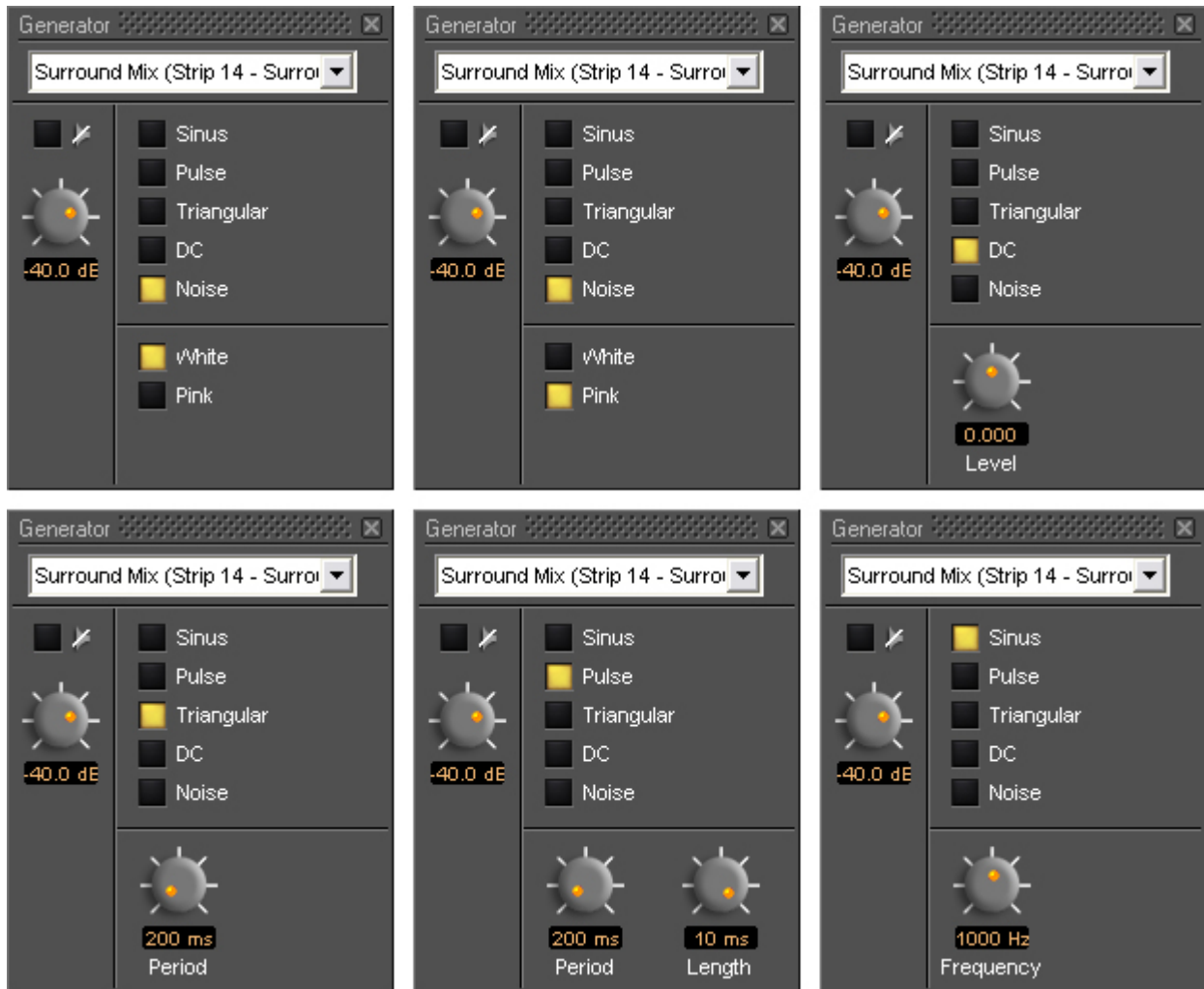Sets the **Reference** level in DeciBels Full Scale

Integration (ms)

Sets the **Integration** time in milliseconds

Hide

Hides the **Modulometer**

Function Generator

This oscillator can produce a Sine wave, a Pulse wave, a Triangular (Sawtooth) wave, DC and White or Pink Noise.

Function Generator floating Windows

Wordlength Meter

The **Wordlength Meter** (or Bit Meter) allows you to view the effective wordlength of a signal.

Wordlength Meter floating Window

Bear in mind that, once you apply any gain adjustment (e.g. a fader set anywhere other than 0dB) the signal will become 32 bit float data.

Effects and Plug-in Automation

All signal processing parameters in Pyramix VS3 Effects Plug-ins can be fully automated dynamically in the same manner as the Mixer controls. **Please see Dynamic Automation Modes on page 260**.

> **Note:** For information about differences when automating VST Plug-ins **Please see: VST Plug-in Automation on page 254**

Effects Snapshots

Effect Settings can be easily stored and recalled by dragging them to/from libraries.

Creating Effects Snapshots

Hold **Alt** + **Shift**, then click and drag from the horizontal bar next to the **Channel** combo box in a **Plug-in** window to the library where you want to store the settings, then release. A new item, of the type **Mixer Snapshot**, is stored in the library. The snapshot is given the name of the plug-in by default. The new item is automatically highlighted so, if you wish to change the default name, simply type the new name and hit **Enter** to confirm. The name of the snapshot can be subsequently changed by clicking on the name in the library, then entering the new name.

> **Note:** In some plug-ins **Alt + Shift** click and drag will work on any of the horizontal section title bars and in others from anywhere on the plug-in window where the cursor changes to   .

Using Effects Snapshots

Simply click and drag a snapshot from a user library to a plug-in of the same type as the original and release anywhere on the surface where the cursor changes to

Anywhere the snapshot cannot be dropped, or if the snapshot plug-in type does not match the target plug-in, the cursor changes to

Optional Plug-ins

Optional Pyramix plug-ins. For operating instructions please see each plug-in's guide.

Merging Technologies
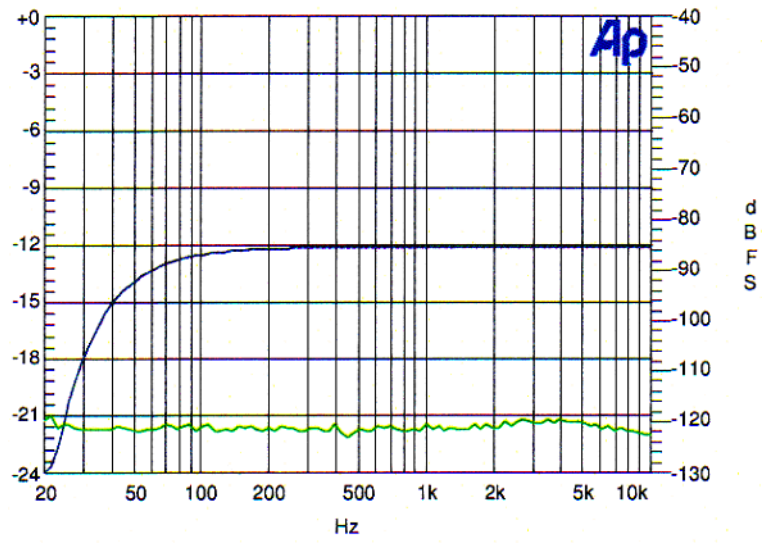
EQ-X

EQ-X floating Window

EQ-X builds on the existing and universally acclaimed quality of Pyramix EQ. It is backwards compatible. **EQ-X** offers Extreme definition filtering at sampling frequencies up to DXD with notch, low pass, hi-pass, peak and shelving filter types available.

The state space filter design of this Extreme Definition Equalizer has been specifically optimized to deal with the highest audio resolutions while still permitting very low noise & distortion, typically offering a THD+N of better than -110dB, throughout the entire audible (and even non-audible) range. Of course, this new digital filter's topography, while designed with high sample rate in mind, also offers the extra benefits and low noise to 1FS equalization. However, since there is no such thing as a free lunch, EQ-X does "eat" about double the processing DSP power of an equivalent "traditional" digital EQ instance in Pyramix.

EQ-X is a five band fully parametric EQ with independent control of Filter Type, Gain boost and cut, Frequency, and Q factor (bandwidth) for each band. The equalizer can be operated using the rotary controls, by directly entering numerical parameters in the boxes beside the knobs or by clicking and dragging on one of the five colored box nodes which appear when the mouse cursor is over the response graph. Left-clicking enables level and frequency to be adjusted, right-clicking then dragging left or right allows adjustment of Q.

All bands are full range. Boost and cut of up to 24dB is available. Q can be set anywhere from 1.0 (wide) to 100 (narrow). Master Gain enables the overall level to be adjusted to suit the applied eq.

EQ-X Frequency Response THD+Noise

Flux

Solera +

Solera floating Window

Solera + is the flag ship of the range of **Angel Class Dynamic Processors**. It is primarily designed for mastering and re-mastering applications. However, it can also be used as a regular dynamic processor for superior sonic quality and distortion free operation.

Developed for Merging Technologies by Flux, every Angel Class Dynamic Processor plug-in uses some exclusive algorithms that endows them with an incredibly clear and natural sound.

The **Pure** series uses the same technologies for specific dynamic processes.

Here are some of the key features that make our plug-in the best available for dynamic processing in the digital domain:

1. Analog like metering. RMS values are more useful than dBfs when setting up a dynamic processor.

2. The **Angel's Share** parameter takes account of the signal for intelligent relaxation of the compressor action.

3. The **Hysteresis** parameter allows compressing and de-compressing independently of the sound level and can be mixed with the standard compression scheme.

4. The **Auto Release** features an unique algorithm that avoids typical pumping effect.

5. A delay line can inserted in the signal path to produce a null attack time.

6. The **A/B** compare and **Morphing** section enables ultra-fast and precise operation.

The **Angel Class** Dynamic Processor family supports up to simultaneous 8 channels and DXD operations.

Note: Solera is a wine making technique: A Solera is method of fractional blending for wine, closely paralleling the making of Sherry or Madeira. A solera consists of several rows of stacked oak barrels with the oldest wine in the bottom row and the most recently made at the top. At bottling, about one-third of the wine in the bottom row is removed and wine from the row just above replaces it and soon, until reaching the top row, which is replenished with new wine. The concept behind a Solera is to make a wine that remains consistent from year to year.

Angel's Share *is a term used for Armagnac, Cognac, Whisky; that part of the spirit that evaporates during the process of aging.*

Full operating details can be found in the **Angel Class Processors User Guide**.

Pure Series

The **Pure Series** plug-ins are essentially the individual building blocks of **Solera** presented as individual plug-ins. The advanced release mode is only available in Solera.

Pure Compressor

Pure Compressor is the compressor section of the Solera

Pure Expander

Pure Compressor is the expander section of the Solera

Pure DCompressor

Pure Compressor is the de-compressor section of the Solera

Pure DExpander

Pure Compressor is the de-expander section of the Solera

PureNotes Denoiser

PureNotes Denoiser floating Window

Sophisticated broadband noise removal using innovative techniques.

For more details please see the Merging Technologies website:

http://www.merging.com

Algorithmix

DeNoiser

DeScratcher

DeNoiser + DeScratcher, Restoration Suite

Nova

Overview

The Nova™ plug-in for the Pyramix rendering interface is an impressive weapon in the battle for cleaner recordings. Coughs, chair scrapes even mobile phone tones are all in its sights.

The Nova™ Plug-In enables audio data in the frequency domain to be modified simply and quickly. These modifications include interpolation of selected areas over the time- and/or frequency line as well as gain modifications. The interpolation can also be restricted to certain gain ranges within the selected area, which is very useful if only a certain part of the data needs treatment (e.g. one specific harmonic etc.) which cannot otherwise be selected. The Nova™ window is fully resizable for optimum compatibility with all screen resolutions.

Arkamys

UpMix5

Overview

UpMix5 is a plug-in for Pyramix Virtual Studio that upmixes a stereo source to a 5.1 multichannel output. From a FFT analysis of the stereo signal, UpMix5 discriminates all the 5.1 components. UpMix5 doesn't use any reverb, nor key compression to get a 5.1 surrounding. This plug-in is designed for Broadcast and Post Production applications on any stereo material: movie or music.
UpMix5 discriminates mono, stereo and 'out of phase' components from the original stereo signal. The mono component is played back in the center speaker (C) and the out of phase component is played in the rear speakers (LsRs). User can choose the width of the final front LR and surround LsRs signals.

Vincent Burel

Aphro V1 Reverb / Aphro V1.5 Reverb

Aphro-V1.0/Aphro V1.5 are real time Digital Effects Processors. Elements of a high quality effects processor series called Aphro-Vx, Aphro-V1 and V1.5 are specially created to simulate sonorous atmosphere and room effects, in a realistic way.The handling philosophy is made simple and practical thanks to a wide range of presets, which requires the user to select a preset matching the best desired effect, and then to use the different interfaces in order to adjust it, according to his requirements. Grouping parameters by theme, gave us the idea of creating a modular and ergonomic user interface.

C-Limiter

Stereo Manager

Striptool

Compressors

C10 Limiter

EQ Pro-pack

Tone-X

Chorus

GEQ

MultiTap Delay

VU-Meter + Cor

Frequencies Analyzer

Stereo Oscilloscope

Mono-Switcher

Cedar Audio Restoration Suite for Pyramix

Cedar's range of restoration tools need no introduction here. The following processes are available for Pyramix:

Cedar dehiss for Pyramix

Cedar declick for Pyramix

Cedar manual declick for Pyramix

Cedar decrackle for Pyramix

Cedar dethump for Pyramix

Cedar Retouch for Pyramix

Prosoniq

MPEX3 Timestretch and pitch change
Overview

The MPEX3 algorithm for Pyramix has been developed with the German based company Prosoniq, well known for their high quality digital audio algorithms.

MPEX stands for **M**inimum **P**erceived Loss Time Compression/**EX**pansion. Incorporating this technology into Pyramix Virtual Studio enables users to adjust timing and pitch of existing material with outstanding results and ease of use.

Algorithm

Time Scaling (also known as 'Time Stretching', 'Time Compression/Expansion' and 'Time Correction') is the process of changing the length of a sound or sounds without changing its pitch. When a sound is transposed by playing it back at a different speed, e.g. when slowing down the playback speed of a tape recorder, it will play back at a different tempo but also at a different pitch. While this may be fine when tuning drum loops to match the speed of a recording it will make pitched sounds - like vocals - sound totally out of tune. Therefore it is desirable to provide a process that enables the duration and pitch of a recording to be changed independently from each other.

Time Stretch and Pitch Change for Film Applications

There are three main categories of Cinema time stretching and pitch changing requirements:

1)	Conversion of audio rushes from 24 to 25 or 25 to 24 when their associated video or film has to be sped up or slowed down. The main reasons are:

a.	The shooting has been done with film AND video, so one part of the rushes or the other have to be sped up or slowed down.

b.	The telecine process to bring the film rushes to video for editing didn't preserve the original speed, intentionally or by mistake.

c.	The shooting has been done on video at 25fps (intentionally or by mistake) and has to go to film.

Pyramix provides various solutions to this problem:

Batch conversion

of a whole media folder. Just select all media to stretch/squeeze / pitch change and select the menu **Quick Convert > Prosoniq MPEX3** module. All media will be processed in one shot. Media will have to be re-synchronized in time with their video equivalent by using the reference "Clap".

In the case where all the media are already synchronized in time with their video equivalent (either manually or because they've been properly stamped while recording), then simply send all these media to their original Time-Code (time stamp) in a Pyramix project and select the menu item **Project > Stretch / Pitch**. All media will be properly stretched/squeezed and their position will be also correctly updated. The new original TimeCode (time stamp)

can then be written back to the media by selecting the menu item **Clips > Operations > Update Media Original TC**, so these new media can now be used exactly as if they've been recorded and stamped at that new speed, allowing also auto-conformation or other TimeCode based processes. All information stored in the clips referencing these media in the Timeline (like fades, sync points, gain curve, ...) are also stretched/squeezed properly. Optionally the media can be consolidated to convert only the required part

The two processes described above are necessary when a mix of different source material speed have to be "normalized". In the case where it is known from the beginning that the whole editing and mix will have to be stretched back to the other (original rushes) speed, Merging provides a very convenient solution in term of hard-disk space, conversion time and finally sound quality. The Virtual Transport Video Player allows playing the video editing at a different speed than the audio material allowing matching (for instance and in the majority of cases) a video running at 24 frames per second with an audio editing stamped at 25 frames per seconds. This avoids compressing the audio so it matches the video being played too fast (25fps instead of 24) but preferably run the video at the correct speed (24fps) and therefore the audio also.

Surround Post-processing

Conversion of a final mix from 24 to 25 for DVD/Video distribution of a film or 25 to 24 for film distribution of a video shot and edited movie.

Pyramix allows stretching/squeezing a whole surround mix by selecting the menu **Project > Surround Post-processing** and choosing the **Prosoniq MPEX3** 24/25 Time Stretcher module. This function stretches/squeezes a whole 5.1 mix without inter-channels phase artifacts thanks to the new Prosoniq MPEX3 algorithm. This function allows processing multiple stem surround mixes stem by stem. Due to artefacts introduced by most time stretching algorithms available until now, the normal procedure was to separate the dialogue stem and the music/effects/ambiance stems, time-stretch them separately and remix them afterward. Although the Surround Post-processing function allows this methodology, this is no longer required due to the very high quality of the MPEX3 module. Therefore a complete mix can be stretched in one pass retaining maximum sound quality.

Time fit

Compression or expansion of a portion of audio to fit in a given time, generally dialogue, ADR, translation or Foley.

Pyramix provides three ways to stretch/squeeze a region of audio:

• Just select the region or clip to process and place the cursor at the position where the nearest region boundary should be extended to and select **Edit > Stretch**. A dialog will then allow the boundaries to be precisely adjusted with the help of TimeCode entries, or simply click OK or press the Enter key to confirm the operation.

• Select the region or clip you want to process and copy it (**Edit > Copy,** or **Ctrl C** etc.). Select the region you want the copied region to fit into then simply use the command **Edit > Fit Selection**.

• Select the region or clip to process, select the menu **Project > Render** and choose the **Prosoniq MPEX3** module.
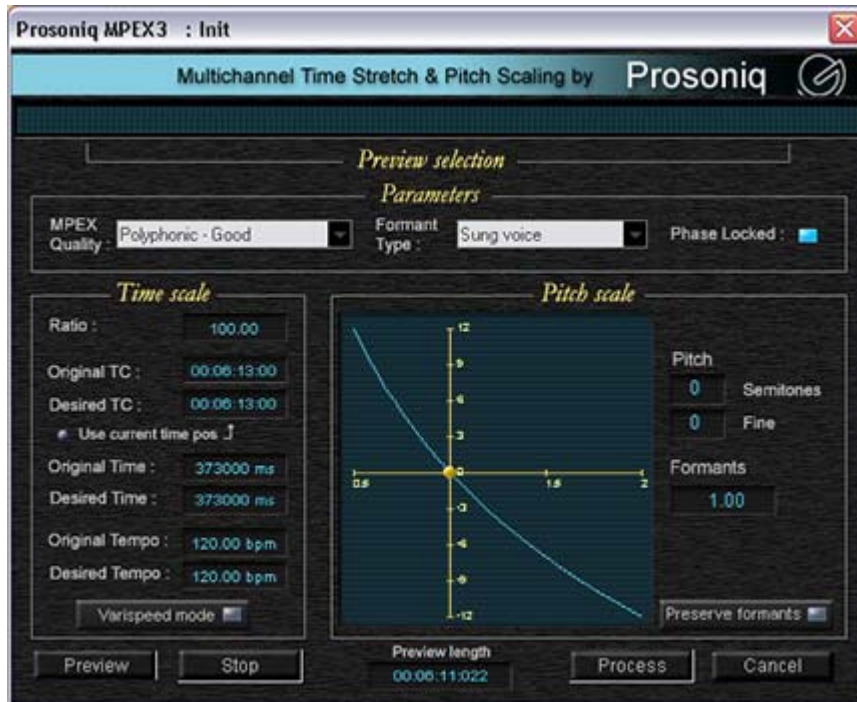
Prosoniq MPEX3 dialog

A comprehensive interface then enables the time-stretch parameters to be precisely adjusted. In addition to time-stretching this interface also allows Pitch and Formant adjustments.

Quick Convert

The Prosonique MPEX3 process can also be accessed by the Quick Convert function (Media Management Tab Window, Menu **Convert > Quick Convert > Prosonique MPEX3**

Scopein

TimeZone Time Compression

VST Support

VST Plug-ins

All well-behaved VST plug-ins can be used with Pyramix.

Multi-channel VST Plug-ins

Multi-channel VST plug-ins are supported on MassCore Systems only.

Routing

On all Pyramix platforms VST plug-ins are automatically routed according the Strip or Bus Channel types e.g. C, LR etc. and the matching VST Speaker arrangement (typically, 5.1 Surround VST speaker arrangement uses the L-R-C-Lfe-Ls-Rs mapping). If no VST Speaker arrangement can be found, the routing is straight.

For example, if for some strange reason you stamp a Stereo Aux as R-L, the left channel of a VST plug-in inserted into it will be fed by the 2nd channel of the Aux, and the Right channel by the 1st one; and at the VST insert output, the R-L routing is restored.

VST Scanner

To Load VST plug-ins in Pyramix you first have to tell Pyramix where they are. Go to **Start > Programs > Pyramix > VST Scanner**. If you have Cubase or any standard VST program you will see your VST plugs appear in the left window. Select the ones you want to use in Pyramix (including Waves VST and TC Powercore).

If nothing appears in the left window, you just need to have a folder containing all your VST plug-ins files (they are
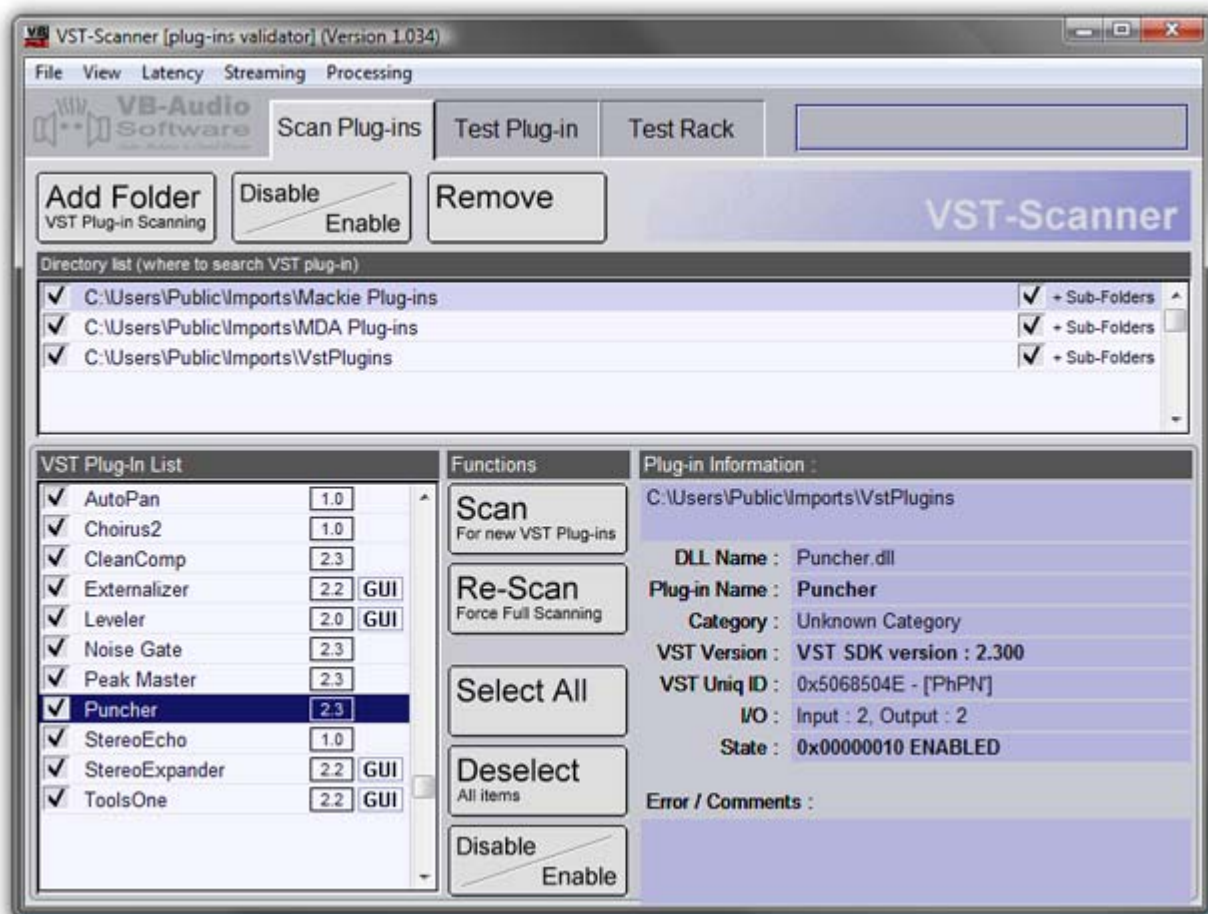
VST - Scanner Window

.dll file type) somewhere on your disk, hit the **Change** button at the bottom of the VST Plug-Ins Chooser window, browse your disks and select the folder containing the VST plug-ins. They will now be listed and recognized in Pyramix.

> **Note:** The VST plug-ins are processed by the host CPU. Therefore, if you are intending to use VST plug-ins intensively, fast host processors are recommended.

The VST Scanner can be used as a validation tool. User instructions and the latest version can be found at its developer's (VB Audio) website:

http://perso.wanadoo.fr/vb-audio/fr/resources/vst_scanner/vst_scanner.htm

## VST Plug-ins Display Order

The list of VST Plug-ins that appears when adding a new instance of a plug-in can be ordered in two ways.

If **Company Name and I/O Configuration** is chosen the list will be ordered by Company Name and the plug-in's grouped according to their I/O configuration. I.e. **1 in - 1 out**, **1 in - 2 out**, **2 in - 2 out** and so on as shown here:

VST - Plug-Ins List by Manufacturer

Alternatively, choosing **I/O Configuration** groups the Plug-ins by I/O Configuration and within each group lists them alphabetically by name as shown here:
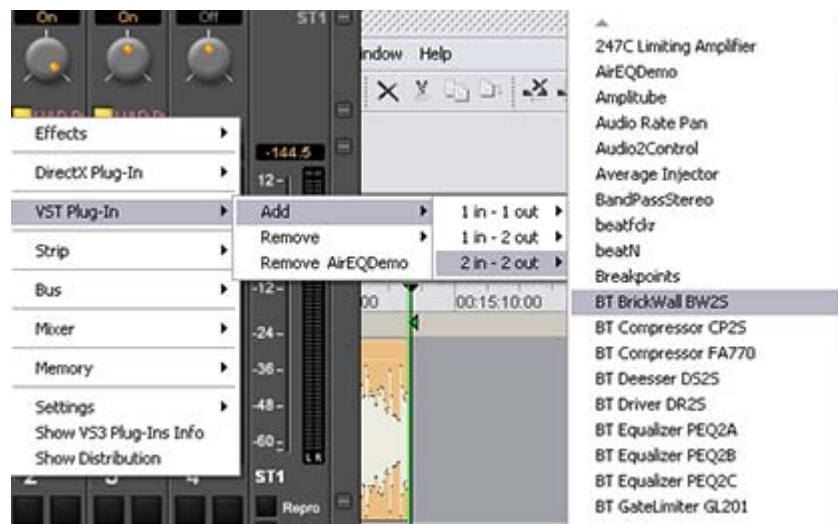
VST - Plug-Ins list by I/O configuration

The alternative displays are chosen in the **Settings > All Settings : Project > Mixer > Plug-ins Settings** page.

Please see also: Plug-ins Settings on page 513

VST Plug-in Automation

VST plug-in automation works in much the same way as VS3 plug-in and Pyramix Mixer automation. However, there are a few differences:

Automation Mode

Read/Write, Auto-Write or Isolate status can only be set for an entire plug-in.
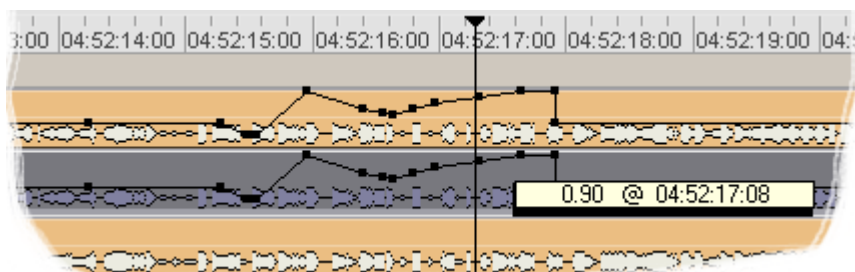

VST - Plug-In Automation Read Write buttons

Automation mode is set using the **R** and **W** buttons to be found at top right of a VST Effect window as shown above. (Unlike VS3 plug-ins individual controls cannot have independent Automation modes)

Automated Control Values

Control values are always expressed as zero to one. I.e. in the range 0.0 to 1.0 when editing automation points in the Timeline. The exception is when the VST plug-in reports a control as a toggle switch.

VST - Plug-In Automation node control value display

On/Off and Bypass

Like VS3 plug-ins VST plug-ins have yellow On/Off and red bypass buttons on the mixer providing standard bypass control.

VST - Plug-In On/Off and Bypass

The left-hand yellow button is lit when the effect is switched on. Switching an effect off removes it from the signal chain and this may well be audible.The right-hand red button indicates that the effect is bypassed when lit. Bypassing an effect retains the same delay as when the effect is active. Further, well behaved effects will continue to calculate internal parameters when bypassed making seamless switching possible.

> **Note:** Certain VST plug-ins such as UltraPitch do not have the standard VST internal "soft" bypass function. In this case, Bypass simply acts as an ON/OFF button. One effect of this is a change in Delay compensation scheme resulting in latency changes as the

plug-in is switched ON or OFF.

Changing the delay compensation on the fly during Playback or Record is not safe since it will cause a glitch or playback stall, and therefore Pyramix postpones the delay compensation recomputation until the transport switches back to stop. When you change the bypass status of such a plug-in on the fly the DelayComp status LED turns red and, on the next Stop, Delay compensation is recomputed and the status LED returns to green.

Most VST plug-ins provide a private 'bypass', (inside the plug-in's own user interface), which enables clean, click-free and state-safe bypassing, without latency change (i.e. the plug-in maintains the same latency whether it is bypassed or not). Unfortunately, there is no simple and effective bypass solution for plug-ins that do not have an internal bypass.

VST Effect User Interface labels

On the VST user interface windows themselves, the buttons have been renamed to **ON/OFF** (formerly BYPASS) and **BYPASS** (formerly Soft Bypass).
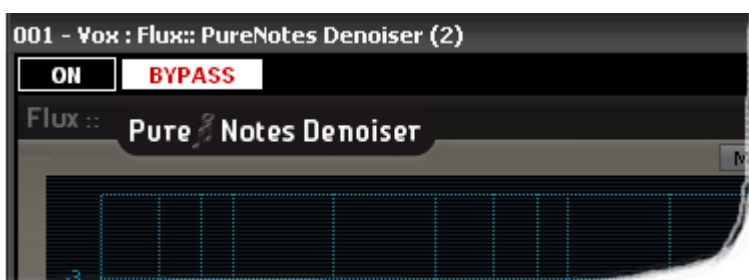
VST - Plug-In Caption Bar

Caption Bar

The Caption bar text of these windows shows the ID of the related Strip or Bus and its name, before the plug-in name.

Ghost Plug-ins

As with VS3 plug-ins, the Ghost plug-in feature is implemented for VST plug-ins: essentially, this means that if you load a project containing a VST plug-in which is unavailable on your machine, this plug-in will appear in the mixer as a Ghost plug-in. Saving the project will not trash the missing plug-in's state information.

When a plug-in is a Ghost its name appears crossed out in the mixer :

VST - Plug-In Ghost

Processing Delay Display

At any time, you can view a VST plug-in's processing delay in the VST plug-in name tooltip on the mixer (if non-zero, the processing delay will be appended in smp (samples) after the plug-in name):

VST - Plug-In Tooltip with delay value

Direct X Plug-ins

in Pyramix V6.1, DirectSound / DirectX plug-ins can only be used inside a suitable "VST Wrapper". There are several freely available, for example from Vincent Burel.

Important! Projects and templates created with previous versions of Pyramix may well contain **Direct X** plug-ins. If a Project or Template is loaded which contains Direct X plug-ins then these will be visible in the mixer but cannot be activated.

However, if such a Project is "Saved As" V5.1 then these plug-ins will be active if the Project is subsequently opened in a system running V5.1.

External Effects

Any Pyramix **Bus** except sub-groups can be routed to any physical output. Thus, an **Aux** can be routed via a physical output to an external effect. The output of the external effect is simply brought back into Pyramix via one of the physical inputs. However, a delay will be introduced by the external processor and the converters. If the return needs to be time-aligned with other signals please see: **Mixer Delay Compensation on page 173**

External Insert

To add an External Insert simply right-click over the strip where the plug-in is to be added and choose: **VS3 Effects > Add > Other > External Insert**

Clicking on the **External Input** name in the strip opens the **External Insert** Control Window.
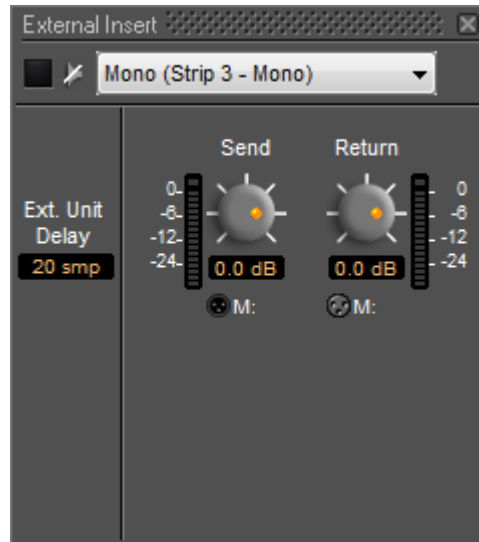
Mixer Strip External Insert Plug-in Control Window

Send and **Return** Connections can be made by clicking on the XLR icons and levels set with the knobs. When you have determined the delay introduced by the I/O loop including the external effect the value in samples should be entered in the **Ext. Unit Delay** field.

14

Automation

Pyramix
DIGITAL AUDIO WORKSTATION

Scope

Pyramix Virtual Studio is equipped with an extremely powerful automation system, including both dynamic and snapshot automation of levels, pans, effects, etc. This chapter covers internal control of automation.   If you are using a Ramses MSC or ISIS Controller, please see the relevant User Guides for further information.

Master Automation Controls

Global Dynamic Automation Modes

Set using the **On/Off**, **Play** and **Write** buttons in the **Automation** toolbar (or the **Automation** menu items) these set the dynamic automation mode for the entire console. Individual controls will react according to their own current mode.

The **Global Automation Controls** are in a dockable Tool Palette, by default located at the bottom right side of the main **Pyramix** window. There are **On/Off**, **Play** and **Write** buttons plus two buttons with camera icons which deal with **Snapshot** automation:.

Master Automation Controls dockable toolbar

On/Off button can only be used to turn dynamic automation **Off**. When it is **Off**, no existing automation data is played back and no new data is recorded when controls are moved.

When the **On/Off** button is **On**, (by clicking on **Play** or **Write**), existing automation data is played back. New automation data can only be recorded when **Write** is lit and the controls to be automated are in an appropriate mode.

When the **Play** button is pressed it 'lights' green.

Controls set to **Play**, or **Auto-Write,** Read existing automation data, otherwise they maintain their default values. Controls set to **Isolate** or **Record** maintain their current values and no new data is recorded.

When the **Record** button is pressed it 'lights' red. Controls set to **Record** write their current values. Controls set to **Auto-Write** only record when they are moved. Controls set to **Play**, Read existing automation data (if any). Controls set to **Isolate** maintain their current values.

Snapshot Automation

The **Snapshot** button inserts an automation event (key frame) which records the state of all enabled controls at the current cursor position if their state has changed since the previous **Snapshot**.

The **Snapshot Range button** inserts automation snapshot key frames of all enabled controls at the **Mark In** and **Mark Out** cursor positions. In effect, this sets all enabled controls to the current state throughout the range defined by the marks.

Note: If you wish the state of all enabled controls to be recorded regardless of whether their state has changed then simply select **Force automation point insertion** in the **Filter Automation Tracks to Snapshot** dialog. (This opens when the **Snapshot** button is pressed or **Automation > Automation Snapshot** is selected from the menu.)

Dynamic Automation Modes

Every control in the mixer can be set to one of four dynamic automation modes. The automation mode can be set for individual controls, for channel strips, for buses, for groups of controls or for the whole mixer. The current mode is shown by the absence, presence and color of small indicators.

Auto-Write   Write   Read   Isolate
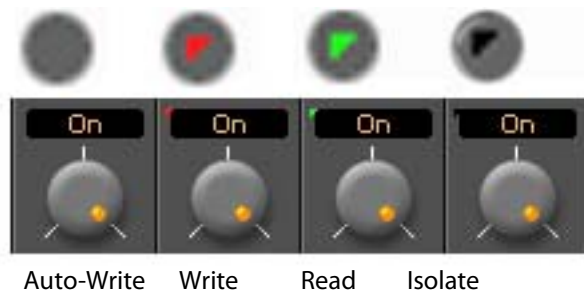
Dynamic Automation Mode Indicators

Auto-Write

No indicator.

(This is the default for all controls)

With the transport in **Play**, and the **Master Automation Controls** in **Play** or **Write** modes, the control(s) Read (play back) previously recorded automation data.

In **Write** mode When a control is moved new automation data is written until the control is released. Behavior when the control is released, or the transport stopped, is governed by the choices made in the **Automation** menu and in **Automation > Automation Settings**.

Write

Red triangle indicator.

With the transport in Play, and the **Master Automation Controls** in **Write** mode, the current state of all controls in **Record** mode is recorded as automation data.

Read

Green triangle indicator.

The control(s) follow the last automation data recorded for them or maintain their default position where no previously recorded automation data exists.

Isolate

Black triangle indicator.

The control(s) are isolated from any automation moves already recorded. Controls can be moved without affecting existing automation data.
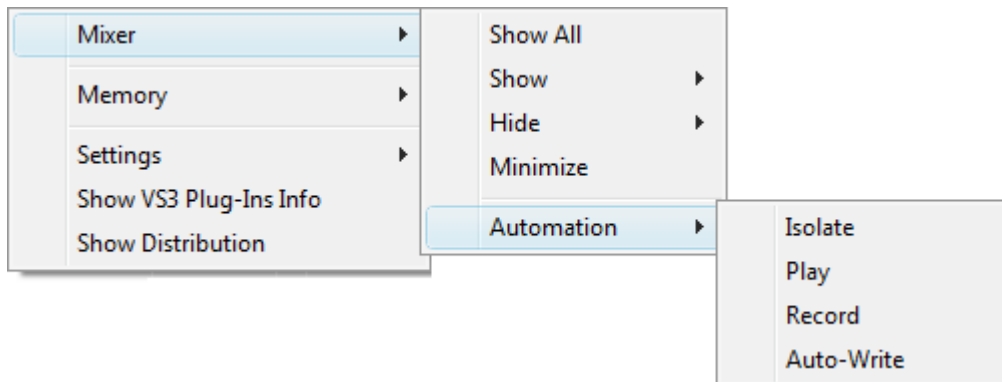
Selecting Automation Modes

Default Mode

The defaullts mode is **Auto-Write**. Move a control and automation data is written automatically. Press a button and the same applies.
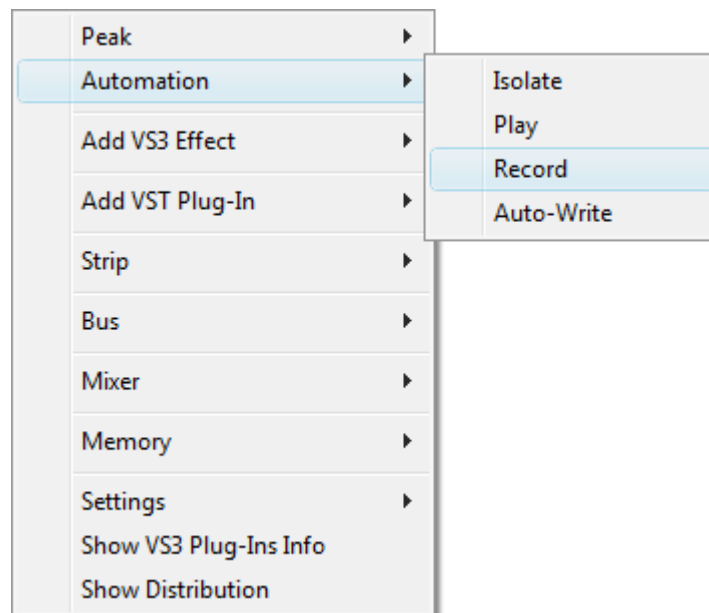
Entire Mixer

The entire mixer can be set to the same mode by right-clicking in a blank area of mixer panel (E.g. under the bus strips) and selecting the desired mode from the popup menu. **Mixer > Automation > Isolate**

Mixer context menu Mixer Automation sub-menu

Block, Strip, Bus or Entire Mixer

Right-clicking in a mixer channel strip function-block, e.g. as shown here in the fader area, pops up a contextual menu. Selecting **Automation** opens a sub-menu offering a choice of the four automation modes:

Automation sub-menu

This contextual menu also enables the automation mode for the whole strip, one or more buses or the entire mixer to be set by choosing **Strip**, **Bus** or **Mixer**.

Selecting one of these opens a sub-menu. The last choice in each case is **Automation**. selecting this opens a further sub-menu offering a choice of the four automation modes:
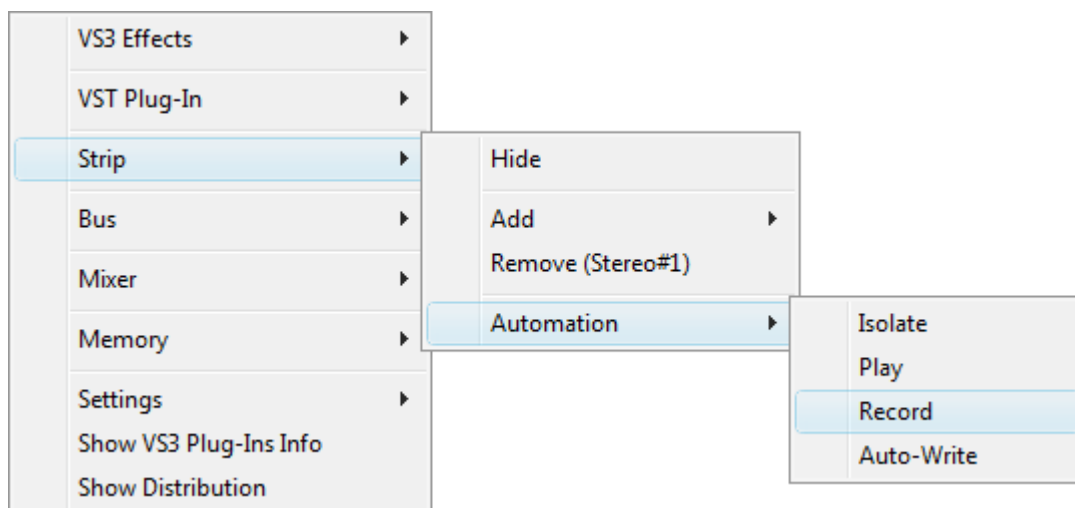
<p align="right">Strip Automation sub-menu</p>

Auto-Write and Release Modes

Behavior when a control is touched or released depends on settings in the **Automation** menu.

Auto-Write Mode - Write & Release   The automation starts writing a new pass when the control is touched and stops writing when the control is released.

Auto-Write Mode - Write & Hold   The automation starts writing a new pass when the control is touched. The value when the control is released will continue to be written until the transport stops.

Auto-Write Mode - Update & Release The automation starts updating the current pass when the control is touched and stops updating when the control is released.

Auto-Write Mode - Update & Hold   The automation starts updating when the control is touched but continues when the control is released and stops only when the transport stops.

Release Mode - Snap   A straight jump is made from the current control value to the value written in the previous pass.

Release Mode - Auto-Release   An interpolation is created from the current value to the value written in the previous pass. I.e. a fade. The length of this is defined in **Automation Settings > Auto-Release Time**.

Release Mode - Write to Next   The same value is kept after the last written point until the next point is found in the previous pass.

Release Mode - Write to End   Writes the current value to the end, ignoring previously written points. (If any)

Maintain to Next Interpolate   The current value(s) are maintained until the next interpolated point(s). This is potentially useful when deleting automation points or when inserting a **Snapshot to Cursor**.

Release Auto-Writing   Immediately releases all controls currently recording automation. This option is provided for controllers without touch sensitive faders etc.

Note: Ctrl + Alt + Esc releases Auto-Write

Every control touched or released will follow these modes. Keyboard modifiers alter this behavior.

When Touching a Specific Control:

Ctrl :   Forces the **Write & Release** Mode

Ctrl + Alt :   Forces the **Write & Hold Mode**

**Ctrl + Shift :**   Forces the **Update & Release Mode**

Ctrl + Shift + Alt :	Forces the **Update & Hold Mode**

When Releasing a Control:

Ctrl :	Forces the **Snap** Mode
Shift :	Forces the **Auto-Release** Mode
Ctrl + Shift :	Forces the **Write to Next** Mode
Ctrl + Shift + Alt	Forces the **Hold & Write to Next** Mode
Ctrl + Alt + Esc	Releases **Auto-Write**

Hardware Remote Controllers

Devices offering external remote control such as the **Merging Ramses MSC** or **OASIS** and others will provide different modifiers to alter the Global Auto-Write and Release Modes depending on the specific hardware availability (dedicated buttons, existing button combinations, special movements, etc…)

Projects With Existing Automation

When opening a Project that has existing dynamic automation and where a mixer element is no longer present or when rebuilding a mixer where a previously automated element has been removed the following dialog appears:
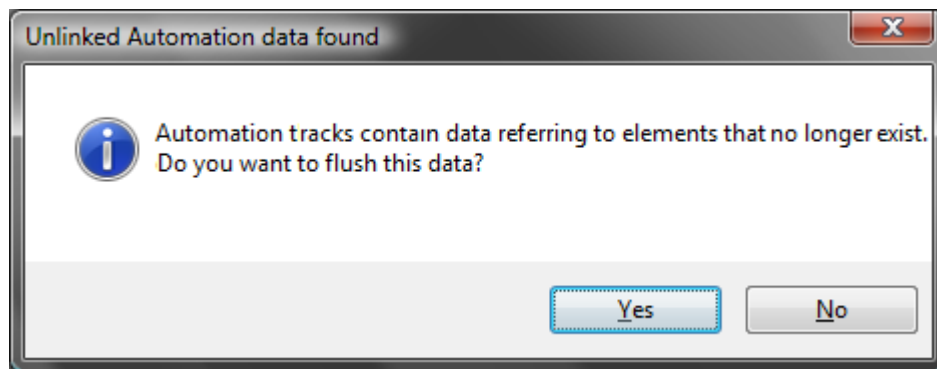
Clicking on **Yes** removes the redundant data. Clicking on **No** retains it giving the opportunity to re-instate the missing element(s).

Display and Editing of Automation Data

The automation data recorded for any control can be viewed and edited on any track in the Timeline.

Clicking the **A** **Show/Hide Automation** button in the Track Header displays or hides automation data as a black line when being replayed and a red line when being written.

> **Note:** If you wish to display automation on one track of a stereo pair (or multichannel GPS) you can **Ctrl + Click** the Show/Hide button to toggle individual channels.

Right-clicking the **Show/Hide Automation** button pops up the automation menu for the track.

> **Note:** This menu is modal. I.e. the options available depend on whether there is any pre-existing automation data.

Unwritten Track

If the track does not have any automation data written this menu opens:
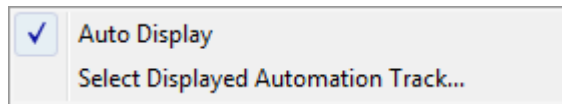
Track Automation Initial context menu

Auto Display When Auto Display is checked the automation data to be displayed will be from the last control associated with the track that has been adjusted or switched. (Defaults is ON)

Select Displayed Automation Track
Opens the **Select Displayed Automation Track** dialog:
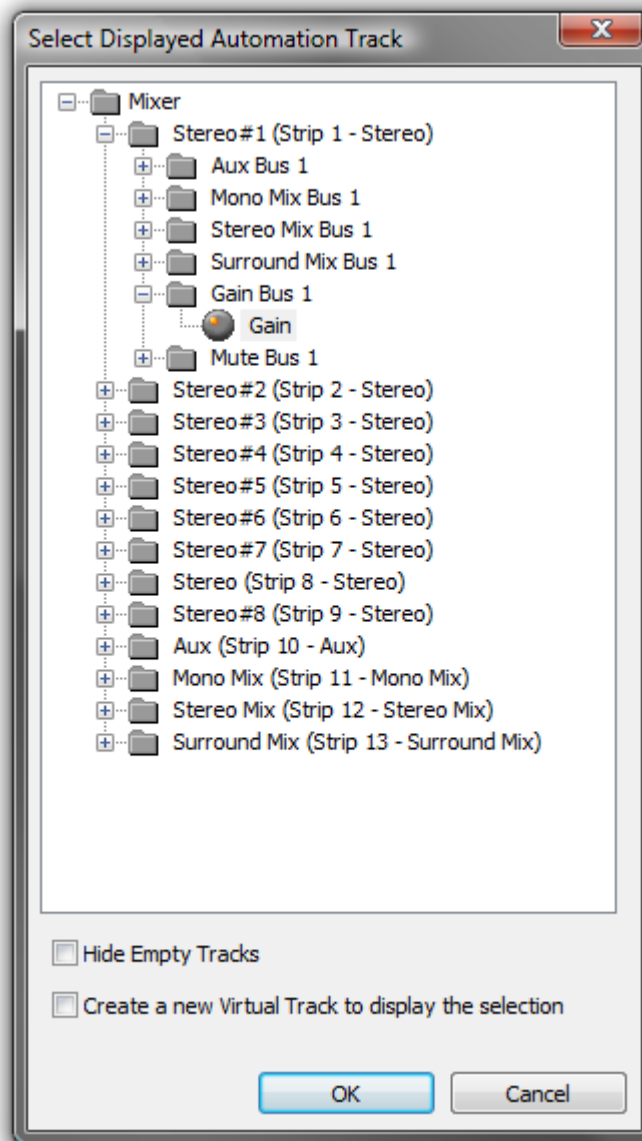
Every automatable parameter of every track and bus is available. Clicking on the plus sign next to a folder will show the all automatable parameters associated with it. Simply choose the parameter you wish to have displayed.

Hide Empty Tracks

When ticked (default), Tracks with no automation data written are not shown in the tree.

Create a new Virtual Track to display the selection

When ticked, the selected parameter will be displayed in a newly created virtual track.

Note: If you choose a Track AND a specific parameter to display in this dialog then you should turn **Auto Display** OFF.

Track With Existing Automation Data

If the track has pre-existing automation data then right-clicking the **Show/Hide Automation** opens this menu.
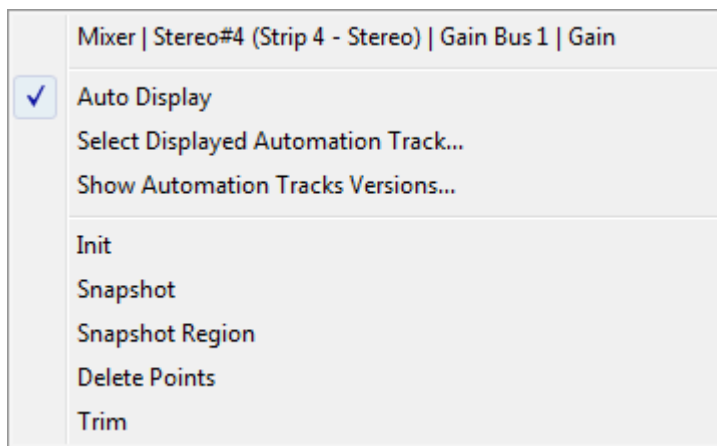
Track Automation context menu

Mixer	The current parameter displayed is shown at the top of the menu
Auto Display	When Auto Display is checked the automation data to be displayed will be from the last control associated with the track that has changed state. (Defaults is ON)

Note: Auto Display should normally be off when any control not on the connected strip is displayed or you wish to view automation data from a specific control.

Select Displayed Automation Track	
	Opens the **Select Displayed Automation Track** dialog as above.
Show Automation Track Versions	
	See next page.
Init	Creates an initial automation track for mouse editing. The initial version is created with the current state of the mixing console control.
Snapshot	Creates a snapshot of the currently displayed control curve.
Snapshot Region	Creates a snapshot of the control curve in the current region.
Delete Points	Deletes all automation points from the control curve in the current region.
Trim	See next page

Trim

When automation **Trim** is invoked a dialogue box opens which enables the automation points values in the currently selected range to be trimmed:
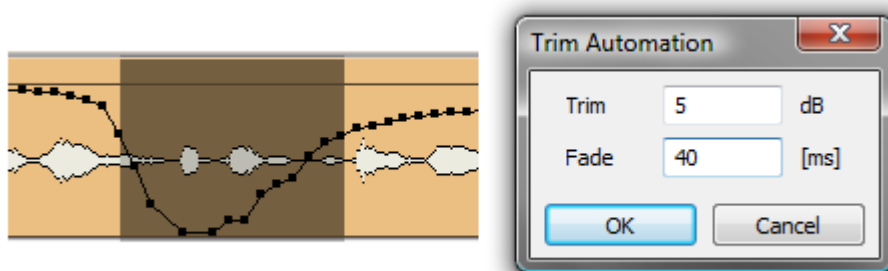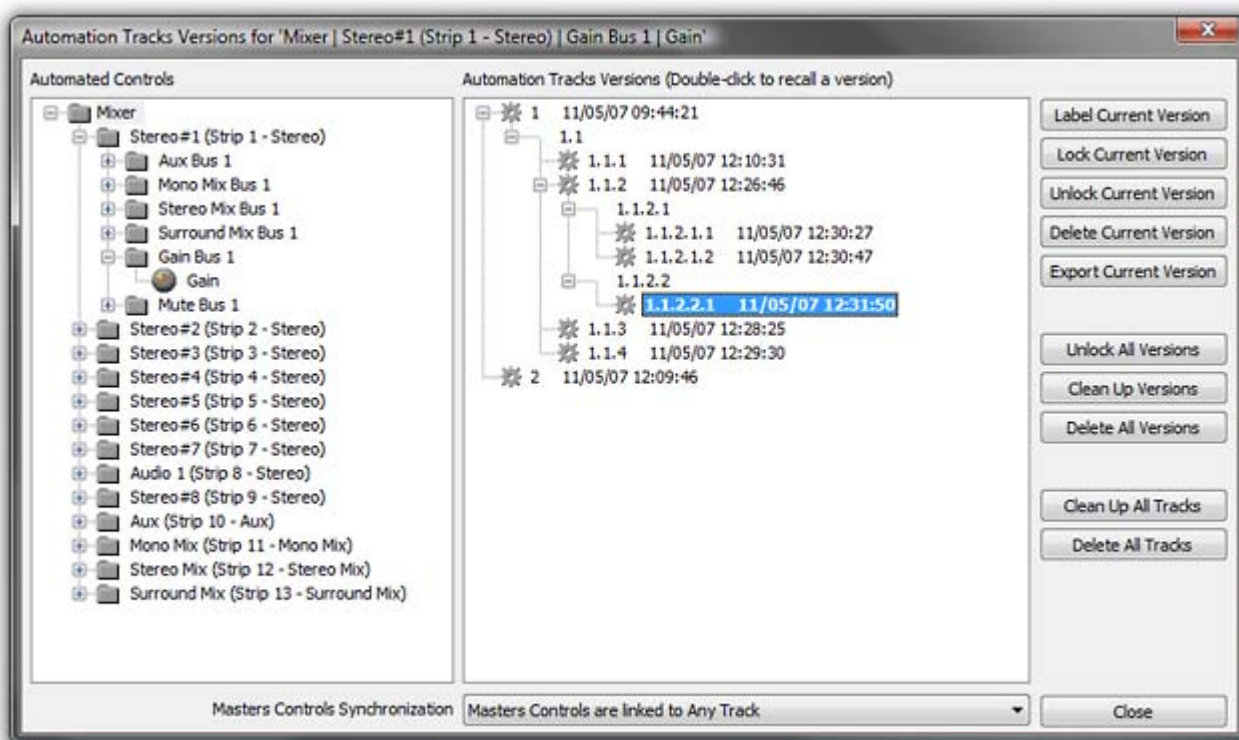

Track Trim Automation dialog

Values can be increase by simply typing the number of dB required or decreased by typing - (minus) before the number in the **Trim** box. The **Fade** box allows a value in ms to be entered. This defines the length of fade which is automatically applied at the beginning and end of the selected range from and to the original values.

Note: dB applies to level changes. If the automation curve is displaying frequency, values will be in Hz and so on.

Show Automation Track Versions
Opens the **Automation Tracks Versions** window:

Automated Controls

The **Automated Controls** pane displays all the automatable controls in a tree structure. The last control written is automatically selected. The **Automation Tracks Versions** pane shows all the automation passes for the selected control in a tree structure. Double-clicking a version makes it current. If a previous version is made current and a further automation path written, a sub-branch results. In the example above two passes were made then version **1** was recalled by double-clicking it. Four further passes were made labelled **1.1.1**, **1.1.2, 1.1.3** and **1.1.4**. Then version **1.1.2** was recalled and two further passes made labelled **1.1.2.1** and **1.1.2.2**. Then **1.1.2.1** was recalled and two more passes made producing **1.1.2.1.1** and **1.1.2.1.2**. We were still unhappy with the mix so recalled **1.1.2.2** and produced the final version, **1.1.2.2.1**. The times when the passes were written reflects this.

Label Current Version	creates a copy of the current version for the selected control or branch of controls, gives it a name that will be displayed in the version Tree and locks it/them. This makes it easy to recall a given and easily identifiable version of the automation for the whole mixing console. A warning dialogue is shown if the item selected is anything other than **Mixer**.
Lock Current Version	Locks the current version
Unlock Current Version	Unlocks the current version
Delete Current Version	Deletes the current version. Subsequent passes are re-numbered as necessary.
Export Current Version	Exports the current Track or Branch as an XML file.
Unlock All Versions	Unlocks all versions in the tree.
Clean Up Versions	Deletes all versions except the most recent.
Delete All Versions	Deletes all the automation passes for the selected control.

| **Clean Up All Tracks** | Deletes all versions except the current one for all tracks. |
| **Delete All Tracks** | Deletes all automation information for all tracks. |

Locked Versions
Locked versions will be preserved when:

- Clicking on the Clean Up Versions button

- Clicking on the Clean Up All Tracks button

- Saving with the "Keep only current and locked versions while saving" option in the Automation Settings

- The "Limit versions to the number of Undo/Redo" option is enabled in the Automation Settings

Locked versions will NOT be preserved when:

- Clicking on the Delete Current Version button

- Clicking on the Delete All Versions button

- Clicking on the Delete All Tracks button

Masters Controls Synchronization

The drop-down list enables you to select which Track(s) or Track Groups will, when edited, affect the position of automation applied to Master controls, buses etc.

Like **Markers** or **CD/SACD Markers**, all Masters controls can be either:

- Independent (No action on any track will affect the Masters)

- Linked to Any Track (Any editing action requiring synchronization will affect the Masters controls)

- Linked to Any Track without a Group

- Link to Track Group A, B, C, etc…

View Several Parameters

To view more than one automation parameter for a track, create **Virtual tracks** for each parameter you wish to view. **Please see also Virtual Tracks on page 82**

Undo/Redo

The menu item **Edit > Undo/Redo** also reacts to Automation actions providing a shortcut to the **Automation Tracks** Window.
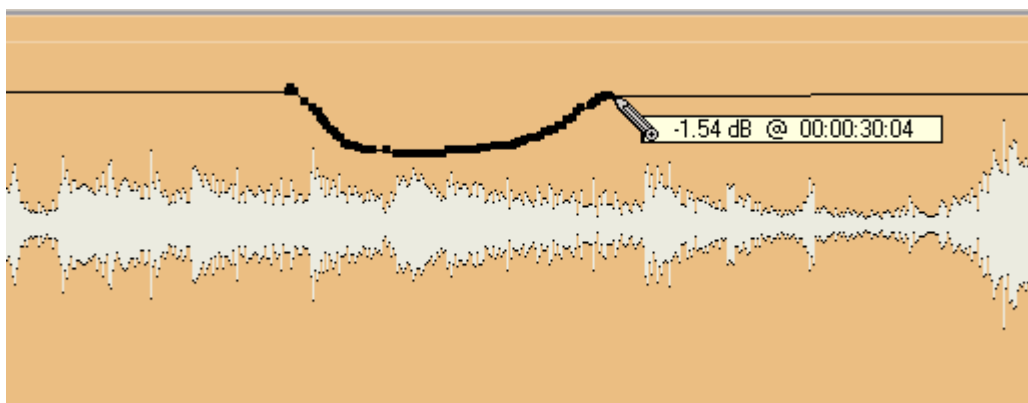
Editing Automation data

Automation data can be edited directly with the mouse. When the mouse is over the of automation curve, the cursor changes into a hand. When the mouse is over a node of the automation curve, the value and timestamp of the point is displayed.
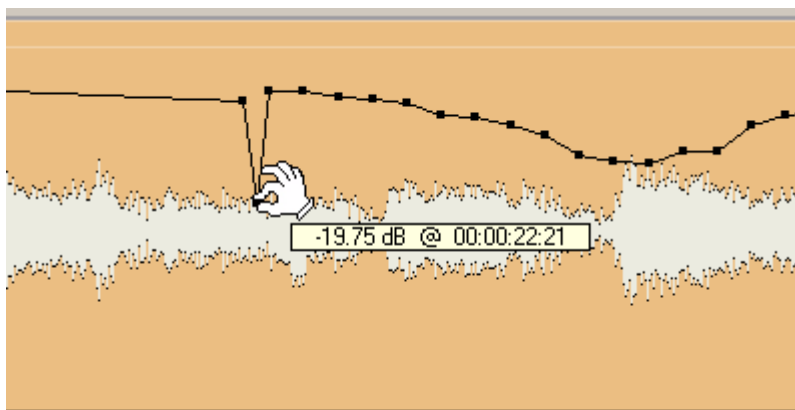
Dragging an automation node

The value can be adjusted by clicking on the node and dragging. If you click anywhere on the automation curve, a new node will be inserted.

If you hold the **Ctrl** key while dragging on the automation curve, the mouse pointer will turn into a pencil. The curve can then be drawn freehand.

Drawing an automation curve

If **Ctrl + Shift + Alt** are held, the cursor changes to an eraser and clicking on a point erases it.

Automation Menu Editing options

Delete Selected Points	Deletes all automation points contained in the selected region
Cut Selected Points	Cuts all automation points contained in the selected region
Copy Selected Points	Copies all automation points contained in the selected region
Paste Points to Cursor	Pastes all copied or cut automation points at the cursor on the selected track
Paste Points to Original TC	Pastes all copied or cut automation points at the Original TimeCode on the selected track

## Automation Editing Between Strips/Projects

Automation data can be **cut/copy/past**ed between mixer strips with differing pan types and between projects. I.e. a **Pan** automation track can be copied to a stereo track having a **Balance** control. This is only possible in the following cases :

- **Pan** -> **Balance**
- **Balance** -> **Pan**
- **LeftRight mono surround panner** -> **Pan**
- **LeftRight mono surround panner** -> **Balance**
- **Pan** -> **LeftRight mono surround panner**
- **Balance** -> **LeftRight mono surround panner**

Note: Only the left side of a Stereo strip's Surround Panner is reassigned to/from a Pan/Balance .

When **Automation > Bus Reassignment on Paste** is set **on** the following dialog will appear if some automated bus elements of a strip are available in the automation clipboard.

When **Automation > Bus Reassignment on Paste** is set **off** following dialog will appear **only** when at least one bus in the clipboard is not available in the target mixer.
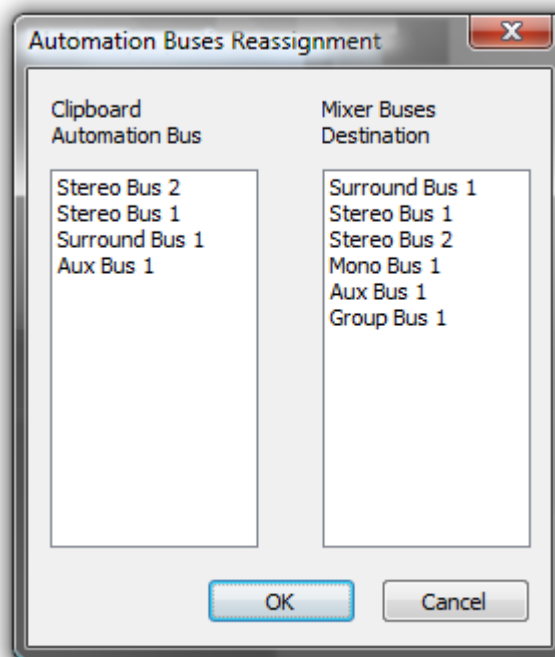
Automation Buses Reassignment dialog

The **Bus Reassignment** dialog left-hand pane shows the Clipboard Buses automation data of the contents.

The **Bus Reassignment** dialog right-hand pane shows the Destination Buses available in the current Project's Mixer.

By default, the **Automation > Bus Reassignment** dialog assigns buses together which match by Bus type in the left and right panes.

In the screenshot, **Surround Bus 1** is assigned to **Surround Bus 1**, **Stereo Bus 1** is assigned to **Stereo Bus 1** etc.

This dialog enables you to:

- Copy an automation track to or from different or similar Bus types of a strip. When bus types are, for example: **SR1** to **ST1**.
- Copy an automation track to or from different types of strip (mono, ms, stereo and GPS).

Automation Settings

Select **All Settings > Application > Automation**. (**Automation > Automation Settings** also takes you to the **Automation** page).
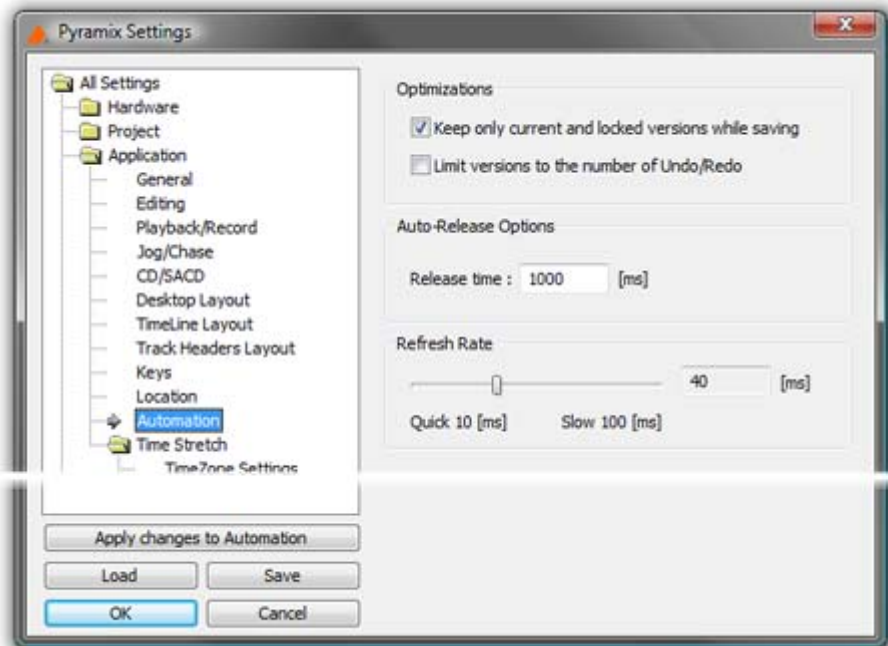
Automation Settings page

Optimizations

Offers a choice of options to enhance system performance when using automation.

Keep only current version while saving when checked, the system only saves the current version of all automation tracks. This looses the saved automation versions history, but dramatically shortens the save time for projects with automation.

Limit versions to the number of Undo/Redo when checked the system only keeps a limited number of versions in memory (the same as the number of **Undo/Redo**s as defined in the **Settings > All Settings > General** Page). This reduces the number of automation versions kept in the history but enhances performance.

Auto-Release Options

If **Auto Release** is enabled any control will, when released or when the transport is stopped, return to its value or state in the previous automation pass or the default where no previous pass exists. This occurs either immediately if the control only has two states (e.g. a button) or over a period of time if the control is a fader or knob. The time period is determined by the value entered in the **Release Time** box in ms.

Refresh Rate

The **Refresh Rate** setting determines the rate at which the automation data is recorded. By default the refresh rate is the same as the actual time code frame rate, e.g. 40 ms at a frame rate of 25 fps.

The possible range of the refresh rate is 10 to 100 milliseconds. Please note that your setting is rounded to entire frames, so that the effective refresh rate will be either one, two or three times the actual frame rate.

One reason to choose a slower setting for the refresh rate would be to save processing power in complex mixes.

> **Note:** This setting has no bearing on "smoothness" of dynamic automation changes. Pyramix uses linear interpolation to avoid any possibility of zipper noise.

Automation in editing and libraries

You can use the Automation menu Cut/Copy/Paste functions to copy data (even between projects). Just select a region and select **Automation > Copy Selected Points**, then choose which list(s) to copy, then go into another project (or the same) and select **Automation > Paste Points to Cursor** or **Paste Points to Original TC**.

If you enable the menu item **Edit > Enable Automation Cut/Copy/Paste** then any editing operation on clips also applies to all associated automation data (cut/copy/paste, Auto-Ripple, etc…)

If you drag a clip(s) to a library, all automation over that clip(s) is copied/pasted as well.

Mixer and Plug-in Snapshots

Note: Mixer Snapshots as described here use the dynamic automation mechanism.

Mixer Snapshots
Snapshots of the entire state of the mixer surface may be easily and quickly saved and recalled.

Saving Mixer Snapshots

To save a Mixer snapshot hold down **Alt** and **Shift** then **Click** anywhere on the **Mixer** surface and drag to a user library. A new item of the type **Mixer Snapshot** will appear in the library. The snapshot is named **Mixer Snapshot** by default. To accept this name just hit **Enter**. Otherwise, type a suitable name then hit **Return**.

Recalling Mixer Snapshots

To recall a mixer snapshot simply click on it in the library, drag it over the mixer surface and release. All parameters will be reset to the values stored in the snapshot.

Note: A Mixer Snapshot includes all Plug-in Parameters.

Effects Snapshots
Effect Settings can be easily stored and recalled by dragging them to/from libraries.

Creating Effects Snapshots

Hold **Alt** + **Shift**, then click and drag from a **Plug-in** window to the library where you want to store the settings, then release. A new item, of the type **Mixer Snapshot**, is stored in the library. The snapshot is given the name of the plug-in by default. The new item is automatically highlighted so, if you wish to change the default name, simply type the new name and hit **Enter** to confirm. The name of the snapshot can be subsequently changed by clicking on the name in the library, then entering the new name.

Strip and Bus Tools

15

Strip and Bus Tools

Eq, Comp/Limiter/Expander

Strip and Bus Tools are a quick and efficient way of adding the Equalization and Dynamics (compression and expansion) functions commonly found on hardware consoles to channels and buses. Strip and Bus Tools are particularly economical with DSP processing power. Each processing block may be switched 'into circuit' individually. Blocks which are not 'in circuit' do not use DSP resources.

Difference between Strip Tools and Bus Tools

There is only one major difference between Strip and Bus Tools. Bus Tools have a sophisticated Limiter with **Look-ahead** and **Delay Compensation** where Strip Tools has a Compressor.

Both may be freely used in Strips or Buses if the need should arise for a limiter in an Input Strip or a Compressor in a Bus.

Modules

The Strip and Bus Tools plug-ins consist of several **Sections** or modules. Each **Section** has a title bar at the top containing an **On/Off** switch for the **s**ection and a control triangle which toggles between showing or hiding the section.

Display Options

Multiple instances of the Bus Tools plug-in are displayed in one large window. Right-click onto the window title bar of the plug-in to open a menu offering some general display options for the Strip Tools plug-ins:

Strip Tools - General Display Options

This menu allows you to either directly select the number of strips displayed in the plug-in window, or to increment/decrement this number by one. The maximum number will vary depending on how many Strip Tools are assigned.

Sections

From top to bottom, Strip Tools contains the following Sections:

Input Level

This section contains the input level control and shows the name of the mixer strip this instance of the plug-in is assigned to.

Dynamics

This section contains a compressor. It can be switched, as shown here, to act as a decompressor.

Expander

This is a downwards expander. It can also be switched to act as an upwards expander.

Equalizer

This is a five band fully parametric equalizer. Each band can be switched to high or low pass, shelving or peaking characteristics.

Output

This section controls the output level of the strip tool and also offers automatic gain make up for the compressor.

Common Features

Each Section or module of Strip and Bus Tools has a number of controls in common.

Title Bar

A text description of Section's function, e.g. **Input**, **Dynamic** etc. Also contains:

Show/Hide triangle

At top left of every Section a grey triangle toggles between showing or hiding the section. Clicking a triangle with **Shift** held down opens the Section (If hidden) and hides all other Sections. Clicking a Section with **Ctrl**. held down opens all Sections.

> **Note:** Sections remain active when hidden.

Section On/Off Button

Between the **Show/Hide** triangle and the Section **Title** is the **On/Off** button for the Section.

Knobs

The position indicator dot lights orange when the control is at the default value. A white star appears top-left of the scale of the last control 'touched'.

Input Section

Color bar indicates Selected → Strip Name
Activate/De-activate Plug-in
Input Section On/Off
Show/Hide Input Section
Show/Hide Routing
Input Level Control
Routing Buttons
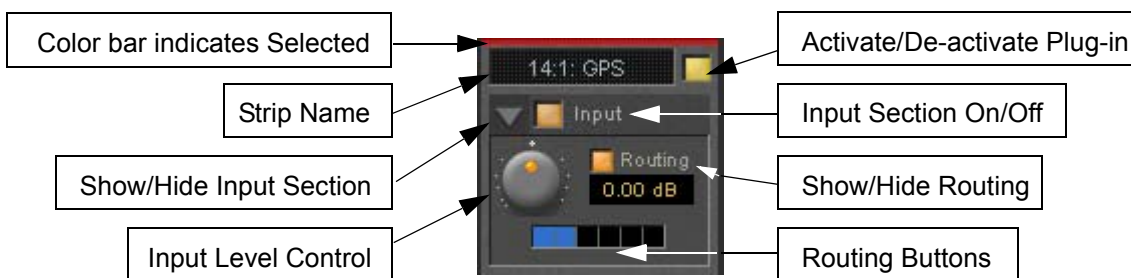
Color Bar

Indicates strip is selected.

Strip Name

Displays the name of the strip the plug-in is assigned to. The name for the plug-in can be changed by double-clicking on the strip name, then typing in a name and hitting the **Return** key to confirm. If a plug-in name is changed in this way, subsequent changes to the parent mixer-strip name do not affect the plug-in strip name. To recover the name of the parent strip, simply remove the strip name.

The strip name is saved with presets and within Pyramix projects.

Activate/deactivate plug-in

This button switches the entire Strip plug-in on or off. Note that when the plug-in is switched off, it doesn't consume any DSP power.

Show/Hide input section

Input section on/off

Input level control

Adjusts the input level over a range of -48 dB to +48 dB.

Show/hide Routing

By default Routing buttons are hidden. This button toggles between Showing and Hiding the Routing Buttons. Routing remains active when hidden.

Routing Buttons

Determine which audio streams running through the strip will be processed by the plug-in. The number of buttons depends on the number of steams controlled by the strip. This means one for a mono input channel or two for a stereo input channel and so on up to 8 for a 7.1 input channel. Streams which are not selected will be left untouched.

Dynamics Section
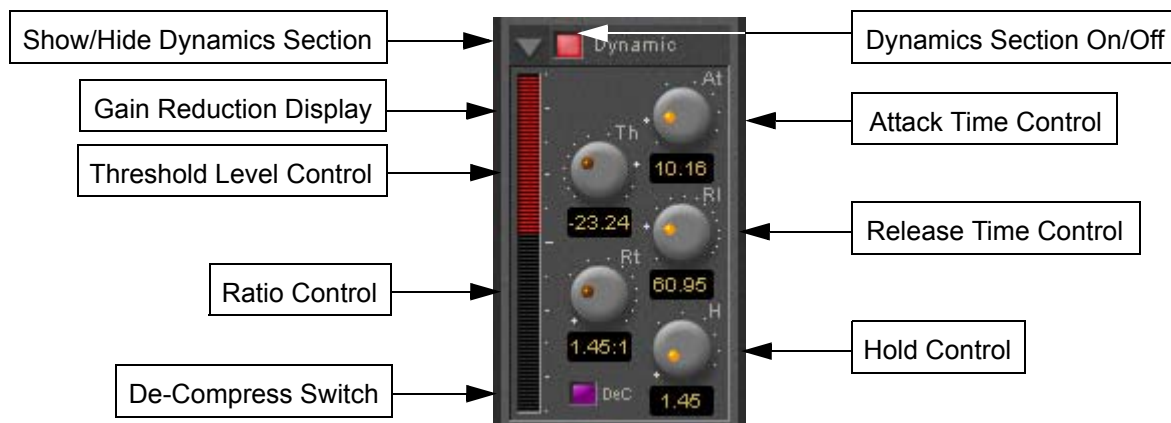
Show/Hide Dynamics Section
Dynamics Section On/Off
Gain Reduction Display
Attack Time Control
Threshold Level Control
Release Time Control
Ratio Control
Hold Control
De-Compress Switch

Show/Hide Dynamics section

Dynamics Section On/Off

Gain reduction display

The bar graph shows the gain reduction/increase generated by the **Dynamics Section** or by the **Expander**. The range of the display can be switched between +-10 or 20 dB by clicking on the bar graph. Scale markings in 1dB increments on the right-hand side of the bar graph make it easy to see if the range is 10 or 20 dB.

Colors are used to denote a gain reduction or increase generated by either the compressor or the expander:

•   Gain reduction by the Compressor is displayed in **Red** from top to bottom.

•   Gain increase by the De-Compressor is displayed in **Pink** from bottom to top.

•   Gain reduction by the Expander (normal or inverse) is displayed in **Green** from bottom to top. With the compressor in inverse mode, the gain reduction of the expander is displayed in **Green** from top to bottom

Threshold Level Control

Sets the level at which the compressor begins to act. If the input signal level exceeds the **Threshold Level**, the gain is reduced (or increased in De-Compressor mode) in proportion to the setting of the ratio control.

Ratio Control

Determines the proportion of gain reduction (or increase) for signals above the threshold level. If, for example, the ratio is set to 2.00:1, in Compressor mode, if the input level rises by 2dBs above the threshold level, the output level will only rise by 1 dB.

Attack Time Control

Controls the time the compressor takes to react when the input level exceeds the **Threshold Level**. The lower the attack time, the faster the reaction.

Release and Hold Time controls

These two parameters work together and control the amount of time the compressor takes to react when the input level is above the threshold level and starts fall. During the hold time the gain of the compressor remains constant. After the hold time the gain of the compressor is changed at the rate set by the release time. The lower the release time, the faster the reaction.

De-Compress Switch

Switches the compressor between the compress and the de-compress modes.

Compressor mode

Output level

Threshold

Input level

De-compressor mode

Output level

Threshold

Input level

Compressor and De-Compressor action
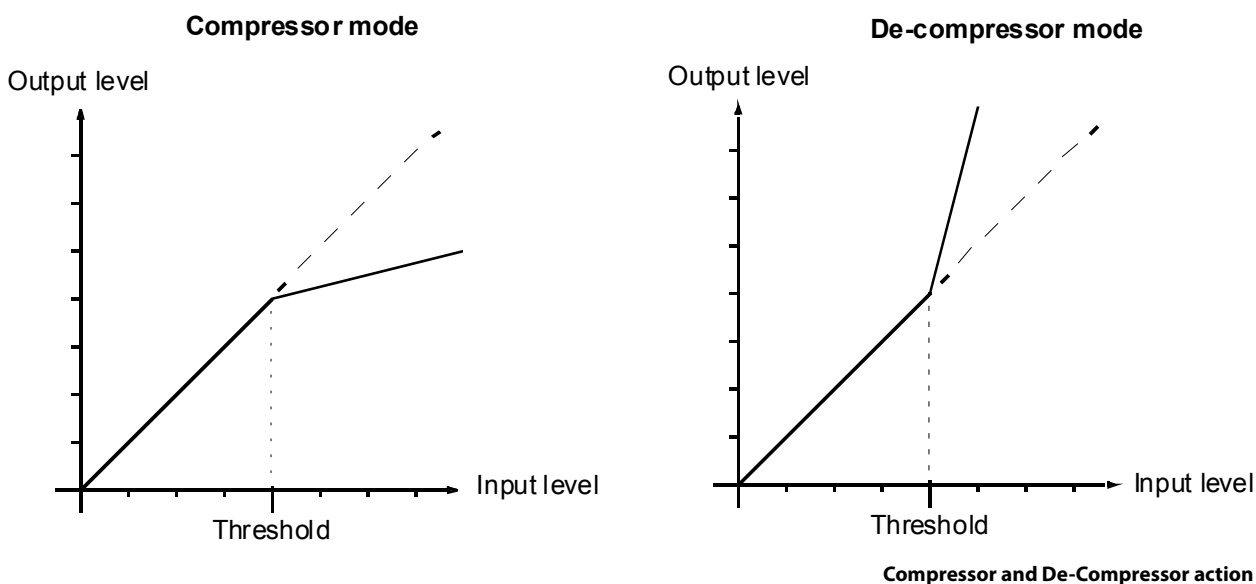
In compressor mode, when the input level exceeds the threshold level, the gain is reduced according to the setting of the ratio control. In de-compressor mode, when the input level exceeds the threshold level, the gain is increased according to the setting of the ratio control.

Expander Section

Show/Hide Expander Section

Threshold Level Control

Expander Section On/Off

Ratio Control

Inverse Switch

Show/hide Expander section

Dynamics section on/off

Threshold Level Control

If the input signal level falls below the threshold level, the gain of the expander is reduced (or increased in inverse mode) according to the setting of the ratio control.

Ratio control

Determines the proportion of gain reduction (or increase) for signals below the threshold level. If, for example, the ratio is set to 2.00:1, in normal mode the output level will be decreased by 2 dB if the input level is decreased by 1 dB below the threshold level.

Inverse switch

Switches the between normal and inverse expander modes.

Expander normal mode

Output level

Threshold

Input level

Inverse mode

Output level

Threshold

Input level
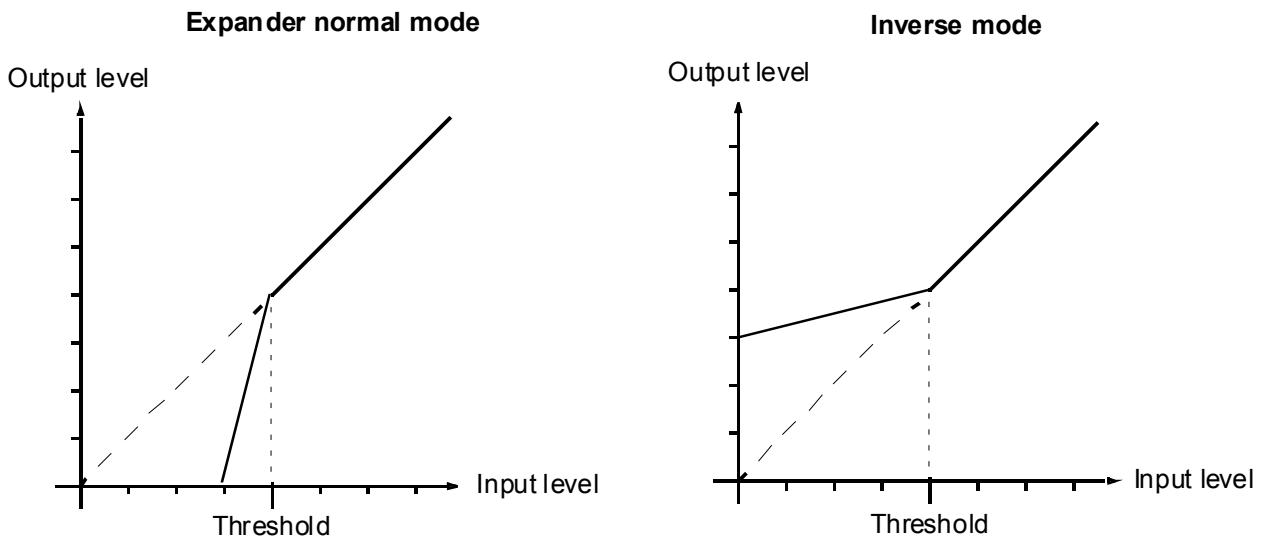
Expander normal and Inverse mode action

Attack/Release/Hold controls

The **Expander Section** uses the settings of the **Attack/Release/Hold** controls in the **Dynamics Section** to control it's timing.

Equalizer section

A fully parametric five band equalizer. Each band covers the entire frequency range from 20 Hz to 20 kHz (or higher, depending on the sampling rate of the project) and can be switched between peaking, high or low shelving and low-pass or high-pass characteristics. Each of the five bands can be switched off. De-activated bands do not consume DSP power.

EQ Section On/Off

Show/Hide EQ Section

Band Selector

Band Filter Type

Gain Control

Frequency Control

Pre-Dynamics Switch

Graphic Display Window

Selected Band On/Off

Q (Bandwidth) Control
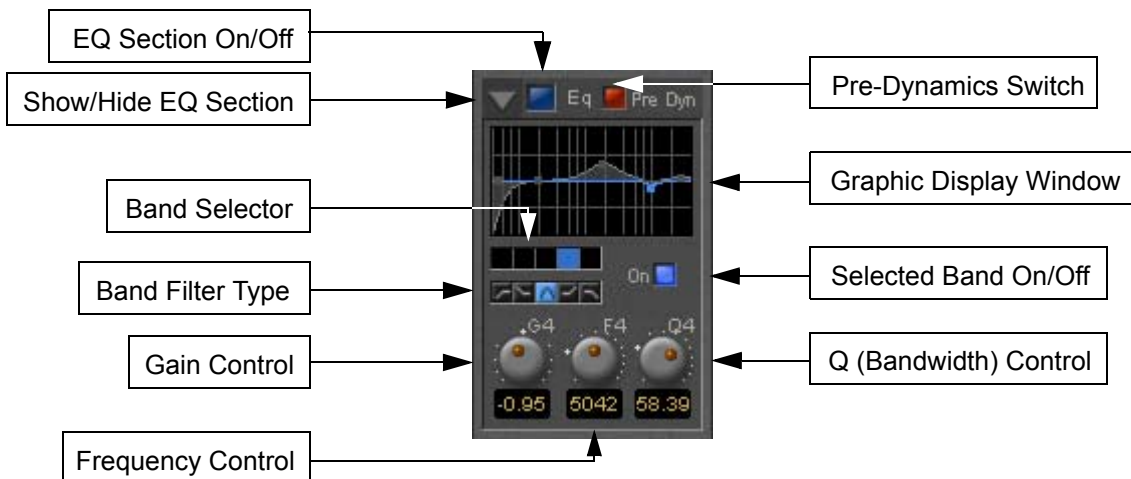
Show/ Hide EQ Section

EQ section on/off

Pre Dynamics Switch

This switch offers the option to the switch the EQ before the dynamics section. By default the EQ is after the dynamics section.

Graphic Display Window

This small window displays the settings of the currently selected EQ band in blue color and the resulting curve of the whole EQ section in gray color. You can click and drag directly onto the handles (the small blue or gray points) of the EQ bands to change the settings within the graph window.

Double-click anywhere in the window to open a bigger version. Please see **The Big Graph Window on page 279**.

Band Selector

Click onto one of these five buttons to select the band to be manipulated by the Gain, Frequency and Q control underneath. A band gets also selected if it is manipulated in the small or big graph window.

Selected band characteristics

These five buttons determine the characteristics of the selected EQ band. The choices from left to right are High-Pass Filter, Low Shelving, Peak, High Shelving and Low-Pass Filter.

Selected Band On/Off

Switches the selected EQ band on or off. By default the five bands are switched off in order to economize DSP power, so don't forget to switch an EQ band on before you can hear what it is doing.

Gain Control

-24 dB to +24 dB, boost and cut.

Frequency Control

The range for each band is depending on the sampling rate of the project:

•	For sampling rates up to 48 kHz the frequency range of each band is 20 Hz to 20 kHz.

•	For sampling rates up to 96 kHz the frequency range of each band is 20 Hz to 40 kHz.

•	For sampling rates up to 384 kHz (e.g. DSD mixing) the frequency range of each band is 20 Hz to 80 kHz.

Q (bandwidth) Control

The range for the Q parameter is 0.2 up to 100. A Q of 0.2 results in a very wide bandwidth, a Q of 100 will give an extremely narrow notch.

Output Section

Show/Hide Output Section — Output Section On/Off — Output Level Control — Auto Gain Make-Up Switch — Color bar indicates Selected

Show/ Hide Output section

Output section on/off

Output Level control

Adjusts the output level over a range of -48 dB to +48 dB.

Automatic Gain Make Up switch

When lit, Output gain is automatically adapted according to the settings in the **Dynamics Section**. In this case the **Output Level Control** will be grayed out and inaccessible.

The Big Graph Window

The big graph window opens when you double-click the small graph window inside the **EQ Section**. The current settings of the selected EQ band are displayed as a blue line and the resulting overall EQ curve is displayed as a gray shaded area. Frequency and Gain parameters of each of the five bands can be altered by clicking on a band's handle and dragging with the mouse.

Handles of bands which are not selected are displayed as small gray squares. Grabbing and drag a handle selects the band.
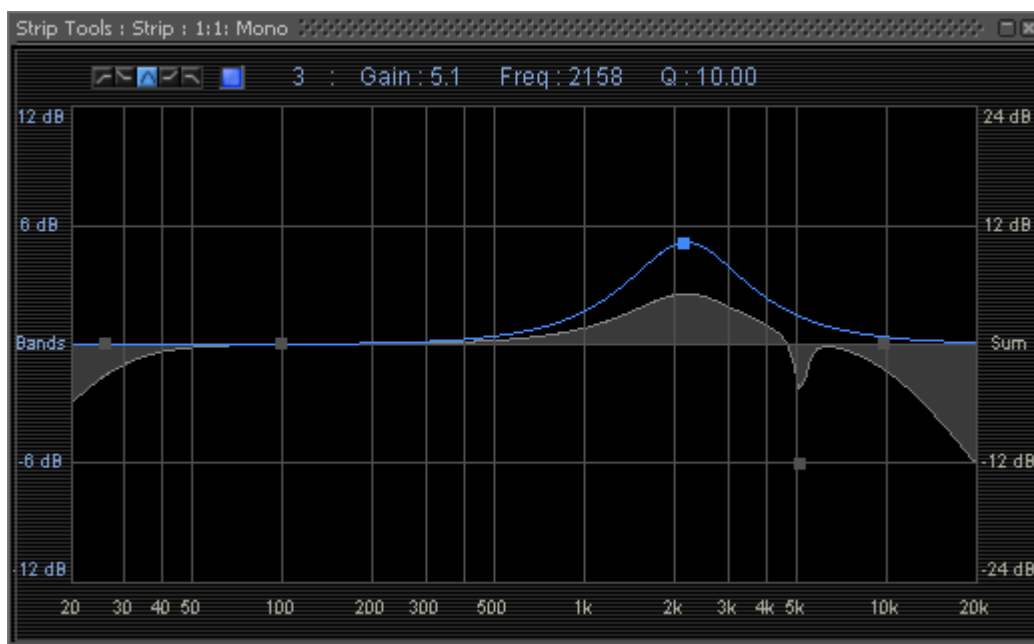
Big Graph floating Window

The frequency response display uses two separate gain scales. The left hand, blue scale shows the scale used for individual bands. The right hand, gray scale shows the scale for the overall EQ curve. Both scales automatically adapt their range according to the settings of the curves they apply to. The range of the left and the right scale my be different. The ranges for the individual bands can be either +/- 6 dB, +/- 12 dB or +/- 24 dB, but the scale for the overall curve may go up to +/- 72 dB.

The upper area of the **Big Graph Window** provides an **On/Off** switch and buttons to select and indicate the characteristic (High-Pass, Low Shelf, Peak, High Shelf or Low-Pass) for the selected EQ band together with numeric displays of Gain, Frequency and Bandwidth.

Frequency and Bandwidth setting.

Shortcuts

•   Double click on a handle to reset the gain of this band to unity.

•   The **Tab** key switches between EQ bands.

•   Clicking and dragging a handle with the right mouse button alters the Q (bandwidth) of this band.

•   Hold the **Ctrl** key while dragging with the left mouse button to lock the gain parameter and only change the frequency.

•   Hold the **Shift** key while dragging with the left mouse button to lock the frequency parameter and only change the gain.

Bus Tools

Bus Tools are very similar to **Strip Tools** but are specifically designed to be inserted into buses rather than channels. **Bus Tools** combine the most frequently used 'mastering' processing blocks you find on the output buses of a mixing console in a single plug-in, including an advanced limiter. Like Strip Tools multiple instances of the Bus Tools plug-in are displayed in one large window. The number of instances displayed is user selectable.

IMPORTANT! Pre-Anticipation (PA) and Delay Compensation (DC)

Delay compensation adds a delay determined by the Pre-Anticipation delay setting to all channels passing through a Bus Tools plug-in NOT selected for processing.

If two or more Bus Tools are inserted in a Bus with PA & DC switched on, the delay times of each Bus Tools will add together for all channels:

Sections

The **Input**, **EQ**, and **Output** sections are almost identical to the ones found in **Strip Tools**. Please see the relevant paragraphs in the **Strip Tools** section for a full description. Where there are differences, these will be dealt with here. **Shortcuts**, **Linking** and **Automation** functions are the same as **Strip Tools**.

From top to bottom, the Bus Tools plug-in contains the following sections:

Input Level

This section contains the input level control and shows the name of the mixer strip this instance of the plug-in is assigned to.

Limiter

This section contains the limiter, which either acts as a standard limiter, but it can also work in conjunction with Limiter DRC section below.

Limiter DRC

This section adds a Dynamic Release Compensation (DRC) to the Limiter section. This enables very musical control of the release time of the limiter.

Equalizer

This is a five band fully parametric equalizer. Each band can be switched to high or low pass, shelving or peaking characteristics.

Output

This section controls the output level of the Bus Tool and also offers automatic gain make up for the Limiter.
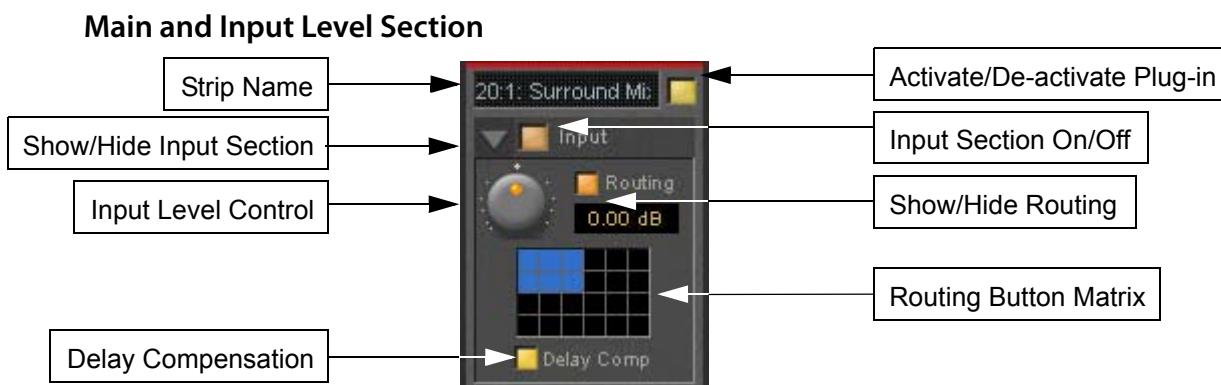
Main and Input Level Section

Strip Name → | ← Activate/De-activate Plug-in

Show/Hide Input Section → | ← Input Section On/Off

Input Level Control → | ← Show/Hide Routing

← Routing Button Matrix

Delay Compensation →

Strip Name

Displays the name of the strip the plug-in is assigned to. The name for the plug-in can be changed by double-clicking on the strip name, then typing in a name and hitting the **Return** key to confirm. If a plug-in name is changed in this way, subsequent changes to the parent mixer-strip name do not affect the plug-in strip name. To recover the name of the parent strip, simply remove the strip name.

Activate/Deactivate Plug-in

This button switches the entire Strip plug-in on or off. Note that when the plug-in is switched off, it doesn't consume any DSP power.

Show/Hide input Section

Input Section On/Off

Input level control

Adjusts the input level over a range of -48 dB to +48 dB.

Show/hide Routing

By default Routing buttons are hidden. This button toggles between Showing and Hiding the Routing Buttons. Routing remains active when hidden.

Routing Button Matrix

The buttons determine which audio channels running through the Bus will be processed by the plug-in. The number of buttons shown depends on the number of channels controlled by the Bus. In the case of a multiple surround Bus this may be up to 64. A single instance of Bus Tools can process up to 8 channels selected from this matrix.

A 5.1 surround bus will have six buttons. The order of the channels selected by the buttons is (from left to right): Left, Center, Right, Left Surround, Right Surround, Subwoofer.

This enables, for example, the Left, Center and Right channels of a surround Bus to be independently processed from the surround channels by adding two Bus Tools plug-ins to the Bus and selecting L, C, R in the first and LS and RS in the second.

Using Bus Tools on multiple surround buses

Although a single instance of Bus Tools can process 8 channels it is simple to use multiple instances to process many more with linked parameters. E.g. with four surround Buses you could use 3 instances. Assign the L & R channels of each Bus to Bus Tools A, the Centers of each bus to Bus Tools B and the Surround Ls and Rs of each Bus to Bus Tools C. The 3 Bus Tools can then be linked as you wish by right-clicking and creating control groups in the yellow matrix. If Delay Compensation (see below) is activated all channels will remain time-aligned, even when using Pre-Anticipation.

Linking Bus -Tools controls

Any choice of Bus Tools controls can be linked together. When you move any of the controls which is a member of a link group, all the other members of the group also move. There are 48 link groups for linear/rotary controls and 48 link groups for switches.

To add a control to a link group, right-click on the knob or button to display its **Link Status** and **Automation Status** pop-up window. E.g. this is the pop-up for an input gain control.:
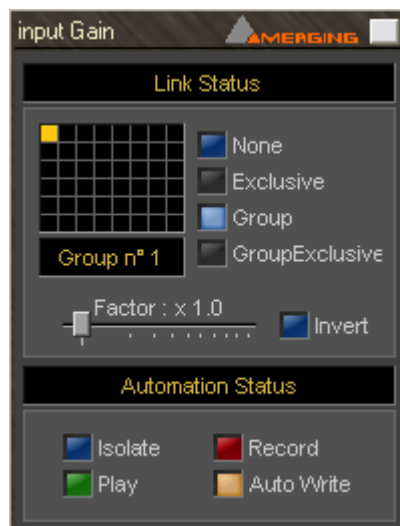
Strip Tools - Link and Automation Status

Group assignment mode buttons

These four buttons define the link mode of the control. Four choices are available:

None	The control is not a member of any group.
Group	The control is a member of the selected group. When you move (or switch) this control or any other control which is a member of this group, all the members of the group will move (or switch) along with it.
Exclusive	This mode is only available for switches. With this mode selected, when this switch is on, all the other members of the group will be switched off.
Group Exclusive	This is a mode which has a superior effect on all groups which are set to Group Exclusive. When any of the groups which are set to Group Exclusive is switched on, all the other groups set to Group Exclusive will be switched off.
	Grouped controls are indicated by a yellow **L** in the corner of the control 'block'.

Strip Tools - Grouped Controls

Factor X Slider	Works only on continuous (rotary or linear) controls. It determines the gearing of this control in relation to other members of the group and vice versa. E.g, assume the input gain of strip tools #1 and the input gain of strip tools #2 are both assigned to group one. The scale factor of the gain of strip tools #2 is set to 2. Now when you change the gain of strip tools #1 by 1 dB, the gain of strip tools #2 will change by 2 dB's.
Invert	Also works only on continuous controls. It inverts the effect of the movement for this control caused by another group member or vice versa. E.g, assume the input gain of strip tools #1 and the input gain of strip tools #2 are both assigned to group one. The invert button of the gain of strip tools #2 is on. Now when you increase the gain of strip tools #1 by 1 dB, the gain of strip tools #2 will diminished by 1 dB.

Automation mode switches

Please see: **Dynamic Automation Modes on page 260** for a description of the automation mode switches.

When a grouped control is clicked, all other members of the group are shown with a yellow box around them.

Offset

If controls are offset when grouping is turned on, they retain the offset as shown here.

Strip Tools - Grouped Knobs

The red bar at the top of the strip indicates it is selected. The grayed out knob is the one which was right-clicked.

Delay Compensation

Delay Compensation

When the DRC section is active, the plug-in introduces a small delay to the audio signal. Since some signals of a bus may not be selected for processing using the routing buttons, these signals would not be delayed, and there would be a time misalignment at the output of the bus. When Delay Compensation is on, the same delay is applied to all signals whether selected for processing or not. This results in correct time alignment for all the signals of a bus.

Limiter section

This is a straightforward 'brick-wall' limiter with simple Threshold and Release parameters. However, the DRC (Dynamic Release Compensation) feature described in the next section can be activated to allow very musical control of the release time.

A brickwall limiter is a limiter which guarantees that the output level will never exceed the threshold level. On a normal limiter, a high level signal with very fast attack might cause an output higher than the threshold level, with a brickwall limiter this will not happen.

Show/Hide Limiter section

Limiter section on/off

Gain reduction display

The bar graph shows the gain reduction generated by the **Limiter Section**. The range of the display can be switched between 6 or 12 dB by clicking on the bar graph. Scale markings in 1dB increments on the right-hand side of the bar graph make it easy to see if the range is 6 or 12 dB.

Threshold control

If the input signal level rises above the threshold level, the gain of the limiter is reduced. This limiter guarantees that at no time will the level of the output signal exceed the threshold.

Release control

This parameter controls the amount of time the limiter takes to release. I.e remove the gain reduction) when the input level was above the threshold level and starts fall. During the hold time the gain of the compressor remains constant. The lower the release time, the faster the reaction.

Limiter DRC Section

DRC stands for **D**ynamic **R**elease **C**ompensation. In short, this means the release time of the limiter is altered depending on the dynamic nature of the signal routed through the processor.

Show/Hide DRC Section		DRC Section On/Off
Release Acceleration or Modification Display		Gain Reduction Bargraph
Offset Control		Dynamics Bargraph
Velocity Control		Curve Control
		Lookahead Delay Control
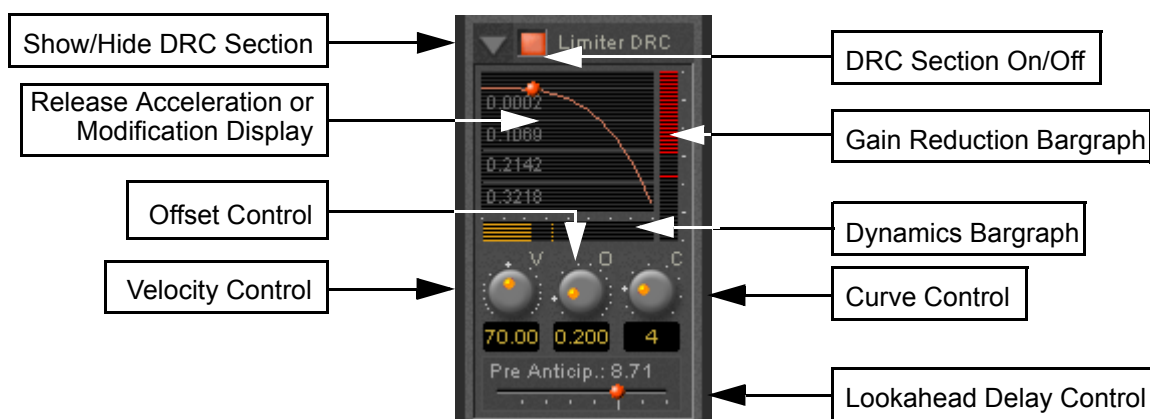
Show/hide DRC section

DRC section on/off

Release Acceleration or Modification Display

Shows a curve which illustrates the relationship between the change in dynamics of the input signal and the variation of the release time. The curve can be adapted between linear and power function characteristics (see also the description of the **Curve Control** parameter). During playback the display will also show a small red ball moving along the curve. This shows the range the algorithm is working in.

Gain reduction bargraph

Displays the gain reduction of the limiter while the DRC circuit is active. The scale is fixed at 6 dB.

Dynamics bargraph

Displays the dynamics of the input signal, which is the basis for the DRC algorithm.

Velocity control

Determines the speed of the DRC algorithm. The lower the value, the faster the algorithm reacts to changes of the dynamics of the signal and the more it reacts to dynamics the more the release time will remain constant.

Offset control

This parameter basically sets the minimum release time. In this sense the release control of the limiter defines the maximum release time, so the release time determined by the DRC algorithm will vary between these two times.

Curve control

This parameter controls the characteristics of the relationship between the dynamics of the signal and the resulting release time

Pre-Anticipation (Lookahead delay) control

This parameter changes the integration time for RMS detection and thus changes the effect of the DRC circuit.

The delay setting here also determines the delay that will be applied to signals passing through the plug-in NOT not be selected for processing when Delay Compensation is switched ON

> **Note:** Please note that this parameter delays the all signals running through the **Bus Tools** plug-in, so phase or other timing errors may occur when the plug-in is used in places other than the mix bus.

EQ and Output Sections

These are identical to the Strip Tools versions.

It is worth noting that, since the Limiter is in this case a brickwall design, the Automatic Gain Make-up function compensates for the same amount as the value set by the **Threshold Control** of the **Limiter**. The resulting signal will be close to, but never exceed 0dBfs. If **Gain Make-up** is **Off** the **Output Level Control** will act as a 'ceiling' control, setting the absolute level of the resulting output signal.

Delay Compensation / Pre-Anticipation

Example

5.1 Surround Mix Bus using two Bus Tools						
Channel	**BUS 1**	**BUS 2**	**BUS 3**	**BUS 4**	**BUS 5**	**BUS 6**
Routing	L	C	R	SL	SR	SW
Instance 1	IN	OUT	IN	OUT	OUT	OUT
Delay	8,71 (PA)	8.71 (DC)	8,71 (PA)	8.71 (DC)	8.71 (DC)	8.71 (DC)
Instance 2	OUT	OUT	OUT	IN	IN	OUT
Delay	5.8 (DC)	5.8 (DC)	5.8 (DC)	5.8 (PA)	5.8 (PA)	5.8 (DC)
Total Delay	14.51 ms	14.51 ms	14.51 ms	14.51 ms	14.51 ms	14.51 ms

In this table Bus Tools Instance 1 is IN circuit for the Left and Right channels of the mix and Bus Tools Instance 2 is IN circuit for the Left Surround and Right Surround channels. For the Center and Sub-Woofer Channels both Bus Tools are OUT of circuit. BUT Pre-Anticipation and Delay Compensation is switched ON for the channels selected for processing. To ensure proper time alignment all channels are automatically delayed by the same total amount. (the 8.71 and 5.8 figures are arbitrary)

If all channels are selected for processing (in circuit) with linked Pre-Anticipation then there is no need to activate Delay Compensation.

Project Processes

16

Pyramix
DIGITAL AUDIO WORKSTATION

Dither

Whenever changes are made to digital audio signals such as mixing, altering gain, eq or reverb, the result is usually an increase in the number of bits. These extra bits have to be removed to suit the requirements of delivery and interconnect standards. If the bit depth is reduced by simply ignoring the extra bits (truncation) or even rounding the least significant bit up or down, the resulting error can give rise to audible distortion of low signal levels. Obviously, there is also a permanent loss of resolution. These effects are cumulative. I.e. If the signal is repeatedly processed and bit reduced to shorter word lengths, there will be a significant and audible loss of accuracy in subtle, low level sounds. Human hearing makes use of this low level information in imaging and unless something is done to avoid the problem, space and clarity will be adversely affected.

In Pyramix all processing takes place in 32 bit floating point so, if signals are kept within this environment, there is no need for bit depth reduction until the final stage before output. Truncation or rounding are undesirable but a single 'dithering' stage can reduce bit depth whilst maintaining low level linearity. This is achieved by adding a controlled amount of low level noise to the signal. Since there is no such thing as a free lunch, the trade off is a slightly increased level of noise. However, the noise can be 'shaped' to reduce its perceived audibility.

See also: Dithering Options on page 184

It is important dithering is only applied once.

Mixing Down Projects

Exporting a Composition to a File

Once you have finished editing your **Composition**, the complete **Composition** or any selected area can be exported to an audio file (or files). This is really the same as mixing down the **Composition** to a file instead of to an audio output.
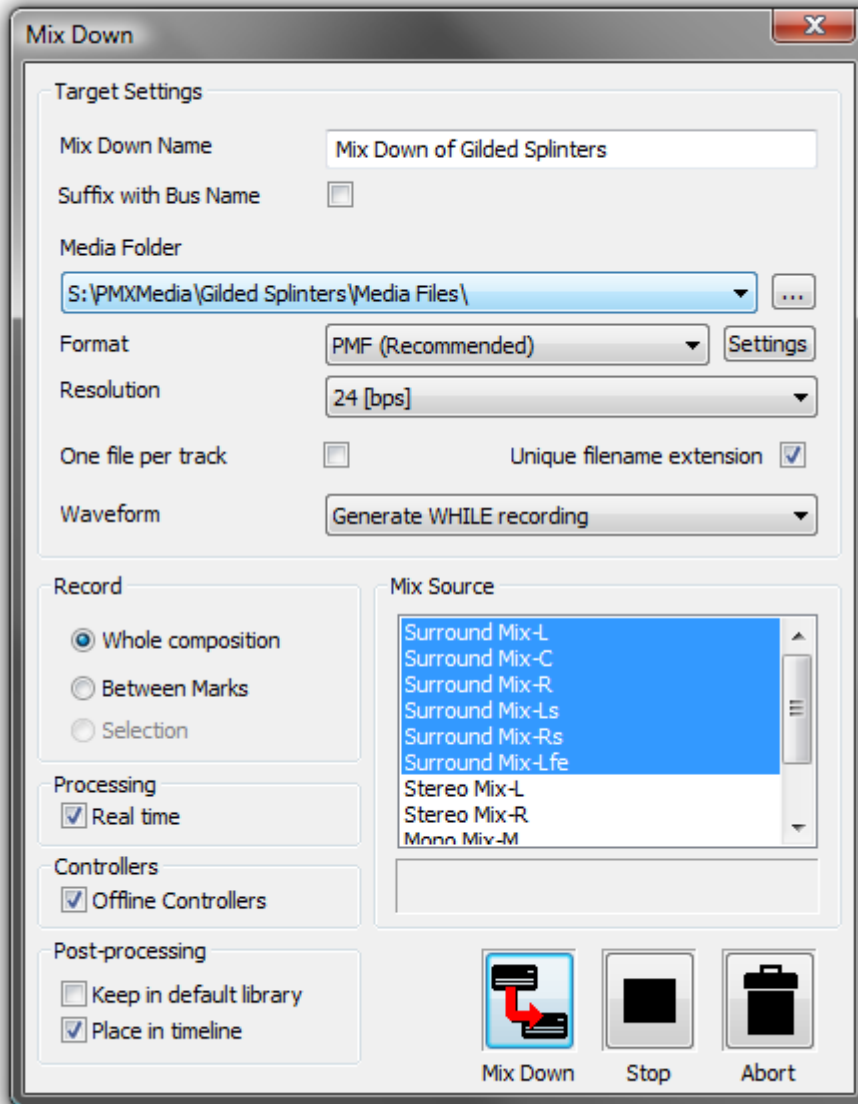
Mix Down dialog

1. Choose **Project** > **Mix Down** to open the **Mix Down** dialog box.

2. In the **Target Settings** section, type in an appropriate file name under **Record Name**; choose the folder to which the file will be saved from the **Media Folder** combo box (only previously mounted folders will be available as options); choose the bit depth/word length from the **Resolution** combo box; leave the **One file per track box** unchecked to make a single multi-track audio file, or click it to generate separate audio files for each Track and choose the appropriate export file type from the **Format** pop-up list. The **Suffix with Bus Name** option will create files named like:

   Terminator_Final-M&E-Stem1-L.wav

   Terminator_Final-M&E-Stem1-C.wav

   Terminator_Final-M&E-Stem1-R.wav

   Note: These settings are completely independent of the settings for **Recording** and **Render**.

3. In the **Record** section, choose to export the **Whole composition**, or the area between the **In** and **Out** Markers with **Between Marks** or a previously made **Region with Selection** by clicking the appropriate radio button.

4. Choose the appropriate output bus(es) as the source for the exported file. All output buses configured in your **Mixer** will be available in the **Mix Source** list box.

> **Note:** The names displayed will correspond to the labels in the mixer strips.

5. Click the **Mix Down** button to begin the process. **Stop** and **Abort** do what they say.

Options
Processing

Real Time	When checked the Mix Down will take place in Real Time

Controllers

Offline Controllers	When checked Hardware Controllers will be switched Offline automatically for the duration of the Mix Down. If the box is left unchecked it is possible to use the Hardware Controller for changing Monitor volume etc. or to fade out.

Post-Processing

Keep in default library	When checked the resultant mixed down file(s) will be placed in the Default Library
Place in timeline	When checked the resultant mixed down file(s) will be placed in the Timeline

Non Real-Time Mixdown

> **Note:** In Pyramix, non real-time mixdowns introduce no degradation whatsoever and are a considerable aid to productivity since they are usually (much) faster than real-time.

Archiving Projects

Menu: **Project > Archive** This function copies the project and all used media to a single location. Optionally all media can be **Consolidate**d, and referenced libraries can be archived as well.

Consolidating Projects
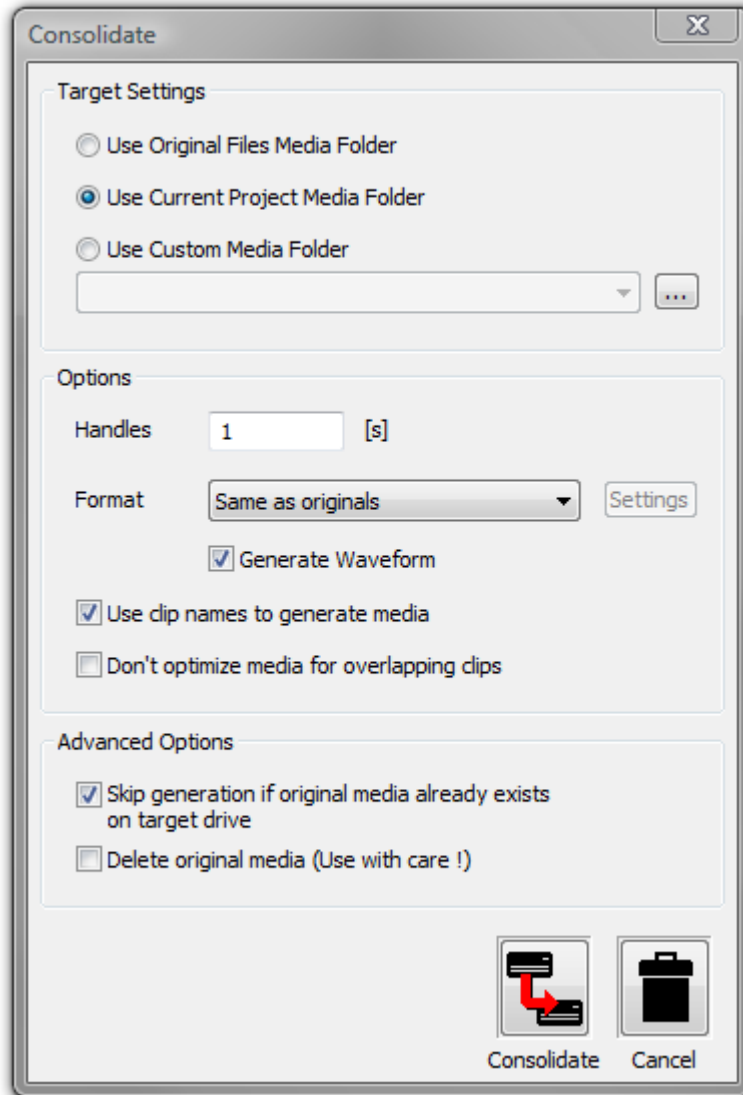
Consolidate dialog

Consolidating a Composition is a method of reducing the storage space used by Media files and of bringing all elements of the Composition together to move it to another machine or storage medium. The Consolidate function makes a selective backup of the media used in the Composition. Instead of backing up the whole of every media file referenced by the clips in a composition, Consolidate backs up only those parts of the media files that are referenced by the clip segments.

Target Settings

The Radio Buttons offer a choice of locations for the consolidated Composition.

Use Original Files Media Folder

The Consolidated Composition will be saved in the same location as the original files

Use Current Project Media Folder

The Consolidated Composition will be saved in the same location as the current Project Media

Use Custom Media Folder

The Consolidated Composition will be saved in a user selected location.

Options
Handles

To allow for limited further editing of the Consolidated Composition, changing fade durations etc. extra material (if it exists), can be retained at each end of every clip, beyond that which is defined by the Composition EDL. Enter a value in seconds.

Format

This drop down list enables the Consolidated Composition to be saved in the same format as the original or to be converted to any supported format.

Generate Waveform

When checked, waveform files will be generated and saved with the Consolidated Composition

Use clip names to generate media

When checked, the original clip names are used for the newly generated media

Don't optimize media for overlapping clips

Advanced Options
Skip generation if original media already exists on target drive

When checked new media will not be written where a version already exists on the target drive.

Delete original media (Use with care!)

When checked the original media files referenced by the consolidation are deleted after the consolidation is complete. **N.B. Destructive!**

Converting Projects

Changing Project Length / Pitch

Processes whole Projects. Offers Time Compression or Pitch Reduction of 4% (24fps to 25fps) or Time Expansion or Pitch Rise of 4.17% (25fps to 24fps)

Given an Origin Reference and a Ratio all clips of the project are stretched/squeezed and moved accordingly to the stretch ratio and origin reference. Optionally all media can be consolidated to process only the part of audio required by the clips. This function is available through the menu Project / Stretch and requires the Prosoniq MPEX2 authorization key to be entered.

Reconforming a Project

Processes entire project. To be used where the existing project was created by Autoconforming material to a CMX EDL.

Surround Post-Processing Projects

The Surround Source Stem can be selected from a list of available stems from all Surround buses.

Available processing plug-ins are:

• Multiple File Export

• Minnetonka AC3 (Dolby Digital) Encoder (to be purchased separately)

• MPEX3 Cinema 24fps to 25fps or 25fps to 24fps Multi-channel Time Stretcher by Prosoniq (optional)

Rendering Projects

The Render function available in menu **Project > Render** offers a choice of Rendering plug-Ins.
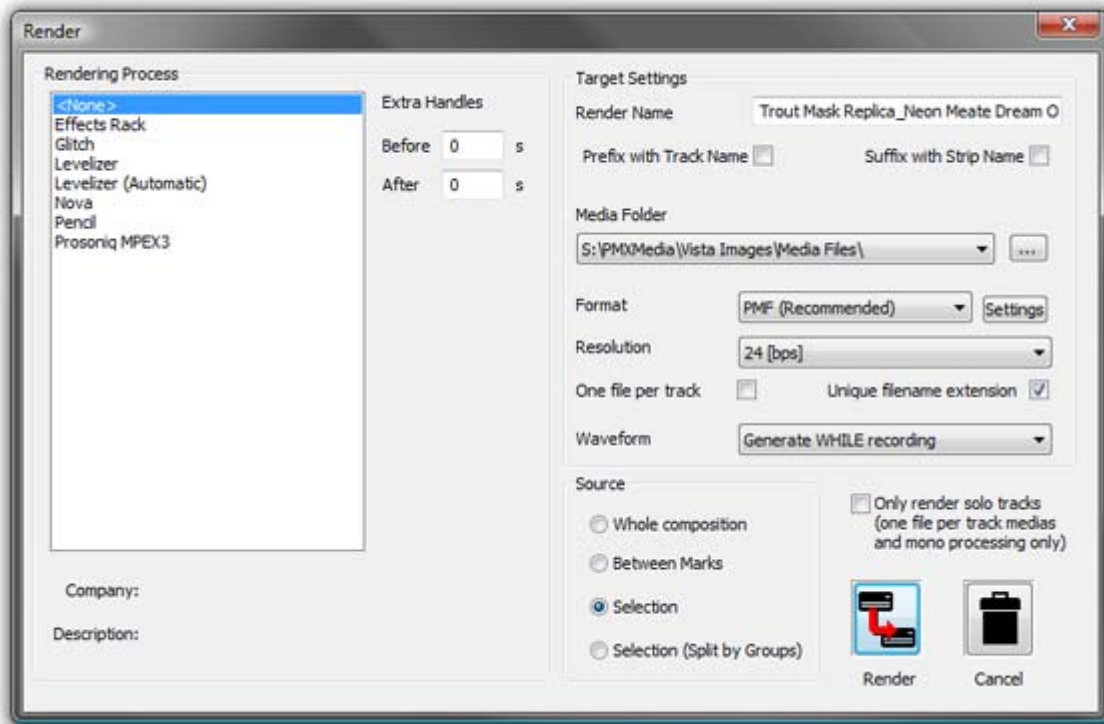
Rendering Process	Lists the currently authorized Rendering Processes and is where you select the one required.
Extra Handles	The before and after boxes allow a time value to be entered for extra material (where available) to be included in the material used for analysis by the process (where applicable).

> **Note:** Handles added in the Render menu are not meant to be processed. They're only used to give some extra material to processes that need analyzing before or after the given portion of data.

    Handles will NEVER be processed by any Render plug-ins.

Target Settings	Affect the Output File.
Render Name	A text entry box where any legal filename may be entered.
Media Folder	The drop-down list allows mounted Drives/folders to be selected as the destination for the output file. The adjacent **...** button opens a browser window if more options or a new folder are required.
Resolution	A drop down list with all valid choices of bit-depth for the output file(s)
One file per track	When checked, multi-track sources will be rendered as separate files.
Unique filename extension	When checked, ensures the output files have unique extensions.
Format	The drop-down list allows a choice of output formats.
Settings	If options are available for the chosen format, this button accesses them. If no options are available the button is grayed out.
Waveform	The drop-down list offers Waveform generation options. **None**, **Generate AFTER recording** or **Generate WHILE recording**.

> **Note:** These settings are completely independent of the settings for **Recording** and **Mix-down**.

Source	Offers a mutually exclusive choice of sources between **Whole composition**, **Between Marks**, **Selection** or **Selection (Split by Groups)**

Selection (Split by Groups) splits the rendering process into multiple renders for each selected Clip Group in the timeline. In this case the **Render Name** text edit box is ignored and all renders take the name of the first clip in time of each group.

Only render solo tracks (one file per track medias and mono processing only)

When checked, only soloed tracks will be rendered. Only media files with 'one-file-per-track' will be processed and processing will be mono only.

Process Plug-ins

Effects Rack

Enables chains of up to eight VS3, VST and or Direct X plug-ins to be used as rendered processes. Select **Effects Rack** in the **Rendering Process** list in the **Render** dialog, make other settings as required then click on **Render** to open the **Effects Rack** Window

Effects Rack Window

Note: Automatic Delay compensation is **NOT** available when using the Effects Rack.

Each of the eight slots can be loaded with one plug-in effect.

Most of the buttons are self explanatory.

Load FX

Opens a pop-up with lists of installed VS3 and VST plug-ins. Selecting **None** removes the currently loaded effect.

Show

Toggles the control Window for the currently loaded effect visible or hidden.

M

Mutes the effect in this slot

S

Solos the effect in this slot

Bypass

Bypasses all effects in the rack when lit

Audition

Plays the Timeline to audition the effects

Stop

Stops the Audition

Process

Closes the Effects Rack Window and initiates the Rendering Process

Cancel

Closes the Effects Rack Window and cancels the Render

Load Preset

Pops up a menu with **Recall... >**, **Remove... >** and **Load From File** options.

Hovering the mouse pointer over **Recall... >** reveals a list of all Presets present. Selecting one loads all its effects and parameters into the Effects Rack.

Hovering the mouse pointer over Remove... > reveals a list of all Presets present. Selecting one erases it from the Presets list.

Selecting **Load From File** opens a Browser Window to enable a previously written Preset File to be located and loaded.

Save Preset

Opens a pop-up with two options: **User >** and **Save To File**.

Hovering the mouse pointer over **User >** reveals the option to **Create New...** and a list of all existing Presets. Selecting an existing preset will overwrite the current contents of the selected Preset.

Selecting **Save To File** opens a Browser Window where you can name the Preset and navigate to a suitable location for the file.

Mutes Reset

Resets all slots Mutes

Solos Reset

Resets all slots Solos

Glitch Detector

Finds Glitches and Pops. Select **Digital Glitch Detector** in the **Rendering Process** list in the **Render** dialog, make other settings as required then click on **Render** to open the **Digital Glitch Detector** dialog:
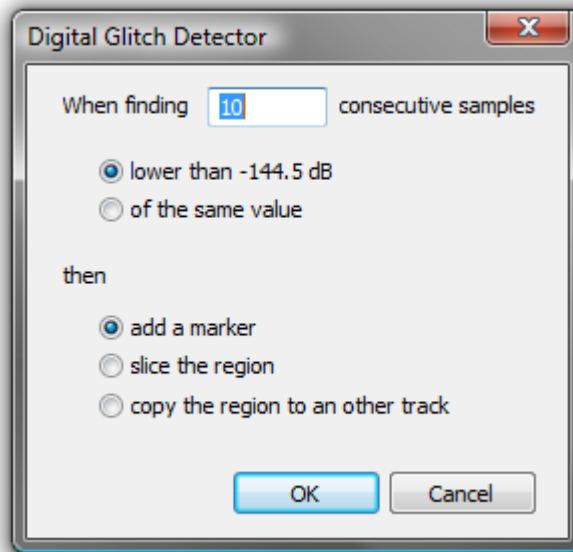
Digital Glitch Detector dialog

Type the number of consecutive samples to detect on in the **When finding _____ consecutive samples** box. (Default is **10**)

Choose detection method:

lower than -144.5dB

or

of the same value

Now select what you wish Pyramix to do when it detects the type of potential glitch chosen above:

add a marker

slice the region

copy the region to another track

Levelizer

Optional loudness analysis and correction plug-in.

Levelizer (Automatic)

Optional automatic version of the loudness correction plug-in.

Nova

An optional renovation suite plug-in by Algorithmix.

Pencil

For retouching waveforms. To use the **Pencil** tool first select the section of audio containing the waveform you wish to modify. Now select **Pencil** in the **Rendering Process** list in the **Render** dialog, make other settings as required, then click on **Render** to open the **Pencil** window:

Pencil Window

> **Note:** If you select a section of audio longer than 1 second this Pencil Tool dialog will appear:
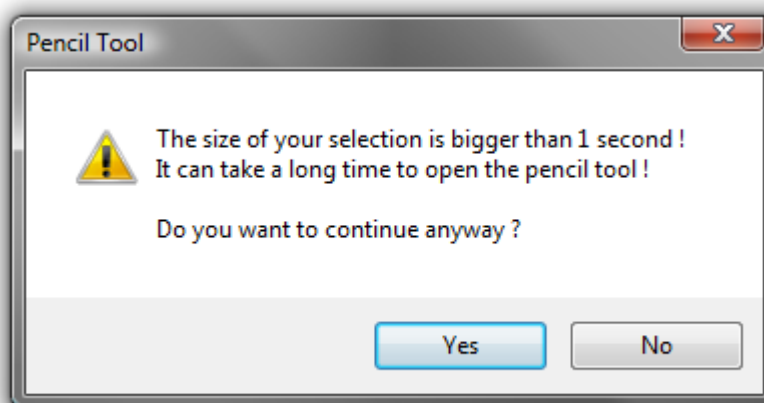
The yellow track is the one currently selected for treatment.

The **1** and **2** buttons on the right determine whether one or both tracks of a two track selection are shown. **Fit** shows all selected tracks.

The **+** and **-** buttons zoom in and out in time.

Solo	When ticked solos the selected track
Loop	When ticked preview playback will loop
Add Marks	When ticked adds a Marker to the Timeline where the Pencil Render has taken place

The **>** button initiates preview playback and the square stop button stops preview palyback.

Prosoniq MPEX3

An optional Multi-channel Time Stretch / Pitch Scaling with Formant plug-in.

Cleaning Up Project media

Deletes all Media files in the selected folder which is not used in, or referenced by the current Project.

N.B. This operation is NOT reversible. There is no **UNDO**!

Project Notes

Click on the **Notes** tab to add text notes to a project. Type or cut and paste text into the editor. Drop down list boxes give a choice of font and size. Text can be emboldened, italicized, underlined and colored. Justification can be left, centre or right.
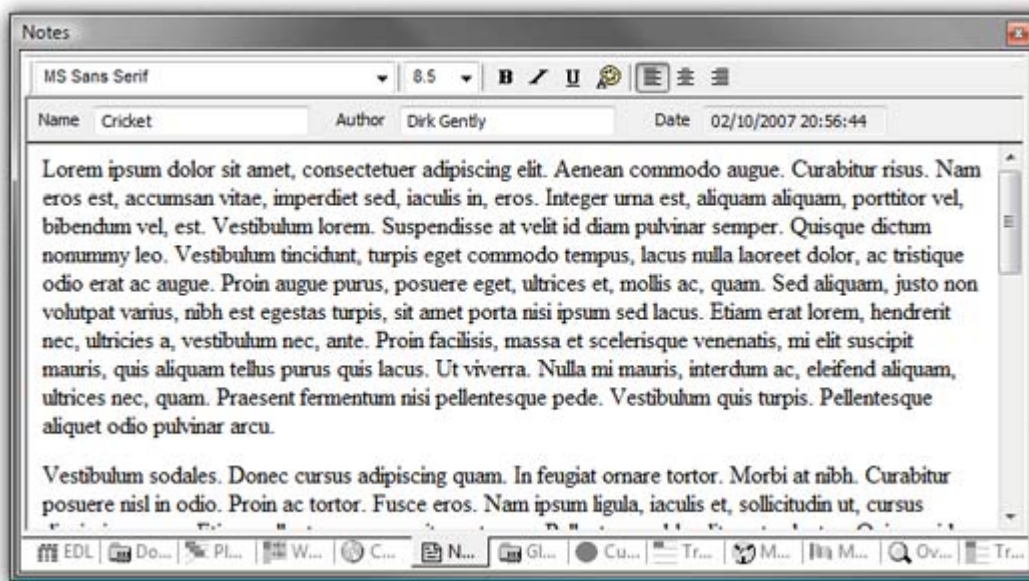
Notes Tab Editor

Notes entered here are saved with the project. The notes can be reviewed, edited and copied into other applications by highlighting the text and copying with **Ctrl + C**.

File and Project Interchange

17

File Interchange - Formats

Pyramix Supported Audio Files												
File Formats	File Extension	Play	Rec	Export	Audio Data Format	Max # of Channels in a single file	Interleave	Max Bit depth	Max Sample Rate	Max File Size	Unique Identifier (UID)	Data Chunk (metadata) format
PMF	pmf	y	y	y	PMF	Virtually Unlimited (note1)	block	32bit float	384 kHz	virtually unlimited	in Name & PMF	PMF (Proprietary)
PMF (DXD)	pmf	y	y	y	PMF	Currently up to 48	block	32bit float	352.8 kHz	virtually unlimited	in Name & PMF	PMF (Proprietary)
WAV	wav	y	y	y	WAV	Virtually Unlimited (note1)	y	32bit float	384 kHz	4GB	in iXML	iXML
BWF	wav	y	y	y	WAV	Virtually Unlimited (note1)	y	32bit float	384 kHz	4Gb	in BWF	BWF & iXML
WAV	wav	y	y	y	RIFF64	Virtually Unlimited (note1)	y	32bit float	384 kHz	virtually unlimited	in iXML	iXML
BWF	wav	y	y	y	RIFF64	Virtually Unlimited (note1)	y	32bit float	384 kHz	virtually unlimited	in BWF	BWF & iXML
AIF	aif	y	y	y	AIF	Virtually Unlimited (note1)	y	32bit float	384 kHz	4GB	n	n
SD2 (note 3)	sd2	y	y	y	SD2	Virtually Unlimited (note1)	y	24bit	48kHz	2GB	n	n
PMI	pmi	y		y	WAV	Virtually Unlimited (note1)	y	32bit float	384 kHz	virtually unlimited		CD TOC
OMF	omf	y	y	y	WAV or AIF		y	32bit float	384 kHz	2GB	n	n
MXF	mxf	y	y	y	AES3 or WAV		y	32bit float	384 kHz			
AVI	avi	y			WAV		y	32bit float	384 kHz			
QuickTime (note 2)	mov	y			PCM			32bit float	192 kHz			
DSDIFF	dff	y	y	y	DSD64	Currently up to 16	y	1bit	2822 kHz	virtually unlimited	n	PMF (Proprietary)
DSDIFF Em	dff	y		y	DSD64	Typically 2, 5 or 6	y	1bit	2822 kHz	virtually unlimited	n	PMF (Proprietary)

n=not supported

y=supported

note 1: While both block interleaved and sample interleaved formats may theoretically accept an unlimited number of channels, disk performance of multichannel sample interleaved files will degrade severely over 24 to 32 tracks

note 2: QuickTime Pro is required for the QuickTime handler to work correctly.

note 3: Beware of the fragile data fork / resource twin file structure of (MacOS) SD2 file format, requiring special care to be handled properly in a PC. More on this topic at the following URL:

http://forum.merging.com/viewtopic.php?f=23&t=1414

File Size Limitations

By design SD2 and legacy WAV or BWF files are limited to a maximum of 2GB, sometimes 4GB due to their 32bit signed addressing (thus 31 available bits) formats, while 32bits unsigned addressing AIF files are limited to 4GB.

Please keep this in mind when recording and/or exporting to any of these formats, the 2GB/4GB limit might in fact be quite close, particularly when working with high sample rate multitrack files.

Pyramix's WAV/BWF Media handler now accomodates RIFF64 removing the 2/4GB limitation. It does this in the following way: Up to 4GB Pyramix creates a regular (legacy) WAV/BWF, but when a recorded media exceeds 4GB, for example during a recording/render or mixdown, Pyramix will automatically and transparently start creating a RIFF64 instead of a regular WAV/BWF.

When performing file interchange please be aware that the destination workstation/software must be compatible with RIFF64 WAV/BWF to be able to read RIFF64 WAV/BWF files.

Similarly, some "old" applications may only recognize WAV/BWF as proper files if their file size remains below the 2GB limit.

Hard Drive Limitations

A very similar 2GB/4GB* limit can also be encountered the hard way when attempting to write large files, even in PMF format, onto storage units (hard drives, memory cards etc.) formatted using an old 32bit file system such as FAT32 or HFS.

Yet another, higher, limitation also exists with IDE ATA/ATAPI drives. This will show up at around 137GB. This may be caused by part of a system (drivers, controllers and/or old Windows version) only recognizing the 28bit addressing of the original ATA specifications, and not the enhanced 48bits available on newer equipment. This is usually solved by installing fresh and or updated Bios/Drivers/OS.

*The official limit is 4GB, but serious trouble can start at around 2GB.

PMF

PMF or **P**yramix **M**edia **F**ile is Merging Technologies native format. It carries a number of advantages when compared with others, especially where multi-channel recordings are concerned.

• PMF has a 64bit addressing structure, so there is no 2GB limit.

• PMF can contain comprehensive proprietary metadata

Note: Please see: **Appendix IX - Pyramix iXML Implementation on page 579** for further information.

The advantages of using interleaved PMF for multi-channel files (One file per track **not** selected) are:

• Contiguous blocks on disk so, when reading the same block (same time position) for all the tracks at once, the disk head does not have to do long and time-consuming seeks.

• It is not necessary to read samples for all tracks when only one track is required for replay. E.g. when using a guide mix to edit a multitrack recording.

• Simpler Media Management, one file instead of say, 48 for a 48 track recording.

• Waveforms are embedded in the file."

The only time to consider using a different file format is when material must be exported to an application that does not support PMF.

WAV and BWF

Wave and Broadcast Wave (BWF) files are supported by Pyramix. In Pyramix WAV/BWF is now RIFF64 compatible, so the 2/4 GB file size limitation no longer applies.

The disadvantage of using WAV and BWF for interleaved multi-track recordings is that the audio is interleaved sample by sample for all channels, which may adversely impact the overall throughput of hard drives or any other storage media, particularly when only a subset of all channels present in such a file is being used on subsequent playback.

Example: if, in a given Pyramix project, only channels 1 and 2 out of a 48 track BWF file are being played, the hard drive's head will still have to spend the time scanning the entire data corresponding to all 48 tracks to just retrieve the useful samples corresponding to those two channels. Alternatively, PMF with its much larger channel inter-

leaving in blocks of typically 64 kB can instruct the hard drive's head to only seek to the corresponding blocks containing the required data of channels 1 and 2.

Broadcast WAV file Tips.

File Types

There are two types of BWF file:

BWF P means polyphonic -> multitracks

BWF M means monophonic -> one file per track

The Cantar location recorder produces only **BWF-M** files, and some Avid people want **BWF-P**. To convert **BWF M BWF P** mount the file in the **Media Manager** and select **Convert > Quick Export**, then do **NOT** check the **One file per Track** option. (Uncheck it if necessary). All Scene and Takes information present in the original BWF file will be also exported in the resulting BWF-P file.

Metadata

BWF files have a special chunk in the file that contains metadata; this is called the **BEXT** chunk or Broadcast Wave File metadata.

The first field of this chunk is the Description. This is the field we display in the Name column for **BWF** files instead of the file name. We do the same for PMF and OMF. We only display the real filename for Wave, AIFF and SDII that have no metadata.

In v4.2.6 or higher you can add the **FileName** column to also display the real filename of all files. (**Media Manager window View > Options : Columns** tab)

Once renamed in the Media Manager both the **Description** field and the filename of your BWF files should be updated.

iXML

WAV files generated by Pyramix can also contain iXML information and as such carry similar information to data chunk of a BWF.

The iXML metadata of a WAV file is available to any compatible application, if the application is not iXML aware, the file will be seen as a regular WAV.

Quicktime

In order to enable the Quicktime handler you will need to purchase and install Quicktime Pro from Apple.

http://www.apple.com/quicktime/pro/

Compressed Audio File Formats

Pyramix supports many compressed file formats including MP3.

Technology

The decompression is handled via Microsoft DirectShow technology. So the formats supported will depend on which DirectShow codecs are installed. Default Windows installation should handle most of the common compressed file formats (wma, mp3 and more), but a wide variety of codecs exist to support all the major compressed formats (such as ogg-vorbis, flac, etc.).

Codecs

If you experience problems with the default Widows Installation or if you are in need of specific Codec, Merging has a list of recommended third-party codecs available.

For more details please refer to the **Merging Forum Pyramix Troubleshooting & Tips** section

http://forum.merging.com/viewforum.php?f=16

How Compressed Audio Support Works

To enable sample accurate editing, the compressed files are first decompressed into a cache file. The file is formatted as follows:

originalFileName__DXC(tag)DCX_.wav

This file is a plain **wav** file.

Pyramix Setup

First, set up the **Default decompression cache** options in :

Settings > All Settings > Application > Location and click on **Decompression Settings** to open the **Decompress files...** dialog.

Here you specify where the media should be decompressed to when no **Mounting Rules** are specified :
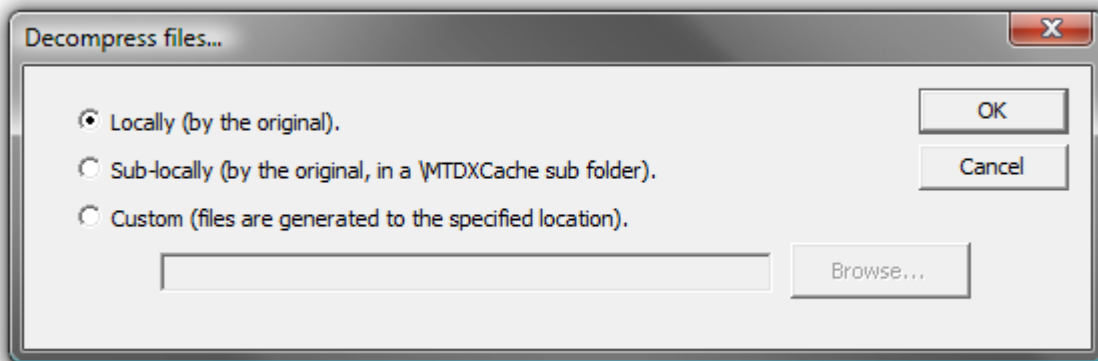
Decompress files... dialog

Locally (by the original) File(s) will be created in the same location as the original file.

Sub-locally (by the original, in a \MTDXCache sub folder). File(s) will be created in a sub folder created by Pyramix in the same location as the original file.

Custom (files are generated to the specified location). File(s) will be created in a user specified location. When this option is selected the **Browse...** button is available to open a file browser window to set the user defined path.

Mounting Rules

In addition to the general settings, Mounting Rules can be created to override the **Default decompression cache settings** for a specific Mounting location:

Special rules for cache file decompression: ☑ Enable
    ⦿ decompress locally (by the original)   ☑ Allow cache files mounting
    ○ decompress sub-locally (in a \MTDXCache subfolder)
    ○ decompress in a custom folder:
    [   ]   Browse...
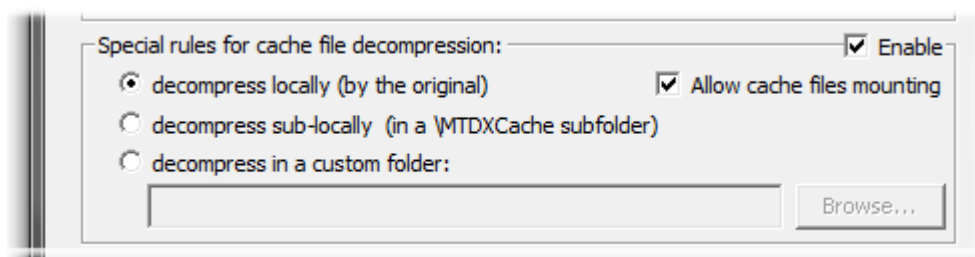
Mounting Rules dialog decompression rules section

Special rules for cache file decompression

Locally (by the original) File(s) will be created in the same location as the original file.

Sub-locally (by the original, in a \MTDXCache sub folder). File(s) will be created in a sub folder created by Pyramix in the same location as the original file.

Custom (files are generated to the specified location). File(s) will be created in a user specified location. When this option is selected the **Browse...** button is available to open a file browser window to set the user defined path.

Enable enables the rule.

Allow cache files mounting when ticked cache files can be mounted directly, otherwise they remain invisible.

MXF

The Pyramix MXF implementation can read and decode MXF files following specifications AS WELL as files coming from Avid / Digidesign workstations.

Pyramix MXF can generate valid MXF files complying with MXF specifications and have passed the validations tests provided by Snell&Wilcox.

As of today, supported MXF formats are OP1A and OPAtom, as well as potentially OP1B, OP1C, OP2A, but these remain to be fully validated.

MXF Essences supported today are AES3 & Broadcast Wave audio files (conforming to SMPTE 382M).

For the latest MXF interchange information please see:

http://forum.merging.com/viewtopic.php?f=23&t=2094

File & Project Interchange with Apple Macintosh

Currently, the recommended Interchange Format when working with ProTools 7 is **AAF** / **OMF**, with **BWF** media files. **Please see: AAF on page 310** and **OMF on page 320** for further information and also refer to the Pyramix Interchange Forum in the Support Section (for registered users) for regularly updated information, as well as Interchange tips & tricks :

http://forum.merging.com/viewforum.php?f=23

History

SD2 & ProTools 5 Sessions and Legacy Apple File Formats

Old Macintosh files such as SD2 and PT4.x and PT5.x projects files have a Mac-binary, or double-fork structure that the PC cannot handle directly. As opposed to interchange files, PC files or new Mac files (that do carry a simple single file structure), SD2 and PT5 projects files are based on a Data fork (the one you see in every computer file) and a Resource fork (a hidden, second file storing all the file info). While this binary structure was actually quite a clever and convenient move, the fact that half of the file is hidden by design makes it a very fragile cross-platform media.

A sure sign that the resource fork has been lost is when the file appears with a generic icon and is present but unreadable. A broken binary file cannot be rebuilt.

Note: For more info about the specific handling of "old" Apple files, please read the following entry in the Forum's Support Section (for registered users):

http://forum.merging.com/viewtopic.php?f=23&t=1414

Project Interchange

Pyramix Project Interchange Options						
Interchange Format	Software Key	File Format(s)	Import	Export	Max. Sample Rate	Max. EDL Duration
AAF	PSO-AAF	BWF	y	y		
AES31	PSO-AES31	BWF	y	y	192khz / DSD	
AKAI DD/DR	PSO-AKAI	Proprietary	y	y		
CD Import	PSO-CDR	PMF, AIF, WAV, etc.	y			
CMX-EDL	-	-	y	y		
DAR	PSO-DAR	Proprietary	y			
OMF V1 unembedded	PSO-OMF	OMF, AIF, BWF/WAV	y	y		13h30
OMF V2 unembedded	PSO-OMF	OMF, AIF, BWF/WAV	y	y		13h30
OMF V2 embedded	PSO-OMF	OMF, AIF, BWF/WAV	y	y		13h30
OPEN TL	PSO-OTL	BWF/WAV	y	y		
PT5	PSP-PT5	SD2	y	y	48 kHz	13h30
SACD Edited Master Import	PSO-SAA	DSDIFF Edited Master	y		2822 kHz	
Sonic Solutions	PSO-SONIC	AIF	y			
XML EDL	-	-	y	y		unlimited
n = Not supported y = Supported						

Pyramix Project Interchange Options Clip and Marker Support							
Interchange Format	Clip Name	Clip Gain	Clip Envelope	Clip Fades	X-fade Curves	Markers	CD/SACD Markers
AAF	y	y	y	y	no (note 1)	n	n
AES31	y	y	y (note 2)	y	y	n	n
AKAI DD/DR							
CD Import							y
CMX-EDL							
DAR	y	y	n	y	y	n	n
OMF V1 unembedded	y	n	n	y	no (all to Power)	n	n
OMF V2 unembedded	y	y	n	y	no (all to Power)	n	n
OMF V2 embedded	y	y	y (note 4)	y	no (all to Power)	n	n
OPEN TL	y	y	n	y	basic	n	n
PT5	y	y (note 3)	y (note 3)	y	y	n	n
SACD Edited Master Import	em name	n	n	n	n		y
Sonic Solutions							
XML EDL	y	y	y	y	y	y	y

n = Not supported

y = Supported

Note 1: currently being improved

Note 2: clip envelopes will be supported soon when specification is published by AES

Note 3: Protools only supports envelopes and does not have an additional clip gain.
    On export, the volume automation can be set to represent the clip gain, the clip envelope or a combination of both.

Note 4: Export from Pyramix is feasible but not yet import. Currently import is only supported by PT

Import and Export are handled by **InterChange**. In the **Project** menu the **Import** and **Export** options each open a window where a list of available **InterChange** plug-ins is presented.

Import

Project > Import opens this window:
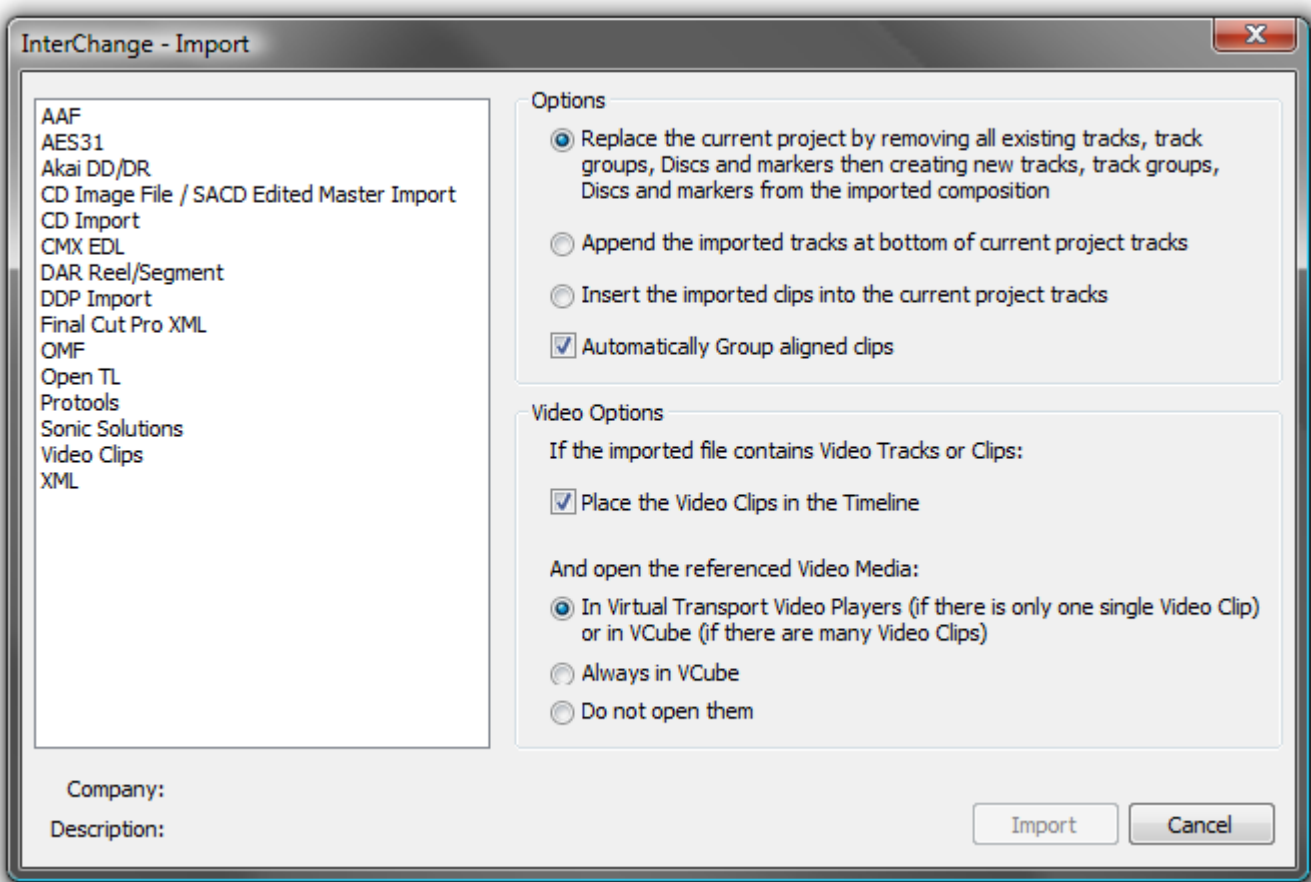
Project Interchange - Import dialog

The **Options** radio buttons determine how the imported material will affect the current project.

Options

•   Replace the current project by removing all existing tracks, track groups and markers then creating new tracks, track groups and markers from the imported composition

•   Append the imported tracks at bottom of current project tracks

•   Insert the imported clips into the current project tracks

•   Automatically Group aligned clips - When this option is chosen with one of the three above, stereo and other multi-channel clips will be automatically grouped.

Video Options
If the imported file contains Video Tracks or Clips:

•   Place the Video Clips in the Timeline.

If this option is checked then any Video Clips present in the imported file will be placed in the Timeline as black Video Clips. These clips are usable only for reference and are not played back as such by Pyramix (see below for playing them back). Audio in a Video Clip container is also imported and placed in the Timeline according to the method chosen in the **Options** section of the dialog.

And open the referenced Video Media:

•   **In Virtual Transport Video Players (if there's only one single Video Clip) or in VCube (if there are many Video Clips).**

A single Video Clip present in the imported file is opened in the **DirectShow Video Player** or the **QuickTime Video Player** (depending its type). Multiple Video Clips present in the imported file are opened in VCube.

- **Always in VCube**.

Single or multiple Video Clips are opened in VCube.

- **Don't open them**.

Imported Video Clips are only placed in the timeline (optionally) but not opened in any Video Player.

Audio present in a Video Clip 'container' is also placed in the Timeline according to the rule(s) chosen in **Options** above.

Imported Video Clips are saved in the project, so, when the project is opened, the Video Clips will again be present on the timeline. The referenced Video Media will be automatically opened in either Virtual Transport Players or VCube depending on the same options as above, but for general project opening that can be found in:

Settings > All Settings > Application > General : Project Opening Section

If the project contains references to Video Media, open them:

- **In Virtual Transport Video Players (if there's only one single Video Clip) or in VCube (if there are many Video Clips)**.

- **Always in VCube**

- **Don't open them**

Export

Project > Export opens this window:
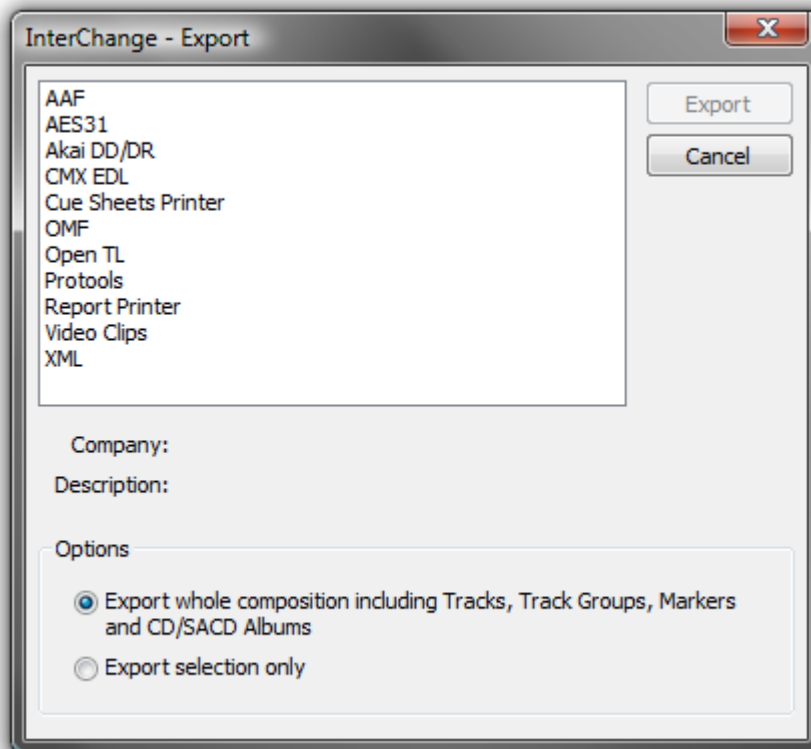
Project Interchange - Export dialog

Options

- **Export whole composition including tracks, track groups, Discs and markers**

- **Export selection only**

   Note: The **Export selection only** choice will be grayed out if there is no selection in the Project Timeline.

AAF

Pyramix can import and export projects in AAF (Advanced Authoring Format)

> **Note:** Pyramix can also use MXF audio files and export MXF audio files. **Please see: MXF on page 304**

Import

Select **AAF** in the **Interchange Import** dialog. Choose the appropriate import option and click on **Import**.

The **Import AAF File** window opens. Navigate to the required AAF file or type its name in the **File name** box and click **Open**.

If the file contains envelope information this dialog opens:
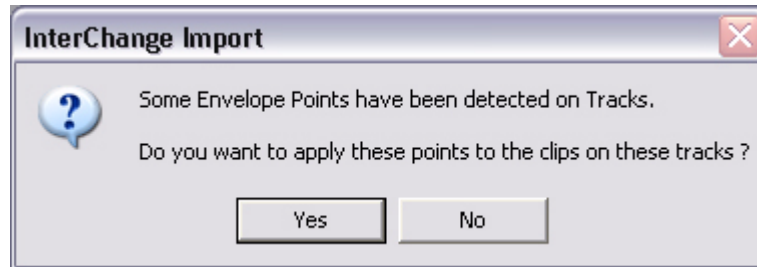
Interchange - Import dialog

Click **Yes** to apply envelope information or **No** to import the material without envelope information.

If a media file or files cannot be located, a browser window opens:
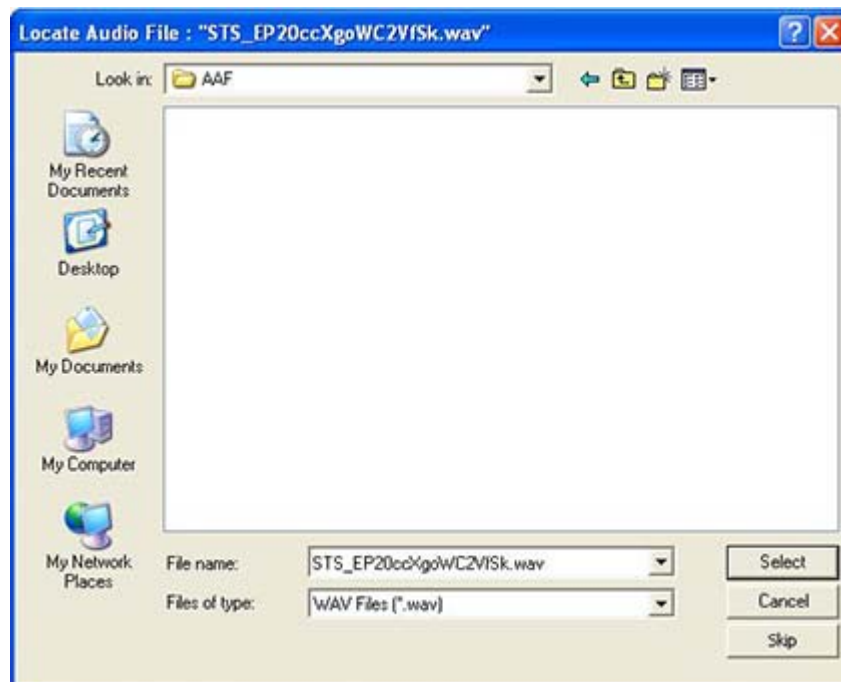
Locate Audio File browser window

The browser enables the user to navigate to or search for the missing file. If the file cannot be found or is known to be absent, click on the **Skip** button to ignore the file and continue or, if there are many files know to be absent, **Ctrl - Click**ing the **Skip** button will ignore all subsequent missing files.

Export

Select **AAF** in the **Interchange Export** dialog. Choose the appropriate export option and click on **Export**. The **Export AAF File** dialog opens:
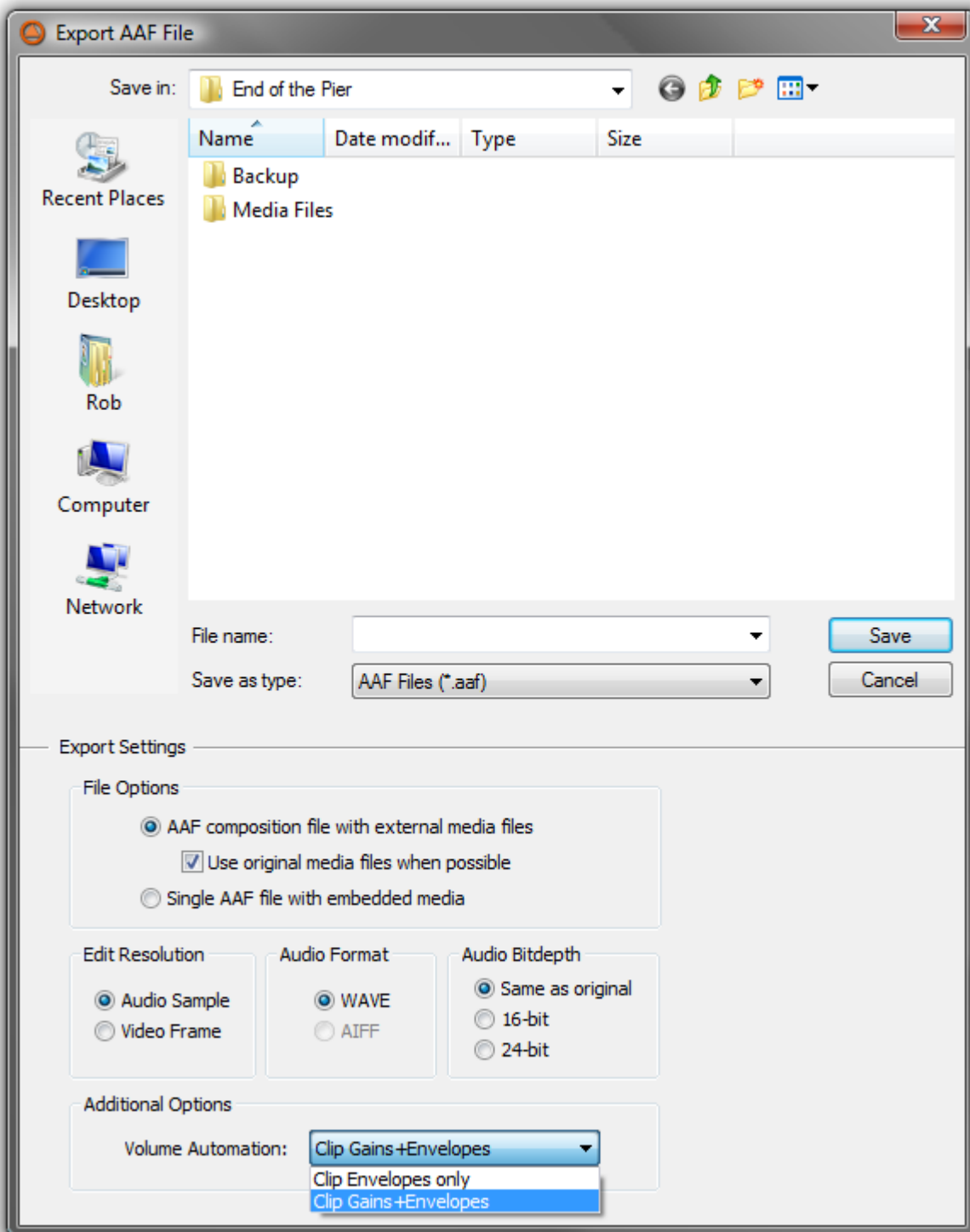
Export AAF File dialog

Navigate to the required drive/folder, type a suitable filename in the **File name** text box, choose the appropriate file type from the **Save as type** drop-down list. Make appropriate choices in the **Export Settings** section then click **Save** to begin the export process. When the export is concluded this info box appears:
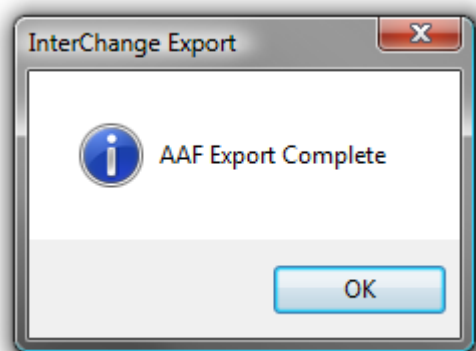
Interchange Export info box

AAF Export Notes:

•	When **Clip Envelopes Only** is selected, the Clip Envelope and Static Clip Gain will be exported separately. This type of AAF file will import back into Pyramix with the original Clip Gains and Clip Envelope. However, if it is imported into ProTools, the Clip Gains will probably be lost.

•	 When **Clip Gains+Envelopes** is selected, the Static Clip Gain will be combined with Envelope. When this type of AAF file is imported back into Pyramix, all the Clip Gains will be at 0dB, but the original Clip Gain will be incorporated in the Envelope.

Note: EMBEDDED MEDIA When exporting to AAF with embedded Media the Clip names may change when the file is opened in Pro Tools. In order to avoid problems getting AAF files into Protools there are some limitations to the structure of the AAF file and where the clip name can be stored. For AAF files referencing external media, these restrictions don't cause any noticeable differences. When exporting embedded AAF files, the clip name basically needs to be associated directly with the Media. As the Media is embedded in the file, its NOT possible to have multiple names referencing the same piece of Media.

Fade Curves

The AAF specification includes only limited support for audio fades and crossfades - basically just allowing for linear or equal power fades.

•	On export from Pyramix to Protools the fades/crossfades are retained, but the fade curve details will be lost.

•	On export from Protools to Pyramix, any fade regions will be rendered but will just appear as normal clips in Pyramix.

About the AAF Format

•	**AAF Import** will import Static Clip Gains as well as Clip Envelopes but remember that many other systems (including Protools/Avid) do **NOT** support Static Clip Gains so files from these systems will only show a Volume Envelope on Import.

•	 On **AAF Export**, if the **Volume Automation** option is set to **Clip Envelopes Only**, the Pyramix Clip Envelope will be put into the AAF Clip Envelope and the Pyramix Clip Gain will be put into the AAF Static Clip Gain (but again, remember that this Static Clip Gain will not be imported into systems such as Protools/Avid).
If the **Volume Automation** is left on its default setting of **Clip Gains+Envelopes**, the Pyramix Clip Envelope and Clip Gain will be combined into the AAF Clip Envelope and no Static Clip Gain will be saved in the AAF file.

AES-31

Straightforward Import and Export in AES-31 format.

Genex Cuepoint files are supported. If a **.CPT** file exists near the **.ADL** file, cue points will be converted to Pyramix markers.

AKAI DD/DR

Pyramix is capable of recognizing disks recorded in the Akai DD-Series format and importing their data.

Preparing the system

Connect the Akai disk to your PC. Usually this will be a hard disk drive via a SCSI interface, but can also be a Magneto-Optical or Jaz disk.

Project > Import or **Export** opens the appropriate **Project Interchange** dialog box. Choosing **AKAI DD/DDR** from the list opens the **AKAI DD-Series File System Loader** dialog box
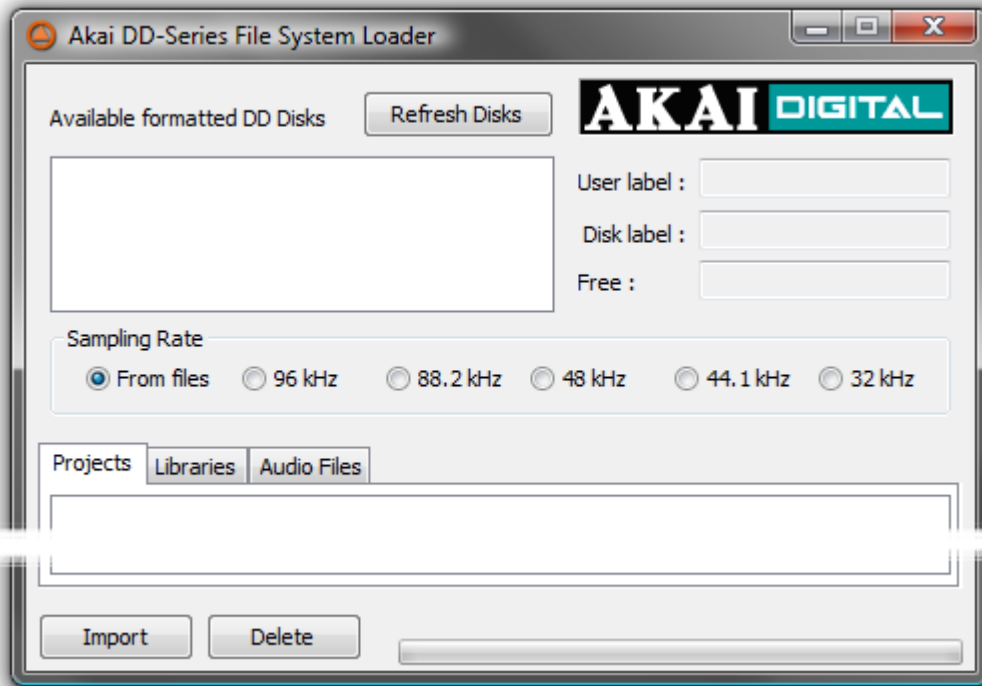
Akai DD-Series File System Loader dialog

When the dialog is opened, Pyramix searches for available Akai disks and displays them in the upper left part of the dialog box. Choose the disk you want to work with by selecting it with the mouse.

The **Refresh Disks** button restarts the search for available Akai disks.

The lower part of the dialog box shows the data found on the selected Akai disk. Following the data structure of Akai disks this panel has three Tabs named Project, Libraries and Audio Files.

Import Button

To import the data into your Pyramix session, simply select the desired data and click the **Import** button. The behavior is the same as 'Quick Import'; All the files are imported and stored into a mounted media folder.When an Akai library is imported, a new Pyramix project library will be created.

Delete Button

Deletes selected files from the Akai media providing this is not write protected.

Audio File import

Since Pyramix is capable of reading the audio data directly from an Akai disk, it is not necessary to import the actual audio files into a local Windows drive. Thus, when you click the Import button, a dialog box is displayed: **Do you want to import the Audio Files used by this/those projects?** If the answer is **No**, only references to the audio files will be stored in the local Windows Media folder instead of copies of the actual audio data. The audio will play correctly but no waveforms will be displayed.

Closing the Akai loader dialog

If you attempt to close the **Akai DD-Series File System Loader** the following dialog appears:
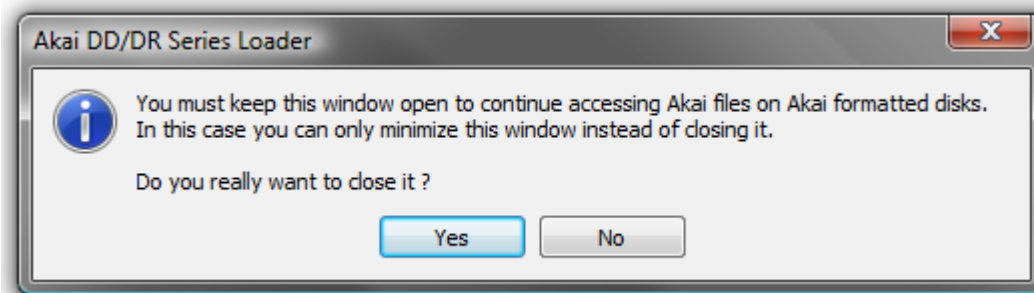
Akai DD/DR-Series Loader dialog

If you wish to continue to directly access Akai files click **NO** and minimize the window.

CD Import

Pyramix has comprehensive CD import functions. **Project > Import** opens the **Interchange Import** dialog box. choose the appropriate destination option and choose **CD Import**
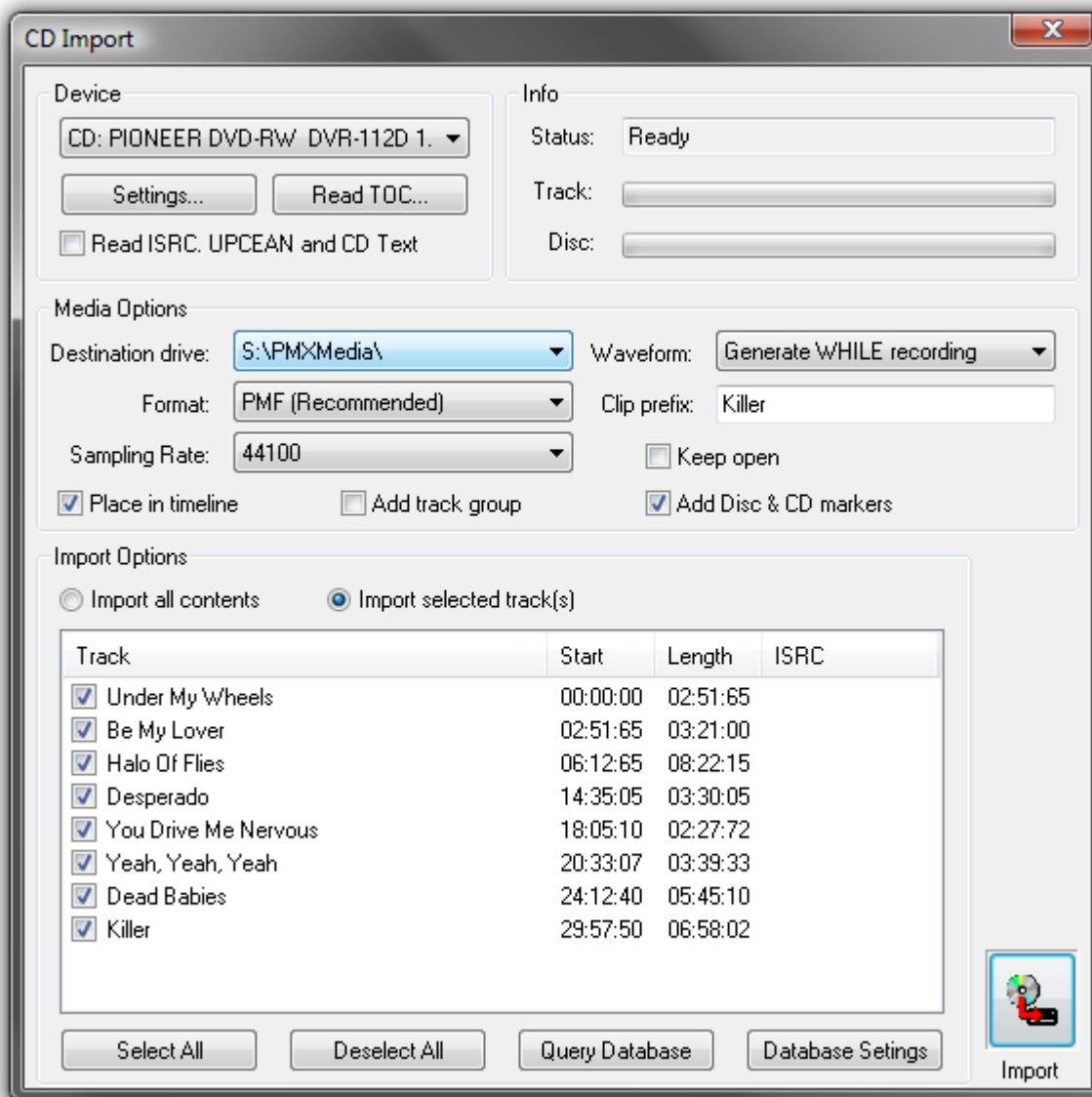
CD Import dialog

Device

The combo box shows all suitable drives on the machine.

Settings

Settings pops up a dialog box with specific drive settings. These settings may be altered if required by clicking on an entry and typing a new value in the box.
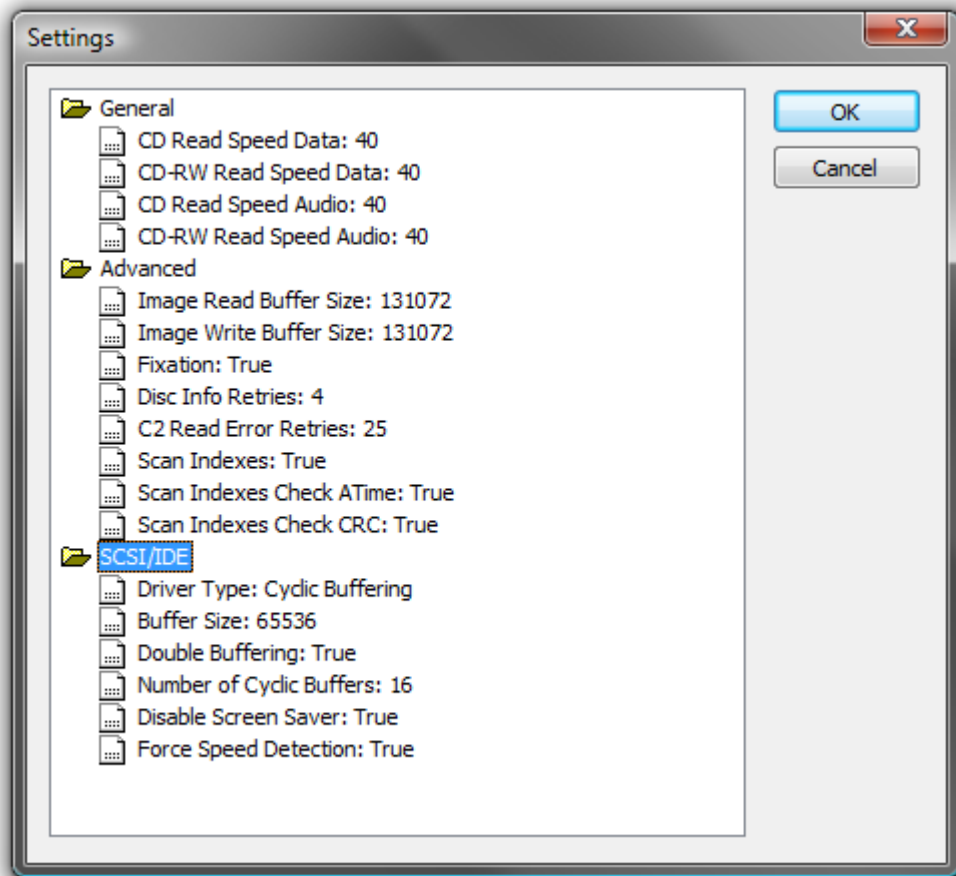
CD Import Settings dialog

Read TOC reads the Table Of Contents on the CD and lists the tracks in the left hand pane.

If **Read ISRC, UPCEAN and CD Text** is checked this information will also be read if present.

Import Options

If **Import all contents** is checked the whole disc will be imported. If **Import selected tracks** is checked only the tracks with a tick in their checkbox will be imported.

Select All and **Deselect All** do what they say.

Query Database uses an online database to obtain track names and other data about commercial CDs results are shown in a dialog:
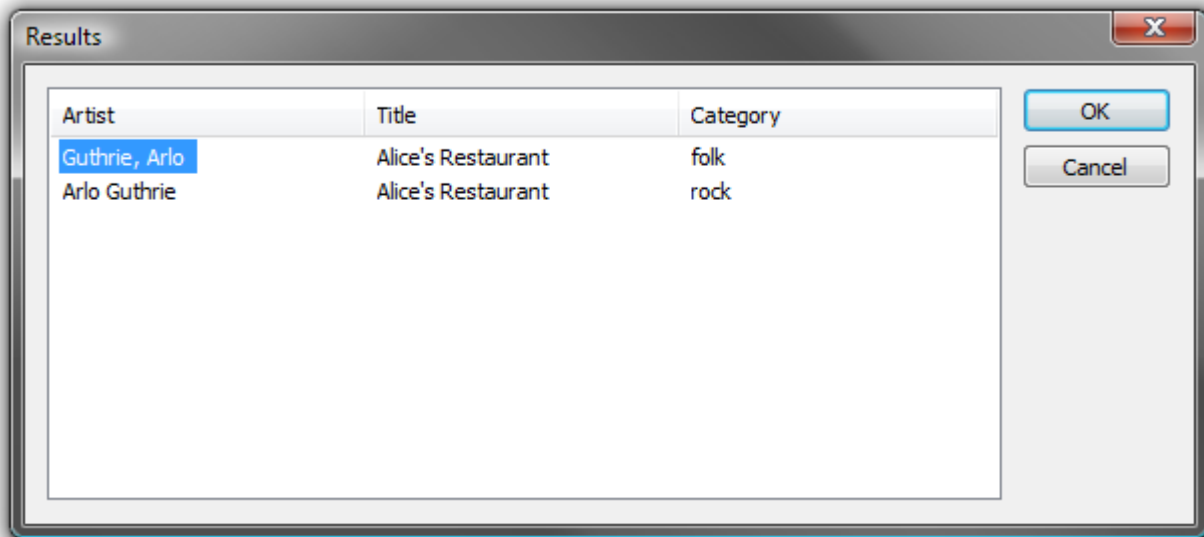
If multiple disc entries are shown, click on the appropriate one to select it then click on **OK** to import the data. The disc name is automatically entered in the **Clip Prefix:** field.

Database Settings allows the database address and other settings to be changed:

Default settings are shown above. To change a setting, click on the entry and type. Click **OK** to save the edited settings. **Defaults** restores the default settings.

Info

 The **Status** line shows useful information about the process as it proceeds. The **Track** and **Disc** lines are progress meters. **Track** shows a growing gray bar as the track transfer proceeds and **Disc** shows progress of all selected tracks.

Media Options has three drop-down list boxes to select the **Destination Drive**, the **Format** the CD audio will be captured in and **Waveform** determines whether a waveform will be generated and, if so, **WHILE recording** or **AFTER**. A text entry box allows a **Clip Prefix** to be set for all imported tracks. (default is **CD Import**) Checkboxes determine if the resulting clips will be placed in the Timeline, whether **CD Markers** will be added in the Timeline and whether a **Track Group** will be added.

Sampling Rate enables the import(s) to be sample rate converted as they are imported with a choice of rates in the combo box.

Keep open keeps the **CD Import** window open after the import is completed and grays out the Place in timeline**, Add Track Group** and **Add Disc & CD markers** options.

Clicking on the **Import** icon initiates the process. Unless **Keep open** is checked, the window closes when the import is complete.

CMX EDL

Importing a CMX EDL

Select **Project > Import** and choose **CMX EDL** in the **InterChange-Import** dialog then click on the **Import** button. Select the desired edl file in the **Open** file-browser window. The CMX EDL Import Options dialog opens:
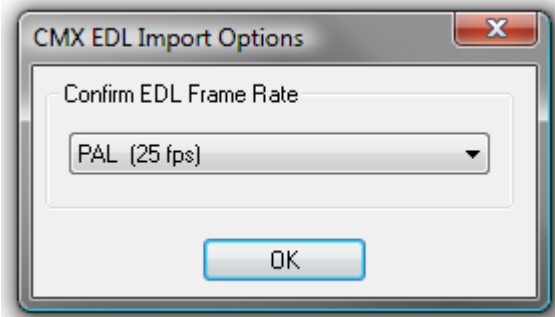
CMX EDL Import Options dialog

If the EDL Frame Rate is correct, simply click the **OK** button. Otherwise, select the correct rate from the drop down list and click the **OK** button. The CMX EDL Import Options main dialog opens.
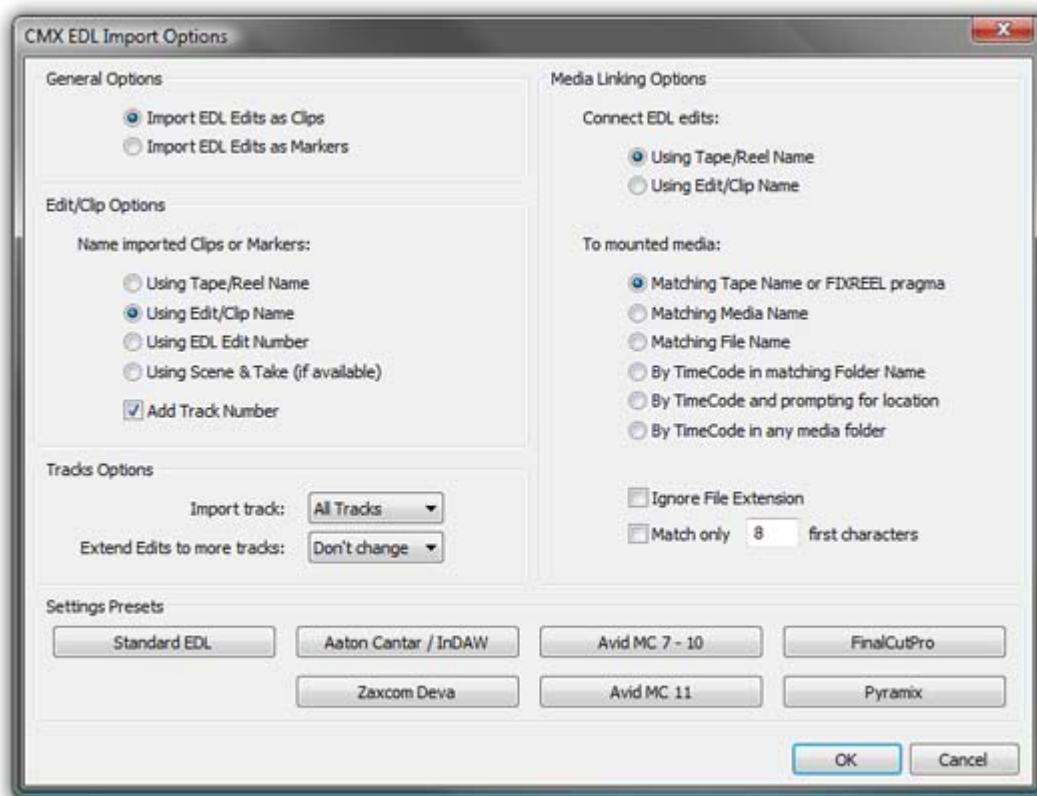
CMX EDL Import Options dialog

The **Settings Presets** buttons at the bottom of the box set the options for a variety of common CMX variants. If the edl you wish to import matches one of these, simply click the appropriate Preset button. The settings are reflected in the rest of the dialog. Click the **OK** button to begin the Import.

If the edl is not one of the common variants or the intention is to perform a partial or re-conform, make the appropriate choices in the dialog before clicking on the **OK** button to begin the Import.

Cue Sheets Printer

The **Cue Sheets Printer** is a mini application for printing Cue Sheets from a Project. Full instructions can be found at the end of this chapter. **Please see: Cue Sheet Printer on page 324**

DAR Reel/Segment

Importing a DAR Reel or Segment

Select **Project > Import** and choose **DAR Reel/Segment**. Make appropriate choices in the **Options** section of the **Interchange - Import** dialog then click on the **Import** button. The **Import D.A.R. Reels/Segments** dialog opens:
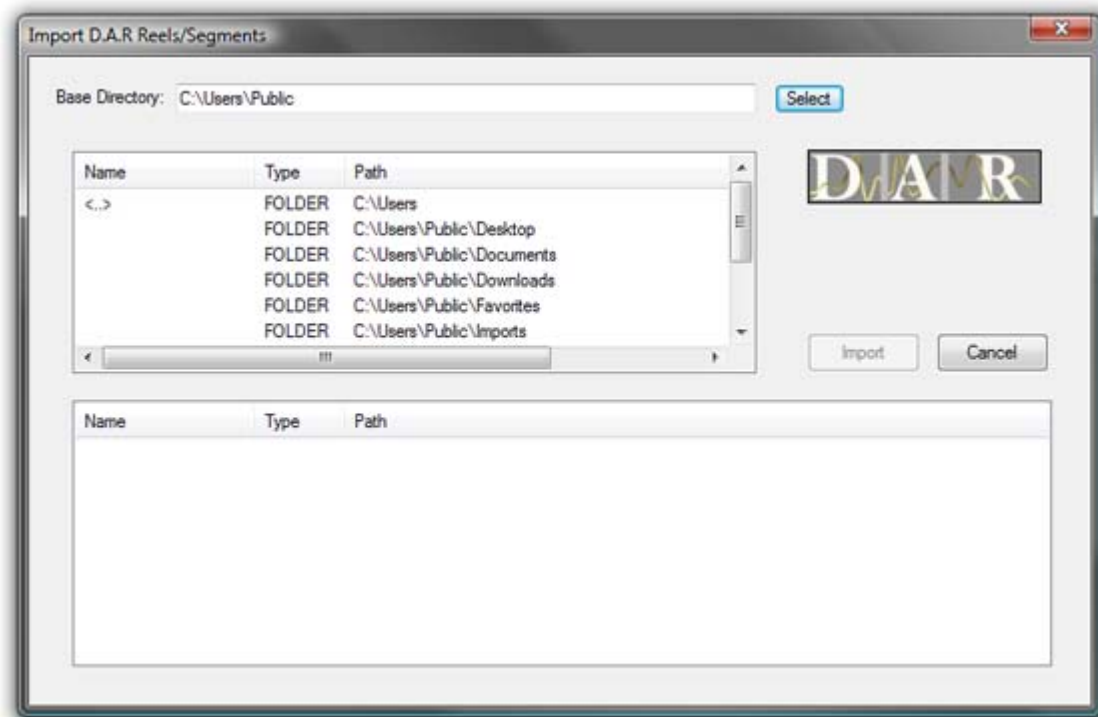
Import D.A.R. Reels/Segments dialog

Browse to and select the Reel(s) or Segment(s) you wish to import then click on **Import** to initiate the import.

> **Note: Please see also DAR WAV file Import on page 64**

DDP Import

Import DDP file.

Final Cut Pro XML

Supports import and export of MasterClips, Bins, Sequences or Projects to and from Pyramix.

To export a FCP XML file from Final Cut Pro, either select a single Sequence or a full Project in Final Cut Pro and select **File > Export > XML**. This will export either a single Sequence (with the choice of all referenced MasterClips along with it) or a full Project including all Sequences and MasterClips contained in it.

To import a FCP XML file into Pyramix, create an empty project and select **Project > Import** and choose the **Final Cut Pro XML** format.

> **Note:** When importing in Pyramix a FCP XML file containing more than one Sequence or MasterClip, Pyramix will prompt you to choose which of the available Sequences you would like to import into the Timeline and will allow you to import all others into the Default Library of the current project.

Scope

The following items are imported by Pyramix:

- **Video and Audio Bins, Sequences and MasterClips**

- **Video and Audio Tracks Names**

- **Video and Audio Clips**

- **Audio Clips Fades**

- **Audio Clips Gain**

- **Audio Clips Envelopes (Key Frames)**

- **Clips Sync Points**

- **Clips Comments and Metadata (Master Comments, Clip Comments, Labels and Scene & Take)**

- **Links and Groups**

- **Clips colors**

Known limitations

- **FCP XML Export from Pyramix is not yet implemented**

- **Video Clips from HD compositions have length and positions truncated to an even number**

OMF

OMF Import supports both OMF1 and OMF 2 format. Supports 10.5.3 / 11 sub-compositions.

When exporting OMF from another application, there is a choice of either embedding the audio files into the OMF file, or keeping them external as a link. Pyramix supports both approaches.

Selecting **Project > Import** followed by **OMF** in the **Interchange Import** dialog opens the **Import OMF File** browser window.
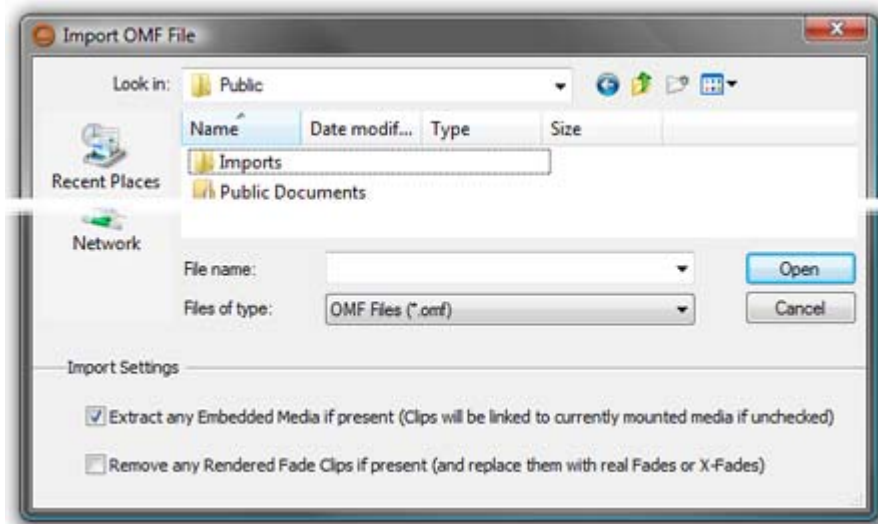
Import OMF File browser window

Import Settings

At the bottom of the browser window two import settings checkboxes offer the options to:

Extract any Embedded Media if present (Clips will be linked to currently mounted media if unchecked)

(default is ticked) and

Remove any Rendered Fade Clips if present (and replace them with real fades or X-Fades)

Default is un-ticked

When importing an OMF file with embedded audio for the first time, leave the **Extract** option ticked to extract the media files. Please untick the **Extract any Embedded Media if present** box on subsequent imports of the same OMF file (because the media will already be present).

If the same file is imported a second time, there's no need to extract the audio twice, simply mount the folder where it's been extracted to, prior to importing the OMF file. The OMF Media Handler generates an external Wave-form (.pk) file when the file is first imported.

When importing an OMF file that references (links) to external audio files, the folder(s) that contain these files must be Mounted in Pyramix before importing the OMF file. (This also applies to Sonic Solutions import).

Ticking the **Remove any Rendered Fade Clips if present** box converts any rendered fades or X-fades present in the OMF file into normal Pyramix real-time fades. These can subsequently be manipulated in the usual Pyramix manner.

OMF Mounting Rules
(**Media Management Tab** window, **M**edia Folder > Mounting Rules)

AIFF files generated by Avid systems and BWF files generated by Protools with the option **Enforce Avid Compatibility** have a built-in OMF chunk and have always been recognized by Pyramix as an OMF Media. The **Mounting Rules** dialog has some special Mounting Rules options for folders containing Wave/BWF and AIFF files that have an OMF chunk These enable the default behaviour to be altered:
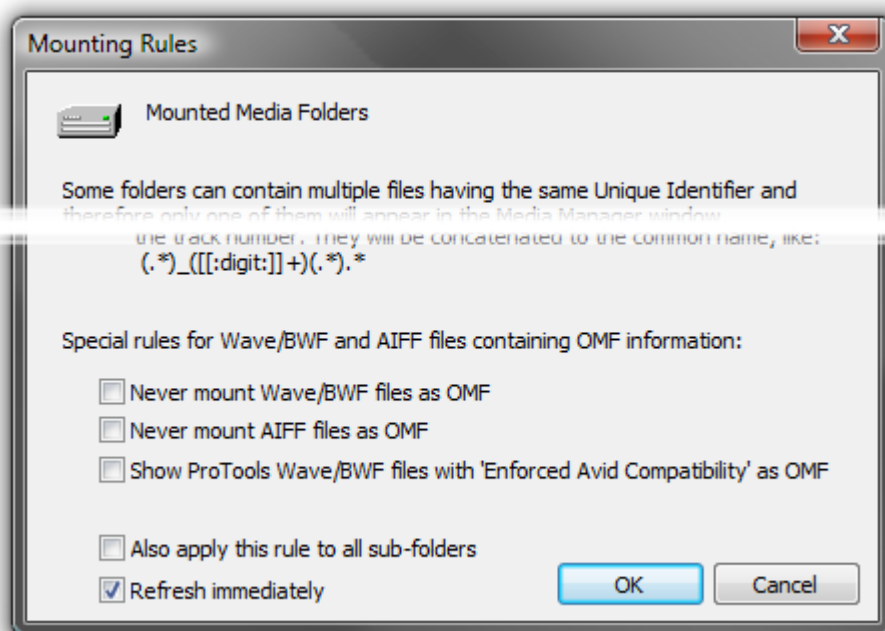
Mounting Rules dialog

• Never mount Wave/BWF files as OMF (for files coming from Avid)

• Never mount AIFF files as OMF (for files coming from Avid)

• Show Protools Wave/BWF files with **Enforced Avid Compatibility** as OMF (the new default behavior is to always show BWF files generated by Protools as BWF even if they have the OMF/Avid compatibility chunk. This option allows forcing these files to be mounted "a la Avid" as in previous Pyramix versions)

Importing Avid and AudioVision bins
Avid and AudioVision bins may be imported as a library. In a library tab window select:

Library > Import OMF library (Avid bin)

Open TL

Straightforward Import and Export in Tascam Open TL format.

ProTools

Note: Please see also: the PDF file 'Protools 5 InterChange with Pyramix 5' This file is installed with Pyramix 6.0 or it can be downloaded from:-

http://www.merging.com

Protools 5 InterChange with Pyramix 6.0

Importing and exporting Protools 5 sessions in Pyramix is accomplished via the InterChange architecture. This requires Pyramix 4.2 or higher and MacDrive 2000 or MacDrive 5 to be installed. MacDrive is a product of Mediafour Corporation, please see:-

www.mediafour.com

Importing a Protools session

Pyramix supports Protools version 5.0 or 4.x. If you're using are more recent version of Protools, first export your session as a version 5.0 session in Protools with the menu "**Save Session Copy in…**". This will create a set of SDII files along with the new session.

Bring your session with the audio files into the Pyramix station by mounting the Mac HFS disk or inserting the cartridge in the appropriate reader. Windows and MacDrive support all SCSI disks or removable storage like Jaz, MO, removable hard-disks, CD-R, DVD, etc.

If your session comes on multiple CDs (or cartridges) you can copy all the files directly to a Pyramix workstation disk. In this case the PC disk must be formatted as a NTFS volume. We recommend using NTFS for all disks.

Create an empty project in Pyramix or open an existing one.

Project > Import opens the **Interchange - Import** dialogue box. Select the appropriate import option from the three choices at the bottom using the radio buttons.

These are:

1. Replace the current project by removing all existing tracks, track groups and markers then creating new tracks, track groups and markers from the imported composition

2. Append the imported tracks at the bottom of current project tracks

3. Insert the imported tracks into the current project tracks

Then choose the **ProTools** module from the list. An explorer - style file dialog box **Import ProTools Session** will open, browse to the disk containing the Protools session, select it and click **Open**.

The Protools session should appear in your project Timeline, creating new tracks if needed.

Create or load a mixing console, connect your tracks and work with your session.

Exporting a Protools session

Load the Pyramix project you wish to export as a Protools session and from the Project Menu select the appropriate Export option and the Protools module and click OK.

Menu: **Project > Export** opens the **Interchange - Export** dialogue box. Select the appropriate export option from the two choices at the bottom using the radio buttons.

These are:

1. .Export whole composition including tracks, track groups and markers

2. .Export selection only

The latter choice will only be available if there is a selection or selections in the Timeline.

Then choose the **ProTools** module from the list and click **Export**. A dialog box, **Export ProTools Session File** will open. The top of this dialogue box is concerned with file saving and enables a suitable destination folder to be

chosen or created, a file name to be entered and gives the choice of saving **ProTools Session *.*** or **All files *.*** By default, the file name entry box contains the name of the Pyramix project.

At the bottom of the dialog box **Export Settings** choices are made. Drop down lists offer the choice of saving in ProTools 5.0 or 4.* Session formats and 16 bits or 24 bits. If you wish to reduce the amount of data to be exported, select the **Consolidate** checkbox. When this is checked, the 'handle' length can be selected in the **Handle** text entry box from 0 to 999999 frames.

When you have selected the appropriate options and named the export file (or accept the default) click **Save** to complete the export.

Please see also: File & Project Interchange with Apple Macintosh on page 304

Report Printer

(includes EDL, Markers, CD TOC report sheet)

This program really needs a printer. Here is a way to add a printer when no physical printer exists:

1. Start the add new printer wizard. **Start > Settings > Printers > add Printer**

2. In the wizard choose **local printer** and deactivate **automatically detect**

3. Under "Use the following port" choose **File**

4. Select the printer that you will eventually use to print the file

5. The rest of the installation is the same as a standard printer installation

If you print a page test, a dialog will open and ask you the name of the file. Enter the path where you want to write the file.

SACD Edited Master Import

Import Edited Master file.

Sonic Solutions

Straightforward Import in Sonic Solutions format. When importing an Sonic Solutions file that references (links) to external audio files, the folder(s) that contain theses files must be Mounted in Pyramix before importing the file.

> **Note:** Sonic Solutions **HD** format is not currently supported.

Video Clips

Import

Select **Video Clips** in the **Interchange Import** dialog. The **Import Video Clip** dialog opens:
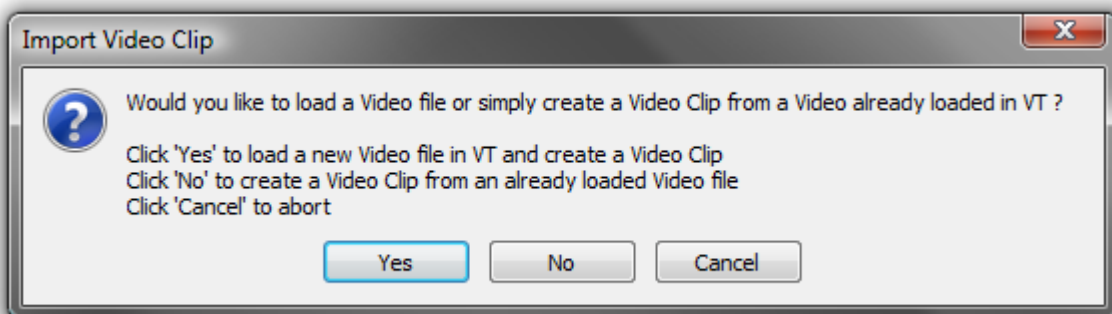
Import Video Clips dialog

To load a new Video file in a Virtual Transport Video Player and create a Video Clip in the Pyramix Timeline click **Yes**

To create a Video Clip in the Pyramix Timeline from a Video file already loaded in a Virtual Transport Video Player click **No**

Cancel aborts the import operation.

> **Note:** Audio tracks are also imported and placed in the Timeline. The method of place-ment follows the Replace/Append/Insert rules as per other (composition based) for-mats. **Please see: Options on page 308**

Export

Under Construction

XML

Straightforward Import and Export in XML format.

Cue Sheet Printer

The **Cue Sheet Printer** offers comprehensive options for printing out a graphic representation of the Timeline. Cuesheets are frequently a contracted delivery requirement which takes much time and effort to produce.

Select **Project > Export**. This opens the **Project Export** dialog box. Select **Cue Sheets printer** and click on the **Export** button. (or simply double-click the **Cue sheets printer** entry)

The **CueSheet Printing** window opens. (Shown with the **Preview** option selected.):
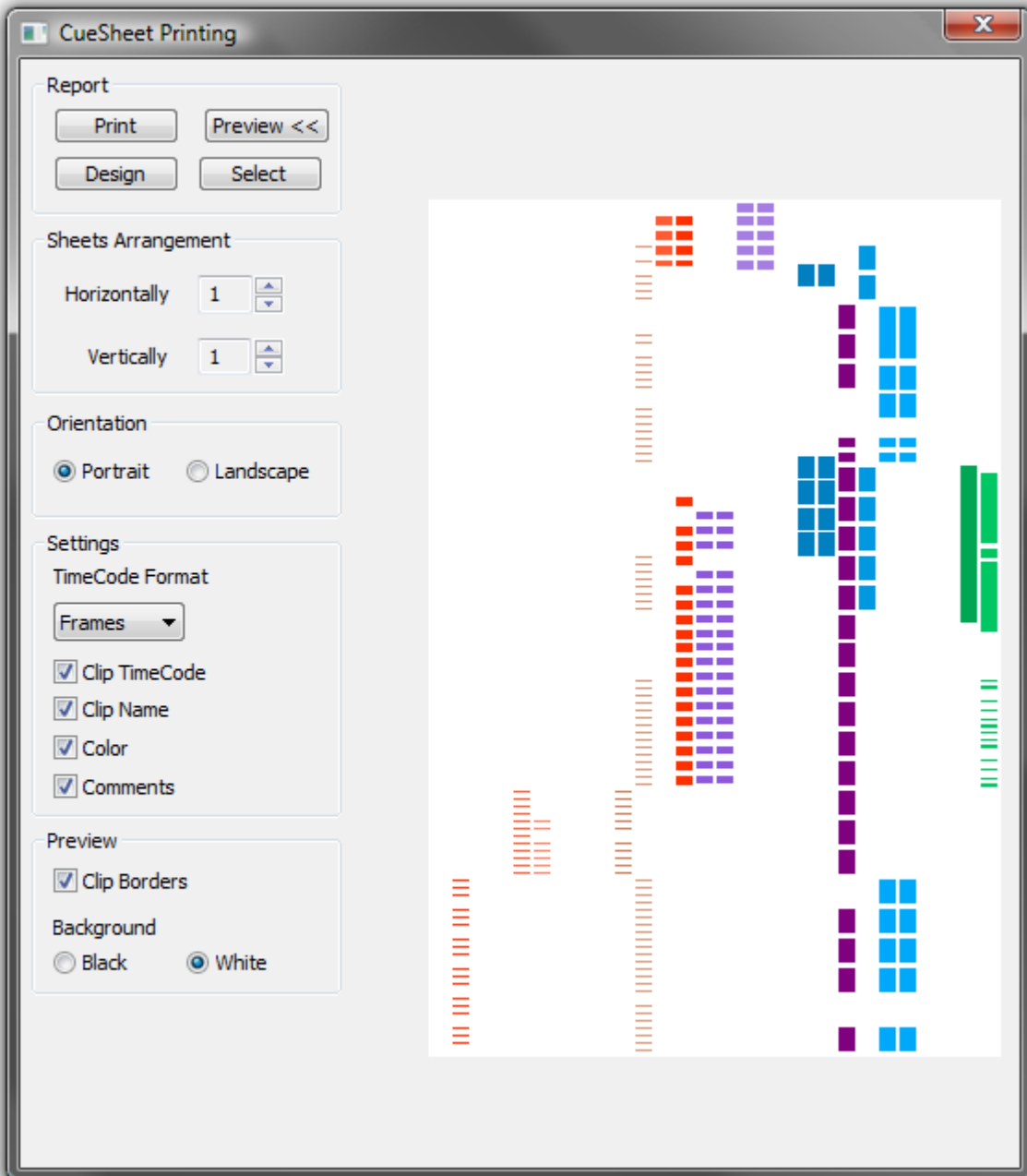
CueSheet Printing Window

Report
Print

Click this button to print the cue sheet(s) with the selected options. This opens the **Print Options** dialog box unless the **Orientation** selected is different from the printer's default. If it is the **Paper Orientation conflict** dialog box pops-up with buttons which offer a choice of **Select other report**, **Change Orientation**, **Force** or **Cancel**. **Force** should make the printer change orientation for this print. Some printers will not accept this. If this is the case, see below.

Print Options dialog box

Offers the choice of which pages to print and the number of copies. Allows any installed printer to be selected and configured. If **Force** does not result in correct page orientation the printer page orientation can be changed by clicking **Change** then **Select** in the next screen which should give access to the Printer's set up dialog with options dependant on the selected printer.

Preview

Adds a graphic preview of the Cue-Sheet(s) to the right-hand side of the window

Design

Opens the design software used to create the Cue-sheets. Please see the on-line documentation

Select

Opens a file browser. Saved Cue-sheets can be loaded for printing.

Sheets Arrangement

Horizontally and **Vertically** set the number of pages with the increment / decrement buttons. This also controls the time scaling.

Orientation
Portrait / Landscape

Toggle between vertical and horizontal page orientation.

Settings
TimeCode Format

Shows the TimeCode format which will be used on the cue-sheets from the choice in the drop-down list. **Frames**, **Samples**, [**ms**] or **CD Frames**

Clip TimeCode

When checked, **Clip TimeCodes** will be printed

Clip Name

When checked, **Clip Names** will be printed

Color

When checked, the cue-sheets will be printed in the colors used in the original project. (With a color printer)

Comments

When checked, **Comments** will be printed

Preview
Clip Borders

When checked, clip borders are shown in the preview display.

Background
Black / White

Toggle the preview background color.

Customizing Pyramix

18

Customizing the User Interface

Pyramix Virtual Studio allows considerable customization of the user interface. Apart from the usual Windows interface possibilities Pyramix has **Interface Editors**, user defined **Workspaces**, customizable **Keyboard Shortcuts** and user defined **Macros**.

Desktop Layout, **TimeLine Layout** and **Track Headers Layout** are designed in **Settings > All Settings > Application**

Toolbars and Menus

The Pyramix Toolbars and Menus are almost entirely customizable. Please see: **Desktop Layout on page 525**

Complete Toolbars can be managed by right-clicking anywhere in the blank space in the Toolbar dock to pop up this menu:
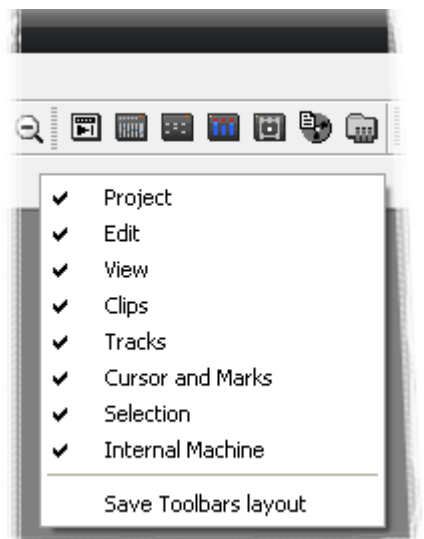
Tollbar context menu

Click on the Toolbar names to toggle Toolbars shown (ticked) or hidden.

Save Toolbars Layout Clicking on this entry saves the current Toolbar arrangement.

Workspaces

Workspaces are a method of saving many of the Pyramix Project Editing Panel settings, especially **Track Header** switches layouts. Once saved a Workspace can be quickly recalled for future use.

Workspaces can be accessed via the pull down menu on the Pyramix Virtual Studio Window toolbar or via the Project Management Panel Tab.

Macros Window

New Workspaces can be added by clicking **Click here to add a new Workspace** on the first line of the Tab Window. A text entry box opens where you type a name for the new Workspace. Hitting **Return** places the new Workspace at the bottom of the list.

Workspaces may be re-named by clicking the name.

Workspaces can be deleted by selecting them and pressing the 'Delete' key.

Recalling a Workspace can be achieved by double-clicking on the Workspace icon to the left of the name.or select the menu item **Workspaces > Recall > Recall Workspace (X)**. However, the quickest metnod is to use keyboard shortcuts. By default, Workspaces 1 to 10 are mapped to **Shift + 1** to **Shift + 0**.

Parameters remembered by Workspaces are selectable per Workspace by clicking in the appropriate columns.

If the **Update on change** column is set to **Yes**. The current state of all selected parameters is saved to the current Workspace when another Workspace is selected.

> **Note:** Before using the **Update on change** feature it is strongly advised that you save the Workspace using **Workspaces > Save > Save Workspace {name of workspace}** to avoid undesired behaviour.

Customizing Keyboard Shortcuts

We strongly encourage you to learn the default Pyramix keyboard shortcuts. These have been used by audio professionals for over a decade, and are powerful, quick and efficient for audio editing and device control. However, if you are already familiar with another style of audio or video editing, you may wish to create your own **Keyboard Shortcuts** for various Pyramix transport and editing functions.

To define your own **Keyboard Shortcuts**:

1. Choose **View** > **Customize** > **Keyboard Shortcuts** from the **Toolbar**. This opens the **Keyboard Shortcuts** window:
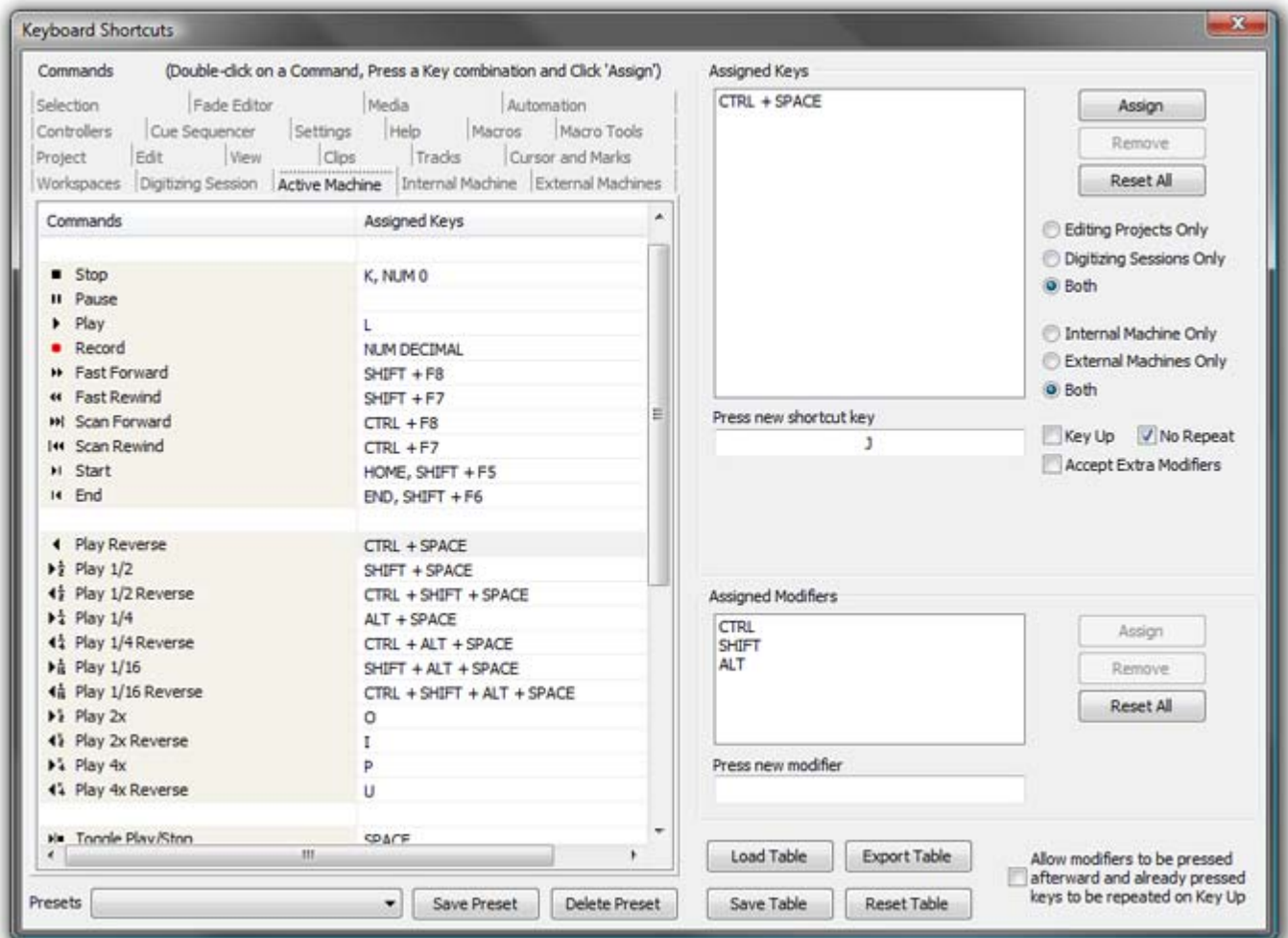
Keyboard Shortcuts Window

2. All menu **Commands** are grouped together into **Tabs** within this window. Select the **Tab** with whichever group of **Command** Functions you wish to add or change key assignments for.

3. Click on the appropriate **Command** so that it is highlighted.

4. Click in the **Press new shortcut key** box. The cursor will become a blinking bar.

5. Now press the desired **Key** or combination of **Key** and modifier (e.g. the **Ctrl**, **Shift**, **Alt**, etc.). These will appear in the **Press new shortcut key** box. Note that Pyramix will warn you if the chosen **Key** or combination is already assigned to another function.

6. Click the **Assign** button.

7. Continue assigning **Keys** to **Commands** until you are satisfied.

8. Any set of user defined **Keyboard Shortcuts** can be saved as a **Preset**. To do so, click the **Save Preset** button, then name the **Preset**. Similarly, to recall a previously saved **Preset**, click in the **Presets** box and select it from the pop-up list. Note that several common **Presets** are shipped with **Pyramix Virtual Studio**.The Table will be saved in the system for the user currently logged in and will not affect any other user.

9. A table can be Saved or Loaded to a file so it can be taken to an other system. Just Click on the Save Table or Load Table button.

10. A table can be exported as a Text File along with some comments about commands. This is very useful since it enables you to print it as a command reference guide with your own keyboard shortcuts.

Example:

Many users with a video editing background will be familiar with the J, K and L keys assigned to Reverse Play, Stop and Play respectively. To make these assignments:

1. Choose **Settings > Keyboard Shortcut Editor** or **View** > **Customize** > **Keyboard Shortcut Editor**

2. Select the **Active Machine Tab**

3. Click on the **Play Reverse** Command to select it.

4. Click in the **Press new shortcut key** box.

5. Type **J** (Notice **J** is not currently assigned to any function)

6. Click **Assign**

7. Click on the **Stop** Command to select it.

8. Double click the **J** in the **Press new shortcut key** box to highlight it.

9. Type **K**

10. Click **Assign.**

11. Repeat steps **7 to 10** substituting **Play** and **L**

12. Save the **Preset**. It is immediately active.

User Macros

Macros are sequences of commands which can be invoked by a single keypress or combination. Macros can be a very powerful aid to productivity.

To define a new **Macro**:

1. Choose **Settings > Macro Editor** or **View > Customize > Macro Editor**. This opens the **Macros** window:
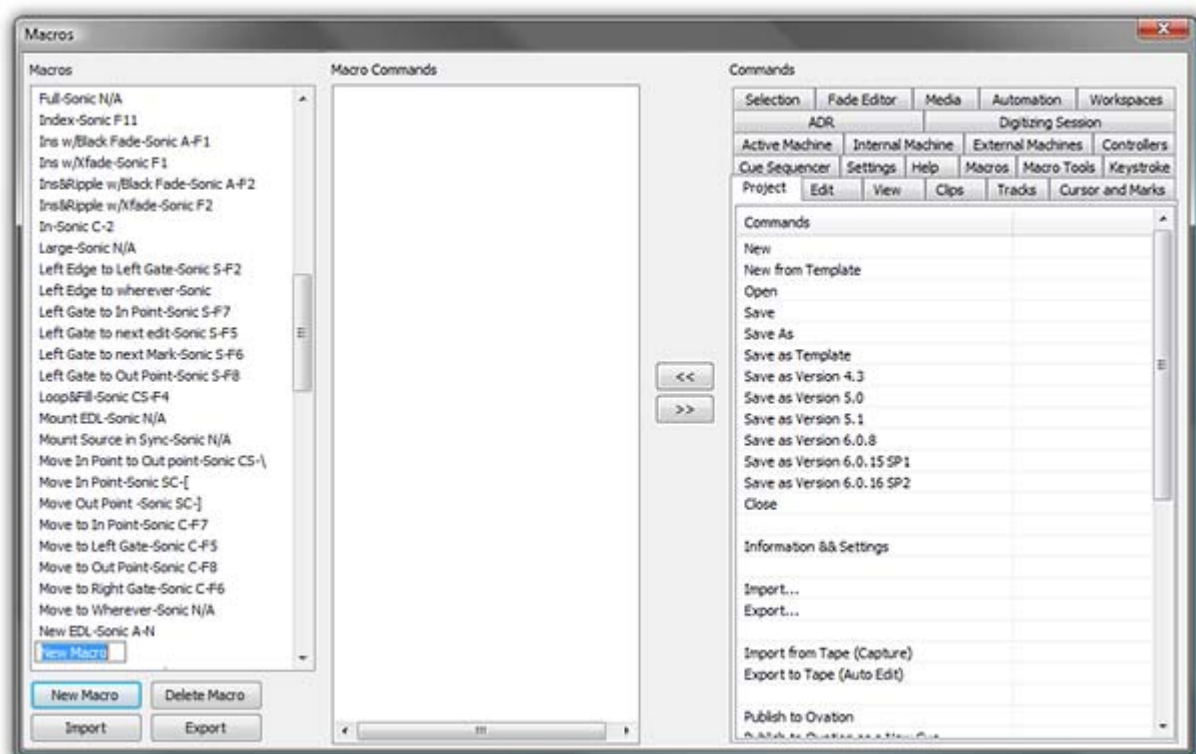
Macros Window

1. Click the **New Macro** button, then name the Macro.

2. Various menu **Command** functions are grouped together into **Tabs**. Select the **Tab** with whichever group of **Command** Functions you wish to add to the Macro.

3. Click on the appropriate **Command** so that it is highlighted.

4. Press the **<<** button to add this command to the **Macro**.

5. Repeat steps **3** to **5** to assign further **Commands** to the **Macro** until it is complete.

A **Keyboard Shortcut** can now call the new **Macro**. Follow the instructions in the previous section for assigning **Keyboard Shortcuts**. In this case, choose the **Macro Tab** within the **Keyboard Shortcut** window. Your new **Macro** will appear as an option inside this window.

> **Note:** macros can also contain keystrokes including: **Enter**, **Shift**, **Tab**, the Arrows (**up**, **down**, **left**, **right**), **Space Bar** and **ESC**

19

Applications

Pyramix
DIGITAL AUDIO WORKSTATION

Project Templates

Pyramix provides the user with a number of **Templates** for various applications. A Template is a complete Pyramix Project, without any associated audio, specially configured to suit a particular type of activity. Apart from configuring the appearance of Pyramix, the track layout and mixer design, templates also include important optimizations to suit the activity.

Please see: Optimizing Pyramix on page 432

These templates also offer a good starting point for creating your own customized templates. To begin a new project using a template choose **Project > New from Template** which opens the **Select a Template** file browser.
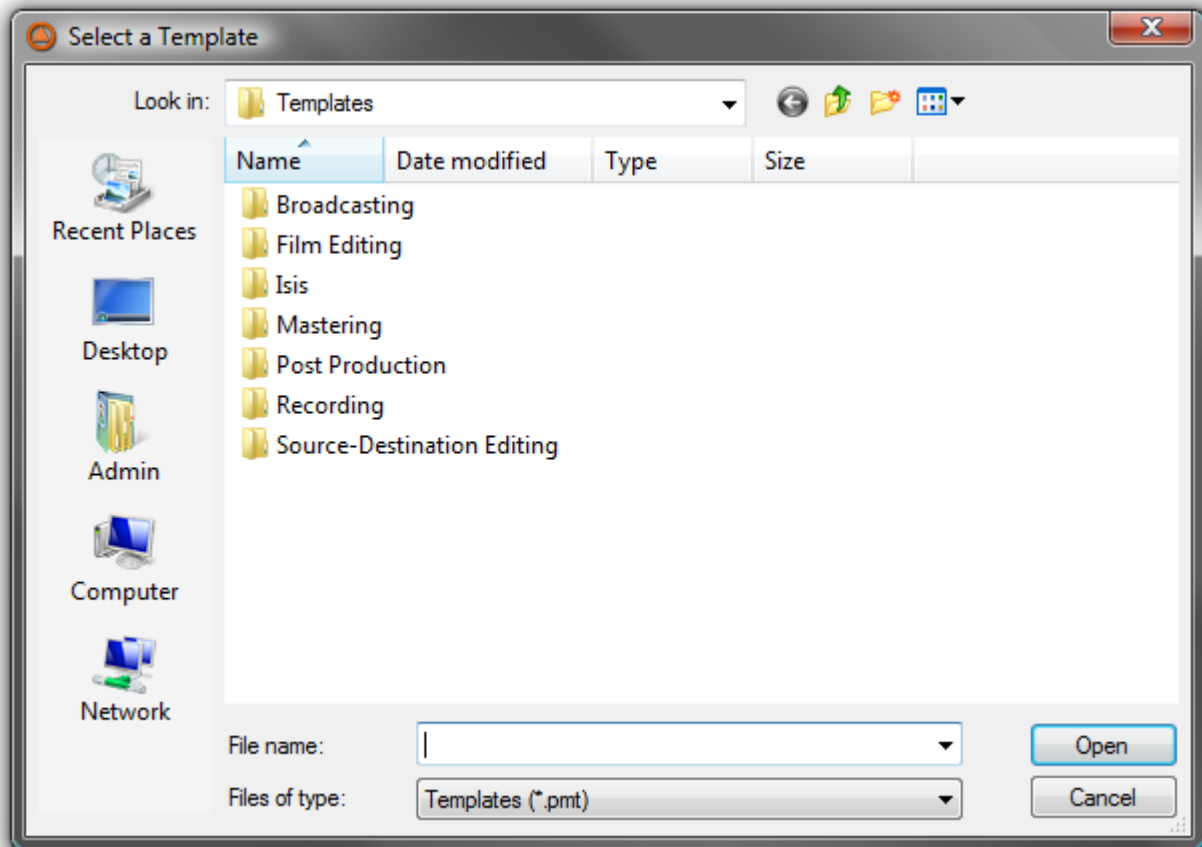
<p align="right">**Select a Template dialog**</p>

When a template is opened a dialog box appears requesting the user to choose a **Media Folder** for the new project. Unless the project is saved using the **Save As** option, the first time it is saved the **Save As** dialog will appear.

Further Templates will be added as they are developed.

To save a new Template choose **File > Save as Template**, name and save.

Virtual Multi-track

A number of **Template**s suitable for multi-track recording are provided with Pyramix. These **Templates** have all the required settings already in place. If none of the supplied Templates is exactly suitable for your task it will save time if you modify the one closest to your needs and save it as a Template for future use.

Settings for Multi-track recording

Multi-track recording can be demanding on disk performance, DSP and the host CPU. In order to optimize Pyramix for the purpose if not using one of the supplied Templates the following settings should be made in the **Record Page**:

- Flatten Track Numbers: **OFF**
- Quiet if creation failed: **ON**
- Prompt for name after recording: **OFF**
- Keep in default library: **OFF** (Should always be **OFF**)

Suggested Settings

- Group Recorded Clips: **ON**
- Increment Take Number: **ON**
- Prefix with Track Name: **ON**

To Record audio directly into the Tracks of a Project, using Pyramix Virtual Studio as if it were a tape machine:

1. Set the **Destination Drive**, **Resolution** and **Format**.

2. **Arm** each **Track** on which you wish to record. In this case, set each **Track** to **Record Ready** mode (simple **Red Dot**).

3. Check your input levels using the **Mixer**, and adjust as appropriate.

4. Position the **Play Head Cursor** in the **Composition** where you wish the recording to start.

5. Click the red **Master Record** button in the **Transport Strip** or **Transport Window**. The recording will begin, and display a red bar in those **Tracks** you have armed for recording.

6. Press the **Stop** button in the **Transport Strip** or **Transport Window** to stop the recording. A **Record Name** dialog box will appear.

If you are satisfied with the recording, type an appropriate name into the **Record Name** box and click the **Good Take** button. This will save an audio **Media File** of the selected type onto the selected **Media Drive**, with the name you just chose and place a **clip** in the **Timeline**, also with the same name. If you are not satisfied with the recording, click the **Delete Take** button and the recording will not be saved. The third option is **Bad Take.** A **Bad Take** is saved and a **clip** placed in the Timeline just like a **Good Take**, but the **clip**'s color is set to a specific color (definable in the **Settings > All Settings > Application > TimeLine Layout** page) and are numbered the following way: Take 1, Take 2, Take 3 (Bad 1), Take 3 (Bad 2), Take 3 (Bad 3), Take 3, Take 4, Take 5 (Bad1), Take 5, and so on… This helps manage takes where there are mistake(s) but the user wishes to keep them anyway.

To Punch In audio directly into the Tracks of a Project, using Pyramix Virtual Studio as if it were a tape machine with punch in capabilities:

1. Set the Destination Drive, Resolution and Format as above.

2. Arm each **Track** on which you wish to punch in. In this case, set each **Track** to **Record Punch In** mode (**Red Dot with 2 vertical bars**). (**alt-click** on the round **rec/play** button in the track header.

3. Check the input levels using the **Mixer**, and adjust as appropriate.

4. Mark a punch in record **In** and **Out** point. This can be done either by marking a selection area on a **Track**, or by setting a **Mark In** and **Mark Out** on the **Time Scale** bar. The simplest way to mark a selection area on a **Track** is to click and drag in the **Track**: a darker gray rectangle indicates the selected area. The simplest way to set a **Mark In** is to **Shift-click** on the **Time Scale** bar: a movable red triangle and vertical line indicates the **Mark In**. The simplest way to set a **Mark Out** is to **Ctrl-click** on the **Time Scale** bar: a movable green triangle and vertical line indicates the **Mark Out**. A selection takes precedence over Mark In and Out for punch in.

5. Position the **Play Head Cursor** before the marked **In** point or **Selection** area.

6. Press the red master **Record** button in the **Transport Strip** or **Transport Window**. The **Play Head** will begin moving through the **Composition**, and **Tracks** will begin playback. Recording will begin on the armed **Tracks** as soon as the selection area or **Mark In** point is reached during playback. A red bar will be displayed in those **Tracks** which are recording.

7. The recording will stop automatically when the selection out or **Mark Out** point is reached. The **Play Head Cursor** will continue playing through the **Composition**.

8. Press the **Stop** button in the Transport Strip or Transport Window to stop playback. A **Record Name** dialog box will appear with the same options as a normal recording.

Player/Recorder Mode

Settings > All Settings > Project > Mixer > DSP Saving : Special modes section.

This mode allows big configurations (such as 48 x 48 channels) to run on a single board. Player/Recorder Mode is intended for use with an external hardware console. When this mode is activated, the Pyramix mixer is relegated to the role of signal router, there is no level control, no panning, no plug-ins and no inserts. This option is only available in configurations with multiple mono mix buses.

The Pyramix **Direct Out** functionality provides an alternative, more user configurable, method of achieving similar DSP savings. **Please see: Channel Direct Outputs on page 161**

Multitrack Editing

Pyramix is ideally suited for editing multitrack recordings. Grouping clips across all tracks used for the recording allows edit decisions to be made while listening to a single track or several with the resulting edit changes reflected in all the clips in the group. Track Grouping functions enable you to work in a way that suits you. The Source - Destination editing model is just one possibility.

Please see the following sections:

Grouping Clips on page 112

Track Groups on page 80

Source - Destination Editing on page 130

Editing with Limited Hardware

Multi-track recordings with many tracks (E.g. 48 track 96kHz 24 bit music recordings) can be edited on hardware which cannot support this number of tracks. (E.g. a laptop) Simply mute tracks that do not need to be heard using the   button in the Track Header. Tracks muted here, rather than in the mixer, no longer access the disk. Providing the Multitrack recording's Clips are grouped across all tracks, then any editing changes made on the tracks used for the editing guide sound will also be reflected in the muted tracks.

LTC sync

EXAMPLE - where a cinema projector must be the master

- Cinema projector follows mains (or is crystal controlled) and sends biphase signal to a Biphase -to LTC converter. (E.g. the Rosendahl BIF)

- Converter's LTC output is directly fed to Pyramix LTC input

- Pyramix is set to "LTC sync" mode and will adapt it's own internal clock to sync to LTC whenever the Pyramix is set to lock and the external LTC is recognized to be playing at about 1x forward speed.

- Pyramix feeds it's own clock to the DA-88 (or similar machine used as an A/D converter) via Wordclock.

- The DA-88 (or equivalent) is set to sync to external Wordclock

- The DA-88 in turn provides the Pyramix TDIF daughtercard input with digital audio data.

All LTC sync ballistics in the Pyramix software have been carefully designed to both allow a large locking range (-7 to +5%) while still exhibiting extremely low instantaneous jitter and more importantly a controlled maximum speed change slope - not more than about 25 PPM per ms (25 Parts Per Million/millisecond) - in order to make sure that any other digital audio equipment connected to it's Wordclock output is provided with a smoothly changing clock speed (free of any abrupt speed changes). When used with Tascam digital multi-tracks such as the DA-88 this in turn allows the TDIF input decoding circuitry in Pyramix to properly decode the digital audio data at all times without disruptions while the complete system follows the actual master speed changes.

Driving the pyramix with the LTC output of the DA-88 is maybe possible in some situations but will demonstrate several limitations which should not occur if you precisely follow the recommended setup as described above.

Keep in mind that the DA-88 does exhibit big instantaneous 1000 PPM (0.1%) speed changes and this prohibits proper TDIF decoding at the other end.

Dubbing Mode

This mode is provided principally for film re-recording. It allows tracks to be Armed or Disarmed for recording while recording is taking place.

Dubbing Mode is selected via **All Settings > Settings > Project > Record**

Enable Dubbing

When checked, **Dubbing Mode** is engaged.

Confirm Track Arming

Only available when **Dubbing Mode** is selected in the adjacent check box. A check in this box means that any changes to track arming made whilst recording must be confirmed by a new Record command before they will take effect.

Example

When recording a final mix in stems (E.g. Dialogue, Effects and Music) you may well wish to retain a previous take for, say Effects, until a certain point. This can be achieved by arming the Dialogue and Music Track Groups, playing the transport and punching into record at the desired point. Once in record, the Effects Track Group can be dropped straight into record at the appropriate moment by simply arming it, or if the **Confirm Track Arming** box is checked, by arming it and, applying a second record command when you wish to begin recording. (either on screen or via MMC, 9-pin etc.)

Virtual Tape Mode

This media format type / mode allows real destructive punches to be made directly into BWF files.

Virtual Tape Format

A separate application allows a Virtual Tape to be prepared.

Start > All Programs > Pyramix > VirtualTapeFormat

Before running the application, format a 10'000 RPM SCSI disk using FAT32 if you wish to plug the disk directly into a Mac later or NTFS if you intend to copy the files to another disk at the end of the session.

Use 64K as the Sector Allocation Unit Size when formatting the disk.

Launch the **Virtual Tape Format** application and make the desired settings for these parameters:
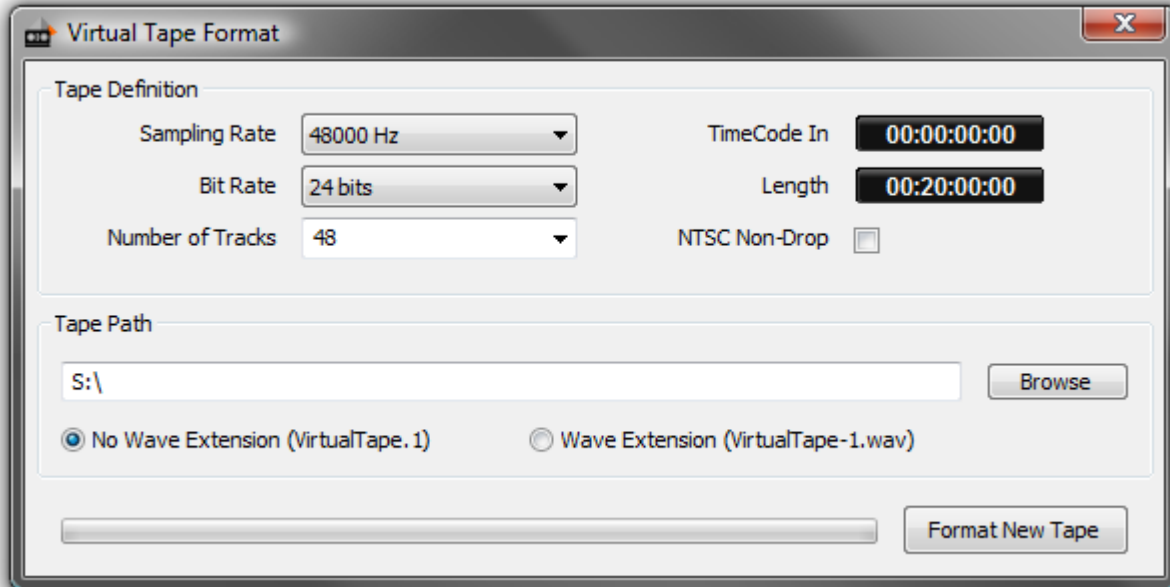
<div align="right">**Virtual Tape Format Application Window**</div>

Sampling Rate

Bit Rate

Number of Tracks

TimeCode In (Original TimeCode / TimeStamp)

Length of the tape

Check the 'NTSC Non-Drop' box if you wish to have a tape that will (virtually) run at 1001/1000 (this just ensures the TimeStamp and Length will be correct)

Choose a location in the SCSI drive where you wish to create the tape

Click Format New Tape

A set of (slightly enhanced) BWF files will be created in the target folder (one per track).

There can be only one Virtual Tape per folder. The application will refuse to create a second tape in a folder where one already exists.

Do not attempt to move or copy the tape once created as this would suppress the block interleaving on the disk made by **Virtual Tape Format**. Even if you feel that copying a "template tape" from another disk would be quicker, that wouldn't align properly the tape blocks to the disk blocks.

The resultant files are standard BWF files and will be recognized as such by any other application.

Only Pyramix sees them as Virtual Tapes. In the future we will find a way to let Pyramix decide to see them as BWF files instead of Tapes to allow editing them when the dubbing session is over. (Please see **Known Limitations** below for a temporary solution)

Pyramix Settings for Virtual Tape Mode
Open Pyramix and go into the **Settings > All Settings > Application > Playback/Record** page.

• Enter the value '**262144**' in the **Playback Buffer Size** entry box and click '**Set**'

• Select **96 KB** in the **Record Block Size** box.

• In the **Jog/Chase** page you should uncheck '**Silent Chasing**'. Even if checking this setting would reduce locking time, you would still have to wait for the Virtual Tape buffers to be filled after Pyramix is locked before entering Record.

• In the **Layout** page Uncheck '**Generate waveform automatically at clip insertion**'

- Create a Pyramix recording project with the same number of tracks you specified in the **VirtualTapeFormat** application.

- Ensure you select the correct sampling rate, corresponding to your 'tape'.

- Mount the folder in which the tape has been created.

- Select the tape and in the **Media Manager** menu choose **Edit > Place**. Select '**Place at Original Time-Code on Original Track**' and click **OK**.

- Select the menu item **View > Zoom > Fit in Window**. Your tape should be at its proper location in the Timeline.

- Now go into the **Project > Information & Settings : Record Settings Page**:

- Select the **Media Folder** where your tape resides

- Select the **Resolution** you specified for your tape

- Select '**Virtual Tape**' in the Format box

- Enable **Dubbing Mode**

- Check **One file per track**

- Uncheck **Flatten track numbers**

- Check **Don't create Playlists**

- Uncheck **Name is Scene & Take**

You should now be able to use Pyramix normally.

Note the Following:

- Any punch-ins will be destructively performed on the Virtual Tape. There is no undo!

- No new clips will be created for each punch-in, only the underlying tape will be modified.

- Any attempt to punch-in outside the tape will fail.

Known limitations:

- Punching in on fresh parts of the tape (still silent) may result in small clicks at the punch-in points for now. Fades on Punch-ins in Virtual Tape Mode will be implemented soon.

- For now, there is no waveform support.

Discontinuous TimeCode

Auto-Punch mode allows a whole tape with discontinuous TimeCode to automatically be recorded.

- Set all desired tracks is auto-punch mode

- Place Mark In at 00:00:00:00 and Mark Out at 23:59:59:24 (default values for a new project)

- Plug LTC Out from the tape machine into Pyramix

- Set Chase mode to HARD CHASE

- Rewind the tape

- Press Play on the tape machine

Each time a valid TC is encountered Pyramix will lock and start recording a new clip, then stop when the timecode jumps. A separate media file will be created for each continuous timecode on the tape.

Metronome / Click Track

To obtain an audible **Metronome** or **Click-Track**, first add a **Bars & Beats** ruler by going to:

View > Scales / Toolbars and clicking on **Bars & Beats**
(Alternatively use the keyboard shortcut **ALT + B**)

Open the **Bars & Beats Settings** dialog in the same, **View > Scales / Toolbars,** sub-menu.

<div align="right">
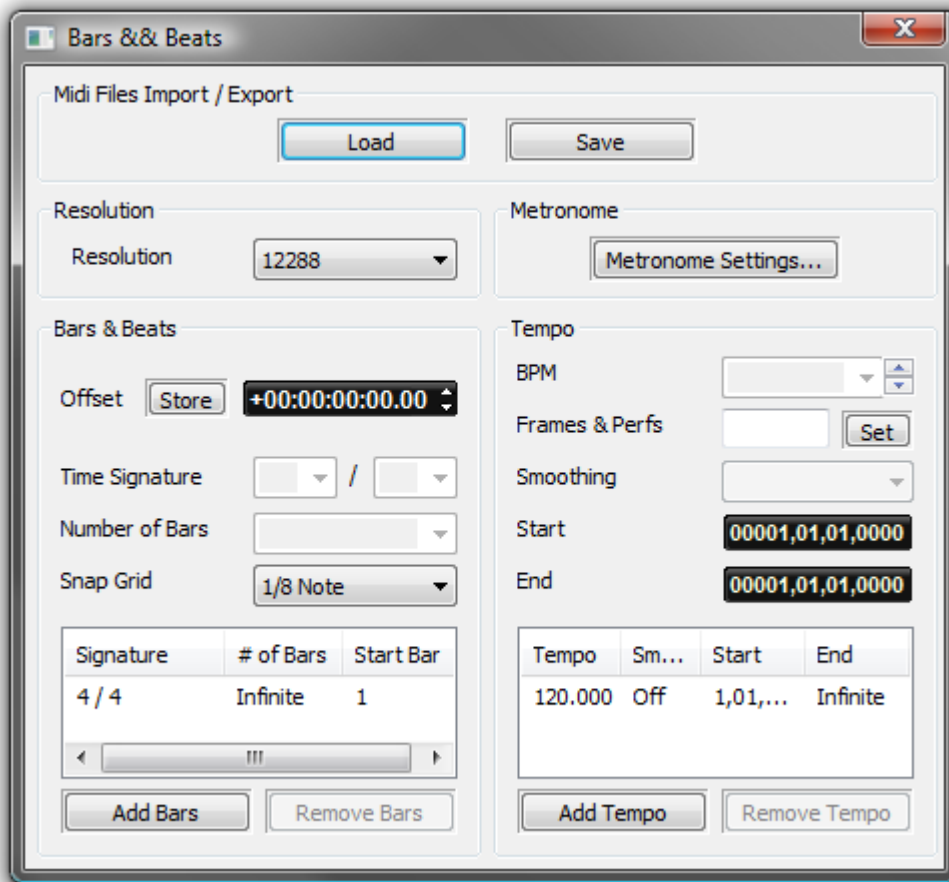
Bars & Beats Settings dialog

</div>

Set up a suitable **Tempo** for your needs by adding a new one. First choose a **Tempo** and **Smoothing** value then set the **Start** and **End** times in bars and beats. Click on the **Add Tempo** button to add your new Tempo to the list. You may wish to delete any others.

<div align="center">

Tip: Select **View > Scales / Toolbars > Tempo Map** to see the new Tempo in the Timeline.

</div>

Tempo (bpm)   Allows you to pick a tempo from the common values in the drop-down list, to increment or decrement in 1bpm steps with the up and down buttons or to directly type a value in the box.

Smoothing   Smoothing is a ramp, used mainly when a tempo changes at some point in a project. For example you could smooth up gradually the passing from a 120 bpm to a 80 bpm tempo. Values can be selected between **Note** and **1/64 .** (or **OFF**)

Start

End

The Information pane shows all currently defined Tempos. The **Tempo**, **Smoothing**, **Start** and **End** fields reflect the values for the highlighted (selected) Tempo.

Add Tempo   Adds another Tempo

Remove Tempo   Removes the highlighted (selected Tempo) from the list.

Pyramix
DIGITAL AUDIO WORKSTATION

Then click on the **Metronome Settings...**button
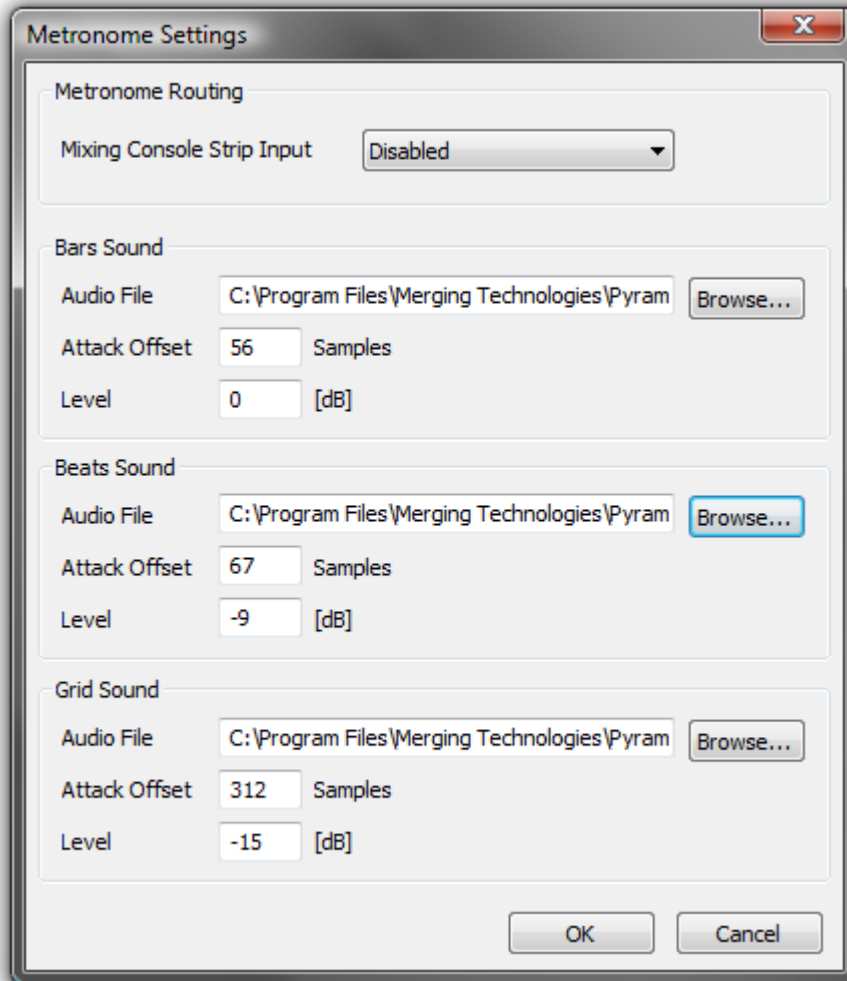
Metronome Settings dialog

Choose a console strip for the Metronome sound from the drop-down list.

Any audio file can be used, for the **Bars**, **Beats** and **Grid** sounds. By default, some suitable WAV files are installed with Pyramix in the same location where you installed the Pyramix software. By default. this will be:

C:\Program Files\Merging Technologies\Pyramix Virtual Studio\Metronome Bars.wav etc.

The **Attack Offset** parameters enable the timing to be adjusted and the values in the **Level** data input fields determine the playback levels of the chosen sounds.

Midi Files Import / Export

Load

Save

Both buttons open a Browser Window to enable navigation to a file to load or a location to save to.

Currently, when midi files of type 2 are imported, only the tempo map and signature of track 1 is imported.

Reconforming to Original Media from Avid &/or OMF

There are no specific rules for the detailed settings of the procedure described below. It may change from user to user, project to project, etc… It really is up to the user to define a specific workflow including naming of the original recording, importing the stereo/original version into the Avid and making sure that the Video Editor properly

MERGING   Applications : Reconforming to Original Media from Avid &/or OMF   **19 - 341**

keeps track of the proper naming, metadata, etc… Once the method is properly defined and working, the rules should then be communicated to all people involved in a given project, once and for all.

Philosophical Point

Reconforming to New Media always involves some delicate & dirty experimentations in the **Relink to New Media** dialog. This usually requires comparisons of Clip information in Clip Properties and Media information in Pyramix Media Manager. Once some kind of correspondence in the naming structure can be found, then all of a sudden the whole process becomes incredibly simple, the entire TimeLine becomes populated by happy green clips and an amazing feeling of personal achievement is yours forever.

The following example could and should be interpreted at will to match your specific needs and requirements

Procedure

- Import the OMF from the Avid (even without Avid media, it is not required)

- Mount the original Multitrack session media

- Select **Project > Reconform > Relink to New Media**

- Now the hard part: try to find, in the Clips imported from the OMF, any matching information (in **Clip Properties**) that can also be found in the original media properties

- For instance, you may find that the **Clip** Names match the Original **Media File** Names, but you may very well find that the Clip Names are in fact **Scene & Takes** and should rather match the Original Media Scene & Take, etc…

(OMF is at this better than CMX since it can include information such as Clip Names, Metadata, TimeCodes, etc…)

It finally all depends on how the original media has been documented while recording (BWF metadata) and how the Video Editor and Media "Ingester" have documented the Media and Clips in the Avid.

Again, as already stated above, there are no rules and it may change from user to user, project to project.

Suggested Procedure for Managing a Workflow

- Record the Original Media in **BWF** with TimeCode and name them Take1, Take2, Take3, etc… or any other name that can easily be understood and searched.

- Create a **BWF** 16 bits Stereo Render of your Multitrack recording files **WITH THE SAME NAME** as the original.

- Import these files into the Avid and make sure all clips created out of these Media keep the Media Name or File Name.

- Export an OMF out of the video edit and import it back in Pyramix (Even without media).

- You should then be able to match the OMF Clip Name to the Original Media File Name, or at least, if the Video Editor messed up with the Clip Names, the OMF Media Names with the Original Media Name or File Name.

- - Once the **Relink** procedure has been successfully achieved, you should have all your Clips referencing the Original Media's first track(s).

- - Then go to **Tracks > Extend**, select all tracks you want to extend and choose **Auto-Detect**. This should extend all your clips according to the number of tracks of your original multitrack recording.

Summary

If something goes wrong with Reconform (apart from SD2 files not recognized, **Please see: File & Project Interchange with Apple Macintosh on page 304**) please look for some sort of timing or wording mismatch between Clips and Media and feel free to try several different settings in the **Relink to New Media** Dialog, till you find THE ONE that matches your topology.

Digitizing a Tape with Discontinuous TimeCode

Pyramix can automatically record a whole tape where the TimeCode is not continuous:

- Set all desired tracks in **Auto-Punch** mode

- Place **Mark In** at 00:00:00:00 and **Mark Out** at 23:59:59:24 (These are the default values for a new project)

- Plug LTC Out from the tape machine into Pyramix

- Set Chase mode to **HARD CHASE** (**Settings > All Settings > Jog/Chase : Chase Settings -Chase Mode**)

- Rewind the tape

- Press Play on the tape machine

- Each time a valid TC is encountered Pyramix will lock and start recording a new clip, then stop when the TimeCode jumps. A separate media will thus be created for each continuous TimeCode on the tape.

Loop Recording With Simultaneous Playlist Creation

- Check the **Create an Empty Playlist for each Recording** option in the **Settings > All Settings Project > Record** Page.

- Put the required tracks in **Auto Punch** mode (Alt + click the track arming, the track arming button will display)

- Place **Mark In** and **Mark Out** around the region to be recorded.

- Put Pyramix in **Chase** Mode (preferably **Hard Chase**) and chase an LTC input.

- Have the TimeCode that feeds Pyramix looping around two boundaries that start a little before the Mark In and stop a little after the **Mark out**. (To make a Preroll Postroll. These should be big enough to let Pyramix sync properly and lock to the incoming TimeCode).

- Pyramix will then, for each loop, sync and lock, enter in record at **Mark In**, stop recording at **Mark Out** and create a new **PlayList** for each loop iteration.

N.B. This requires that an external TimeCode source/generator be used to generate the reference TC loop.

TimeCode Midnight

For those users with a requirement to sync/chase TimeCode with projects near or crossing the day barrier (be it Zero or 24 hours) Pyramix has an **Allow chasing across midnight** option in the **Settings > All Settings > Application > Jog/Chase** page.

If this setting remains unchecked (default) then the Pyramix cursor will always follow the exact given TimeCode and therefore will remain strictly within "day zero" of the Pyramix timeline. For additional security and comfort, if Pyramix is in **locked** state while crossing the midnight barrier, then even with this setting unchecked, there will not be an immediate jump from midnight back to zero while playing or recording in sync. The playback or recording will remain seamless, uninterrupted and cross the day barrier until an out-of-lock status is recognized. Only then is re-chase triggered to whatever the incoming TimeCode currently is.

Editing Multitrack Recordings

To edit Multitrack recordings without listening to all of them just Mute the tracks and Hide them. All edits performed on the remaining visible one will still occur on all others and only the audio from the visible one will be played back for monitoring. (E.g. a stereo guide mix)

Film 24 to NTSC Sync

Here are some settings for the most common Scenarios for Film 24 to NTSC Sync. Presets for all of these can be found in **Settings > All Settings > Hardware > Formats & Sync**.

Mix/Editing for TV shot in NTSC and 48 kHz and edited in sync with NTSC equipment:

• Set the Frame Rate to NTSC Drop

• Set the Video Format to NTSC

• Set the Sampling Rate to 48 kHz

• Set the Varispeed to Nominal

Result: FR = 29.97 SR = 48000 Video Input = 29.97 (Standard for TV, Audio at 48kHz in sync with 29.97 while Shooting, Post and Diffusion)

Mix/Editing for Film shot at 24 fps and 48kHz but edited in sync with NTSC equipment:

• Set the Frame Rate to Film (24 fps)

• Set the Video Format to NTSC

• Set the Sampling Rate to 48 kHz

• Set the Varispeed to Pull-Down

Result: FR = 23.98 SR = 47952 Video Input = 29.97 (Standard for Film, Audio at 48kHz in sync with Film 24fps for Shooting and Diffusion, but at 47952 in sync with 29.97 for the Post with Film 24 running at 23.98)

Mix/Editing for Film shot at 24 but converted 3:2 to 30 frames and edited in sync with NTSC equipment:

• Set the Frame Rate to SMPTE Non-Drop

• Set the Video Format to NTSC

• Set the Sampling Rate to 48 kHz

• Set the Varispeed to Pull-Down

Result: FR = 29.97 SR = 47952 Video Input = 29.97 (Standard for Film, Audio at 48kHz in sync with Film 24fps for Shooting and Diffusion, but at 47952 in sync with 29.97 for the Post with Film converted to 30 running at 29.97)

Special case:

Mix/Editing for Film shot in High Def at 23.98 fps and 48kHz and edited in sync with HD NTSC equipment like D5 or other:

• Set the Frame Rate to 23.98

• Set the Video Format to Trilevel 24/1.001

• Set the Sampling Rate to 48 kHz

• Set the Varispeed to Nominal

Result: FR = 23.98 SR = 48000 Video Input = 23.98 (For Film shot in HD 23.98, Audio at 48 kHz sync with Film 23.98 while Shooting and Post. **Caution:** The Audio needs a **Pull-Up** to run in sync with the Film if printed a real Roll)

Checking AC3 encoded files in Pyramix

Two types of AC3 encoded files can be played back in Pyramix:

If the file was generated as an .ac3 file, then Pyramix will automatically decode it on the fly and playback 6 channels of audio.

If the file was generated as a .wav file, then Pyramix will consider the file as Wave and simply play two channels of digital encoded AC3 to its (digital) outputs to feed an external decoder.

Most AC3 encoders allow embedding of encoded AC3 signal into a Wave file while encoding, for easy playback. For example, **Minnetonka SurCode** offers this feature.

Working with External Machines

Use Auto-chase

Auto-Chase is a convenient, one button press solution for situations where control must be frequently switched between the Internal Machine I.e. Pyramix and an External Machine or machines.

If all enabled machines are set to **Auto-Chase**, when **Ctrl** is switched between machines the **Active Machine** is automatically taken out of **Chase** mode and the previously **Active Machine** automatically enters **Chase** mode. To activate **Auto-Chase** for all external machines, enable the menu setting:

Machines > External Machine > Auto-Chase

And, to activate **Auto-Chase** for the internal machine, enable the menu setting:

Machines > Internal machine > Auto-Chase

Using Freeze Mode

- If you are using Pyramix for sound-for-picture work, the **Freeze Mode** is a very powerful tool. For example, to position an out of sync car-door slam do the following:

- Use the Transport controls with all machines on-line to position the picture on the point where the door slams.

- Press the **Freeze** button to freeze the external machine(s).

- Select the clip that has the sound of the door slam.

- Position the **Clip Sync Point** at the beginning of the impact. (Click and drag the red **Clip Sync Point** or position the **Playhead Cursor** and select **Clips > Set Sync Point to Cursor** (**Ctrl + M**)

- Press **Freeze** and the Playhead Cursor will jump to the point at which **Freeze** was activated.

- Now, select **Clips > Send Sync Point to Cursor** (**Ctrl + Alt + M**) and the clip will move so that its Sync Point is at the Playhead Cursor position and the sound of the slam is synchronized with the picture.

Versioning

When making "promos" and commercials for radio, TV and film there is often a requirement to produce several different versions with, for example, different dates or times or different languages. The effects and music are often the same for each version. Pyramix offers several ways of achieving this.

Probably the simplest method is to select all the clips you wish to move or copy to a new location in the Timeline then select **Cursor and Marks > Goto TimeCode**, (**NUM 6**) type in the new TC location and then **Cut** and **Paste** or **Copy** and **Paste**. If you have a lot of this work to do, you may want to build a couple of simple macros to to this with the these commands: **Cut** / **Paste to Cursor** and **Copy** / **Paste to Cursor**.

As an alternative to typing in the new cursor TimeCode location, you could use the Nudge Cursor functions to offset it from where it is currently parked. Nudge to the left/right uses one of the 5 predetermined nudge settings.

Another method uses **User Libraries**. Copy the selected clips and paste to a library or (**Shift + Alt Drag**) then place the Composition using any any tool you wish. This method has the advantage that you can save the library and open it in another project.

Conforming and Reconforming

20

Conforming

Conform

Conforming is the process of making and positioning audio Cues in the Timeline from Audio media files already present in a folder available to the Pyramix PC in conformity with an imported EDL (Edit Decision List.) or video project, for example, AAF, Final Cut Pro or OMF.

Autoconform

Where the Audio media files associated with an EDL are not available to the Pyramix PC, Pyramix can control a tape deck or other device to import the required audio.

Reconform

Pyramix can conform audio to match a several flavours of EDL and also reconform an existing project to match a CMX change EDL.

Pyramix can also reconform an audio project by importing two versions of a video project, original and new.

CMX EDLs

CMX is one of the earliest types of EDL. The name comes from the company that developed it in the early 1970s **C**BS **M**emorex e**X**perimental. Over the intervening decades other companies have extended the original format to encompass, for example, more audio tracks. Although there are now several far more sophisticated alternatives, CMX remains the *lingua franca* of EDLs.

Importing a CMX EDL

Select **Project > Import** choose **CMX EDL** in the **InterChange-Import** dialog then click on the **Import** button. Select the desired edl file in the **Open** file-browser window. The CMX EDL Import Options dialog opens:
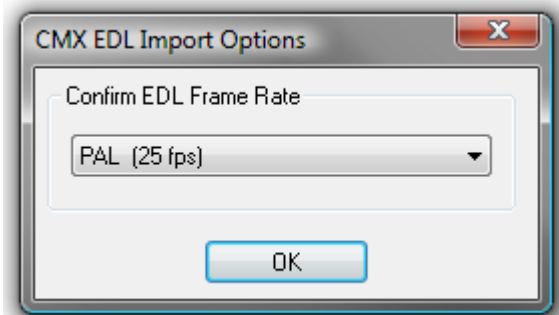
CMX EDL Import Options dialog

If the EDL Frame Rate is correct, simply click the **OK** button. Otherwise, select the correct rate from the drop down list and click the **OK** button.

The CMX EDL Import Options main dialog opens:
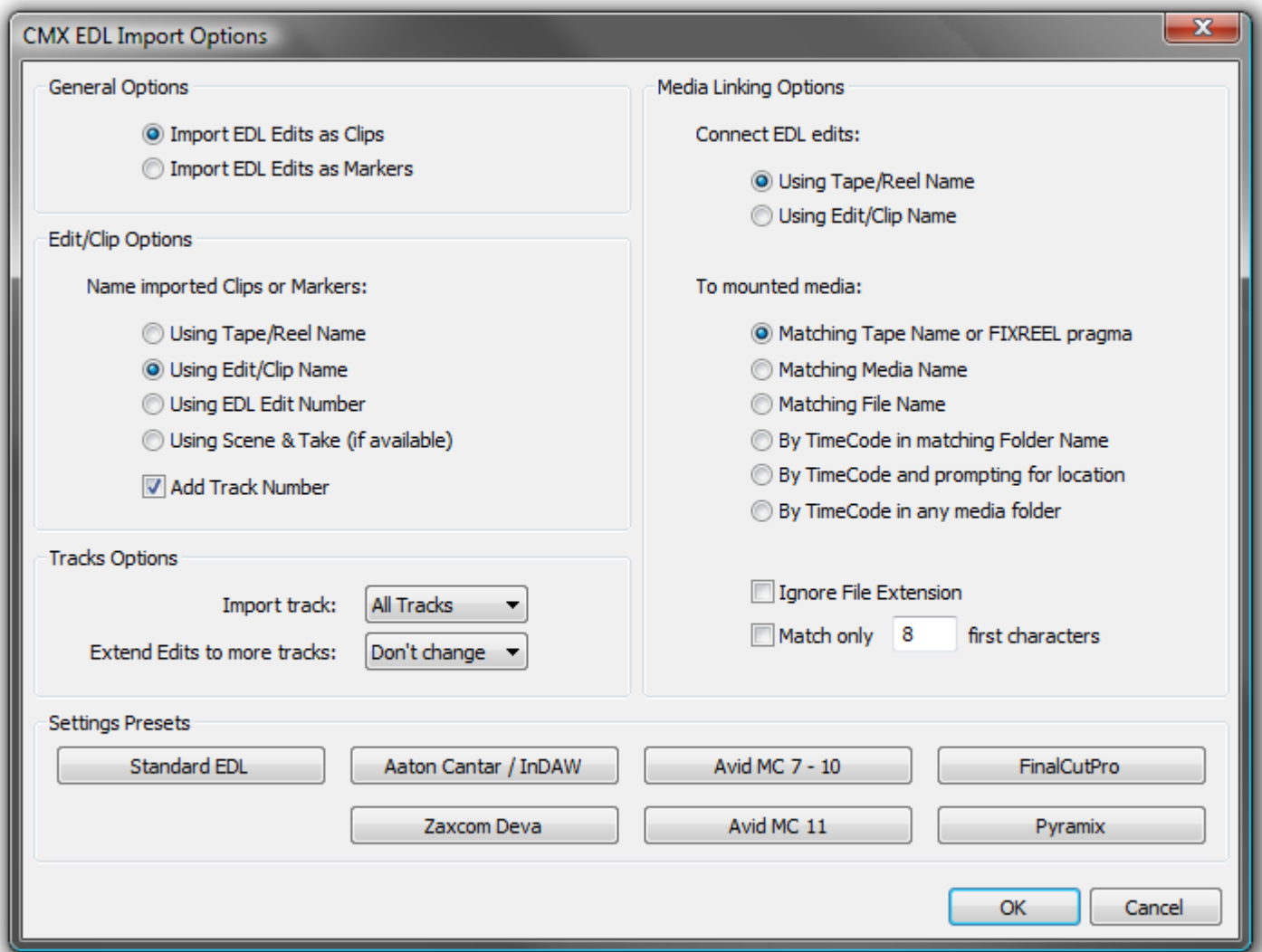
Common CMX Variants

The **Settings Presets** buttons at the bottom of the box set the options for a variety of common CMX variants. If the edl you wish to import matches one of these, simply click the appropriate Preset button. The settings are reflected in the rest of the dialog. Click the **OK** button to begin the Import.

If the EDL is not one of the common variants or the intention is to perform a partial or re-conform, make the appropriate choices in the dialog before clicking on the **OK** button to begin the Import.

CMX EDL import Options

General Options

Import EDL Edits as Clips

Import EDL Edits as Markers

Edit/Clip Options   Choose to name created clips from either:

Using Tape/Reel Name

Using Edit/Clip Name

Using EDL Edit Number

Using Scene & Take (if available) of linked media file. (E.g. BWF PMF etc. files with information in the **Scene & Take** fields)

Tracks Options

Import Track	Drop-down list offering a choice of importing **All Tracks** (default) or any individual track. Importing only the edits made on the first audio track. This can be useful with projects edited on a MediaComposer where the TimeCode of all audio tracks but the first one has been lost from files imported from a Deva recorder.
Extend Edits to more tracks	Offers the choice of extending the edits to more tracks than the original list by selecting the desired number of target tracks from the drop down list.

Media Linking Options

Connect EDL edits: Choose the way to relink the audio media to edits by either:

Using Tape/Reel Name

Using Edit/Clip Name

from the EDL...

To Mounted Media: … and match it to either

Matching Tape Name or FIXREEL pragma (the media original)

Matching Media Name (the media original)

Matching File Name (the media original)

By TimeCode in matching Folder name (the media Timestamp in a folder whose name matches the Reel or Edit name)

By TimeCode and prompting for location (the media Timestamp in a given folder)

By TimeCode in any media folder (the media Timestamp in any mounted media folder)

Ignore File Extension When checked any file extension is ignored while comparing file names

Match only X first characters When checked only the given number of first characters in the file-name are compared. (useful for matching files coming from Aaton Cantar or InDAW recorders)

CMX EDL Format

CMX Edls are a set of statement lines which typically look like this:

```
TITLE: An example of CMX EDL

001 TEST AA    C              00:00:24:24 00:00:25:00 00:59:58:00 00:59:58:01

AUD 3 4

* Sine on all tracks

002 DAT12 AA   C              20:18:18:07 20:18:21:13 01:02:40:02 01:02:43:08

* Introduction

003 TAPE1 AA   C              01:15:07:07 01:15:11:13 01:02:43:13 01:02:47:19

004 TAPE1 NONE C              01:15:14:02 01:15:16:04 01:02:47:19 01:02:49:21

AUD 3 4

005 TAPE1 NONE C 1000Hz       01:15:14:02 01:15:16:04 01:02:47:19 01:02:49:21

006 TAPE1 NONE C "A sound"    01:15:14:02 01:15:16:04 01:02:47:19 01:02:49:21
```

Pyramix will extract all the information regarding audio from these EDLs and then paste a set of clips into the current composition's Timeline.

There are many CMX formats which differ in details, Pyramix should be tolerant enough to accept most of them as long as edit lines fields are well separated by spaces or TABs.

Any errors encountered while parsing an EDL file are stored and reported after loading as much of the file as possible. Any non valid lines, missing media or media sampling rate mismatches are reported.

Media Reconnection

The major problem encountered while importing an EDL is reconnecting to referenced media. Pyramix needs all referenced media to be present (mounted) when the import occurs. After the import, the newly created composition **MUST** be saved as a Pyramix project to keep the connection between clips and media.

Media are searched while importing the EDL by Media Source name (or Reel name following the EDL terminology), and Source In and Source Out TimeCodes. So, to be reconnected, a clip needs to find in any media folder a media file with a Media Source name matching field #2 in the EDL, in the preceding example TEST, DAT12 or TAPE1, and where the original TimeCode and length match the Source In and Source Out field.

Source Names - FIXREEL

It often happens that the media is generated with a different Source (Tape, Reel) name than the EDL referencing it. For this purpose we have added a special keyword to the CMX language which allows Pyramix to replace one Reel name with another while parsing the EDL.

FIXREEL: DAT12 DAT012 This preamble added at beginning of the file will replace all occurrences of the reel name DAT12 by DAT012. The preamble can be preceded by the comment asterisk (and a space or TAB) so the EDL remains compatible for import by other systems:

```
* FIXREEL: DAT12 DAT012
```

It is also possible to add the keyword MEDIANAME, FILENAME or FOLDERNAME at the end of this line to tell Pyramix, instead of the Source (Tape, Reel) name, to search for the Media name or the Media Filename:

```
* FIXREEL: DAT12 Ambiance43b MEDIANAME
```

```
* FIXREEL: DAT12 d:\pmxmedia\dat12\ambiance43b.wav FILENAME
```

or to search by TimeCode in the given mounted media folder (this is kind of a conformation to existing digitized material):

```
* FIXREEL: DAT12 d:\pmxmedia\dat12 FOLDERNAME
```

The keyword OFFSET followed by a TimeCode can be added at the end of the line to allow media without origin (original TimeCode, source TimeCode, time stamp) to be referenced, for example WAVE files.

```
* FIXREEL: DAT12 Ambiance43b MEDIANAME OFFSET 08:45:32:00
```

```
* FIXREEL: DAT12 d:\pmxmedia\ambiance43b.wav FILENAME OFFSET 08:45:32:00
```

This covers most cases of media reconnection and should help solve special cases of EDLs exported by exotic systems.

Media Reconnection Failure

An imported clip whose media has not been retrieved or whose media is not at the same sampling rate as the current project will be associated a 'fake' media.

It **WILL NOT** be possible to retrieve its media file after the import, but it will be possible to associate a new media file in the standard way (Control key pressed while dragging a media file from a media folder).

CMX Autoconform

When a CMX EDL is not accompanied by audio files on disk an **Autoconform** can be performed. A **Digitizing Session** is used to grab the audio referenced by the CMX EDL from an external machine (This may be operated under 9-pin control or simple time-code chase). The CMX EDL can then be imported into an **Editing Project** (as described above) to link to the digitized media.

Reconform

Introduction

Reconform enables tracks in an existing project to be conformed to take account of changes in the picture edit. **Reconform > Relink to new Media** can be used to link to new Media files when new Cues without previously associated Media files are produced by the Reconform.

In Pyramix there are three routes to Reconforming. The first two make use of a so-called **Change EDL**. This EDL is a standard CMX EDL generated from a "State 1 EDL" and a "State 2 EDL".

In the first case, **CMX Reconform**, the change EDL is generated by a third party application. This may be the video editing software, or a specialised EDL manager.

Please see: Reconform Using Pyramix with an Existing Change EDL below.

Where there is no existing Change EDL there are two possibilites:

For users with Pyramix and access to both the original and modified video EDLs Pyramix can load the original picture (**Version1** if not already part of the project) plus the new picture (**Version2**) and generate the necessary changes from these.

Please see: Reconforming Using Pyramix for Picture Change Detection on page 355

For users running VCube as well as Pyramix, VCube can be used to generate a Change EDL from the original (**Version1**) and revised (**Version2**) EDLs.

Please see Reconforming Using VCube for Picture Change Detection on page 363

Reconforming with an Existing Change EDL

The **Reconform** function allows picture edit changes to be applied to a project by loading a so-called "**Change EDL**". The **Reconform** function rearranges Cues within the current project where necessary to reflect the change from State 1 to State 2 by creating edits on all tracks of the project using the original material as sources and placing them to the new destination TimeCodes.

Step 1

With the Pyramix project you wish to conform open in Pyramix select:

 Project > Reconform > Load Change EDL & Reconform
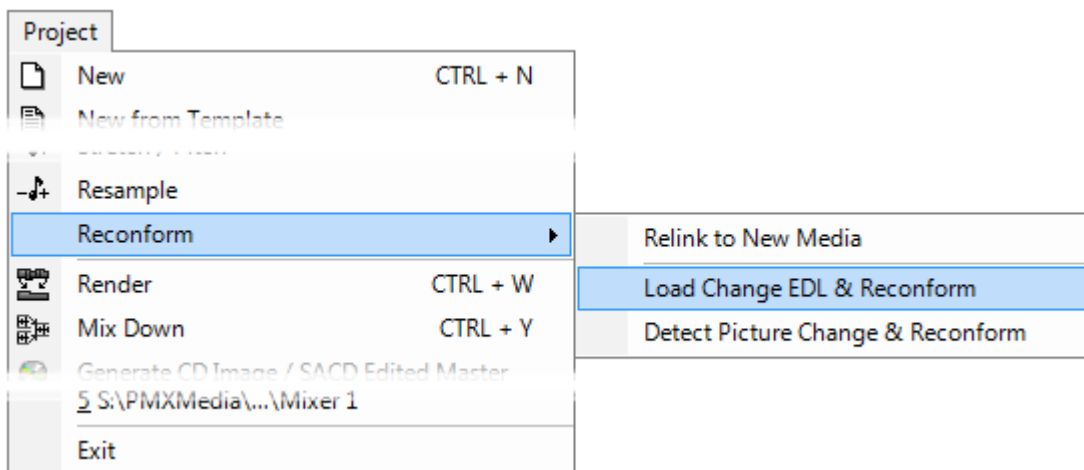
Project Menu - Reconform Sub-menu

Opens the **Reconform...** dialog:
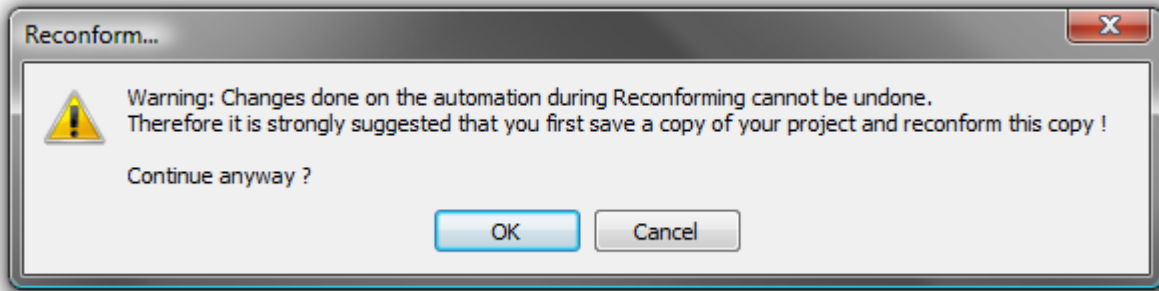
This **Warning:** gives good advice. It is good operational practice to retain the old Project (**Version 1** in this case) and to reconform a copy, saving this copy with a suitable filename matching the new Video composition version. Assuming you have already done this, click on **OK** to close the dialog.

A file **Open** Browser Window opens:
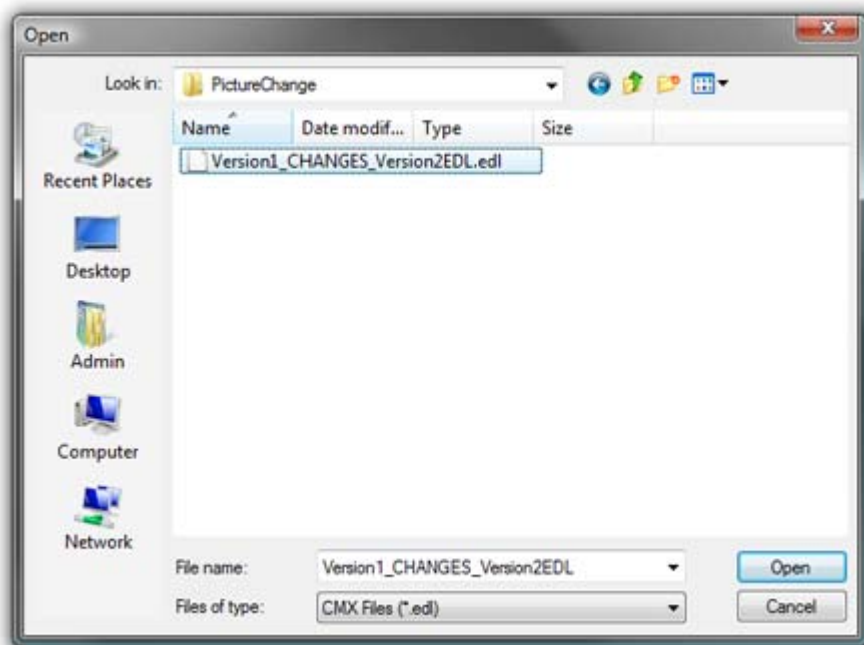
Pyramix Open Browser Window

Now, if necessary, navigate to the folder containing the **Change EDL**. In this case the required file is **Version1_CHANGES_Version2.EDL**. Select this and Click on **Open**.

The **CMX EDL Import Options**, **Confirm EDL Frame Rate** dialog opens:
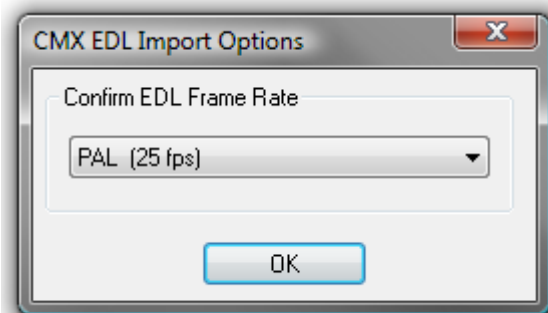
Pyramix CMX EDL Import Options dialog

Check that the EDL Frame Rate matches the Pyramix Project Frame Rate. If the Frame Rate is incorrect, choose the correct one from the drop-down list. Click on **OK**.

The **Reconform from Change EDL** dialog opens:
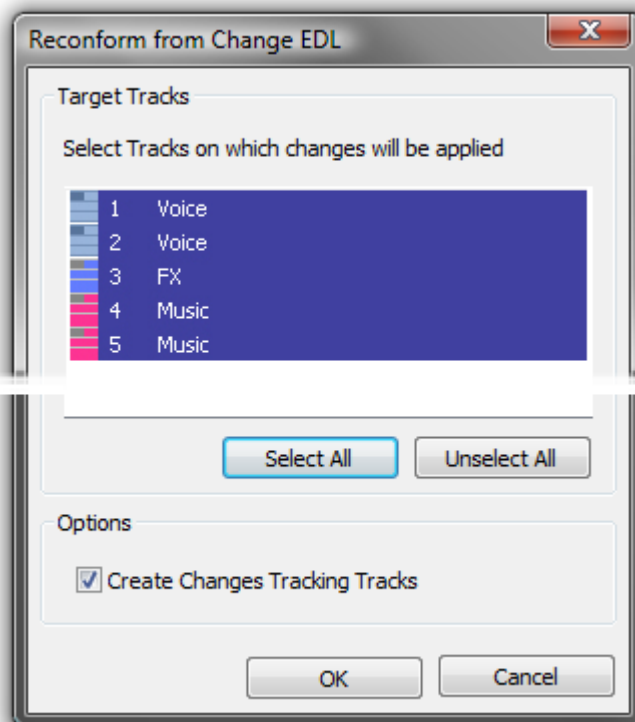
Reconform from Change EDL dialog

Select all tracks that will have to be reconformed (generally all tracks in the project).

Tick the **Create Changes Tracking Tracks** box if these are required.

Click on **OK** to perform the Reconform.

Step 2

Pyramix automatically conforms **Version1** to **Version2** on all tracks:
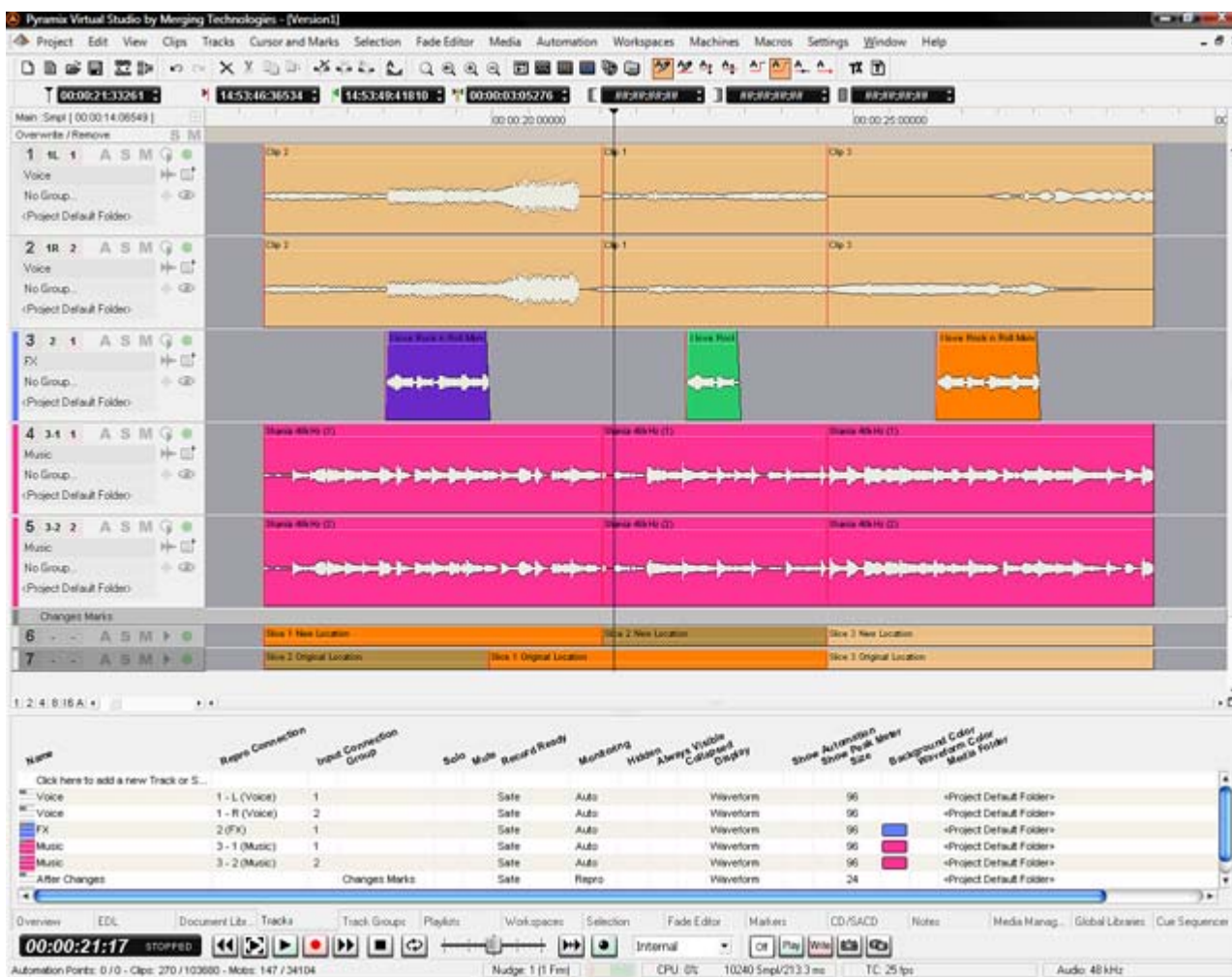
Pyramix Version 1 Project   Reconformed with Change Tracks

As can be seen in the above screenshot two new 'fake' tracks have been created and added at the bottom of the Timeline to display the **Change Tracking**. These show in colour which sections of the **Version1** Timeline have been moved, sliced, diced and or squeezed etc. to become **Version2**

Step 3

Selecting **Edit > Undo (Ctrl+Z)** once will remove the **Change Tracking** Tracks.

> **Note:** Once the **Change Tracking** Tracks have been removed they are **NOT** retrievable.

Reconforming Using Pyramix for Picture Change Detection

You can use Pyramix to perform a Reconform from two Video Projects.

Note: The precise details of subsequent Dialog boxes may vary from those shown below depending on the specific format selected:

Step 1

Open the Pyramix Project you wish to reconform.
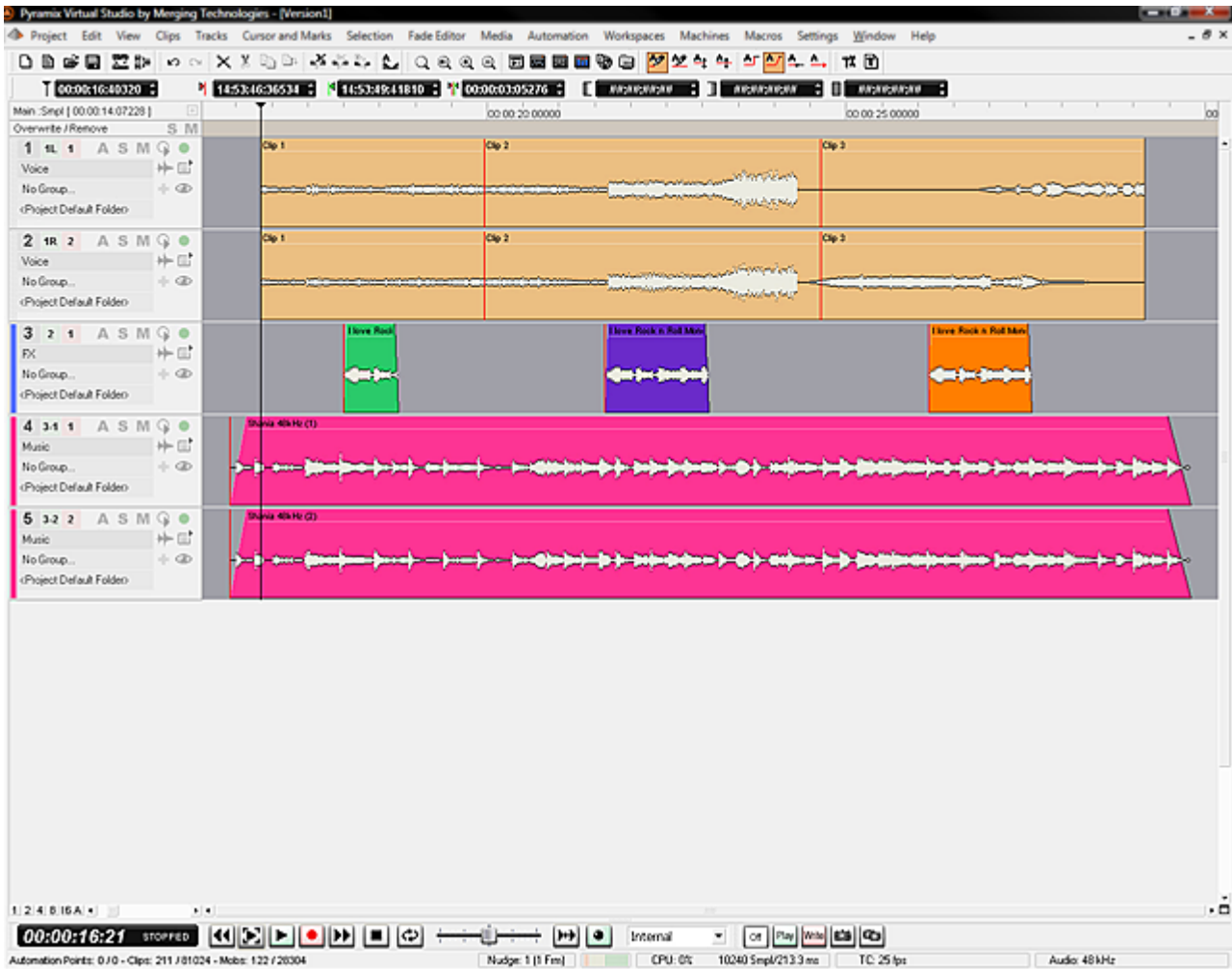
Pyramix Project Version1 requiring Reconform

Step 2

Select **Project > Import** and choose the appropriate format. (in this case **OMF**)
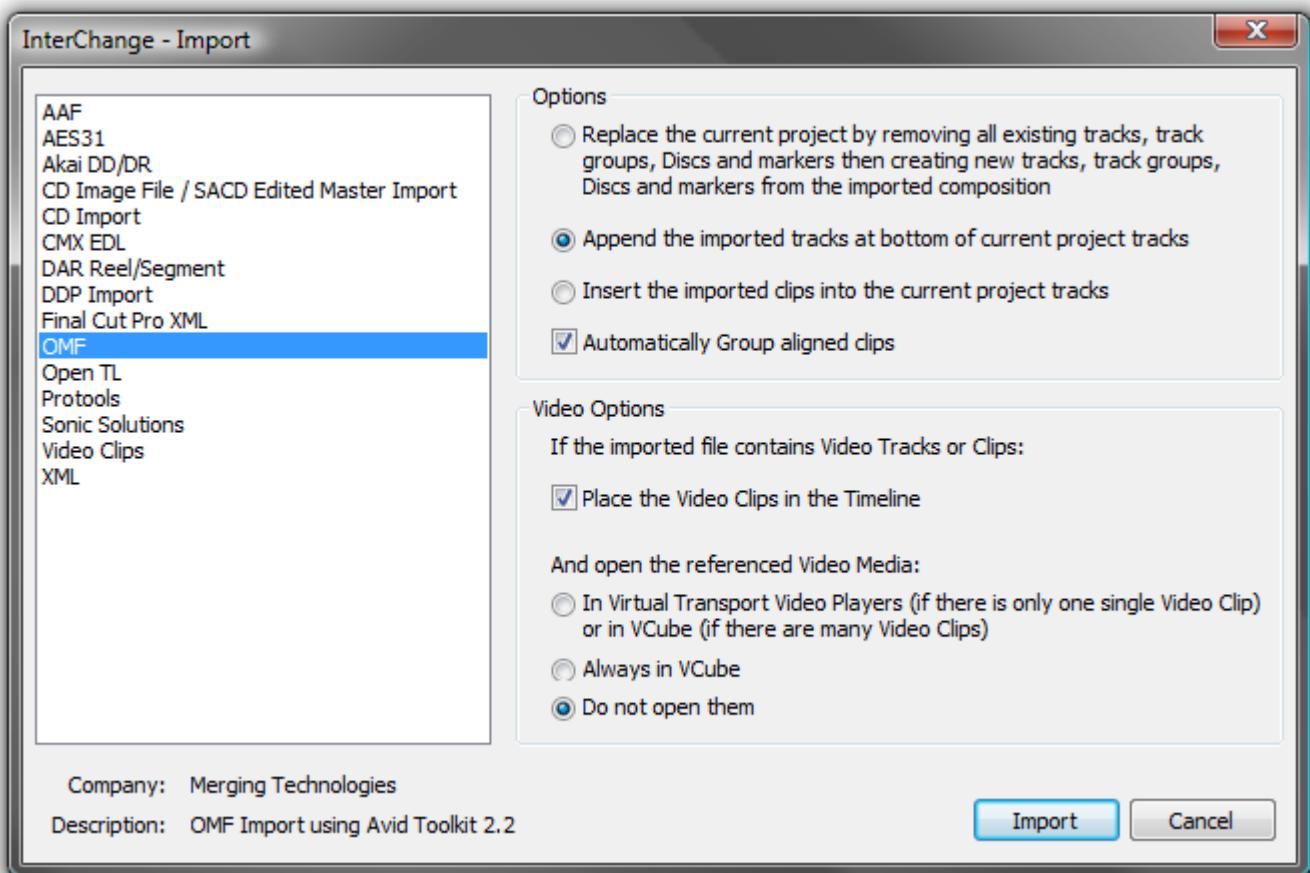
Select the following options:

- Append the imported tracks at bottom of current project tracks

- Place the Video Clips in the Timeline

- Do not open them

Click on the **Import** button to open the **Open** File Browser Window:

If necessary, navigate to the folder containing the **Version1** Video Project file. Select the file and click on **Open**.
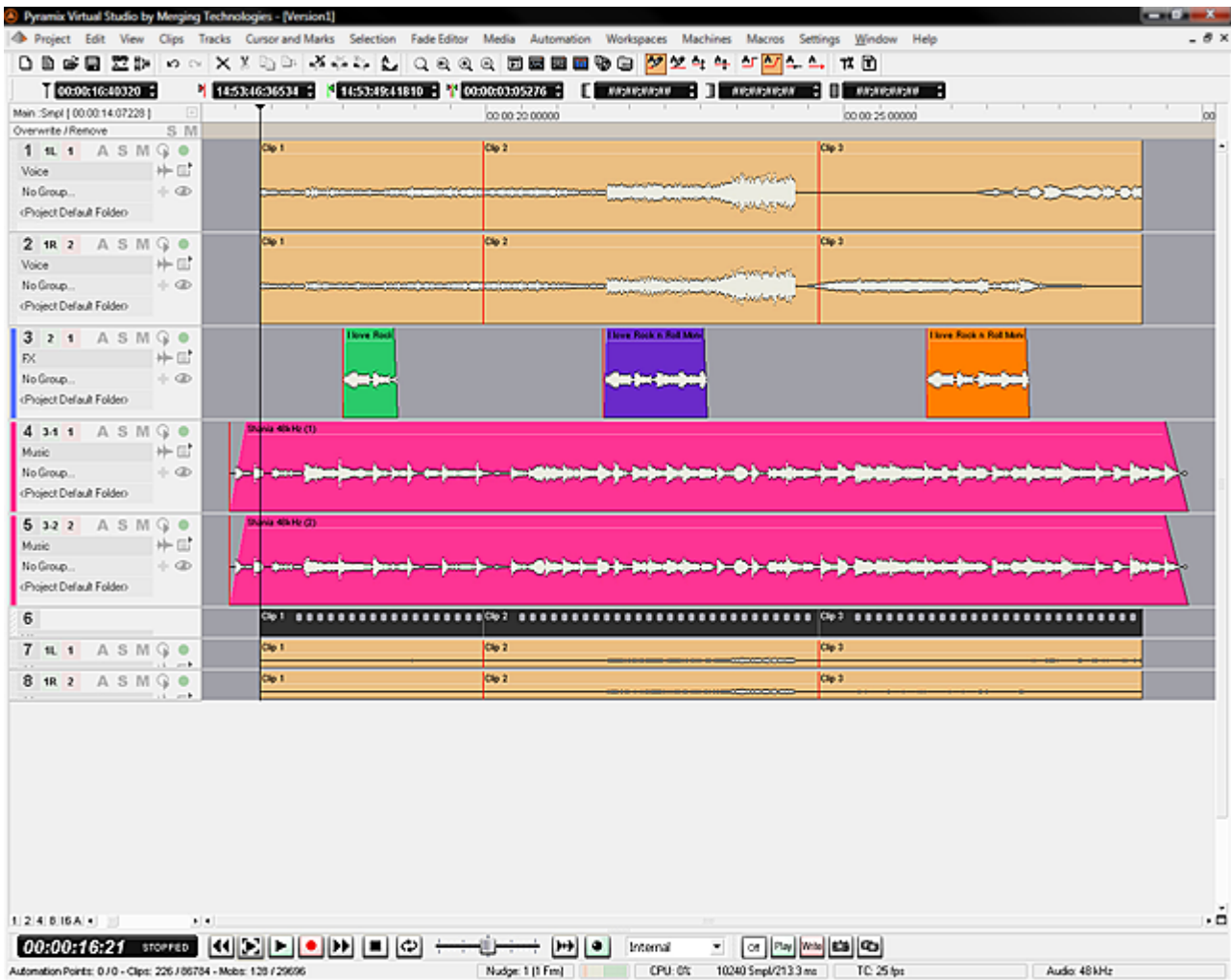
Pyramix Project Version1 with Version1 Video imported

Notice that the **Version1** Video and Audio tracks have been added at the bottom of the Timeline.

Step 3

Repeat **Step2** with the same options, substituting **Version2** when selecting the Video Project file.
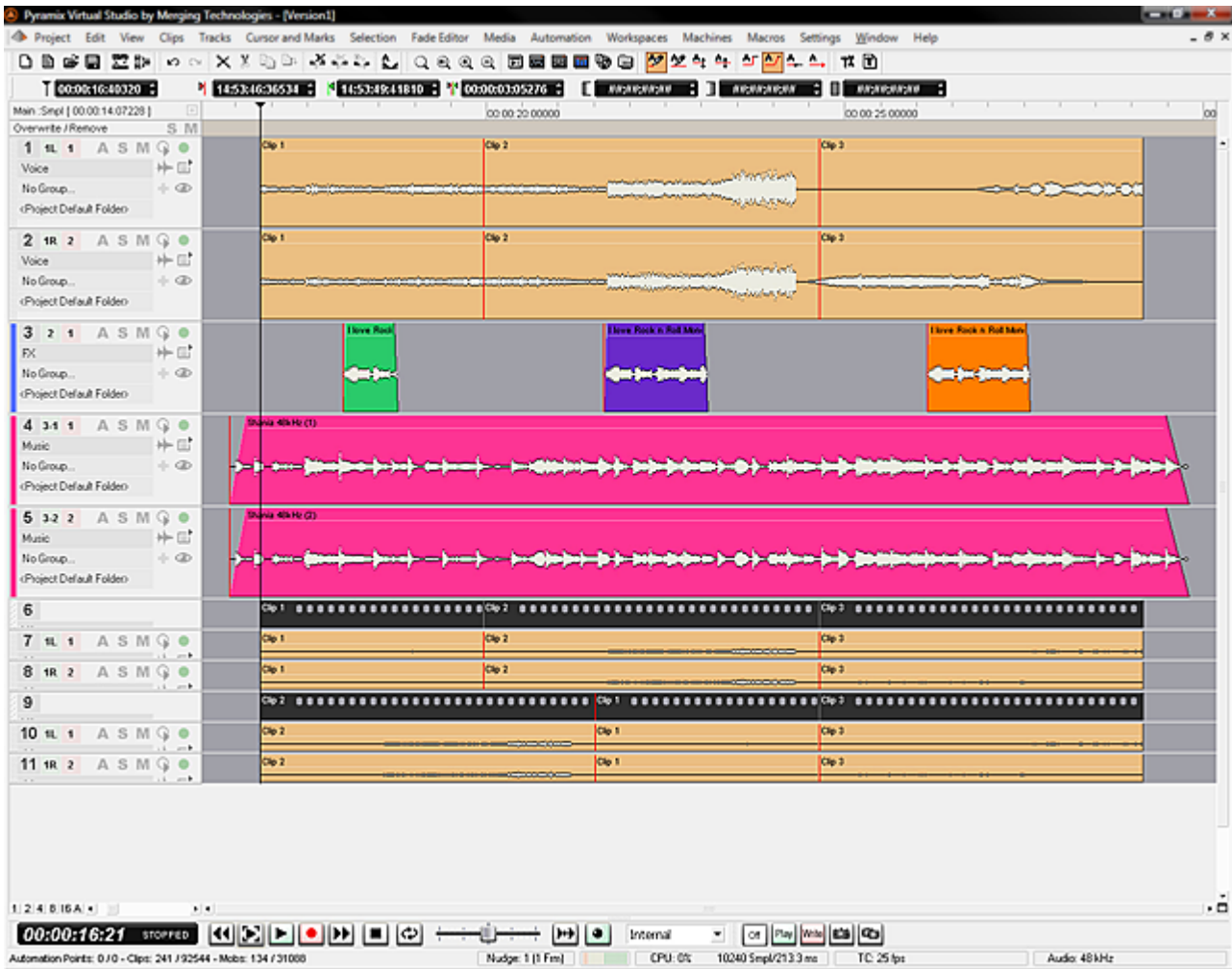
Pyramix Project Version1 with Version1and Version2 Video imported

Notice that the **Version2** Video and Audio tracks have been added below the **Version1** Video and Audio Tracks at the bottom of the Timeline.

Step 4

Select, **Project > Reconform > Detect Picture Changes & Reconform (Ctrl+R)**:
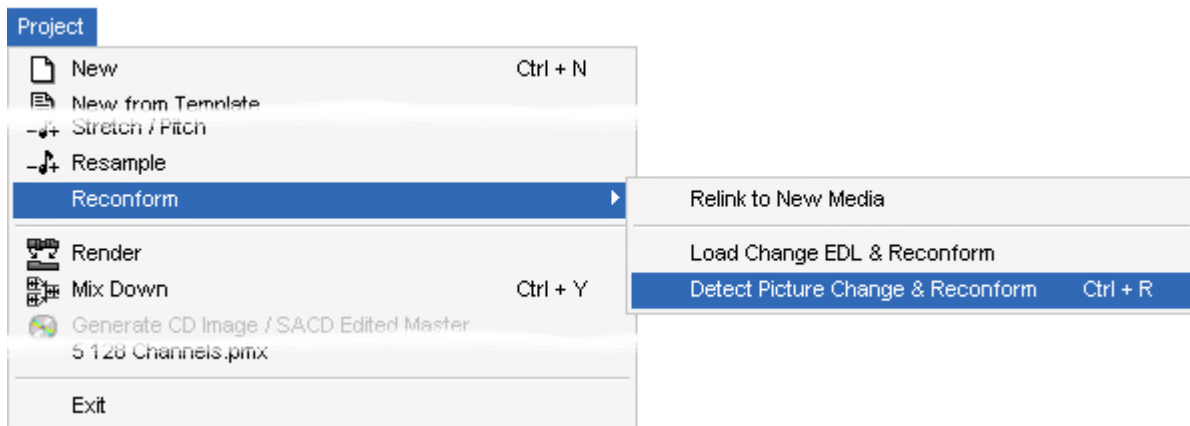
Pyramix Project > Detect Picture Change & Reconform

The **Detect Picture Change & Reconform** dialog opens.

Step 5
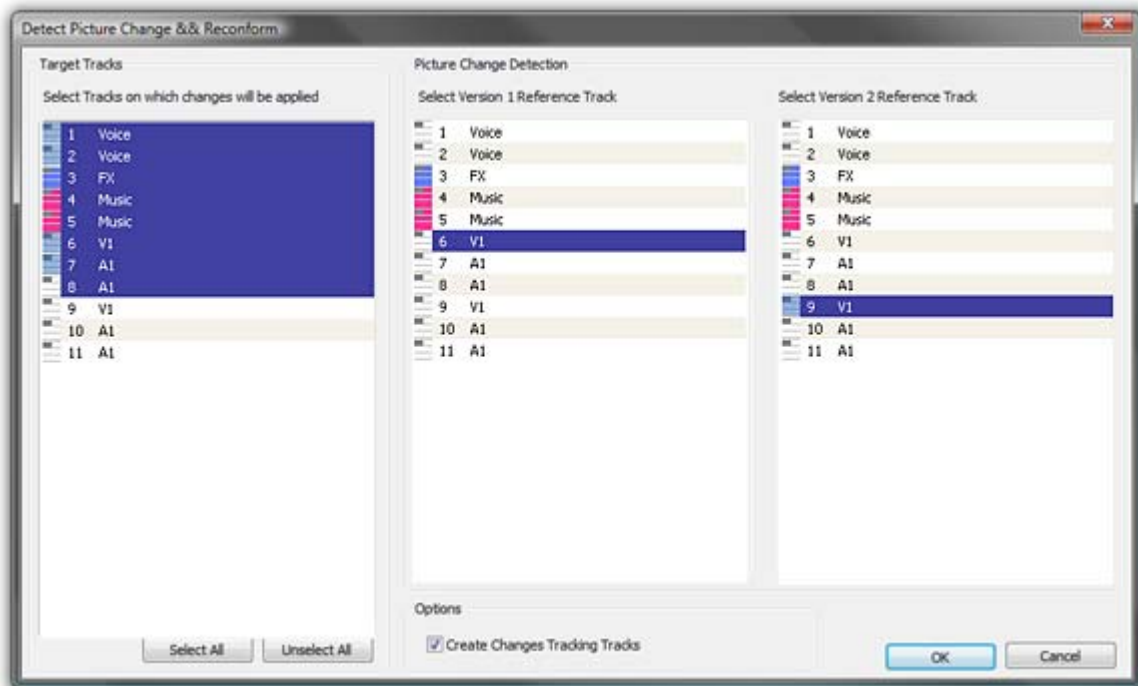
Detect Picture Change & Reconform dialog

Select all tracks that will have to be reconformed (generally all tracks in the project except those belonging to the Version2 Video project, but including Version1 Video and Audio tracks). Select the track that will be the **Version1** Reference track for the picture change detection (generally the **V1** track of the **Version1** Video Project), then Select the track that will be the **Version2** Reference track for the picture change detection (generally the **V1** track of the **Version2** Video Project).

Tick the **Create Changes Tracking Tracks** box if these are required.

When all the selections have been made click on **OK** to perform the Reconform:

Conforming and Reconforming : Reconform   20 - 359

Step 6

The Pyramix Project has now been Reconformed:
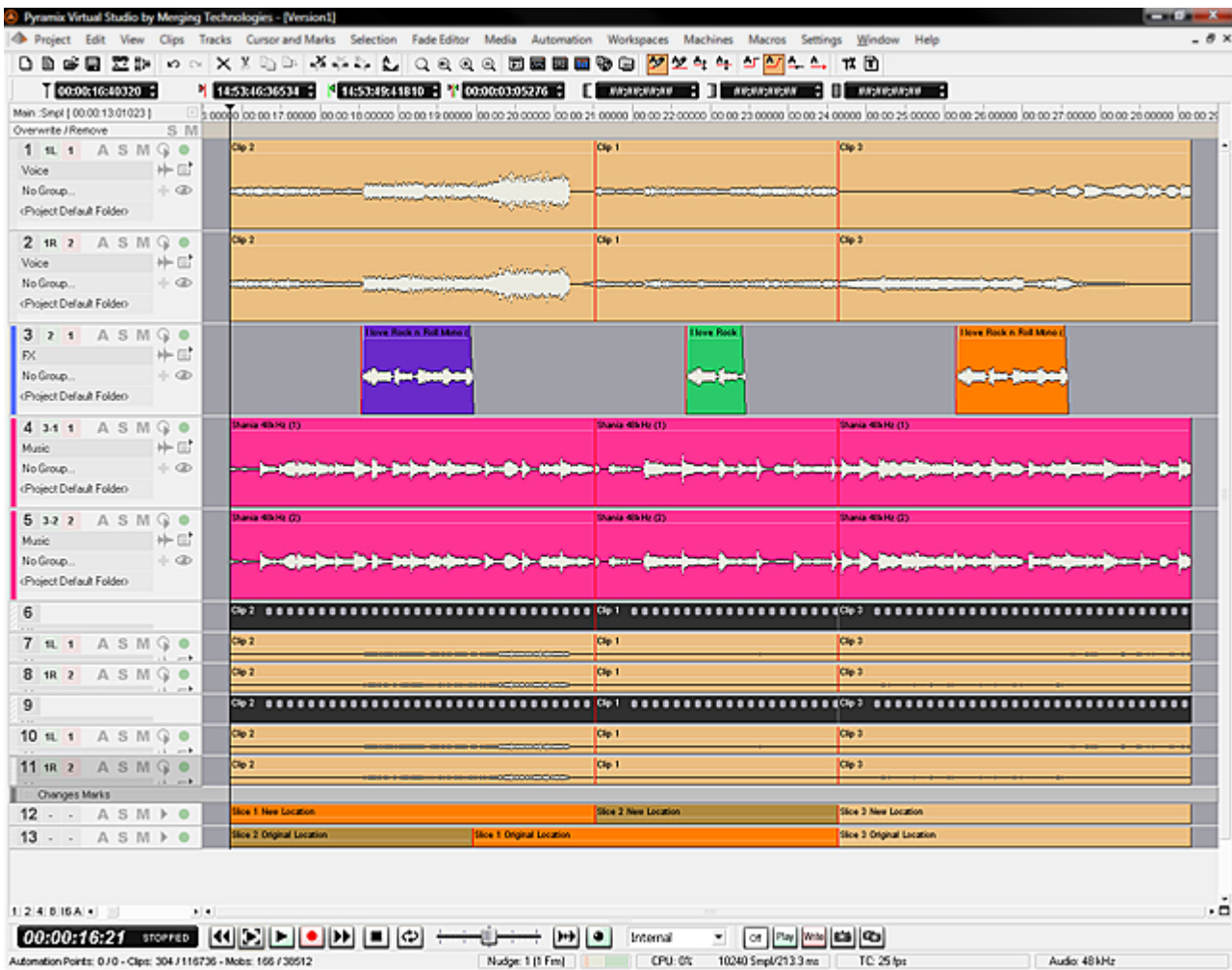
Pyramix Project Version1 and imported Video Project Version1 Conformed to match Version2 Video Project with Change Tracks

Verifications can be made with the **Change Tracking** tracks, as well as comparing the **Version1** Video tracks that should now match the **Version2** Video Tracks.

Step 7

Selecting **Edit > Undo (Ctrl+Z)** once will remove the **Change Tracking** Tracks.
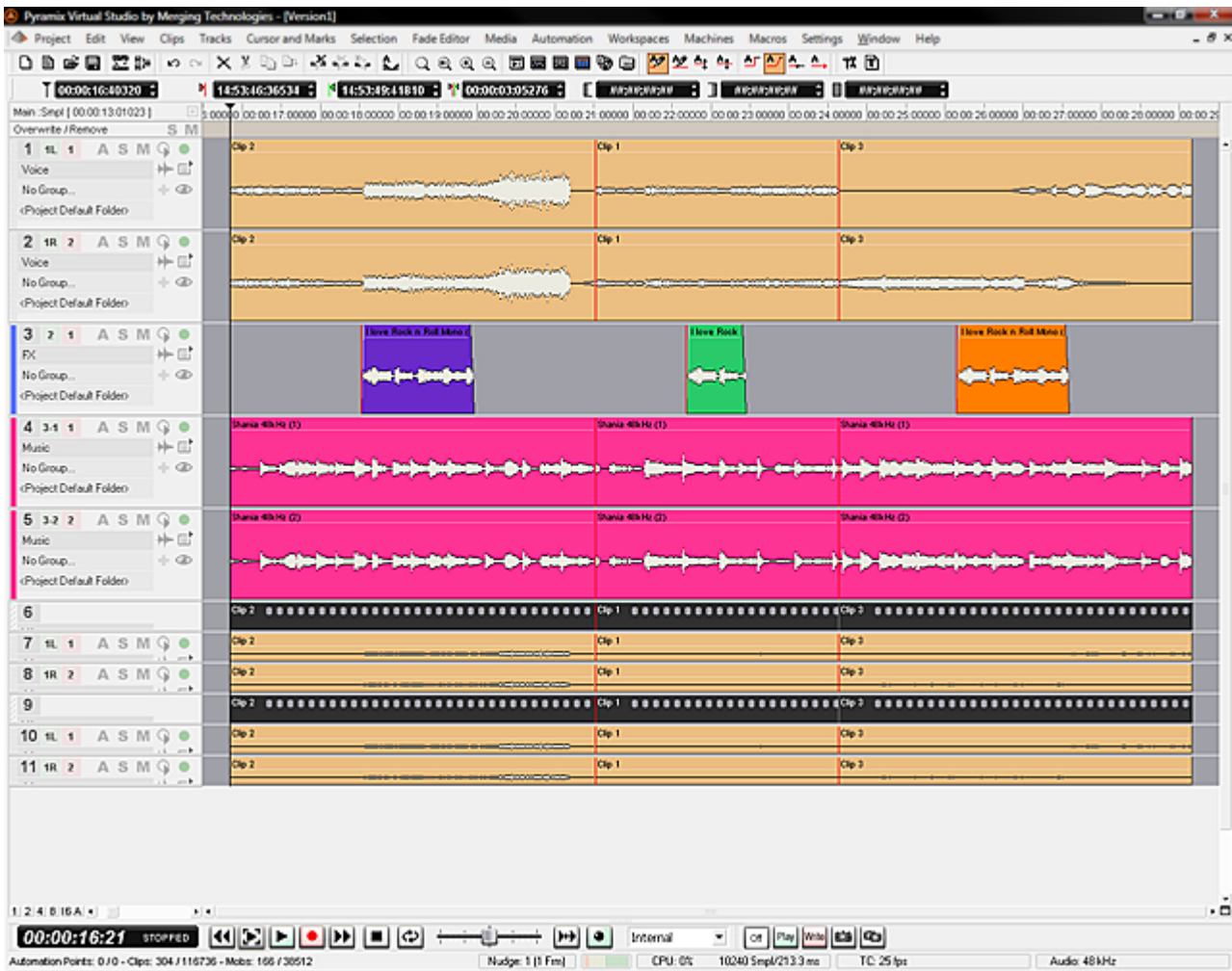
Pyramix Project Version1 Reconformed to Version2 with Change Tracking Tracks removed

Note: Once the **Change Tracking** Tracks have been removed they are **NOT** retrievable.

Step 8

The Video Reference Tracks (with their associated Audio Tracks) can be removed by right-clicking on the first Video Track Header and selecting **Delete To Last Track**. The originl Pyramix Project is now reconformed and ready for you to continue working on **Version2**.
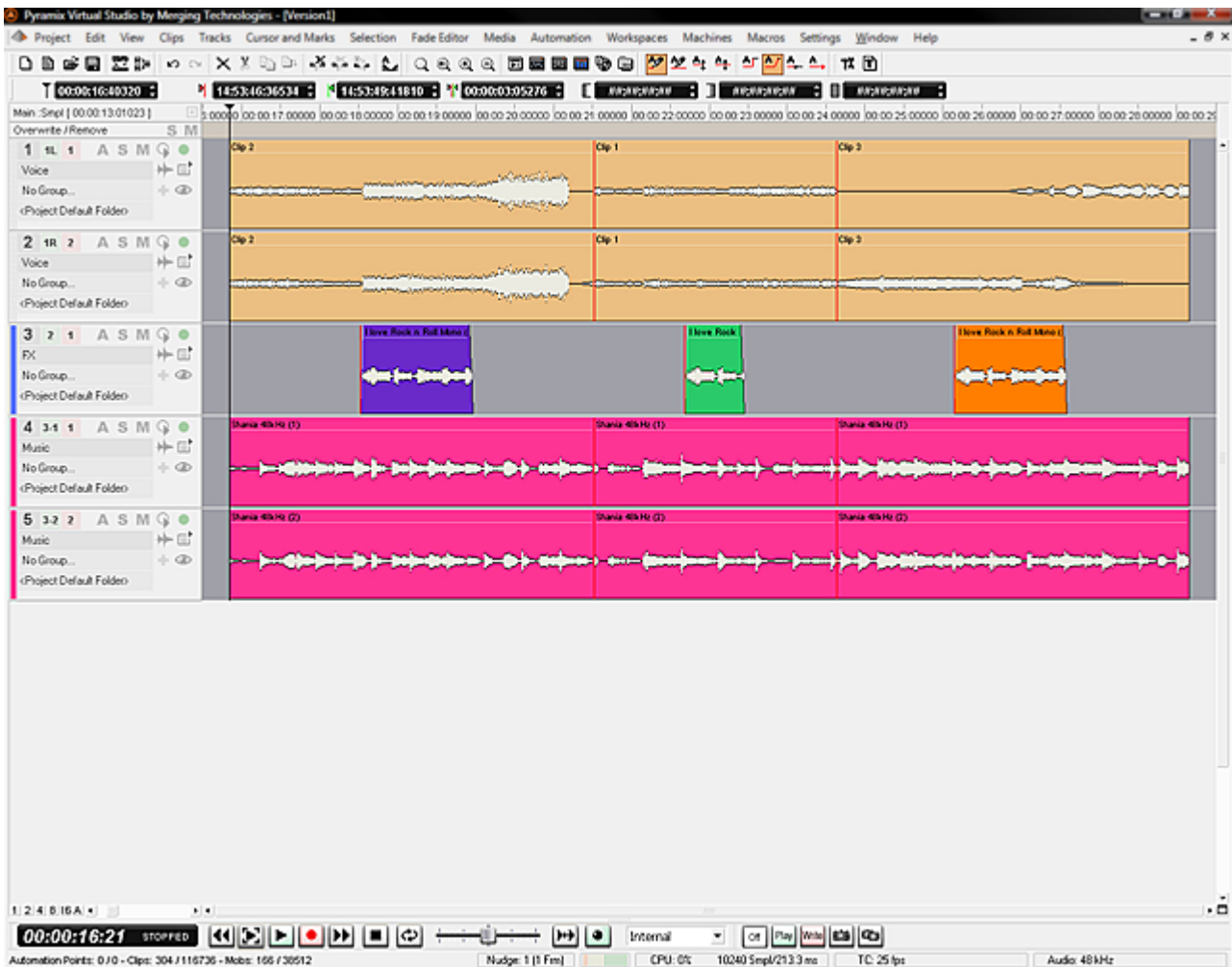
Pyramix Project Version1 Reconformed to Version2 with Imported Tracks removed.

Note: Where the **Version2** project contains new material, it may well be appropriate to move the relevant audio from the **Version2** Audio Tracks up to the main Pyramix Project tracks before deleting. A future Pyramix version may contain an option to carry out this step automatically.

Reconforming Using VCube for Picture Change Detection

For users with VCube a Pyramix Project can be reconformed to match a new version of a Video Project quickly and simply.

Step 1

Open the original version of the video in VCube and the Project with the matching audio in Pyramix:
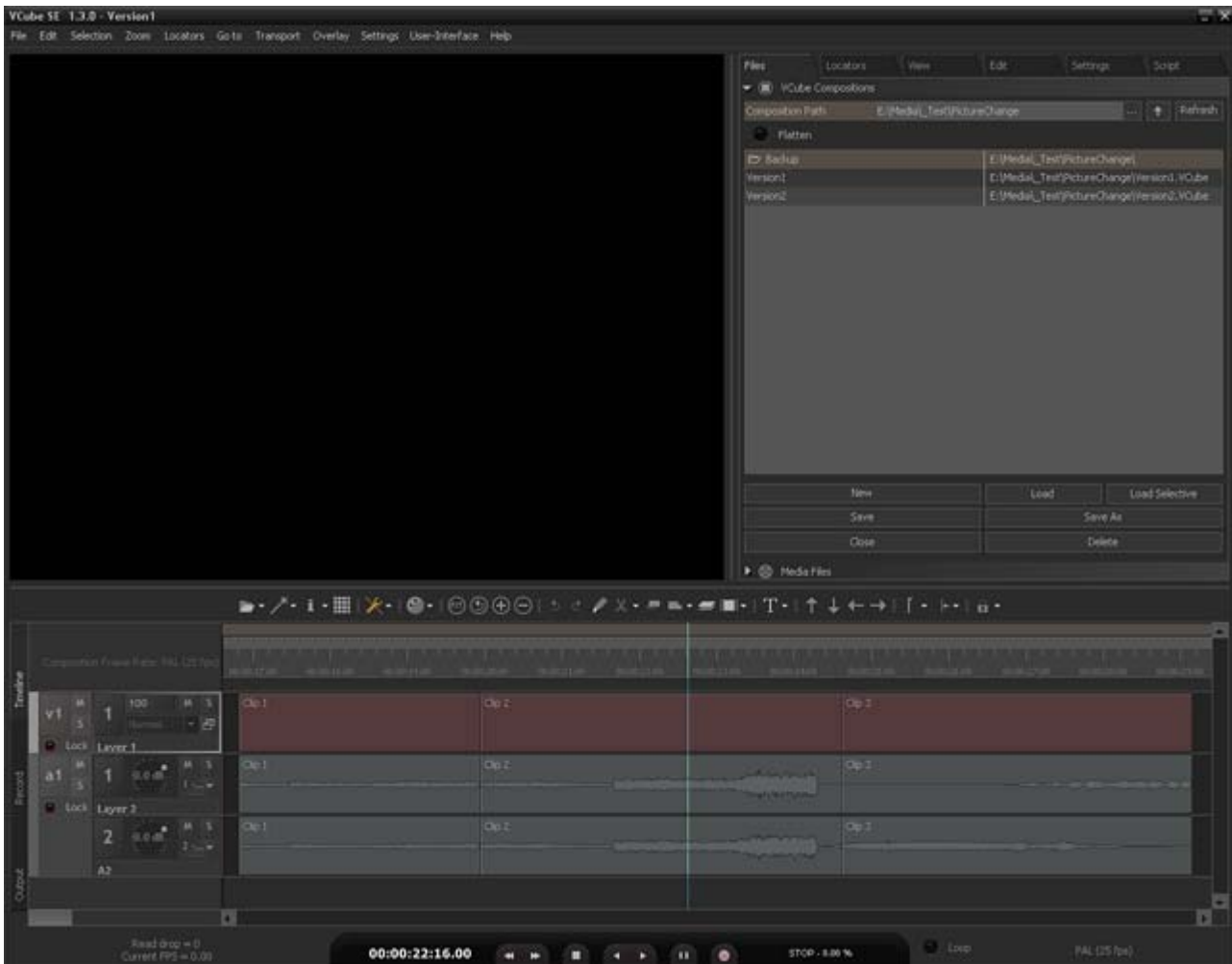
VCube Original Version 1 Composition

Pyramix Version 1 Project with Audio matching Original VCube Version 1 Composition

Step 2

In VCube select: **File > Import > Import Composition and Export Changes**:
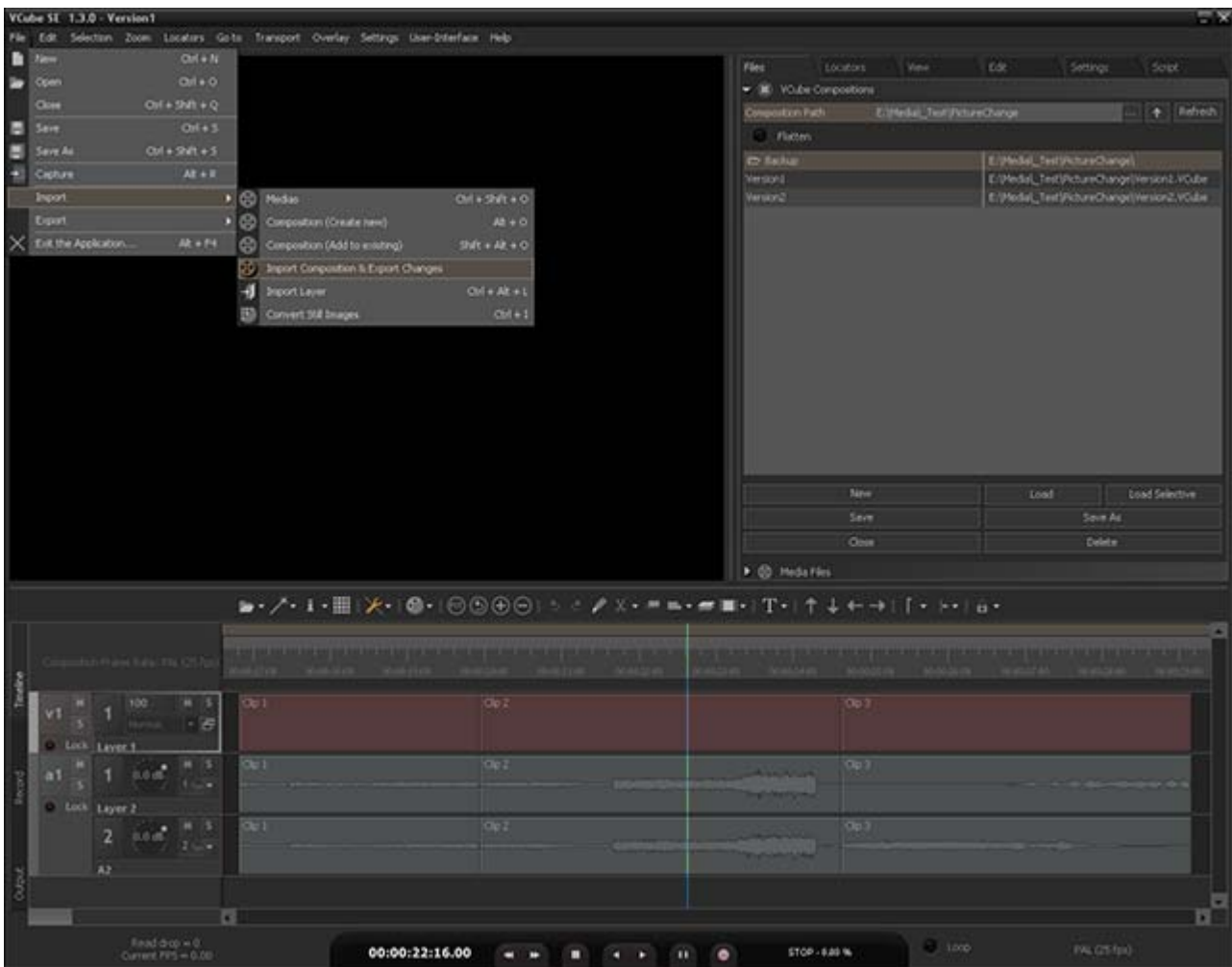
VCube New Version 2 Composition

This opens a Browser Window.
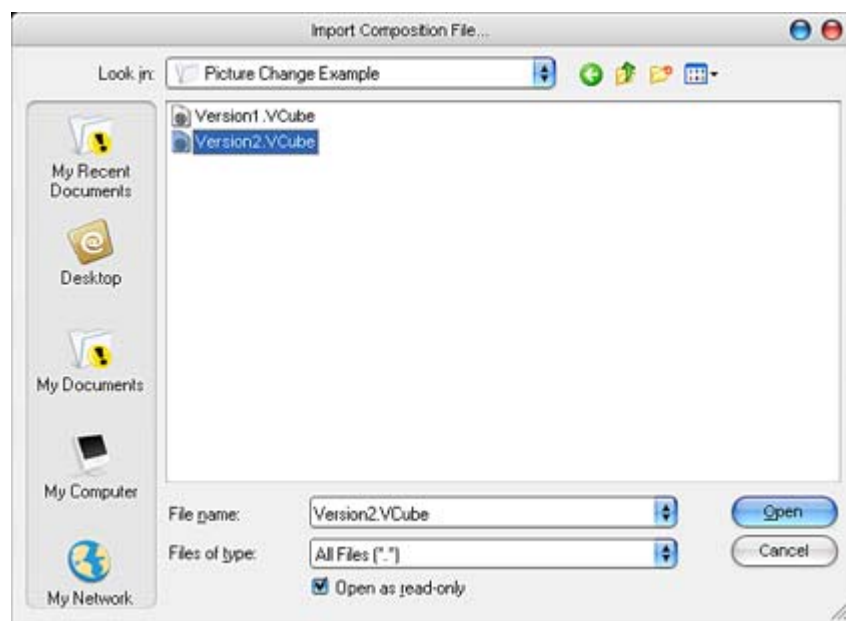
VCube Import Composition File Browser Window

If necessary, navigate to the folder containing the changed version of the Video Composition. Select this and Click on **Open**.

Step 3

The new video file, **Version 2** is now displayed in the VCube Timeline:
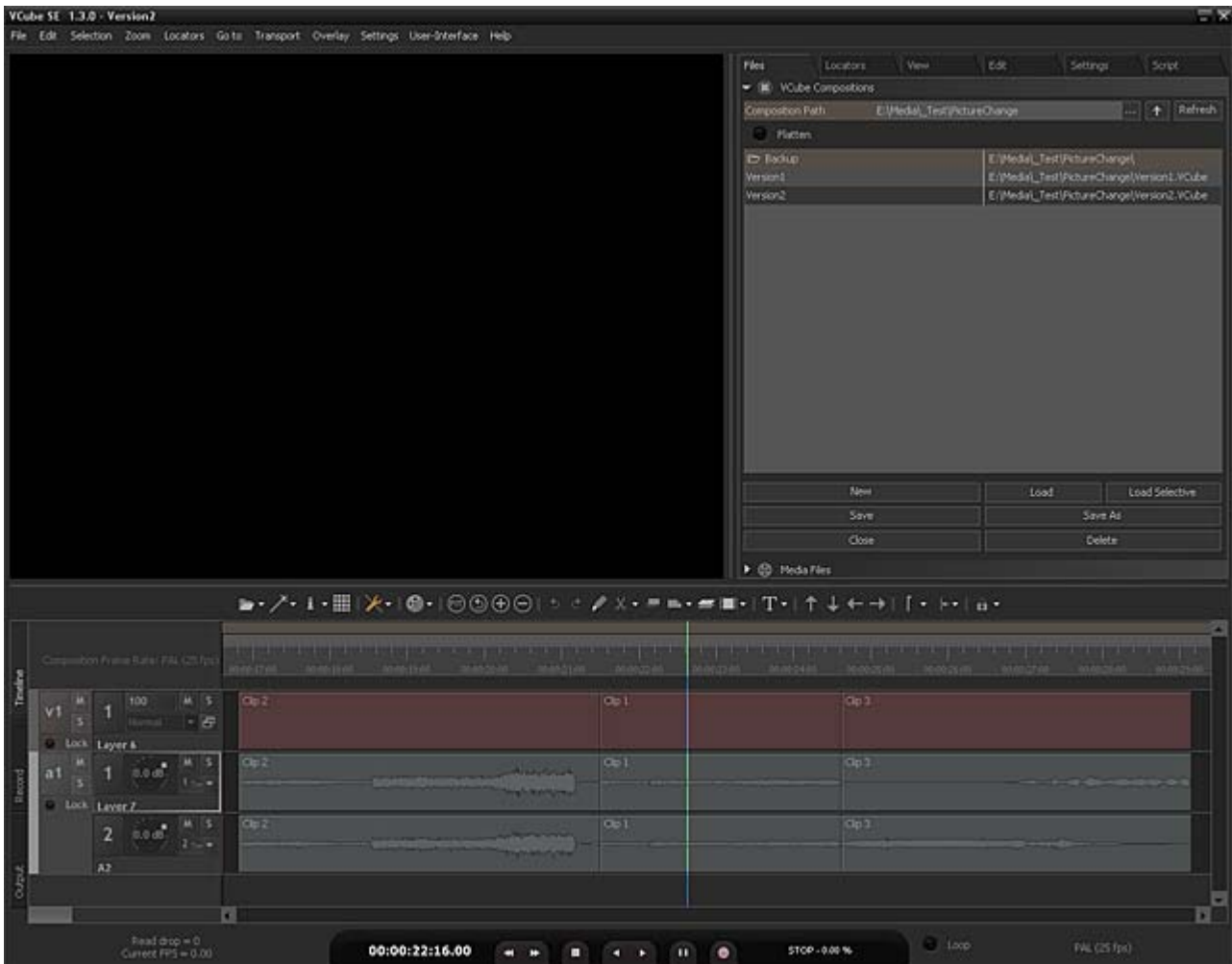
VCube New Version 2 Composition

The changes between the two versions will have been exported to a **Change EDL** file which will be found in the same source folder.

Step 4

Return to Pyramix, which is still displaying the original Version 1 audio Project:
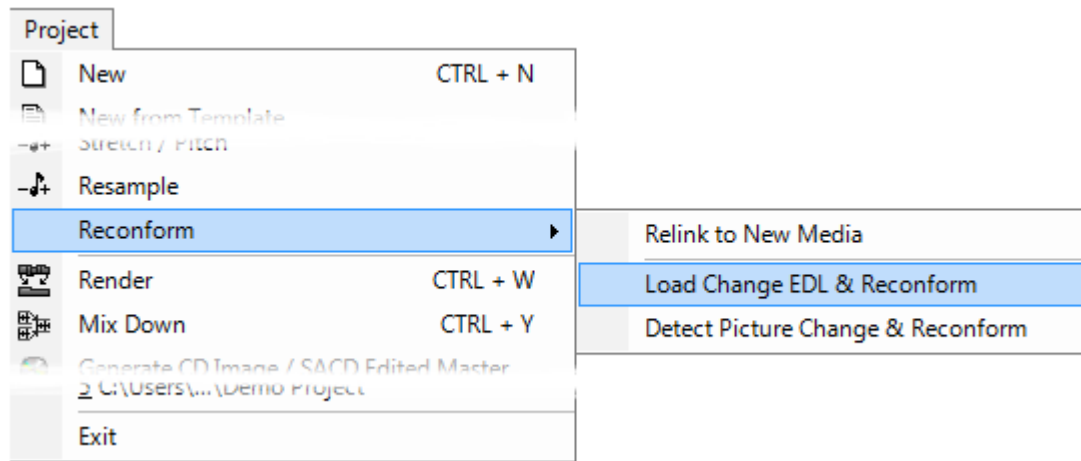
Pyramix Menu - Project > Reconform > Load Change EDL & Reconform

Select **Project > Reconform > Load Change EDL**.

The **Reconform...** dialog opens:
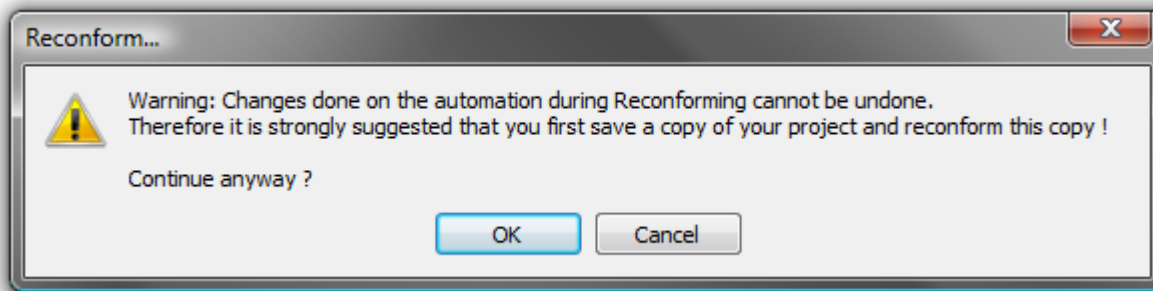
Pyramix Reconform dialog

This **Warning:** gives good advice. It is good operational practice to retain the old Project (**Version 1** in this case) and to reconform a copy, saving this copy with a suitable filename matching the new Video composition version.

Assuming you have already done this, click on **OK** to close the dialog.

A file **Open** Browser Window opens:
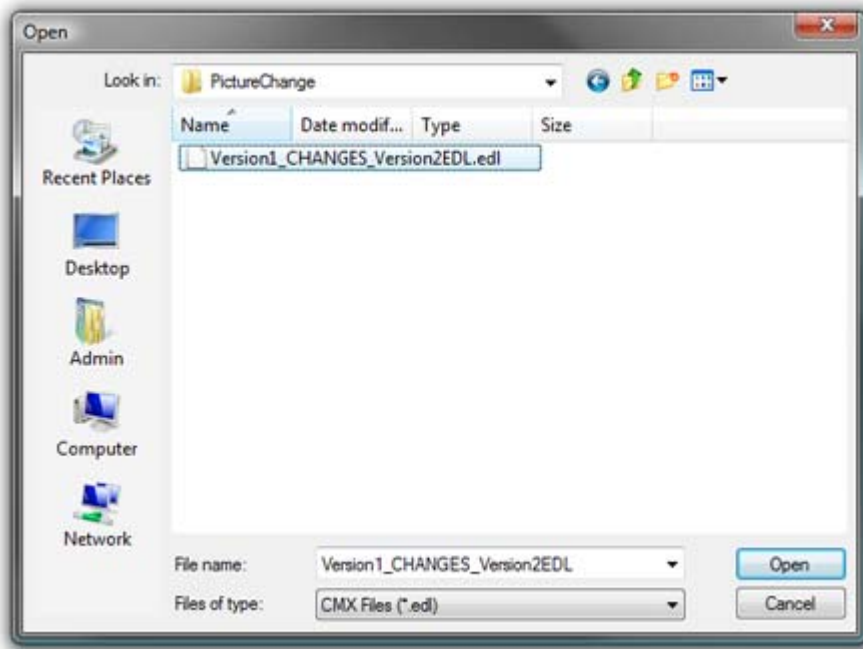
Pyramix Open Browser Window

Now, if necessary, navigate to the folder containing the **Change EDL**.

> **Note:** This automatically generated file will be named in the form:

Original Composition name_CHANGES_New Composition name.EDL.

In this case the required file is **Version1_CHANGES_Version2.EDL**. Select this and Click on **Open**.

The **CMX EDL Import Options**, **Confirm EDL Frame Rate** dialog opens:
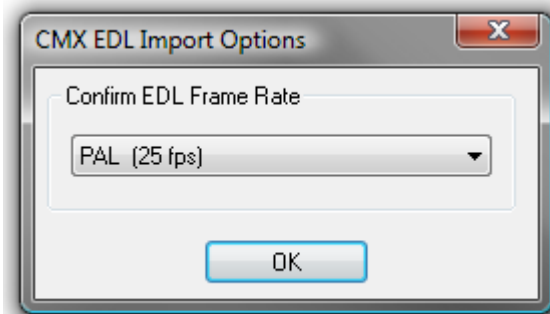
Pyramix CMX EDL Import Options dialog

Check that the EDL Frame Rate matches the Pyramix Project Frame Rate. If the Frame Rate is incorrect, choose the correct one from the drop-down list. Click on **OK** to confirm

The **Reconform Project** dialog opens proposing the creation of two new **Change Tracking Tracks**:
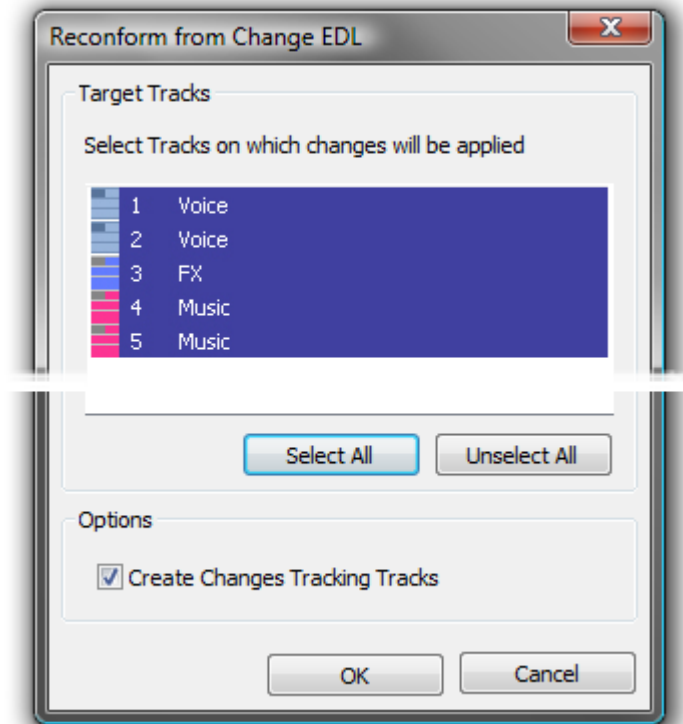
Pyramix Reconform from Change EDL dialog

Select all tracks that will have to be reconformed (generally all tracks in the project).

Tick the **Create Changes Tracking Tracks** box if these are required.

Click on **OK** to perform the Reconform.

Step 5

Pyramix automatically conforms **Version1** to **Version2** on all tracks:
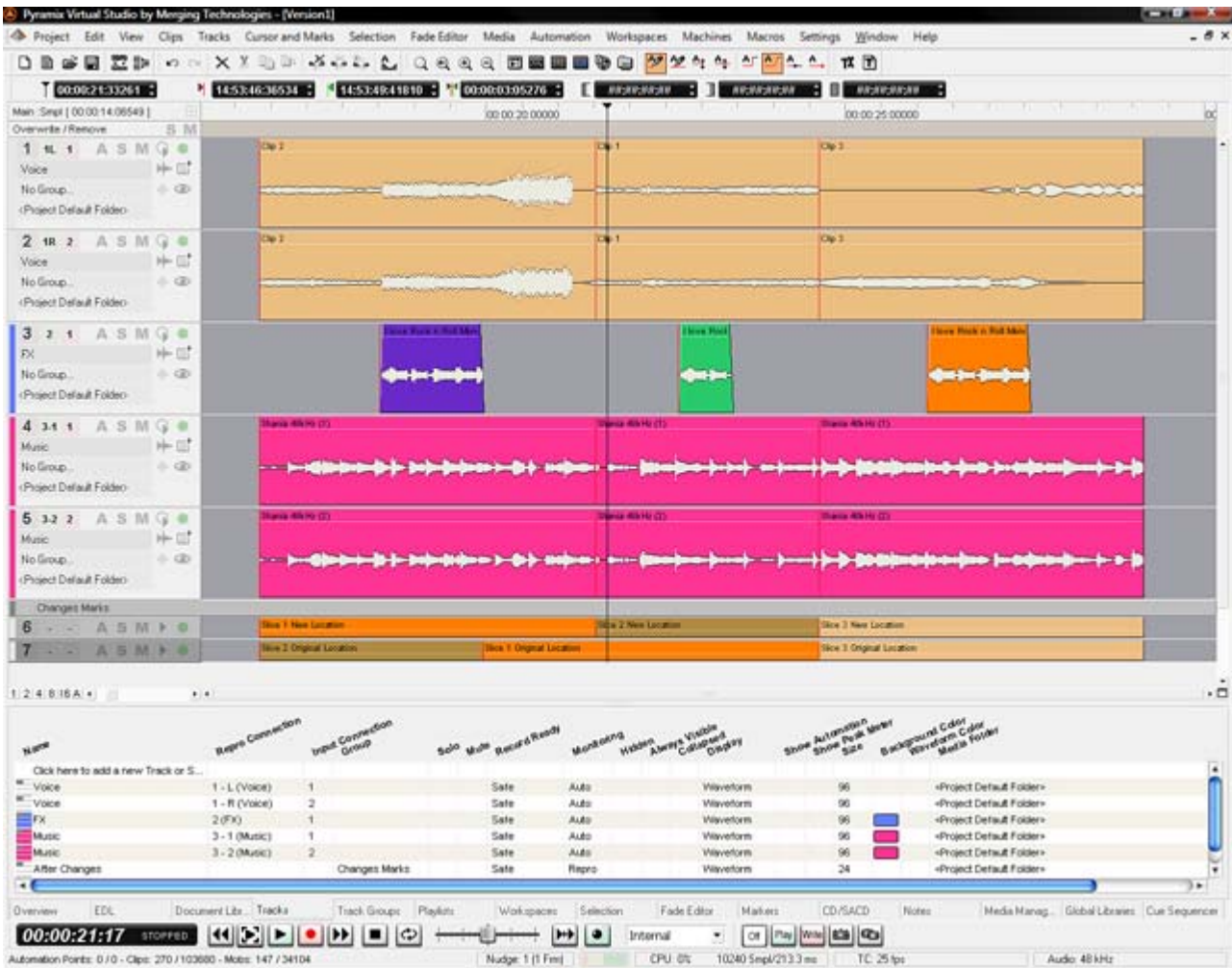
Pyramix Version 1 Project Reconformed with Change Tracks

As can be seen in the above screenshot two new 'fake' tracks have been created and added at the bottom of the Timeline to display the **Change Tracking**. These show in colour which sections of the **Version1** Timeline have been moved, sliced, diced and or squeezed etc. to become **Version2**

Step 6

Selecting **Edit > Undo (Ctrl+Z)** once will remove the **Change Tracking** Tracks.

> **Note:** Once the **Change Tracking** Tracks have been removed they are **NOT** retrievable.

Now you will have both Pyramix and VCube Version2 displayed in the respective applications:

VCube displays the 'real' **Version2** from the editing department and Pyramix displays Version2 Reconfomed automatically from **Version1**.
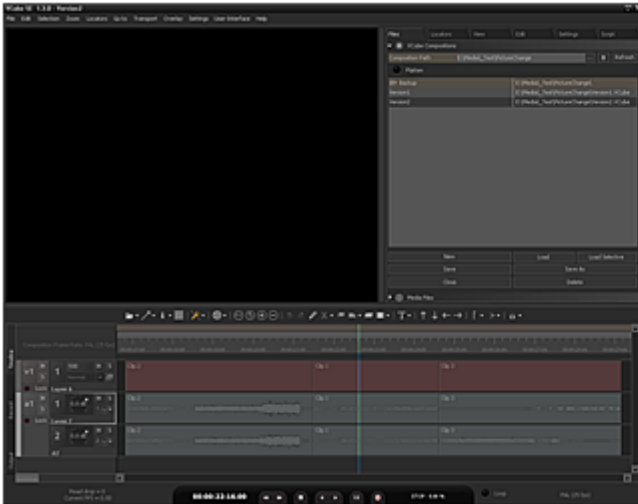
VCube showing Version2 Project　　with　　**Pyramix showing Version1 Reconfomed to match**
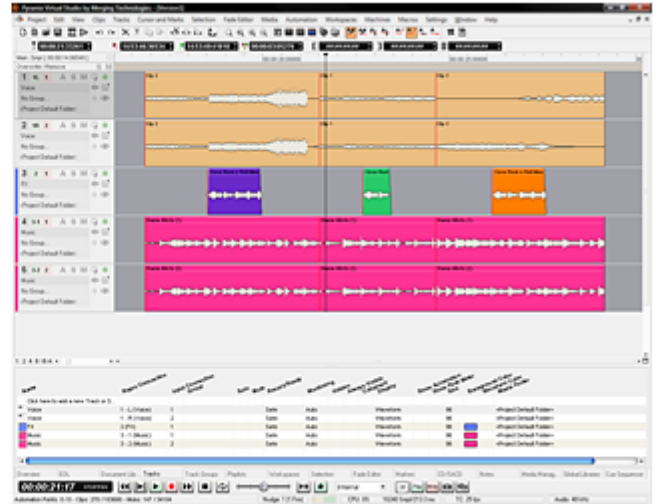
> **Note:** The above example used two VCube Projects for the Video. The procedure is identical when importing two AAF, OMF or Final Cut Pro Video Editing Projects.

Relink to New Media

Opens a dialog offering various options similar to the Import CMX EDL function.
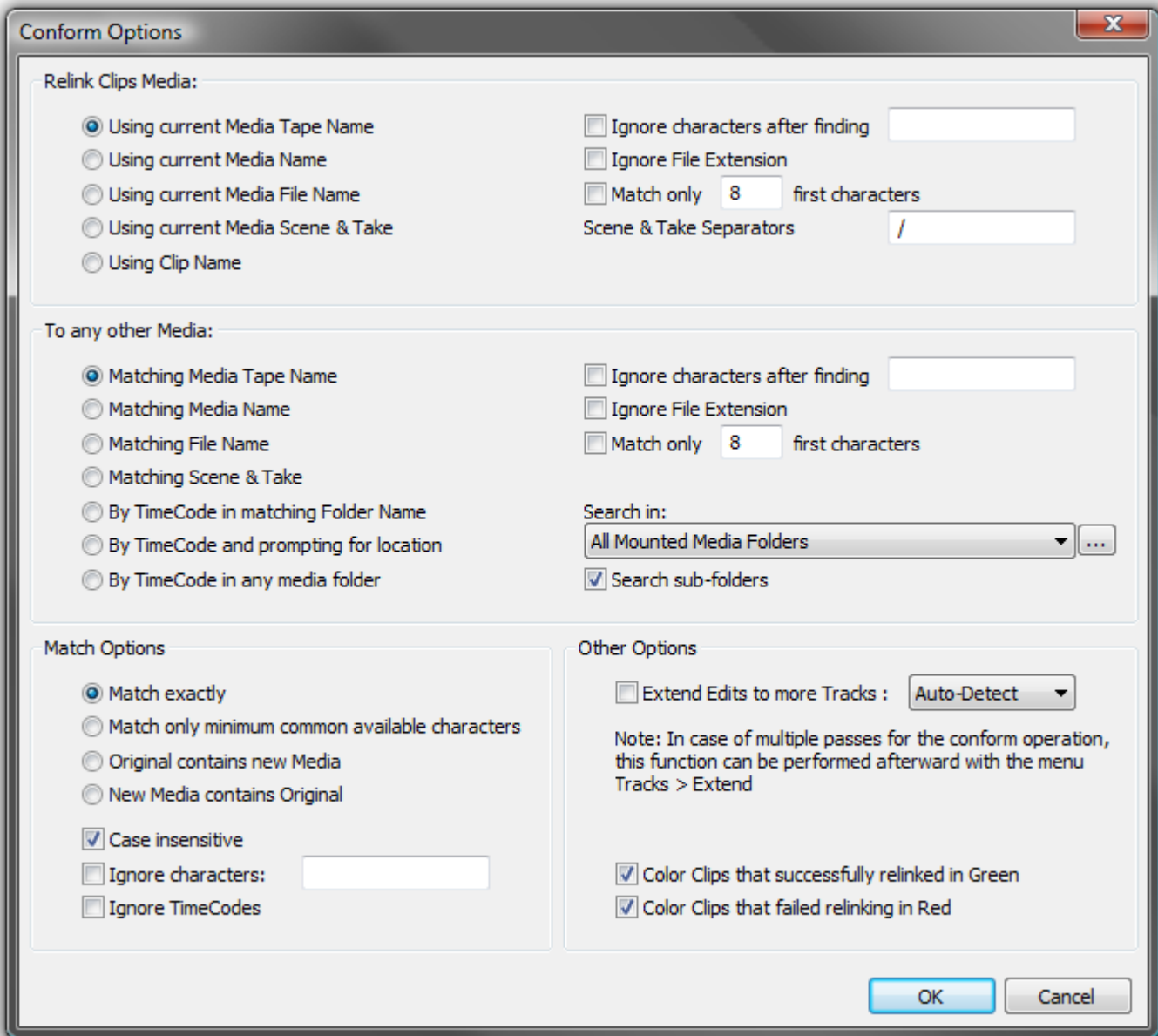
Reconform Relink to New Media Options dialog

This allows relinking all or a selection of clips to new media. Typically. this is used for replacement of 16 bit versions of audio files with 24 bit versions based on the clip name, media name, Scene & Take information or original Time-Code.

Relink Clips Media   Gives options to extract a string from the original clip:

  Using current Media Tape Name

  Using current Media Name

  Using current Media File Name

  Using current Media Scene & Take

  Using Clip Name

  With various options applicable to the above:

   Ignore characters after finding… ignores the rest of the string after a given substring is found

   Ignore File Extension   ignores any characters after the last dot

   Match only … first characters ignores all characters after a given number

| Scene & Take Separators | gives a choice of characters to be used to separate a Scene name and a Take name from the string. |

Note: Note: this is relevant only for Tape, Media and Clip Name, as Scene & Take are already properly separated in a Media Scene & Take tag.

To any other Media gives options to find which information to use from the Media that will be searched:

Matching Media Tape Name

Matching Media Name

Matching Media File Name

Matching Media Scene & Take

By TimeCode in matching Folder name	Any Media with overlapping TimeCode in a folder with a matching name
By TimeCode and prompting for location	Any Media with overlapping TimeCode with prompting for the folder name/ location
By TimeCode in any media folder	Any Media with overlapping TimeCode

With various options:

Ignore characters after finding…	ignores the rest of the string after a given substring is found
Ignore File Extension	ignores any characters after the last dot
Match only … first characters	ignores all characters after a given number of them
Search In	allows the choice of which Media Folder to search in
Search sub-folders	When checked sub-folders are searched

Match Options Offers options for the matching algorithm:

Match exactly	both strings must be identical
Match only minimum common available characters	
	Take0001.new.01 will match with Take0001
Original contains new Media	Take0001 will match with 0001
New Media contains Original	0001 will match with Take0001
Case insensitive	TAKE0001 will match with Take0001
Ignore characters…	if, for instance, /_+- are specified then 12-A/0001 will match with 12/A_0001
Ignore TimeCodes	no checks are made on Original TimeCodes (timestamps). This allows media with erroneous/lost timestamps to be replaced with the correct ones or vice-versa.

Other Options

| Extend Edits to more tracks | When conforming a clip referencing multiple tracks to a clip refer-encing a mono media file adds a new clip (with the same fades, etc…) for all of these tracks as well. |

Note: In the case of multiple passes for the conform operation, this function can be per-formed afterwards with the menu item **Tracks > Extend** This automatically extends the num-ber of tracks to accommodate all the Media channels of each of the clips of one or more timeline track(s)

Color Clips that successfully relinked in Green

Re-colors successfully linked clips in Green

Color Clips that failed relinking in Red

Re-colors Clips that failed to re-link in Red

Machine Control

21

Pyramix
DIGITAL AUDIO WORKSTATION

Pyramix can control and be controlled by a wide variety of external hardware. This chapter, **Machine Control** deals with situations where Pyramix is controlling and external machine or machines.

Control of External Device

If Pyramix is controlling another machine, (with the exception of GPO control) this device must be set up as an **External Machine**.

External Machines

9-pin (Sony P2 protocol)

9-pin Control of External Machine

If you wish to control a 9-pin slave machine from Pyramix the target machine must be set up as an external machine. If you wish to control Pyramix as a slave from an external 9-pin controller / synchronizer then the external controller must be set up as a Remote Controller in Pyramix. **Please see: Control by External Device on page 388**

Connection for the Sony 9-Pin protocol

Please see: Appendix VI 9 - Pin connection on page 573 for a description of the physical connection between the PC's COM port and the RS-422 connector of the external machine.

Setting up an external machine

- Select the **Settings > All Settings > Remote Control > Machine** page

- Click the **Add** button.

- Enter a suitable name for the external machine in the **Name** field, such as "Betacam".

- Choose the **Driver** for the machine from the drop-down list. **Sony 9-pin**

- Check the **Enable** field.

- Adjust the Driver Properties, the Port Properties and the Settings according to your needs. **Please see: Sony 9-Pin Protocol Configuration (Machine) on page 536**

- Click **OK** to confirm all the entries and to add the new machine to the list.

Note: Since Merging Technologies products are based on hard disk and computer technology they do not need to take account of the color framing sequence. (Used to produce 'legal' picture editis). Therefore Sony P2 devices must have their Color Framing mode disabled (2F), in order to synchronise correctly. Please see the device manufacturer's documentation for the correct procedure to do this.

Linking Functions of External and Internal Machines

The following functions can be linked in the **Settings > All Settings > Remote Control : Machines** page by simply ticking the boxes:

- Play and Record

- Play-Record Toggle

- In / Out Points

- Offset

Please see also: Machine on page 534

Synchronizer

Pyramix will chase an external TimeCode source as a slave and external machines, capable of chasing TimeCode, can follow Pyramix as slaves. However, a far more satisfactory way to work is with Pyramix as the master.

Chase Synchronizer

Pyramix can synchronize external 9-pin (Sony P2 protocol) machines including those that cannot chase TimeCode. No TimeCode connection TO the machine from Pyramix is required. The Chase Synchronizer compares the TimeCode coming FROM the external machine with the required position (including offset, if any) and sends transport commands in order to synchronize the machine.

9-Pin Controller/Synchronizer Explained

The Host Pyramix system (the first machine shown in the Transport Control Panel) is the synchronizer. It may or may not be the Master.

Therefore, when an External Machine is the Master, the Host Pyramix MUST chase it if a second External Machine is to be synchronized. For Example, in a set-up with two External Machines Ext1 and Ext2.

If the Host is the master then either or both Ext 1 and Ext 2 can Chase.

If Ext 1 is the Master then Host and Ext 2 can Chase

If Ext 1 is the Master and the Host is offline then Ext 2 cannot chase.

I.e. whenever an Extenal Machine is in Chase it follows the Host Pyramix.

TimeCode Source

When the Host Pyramix is in Chase it follows either LTC or VITC or External TimeCode as determined by the settings on the **All Settings > Hardware > TimeCode** page.

Transport Control Panel

Pressing the Transport Control Panel button or **[Alt T]**, or selecting **View > Windows / Tools > Transport** opens a floating **Transport Window** displaying all available machines with individual sets of buttons and status indicators.

Transport Control Panel floating Window

Note: This Window contains a set of transport controls for each machine installed and enabled with the **Internal** Transport (Pyramix) at the top. Below the machines are displays for LTC and VT (and VITC when applicable) TimeCode Sources and at the bottom of the panel there are controls which affect hardware Remote Controllers.

Clicking on the black bar with the machine name toggles the individual area between collapsed and full. For example, **dvcam** is collapsed in the above illustration.

 Important! For details of machine installation and settings. **Please see: Machine on page 534**

Internal / External Machine panels - Features

Main Counter

In each machine panel the main counter shows the machine's current position and status of Transport and Record.

The **Master** machine shows **Play** in green when running at sync speed:

10:02:25:11
PLAY

The Master machine in jog or shuttle shows **Play** and the + or - percentage off sync speed or **Play Still** when stationary. If the speed exceeds 200% then **Rewind** or **Fast Forward** is shown in yellow :

00:06:13:24
PLAY +132%
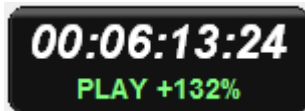
An External Machine shows **Play Lock** in green when it is master and at sync speed:

00:05:42:03
PLAY LOCK
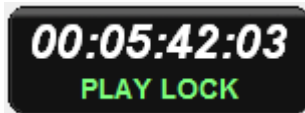
An External Machine shows **Locked** in green when it is locked at sync speed:

00:06:35:02
LOCKED ●

A machine chasing shows **Chase** in blue:

00:01:54:00
CHASING ●

If an offset is applied the status display and TimeCode registers are purple:

23:58:37:22
CHASING ●

A machine in record shows **Record** in red and the main counter also turns red:

00:02:55:21
RECORD

A machine in **Fast Forward** or **Rewind** shows this in yellow:

00:23:01:22
FAST FORWARD
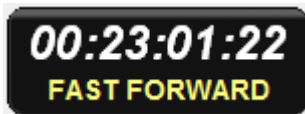
A machine carrying out an **Auto-Edit** shows this in red:

A **Stopped** machine shows this in white:

If a machine is disconnected or there is a problem this is shown in gray:

Chase, Offset register, Capture Offset and Delta
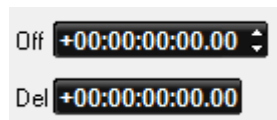
When the button is lit the machine is in Chase Mode (see below)

The Offset Register shows the current Offset value.

An Offset can be captured with the **Offset Capture** button. The button lights when an Offset is set.

Offset values can also be typed directly into the register and trimmed with the increment/decrement buttons.

> **Note:** A positive Offset Value makes the machine with the Offset later and a negative Offset value makes it earlier. E.g. If you are sourcing picture from an external VCR and the picture is arriving 3 seconds before the sound, enter a 3 second positive offset in the video machine's External Transport control panel.

Delta shows the current difference (error) value between where the machine should be and where it actually is.

Locate

Pressing the [Loc] **Loc**ate button pops up the **Goto Timecode** dialog:
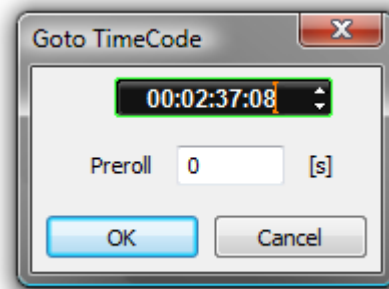
Goto TimeCode dialog

The register shows the machine's current TimeCode position value and is highlighted, ready for typed input. The value can also be adjusted with the increment/decrement buttons. Clicking the **OK** button sends the machine to the TimeCode value in the register and closes the dialog.

A **Preroll** value can also be set. This value is retained and will be present when the dialog is next opened from any Machine control panel.

> Note: **Goto TimeCode** has no effect if it is invoked from a machine in **Chase Mode**.

Internal Machine panel - Features

Transport Controls

The Internal Machine panel has the same transport controls as the Transport Control Bar with some extras:

The **Rewind** button moves the **Play Head** at an accelerated speed backward through the **Composition**. A second press doubles the speed.

The **Play Selection** button plays the current highlighted selection area.

The **Play** button plays the **Composition** at normal speed forward from the current position of the **Play Head**. A subsequent press **Pause**s playback and another **Restarts**.

The **Record** button puts **Pyramix** into **Record** mode, and creates a new recording to the disk on the **Tracks** previously armed for recording. The **Play Head** moves forward at normal **Play** speed during the recording.

The **Fast Forward** button moves the **Play Head** at an accelerated speed forward through the **Composition** while it is being pressed. A second press doubles the speed.

The **Stop** button stops playback.

Pops up the **Goto Timecode** dialog. See above in **Internal / External Machine panels - Common Features**

The Loop **Play** toggle button puts **Pyramix** into a loop play mode, which continuously plays through from beginning to end of the current selection.

The **Freeze** button stops all External Machines where they are. See **Freeze Mode** below.

Sets the **Internal Machine** (Pyramix) as the **Active Machine**. See **Active Machine** below.

Edit/Record In/Out

Set In and **Set Out** enter the current machine position in the adjacent registers.

TimeCode values can also be typed directly or adjusted using the increment/decrement buttons in the Panel Registers.

GoTo in and **GoTo out** locate the machine to the **In** and **Out** points respectively.

The **In** and **Out** points set for the Internal Machine are the main, red **In** and green **Out**, marker positions in the Pyramix TimeLine.

External Machine panel - Features

Transport Controls

The **Rewind** button moves the **External Machine** at an accelerated speed backwards.

The **- 1 Frame** button nudges the **External Machine** backwards one frame per press.

The **Play** button starts the **External Machine** in Play mode.

The **+ 1 Frame** button nudges the **External Machine** forwards one frame per press.

The **Fast Forward** button moves the **External Machine** at an accelerated speed forwards.

The **Stop** button sends a Stop command to the **External Machine**.

Pops up the **Goto Timecode** dialog. See above in **Internal / External Machine panels - Common Features**

Sets the **External Machine** as the **Active Machine**. See **Active Machine** below.

Record and Edit controls

The first fifteen small buttons are arm audio tracks 1-12 and arm for Video and TimeCode. The **A** is Assemble mode for machines that support it.

The Record button initiates and indicates recording on the **External Machine**

Inhibits recording on the **External Machine**

Preview Edit Initiates a preview of an edit. The **External Machine** (and any chasing machines) go into play from the **In** point minus preroll and the output on all tracks armed for record switches from replay to direct at the **In** point and back to replay at the **Out** point. The machine Stops at the **Out** point plus post roll.

Auto Edit Initiates an edit. The **External Machine** (and any chasing machines) go into play from the **In** point plus preroll and all tracks armed for record are punched into record at the **In** point and back to replay at the **Out** point with the machine monitor outputs following. The machine Stops at the **Out** point plus post roll.

Review Edit Initiates a review of the **Auto Edit** just performed. The **External Machine** (and any chasing machines) go into play from the **In** point minus preroll and plays to the **Out** point plus post roll.

Note: Pre and **Post roll** for the machine in question are set up in the dialog. This can be found in the **Settings > All Settings > Remote Control > Machine** page by selecting the machine and clicking on **Properties**. Further settings are to be found in the **Sony 9-Pin Protocol Configuration (Machine)** dialog, accessed by clicking on the **Properties** button in the **Machine properties** dialog.

Please see also: Machine Properties on page 535

Chase Mode

Each Machine has a Chase button. The choice of **Hard**, **Soft** and **Vari Chase** is available in the **Settings > All Settings > Application > Jog/Chase** page. When Chase Mode is engaged the Internal Machine can chase LTC, VITC, the selected **External Machine** or **Virtual Transport** inputs selected in the **Settings > All Settings > Hardware > TimeCode** page in the **TimeCode Source** and **Ext. TC Source** combo boxes.

Hard	When **Hard Chase** is active, Pyramix will only playback when valid TimeCode is detected on the chosen TimeCode input port. If there is a jump in the incoming TimeCode, Pyramix will adjust to the new TimeCode, re-synchronize and begin playback from the new TimeCode position. Pyramix will run on its own internal TimeCode for up to 1 frame if there is a drop out in the time code. If no valid TimeCode is detected after that time, playback will stop.
Soft	When **Soft Chase** is active, Pyramix will only playback when valid TimeCode is detected on the chosen TimeCode input port. If there is a jump in the incoming TimeCode, Pyramix will not adjust to the new TimeCode, but will continue playback with an offset from the incoming TimeCode position. Pyramix will continue to run on its own internal TimeCode for up to 1 frame if there is a drop out in the TimeCode. If no valid TimeCode is detected after that time, playback will stop.
Vari	When the **Vari Chase** is active, Pyramix will Varispeed, I.e. alter its sampling rate to follow fluctuations in an external TimeCode. (going back and forth, slowing down, accelerating, playing normally or backwards, up to 8x nominal speed) while in playback (not in record)

Freeze Mode

The **Internal Machine** also has a **Freeze** button. ❄ When active, as shown here, all External Machines remain where they are and the point in time at which **Freeze** was activated is kept in memory. Pyramix can be freely used and moved while **Freeze** is active. When the **Freeze** button is cancelled, the Pyramix **Playhead Cursor** jumps to the point where **Freeze** was activated and full control is restored.

This function has many uses. For example, it can be used to position an out of sync effect, say a car-door slam. For detailed instructions **please see: Using Freeze Mode on page 345**

Active Machine

Each Machine's Panel has a **Ctrl** button `Ctrl` which sets it as the **Active Machine**. The Active Machine receives the full input of the **Active Machine** mapped keyboard shortcuts, the **Transport Control Bar** and input from all available Remote Controllers.

The **Machine** combo-box in the Transport Control Bar shows the active machine and can be used to switch between the installed and enabled machines. Alternatively you can toggle through the currently enabled machines. **Machines > Active Machine > Toggle machines**

Auto-chase
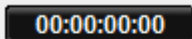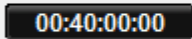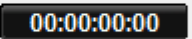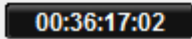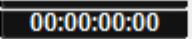
If all enabled machines are set to **Auto-Chase**, when **Ctrl** is switched between machines the **Active Machine** is automatically taken out of **Chase** mode and the previously **Active Machine** automatically enters **Chase** mode. To activate **Auto-Chase** for all external machines, enable the menu setting:

Machines > External Machine > Auto-Chase

And, to activate **Auto-Chase** for the internal machine, enable the menu setting:

Machines > Internal machine > Auto-Chase

TimeCode Registers

Each TimeCode reference source has two registers:

In register shows show the current TimeCode incoming on the LTC, VITC physical inputs.

Out register shows the current TimeCode outgoing on the LTC or VITC physical outputs

In the case of **VT**, Virtual Transport, the **In**put Timecode is the VT TimeCode and the **Out**put is the TimeCode reported by Pyramix on the corresponding Pyramix VT client.

Controllers Section

Controllers Online/Offline

When the **Controllers** button ⦿ is lit red all connected Controllers are set **Offline**

Press the button again to toggle to ⦿ **Online**.

Offline ensures no **External Commands** can be sent to Pyramix while a maintenance or housekeeping operation is in progress.

When performing a **Mix-down**, **Generating a CD image**, or during any **Surround encoding** operation, Pyramix automatically sets all controllers offline to ensure the operation is not inadvertently interrupted and to prevent exaggerated motor fader movements during non real-time processes.

Jog Wheel Mode

The buttons select the hardware Jog Wheel Mode from a choice of **Jog**, **Shtl**, **Loop**, **Nav** or **Off**. Many controllers will have buttons either corresponding to these functions or mappable to them.

The **Shuttle** slider is provided for convenience when using the Transport Control Panel.

Examples:

In the following examples there are three machines. At the top of each window is the host Pyramix Internal Machine. Below this is a BETACAM - PVW-2800 and the third machine is a BiPhase transport or transports. (Via the MTUsbSync Board) Both External Machines are controlled via the Sony 9-pin P2 protocol.
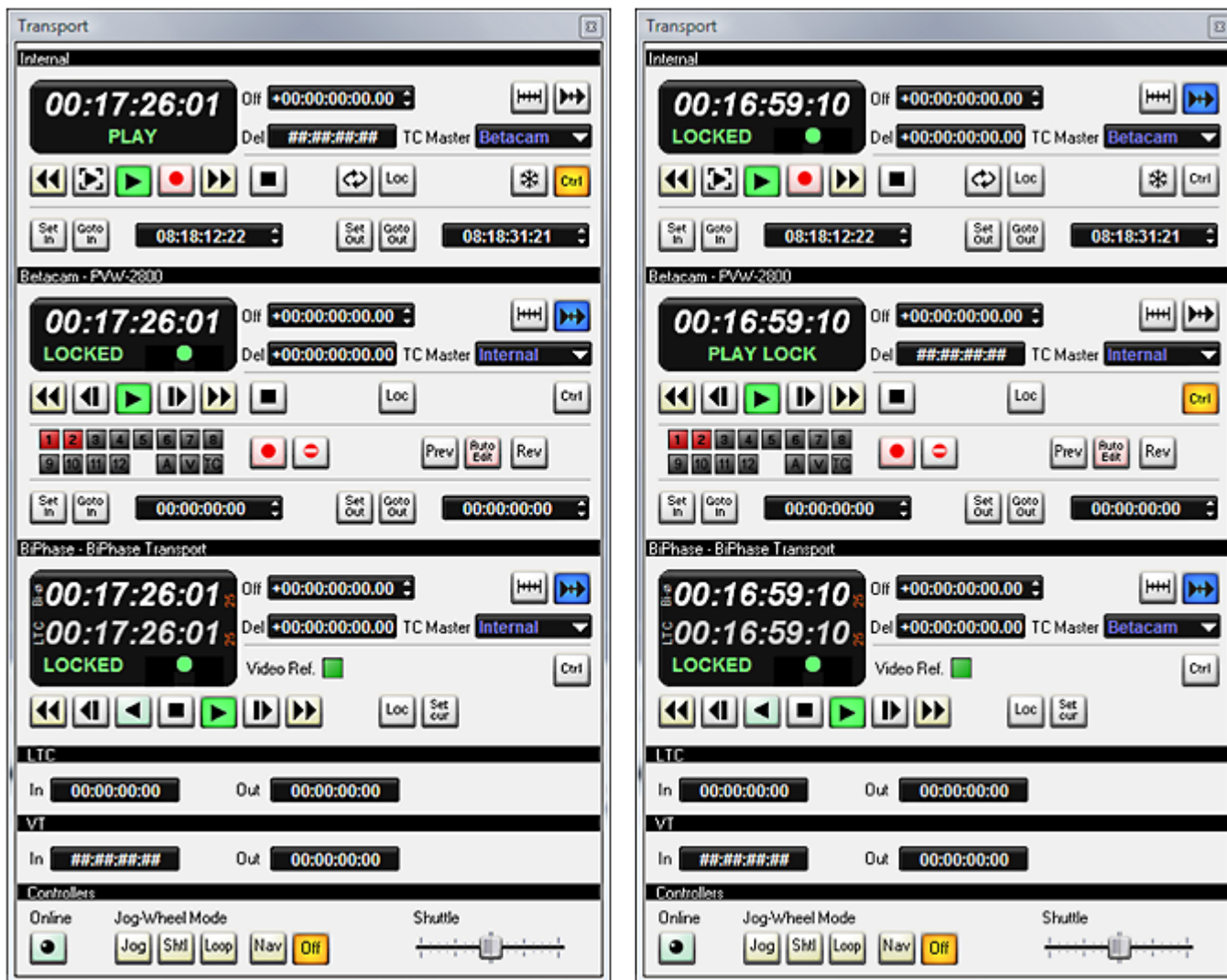
Transport Control Examples

In the left-hand example the Host Pyramix is **Master** and both External Machines are in **Chase** and **Locked**.

In the right-hand example the Betacam is now the Master and both the Internal Pyramix and External BiPhase Machines are in **Chase** and **Locked**.

> **Note:** Machines **NOT** in chase can be used independently of the Master while the Master is in use by using their individual controls. So you can locate on a machine whilst continuing to mix using the Master and slaves.

22

Remote Control

Pyramix
DIGITAL AUDIO WORKSTATION

Scope

Pyramix can control and be controlled by a wide variety of external hardware. This chapter, **Remote Control** deals with situations where Pyramix is controlled by an external device such as a control surface or machine controller.

Ramses MSC

Ramses MSC with Pyramix is a great deal more than a simple control surface and workstation. Together they form a synergistic new product that can be many things, a powerful digital mixing console with the latencies for live use, a huge multitrack recorder and much, much more. For full details please contact your Merging Technologies Sales Partner.

Hardware Control Surfaces

Hardware remote control is accomplished via the Merging Technologies **Oasis** protocol, Proprietary protocols, Merging Technologies **EMC** (**E**nhanced **M**IDI **C**ontrol) MIDI or the 9-pin (Sony P2 protocol). Templates are supplied for some popular controllers or you can map your own MIDI control surface to Pyramix.

ISIS

The Merging Technologies **ISIS** and **ISIS** Expander are purpose designed for Pyramix and offer comprehensive control for many applications. Notably, in conjunction with the Pyramix **Fade Editor**, editing is extremely quick. For full details please contact your Merging Technologies Sales Partner.

Supported Controllers Table

Pyramix Virtual Studio supports controllers from many different manufacturers, as seen in the table below, in several control modes. While **JL Cooper** products work with a proprietary protocol, **Yamaha**, **Radikal Technologies**, and **Mackie** units need to be set to **HUI** mode to communicate with Pyramix. Finally the **Sony DMX-R100** communicates via standard MIDI control and Sony 9-pin P-2 protocol commands.

Auto-mapping
Wherever auto-mapping is supported, our controller driver will automatically link active Pyramix parameters to all available control surface items. With manual mapping, a drag & drop or menu dialog, depending on the driver, will allow for any specific Pyramix parameter to be linked to any available control surface item.

Strip Cloning
Strip cloning will duplicate all parameter assignment for a dedicated strip to adjacent channel(s). Finally, MIDI mapping will create links between Pyramix parameters and control surface items with a select and learn method.

Controllers Table

The following controllers and digital mixers are (or will be) supported (if the appropriate Pyramix option Keys are present):

Manufacturer	Supported Protocol	Key 1*	Key 2	Supported Model	Controlled Items in Pyramix	Mapping	Supported Since
Yamaha	EMC (Enhanced Midi Control)	PSO-RCTR	PSO-RCT-EMC	DM2000	Mixer + Transport + Editor	Auto + XML	5.0 SP2
Yamaha	EMC (Enhanced Midi Control)	PSO-RCTR	PSO-RCT-EMC	DM1000	Mixer + Transport + Editor	Auto + XML	5.0 SP2
Yamaha	EMC (Enhanced Midi Control)	PSO-RCTR	PSO-RCT-EMC	02R96	Mixer + Transport + Editor	Auto + XML	5.0 SP2
Yamaha	EMC (Enhanced Midi Control)	PSO-RCTR	PSO-RCT-EMC	01V	Mixer + Transport + Editor	Auto + XML	6.0
Tascam	EMC (Enhanced Midi Control)	PSO-RCTR	PSO-RCT-EMC	US-2400	Mixer + Transport + Editor	Auto + XML	5.0 SP2
Tascam	EMC (Enhanced Midi Control)	PSO-RCTR	PSO-RCT-EMC	FW-1884	Mixer + Transport + Editor	Auto + XML	5.1
Tascam	EMC (Enhanced Midi Control)	PSO-RCTR	PSO-RCT-EMC	DM-3200	Mixer + Transport + Editor	Auto + XML	6.0 SP1
Mackie	EMC (Enhanced Midi Control)	PSO-RCTR	PSO-RCT-EMC	Mackie Control / HUI compatible models	Mixer + Transport + Editor	Auto + XML	5.0 SP2
SSL	EMC (Enhanced Midi Control)	PSO-RCTR	PSO-RCT-EMC	AWS-900+	Mixer + Transport + Editor	Auto + XML	5.1
Radikal Technologies	EMC (Enhanced Midi Control)	PSO-RCTR	PSO-RCT-EMC	SAC2.2 / SAC2k	Mixer + Transport + Editor	Auto + XML	5.0 SP2
JL Cooper	Proprietary / Midi	PSO-RCTR		MCS-3800 / 3000 / 3000x / Bridge	Mixer + Transport + Editor	Graphical + Cloning	< 5.0
Sea Level	Proprietary Sea-Level	PSO-RCTR	PSO-GPIO	Seal/O 4xxU series	GPI / GPO Events	Manual	5.1
Sea Level	Proprietary SeaMax	PSO-RCTR	PSO-GPIO	SeaPort PLC16	GPI / GPO Events	Manual	5.0
Sony	Generic Midi Control	PSO-RCTR		DMX-R100	Mixer	Manual Learn	< 5.0
Any	Generic Midi control	PSO-RCTR		Midi Controller	Mixer	Manual Learn	< 5.0
Any	Sony P2	PSO-RCTR		Sony 9pin / P2 Controllers	Transport	Fixed	< 5.0
Any	Midi Machine Control	PSO-RCTR		MMC Compatible devices	Transport	Fixed	< 5.0
Merging Technologies	OASIS ISIS	PSO-RCTR		ISIS-RC	Mixer + Transport + Editor	Auto + Manual	5.0
Merging Technologies	OASIS ISIS	PSO-RCTR		ISIS-FE	Mixer	Auto + Manual	5.0
Merging Technologies	OASIS	PSO-RCTR	PSO-OAS-FIR	Ramses	Mixer + Transport + Advanced Editor	Full Auto	6.0
Euphonix	OASIS	PSO-RCTR	PSO-OAS-FIR	System 5 / MC	Mixer + Transport + Advanced Editor	Full Auto	5.0
Euphonix	OASIS	PSO-RCTR	PSO-OAS-FIR	S5 Fusion	Mixer + Transport + Advanced Editor	Full Auto	6.0
Euphonix	OASIS	PSO-RCTR	PSO-OAS-ECO	Artist Series	Mixer + Transport + Advanced Editor	Full Auto	6.1
Smart AV	OASIS	PSO-RCTR	PSO-OAS-FIR	Smart Consoles Elite Series	Mixer + Transport + Advanced Editor	Full Auto	5.0
Smart AV	OASIS	PSO-RCTR	PSO-OAS-BUS	Tango	Mixer + Transport + Advanced Editor	Full Auto	6.1
Harrison-GLW	OASIS	PSO-RCTR	PSO-OAS-FIR	"IKIS Direct" compatible consoles	Mixer + Transport + Advanced Editor	Full Auto	5.0
AMS-Neve	OASIS	PSO-RCTR	PSO-OAS-FIR	"Encore Plus" compatible consoles	Mixer + Transport + Advanced Editor	Full Auto	5.0

For the latest version of this table, the **EMC User Guide** and other downloadable **User Guide** documents about supported controllers/consoles please go to:

www.merging.com

Then select: **Pyramix : Download : Documentation : Controllers**, and choose the required document for download.

For links to Controller and Console manufacturers go to:

www.merging.com

Then select: **Pyramix : Controllers** and choose the relevant manufacturers link.

Control by External Device

If Pyramix is to be controlled by another device or devices, these are installed via **Settings > All Settings Remote Control > Controller** (See: **Controller on page 539**) and, where applicable, Pyramix functions are mapped to the controller via the **Settings > All Settings > Project > Controller Mapping** page. (See: **Controller Mapping on page 508**)

9-pin Configuration (Pyramix controlled by external device)

EMC

Scope
EMC includes HUI and Mackie Control Support.

The following controllers are supported and validated:

•   Mackie MCU in HUI and MackieControl modes

•   Yamaha DM1000 in HUI mode

•   Yamaha DM2000 in HUI mode

•   Raditec SAC2-k in HUI mode (MackieControl is not working properly)

•   Tascam US-2400 in HUI mode (US-2400 MackieControl mode is specifically configured for other DAWs than Pyramix)

Key
Valid Remote Control Support and Remote Control – Midi Enhanced Midi protocol keys are required to use EMC.

Configuration
Configuring a Remote EMC Connection

Since EMC is implemented as a subset of OASIS, to configure a remote connection, an OASIS controller must be added in **Settings > All Settings > Remote Control** and then **EMC** must be chosen by clicking the **Properties** button which opens the **OASIS Configuration** dialog:
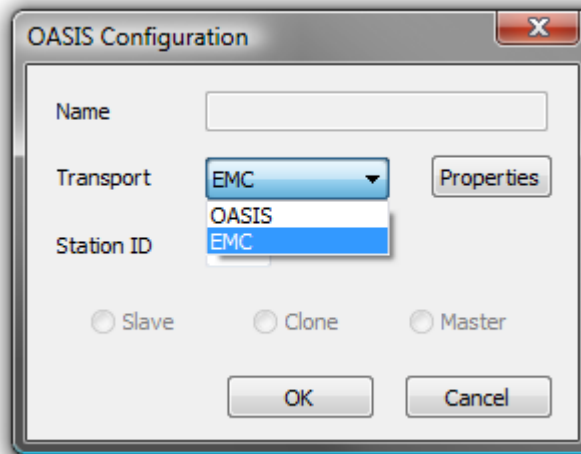
OASIS Configuration Dialog

Faders, Solo, Mute, Pan, Surround Panning, Auxes, Vu-Meter, Advance channel display, Strip tools,

transport (Internal and Externals machines), Bank switching and Jog are all fully supported. Please see the **EMC User Guide** for full configuration details.

OASIS Protocol

OASIS is a generic TCP/IP based protocol for integrating disparate digital audio consoles and controllers with Merging's Pyramix digital audio workstation. Although Pyramix supports several other protocols **OASIS** is in a different league.

The Oasis Advantage

• Allows control surface mapping to faders, rotary encoders, keys, machine control functions etc.

• TCP/IP Network based

• High bandwidth

• Flexible connectivity from any unit to any other unit on a LAN/WAN

• Low delay transmission performance (provided there is adequate Network topology.)

• No additional hardware needed for a console/controller that has an Ethernet (IEEE 802.3) connection.

• Low cost and upgradeability of the Ethernet technologies

Overview of Pyramix Controls

Mixing:

The virtual Pyramix mixing console is fully exported over OASIS with a high degree of control precision.

Editing:

Everything that is available in the Pyramix menu is remote controllable

Machine Transport Control:

Internal Pyramix machine control and all connected machines (Sony P2, MMC) can be remote controlled over OASIS in a unified protocol.

Multiple DAW Control:

• The virtual mixer power can be distributed on multiple mix engines

• The number of available Play/Record tracks may be expanded seamlessly without limits over any number of Pyramix engines

Export of useful information to the console:

• "Units of" parameters (%, dB, ms...)

• The range of each specific control

• The default value of controls

• Mixer strips/bus names

• Floating point number based (32 bits)

• Possibility of choosing between the DAW and/or the Console Automation engine

OASIS In Practice

OASIS allows:

• 384 channel I/O multi-track player/recorder and dubber (Pyramix V6.1)

• Access to all the editing and processing functionality of Pyramix

• The internal mixer can be configured as a 384 input into several buses types.

• Up to 16 surround simultaneous stems can be sent to the console as part of the main mix.

• Multi-layer mixing - switch between the DAW mixing layer and the main mix on the console retaining discrete control over pre-mixed channels.

• With two or three Pyramix systems connected, as in a film dubbing environment, this allows for virtual, non-destructive, pre-mixes and any changes to the pre-mix can be made instantly by simply switching to the relevant layer.

Comparison with MIDI based Solutions

• MIDI vs. Ethernet… No comment!

• Peak-meter refresh rates of 25-30 times per seconds

• Pyramix evolution will enable the protocol to develop still further.

• All third party (VST, DirectX) plug-ins can be fully described and parameters can be exported over OASIS.

GPI / GPO Control

23

Pyramix
DIGITAL AUDIO WORKSTATION

GPI / GPO Support

GPI/O support is available as a Remote Controller module.

> **Note:** For the present the only supported GPI/O interfaces are the following models manufactured by **Sealevel:**

- **SeaPORT PLC-16 8 in 8 out**
- **SeaI/O-410U 16 in 16 out**
- **SeaI/O-420U* 16 in 8 out**
- **SeaI/O-430U* 32 in 0 out**
- **SeaI/O-440U* 0 in 32 out**
- **SeaI/O-450U* 0 in 16 out**

* Obtainable on special order

> **Note:** Note: USB drivers are included in the Pyramix Installer, there are no need to download the driver from the supplier website. For more information about the specification of the GPIO hardware device please see:

http://www.sealevel.com

Using the GPI/O controller
Add a GPI/O Controller

Before Pyramix can use the adaptor, it must be set up.

Select the **Settings > All Settings > Remote Control > Controller** page

Click the **Add** button. The **Controller Properties** dialog opens. Type a name for the Controller and select **GPI/GPO** from the **Driver** drop down list. Click **OK** to close the dialog and click **OK** to close the Pyramix Settings window.

> **Note:** Do not do this more than once. Only one GPI/GPO controller is allowed. However this can control more than one physical GPI/GPO USB Module
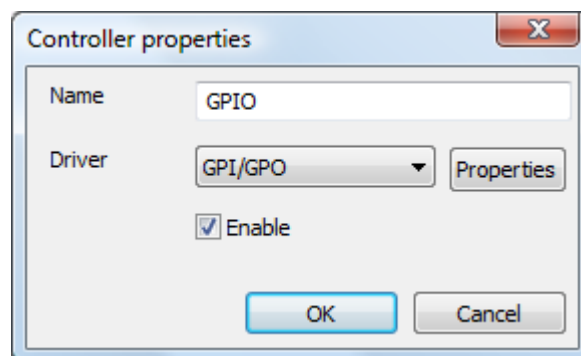
GPIO Controller Properties dialog

Enable/Disable

The GPI/GPO controller may be disabled by unchecking the **Enable** box in the **Controller Properties** Dialog. Some GPI/GPO USB Modules can be individually enabled or disabled by clicking on the **Properties** button to the right of the **Driver** combo box.

Configuring the GPI/O controller for a specific project

Open the **Settings > All Settings > Project > Controller Mapping** page.

Select your GPI/O controller and click **Properties**. The GPI/O Controller Configuration Window will appear; On the left you can browse the **Remotes** list. Next to this is the GPI/O Controllers list. To map a Remote to a GPI/O Input or

Output pin just drag the Remote onto the Controller pin; The right-hand pane is a list of all currently mapped Controller pins. By clicking in the **Mapping Options** column you can configure how the pin works.

Click **OK** to accept the changes to the GPI/O configuration, or **Cancel** to abort.

Mapping Example
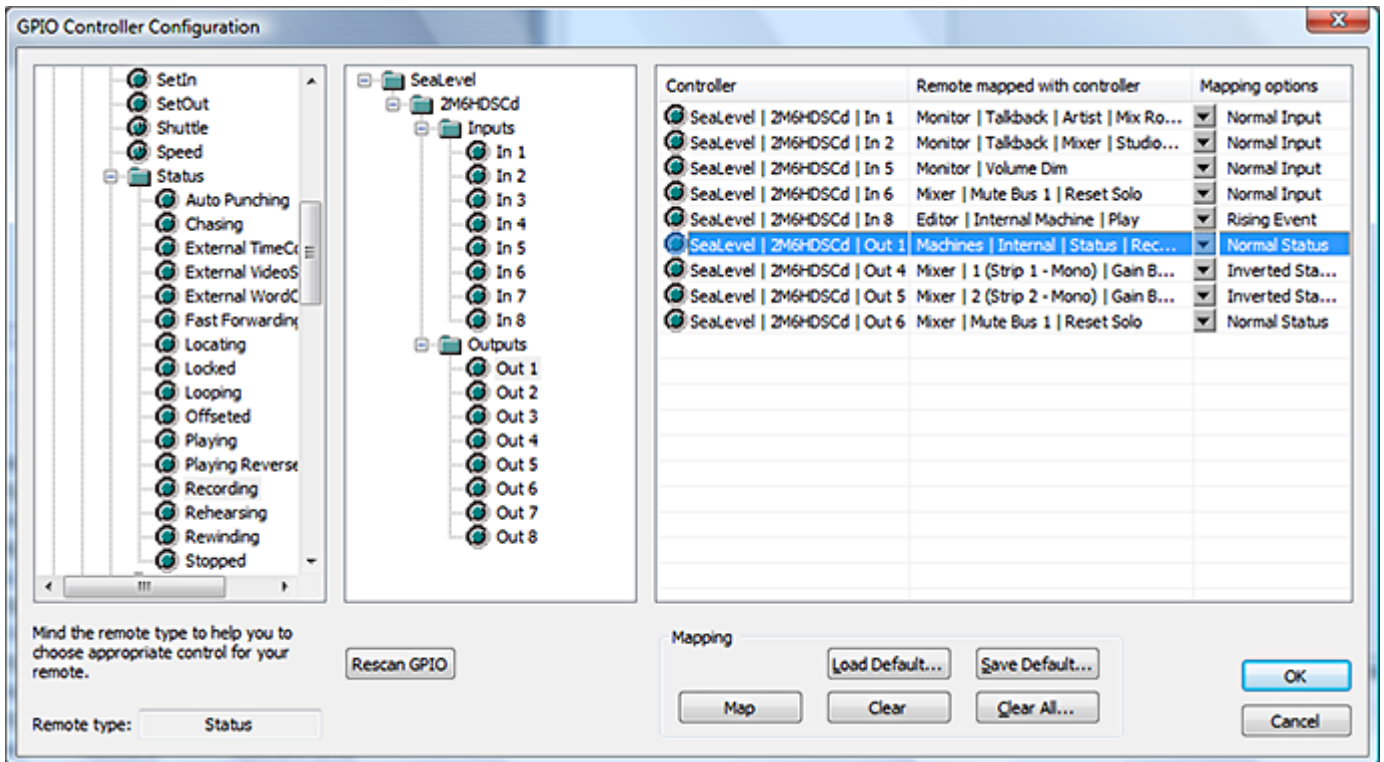
GPIO Controller Configuration dialog

Mapping Description of Example Shown Above
Input triggering:

In 1 :   **Monitor | Talkback | Artist | Mix Room | On**

The Artist opens the talkback circuit to the Mix Room

In 2 :   **Monitor | Talkback | Mixer | Studio | On**

The Mixer (Engineer) opens the talkback circuit to the Studio

In 5 :   **Monitor | Volume Dim**

Dim the Monitor output section

In 6 :   **Mixer | Mute Bus 1 | Reset Solo**

Reset the solo in the Mixer

In 8 :   **Machines | Internal Machine | Play**

Put Pyramix in playback. I.e when the Artist is ready.

Output are triggered by:

Out 1 :   **Machines | Internal | Status | Recording**

Control of the Record Red light.

Out 4 :   **Mixer | 1 (Strip 1 - Mono) | Gain Bus 1 | Gain**

Fader start of the first mixer fader. For dB value the threshold is -90 dB

Out 5 :   **Mixer | 2 (Strip 2 - Mono) | Gain Bus 1 | Gain**

Fader start of the second mixer fader. For dB value the threshold is -90 dB

Out 6 :   **Mixer | Mute Bus 1 | Reset Solo**

Control of an additional indicator in the mixer room when a mixer strip is soloed.

GPI/O Remote types

There are 5 different types of **Remote** that can be used with GPI/O Input and/or Output pin:

•   **Toggle** can be associated with both input and output pins.

•   **Range** can be associated with both input and output pins and acts like a toggle 0 =off, other = on

•   **Event** can only be associated with input pins.

•   **Event-Status** can be associated with input and/or output pins;

•   **Status** can be only associated with output pins.

The other **Remotes** cannot be mapped to GPI/O pins.

GPI/O Input and Output Pin Configuration

•   Input pins mapped to Toggle or Range remotes can be configured as:

•   **Normal Input**

•   **Inverted Input**

•   **Rising Event**

•   **Falling Event**

Input pins mapped to Event or Event-Status remotes can be configured as:

•   **Rising Event**

•   **Falling Event**

Output pins mapped to Toggle or Range remotes can be configured as:

•   **Normal Status**

•   **Inverted Status**

Output pins mapped to Status or Event-Status remotes can be configured as:

•   **Normal Status**

•   **Inverted Status**

CD/SACD Mastering

24

Pyramix
DIGITAL AUDIO WORKSTATION

Mastering a Composition to CD-R

Pyramix is used to set CD Track **Start**, **Stop**, and **Index** Markers for CD-R Mastering, and a separate application called **DiscWrite** is provided to actually burn a CD-R or make a DDP.

One of the advantages to this way of working is that multiple 'virtual discs' can exist. This makes it simple to produce several different versions using the same material.

> **Note:** For a step-by-step guide to producing a simple CD please see the Pyramix Quick Start Guide, Page 70 **Quick CD**

IMPORTANT! - First Steps

Open the **CD/SACD** Tab Window and Double-click **<New Disc>** in the Album tab. Type a name for the CD then proceed to add **CD Markers**

CD Markers

CD Markers are much like other User Flags or Markers.

To set a **CD Start Marker** (which indicates the beginning of a CD track), place the Play Head at an appropriate CD track Start location and choose **Cursors & Marks > Add CD Start Marker to Cursor**; similarly, to set the **CD Stop Marker** (which indicates the ending of a CD track), place the Play Head at the appropriate CD track End location and choose **Cursors & Marks > Add CD Stop Marker to Cursor**. A named **CD Index Marker** can also be added using **Cursors & Marks > Add CD Index Marker to Cursor**. These CD Markers can be examined, named and changed in the **CD/SACD** Tab window.

Add CD Markers Automatically

CD track Start Markers and Stop Markers can be added automatically to Grouped Clips in a Composition. To accomplish this, first create a CD in the CD/SACD Tab window and select it. Make an appropriate Group of Clips which correspond to CD tracks. Then choose **Cursors & Marks** > **CD Mark Group**s from the **CD/SACD** Tab window **Markers** menu or from the main **Cursor and Marks** menu to open the **CD Mark Groups** dialog:
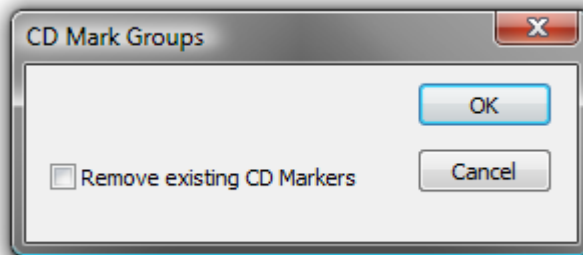
CD Mark Groups dialog

The only option is a check box to **Remove existing CD Markers**. Click on **OK** to automatically create CD markers for all grouped clips.

> **Note:** If the gap between clips in the Pyramix TimeLine is less than one second only **Start Markers** are placed or required. (There will always be a **Stop Marker** after the last clip). **Stop Markers** can be useful where there is applause after a piece which may not be wanted when broadcasting from a CD. Suitably equipped CD Players can be set to stop when they find a **Stop Marker**.

Convert Text Markers to CD

Text Markers can be converted into a CD.

Simply right-click on a selection of Text Markers in the **Markers** Tab pane and choose **Create CD Disc**.

This will create a new CD disc and select it. A final Stop marker will be added at the end of the next Clip found (if any) after the TimeCode of the last Start marker. (So it only creates CD Start Markers on the first and intermediate Cues, but also creates a Stop Marker after the Cue that has the last Start Marker, in order for the CD to be valid).
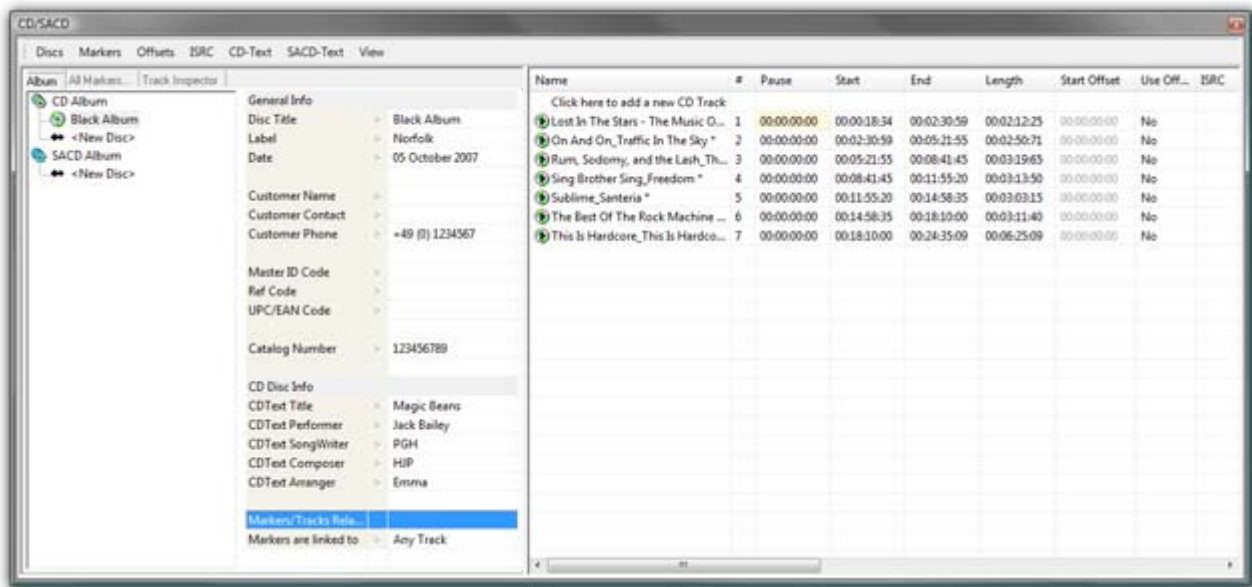
CD/SACD Tab Window

All the mastering features are grouped in the CD View; in two sections.

In the **Left Pane** there are three window Tabs:

Album, All Markers and Track Inspector
The **Right** pane shows the track list fields. (see below)

Album:

The left-hand pane shows a tree view of CD and SACD Albums and Discs with **<New Disc>** entries to create new discs. The right-hand pane allows CD properties and default parameters to be set for the selected disc.

General Info
- **Disc Title** CD Title
- **Label** CD Production Label
- **Date** CD Date

- **Customer Name**
- **Customer Contact** Customer Contact (name)
- **Customer Phone** Customer contact phone number

- **Master ID Code** CD Identifying code (if one is required)
- **Ref Code** CD Reference Code (if one is required)

- **UPCEAN Code** Clicking in this field opens the **UPC-A / EAN13 code** dialog box.

UPC-A / EAN-13 code dialog

UPC/EAN capture for CD/SACD Albums, Discs and Areas is handled via this dialog box.
Enable UPC/EAN Code: When ticked **UPC/EAN Code** is enabled.
Code Type: offers a choice of UPC-A or EAN-13 barcode formats. Enter the 11 or 12 digit **Company prefix and Product Code**. The **Checksum** is calculated automatically and the resulting code displayed. Click **OK** to enter the result in the field.
The number of digits is checked according the type of code and the **CheckSum:** digit (the last one) is automatically calculated (to ensure its validity).
Moreover, the **TOC** information part of a Pyramix generated CDImage file (PMI) will always contain a 13 digits UPCEAN code (left 0-padded if UPC-A type code) or no UPCEAN code at all if the field is left blank.

- **Catalog Number**

CD Disc Info

(Global – CD Header). In addition, there are similar fields for each track in the CD Track grid.

- **Title** CD Title

- **Performer** CD General Performer

- **SongWriter** CD General Song Writer

- **Composer** CD General Composer

- **Arranger** CD General Arranger

Markers/Tracks Relation

- **Markers are linked to** Clicking in the field shows a list of choices. These are the same as the **Markers** Tab window choices: **<Independent>**, **Any Track** or **any Track without Group**

All Markers...

Shows and allows editing of all the PQ markers. Here only the PQ is modified, not the audio edit. CD Markers can be Cut / Copied / Pasted like standard Markers by right clicking an entry.

The CD Marker List is linked to the Disc (in the case of CD) and Area (in the case of SACD). There is no longer a CD Marker List in the Track Group tab window or a Global CD Marker List. If necessary the CD Marker List in Disc/Area can be linked to a Track Group to associate Audio content to a CD Marker List.

Name

Name of the PQ Marker. When the markers are automatically created with the function "CD Mark Group", the stop marker gets the same name as the start marker + a **Stop** suffix at the end. The "*" tells you that this marker was auto generated.

(Number)

(Read only) Number of the PQ Marker. The stop marker has the same number as the start. The index markers begin at 2 then Inc… This is a Read only property; it depends on the position of the marker in relation to the others.

Type

Type of the Marker.

TimeCode

TimeCode position of the Marker.

Offset

Offset of the Marker. Grayed out when offset is disabled.

Use Offset

Enable or disable the Offset of a marker.

Track Inspector

Shows, and allows editing of, data pertaining to the track selected in the right-hand pane.

- Name Track Name.The "*" tells you that this name was auto generated.

- # (Number)

- Pause

- Start

- End

- Length

- Start Offset

- Use Offset Clicking in the field toggles between Yes and No

- ISRC Clicking in the field allows an ISRC code to be entered

- Copy Clicking in the field toggles between Yes and No

- Comment

CD Text Info

- Title

- Performer

- Song Writer

- Composer

- Arranger

Clicking in any of these fields enables text to be entered.

Right section

The right-hand pane is the CD Tracks List which enables viewing and editing the content of the CD; by track. **All modifications applied here automatically affect your edit.** For example, if you modify a track pause from 4 to 6 seconds, all the clips (from the first one in the selected track to the last clip of the last track), markers and automation will be rippled to the right to add 2 seconds to the pause.

All operations can be undone.

The fields are:

Name

Name of the CD Track

(Number)

Number of the Track. Click on the Value to display a drop-down list with all available track position numbers, then you can select a new location for the track (E.g. Send track 9 to 2).

Pause

Pause of the CD Track: Time between the start of the track and the stop of the previous one. The pause of the first track is always 0 (the 2 second pause required by the RED Book standard are automatically added for you in the final TOC) except in case of a Ghost track (see the Ghost Track section for more detail).

Start

Start of the CD Track in the Timeline. Modify this value to ripple the track and all the tracks after.

End

Stop of the CD Track in the Timeline. Modify this value to ripple all the tracks after (performs a similar function to **Length**).

Length

Length of the CD Track. Modify this value to increase or decrease the length of the track and ripple all the tracks after.

Start Offset

Negative Offset for the start marker of the track.

Use Offset

Enable or disable the offsets of the track (start, stop, and index). To individually apply offset to start, stop and index, go the **All Markers** page in the left-hand panel.

ISRC

International Standard Recording Code. See the **CD Properties** section in the left-hand panel to get a complete description of this code. See the **Extra Functions** section to see how to automatically create this code. This field has a validation routine. The code may be entered as you wish and will automatically be validated. (E.g. "(FR) W01 - 02 / 1" gives "FRW010200001").

Copy

Toggles the Copy Protection bit.

Comment

General purpose comment. For 'in house notes'.

CD Text fields

All the remaining fields can be copied from the **CD Properties** page, see the **Extra functions** section, after this:

CD Text Title

CD Text Performer

CD Text Song Writer

CD Text Composer

CD Text Arranger

CD/SACD Tab Window Menus

Discs

Delete

Cut

Copy

Paste

Copy Info

Paste Info

Validate PQ   Validates the **PQ** for the disc. (**Please see Red-Book Validation on page 406**)

Markers

Cut

Copy

Paste

Delete Selected Track(s)   Deletes selected track(s) complete with clip, Markers, Automation etc.

Clear All Markers   Clear all the PQ markers

CD Mark Groups   Generate PQ markers automatically from clips or clip groups.

Add Start Marker   Add a Start Marker to the cursor position.

Add Stop Marker   Add a Stop Marker to the cursor position.

Add Index Marker   Add a Index Marker to the cursor position.

Validate name   For a track selected in the right-hand pane: Removes the "*", which is included in the name of an auto-generated marker and copy the name of the Start Marker to the Stop marker (if it is the last track in a disc), with a "**stop**" suffix added at the end of the Stop Marker name.

Offsets

Show Offset   Move the PQ marker to reflect the final position of the markers with offset. The **Table of Content** page always displays the final PQ code with offset; so this function is useful to show the real position of the marker on the Timeline or when you want simulate the final CD with the CD player.

Copy First Start   Apply the **Offset before first Track** value.

Copy Last Stop   Apply the **Offset after last Stop** value.

Copy Start   Apply the **Offset before start** value.

Copy Stop   Apply the **Offset after stop value**.

ISRC

Create   Create ISRC for the selected track(s) using the ISRC default parameters in the CD Properties page. If there is more than one selected track, the ISRCs are first created on the first selected track then incremented for the other(s).

Inc. Selection   Increment the designation code part of the ISRC for the selected track(s).

Validate ISRC   Check if the ISRC code is correct and correct it if it's bad.

CD-Text

Copy All   Copy all the CD Disc information to the selected track(s) CD Text fields.

Copy Title   Copy the CD **Title** to the selected track(s) CD Text **Title** field.

Copy Performer   Copy the CD **Performer** to the selected track(s) CD Text **Performer** field.

Copy Song Writer	Copy the CD **Song Writer** to the selected track(s) CD Text **Song Writer** field.
Copy Composer	Copy the CD **Composer** to the selected track(s) CD Text **Composer** field.
Copy Arranger	Copy the CD **Arranger** to the selected track(s) CD Text **Arranger** field.
Copy Title from Track Name	Copy the **Track Name** to the CD Text **Title** for the selected track(s).

View

Show CD Player	Opens the **CD Player** floating window **Please see: Show CD Player on page 404**
Display TOC...	Opens the **XToc** dialog. The left hand pane shows all **Discs** in **CD Album**s and **SACD Album**s associated with the current project. Click on a **Disc** to select it, then click on the **Display XTOC** button to display the complete TOC for the Disc in the right-hand pane.

Default Settings

CD Offset default parameters and ISRC default parameters are set in the **Settings > All Settings > Application > CD/SACD** page.
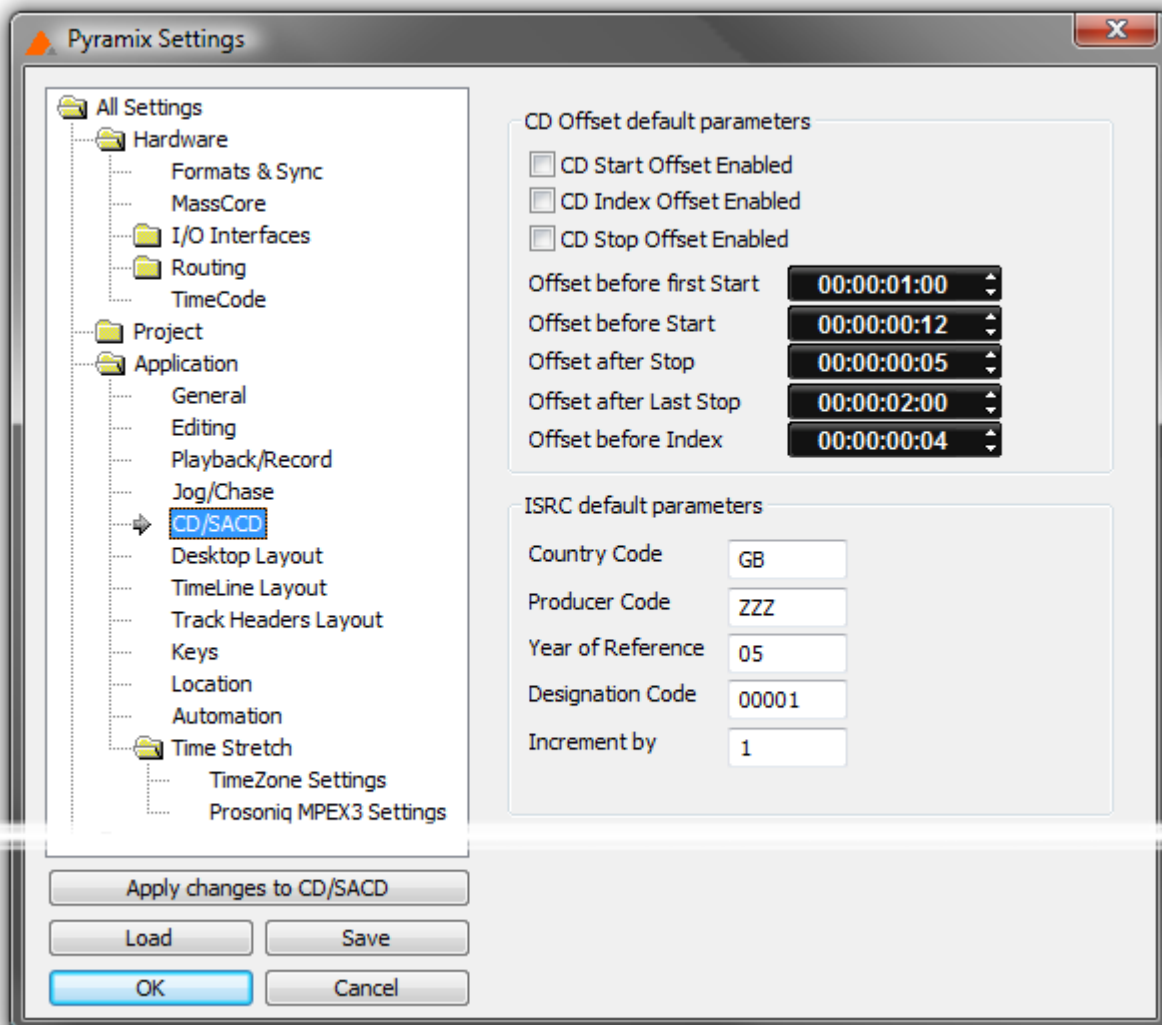
All Settings Application CD/SACD Page

CD Offset default parameters

These parameters are used when the offset of a PQ marker is set to zero and you enable them by ticking the boxes.

CD Start Offset Enabled

CD Index Offset Enabled

CD Stop Offset Enabled

Offset values can be typed and/or adjusted using the increment decrement buttons.

Offset before first Start

Negative offset applied to the first PQ start marker only.

Offset before Start

Negative offset applied to all PQ Start markers except the first one.

Offset after stop

Positive offset applied to PQ Stop marker except the last one.

Offset after last stop

Positive offset applied to the last PQ stop marker.

Offset before Index

Negative offset applied to PQ index marker.

ISRC default parameters

These parameters are used to automatically create or increment ISRC with the function **ISRC > Create** & **ISRC > Inc Selection** are invoked from the **Offsets** and **ISRC** menus. (Right-click anywhere in the right-hand pane)

All these parameters are stored in the project. If you want to define the value as Default value, right click on the value and select "Set as Default".

Country Code

2 characters (GB, SW, FR etc…)

Producer

3 characters (W01).

Year of Reference

2 digits (02).

Designation Code

5 digits (00012, 80010).

Increment by

Used to auto increment the designation code part of the ISRC. The default value is "1".

Show CD Player

CD Player floating Window

View > Show CDPlayer in the **CD/SACD** Tab window displays an "always on top" small CD Player which enables simulation of the CD playback (like a "real" CD player). The CD can be simulated with or without the markers offset.

Choose **Show Offset** in the Track list pane pop-up menu to take care of the offset The player has standard playback functions (play, stop, next, previous, scan etc…) and some special functions:

Preroll

Clicking in the number box allows a value (in seconds) to be entered.

Postroll

Clicking in the number box allows a value (in seconds) to be entered.

Skip Track Backwards

Skip Track Forwards

Stop

Play

Rewind

Fast Forward

Play Transition Play the current track from the previous **Stop marker** minus **pre-roll** to the current **Start marker** plus **post-roll**. Pre and Post roll can be edited directly on the CD player interface.

Play All Transitions Has the same functionality as Play Transition but plays all transitions between CD tracks.

Track Clicking on the third from the right button cycles through four different time display options. Elapsed time from start of CD, Time remaining from the End of the CD. Elapsed time of Track and Time remaining from end of Track

Frame Shows/hides the CD frames display

Rnd

Ghost Track

Normally a CD begins from the first track which has a 2 second pause. Pyramix allows you to modify this and create a ghost track; a track before the first track. To accomplish this simply add a CD Index Marker at the beginning of your ghost track, before the first start marker. You can also edit the pause of the first track then this will create or move the ghost marker index for you.

Multiple CDs or versions in one Project

All CD Information and CD Markers can be either "global" or per Track Group. Each Track Group that has the Destination type and Free Markers enabled has its own CD Information and CD Markers. This enables multiple versions of PQ editing for an album to be handled and for multiple CD albums in the same document. The CD Info and Markers displayed in the CD Tab Window follow the currently selected Track Group.

Red-Book Validation

Validate PQ: This function ensures that the PQ conforms to the Red Book specifications by carrying out the following checks and corrections.

- When a pause is less than 1 second, the pause is removed. (The offset is automatically dealt with).

- Track Length is set to 4 second if it is less. (The offset is automatically dealt with).

- Track count is reduced to 99 if greater

- ISRC is removed if it is incorrect

- UPC/EAN is removed if it is incorrect

This function an be undone if necessary.

DDP Import

You can use the DDP import function **Project > Import > DDP Import** to import a DDP tape or file and generate a new CD image file. From this CD image file you can burn a CD or generate a new DDP tape.

CD Image File / SACD Edited Master Import

Import audio and **PQ** Markers from a CD Image file or SACD Edited Master. **Project > Import > CD Image File / SACD Edited Master Import**.
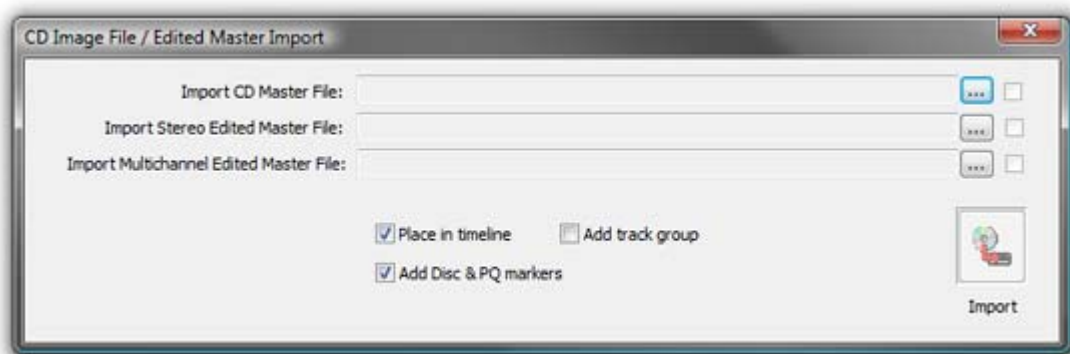
CD Image File / Edited master Import dialog

Each **...** button opens a File Browser Window to locate the desired file(s).

The boxes at ehe bottom of the screen determine how the data will be processed on import.

Place in Timeline   When ticked the audio will be placed in the Timeline on an appropriate number of tracks.

Add Track Group   When ticked a Track Group will be created containing all the relevant audio tracks.

Add Disc & PQ markers   When ticked Disc and PQ markers will be added to the Marker bar.

SACD Functions

Accessed from the right-click context menu:

lbm...

lbm... sub-menu
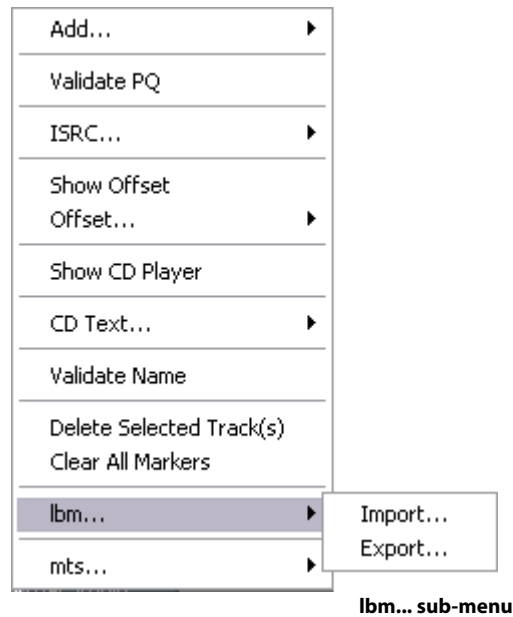
Import... / Export...

Opens a Windows browser window to save or load SACD text **.lbm** files.

mts...

Opens a Windows browser window to save or load SACD text **.mts** files.

Exporting Projects to CD Image Files

To export a previously Marked Composition to a CD-R image file and Cue Sheet text file:

Open the **CD/SACD** Tab window. Fill in CD information as appropriate. Clicking in the **UPC/EAN Code** field opens the UPC-A / EAN13 code dialog:

UPC-A / EAN-13 code dialog

UPC/EAN capture for CD/SACD Albums, Discs and Areas is handled via this dialog box.

Enable UPC/EAN Code: When ticked, **UPC/EAN Code** is enabled.
Code Type: offers a choice of **UPC-A** or **EAN-13** barcode formats. Enter the 11 or 12 digit Company prefix and

Product Code. The checksum is calculated automatically and the resulting code displayed. Click OK to enter the result in the field.

The number of digits is checked according the type of code and the CheckSum: digit (the last one) is automatically calculated (to ensure its validity).

Moreover, the **TOC** information part of a Pyramix generated CDImage file (PMI) will always contain a 13 digits UPCEAN code (left 0-padded if UPC-A type code) or no UPCEAN code at all if the field is left blank.Choose **Project** > **Generate CD Image / SACD Edited Master**. This opens the **Generate CD Image** dialog.
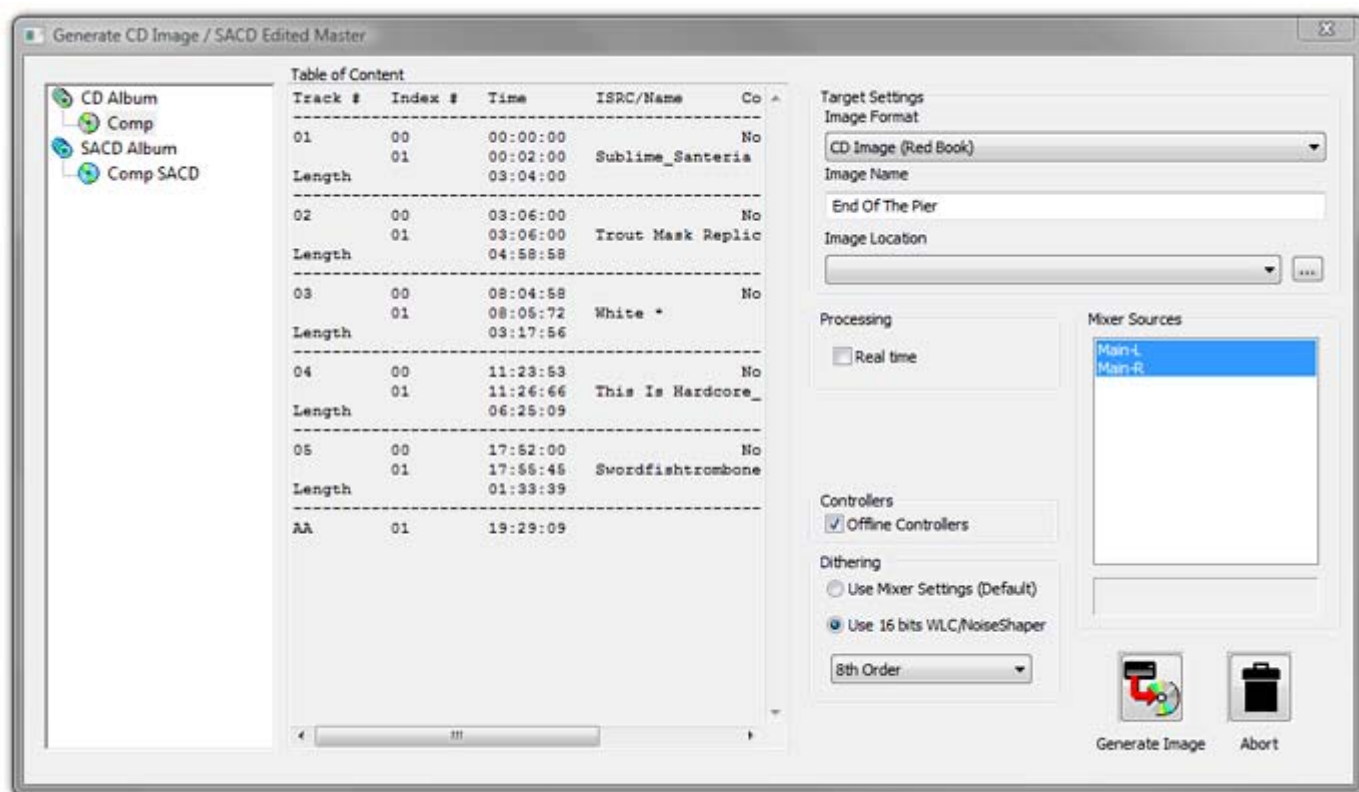
Generate CD Image / SACD Edited Master

Select a **CD-Disc** from the left-hand pane.

Target Settings
Image Format

Choose the required format from the drop-down list.

Image Name

Type a suitable name for the image.

Image Location

The combo box has a list of all mounted media folders or you can use the ⋯ button to open the **Choose a media folder to mount** dialog.

Processing
Real Time

Tick the box if you want to generate in real time or if you wish to listen to the CD while the image is being generated.

Controllers
Offline Controllers

Untick the box if you want to use a Hardware Controller while generating the image in realtime for e.g. changing Monitor volume etc. or to fade out.

Mixer Sources

Pick two appropriate bus outputs from the list shown by **Ctrl + Clicking** them.
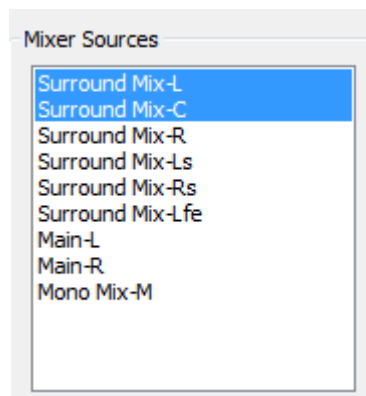
Generate CD Image - Mixer Sources

If more or less than two are chosen this error message appears when **Generate Image** is clicked:
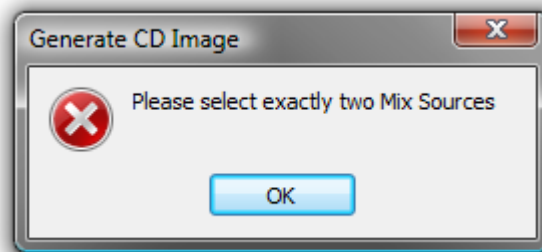
Generate CD Image - Mixer Sources Error

Dithering

   Note: There is no necessity to manually disable dither in the Mixer.

There is a choice between two dither processing units:

Use Mixer Settings (default)

Applies the same treatment as the Mixer's Dither (parameters are those selected in the Mixer) or

Use 16 bits WLC/Noise Shaper

This is the same as the dither in V4.2, available even if no SRC is applied. The combo box offers a choice of settings:
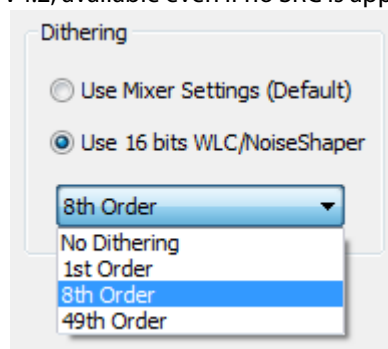
Generate CD/SACD dialog - Dither options

Select the required quality of Noise Shaping from the drop-down list.

1st Order is simple single order shaping with

8th Order and

49th Order offering improved quality.

A higher quality setting will produce better results, but the processing time will also increase.

CD Cue Sheets

The CD Cue Sheet file is a metadata file which describes how the tracks of a CD or DVD are laid out. Cue sheets are stored as plain text files and commonly have a **.cue** filename extension. CDRWIN first introduced cue sheets, which are now supported by many optical disc authoring applications and media players.

For an Audio CD, a Cue Sheet specifies titles and performers for the disc and its tracks as well as the names of one or more audio files to be used. MP3, WAV and BIN files are often used, although some programs support other formats. Cue sheets are especially useful when burning or listening to live sets where all tracks are recorded in one file.

Cue sheets are also used for many types of CDs in conjunction with an image file. The image file generally has a ".bin" extension. (**.pmi** extension in Pyramix and **.cue** for the Cue Sheet file.)

Cue Sheet file Contents

The Cue Sheet file will display information in this form when opened in a text editor:

```
REM COMMENT "Generated by Merging Technologies Pyramix Version 6.1.0"
REM Customer Name: Ricardo Ryan
REM Customer Contact: Merging Technologies
REM Customer Phone: +41219460444
REM DATE Wednesday, October 29, 2008
CATALOG 3466755435677
TITLE "Greatest Hits"
PERFORMER "U2"
SONGWRITER "Bono"
FILE "Album.pmi" WAVE
  TRACK 01 AUDIO
    TITLE "Pride"
    INDEX 01 00:00:00
  TRACK 02 AUDIO
    TITLE "Unforgettable Fire"
    INDEX 00 00:59:17
    INDEX 01 01:56:57
  TRACK 03 AUDIO
    TITLE "Sweetest thing"
    INDEX 00 03:08:5
    INDEX 01 03:40:19
```

Export

CD Cue sheet file export is fully implemented in Pyramix 6.1 Beta 1 in compliance with the CDRWIN specifications. The **.cue** file is generated at the same time as the **.pmi** disc image file. However, many CD burning applications do not fully support the CDRWIN Cue Sheet specification.

Audio CD Cue Sheet Compatibility

CD Burning application / Tested Features	ImgBurn v2.4.2.0 (freeware)	Ahead Nero v6.3.1.15	Ahead Nero v7.2.3.2 to Nero v9.0.9.4	CDRDAO (multi platform command line app.)	Roxio Toast v9 (Mac)
Open CUE file	OK	OK	Crash	OK	OK*
CD Text Disc Title	OK	OK	-	OK	-
CD Text Disc Performer	OK	OK	-	OK	-
CD Text Disc Songwriter	-	-	-	?	-
Catalog Number (UPC/EAN)	OK	-	-	OK	OK
CD Text Track Title	OK	OK	-	OK	OK
CD Text Track Performer	OK	OK	-	OK	-
CD Text Songwriter	-	-	-	?	-
Track ISRC	OK	OK	-	OK	OK
PreGap / Pauses	OK	OK	-	OK	OK
Index markers	OK	OK	-	OK	-

Note: * To import Audio CD Cue file in Roxio Toast v9 :

• PMI file has to be renamed with **.BIN** extension instead of **.PMI**

• Cue sheet file must be edited to match Source Filename's extension change, and specify File type as **BIN** instead of **WAV**

DiscWrite

DiscWrite is a separate application bundled with Pyramix Virtual Studio that is used to write the CD image out to a CD-R disc or a DDP image file to a folder or DDP tape drive.
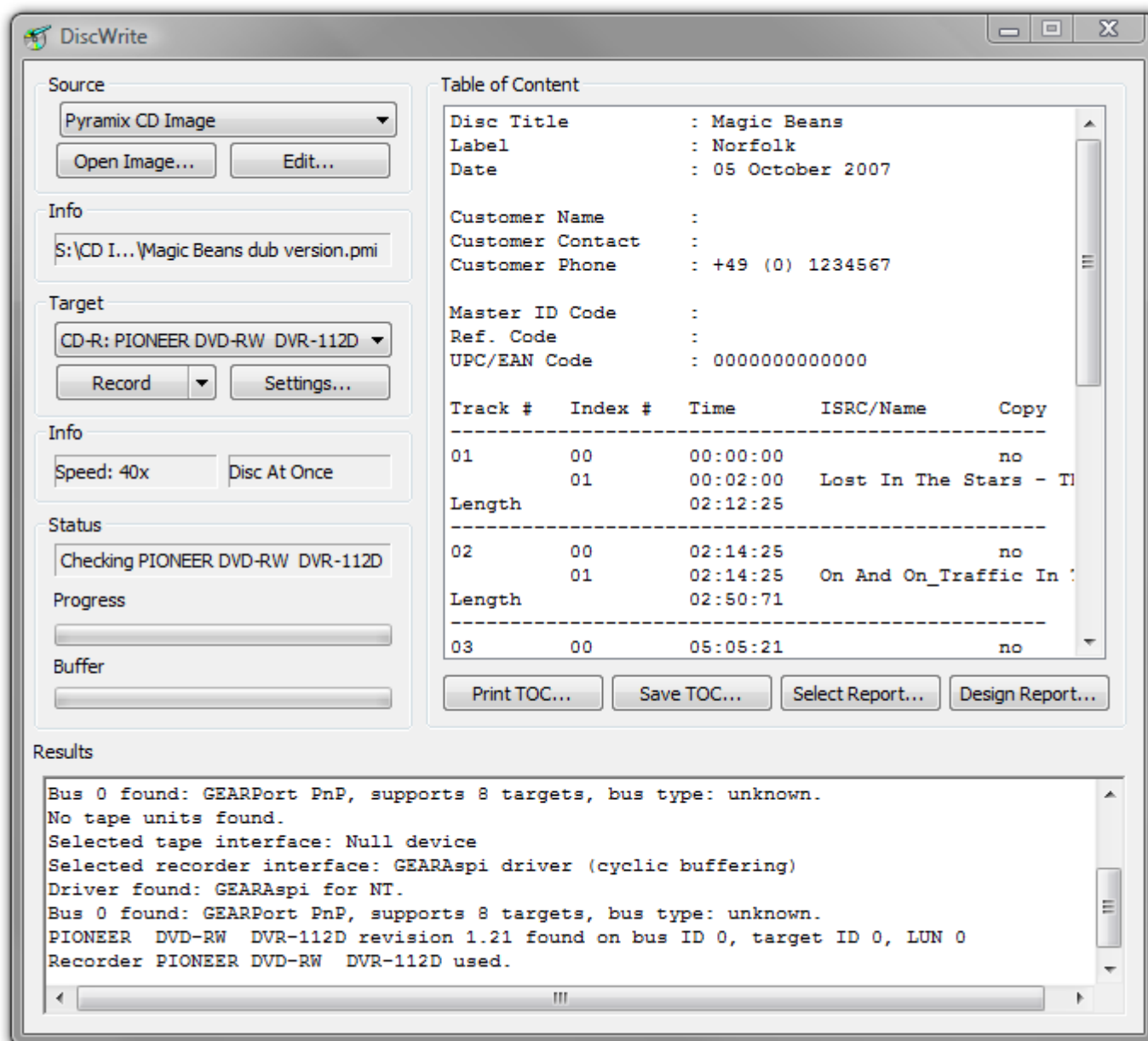
Source

The drop-down list enables the user to choose between a **Pyramix CD Image**, all installed optical drives, a **U-Matic Tape** or an existing **DDP** master file as the source for the new CD-R or DDP file.

Source - Pyramix CD Image
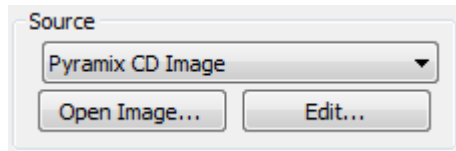
DiscWrite Source - CD Image

When the chosen **Source** is **Pyramix CD Image**, the left-hand button below the **Source** drop-down list will be **Open Image...** Clicking on **Open Image...** leads to a file browser window where you can navigate to the desired image file. The right-hand button will be **Edit...**

Clicking on the **Edit...** button opens the **Image Editor** dialog:
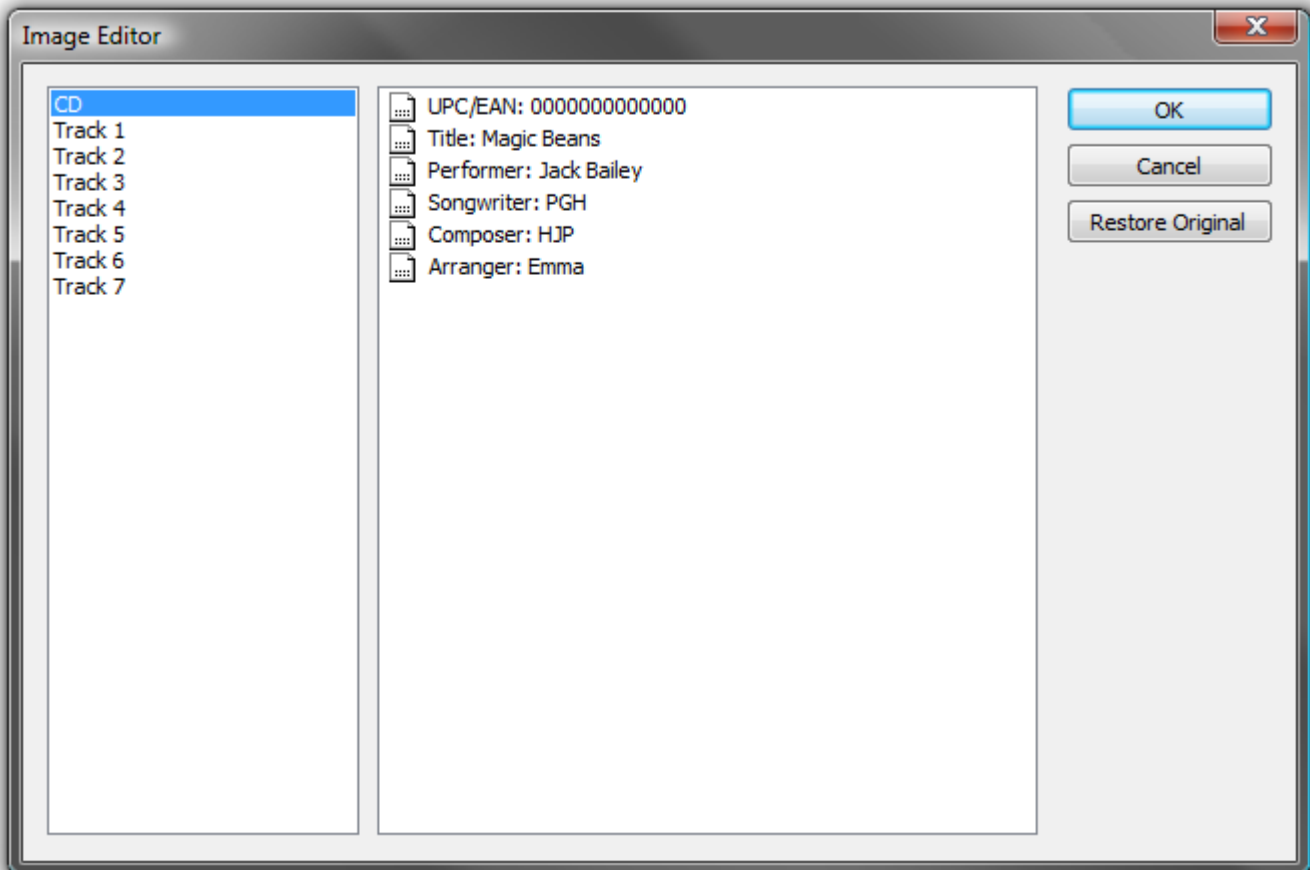
DiscWrite Image Editor dialog

CD-Text can be edited freely.

Restore Original

Undoes any changes made since the dialog was opened.

Source - CD Drive
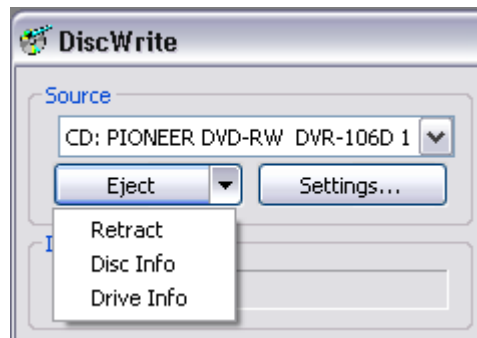
DiscWrite Source - CD Eject Drop-Down

When the chosen **Source** is **CD: ....**, the left-hand button below the **Source** drop-down list will be **Eject** and the right-hand one **Settings...**

Eject

opens the loading tray of the selected optical disk drive (or ejects the disk if the drive is a slot-loader). Clicking on the down arrow next to the Eject button drops down a list of other optical disk drive commands.

Retract	Closes the loading tray on the source drive
Disk Info	Reads the disc information and displays it in the **Results** box
Drive Info	Interrogates the optical drive firmware and displays information about the drive in the **Results** box

Source - U-Matic Tape

Sony PCM-1630 master tapes can be imported. **Please see: Importing a U-Matic Tape on page 418**

Info

The **Info** box shows either the read speed of the optical drive or the path to the image file.

Target

The drop-down list enables the user to choose between any installed CD-R or DDP drives or a **DDP Folder**

DDP Folder

When **DDP folder** is the selected target the button beside the **Record** button drops-down a list of options:
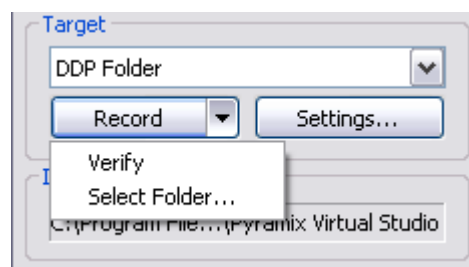
DiscWrite Target - CD Eject Drop-Down

Verify	Verifies the recording
Select Folder...	Opens a Browser to enable a suitable folder to be chosen

Settings...

Opens a window with DDP settings information and options.

CD-R/CD-RW

When a CD-R(RW) is the selected target, the arrow beside the **Record** button drops-down a list of options:.
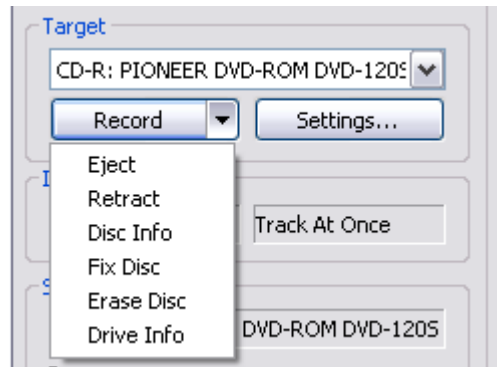
Eject	Opens the loading tray on the target drive
Retract	Closes the loading tray on the target drive
Disk Info	Reads the target disc's information and displays it in the **Results** box
Fix Disc	Writes the information necessary to allow a Track at Once disc to be read by a CD player.
Erase Disc	Erases a re-writable disc
Drive Info	Interrogates the optical drive firmware and displays information about the drive in the **Results** box

Settings...

The **Settings...** button is grayed out unless a suitable optical drive or image file has been selected. When available, clicking on **Settings...** opens a dialogue with access to all relevant settings. In particular, this is where you can choose between **Disc-at-Once** and **Track-at Once** modes. Use **Disc-at-Once** for maximum compatibility.

Record

Clicking on the **Record** button initiates the recording process.

Detailed reporting about the progress of the process is shown in the **Results** box as the recording is made.

Info

Shows the Write speed of the target drive or the path if you are writing a DDP file to a folder. Also shows the chosen record mode, e.g. Track At Once or Disk At Once.

Status

Shows the status of the recording device/process

Progress

A 'thermometer' bar graphically shows the progress of the recording.

Buffer

Another 'thermometer' showing the state of the record buffer.

Results

This box displays detailed information about various aspects of the process depending on what you are doing at the time.

Table Of Content

Displays the TOC in detail.

Print TOC...

Opens a **Print Options** dialog. The actual options available will depend on the printer you have selected.

Save TOC...

Opens a File Browser dialog. Here, you can type a name for the TOC file and choose a suitable folder to save it in.

Select Report...

Opens a File Browser dialog where you can select a report style for the TOC

Design Report

Opens the **Report Designer** application. With this you can design your own report formats for TOCs.

Optical Drives - Important Note:

Most, if not all the issues you might encounter when working with optical drives, Windows and DiscWrite can be solved by installing the latest firmware for your drive. This, together with installation instructions, should be available from the drive manufacturer's website. This is true for CD-Text writing, write speed & buffer issues, as well as for CD-Import.

CD Text

CD-Text has been successfully tested with several high quality DVD-R and CD-R drives. However, DiscWrite and its CD-text functionality should work with most of the writers available on the market, provided care has been taken to install the latest available firmware for the unit.

A warning will appear when a non CD-Text writer is intended to be used to write a Disc Image containing CD-Text.

Compatibility with CD-Text can be confirmed in the **Target** area by making sure the desired drive is selected and choosing Drive Info from the **Record** drop down menu.

 Writing CD-Text (audio, disc at once): Yes. Should be found in the **Supported write methods:** section of the list in the **Results** window. (You will have to scroll the list to find this)

Burning a CD-R

Launch **DiscWrite**. (A normal Pyramix installation places a **DiscWrite** icon on the desktop) To burn a CD-R from a previously created CD image file:

1. In the **Source** section, click the **Open Image...** button, then navigate to and select a previously created CD Image file (an **.img** or **.pmi** file).

2. In the **Target** section, click in the drop-down menu to select a CD-R device. **DiscWrite** should recognize a previously configured CD-R device which is also recognized by the OS itself.

3.   Also in the **Target** section, click on the **Settings...** button to open the **CD-R Settings** dialog box. Set these as desired for the CD-R burning session. The default settings will usually be fine but it is worth checking that the **CD Write Method:** entry is set to **Disc At Once**.
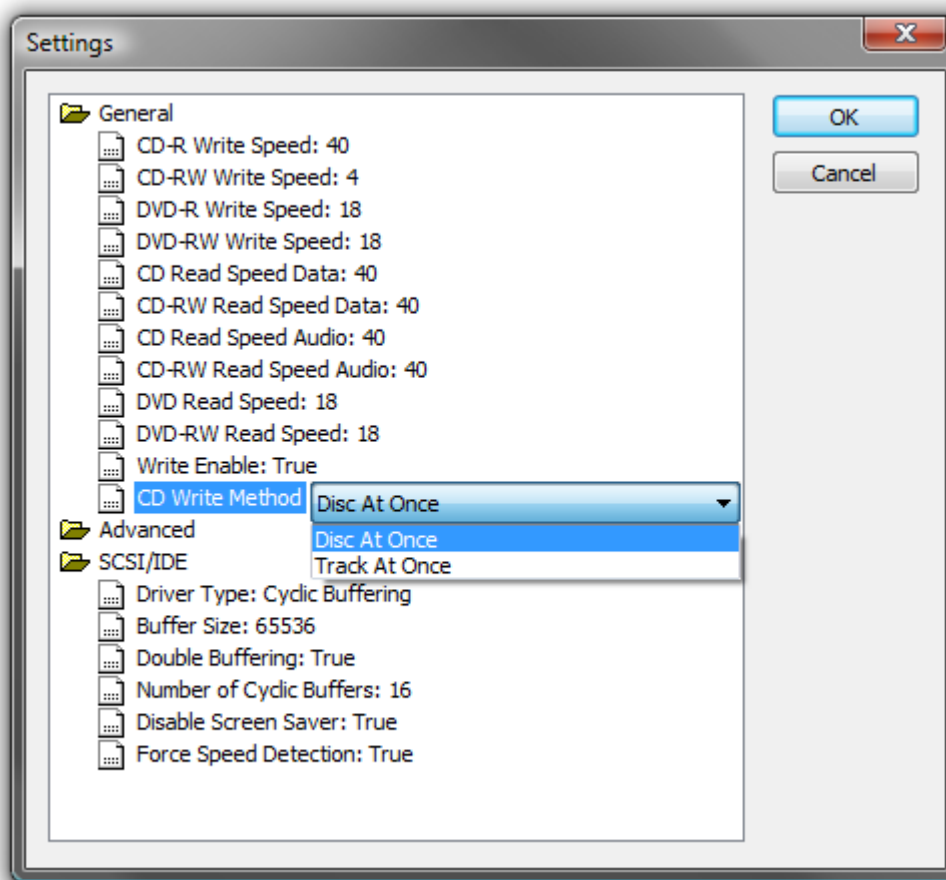
DiscWrite General and Advanced Settings

4.   When all CD-R settings are adjusted as needed, click the **Record** button in the **Target** section to begin burning the CD-R.

DDP Masters

Note: As in the above example, Pyramix allows you to specify burning your DDP to a folder (instead of an Exabyte tape) and from there on it may be transferred, copied, duplicated, checked, archived or whatever else you want to do with it, such as sending it over a secure FTP connection.

Red Book Compatible Masters

If the CD-R is to be used as a "Red Book" compatible master "**Contiguous**" MUST be selected.

CD Copy

Where suitable hardware is available, a CD may be directly copied by selecting a CD-ROM drive as the source and a CD-R/RW drive as the destination.

TOCs

Print TOC... prints the current TOC in the currently selected report format.

Save TOC... opens a file save dialog to save the current TOC as a text (.txt) file.

Select Report... opens a file open dialog. Any previously designed TOC report format (*.lst) may be loaded**.**

Design Report... Opens the **Report Designer**. Please see the on-line documentation.

Importing a U-Matic Tape

These instructions assume the use of a Sony 1630-PCM Audio Processor and a Sony DMR-2000 Master Recorder (U-Matic).

Requirements
The U-Matic machine **must** be under Sony 9-pin (P2 Protocol) control from Pyramix.

U-Matic Tape import requires a Mykerinos card with SDIF daughterboard and the appropriate key (PSO-1630). Clients who already have an external SDIF converter can use this with a daughtercard suitable for its output. E.g. The AES-EBU or DUAL daughtercards.

Connections
1. Wordclock is used to sync the PCM-1630 (Sourced from the Mykerinos card)

2. DiscWrite controls the DMR-2000 transport using RS-422 (Sony 9-pin) via either the Pyramix workstation's MTCHIO card if fitted or from the RS-232 COM port via an RS232 to RS422 converter.

3. The DMR-2000 sends the composite digital stream to the PCM-1630. The PCM-1630 extracts the Audio signal and, if required, the Sync signal.

4. The extracted digital audio signal is sent to DiscWrite via either an SDIF Mykerinos daughterboard input or to an outboard SDIF to AES/EBU converter and thence to an AES/EBU Mykerinos daughterboard input.

5. The DMR-2000 reads the TimeCode signal from the tape and sends it via the analog AUX OUT CH2 XLR. This information is used by DiscWrite.

6. The DMR-2000 reads the PQ Burst from the tape (this is also an analog signal) and sends it via the AUX OUT CH1 XLR to DiscWrite either using an input of the DUAL daughter card or an input of another analogue daughtercard or directly using the motherboard ANALOG LINE IN.

    Note: NEVER use the MIC IN of the motherboard. (This may be equalised and is likely to distort the PQ Burst rendering it unreadable.)

Procedure

1. Before launching DiscWrite, open the **VS3** Control Panel:
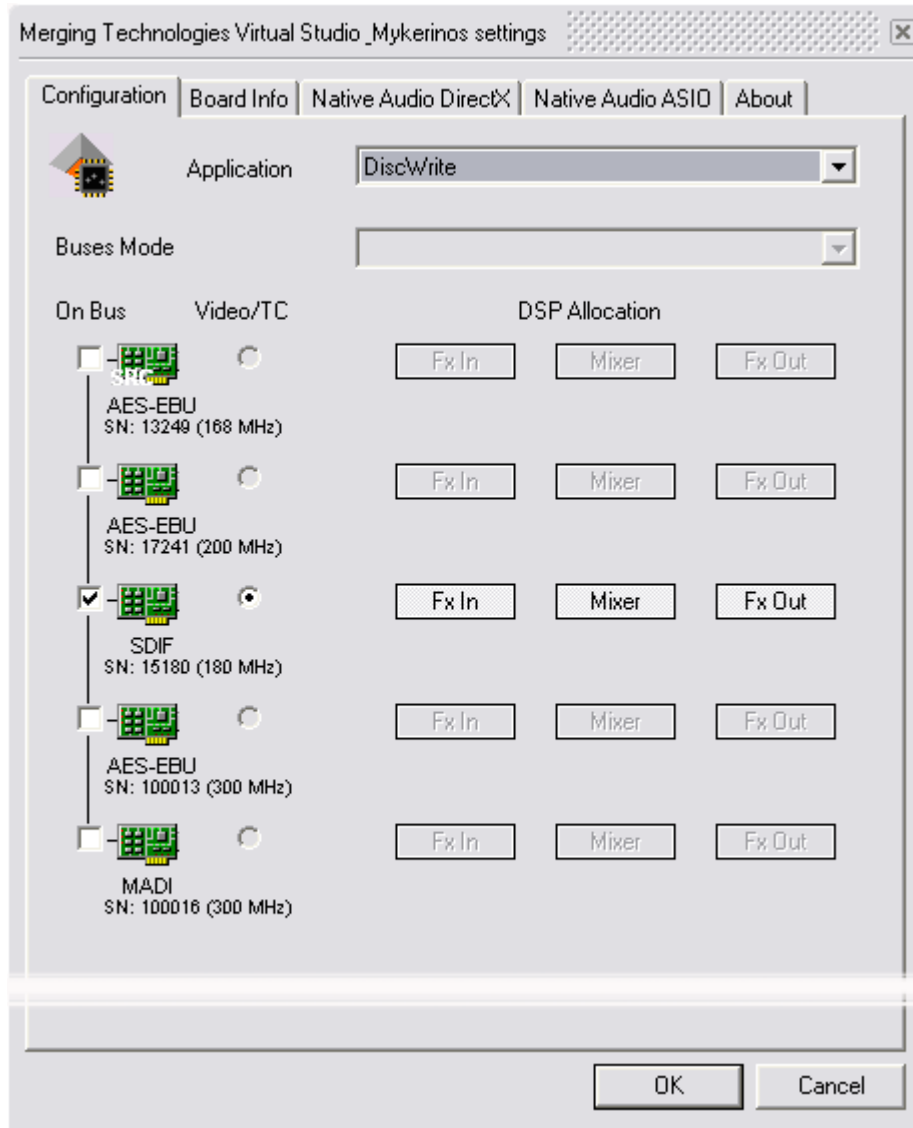
VS3 Control Panel

2. Choose **DiscWrite** from the **Application** drop-down list. Then, choose your preferred daughter card (SDIF, AES or DUAL depending on your hardware setup). The DiscWrite option will only appear with Pyramix V5.1 and higher.

3. Click on **OK** to make the changes and to close the VS3 Control Panel.

4. Open **DiscWrite**

5. Choose **U-Matic Tape** from the **Source** drop-down list.

6. Settings

Click on **Settings** to open the **U-Matic Settings** dialog to configure DiskWrite for U-Matic Import.
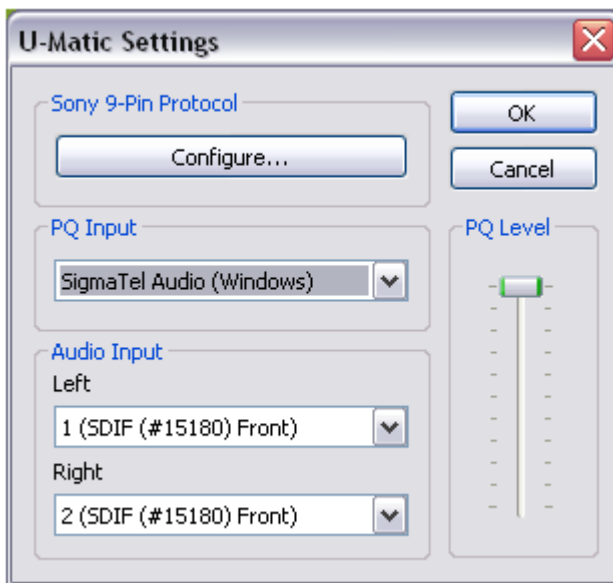
DiscWrite U-Matic Settings Dialog

Sony 9-Pin Protocol

To set up remote control for the U-Matic machine via the Sony 9-pin P2 protocol click on **Configure... (Please see: Sony 9-Pin Protocol Configuration (Machine) on page 536)**.

PQ Input

PQ input can be either a Mykerinos input or any sound-card live input.

PQ Level fader enables the level to be adjusted when using a Windows sound card.

Audio Input

The **Audio Input MUST** be Mykerinos inputs.

7.   Make the following settings on the DMR-2000 front panel:

Switch	Settings	Notes
REMOTE	REMOTE-1	REMOTE-2/LOCAL should be set to enable the buttons on the front panel
TIMECODE	AUTO STOP	
HEADPHONE	see note	CH-1 = Audio CH-2 = Timecode On the heaphones

8.   Make the following settings on the **PCM-1630**

Switch	Settings
ENC IN	DIGITAL
D.A. IN	INT
MUTE	AUTO
MONITOR	PB
PB MODE	A
SCALE	NORMAL
PEAK	AUTO

9.   Make the physical connections to match the choices made in **U-Matic Settings**.

Note: Detailed connection diagrams for various scenarios can be found on the Merging website:

http://www.merging.com

(Click on **Support > Downloads > Documentation** to find the diagrams)

10. When suitable settings have been made, click on **OK** to return to the main window:.
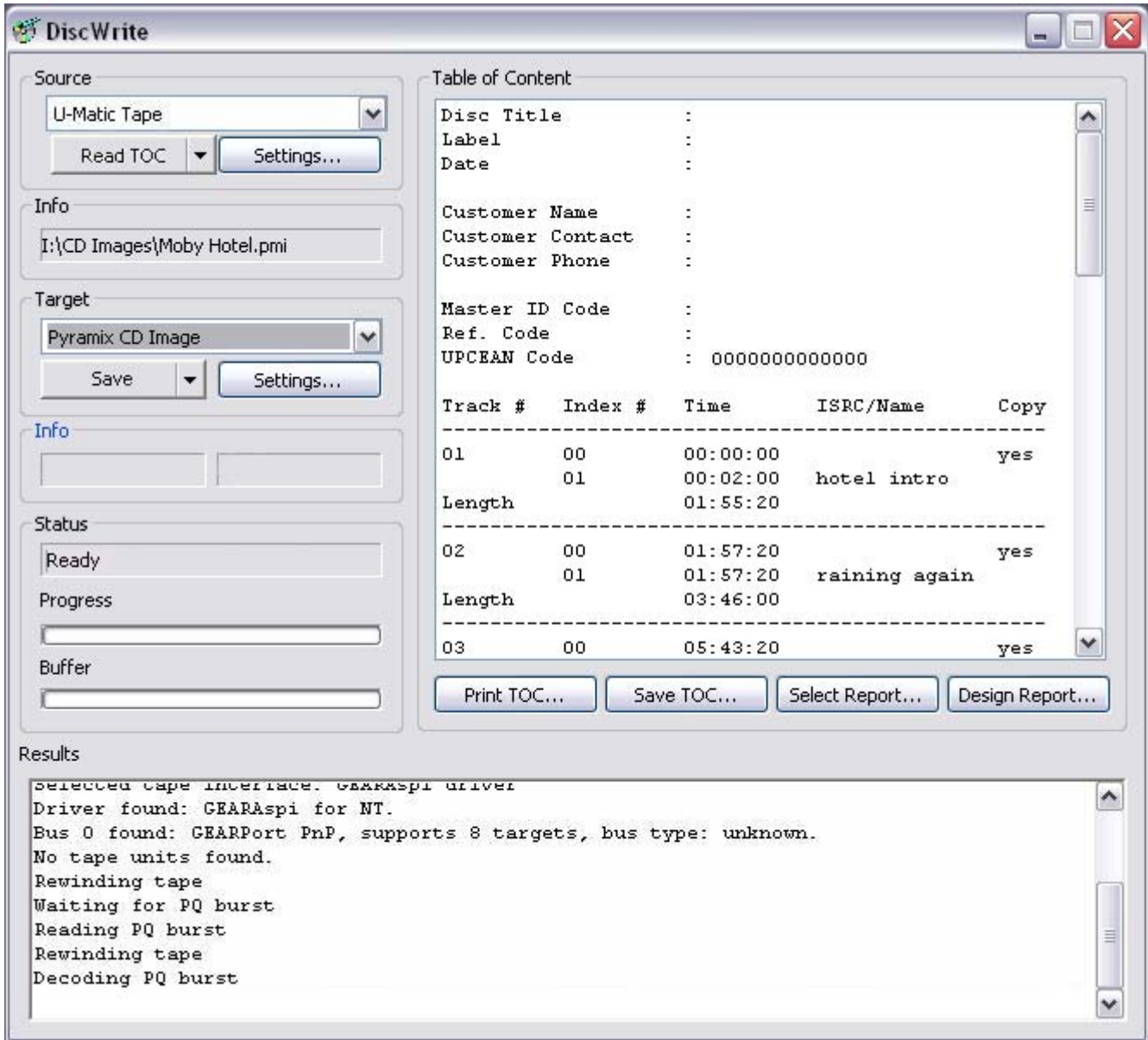
DiscWrite application window

11. Click on **Read TOC** to start the U-Matic machine in replay to read in the **Table Of Content** from the tape.

To check for an input signal, click on the down arrow adjacent to **Read TOC** and select **Show / Hide VU Meter** to display a meter window.

12. If the TOC is as you expect, click on **Save** to read the TOC again and save the tape's contents in a **.pmi** CD Image file.

> **Note:** if you already know the contents of your tape you can click on **Save** without reading the TOC first.
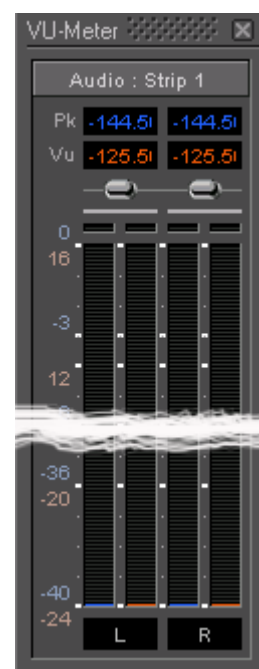
Input Meter window

Once recorded, this **.pmi** CD image can be used in exactly the same way as any other standard CD image.

Probox 3 Format Converter Settings
For any users who already have an Audio Design Probox 3, SDIF to AES-EBU converter, here are the settings:

Switch	Settings
MODE	SIMULTANEOUS CONVERSION
INPUT SELECT	EBU

Locating Clips

In projects cantaining a large number of Clips it can be very helpful to be able to find where a particular Media file or files are being used. For example if you wish to replace all instances of a particular sound effect.

The **Media Manager** Tab Window **Edit Menu** has two commands to assist:

Locate   Locates the Playhead Cursor to the start of the first (or only instance) of a single item selected in the Media Manager list and Selects it in the Timeline

Show Usage   Selects all instances in the Timeline of the item(s) selected in the Media Manager list and zooms the Timeline to show them.

Waveform Generator Utility

If you have to deal with large numbers of audio files consider using the Waveform Generator Utility to save on valuable studio time. This can be set to generate Waveforms for audio media files in a folder (including sub-folders if required). The utility can be run on any PC, it does not require Pyramix to be present.

Waveform Generator Application Window

Simply launch the Waveform Generator application, click on the **...** button to open a file browser, navigate to the folder containing the audio media files and tick the **Include sub-folders** if you wish. Then click on **Generate**. When Waveform generation is complete you will see this dialog box:
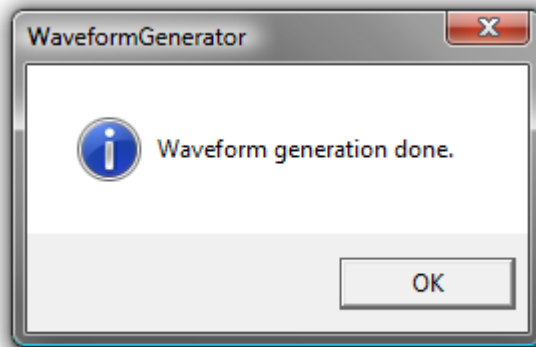
Waveform Generator done dialog

Click on **OK** to close the box and that's it. It really is that simple.

Tab Windows

Tab Windows have long been a powerful aid to productivity in Pyramix. In Version 6 you can still use Tab Windows in the same way as previous versions but you will miss out on some major 'Power User' features if that is all you do.

Just as before, clicking on a Tab opens the associated Window in the space below the Project Editing Panel and double-clicking a Tab opens the associated Window floating. Double-clicking the title-bar of a floating Tab Window restores it to the space below the Project Editing panel.

Tab Behaviour

In Version 6 Tabs can be 'torn away' to open as floating Windows in blank screen space by simply clicking on the Tab and dragging. clicking the **X** closes a floating Window and the Tab is removed from the Tab pool. This means that the interface can be streamlined by removing Tabs you never use or which are inappropriate for the specific task in hand. Tabs removed in this way can be restored by choosing **View > Editor Tabs** and clicking on the required Tab or **Show all Tabs** to restore all closed Tabs.

Apart from this last feature, the ability to remove Tabs from the user interface, simple Tab behaviour is almost identical to previous versions. However, there are many other things you can do with Tabs to enhance productivity.

Tab Arrangement

Hiding and Showing All Tabs

To quickly **Close all Tabs**, **Show all Tabs**, or **Toggle Show/Close all Tabs** and to find the other Tab display options go to the menu **View > Editor Tabs**.

In the Project Editing pane, clicking on the **Magnify/Maximise Timeline** box at the junction of the vertical and horizontal scroll bars also actuates **Toggle Show/Close all Tabs**.

Tab Docking and Nesting

Floating Tab Windows can be nested or docked together in the Program Window or in floating Windows by simply clicking and dragging. When a Tab Window or group of Windows is clicked and dragged, small blue "landing lights" appear indicating where the Tab can be docked in the main Program Window with a center block of five indicating where the Tab can be docked in the Window or panel it is currently being dragged over.
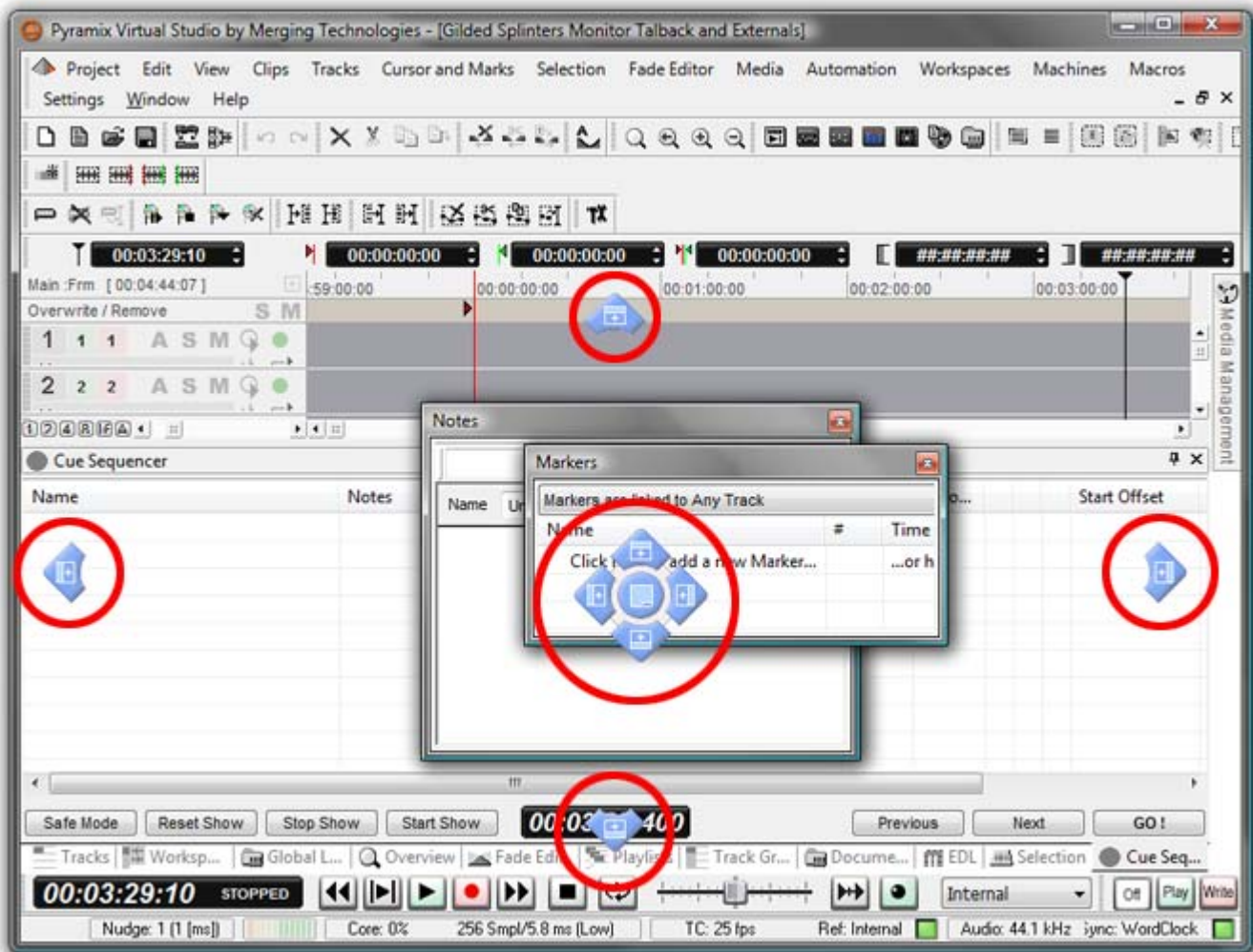
Tab Window "Landing Lights"

Thus, in the highly artificial screenshot above, it is the **Markers** Tab Window that has been clicked and dragged. The peripheral blue landing lights indicate where in the main programme window it can be docked and the centre landing lights indicate where in the **Notes** Tab Window it can be docked.

Note: The centre button is only available when the Tab can be docked as a Tab in another Tab Window.
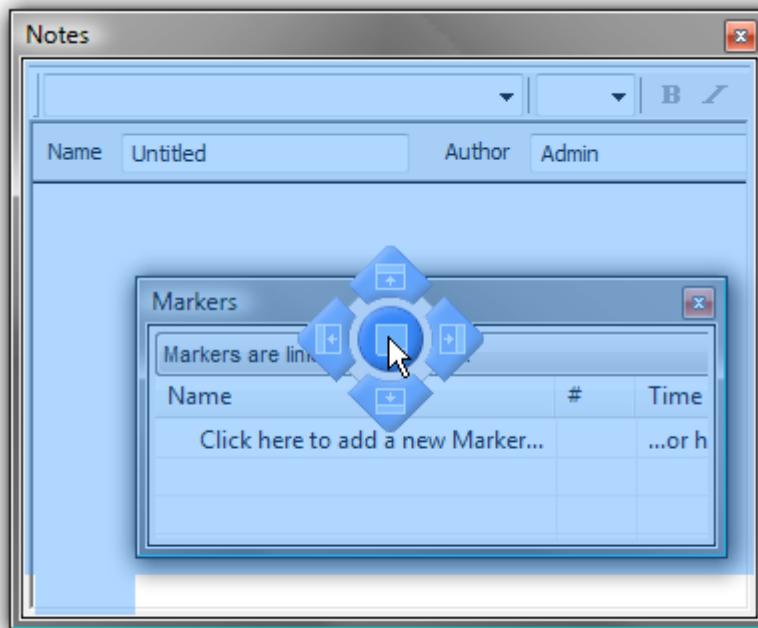
Tab Window "Landing Lights" and "Ghost Image"

Placing the mouse cursor over a specific Landing Light determines what will happen when the mouse button is released. In order to help avoid confusion blue "ghost images" appear showing where the Tab Window will land. In the screenshot above, if the mouse button is released the **Markers** Tab Window will become nested with the **Notes** floating Tab Window thus:
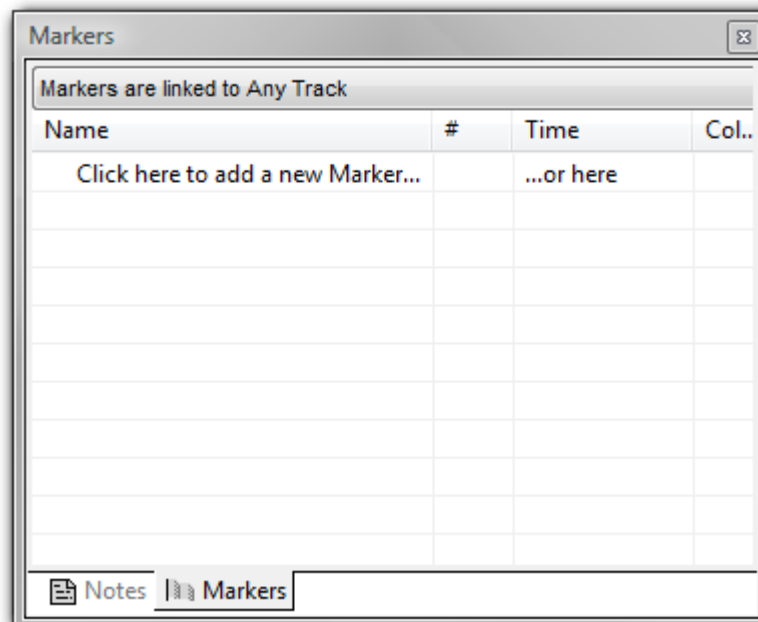
Nested Tab Windows

If a nested, floating Tab's title bar is double-clicked all the nested Tabs are returned to the main Tab dock.

Layout Example

Here, the **Overview** Tab has been 'torn off' by clicking and dragging.
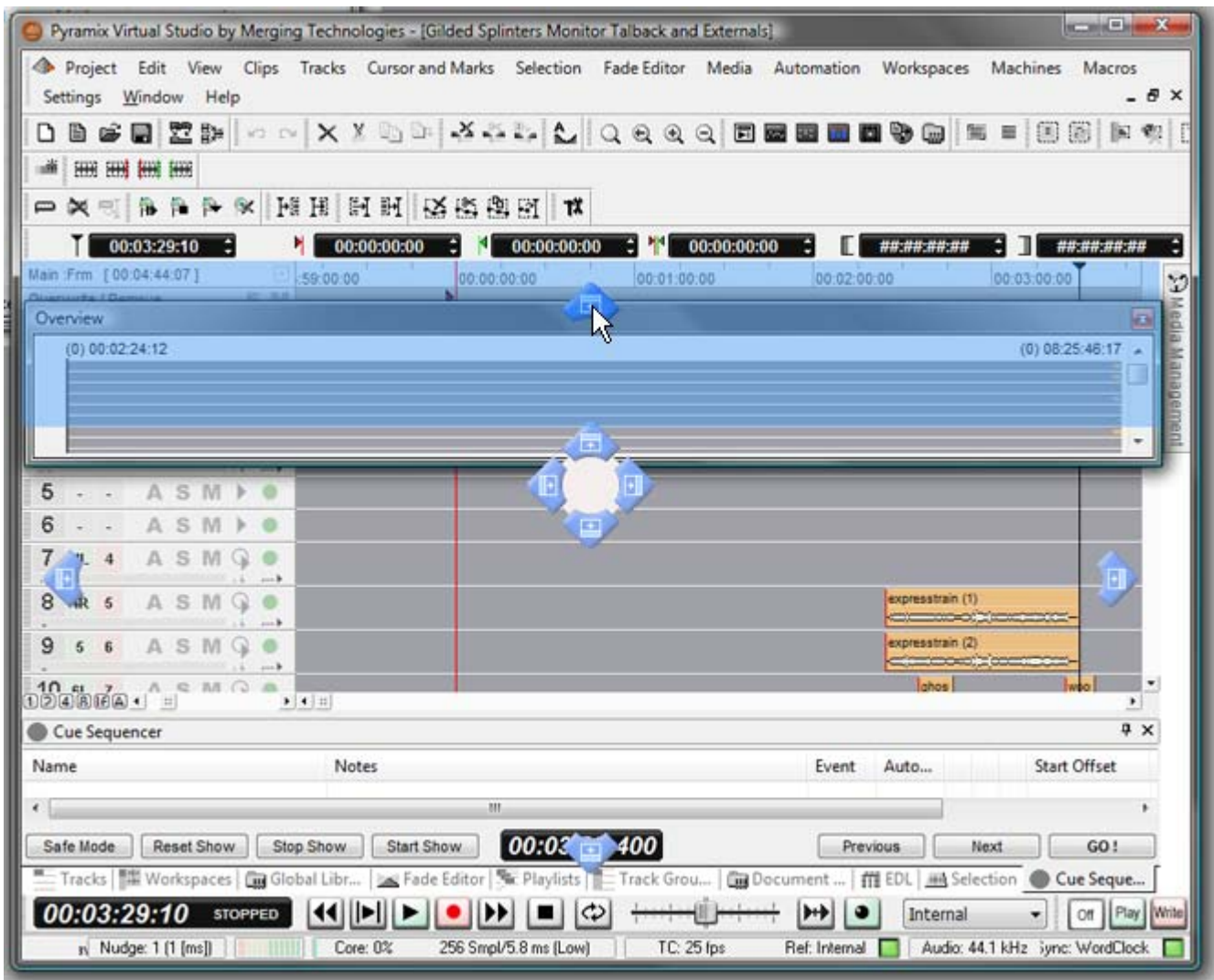
Main Project Window Tab Window with "Landing Lights" and "Ghost Image"

It is often useful to have the **Overview** above the **Timeline** and so that is the landing light used here.

When the mouse button is released, the **Overview** will be positioned above the Timeline and can then be re-sized as required.
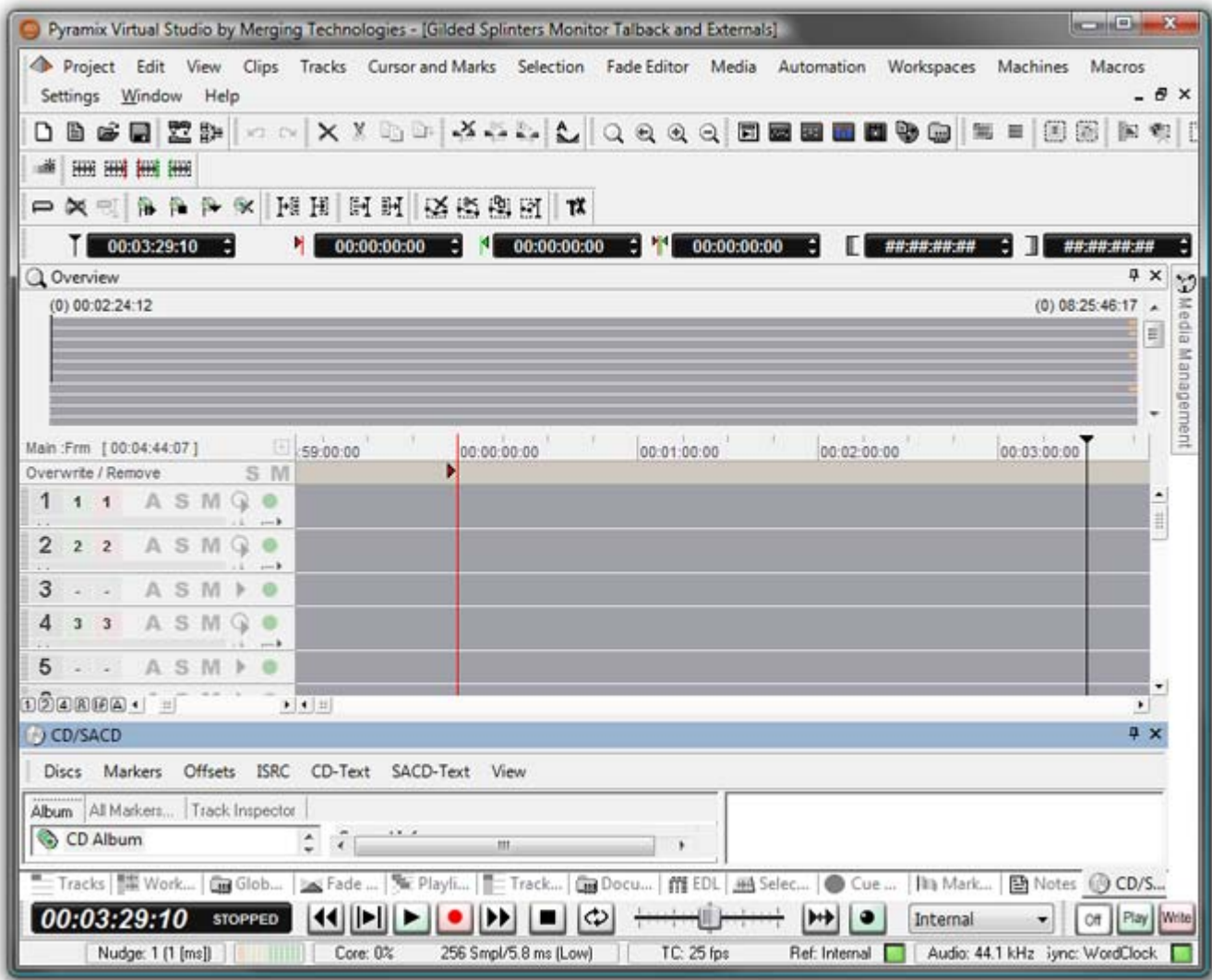
Overview Tab Window in place above Timeline

Pinned and Unpinned Tab Windows

By now you've probably noticed the small 'pin' icon next to the close box on the title bar of each Tab window:

Pinned

With the Pin in the vertical position the Tab Window behaves as normal. Clicking on the Pin toggles between the default 'Pinned' state and 'Unpinned' - **Auto-Hide** mode:

Unpinned

> **Note:** The Pin is only present where the unpinned, **Auto-Hide** mode is available.

IMPORTANT: If there is only one Tab Window at the bottom of the main screen and you unpin it you will lose access to all other Tabs until you open the Tab and unpin it.

Once a Tab Window is Unpinned it collapses down to a Tab a second or so after the mouse cursor leaves the Tab Window. Hovering the mouse cursor over an Unpinned Tab opens the Tab Window which can then be used as normal until the mouse cursor leaves the Tab Window again. Clicking in the title bar 'locks' the Tab Window open as if it were pinned. Alternatively, clicking on the Tab to open it does the same thing.

An unpinned Tab can be extremely useful, for example, to give near instant access to the Media Management Tab Window without disturbing the layout. It is shown here first as a Tab and then with the Tab Window open (both screenshots cut down to save space):
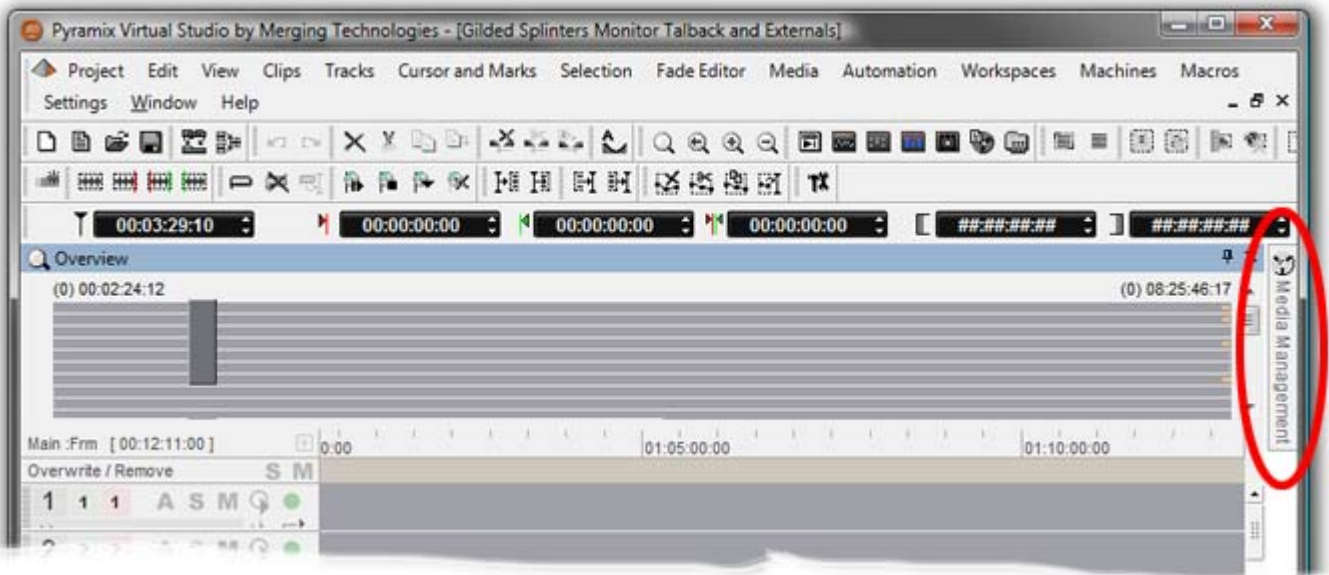
Media Management Tab Unpinned with Mouse Cursor elsewhere
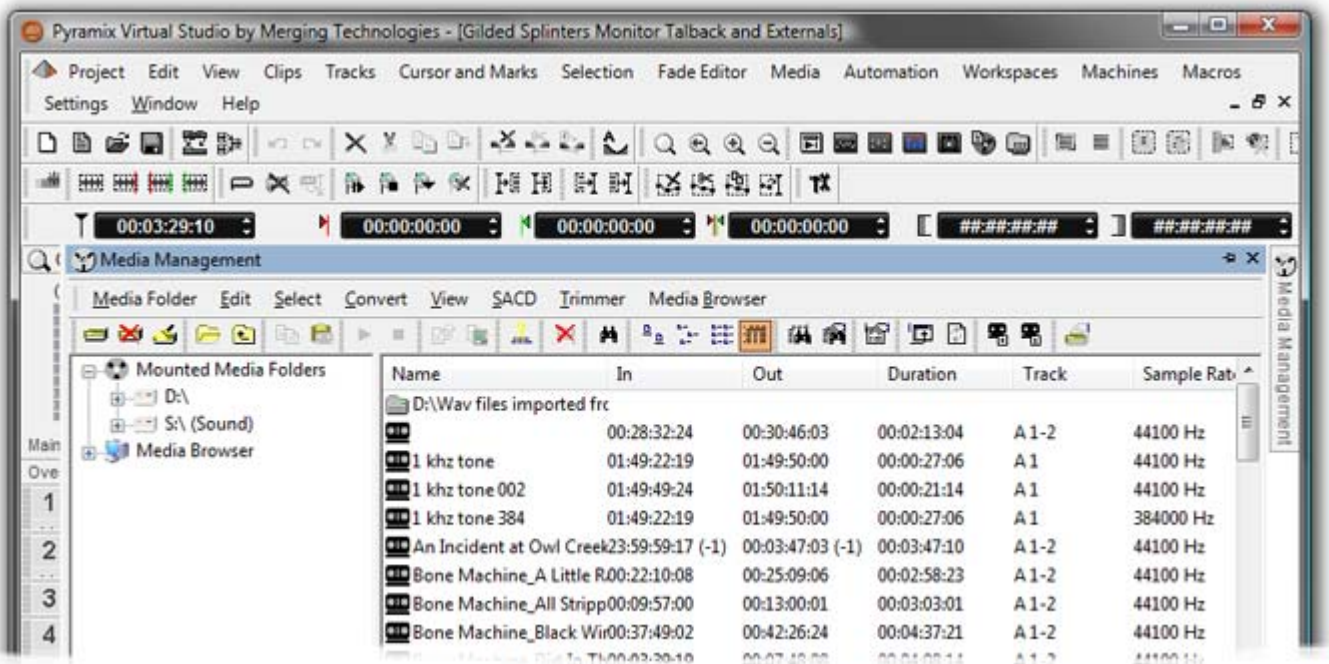
Media Management Tab Unpinned with Mouse Cursor in Tab Window

Note: Unpinned Tab Windows cannot be moved by clicking and dragging until they are pinned once again.

Note: Once a Tab Wiindow has been unpinned, double clicking on the title bar will pin it, a second double-click will open it as a floating Tab Window. A subsequent double-click will now return it to the place it was unpinned from until it is manually returned to the main Tab Dock.

Managing Tab Windows
The button at the bottom-right of the main timeline (at the conjunction of both scrollbars) Toggles **Show/Close** all Tabs. This is extremely useful with big projects when screen space is at a premium.

The **All Settings > Timeline Layout > General : Display Timeline on Top/Left of Tab Windows** setting is rendered obsolete by the Tab enhancements, but can still be used for brand new projects to initially place Tabs as before in the screen (to the right or at the bottom). But the following considerations demonstrate that employing **Project Templates** makes for a more streamlined way of working.

The **Default Tabs layout** and up to ten **Tab Layout Presets** can be stored and recalled from the **View > Editor Tabs** menu :
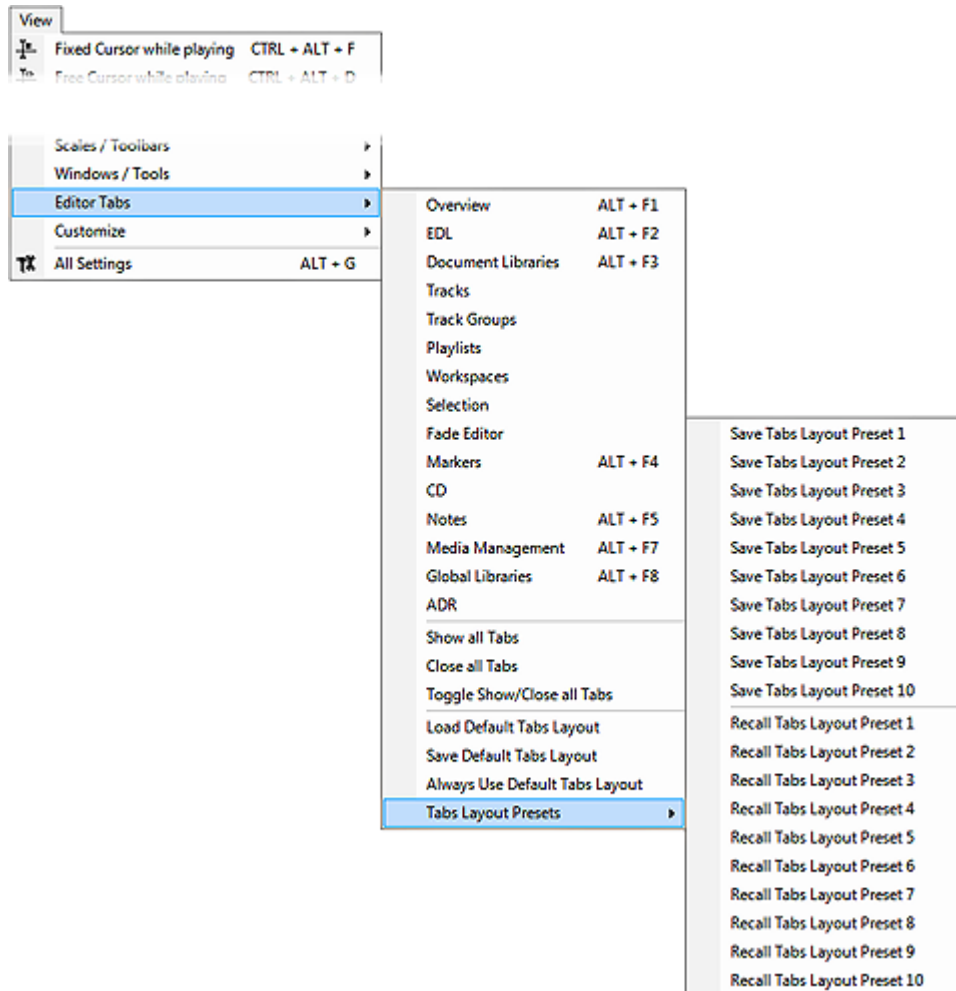
These presets can be bound to short-cut keys by using the **Keyboard Shortcuts Editor** (**Settings > Keyboard Shortcut Editor : View** Tab

• The **Default Tabs Layout** and **Tab Layout Presets** are saved with the application. I.e. available in all projects.

• **View > Editor Tabs > Load Default Tabs Layout** and **Save Default Tabs Layout** enable the complete Tabs layouts to be saved and loaded. If you open a Project that does not have a suitable layout simply call one of your **Tab Layout Presets** or you can **Load Default Tabs Layout** to invoke the Tabs Settings previously saved as your Default.

• If **Always Use Default Tabs Layout** mode is engaged (**View > Editor Tabs > Always Use Default Tabs Layout** ticked), then the default layout is always used when loading any project, bypassing the layout stored in the project, so your own familiar environment will always be properly displayed no matter what layout has been saved in the project.

• **Workspaces** now include a new column called **Tabs Layout**. If ticked the Workspace stores and recalls a complete **Tabs Layout**. Since the 10 first workspaces can have an associated keyboard shortcut, this is very useful method for switch rapidly from one Tab Layout to another For example, Editing, Recording, Browsing Media, etc. etc.

Please see also: Workspaces on page 328

Optimizing Pyramix

Use Templates

The supplied Templates have settings appropriate to their purpose and are the fastest way of optimizing Pyramix. However, the following information should help when deciding what settings to use when creating your own projects and templates.

Pyramix File Format .PMF

We strongly recommend the use of the native .PMF format for a number of reasons.

The first issue is the size limitation of the WAV and BWF formats. These are LIMITED TO 2 GB in size by design (they use 32 bit signed, which gives a total of 2 to the power of 31 Bytes addressable = 2'147'483'648 Bytes precisely).

2GB may sound a lot but a little elementary arithmetic will show it is easy to exceed this limit when using higher sample rates and bit depths for multi-track recordings of real-world durations.

AIFF is slightly better in the sense that it is "only" LIMITED TO 4 GB (it uses 32 bit unsigned, which gives a total of 2 to the power of 32 Bytes addressable = 4'294'967'296 Bytes precisely.

PMF uses 64 bit addressing which would probably allow 128 tracks to be recorded for about 10,000 years (If you can afford the disks!), which should be more than enough for any practical applications.

The second advantage of the Pyramix File Format for large multitrack projects is that it is not "sample-interleaved" but "block-interleaved". Which means that instead of (as with WAV, BWF and AIFF) recording on disk one sample of channel 1, then 1 sample of channel 2, and so on to 1 sample of channel n, **.pmf** was designed from day one to optimize disk access by recording a quite large block of samples for each channel in a sequence. Typically 64 kB of channel 1, then 64 kB of channel 2, etc, finally 64 kB of channel n.

This setting (default 64 kB) can be changed by the user to one of four alternative values in the **Record Block Size** section of the **Playback/Record** page of **All Settings > Settings > Application**. However, the alternatives are really only applicable to certain RAID and Network-Attached-Storage set-ups and, unless you have considerable knowledge and experience, the default setting should be used.

One File Per Track option

Found in the **All Settings > Settings > Project > Record** page, The **One file per track** option should always be chosen (checked) whenever more than 2 tracks of recording are contemplated as there is a rather high potential performance penalty that can occur with all the sample-interleaved file formats (E.g.WAV and AIFF) on playback, when not all tracks of a multi-channel recording are used or played in their original sync relationship on the Timeline. This is because with other, interleaved, formats the hard disk head will still have to go through all the bits of all the channels, even if only 1 or 2 tracks of that file are used at a given point in time.

Reducing Unnecessary Disk Access

Track and Mixer Muting

There is a subtle difference between muting a Track Output (with the ![M button] button in the Track Header) and muting the same signal in it's associated mixer input strip. Muting a track stops disk access for the track (There is a delay before the sound stops while the replay buffer is emptied). Muting a mixer strip doesn't affect disk access but simply mutes the strip (Therefore muting is immediate). Muting track outputs enables multi-track recordings with many tracks (E.g. 48 track music recordings) to be edited on hardware which cannot support this number of tracks. (E.g. a laptop) Providing the Clips are grouped across all tracks, then any editing changes made on the tracks used for the editing guide will also be reflected in the muted tracks. **Track Grouping** can be used to make operation simpler and more convenient.

DSP optimization

At the core of the Mykerinos cards is a very powerful Trimedia VLIW (Very Long Instruction Word) processor. This functions as a kind of DSP chip and can do a lot of things including implement quite large real-time audio mixer topologies. However even this very powerful chip has its limits and while it is more than adequate in implementing say a 48 input strips by 16 output bus configuration, it cannot be expected to implement a full "matrix mixer"

of say 64 inputs by 64 outputs with a full independent multiply/add + individual delay on each matrix node on what would be a 64 x 64 = 4096 nodes, while also taking care of all the other housekeeping tasks such as locking with ultra low jitter to external clocks, managing time code, record streams, playback streams, not to mention possible FX such as EQ, Dynamics, Reverb, etc.

MassCore

Note: Although **MassCore** automatically optimizes **DSP** allocation between the TriMedia processor and the host CPU certain large configurations may still benefit from the following DSP husbandry strategies.

DSP Saving

DSP saving modes can be found in the **All Settings > Settings > Project > Mixer > DSP Power Saving** page:

Player / Recorder mode

Transforms the mixer's full nodal matrix topology into a "diagonal" topology where only the direct paths are computed (i.e. Input 1 to Output 1, Input 2 to Output 2, Input n to Output n)

As one might expect, such a mixer topology optimization reduces the complexity of a 64 x 64 sized mixer from 4096 nodal computations down to just 64 computations, which is a dramatic DSP processing saving feature and allows Pyramix to accommodate very large player/recorder track counts. It **MUST** be used with Multiple Mono Mix buses. In Version 5 the channel count has been further increased to a maximum of 128.

Disable Punch in / Punch Out

is another DSP processing saving function that, as it name indicates, disables concurrent record stream management whenever no Punch recordings are required during certain phases of a project's life. This might save another couple of % of DSP load.

Disable Mixdown

is similar to the above. Disables concurrent Master outputs possible extra paths used for recording as mixdowns.

DSP Allocation

For non MassCore systems there is a degree of user control over DSP allocation in the **VS3** control panel application (**Start > All Programs > Pyramix > VS3 Control Panel**. To help make sensible choices this is what the DSP processing blocks do:

Fx Out

•   All output buses

•   All VS3 plug-ins inserted on output buses,

•   All active Output connections.

> **Note:** All Fx Out calculations are inherently summing tasks so they need to be processed in the same card - so only one card can be used for this.

Mixer

All internal calculations that are carried out in the background, allowing **IN**s to be forwarded to **OUT** buses. It can be seen as internal matrix.

In the Pyramix user interface, this is only reflected by the numbers of Ins routed to OUTs, no plug-ins, input strips or output buses are calculated here.

Mixer can be calculated in a single DSP or can share DSP with **Fx In** or with **Fx Out**.

Fx In

•   All input strips

•   All VS3 plug-ins inserted on Input strips

•   All active Input connections

Fx-INs can be spread across multiple DSP cards (since no summing is required at this stage).

Allocating DSP

DSP allocation is set in the VS3 Settings Control Panel, for all available "On Bus" cards:

1. Choose the Video/TC card, typically the most powerful card available. The card selected as Video/TC will carry all TimeCode/video ref/headphone jack connections. This card will be automatically dedicated to Fx-Out.

2. Select which card will be allocated to **Mixer**, by clicking the **Mixer** button on the chosen card

3. Remaining card(s) will be automatically dedicated to Fx In
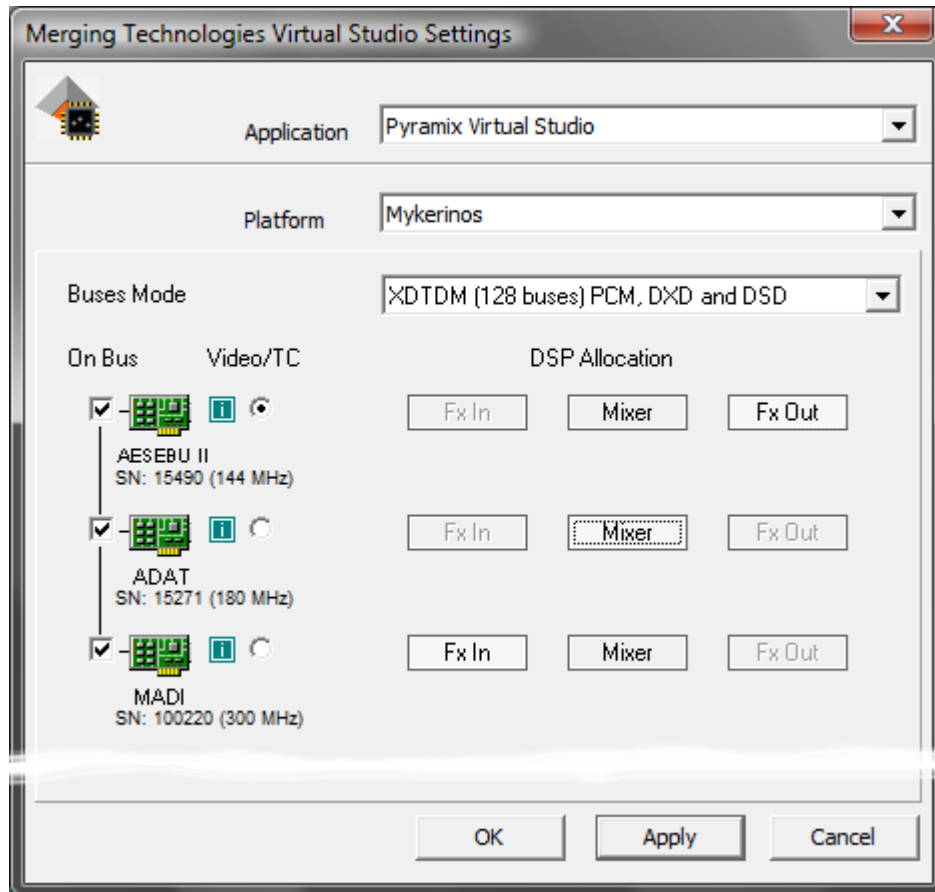
Mykerinos VS3 Control Panel Settings Window

Note: If most of the DSP power is needed for Input strips, Mixer can also be assigned concurrently with Fx Out on the same card:
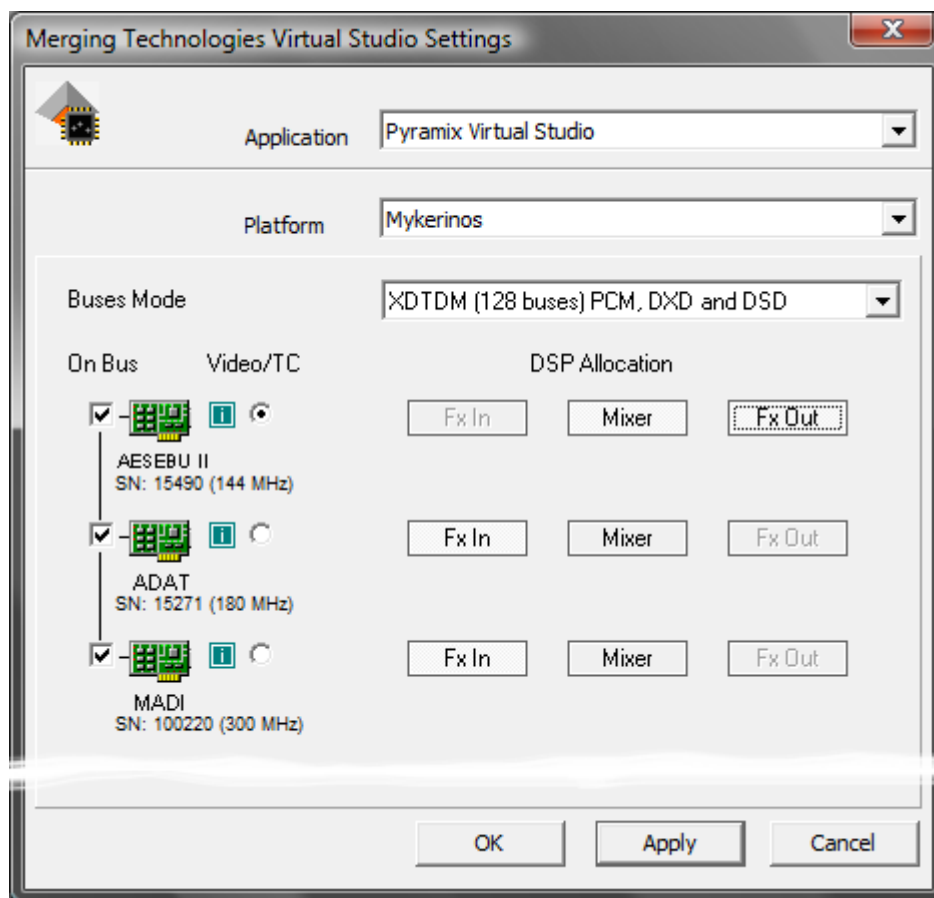
Mykerinos VS3 Control Panel Settings Window

DSP routing is totally independent of I/O routing, thanks to the HDTDM / XDTDM design for bussing (apart from the headphone out…)

Physical I/O routing is available in **All Settings > Settings > Hardware > HDTDM(XDTDM) PCM I/O Routing** and can be changed with Pyramix running, when there is no project open.

MassCore DSP Allocation

Note: **MassCore** DSP Allocation is automatic so when in MassCore mode the **Virtual Studio Settings** window will look like this:
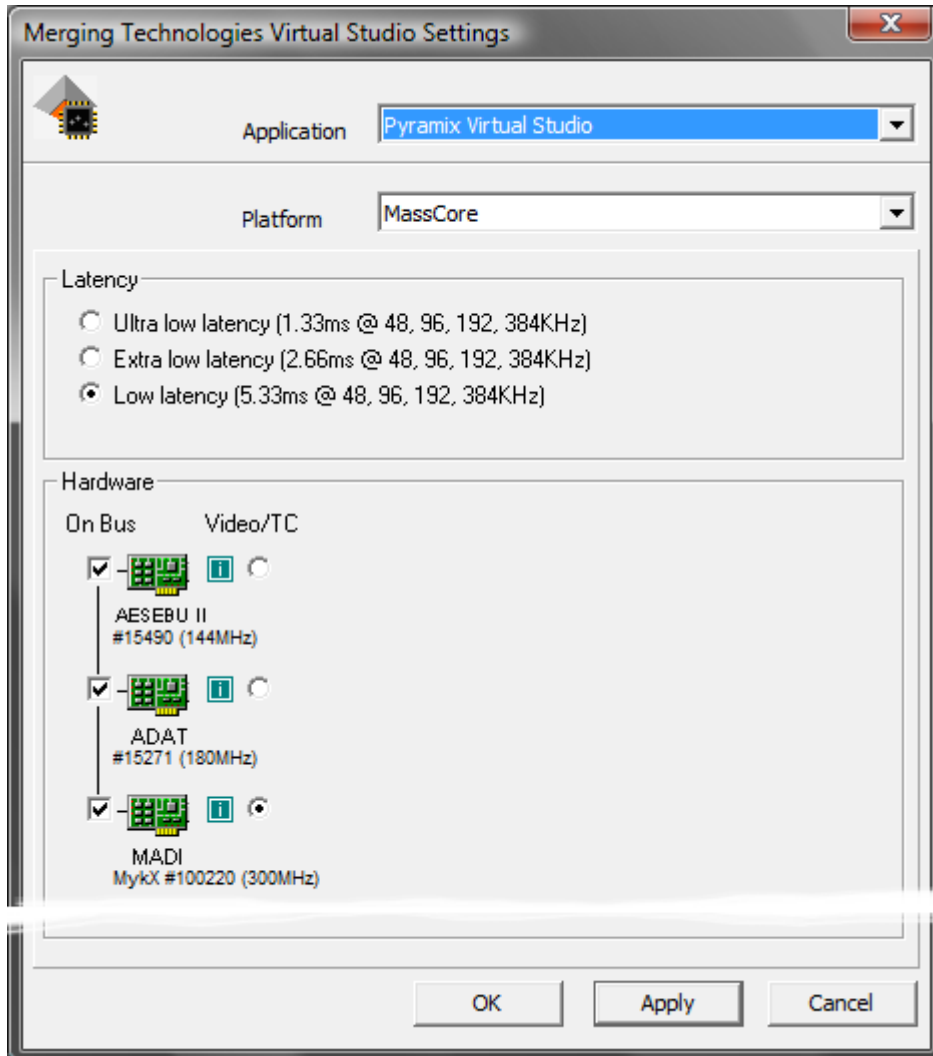
Mykerinos VS3 Control Panel Settings Window

Use Work Spaces

Workspaces provide a powerful means of storing and recalling the state of a number of parameters of the Project Editing Panel, especially Track Header Panel switches. In effect a Workspace is a snapshot which enables the operator to quickly switch between set-ups for a variety of common tasks.

- New Workspaces can be added by clicking on the first line of the Tab Window and typing a name.

- Workspaces can be deleted by selecting them and pressing the 'Delete' key.

- Applying a Workspace is achieved by double-clicking on the Workspace icon.

- Parameters remembered by Workspaces are selectable per Workspace by clicking in the appropriate columns.

The penultimate column **Update on Change** allows a stored Workspace to be automatically updated to the current values before switching to another one and the last one, **Tabs Layout** stores the physical positions and sizes etc. of all Tab Windows.

Creating tracks via paste

This is a fast way of creating tracks.

If a clip is dragged and dropped or copied and pasted from Media Management or a Library onto a blank area of the TimeLine where no tracks exist, sufficient tracks will be created below the last existing track to accommodate the number of channels in the clip.

Disable Skin

This option can be found on the **All Settings > Application > Desktop layout** page. It may improve performance on certain older systems.

26

Menus

Pyramix
DIGITAL AUDIO WORKSTATION

Pyramix Default Menus

Menus are highly configurable in Pyramix. Commands can be hidden or added and entire menus shown or hidden. If a command cannot be found check if it is currently hidden in the relevant tab page of **Settings > All Settings > Application > Desktop Layout**. Please see also **Toolbars and Menus on page 328**

Many Pyramix menu entries are self-explanatory. These are simply listed. Other menu entries are either described here or elsewhere in this manual. Wherever menu options have Toolbar Icon alternatives, these are shown in the menu screenshots.

Project
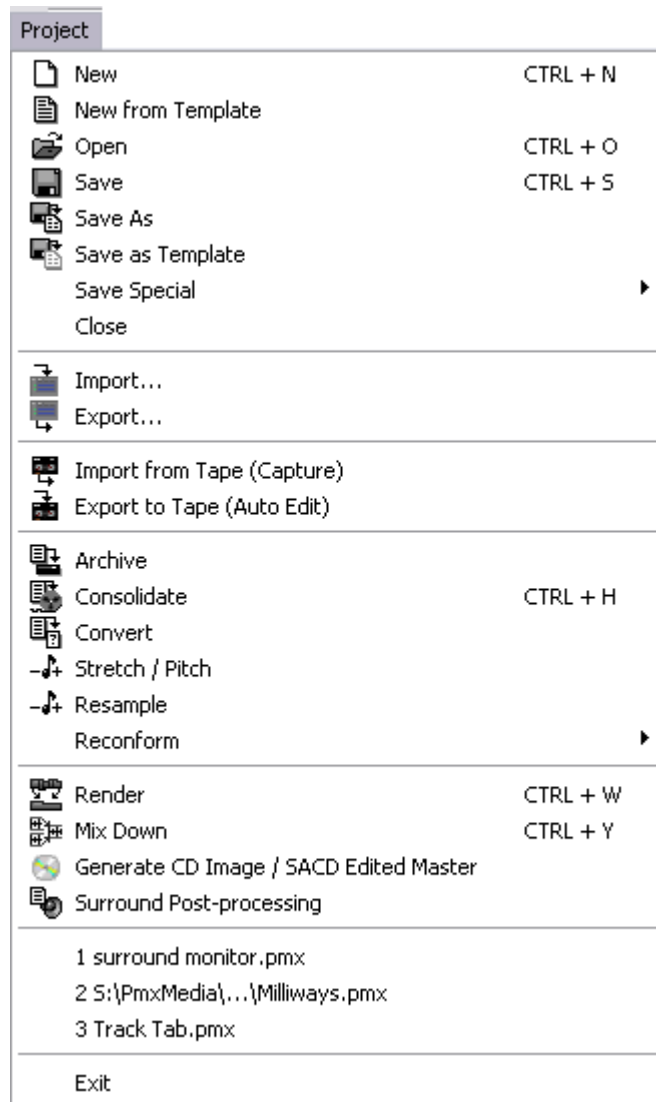
Project menu

New	Create a new Editing Project or Digitizing session
New from Template	Create a new Project based on an existing factory or user Template
Open	Open an existing Editing Project or Digitizing session
Save	Save current Project. If the project has never been saved, the **Save As** dialog box will appear
Save As	Save current Project with a new name
Save as Template	Save current Project as a Template
Save Special>	

Save as Version 4.3		For compatibility
Save as Version 5.0		
Save as Version 5.1		
Save as Version 6.0.8		
Save as Version 6.0.15 SP1		
Save as Version 6.0.16 SP2		
Etc.		

Close	Close the current Project. If the file has changed since last saved, the Save dialog box will appeart
Import...	Opens the InterChange Import Manager
Export...	Opens the InterChange Export Manager
Import from Tape (Capture)	Allows media on external devices to be captured into the current Project
Export to Tape (Auto Edit)	Allows the current composition to be exported to an external device
Archive	Creates a copy of the current project with all associated media to another location
Consolidate	Create an optimized set of media for the current project
Convert	Convert the whole project to an other sampling rate
Stretch / Pitch	Stretch or Pitch the whole project from 24fps to 25fps (4% time compression or pitch reduction) or 25fps to 24fps (4.17% time expansion or pitch rise)
Resample	Opens the resampler
Reconform >	

Relink to New Media	Opens a dialog offering various options similar to the CMX Import function. This allows relinking all or a selection of clips to new media. Typically. this is used for replacement of 16 bit versions of audio files with 24 bit versions based on the clip name, media name, Scene & Take information or original TimeCode.
Load Change EDL & Reconform	Allows a so-called "Change EDL" generated from a "State 1 EDL" and a "State 2 EDL" to be loaded. Cues are rearranged within the current project to reflect the change from State 1 to State 2
Detect Picture Change & Reconform	You can use Pyramix to perform a Reconform from two Video Projects. After loading the Video Projects select this option to begin the Reconform process.

Ovation	Only Applicable to Ovation Systems. Please see the Ovation User Guide for details.
Render	Render the project or current selection to a new Media File
Mix Down	Mix the project or current selection down to a new Media File through the mixing console
Generate CD Image / SACD Edited Master	Opens the Generate CD Image / SACD Edited Master Dialog:
	DSD options are only available for DSD Projects
SACD Cutting Master Wizard	Only applicable to SACD systems. Please see the SACD User Guide.
Surround Post-processing	Enables the current composition to be encoded in different Surround format such as AC3 or DTS (if the appropriate optional encoder plug-in is installed)
"1 surround monitor.pmx" etc.	The most recently opened Projects are listed at this position. Clicking on an entry opens the Project.
Exit	To quit the application, choose Exit from the File menu. If there have been changes since the last time you saved the project, the system will prompt you to save your changes

Note: The **Stretch / Pitch** menu selection requires the optional Prosoniq MPEX.

Edit

Paste Sub-menu

Edit menu

The Edit menu in Pyramix contains the conventional Delete, Cut and Copy commands, and a Paste sub-menu, also options for Undo and Redo of previous edit operations and special edit commands for placing clips in the Pyramix Composition Editor.

Undo clip(s) move	Undo command changes to show the last edit action and cancels it when selected
Undo history >	leads to a sub-menu with a list of all previous editing actions which can be undone
Redo clip(s) move	Redo command changes to show the last action undone and cancels it when selected
Redo history >	leads to a sub-menu with a list of all editing actions which have been undone and can be redone

---

Delete	Deletes the currently selected clip/selection
Cut	Cuts the current selection from the project and saves it on the Clipboard
Copy	Copies the current selection from the project and saves it on the Clipboard
Paste >	

	Paste to Cursor	Inserts what's on the Clipboard to the current cursor position
	Paste & Place	This command opens the Placement Tool to allow for more extensive placement options
	Paste to Original TimeCode	Inserts what's on the Clipboard to the pasted clip's original source time code position
	Paste to End of Selection	Inserts what's on the Clipboard to the end point of the current selection

Fill Selection	This command will substitute the Clipboard contents for the selected clip or region
Replace Selection	This command will substitute the Clipboard contents for the selected clip or region and ripple following clips if there's a length difference
Loop Selection	This command will substitute a loop of the Clipboard contents for the selected clip or region without changing sync on the track
Fit Selection	This command allows inserted clips to be fit into specified regions on the Timeline. This requires the Timezone Time compression/Expansion plug-in

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Delete and Ripple	Deletes the currently selected clip/selection, forcing a ripple to occur
Cut and Ripple	Cuts the current selection from the project and saves it on the Clipboard, forcing a ripple to occur
Paste and Ripple	Inserts what's on the Clipboard to the current cursor position, forcing a ripple
Insert Silence	This command will insert blank space (silence) into to the current selection

---

Delete and Join	Deletes the currently selected clip/selection and ripples the end of the clip.
Cut and Join	Cuts and saves to the clipboard the currently selected clip/selection and ripples the end of the clip.
Delete and Ripple to Black	Deletes the currently selected clip/selection and ripples all following butted or cross-faded clips.
Cut and Ripple to Black	Cuts and saves to the clipboard the currently selected clip/selection and ripples all following butted or crossfaded clips.

Split	This command uses the play cursor as a razor blade to split selected clips into two clips at the point where the play cursor crosses the selected clips
Unsplit	Clips that have been **Split**, **Cut** or **Crossfaded** can now be joined back together providing they are still in sync and referencing the same media
Trim	The Trim handles allow you to shorten or extend the length of a clip by moving the head or tail relative to the rest of the clip
Trim In to Cursor	
Trim Out to Cursor	
Stretch	This allows a clip to be stretched or squeezed

Reverse	This allows a clip to be fit into a selection on the Timeline. The values of the Timezone plug-in will be set automatically to fit the clip into the selection
Normalize	Apply the normalize process to the selected clip
Consolidate	The Consolidate function will make a selective backup of the media segments in the Composition
Spread	This command allows a space (silence) to be inserted between selected clips
Abut to selected	This command abuts all clips between the Mark In and Mark Out on a track to a selected clip between the marks on the same track
Automatic Silence Removal	This command opens the Automatic Silence Removal dialog box
Delete with Media	Removes the current selected clip from the composition, and delete the associated media file
Update Media Original TC	Updates the Media Original TC for all selected clips with their TimeCode position in the composition. This operation modifies the Media and is not reversible

Source-Destination >

Auto-Edit Source to Destination

Executes the appropriate Source/Destination 2, 3 or points editing operation depending on the Gates status

Overwrite Source to Destination

Overwrites the content between the Destination Track Group Gates with the content between the Source Track Group Gates

Insert Source to Destination   Inserts the content between the Source Track Group Gates to the Destination Track Group Gates

Replace Source to Destination

Replaces the content between the Destination Track Group Gates with the content between the Source Track Group Gates by rippling the Destination

Fit Source to Destination   Replaces the content between the Destination Track Group Gates with the content between the Source Track Group Gates by stretching the Source

Auto Set Destination Gate In after Edit

When this option is checked (enabled), the Destination Gate In point is automatically set to the current Gate Out point after any Source-Destination operation

Auto Select Destination after Edit

When this option is checked (enabled), the Destination Track Group is automatically selected after any Source-Destination operation

Limit 1 Gate Sources to End/Beginning of Clip

When this option is checked (enabled), then the Source material between the Source Gate and the end of the clip under the Gate instead of the whole track is copied to the Destination

3 Gates Auto-Edit does Overwrite

When this option is checked (enabled), then when 2 Gates are set in a Source and 1 is set in the Destination then AutoEdit performs an Overwrite operation

3 Gates Auto-Edit does Insert

When this option is checked (enabled), then when 2 Gates are set in a Source and 1 is set in the Destination then AutoEdit performs an Insert operation

Jog-Wheel Editing>

A number of editing actions may be undertaken on a selected clip or group of clips using a jog-wheel on an external hardware controller.

First select the Clip or group of Clips, then select the desired Jog-Wheel Editing Mode from the choice of:

Move

Move And XFade

Trim In

Trim Out

Trim Fade In

Trim Fade Out

Trim Fade In X (Symmetrically)

Trim Fade Out X (Symmetrically)

Trim Sync Point

Slide Media

Previous Clip Trim Out

Previous Clip Trim Fade Out

Previous Clip Trim Fade Out X (symmetrically)

Previous Clip Trim Source Out

Now simply move the jog wheel to **Move**, **Trim**, or **Slide Media** of the selected Clip(s)

Pressing the **Spacebar** or **Enter** confirms the change(s), **Esc** cancels.

Editing Modes > Insert Mode >

Overwrite   When checked, any clip placed so that it overlaps an existing clip will overwrite the part of that clip where the two overlap.

Insert Track   When checked, any clip placed on a track will be inserted into the track and will ripple all other material on the track later in time (to the right) by the length of the clip being inserted.

Editing Modes > Remove Mode >

Remove   When checked any selected material will simply be removed from the Timeline. Everything else will be left intact and in the same place.

Remove and Ripple   When checked any selected material will be removed from the Timeline. Everything else to the right (after) the removed material will be Rippled (moved) to the left (earlier) to take up the space left by the removed material.

Editing Modes > Snap Mode >

Don't Snap   No snap mode set. This mode doesn't affect the behavior of objects placed on a track. Behavior follows the existing Insert and Remove modes.

Head to End   This mode will cause the beginning of any clip placed on a track to snap to the end of the last clip on the track, abutting the head of the new clip to the end (tail) of the last clip.

Tail to Beginning   This mode will cause any clip placed on a track to snap to the beginning of the first clip on the track, abutting the tail of the new clip to the head of the first clip.

Head to Nearest   This mode will cause any clip placed on a track to snap the head of the clip to the nearest edit point or mark on the track. This includes the head or tail of existing clips on the track, as well as the Play Head Cursor, Mark In, Mark Out, Named Markers, or CD Marks. The clip will interact with existing clips according to the Insert Mode setting.

Tail to Nearest   This mode will cause any clip placed on a track to snap the tail of the clip to the nearest edit point or mark on the track. This include the head or tail of existing clips on the track, as well as the Play Head Cursor, Mark In, Mark Out, Named Markers, or CD Marks. The clip will interact with existing clips according to the Insert Mode setting.

Snap to Original TimeCode This mode will cause any clip placed on a track to snap the head of the clip to the time location represented by the clips original TimeCode. The clip will interact with existing clips according to the Insert Mode setting.

Auto-Ripple When this option is checked (enabled) all **Insert** or **Remove** operations ripple the rest of the track

Auto-Crossfade When this option is checked (enabled) the default cross-fade (defined in the Fade Editor Tab Window is applied to any Paste or Source-Destination operation

Enable Automation Cut/Copy/Paste

When this option is checked (enabled) all **Cut / Copy / Paste** operations also include automation tracks

Update Original TC on Move When this option is checked (enabled) the original TimeCode stamp of any copied/move selection is updated to the position it was in before the current move

Snap >

Snap Off	When this option is checked (enabled), Snap mode is disabled
Snap to Edits	When this option is checked (enabled), Snap mode is set to Edits
Snap to Scale	When this option is checked (enabled), Snap mode is set to Scale
Snap to Feet Scale	When this option is checked (enabled), Snap mode is set to Feet Scale
Snap to Bars & Beats Grid	When this option is checked (enabled), Snap mode is set to Bars & Beats Grid

Snap Cursor When this option is checked (enabled), the Cursor is also snapped following the current mode

Snap Region Selection When this option is checked (enabled), the Selection is also snapped following the current mode

Snap Selection Head When this option is checked (enabled), Snap mode is set to Head of selection

Snap Selection Tail When this option is checked (enabled), Snap mode is set to Tail of selection

Snap Selection Sync Point When this option is checked (enabled), Snap mode is set to Sync Point of selection

View Menu
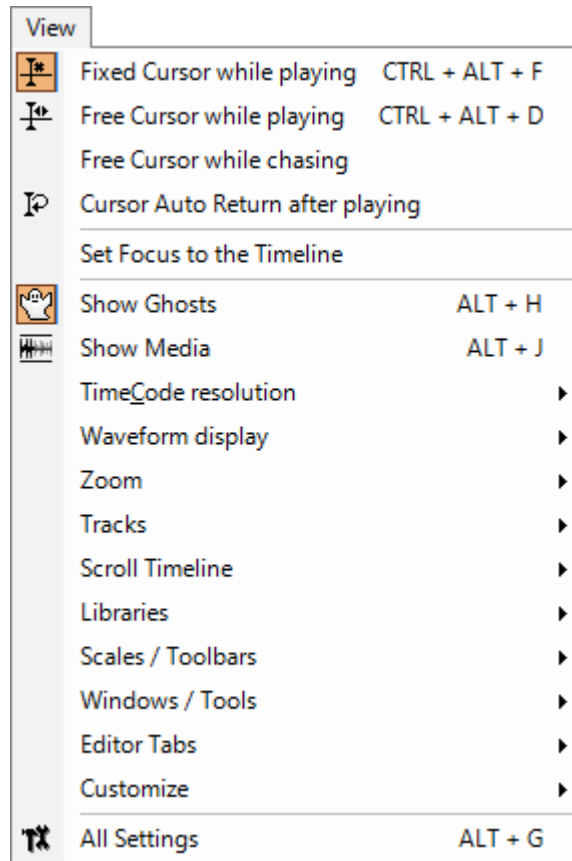
View menu

Fixed Cursor while playing	When checked (enabled) **Playhead Cursor** remains stationary while playing at the position set in the **Settings > All Settings > Playback/Record** page and the Tracks scroll from right to left.
Free Cursor while playing	When checked (enabled) **Playhead Cursor** disappears when the screen boundary is reached. I.e. the Timeline is not redrawn.
Free Cursor while chasing	When checked (enabled) in conjuction with either of the above options the Playhead Cursor and Timeline position can be freely manipulated from the workstation whenever the TimeCode Master machine is in Stop, Rew, FF, Play, Locate, etc. as well as while chasing, but as soon as Pyramix has locked to incoming TimeCode, the cursor will "jump" to current TC. This used to be the default behavior. When diabled, the Cursor will always be locked to TimeCode when Pyramix is set to chase, whether in Stop, Rew, FF, Play, Locate, etc. as well as while chasing.
Cursor Auto-Return after playing	
	When checked (enabled) **Playhead Cursor** returns to its starting position when playback stops
Set Focus to the Timeline	Most useful when mapped to a keyboard shortcut. When a floating Tab or other window has been opened that keeps the focus and monopolizes some commands, typically the Space Bar and Cursor buttons invoking this command is the direct equivalent of clicking in the Timeline to restore the focus, but avoids having to grab the mouse and loosing any selections.
Show Ghosts	When checked (enabled) shows a ghost image of clips on related virtual tracks
Show Media	When checked (enabled) shows the full extent of the underlying digital media for a selected clip as a red line on the track above and below the selected clip with a grayed out image of the waveform when this is on

TimeCode Resolution >

Frames	Sets the < 1 second Cursor TimeCode display resolution to frames
Samples	Sets the < 1 second Cursor TimeCode display to samples
[ms]	Sets the < 1 second Cursor TimeCode display to display milliseconds
CD frames	Sets the < 1 second Cursor TimeCode display to display CD frames

Display as CD time	Sets the TimeCode display to CD Track elapsed time (only available when CD Markers are present)

Alternate TimeCode Scale - Frames

Alternate TimeCode Scale - Samples

Alternate TimeCode Scale - [ms]

Alternate TimeCode Scale - CD Frames

Waveform Display >

Larger	Increase the size of the current waveform display
Smaller	Decrease the size of the current waveform display

x1	Sets the magnification factor of the current waveform display to 1x
x2	Sets the magnification factor of the current waveform display to 2x
x4	Sets the magnification factor of the current waveform display to 4x
x8	Sets the magnification factor of the current waveform display to 8x
x16	Sets the magnification factor of the current waveform display to 16x
x32	Sets the magnification factor of the current waveform display to 32x
x64	Sets the magnification factor of the current waveform display to 64x
dB	Sets the current waveform display to decibels
Auto-Scale Individual Waveform	Sets the current waveform display to automatically display an optimal waveform
Auto-Scale Visible Waveform	Auto-scales the Waveform based on what is currently seen on screen

Show Full Waveform	Sets the current waveform display to display a waveform that is fully colored even at sample level (like peak display)
Show Waveform Origin	Sets the current waveform display to display a waveform that show also at sample level the 0dB origin
Show Dynamic Waveform	
	Sets the current waveform display to display a waveform that shows the dynamic range for each pixel

Hide Clip Name when Waveform Shown	
	Hides the clip names when the waveform is displayed

Zoom >

Fit in window	Adjusts the horizontal magnification (zoom level) of the Project Editor panel to **fit the selected clip or region**
Previous zoom	Restores the Project Editor Panel view to the previous zoom resolution and location
Zoom In	Zooms in by a factor of 2x, centered around the middle of the Project Editor Panel
Zoom Out	Zooms out by a factor of 2x, centered around the middle of the Project Editor Panel
Recall Preset >	

Zoom 1	Recall Preset Zoom 1
Zoom 2	Recall Preset Zoom 2
Zoom 3	Recall Preset Zoom 3

Zoom 4	Recall Preset Zoom 4
Zoom 5	Recall Preset Zoom 5

Set Preset >

Zoom 1	Set Preset Zoom 1
Zoom 2	Set Preset Zoom 2
Zoom 3	Set Preset Zoom 3
Zoom 4	Set Preset Zoom 4
Zoom 5	Set Preset Zoom 5

Auto Zoom Selection   Project Editor Panel display automatically zooms-in to any selection made on the Timeline

Tracks >

Show all Tracks   Show (Unhide) all Tracks and Expand (Uncollapse) all Track Groups

Hide Tracks without selection   Hide all tracks that have nothing selected

Fit View to >

Fit View to 1 Track	Fit current View to 1 Track
Fit View to 2 Tracks	Fit current View to 2 Tracks
Fit View to 4 Tracks	Fit current View to 4 Tracks
Fit View to 8 Tracks	Fit current View to 8 Tracks
Fit View to 16 Tracks	Fit current View to 16 Tracks
Fit View to All Tracks	Fit current View to All Tracks

Enlarge Track Size   Enlarge current Track Size

Reduce Track Size   Reduce current Track Size

Scroll Timeline

Scroll Timeline Left   Scroll the whole Timeline to the left

Scroll Timeline Right   Scroll the whole Timeline to the right

Scroll Timeline Up   Scroll the whole Timeline up

Scroll Timeline Down   Scroll the whole Timeline down

Libraries

Folders

Library Folders Up

Library Folders Down

Library Folders Collapse

Library Folders Expand / Focus on List

List

Library List Up

Library List Down

Library List Focus On Folders

Library List Focus On Trimmer

Trimmer

Library Trimmer Focus On List

Library Trimmer Play From In

Library Trimmer Play Form Start

Library Trimmer Stop

Library Trimmer Set In Point

Library Trimmer Set Out Point

Library Trimmer Set Sync Point

Scales / Toolbars >

TimeCode Toolbar	Shows/Hides the main **TimeCode** Toolbar
Alternate TimeCode Scale	
Alternate TimeCode Scale Settings	
Feet	Adds a ruler calibrated in Feet below the Time ruler (if present)
Feet Settings	Opens the **Feet Settings** dialog box
Bars&Beats	Adds a ruler calibrated in Bars&Beats below the Time ruler (if present)
Bars&Beats Settings	Opens the **Bars&Beats Settings** dialog box
Tempo Map	Adds a Tempo map below the Time ruler (if present)
Source - Destination	
Transport Toolbar	Shows/Hides the **Transport** Toolbar
Automation Toolbar	Shows/Hides the **Automation** Toolbar

Windows / Tools >

Transport	Displays the **Transport** Large Control
Mixer	Displays the **Mixer**
Monitor	Displays the **Monitor**
Media Management	Displays the **Media** Management folders
Global libraries	Displays the **Global Libraries**
Fade Library	Displays the **Fade library**
Information	Displays the **Information Window**
On the Air	Displays the **On the Air Window**
I/O Status	Displays the **I/O Status Window**

Editor Tabs >

Overview	Open **Overview** Tab window
EDL	Open **EDL Tab** window
Document Libraries	Open **Document Libraries Tab** window
Tracks	Open **Tracks Tab** window
Track Groups	Open **Track Groups Tab** window
Playlists	Open **Playlists Tab** window
Workspaces	Open **Workspaces Tab** window
Selection	Open **Selection Tab** window
Fade Editor	Open **Fade Editor Tab** window
Markers	Open **Markers Tab** window
CD	Open **CD Tab** window
Notes	Open **Notes Tab** window
Machines	Open **Machines Tab** window
Media Management	Open **Media Management Tab** window
Global Libraries	Open **Global Libraries Tab** window
ADR	Open **ADR Tab** window
Log	Open **Log Tab** window

Show all Tabs	Shows all **Tabs** in docking area
Close all Tabs	Hides all **Tabs**
Toggle Show/Close all Tabs	As it says. Mainly usefule when bound to keyboard shortcut.
Dock all Tabs	Return all floating Tabs to the Tab dock

Load Default Tabs Layout As it says

Save Default Tabs Layout   Saves the current **Tabs** Layout as the default

Always Use Default Tabs Layout Default Tabs Layout is used regardless of Tab layout saved with Project

Tabs layout Presets

    Save Tabs Layout Preset 1

    to

    Save Tabs Layout Preset 10

    Load Tabs Layout Preset 1

    to

    Load Tabs Layout Preset 10

Customize>

Keyboard Shortcut Editor	Opens the **Keyboard Shortcut Editor**
Macro Editor	Opens the **Macros** Window

All Settings   Opens the **Pyramix Settings** Window

Clips

Clips menu

Select >

Select All	Select all clips on Timeline
Select All to Mark In	Select all clips on Timeline, to the current **Mark In** Point
Select All between Marks	Select all clips on Timeline, between current **In/Out** Marks
Select All from Mark Out	Select all clips on Timeline, from the current **Mark Out** Point
Select Source	Select all clips on current audio track
Deselect All	Deselect all currently selected clips

Select Previous Clip	Select clip to left of currently selected clip
Select Next Clip	Select clip to right of currently selected clip
Add Previous Clip to Selection	
	Apply selection to clip to left of currently selected clip
Add Next Clip to Selection	Apply selection to clip to right of currently selected clip
Add all Preceding Clips to Selection	
	Apply selection to all clips preceding the currently selected clip
Add all Following Clips to Selection	
	Apply selection to all clips following the currently selected clip

Nudge >

Nudge to Previous Edit	Nudges the selected clip to the left (earlier in time) to the previous edit points in the track or marks in the editor

Nudge to Next Edit		Nudges the selected clip to the right (later in time) to the next edit points in the track or marks in the editor
Nudge to Left		Nudges the selected clip to the left (earlier in time) by an amount equal to the current Nudge setting
Nudge to Right		Nudges the selected clip to the right (later in time) by an amount equal to the current Nudge setting
Nudge to Left Custom		Nudges the selected clip to the left (earlier in time) by an amount that can be entered with the keyboard
Nudge to Right Custom		Nudges the selected clip to the right (later in time) by an amount that can be entered with the keyboard
Nudge to Left Custom in Bars/Beats		
		Nudges the selected clip to the left (earlier in time) by an amount that can be entered in Bars/Beats with the keyboard
Nudge to Right Custom in Bars/Beats		
		Nudges the selected clip to the right (later in time) by an amount that can be entered in Bars/Beats with the keyboard
Nudge In to Left		(Pressing Control has the same effect as per moving with the mouse)
Nudge In to Right		(Pressing Control has the same effect as per moving with the mouse)
Nudge Out to Left		(Pressing Control has the same effect as per moving with the mouse)
Nudge Out to Right		(Pressing Control has the same effect as per moving with the mouse)
Nudge Media to Left		
Nudge Media to Right		
Move Up		Moves the selected clip or region up to the adjacent track above it
Move Down		Moves the selected clip or region up to the adjacent track below it
Move Up with Fade		Moves the selected clip or region up to the adjacent track above it. If there is another clip on the adjacent track at that location, it will interact with it by cross-fading
Move Down with Fade		Moves the selected clip or region up to the adjacent track below it. If there is another clip on the adjacent track at that location, it will interact with it by cross-fading
Current Setting >		
	Nudge Setting 1	Apply Nudge Setting 1
	Nudge Setting 2	Apply Nudge Setting 2
	Nudge Setting 3	Apply Nudge Setting 3
	Nudge Setting 4	Apply Nudge Setting 4
	Nudge Setting 5	Apply Nudge Setting 5
Set Sync Point to Cursor		Sets the selected clip's Sync Point at the current cursor position
Send Sync Point to Cursor		Sends (moves) the currently selected clip so that its Sync Point is aligned with the current position of the Play Cursor
Group		Groups together all selected clips in the Timeline
Ungroup		Ungroups members of a selected group clip in the Timeline
Lock		Locks selected clips so that they can no longer be edited or moved in the Timeline
Unlock		Unlocks selected locked clips so that they can be edited again
Lock Horizontal Drag		When enabled, clips cannot be dragged horizontally (left to right)
Clip Gain		Displays an audio fader to set the audio level for the selected clips

Mute Clip	Mutes all selected clips
Rename	Enables a selection of clips to be renamed with various combinable options chosen in the **Rename Clips** dialog
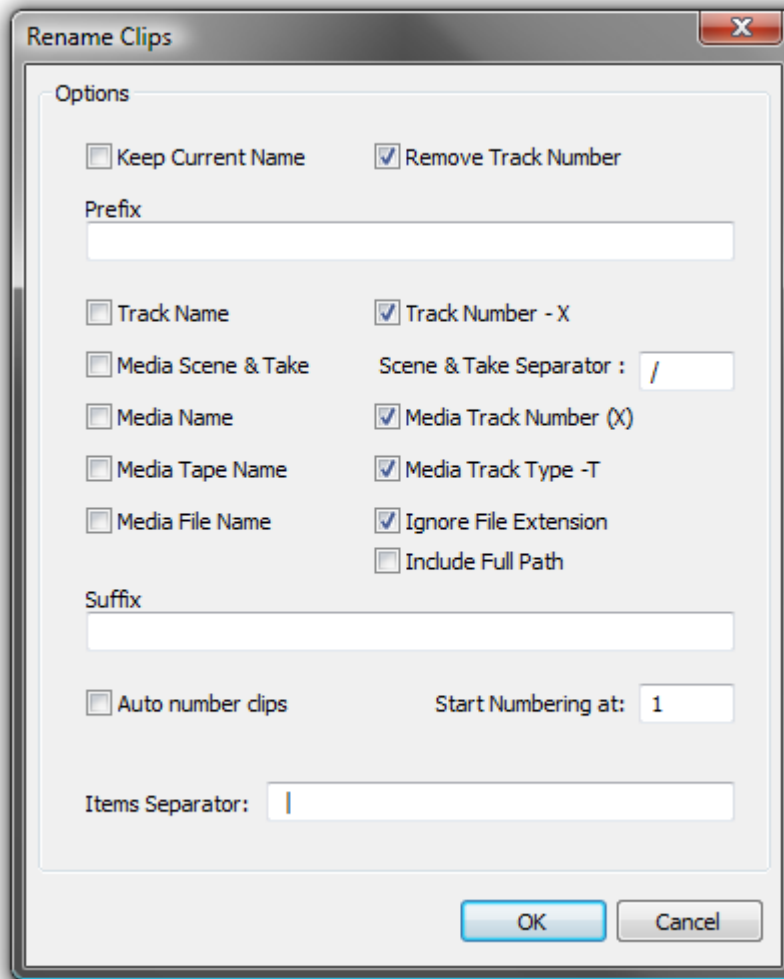
Rename Clips dialog

Options

Keep Current Name	When checked the current name is retained but with the choice of keeping or removing the current track number in parenthesis
Remove Track Number	Removes Track Number from the Clip Name
Prefix	Text entry box where a new custom Prefix may be added **adding a custom prefix and suffix text to the automatic renaming and automatically renumbering all clips.**

Track Name

Track Number - X

Media Scene & Take (if available)

Media Name

Media Track Number (X)

Media Tape Name

Media File Name

Ignore File Extension

Include Full Path

Suffix	Text entry box where a new custom Suffix may be added
Auto number clips	When checked clips are numbered starting with the value in:

Starting Numbering at:

Items Separator   Text entry box where a new custom Separator may be added

Edit Fade near Cursor   Opens the **Fade Editor** with the audio fade located near the current Playhead cursor position ready to be edited

Edit Fade near Mouse   Opens the **Fade Editor** with the audio fade located near the current mouse cursor position ready to be edited

Fade In >

Fade Out >

X Fade >

> **Note:** Sub-menu options for **Fade In**, **Fade Out**, and **X Fade** are the same. For brevity, only the **Fade In** sub-menu options are listed.

Fade In New   Apply new Fade In

Fade In Edit

Default >   Edit Fade In

      Fade In Default   Apply Fade In Default

      Fade In Default Curve   Apply Fade In Default Curve

Fade In Standard >

      Fade In Power Linear   Apply Fade In Power Linear

      Fade In Tension Linear   Apply Fade In Tension Linear

      Fade In dB Linear   Apply Fade In dB Linear

      Fade In Cosine   Apply Fade In Cosine

      Fade In Root Cosine   Apply Fade In Root Cosine

Envelope >

Envelope Reset   Reset the gain envelope for the whole selection by deleting all envelope nodes within the selection only on the track under the mouse cursor when Reset is chosen.

Envelope Reset Selection   Reset the gain envelope for the whole selection by deleting all envelope nodes within the selection.

Envelope Copy to Selection   Copies the values of all envelope nodes within the selection from the track under the mouse cursor when Copy to Selection is chosen to all other tracks in the selection

Envelope Punch   Places four new envelope nodes at the bounds of the selection on the track under the mouse cursor when Punch is chosen and opens the Punch Envelope dialog box

Envelope Punch Selection   Carries out the same operation as Punch but to all tracks in the current Selection.

Waveform >

Waveform follow Track   Waveform display of the clip will always correspond to the setting for the entire track in the **Track information and Settings panel**

Waveform force Waveform   clip will always show the waveform display regardless of the waveform display settings for the track

Waveform force Name   clip will always show the clip name regardless of the waveform display settings for the track

Generate Waveform   Generate the waveform data in the background for the selected clip

Selection Properties   Opens the **Selection Properties** display window, which shows details concerning the current selection

| Properties | Opens the **Selection Properties** display window, which shows details concerning the currently selected clip |

Tracks

Tracks menu

| New Audio Track | Allows new audio tracks to be created on the Composition Editor |
| New Virtual Track | Allows new virtual tracks to be created on the Composition Editor |

| Delete | Removes the currently selected track from the composition editor |
| Delete to Last | Deletes all tracks between the currently selected tracks to the last track on the Composition Editor |

| Auto-connect | Automatically connect all tracks sequentially to any available mixer input |

Select Previous Track Group	Selects the track group above the currently selected track group
Select Next Track Group	Selects the track group below the currently selected track group
Duplicate Selected Track Group	Duplicates the currently selected track group
Auto Create/Delete Track Groups	When enabled allows Track Groups to be automatically created when clips insertion requires creation of new tracks

Select Previous Track	Selects the audio track above the currently selected track
Select Next Track	Selects the audio track below the currently selected track
Deselect Track	Deselects the currently selected audio track
Auto Select Tracks	The audio track is automatically selected on any click / move in its content

Synchronize Tracks & Strips	The audio track and its associated mixing console strip are always selected together
Select All Clips	This command selects and highlights all clips on the selected track
Select All Clips to Mark In	Selects all clips on the track from the beginning of the composition up to the mark in
Select All Clips between Marks	Selects all clips on the track between the Mark In and Mark Out
Select All Clips from Mark Out	Selects all clips on the track from the Mark Out to the end of the composition
Deselect All Clips	Deselects all clips on the selected track
Ripple	Launches the Ripple Tracks dialog box
Extend	Automatically extends the number of tracks to accommodate all the Media channels of each of the clips of one or more timeline track(s)

Cursors & Marks

Cursors & Marks menu

Nudge Cursor >

Nudge Cursor to Previous Edit		Nudge Cursor to Previous Edit
Nudge Cursor to Next Edit		Nudge Cursor to Next Edit

Nudge Cursor to Previous Clip	Nudge Cursor to Previous Clips
Nudge Cursor to Next Clip	Nudge Cursor to Next Clip
Nudge Cursor to Previous Clip Fade	Nudge Cursor to Previous Clip Fade
Nudge Cursor to Next Clip Fade	Nudge Cursor to Next Clip Fade
Nudge Cursor to Previous Marker	Nudge Cursor to Previous Marker
Nudge Cursor to Next Marker	Nudge Cursor to Next Marker
Nudge Cursor to Previous CD Marker	Nudge Cursor to Previous CD Marker
Nudge Cursor to Next CD Marker	Nudge Cursor to Next CD Marker
Nudge Cursor to Left	Nudge Cursor to Left
Nudge Cursor to Right	Nudge Cursor to Right
Nudge Cursor to Left with Region	Nudge Cursor to Left and update the nearest selection boundary to this location
Nudge Cursor to Right with Region	Nudge Cursor to Right and update the nearest selection boundary to this location
Nudge Cursor to Left Custom	Nudge Cursor to Left by an amount entered with the Keyboard
Nudge Cursor to Right Custom	Nudge Cursor to Right by an amount entered with the Keyboard
Nudge Cursor to Left Custom in Bars/Beats	Nudge Cursor to Left by an amount entered in Bars/Beats with the Keyboard
Nudge Cursor to Right Custom in Bars/Beats	Nudge Cursor to Right by an amount entered in Bars/Beats with the Keyboard
Nudge Cursor to Previous Foot	Nudge Cursor to the Previous Foot
Nudge Cursor to Next Foot	Nudge Cursor to the Next Foot
Nudge Cursor to Previous Foot Frame	Nudge Cursor to the Previous Foot Frame
Nudge Cursor to Next Foot Frame	Nudge Cursor to the Next Foot Frame
Nudge Cursor to Previous Bar	Nudge Cursor to the Previous Bar
Nudge Cursor to Next Bar	Nudge Cursor to the Next Bar
Nudge Cursor to Previous Beat	Nudge Cursor to the Previous Beat
Nudge Cursor to Next Beat	Nudge Cursor to the Next Beat
Nudge Cursor to Previous Grid Step	Nudge Cursor to the Previous Grid Step
Nudge Cursor to Next Beat Grid Step	Nudge Cursor to the Next Grid Step

Nudge Marks >

Nudge Mark In to Left	Nudge Mark In to Left
Nudge Mark In to Right	Nudge Mark In to Right
Nudge Mark In to Left Custom	Nudge Mark In to Left by an amount entered with the Keyboard
Nudge Mark In to Right Custom	Nudge Mark In to Right by an amount entered with the Keyboard
Nudge Mark In to Left Custom in Bars/Beats	Nudge Mark In to Left by an amount entered in Bars/Beats with the Keyboard
Nudge Mark In to Right Custom in Bars/Beats	Nudge Mark In to Right by an amount entered in Bars/Beats with the Keyboard
Nudge Mark Out to Left	Nudge Mark Out to Left
Nudge Mark Out to Right	Nudge Mark Out to Right

	Nudge Mark Out to Left Custom	Nudge Mark Out to Left by an amount entered with the Keyboard
	Nudge Mark Out to Right Custom	Nudge Mark Out to Right by an amount entered with the Keyboard
	Nudge Mark Out to Left Custom in Bars/Beats	Nudge Mark Out to Left by an amount entered in Bars/Beats with the Keyboard
	Nudge Mark Out to Right Custom in Bars/Beats	Nudge Mark Out to Right by an amount entered in Bars/Beats with the Keyboard

Nudge Gates >

	Nudge Gate In to Left	Nudge Gate In to Left
	Nudge Gate In to Right	Nudge Gate In to Right
	Nudge Gate Out to Left	Nudge Gate Out to Left
	Nudge Gate Out to Right	Nudge Gate Out to Right

Current Nudge Setting>

- **Nudge Setting 1**
- **Nudge Setting 2**
- **Nudge Setting 3**
- **Nudge Setting 4**
- **Nudge Setting 5**

Goto TimeCode	Opens the Goto TimeCode dialog box, which allows the Play Cursor to be positioned to a specific TimeCode position
Goto Foot	Allows the Play Cursor to be positioned to a specific Footage
Goto Beat	Allows the Play Cursor to be positioned to a specific Beat

Cursor to Mark In	Moves the Play Cursor to the Mark In
Cursor to Mark Out	Moves the Play Cursor to the Mark Out
Cursor to Gate In	Moves the Play Cursor to the selected track group Gate In
Cursor to Gate Out	Moves the Play Cursor to the selected track group Gate Out
Cursor to Selected Marker	Moves the Play Cursor to the Selected Marker
Cursor to Start of Selected Track	Moves the Play Cursor to the start position of the first clip on the selected track
Cursor to End of Selected Track	Moves the Play Cursor to the end position of the first clip on the selected track
Auto Center on Goto	When enabled, the Project Editor will automatically center the display to the new Play Cursor position when the Goto TimeCode command is used
Auto-Select Marker Before Cursor	When enabled the Marker immediately before the Cursor will be selected. As the Cursor is moved the selection will change as the next Marker is passed.

Mark In to Cursor	Moves the Mark In to the Play Cursor
Mark Out to Cursor	Moves the Mark Out to the Play Cursor
Gate In to Cursor	Moves the selected track group Gate In to the Play Cursor
Gate Out to Cursor	Moves the selected track group Gate Out to the Play Cursor
Marks to Selection	Moves the Mark Out to the current selection
Lock Marks	Prevents the Mark In/Out points from being changed
Hide Marks	Removes the Mark In/Out cursors

Add Marker to Cursor	Adds a new Marker to the current Play Cursor Position

Prompt for Marker Name at insertion When ticked the **Add New Marker** dialog opens when a new marker is inserted

Delete Selected Marker   Deletes the currently selected Marker

Move Selected Marker to Cursor   Moves the selected Marker to the current Play Cursor Position

Set >

     Set Marker 1   Set the Marker #1 to the current Play Cursor Position

    Note: Set Markers 2 - 10 not shown

Goto>

     Goto Marker 1   Set the Play Cursor position to Marker #1

    Note: Goto Markers 2 - 10 not shown

Select Previous Marker   Selects the previous Marker (left) of the currently selected Marker

Select Next Marker   Selects the next Marker (right) of the currently selected Marker

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Show Cursor   Automatically centers the display of the Project Editor to the Play Cursor

Show Mark In   Automatically centers the display of the Project Editor to Mark In current position

Show Mark Out   Automatically centers the display of the Project Editor to Mark Out current position

Show Gate In   Automatically centers the display of the Project Editor to the selected track group Gate In

Show Gate Out   Automatically centers the display of the Project Editor to the selected track group Gate Out

Show Selected Marker   Automatically centers the display of the Project Editor to the currently selected Marker

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Add CD Start Marker to Cursor   Adds a CD Start marker at the Play Cursor position

Add CD Stop Marker to Cursor   Adds a CD Stop marker at the Play Cursor position

Add CD Index Marker to Cursor   Adds a CD Index marker at the Play Cursor position

Delete Selected CD Marker   Deletes the currently selected CD Marker

CD Mark Groups   Enables automatic creation of CD Markers Groups in the Project Editor

Selection

Cursors & Marks menu

Nudge >

Nudge to Left	Nudges the selection to the left	
Nudge to Right	Nudges the selection to the right	
Nudge Start to Left	Nudges the selection start to the right	
Nudge Start to Right	Nudges the selection start to the left	
Nudge End to Left	Nudges the selection end to the right	
Nudge End to Right	Nudges the selection end to the left	
Move Selection Up	Moves the current selection to the track above its current position	
Move Selection Down	Moves the current selection to the track below its current position	
Grow Selection Up	Applies the current selection to the track above its current position	
Grow Selection Down	Applies the current selection to the track below its current position	
Narrow Selection Up	Removes the current selection from the track above its current position	
Narrow Selection Down	Removes the current selection from the track below its current position	

Set Cursor to Selection Start   **Positions the Play Cursor to the start point of the current selection**

Set Cursor to Selection Start with Preroll Positions the Play Cursor to the start point of the current selection, adding the defined Preroll value

Set Cursor to Selection Start with Preroll #2 Positions the Play Cursor to the start point of the current selection, adding the defined Preroll #2 value

Set Cursor to Selection Start with Preroll #3 Positions the Play Cursor to the start point of the current selection, adding the defined Preroll #3 value

Set Cursor to Selection End   Positions the Play Cursor to the end point of the current selection

Set Selection Start to Cursor   Positions the start point of the current selection to the Play Cursor position

Set Selection End to Cursor   Positions the end point of the current selection to the Play Cursor position

Select between Gates   Sets the Selection between the selected track group Gates

Gates to Selection   Moves the Gates to the extremities of the current selection

Auto Select Clip(s) under Cursor   Automatically Selects the clip(s) currently in contact with the Playhead Cursor

Select Clip(s) under Cursor   Selects the clip(s) currently in contact with the Playhead Cursor

Add/Remove Clip(s) under Cursor to Selection

Undo Selection   Cancels the last selection command

Redo Selection   Cancels (redo) the last Undo Selection command

Undo / Redo Selection   Toggles between the last Undo / Redo Selection command

Fade Editor
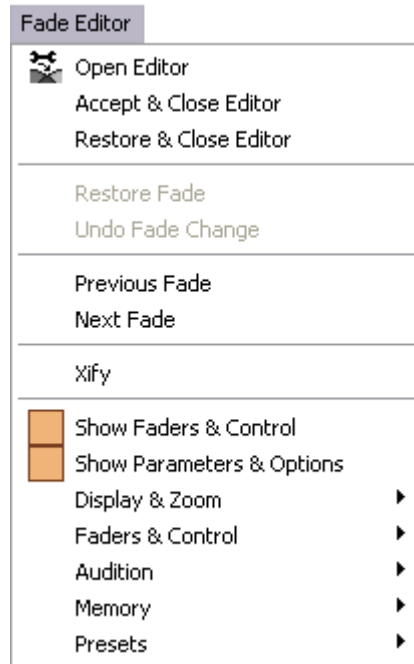
Fade Editor menu

Open Editor   Opens the Fade Editor window

Accept & Close Editor   Approve changes to the fade and close Fade Editor window

Restore & Close Editor   Restore fade to original state and close Fade Editor window

Restore Fade   Restore fade to original state

Undo Fade Change   Undoes the last parameter change

Previous Fade   Select / Edit previous fade

Next Fade   Select / Edit net fade

Xify   Reset the current fade to a standard Power X fade

Show Faders & Control   Show the Faders and Control Section of the Fade Editor

Show Parameters & Options   Show the Parameters and Options section of the Fade Editor

Display & Zoom >

    Fit Fade   Zoom around the current Fade (Reset Zoom)

    Zoom In   Zoom in on graphic display

    Zoom Out   Zoom out on graphic display

    Display & Zoom Options >

        No Auto-Center   Auto-Centering off

Auto-Center Fade	Auto-Centering on	
Auto-Center Reference Point	Auto Center on Reference Point	

Free Zoom	Follows only Zoom Reset, In and Out
Auto-Zoom	Automatically Zooms around the current Fade after some operations
Auto-Zoom/Free	Automatically Zooms around the current Fade but only when it enters the Fade Editor, thereafter, the Zoom is Free
Timeline Zoom	Follows the Timeline Zoom factor
Zoom Preset 1	Recall Preset Zoom #1
Zoom Preset 2	Recall Preset Zoom #2
Zoom Preset 3	Recall Preset Zoom #3
Zoom Preset 4	Recall Preset Zoom #4
Zoom Preset 5	Recall Preset Zoom #5

Faders & Control >

Nudge Out Gain Less

Nudge Out Gain More

Nudge In Gain Less

Nudge In Gain More

Nudge Intercept Less

Nudge Intercept More

Nudge Asymmetry Less

Nudge Asymmetry More

Nudge Out Length Less

Nudge Out Length More

Nudge In Length Less

Nudge In Length More

Nudge Out Position Left

Nudge Out Position Right

Nudge In Position Left

Nudge In Position Right

Nudge In Media Left

Nudge In Media Right

Nudge Out Media Left

Nudge Out Media Right

Faders & Control Options >

Link Length	Links length of Fade Out & In
Mirror Length	Length of Fade Out and In will be changed symmetrically (centered)
Link Position	Links position of Fade Out & In
Fade Safe	Ensures all following fades (to the right of the one being edited) are left intact while editing the current fade.
Force Safe	

Audition >

Audition X Fade

Audition X Fade with Ref

Audition Out with Curve

Audition Out without Curve

Audition Out after Fade

Audition Out with Curve with Ref

Audition Out without Curve with Ref

Audition Out after Fade with Ref

Audition Out Original Material

Audition In with Curve

Audition In without Curve

Audition In before Fade

Audition In with Curve with Ref

Audition In without Curve with Ref

Audition In before Fade with Ref

Audition In Original Material

Audition Options >

       Audition Pre-Roll 1

       Audition Pre-Roll 2

       Audition Pre-Roll 3

       Audition Post-Roll 1

       Audition Post-Roll 2

       Audition Post-Roll 3

       Audition Speed 100%

       Audition Speed 50%

       Audition Speed 25%

       Audition Solo

       Audition Loop

       Audition After Nudge

Memory >

Set Memory 1

Set Memory 2

Set Memory 3

Set Memory 4

Set Memory 5

Recall Memory 1

Recall Memory 2

Recall Memory 3

Recall Memory 4

Recall Memory 5

Presets >

Load Default X Curve

Load Default X Preset

Save Default X Preset

Load Default Out Curve

Load Default Out Preset

Save Default Out Preset

Load Default In Curve

Load Default In Preset

Save Default In Preset

Media
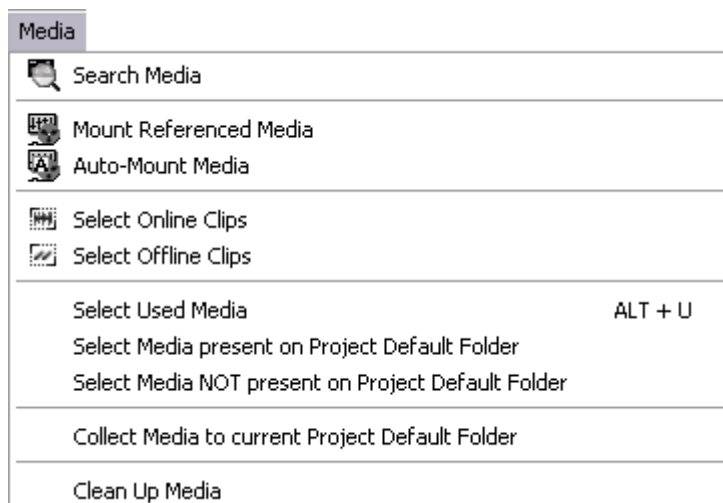
Media menu

Search Media	**Opens the Media Search Tool** with the **Query** page displayed. (See **User Manual : Media Management** Chapter for details)
Mount Referenced Media	Mounts all media not already mounted and used in the current Project
Auto-Mount Media	When selected, whenever a reference from an Offline library is placed in the current Project, the Media will automatically be mounted.
Select Online Clips	Selects all Clips in the Timeline whose Media files are currently mounted
Select Offline Clips	Selects all Clips in the Timeline whose Media files are not currently mounted
Select Used Media	Opens a floating Media Manager window containing all media used by the current Project.
Select Media present on Project Default Folder	Opens a floating Composition Library window with all Media present in the Project Default folder selected (highlighted)
Select Media NOT present on Project Default Folder	Opens a floating Composition Library window with all Media NOT present in the Project Default folder selected (highlighted)
Collect Media to current Project Default Folder	Copies all media files used in the current project (as shown when the previous **Select Media not present ...** is invoked to the current Project Default Folder.
Clean-Up Media	Opens the **Choose a Media Folder to Clean-Up** window. Choose the folder from the list and click **OK**. All media not referenced by the current Project will be permanently removed from the selected folder.

Automation
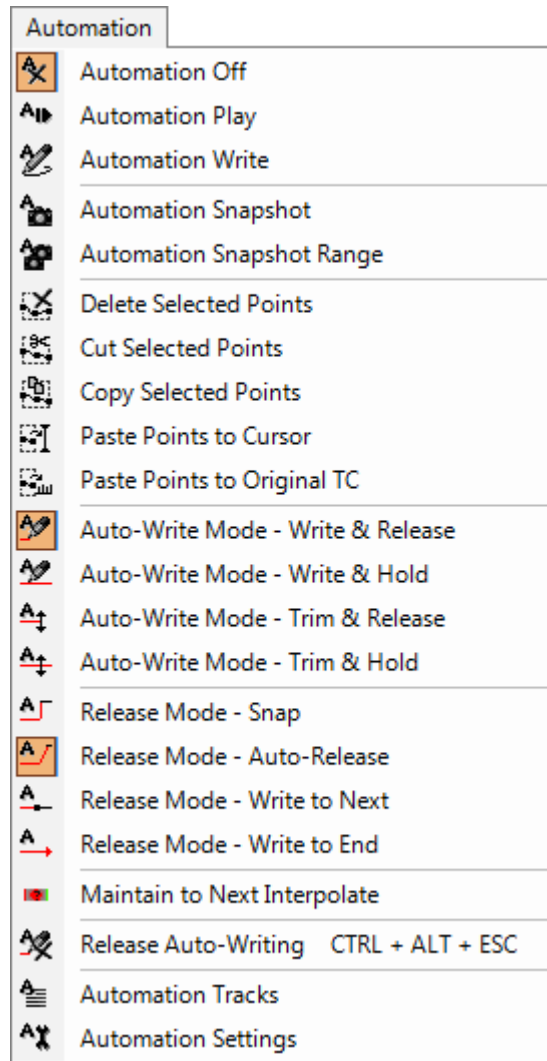
Automation menu

Automation Off	Automation system is disabled
Automation Play	Automation system is set to playback any previously recorded automation data
Automation Write	Automation system is set to playback any previously recorded automation data and record new automation data for all enabled controls
Automation Snapshot	Creates an automation key frame at the current cursor position, for all currently armed automation controls
Automation Snapshot Range	Places automation key frames at the currently defined In / Out cursor positions, for all currently armed automation controls
Delete Selected Points	Deletes all automation points contained in the selected region
Cut Selected Points	Cuts all automation points contained in the selected region
Copy Selected Points	Copies all automation points contained in the selected region
Paste Points to Cursor	Pastes all copied or cut automation points at the cursor on the selected track
Paste Points to Original TC	Pastes all copied or cut automation points at the Original TimeCode on the selected track
Auto-Write Mode - Write & Release	The automation starts writing a new pass when the control is touched and stops writing when the control is released.

Auto-Write Mode - Write & Hold	The automation starts writing a new pass when the control is touched. The value when the control is released will continue to be written until the transport stops.
Auto-Write Mode - Trim & Release	The automation starts updating the current pass when the control is touched and stops updating when the control is released.
Auto-Write Mode - Trim & Hold	The automation starts updating when the control is touched but continues when the control is released and stops only when the transport stops.
Release Mode - Snap	A straight jump is made from the current control value to the value written in the previous pass.
Release Mode - Auto-Release	An interpolation is created from the current value to the value written in the previous pass. I.e. a fade. The length of this is defined in **Automation Settings > Auto-Release Time**.
Release Mode - Write to Next	The same value is kept after the last written point until the next point is found in the previous pass.
Release Mode - Write to End	Writes the current value to the end, ignoring previously written points. (If any)
Maintain to Next Interpolate	The current value(s) are maintained until the next interpolated point(s). This is potentially useful when deleting automation points or when inserting a **Snapshot to Cursor**.
Release Auto-Writing	Immediately releases all controls currently recording automation
Automation Tracks	Opens the Automation Tracks window. This view allows the automation versions for a specific control to be displayed. Once the desired control has been located in the tree view, simply double-clicking on the control will update the Automation Track Versions window
Automation Settings	Opens the **Settings > All Settings > Application > Automation** page which allows automation parameters and settings to be defined

Workspaces
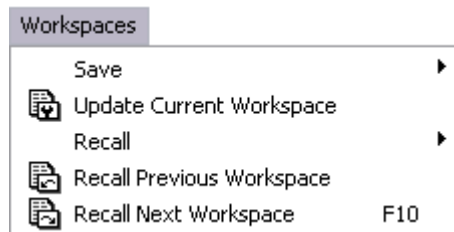
Workspaces menu

Save >

      Save Workspace 1   **Save Workspace 1**

     Note: Save Workspace 2 to 10 omitted

Update Current Workspace	Updates the current Workspace with current settings
Recall >	
Recall Workspace 1	Recall Workspace 1

     Note: Recall Workspace 2 - 10 omitted

Recall Previous Workspace	Toggles backwards through the list of available Workspaces
Recall Next Workspace	Toggles forwards through the list of available Workspaces

ADR

For details of the ADR Menu please see the **ADR User Guide**

Machines
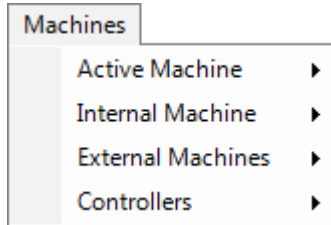
Machines menu

Active machine >

> **Note:** Active machine Sub-menus will reflect whichever machine is currently chosen as the active machine.

Toggle machines	Toggle between installed machines

Stop	Stop
Pause	Pause
Play	Play
Play Special >	

Play Reverse	Play Reverse
Play 1/2	Play 1/2
Play 1/2 Reverse	Play 1/2 Reverse
Play 1/4	Play 1/4
Play 1/4 Reverse	Play 1/4 Reverse
Play 1/16	Play 1/16
Play 1/16 Reverse	Play 1/16 Reverse
Play 2x	Play 2x
Play 2x Reverse	Play 2x Reverse
Play 4x	Play 4x
Play 4x Reverse	Play 4x Reverse
Toggle Play/Stop	Toggle Play/Stop
Toggle Play/Pause	Toggle Play/Pause
Toggle Play/Record	Toggle Play/Record

Record	Record
Fast Forward	Fast Forward
Fast Rewind	Fast Rewind
Scan Forward	Scan Forward
Scan Rewind	Scan Rewind
Start	Goto Start
End	Goto End

Goto TimeCode	Goto TimeCode

Nudge +1 frame

Nudge -1 frame

Nudge to Right

Nudge to Left

Set Loop In	At current Playhead Cursor position
Set Loop Out	At current Playhead Cursor position

Goto Loop In

Goto Loop Out

Chase

Store Chase Offset

Internal Machine>

Stop	Stop
Pause	Pause
Play	Play

Play Special >

Play Reverse	Play Reverse
Play 1/2	Play 1/2
Play 1/2 Reverse	Play 1/2 Reverse
Play 1/4	Play 1/4
Play 1/4 Reverse	Play 1/4 Reverse
Play 1/16	Play 1/16
Play 1/16 Reverse	Play 1/16 Reverse
Play 2x	Play 2x
Play 2x Reverse	Play 2x Reverse
Play 4x	Play 4x
Play 4x Reverse	Play 4x Reverse

Toggle Play/Stop	Toggle Play/Stop
Toggle Play/Pause	Toggle Play/Pause
Toggle Play/Record	Toggle Play/Record
Toggle Play/Stop Record Safe	

Note: This command toggles between **Play** and **Stop** (or other state) but has no effect when recording. In this case the real **Stop** command has to be issued to stop a recording.

Play with Preroll

Play with Preroll #2

Play with Preroll #3

Record	Record
Fast Forward	Fast Forward
Fast Rewind	Fast Rewind
Scan Forward	Scan Forward
Scan Rewind	Scan Rewind
Start	Start

End   End

Punch >

        Punch Selection   Punch Selection

        Punch Selection with Preroll Punch Selection with Preroll

        Punch Selection with Preroll #2 Punch Selection with Preroll #2

        Punch Selection with Preroll #3 Punch Selection with Preroll #3

        Auto-punch with Preroll   Auto-punch with Preroll

        Auto-punch with Preroll #2 Auto-punch with Preroll #2

        Auto-punch with Preroll #3 Auto-punch with Preroll #3

        Remake last Punch (In only) Repeat last Punch operation (Punch In only)

        Remake last Punch (In - Out) Repeat last Punch operation

Safety Record   When this mode is active the only way to stop a recording is to return to this menu and de-activate it. (Or use an assigned keuyboard Shortcut)

Play Selection   Play Selection

Loop Selection   Loop Selection

Play between Marks   Play between Marks

Loop between Marks   Loop between Marks

Play between Gates   Play between selected track group Gates

Loop between Gates   Loop between selected track group Gates

Audition >

     Audition Pre   Audition Pre

     Audition Pre (Preroll #2)   Audition Pre (Preroll #2)

     Audition Pre (Preroll #3)   Audition Pre (Preroll #3)

     Audition   Audition

     Audition (Pre/Postroll #2)   Audition (Pre/Postroll #2)

     Audition (Pre/Postroll #3)   Audition (Pre/Postroll #3)

     Audition Post   Audition Post

     Audition Post (Postroll #2)   Audition Post (Postroll #2)

     Audition Post (Postroll #3)   Audition Post (Postroll #3)

     Audition Gate In Pre   Audition selected track groups Gate In Pre

     Audition Gate In Pre (Preroll #2)   Audition selected track groups Gate In Pre (Preroll #2)

     Audition Gate In Pre (Preroll #3)   Audition selected track groups Gate In Pre (Preroll #3)

     Audition Gate In   Audition selected track groups Gate In

     Audition Gate In (Pre/Postroll #2) Audition selected track groups Gate In (Pre/Postroll #2)

     Audition Gate In (Pre/Postroll #3) Audition selected track groups Gate In (Pre/Postroll #3)

     Audition Gate In Post   Audition selected track groups Gate In Post

     Audition Gate In Post (Postroll #2)   Audition selected track groups Gate In Post (Postroll #2)

     Audition Gate In Post (Postroll #3) Audition selected track groups Gate In Post (Postroll #3)

     Audition Gate Out Pre   Audition selected track groups Gate Out Pre

     Audition Gate Out Pre (Preroll #2)   Audition selected track groups Gate Out Pre (Preroll #2)

     Audition Gate Out Pre (Preroll #3)   Audition selected track groups Gate Out Pre (Preroll #3)

     Audition Gate Out   Audition selected track groups Gate Out

Audition Gate Out (Pre/Postroll #2)	Audition selected track groups Gate Out (Pre/Postroll #2)
Audition Gate Out (Pre/Postroll #3)	Audition selected track groups Gate Out (Pre/Postroll #3)
Audition Gate Out Post	Audition selected track groups Gate Out Post
Audition Gate Out Post (Postroll #2)	Audition selected track groups Gate Out Post (Postroll #2)
Audition Gate Out Post (Postroll #3)	Audition selected track groups Gate Out Post (Postroll #3)

Goto TimeCode	Goto TimeCode

Nudge +1 frame

Nudge -1 frame

Set Loop In	At current Playhead Cursor position
Set Loop Out	At current Playhead Cursor position

Goto Loop In

Goto Loop Out

Loop On/Off	Loop On/Off

Chase	Hard Chase
Store Chase Offset	Store Chase Offset
Auto Chase	

Freeze External Machines

Cursor Auto-Return after playing	Auto Return On/Off

External Machines>

Stop	Stop
Pause	Pause
Play	Play

Play Special >

Play Reverse	Play Reverse
Play 1/2	Play 1/2
Play 1/2 Reverse	Play 1/2 Reverse
Play 1/4	Play 1/4
Play 1/4 Reverse	Play 1/4 Reverse
Play 1/16	Play 1/16
Play 1/16 Reverse	Play 1/16 Reverse
Play 2x	Play 2x
Play 2x Reverse	Play 2x Reverse
Play 4x	Play 4x
Play 4x Reverse	Play 4x Reverse

Toggle Play/Stop	Toggle Play/Stop
Toggle Play/Pause	Toggle Play/Pause
Toggle Play/Record	Toggle Play/Record
Record	Record
Fast Forward	Fast Forward

Fast Rewind	Fast Rewind
Scan Forward	Scan Forward
Scan Rewind	Scan Rewind
Start	Goto Start
End	Goto End

| **Goto TimeCode** | Goto TimeCode |

| **Nudge +1 frame** | Nudge +1 frame |
| **Nudge -1 frame** | Nudge -1 frame |

Set Loop In	At current Playhead Cursor position
Set Loop Out	Out At current Playhead Cursor position
Goto Loop In	Goto Loop In
Goto Loop Out	Goto Loop Out

Chase

Store Chase Offset

Auto-Chase

| **Eject** | Eject |

Preview

Auto Edit

Review

| **Enable Record On/Off** | Enable Record On/Off |

Record Ready >

	Record Ready V1	Record Ready V1
	Record Ready A1	Record Ready A1
		Record Ready A2 - A7 omitted
	Record Ready A8	**Record Ready A8**

Locator >

	Goto Locator 1	**Goto Locator 1**
		Goto Locator 2 to 9 omitted
	Goto Locator 10	**Goto Locator 10**

	Set Locator 1	**Set Locator 1**
	Set locator 2 to 9 omitted	
	Set Locator 10	**Set Locator 10**

Controllers>

| | **Offline Controllers** | Toggle Controllers On/Off line |

Jog-Wheel Mode - Jog

Jog-Wheel Mode - Shuttle

| **Jog-Wheel Mode - Loop** | repeats a short loop, starting at the cursor position |

Jog-Wheel Mode - Navigate Navigate is silent jog mode

Jog-Wheel Mode - Off

Jog-Wheel Listen - Mix Listen to mix out when Jog is active

Jog-Wheel Listen - Selection Listen only to tracks included in the current Selection

---

Jog-Wheel Fine Change jog-wheel 'gearing' to the sensitivity factor set in **Settings > All Settings > Application > Jog/Chase : Fine Jog sensitivity factor** (Default 0.25) I.e. a quarter of nominal sensitivity.

E.g. if nominal = 1.00 seconds per revolution then Fine will be a quarter of a second per revolution.

Auto Show Plugins When selected Plugins parameters windows are automatically opened when selected on the remote controller.

Macros

Macro Editor Opens the **Macros** Window

Please see User Macros on page 332

Settings
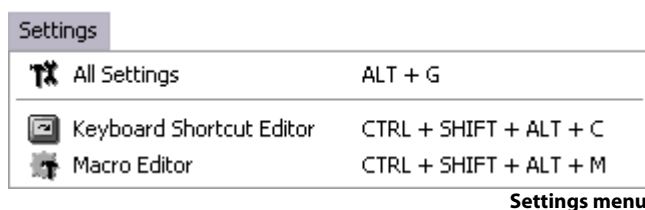
Settings menu

The **Settings** menu brings together access to the main **All Settings** window, the **Keyboard Shortcut Editor** and the **Macro Editor**.

All Settings Opens the **Pyramix Settings** Window

Keyboard Shortcut Editor Opens the **Keyboard Shortcuts** Window

Macro Editor Opens the **Macros** Window

Window
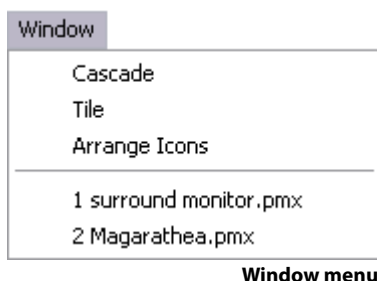
Window menu

The **Window** menu maintains a list of open projects and enables switching between them. It also enables multiple open project windows to be arranged on screen, **Tiled** or **Cascade**d.

Help

Help menu

The **Help** Menu gives quick on-line access to this manual and others. <u>**About**</u> pops up a Window with the Pyramix logo and details about the registered user and software version.

27 Settings

Overview

Pyramix is massively configurable to suit diverse applications and personal preferences. To keep the vast number of parameters manageable, Pyramix has an intuitive **Settings** dialog window. The **Pyramix Settings** dialog window brings together all Pyramix settings apart from the **Keyboard Shortcut Editor** and the **Macro Editor**, both of which can be accessed from the **Settings** menu. Although you will find information about individual pages elsewhere in this document, all the Settings pages are detailed in this chapter.**Settings** can be accessed from a Tool Bar icon, the menu **Settings > All Settings** or **Alt + G**.

Configuration - The Settings Dialog Window
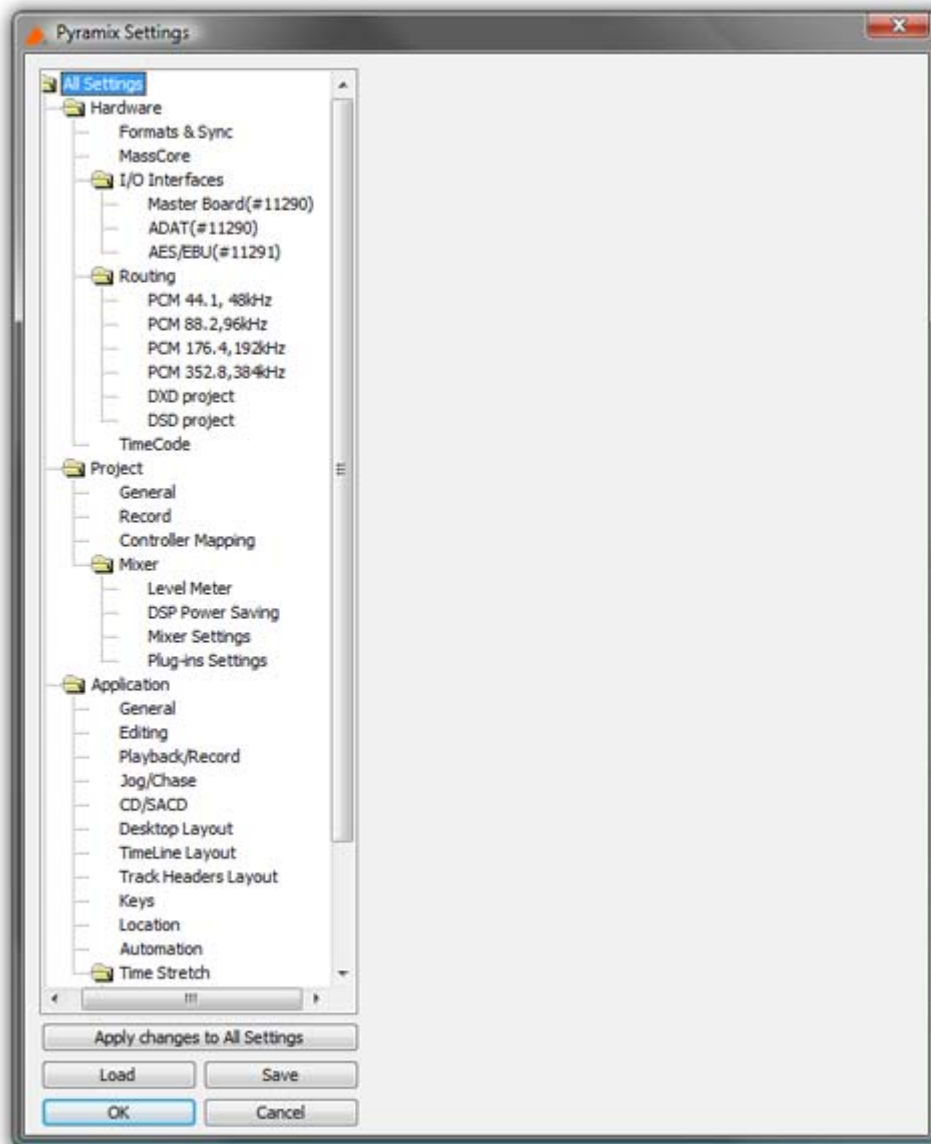
Pyramix Settings Window - No folder open

The left-hand side of the window shows all available settings grouped in folders. Folders can be collapsed or expanded by clicking on the folder icons. By default, all folders are open, displaying the settings pages they contain by name. Clicking on a settings page opens it in the right-hand side of the window for viewing and editing.

Settings Buttons

Apply changes to ...

Below the Settings folders tree view the first large button's function and label changes to reflect the currently open settings page (if any). **Apply changes to ...** does as it says without saving the changes to a Settings file. Settings can be saved selectively or in their entirety for future use.

Save

To save all settings, Click on the: <u>S</u>ave button to open a **Save As** browser window. If necessary, navigate to a suitable location for the file. Type a suitable name in the **File name:** box and click the **Save** button to save the file and close the browser window.

Load

Load opens a Browser window to enable location of settings **Profile** (*.pms) files. When the required file has been located clicking on the **Open** button loads the file and opens the **Load Settings** dialog.
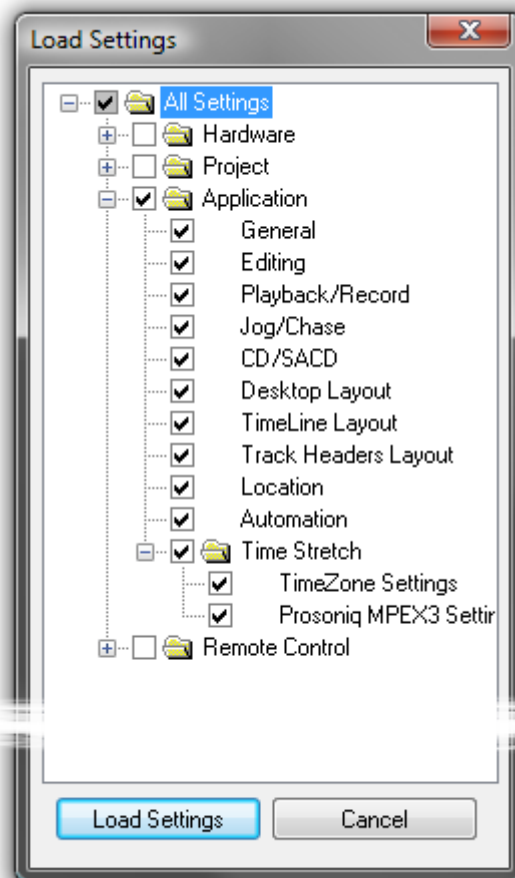
Load Settings dialog

Loading Settings Selectively

Load Settings loads only the settings with ticked boxes. The **Load Settings** dialog auto selects the currently selected page. Clicking a folder check box checks the boxes of all the sub-folders and pages they contain. Thus, clicking the **All Settings** box checks all the boxes.

<u>O</u>K

Saves any changes made to settings and exits the **Pyramix Settings** window.

<u>C</u>ancel

Cancels any changes made to settings and exits the **Pyramix Settings** window.

Hardware

Formats and Sync
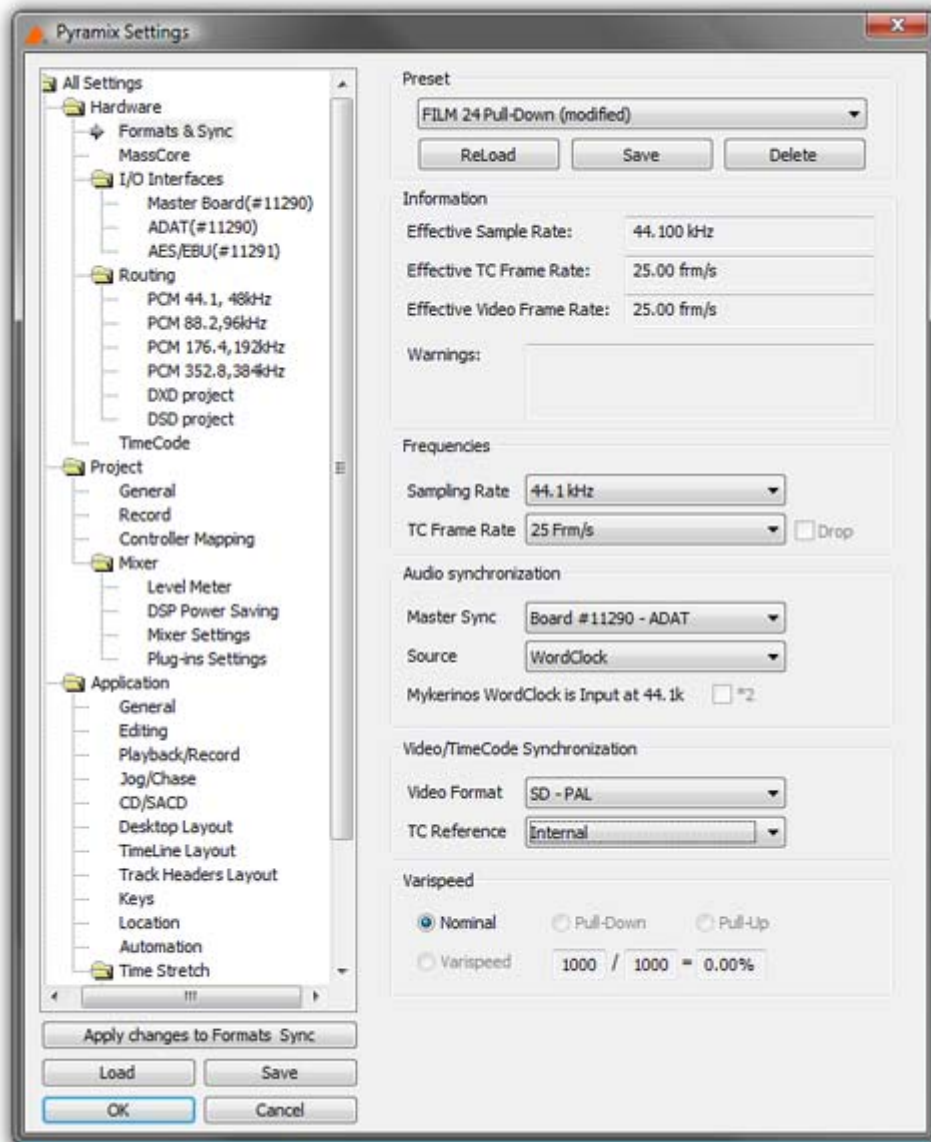
All Settings Hardware Formats & Sync Page

Preset

This section allows the user to **Save** and **ReLoad** or **Delete** Presets of all the parameters in this page. A variety of

common scenarios are covered in the supplied Presets:
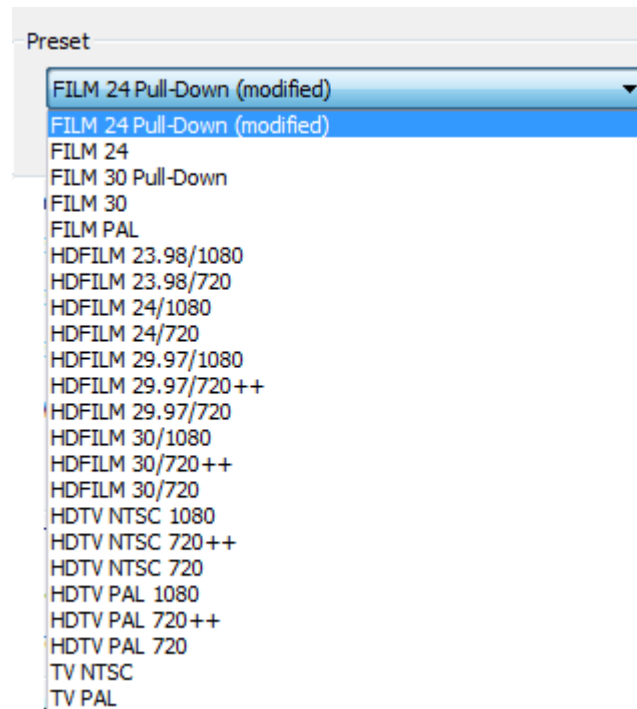
All Settings Hardware Formats & Sync Preset List

Information
Effective Sampling Rate

Displays the sampling rate including the effect of any pull-up or down or Varispeed settings.

The sampling rate display in the Status Bar also displays the resulting sampling rate.

Effective TC Frame Rate

Displays the TC Frame Rate including the effect of any pull-up or down or Varispeed settings.

Effective Video Frame Rate

Displays the Video Frame including the effect of any pull-up or down or Varispeed settings.

Sampling Rate

Displays the rate set when the project was created or the default **Mixer** preset loaded. This can be changed from the **Sampling Rate** drop-down list.

Warnings

Displays any caveats about the selected rates.

Frequencies
Sampling Rate

The drop-down list presents a choice of all available nominal sampling rates.

TC Frame Rate

The drop-down list presents a choice of all available TC Frame Rates

Drop

Only available for NTSC Frame Rates I.e. 29.97fps and 30fps. When checked drop frame counting is applied.

Board

In a multi-board system, use the drop down list to select the daughter-card for which you want to view or change settings.

Master

In a multi-board system, this check box determines which board is the source of digital audio sync. Only one board can be selected as master.

Audio Syncronization
Master Sync

In an Multi-board system choose the board which will be the sync master from the drop-down list.

Source

This determines the sample clock source for the whole Pyramix system. If an external source is selected and no valid signal is detected, the system reverts to **Internal** until the external signal is restored. The following choices are available:

Internal

Selects the board's internal oscillator as clock master.

Video

Selects an external video input as the reference. The card derives word clock from the video sync rate. A valid video signal must be connected to the Mykerinos board chosen as the Video / TC master in the VS3 control panel.

Word Clock

Selects an external word clock source as the reference. The word clock must be connected to the Mykerinos board chosen as video / TC master in the VS3 control panel. This option is grayed out if there is no valid source connected.

Audio Input

Select this option if you want Pyramix to derive it's clock from an external audio source connected to any of the daughtercard(s) present. The correct audio input must also be selected.

LTC

In special situations this option enables word clock to be derived from Linear TimeCode

WordClock is Output at XXk   *2

For sample rates above 48kHz WordClock is normally output at the standard fundamental rate. E.g. if 128KHz is selected then WordClock is output at 32kHz unless the box is ticked, in which case the WordClock output rate is doubled to 64kHz.

Video/TimeCode Synchronization
Video Format

The drop-down list presents all available Video Formats

TC Reference

The drop-down list presents all valid TimeCode reference sources.

Varispeed

Allows either choice of either a pull-up / pull-down sampling rate or running Pyramix in **Varispeed** mode by adapting the sampling rate.

> **Important!** Typical digital to analog or analog to digital converters (such as Merging Technologies Sphynx or DUAII do not operate beyond +/- 0.15 ‰ (150 ppm) and therefore will mute in any Varispeed mode. It is suggested to route the Mykerinos digital I/O's through external real-time sampling rate conversion circuitry or to use adequate external converters with built-in pull-up or pull-down support.

> **Note:** Note: Locking to external NTSC video reference is limited to nominal and pull-down sampling rates.

Nominal

'Normal' mode. Uses the nominal sampling rate as set in the **Sampling Rate** pull-down menu.

Pull-Up

Increases the sampling rate by 0.1%. Most often used in audio post production for compatibility reasons between NTSC frame rates of 30 fps and 29.97 fps.

Pull-Down

Decreases the sampling rate by 0.1%. Most often used in audio post production for compatibility reasons between NTSC frame rates of 30 fps and 29.97 fps.

Varispeed

The speed of audio playback can be varied within the range of -12.5% to +12.5%. Select this option, then enter the required speed change in tenths of percents into the adjacent entry field. Values entered outside of the allowed range will be limited to the extent of the allowed range. E.g. if 1500 is entered, the value will be set to 1125.

Input
Format

Provides input format selection. This is varies, depending on which Mykerinos Daughter card is currently selected by the Board drop-down menu.

Range

Shows the number of possible system inputs available depending on the Mykerinos Daughter

card currently selected **Board** drop-down menu.

Output
Mode

Provides output format selection. This is variable, depending on the Mykerinos Daughter card under consideration.
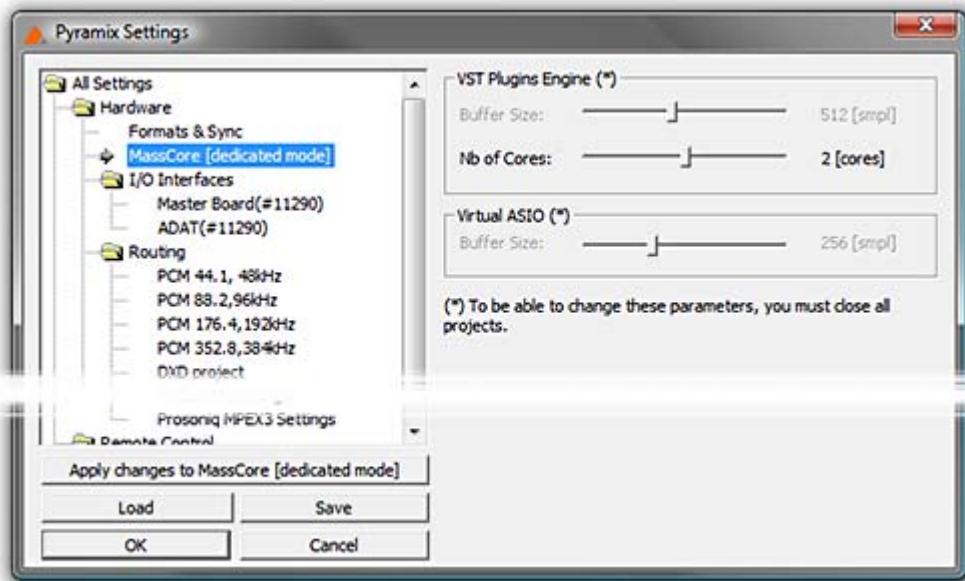
MassCore

All Settings Hardware MassCore

Note: The MassCore mode is indicated in brackets but is determined by the hardware present in the PC.

VST Plugins Engine Latencies(*)

This sets the **VST** buffer size in samples. The smaller the buffer the lower the latency and vice-versa. Some third-party VST plug-ins require very large buffer sizes. This setting is provided to give the user control over the required value. Increasing the value can prevent clicks at the expense of increased latency.

Values up to 8192 samples may be set.

No of Cores:

On a Quad Core sets the number of VST cores used 1, 2 or 3.(one CPU is already dedicated to MassCore). This option is necessary since some VST plug-ins do not like Multithreading processing.

Virtual ASIO

This sets the **Virtual ASIO** buffer size.

Note: (*) In order to adjust this setting all projects must be closed.

I/O Interfaces

Master Board(#Serial No.)
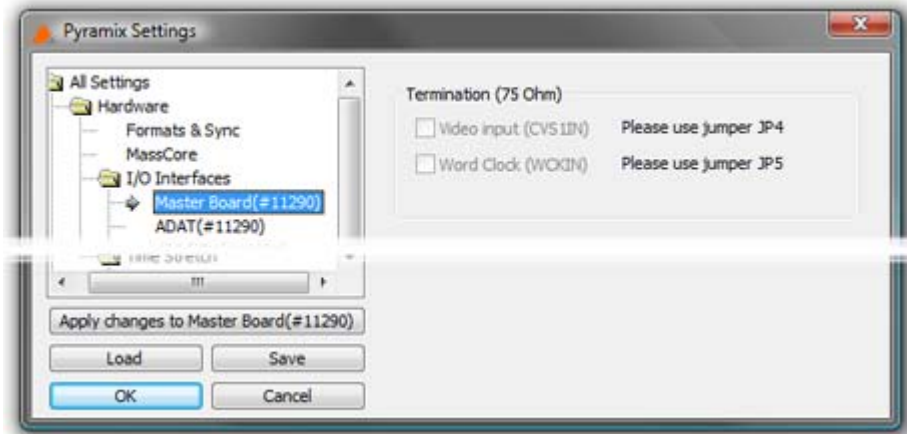
All Settings Hardware I/O Interfaces Master Board(#Serial No.)

Termination
Video Input (CVS1IN)Please use jumper JP4

Word Clock (WCKIN)Please use jumper JP5

Applicable only to Mykerinos X boards otherwise grayed out. Offers a choice between Video and Word Clock sync input in conjunction with the board jumpers **JP4** and **JP5** (Please see Mykerinos X manual for full details)

Board(#Serial No.)
(Mykerinos Daughter Card Settings)

These settings provide hardware specific configuration for the currently installed Mykerinos daughter card(s). Please see also the documentation supplied with the card.

> **Note:** There will be separate entries under **I/O Interfaces** for each board installed and **On-Line** (As selected in the **VS-3 Control Panel**)

ADAT Board Settings
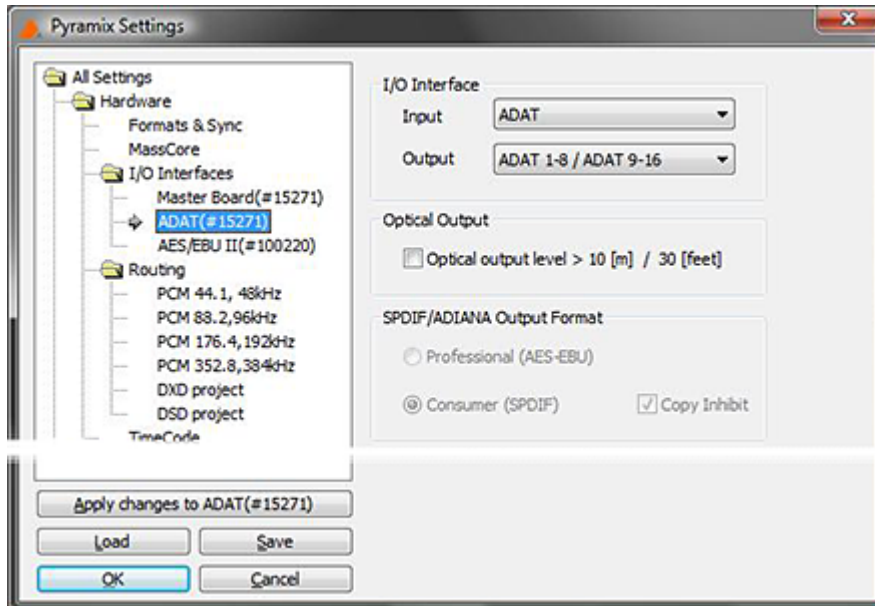
Note: These settings can only be changed when all projects are closed. The page will warn of this if any projects are open.

I/O Interface
Input

Offers the choice between **ADAT** and **SPDIF**

Output

Offers choices of output format:
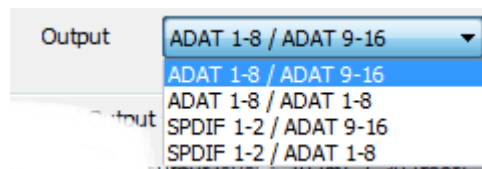
ADAT 1-8 / ADAT 9/16: Channels 1-8 on optical A and channels 9-16 on optical B.

ADAT 1-8 / ADAT 1-8: Channels 1-8 on both optical A and B.

SPDIF 1-2 / ADAT 1-8: (Standalone mode only) Channels 1-2 on optical A, in SPDIF format and channels 1-8 on optical B.

SPDIF 1-2 / ADAT 9-16: (Standalone mode only) Channels 1-2 on optical A, in SPDIF format and channels 9-16 on optical B

Optical Output
Check the **Optical output level** box if the fibre-optic cables are in excess of 10[m] / 30 [feet] in length.

SPDIF/ADIANA Output Format
The radio buttons set the **Professional** / **Consumer flag** and the check-box sets the **Copy Inhibit** flag when SPDIF is the selected output format.

AES II and AES II SRC Board Settings
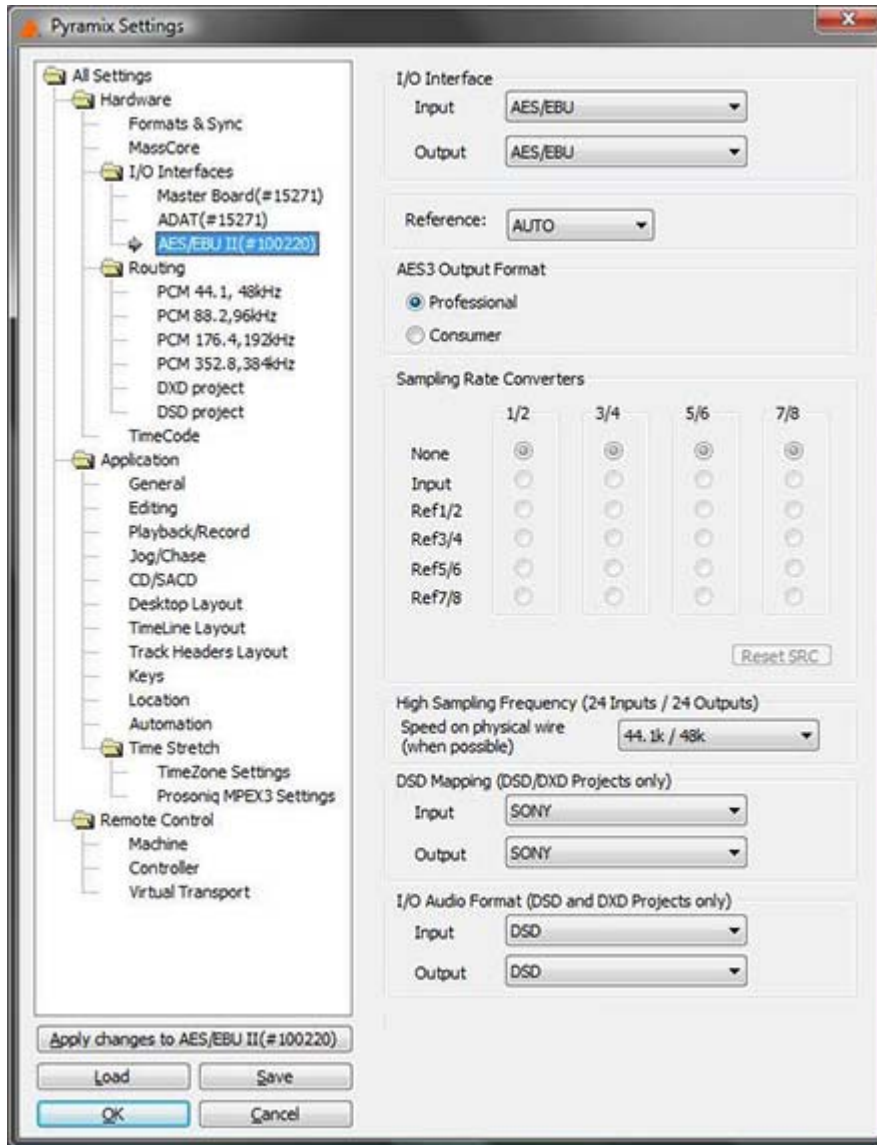
All Settings Hardware I/O Interfaces AES II Board(#Serial No.)

I/O Interfaces

AES/EBU

Input

Output

Reference

Selects the input used as the clock reference when Pyramix sync is set to **Audio Input**.

When set to **AUTO**, Pyramix searches through all the inputs in ascending order and locks to the first valid source it finds.

AES3 Output Format

The radio buttons toggle the **Professional** / **Consumer** bit in the AES data stream.

Sampling Rate Converters

Grayed out if no SRCs are present. Each of the four uni-directional converters can be configured as Bypass, Input or Output. On a specific in/out channel pair a sampling rate conversion can be applied only in one direction, either input or output. The **Speed on physical wire** setting (see below) should be set to the project's sampling rate (aka "**single-wire mode**") whenever the SRCs are used, since channel pairs that are spread over several wires will not be sample rate converted properly.

Up to 192 kHz, each column represents one XLR connector (one pair of channels) with its associated SRC chip.

The following configurations can be selected:

- **None**: or bypass, the SRC is transparent

- **Input**: The SRC works on the input path and converts the incoming signal to the project's sampling rate

- **Ref1/2** through **Ref 7/8**: The SRC is inserted in the output path and converts the output signal to the sampling rate of the signal present at the input chosen as reference.

At 8FS (DXD/DSD), the AES II daughter card has a special mode that is enabled by selecting **8FS to nFS** in the **Speed on physical wire** field. This mode provides a fixed set of 2 input and 2 output paths and enables a real-time conversion from 384kHz/352.8kHz down to 192kHz/44.1kHz and vice-versa. Only XLRs 1/2 and 3/4 are used. For the outputs, the reference input for the sampling frequency is selectable in the **Sampling Rate Converters** array.

For further information and configuration examples please see: **AES II with SRC on page 559**

High Sampling Frequency (24 Inputs / 24 Outputs
Speed on physical wire (when possible)

Sets the rate of the AES stream on the I/Os.

44.1k / 48k: standard mode

88.2k / 96k: also called single wire at 96 kHz

176.4k / 192k: (only AES 2) also called single wire at 192 kHz

8 FS to nFS: (only AES 2 - SRC) special mode for the sampling rate converters for DXD/DSD projects (see explanation of the sampling rate converters)

DSD mapping (DSD / DXD Projects only)

Sets the mapping for the DSD I/Os

Input

SONY

P3D

Output

SONY

P3D

I/O Audio Format (DSD / DXD Projects only)

Selects the I/O mode when a DSD or DXD project is opened.

Input

DSD

DXD

Output

DSD

DXD

AES Board Settings

The legacy, non SRC, AES board uses the same **Settings Page** as the AES II. However, the SRC settings will, of course, be unavailable.

DUAL Board Settings
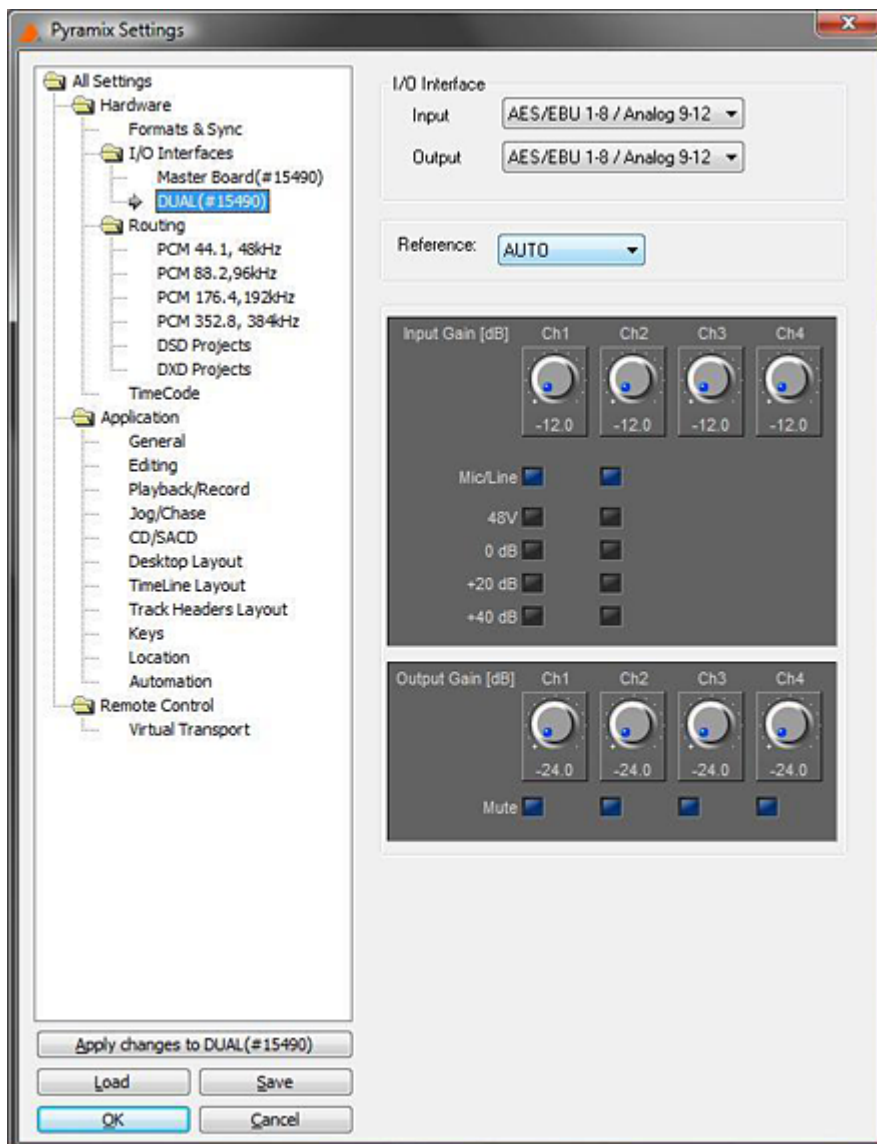
I/O Interface
Input

AES/EBU 1-8 / Analog 9-12: The first 8 inputs are in AES/EBU format and the four remaining inputs are analog.

Output

AES/EBU 1-8 / Analog 9-12: The first 8 outputs are in AES/EBU format and the four remaining outputs are analog.

Reference

Selects the digital (AES/EBU) input to be used as the clock reference when Pyramix sync is set to **Audio Input**. When set to **AUTO**, Pyramix searches through all the inputs in ascending order and locks to the first valid source it finds.

Input Gain (dB)

A gain setting of -12dB to +12dB can be selected for each one of the four analog inputs.

Mic/Line On inputs 1 and 2 you can also enable the Mic preamp by ticking the box. When selected the buttons below allow **48V** phantom power to be enabled and additional gain added for **0dB**, **+20dB** or **+40dB**

Output gain (dB)

A gain setting of from -24dB to 0dB can be selected for each of the four analog outputs. Each channel is also equipped with a **Mute** check box.

MADI Board Settings
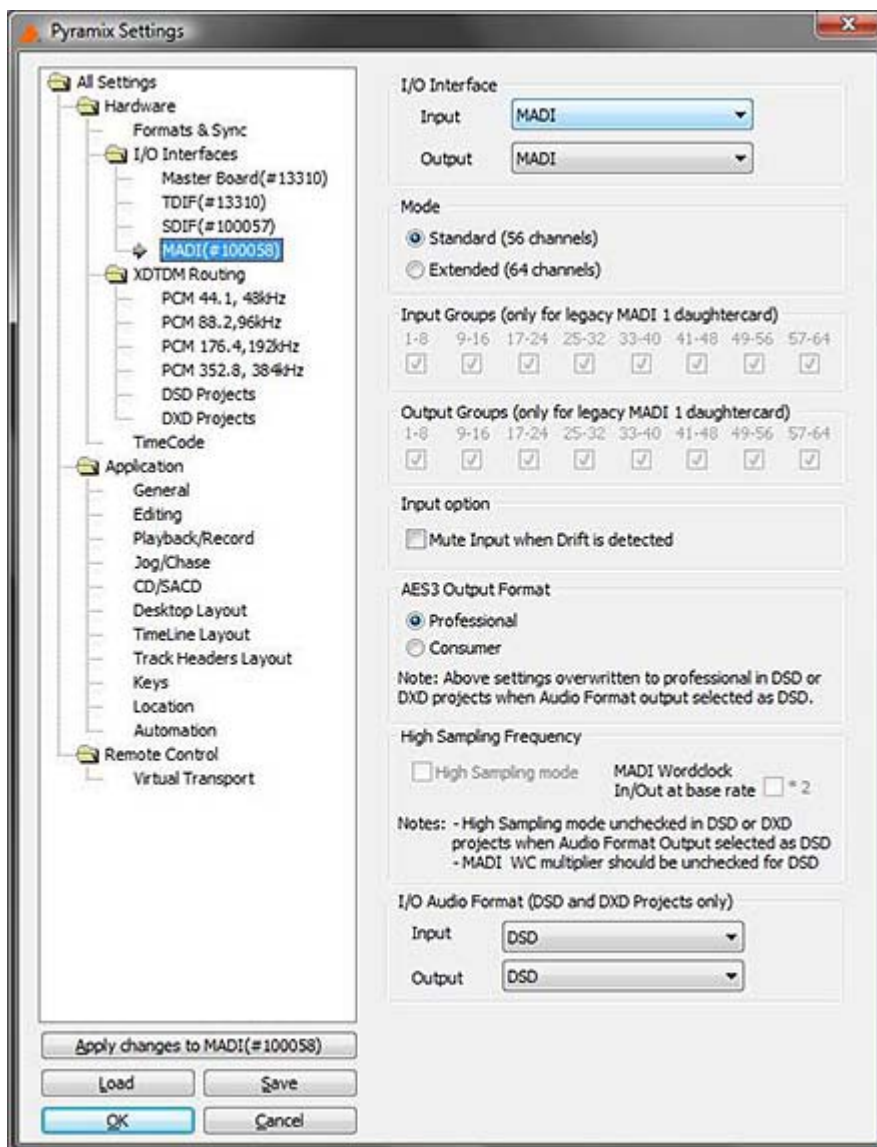
All Settings Hardware I/O Interfaces Master Board(#Serial No.)

I/O Interface
Input

Output

Select **MADI** from the drop-down lists (if not already selected)

Mode
Standard (56 channels)

Extended (64 channels)

Choose the mode appropiate for the external device you are connecting.

>   **Note:** To change this setting all Projects must be closed

Input Groups

Output Groups

(These settings are only applicable to legacy MADI 1 daughtercards)

Input Option
Mute Input when Drift is detected

If the Input stream sample rate varies from nominal, Mutes the Input

AES Output Format
Professional

Consumer

Sets the AES Format bit.

> **Note:** This setting is overridden to **Professional** in DSD or DXD Projects when DSD is selected as the output format.

High Sampling Frequency
High Sampling Mode

When ticked, MADI carries high sample rate signals.

MADI Wordclock I/O at base rate * 2

When ticked MADI Wordclock is expected and output at base rate times two.

> **Note:** High Sampling Mode setting is overridden in DSD or DXD Projects when DSD is selected as the output format.
> **MADI Wordclock I/O at base rate * 2** should be unticked for DSD

I/O Audio Format (DSD and DXD Projects Only)
Input

Output

Select the required I/O format(s) from the drop-down lists.

> **Note:** To change this setting all Projects must be closed

SDIF Board Settings
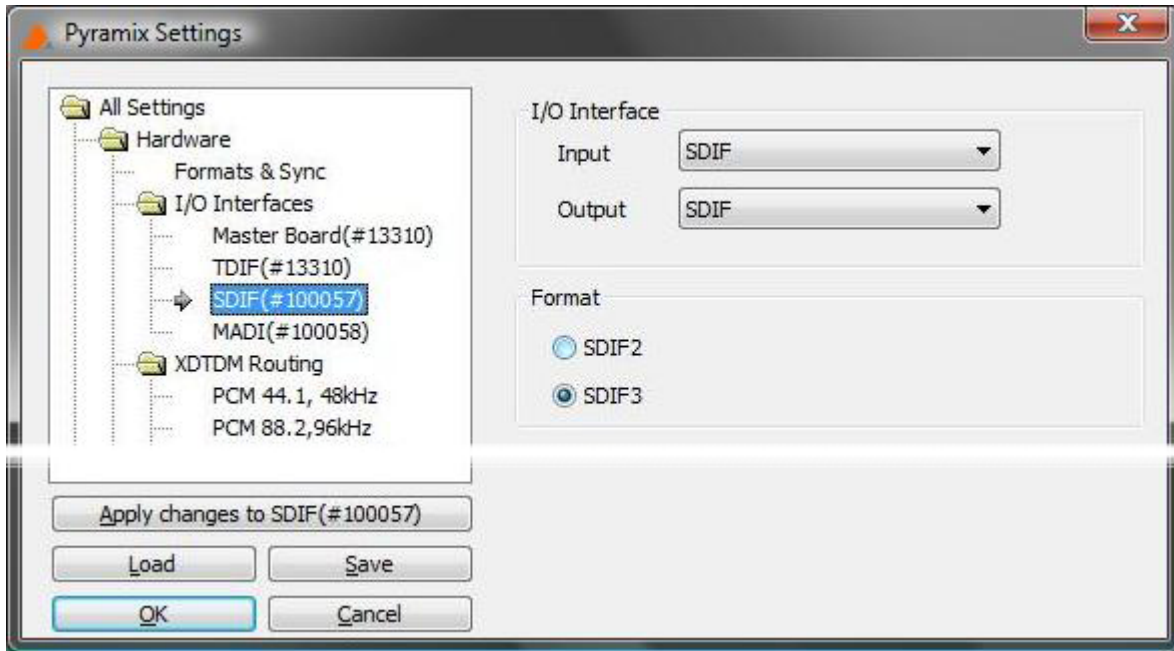
I/O Interface
Input

SDIF

Output

SDIF

Format

The radio buttons toggle between the **SDIF2** and **SDIF3** formats.

TDIF Board Settings
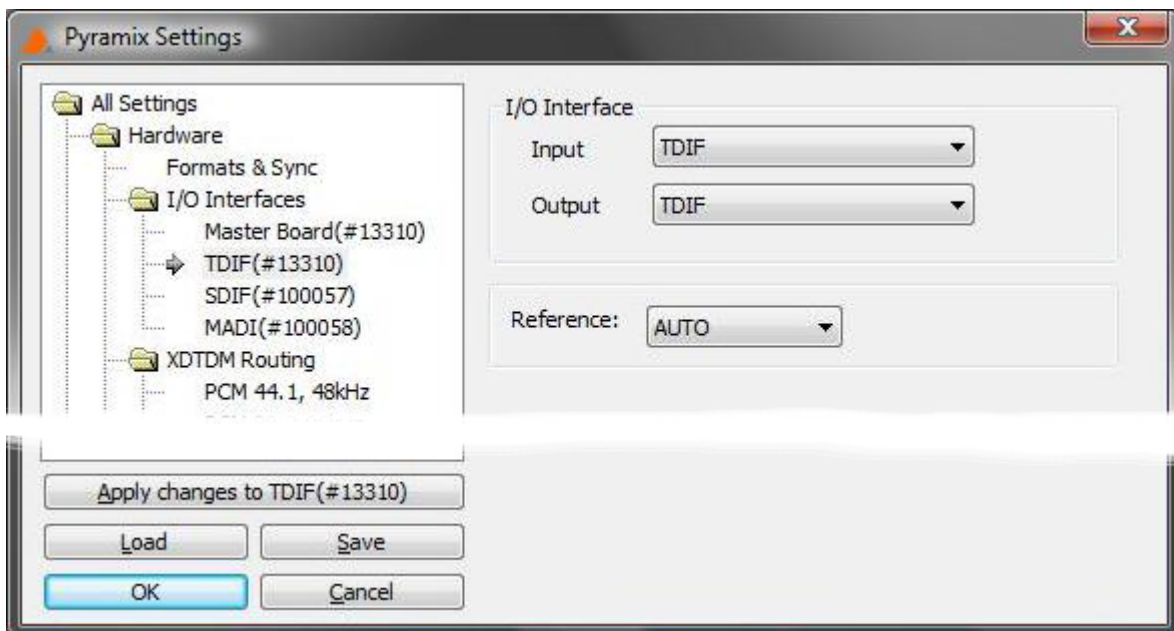
I/O Interface
Input

TDIF

Output

TDIF

Reference

Selects the input used as the clock reference when Pyramix sync is set to **Audio Input**. When set to **AUTO**, Pyramix searches through the inputs and locks to the first valid source it finds.

The drop-down list offers the following choice of Clock reference sources:

AUTO

TDIF Front

TDIF Rear0

TDIF Rear1

When set to **AUTO**, Pyramix searches through all the inputs in ascending order and locks to the first valid source it finds.

HDTDM / XDTDM / MassCore Routing

There are several routing pages. Only pages appropriate for the currently selected mode, HDTDM, XDTDM or MassCore are available/shown in the tree.

Where the routing is user selectable, independent routing assignmentss can be made for 1fs, 2fs, 4fs and 8fs sample rates.

Routing Physical I/O to Logical I/O

Routing can only be undertaken when there are no projects open.

Reset removes all patching

Autoroute connects all available inputs and outputs in ascending order.

> **Note:** MassCore routing is currently automatic only and there is no need (and no means) to set the required number of Internal Buses

AES/EBU

When an AES/EBU daughter-card is present, this routing page takes account of the **HighSamplingRate** setting (from the **AES/EBU (# 'card number')** page) to enable you to route 12 AES channels or 24 for the corresponding daughtercard.

HDTDM Routing

In the illustration below, Pyramix is in HDTDM mode and only **PCM I/O Routing** are available, with a total of 64 logical Inputs and Outputs including **Internal Buses**.

All Settings Hardware HDTDM PCM I/O Routing Page

XDTDM Routing
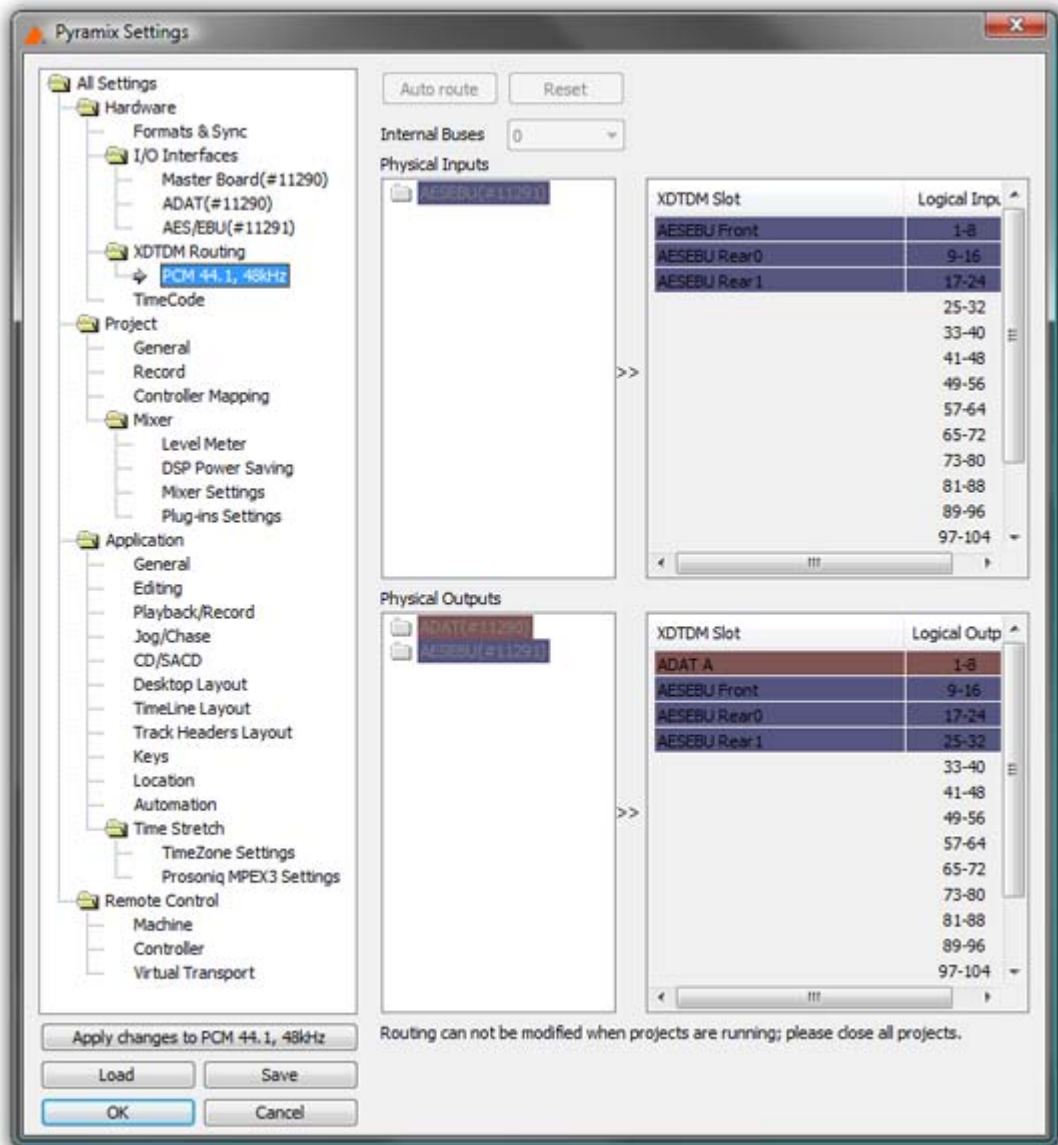
All Settings Hardware XDTDM PCM I/O Routing Page

Here, Pyramix is in XDTDM mode with a project loaded. The maximum number of logical Inputs and Outputs is doubled to 128 including **Internal Buses**.

> **Note:** Routing changes can only made when there are no projects running. The dark colors and written warning indicate this. Note also that only the sample rates possible for the current project are displayed, in this case **PCM 44.1, 48kHz**.

MassCore

There are three levels of MassCore, depending on licence. The base level gives 48 logical Inputs and Outputs (including internal buses). The next level is 128 and the top of the range offers 256 or more.
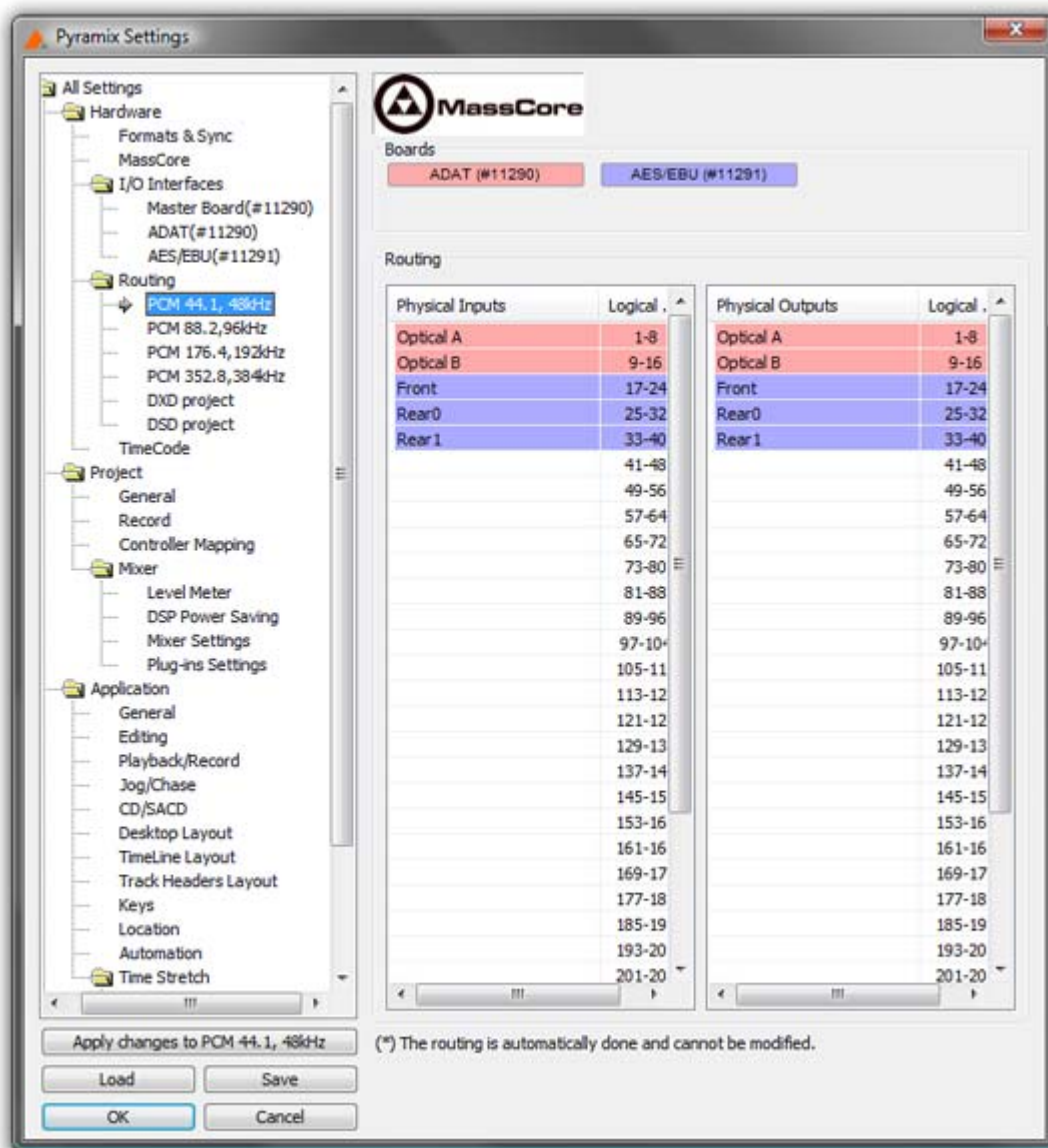
All Settings Hardware MassCore PCM I/O Routing Page

Note: Routing assignments are currently fixed when using MassCore. Note also that 384 Internal buses are currently available.

DXD Projects I/O Routing

Is used for DXD Editing projects. This is the same as the **DSD Projects I/O Routing** page except DXD audio data format is supported.

Internal Buses

Set the required number of internal buses in the combo box. (If using MassCore the number of available buses is fixed e.g. 48.

Manual Routing

Double-clicking the folders in the left-hand frames opens them to show the separate physical connectors. A round black mark with a red tick appears beside each connector entry when it is assigned.
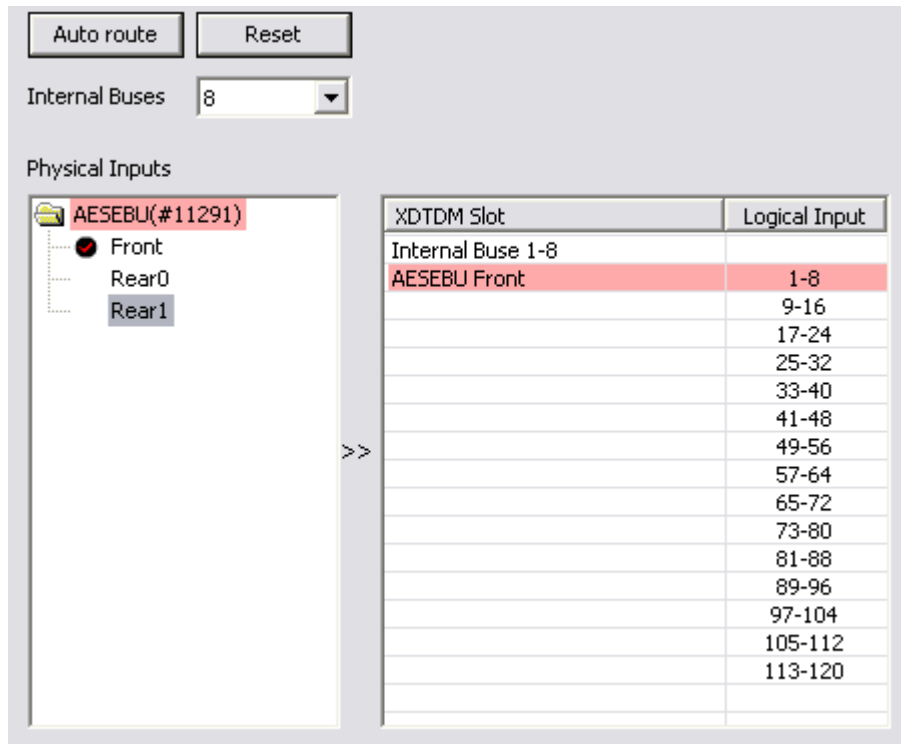
XDTDM PCM I/O Routing

Individual connectors or whole folders can be dragged and dropped onto the right-hand pane to patch.

Double clicking-entries in the **XDTDM / HDTDM Slot** pane removes the patch.

DSD Projects I/O routing

Is used for DSD Projects

The **DSD Mapping** of an AES/EBU daughter-card can be changed in the AES/EBU page with the **DSD Mapping** setting.

The audio data format carried by MADI is selected in the **MADI (# 'card number')** page (**I/O Audio Data Format** setting).

Note: DSD Projects only support DSD format.

TimeCode
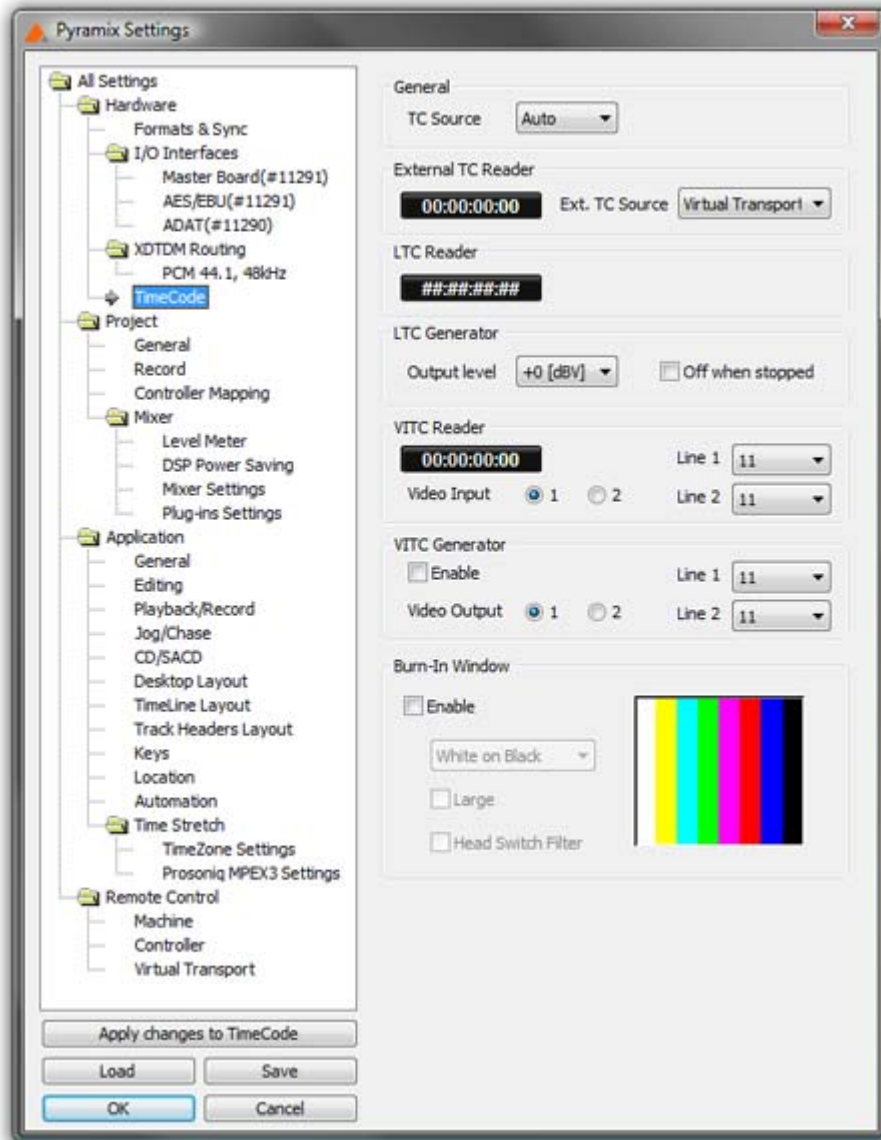
All Settings Hardware TimeCode Page

If you are using the TimeCode input /output features of Pyramix, select the **TimeCode** page to configure the system. **Time code Format, Reference and Source**. If an external time code source has been physically connected to the **Pyramix** linear time code or video inputs, you should see the current value in the **LTC** or **VITC Reader** registers

General

These are the general settings on which all other time code parameters are based. The **TC Source** combo box offers a choice of **Auto**, **LTC**, **VITC** or **External**.

Auto looks at all the sources and uses them in the order: **LTC > STC > VITC**

Format

Shows the current TimeCode format selected from the drop-down list. Pyramix supports the following formats: Film 23.98 fps, Film 23.98 fps Drop, Film 24 fps, PAL 25 fps, NTSC 29.97 FPS, NTSC 29.97 fps Drop, SMPTE 30 fps, SMPTE 30 fps Drop.

Reference

The **Reference** drop-down menu sets the time code source when TimeCode is selected as the digital audio Sync Source in **Settings > Mixer Settings : I/O** page **Sync Source**.

The Reference pull-down list allows for choosing between clocking the system's audio engine to an Internal reference derived from the audio board's time code generator chip, or a clock derived from the time code input port on

the optional Video/TC interface. To set the digital audio word clock source, see the I/O panel in the Virtual Studio Settings window.

TC Source

Shows the source of time code that will be used to synchronize Pyramix playback or to generate the timestamp when an audio file is digitized. A drop down list offers the following choices:

Internal uses the code from the internal time code chip on the audio board.

VITC uses code from the Vertical Interval Time Code (VITC) input on the optional Video/TC interface bracket / breakout cable.

LTC uses the Linear Time Code (LTC) input on the Video/TC interface bracket to derive

Auto Pyramix automatically uses any valid time code location reference from an Internal, VITC, LTC or External time code source.

External uses the code from the **External TC reader** source.

External TC reader

Shows the current value of the External Time Code reader. The drop-down list offers a choice of **Virtual Transport** and all external machines installed and enabled in the **Settings > All Settings > Remote Control > Machine** page.

LTC reader

Shows the current value of the Linear Time Code (LTC) reader chip. I.e. the external LTC input.

LTC Generator

Mykerinos boards have a Linear Time Code generator.

Output Level (dBV)

Shows the current LTC output level in dBV. The drop-down list offers a choice of output level from -24dBV to +9dBV in 3dBV increments, or it can be switched Off.

Off when stopped

When checked Pyramix mutes the LTC output when stopped. If not checked, it continues to output it's actual position. (static TimeCode) Certain video and audio machines cannot handle static TimeCode.

VITC Reader

Mykerinos boards are capable of reading Vertical Interval Time Code encoded in a lines of a video signal. VITC has the advantage of being accurate and readable even when the video is stationary.

Video Input

These check buttons allow the choice of which of the two video inputs will be used for the VITC signal.

Line

Shows which lines will be decoded. Although VITC code fits into a single line, it is normally duplicated to provide redundancy reducing read errors. The drop-down lists allow any two lines to be chosen. Different pairs of lines often carry different code. E.g. Time-of-day and Absolute time.

VITC Generator

Mykerinos boards have a Vertical Interval Time Code generator.

Enable

When checked the output of the VITC generator is On.

Video Output

These check buttons allow the choice of which of the two video outputs will be used for the VITC.

Line

Show which lines will contain VITC.

General

These controls are for setting the general format of the Video Sync signal.

Format

Shows the current video format. The drop-down list offers a choice of PAL, NTSC and a wide variety of TriLevel HD (high-definition) formats.

Burn-in Window

Mykerinos boards can burn-in a Time-code display window into a composite video input signal.

Enable

When checked the TimeCode overlay is displayed

Color

Shows the current display scheme. The drop-down list offers a choice of:

• White on Black

• Black on White

• Black on Background

• White on Background

Large

When checked the TimeCode display will be the larger of the two possible sizes.

Head Switch Filter

When checked, the clamp circuit ignores head-switch transients and horizontal sync during the last six to seven lines before the vertical front porch. Otherwise, the clamp circuit responds as always.

Burn-in Location

Simply drag the video burn-in window to the desired location within the color bars screen.

Project

General
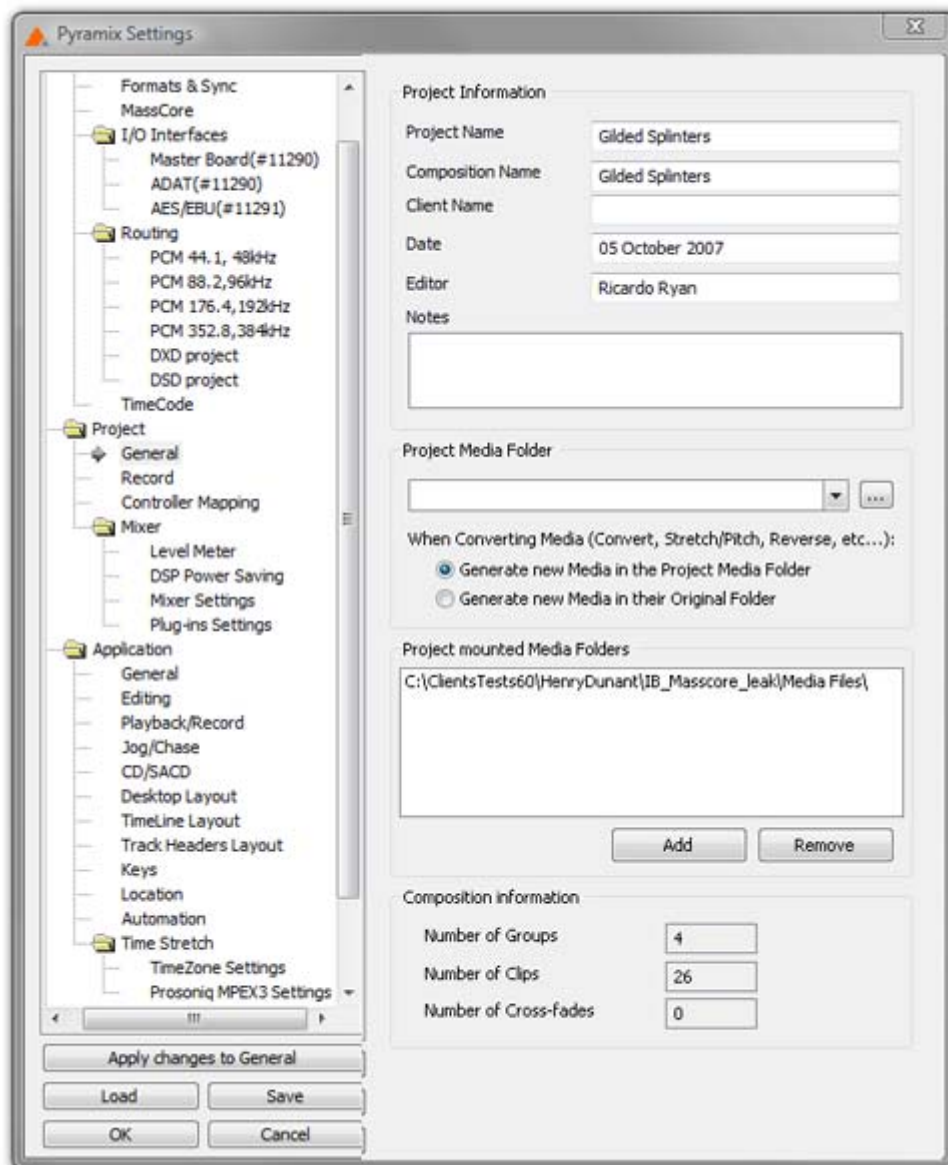
All Settings Project Information Page

The General Page has fields for displaying and entering information concerning the current project. This information is specific to the Project and will always be available in this display.

Project Media Folder

When a Project is created, either with **Project > New** or **Project > New From Template** and a Media Folder is created or selected, the **Project Media Folder**, the **Record : Target settings** Media Folder, the **Project > Render : Target Settings** Media Folder and the **Project > Mix Down : Target Settings** Media Folder all point to the same folder.

The combo box has a list of all mounted Media Folders and the [...] button opens the **Choose a Media Folder to Mount** dialog where you can browse for and mount or create and mount any other Media Folder. **Please See: Housekeeping on page 40**

When a Project operation will generate new Media Files, the radio buttons below the combo box offer the choice of either:

•   Generate new Media in the Project Media Folder

• 	Generate New Media in their Original Folder

Project mounted Media Folders

All folders mounted by the Project are listed here. Further folders may be mounted or existing ones unmounted by using the **Add** and **Remove** buttons.

Composition Information

Lists three categories of Composition data:

Number of Groups

Number of Clips

Number of Cross-fades

Record
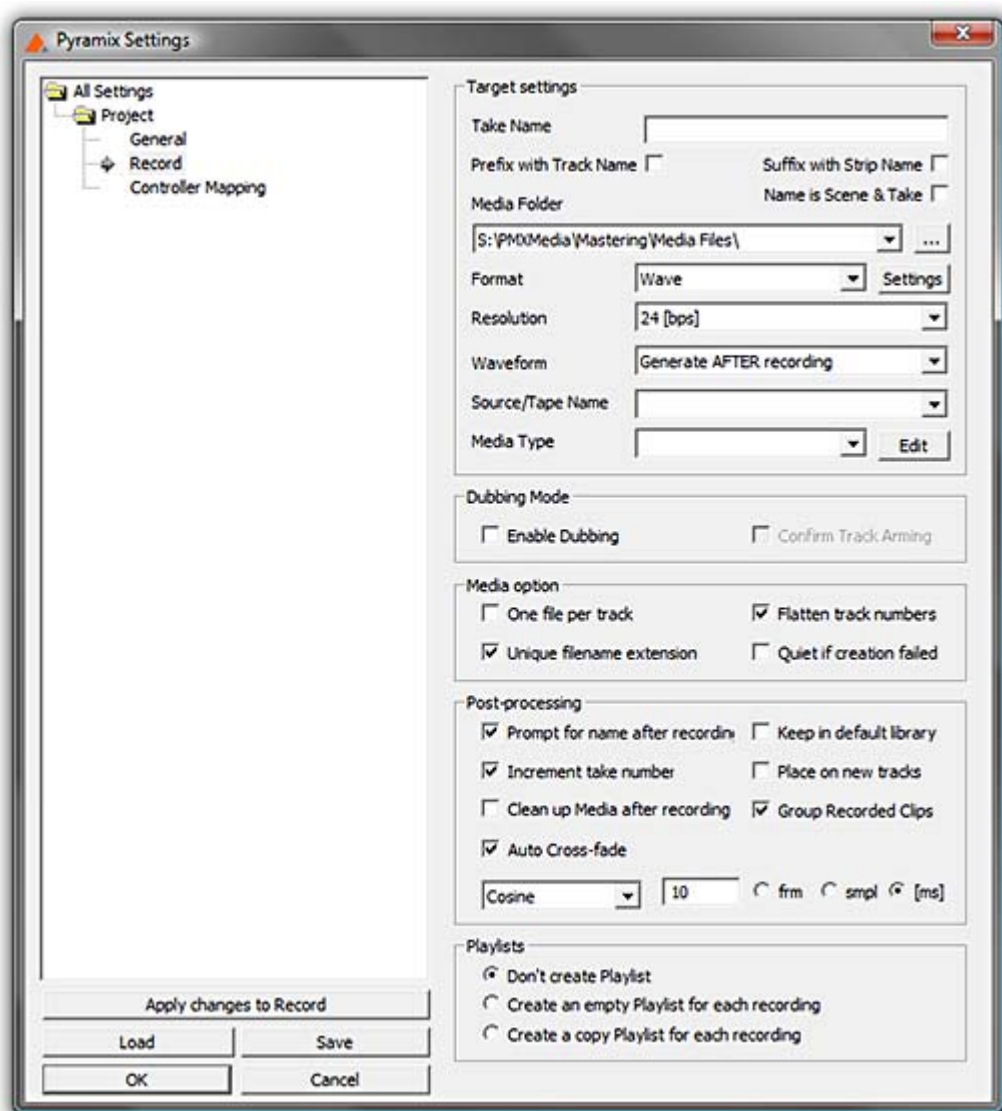
All Settings Project Record Page

Target Settings
Take Name

Type a 'seed' name here. This is used to begin the name of new recordings. E.g, if you type "Vocal" the next recording you make into a track will be called "Vocal". This field works in conjunction with the "Increment take number" function (see below). If you leave this field blank, Pyramix will apply the name "Untitled" as a default.

Prefix with Track Name

When checked the name of the recording will be prefixed by the name of the track it was recorded on, like:

Guitar-Take 001_##001##_.wav

Guitar-Take 002_##001##_.wav

Suffix with Strip Name

When checked allows Multitrack recording of typed sources, typically for archiving Film stems, or Render of Mixes/ Dubs:

With a set of multi-channels strips (GPS strips) properly named and typed, the **Suffix with Strip Name** option will create files named like:

Episode3-M&E-Ls.wav

Episode3-M&E-Rs.wav

Episode3-LtRt-L.wav

Episode3-LtRt-R.wav

Name is Scene & Take

When checked, the name of a take recorded in Pyramix will be used as the source for the Scene and Take fields in BWF and PMF audio files with the proper tag set. The last numeric digits of the name are used as the Take number and any preceding characters are used as the Scene name.

E.g. 203/5 003 will be interpreted as SCENE = 203/5 TAKE = 003

Media Folder

Displays the selected Media Folder for recording. Clicking the adjacent button opens the **Choose a Media Folder to Mount** window. This enables folders to be created mounted and managed. **Please See: Housekeeping on page 40**

Format

Displays the current recording format from the choice available in the drop-down list. (PMF, SD2, AIFF, AVI, WAVE, BWF, CD Image or OMF)

Settings

If **PMF** is chosen as the **Format** then the **Settings** button becomes active. When clicked the **PMF Settings** dialog appears:

Options

Unbuffered read Improves general Playback performance but may impact on waveform display and update. **Default = OFF**

Unbuffered Write (Recommended for large number of tracks) Default = ON (may have a negative effec when recording over a network. If you experience problems set this to **OFF**.

Both the above options enable/disable the Windows Disk Cache.

MT Active Key Encryption

Under Construction

Do not lock or encrypt files Default =ON

Lock files (No data will be encrypted, keys will be required only to open the files)

Encrypt files (All data will be encrypted, keys will be required to open and play the files back)

MT Active Key used to lock or encrypt the file

Copy and paste or type the appropriate key or choose from the drop-down list.

If **Wave** is chosen as the **Format** then the **Settings** button becomes active. When clicked the **Wave/BWF Settings** dialog appears:
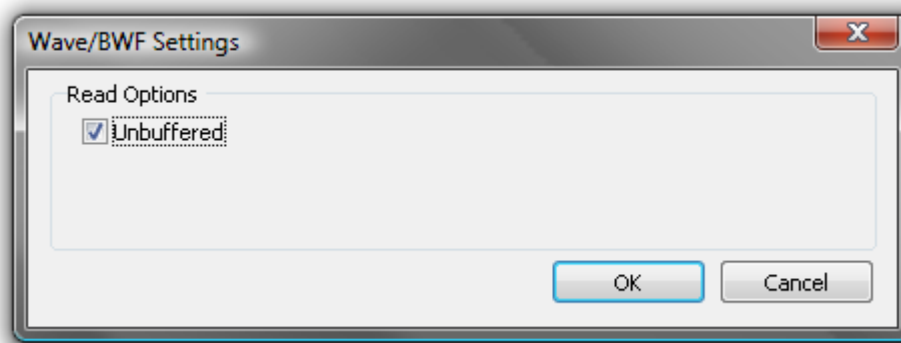
All Settings Project Record : Format Wave/BWF Settings dialog

The only option is **Unbuffered**, ticked by default. When files are read the Windows cache is not used. This improves performance in most cases. Un-check the box to turn buffering on. The System Cache disk is then used to buffer.

Resolution

Displays the number of bits per sample for recordings from the choice available in the drop-down list. (16bps, 24bps or 32bps)

Read Options

Unbuffered read Improves general Playback performance but may impact on waveform display and update. **Default = ON**

This option enables/disables the Windows Disk Cache.

Request Size

The default value is **64kB**. This can be increased to a maximum of **320kB** if problems are experienced during playback.

Waveform

Displays the current Waveform generation mode from the choice available in the drop-down list. (None, Generate AFTER recording or Generate WHILE Recording for all supported formats) (Default is WHILE)

Source Name

This field allows you to give a name to indicate the source of the material being recorded into Pyramix. For example, you might enter "Reel #1" to indicate the first source reel, etc. If the MediaType field (see below) is set to "None", the Source Name field will be grayed out and not available.

Media Type

Displays the type of media the source material came from, chosen from the drop-down list. Clicking on the **EDIT** button allows existing names to be edited or new ones created. The media type chosen here and the source name given in the previous field are saved with the media file created by the new recording. This information can then be viewed by selecting a clip and displaying its Properties page.

Dubbing Mode
Please see also: Dubbing Mode on page 337

This mode is provided principally for film re-recording. It allows tracks to be Armed or Disarmed for recording while recording is taking place.

Enable Dubbing

When checked, **Dubbing Mode** is engaged.

Confirm Track Arming

Only available when **Dubbing Mode** is selected in the adjacent check box. A check in this box means that any changes to track arming made whilst recording must be confirmed by a new Record command before they will take effect.

Media option
One file per track

When checked, each recording on each track of a multi-track recording is recorded into a separate file. When this option is off (which is the default), one single media file is created containing all the tracks.

Flatten track numbers

When a recording is made on a track, Pyramix always adds media number to it. When checked on (default), Pyramix starts enumerating at one. E.g. If a recording is made on tracks 5 and 9 of a multitrack session simultaneously, the media numbers will be 1 and 2. When this option is off, Pyramix adds the real track numbers to the media. In the example above, this would be 5 and 9.

Unique filename extension

When checked, Pyramix will append a random number to the name of each new recording in order to avoid duplicate file names.

Quiet if creation failed

Unless this box is checked, Pyramix displays a dialog with an error message when the creation of a media file fails. This can be annoying if Pyramix is remotely controlled. Checking the box suppresses the error message.

Post Processing
These options determine what Pyramix will do after each recording is finished.

Prompt for name after recording

When checked, a **Record Name** dialog box will open immediately after recording is finished and playback of Pyramix is stopped.
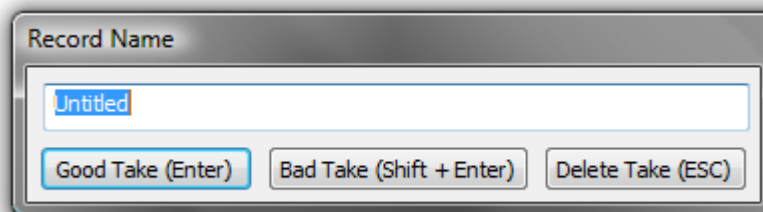
Record Name dialog box

If a name was entered in the **Take Name** field (see above) it will automatically appear in the **Record Name** dialog box when it opens. You can edit the existing name, or replace it completely with a new name.

Keep in default library

When checked, new recordings will automatically appear in the Default library of the current Project.

Increment take number

When checked, each successive recording will have the name in the **Take Name** field applied to it, plus a number that will increment with each new recording. E.g, if the first recording is named "Take", the next recording will automatically be named "Take 2", etc.

Place on new tracks

When checked, Pyramix will place the newly recorded clips on new tracks. These new tracks will be added to the Project Editor as soon as playback is stopped following a punch in/punch out recording. When first created, these tracks are not assigned to mixer channels, so it will be necessary to assign them when you want to output them. If this item is not checked, the new clips will be placed on the track(s) set to record them.

Clean up Media after recording

Note: This option is automatically set OFF when a Project is opened.

This mode makes Pyramix work like an analog or DASH multitrack. I.e. All punch-ins are **highly destructive !!** With modern, large hard drives, we would rather recommend:

View > Used Media > Invert selection > Delete media (after a good **archive/consolidate/back-up** has been made) or:

b) **Project > clean-up media,** etc.

All these functions destroy media on the hard drive, but **b** & **c** offer more control over what is permanently deleted.

Group Recorded Clips

When checked, clips in a multi-track recording are automatically grouped.

Auto Cross-fade

When checked a cross-fade is automatically applied when punching in or out. The current fade shape is displayed form the choice available in the drop-down list (Power, Linear, dB, Cosine or Root-Cosine) Duration can be set in frames, samples or milliseconds depending on which box is selected.

Playlists

These buttons toggle between three possible choices:

Don't create Playlist

Create an empty Playlist for each recording

Create a copy Playlist for each recording

Please see: Playlists on page 122

Controller Mapping
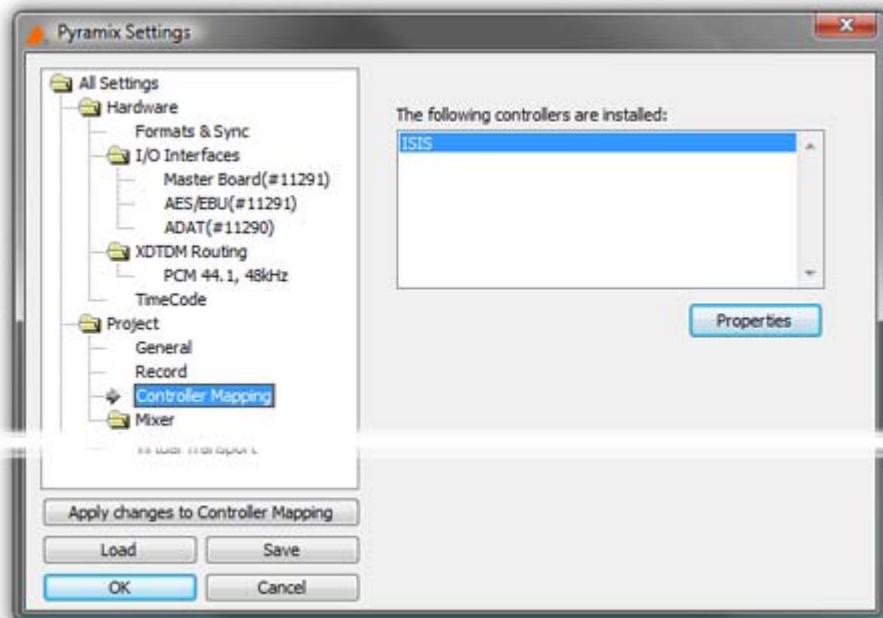
All Settings Project Controller Mapping Page

Please see Guides for specific controllers. E.g. Merging Technologies **Ramses MSC** and **ISIS** and for Sony P-2 Protocol 9-pin controllers please see: **Sony 9 - Pin Protocol Configuration (Pyramix controlled by external device) on page 541**

Mixer

Level Meter

This page determines the appearance and behavior of the level meters in the **Mixer** and **Track Headers**.
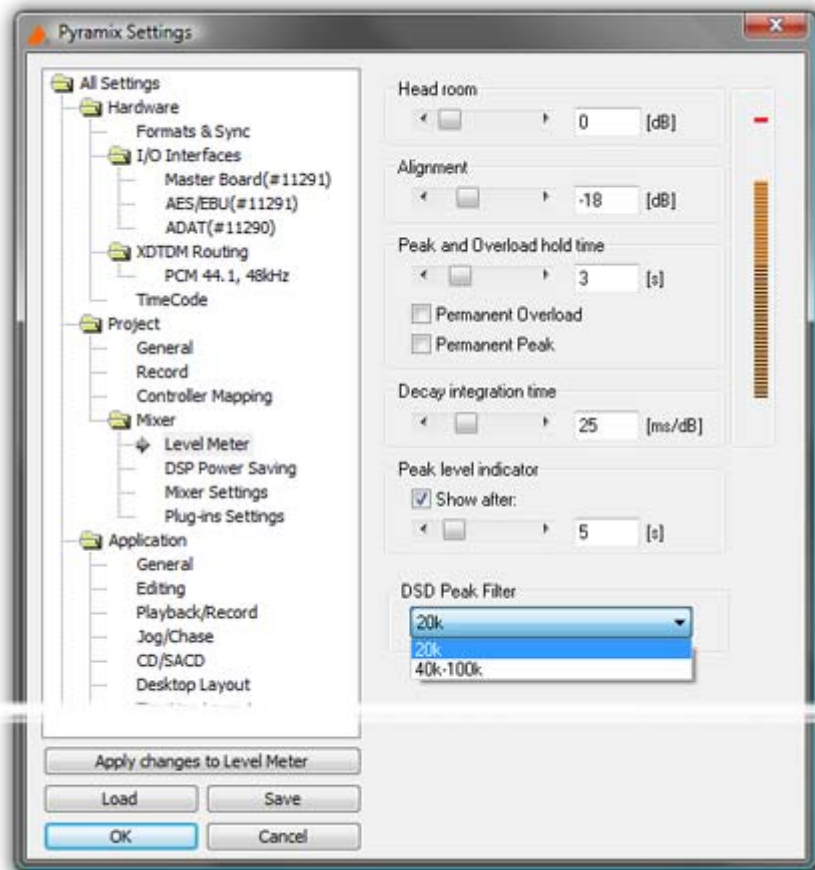
All Settings Project Mixer Level Meter Page

These settings only apply to the current **Mixer**. This allows each **Mixer** to have its own custom **General** and **Level Meter** settings.

To change any of the settings, click the left or right buttons or drag the horizontal scroll bar to increment or decrement the selected parameter. Alternatively, type directly into the number field for each parameter (these fields will only accept numbers within the permissible range for each parameter). The color graphic display of the level meter will respond immediately to show the effect of Headroom and Alignment parameter changes.

Headroom

Sets the amount of headroom displayed as red meter segments before clipping. I.e. the number of dB below 0dBFs at which the red meter segments begin.

> **Note:** This headroom value is only for the Mixer meter displays and will not (and cannot) be reported to the Plug-in (VU Meter or Meter Bridge). The VU meter Plug-in has it's own headroom setting.

> **Note:** If the mixer displays an * next to the Level field value it indicates that a custom value was entered in the Headroom settings.

Alignment

Sets the alignment level. Displayed by the point on the scale at which the dark orange segments begin.
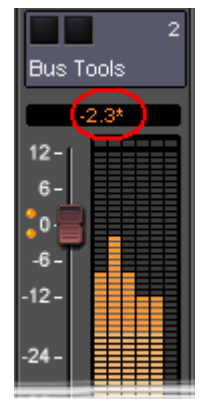
Peak and Overload Hold Time

Sets the amount of time in seconds that the peak segment or overload segment (topmost red segment) of the level meter remains illuminated.

Permanent Overload

When the box is checked, the red Overload LED above a track will remain lit, even after playback is stopped. To clear the LED, double-click it. When not checked, the Overload LED will automatically clear itself after a few seconds and remain off until the next overload occurrence.

> **Note:** The overload LED will go on after one sample with the maximum level.

Permanent Peak

This parameter works in conjunction with the Peak Level Display. When this is on (checked), the Peak Level pop-up display will show the value and location of the highest level reached on a track up to the time when the mouse was clicked on the meter. The level display will not be updated until the next time playback is stopped and re-started. If it is not on (unchecked), the Peak Level Popup Display will show the highest level reached in that track from the last time the Popup Display is activated (while playback continues). For example, clicking a channel's meter while playing back will display the Peak Level Popup, which will show the peak level (and its location) reached so far. Click away from the Popup, and it will disappear. Click on that meter again, and the Popup will appear again, this time showing the peak level/location reached since the last time the Popup was displayed.

Decay integration time

This parameter sets the rate at which the level meter display decays after the level falls below the most recent peak. The slope of the decay is given in terms of milliseconds per decibel (ms/dB).

Peak level indicator
Show After

When the box is checked, the **Fader/Input Level** displays located above the faders on each mixer strip display the peak level of the signal running through the corresponding mixer strip. The value are updated at the interval set by the slider below the check box. If the check box **Show After** is off, the **Fader/Input Level** displays always show the setting of their corresponding fader.

DSD Peak Filter

For DSD projects this drop-down list offers the choice between two filtering options which will be applied to the DSD signal before it is measured by the level meter.

This will help enable you to ensure that the DSD signal is compatible with the AES recommendations concerning the high frequency dither noise content.

20k

Applies a 20 kHz low pass filter to the signal, thus only the audible audio content is measured.

40k-100k

Applies a band pass filter with a frequency range of 40 kHz to 100kHz to the signal. According to the AES recommendation the signal level in this frequency range should not exceed -20 dB.

DSP Power Saving
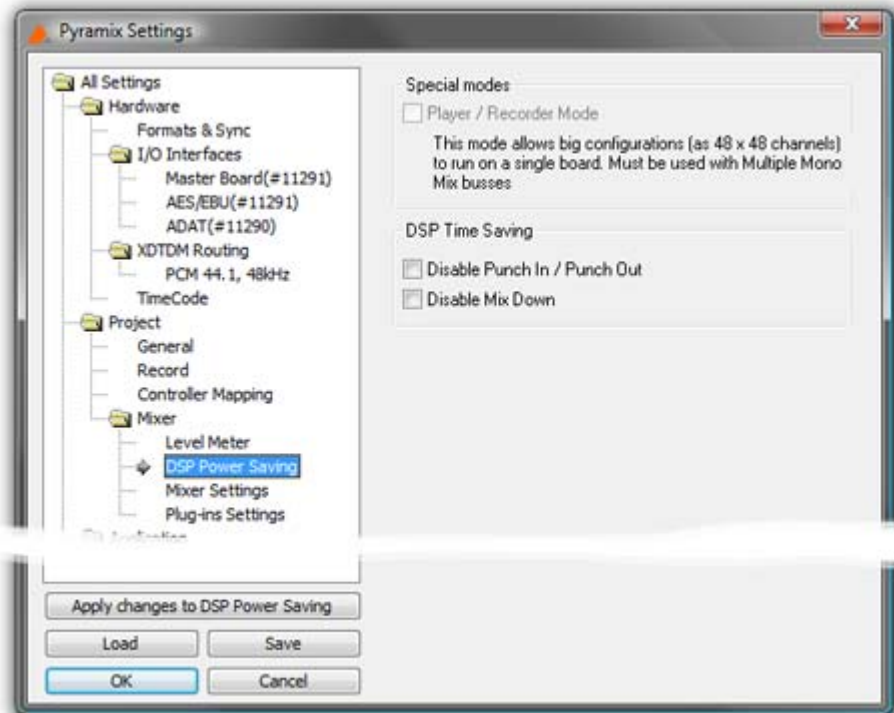
All Settings Mixer DSP Power Saving Page

Special Modes
Player/Recorder Mode

This mode allows big configurations (such as 48 x 48 channels) to run on a single board. Player/Recorder Mode is intended for use with an external hardware console. When this mode is activated, the Pyramix mixer is relegated to the role of signal router, there is no level control, no panning, no plug-ins and no inserts. This option is only available in configurations with multiple mono mix buses.

The Pyramix **Direct Out** functionality provides an alternative, more user configurable method of achieving similar DSP savings. **Please see: Channel Direct Outputs on page 161**

DSP Time Saving
Disable the Punch in/out

When the box is checked, Punch-in and out recording capabilities are disabled.

> **Important!** Pyramix still will allow you to arm tracks and to start the recording process, but the resulting media file will contain digital nulls.

Disable Mix Down

When the box is checked, the digital mixdown function activated with the menu command **Project->Mix Down** is disabled.

> **Important!** Pyramix still will allow you to start the mixdown process, but the resulting media file will con-tain digital nulls.

Mixer Settings
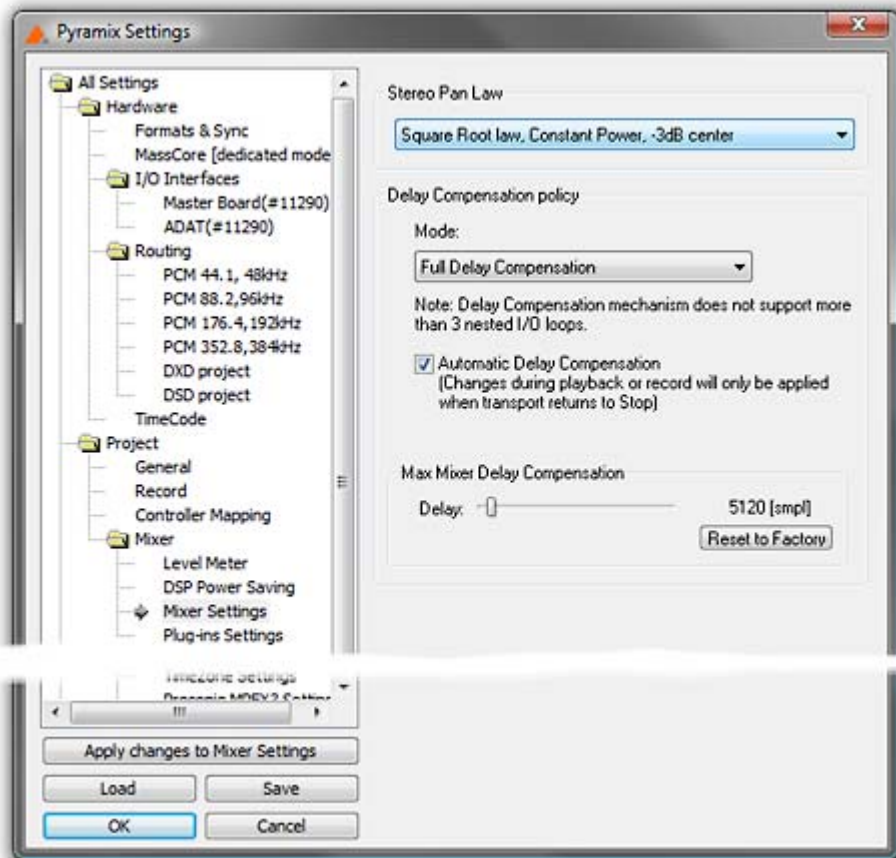
All Settings Mixer Mixer Settings Page

Stereo Pan Law

The drop-down menu offers a choice between the default **Sin/Cos law, Constant Power, -3dB center** and **Square Root law, Constant Power, -3dB center**.

> **Note:** Existing projects will use the previous default **Square Root law** unless this setting is changed.

Delay Compensation Policy
Mode

The drop-down menu offers a choice between:
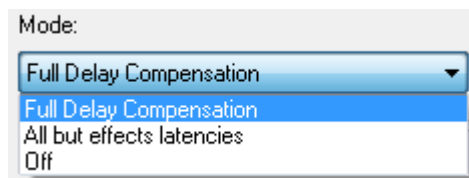
Full Delay Compensation

All but effects latencies

Off

> **Note:** Automatic Delay Compensation does not support more than 3 nested I/O loops.

Automatic Delay Compensation

When ticked, turns Automatic Delay Compensation **On**

Note: Any changes to the delay required that occur during playback or recording will only be computed and applied when the Transport is next in **Stop**.

Max Mixer Delay Compensation

When required by the **Mixer error: Delay compensation** dialog the slider should be set to a value just above the delay latency value requested.

Reset to Factory

Click the button to restore the factory computed maximum delay value.

Plug-ins Settings
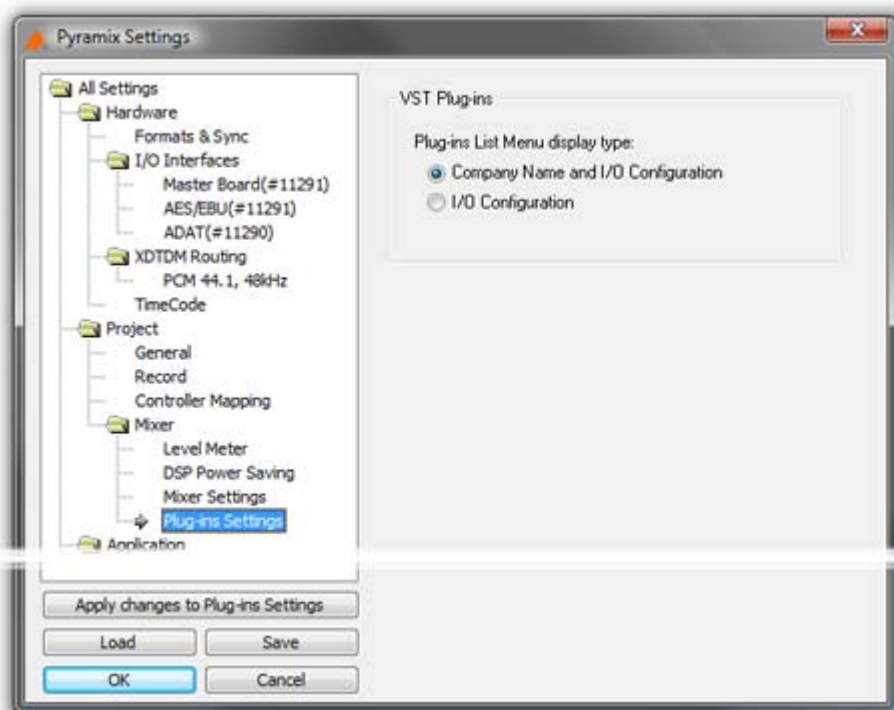
All Settings Mixer DSP Plug-ins Settings Page

VST Plug-ins

The buttons offer a choice of how the VST Plug-ins are ordered and grouped in the **Plug-ins List Menu**.

If **Company Name and I/O Configuration** is chosen the list will be ordered by Company Name and the plug-in's grouped according to their I/O configuration. I.e. **1 in - 1 out**, **1 in - 2 out**, **2 in - 2 out** and so on.

Alternatively, choosing **I/O Configuration** groups the Plug-ins by I/O Configuration and within each group lists them alphabetically by name.

Please see also: VST Plug-ins Display Order on page 252

Application

General
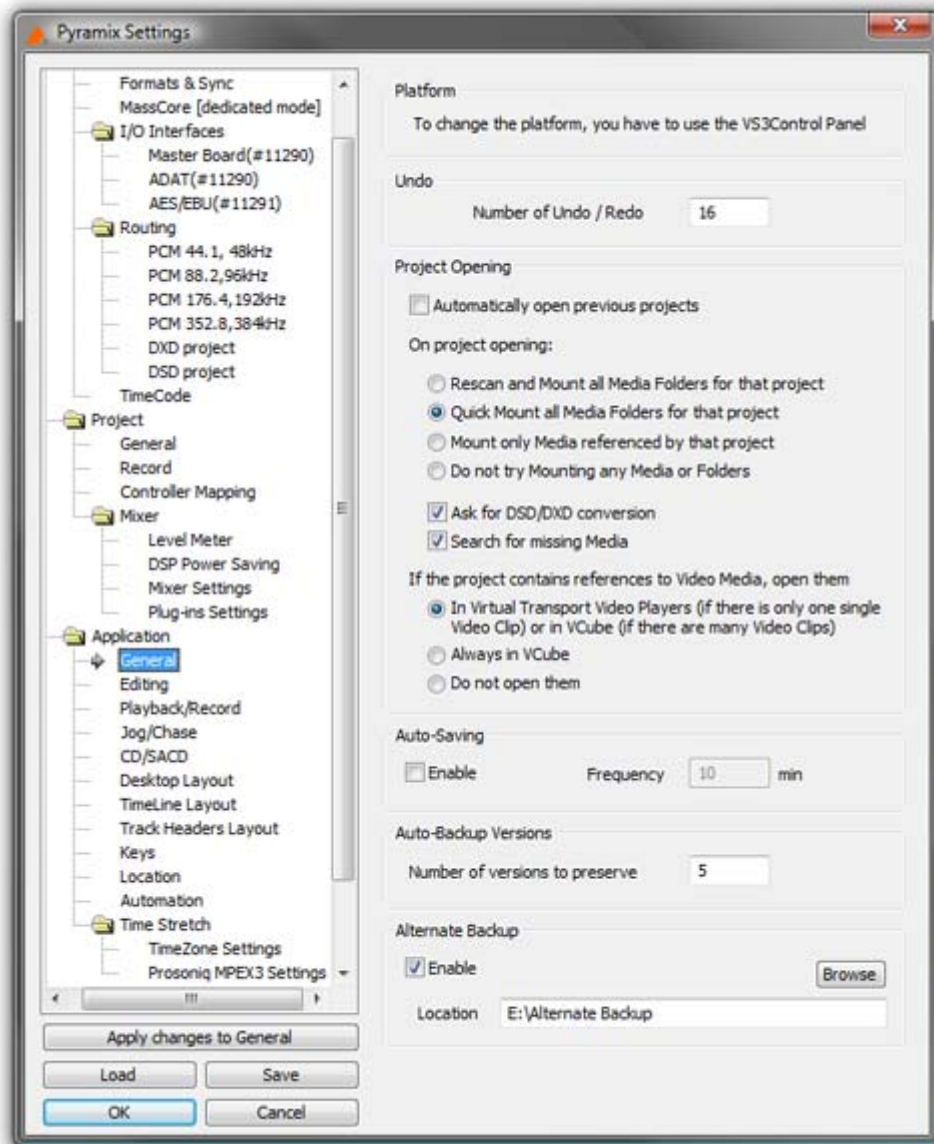
All Settings Application General Page

Platform
Audio processing

The drop down list, offers a choice of which audio device to use with Pyramix. The available choices are **Mykeri-nos Card** or **Native Processing.** I.e. the computer's host processor(s) & sound card, if you have purchased this option.

Undo
Number of Undo / Redo

Sets the **Number of Undo / Redo** levels. Also sets the number of automation versions to be kept when the **Auto-mation** tab option, **Optimization : Limit versions to the number of Undo/Redo** is enabled. The default is 32.

> **Note:** Increasing this value uses more RAM.

Project Opening
This section determines Pyramix behavior when the application is launched.

Automatically open previous projects

When checked, Pyramix opens all projects that were open when the application was last used.

On Project Opening:
Rescan and Mount all Media Folders for that project

Can result in long opening times when there are very large Media Folders

Quick Mount all Media Folders for that project

Default. Usually results in the fastest opening time.

Do not try Mounting any Media or Folders

Media must be mounted manually.

Ask for DSD/DXD conversion

When checked, Pyramix will open a dialog whenever a **DSD** or **DXD** Project is opened. This offers the opportunity to convert to the opposite format.

Search for missing Media

When checked, Pyramix automatically searches for unmounted or missing media when a project is opened.

If the project contains references to Video Media, open them:
In Virtual Transport Video Players (if there's only one single Video Clip) or in VCube (if there are many Video Clips).

A single Video Clip present in the Project is opened in the **DirectShow Video Player** or the **QuickTime Video Player** (depending its type). Multiple Video Clips present in the Project are opened in VCube.

Always in VCube

Single or multiple Video Clips are opened in VCube.

Don't open them

Video Clips in the Project are only placed in the timeline (optionally) but not opened in any Video Player.

Auto-Saving

Pyramix can be set to automatically perform a save of all open projects at regular intervals. This does not create a backup unless a value in excess of 1 is entered in **Auto-Backup Versions** (see below).

Enable

When checked the current Project will be automatically saved at the interval set by:

Auto-Saving. Frequency

Sets the time between saves between 1 and 60 minutes.

Auto-Backup Versions

Determines how many previous versions will be kept. This ensures that every Save operation (Automatic or Manual) preserves at least one version of any projects being saved in their last stored state. The number of previously saved versions to preserve can be set by the user. As said above, the minimum is one.

Alternate Backup
Enable

When enabled all projects saved (automatically or manually) are also saved to the chosen alternate location. The Backup Versions are not saved to the alternate location. This offers increased security if another drive or network drive is chosen.

> **Note:** Only project files are stored into this directory, not the media files.

Location

Displays and sets the alternative location. The **Browse** button opens a Browser window to enable navigate to a suitable location.

Editing
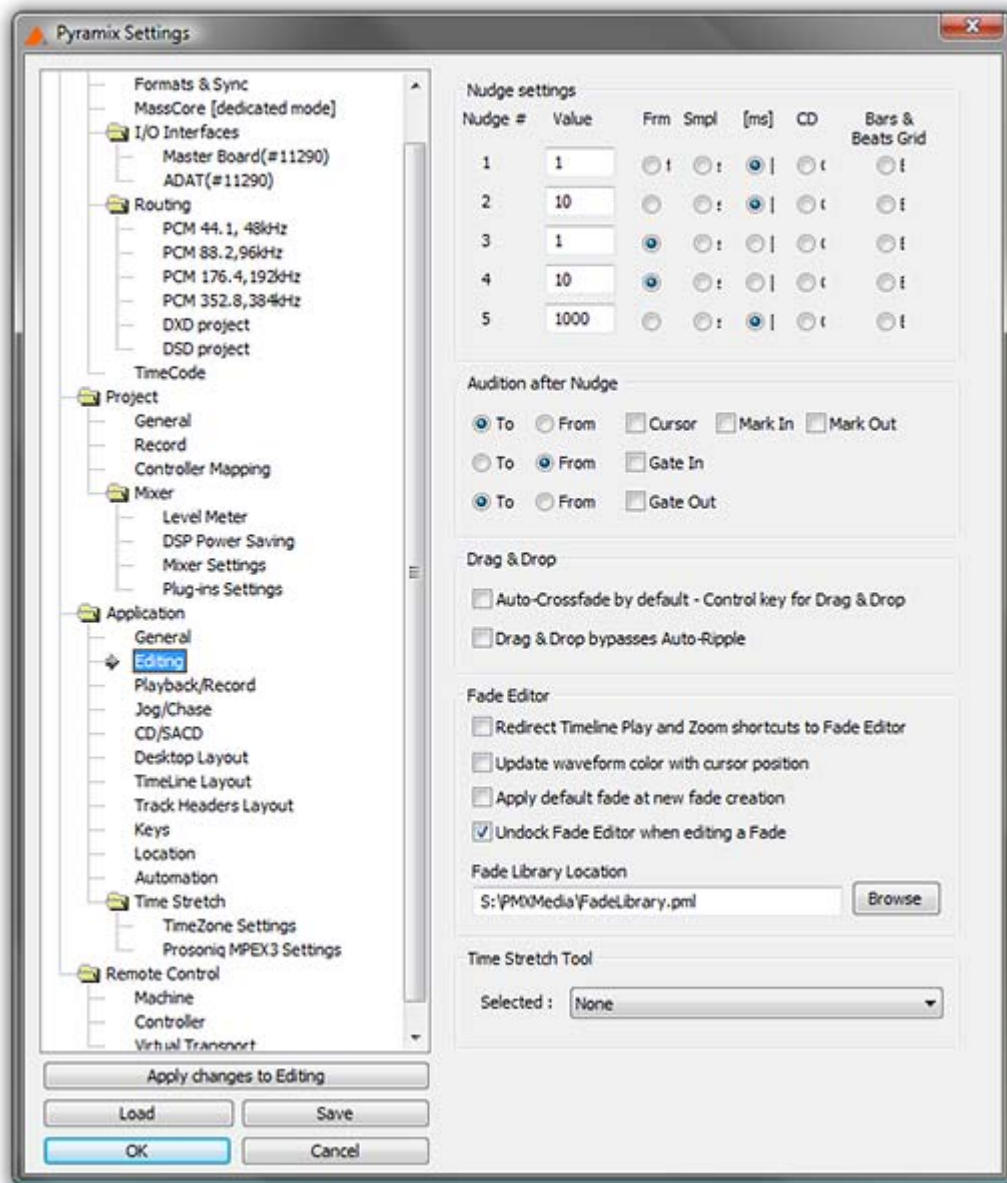
Pyramix Settings Application Editing page

Nudge settings

These settings control the amount by which a cursor or clip will be nudged when using the left and right Arrow keys. Five Nudge Settings can be stored. Any one of these can be selected as the current nudge setting using **Clips > Nudge > Current Setting** or **Cursors&Marks > Current Nudge Setting**.

Nudge #1~Nudge #5

For each nudge preset, enter an numeric value and click the appropriate check box to set increments to frames, samples, milliseconds, CD frames or the current Bars & Beats grid.

Audition after Nudge

These options set automatic **Audition** on for the selected actions.

To

When checked, the playback will start before the selected option and stop when this is reached (cursor, mark in or mark out)

From

When checked, the rehearse will be performed from the selected option (cursor, mark in or mark out)

Separate **To** and **From** options are provided for **Gate In** and **Gate Out**

Drag & Drop
Auto-Crossfade by default - Control key for Drag & Drop

When checked, dragging a selection or clip over another results in a crossfade. (Cursor changes to a hand with an X.) Otherwise, dragging a selection or clip over another overwrites it. (Cursor is a hand) Holding down the control key when dragging selects the alternate function.

Fade Editor
Redirect Timeline Play and shortcuts to Fade Editor

When checked, the Timeline **Zoom** commands are redirected to the Fade editor. Also, the **Active Machine > Toggle Play/Stop** command usually mapped to the **Spacebar** is replaced with the **Fade Editor > Audition X Fade** command but only if the Fade Editor has been opened with the **Fade Editor > Open Editor** command.

Update waveform color with cursor position

When checked the waveform color will change from the default to the color set in **Settings > All Settings > Application > TimeLine Layout : Waveform Position Color** whenever the Playhead cursor is on the right-hand side of the **Reference Point** (default is centre fade position) in the Fade Editor.

Apply default fade at fade creation

When checked the default Fade In/Out default will be applied when a new fade is created.

Undock Fade Editor when editing a fade

On by default. When checked the Fade Editor Tab is automatically undocked when editing a fade.

Fade library location

This is the path for the fade library. The **Browse** button launches an Explorer window allowing any local or network path to be set.

Time Stretch Tool

The **Selected:** combo box offers a choice of Time Stretch algorithms depending on which keys are installed.

Playback/Record
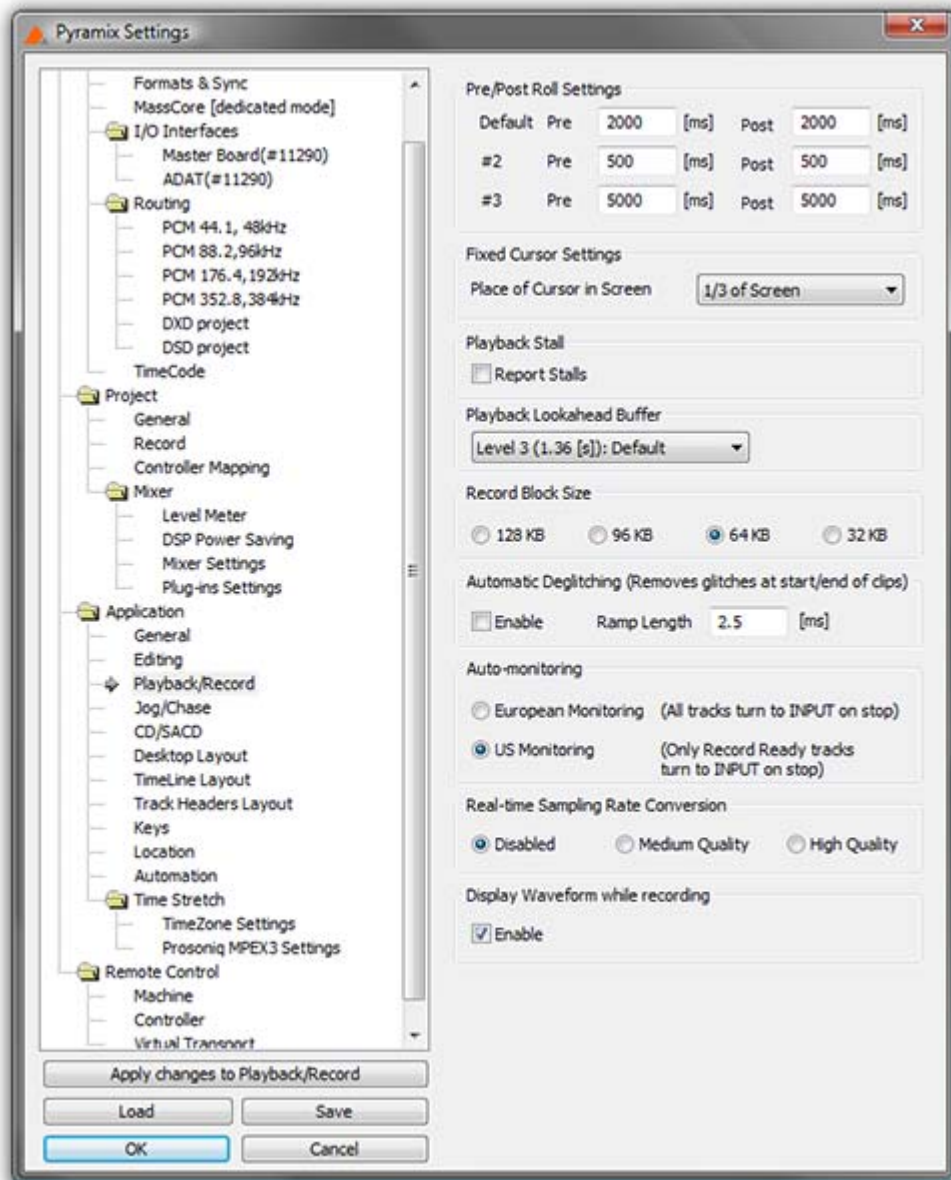
All Settings Application Playback/Record Page

Pre/Post Roll Settings

Allows values to be set for the **Default** and two alternative Pre and Post-roll settings.

Fixed Cursor Settings

The drop-down list offers nine possible positions for the Playhead cursor position on screen when scrolling Timeline with fixed cursor is selected. (**View > Fixed Cursor while playing**)

Playback Stall

When checked, interruptions to playback will pop-up a message box with details of when the stall occured.

Playback Lookahead Buffer

Sets the length of audio that will be pre-loaded into buffers prior to playback. Four levels are available in the drop-down list:
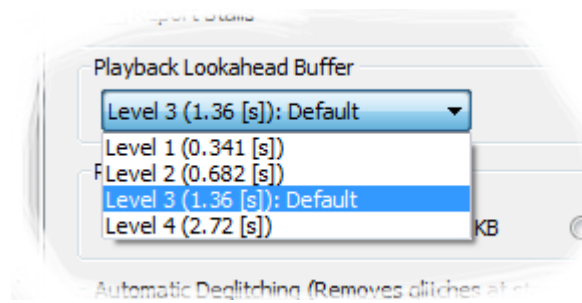
- Level 1 (0.341 [s])
- Level 2 (0.682 [s])
- Level 3 (1.36 [s]): Default
- Level 4 (2.72 [s]

The default value is Level **3**). A larger value may enable you to playback certain large projects. For example it can improve track count with one file per track BWF on some projects. This value should be increased gradually until behavior is as you wish.

> **Note:** The higher the **Level** the longer the PreLoad Buffer will be. The longer the Preload Buffer the greater the Memory consumption.

> **Note:** The higher the PreLoad level the longer the Playback Cursor will pause before playback commences.

The current Buffer Level is shown in the Pyramix Info bar during normal operation:
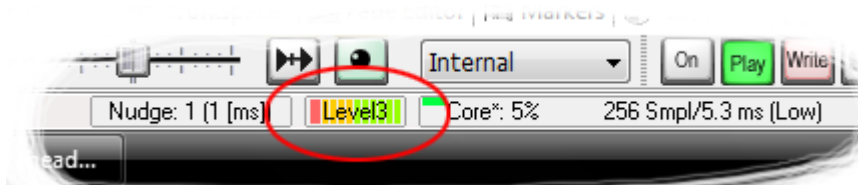
Record Block Size

Offers a choice of four possible values. Should be left at the default **64kB** in most circumstances.

Automatic Deglitching (Removes glitches at start / end of Clips)

When **Enable** is checked, a short fade is applied to the start and end of every clip. **Ramp Length** sets the fade duration.

Auto-Monitoring

Toggles between two options:

European Monitoring (All tracks turn to INPUT on stop) (default) or

US Monitoring (Only Record Ready tracks turn to INPUT on stop)

Real-time Sampling Rate Conversion

Toggles between three options:

Disabled No Real-time SRC will take place. Clips will be played back at the original sampling rate. I.e. if sampling rate does not match Project sampling rate then the Clips will be played back at incorrect speed.

Medium Quality Clips will be played back at the correct speed. Conversion, if necessary, will be carried out at a compromise quality between speed and quality.

High Quality Clips will be played back at the correct speed. Conversion, if necessary, will be carried out at a the highest quality. This obviously requires more resources.

Jog/Chase
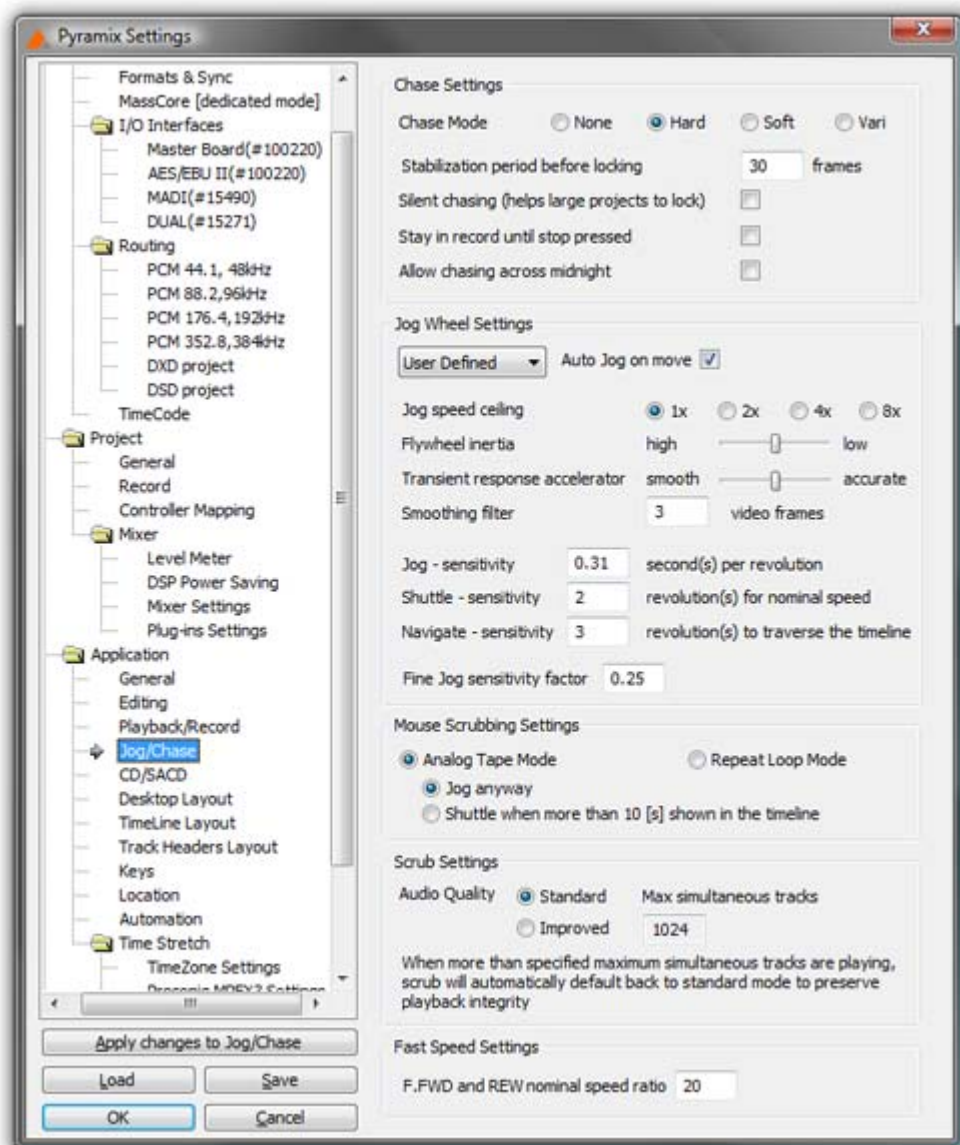
All Settings Application Jog/Chase Page

Chase Settings
Chase Mode

The radio buttons give a choice of Chase Mode

None	Pyramix does not chase external TimeCode
Hard	When **Hard Chase** is active, Pyramix will only playback when valid TimeCode is detected on the chosen TimeCode input port. If there is a jump in the incoming TimeCode, Pyramix will adjust to the new TimeCode, re-synchronize and begin playback from the new TimeCode position. Pyramix will run on its own internal TimeCode for up to 1 frame if there is a drop out in the time code. If no valid Time-Code is detected after that time, playback will stop.
Soft	When **Soft Chase** is active, Pyramix will only playback when valid TimeCode is detected on the chosen TimeCode input port. If there is a jump in the incoming TimeCode, Pyramix will not adjust to the new TimeCode, but will continue play-back with an offset from the incoming TimeCode position. Pyramix will continue to run on its own internal TimeCode for up to 1 frame if there is a drop out in the TimeCode. If no valid TimeCode is detected after that time, playback will stop.
Vari	When the **Vari Chase** is active, Pyramix will Varispeed, I.e. alter its sampling rate to follow fluctuations in an external TimeCode. (going back and forth, slowing down, accelerating, playing normally or backwards, up to 8x nominal speed) while in playback (not in record)

Stabilization period before locking

Although Pyramix is capable of locking to incoming TimeCode within 3 - 4 frames, there are cases where synchro-nization is more stable if there is a longer waiting time. This is because some external devices take a considerable time to stabilize their speed after playback is started. This parameter allows a waiting time to be defined before Pyramix will start chasing the TimeCode. 30 frames is a good starting point if you experience problems with exter-nal machines.

Silent Chasing (helps large projects to lock)

When checked Pyramix allows large projects to lock immediately while chasing. In this mode locking time does not depend on the number of tracks. The drawback is that sound only appears one second after a lock is estab-lished.

Stay in record until stop pressed

If this box is checked Pyramix will remain in record (once properly locked to TimeCode) regardless of disturbances / discontinuities in the code until the Pyramix **Stop** button is pressed.

Allow chasing across midnight

When this option is unchecked the Chase engine always locks between 00:00:00:00 and 23:59:59:2X of Day 0

When this option is checked the Chase engine allows locking anywhere in the Pyramix timeline (-1000 days to +1000 days). The engine interprets the incoming timecode to be the nearest position to the current cursor posi-tion, thus allowing chasing around midnight of any days of the timeline.

For additional security and comfort, if Pyramix is in the "locked" state while crossing the midnight barrier, then even with this setting unchecked setting, there will not be an immediate jump from midnight back to zero while playing or recording in sync. The playback or recording will remain seamless, uninterrupted and cross the day bar-rier until an out-of-lock status is recognized. Only then is a re-chase triggered to whatever the incoming Timecode value is at that point.

Jog Wheel Settings
Preset
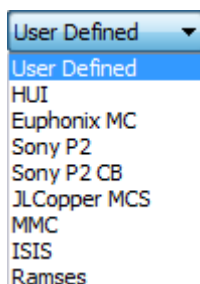
The combo box offers a choice of hardware controller presets including the Merging Technologies Ramses MSC and ISIS. Choose your controller from the list or, if not shown **User Defined**

Auto Jog on move

When ticked moving the jog-wheel enters **Jog** mode. When **Auto-Jog** is enabled, all Jog Commands are processed a slightly different way. Pyramix temporarily stops chasing and starts Jogging while sending Goto commands to the External Machine. The audio is therefore perfectly scrubbed and the external machine follows the audio as well as it possibly can. When the user stops Jogging, Pyramix automatically returns to chase mode.

Jog Speed ceiling

Sets the maximum jog speed from a choice of **1X**, **2X**, **4X** or **8X** play speed

Flywheel inertia

Low follows the actual movements as sent by the jog wheel. **High** passes the actual movement through a smoothing filter. So, when the slider is set to **Low** the **Smoothing Filter** parameters have no effect.

For sound to picture work where tight sync to picture is required use a setting biased to Low. For a more pronounced flywheel effect choose a Higher setting.

The Middle position is a good starting point.

Transient response accelerator

Optimizes Pyramix's reactivity to jog moves, settings range from Smooth to Accurate.

When the slider approaches **Accurate** there may be some strange undesirable effects.

Smoothing Filter

The Smoothing Filter parameter determines the length of the "fade in" and "fade out" when beginning and ending scrubbing. Enter the required value in the box expressed in video frames.

Jog - sensitivity [ ] second(s) per revolution

Sets the time moved in one revolution of the jog wheel. Type the required value in the box.

Shuttle - sensitivity [ ] revolution(s) for nominal speed

Sets the fraction of a revolution or number of revolutions required to maintain nominal speed. E.g. an entry of 0.25 will require a quarter of a turn clockwise to achieve nominal speed.

Navigate - sensitivity [ ] revolution(s) to traverse the timeline

Navigate is silent jog mode. Sets the number of revolutions of the jog wheel required to traverse the visible timeline. I.e. the actual speed varies with the zoom setting.

Fine Jog sensitivity factor [ ]

Sets the fraction of the regular Jog Sensitivity Setting that will be invoked when **Fine Jog** is selected in the **Machines > Controllers** menu

Mouse Scrubbing Settings

Gives a choice between **Analog Tape Mode** with two options or **Repeat Loop Mode**

Analog Tape Mode gives a similar response to 'reel-rocking' on an analogue tape machine.

> **Jog anyway**
>> When lit, **Jog Mode** is used regardless of how much audio is visible in the **Timeline**

> **Shuttle when more than 10 [s] is shown in the Timeline**
>> When lit, if there is more than 10 seconds of audio visible in the Timeline scrub will be in **Shuttle Mode**

Repeat Loop Mode continuously repeats a short loop starting at the cursor position.

Scrub Settings
Audio Quality

Offers a choice of **Standard** or **Improved**. The higher the quality chosen the greater the CPU load. Default is **Standard**.

Improved mode is more demanding in terms of system resources. This setting will be automatically overridden to **Standard** mode if more tracks than the number specified in the **Max simultaneous tracks** field are scrubbed at the same time.

Fast Speed Settings
F.FWD and REW nominal speed ratio

Type in the box to set the nominal **F.FWD** and **REW** speed. (I.e. a value of **20** means 20 times sync play speed)

CD/SACD
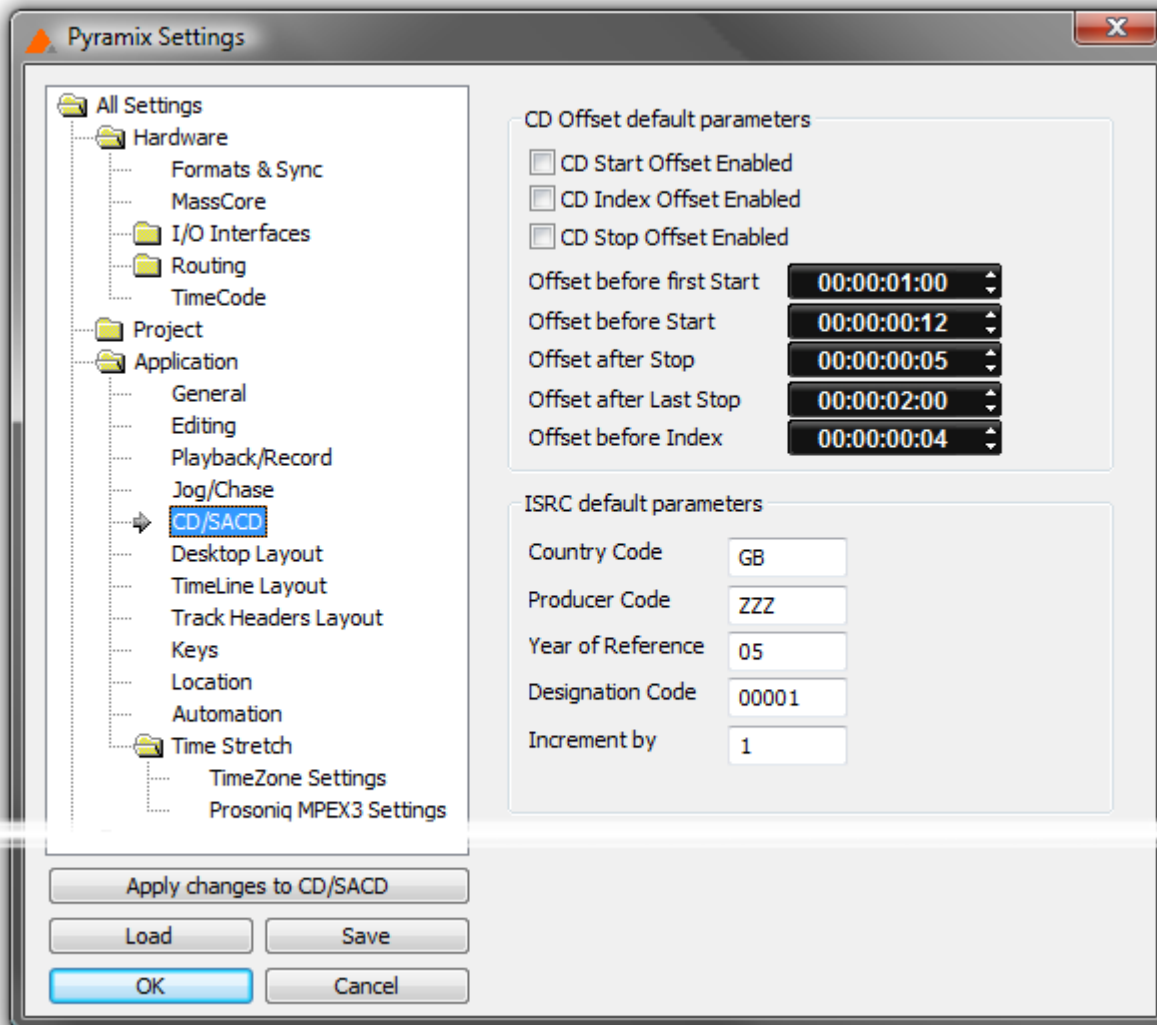
All Settings Application CD/SACD Page

Please see: CD/SACD Default Settings on page 403

Desktop Layout
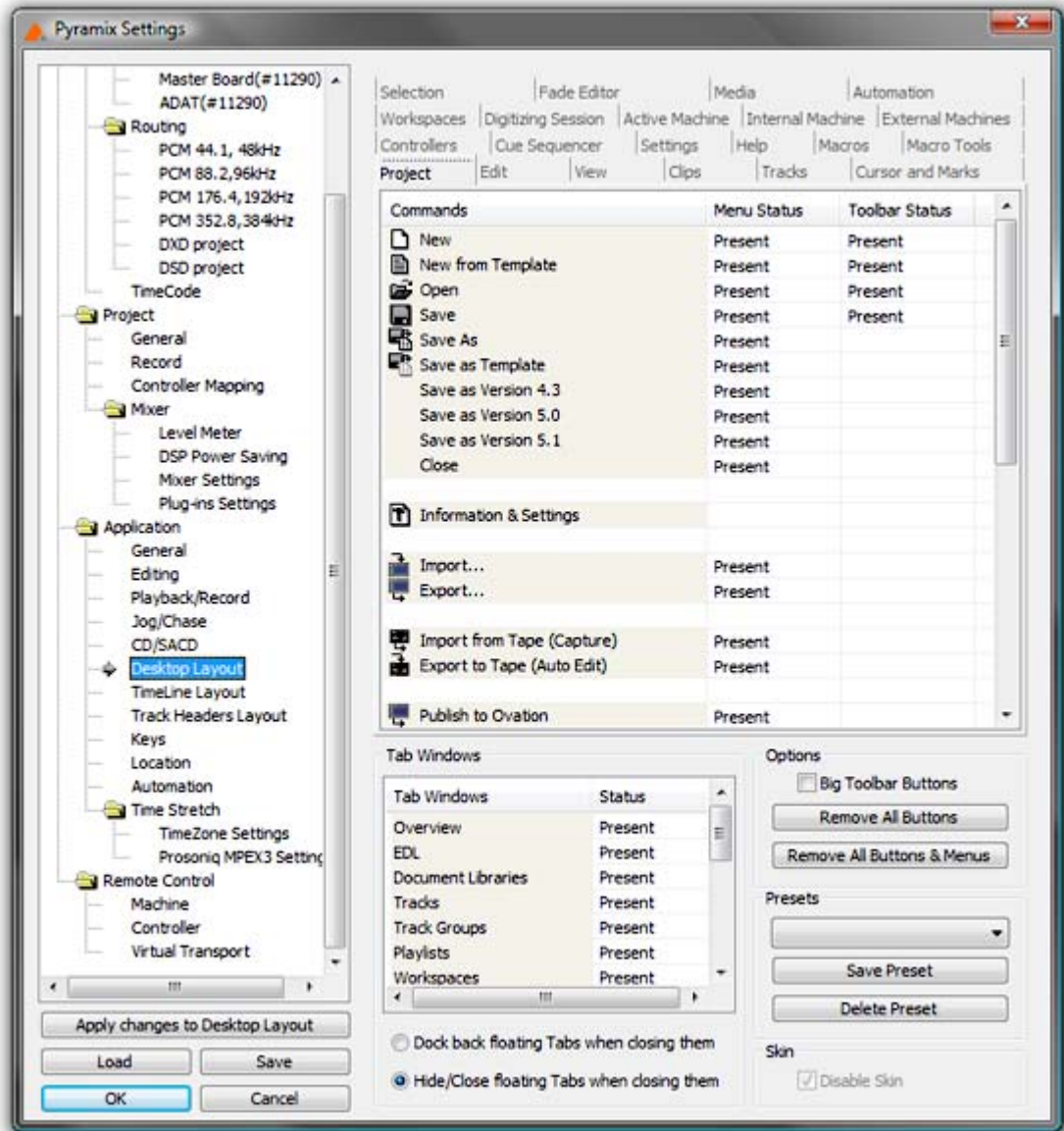
This is where you can customize the content of **Menu**s and **Toolbar**s. Clicking in the **Menu Status** and **Toolbar Status** cells toggles each entry **Present** or blank (absent). This can be used to tailor the user interface for specific tasks or operators.

Tab Windows

Clicking in the **Status** cells toggles each **Tab Window** entry **Present** or blank (absent).

Options

Big Toolbar Buttons	Doubles the size of the Toolbar buttons when checked.
Remove All Buttons	As it says - use with extreme caution.
Remove all Buttons and Menus	Likewise - leaves a limited number of essential menu entries
Presets	The combo box offers a choice of previously saved **Presets**
Save Preset	Pops up a simple **Save Preset** dialog
Delete Preset	Deletes the preset currently shown in the **Presets** combo box above.

Skin

Disable Skin	Only applicable to Windows XP based systems. When ticked, reverts to earlier "look". This may be useful to improve performance on certain (older) systems.

TimeLine layout
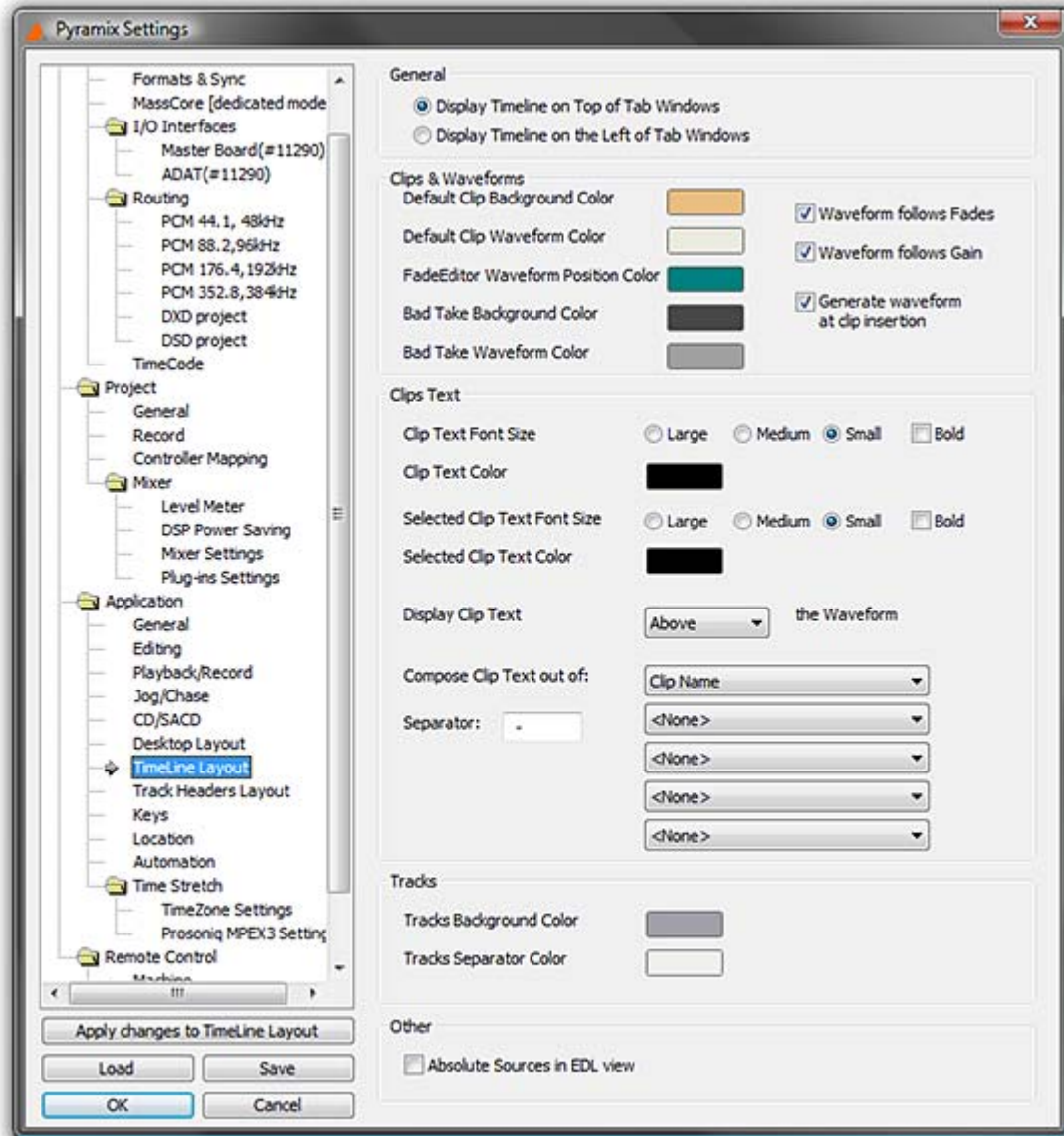
For all the color options, clicking on the colored block pops up a list of defined colors. At the bottom of the list selecting **More Color...** opens a full **Color** picker dialog.

General

Display Timeline on Top of Tab Windows as it says.

Display Timeline on the Right of Tab Windows allows good use of dual monitors. Check this box when using a dual monitor set-up to enable the Timeline to be displayed on one screen and all Tab Windows on the other one.

Clips & Waveforms

Default Clip Background Color

Default Clip Waveform Color

FadeEditor Waveform Position Color

Bad Take Background Color

Bad Take Waveform Color

Waveform follows Fades

When checked the waveform display is scaled in height during fades and crossfades. The original waveform is shown grayed out.

Waveform follows Gain

When checked the waveform display is scaled in height in proportion to the gain adjustment applied.

Generate waveform automatically at clip insertion

When checked a waveform file is automatically generated in the background for any clip which does not already have one when it is placed on the Timeline.

Clips Text

Clip Text Font Size   The radio buttons offer a choice of **Large**, **Medium** or **Small** and the check box em**Bold**ens.

Clip Text Color

Selected Clip Text Font Size   The radio buttons offer a choice of **Large**, **Medium** or **Small** and the check box em**Bold**ens.

Selected Clip Text Color

Display Clip Text   The combo box offers a choice of **Above**, **Below**, **In Front Of** or **Behind the Waveform**

Compose Clip Text out of: The clip text displayed can consist of up to five elements chosen from the five combo boxes, separated by the character typed in the **Separator** box:
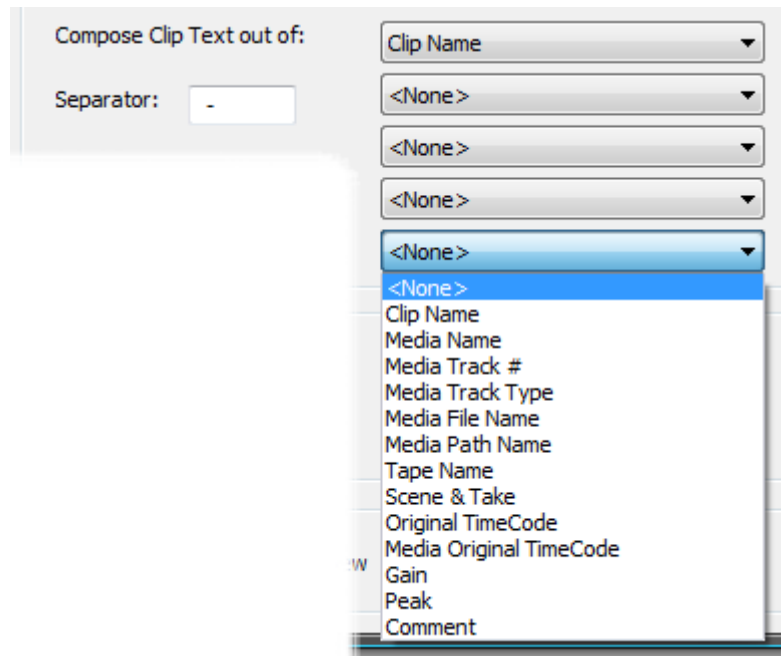
Compose Clip Text out of : combo box

Tracks

Tracks Background Color

Tracks Separator Color

Other

Absolute Sources in EDL view When **Absolute Sources in EDL View** is checked in the **Settings > All Settings > Application > TimeLine Layout** page, the original **Source In**, **Source Out** and **Sync Point** times are shown in **Absolute Time** in the **EDL** View. Absolute time is the incoming TimeCode recorded at the audio capture. When this mode is disabled, the default start time of TimeCode for the captured clip is 00:00:00:00.

Track Headers Layout
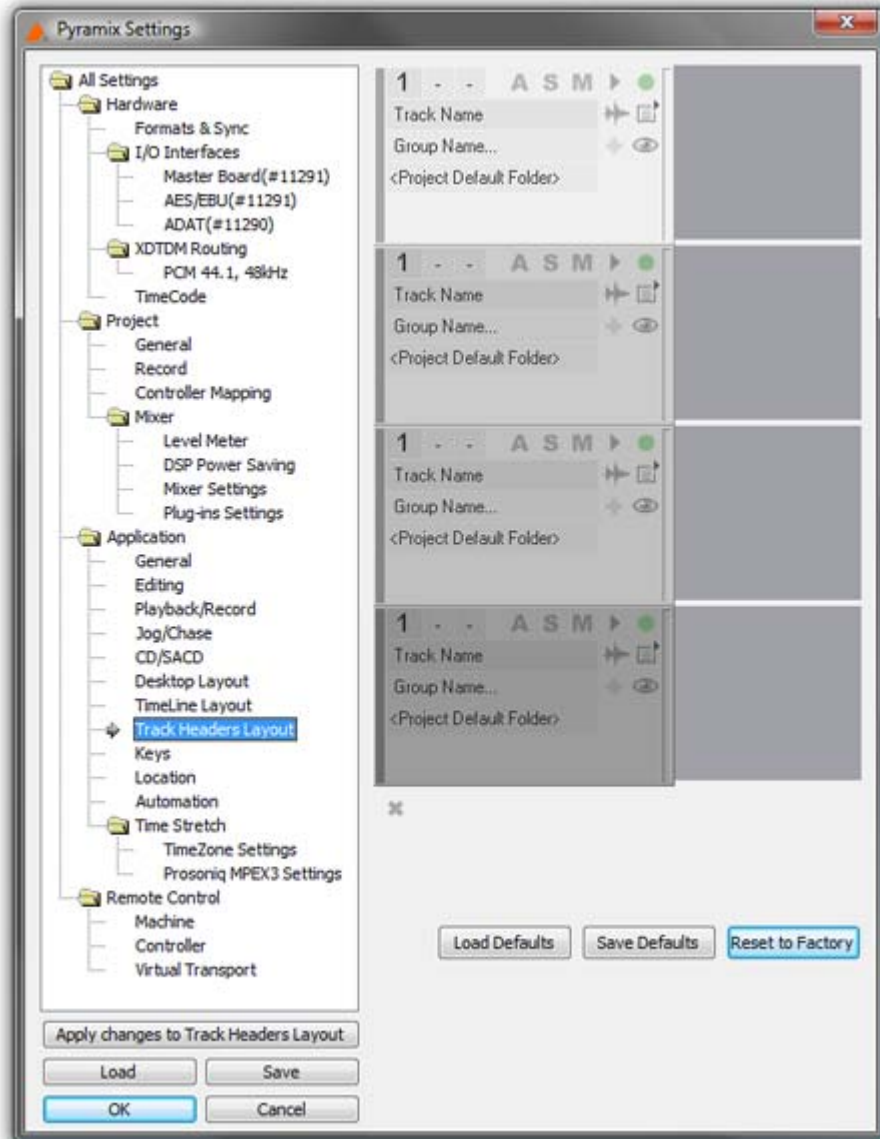
All Settings Application Track Headers Layout Page

Here, the user can determine the items that appear in the Track Header.

Clicking on any of the 'building blocks' of the Track Header selects the block, indicated by a square red outline. Blocks may be positioned anywhere in the Track Header by clicking and dragging. To remove a block from the Track Header, double-click it. The block disappears from the Track Headers in the Interface Editor and appears in the '**Pool**' at the bottom. Double-clicking a block in the Pool places it in the Track Header.

Load Defaults	loads the default Track Header design saved with:
Save Defaults	saves the current design as the default.
Reset to Factory	Resets Track Header Layout to the Factory default.

Keys
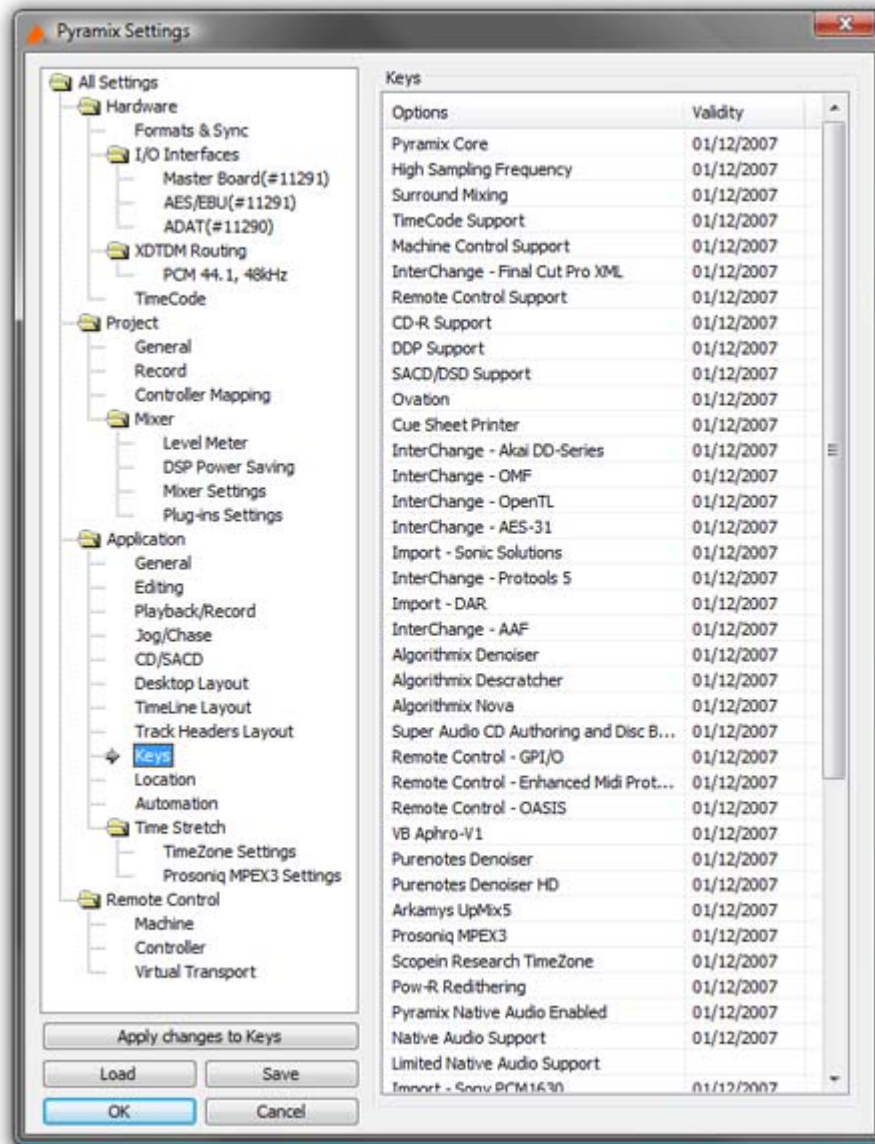
All Settings Application Keys Page

Information only. Nothing can be changed here. Shows the Keys which are validated and the date they are validated to.

Location
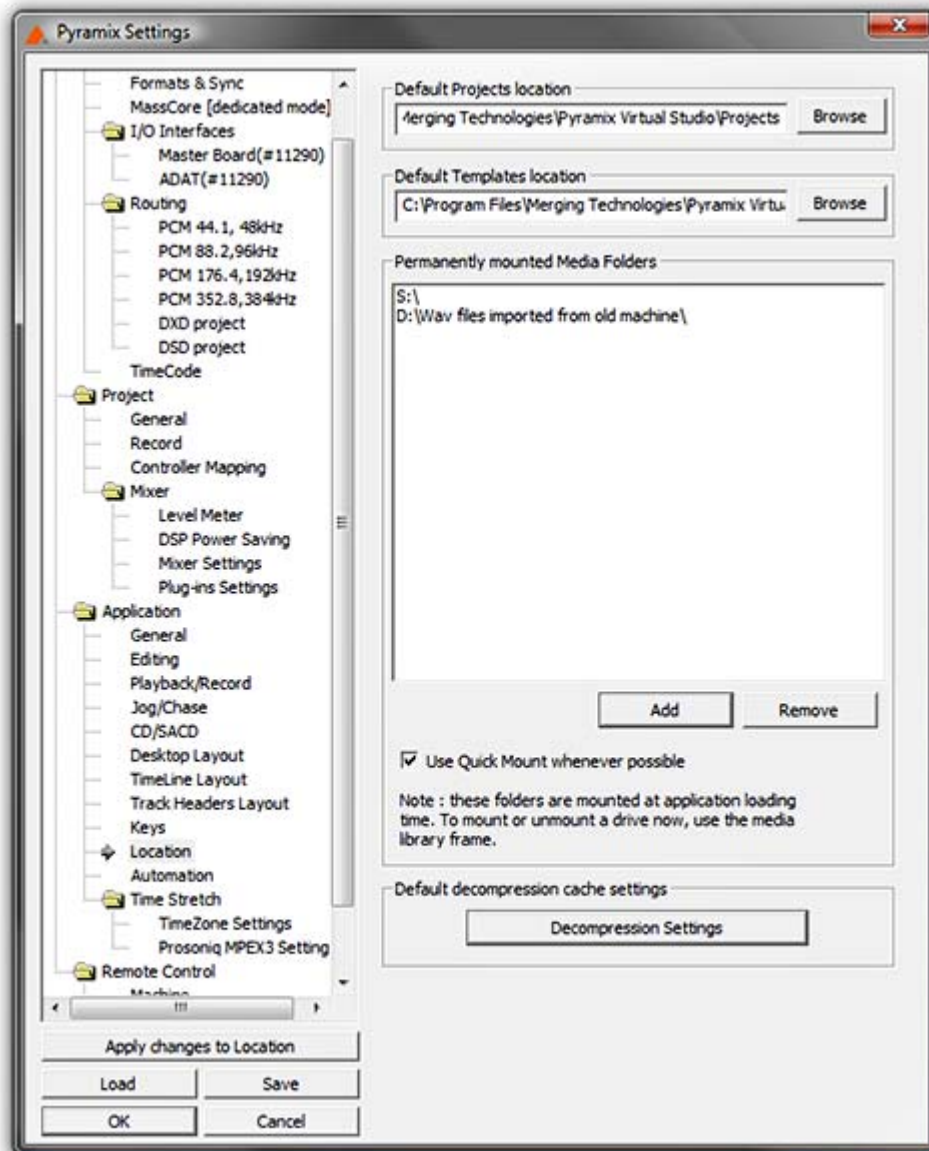
All Settings Application Location Page

Default Projects Location

This path is set when a new Project Workspace is created. It can be changed here either by typing the path into the box or browsing the Windows filing system using the **Browse** button

Default Templates Location

This path is set when Pyramix is installed. It can be change here in the ways described above.

Permanently Mounted Media Folders

Shows a list of Media Folders available to all projects. Clicking **Add** opens the **Choose a Media Folder to Mount** window. Here you can browse for Folders or create new ones.

Folders are removed by highlighting their list entry and clicking the **Remove** button.

Default decompression cache settings

Click on the **Decompression Settings** button to open the **Decompression files...** dialog :
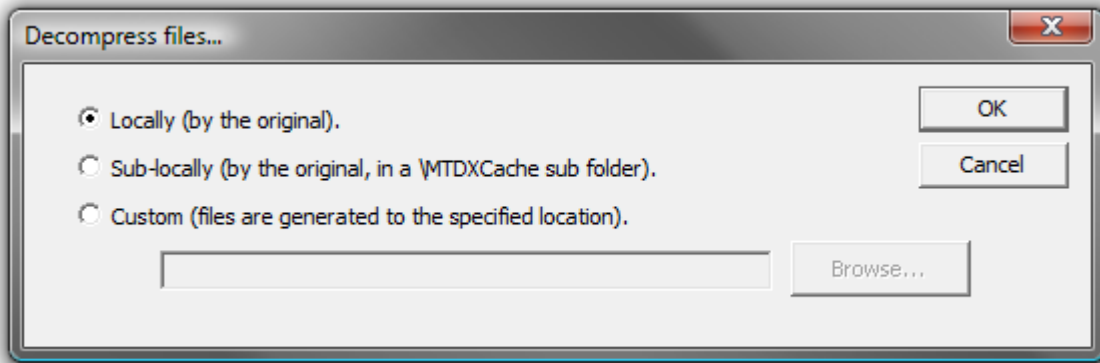
Decompress files... dialog

When compressed audio files are mounted Pyramix creates an uncompressed WAV version of the file(s) in a cache. The location of these cache files is determined by this dialog.

Locally (by the original) File(s) will be created in the same location as the original file.

Sub-locally (by the original, in a \MTDXCache sub folder). File(s) will be created in a sub folder created by Pyramix in the same location as the original file.

Custom (files are generated to the specified location). File(s) will be created in a user specified location. When this option is selected the **Browse...** button is available to open a file browser window to set the user defined path.

Automation
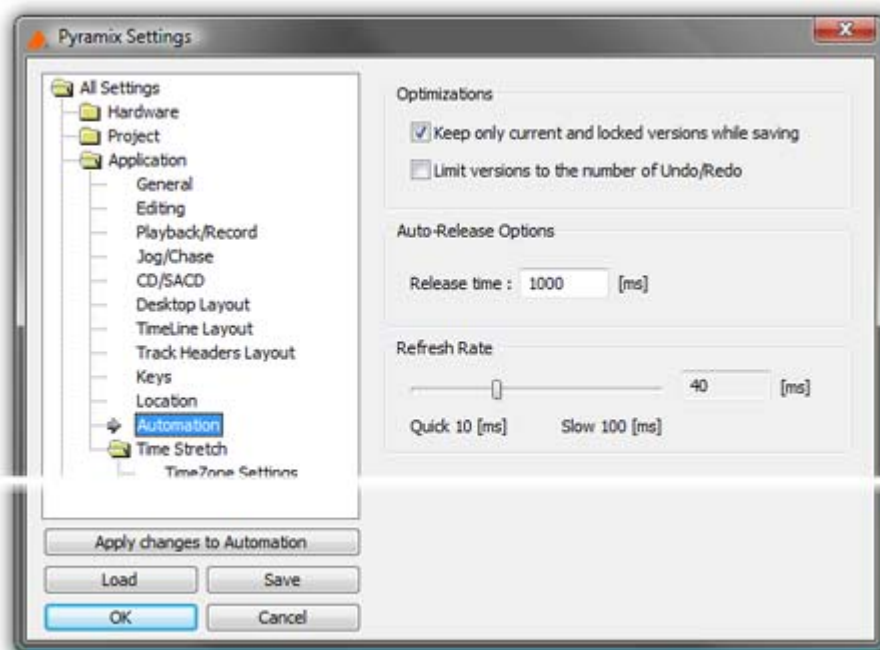
All Settings Application Automation Page

Optimizations

Keep only current version while saving when checked does as it says

Limit versions to the number of Undo/Redo when checked does as it says. Number of **Undo/Redo**s is defined in the **Settings > All Settings > Application General** page.

Auto-Release Options

Release time   If **Auto Release** is enabled any control will, when released or when the transport is stopped, return to its value or state in the previous automation pass or the default

where no previous pass exists. This occurs either immediately if the control only has two states (e.g. a button) or over a period of time if the control is a fader or knob. The time period is determined by the value entered in the Release Time box in ms.

Refresh Rate

The **Quick 10[ms] Slow 100[ms]** slider allows the **Refresh** rate to be changed. (Or type a value in the box.) The **Refresh Rate** setting determines the rate at which the automation data is recorded. By default the refresh rate is the same as the actual time code frame rate, e.g. 40 ms at a frame rate of 25 fps.

The possible range of the refresh rate is 10 to 100 milliseconds. Please note that the setting is rounded to entire frames, so that the effective refresh rate will be either one, two or three times the actual frame rate.

One reason to choose a slower setting for the refresh rate would be to save the processing power required to calculate the automation movements in case of complex mixes.

> **Note:** This setting has no bearing on "smoothness" of dynamic automation changes. Pyramix uses linear interpolation to avoid any possibility of zipper noise.

Time Stretch

TimeZone Settings
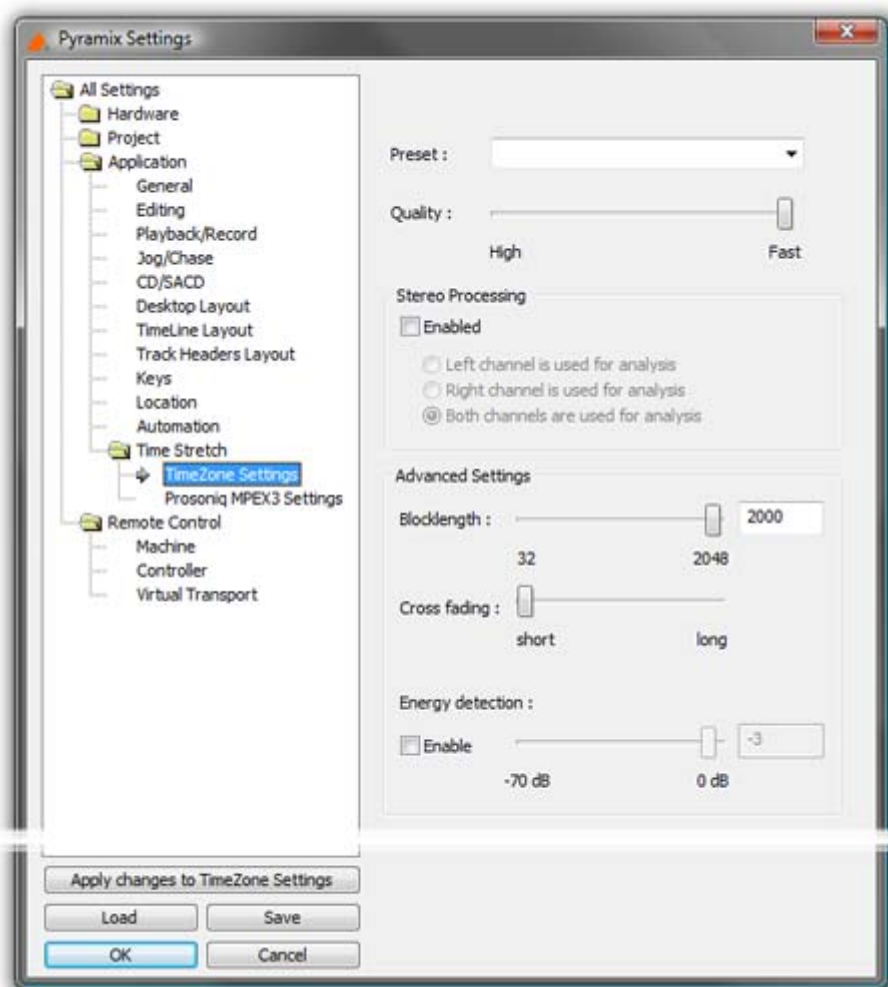
All Settings Application Time Stretch Timezone Settings Page

Preset

The drop-down list offers a choice of algorithm presets for various sound types.

Quality

The slider offers a choice between High Quality and Fast processing.

Stereo Processing

When the **Enabled** box is checked offers a choice of which channel(s) of a stereo media will be used for analysis.

Advanced Settings
Blocklength

Allows the user to determine the length of the blocks used for processing by entering a value between 32 and 2048 in the text box or by positioning the slider.

Cross fading

Allows the user to vary the length of the crossfades between blocks by positioning the slider

Energy Detection

When the **Enable** box is checked the user can set the threshold level by entering a value between -70dB and 0dB in the text box or by positioning the slider.

These parameters affect the quantity and character of audible artifacts and allow fine tuning of the process to suit specific material.

Prosoniq MPEX3 Settings
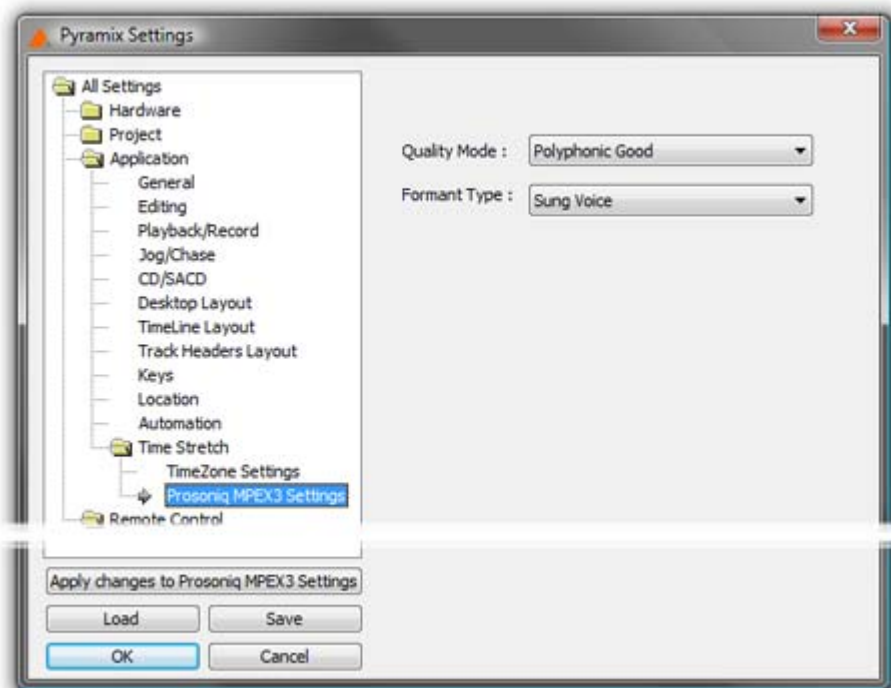
All Settings Application Time Stretch Prosoniq MPEX3 Settings Page

Optimize **MPEX3 Settings** by making appropriate choices from the **Quality Mode** and **Formant Type** combo boxes.

Quality Mode
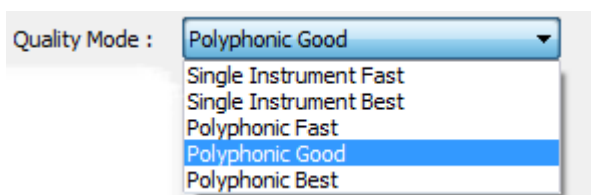
Formant Type
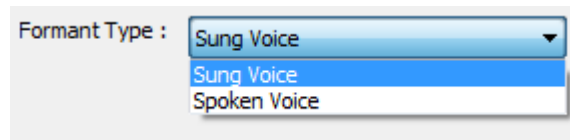
Remote Control
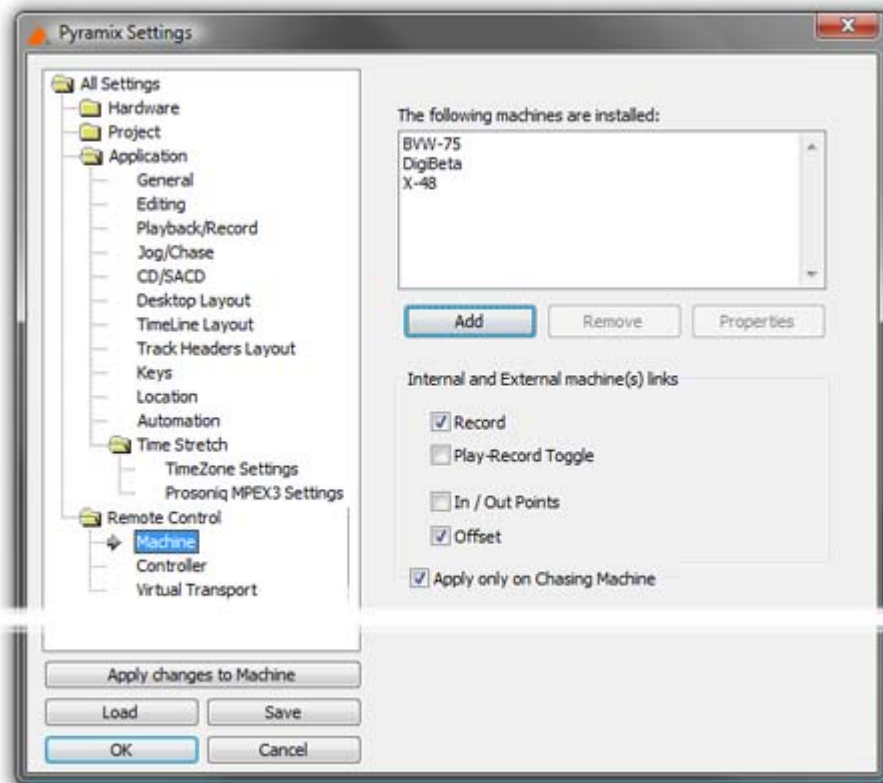
Machine

The following machines are installed:

Displays a list of all installed machines. Machines in this list will be available as possible machine choices in the Transport Control.

Internal and External machines links

The buttons determine which machine functions will be linked. Simply tick the boxes to link any or all of the following functions for all active machines:

Play and Record

Play-Record Toggle

In / Out Points

Offset

Apply only on Chasing Machine   When ticked the links are only apllicable to machines currently in Chase mode.

Add

Clicking on the **Add** button opens the **Machine Properties** dialog box (see below)

Remove

If a machine is selected (highlighted) in the list, clicking **Remove** uninstalls the machine and removes it from the list.

Properties

Clicking on the **Properties** button opens the **Machine Properties** dialog box (see below)

OK

Click OK to accept changes (if any) and close the Machines page.

Cancel

Click Cancel to reject changes (if any) and close the Machines page.

Apply

Click Apply to apply changes without closing the Machines page.

Machine Properties
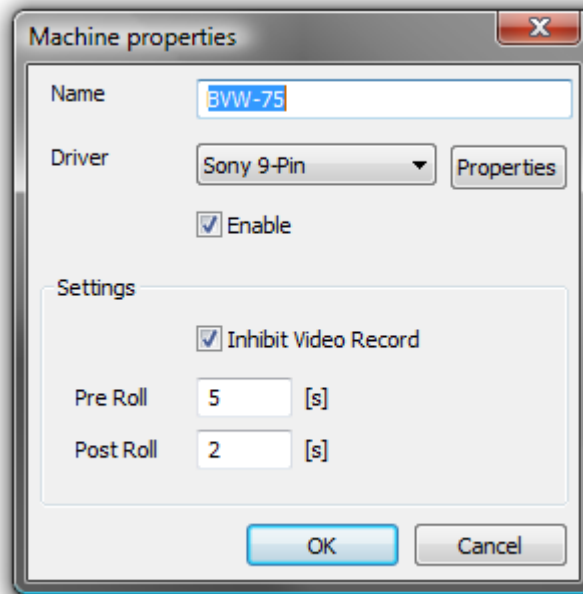
Machine Properties dialog

When the **Machine Properties** dialog is opened by the **Add** button, the **Name**, **Protocol** and **Port** displays are blank. When the dialog is opened by the **Properties** button the displays reflect the name etc. for the selected machine.

Name

Displays the name of the current selected machine. When adding a new machine, type a suitable name here.

Driver

Displays the current interface protocol **Sony** (9-pin P2 protocol) in the drop-down list. (Currently Sony only)

Driver - Properties

Opens the **Sony 9 - Pin Protocol Configuration** dialog box (see below) when **SONY** is selected. There are currently no options for **MMC**

Settings
Inhibit Video Record

When checked prevents record arming of video in order to ensure video cannot be accidently overwritten.

Pre Roll

Shows the current **Pre Roll** time for the external machine. Type in the box to change the value.

Post Roll

Shows the current **Post Roll** time for the external machine. Type in the box to change the value.

Driver Properties

Sony 9-Pin Protocol Configuration (Machine)
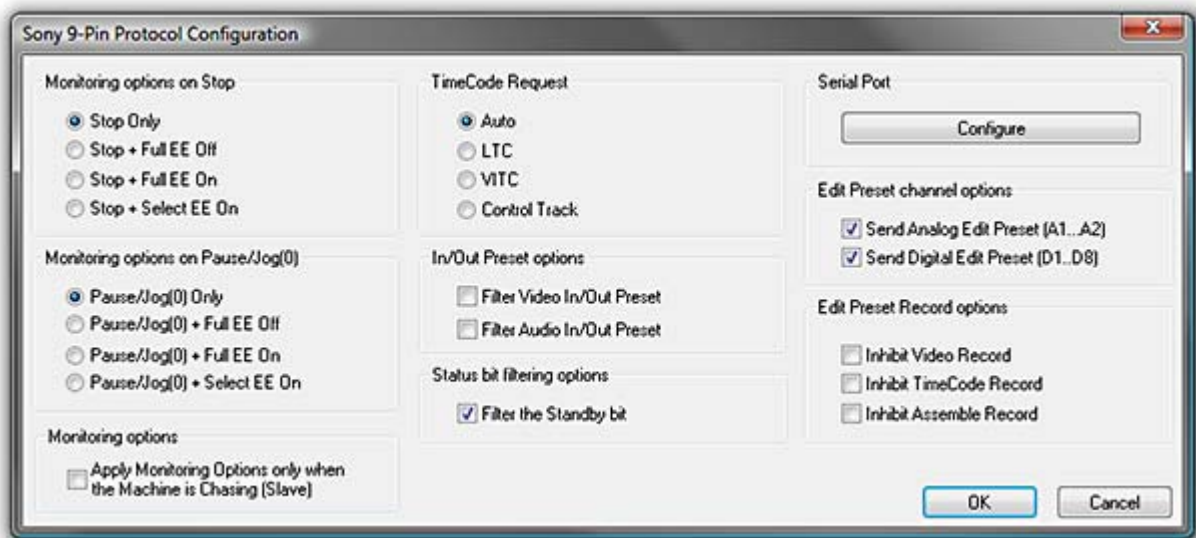
Sony 9-Pin Protocol Configuration dialog

This dialog determines **Monitoring Options on Stop**, **Monitoring Options on Pause/Jog**, **Preset Channel and Record Options** the type of **TimeCode Request**, **In/Out Preset options** and gives access to the **Serial Port** configuration dialog.

Serial Port
Configure

Clicking the **Configure** button opens the **COMM422 Configuration** dialog box:
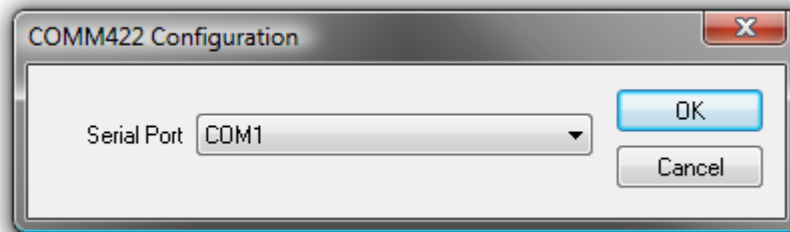
COMM422 Configuration dialog

Serial Port

Shows the current **Serial Port** selected from the drop-down list. If not already highlighted, select the desired serial COM port. Standard choices are either COM1 or COM2.

Click **OK** to confirm the choice. This automatically sets the selected COM port with the proper parameters of the Sony 9-pin communication protocol.

Monitoring options on Stop

After a **Stop** command the following command will be issued:

• **Stop Only**

• **Stop + Full EE Off**

• **Stop + Full EE On**

• **Stop + Select EE On**

Monitoring Options on Pause/Jog(0)

After a **Pause/Jog** command the following command will be issued:

• **Pause/Jog(0) Only**

• **Pause/Jog(0) + Full EE Off**

• **Pause/Jog(0) + Full EE On**

• **Pause/Jog(0) + Select EE On**

Monitoring options

Selecting:

• **Apply Monitoring Options only when the Machine is Chasing (Slave)**

ensures that the above options, **Monitoring options on Stop** and **Monitoring options on Pause/Jog(0)** are only applied when the 9-pin external machine is chasing the Internal Machine (being synchronized, i.e. editing). When the 9-pin external machine is Master (the Internal Machine is chasing it, typically for recording back to tape) then the 9-pin external machine is in normal Input/Repro Auto mode.

TimeCode Request

• **Auto**

• **LTC**

• **VITC**

• **Control Track**

The radio buttons select the source of the TimeCode from the external machine. Sony machines usually respond to all requests, so the Auto setting will probably be appropriate. If necessary E.g. where there are several different TimeCodes present on a tape, you can specify a desired TimeCode source to override the automatic setting. U-Matic machines do not respond to all requests, therefore you must specify the TimeCode source.

Send In/Out Preset options

By default, Pyramix sends Edit Video In/Out and Edit Audio In/Out points when an In/Out point is set in the Transport Control panel. These options enable these commands to filtered out if necessary.

• **Filter In/Out Preset** (video)

• **Filter Audio In/Out Preset**

Status Bit Filtering Options

Some SonyP2 devices do not report the Standby bit correctly (always in Standby). In this case the Pyramix Transport Window reports Standby status continuously, thereby hiding the true status. You may wish to set filter if the target machine fails to report standby correctly.

• **Filter the Standby bit**

Edit Preset channel options

Edit Preset in the 9-pin P2 protocol world means Track Arming.

These options enable Track Arming commands to be filtered out if required.

• **Send Analog Edit Preset (A1..A2)**

• **Send Digital Edit Preset (D1..D8)**

This feature is mostly relevant where a console or a third-party record/monitoring controller is used for record commands.

Edit Preset Record Options

These 3 options Inhibit Recording when one of the Video/Timecode/Assemble Edit preset modes is checked and the corresponding track is armed. In a typical TV workflow, when audio is layed back to the tape, it is essential to prevent the video track entering record (edit) These options avoid nasty accidents.

• **Inhibit Video Record**

• **Inhibit TimeCode Record**

• **Inhibit Assemble Record**

This feature is mostly relevant where a console or a third-party record/monitoring controller is used for record commands.

Controller
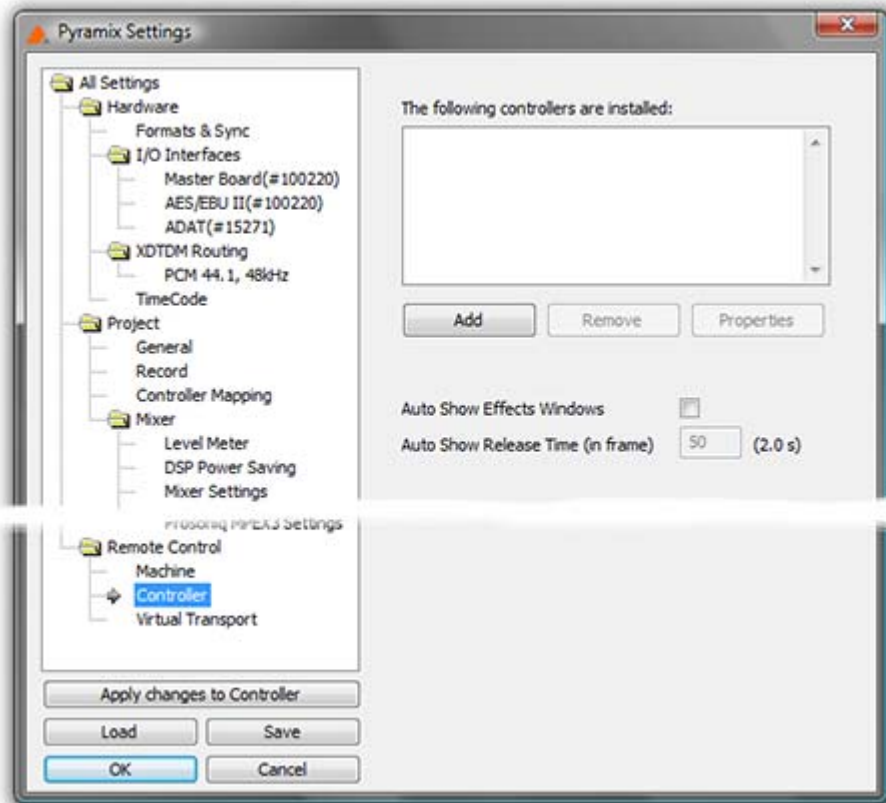
All Settings Remote Control Controller Page

The **Controller** page shows a list of all external controllers currently installed (if any) in the **The following controllers are installed** pane.

Add

Pops up the **Controller properties** dialog.
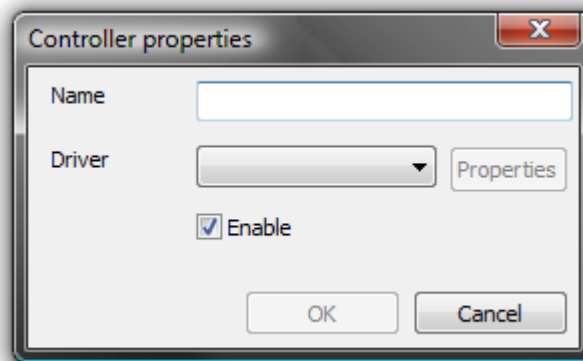
Controller properties dialog

Type a suitable name for the controller you wish to add in the **Name** field. Click on the down arrow to drop down the list of drivers.
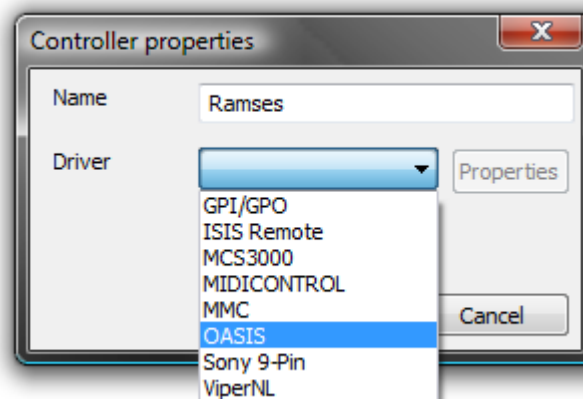
Controller properties dialog

Select the correct driver for the controller you are installing.

Clicking on **Properties** will open a configuration dialog specific to the driver.

Ensure that the **Enable** checkbox is ticked and Click on **OK** to add the controller.

Remove

Removes the Controller currently highlighted in the **The following controllers are installed** list (if any)

Properties

Pops up the configuration window for the selected controller.

Auto Show Effects Windows

When selected moving a control on the hardware controller mapped to an effect will open the relevant plug-in's window.

Auto Show Release Time (in frames)

Sets the amount of time an Auto Shown window persists after the last detected control move.

Sony 9 - Pin Protocol Configuration (Pyramix controlled by external device)
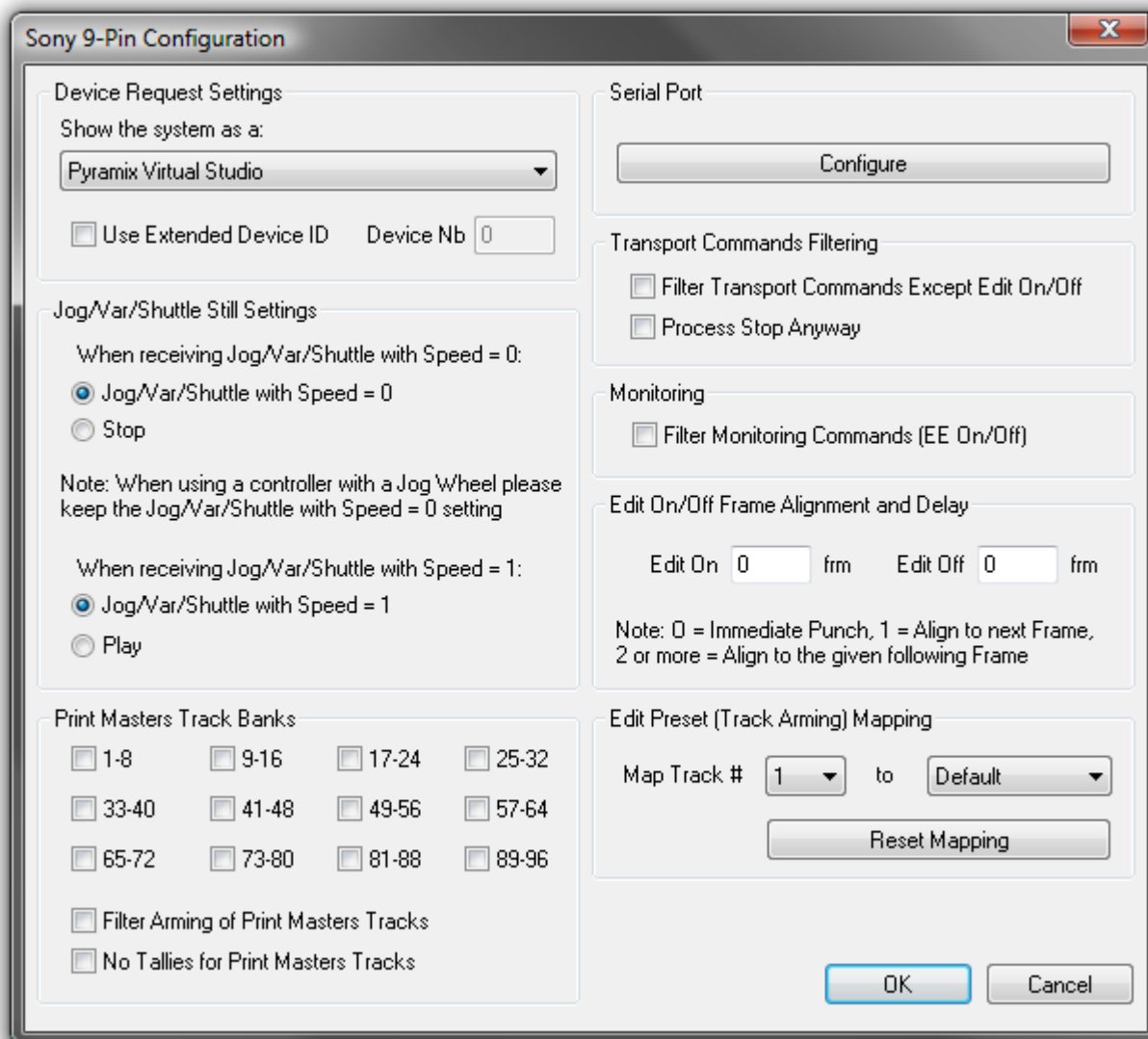
Sony 9-Pin Configuration dialog

Device Request Settings

The Sony 9-pin P2 protocol transmits a code to identify the machine. Some machine controllers will do nothing or exhibit aberrant behavior if they do not recognize the identifier code. Therefore, Pyramix can masquerade as another device. The device identifier can be selected from a long list in the **Show the system as a:** combo box.

Jog/Var/Shuttle Still Settings

The radio buttons determine Pyramix behavior **When receiving Jog/Var/Shuttle with speed = 0** commands:

- **Jog/Var/Shuttle with Speed = 0 (default)**

- **Stop**

   Note: When using a controller with a jog wheel please keep the **Jog/Var/Shuttle ... Speed = 0** default setting.

Monitoring

Filter Monitoring Commands (EE On/Off) when ticked, E to E On and off commands are filtered out.

Print Masters Track Banks

The selected banks of **8 tracks** are armed for recording when any OTHER track is armed. This is primarily useful when recording a Print Master or Masters at the same time as stems. E.g. if you are recording Dialogue, Music and

Effects stems it is common practice to update an element on one stem only. However, the final mix Print Master, which is the sum of all the stems must be updated at the same time. Print Masters Track banks allow the user to forget about arming the Print Master tracks and concentrate on the stems.

Filter Arming of Print Masters Tracks

When ticked, arming a Print Master track will not arm the other Print Master tracks.

No Tallies for Print Masters Tracks

When ticked, record tally commands are filtered out for the Print Masters tracks.

Serial Port
Configure

Opens the **COMM422 Configuration** dialog.

Please see: Serial Port on page 537

Transport Commands Filtering

- **Filter Transport Commands Except Edit On/Off** When ticked all transport commands apart from Edit On or Edit Off are filtered out.

- **Process Stop Anyway**

Some controllers send a **Chase Off** command for Stop. If you need this command when filtering Transport Commands, checking the box will allow it through.

> **Note:** These filter settings are mainly relevant where multiple controllers are in use. E.g. where a Mixing console controls monitoring and recording.

Edit On/Off Frame Alignment and Delay

Edit On and **Edit Off** boxes enable delays (in ms) to be entered.

> **Note:** 0 = Immediate Punch, 1 = Align to next Frame boundary, 2 or more = Align to the given following Frame boundary.

Edit Preset (Track Arming) Mapping

The **Map Track #** combo box allows you to select a track between **1** and **96** to be mapped to a choice made in the second combo box from:

- **Default**
- **No change**
- **Always Off**
- **Always On**

or any track between **1** and **96**

This function is useful if more than one Pyramix is to be controlled by the same controller. E.g. with two machines set up to record 32 tracks each, Pyramix one is mapped **1 - 1** to **32 - 32** and Pyramix two is mapped **1 - 33** to **32 - 64**

Virtual Transport
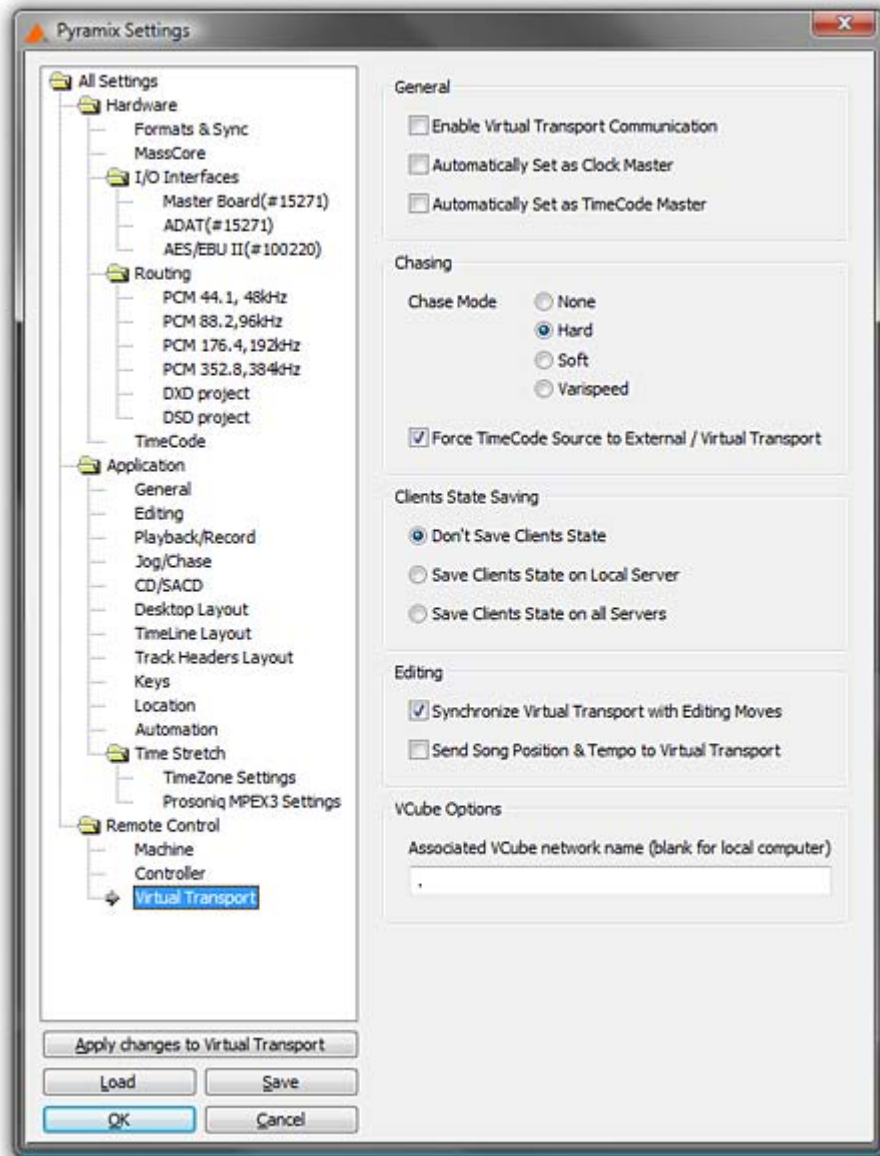
All Settings Remote Control Virtual Transport Page

General
Enable Virtual Transport Communication

When checked, Pyramix communicates bi-directionally with Virtual Transport.

Automatically Set as Clock Master

When checked, the Pyramix Client is set as Clock Master. I.e. Pyramix is the master clock reference for all Clients

Automatically Set as TimeCode Master

When checked, the Pyramix Client is set as TimeCode Master. I.e. Pyramix provides the master TimeCode reference for all Clients

Chasing
Chase Mode - None - Hard - Soft

These radio buttons toggle the Pyramix Chase Mode.

Force TimeCode Source to External / Virtual Transport

When checked, TimeCode source is External / Virtual Transport.

Clients State Saving

Toggles between:

Don't Save

Save Client's State on Local Server

Save Client's State on all Servers

Editing

When checked,

Synchronize Virtual Transport with Editing Moves

Send Song Position and Tempo to Virtual Transpor

VCube Options
Associated VCube network name (blank for local computer)

When you wish to use Pyramix in conjunction witha VCube, e.g. with the Merging Technologies ADR option, then you must enter the network name of the machine running VCube here. If VCube is running on the same machine as Pyramix the box can be left blank or with a **.** (period) in it.

Troubleshooting

28

Troubleshooting is always a moving target as users discover ever more exotic ways to use Pyramix. Therefore, this section is necessarily historic.

If the answer to your problem cannot be found here or elsewhere in the documentation, for the latest information please consult the FAQ sections at:

http://www.merging.com

If you need further technical support, please e-mail

support@merging.com

Keeping Up To Date

Acquiring and installing regularly the latest Drivers/Firmware/Bios or Operating System available for equipment such as: Graphic Cards, CD/DVD writers, Network Adapters, Motherboards, (but exercise especial caution), external drives, RAID controllers and other third party hardware add-ons, will ensure that your system will always perform as efficiently as possible. Always accept any 'rollback' options, just in case the driver updates have unforeseen consequences.

Keeping Windows (and DirectX) up to date with latest service packs is also, in general, a positive move towards maintaining a healthy system.

> **Note:** These operations are not required for Mykerinos and Daughter cards simply because the latest firmware for your hardware (if any) is automatically installed by the most recent Pyramix installer.

Error Messages

PCI Bus Too Slow

PC motherboards are by no means equal. Real-time intensive activities such as those found in audio and video workstations show up inadequacies unlikely to be noticed in more mundane applications. Even though one might expect the newest, ever faster Pentium or AMD processors to give better performance this isn't always the case. At least with respect to how well they handle the transfer of data over the PCI bus on which the Mykerinos board(s) resides.

Audio is requested or handed over on the PCI bus every 1.3ms. When the request (interrupt) is delayed for more than 20%, in this case 0.26ms, the first warning message will pop up, indicating a timing inconstancy of the PCI sub-system. There are two levels of warning with "PCI Bus too Slow" messages; </= 20%, which relates to a serious but not necessarily critical situation and the </= 50% which would result in drop outs in audio playback or recording or other unwanted artifacts and you want to make absolutely sure you will not get any of these showing during playback or record. But if you were to get a warning when opening a project, creating or rebuilding a mixer or when launching Pyramix this, while still a sign of possible timing issue in the PCI communication at this very moment, would only bring minor inconvenience at a non critical instant and would, nonetheless, allow you to work perfectly safely.

Historically, we have observed the PCI Bus too slow messages to occur with the following hardware combinations:

• In the design of older firmware for the Southbridge 686B of VIA based motherboards.

• On non-Intel motherboards using the Intel 84x chipsets (in particular the Intel 845 series supporting the Pentium 4 processors). The reason for this is that the 84x series gives absolute priority to PCI writes over PCI reads.

• On some Dual Xeon motherboards, using multiple PCI controllers with PCI-X slots.

PCI performance can be affected by a combination of different parameters and add-on cards such as specific combinations of Raid adapters, Graphics adapters, Dual processors and PCI-X slots.

Upgrading a component's BIOS/driver/firmware or even the operating system will often fix some early limitations or conflicts with a particular PC component. As an example switching from Windows 2000 to Windows XP Pro

totally fixed the PCI latency problems on a Dell Inspiron 8000 and installing a "Signed" graphic card driver did the same for an Asus Dual PIII workstation.

Audio Engine Drops Warning

This message informs users about possible CPU delays leading to potential audio errors in record or playback.

Mykerinos sends or requests audio data to or from the CPU in "frames" of 26ms. If one of these frames is not given to, or taken from, the Mykerinos driver in time, this will result in a loss of audio data, and the **Audio Engine Drops Warning** will be shown.

Playback Stalls Warning

Playback Stall messages are triggered by access delays impacting either the VS3, resulting in audio drops while preserving the synchronization of the tracks or the Mykerinos driver. In the latter case the stall may also endanger the integrity of the synchronization between tracks being recorded.

MassCore Drops

Please see MassCore Overload Diagnosis and Cures on page 33

Multi-channel Audio Files

Wave, Broadcast Wave, AIFF or SDII multi-channel files are seen as mono files by the Pyramix Media Manager unless their file names conform to Pyramix requirements.

Audio File Formats

Some audio file formats (like Pyramix native format, PMF and OMF) embed the track/channel number(s) in the file itself. In this case, Pyramix recognizes the track as mono, stereo or multi-channel without problem even if the different audio tracks/channels of these files are actually stored in separate files.

Some other formats (like Wave, Broadcast Wave Format, AIFF or MacIntosh SDII) do not keep this information in the file itself but in the filename. Unless the correct naming convention is followed, Pyramix will see files in these formats as individual mono, regardless of whether they are part of a stereo pair or multi-channel recording.

Broadcast WAV Files

BWF-P means polyphonic. I.e. multitracks within the same file

BWF-M means monophonic. I.e. one file per track

Pyramix Requirements

In order for Pyramix to recognize that separate audio files in these formats are actually part of a stereo or multi-channel recording, Pyramix requires the following naming convention:

The filename of the different tracks/channels must be the same except for one section containing the tracks/channels number as 3 digits surrounded by _## and ##_. For example: MyStereoSound_##001##_.wav and MyStereoSound_##002##_.wav are seen by Pyramix as a single two track media named MyStereoSound.

Other systems, the Zaxcom DEVA portable recorder for example, do not use the same convention. They may name the files they produce in this fashion: **MyStereoSound-1.bwf** and **MyStereoSound-2.bwf**. These files will be recognized by Pyramix as two mono media files.

Solution

MultiFileFixer is a small 'tool' application that automatically renames all files in a given folder and sub-folders, that fit selected parameters, to follow the Pyramix convention.

In a normal Pyramix installation the **MultiFileFixer** application can be found on the Windows Start menu:

Start > Programs > Pyramix > MultiFileFixer

No Sound on Live Inputs

Please carefully check the following points if there is no sound present on live inputs:

None of the connected inputs are muted (**MUTE ON**).

None of the connected inputs are in **SOLO** mode. In this case, all other inputs are muted.

The **DSP Load** (displayed at the bottom the Pyramix window) should be in a range of 20% to 90%. A higher level could produce clicks or occasionally mute the audio inputs.

In the **I/O Status** window (right click on the bottom of the Pyramix window):

• All Input LEDs (corresponding to physical connections) should be active (light green).

• The Lock LED (corresponding to the chosen Sync Source) should be active (light red) and not flashing.

In the Mixer Settings window (right click on the mixer and choose **Settings**):

In the **General** Tab page:

• The project's Sampling Rate must match the external studio equipment's settings sampling frequency.

In the **I/O & Sync** Tab page:

• The **Sync Source** must be chosen so there is only one Sync Master for all connected equipment.

• The **Input Format** must match the format of the incoming audio signal.

In the specific Tab page of each possible daughter card:

ADAT Tab: Only relevant for the outputs.

AES/EBU Tab:

• If the Reference is not in Auto mode and the Sync Source (in the I/O & Sync Tab page) is in Audio Input mode, there should be a physical connection to the chosen reference.

• If the Sampling Rate Converters are set to Ref 1/2, 3/4, 5/6 or 7/8, the corresponding Inputs are muted.

> **Note:** This is valid for the AES/EBU with SRC daughter card only.

DUAL Tab:

• If the Reference is not in **Auto** mode and the Sync Source (in the **I/O & Sync** Tab) is in **Audio Input** mode, there should be a physical connection to the chosen reference.

• If the input level is simply too low, increase the **Input Gain**.

SDIF Tab:

• The Format (SDIF2 or SDIF3) must match the format of the incoming audio signal. Make certain the SDIF daughter card is only connected to DSD.

TDIF tab:

• If the Reference is not in **Auto** mode and the Sync Source (in the **I/O & Sync** Tab) is in **Audio Input** mode, there should be a physical connection to the chosen reference.

MADI (ver1 or ver2) Tab:

• **Input Groups** must be set accordingly to the used inputs.

• To activate the inputs 57 to 64, please set the MADI card to Extended Mode.

• In **Audio Sync Source** the outgoing MADI Word Clock should match the external equipment MADI Word Clock.

• In **MADI Word Clock Sync Source**, the external incoming Word Clock should match the one set in the MADI card.

In the **Input Check** window (right click on the bottom of Pyramix window / Debug menu):

• The input frequency should match the frequency set in the Mixer Settings.

• The yellow bar must be slightly visible in the Deviation field.

• The amount of jitter should be within a range of 0 to 100 ns, although higher values are possible.

For each input connection in the mixer, there should be a corresponding physical connection.

All audio tracks in use should be in **Live Input** or **Auto** mode. If this is not the case, all tracks

which are set to **Repro** mode, will be muted.

Pyramix should not be in **Play** mode. In this case, all the audio tracks in **Auto** mode will

switch to **Repro** mode and the corresponding inputs will be muted.

Clip Display Problems

No Waveform Display
Symptoms

Files are dragged into the Timeline from a mounted folder but no waveform is generated. Manually invoking **Generate Waveform** doesn't work.

Solution

This problem with Waveform Generation is likely to be due to the fact that the audio files are in **Read Only** mode. This will often be the case when copying files from a CD-ROM. In Windows Explorer simply select all the tracks from the CD, right click, select **Properties** and uncheck the **Read Only** box under **Attributes**.

Clip Names are Unreadable
Symptoms

With some color schemes, Clip Names are unreadable.

Solution

Simply choose a more suitable Windows color scheme to resolve this. You also can change the background and waveform colors (right click) for individual clips and tracks in Pyramix.

Relaunch After Improper Exit

In the case of an 'improper application exit' (politically correct term for crash) the system does not attempt to automatically open the last backed up project, since the most up to date version is the project itself in its last saved state. All ProjectXXX (Backup).pmx, ProjectXXX (backup 2).pmx,etc… documents are older versions of ProjectXXX.pmx which is now always the last one saved.

The I/O Status window

The I/O status window can be opened by clicking in the **Sync: xxxxx** section of the Status bar (bottom right of the main Pyramix window. (the **XXX**'s are the current sync source)
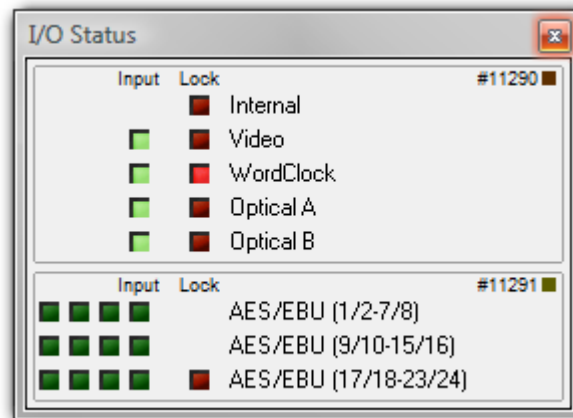
I/O Status window

This window shows useful information about the input and synchronization status of Pyramix.

Input sources

All the possible input sources are shown, each with an associated red and a green light. The green lights show the presence of a valid digital signal (This does not necessarily mean, that the sampling rate of this input matches the current clock source of Pyramix). When the red light is on and steady, Pyramix is using this input as it's clock reference and is successfully locked up.

Default Clock Source

If Pyramix is set up to lock to an external clock source but cannot get a valid signal from this source, it will switch to Internal clock. In this case the red light associated with **Internal** will be on, and the red light associated with the intended clock source will be blinking.

Sampling Rate Mismatch

If Pyramix is set up to lock to an external clock source and the sampling rate set in the Virtual StudioMixer does not match the sampling rate of the clock source, the green light associated with the clock source will be on, but the red light will be blinking showing the sampling rate mismatch.

Debug Menu

Right-clicking on the **Sync:** section of the Status bar opens a context menu with a choice of **Debug** and **I/O Status** (see below).

Selecting **Debug** opens a further sub-menu with a number of tools primarily intended for Merging Technologies Support use. One option, **Profiling** is worth examining in detail.

The Profiling Window

The profiling window contains the parameters used to fine-tune the performance of hard disk accesses for Pyramix. These parameters are not intended for user modifications, and Merging cannot guarantee the proper functionality of Pyramix when modifications are made in this window.
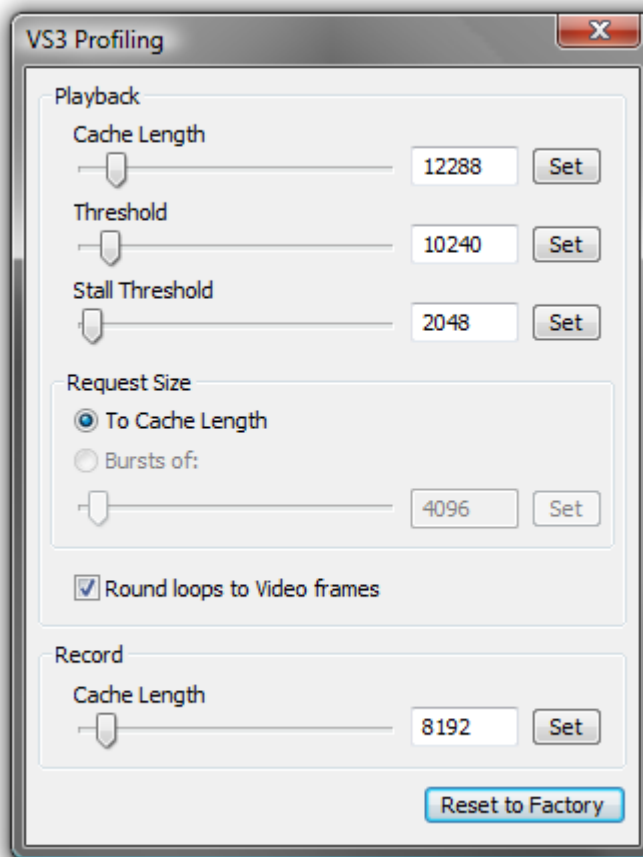
VS3 Profiling window

Cache length

This is the size of the playback buffers allocated in the host PC's RAM. Pyramix allocates one buffer per track. When the audio playback is started, all the buffers are completely loaded by reading the data from the hard disk before the actual playback starts. Increasing the buffer size offers the benefit of a larger immunity against short term hard disk access stalls and other operating system slow-downs at the cost of longer latency at initial playback start.

Threshold

During playback, the audio data is read from the playback buffers, which are thus progressively emptied. When the amount of data in a buffer falls below the threshold value, new data is read from the hard disk to refill the buffer.

Request size

This parameter determines how much data is read from the hard disk when the threshold level is reached. One option is to completely fill (To Cache Length), the other option is to load a defined amount of data (Bursts of).

Stall Threshold

When the amount of data falls below the stall threshold, this means that the system has serious performance problems. Playback will be temporarily stopped, while a stall warning is issued.

Round loops to Video Frames

This option, which is enabled by default, rounds the start and the end point of a playback loop to complete video frames. The start point will always be rounded down, and the end point will always be rounded up, so that the loop will always contain at least the initial range intended for the loop.

Record cache length

This is the size of the buffer used while recording new data.

Reset to Factory

This button restores all the values to their factory default.

ADAT Daughterboard and XDTDM

The ADAT daughter card, despite the fact that its original design dates back to 1999, is still fully supported in Pyramix V6.1 in legacy HDTDM mode (64 I/O channels)

However, the use of this daughter card in XDTDM mode (128 I/O channels) is not guaranteed without the upgrade described below. The much higher transmission frequencies, employed in order to convey double the number of audio channels over the XDTDM bus, require an improved ground plane, which is achieved with an additional conductive shield:

• To work properly in XDTDM mode, the ADAT daughter card has to be retrofitted with a shield, tightly screwed to the card in order to ensure proper grounding. Should you have an ADAT card, not yet retrofitted with a Shield, that you wish to use in XDTDM Mode, please contact your Merging Sales Partner.

Note: In XDTDM mode, the ADAT daughterboard will only support 8 output channels through optical output A, duplicated through optical output B. ADAT inputs are no longer available in the XDTDM mode.

General Troubleshooting

Things to check first - Windows XP

1. Make sure you have either "Administrator" rights or "Power User" rights for your Pyramix XP account.

2. Make sure you have latest drivers/firmware/Bios installed for your entire hardware system. This includes: motherboard & motherboard's components (on-board audio card, network adapter, RAID controllers, etc), optical drives and add-on cards.

3. Latest software is installed, for Operating System as well as for all Applications.

4. All hardware equipment is properly listed and shown as fully operational in **Windows Device Manager** (**Control Panel > System > Hardware : Device Manager**), including Mykerinos cards.

5. **Keys** for all Merging product and options are properly listed with a valid date either in: **All Settings > Keys** (with Pyramix open) or in: **Control Panel > MT Security Settings** (when Pyramix is closed).

6. Support Section of the Forum has been checked here:

    http://forum.merging.com/viewforum.php?f=33

7. Merging's Worldwide network of knowledgeable and trained Sales Partners is a valuable source of information. So please check with a local Merging representative in your country or time zone to find a solution to your support, technical or commercial enquiry.

Should you then still need to contact support, please include the following information in your request:

8. Serial numbers as well as exact Software Versions of Merging products.

9. A detailed description of your hardware system. including PC, Audio card, Tape Machines, Controllers, as well as any outboard equipment that could possibly be associated with the issue.

10. Then several files may also help us better understand you problem, so please send any combination of the following, depending on the nature of the issue:

11. Small files that can be sent by e-mail:

    • Copy of the general Setting ".pms" files (Save in general Settings)

    • In the event a reproducible crash, a copy of the crash log, generated by **DrWatson**, please see below for activation of this.

    • Example of the Pyramix ".pmx" Project where the potential issue has been witnessed.

    • Interchange Project file (AAF, OMF, etc.)

    • Small sample of media (Audio or video files)

12. Large files can be copied to a regular data CD or DVD and sent by post, courier or by ftp:

    • DiskWrite ".pmi" Disk Images

    • Audio files

    • Video Files

    • Complete interchange Projects including media (AAF, OMF, etc.)

DrWatson, Crash Log Activation:

1. Create a new folder named **DrWatson** at the root of C drive

2. Launch DrWatson 32bit exe, found in: **C:\WINDOWS\system32\drwtsn32.exe**

3. Set-it up as shown in **ScreenShot 1** below

4. Activate DrWatson as the default debugger tool, as shown in **ScreenShot 2** below
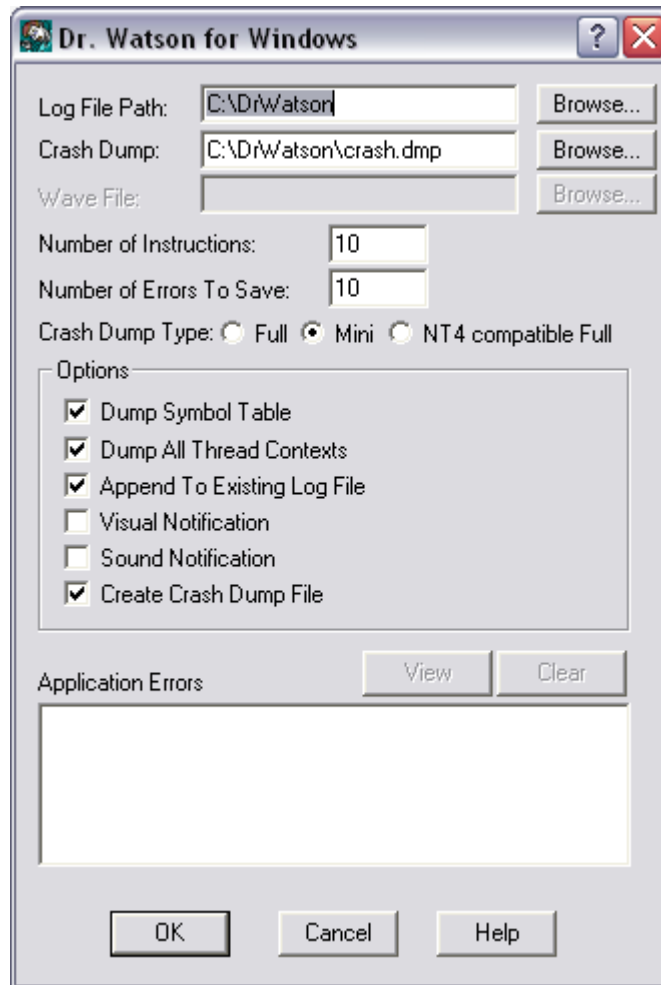
Dr. Watson Screenshot 1
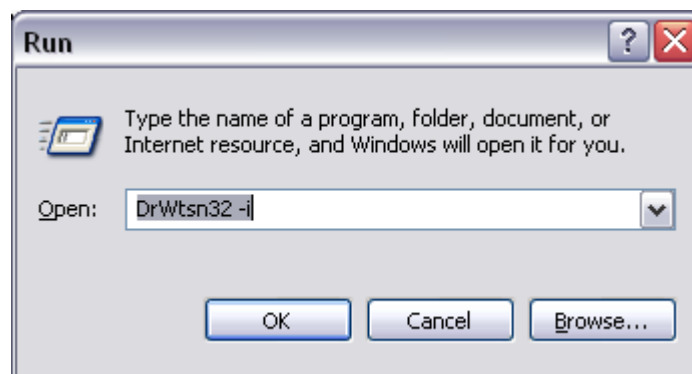
Dr. Watson Screenshot 2

Then, once a crash has happened, send us the log file that you will find in the C:\DrWatson folder. Please, also remember that access to support is free, according to the following conditions:

With a valid ASM (Annual Software Maintenance) or:

Within the first year following the purchase of a new Pyramix Virtual Studio system.

29

Appendices

Pyramix
DIGITAL AUDIO WORKSTATION

Appendix I - Mouse Modifier Keys

This table shows the valid modifier keys which can be used in conjunction with some mouse operations

Main Editor

Left Mouse Button

Click In the TimeCode Scale
Set Cursor to the mouse	None
Set Mark In to the mouse	Shift
Set Mark Out to the mouse	Ctrl
Set New Marker to the mouse	Ctrl + Shift

Click In the Bars & Beats Scale
Set Cursor to the mouse	None
Adjust tempo to the end	Shift
Adjust tempo for the current portion	Ctrl
Adjust tempo for the current Beat	Ctrl + Shift

Click In the Tempo Map
Create a new tempo portion	Ctrl

Click In the Track headers zone
Repeat action for the same button on all tracks	Shift

Click In the Clips zone (anywhere)
Draw a region to zoom in	Alt
Dyna-Zoom	Z
Draw a region to select	None
Draw a region to select clips completely	Shift
Extend/Reduce the current region to this track	E
Invert No Selection mode for Track Groups	Q
Invert Auto Select Tracks	Q

Click In a Clip handle
Move only the clip handle under the mouse (no groups)	Shift
Move only the envelope point under the mouse (no groups)	Shift

Click In a Clip
Add remove clips to the selection	Shift
Drag the selection (to a library)	Shift + Alt
Move selected clips	None
Move selected clips with auto-crossfade	Ctrl
Slide the underlying media of a clip	Ctrl + Shift
Slide a clip over its underlying media	Ctrl + Alt
Move selected clips constrained in time	Ctrl + Shift + Alt
Cutter	C
Duplicate clip	D
Duplicate clip constrained in time	F

While moving

Auto-crossfade while moving clips	Ctrl
Force crossfade while moving clips lower handle	Ctrl
Detach crossfade while moving clips middle handle	Ctrl
Don't merge Envelope points	Ctrl
Constrain Envelope in time	V
Constrain Envelope in value	H
Don't merge Automation points	Ctrl
Constrain Automation in time	V
Constrain Automation in value	H
Select only what is under the mouse (no groups)	Shift
Select all tracks	Ctrl + Shift
Select and limit selection the clips boundaries	Ctrl + Alt
Snap Sync Point	S
Snap Head	H
Snap Tail	T
Audition while moving (Scrubbing)	A

Double-click in a Clip

Selection Properties	
Clip Properties	Ctrl

Double-click in a fade

Edit the fade in the Fade Editor	

Double-click in an envelope point

Reset the envelope point	
Reset only the envelope point under the mouse (no groups)	Shift

Middle Mouse Button

Edit crossfade	Ctrl
Create & Edit crossfade	Ctrl + Shift
Select between edits	None
Enlarge selection between edits	Shift

Click In the TimeCode Scale

Scrub Audio	None

Right Mouse Button

Contextual Menu	None
Clip Gain	Ctrl

On dropping a fade or crossfade from a library

Apply to whole group	Shift

Overview

Left Mouse Button

Draw a region to zoom in	Alt
Drag the current composition (to a library)	Shift + Alt

Notes

Left Mouse Button

Drag the notes (to a library)   Shift + Alt

Media Folder

Left Mouse Button

Replace media for target clip(s)   Ctrl

Appendix II I/O Daughter-card Options

ADAT Optical I/O

The ADAT Optical daughter card offers 16 channels of audio input and 16 channels of audio output, 8 channels per optical connection. From top to bottom of the card, it has two digital optical input connectors (Inputs A and B) and two digital optical output connectors (Outputs A and B).

The signal format of optical connectors Input A and Output A can be set inside the Pyramix software to operate in either ADAT or S/PDIF mode. When in ADAT mode, there are 8 discrete audio channels carried per each optical connector. S/PDIF mode has 2 channels per optical connector.

> **Note:** in SPDIF mode the maximum sampling rate is limited to 48 kHz

Note that whilst the ADAT daughterboard continues to function normally in HDTDM (64 bus) mode it cannot be used for input when in XDTDM (128 bus) mode and is only capable of 8 outputs via Optical Output A with the same 8 duplicated on Optical Output B.

WARNING! The **ADAT** Daughterboard requires modification before attempting to use it with XDTDM mode. Failure to do this may result in data loss. Please contact your Merging Technologies Sales Partner to arrange a mod.

AES/EBU I/O

The AES/EBU daughter card offers 24 channels of I/O over 12 AES/EBU input and output pairs. Connection is via three DB-25 connectors, One on the main card attached to the **Mykerinos** and two more on a separate bracket connected via internal ribbon cable to the main card. An optional break-out cable can be ordered separately which connects to the DB-25 connector and terminates in 8 XLR connectors which may be used to connect to standard AES/EBU stereo inputs and outputs. AES daughter cards are available with or without 8 channels of SRC (sample rate conversion)

AES II with SRC

The AES II daughter card is equipped with 4 unidirectional SRC chips. Each one can be configured as bypass, input or output. On a specific in/out channel pair a sampling rate conversion can be applied only in one direction, either input or output. The "Speed on physical wire" setting should be set to the project's sampling rate (aka "single-wire mode") whenever the SRCs are used, since channel pairs that are spread over several wires will not be sample rate converted properly. In **Settings > All Settings > Hardware > I/O Interfaces**, the I/O interface page corresponding to each AES II daughter card in the system shows an array like this:
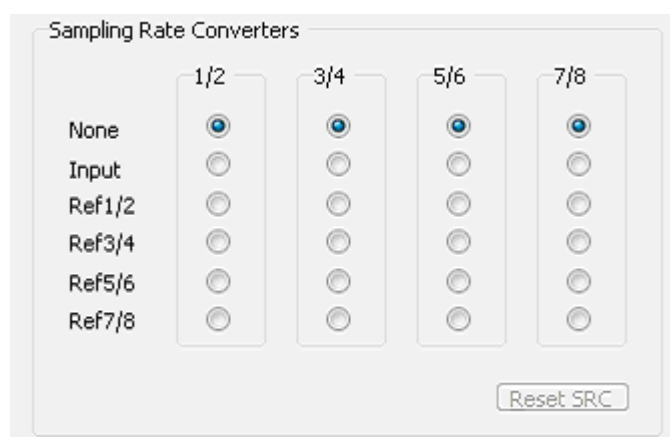
AES II Settings

Up to 192 kHz, each column represents one XLR connector (one pair of channels) with its associated SRC chip.

The following configurations can be selected:

•   **None**: or bypass, the SRC is transparent

•   **Input**: The SRC works on the input path and converts the incoming signal to the project's sampling rate

•   **Ref1/2** through **Ref 7/8**: The SRC is inserted in the output path and converts the output signal to the sampling rate of the signal present at the input chosen as reference.

At 8FS (DXD/DSD), the AES II daughter card has a special mode that is enabled by selecting **8FS to nFS** in the **Speed on physical wire** field of the I/O interface page. This mode provides a fixed set of 2 input and 2 output paths and enables a real-time conversion from 384kHz/352.8kHz down to 192kHz/44.1kHz and vice-versa. Only XLRs 1/2 and 3/4 are used in this mode. For the outputs, the reference input for the sampling frequency is selectable in the "Sampling Rate Converters" array.
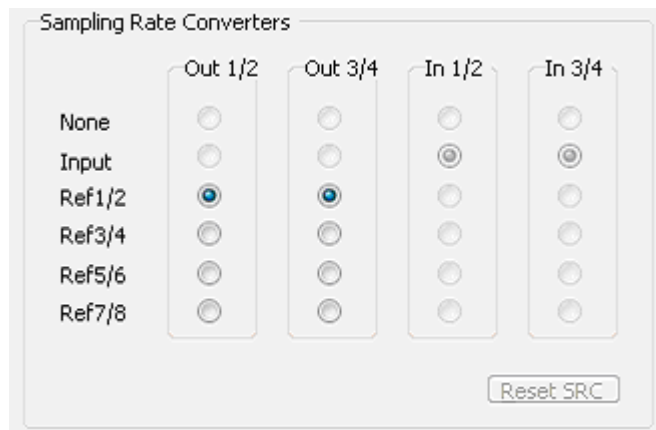
AES II Settings

Examples
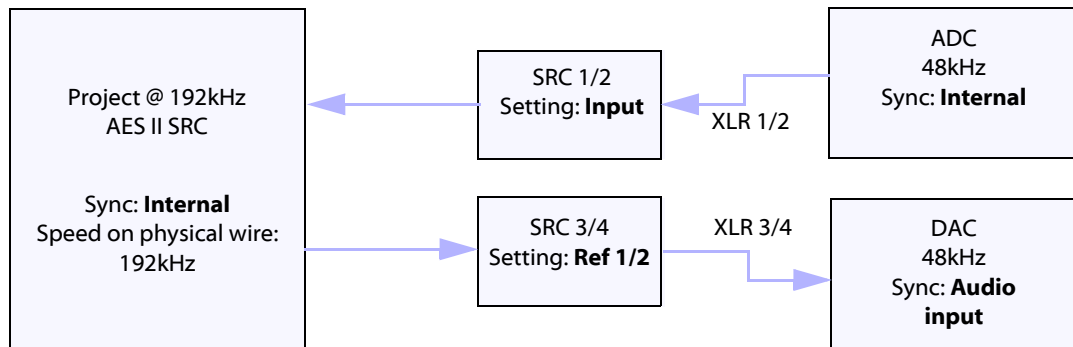
Example 1: 2 channels up sampling from 48 kHz to 192 kHz and down sampling from 192 kHz to 48 kHz.
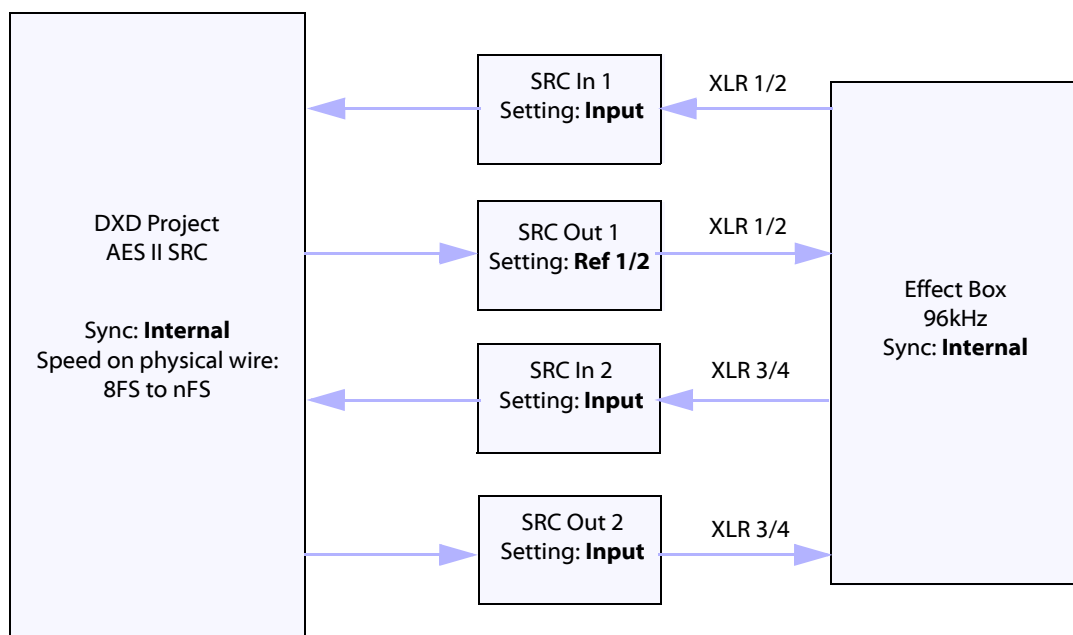
Example 2: 4 channels 96 kHz effect insert in a DXD project.
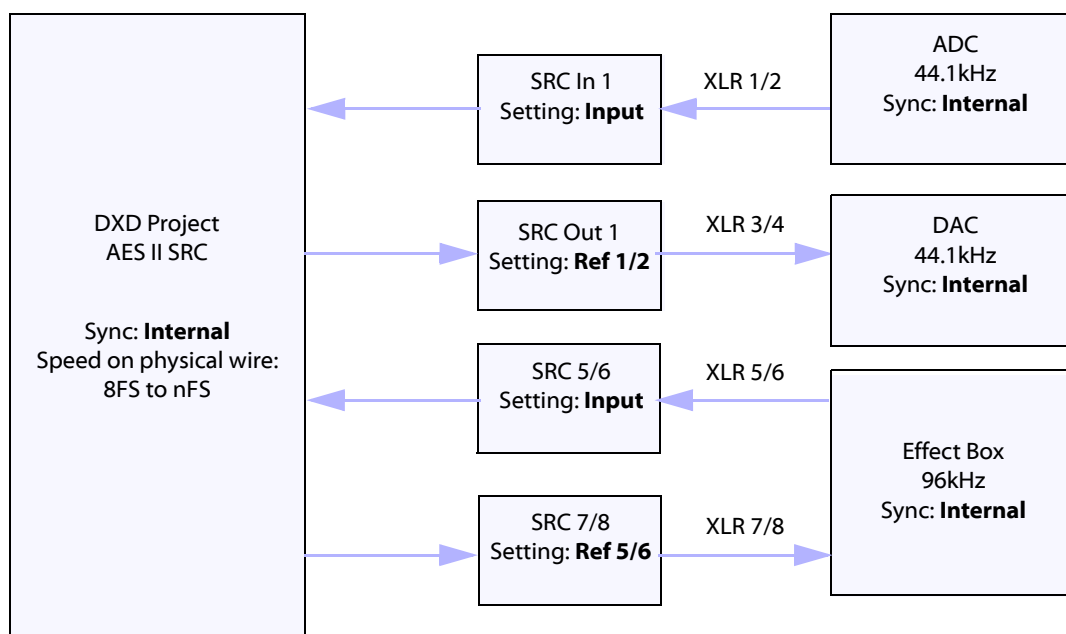
Example 3: 2 channels 44.1 kHz AD/DA and 96 kHz effect box insert in a 192 kHz project

Dual DC I/O

The Dual DC offers up to 12 inputs and outputs at 32kHz, 44.1kHz or 48kHz sampling rates on a single board. All converters are 24 bit. Connection is via 2 DB-25 connectors. One, on the main card attached to the **Mykerinos**, carries the analog I/O and the second, on a separate bracket, carries four AES/EBU Input and Output stereo pairs. There are four analogue Line outputs and four analogue Line Inputs, two of which may be switched to accept Mic or Line level inputs. These have Mic pre-amps and 48V phantom powering. The analogue Line level I/O is adjustable over a 24dB range to accommodate all standard studio levels. Optional break-out cables can be ordered separately which connect to the DB-25 connectors and terminate in 8 XLR connectors.

The Dual DC is the most cost-effective I/O daughter card for Pyramix users. It is an ideal I/O solution for mixed analog/digital requirements, as encountered in Broadcast production, and Video post-production environments. It allows direct connection of up to two dynamic or condenser microphones, typically for quick and easy voice-over recording.

> **Note:** the Dual DC I/O daughtercard is not HDTDM bus compatible and can not be used in a multiboard setup.

MADI I/O

The MADI daughter card offers 56 channels of 24 bit bi-directional I/O, and up to 64 channels in MADI-X (MADI Extended) format. It can be ordered either in a BNC coaxial version or an optical duplex SC version. Both versions are fitted with a standard Wordclock BNC I/O connector, which can be programmed in the Pyramix software as a Wordclock In or Out signal.

SDIF I/O

The Mykerinos SDIF daughter board is specially designed for multi-track DSD recording. It offers 8 channels of DSD digital input over 8 unbalanced, 75 Ohm terminated BNC connectors and 8 channels of DSD digital output over 8 unbalanced, 75 Ohm BNC connectors.One channel of DSD signal is transported at the bit-rate of 2.82 MHz through each BNC connector. SDIF-2 and SDIF-3 format are fully supported for DSD transport (selected under software control)

> **Note:** With one Mykerinos board, it is only possible to use one DSD Input and Output channel. To have the full range of 8 I/O channels, either MassCore or a second Mykerinos board is required to provide sufficient DSP power.

TASCAM TDIF

The TASCAM TDIF daughter card offers 24 channels of I/O over 3 Tascam TDIF connections. Connection is via three DB-25 connectors, One on the main card attached to the Mykerinos and two more on a separate bracket connected via internal ribbon cable to the main card.

TASCAM TDIF I/O Option

A TASCAM TDIF format option bracket may be added to the ADAT I/O daughtercard and provides is available for 8 channels of TDIF I/O. The TDIF bracket connects to a socket on the ADAT card only. This daughter card cannot be used in multi-board systems (since it utilizes the HTDM connector).

Daughter Card Support in Pyramix 6.x

Daughter Cards support in Pyramix 6.x				
	Standalone-Mono-board		Multi-board	
Daughter Cards	**MassCore & Pmx 6.x**	**Non-Masscore & Pmx 6.x**	**MassCore & Pmx 6.x**	**Non-MassCore & Pmx 6.x**
MADI-I	v	v	Not Supported	Not Supported
MADI-II	v	v	v	v
ADAT (Serials 20000 to 20299)	v	v	Not Supported	Not Supported
ADAT (Serials 20300 and +)	v (Note4)	v (Note4)	v (Note3)	v (Note1)
AES-I	v	v	v	v
AES-II	v	v	v	v (Note2)
SDIF	v	v	v	v
TDIF	v	v	v	v
DUAL	v	v	v	Not Supported
Note 1: HDTDM = 16 ins and 16 outs supported. XDTDM = 0 in and 8 Outs				
Note 2: Supported in XDTDM mode only				
Note 3: 16 ADAT i/o supported. No SPDIF i/o.				
Note 4: Full i/o of ADAT and SPDIF supported				

Appendix III VS3 Control Panel

The VS3 Control Panel is a separate application that should only be launched when Pyramix is not running. Here, you can set various parameters relating to Merging Technologies hardware and software. For example, in a multi-board system, this is where you determine which boards will be used, the **Buses Mode** and which board will handle Video reference and TimeCode. If you are running both VCube and Pyramix on one system you can assign boards to each application. In the case of a system running MassCore this is also where you can set global latency. **Please see: Appendix IV - HDTDM v XDTDM v MassCore on page 568** for detailed information about busing and I/O capabilities.

Application

The drop-down list enables you to choose which Merging Technologies application the settings apply to. E.g. Pyramix Virtual Studio, VCube, ASIO Mykerinos Driver etc.

The rest of the settings in the VS3 Control Panel Window update to reflect the current settings for the selected application.
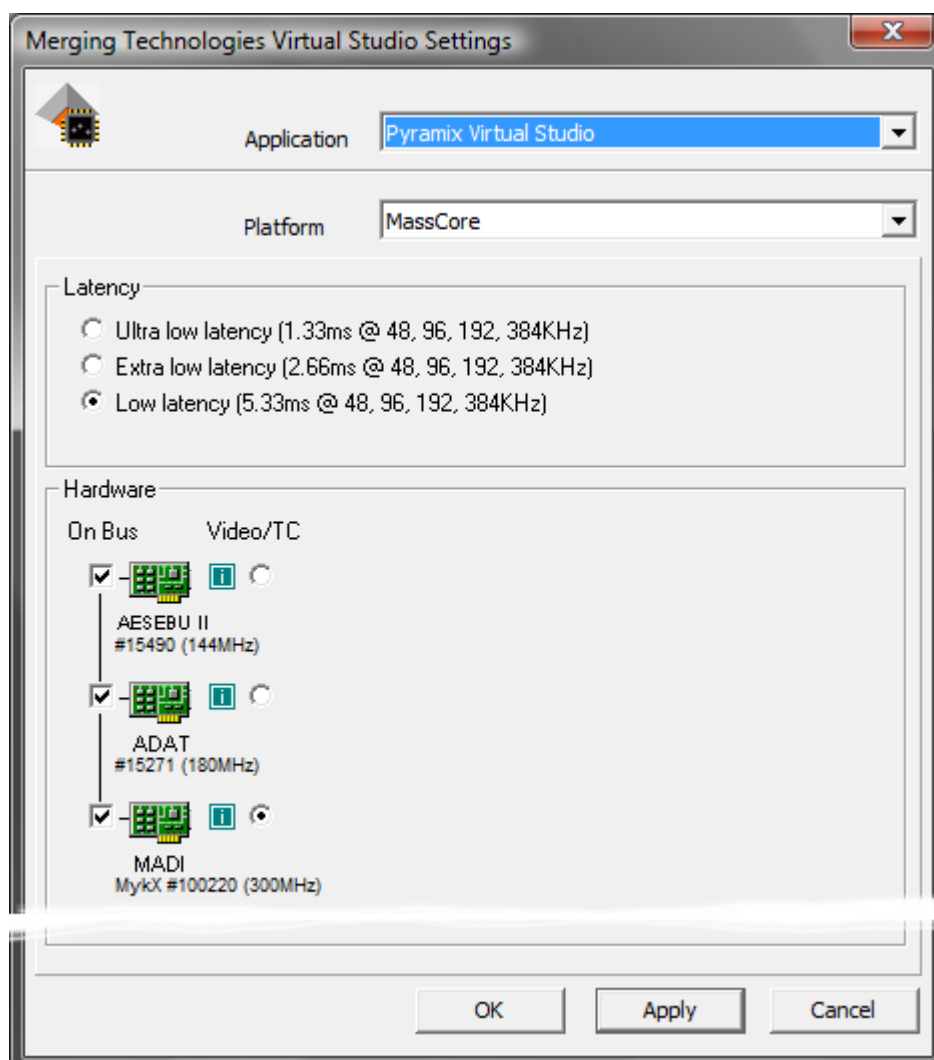
VS3 Control Panel Window MassCore Platform

Platform
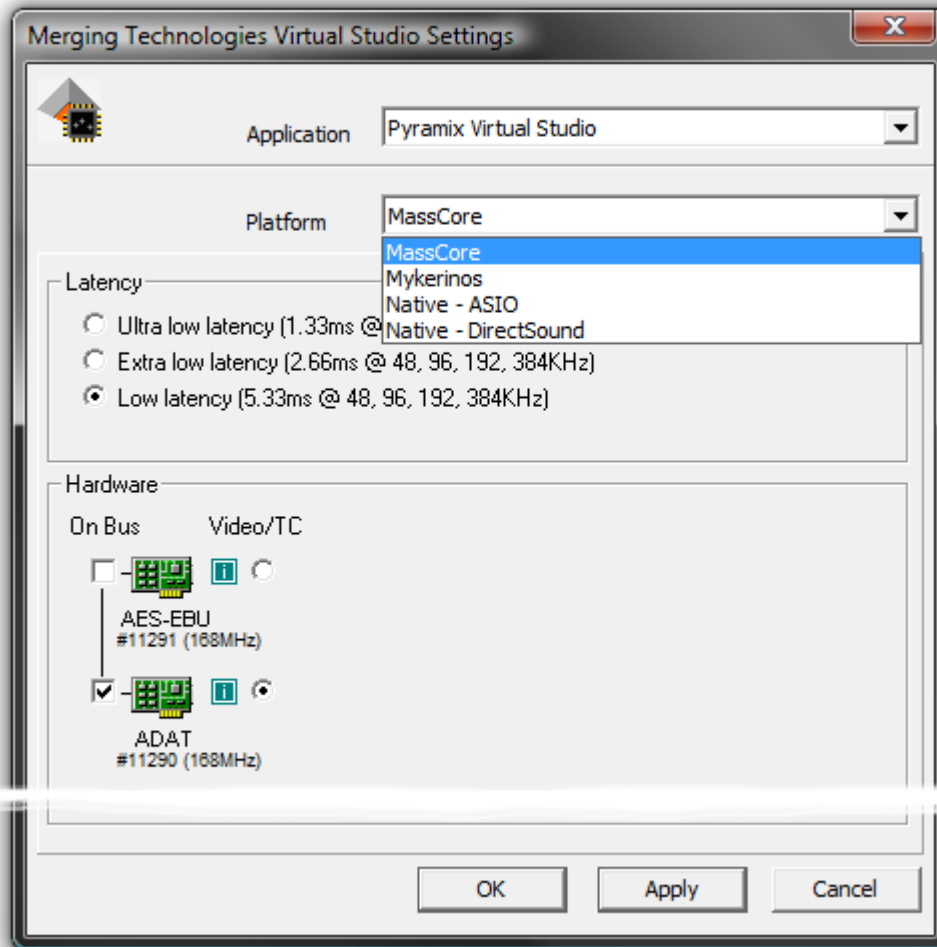
This drop-down list determines which processing platform mode will be used. Dependant on the options installed these may include MassCore, Mykerinos, Native - ASIO and Native - DirectSound. If you choose **Mykerinos** the **Buses Mode** drop-down appears. **Please see: Buses Mode and DSP Allocation on page 566**

Latency

These options are only available when **MassCore** is installed and chosen as the **Platform** and then only with certain Mykerinos cards. **Please see: Pyramix V6 Latency Modes for MassCore on page 34**

Hardware

All installed Mykerinos cards are shown here with checkboxes which determine if they are **On Bus** (I.e. will be used), for the selected application and which On-Bus board will be used for **Video/TC**. In a multi-board system with boards having different capabilities this will normally be the most powerful board available.

Clicking on the small [i] icon next to the image of each board opens the **Board Info** pop-up for the board:
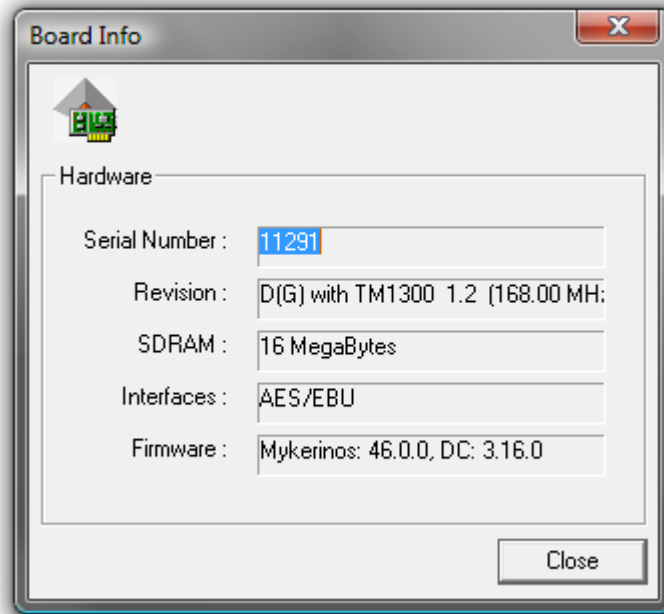
Board Info pop-up

Here you will find the **Serial Number:**, the **Revision:** detailing the processor type, **SDRAM:** showing how much RAM is installed, **Interfaces:** describing the Daughterboard installed and **Firmware:** listing the current firmware version.

Buses Mode and DSP Allocation

When **Platform** is set to **Mykerinos**, **Buses Mode** and **DSP Allocation** options will be available in a multi board system when more than one board is set **On Bus**:
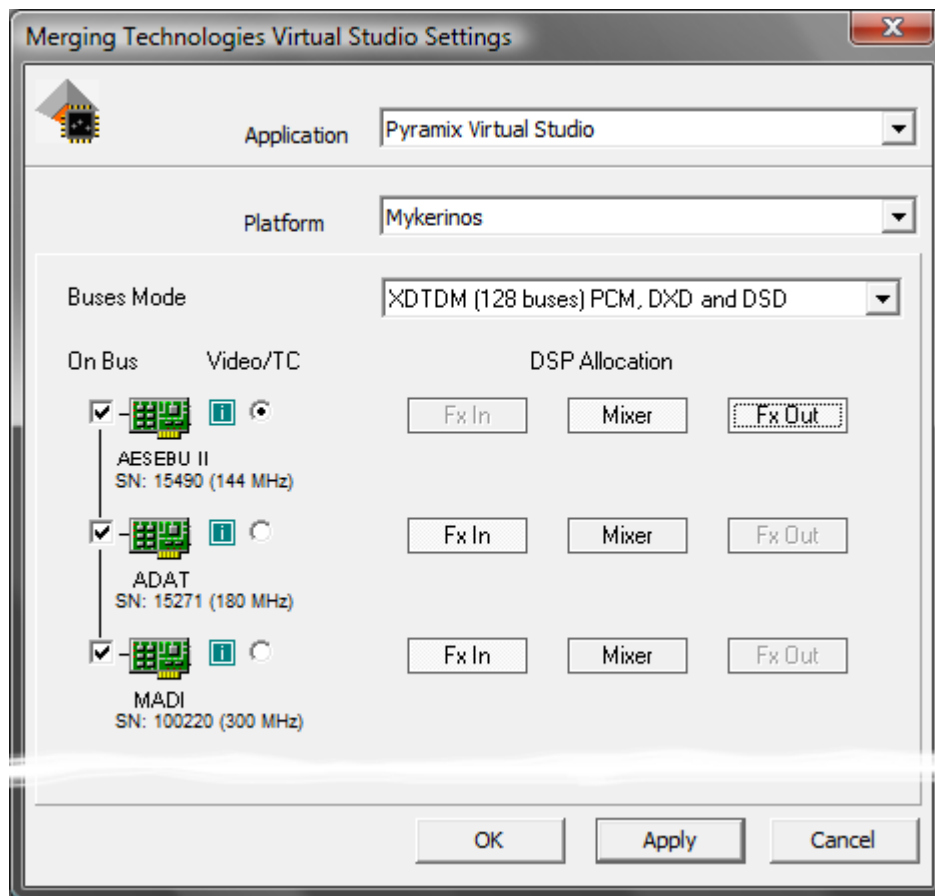
VS3 Control Panel Window Mykerinos Platform

Buses Mode

The drop-down offers the choice between **XTDM (128 buses) PCM, DXD and DSD** mode and **HDTDM (64 buses) PCM only** mode.

DSP Allocation

The buttons offer a degree of user control over DSP allocation. To help make sensible choices this is what the DSP processing blocks do:

Fx Out

- All output buses

- All VS3 plug-ins inserted on output buses,

- All active Output connections.

> **Note:** All Fx Out calculations are inherently summing tasks so they need to be processed in the same card - so only one card can be used for this.

Mixer

All internal calculations that are carried out in the background, allowing **IN**s to be forwarded to **OUT** buses. It can be seen as an internal matrix.

In the Pyramix user interface, this is only reflected by the numbers of Ins routed to OUTs, no plug-ins, input strips or output buses are calculated here.

Mixer can be calculated in a single DSP or can share DSP with **Fx In** or with **Fx Out**.

Fx In

• All input strips

• All VS3 plug-ins inserted on Input strips

• All active Input connections

Fx-INs can be spread across multiple DSP cards (since no summing is required at this stage).

Please see: Allocating DSP on page 435 for some tips on appropriate DSP allocation

Saving Settings

If you change any settings for a given application then clicking on **Apply** opens the **Save Configuration dialog** :
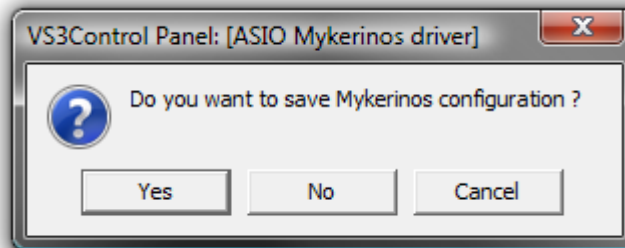
Click on **Yes** to save

Routing

Since V5 the routing functionality has been removed from the VS3 Control panel and is now more conveniently accessed via **Settings > All Settings > Hardware > Routing** in the main Pyramix application.

Appendix IV - HDTDM v XDTDM v MassCore

Internal Bussing & I/O Capabilities

HDTDM mode offers a maximum of **64 buses**

XDTDM mode offers a maximum of **128 buses**

MassCore mode offers a maximum of **384 buses**

In the upgrade from Pyramix V4 to V5, the number of channels was doubled. The inter-board bus was enhanced in terms of bandwidth and renamed the **XDTDM bus**, for e**X**treme **D**efinition **T**ime **D**omain **M**ultiplex. Some exceptions exist and these are discussed below.

> **Note:** The **HDTDM**, **XDTDM** and **MassCore** bussing modes are selected in the **VS3 Control Panel** Please see: **Appendix III VS3 Control Panel on page 563**

In the upgrade from Pyramix V5 to V6 **MassCore** was introduced. This multiplies all mix engine processing and allows for higher bussing capabilities.

Bussing Capabilities

Note 1				
		Bussing capabilities		
Sample Rate Format		HDTDM	XDTDM	MassCore
44.1/48 kHz	1FS	64	128	384
88.2/96 kHz	2FS	32	64	192
176.4/192 kHz	4FS	16	32	96
352.8/384 kHz	8FS	8	16	48
DXD	8FS		16	48
DSD	64FS		16	48

I/O Capabilities
AES and AES2 Daughterboards

	AES and AES2									
	AES/AES 2 Speed on Physical Wire @ 44.1/48kHz			AES/AES 2 Speed on Physical Wire @ 88.2/96kHz			AES 2 Speed on Physical Wire @ 176.4/192kHz			Notes
Sample Rate Format	HDTDM	XDTDM	MassCore	HDTDM	XDTDM	MassCore	HDTDM	XDTDM	MassCore	
44.1/48 kHz 1FS	24	24	24							
88.2/96 kHz 2FS	12	12	12	12	24	24				See Note 2
176.4/192 kHz 4FS	6	6	6	6	12	12		24	24	
352.8/384 kHz 8FS	3	3	3	3	6	6		12	12	
DXD 8FS		3	3	Note 4	6	6		12	12	See Note 3
DSD (Note 8) 64FS		8 or 6	8 or 6	Note 5	8 or 6	8 or 6		8 or 6	8 or 6	

Dual and MADI 2 Daughterboards

	DUAL		MADI 2						Notes
			MADI2 Standard Mode			MADI2 Extended Mode			
Sample Rate Format	Stand Alone	MassCore	HDTDM	XDTDM	MassCore	HDTDM	XDTDM	MassCore	
44.1/48 kHz 1FS	8+4	8+4	56	56	56	64	64	64	See Note 2
88.2/96 kHz 2FS			28	28	28	32	32	32	
176.4/192 kHz 4FS			14	14	14	16	16	16	
352.8/384 kHz 8FS			7	7	7	8	8	8	
DXD 8FS	Note 9			7	7		8	8	See Note 3
DSD (Note 8) 64FS			Note 6,10	16	16		16	16	

ADAT, TDIF and SDIF Daughterboards

	ADAT			TDIF			SDIF			Notes
Sample Rate Format	HDTDM	XDTDM	MassCore	HDTDM	XDTDM	MassCore	HDTDM	XDTDM	MassCore	
44.1/48 kHz 1FS	16	8	16	16	16	16		8	8	See Note 2
88.2/96 kHz 2FS	8	4	8	8	8	8				
176.4/192 kHz 4FS	4	2	4	4	4	4				
352.8/384 kHz 8FS	2	1	2	2	2	2				
DXD 8FS		No Note								See Note 3
DSD (Note 8) 64FS								8	8	

Detailed notes and information :

1. The table **Bussing capabilities** indicates the maximum channel count available in a Pyramix system in V4.x through V6.x modes:

   - **HDTDM** mode is the V4.x compatibility mode and offers the same PCM channels count as previously, except that DSD/DXD modes are no longer supported in this mode since V5.x.

   - **XDTDM** mode - V5.x and V6.x only - offers twice as many PCM and DSD/DXD channels compared with Pyramix V4.x.

2. The greyed-out cells indicate that the corresponding mode does not exist for the corresponding daughter cards.

3. **DXD** / **DSD** are only available in **XDTDM** and **MassCore** modes.

4. In **DXD** mode, the I/O count depends on the I/O format speed.

5. In **DSD** mode, I/O count depends on the AES I/O format (Sony or P3D respectively).

6. Although the theoretical maximum DSD channel count with a MADI daughter card is 24, the bus capability has a maximum of 16 DSD channels.

7. The ADAT daughter card supports the XDTDM and MassCore modes **ONLY** with a hardware rework (shield). In XDTDM mode, the ADAT daughter card offers 8 output channels through optical output A) replicated on optical output B) but No Inputs.
   The hardware rework consists of adding a shield to the ADAT similar to the one used for the DUAL daughter card. If you have not already done so, please contact your Merging Sales Partner to order this retrofit kit.

8. In a mono-board SDIF system, only 2 DSD channels are available.

9. Dual offers 8 AES and 4 Analog channels of I/O per board.

10. In standalone, non-Masscore mode only 8 channels DSD are available.

Non-MassCore (Mykerinos mode) Multi-board hardware restrictions:

The MADI 1 daughter card does not work in Multi-board mode (This includes all MADI daughter cards with serial numbers lower than 30051).

ADAT daughter cards with serial numbers lower than 20299 do not function in multi-board mode.

The DUAL daughter cards do not function in multi-board mode.

Appendix V Optional Features

Pyramix DSD / SACD

Hardware and Settings
Interfacing

DSD transmission works well with either AES-EBU or SDIF interfaces. Most converter manufacturers use SDIF. Only dCS does SDIF and AES-EBU.

A further issue is the existence of two different AES-EBU supported DSD formats. The so called "Sony" and one named "P3D." Merging Technologies support both of these. If you need to interface to both AES/EBU and SDIF two cards will be required.

Wordclock settings.

In DSD mode it is imperative Pyramix wordclock settings correspond with the requirements of the converters employed. To date all the DSD compatible converters we have tested generate and expect wordclock at the standard nominal rate. I.e. 44.1kHz.

Failure to set Pyramix to expect only 44.1kHz in DSD operation will prevent proper locking to the external source and therefore prevent correct decoding of the DSD bitstreams, resulting in very loud noise on its outputs. Check the setting via:

Settings > All Settings > Formats & Sync

make sure that the "Wordclock is Input at 44.1k x 2" checkbox is **NOT** checked when operating in DSD mode.

To verify Pyramix is correctly locked to incoming Word clock:

Left-click on the red 'LED' in the **Sync: WordClock** box (bottom right of Pyramix screen in the status bar). This will open the **I/O status** window The green LEDs indicate active inputs and there will be a red LED in front of the chosen sync source if this is locked.

Right-click on the same (**Sync: WordClock**) red 'LED'. Select, **Debug > Input Check**. This window will enable you to check that Pyramix is effectively locked at the correct frequency.

Project Types
DXD Mixing Project

The DXD Mixing Project can be used use for recording, editing, mixing, processing and mastering DSD/SACD in DXD format (352.8 kHz - 32 bits)

Opening a DXD Mixing Project

When an existing DXD Mixing Project is opened this dialog appears:
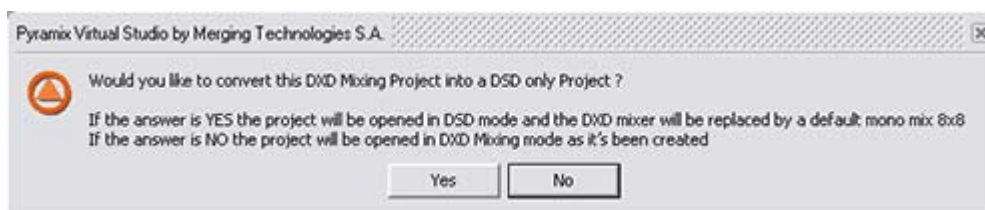
Convert DXD Project to DSD Project mode? dialog

Would you like to convert this DXD Mixing Project into a DSD only Project?

If the answer is **YES** the project will be opened in **DSD mode** and the **DXD** mixer will be replaced by a default mono mix 8x8.

If the answer is **NO** the project will be opened in **DXD Mixing mode** with the **DXD** Mixer in the same configuration as it was when the Project was Saved.

DSD Project

The DSD Project - can be used recording, editing and mastering DSD/SACD in DSD format (2.8 MHz - 1 bit) Project for recording, editing and mastering DSD/SACD in DSD format (2.8 MHz - 1 bit

Opening a DSD Project

When an existing DSD Project is opened this dialog appears:)

<div align="right">Convert DSD Project to DXD Mixing Project mode? dialog</div>

Would you like to convert this DSD Project into a DXD Mixing Project ?

If the answer is **YES** the project will be opened in **DXD Mixing mode**. (Though all your media files will remain in **DSD IFF** format)

If the answer is **NO** the project will be opened in **DSD mode** as it was when created.

Peak Values in DSD and DSDIFF Media Files
Peak Computations

For DXD audio media, the peak displayed in the media **Properties** page is computed from the audio without a [20..20kHz] filter.

For DSD audio media (DSDIFF), the peak displayed in the media **Properties** page is computed from the audio after a [20..20kHz] filter.

This could change the behavior of **Auto-scale Waveform** and **Normalize**.

For example:

A DXD file generated from a 1kHz sine @-10dB -> peak = -10dB

A DSDIFF file generated from a 1kHz sine @-10dB -> peak = -9.9dB

Time-code Sync

Required if you intend to use LTC (Linear TimeCode) or VITC (Vertical Interval TimeCode) to synchronize Pyramix to external equipment.

Cue Sequencer

The **Cue Sequencer** is a live playout system

A **Cue** is defined as a **Track Group** and all the **Tracks** and **clips** it contains. All Track Groups in the composition appear in the Cue Sequencer list and are called a Cue.

Cues can be re-ordered in the Cue Sequencer list view by drag and dropping lines or groups of lines.

Double-clicking on a Cue selects its first track in the Editor.

Cue Parameters
Cues have the following parameters:

Name:	Same as the Track Group name
Notes:	free notes typed by the user
Event:	An event number (from 1 to 96) can be associated to any cue. This event number can be mapped to a keyboard shortcut with the Keyboard Shortcut Editor or mapped to a MIDI message with any Remote Controller. When triggered this event Starts the Cue.

Automation: A Cue can use automation on the mixer channels connected to its tracks. A mixer channel can be controlled by only one Cue.

Start: To Play a Cue.

Pause: To pause the playback of a Cue.

Stop: To Stop the playback of a Cue.

Start Offset: An offset can be applied to a Cue so the starting point is not the beginning of the first clip of the Cue but a point before (negative Start Offset value) or after (positive Start Offset value).

Current Time: Elapsed time since the Cue as been started

Remaining Time: Remaining playback time of a Cue.

Cue Status

Cues have the following Status:

Disabled (White): The sequence has to be reset to enable all Cues.

Ready (Pink): The Cue is enabled and ready to play.

Playing (Green): The Cue is playing, it can be paused or stopped.

Paused (Yellow): The Cue is paused, it can be un-paused (return to playing from current position) or stopped.

Done (Grey): The Cue finished playing. It can be played again without having to be reset.

Cue Sequencer Control

The Cue Sequencer is controlled the following way:

Safe Mode: When in safe mode, the Cue Sequencer window is maximized and all Keyboard shortcuts except those related to the Cue Sequencer are disabled. The Cue Sequencer TimeCode counter is colored in red when not in Safe Mode.

Reset Show: All Cues have to be reset before starting to play the sequence. When pressing this button all Cues are reset to the Ready State (Pink Color) and the time is reset to 00:00:00:000.

Stop Show: To Stop the sequence playout

Start Show: To Start the sequence playout.

Previous: To set the focus to the previous Cue.

Next: To set the focus to the Next Cue.

GO !: To Start the currently selected Cue and select the next one**.**

Appendix VI 9 - Pin connection

PC RS-232 Serial Port to External Sony P2 RS-422 Controller

The RS-232 ports of a standard PC are slightly different from the RS-422 format used for the Sony P2 protocol. We recommend the use of an external RS-232/RS-422 adapter. One example is the **Antona ANC 6090** which can be ordered from your Merging sales representative under the item number **MRS422**. This adapter is intended to be connected directly to the serial port of your PC (either COM1 or COM2) with the other end used to connect a standard Sony P2 RS-422 cable. As both connectors on the adapter are Female DB9, beware of the orientation and please check that the printed indication "RS-232" is connected to the PC COM port.

Connecting an RS422 device using a direct cable

(without RS-232 / RS-422 adapter)

For emergency use and for short distances, a direct cable may be used. However, Merging Technologies does not guarantee the correct function of an external controller if this cable is used. Different cables are required depending on whether Pyramix is controlled by a master device or is controlling a slave device.

Direct Cable for a Master Device

This pinout should work in most of the cases where Pyramix is controlled by a Master device (check on your controller if the RS422 connector has to be male or female). It has been tested with various mixers such as Sony DMX-R100, Soundcraft Spirit, Soundtracs DPC II and DS3, and various other Sony P2 protocol capable controllers:

RS422 Male (or Female) DB9   **RS232 Female DB9**

Function	Pin #		Pin #	Function
GND	1		1	DCD/RLSD
Rcv -	2		2	Rx
Xmit +	3		3	Tx
GND	4		4	DTR
N.C.	5		5	GND
GND	6		6	DSR
Rcv +	7		7	RTS
Xmit -	8		8	CTS
GND	9		9	RI
Shield				Shield
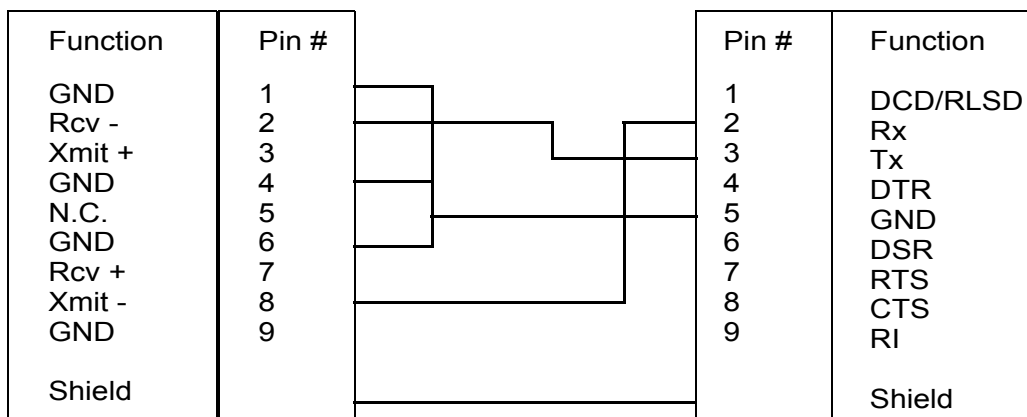
RS422 DIrect Cable for Master Device pinouts

The RS422 standard is not implemented consistently on all devices, so the cable pinouts may differ. Please consult your controller's user guide for appropriate connector cabling.
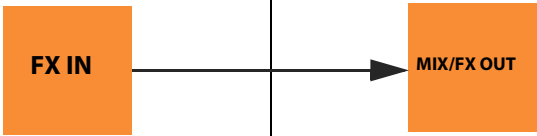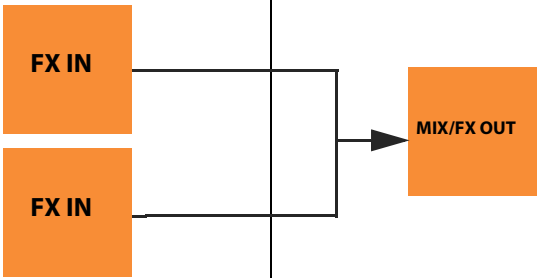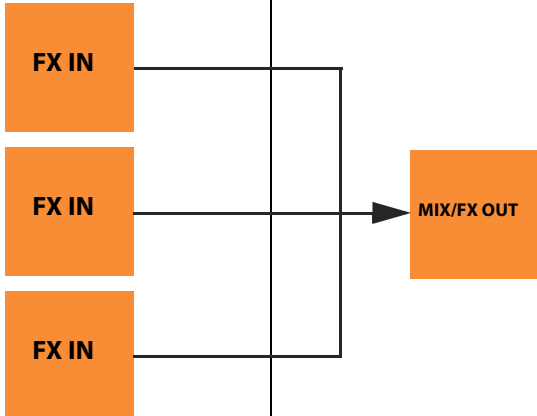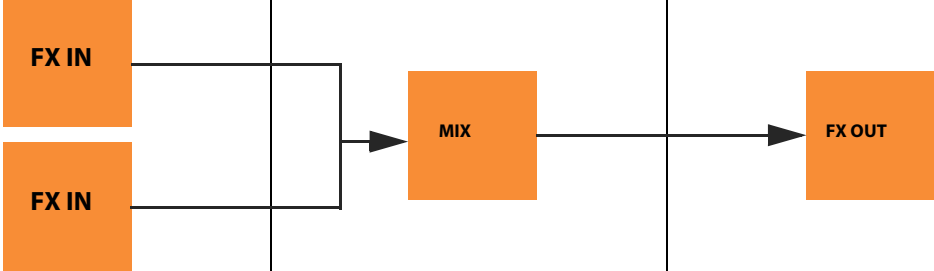
Direct Cable for a Slave Device

This pinout should work in most of the cases where Pyramix is controlling a Slave device.
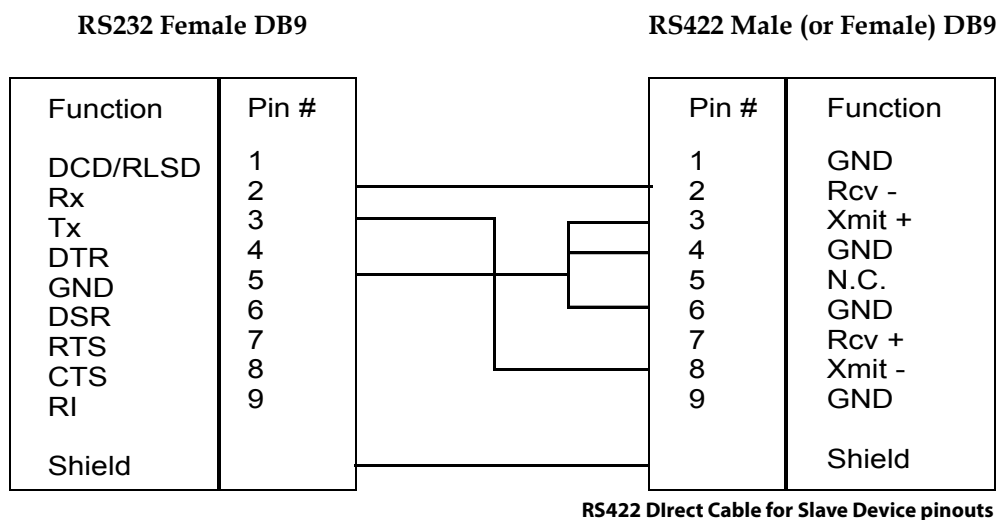
RS232 Female DB9   **RS422 Male (or Female) DB9**

Function	Pin #		Pin #	Function
DCD/RLSD	1		1	GND
Rx	2		2	Rcv -
Tx	3		3	Xmit +
DTR	4		4	GND
GND	5		5	N.C.
DSR	6		6	GND
RTS	7		7	Rcv +
CTS	8		8	Xmit -
RI	9		9	GND
Shield				Shield

RS422 DIrect Cable for Slave Device pinouts

The RS422 standard is not implemented consistently on all devices, so the cable pinouts may differ. Please consult your controller's user guide for appropriate connector cabling.

Appendix VII - Mykerinos Latencies

128 samples = 128/(sampling rate)	128 samples = 128/(sampling rate)	128 samples = 128/(sampling rate)	Latency at 48kHz
FX IN			2.7 ms
FX IN → MIX/FX OUT			5.3 ms
FX IN / FX IN → MIX/FX OUT			5.3 ms
FX IN → MIX	→ FX OUT		8 ms
FX IN / FX IN / FX IN → MIX/FX OUT			5.3 ms
FX IN / FX IN → MIX	→ FX OUT		8 ms

Appendix IIX - Network Connections

Note: Direct Ethernet connection of Workstations (i.e.: 1x VCube and 1x Pyramix) with standard factory default DHCP settings and without a proper DHCP server available in the network may lead to unexpected behaviour, E.g. software or system freezes. (ISIS controller will default to a fixed IP address, if no DHCP server is available).
At all times proper, individual, TCP-IP addresses for each machine, assigned either automatically (DHCP, if available) or manually (Fixed IP) are required, as described below.

This caution is not relevant for machines operating without network connection.

Ethernet Connection & Settings

1. Create an Ethernet connection between the machines, via an Ethernet switch or using a direct, cross-wired, Ethernet cable. (100Mbit for Sync/Control, 1000Mbit for file sharing recommended)

2. If, on your existing network, an Admin DHCP server is giving TCP/IP addresses to all connected clients, leave all Pyramix, Isis and VCube machines with the default "DHCP" settings ("Obtain IP address automatically" in the Local Area Connection Properties / Internet Protocol (TCP/IP) properties. (If you are connected to an existing network with no active DHCP server, please contact the (human) server administrator to obtain a range of available IP address from him, and enter these as shown below).

3. If no admin DHCP server is available, manually give each of your machines a unique TCP/IP number, in the Local Area Connection Properties / Internet Protocol (TCP/IP) properties. Typically, IP addresses can be, respectively: 192.168.0.3 (PMX) 192.168.0.4 (VCube) and 192.168.0.5 (Isis), with a common Subnet mask being 255.255.255.0. No default gateway is necessary.

Set-up for Pyramix & VCube in: **Control Panel > Network Connections > Local Area Connection > Properties / Internet Protocol TCP/IP / Properties**.

Set-up for Isis: Press **STOP** key for 5 seconds during power up. Set-up address with left/right cursor and Track keys 1 to 10, then **Set** key. See also **ISIS User Manual page 14**.

Fixed IP address range, examples:

Choice A*	Choice B*	Typical use
192.168.0.1	10.0.0.1	Usually reserved (for Gateway or Server)
192.168.0.2	10.0.0.2	Usually reserved
192.168.0.3	10.0.0.3	Pyramix A
192.168.0.4	10.0.0.4	VCube A
192.168.0.5	10.0.0.5	ISIS A
192.168.0.6	10.0.0.6	Pyramix B
192.168.0.7	10.0.0.7	VCube B
192.168.0.8	10.0.0.8	ISIS B
192.168.0.9	10.0.0.9	Pyramix C
etc.	etc.	Increase only rightmost number (up to 254)

*Use an address from column A or B, then stick to the selected range for all machines connected on a single network.
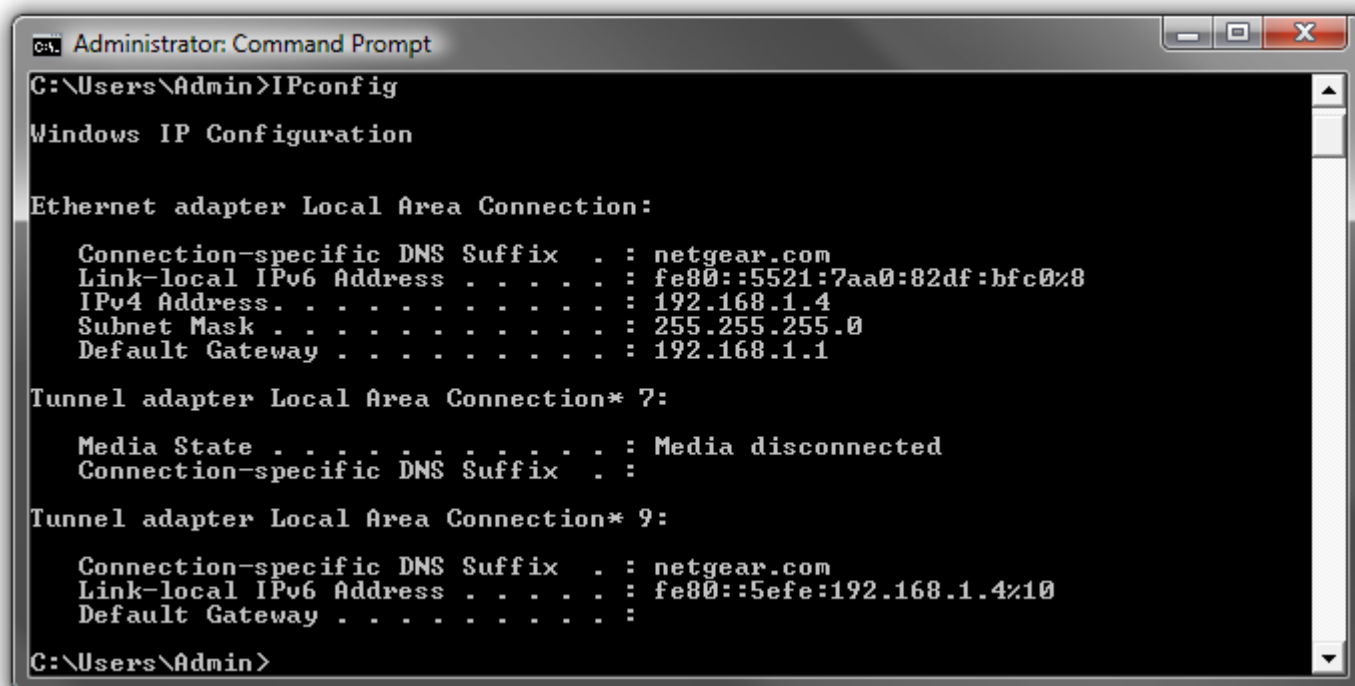
Set subnet mask to **255.255.255.0**

Checking IP Configuration
To check the **IP Configuration** of the machine you are working on do the following:

Open a Command Prompt window. (**Start > All programs > Accessories > Command Prompt**) then type in the following command:

IPCONFIG followed by **Enter**. The IP configuration for the machine will be shown like this:

Command Prompt Window with IPCONFIG

Checking Network Connections
Using "Ping"

To check that the connections you have set up are operational do the following:

Open a Command Prompt window. (**Start > All programs > Accessories > Command Prompt**) then type in the following command:

PING 192.168.0.3 (or whatever TCP/IP address is currently assigned to the workstation or device you wish to check) followed by **Enter** then wait for the machine to reply. Repeat the process for all other connected workstations / controllers.

Using Windows Explorer

In a Windows Explorer window, right-click on My Network Places and choose **Explore > Entire Network / Microsoft Windows Network / Workgroup or Domain** (choose whichever is appropriate) then verify that all Pyramix and VCube workstations can search/see each other on the network, including shared hard drives and folders. (Having all machines in the same **"Workgroup"** (default workgroup is "**WORKGROUP**") helps.

> **Note:** With Windows XP, it may take some time for the TCP/IP lists to be appropriately updated to reflect the complete network topology on all machines. (Particularly when additional computers are added to a large existing network). Please allow for time for these operations to be properly carried out in the background. It may in fact take something like 10 to 50 minutes depending on the size of the network. (In certain situations, E.g. a small 2 machine peer-to-peer network, rebooting both machines may speed up the process).

Synchronization with Virtual Transport

Open an authorized Virtual Transport, (versions MUST be identical version) on both machines and enable the **VT Network**.

Create a **VT Cluster** by dragging a first machine from the right-hand column to the left-hand column, then, drag a second or further machines onto the first one to finalize the cluster.

That's it, machines are now synchronized. However, in some situations you may find that the graphics in Virtual Transport's Network page are not being updated properly and you might face difficulties dragging a machine from the right-hand column to the left-hand column. If this occurs, please just sit back and relax, there is nothing else you can do but wait till all the TCP/IP lists are updated at OS level, then all will be fine.

Nothing is wrong with the software, it just is a matter of taking and enjoying a short break while every network list is being properly updated.

Appendix IX - Pyramix iXML Implementation

VENDOR MODEL	Merging Technologies Pyramix Virtual Studio		DATE VERSION	21.03.2006 5	
IXML MASTER TAG	**IXML SUB TAGS**	**WRITTEN**	**READ**	**REMARKS**	
<PROJECT>		X	X		
<SCENE>		O	O		
<TAKE>		O	O		
<TAPE>		O	O		
<CIRCLED>		X	X		
<FILE_UID>		O	O	BWF like Originator Reference	
<UBITS>		X	O		
<NOTE>		O	O		
<BEXT>		O	O		
<USER>		X	X		
<SPEED>		X	X		
<SPEED>	<NOTE>	X	X		
<SPEED>	<MASTER_SPEED>	X	X		
<SPEED>	<CURRENT_SPEED>	X	X		
<SPEED>	<TIMECODE_FLAG>	X	X		
<SPEED>	<TIMECODE_RATE>	X	X		
<SYNC_POINT_LIST>		X	X		
<SYNC_POINT>	<SYNC_POINT_TYPE>	X	X		
<SYNC_POINT>	<SYNC_POINT_FUNCTION>	X	X		
<SYNC_POINT>	<SYNC_POINT_COMMENT>	X	X		
<SYNC_POINT>	<SYNC_POINT_LOW>	X	X		
<SYNC_POINT>	<SYNC_POINT_HIGH>	X	X		
<SYNC_POINT>	<SYNC_POINT_EVENT_DURATION>	X	X		
<HISTORY>		X	X		
<HISTORY>	<ORIGINAL_FILENAME>	X	X		
<HISTORY>	<PARENT_FILENAME>	X	X		
<HISTORY>	<PARENT_UID>	X	X		
<FILE_SET>		O	O		
<FILE_SET>	<TOTAL_FILES>	O	O		
<FILE_SET>	<FAMILY_UID>	O	O	BWF like Originator Reference	
<FILE_SET>	<FAMILY_NAME>	O	O		
<FILE_SET>	<FILE_SET_INDEX>	O	O		
<TRACK_LIST>		O	O		
<TRACK_LIST>	<TRACK_COUNT>	O	O		
<TRACK>	<CHANNEL_INDEX>	O	O		
<TRACK>	<INTERLEAVE_INDEX>	O	O		
<TRACK>	<NAME>	O	O		
<TRACK>	<FUNCTION>	O	O		
NOTES:					
XML Encoding	UTF-8	O	O		
BWF Mono		O	O	up to 128 channels	
BWF Poly		O	O	up to 128 channels	
BWF Dual Poly		O	O	up to 128 channels	

Key: O = Supported   X=Not Supported

Index