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Pyramix

VIRTUAL *Studio 4.1*

DIGITAL AUDIO WORKSTATION

User Manual

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User Manual

Merging Technologies Pyramix Virtual Studio

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Introduction

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://www.merging.com/forum/

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**.

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

Project > Information & Settings : Record

Which means:

Go to the **Project** pull down menu, choose **Information & Settings** then click on the **Record** tab.

Pyramix Guides

User Manual

This manual is intended to enable new users to achieve results quickly. It also aims to introduce existing Pyramix users to the multitude of new features in Pyramix 4.1.

Other Pyramix Guides

The other guides listed here may be freely downloaded from the Merging Technologies web-site.

http://www.merging.com

Pyramix Reference Guide

This is the 'bible' for Pyramix users and covers every aspect of the main application in detail.

Installation Guide

An expanded version of the chapter: **Installing Pyramix Virtual Studio Hardware on page 13**

Virtual Transport Guide

This is the reference guide for Virtual Transport.

Pyramix Applications Guide

This guide aims to be a useful resource for Pyramix users. It contains set-up examples and practical hints and tips for using Pyramix for specific applications such as;

Music Recording

Music editing

Mastering

DSD and SACD

Radio Production

Radio Broadcasting

Theatre Playout

Sound for Picture

Pyramix Virtual Studio Overview

VERY IMPORTANT!

We strongly recommend you consult the other Pyramix guides, the *Reference Guide* and *Applications Guide* 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, this shorter *version* will enable you to achieve (almost) instant gratification! This manual will introduce you to Pyramix Virtual Studio Version 4.1 and lead you through a simple set-up, recording and importing audio, simple editing, mixing, adding effects, and CD recording.

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.

The **Pyramix** software 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.

Pyramix Card and Software Set and Pyramix Turnkey

Your **Pyramix Virtual Studio** will have been supplied in one of two forms:
Pyramix Card and Software Set or **Pyramix Turnkey**.

Pyramix Turnkey systems are complete, ready to go, rack-mounted PCs with the Pyramix Card and Software Set already installed and properly configured at the Merging Technologies factory. As such, no user installation or configuration is needed. You can launch and run the Pyramix software immediately.

Pyramix Card and Software Set consists of the **Mykerinos** hardware and the **Pyramix** software **ONLY**. You must provide an appropriate computer platform and software environment in which to install the board and software, and install these yourself. Guidelines for an appropriate Pyramix system environment can be found in the following section.

Future Expansion is of course, possible, whether you start with **Turnkey** or **Card and Software Set.**

Pyramix Virtual Studio Board I/O

Audio I/O Options

Mykerinos is a modular board which can have any one of several optional audio I/O daughter cards attached. When ordering Pyramix Virtual Studio from Merging Technologies or one of its distributors, be sure to specify the daughter card appropriate to your specific needs. (**Please see Appendix II I/O Daughter-card Options on page 264**)

On-board Analog Audio I/O

Regardless of which I/O daughter card is chosen, you can simultaneously use the 3.5mm stereo mini-phone jack on the Mykerinos board as an unbalanced, analog stereo audio monitor output for all projects up to 384 kHz, with levels programmable from within the Pyramix software. Sources at sample rates higher than 96 kHz are automatically Sample Rate Converted to 96 kHz, 24 bit. This stereo mini-jack connection may be connected to headphones or to a line level audio monitor input.

Time Code and Video Sync Option

The **Pyramix Synchronization** option provides SMPTE / EBU LTC and VITC time code in/out, video sync in/out and word clock sync. A multi-pin circular mini-DIN connector, on the back plate of the Mykerinos board carries all the system synchronization, time code and video sync signals. An optional break-out cable is provided for connections to time code, sync and video I/O. The Synchronization option allows Pyramix to be configured as a master or slave lock to external time code, video or word clock. It also enables **VITC** and/or a visible time code burn-in window (**BITC**) to be added to video output/throughput.

System Requirements For Pyramix Virtual Studio

Computer

- PC with Intel Pentium PIII 800 MHz or higher, minimum 256 MB RAM.
- PCI 2.1 compliant card slot(s) in which to install the Mykerinos board(s).
- Windows XP, Windows 2000 or Windows NT Workstation (v4.0 SP6 or higher OS
- Graphics Adapter with a minimum resolution of 1024x768 (Dual Head with resolution of 1280 x 1024 recommended).
- Sufficient HD space and speed for your audio media files. The speed and amount of disk space required depends on sample rate, bit depth, number of tracks and length of program material. A fast (10k rpm or better 15k rpm) SCSI drive (e.g. Seagate Cheetah) or a RAID array is recommended for larger multi-track projects, high sample rate and DSD work. Low cost IDE drives are fine for smaller projects of up to 24 channels.
- We recommend disks should be formatted as NTFS volumes.

Hard Disk Space Requirements

A complete software installation will require around 50MB of disk space for the **Pyramix** software itself and approximately 10MB of disk space for the **Virtual Transport**.

In addition, you will need hard disk storage for any captured audio media files. As a rule of thumb, one Gigabyte of disk storage equals:

- 185 track minutes at 44.1 kHz 16 bits
- 125 track minutes at 44.1 kHz 24 bits
- 170 track minutes at 48 kHz 16 bits
- 115 track minutes at 48 kHz 24 bits
- 55 track minutes at 96 kHz 24 bits

For continuous multi-track recording applications, divide total available mono track time by the number of tracks you will be using.

Please note that these are very rough estimates, and should be used only as a general indication of storage requirements.

Operating System

Windows XP, Windows 2000 or Windows NT Workstation (v4.0 SP6 or higher) installed (never attempt to install Pyramix on NT Server). Windows XP is preferred.

Power Management

N.B. As with all Digital Audio Workstations and Non-Linear Editors, we recommend setting the **PC** to an **Always On** Power management scheme. (**Start > Settings > Control Panel** double click **Power Options.** Choose **Always On** from the **Power Schemes** drop down list.) This allows the monitor to be turned off by the system but disables hard-disk turn off and Standby.

> **Note:** The Mykerinos card is not designed to support Standby modes.

Other Applications

Like all Digital Audio Workstations, Pyramix works best when there are no other unnecessary applications or services running.

Video and Pyramix on one PC

To ensure a very smooth system (especially for seeking) playing video with Pyramix on the same computer, we recommend a Dual Processor PC, a dedicated hard drive for the video and Windows XP

Digital Audio Synchronization and TimeCode

THERE MUST BE ONLY ONE SOURCE OF SYNC FOR AUDIO AND TIME-CODE

Digital audio relies on extremely accurate timing. In any digital audio system there can only be one source of sync at one time. This is particularly important when planning multi-machine systems. If time-code is not locked to the same sync source as the digital audio then either the audio will work properly, or the time-code. But NOT BOTH AT THE SAME TIME.

Ideally, in any system with more than one device, there will also be an independent source of sync. E.g. a word-clock generator with multiple outputs. Each device is fed by a single output and configured to use this source as its sync reference.

Example:

A location digital recorder records at a nominal 44.1kHz sampling rate generated by its internal crystal oscillator and also records time-code derived from the same oscillator. Although the machine may be running slightly slow or fast the digital audio and time-code will vary by exactly the same percentage. When this location recording is played back on a machine locked to a stable sync source, digital audio will play at the same rate as the workstation and the time-code will be correct.

Consider an alternative scenario:

A digital multi-track is used as a location recorder, synced to its internal oscillator. Time-code is recorded on an audio track sourced from, say, a camcorder. When the resulting tape is played back on a machine locked to a stable sync source, the audio will be at the correct rate but the time-code will ‘drift’ in relation to it. The amount of this error is known as ‘DELTA’. Delta is simply the result of the following formula: Internal TC minus External TC minus Offset = Delta. Where such a recording exists and it is imperative the time-code on tape is the master reference there are several solutions. The preferred options are:

Play back the tape with the machine chase-synchronized to the recorded time-code. Since the digital audio is not locked to the time-code the sample rate will drift. If recorded directly, this would result in missed or duplicated samples. I.e. unpleasant audible artefacts. Therefore, in order to record the audio in Pyramix it must go via a digital audio synchronizer / sample rate converter synchronized to the master word-clock source. This will then present Pyramix with digital audio at the correct rate.

Alternatively, the audio could be converted to analogue then fed into Pyramix via an analogue to digital converter.

Installing Pyramix Virtual Studio Hardware

Mykerinos Board Installation

The Merging Technologies Mykerinos board can be installed in any free PCI slot in your PC. In general, it is best **NOT** to install the board in the PCI slot adjacent to an AGP graphics adapter; and in a PCI slot which may be physically shared with an ISA slot.
Please consult the **merging.com** website for current compatibility information.

Make absolutely certain the PC power is OFF before installing the board!

With most of the current generation motherboards this means either the mains switch on the power supply or the power outlet switch. Where no switch is provided, either on the PC or the supply socket, then the PC should be unplugged.

Always observe proper static precautions when handling any PC boards! Use a static strap, and / or be sure to firmly ground yourself to the computer power supply, chassis or if the PC is unplugged, to a known good earth before handling and installing the **Mykerinos** board.

Some PCs have batteries, cables, jumpers, etc. which could prevent proper board seating in one or more slots. Make certain the board is firmly and fully seated before switching on.

Multi-board installation

Multiple boards must be installed in adjacent slots. To enable multi-board operation, all Mykerinos cards in the PC have to be connected together using a special HDTDM ribbon cable. This cable has to be plugged into the multi-pin connectors located on the top edge of the I / O daughter cards. Please contact your Merging Technologies dealer for information on how to order this HDTDM ribbon cable.

HDTDM

The HDTDM cable has the following functions in a multiple Mykerinos board installation:

a) synchronization (to 1 / 512th of an audio sample accuracy) This enables Pyramix to "see" a single system comprised of a large pool of DSP power and I / O resources spread over separate cards.

b) transfers all audio signals (Live Inputs, Internal Send / Return Busses, Mix busses, Aux busses, Live Outputs, etc. between all the Mykerinos I / O daughter-cards which comprise the multi-board system.

Daughter-cards

Please see **Appendix II I/O Daughter-card Options on page 264** for a description of the available daughter-cards.

External Audio D/A-A/D Converter Boxes

Most of the I / O options for the Mykerinos board are digital. Pyramix will often be used with external audio D / A (for playback) and A / D (for recording) converters. Many such converters are available from Merging Technologies as options: for example, the **Merging Technologies Dua II** and **Sphynx** boxes. Contact Merging Technologies Sales for more information.

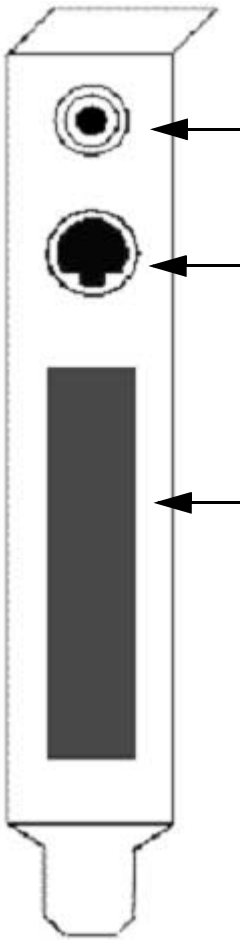
Capabilities of third party D / A - A / D converter boxes are widely variable. Please check with the manufacturer to ascertain which sample rates, word lengths and number of I / O channels are supported. You will need this information later to appropriately configure the Pyramix software.

Cabling Pyramix in your System Environment

Please read this in conjunction with the guide or guides for your specific interface daughter-cards and external interfaces / converters.

Due to the number of possible I / O options and the variety of user environments it is impossible to cover all the variations of cable connections to and from Pyramix.
However, here are some general rules and examples:

Mykerinos Back-plate



Audio Connections

Many users will have A / D Converters for feeding analog audio sources into Pyramix, and D / A Converters for playing analog audio out of Pyramix. In this case, connect your analog audio sources to the A / D Converter analog audio inputs, and the A / D digital audio output(s) to the Mykerinos digital audio input(s). Similarly, connect the Mykerinos digital audio output(s) to your D / A Converter digital audio input(s), and the D / A Converter analog audio outputs to your studio monitors or recorders. It may be also be useful to connect the stereo mini-phone output on the Mykerinos card to either stereo headphones or a stereo monitor console input. The source for this jack can be configured inside the Pyramix software.

Sync, Video and Time Code Connections

In any digital audio system, it is **VERY IMPORTANT** all interconnected units are locked to the same sync reference. A digital audio signal itself can sometimes be used as the master sync source, but a high stability video or wordclock signal is usually preferable.

The Mykerinos board can be configured inside the Pyramix software to act as either a sync master, or to slave to a variety of incoming signals.

Decide which device in your system will provide the master sync reference, then ensure that all other digital audio devices in your system take their synchronization from it. This will require routing appropriate cables --whether digital audio, video or wordclock cables-- to the various other devices and may also involve a separate sync reference generator and or distribution amplifiers.

If Pyramix is configured as the master (Internal sync), other digital audio devices will probably be able to lock to the digital audio output from Pyramix. However, Pyramix can also be configured to output a wordclock signal at the Video output BNC connector (Pyramix Synchronization option required).

If Pyramix is configured as a slave to an external device, Various synchronization signals can be accepted.

- To lock to incoming digital audio, connect an appropriate digital audio signal to a Pyramix digital audio input**.**
- To lock to incoming video, connect an appropriate video signal to the Pyramix Video Reference input (Pyramix Synchronization option required).
- To lock to incoming wordclock, connect an appropriate master wordclock signal to the Pyramix Video 2 Input (Pyramix Synchronization option required).
- To set the termination jumpers provided on the Mykerinos board, please see the Mykerinos User Guide.

Pyramix can either output or lock to incoming SMPTE / EBU time code.

- If a master **LTC** time code output from Pyramix is needed, cable the Pyramix **LTC** time code out RCA jack or XLR to any other devices slaving to this output (Pyramix Synchronization option required). Pyramix always generates time code when playing.
- To lock Pyramix to an incoming **LTC** time code signal, cable the **LTC** time code output from the time code source to the Pyramix **LTC** input RCA jack or XLR (Pyramix Synchronization option required).

Pyramix can accept and generate **VITC** in standard PAL / NTSC formats. It can also provide **BITC** (Burnt In Time-Code) on its video outputs.

MIDI Connections

To use Pyramix MIDI functionality with external equipment, you will require a MIDI interface. Many current motherboards include an on-board MIDI interface. If yours does not, it is a simple matter to add one. This can be either an internal PCI card or an external unit connected via a USB port or an RS232 serial COM port.

Installing Pyramix Virtual Studio Software

Running the Installer

Pyramix Virtual Studio and **Virtual Transport** software is provided on a CD-ROM. You may also receive software updates as a download from our **ftp** site. In either case, install the Pyramix and Virtual Transport software by running the Virtual Transport and Pyramix Virtual Studio Installer programs.

Choose the default location to install the software unless you have good reason to do otherwise. You will also be asked to a create folders for your media files and for CD Images (these can be changed later). If you receive any error messages regarding the Microsoft Digital Signature, ignore these and continue on with the installation by clicking 'Yes'.

> **Important!** After installation, please reboot the PC before attempting to launch Pyramix Virtual Studio. Then open the **VS3 control panel** application (**Start > Programs > Pyramix > VS3 control panel**). The default Tab page is **Configuration.** Select **8** in the **Internal Return Busses** drop down menu box then click on the **Autorouting** button followed by the **OK** button. When the **VS3 panel, Do you want to save routing?** dialogue box appears, click on **OK** to close the **VS3 control panel**.

Double-click on the **Pyramix Virtual Studio** desktop icon to launch Pyramix.

Enabling Pyramix Virtual Studio with your Software Key

Pyramix Virtual Studio is protected by a special software Key. Once you have registered your-software you will be provided with this Key or Keys (depending on the chosen options).

Entering your Key(s)

After the Pyramix installation process you will be prompted to enter your **Authorization Key**. If you click **Yes** the **MT Security Settings** dialog will be launched automatically, allowing the Key or Keys to be entered immediately. If you choose not to enter your Key at this point you can do so later by choosing one of the following procedures:

1. Double-click the file **YourPersonalKeyXXXXX.mtk**. This is attached to the email containing your Key(s).
2. Open the **MT Security Settings Control Panel** (Windows Task Bar **Start > Control Panel > MT Security Settings**), click the **Import Key** button and browse for your Key file called

   YourPersonalKeyXXXXX.mtk
3. Open the **MT Security Settings Control Panel** (as above), in the **Registration** section select the board number corresponding to the serial number for your Keys or HASP Key for a dongle, click the **Enter Key** button and type your **User Name**, **Company Name** and **Key** then click **OK.** Repeat this step for each Keys listed in the email.

Changing or re-entering a Key

Should you need to subsequently change or re-enter a **Key**, follow the appropriate option above.

The key system is "smart". Only one key or set of keys is required regardless of the number of boards in a system. Any card can hold this key set as the authorization is processed based on a "Logical OR" of all keys present on any and all Mykerinos boards. Of course this Logical OR will only process keys with identical User Name and Company Name to the one entered in the key enabling window.

Pyramix User Interface

The Pyramix user interface has evolved into an extremely powerful tool for manipulating audio. Commands and functions can be accessed from pull-down menus, pop-up menus, tab windows and keyboard shortcuts.

There are generally several ways of accessing any given function in Pyramix. This helps users to work in the way they find most comfortable for the type of projects they are undertaking. It also means 'Power Users' can develop highly efficient operating procedures.

It is perfectly possible to casually use Pyramix without discovering all of the many possibilities on offer. However, by looking deeper, a far more rewarding experience awaits.

Mouse Modifier Keys

The range of possible actions resulting from a mouse click are massively extended by the use of **Keyboard Modifiers**. These greatly aid productivity and are well worth learning. **Please see: Appendix I Mouse Modifier Keys on page 261**

Context Menus

Right clicking over objects on screen such as clips, mixer strips and controls and track headers pops up menus with commands and options relevant to the object.

Keyboard Shortcuts

In particular we would encourage users to use keyboard shortcuts and preferably the standard Pyramix layout. Keyboard shortcuts can be fully customized and users of other workstations will discover we have also provided familiar keyboard layouts to help them on their learning curve.

Macros

The **Macro** is another powerful feature of Pyramix. Macros are sequences of commands which can be invoked by a single key or combination. Some macros are conditional. I.e their precise action depends on variables in the project. A considerable library of pre-programmed macros is provided together with an editor which enables users to construct their own macros.

Tutorial Project

An introductory tutorial project is provided on the Pyramix software CD-ROM. If you are new to Pyramix, please work through the tutorial in conjunction with this manual. Together, they are a comparatively painless introduction to many of the concepts and terms used in Pyramix.

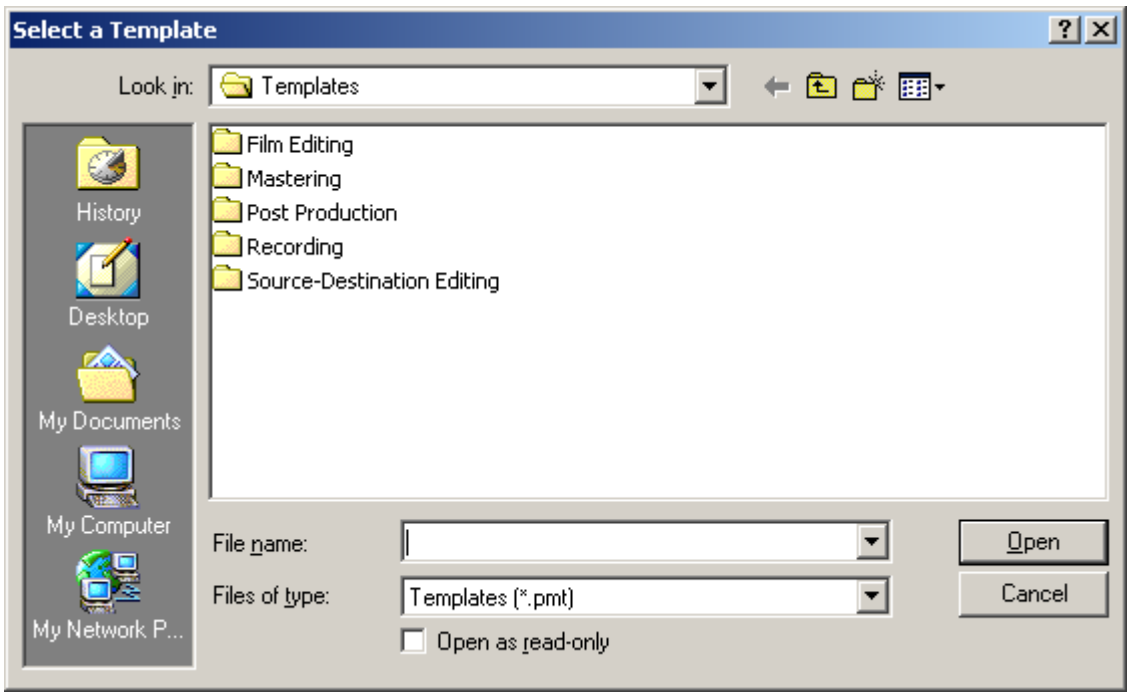
Project Templates

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 259

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 window

.



When a template is opened a dialogue 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** dialogue will appear.

Further Templates will be added as they are developed.

To save a new Template choose **File > Save as Template**, name and save.

Pyramix Concepts

Project

A **Project** is the top level of organization. Projects are saved with the file extension **.PMT**. A **Project** controls and keeps track of all the various elements you are assembling at a given time. A **Project** always contains a **Mixer** and a **Composition,** viewed on the **Timeline,** or as an **Edit Decision List (EDL**), plus **Libraries** containing **Master Clips**, **Compositions**, **Mixer** settings, and **Fade** settings.

Mixer

The **Mixer**, is the nexus of the **Virtual Studio**. The **Mixer** routes all audio into and out of a **Pyramix Project**. It also determines audio sample rates and synchronization. The user configures the **Mixer** as appropriate, for the number and type of inputs strips and output busses needed for a **Project**. Without a properly configured **Mixer**, no audio can be recorded, mixed, or monitored.

Compositions

A **Composition** is any number of **clips** complete with edits and fades, level settings etc. placed on a track or tracks in a time relation to each other and to the **Timeline**.

Timeline

The **Timeline** shows a graphic representation of the current **Composition**. and its location in relation to the **Playhead Cursor**, **In** and **Out Marker Cursors** and various other **Markers.** All editing is done in the **Timeline**, **EDL** or **Fade Editor** windows.

EDL

The **EDL** (**Edit Decision List**), is a textual and numeric representation of the same information shown in the **Timeline** and **Fade Editor**. Changes made here are reflected in the Timeline and vice-versa.

Media Files

These are actual audio data files which can only be seen at the Windows level, e.g. in Windows Explorer. In Pyramix, they are represented by **Master Clips** which reference the raw data files.

Master Clips

The concept of **Master Clips** is one of the keys to the power of Pyramix. An individual **Master Clip** is a set of pointers that reference one or more **Media Files**.

Note that a single **Master Clip** references all **Media Files** in a multi-channel audio recording. E.g. a stereo recording can have one or two **Media Files,** (depending on whether there is a check in the **One file per track** box in the **Media Option** section of the record page of the **Project Information and Settings** window.) (**Project > Project Information and Settings - Record Tab**).

When **One file per track** is checked**,** one invisible **Media File** is generated for each channel of a recording but only one **Master Clip**. So.a stereo **Master Clip** references two invisible **Media Files** and a Multi-channel **Master Clip** references as many invisible **Media Files** as there are channels in the recording. check box '**One file per track'),** but will only generate one **Master Clip**.

A **Master Clip** can be mono, stereo, four channels, six channels, 24 channels, in fact there is no limit to the number of channels that can be contained within a **Master Clip**. When a **Master Clip**

is placed into a **Composition** there is the option to place it where it was originally recorded.

Master Clips also contain attributes which identify parameters such as a File name, time code stamp and other information.

Clips

The individual **clips** shown on the **Timeline** contain pointers to **Master Clips** which in turn point to audio **Media Files**.

Media Management - 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.

Media Drives and Folders

Media Drives or **Media Folders** are Windows folders which contain **Media Files**. Pyramix needs to specifically mount these **Media Drives** in order to access the **Media Files** contained therein. Once mounted, suitable files are shown as **Master Clips.**

Provided the sampling rate is the same as the current project, these can be dragged and dropped or copied and pasted directly into the **Timeline** or into a **User library** from the **Media Management** Window.

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 kinds of media objects.

User Libraries

User Libraries can contain **Master Clips**, **Compositions**, **Mixer Snapshots, Plug-in Snapshots**, **Fades 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 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. A single **clip** copied to a **User Library** from the **Timeline** appears there as a **Composition.**

Automation in libraries

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

If you drag a clip(s) to a library, all automation over that clip(s) is copied / pasted as well.

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.

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'**. This is provided to aid housekeeping and is kept with the project.

TimeCode Entry

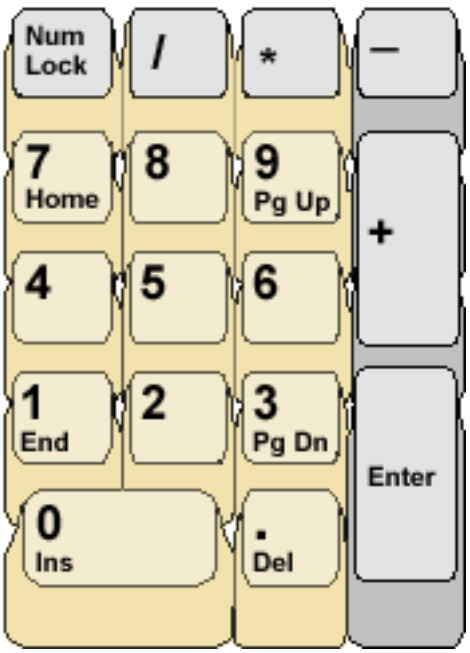
TimeCode values in Pyramix can be changed by using Increment Decrement buttons, by using the on screen numeric keys or by direct entry from the numeric keypad. an **OK** button or the **ENTER** key finalizes the entry. In Pyramix numbers are entered in time code fields from right to left, a block at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

Numeric Keypad

Key	Command
/	Nothing (when in Placement Tool: Done)
*****	Capture current timecode
-	Delete last typed digit (same as BACKSPACE)
+	Undo typed timecode and restore previous
1	Enters Number 1
2	Enters Number 2
3	Enters Number 3
4	Enters Number 4
5	Enters Number 5
6	Enters Number 6
7	Enters Number 7
8	Enters Number 8
9	Enters Number 9
0	Enters Number 0
. (point)	Clear (Set all to zero)
ENTER	OK (Accept typed timecode)



Starting Pyramix Virtual Studio

By default the Installer will put **Pyramix Virtual Studio** into your **Programs** folder. It also places a **Pyramix** shortcut icon on the Windows desktop.

To start Pyramix Virtual Studio, double-click on the **Pyramix** shortcut icon on your Windows desktop.

Alternately, choose **Start** > **Programs > Pyramix** > **Pyramix Virtual Studio**.

The first time Pyramix Virtual Studio is launched, you will need to enter in your special **Key** to properly enable the program (see previous section). Upon program launch, you will see the main **Pyramix Virtual Studio by Merging Technologies** window with its **Toolbar** at the top, and transport controls and status displays at the bottom.

You may need to enter further keys if you have purchased extra features.

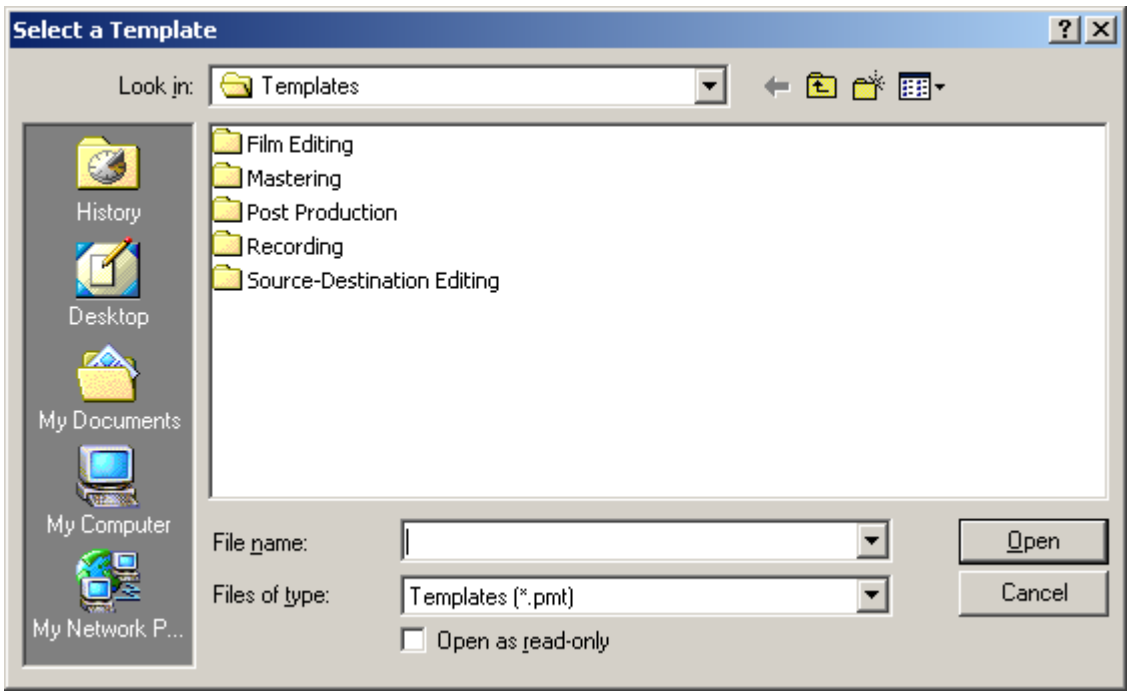
Beginning a New Project

The **Project** is the top level of organization in Pyramix Virtual Studio. You need to start a new (or open an existing) **Project** to capture audio, import files, edit, mix or add effects.

Templates

Pyramix has **Templates** for common tasks and you can save your own. To use an existing **Template** to start a new **Project** choose **Project > New from Template** from the pull-down menus along the **Toolbar** at the top of the **Pyramix Virtual Studio by Merging Technologies** window

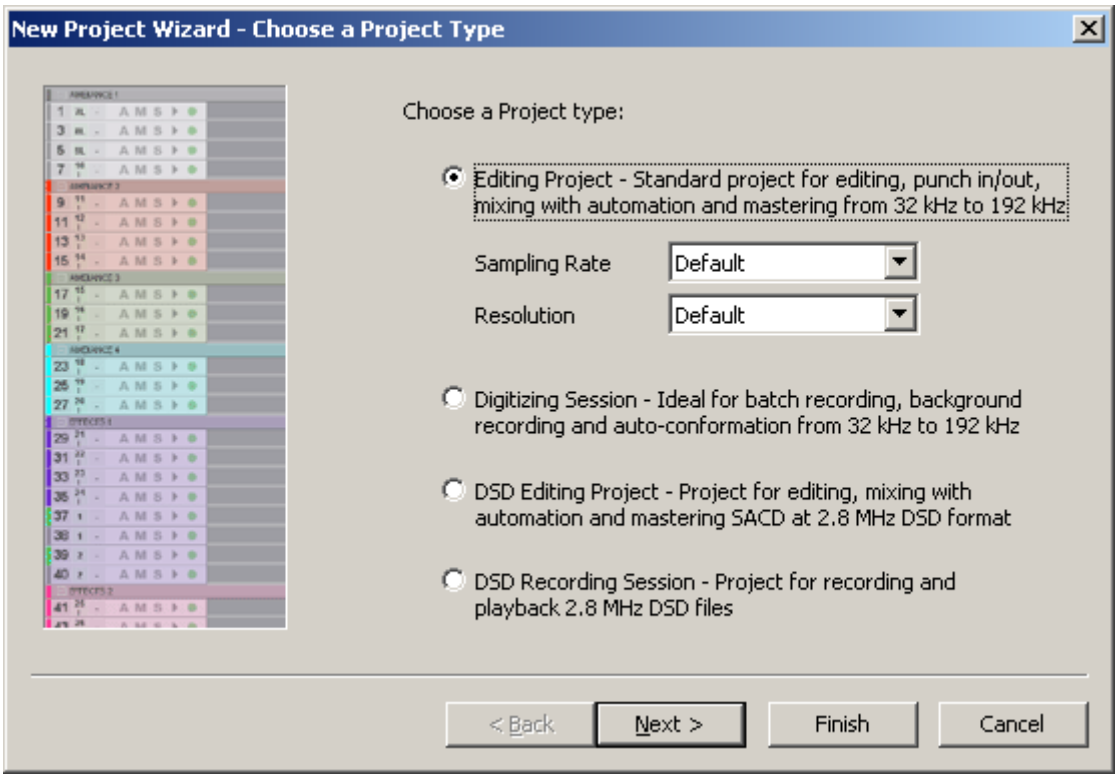
.



If you have started a project from scratch (see next section) and would like to save it as a **Template** choose **File > Save as Template**. The file dialogue will open allowing you to save the template with an appropriate name.

New Project from scratch

To start a new **Project** from scratch, choose **Project** > **New.** This launches the **New Project wizard**, which will lead you through the steps to create a new project.

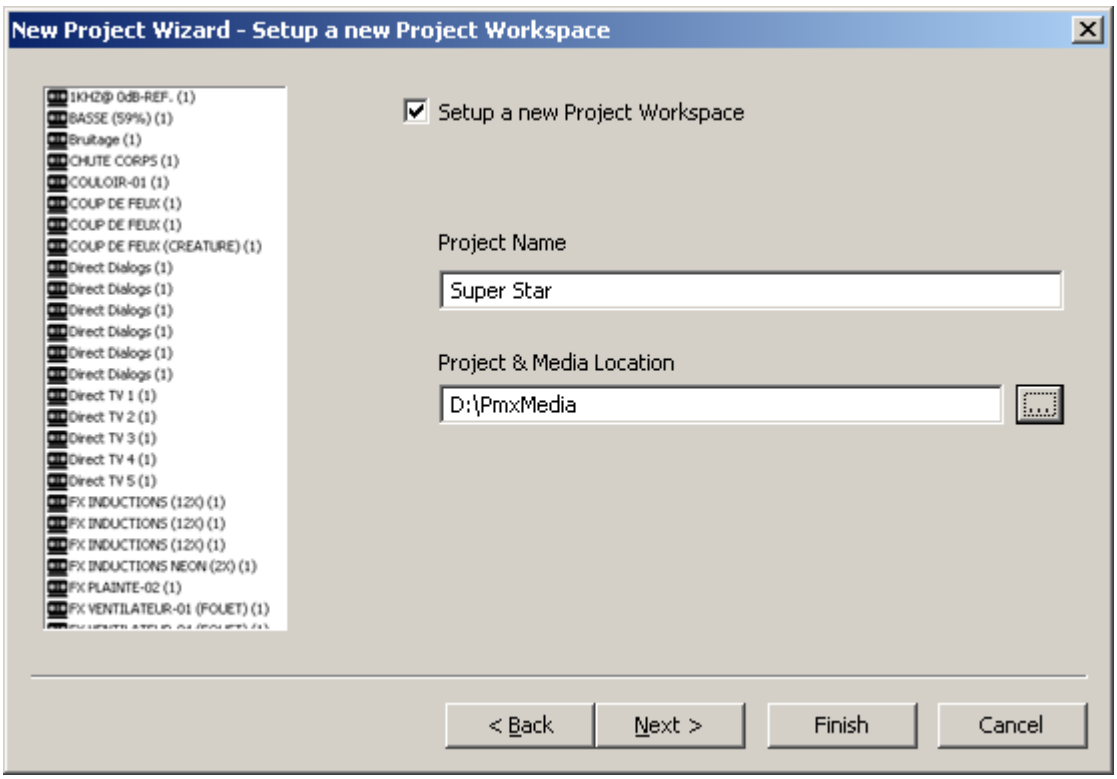


Step 1: Choose the project type

Choose **Editing Project,** select the required sampling rate and resolution (number of bits) or accept the defaults (44.1kHz, 16 bits), then click the **Next button** which will lead you to **step 2.**

Note: A **Digitizing Session**, **DSD Editing Project** or **DSD Recording Session,** the other possible choices available in the **New** window, are special kinds of Project described elsewhere.

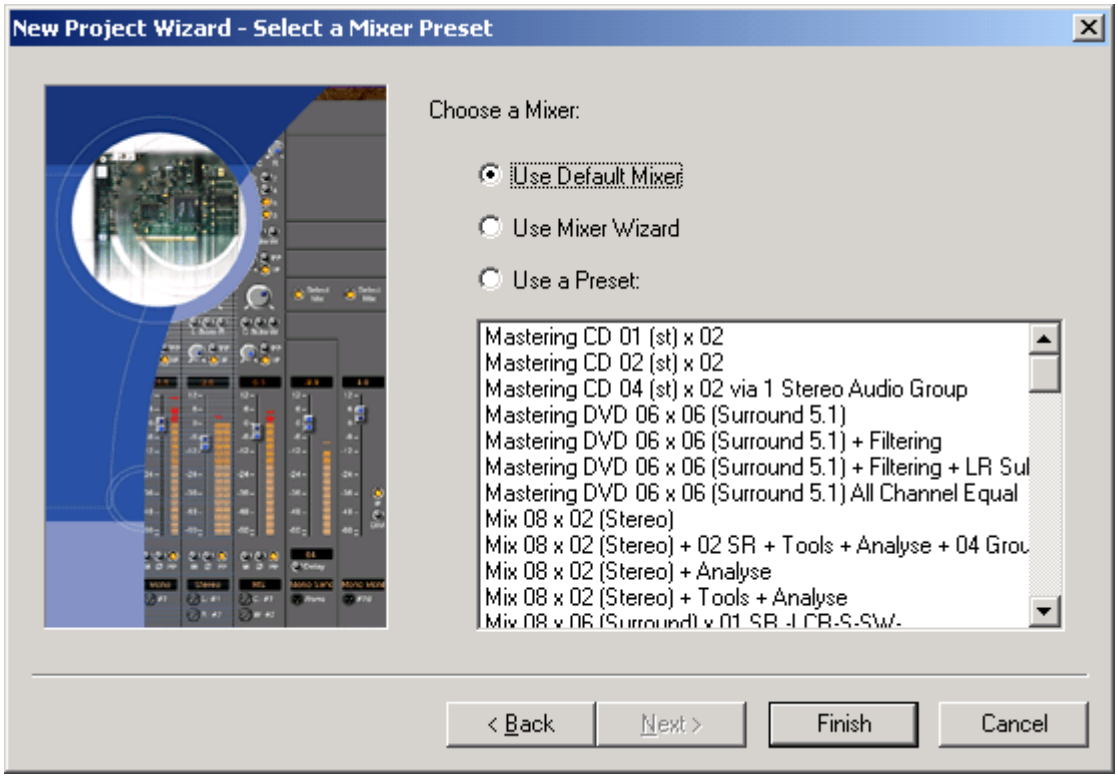
Step 2: Setup a new project workspace



Checking the box labeled: **Setup a new Project Workspace**, allows you to name the new project and choose a location for the **Project** and **Media Files**. Type in a name for the **Project** and either type in a valid path or use the **Browse button** to browse to a suitable folder. When you have entered the information, click the **Next** button to get to the next step.

> **Note:** If you uncheck the **Setup a new Project Workspace** box, when the new project is created it will be given the working name **Project 1** (or the next available number if **Project 1** already exists) and the save path will be the default.

Step 3: Choose a Mixer



A new Project needs a properly configured Mixer. The **Mixer**, also called the **Virtual Studio**, is used to route all signals into and out of Pyramix; it also determines the sample rate and synchronization source for the Project.

Use Default Mixer

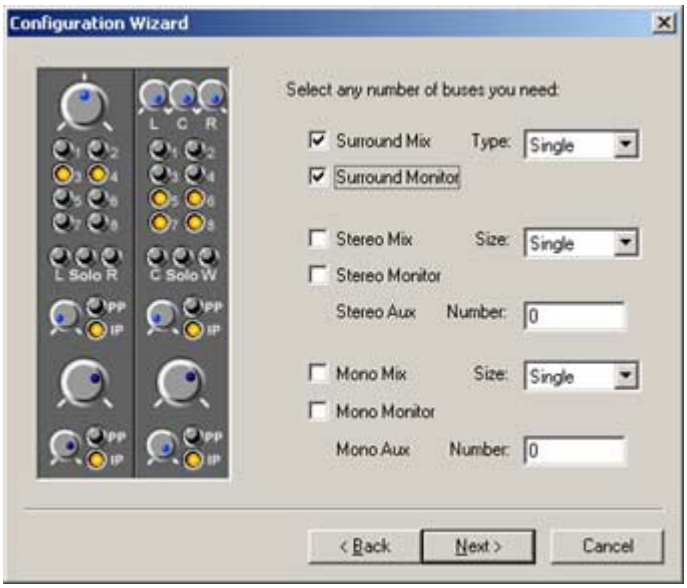
Loads the currently designated **Default Mixer** preset. **N.B.** The sampling rate of this preset takes precedence over the sample rate set in the **Editing Project** selected in the **Choose Project Type** dialogue. If no **Default Mixer** has been defined and **Finish** is clicked the **Blank Mixer** window opens. Please see: **Blank Mixer Window on page 30**

Use a Preset

Choose one of the large number of supplied Mixer Presets (and User Presets if any have been created) by clicking on its description. (The **Use a Preset** Radio button is automatically selected) Double-clicking a Preset selects the preset and invokes the **Finish** function. I.e. opens the new Project with the selected mixer.

Mixer Wizard

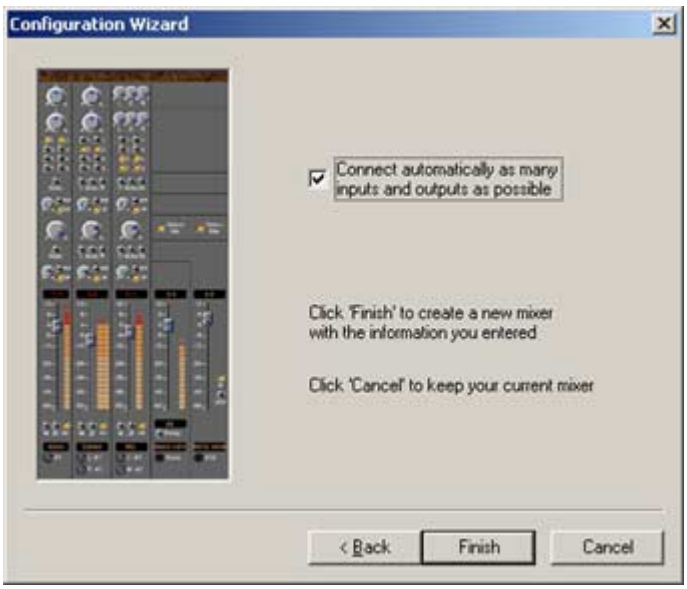
If none of the existing presets is considered suitable, or you just want to start from scratch then selecting **Use Mixer Wizard** and clicking the **Next** button opens this window:



Select the type(s) of busses 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.

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

.



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 Busses 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).

Step 4: Open the New Project

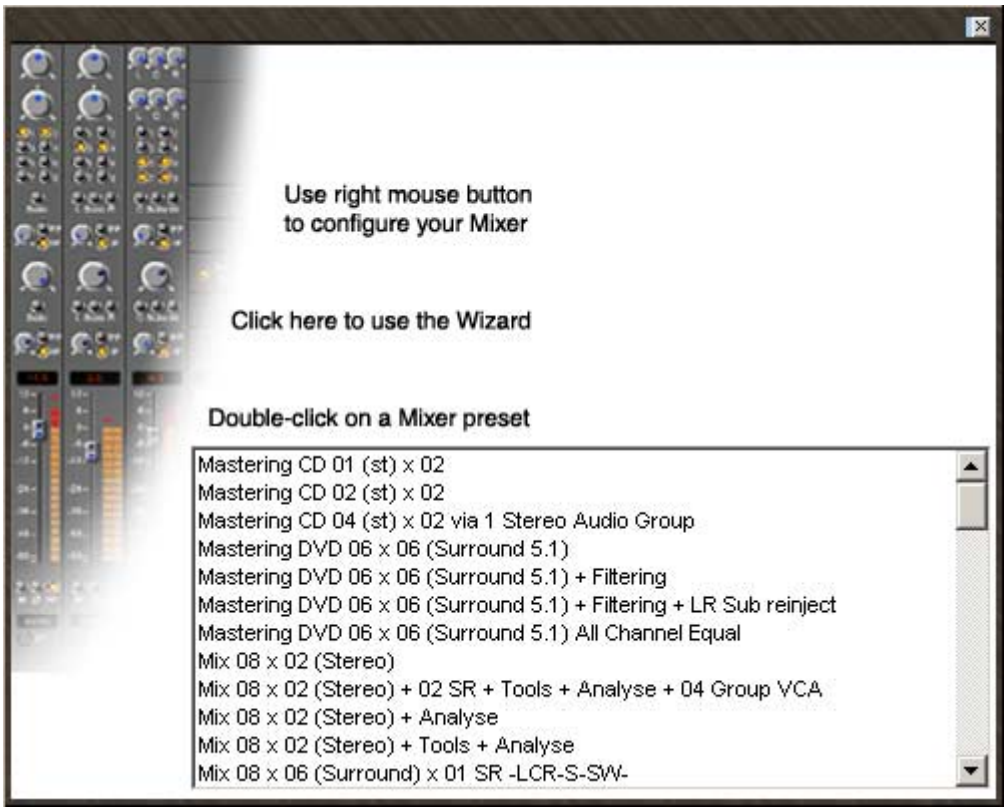
Clicking **Finish** creates the Mixer and opens the new Project.

The **Mixer** you configured above will now appear on the screen in a separate **Mixer** window. It will contain the number and kind of **Input Strips** and **Output Busses** defined. It can be moved anywhere on the screen by clicking and dragging on its top bar, or be minimized or hidden.

It is **VERY IMPORTANT** to ensure the **Mixer**'s sample rate, synchronization and I/O mode are configured correctly. To check or adjust settings, right-click anywhere on the **Mixer** window, then choose **Settings** > **General...** which will open the **Mixer Settings** window. (Or choose **Settings > Mixer Settings : General** from the main **Settings** menu.

Blank Mixer Window

Note: If you click the **Finish** button before defining a Mixer, the **Default Mixer** will be used and the new Project opened. If no **Default Mixer** has yet been defined this window opens:



Use right mouse button to configure your mixer

This is the equivalent of right-clicking on a blank area of an existing mixer. We recommend only experienced users choose this option. **Please see: Creating and Configuring Mixers on page 52**

Creating a mixer in this way can be very time consuming. It is much faster to either:

Click here to use the Wizard

Please see: Mixer Wizard on page 28

Or, simply:

Double-click on a Mixer preset

Pick one from the list which most closely matches your requirements, then configure it to suit when the new Project has opened.

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 144 and External Machines on page 141

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 259**

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 **Settings > Information & Settings** : **Record** (alternatively use the keyboard short-cut **Ctrl - f** and click the **Record Tab**) There are many settings in this window, 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.

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 > Information & Settings** window 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**.

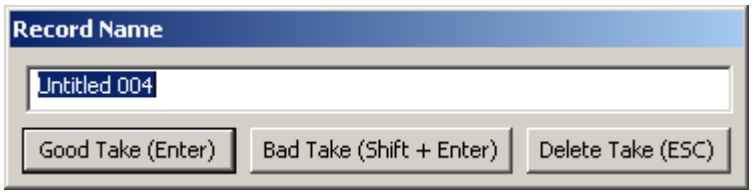
Record Punch In (Auto)

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 > Information and Settings : Record** page. **Please see: Record on page 83**

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



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

Importing Audio Files into Pyramix Virtual Studio

Importing Audio Files

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 Drives

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 Drive**. 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 **Drive** > **Mount Media Drive**. This opens the **Choose a media folder to mount** window.
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 Drive**. 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.**

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** window. 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.** Click **OK** to close the window
4. 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

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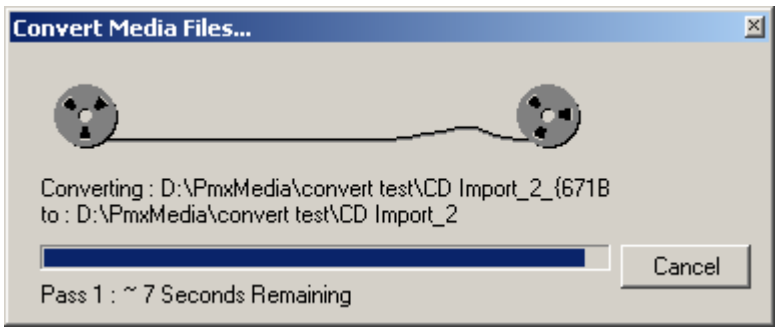


Note that bit depth (word length) is not changed with a sample rate conversion. Options for converting bit depth or normalizing can be accessed via the **Convert > Quick Convert >** submenus. For further information please see the **Pyramix Reference Guide**.

Practical Media Management and Libraries

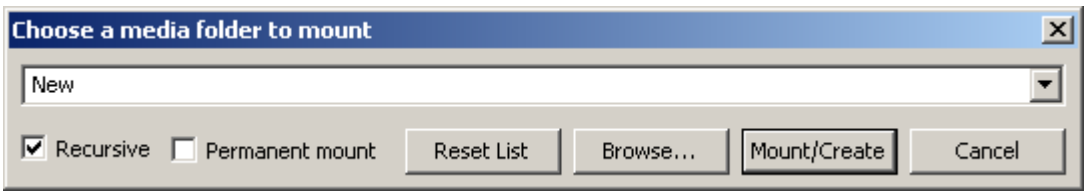
Clips and Compositions

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

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

Managing Media Folders



This window can be opened in several ways. From the **Media Management** Tab Window **Drive > Mount Media Drive** or by right-clicking a Media Drive or Media Folder entry in the right-hand pane, and from the **New** entry in **Media Folder** drop-down list menus 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.

Recursive

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

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.)

Reset 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** Window which enables any Windows drive or folder on the local machine or across a network to be selected for mounting.

Mount / Create

Mounts the selected Media Drive or Folder or creates a new one if the name and or full path has been typed into the text box.

Editing

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

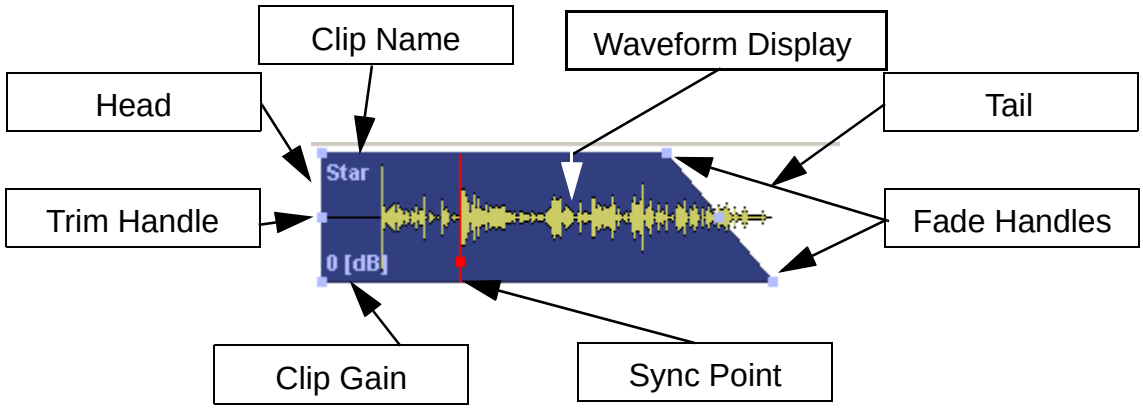
Clips in a Composition

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 Drive** or **Library** it came from. In the **Project Editing Panel**, a **clip** can be edited, shortened, 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.

Anatomy of a Ccliplip

Many Edit Commands refer to parts of a clip rather than the entire clip.



Once a **clip is** selected, **Trim Handles** appear at each end which are used to manipulate the **clip**. If these are difficult 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 the menu item **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 beginning 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 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 maintaining 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 referenced by the clip.

Clip Name

The name of the clip is shown unless supressed. **View > Waveform > 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 clipclips 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

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)

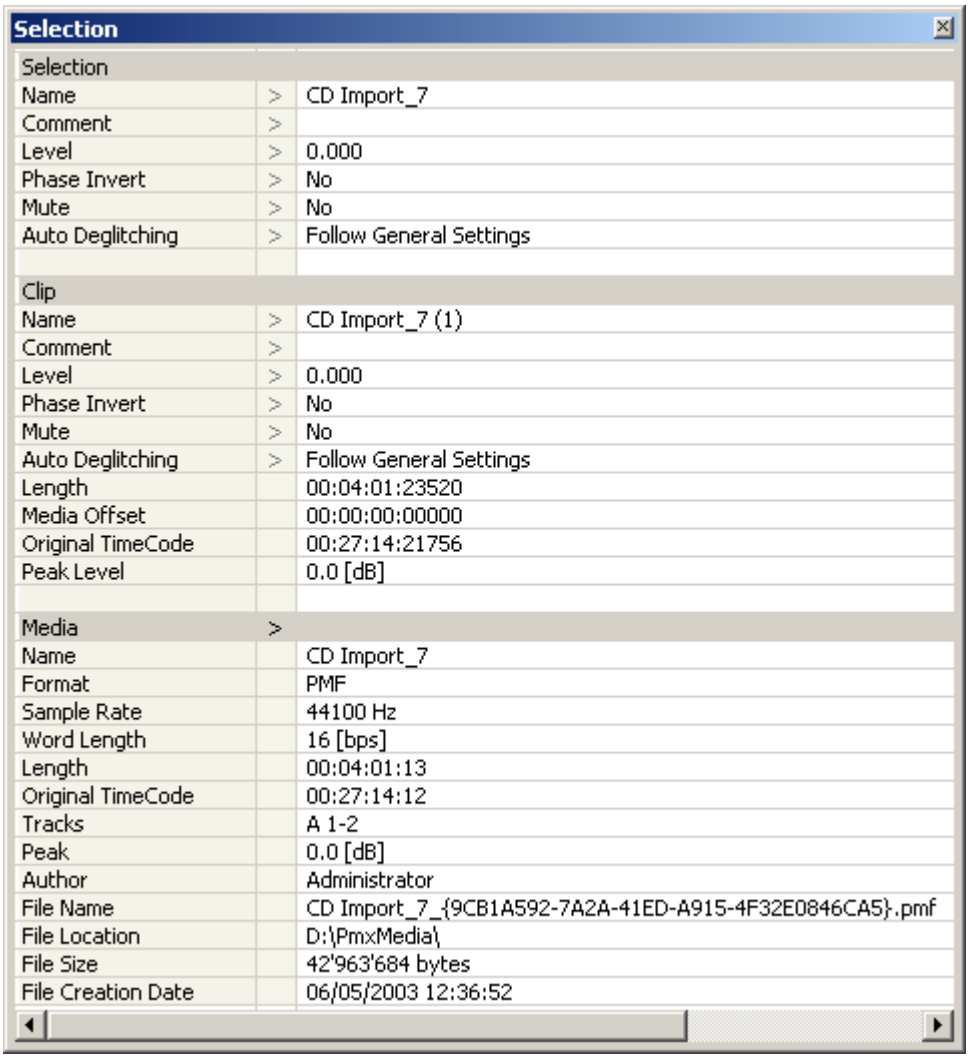
OK button makes any changes selected in the Gain window and closes it
Cancel button cancels any changes selected in the Gain window and closes it

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 perfomed 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.

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:



Selections and Region Selections

Selection Operations

Many editing operations in Pyramix 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 Drive** or **Library**. To drag from a **Media Drive**:

1. Click on the **Media Management** Tab in the to open the **Project Management Panel Media** window.
2. Under the **Media** list in the window, click on a mounted **Media Drive** or subfolder to select it. It will turn dark blue. The **Master Clips** contained in that **Media Drive** will all be listed on the right side of that window.
3. Select a **Master Clip** from the right side by clicking on it with the left mouse button. It will turn dark blue.
4. Drag that **Master Clip** into a **Track**. You can place it into any **Track**, at any point on the **Track**.

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

Copy and Paste

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

1. Select a **Master Clip** in a **Media Drive** 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 **clip** 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 on a track where a clip may not be present. Discontinuous regions cannot be selected.

Clip Selection Behavior

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

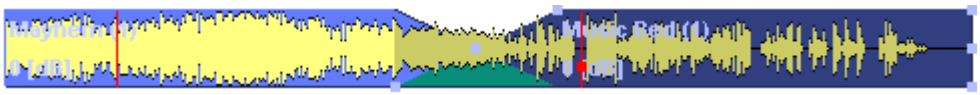
When a Clip is selected:

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.



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.)

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.

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** box in the **Editing** page of **General Settings**.

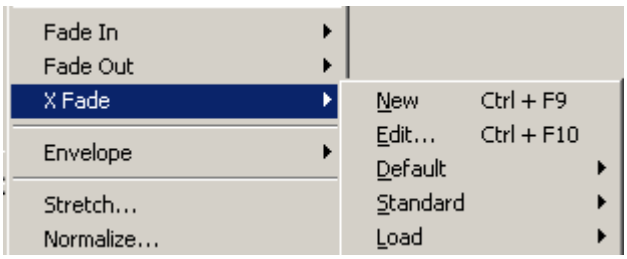
Clip Fade Commands

Fade In

Fade Out

X Fade

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



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 on page 125**)

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.

Editing Modes

The current **Editing Modes** are shown at top left of the Editor Window. 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.

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 adjiusted 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.

Edit Command highlights:

Further **Edit**ing commands are to be found on the main **Edit** menu. **Please see: Menus - Edit menu on page 226**

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 **Settings > General Settings : 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

Inserts the contents of the Clipboard starting on the track and at the time the mouse cursor is when Paste is invoked. When the contents of the Clipboard is Pasted, other material on the track behaves according to the current **Insert** mode setting.

Paste to Cursor

Inserts the contents of the Clipboard 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 & Place — Opens the Placement Tool with extensive placement options. **Please see: The Placement Tool on page 48**

Paste to Original TC — If the Clipboard contains a single clip, insert this at its original TimeCode *

*** Note: 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 Selection — Inserts beginning of contents of Clipboard to end of current selection

Paste & Fit — Inserts clip from Clipboard stretched or shrunk to fit selected region. Requires the optional Timezone Time compression / expansion plug-in. If the contents of the Clipboard cannot be stretched or shrunk sufficiently to fit the Paste & Fit command will be grayed out like this**:**

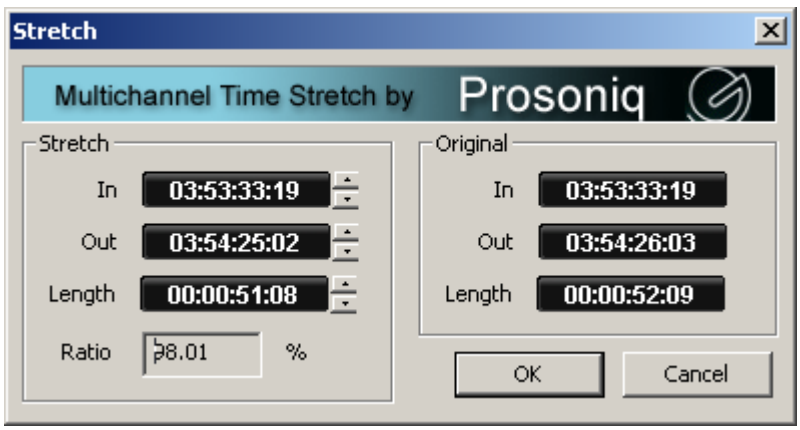
Cut and Ripple — Cuts the current Selection and places it on the Clipboard forcing a Ripple to occur on all affected tracks.

Paste and Ripple — Inserts the contents of the Clipboard to the mouse cursor position forcing a Ripple on all affected tracks.

Paste to Cursor and Ripple — Inserts the contents of the Clipboard at 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.

Stretch — Opens the optional **Prosoniq** Multichannel Time Stretch plug-in window.

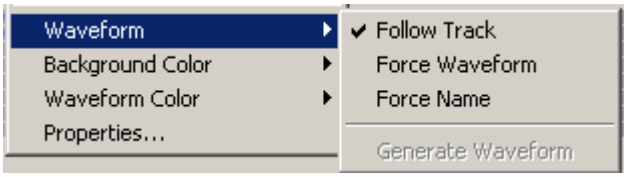


The Increment and Decrement buttons allow the In point, Out point or Length of the selection to be adjusted. The **Ratio** of stretch or squeeze is shown as a percentage. Clicking the **OK** button starts the process. **Cancel** aborts.

Normalize — Examines the selected clip or clips to find the highest peak, then increases the overall gain of the clip so that this reaches maximum level. All other selected clips are raised in level by the same amount.

Consolidate Opens the **Consolidate** Project window. **Please see: Consolidating Projects on page 207**

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



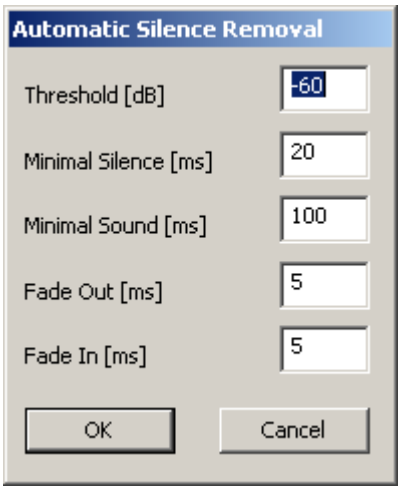
Follow Track	Clip displays whatever is selected for the entire **Track**.
Force Waveform	Clip displays **Waveform** regardless of the overall Track setting
Force Name	Clip displays Clip **Name** regardless of the overall Track setting

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 window**

.



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**.

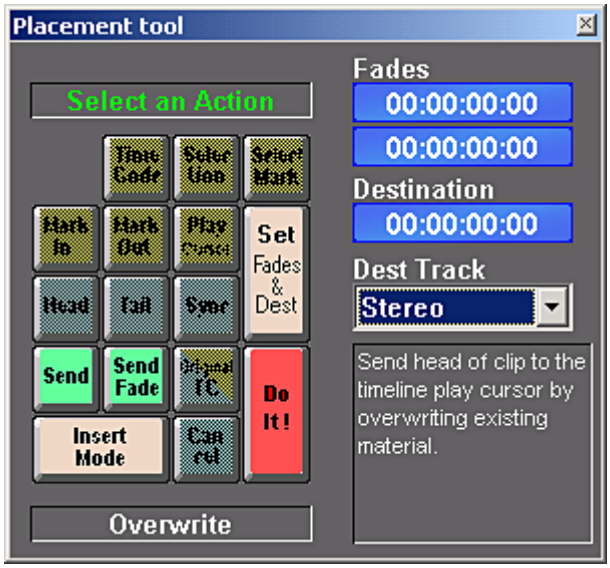
This process takes into account the current **Remove Mode** to determine whether to leave gaps between the newly created clips, or to join or ripple the clips on the track together.

Note: Automatic Silence Removal cannot be executed on cross-faded clips.

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**.



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**.

For full details of all the possible modes and actions, please see the Pyramix Reference Guide.

Markers or User Flags

Pyramix Virtual Studio allows for setting named and numbered **User Flags** or **Markers** at user defined points in a **Composition**. **Markers** can be used as convenient reference points for notes or other text, or as locations for Paste operations.

To Set a **Marker**, press **Ctrl-Shift** and click anywhere along the **Time Scale** bar. The **Marker** will appear as a small blue flag with a number in it. **Markers** are numbered consecutively in the order in which they are added. You can also add a **Marker** at the current **Play Head Cursor** position by choosing **Cursors & Marks** > **Add Marker to Playhead** from the **Toolbar**.

Markers can be selected by clicking on them. The **Marker** flag turns red to indicate it is selected. **Shift-Enter** moves the **Playhead Cursor** to the selected **Marker**

Use the **Markers Tab** in the **Project Management Panel** to view, name, **GoTo** and otherwise manage previously created **Markers**.

Using the Mixer

Mixer Components

Basic Strip

A basic mono channel strip contains:

Output bus send level / pan pot and On /Off switch. The number and type of these is dependent on the number and type of busses specified. Here there is just a single stereo mix bus.

Numeric display of held peak level value if fader is at unity, otherwise shows fader position value and may be clicked to directly enter a value. If cursor is over pan pot shows current pan position.
Graphic display of held peak level value.

Level Bargraph

Rotary Controls and Faders

Rotary Controls and Faders may be adjusted by grabbing them with the mouse and dragging. Rotary controls 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.

Buttons

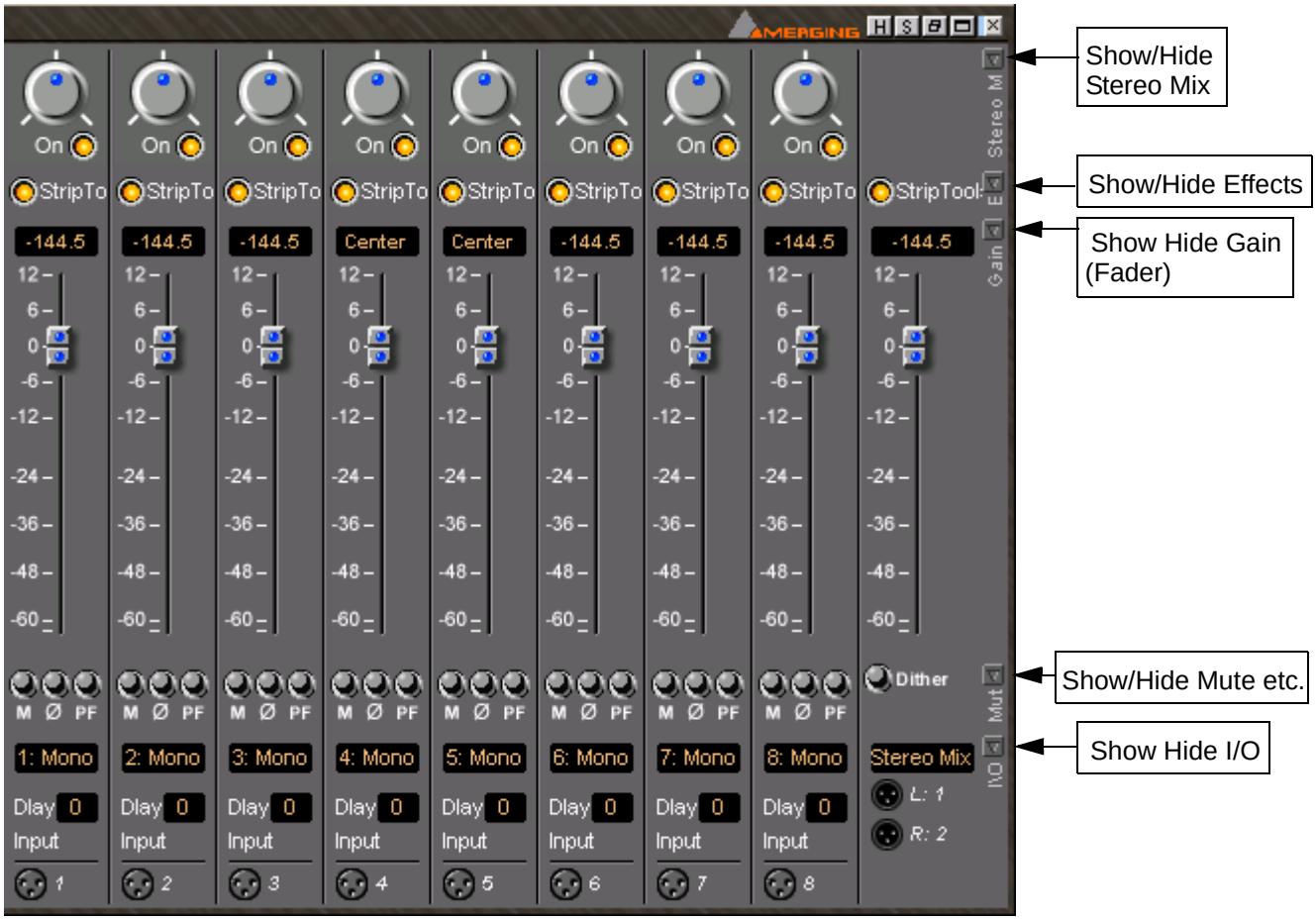
Buttons on the main mixer surface are grey and appear to stand proud of the surface when inactive. When active they 'light up' and appear to be flush with the surface.

Delay

A delay value can be set in this box.

Physical Input Assignment

Right-click on the XLR icon to pop-up a drop down list of valid assignments. (When in **Configure** mode)



Show / Hide

The small, grey arrows on the right of the mixer surface toggle horizontal areas of the mixers surface visible or hidden. Show / Hide can reduce clutter by concealing unused controls. This is the same mixer with all areas hidden:

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 **Mixer > Settings > Wizard... Please see also: Mixer Wizard on page 28**

I/O Busses Explained

The total number of available output busses, regardless of the number of Mykerinos cards, is 64. The maximum number of inputs to Pyramix is also 64. However, it is perfectly possible, and permissible, to have more than 64 physical inputs and outputs connected to a Pyramix system. The **PS3 Control Panel Application** acts as a router to assign physical inputs and outputs to Pyramix logical inputs and outputs. For example: a system containing two Mykerinos boards, one with a MADI daughterboard, one with an AES/EBU daughterboard has a total of 56 inputs and outputs on the MADI board (64 if MADI X is used) plus 24 channels of AES/EBU. Possible total 88. Any 64 of these may be routed to Pyramix inputs and any 64 Pyramix outputs (less the number of assigned **Internal Return Busses**; see below), can be routed to physical outputs.

Internal Return Busses

Some of the time slots on the HDTDM bus can be reserved to convey Aux or Master Output Busses back to input strips. In effect, these are internal send/return paths. To change the number of available Internal Return Busses, close Pyramix (if open) and launch the **VS3 Control Panel Application**. The number of Internal Return Busses can be set using the drop-down list box on the right of the screen. Click on the **OK** button to memorize the setting and exit the Window.

The number of **Internal Return Busses** you assign here will be available as possible channel strip sources in the mixer.

Input Strips

Input strips have the same function 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

Groups

Master Group Strips - allow the grouping of faders of several mixer strips. Analagous 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.

Mixing/Monitoring/Aux Buses

These are the summing buses where signals from the mixer input strips can be routed to.

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 Busses**. This enables the final mix to be recorded in Pyramix.

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

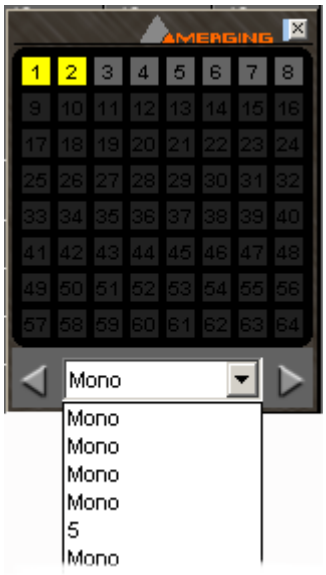
Multiple Surround Mix - provides several surround outputs and allows to route any mixer strip onto any of them.

> **Note:** Unlike mono and stereo multiple busses, input strips can only be routed to ONE 5.1 destination of a multiple surround bus. This reflects their normal use. E.g. a common set-up will have three surround busses for Dialogue, Effects and Music Stems. A, B and C. Each Input strip is routed to the appropriate surround bus by clicking on the A,B or C selector buttons.
>
> When the multiple surround bus is selected as the Surround Monitor Bus source (Its **Select Mix** button is lit) All three surround busses are summed for monitoring.

Multiple Mix Busses

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).

The 8 by 8 matrix gives access to up to 64 output busses. Routing is shown by lit crosspoints. Double clicking the matrix opens the routing matrix window.



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.

Monitor Bus

A monitoring bus provides dedicated outputs connected to the control room speakers. It provides independent level control and non-destructive solo capabilities.

Mono, **Stereo** and **Surround** monitoring buses are available.

> **Note:** The three types of Monitor bus function independently. Mono mix busses route to Mono Monitor busses when the relevant **Select Mix** button is lit. If there is more than one Mono mix bus (or Multiple Mono Mix Bus) is present the **Select Mix** buttons toggle the monitoring between the busses. Stereo and Surround Mix Busses work the same way. If no **Select Mix** button is lit, input strip signals are routed to all monitor outputs. I.e. if no **Select Mix** button is lit on any Surround Mix bus. A signal from a mono input strip will appear on all six Surround Monitor Bus outputs.

Aux Bus

Mono and **Stereo Aux busses** provide a way to create 'auxiliary' mixes which are normally used to provide headphone or cue mixes for musicians, or to send signals to effects such as reverbs, delays, choruses,etc.

Dim Switch

The **dim** switch in Monitor Bus strips attenuates the Monitor Bus ouput(s) by 20 dB active.

Solo In Place/Mono Switch

Toggles between **In Place** (stereo) Solo when lit or **Mono** solo monitoring. (Mono and Stereo busses only)

External Effects

Any Pyramix **Bus** 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.

Configuring a Blank or Existing Mixer

Configuration of the mixer control surface is accomplished via 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.

Mixer Configure Mode

To alter the mixer configuration and I/O assignments **Configure Mode** must be turned on. Right-click anywhere on the Mixer window and select **Configure**. Note the **XLR icons** and numbers which appear near the bottom of each Input Strip and Output Bus.

Adding Strips

Once **Configure mode** is turned **ON**, (a tick appears next to **Configure** in the list) **Input** Strips, **Output Buss** and **Group** strips can be added to the mixer as required.
Right-click anywhere on the **Mixer** window, choose **Strip** > **Add** and select the appropriate type of strip to add or right-click anywhere on the **Mixer** window, 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 Busses,** click on the appropriate **XLR icon**. A pop-up appears with a list of all valid choices.

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 98**

Adding Plug-ins

Native Plug-ins

These include the eq and dynamics found on a conventional hardware mixer's channel strip. To add a native plug-in right-click with the mouse cursor over the strip where the plug-in is to be added. If you right-clicked in the effects area of the strip select **Effects > Add**. If you clicked somewhere else, select **Add Effect**. Select an effect from the drop down list. It will appear in the strip.

Direct X Plug-ins

To add a Direct X plug-in the procedure is the same except select **Direct X Plug-In** or **Add Direct X Plug-In**.

> **Note:** Plug-ins cannot be added to Monitor Busses and DirectX Plug-ins can only be added to Input Strips or used in the FX Rack. **Please see: MTRFxRack on page 209**

Further Mixer Configuration Options

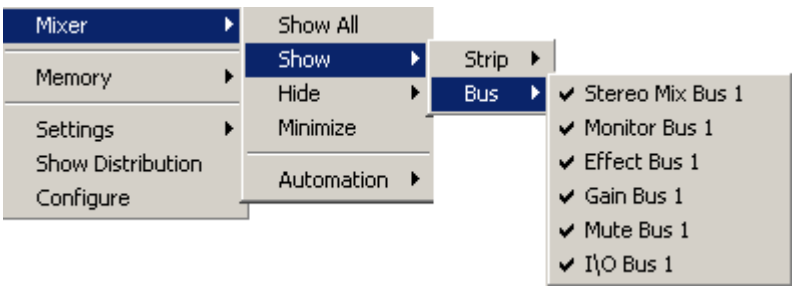
Mixer Context Pop-up menu

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 busses visible

Show / Hide > Selects **Strip**s and **Bus**ses to be shown or hidden. When checked, the Busses or strips are visible on the console surface. Both **Show** and **Hide** access the same lists.



Minimize When checked, Mixer window is minimized

Automation >

Isolate
Play
Record
Auto-write

These menu choices toggle the Automation mode for the entire mixer. **Please see: Automation on page 151**

Memory > The choices here enable mixer presets to be saved loaded and managed.

Please see: Storing and Recalling Mixer Presets on page 58

Settings >

General...	Opens the Mixer Settings window **Please see: Mixer Settings on page 87**
Enable Delay Compensation	Enables Delay Compensation for the mixer
Dithering	Opens the **Dithering** window. **Please see: below and Dither on page 204** 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 Wizard on page 28**

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.
Configure	Toggles **Configure** mode on / off

Dithering

To open the **Dithering** window, right-click anywhere on the mixer surface and select **Settings > Dithering...** The **Dithering** window opens. See below:

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.

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:

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 compared to:

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.

Channel Direct Outputs

.It is a simple matter to add a Multiple Mono Mix Bus with up to 64 outputs. The Bus outputs can be routed to physical outputs and the routing button matrix in the channels strip can be used in a one to one correspondence so that Channel 1 goes to Bus 1 of the Multiple Mono mix Bus, Channel 2 goes to Bus 2 and so-on. Outputs from these busses can be routed to physical outputs as required.

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, 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

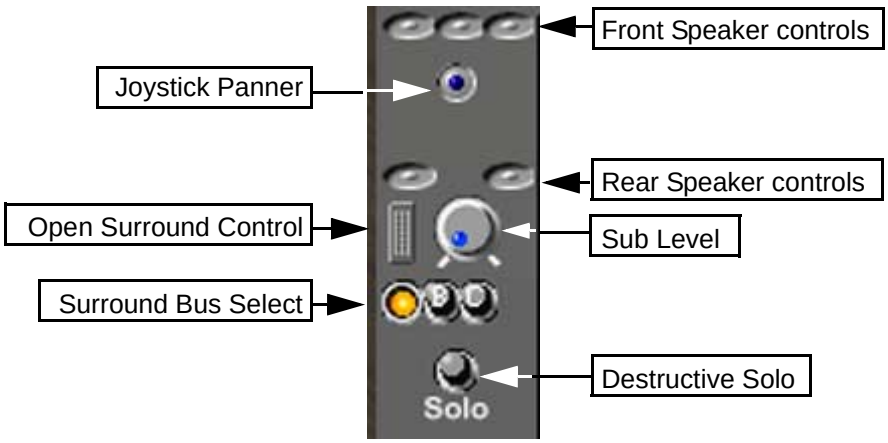
To remove a preset from the main list, right-click on the Mixing Console, select **Memory > Presets > Remove > (preset you wish to remove)**. The **Remove Preset** window appears with **OK** and **Cancel** options.

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**



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. Doubleclicking on this control will automatically center it.

Sub Level

Determines the level sent to the Sub (.1) output.

Surround Bus select

If a Multiple Surround Bus has been added to the mixer Select buttons appear here. The same number of buttons as there are busses. The buttons toggle between the busses.

Destructive Solo

Solos the input. Will affect the main Surround bus output.

Stereo Input Strips

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 Sub 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.

Surround Control window

Options available will depend on whether the Mixer Channel is single source (mono) or 2 sources (stereo). For an indepth description of all the functions please see the Pyramix Refeence Guide.

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. 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.

Configuration - Program and Project Settings Windows

All three main settings windows can be found in the **Settings** menu.

General Settings is used to set parameters of the Pyramix Virtual Studio environment.

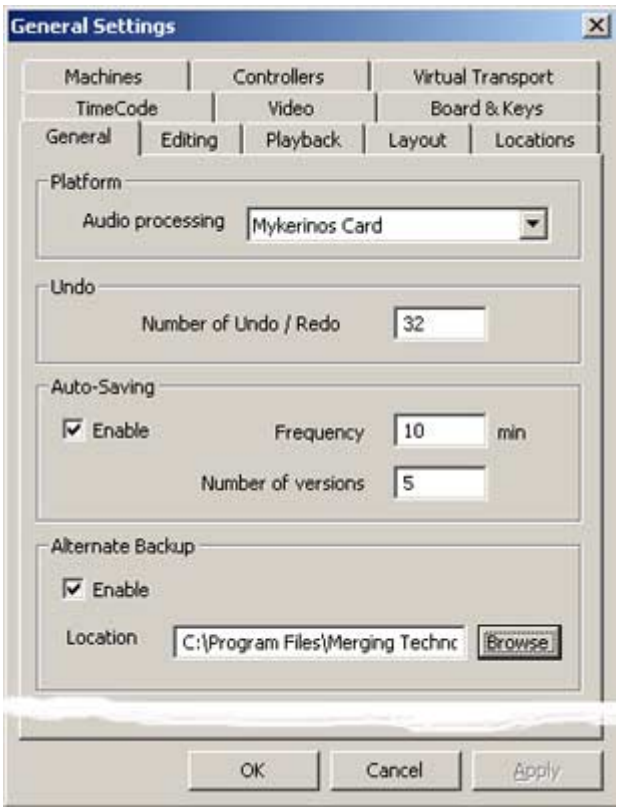
Information and Settings relates to the current **Project**.

Mixer Settings relates to the current **Mixer**.

General Settings

Selecting **Settings > General Settings** from the pull-down menu in the main window opens the **General Settings** window with the default **General** tab window open.
This window contains a number of Tabs which enable general Pyramix Virtual Studio configuration.

General Tab



Platform

Audio processing

The drop down list, offers a choice of which audio device to use with Pyramix. The available choices are **Mykerinos 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. The default is 32.

Note: Increasing this value uses more RAM.

Auto-Saving

Pyramix can be set to automatically save a backup copy of the current project at regular intervals. This does not overwrite the existing saved Project File, but creates a temporary backup file which will be used only if there is an error or system crash before the project is properly closed.

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.

Number of Versions

Determines how many previous versions will be kept.

Alternate Backup

Enable

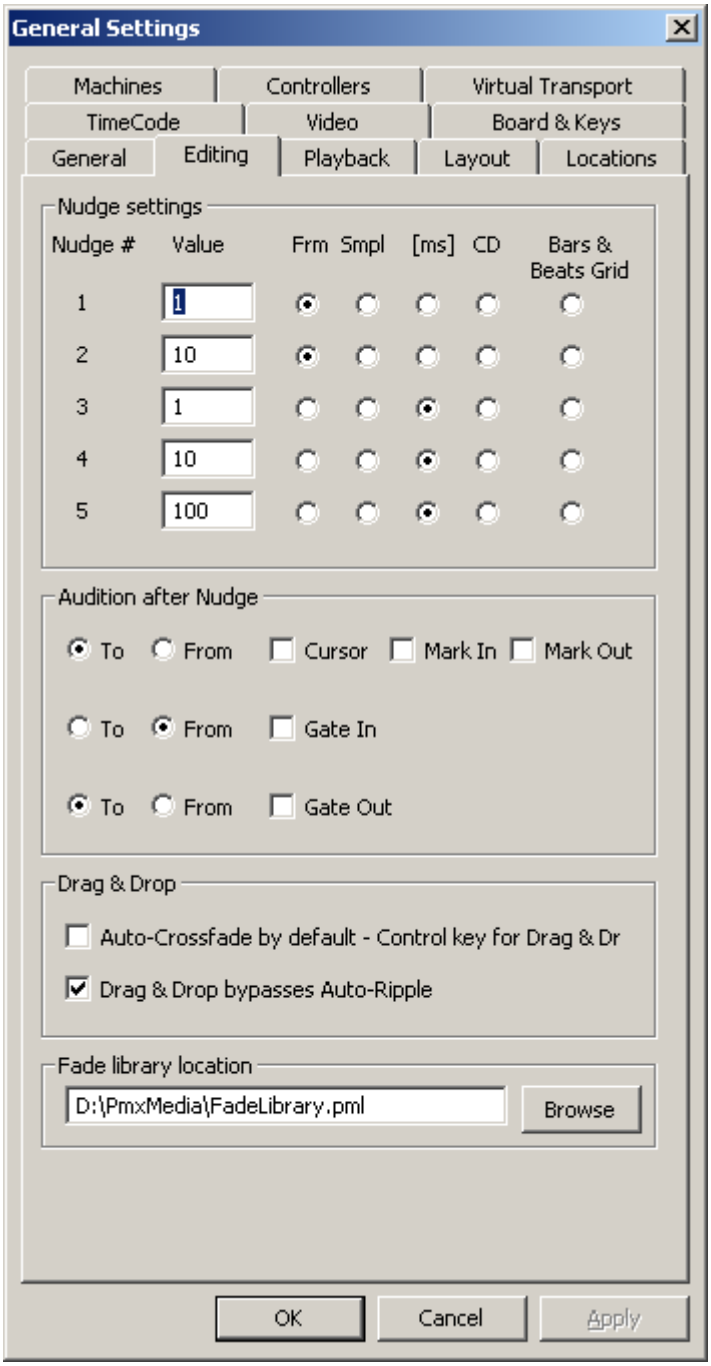
When checked, Project files will also be backed up to an alternative location each time they are saved. This offers increased security if another drive or network drive is chosen.

> **Note:** only project files are stored into this directory, not the media files.

Location

Displays and sets the alternative location.

Editing



Nudge settings

These settings control the amount by which a cursor or clip will be nudged when using the leftand 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)

Seperate **To** and **From** options are provided for **Gate In** and **Gate Out**

Drag & Drop

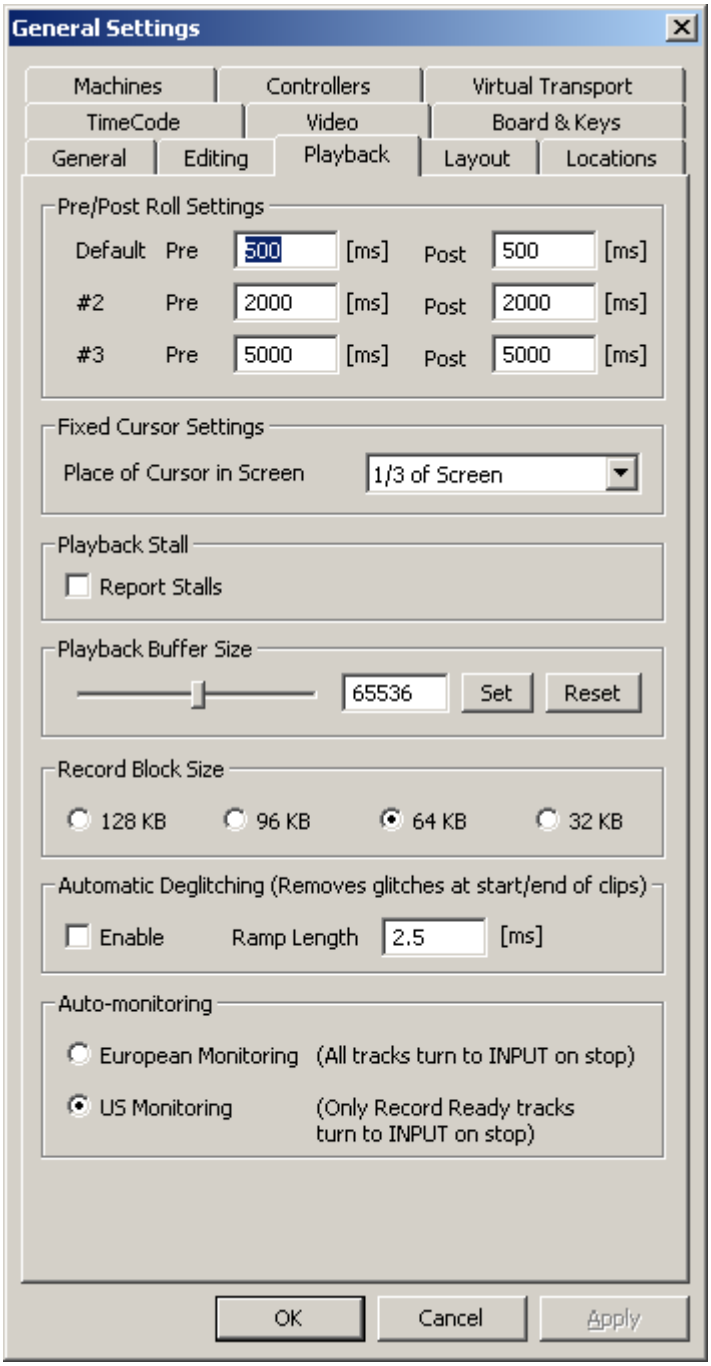
Auto-Crossfade by default - Control key for Drag & Dr

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 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.

Playback



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, interuptions to playback will pop-up a message box.

Playback Buffer

Buffer size may be set by typing in a value or by clicking and dragging the slider. Click **Set** to accept the new value or **Reset** to return to the default value.

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.

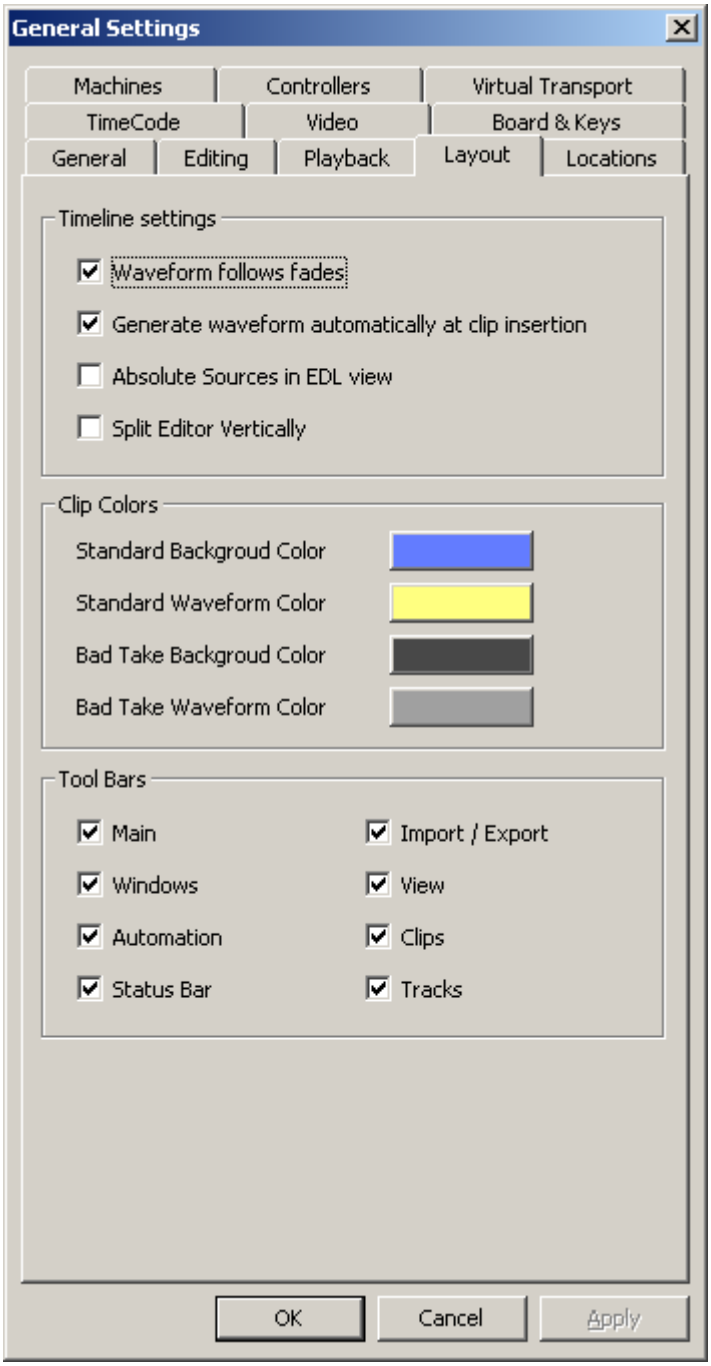
Auto-Monitoring

Toggles between two options

European Monitoring (All tracks turn to INPUT on stop) or

US Monitoring (Only Record Ready tracks turn to INPUT on stop)

Layout



Timeline settings

Waveform follows fades

When checked (enabled) the waveform display is scaled in height during fades and crossfades. The original waveform is shown grayed out.

Generate waveform automatically at clip insertion

When checked (enabled) a waveform file is automatically generated for any clip which does not already have one when it is placed on the Timeline.

Absolute Sources in EDL view

Split Editor Vertically

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.

Clip Colors

Shows the current choices for:

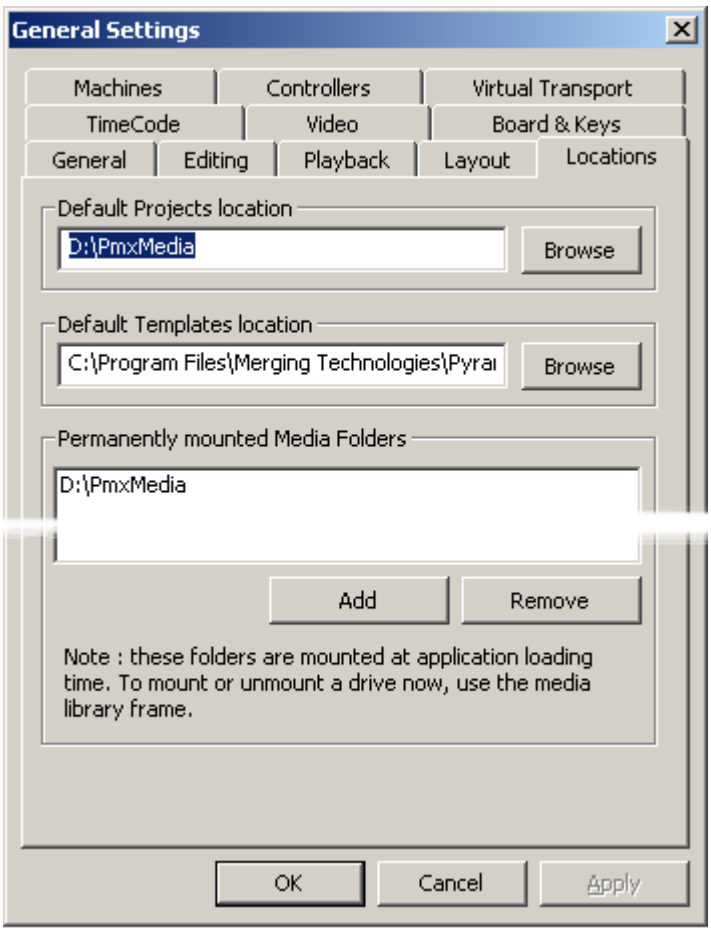
- Standard Background Color
- Standard Waveform Color
- Bad Take Background Color
- Bad Take Waveform Color

Clicking on any of the color blocks opens a color picker.

Tool Bars

Toolbars with checked boxes will be displayed on screen.

Locations



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.

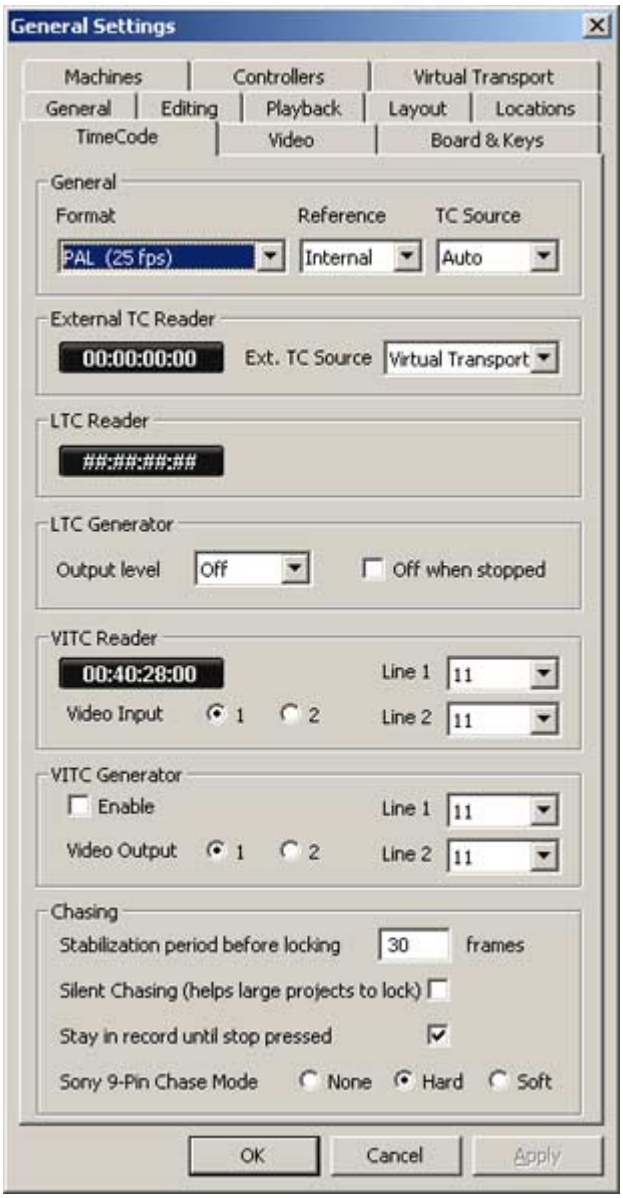
Permanently Mounted Media Folders

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.

Time Code

If you are using the TimeCode input / output features of Pyramix, select the **TimeCode Tab** 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.

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 timecode 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. Adrop 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 **Settings > General Settings : Machines** 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

Show which lines will be decoded. Although VITC code fits into a single line, it is normally duplicated to provide redundancy reducung 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.

Chasing

Stabilization period before locking

Although Pyramix is capable of locking to incoming timecode within 3 - 4 frames, there are cases

where synchronization 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.

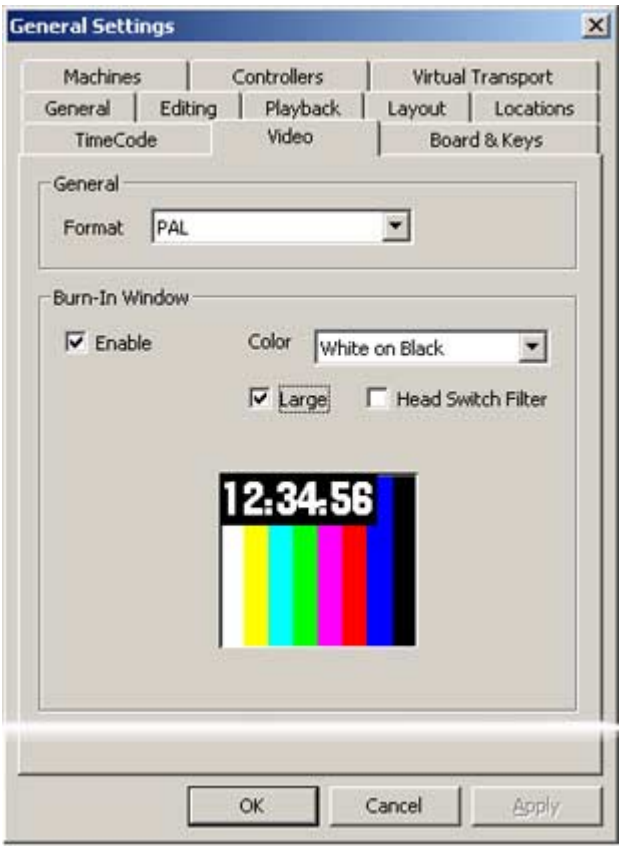
30 frames is a good starting point if you experience problems with external machines.

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 established.

Video

If you are using the video sync input/output features of Pyramix, select the **Video Tab** to configure the video standard or format (e.g. **NTSC, PAL** or one of the supported **HD** formats). You can also enable or disable a visible time code burn-in window on the Pyramix video output for standard PAL / NTSC formats.



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.

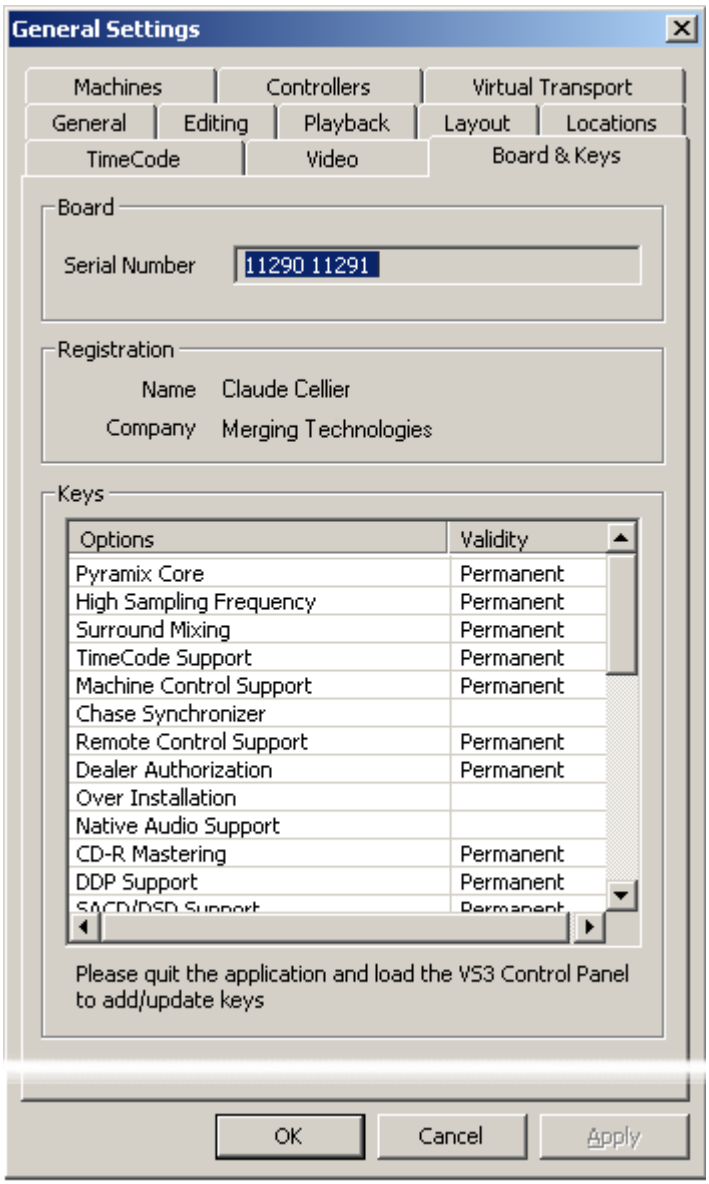
Head Switch Filter

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

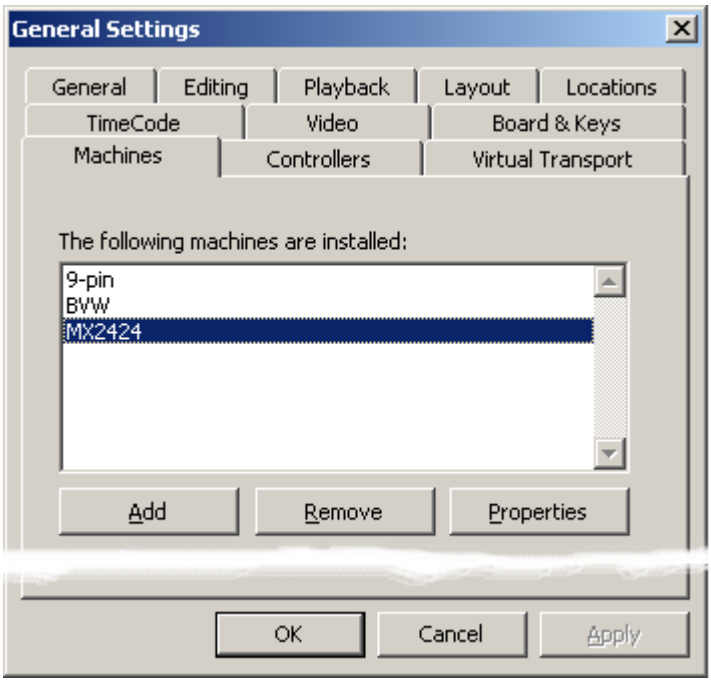
Simply drag the video burn-in window to the desired location within the color bars screen.

Boards & Keys



Information only. Nothing can be changed here. Shows the Mykerinos board serial number(s), the user **Name** and **Company** the software is registered to and the Keys which are validated.

Machines



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.

Add

Clicking on the **Add** button opens the **Machine Properties** window (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** window (see below)

OK

Click OK to accept changes (if any) and close the Machines page.

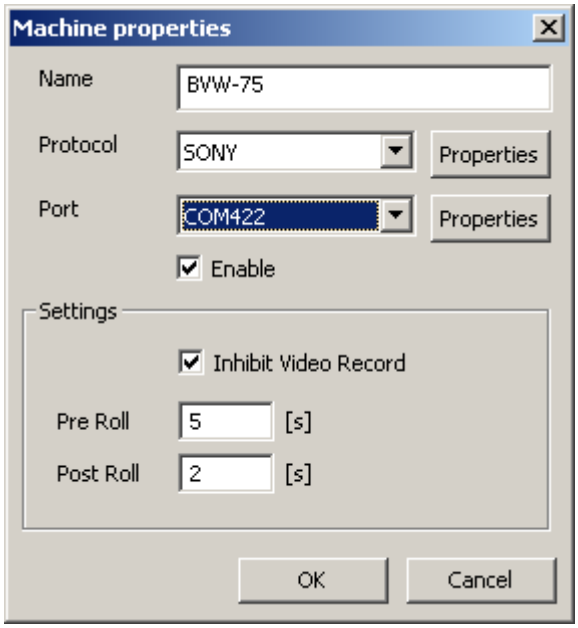
Cancel

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



When the **Machine Properties** window is opened by the **Add** button, the **Name**, **Protocol** and **Port** displays are blank. When the window 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.

Protocol

Displays the current interface protocol from the choice of **MMC** (MIDI Machine Control) or **Sony** (9-pin P2 protocol) in the drop-down list.

Properties

Opens the **Sony 9 - Pin Protocol Configuration** window (see below) when **SONY** is selected. There are currently no options for **MMC**

Port

Displays the current **Port** used for machine control from the choice of **COM422** or **MIDI** in the drop-down list.

Settings

Inhibit Video Record

When checked prevents record arming of video in order to ensure video cannot be accidently overwritten.

Pre Roll

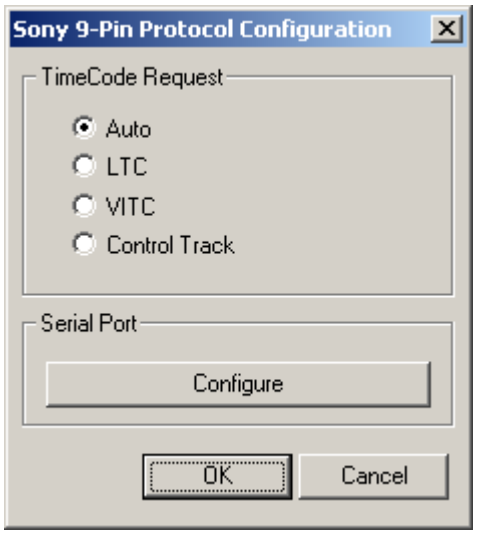
Shows the current **Pre Roll** time for the external machine. Type in the box to change the value.

Post Roll

Shows the current **Post Roll** time for the external machine. Type in the box to change the value.

Port Properties

Sony 9 - Pin Protocol Configuration



TimeCode Request

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.

Serial Port

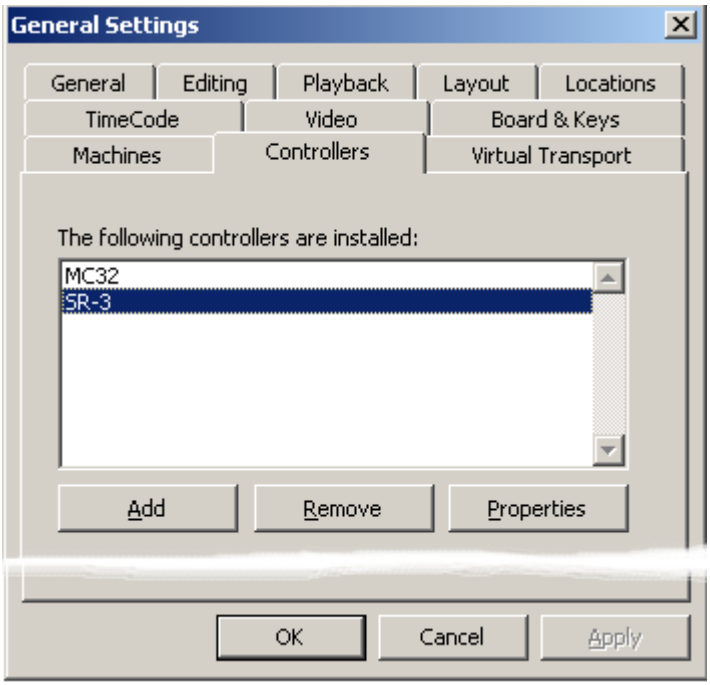
Clicking the **Configure** button opens the **COMM422 Configuration** window:

Serial Port

Shows the current **Serial Port** slected from the drop-down list. If not aalready 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: 38.4 kBits / s, 1 start bit, 8 data bits, odd parity, 1 stop bit.

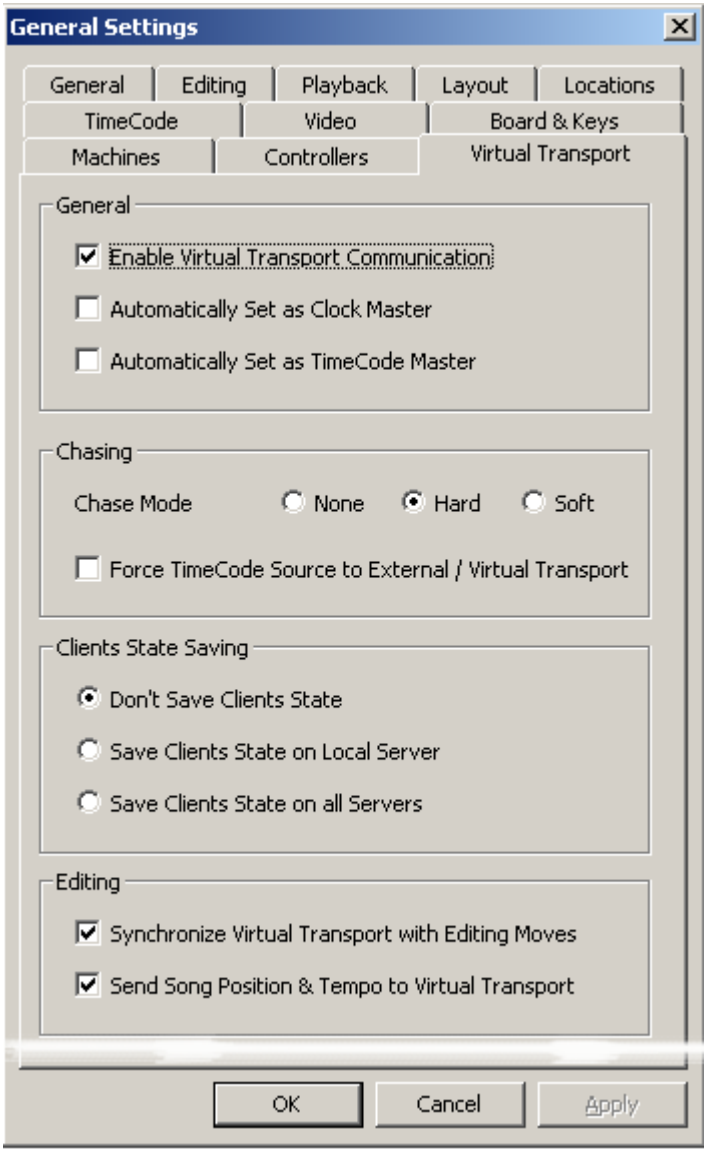
Controllers



The following controllers are installed:

This list shows controllers which have device drivers are currently installed. Controllers in this list will be able to control many of the mixer and or transport functions of Pyramix. If you do not see the controller you want listed here, you will need to add it. **Please see: Remote Controllers on page 258**

Virtual Transport



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

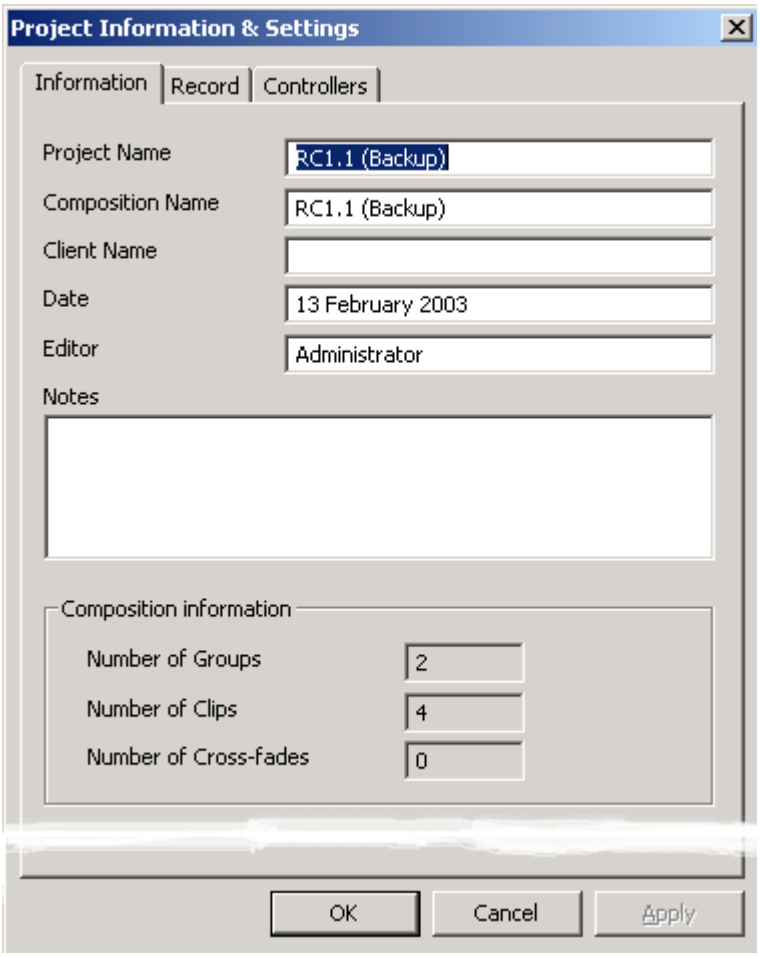
When checked,

Synchronize Virtual Transport with Editing Moves
Send Song Position and Tempo to Virtual Transport

Please see also: Virtual Transport on page 160

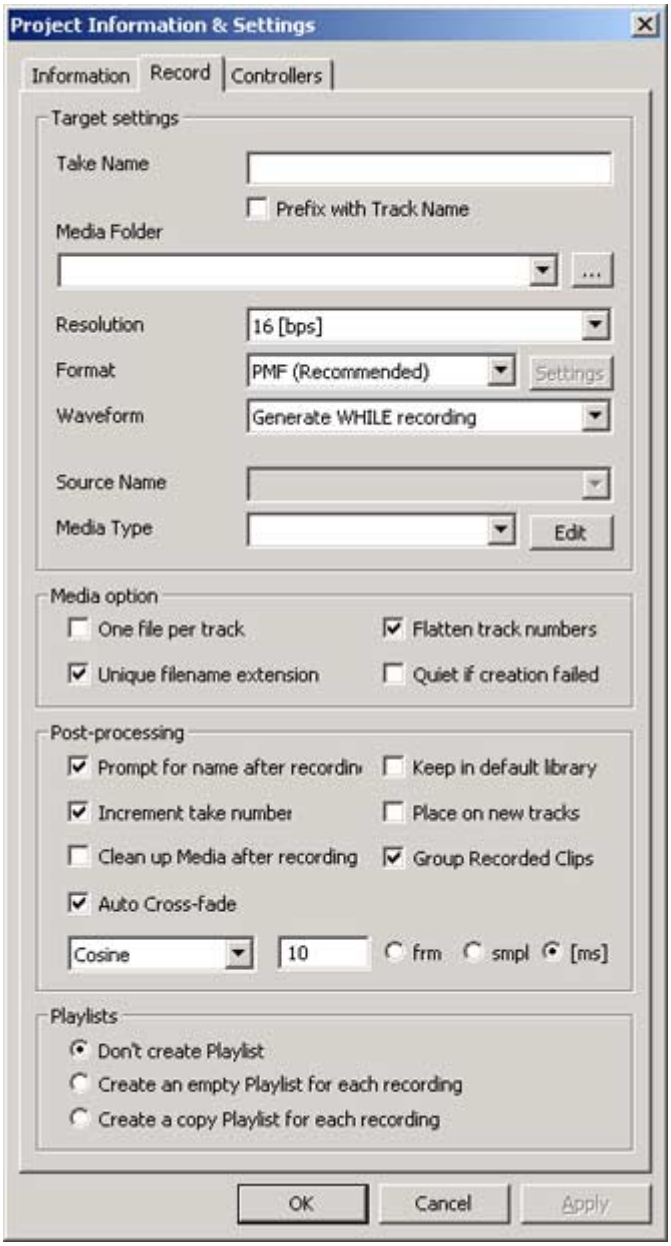
Project Information & Settings

Information



The Information 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.

Record



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.

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: Media Management - Housekeeping on page 20**

Resolution

Displays the number of bits per sample for recordings from the choice available in the drop-down list. (16bps, 24bps or 32bps)

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)

Waveform

Displays the current Waveform generation mode from the choice available in the drop-down list. (None, Generate AFTER recording or Generate While Recording)

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.

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

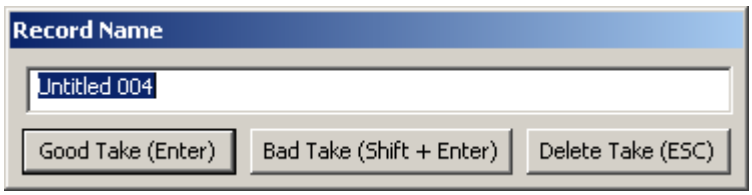
Unless this box is checked, Pyramix displays a dialog with an error message when the creation of a media file fails. This can be annoying if Pyramix is remotely controlled. Checking the box suppresses the error message.

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.



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:

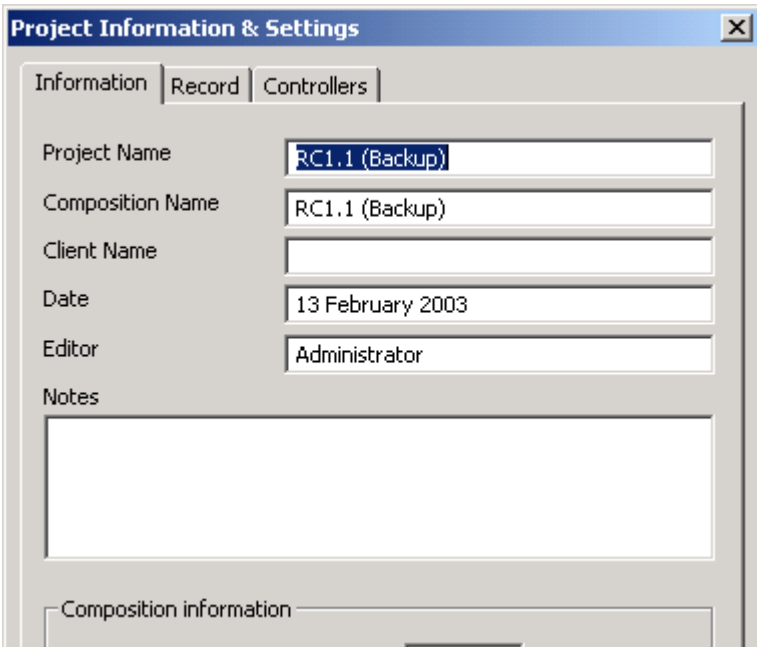
Don't create Playlist

Create an empty Playlist for each recording

Create a copy Playlist for each recording

Note: Please see: **Playlists on page 123**

Controllers



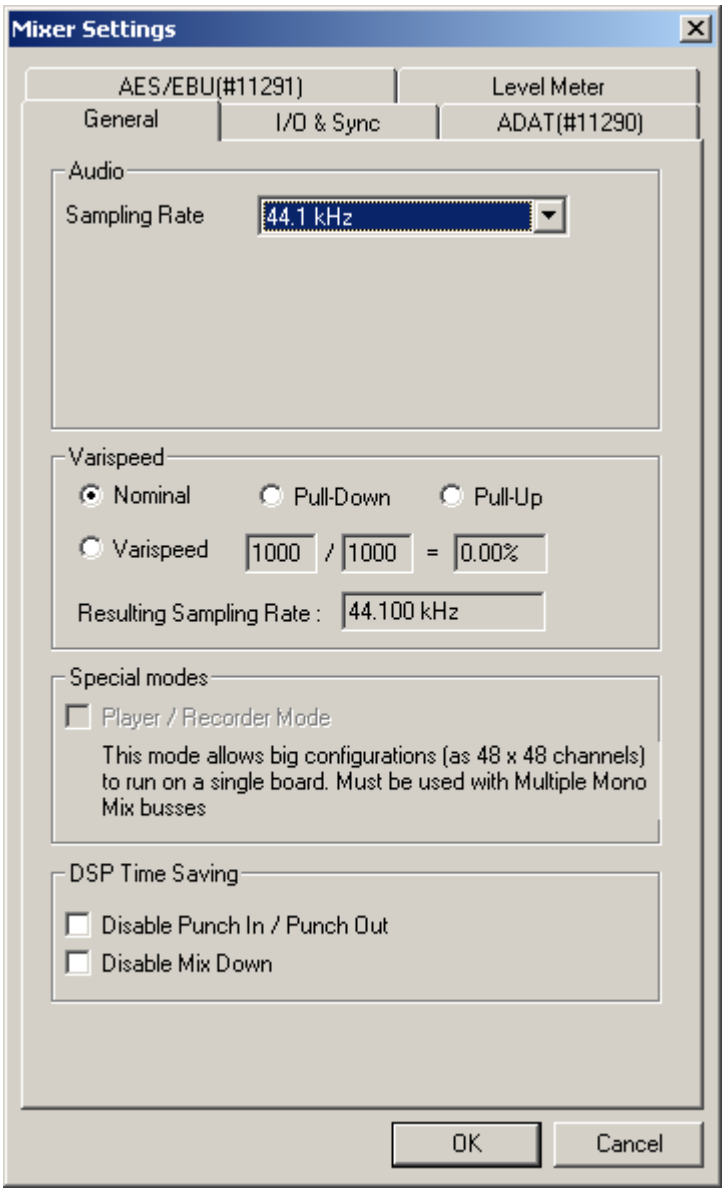
The **Controllers** page shows a list of all external controllers currently installed.

Properties

Pops up the configuration window for the selected controller. **Please see: Remote Controllers on page 258** for further details.

Mixer Settings

General



Audio

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.

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.

Resulting Sampling Rate

Displays the sampling rate resulting from pull-up or down or Varispeed settings.

Note: The sampling rate display in the Status Bar also displays the resulting sampling rate.

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 contain digital nulls.

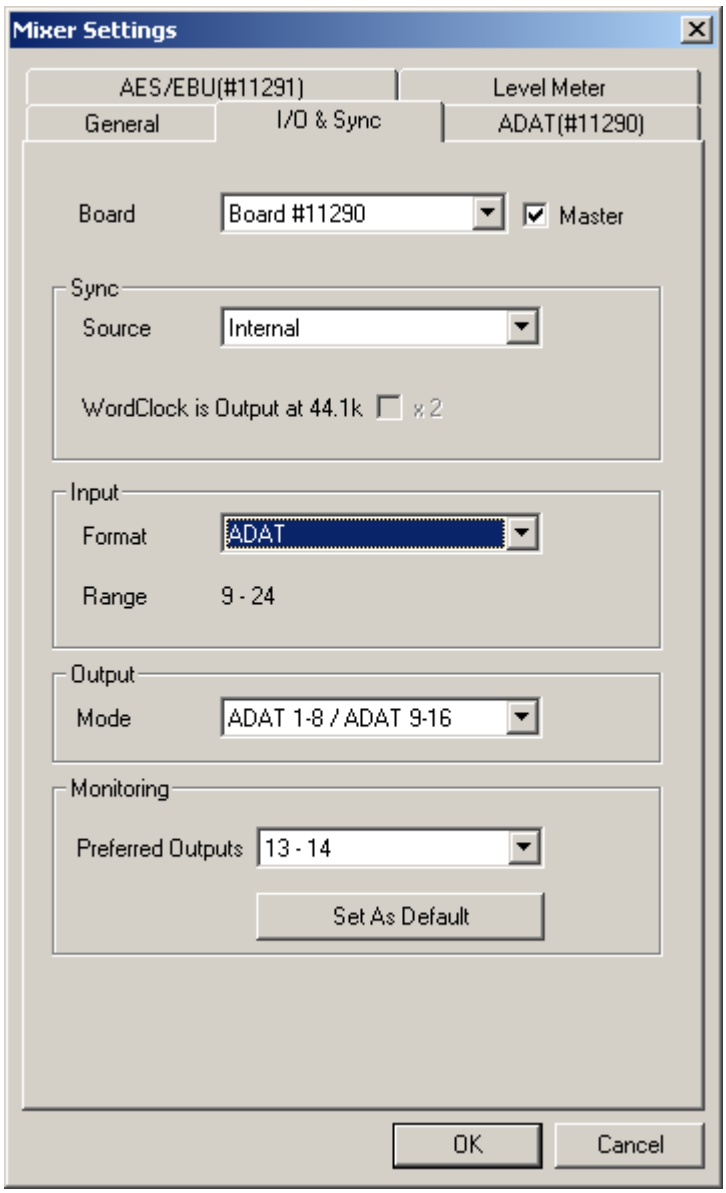
Special Modes

Player/Recorder Mode

This mode allows big configurations (such as 48 x 48 channels) to run on a single board. When this mode is activated, the mixer only routes the signals (no level controls, no pan, no plug-ins). This option is only available in configurations with multiple mono mix buses.

I/O and Sync

This page contains the settings for the system clock reference and several I/O settings which depend on the type of daughtercards currently installed in the system.



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.

Sync

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.

LTC

In special situations this option enables word clock to be derived from Linear TimeCode

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.

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.

Monitoring

Preferred Outputs

The monitoring outputs defined here will be used by the following system functions:

- The **Auto-Connect** function
- Monitoring in **Media Libraries**
- **Digitizing Session** monitoring

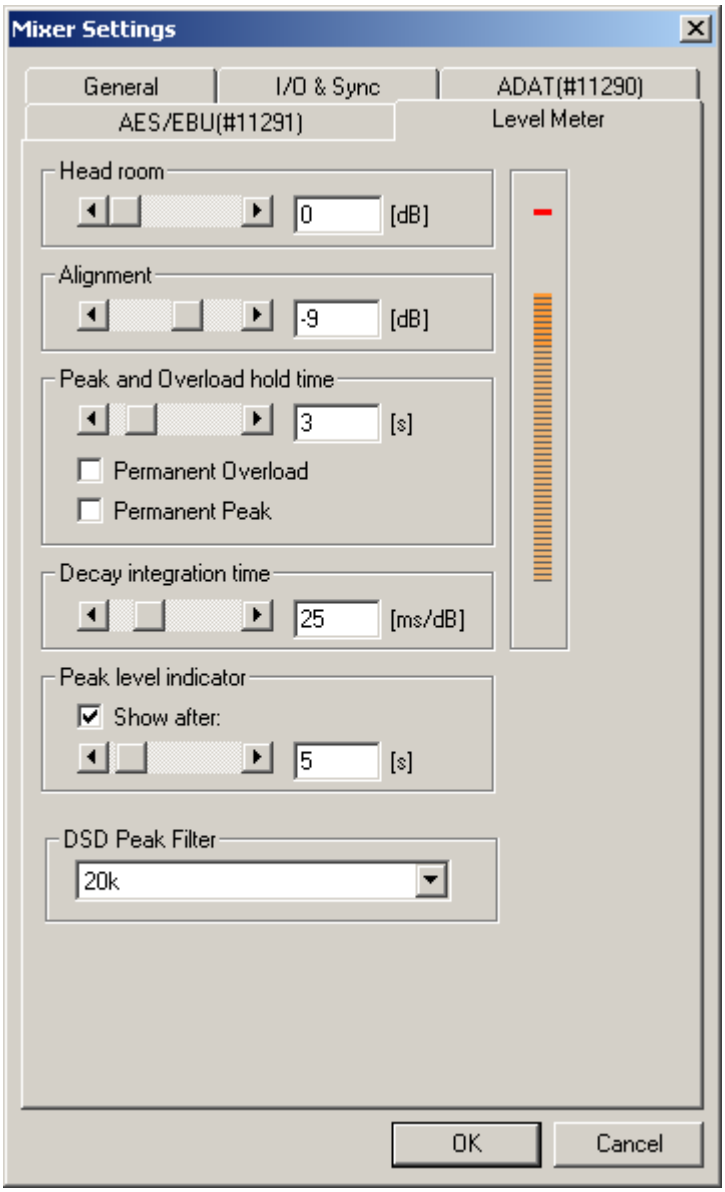
Mykerinos Daughter Card Settings

These settings provide hardware specific configuration for the currently installed Mykerinos daughter card(s). Please see the documentation supplied with the card.

Level Meter

This page determines the appearance and behavior of the level meters in the **Mixer** and **track Headers**. 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.

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 play-back 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

In case of a DSD session this drop-down list offers the choice between two filtering options 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

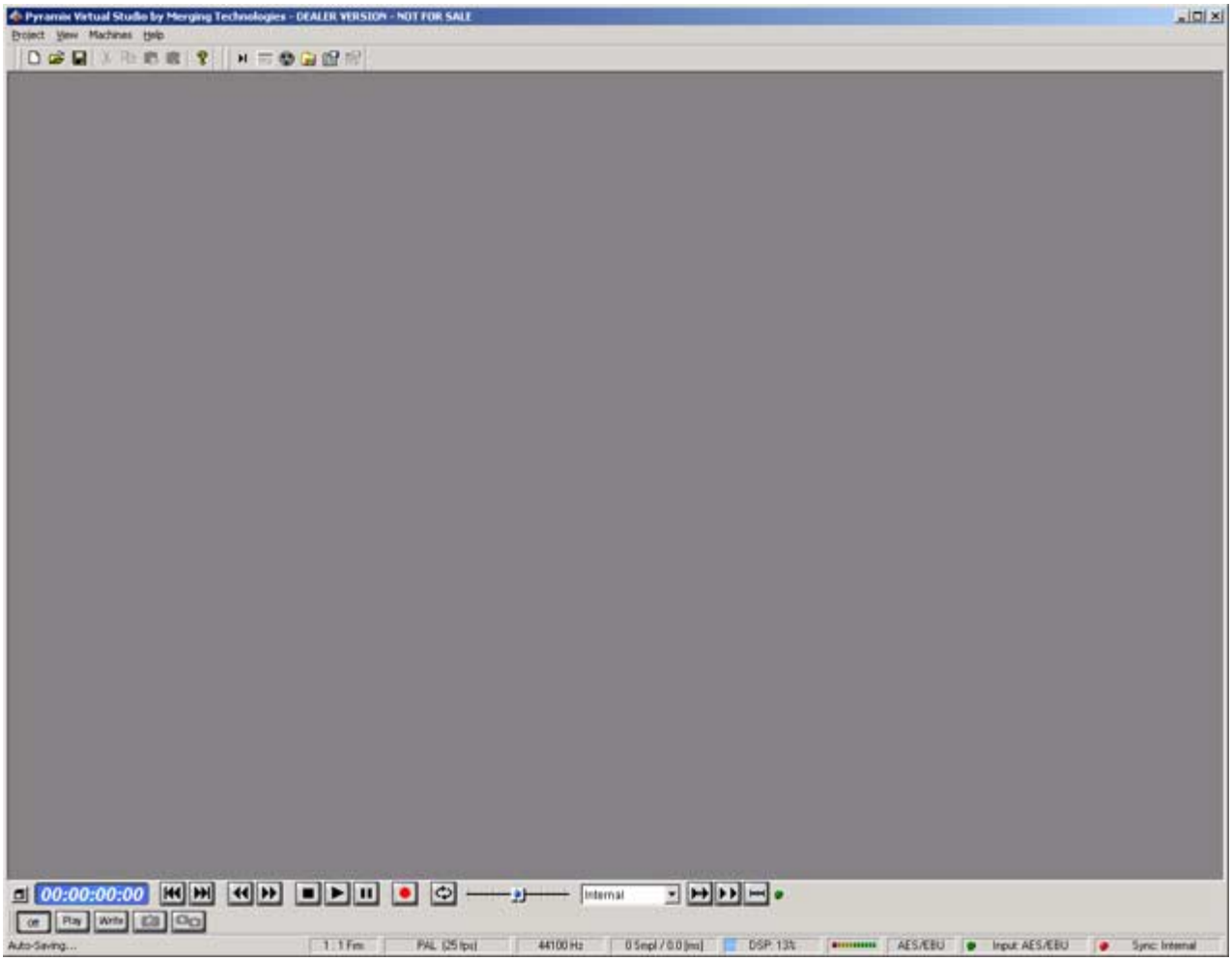
Applies a 20 kHz low pass filter to the signal, thus only the audible audio content is measured.

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.

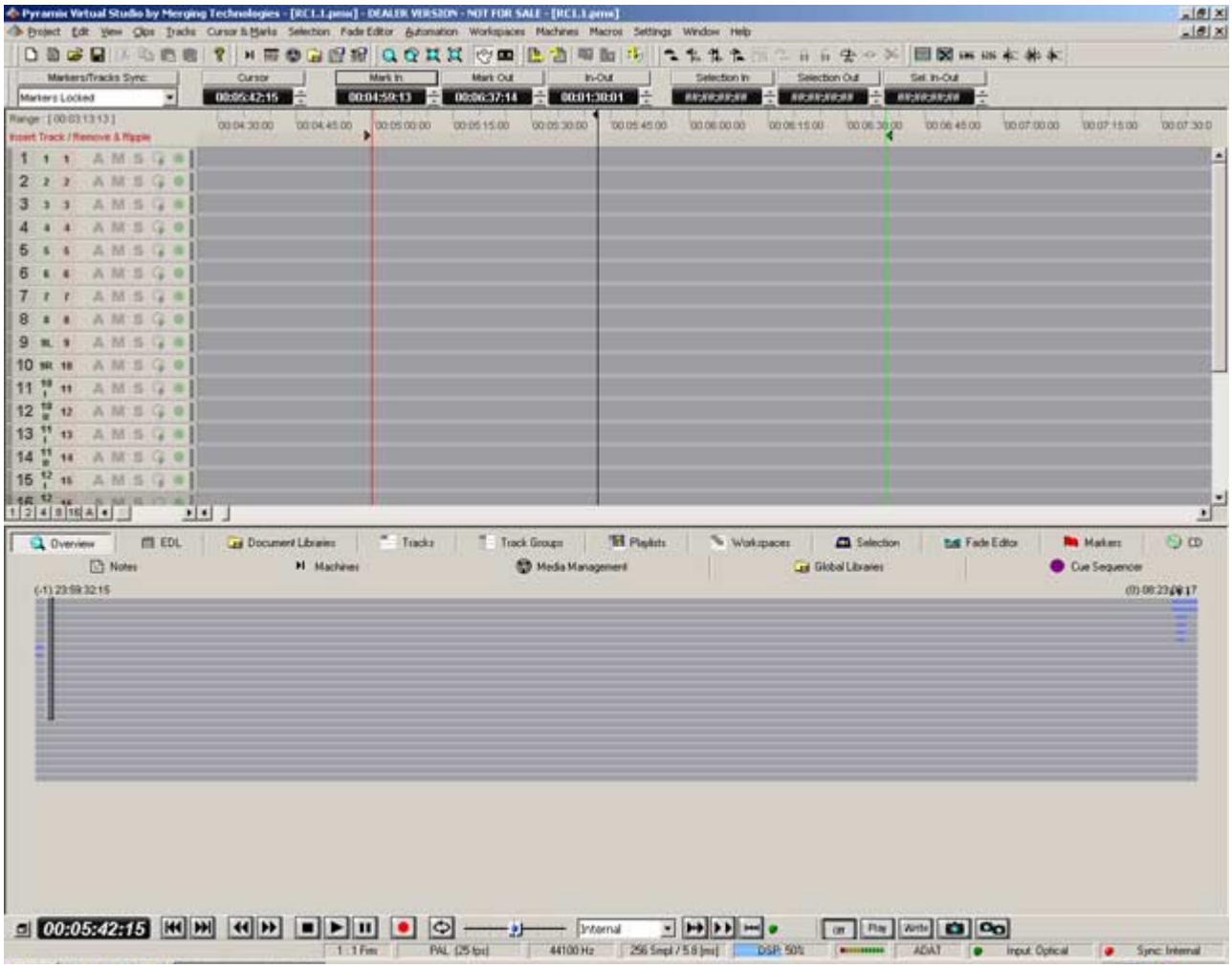
Pyramix Virtual Studio Window Orientation

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



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.

Dual Monitors

When using Dual Monitor setups, the main project window can be split vertically to enable the Timeline to be displayed on one screen and all Tab Windows on the other one. This can be achieved by checking the **Split Editor Vertically** check box in the **General Settings : Layout Page** This change will take effect the next time a Project is opened.

Project Editing Panel

The **Project Editing Panel** is where much of the audio editing is accomplished. Here, audio **Tracks** may be created, added or deleted, and audio **clips** may be edited, moved, copied or pasted. Note that the **Project Editing Panel** will automatically start with the same number of audio **Tracks** as the number of **Input Strips** configured in the **Mixer**.

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 top 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.

Tabs 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 window.

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 98**

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 often a good place to click in order to select it.

Adding and Deleting Tracks

A **Project** opens with the same number of **Tracks** as there are **Input Strips** defined in the **Mixer** for the **Project.** However, **Tracks** can easily be added or deleted.

To add **Tracks** to the **Timeline**, select **Tracks** > **New Audio Track** from the **Project** window pull-down menu. This opens a **Create New Track** window. Type in the number of new **Tracks** to create and click **OK**. The chosen number of **Tracks** will be added immediately above the currently selected 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**.

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

Routing Tracks to / from the Mixer

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

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 55**

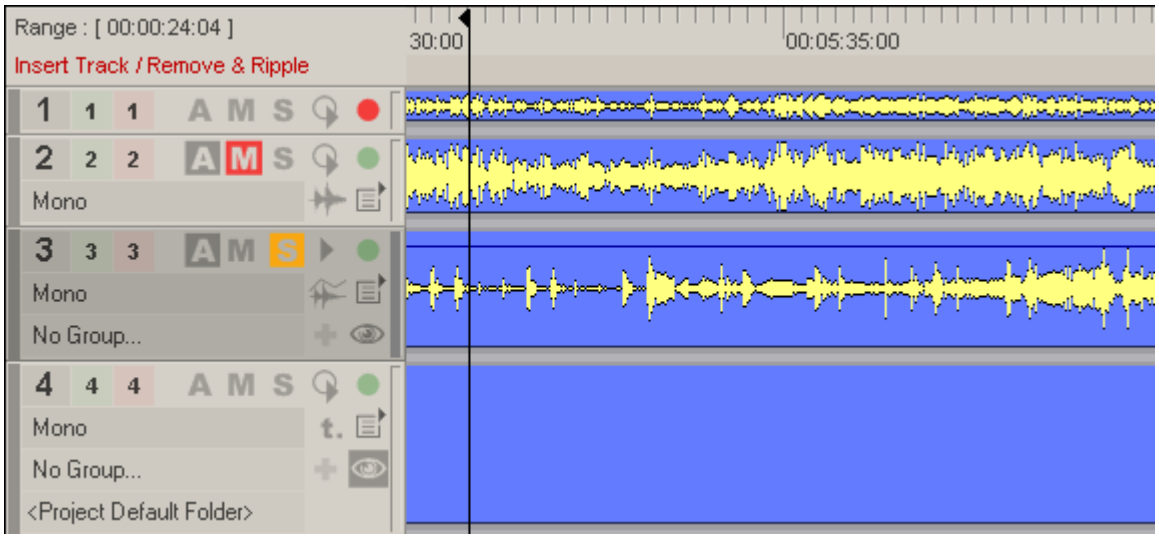
Virtual Tracks

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 various automation curves for a single track.

Track Header Panel

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



This screen shot shows Track Headers in variety of states.

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

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

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. (see Reference Guide)

The **Mute** icon toggles the **Mixer Channel** between **Un-Muted**, as shown here;

and **Mixer channel Muted**, as shown here.

The **Solo** icon toggles the **Mixer Channel** between **Solo off,** as shown here and;

Solo on as shown here.

The Record icon has three possible states.

These are toggled by 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 icon opens the **Record** tab of the **Project and Information Settings** window.

The Monitor icon also has three possible states.

Note: These icons are only shown 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 setting on the **Playback** Tab of the **General Settings** window**. 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.

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.

Hide Track - track is removed from view on the Timeline but continues to play or record. It can be restored by opening the **Tracks** Tab in the **Project management** pane and toggling the appropriate **YES** entry in the **Hidden** column off. All hidden tracks can be display again by selecting the menu item **View > Tracks > Show all Tracks**

The Waveform icon has three possible states.

Display Waveform - by default shows **clips** as blue blocks with yellow waveform superimposed.

Display Blocks - by default shows **clips** as blue blocks.

Display Envelope - by default shows **clips** as blue blocks with yellow 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**.

In each **Track Header**, you will find a **pale green box** with a number superimposed on it; and a **pale red box** with a number superimposed on it. The **green box** shows the mixer channel number the **Track** output is assigned **TO**. The **red box** shows the number of the physical input or Internal Return Bus feeding the track input.

To change a **Track** input or **Output** assignment, just click on the corresponding **Track** input or output icon, then select the appropriate **Mixer** channel number or **Input** number from the corresponding pop-up list. **Note:** When channel and input numbers are the same, selecting a **Mixer channel** will also change the **Input** number, otherwise they operate independently.

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

Many tracks can be assigned to the same **Mixer** input, they are therefore sub-mixed before entering the **Mixer**. This allows more tracks to be played than the number of **Mixer** input strips.

Many tracks can be fed from the same physical input.

Navigation

Pyramix Virtual Studio offers the user a variety of ways of navigating around the Project Editing Panel.

Play Head Position

A vertical black line with a left facing triangle at the top indicates the current **Play Cursor**, **Play Head** or **Now** position within the **Project Editing Panel**. When a new **Project** is started, the **Play Head** is set at Zero (0).

The **Playhead** can either be static, with scrolling tracks, or moving, in which case the track display 'pages' when the boundaries are reached. (select with **View > Fixed Cursor while playing** or **View > Free Cursor while playing**. A further option, **View > Cursor Return after playing,** when selected, returns the **Playhead** to the start point when playback is stopped)

Time Scale Bar

Near the top of the **Project Editing Panel** is a horizontal gray area with time code numbers (or bars and beats if you are in **Bars & Beats** view). This is the **Time Scale Bar**. On the left, above the track headers, the time range, or length of the visible timeline window is indicated with the current edit mode beneath.

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

Fixed or Moving Playhead Cursor

These options are selected via the **View** pull-down menu. The **Play Head Cursor** can be static with the **Timeline** moving (choose: **Fixed Cursor while playing)** or the **Play Head Cursor** can move while the **Timeline** remains static, 'Paging' when the **Play Head Cursor** hits the screen edge. (Choose: **Free Cursor while playing**).

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

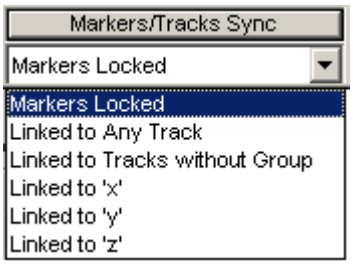
Composition Information and Settings Toolbar.

Above the **Time Scale Bar** and below the **Project Editing Panel Toolbar** is the **Composition Information and Settings Toolbar**. At the left hand side is the drop-down menu box for **Markers / Tracks Sync**. In between are a number of time code register boxes with increment / decrement arrows. From left to right these are;
Cursor, **Mark In**, **Mark Out**, **In-Out**, **Selection In**, **Selection Out** and **Sel**ection **In - Out.** All the registers accept direct keyboard entry of time-code. When values are typed into the **In-Out** or **Set In-Out** registers, the **In** value remains fixed while the **Out** is adjusted.

Clicking on the label buttons above 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 **In-Out** or **Sel**ection**-In-Out** buttons 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 / Tracks Sync

At the left hand side of the **Composition Information and Settings Toolbar** is the **Markers / Track Sync** drop down menu box.



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

Markers Locked (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 have no group)

Linked to Group X, Y, Z (markers follow any track of group listed here)

Markers that belong to a group in **Free Markers** mode follow the tracks in that group only.

Transport Controls

The **Play Head Cursor** or the **Timeline** will also move in response to the transport control buttons on the strip at the bottom of the main **Pyramix Virtual Studio by Merging Technologies** window, or by using the separate **Transport** window controls (providing control over the Internal machine is selected). Note that the **Transport** Strip disappears when the **Transport** window is open, and reappears when the window is closed.

From left to right along the **Transport** strip, the controls are as follows:


The '**Grow Box**' opens the full **Transport Control** window

A counter shows the current **Play Head** position.


The **Goto Beginning** button moves the **Play Head** to the beginning of the **Composition**.


The **Goto End** button moves the **Play Head** to the end of the **Composition**.

The **Rewind** button moves the **Play Head** at an accelerated speed backward through the **Composition** while it is being pressed.

The **Fast Forward** button moves the **Play Head** at an accelerated speed forward through the **Composition** while it is being pressed.

The **Stop** button stops playback.

The **Play** button plays the **Composition** at normal speed forward from the current position of the **Play Head**. A subsequent press **Pause**s playback.

The **Pause** button pauses playback of the Composition. Press **Pause** again or **Play** to continue.

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 **Loop Play** toggle button puts **Pyramix** into a loop play mode, which continuously plays the **Composition** 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**.

A pull down menu 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 (e.g. an RS-422 or MIDI controlled playback machine)

When the **Hard Chase** toggle button is active, Pyramix will only playback when valid time code is detected on the chosen time code input port. If there is a jump in the incoming time code, Pyramix will adjust to the new time code and begin playback from the new time code position. Pyramix will run on its own internal time code 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.

When the **Soft Chase** toggle button is active, Pyramix will only playback when valid time code is detected on the chosen time code input port. If there is a jump in the incoming time code, Pyramix will not adjust to the new time code, but will continue playback from the current Pyramix time code position. Pyramix will run on its own internal time code 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.

The **Offset** button. Click this button to capture the incoming time code and synchronize it to the current position of the **Play Head Cursor**. The amount of time between the incoming time code and the current Play Cursor position will automatically be entered as a time code offset in the offset field of the main Transport Control window.

The **Sync 'LED'** lights green when the Pyramix 'Transport' has synchronized.

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.

The Automation Palette

Automation **Off** disables the automation system.

Automation **Play** plays back any previously recorded automation data.

Automation **Write** plays back any previously recorded automation data and records new automation data whenever an enabled control is altered.

Snapshot records the state of all controls, specified in a list, at the current cursor position.

Snapshot Range inserts automation snapshots of all controls, specified in a list, on the current Region Selection, if any, or between the **Mark In** and **Mark Out** cursor positions otherwise.

Transport Control Panel

When the **Grow Box** button  is pressed the **Transport Control** bar opens into a larger, floating control panel.

Note: The appearance of this window changes to reflect the capabilities and controls of the current machine

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

Zoom In and

Zoom Out icons on the Toolbar zoom in or out at the current Play Head location. Multiple presses continue zooming up to the limit of magnification.

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 **Fit in window** icon on the Toolbar will automatically adjust the horizontal scale to fit the selected area inside the **Project Editing Panel** with a small margin.

The **Previous zoom** icon restores the horizontal scale to the previous size.

Keyboard shortcuts exist for all these zooming actions.

The **Scrollbar** beneath the **Tracks** directly below the **Time Scale** bar allows the user to Pan horizontally left or right in the usual fashion.

Track Height Zoom

The **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**.

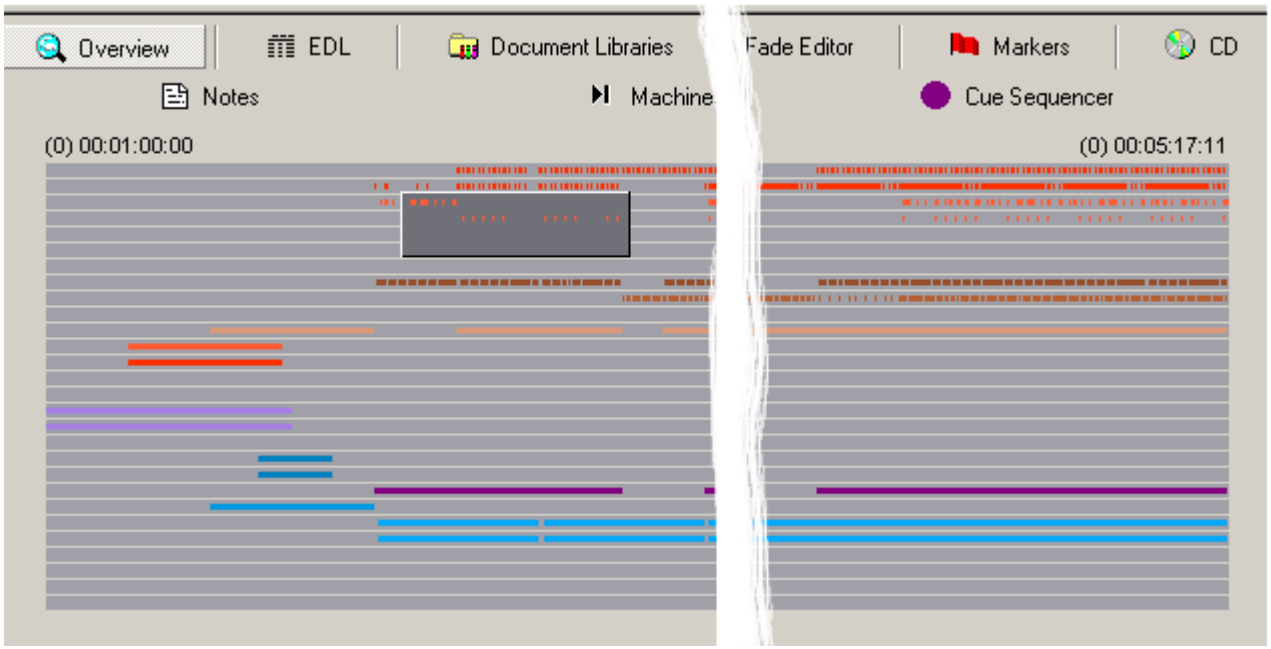
The Scrollbar adjacent to these buttons enables continuous adjustment of the Track height.

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 navigation 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.

Project Management Panel Tabs

Overview

Please see: The Overview on page 107

EDL

The EDL (Edit Decision List) Panel, 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:

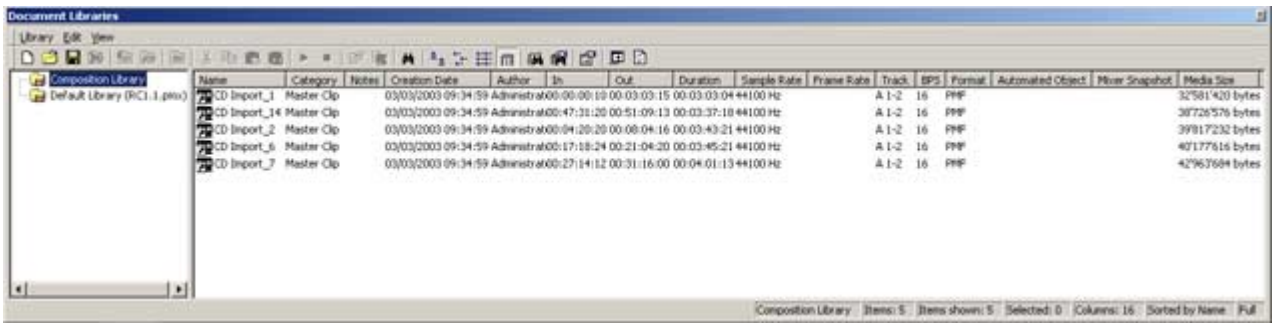
Field	Description	Editable
Name	Clip Name	Yes
Type	Type of Clip(e.g. audio, video, midi etc.)	No
Dest In	Clip's In time in the Timeline	Yes
Dest Out	Clip's out time in the Timeline	Yes
Fade In	Clip's Fade In length	Yes
Fade Out	Clip's Fade Out length	Yes
Length	Length of Clip in the Timeline	Yes
Source 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 on the **Layout Page** of **General Settings** 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.

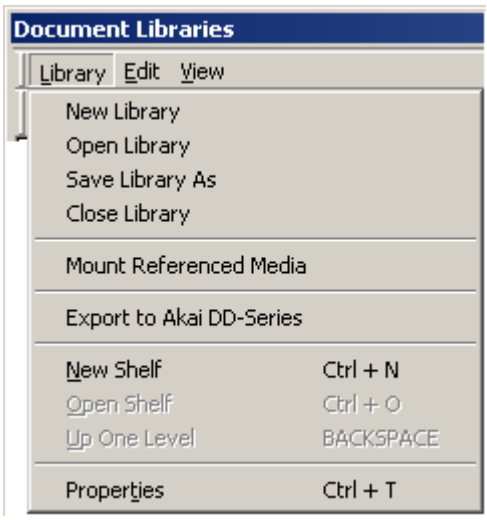
Document Libraries

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 looking for the **.PMX** project file in the Project's **Media Files** sub-folder.



The left hand pane shows **Libraries** associated with the project. Sub-folders of libraries are termed **Shelves**. The contents of the highlighted **Library** is shown in the right-hand pane with information about the objects in columns.

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** / **Composition** may not be mounted, (E.g. on a removable drive). **Mount Referenced Media** automatically mounts the most recent location where these media were found.,

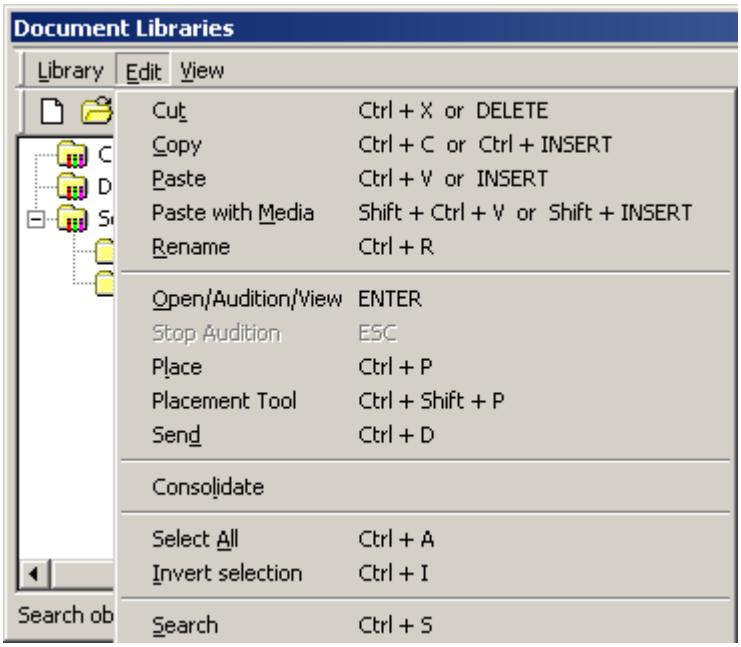


Library Menu

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
Close Library	Close current library

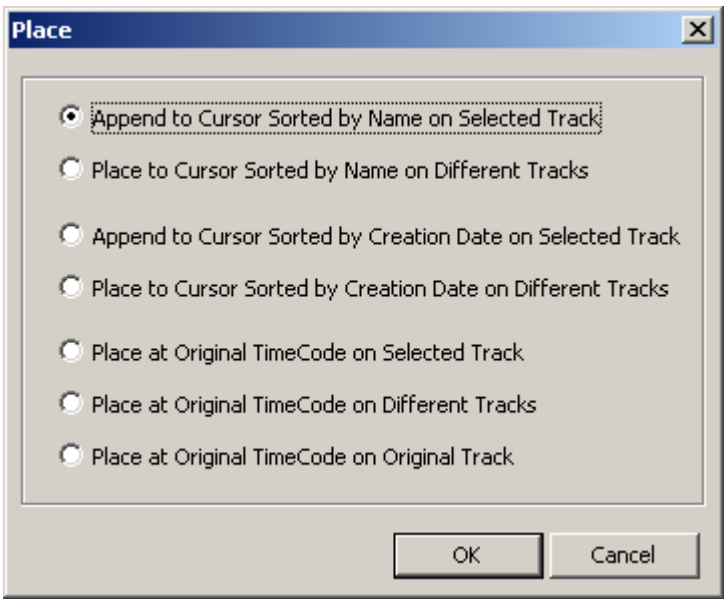
Mount Referenced Media	Automatically mounts the most recent location where media in the current project were found
Export to Akai DD series	Exports the contents of the current library to **Akai DD** format disk
New Shelf	Creates new Shelf (subfolder) below the current level
Open Shelf	Opens selected shelf
Up one level	Go up the tree one level (if available)
Properties	Opens the properties window for the current library

Edit Menu



The **Edit** menu allows the usual cut, copy and paste operations between the Timeline and library and between libraries. objects can also be **Open**ed/**Audition**ed/**View**ed depending on their type

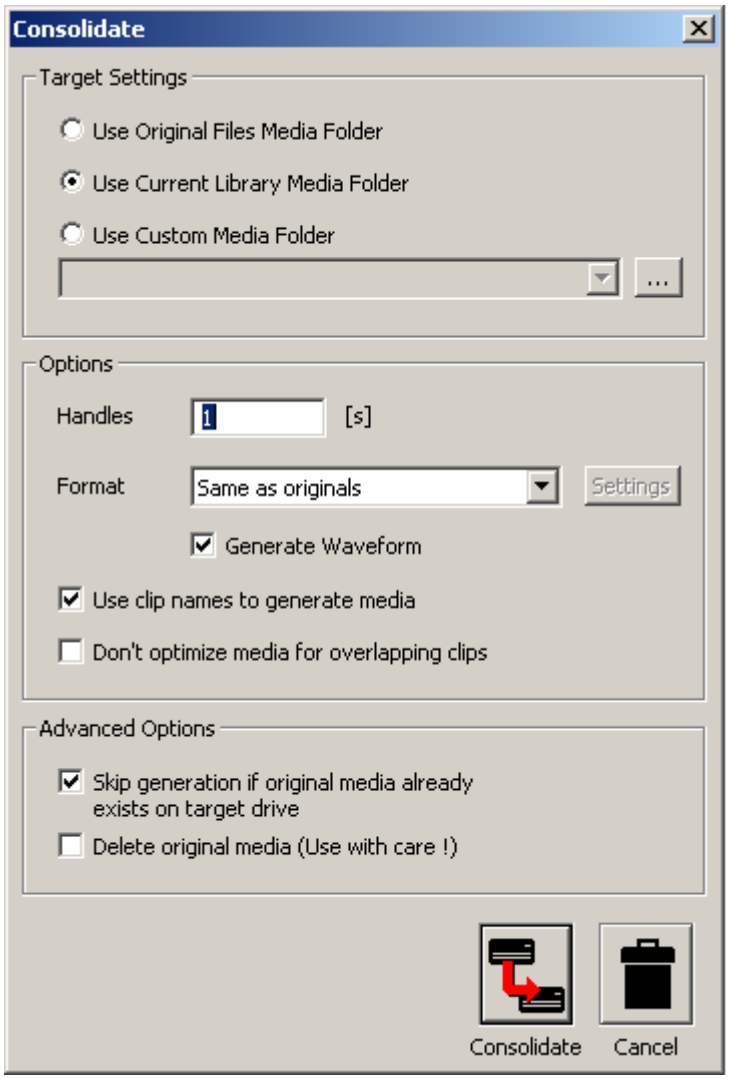
.



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

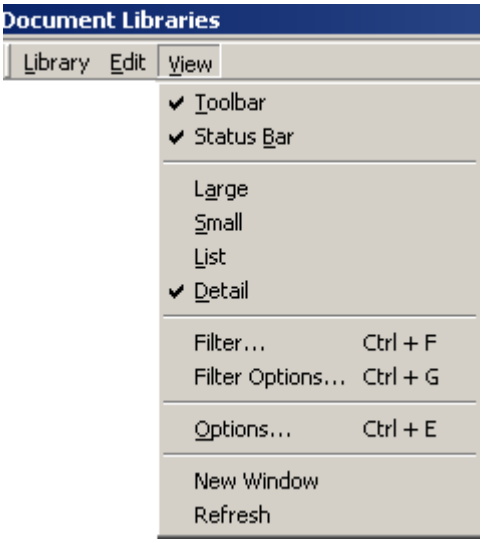
Compositions in the library can be **Consolidate**d. **Please see also: Consolidating Projects on page 207**

Consolidate

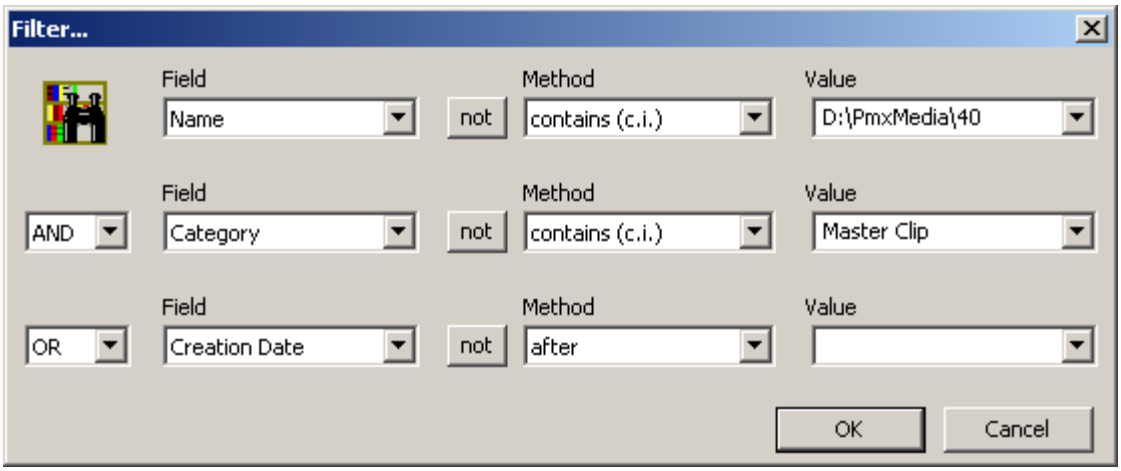


The **Consolidate** function makes a selective backup of the media segments in the selected Composition. I.e. instead of backing up the whole of every media file referenced by the clips in a composition, **Consolidate** backs up only those parts of the media files that are referenced by the clip segments 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.

..View Menu

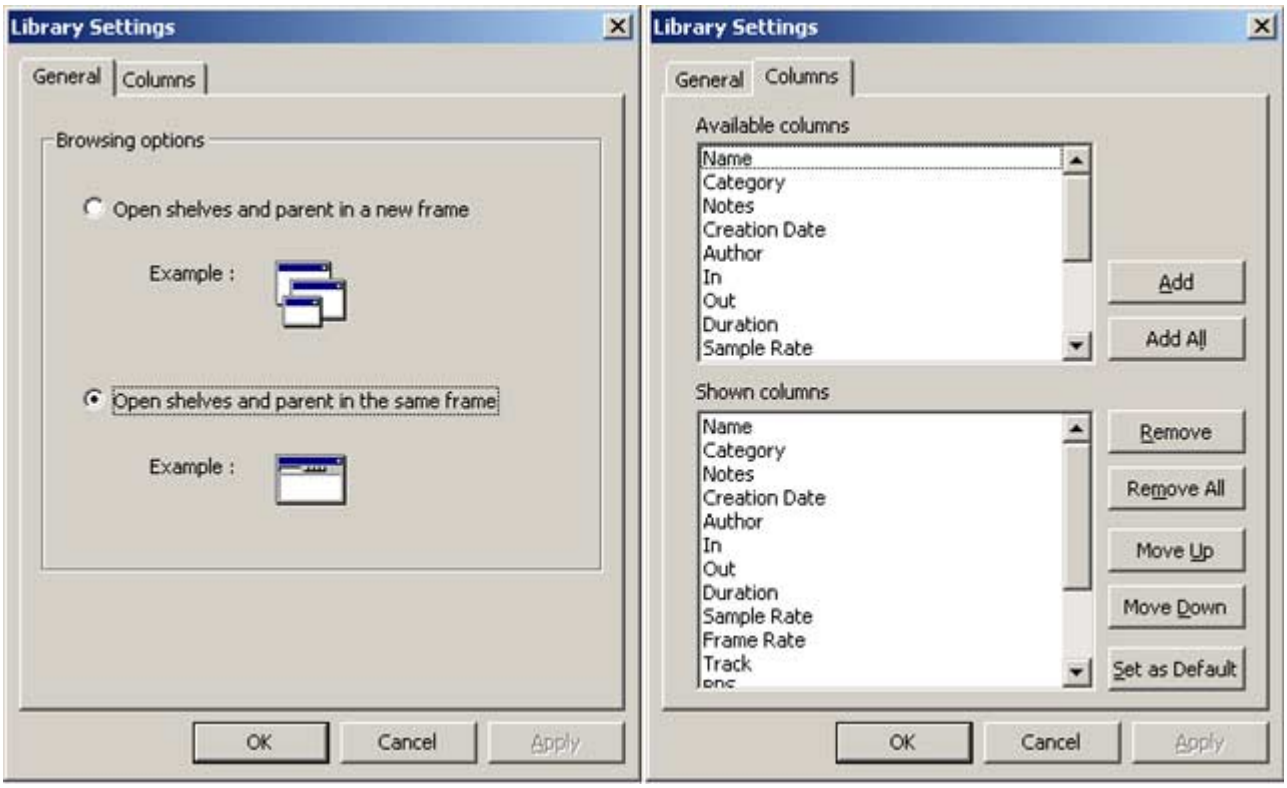


The **View** menu determines how library information is displayed.



Filter, when ticked, filters the items displayed in the right-hand pane of the **Document Libraries** Tab Window according to the filter parameters set under the **Filter Options** menu selection.

Options.



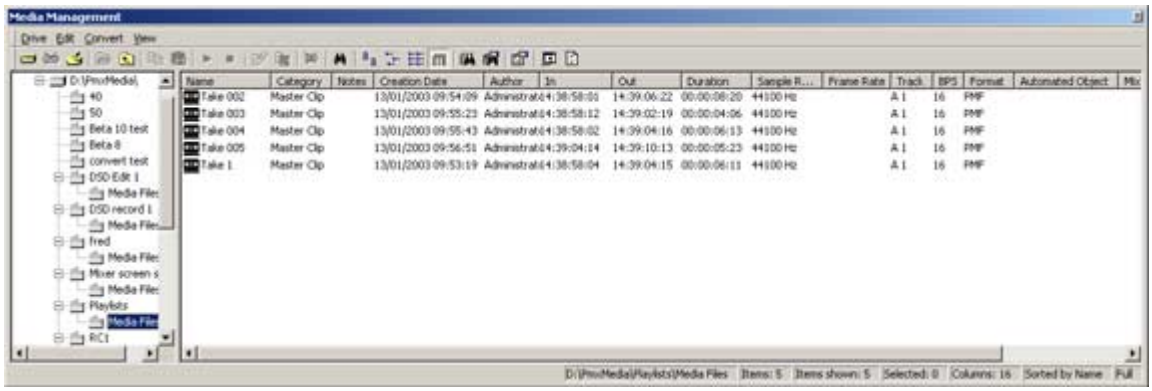
Selecting **Options** opens the **Library Settings** Window with two Tabs, **General** and **Columns**.

General is self explanatory. **Columns** controls what is displayed in the right-hand pane of the **Library** Tab Window. The columns displayed and their order are all customizable.

Please see also: **Libraries on page 20**

Media Management

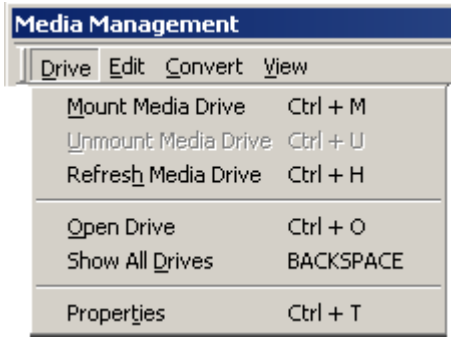
Opens a window with two panes.



The left hand pane shows **mounted Media Drives and Folders** available for use with the project. The contents of the highlighted **Media Drive** or **Folder** is shown in the right-hand pane with information about the object in columns

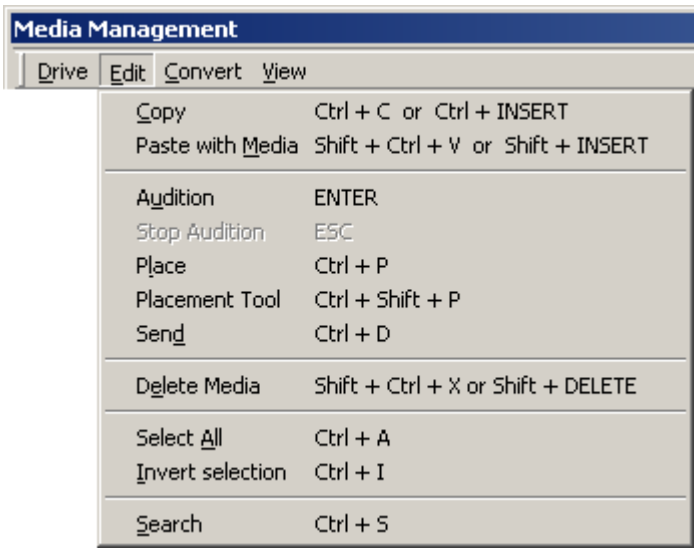
Media Management Menus

Drive.



Mount Media Drive	Make visible to the Pyramix media filing system
Unmount Media Drive	Remove from the Pyramix filing system
Refresh Media Drive	Refresh works in the same way as Explorer Windows and makes visible files which have been added since the Media Management Window was opened
Open Drive	Opens the Media Management Library for the selected drive and directory. Double clicking on the name of the media directory has the same effect
Show All Drives	Opens a list of all mounted drives and directories
Properties	Opens a Proeprties window showing the number of currently mounted drives

Edit

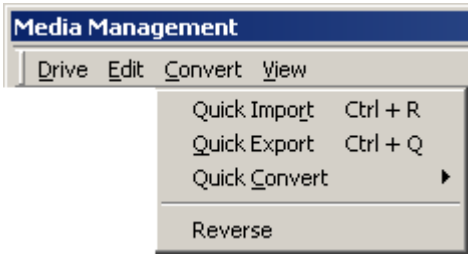


Most options are the same as the **Document Library Edit Menu** with one major exception:

Important! Delete Media does what it says. This command:

PERMANENTLY REMOVES AUDIO from the drive.

Convert

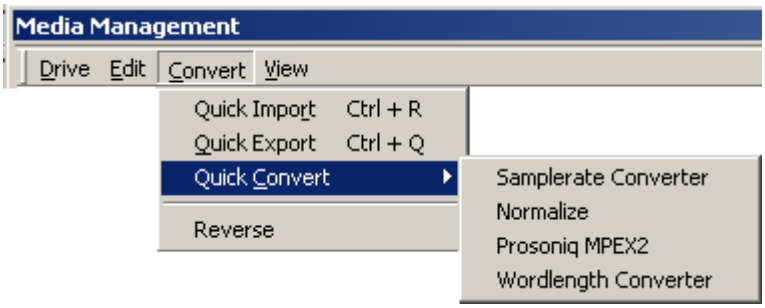


Quick Import Enables sound files in any supported format to be imported into a Pyramix Media Drive or Folder in either their original format or converted to the Pyramix native PMF format.

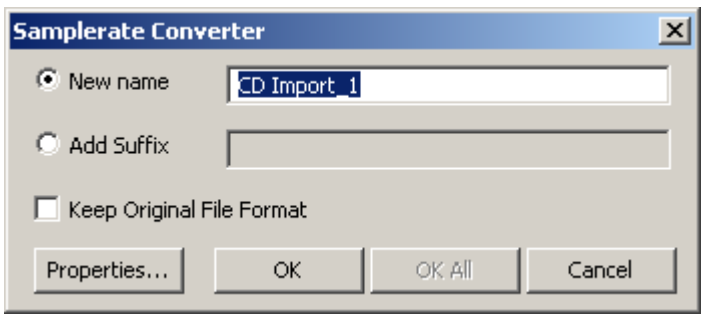
Note: Files in supported formats do not need to be converted to be used in Pyramix, a big time-saver.

Quick Export Enables Pyramix Master Clips to be exported in any of the supported file formats

Reverse Reverses the selection so it plays backwards

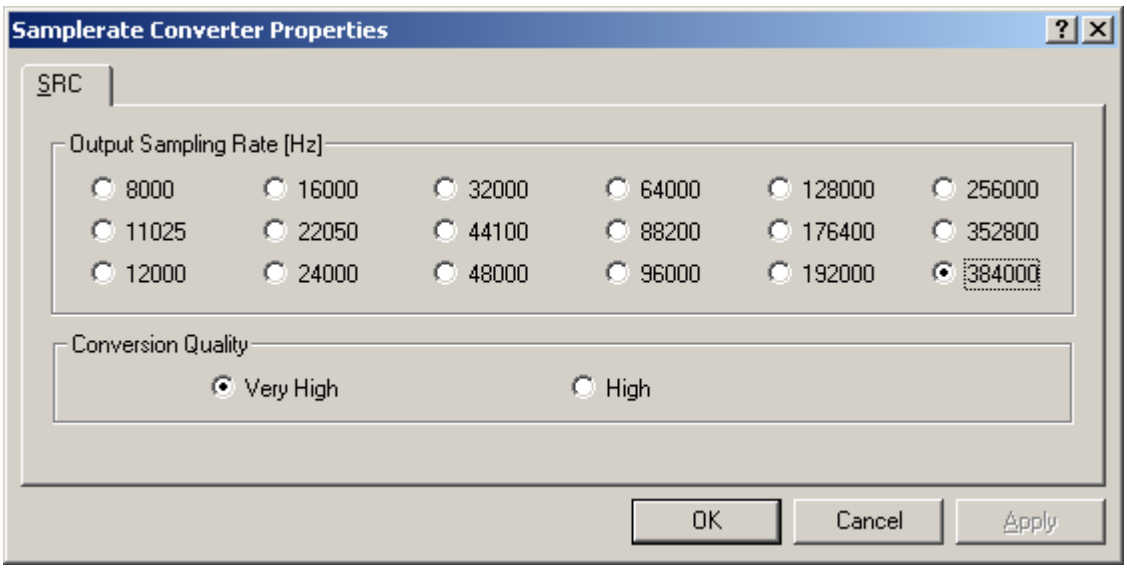


Quick Convert > Enables one or more Media files to be converted in a variety of ways.



All the options produce new media files on disk. Whichever conversion option is chosen, this Window 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 Window specific to each conversion type.

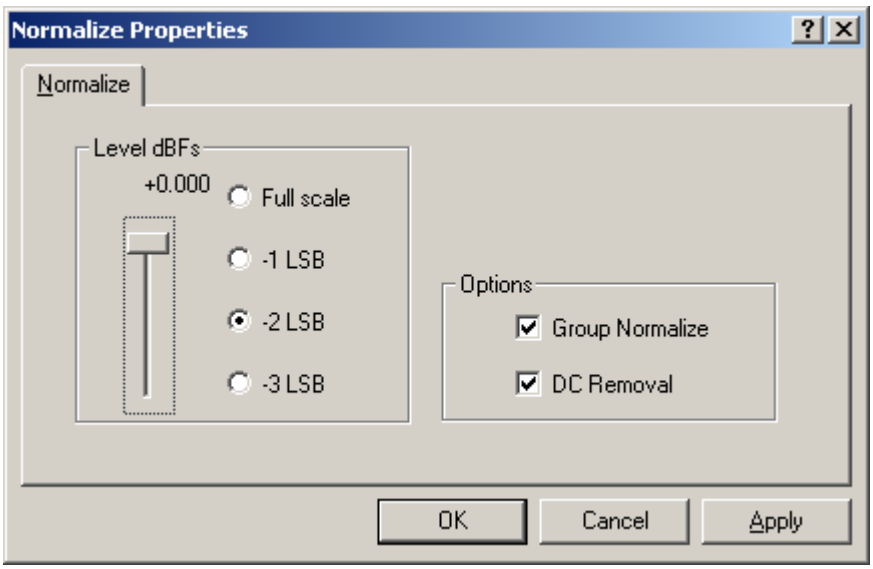
:Samplerate Converter Properties



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.

Normalize Properties



Level dBFS

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

Options

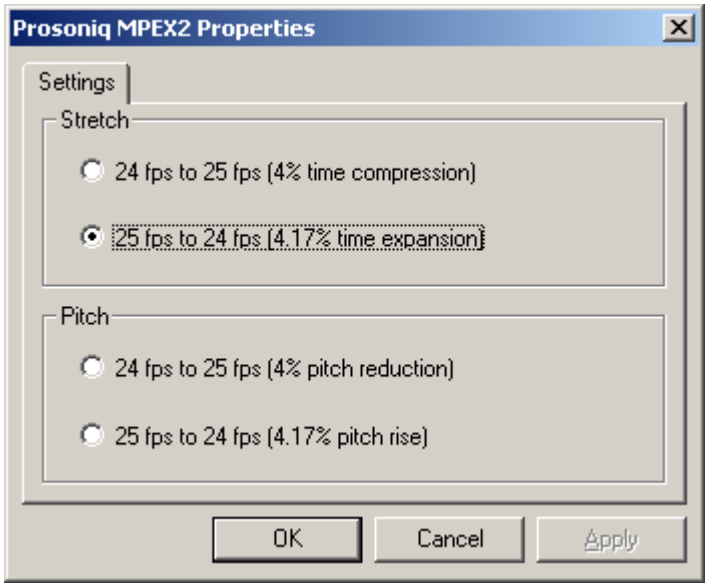
Group Normalize

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

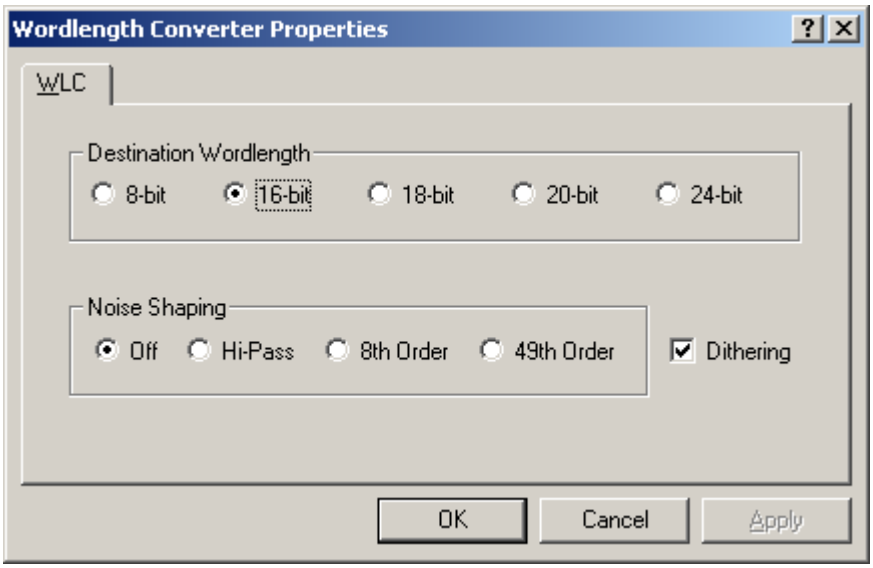
When checked, D.C. offsets will be removed.

Prosoniq MPEX2 Properties .



Select the required conversion factor from the four options.

Wordlength Converter Properties



Destination Wordlength

Select the desired wordlength using the radio buttons.

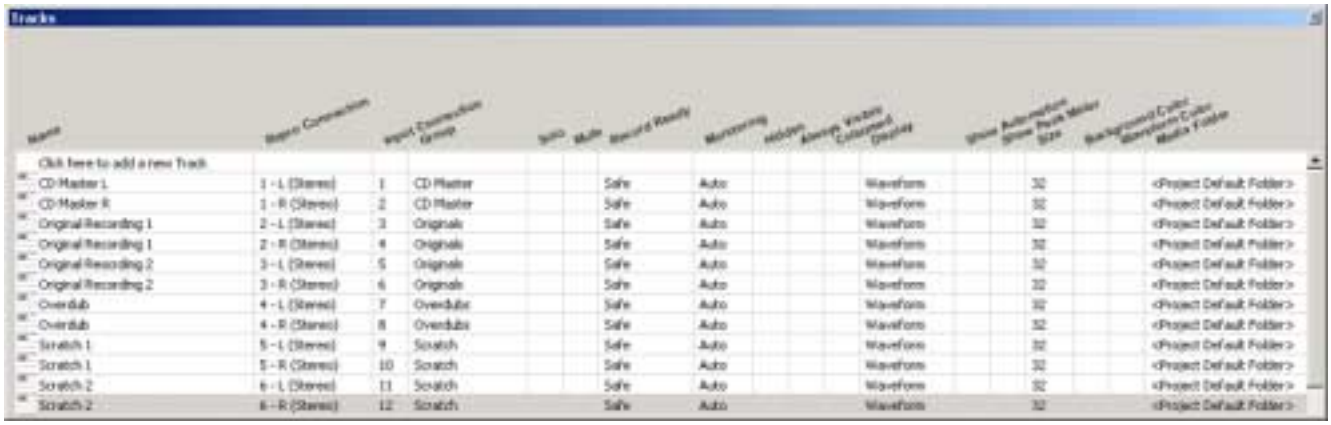
Noise Shaping

Select the require quality of Noise Shaping. 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.

Tracks

The **Track** Tab opens 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.



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.

Track Column Fields

Name

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

Repro Connection

Shows which **Mixer Input Strip** the track is connected to. Clicking in this column field drops down a list box with all available Mixer Input strips. Strip number on the left, 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.

Track 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.

Collapse/Expand

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 colour. If blank color is set to **Standard**. Clicking in this column field pops-up a color picker.

Waveform Color

Shows clip Waveform colour. If blank color is set to **Standard**. Clicking in this column field pops-up a color picker.

Recording Media Folder

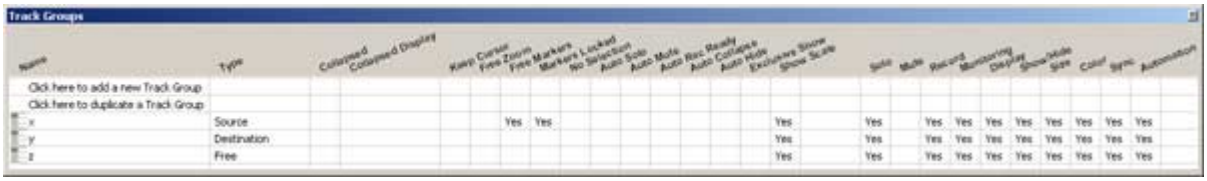
Shows the **Media Folder** where new recrdings will be stored. Clicking in this column field pops-up a list of all mounted Media Folders

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 it to the selection or press **Shift** to select a range of tracks.

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. The Track Groups Tab opens a table where each row contains information about a single track group and each column contains Information and function selection fields.



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.

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 unless this track is selected. If selected, all tracks in the group are displayed. This field has the same function as the little [-] or [+] on the Track Group header.

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 TimeCode 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.

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.

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 done on the tracks referenced by a Playlist are updated in the last recalled Playlist when an other one is recalled. A new Playlist can be automatically created for each recording for every recorded tracks by checking this option in the Document Information & Settings / Record Page.

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 an copy Playlist for each tracks in Record Ready Mode, all Tracks in Group or Strip, or the selected Track
- Recalling a Playlist. A list of Playlist that reference the selected track is proposed for recalling.
- Merging a Playlist with the current content of the tracks. A list of Playlists that reference the selected track is proposed for recalling.

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 done by double-clicking on the Workspace icon.
- Parameters remembered by Workspaces are selectable per Workspace by clicking in the appropriate columns.
- The last column allows a stored Workspace to be automatically updated to the current values before switching the another one.

Selection

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.

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

This field shows the name of the media.

Format

This field shows the media format as either PMF or OMF.

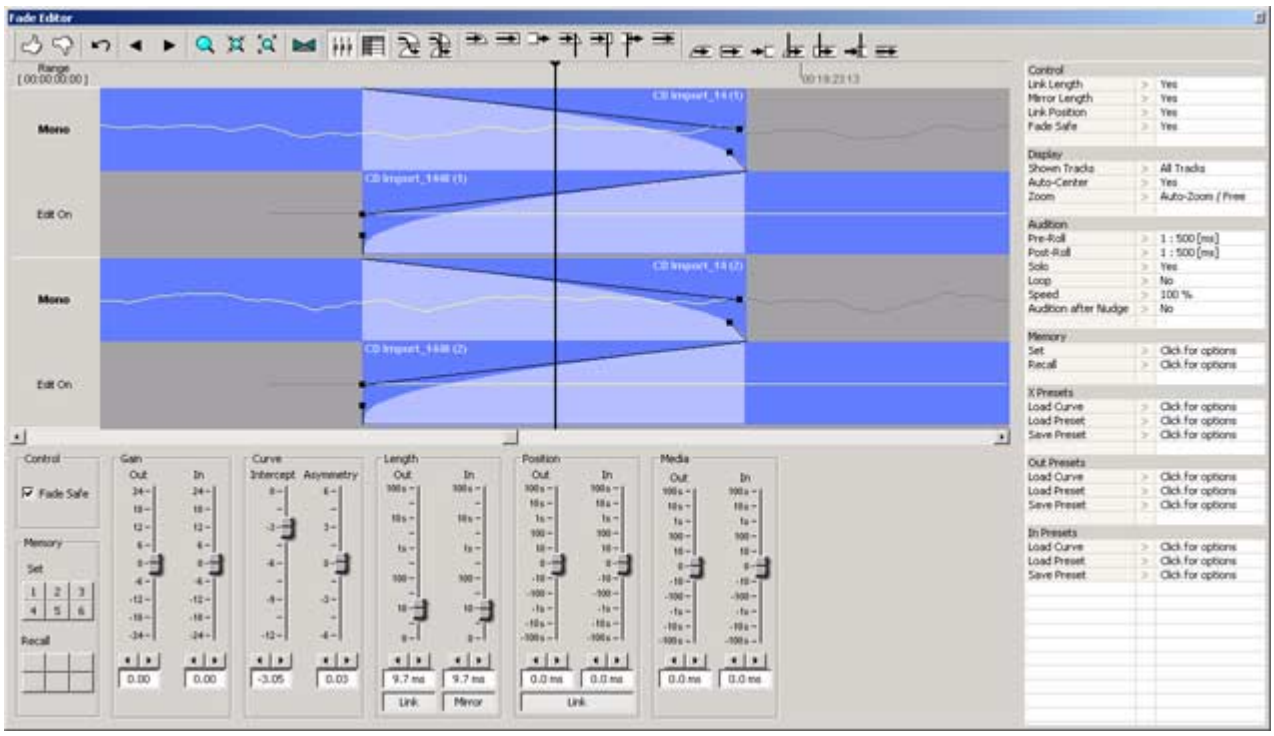
Author

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

Fade Editor

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 alw**ays displays the fades for the current selection** in the main Editor. The nearest fade to the click point is automatically selected.:



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

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.
- 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 millisecond, 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 **General Settings : Playback** Page
- **Post-Roll** from the choices defined in the **General Settings : Playback** 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

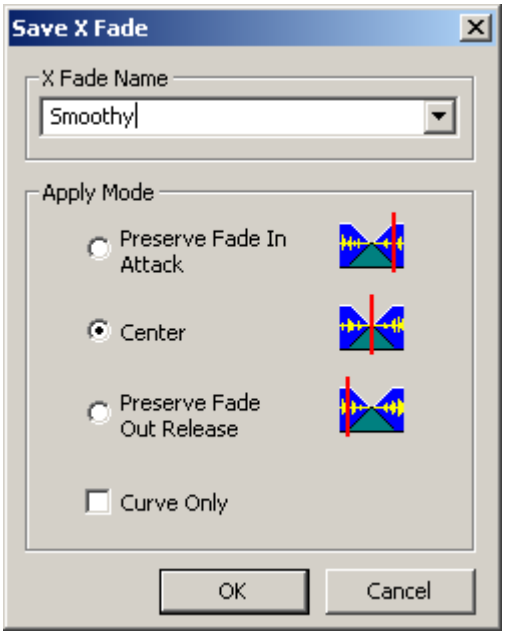
- **Set**, allows saving up to 6 temporary Fades for comparison
- **Recall**, allows recall of one of the 6 temporary saved Fades

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 window (See below)

Save X Fade



The window 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.

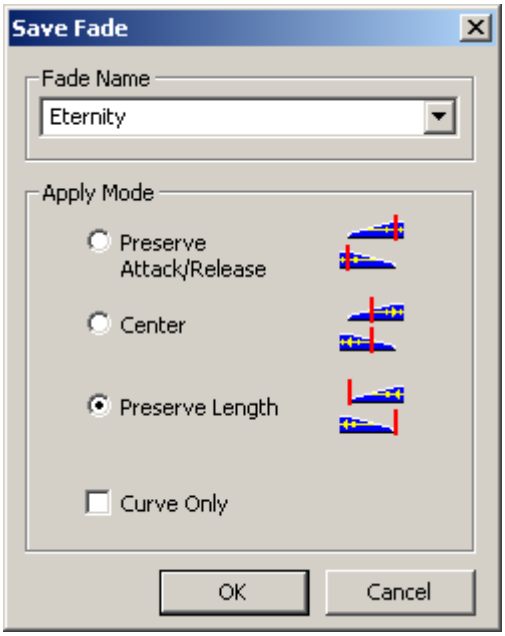
Center

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



The window opens with the cursor in the **Fade Name box**. Simply type a name for the new pre-set 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

Markers

Different Markers lists can be edited by selecting the desired **Track Group** or the main **Markers List**. 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.

The color of Markers is 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 CONTROL 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.

CD

·All the mastering features are grouped in the CD View; in two sections.

In the **Left Pane** there are three window tabs:

CD Properties, All Markers and Table of Content

CD properties:

allows all the CD properties and default parameters to be set.

- **Disc Title** CD Title
- **Label** CD Production Label
- **Date** CD Date

Customer

- **Name** Customer Name
- **Contact** Customer Contact (name)
- **Phone** Customer contact phone

Code

- **Master ID Code** CD Identifying code (if one is required)
- **Ref Code** CD Reference Code (if one is required)
- **UPCEAN Cod**e CD Code Bar (13 digits). This field has a validation routine. So you can enter the code bar as you want and it will be automatically validated. (exp. 123-123456789-1 gives 1231234567891).

CD Text 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
- Song Writer CD General Song Writer
- Composer CD General Composer
- Arranger CD General Arranger

Edition default params...

These parameters are used when the offset of a PQ marker is set to zero and you enable it. 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”.

- **Offset before first track**: negative offset applied to the first PQ start marker only.
- **Offset before start**: negative offset applied to PQ start marker 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 params

These parameters are used to automatically create or increment ISRC with the function **ISRC > Create** & **ISRC > Inc Selection** in the track grid popup menu. (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 (exp. GB, SW, FR etc…)
- **Producer**: 3 characters (exp. W01).
- **Year of Reference**: 2 digits (exp. 02).
- **Designation Code**: 5 digits (exp. 00012, 80010).
- **Increment by**: used to auto increment the designation code part of the ISRC. The default value is “1”.

All Markers:

to show and edit all the PQ markers. Here only the PQ is modified, not the audio edit.

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 + “Stop” 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.

Use Offset

Enable or disable the Offset of a marker.

Table of Content:

to view, in real time, the final Table of Content, including the offsets.

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 second, 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 second to the pause.

All operations can be undone.

To access further functions, right click on the grid to display a popup menu.

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

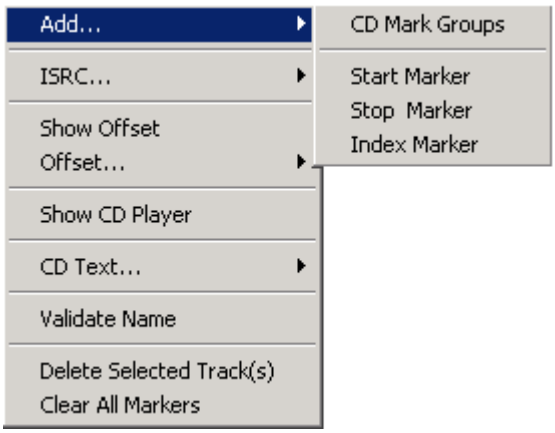
CD Text Song Writer

CD Text Composer

CD Text Arranger

Extra Functions

(popup menu display with a right click on the grid):



Add

> CD Mark Groups

Generate PQ markers automatically from clips or clip groups.

> Start Marker

Add a Start Marker to the cursor position.

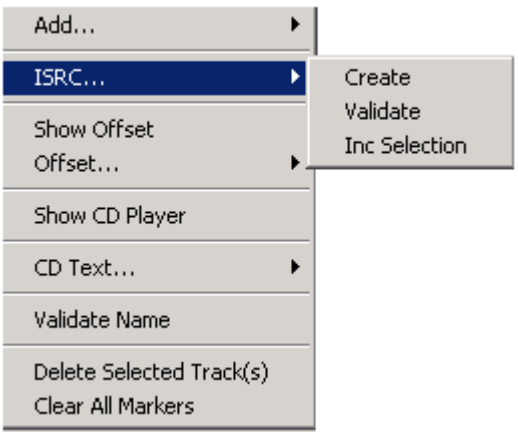
> Stop Marker

Add a Stop Marker to the cursor position.

> Index Marker

Add a Index Marker to the cursor position.

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 ISRC are first created on the first selected track then incremented for the other(s).

> Validate

Check if the ISRC code is correct and correct it if it's bad.

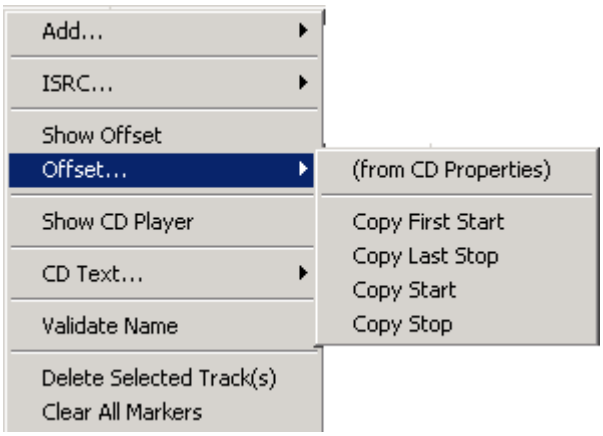
> Inc Selection

Increment the designation code part of the ISRC for the selected track(s).

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.

Offset



(from CD Properties

Each of these four menu choices copies value settings from the **Edition default params...** section of the **CD Properties** page in the left hand pane and applies them to the selected track(s).

> 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.

Show CD Player

Display 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:

Play transition

Play the current track **pause** 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 for all the CD tracks.

Time Display

Right clicking on the display allows a choice between these different time displays.

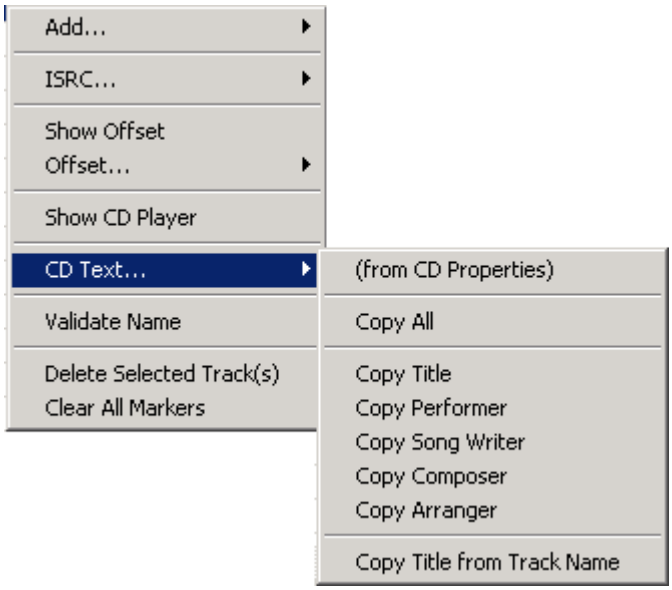
Time Display: All Displays time from the start of the CD, to the End (from 0 to the end of the CD).

Time Display: All - Remain Similar to **All** but time remaining.

Time Display: Tracks Display time for each track; from the start of the track, to the End (from 0 to the track Length).

Time Display: Track - Remain Similar to **Track** but time remaining.

CD Text



> **Copy All** Copy all the CD Text information from the “CD Text Info” in the “CD Properties” page to the selected track(s).

> Copy Title Copy the CD Text title from the “CD Text Info” in the “CD Properties” page to the selected track(s).

> Copy Performer: Copy the CD Text performer from the “CD Text Info” in the “CD Properties” page to the selected track(s).

> Copy Song Writer Copy the CD Text song writer from the “CD Text Info” in the “CD Properties” page to the selected track(s).

> Copy Composer Copy the CD Text composer from the “CD Text Info” in the “CD Properties” page to the selected track(s).

> Copy Arranger Copy the CD Text arranger from the “CD Text Info” in the “CD Properties” page to the selected track(s).

> Copy Title from Track Name Copy the track name to the CD Text Title for the selected track(s).

Validate Name Remove the “*”, which are included in the name of an auto-generated marker and copy the name of the start marker to the stop, with “stop” at the end.

Delete Selected Track(s)

Deletes selected track(s) complete with clip, Markers, Automation etc.

Clear All markers

Clear all the PQ markers

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": (right click on the CDTrackList and choose **Validate PQ**) This will ensure 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
- UPCEAN is removed if it is incorrect

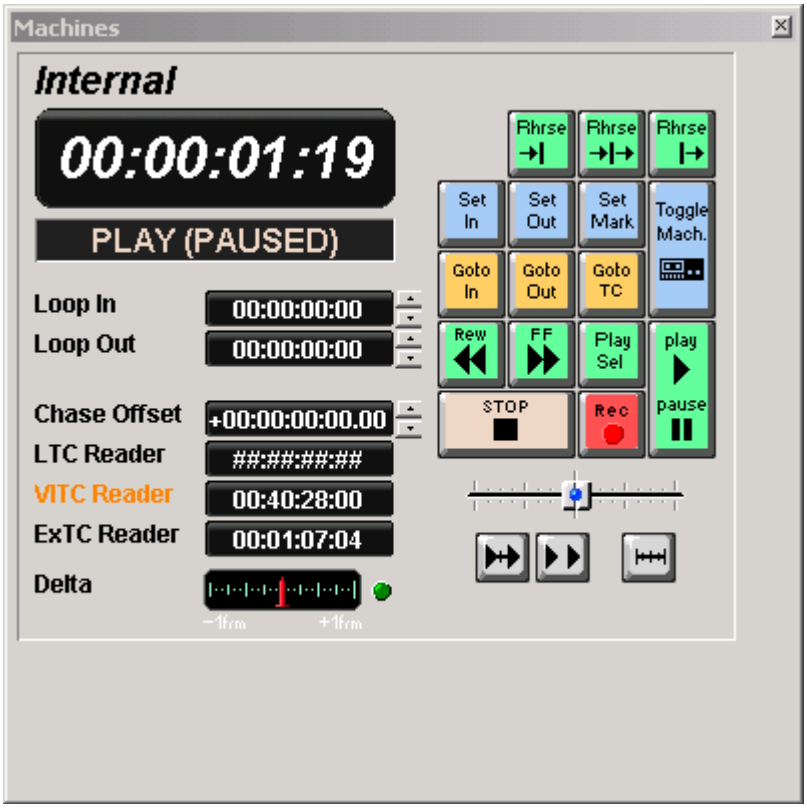
This function an be undone if necessary.

Notes

The Notes tab opens a text editor where notes about the project may be typed. Font type and size are chosen from drop-down lists. Justification, Bold, Italics and underline are selected with buttons.

Machines

The **Machines** tab shows a control and information panel for each machine defined, installed and active in the **General Settings : Machines** page. A panel is always shown for the **Internal Machine** I.e. Pyramix. When undocked, the panel(s) appear(s) in a window.:



Active Machine

The transport control bar or window controls whichever machine is currently set to **Active**

The **Machine** drop-down list in the transport control window shows the active machine and can be used to switch between installed and enabled machines. Alternatively you can toggle through the currently enabled machines. **Machines > Active Machine > Toggle machines**

Auto-chase

To make Pyramix automatically chase an active external machine, enable the menu setting:

Machines > Active Machines >Auto-Chase External Machine

Global Libraries

This window is the same as the **Document Libraries** window but deals with libraries available for use in all Projects **Please see: Document Libraries on page 109** also: **Libraries on page 20**

Cue Sequencer

Please see: **Cue Sequencer on page 266**

External Machines

Connection for the Sony 9-Pin protocol

Please see: Appendix IV 9 - Pin connection on page 268 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 **Settings > General Settings : Machines**
- Click the **Add** button.
- Enter a suitable name for the external machine in the **Name** field, such as “Betacam”.
- Choose the protocol for the machine from the drop-down list of protocols. Either **MMC** (Midi Machine Control) or **Sony 9-pin**
- Choose the port over which the machine will be controlled. Either **MIDI** or **COM422** Serial.
- Check the **Enable** field.
- Adjust the Protocol Properties, the Port Properties and the Settings according to your needs. **Please see: Machine Properties on page 77**
- Click **OK** to confirm all the entries and to add the new machine to the list.

Virtual Multi-track

Templates

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. Please see also: **Project Templates on page 18**

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 at end of 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** window will appear.

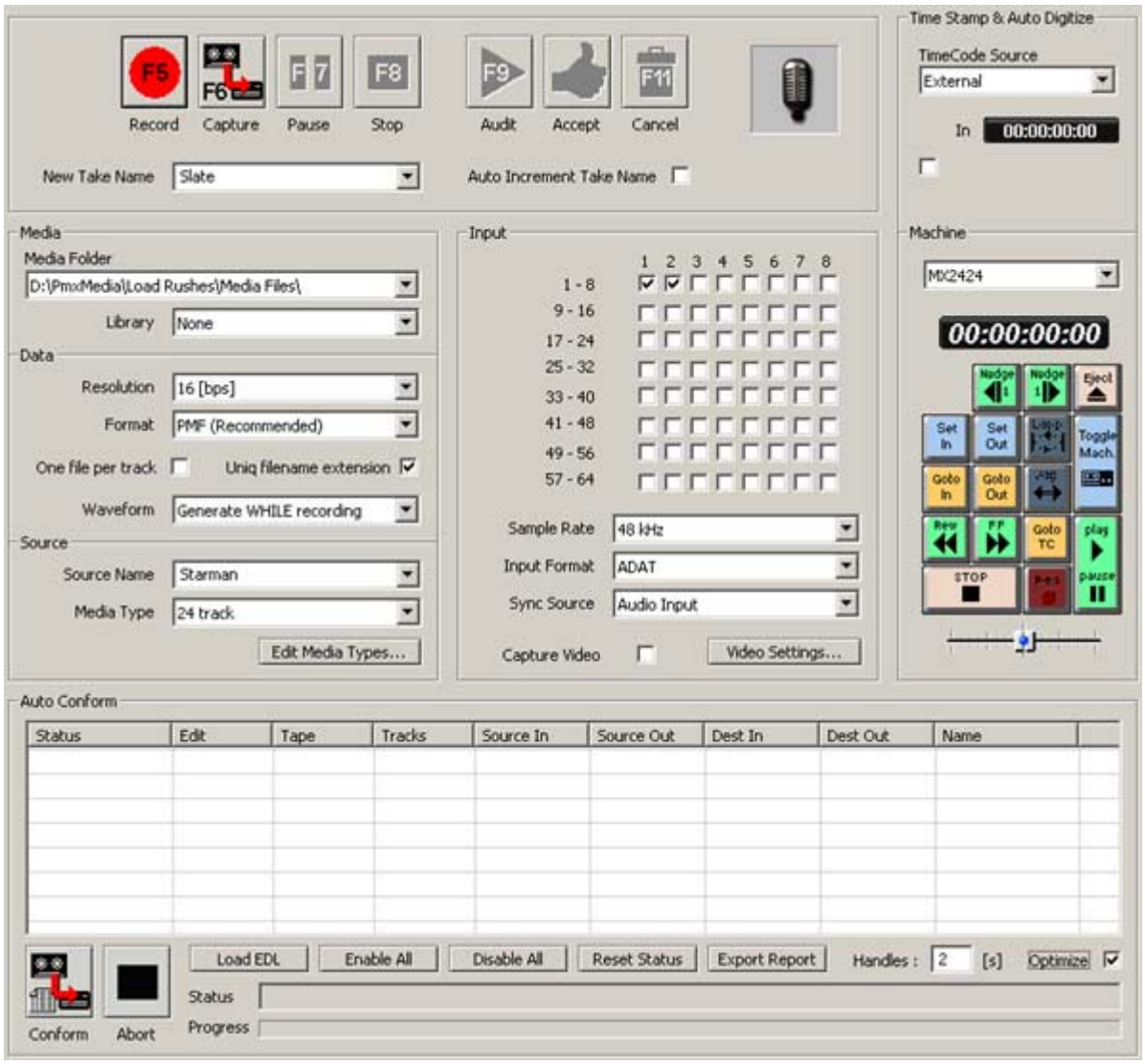
If you are satisfied with the recording, type an appropriate name into the **Record Name** box and click the **Good Take** button. This will save an audio **Media File** of the selected type onto the selected **Media Drive**, with the name you just chose and place a **clip** in the **Timeline**, also 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 **View > General Settings / 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**).
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** window will appear with the same options as a normal recording.

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..



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.
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.

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's 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 **View > General Settings / 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

Note: Most **Source Destination** operations are available as **Keyboard Shortcuts.**

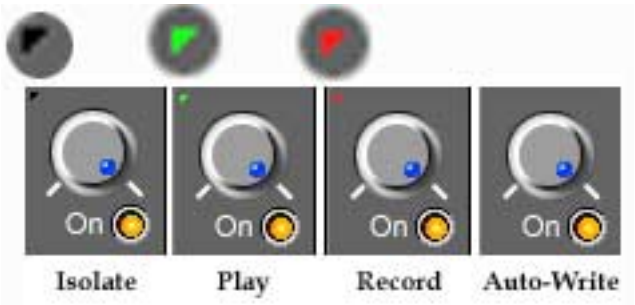
Source-Destination operations	Source Gate In OR Gate Out Only	Source Gate In & Gate Out
Destination **Gate In OR Gate Out Only**	**Auto-Edit:** Performs **2 points** editing by doing the following **Overwrite** operation. **Overwrite:** Copies material **FROM** Source Gate In to the end of the Track 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

Automation

Pyramix Virtual Studio is equipped with an extremely powerful automation system, including both dynamic and snapshot automation of levels, pans, effects, etc.

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 busses, for groups of controls or for the whole mixer. The current mode is shown by the absence, presence and color of small indicators.



Isolate

Black triangle indicator.

The control(s) are isolated from any automation moves already recorded. Controls can be moved without affecting existing automation data.

Play

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.

Record

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.

Auto-Write

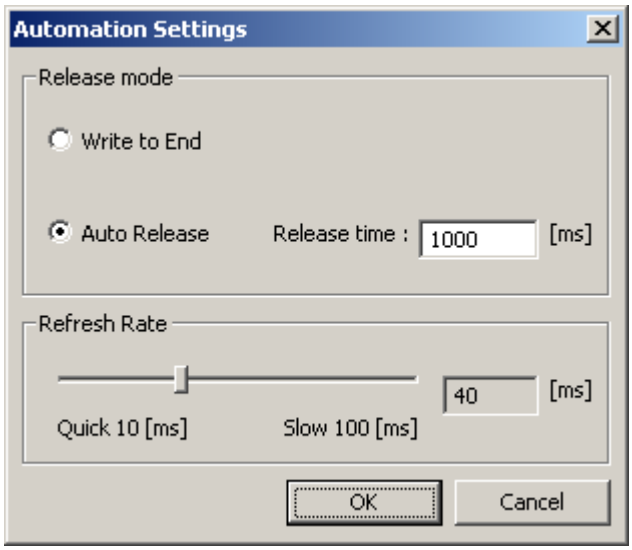
No indicator.

(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) play back previously recorded automation data. 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 **Automation > Automation Settings**.

Automation Settings

Select **Automation > Automation Settings** from the **Toolbar.**



If the **Write to End** radio button is selected, any control in **Record** or **Auto-Write** modes which has had its value altered since the transport was started will, when released or when the transport is stopped, retain its current value and this will be written to the end of the **Composition.** If the **Auto Release** radio button is selected 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.

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.

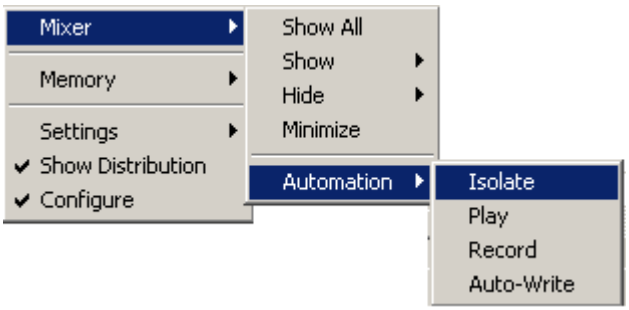
The possible range of the refresh rate is 10 to 100 milliseconds. Please note that your setting is rounded to entire frames, so that the effective refresh rate will be either one, two or three times the actual frame rate.

One reason to choose a slower setting for the refresh rate would be to save the processing power required to calculate the automation movements in case of complex mixes.

Selecting Automation Modes

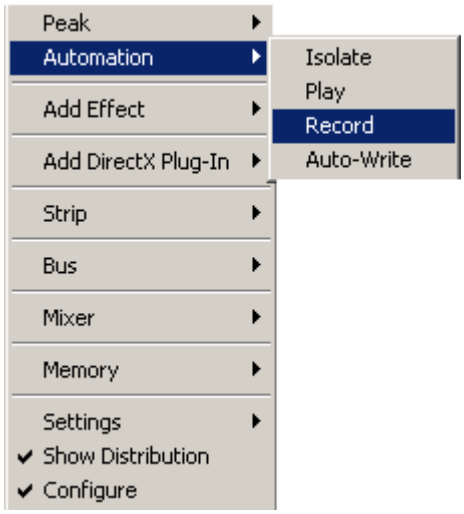
Entire Mixer

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**.



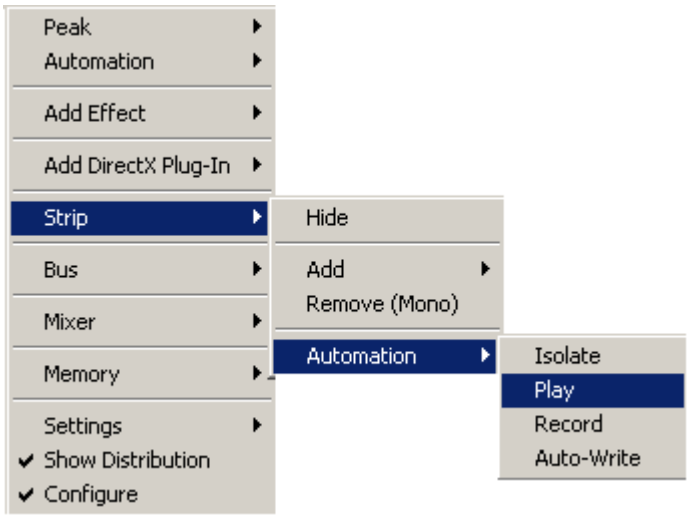
Block, Strip, Bus or Entire Mixer

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.



This contextual menu also enables the automation mode for the whole strip, one or more busses 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.



Master Automation Controls

The **Master Automation Controls** are in a dockable Tool Palette, by default located at the bottom right side of the main **Pyramix** window. There are **Off**, **Play** and **Write** buttons plus two buttons with camera icons which deal with **Snapshot** automation.

When the **Off** button is pressed, no existing automation data is played back and no new data is recorded when controls are moved.

When the **Play** button is pressed it 'lights' green. Controls set to **Play**, or **Auto-Write,** play back 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** record their current values. Controls set to **Auto-Write** only record when they are moved. Controls set to **Play** playback existing automation data (if any). Controls set to **Isolate** maintain their current values.

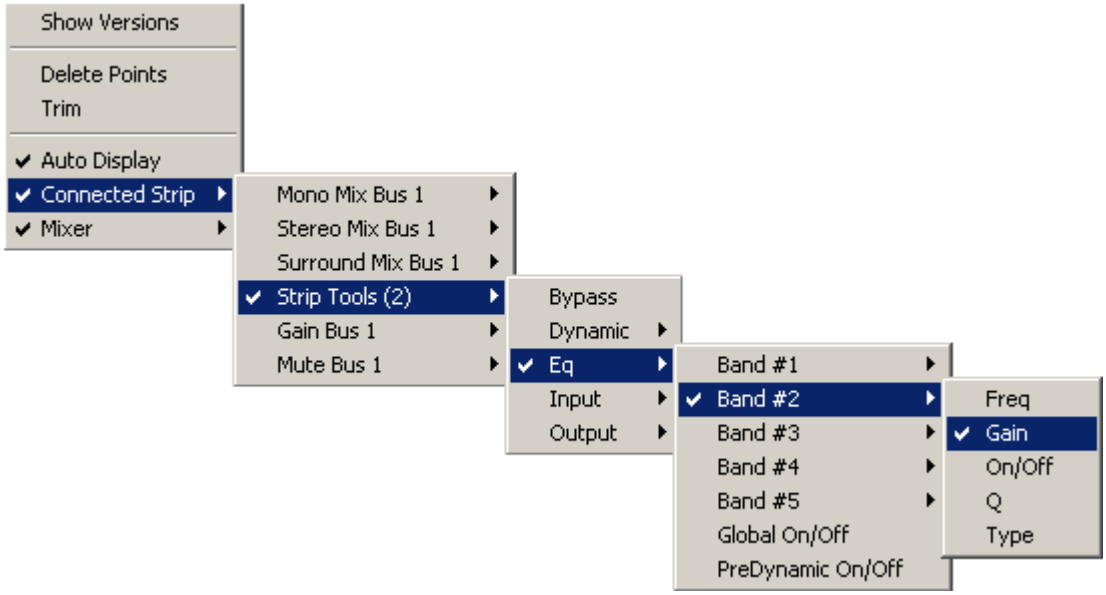
The **Snapshot** button inserts an automation event (key frame) which records the state of all enabled controls at the current cursor position.

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.

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  **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. Right-clicking the **Show/Hide Automation** button pops up the automation menu for the track.



Virtual Tracks

To view more than one automation parameter for a track, create **Virtual tracks** for each parameter you wish to view. **Please see Virtual Tracks on page 97**

Connected Strip

Enables automation data for any control on the mixer strip to be selected for display via submenus. In this illustration the gain of band 2 Eq of the strip-tools plug-in will be displayed.

Mixer

Functions in the same manner as **Connected Strip** but enables display of automation data for ANY control on the current mixer. **Auto Display** should normally be left unchecked when using this option. (see below)

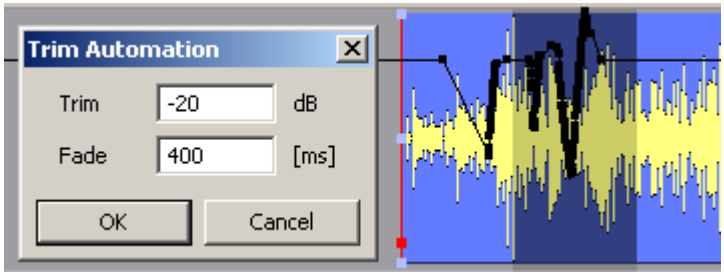
Auto Display

When **Auto Display** is checked the automation data displayed will be from the last control connected to the track which has changed state.

Note that, if **Auto Display** is used when a control has been selected for display using **Mixer** then if a control on the strip connected to the track is moved display of the control selected using **Mixer** will be lost. The automation data is retained. For this reason **Auto Display** should normally be off when any control not on the connected strip is displayed.

Trim

When automation **Trim** is invoked a dialogue box opens which enables the automation points values in the currently selected range to be trimmed:

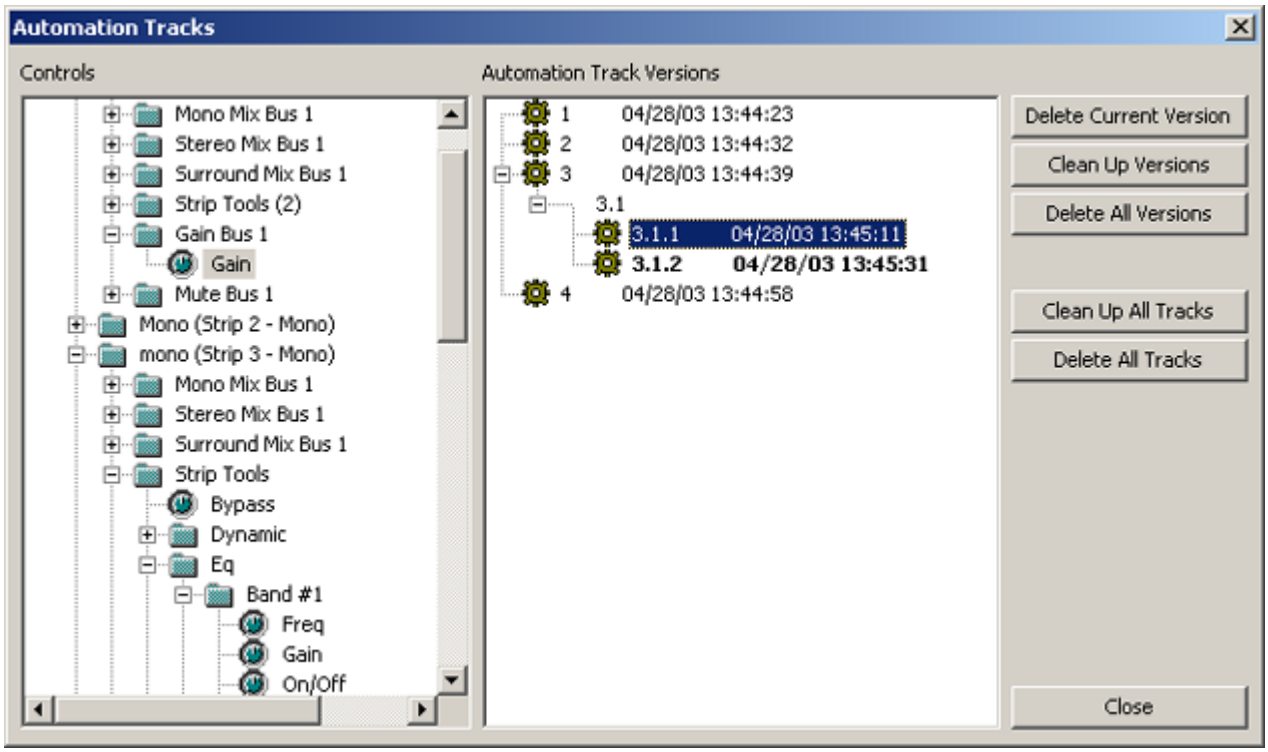


Values can be increase by simply typing the number of dB required or decreased by typing - before the number in the **Trim** box. The **Fade** box allows a value in ms to be entered. This defines the length of fade which is automatically applied at the beginning and end of the selected range from and 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 Versions

Opens the **Automation Tracks** window



Controls

The **Controls** pane displays all the automatable controls in a tree structure. The last control write 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 four passes were made then version **3** was recalled by double clicking it. Two further passes were made labelled **3.1.1** and **3.1.2** The times when the passes were written reflects this.

Delete Current Version

Deletes the selected version. Subsequent passes are re-numbered as necessary.

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

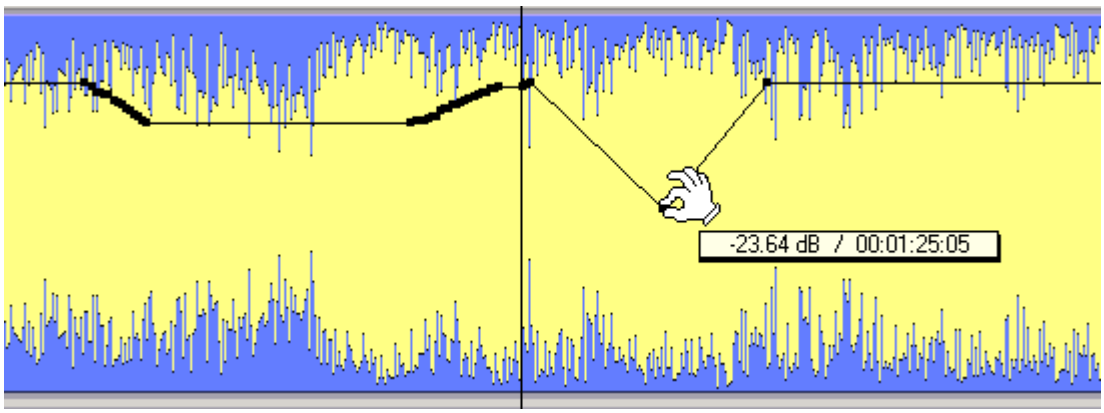
Deletes all automation information for all tracks.

Undo/Redo

The menu item **Edit > Undo/Redo** also reacts to Automation actions providing a shortcut to the **Automation Tracks** Window.

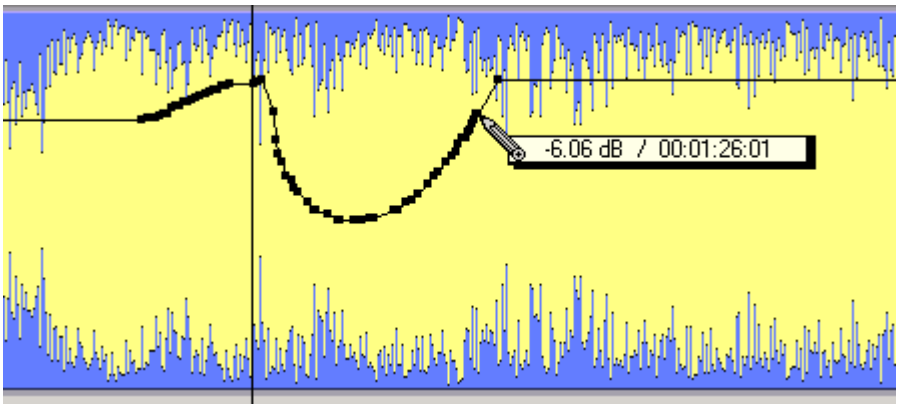
Editing Automation data

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.



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.



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.

Virtual Transport

What is Virtual Transport?

Virtual Transport is a separate application that enables various applications to communicate with each other through a common interface and to be synchronized to the same timecode. I.e. a Client Server architecture. The synchronization can be between two or more applications on the same machine or between applications on different computers. This is transparent to the user regardless of the location of the client applications.

The server application is launched automatically when Pyramix is started if:

Enable Virtual Transport Communication is enabled in the:

Settings > General Settings : Virtual Transport Page

When the server application is running, the VT icon appears in the task bar notification area on the right side of the task bar near the clock display.

Please see the **Virtual Transport Guide** for a full description of Virtual Transport.

Strip and Bus Tools - Plug-ins

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 busses. 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 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 Busses 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

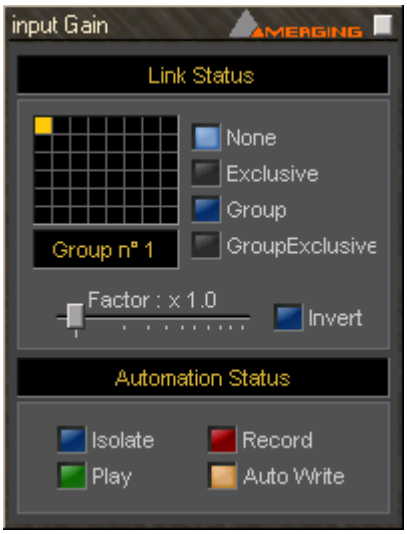
Multiple instances of the Bus Tools plug-in are displayed in one large window. Right-click onto the window title bar of the plug-in to open a menu offering some general display options for the Strip Tools plug-ins:

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.

Linking Strip-Tools controls

Any choice of Strip 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.:



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'.

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.

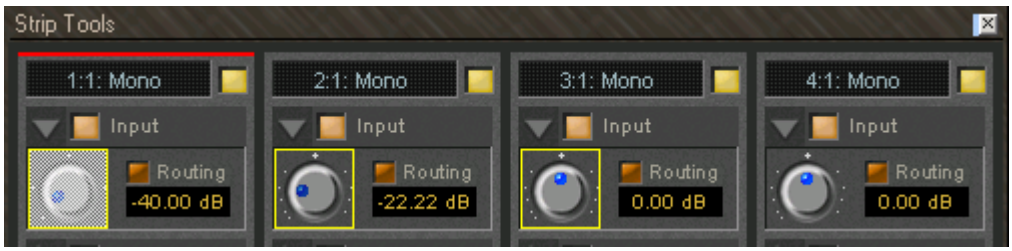
Automation mode switches

Please see: **Automation on page 151** 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.



The red bar at the top of the strip indicates it is selected. The grayed out knob is the one which was right-clicked.

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

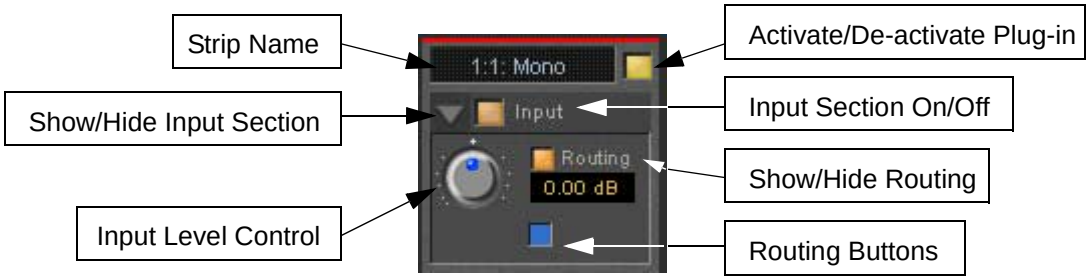
At top left of every Section a grey triangle toggles between showing or hiding the section. Clicking a triangle with **Shift** held down opens the Section (If hidden) and hides all other Sections. Clicking a Section with **Ctrl**. held down opens all Sections.

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.

Input Section



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.

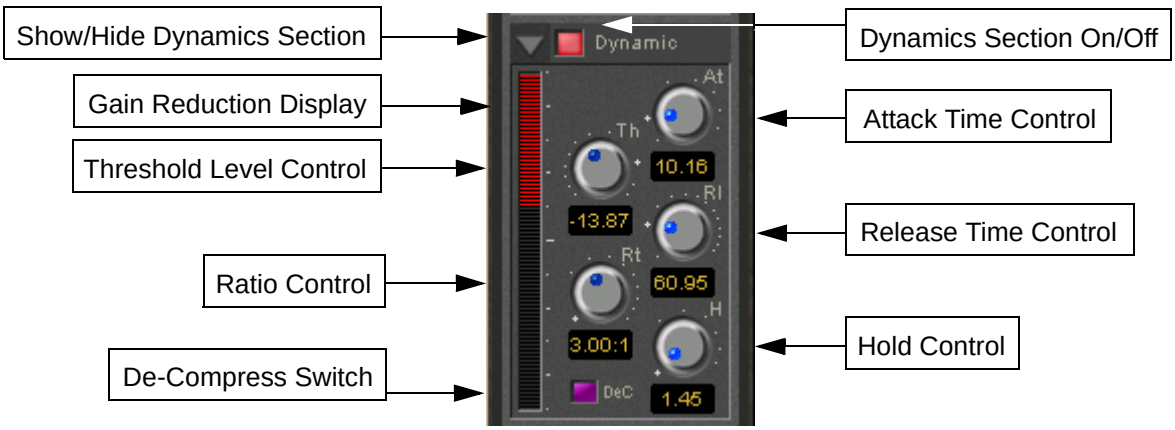
Show/hide Routing

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. Currently this means one for a mono input channel or two for a stereo input channel but will be 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

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

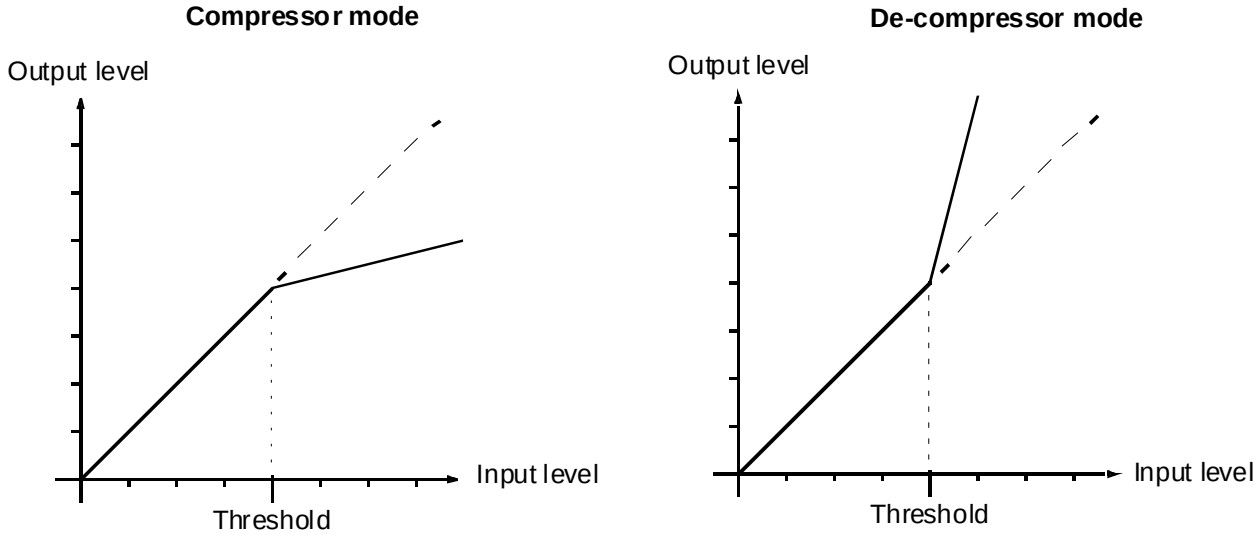
Controls the time the compressor takes to react when the input level exceeds the **Threshold Level**. The lower the attack time, the faster the reaction.

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.



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

Dynamics section on/off

Threshold Level Control

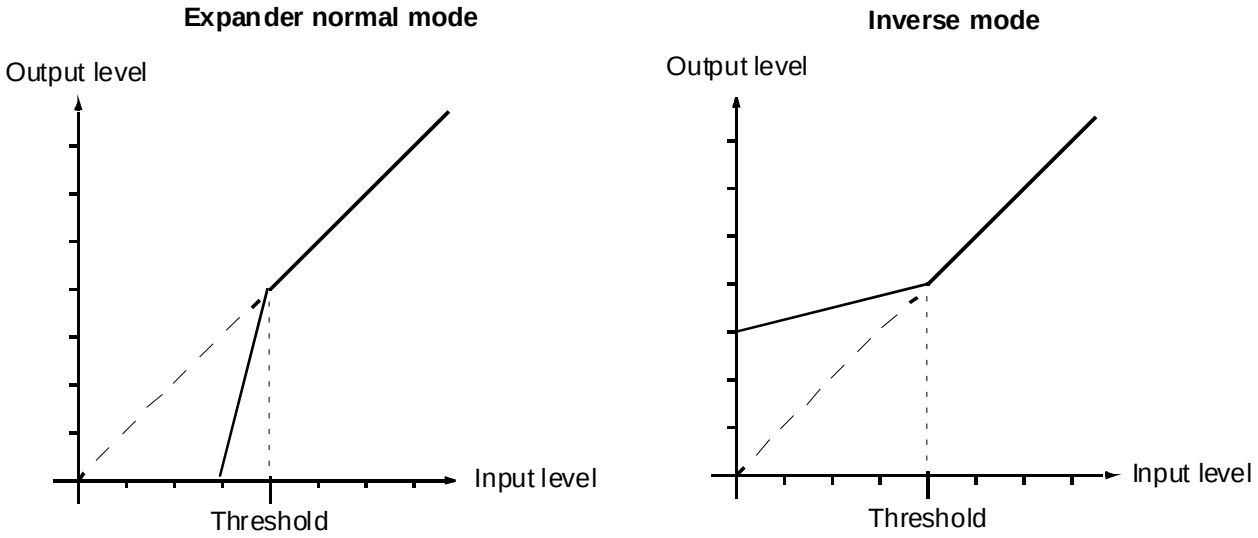
If the input signal level falls below the threshold level, the gain of the expander is reduced (or increased in inverse mode) according to the setting of the ratio control.

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.

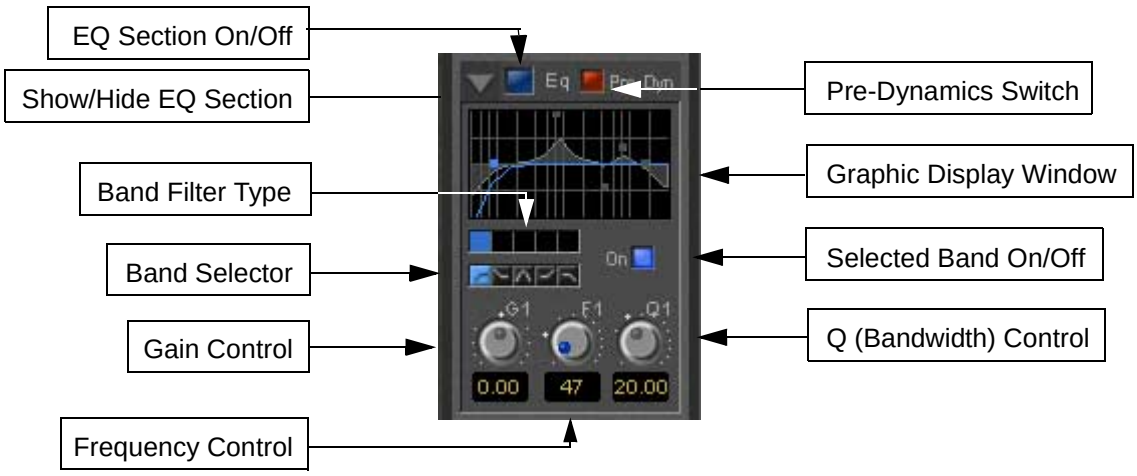


Attack/Release/Hold controls

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.



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 170**.

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 editing) 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

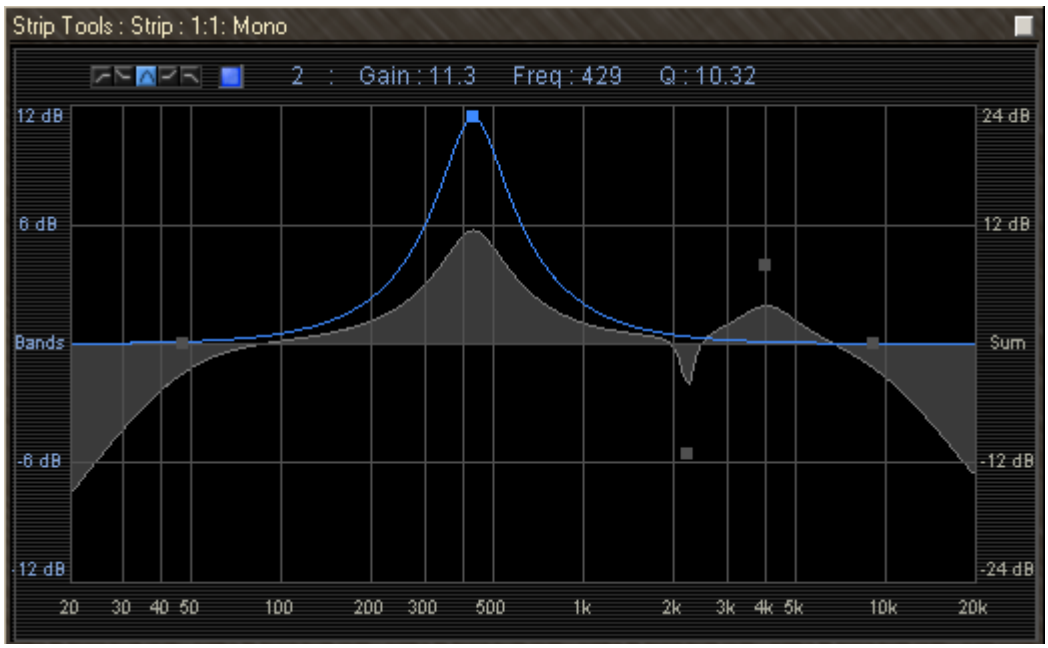
Adjusts the output level over a range of -48 dB to +48 dB.

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.



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 busses rather than channels. **Bus Tools** combine the most frequently used 'mastering' processing blocks you find on the output busses 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 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.

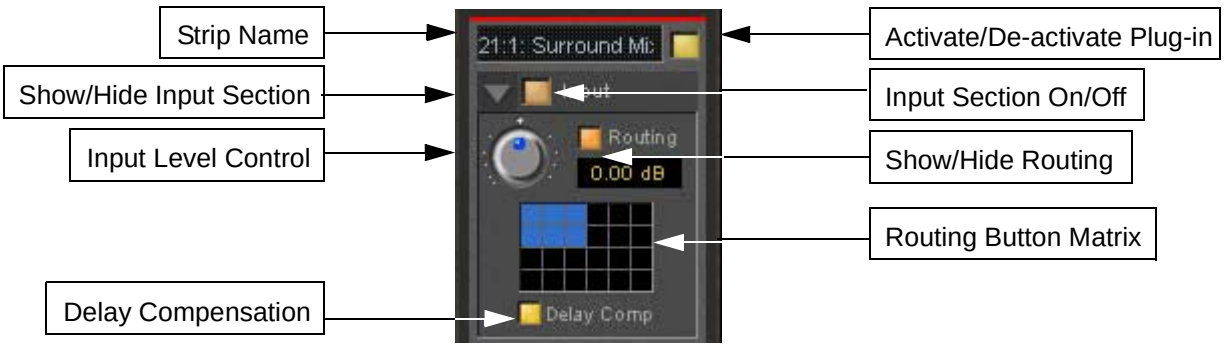
Equalizer

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/Deactivate Plug-in

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 busses

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 Busses 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.

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.

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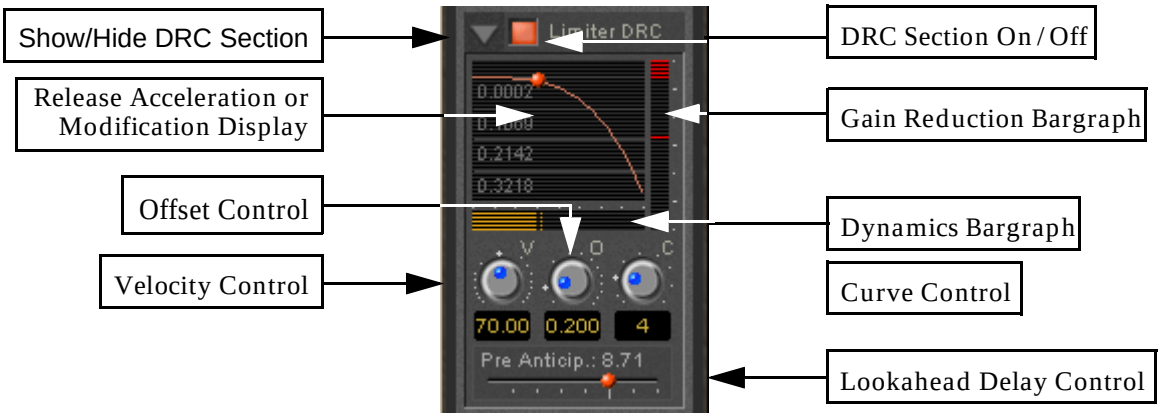


Show/hide DRC section

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 play-back 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 OdBFS. 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.

Plug-Ins

Common Master Section

Several of the following Pyramix plug-ins share a common **Master Section**.

On/Off (Bypass) Switch

The On / Off (bypass) switch activates and deactivates the effect.

Auto Gain Compensation

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.

Output Gain

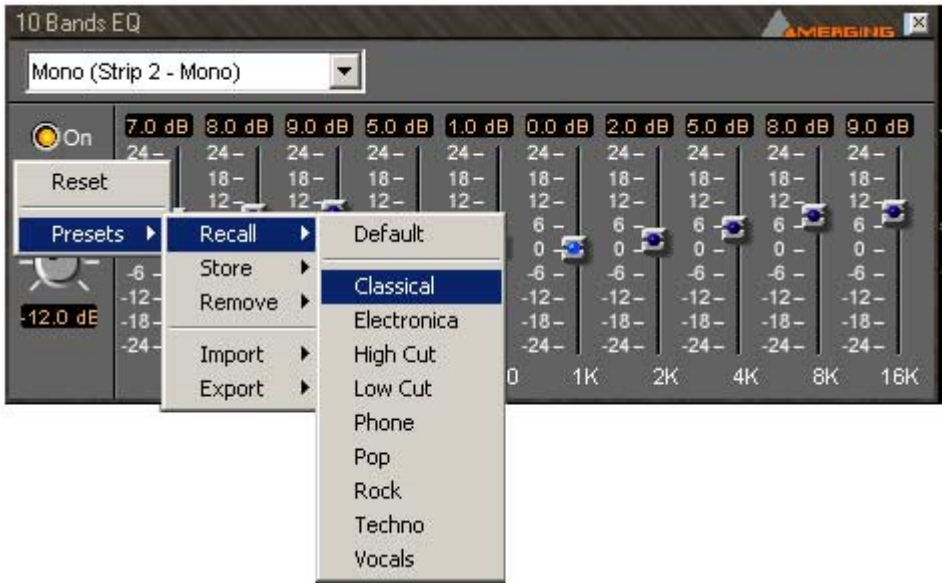
Manually adjusts the gain applied at the output of the plug-in. The value is shown in dB.

Channel List

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.

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.



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** window.

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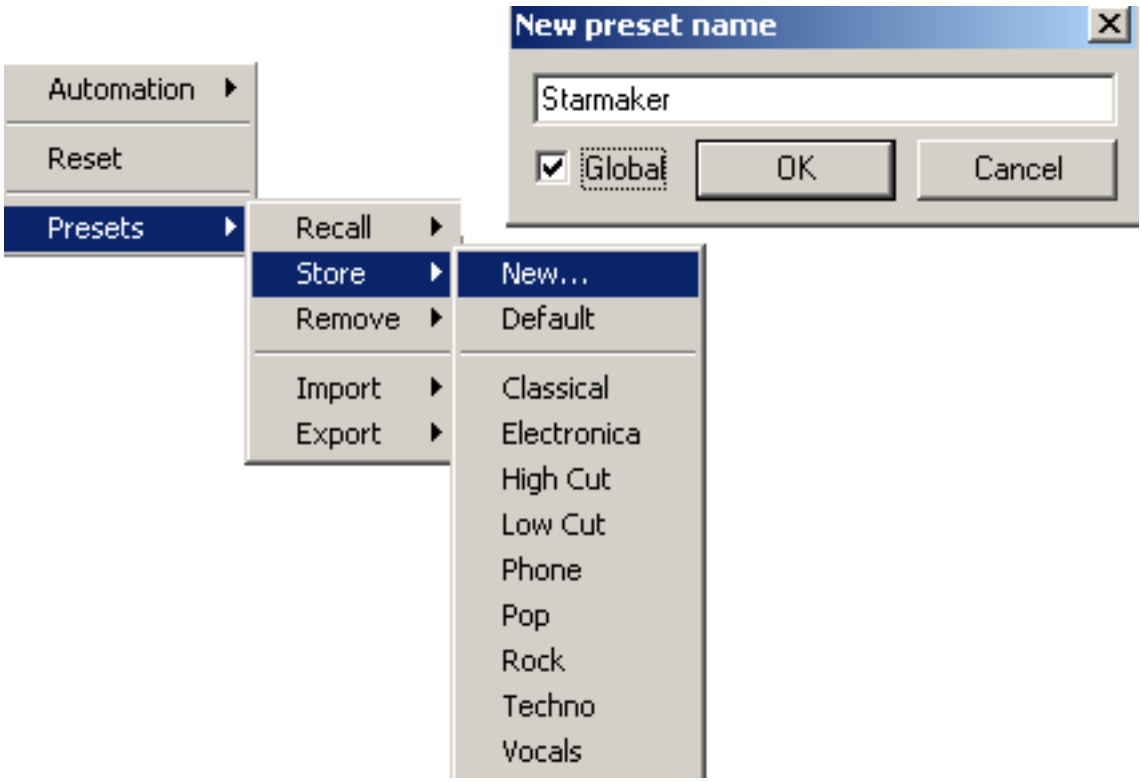


If the **Global** box is checked, the Preset will be available in all future Projects.

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.

Parametric EQ.

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 master section at the top of the window behaves as outlined earlier. The equalizer can be operated using the rotary controls at the bottom, 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).

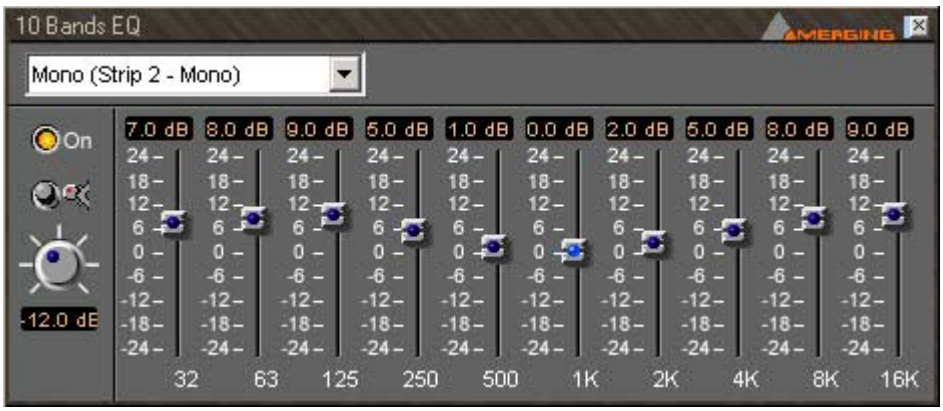
This button shows or hides the rotary controls.

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. As with all rotary controls double-clicking on a slider knob restores it to zero.



Three Band Tone Control

A simple three band equalizer which offers a boost or cut of +/- 24dB in any or all of three bands.

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

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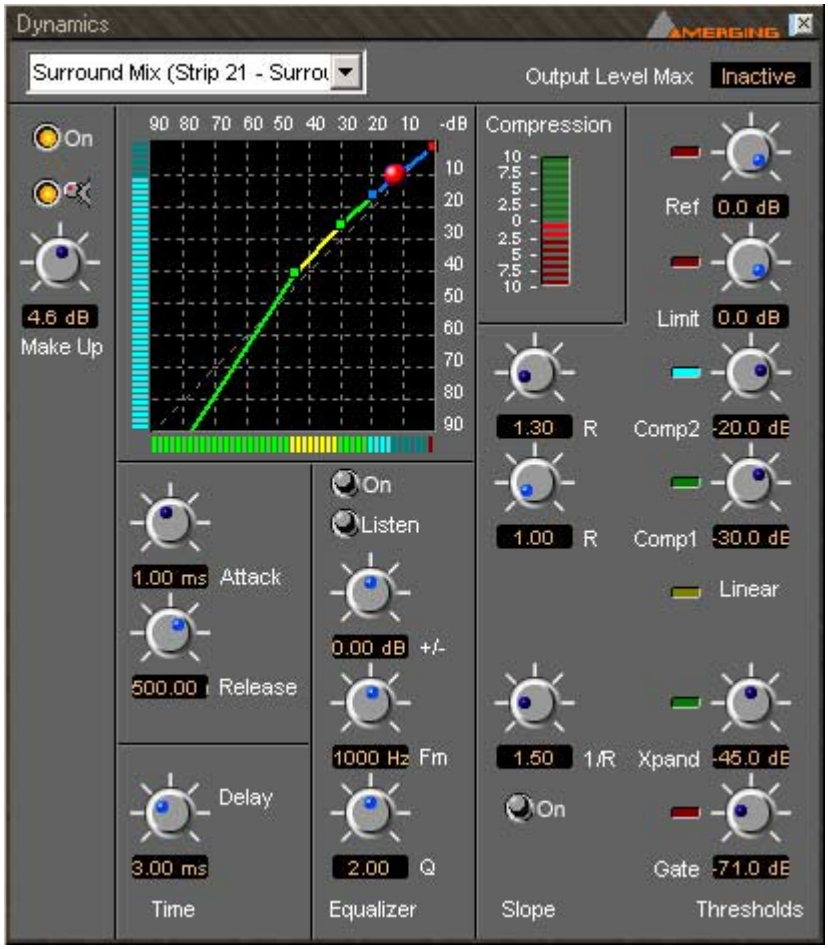


Thresholds

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. The reference level value is variable between 0dB (unity gain) to -30dB.

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

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

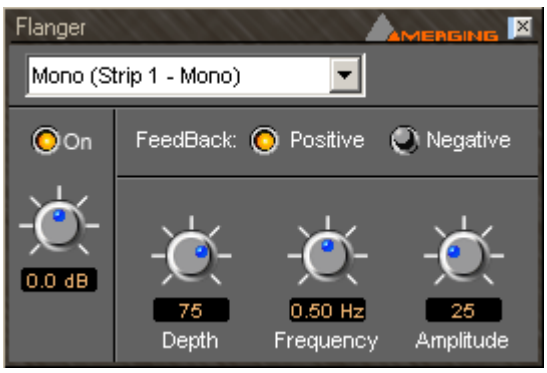
Delays the signal then feeds part of the delayed signal back to the input of the delay. **Comb Filter** has the same control parameters as **Echo**, but the audible effect is quite different because it uses a feed backward rather than a feed forward signal path. The name **Comb Filter** comes from the 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.



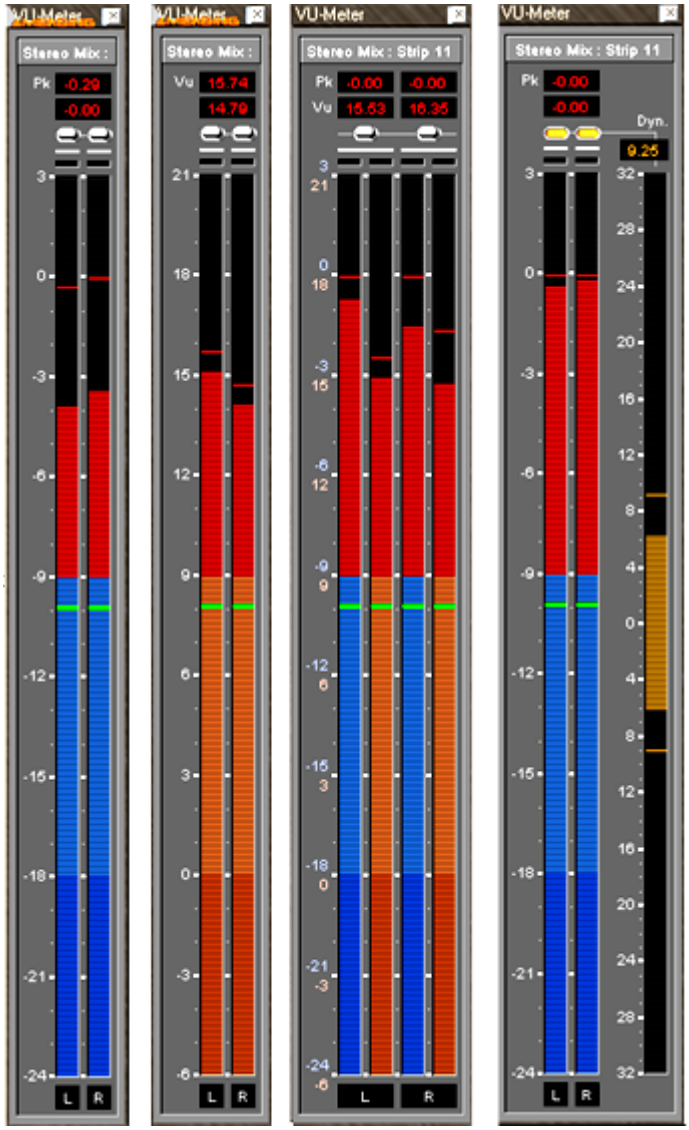
Pyramix **Flanger** plug-in simulates this effect by time modulating the signal and feeding it back to the input either in phase (positive) or phase reversed (negative). Feedback type toggles between Positive and Negative. Depth of modulation can be varied between 0 and 100%, Frequency between 0.05Hz and 5Hz and the Amplitude of the modulation between 0 and 100%

Angudion

Interesting! Three buttons labeled **Stooge**, **Angel**, and **Tricky**, one knob calibrated from 0 - 100

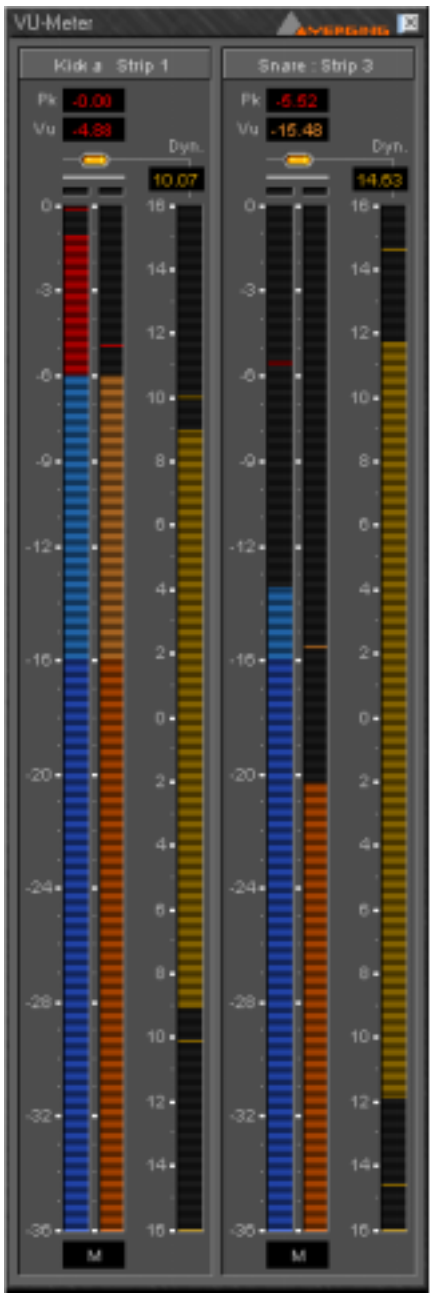
You work out what it does!

Mastering Peak/Vu Meters



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



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

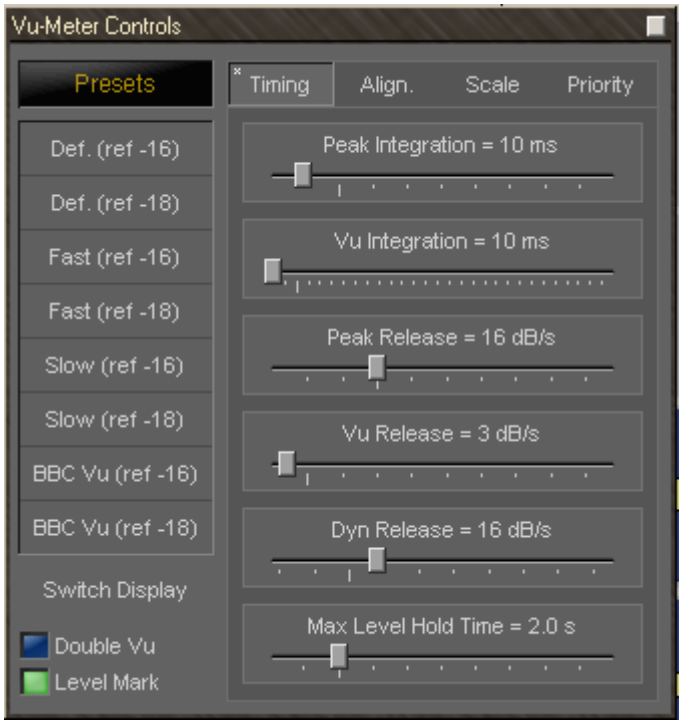
The VU-Meter can be added like any other plug-in on any strip by choosing **Add Effect > VU-Meter** from the context menu within the mixer strip. The only difference compared to other plug-ins is that when multiple instances of the VU-Meter are activated they are always displayed within a single window 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



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 almost any 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 tab panels.

Switch Display

Clicking on this area 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 lit this inserts a gray bar into the meter display at your desired “nominal” level. When the input signal exceeds the mark level, the bar will become light green.

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

Double VU

When this option is activated, the peak meter switches to VU characteristics, thus enabling you to run 2 VU-meters with different settings at the same time.

Level Mark

This option allows you to set a mark at your desired “nominal” level, which will be displayed as a gray bar. When the input signal exceeds the mark level, the bar will become light green.

Timing parameters

These parameters are accessed by clicking onto the **Timing** tab at the right side of the settings window (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 falling 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 parameters

The alignment parameters affect the scale of the peak and VU meter. They are accessed by clicking the **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.

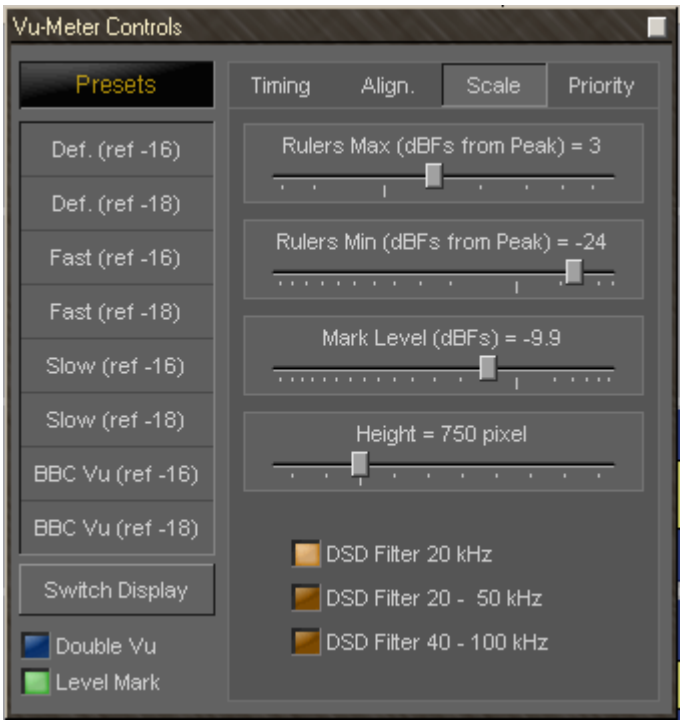
VU Color A/B alignment

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 parameters

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.



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.

Height

This modifies the height (in pixels) of the VU meter plug-in window as it is displayed on the screen.

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.

Priority settings

The priority settings are accessed by clicking the **Priority** tab.

This selects the 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.

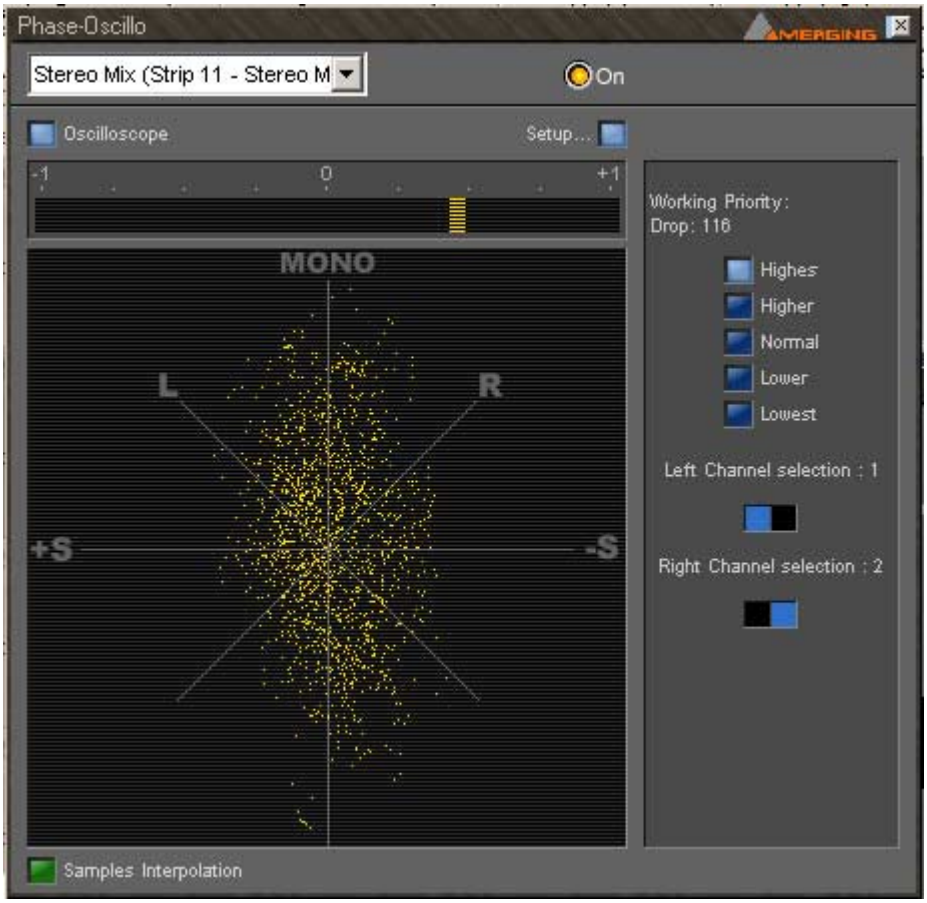
Phase-Oscillo

This plug-in combines a phase meter and a X/Y oscilloscope.

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 cause a horizontal line.

A decent stereo mix would appear as a vertically shaped cloud as shown in the example below:



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

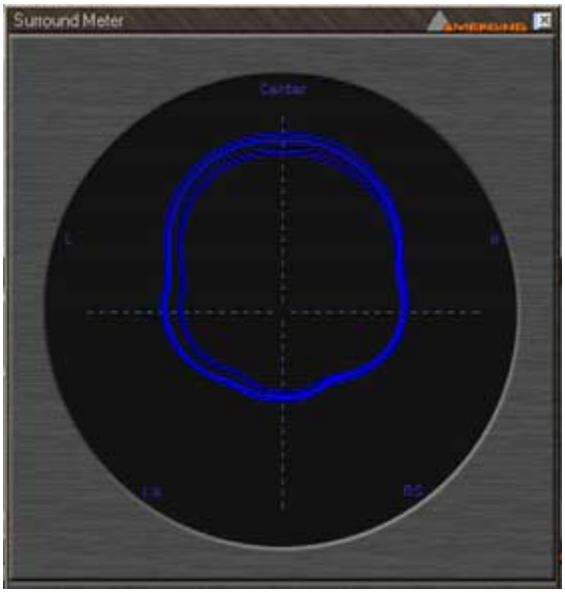
Depending on the chosen working priority of the Phase-Oscillo plug-in might not get enough CPU time to continuously redraw the display. The drop counter displays the amount of frames which could not be drawn because of lack of CPU time since the start of the actual Pyramix session.

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

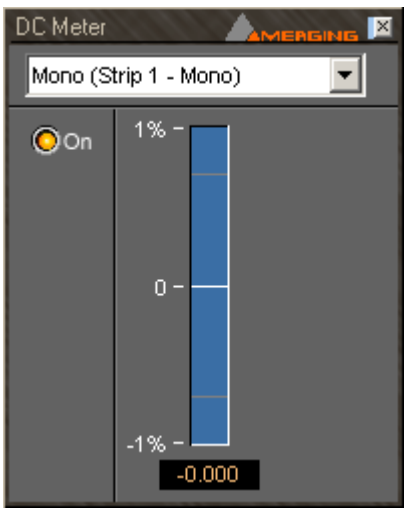
Gives a very useful indication of energy distribution in a surround sound field.



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

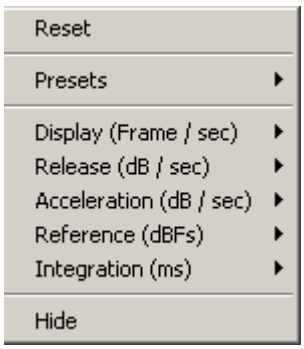
Measures the DC content in the signal.



Modulometer

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**.



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.

Plug-in Automation

All Plug-in parameters in Pyramix can be fully automated dynamically. **Please see Automation on page 151**.

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.

Optional Plug-ins

Optional Pyramix plug-ins. For operating instructions please see each plug-in's guide.

Scopein TimeZone Time Compression

VB Aphro V1 Reverb

Algorithmix DeNoiser

Algorithmix DeScratcher

Algorithmix DeNoiser + DeScratcher, Restoration Suite

Minnetonka SurCode Dolby AC3 Encoder

Algorithmix 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.

Prosoniq MPEX2 Timestretch and pitch change

Overview

The MPEX2 algorithm for Pyramix has been developed with the German based company Prosoniq, well known for their high quality digital audio algorithms.

MPEX stands for Minimum Perceived Loss Time Compression/Expansion. 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 MPEX2** 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 timecode (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 MPEX2** 24 / 25 Time Stretcher module. This function stretches / squeezes a whole 5.1 mix without inter-channels phase artifacts thanks to the new Prosoniq MPEX2 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

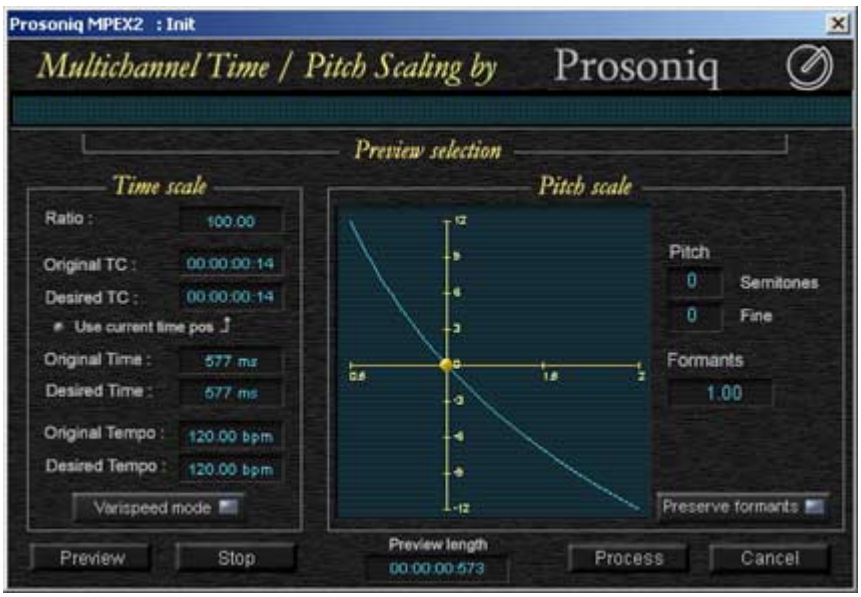
very high quality of the MPEX2 module. Therefore a complete mix can be stretched in one pass retaining maximum sound quality.

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 the menu **Clips > Operations > 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 MPEX2** module.



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 MPEXII process can also be accessed by the Quick Convert function (Media Management Tab Window, Menu **Convert > Quick Convert > Prosonique MPEXII**

VST / DirectX support

Direct X Plug-ins

DirectX plug-ins may be used in Mixer Input strips and also in the FX Rack **Please see: MTRFxRack on page 209**

VST Plug-ins

To Load VST plug-ins in Pyramix you first have to tell Pyramix where they are. Go to **Start > Programs > Pyramix > VST Plug-Ins Chooser**. If you have Cubase or any standard VST program you will see your VST plugs appear in the left window, select those you want to use in Pyramix and press the **Copy to MT-VST Plugin Dir** button. If nothing appears in the left window, you just need to have a folder containing all your VST plugins files (they are **.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 plugins. They will now be listed and recognized in Pyramix.

Note: The VST plugins, like Direct-X plugins, are processed by the host CPU. Therefore, if you are intending to use VST or DX plug-ins intensively, dual Xeon processors are recommended.

Mastering a Composition to CD-R

Pyramix can be 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.

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 Play Head**; similarly, to set a **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 Play Head**. A named **CD Index Marker** can also be added using **Cursors & Marks** > **Add CD Index Marker to Play Head**. These CD Markers can be examined, named and changed in the Project Management Panel's Markers Tab (just as can regular User Markers).

In addition, CD track Start and Stop Markers can be added automatically to Grouped Clips in a Composition. To accomplish this, first make appropriate Groups of Clips which correspond to CD tracks. Then choose **Cursors & Marks** > **CD Mark Group**s from the Toolbar. Follow the directions to add the CD Markers.

Project Processes

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 on page 57

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.

1. Choose **Project** > **Mix Down** to open the **Mix Down** window.
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** drop-down menu (only previously mounted folders will be available as options); choose the bit depth / word length from the **Resolution** drop down; 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.
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 as the source for the exported file. All output busses configured in your **Mixer** will be available in the **Mix Source** list box.
5. Click the **Mix Down** button to begin the process.

Exporting Projects to CD Image Files

To export a previously Marked Composition to a CD-R image file:

1. Open the **CD** Tab window. Fill in all CD-R information as appropriate. Choose **Project** > **Generate CD Image** from the Toolbar. This opens the **Generate CD Image** window.
2. Choose an appropriate Image name and location for the file, make any other appropriate changes to the settings then click the **Generate Image** button.

   Important! if using SRC, dithering must only be turned on in the **Generate CD Image** window. Please turn dithering **OFF** in the Mixer to avoid double-dithering with deleterious consequences to the sound.

To generate a CD from pyramix you first generate a CD image file. This image file is used with the discwrite application to generate CD or DDP.

You can use the DDP import function in pyramix to import your DDP tape and generate a new CD image file. From this CD image file you can burn a CD or generate a new DDP tape.

Burning a CD-R

DiscWrite is a separate application bundled with Pyramix Virtual Studio that is used to write the CD-R (or DDP) image file out to a CD-R disc (or DDP tape) unit. To burn a CD-R from a CD image file created above:

1. Launch **DiscWrite**. A normal Pyramix Virtual Studio installation will put a **DiscWrite** icon on the Desktop.
2. In the **Image** section, click the **Open Image...** button, then navigate to and select a previously created CD Image file (an .**img** file).
3. In the **Device** section, click in the pop-up register to select a CD-R device. **DiscWrite** should recognize a previously configured CD-R device which is also recognized by the OS itself.
4. Also in the **Device** section, click on the **Settings...** button to open the **CD-R Settings** window. Set these as desired for the CD-R burning session. Please see the **Pyramix Reference Guide** for complete explanations of all these settings.
5. When all CD-R settings are adjusted as needed, click the **Burn** button in the **Image** section to actually burn the CD-R.

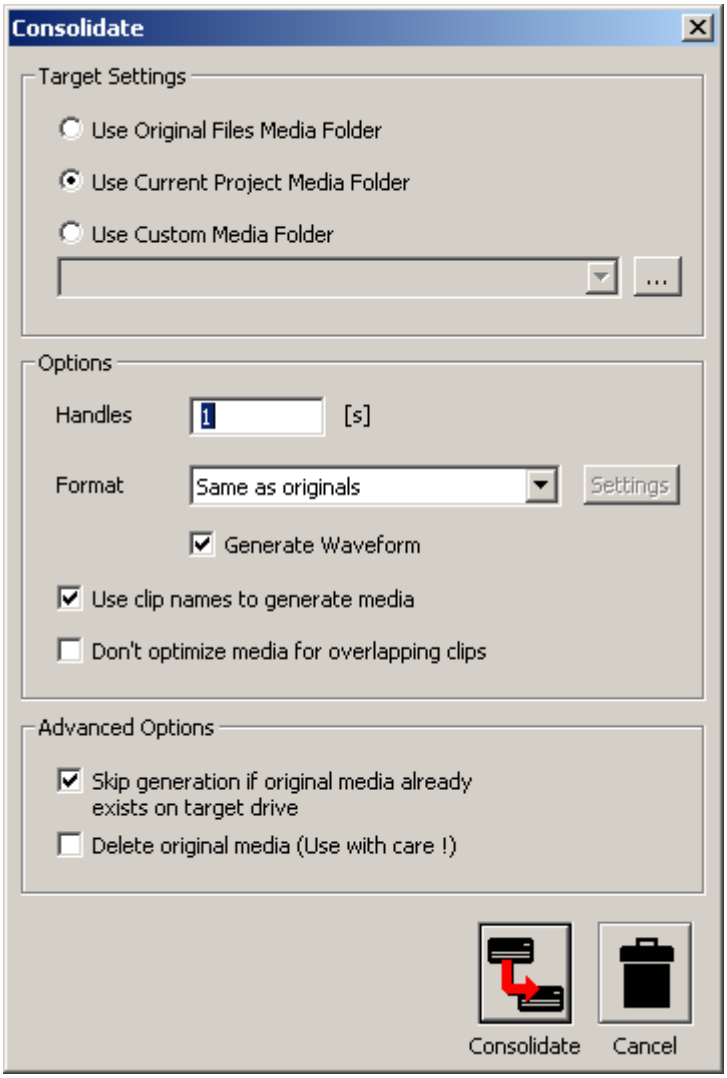
Red Book Compatible Masters

If the CD-R is to be used as a “Red Book” compatible master "Disc at Once" MUST be selected.

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



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.

Surround Post-Processing Projects

The Surround Source Stem can be selected from a list of available stems from all Surround busses.

Available processing plug-ins are:

Multiple File Export

Minnetonka AC3 (Dolby Digital) Encoder (to be purchased separately)

MPEX2 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. Currently available plug-ins are:

Glitch and Pops finder

Pencil Tool

For retouching waveforms

MTRFxRack

Enables chains of up to eight VST and or Direct X plug-ins to be used as rendered processes.

Nova

An optional renovation suite plug-in by Algorithmix.

MPEX2

An optional Multi-channel Time Stretch / Pitch Scaling with Formant plug-in by Prosoniq

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 Interchange

Import and Export are handled by **InterChange**. In the **Project** menu **Import** and **Export** open windows where a list of available **InterChange** plug-ins is presented.

Thus **Project > Import** and **Project > Export** open these windows:.

Options will be grayed out if inapplicable to the selected plug-in or currently unavailable. For example, **Export selection only** is grayed out in the window above because there is no selection in the Timeline of the project.

Akai DD / DR

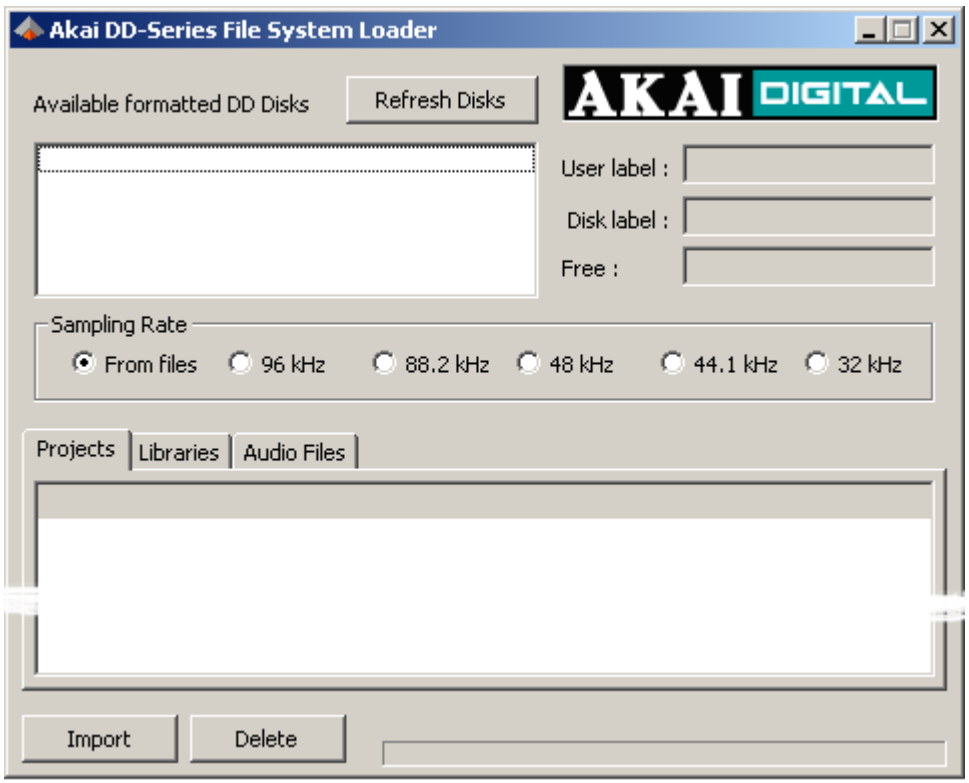
AKAI disk import

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 done via a SCSI interface, but can also be a Magneto-Optical or a Jaz disk.

Project > Import opens the **Project Interchange** window choosing **AKAI DD/DDR** from the list opens the **AKAI DD-Series File System Loader** window



When the window is opened, Pyramix searches for available Akai disks and displays them in the upper left part of the window. 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 window 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

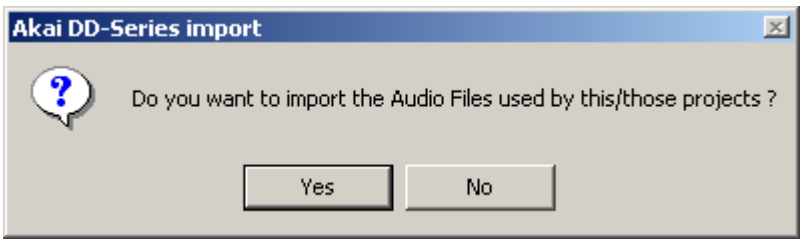
To import the data into your Pyramix session, simply select the desired data and click the **Import** button. The behavior is the same as 'Quick Import'; All the files are imported and stored into a mounted media folder.When an Akai library is imported, a new Pyramix project library will be created.

Delete Button

Deletes selected files from the Akai media providing this is not write protected.

Audio File import

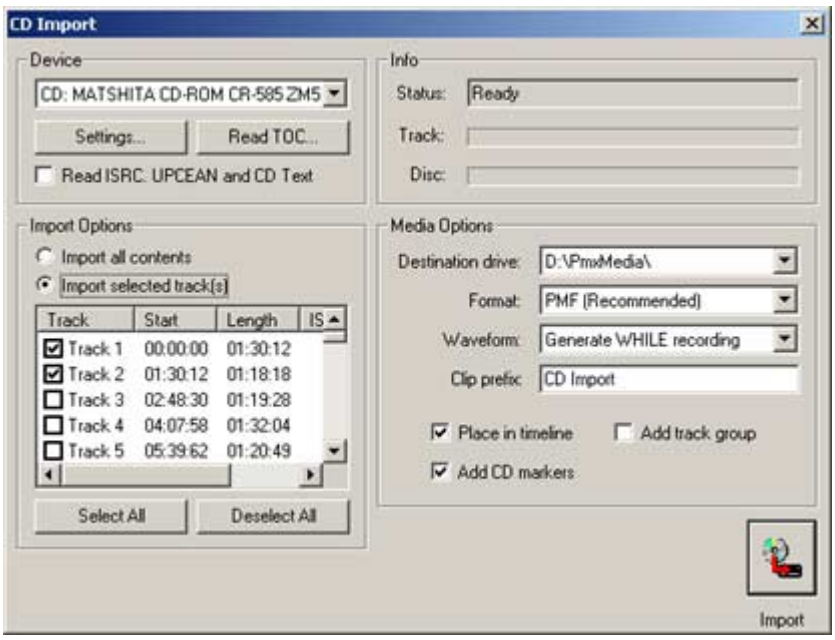
Since Pyramix is capable of reading the audio data directly from an Akai disk, it is not necessary to import the actual audio files into a local Windows drive. Thus, when you click the Import button, this dialog box is displayed:



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.

CD Import

Pyramix has comprehensive CD import functions. **Project > Import** opens the **Interchange Import** window. choose the appropriate destination option and choose **CD Import**



Device is a drop-down list of all suitable drives on the machine.

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.

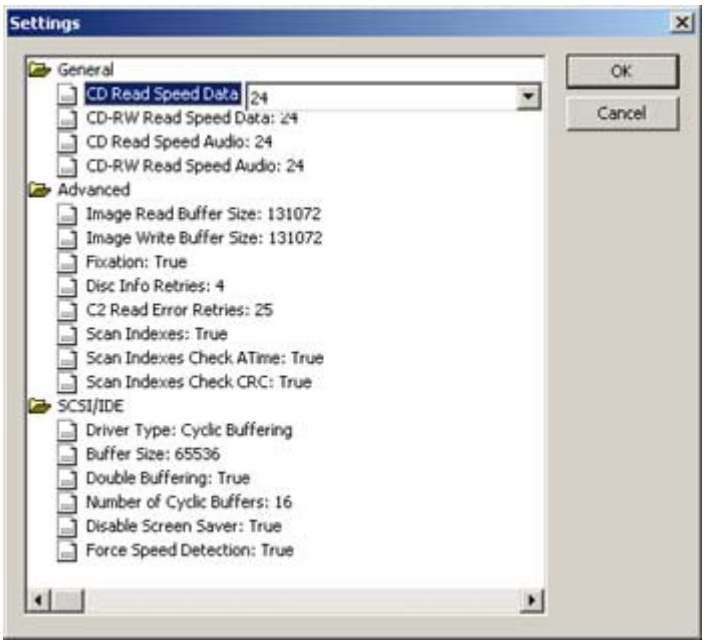
Select All and **Deselect All** do what they say.

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 blue 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**. The fourth line is a text entry box which 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.

Clicking on the **Import** icon initiates the process.

Settings pops up a window with specific drive settings. These settings may be altered if required by clicking on an entry and typing a new value in the box.



CMX EDL

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.

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 DAT012This 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 an 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.

OMF

OMF Import supports both OMF1 and OMF 2 format.

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.

When importing an OMF file with embedded audio, Pyramix will ask if the user wants to extracts the media files. Please answer **Yes** to this question only the first time the OMF file is imported. 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.

When importing an OMF file that references (links) to external audio files, the folder(s) that contain theses files must be Mounted in Pyramix before importing the OMF file. (This also applies to Sonic Solution import).

> **Note:** Known limitation: OMF import doesn't support 24bits files for now.

ProTools

Protools 5 InterChange with Pyramix 4.1

Importing and exporting Protools 5 sessions in Pyramix is accomplished via the InterChange architecture. This requires Pyramix 4.1 or higher and MacDrive 2000 or MacDrive 5 to be installed. MacDrive this 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 has to 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 Pro-Tools 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.

The destination disk can be any Mac HFS mounted in the system, Windows and MacDrive support all SCSI fixed disks or removable storage such as Jaz, MO, removable hard-disks, etc.

> **Important!** In the event that you wish to transfer the ProTools session back to a Mac station using a set of CDs or DVDs you should export your session to a PC disk formatted as a NTFS volume. Then archive the session file and all audio files in an archive (or a set of archives) and then burn an ISO CD or DVD (or a set of ISO CD or DVD) containing the archive(s).

Copy this(ese) archive(s) into your Mac, extract all files and open your session in Protools.

Archives are used to bring Protools sessions and SDII files from a NTFS volume to a Mac disk via CDs or DVDs as there's currently no easy way to burn a HFS CD or DVD from a PC.
The best way to create an archive is to use StuffIt from Aladdin Systems as this type of archive is a standard on Mac. There's a Windows version available which preserves all important information contained in the files to transfer.

You can download a version of StuffIt for Windows (current version is StuffIt Deluxe 7.5) at

www.aladdinsys.com

Tip: Archiving generally compresses the data to reduce disk allocation, but this process takes some time. If space is less an issue for you than time, you can go in StuffIt to the menu Edit / Options / Compression Page and set the Compression Level for StuffIt (.sit) archives to None. This will speed up the archiving process.

AES 31

Straightforward Import and Export in AES 31 format

DDP

Import DDP file.

Sonic Solutions

Straightforward Import in Sonic Solutions format.

Tascam Open TL

Straightforward Import and Export in Tascam Open TL format

XML

Straightforward Import and Export in XML format.

SACD EDL Export

Please see: DSD / SACD Guide

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

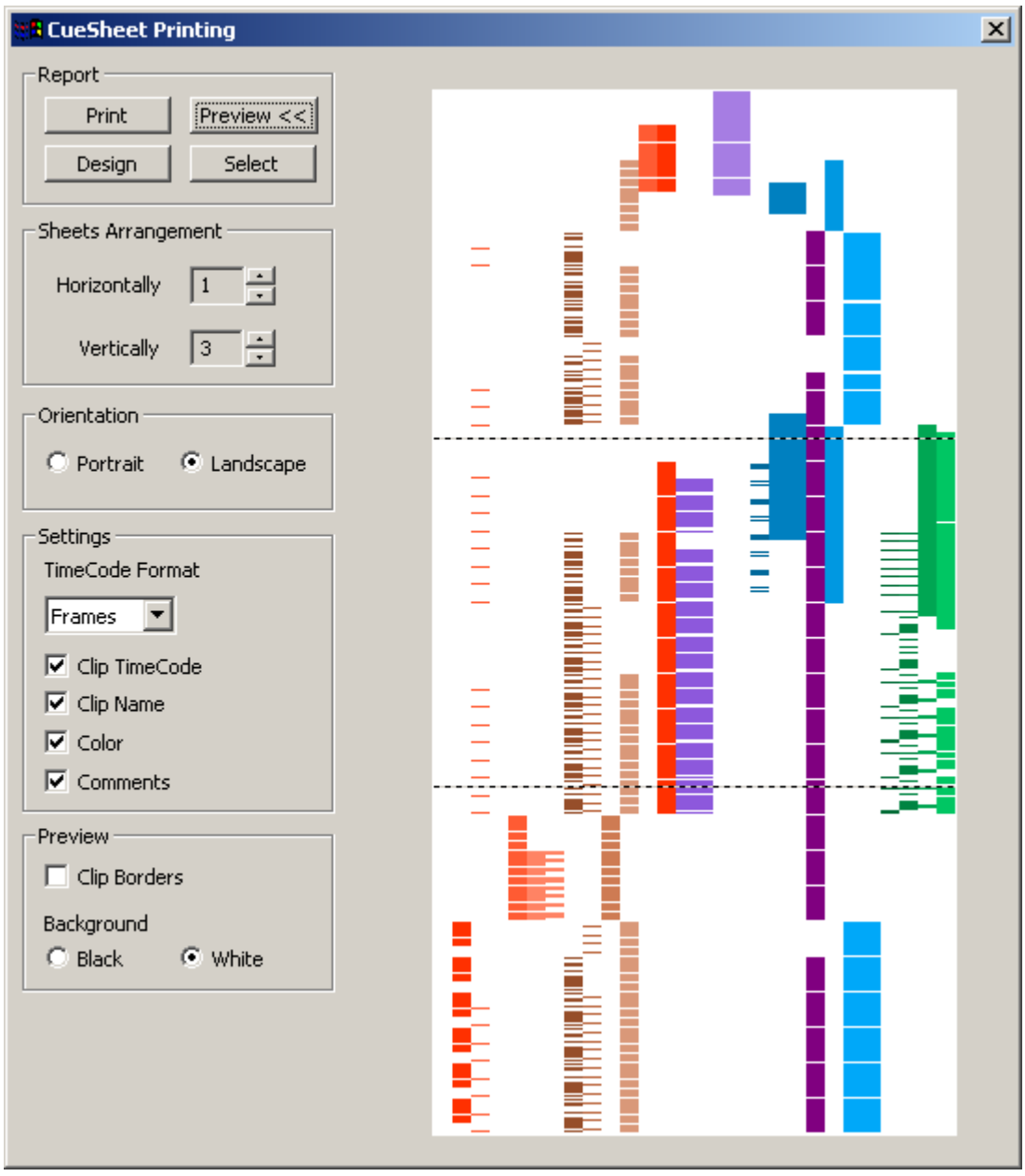
If you print a page test, a dialog will open and ask you the name of the file. Then enter the path where you want to write the file.

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** window. 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.):



Report

Print

Click this button to print the cue sheet(s) with the selected options. This opens the **Print Options** window unless the **Orientation** selected is different from the printer's default. If it is the **Paper Orientation conflict** window 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 Window

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 window 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 the User Interface

Pyramix Virtual Studio allows considerable customization of the user interface. Apart from the usual Windows interface possibilities Pyramix has user defined **Workspaces**, customizable **Keyboard Shortcuts** and user defined **Macros**.

Workspaces

Workspaces are a method of saving many of the Pyramix Project Editing Panel settings, especially **Track Header** switches. 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.

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.

Applying a Workspace is done by double-clicking on the Workspace icon to the left of the name.or select the menu item **Workspaces > Recall > Recall Workspace (X)**

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.

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.
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 **View** > **Customize** > **Keyboard Shortcuts**
2. Select the **Internal Machine Tab**
3. Click on the **Reverse Play** Command to select it.
4. Click in the **Press new shortcut key** box.
5. Type **J** (Notice there is no **Key** currently assigned.)
6. Click **Assign**
7. Click on the **Stop** Command to select it.
8. Double click the **J** in the **Press new shortcut key** box.
9. Type **K**
10. Click **Assign.**
11. Repeat steps **7 to 10** substituting **Play** and **L**
12. Save the **Preset.**

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 **View** > **Customize** > **Macros** from the **Toolbar**. This opens the **Macros** window.
2. Click the **New Macro** button, then name the Macro.
3. 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.
4. Click on the appropriate **Command** so that it is highlighted.
5. Press the **<<** button to add this command to the **Macro**.
6. Repeat steps **3** to **5** to assign further **Commands** to the **Macro** until it is complete.
7. 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.

Application Specific Configuration

LTC sync

EXAMPLE - where a cinema projector must be the master

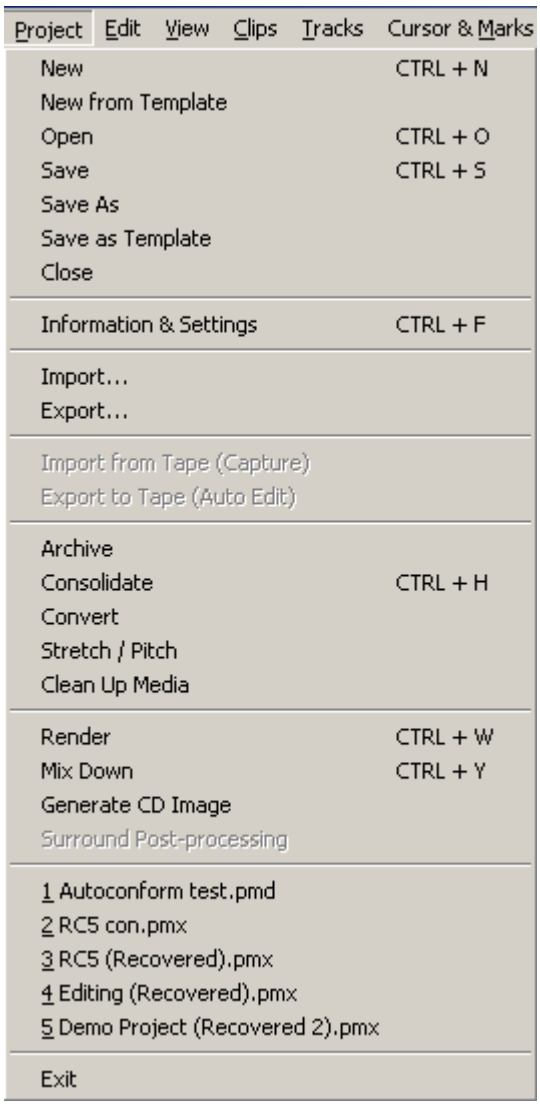
- Cinema projector follows mains (or is crystal controlled) and sends biphase signal to a Biphase -to LTC converter. (E.g. the Rosendahl BIF)
- Converter's LTC output is directly fed to Pyramix LTC input
- Pyramix is set to "LTC sync" mode and will adapt it's own internal clock to sync to LTC whenever 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.

Menus - *Project Menu*

Many Pyramix menu entries are self-explanatory. Here, these are simply listed. Other menu entries are described here or elsewhere in this manual. For full descriptions of all menu entries please see the Pyramix Reference Guide.

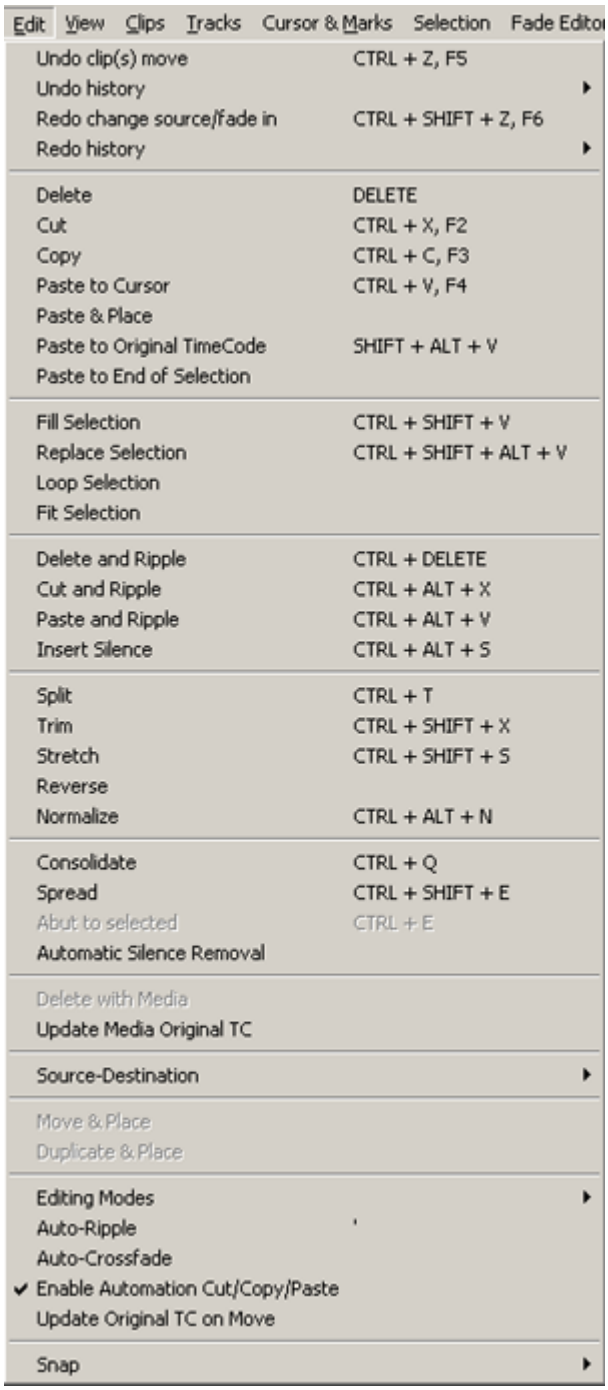


New	Create a new Editing Project or Digitizing session
New from Template	Create a new Project based on a Template
Open	Open an existing Editing Project or Digitizing session
Save	Save current Project. If the project has never been saved, the Save As window will appear
Save As	Save current Project with a new name
Save as Template	Save current Project as a Template
Close	Close the current Project. If the file has changed since last saved, the Save window will appear

Information & Settings	The Information Panel has fields for entering information related to the current project
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)
Clean Up Media	Delete all media not used by the current project
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	Generate a CD Image from the current project
Surround Post-processing	Enables the current composition to be encoded in different Surround format such as AC3 or DTS
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 MPEX2.

Menus - Edit menu



The Edit menu in Pyramix contains the conventional Copy, Cut, and Paste commands, 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 change source/fade in	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 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
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
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
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
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 window

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

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

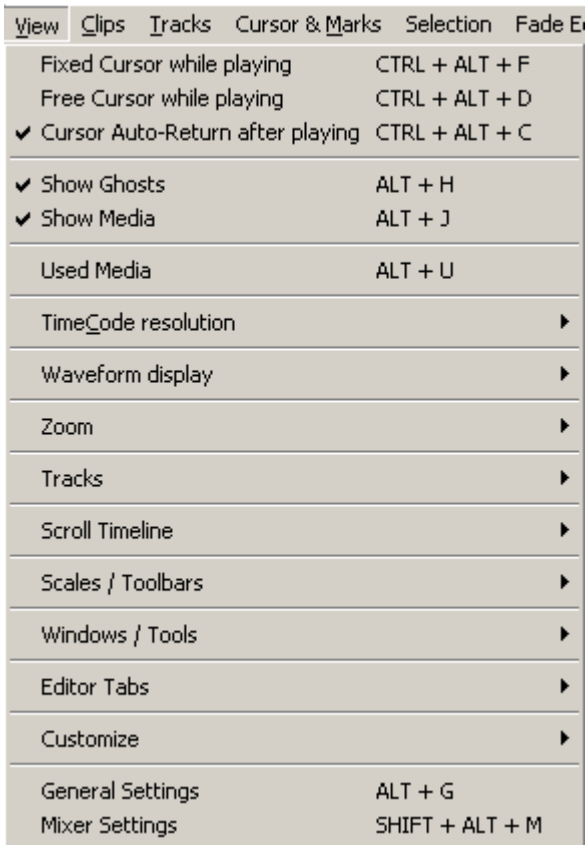
When this option is checked (enabled) all **Cut / Copy / Paste** operations also include automation tracks

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

Menus - View Menu



Fixed Cursor while playing When checked (enabled) **Playhead Cursor** remains stationary while playing at the position set in **General Settings - Playback** 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.

Cursor Auto-Return after playing

When checked (enabled) **Playhead Cursor** returns to its starting position when playback stops

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

Used Media This command opens the Media folder(s), and highlights media that are used in the currently loaded project

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)

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

dB Sets the current waveform display to decibels

Auto-Scale Waveform

Sets the current waveform display to automatically display an optimal waveform

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

Scales / Toolbars >

Feet Adds a ruler calibrated in Feet below the Time ruler

Feet Settings Opens the **Feet Settings** window

Bars&Beats Adds a ruler calibrated in Bars&Beats below the Time ruler

Bars&Beats Settings Opens the **Bars&Beats Settings** window

Tempo Map Adds a Tempo map below the Time ruler

Windows / Tools >

Transport Displays the **Transport** Large Control

Mixer Displays the **Mixer**

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 >

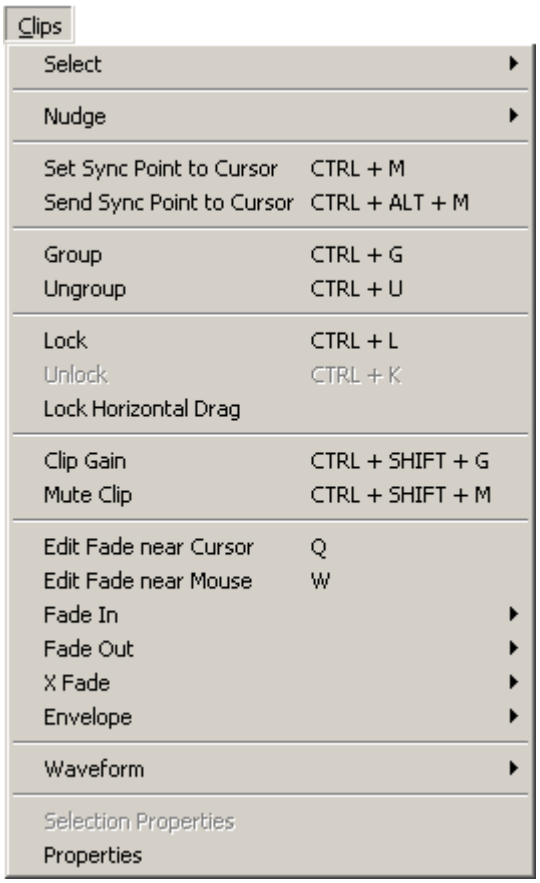
Overview Open **Overview** Tab window

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
Customize >		
	Macro Editor	Opens the **Macros** window (macro creation and management)
	Keyboard Shortcut Editor	Opens the **Keyboard Shortcuts** window (shortcut creation and management)
	Interface Editor	Opens the **Interface Editor** window (customize track headers)
General Settings		Displays the General Settings Window
Mixer Settings		Displays the Mixer Settings Window

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
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 crossfading
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 crossfading

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
Edit Fade near Cursor	Opens the **Fade Editor** with the audio fade located near the current Play-head 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 automation 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 automation nodes within the selection.

Envelope Copy to Selection Copies the values of all automation 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 automation nodes at the bounds of the selection on the track under the mouse cursor when Punch is chosen and opens the Punch Envelope window

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

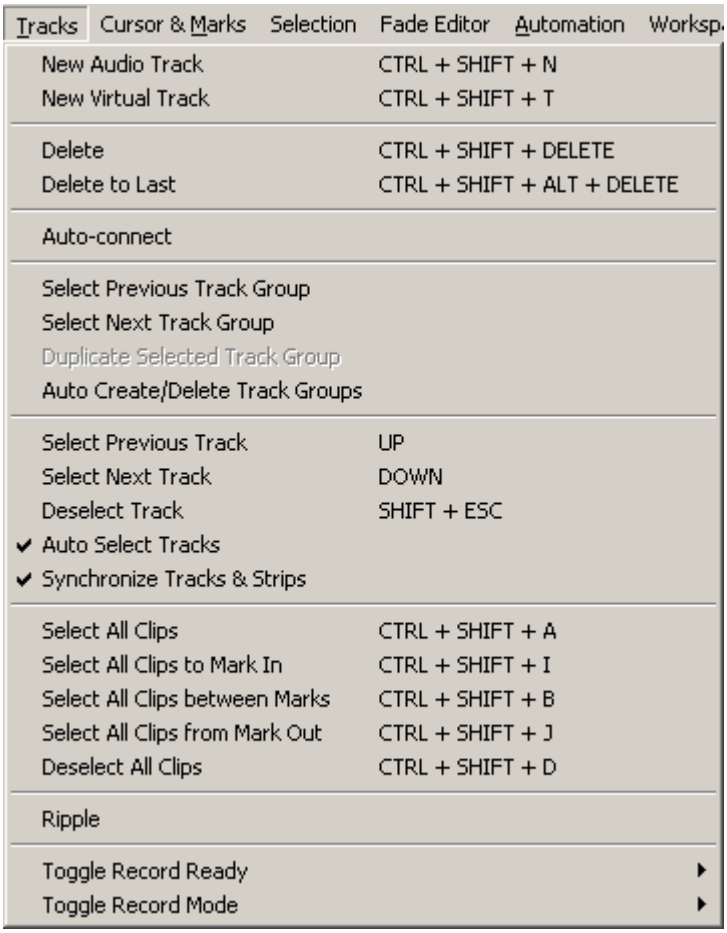
Waveform force Name clip will always show the clip name regardless of the waveform display settings for the track

Generate Waveform Generate the waveform data for the selected clip

Selection Properties Opens the Selection Properties display window, which shows details concerning the current selection

Properties Opens the **Clip Properties** display window, which shows details concerning the currently selected clip

Menus - Tracks



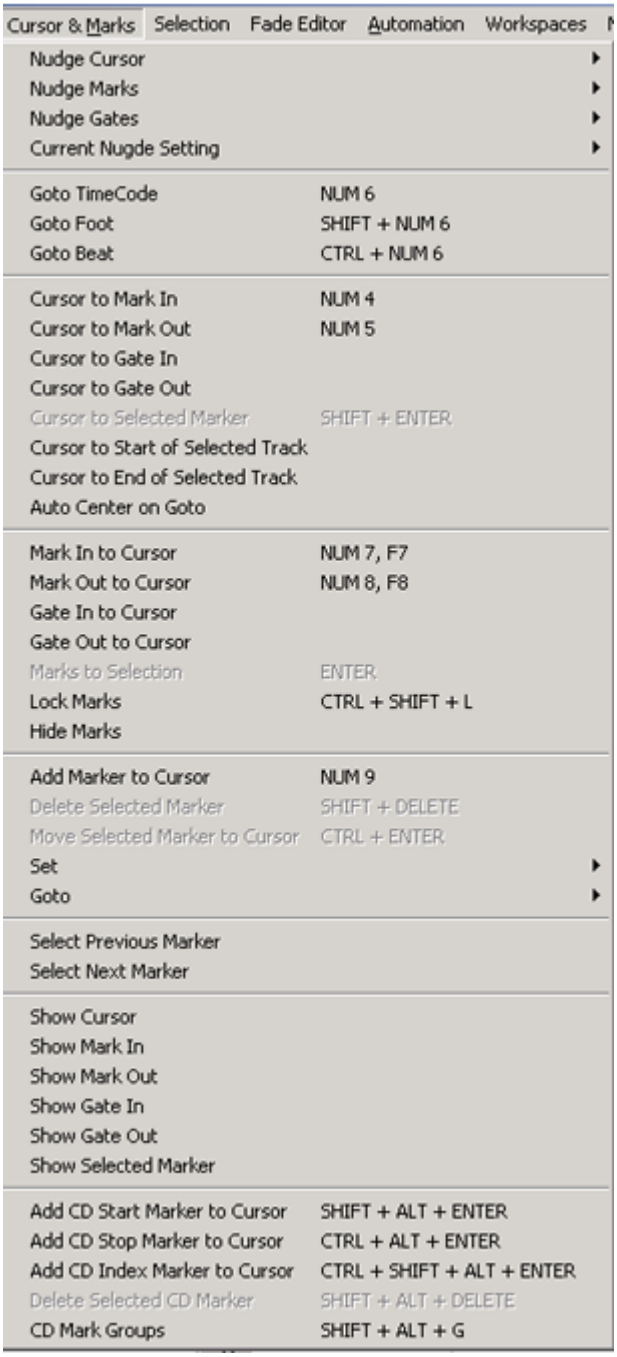
New Audio Track	Allows new audio tracks to be created on the Composition Editor
New Virtual Track	Allows new virtual tracks to be created on the Composition Editor
Delete	Removes the currently selected track from the composition editor
Delete to Last	Deletes all tracks between the currently selected tracks to the last track on the Composition Editor
Auto-connect	Automatically connect all tracks sequentially to any available mixer input
Select 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 window

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
Toggle Record Ready >	(toggles between Rec Ready and Safe)
Toggle Record Mode >	(toggles between Rec Ready, Auto-Punch Ready and Safe)

Note: The sub-menus for these two Toggle functions give access to up to 96 tracks

Menus - Cursors and marks



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

Goto TimeCode	Opens the Goto TimeCode window, 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 Foot
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

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
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 Marker 1 Set the Play Cursor position to Marker #1

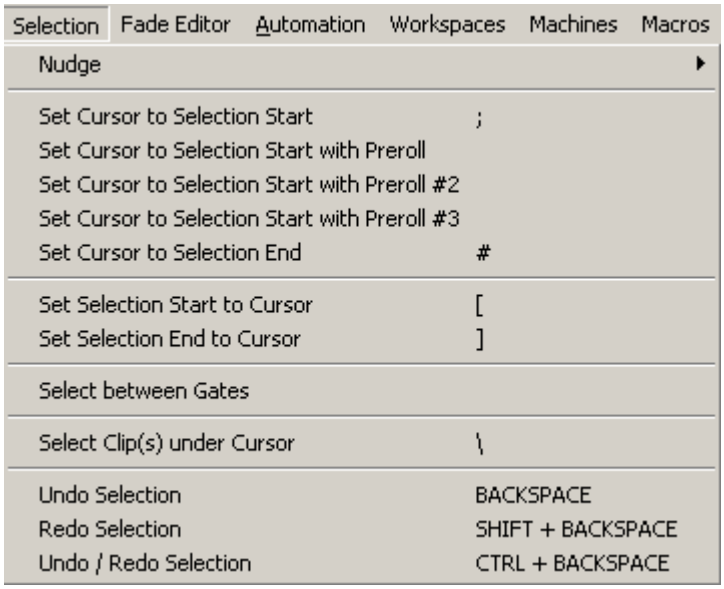
Note: Goto Markers 2 - 10 not shown

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

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

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

Menus - Selection



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	Positions sets the Selection between the selected track group Gates
Select Clip(s) under Cursor	Selects the clip(s) currently in contact with the Playhead Cursor
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

Menus - Fade Editor

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

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.

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

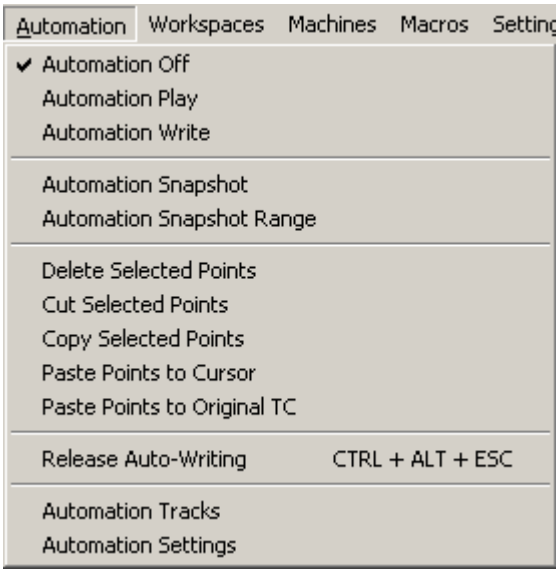
Save Default Out Preset

Load Default In Curve

Load Default In Preset

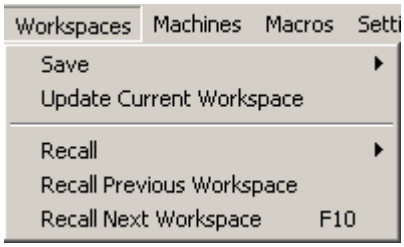
Save Default In Preset

Menus - Automation



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 cursor on the selected track
Release Auto-Writing	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 Automation Settings pop-up window which allows automation parameters and settings to be defined

Menus - Workspaces



Save >

Save Workspace 1 **Save Workspace 1**

Note: Save Workspace 2 to 9 omitted

Save Workspace 10 **Save Workspace 10**

Update Current Workspace Updates the current Workspace with current settings

Recall >

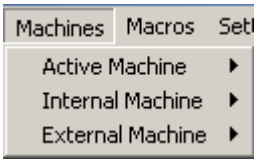
Recall Workspace 1 Recall Workspace 1

Note: Recall Workspace 2 - 9 omitted

Recall Previous Workspace Toggles backwards through the list of available Workspaces

Recall Next Workspace Toggles forwards through the list of available Workspaces

Menus - Machines



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
Record	Record
Fast Forward	Fast Forward
Fast Rewind	Fast Rewind
Scan Forward	Scan Forward
Scan Rewind	Scan Rewind
Start	Goto Start
End	Goto End
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
Goto TimeCode	Goto TimeCode
Loop On/Off	Loop On/Off

Auto-Chase External Machine Automatically set the Internal Machine to Chase any active External Machine

Internal Machine

Stop	Stop
Pause	Pause
Play	Play
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

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

Loop On/Off Loop On/Off

Hard Chase Hard Chase
Soft Chase Soft Chase
Store Chase Offset Store Chase Offset

Cursor Auto-Return after playing Auto Return On/Off

External Machine

Stop	Stop
Pause	Pause
Play	Play
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
Loop On/Off	Loop On/Off
Nudge +1 frame	Nudge +1 frame
Nudge -1 frame	Nudge -1 frame
Set Loop In	Set Loop In
Set Loop Out	Set Loop Out
Goto Loop In	Goto Loop In
Goto Loop Out	Goto Loop Out
Eject	Eject
Chase Cursor On/Off	Chase Cursor On/Off
Enable Record On/Off	Enable Record On/Off
Record Ready V1	Record Ready V1
Record Ready A1	Record Ready A1

Note: Record Ready A2 - A7 omitted

Record Ready A8	**Record Ready A8**
Goto Locator 1	**Goto Locator 1**

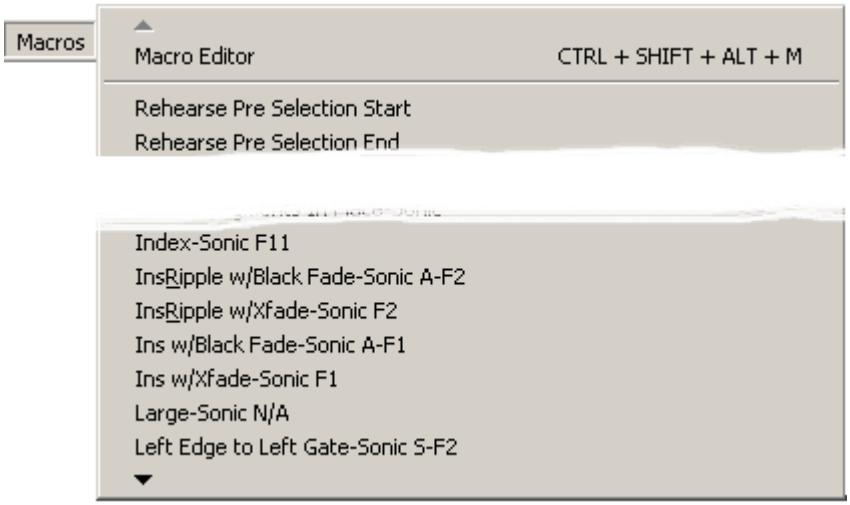
Note: Note Goto Locator 2 to 9 omitted

Goto Locator 10	**Goto Locator 10**
Set Locator 1	**Set Locator 1**

Note: Set locator 2 to 9 omitted

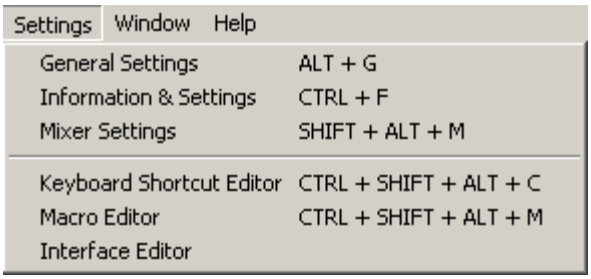
Set Locator 10	**Set Locator 10**

Menus - Macro



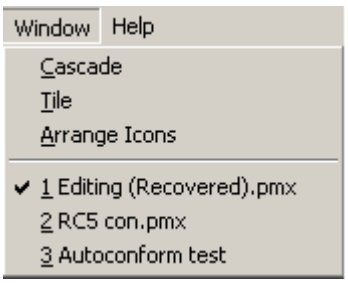
The **Macro** menu gives access to a large number of pre-programmed Macros, also to the **Macro Editor** Please see **User Macros on page 222**

Menus - Settings



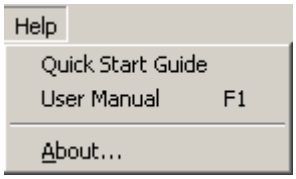
The **Settings** menu brings together all the Settings windows and the customization windows.

Menus - Window



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

Menus - Help



The **Help** Menu gives quick on-line access to this manual and others. **About** pops up a Window with the Pyramix logo and details about the registered user and software version.

Remote Controllers

Hardware remote control is accomplished via MIDI. Templates are supplied for some popular controllers or you can map your own control surface to Pyramix. For full details, please see the Pyramix Reference Guide

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 **General Settings** window under the **Playback** tab. However, the alternatives are really only applicable to certain RAID and Network-Attached-Storage setups and, unless you have considerable knowledge and experience, the default setting should be used.

One File Per Track option

Found in the **Settings > Project Information and Settings** window on the **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.

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. Therefore Pyramix offers a few DSP saving modes in the **Settings > Mixer Settings**, **General** page such as:

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. This will be further increased in future versions by software releases planned after V4.1 from a current maximum channel count of 64 to 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.

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

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

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 seperately 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)

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)

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, 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 optionbracket 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).

Appendix III Optional Features

Pyramix DSD / SACD

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:

View > Mixer Settings : I/O & Sync tab

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.

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 IV 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 exampleis 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

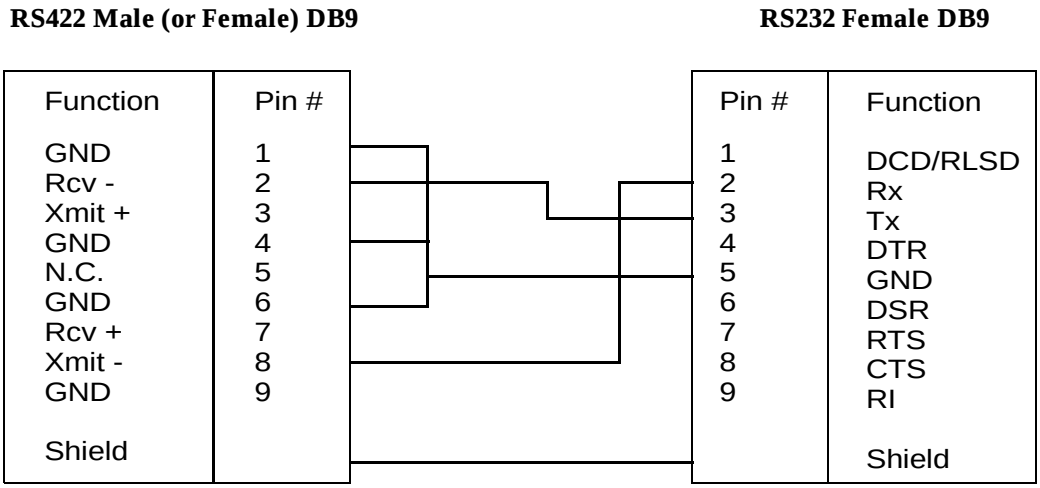
Connecting an RS422 device using a direct cable

(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

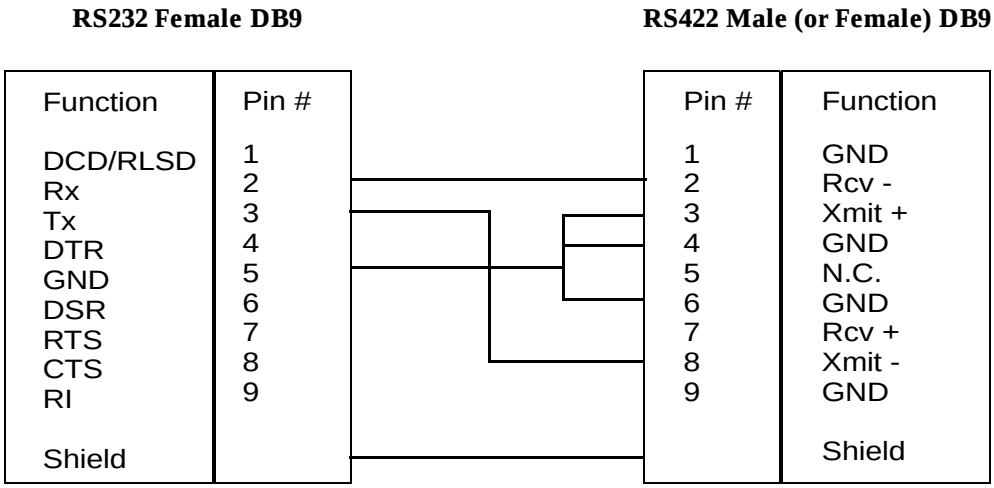
This pinout should work in most of the cases where Pyramix is controlled by a Master device (check on your controller if the RS422 connector has to be male or female). It has been tested with various mixers such as Sony DMX-R100, Soundcraft Spirit, Soundtracs DPC II and DS3, and various other Sony P2 protocol capable controllers:



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.



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.

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