



Ramses MSC

Console Control System

Reference
guide
PROVISIONAL



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Ramses MSC reference guide

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1 Introduction

The **Ramses MSC** comes in two different chassis types and three models (8, 16 and 24 faders) plus an optional **Edit Bay** and the **ARC**.

To aid understanding we have named the various Ramses panels:

- Fader Panel = per 8 faders
- EQ Panel = per 8 channels including Aux and Pan
- The Monitor Panel = Monitoring Section and Transport Bar
- The Expert Panel = Navigation, Automation, grouping.
- The Upper Active Panel = System management, Active Screen (TFT Touch)
- The Lower Active Panel = Master routing Panel, quick transport and locators
- Meter Bridge = A Pyramix window which provides a Meter Bridge for the Ramses MSC. This can be viewed on any monitor connected to the Pyramix workstation.

Options

- Edit Bay = Pyramix Editor Remote including a Transport Bar
- ARC = 48 Channels or 72 Channels depending on the Ramses Chassis

Scope

This manual is written for **Ramses Consolesoft version 1.5.3 3572** with firmware **1.5.2.31** in conjunction with **Pyramix version 6.0** and although most of what is outlined here will be relevant to other versions of the software, please check to see if a more recent of this document exists on the Merging website.

Document Organisation

This document is organised mainly by control groupings, so if you are mystified as to the function of a given control, please refer to the chapter that describes the panel it is located on and then cross-reference the number printed on the panel image at the beginning of the chapter to locate the description for that control.

All **Contents** and **Index** entries and cross-references including the numbers referred to in the previous paragraph are hyperlinks. Just click on them to jump to the information.

Updating

Please refer to the **Ramses MSC Software Upgrade Guide** for detailed information on upgrading your firmware, Consolesoft and Edit Bay Sets.

Latest updates of Ramses and Pyramix

We strongly advise checking at:

www.merging.com/ramses/download

for the latest Pyramix and Ramses software and firmware versions or contacting your local merging Technologies Sales Partner who will help provide you with updates.

Other Documents

For a more task orientated, 'how to', manual, please refer to the Ramses Tutorial Guide.

<http://www.merging.com/ramses/download/>

Here you will also find further documents retaining to installing and operating RamsesMSC and Pyramix.

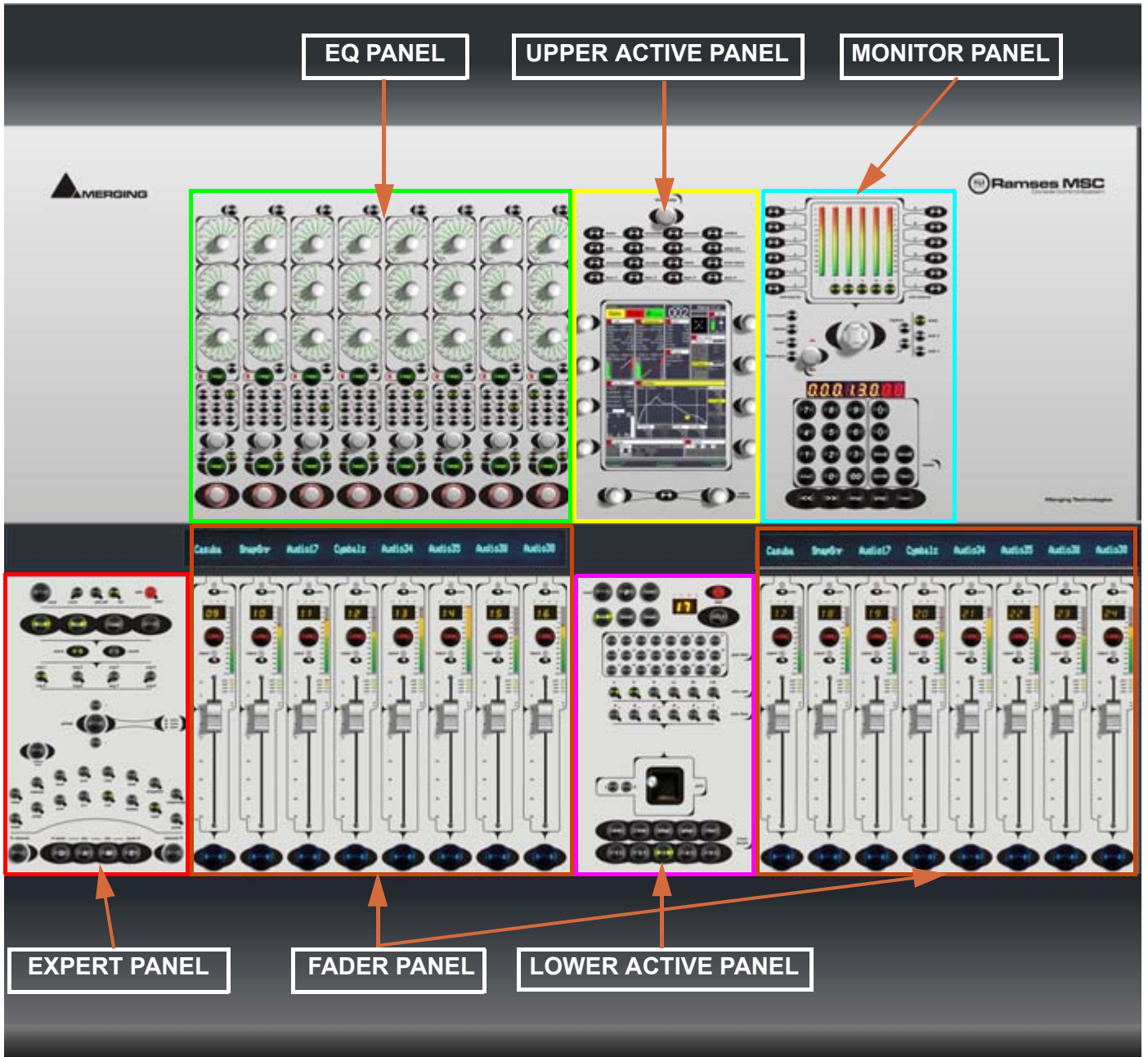
Terminology

In all Ramses MSC documentation we use the following terms:

Virtual Strip	A mixer control Strip on the Pyramix Virtual Mixer that can be controlled and displayed by the physical controls on the Ramses MSC. Strip types include Inputs, Mix, Sub-Group and Aux Bus Masters and Control Groups .
Slot or Physical Control Strip	Each Slot is a vertical group of physical controls, including a fader, on the Ramses MSC surface. You will have either 8,16 or 24 of these, depending on the model and configuration of your console. A Slot can have any Virtual Strip selected to it.
Ergonomic Spread	An arrangement of virtual Mixer Strips assigned to Slots . Ergonomic Spreads can be stored, recalled, modified etc...
Touch (Screen) Button	Refers to a Virtual Button. I.e. an area of the touch screen that must be touched to perform a function, not a hardware button.
Expert Panel	Includes all controls concerned with Navigation, Automation, Copy/Paste of Settings, Grouping and Ergonomic Spreads .
Monitor Panel	Monitoring Section and Transport Bar
Upper Active Panel	System management, Active Screen (TFT Touch)
Lower Active Panel	Master Routing Panel, Joystick Panner, Quick Transport and Locators
Iggy	Is the name of the Ramses MSC software application and interface shown on Active Screen
Consolesoft	Files containing Iggy software
Firmware	Files for programming Hardware upgrades (flash)
Consolesoft Sets	Files containing Edit Bay mappings



Panels

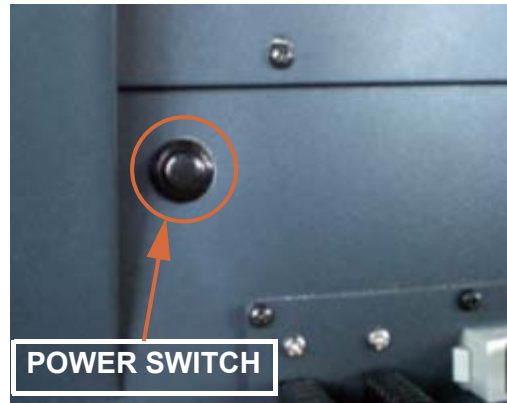


Ramses MSC Panels

The Basics

How to turn your Ramses On

Assuming the Console has been correctly installed and is plugged into mains power, simply press the black 'ON' button to power on the console. The switch can be found on the rear panel on the left-hand side when viewed from the back:



Power Switch

The boot process takes approximately one to two minutes.

How to turn your Ramses Off

Press the **SYSTEM** Button on the Upper Active Panel, then press the **SHUTDOWN** Touch Button then confirm by pressing the **CONFIRM** Touch Button.

How to load your project

Once your Ramses has booted, you will be able to load a project in Pyramix and start mixing.

Note: it is important that the console is fully powered up before you load your project.

The Pyramix project you load will determine the number and type of the features you will be able to map to your Ramses. For example, the number of mixer strips, tracks and plugins, whether there is a monitoring section etc.

At any time you may add or remove strips, tracks, buses, plugins etc. and the Ramses will reconfigure in seconds.

Tips and tricks

We strongly recommend setting up some templates on your Pyramix/Masscore that include everything you need in your day to day work, since MassCore has tremendous power (256 I/O and 256 Busses). This will avoid the inconvenience of mixer rebuilds. Treat the Ramses as you would a normal, fixed architecture console with a full complement of Dynamics, EQ's and effects etc. and just switch the functions on as you need them.

2 Ramses Setup

Scope

Setting up a Ramses MSC is very simple. Once you have installed it and connected it with Pyramix we strongly advise you to work through this **Setup** section since every Ramses has specific features such as the number of faders, whether an **Edit Bay** is present etc.

Setting up Ramses with Pyramix

Please refer to the **Ramses Install Guide** available at:

www.merging.com/ramses/download

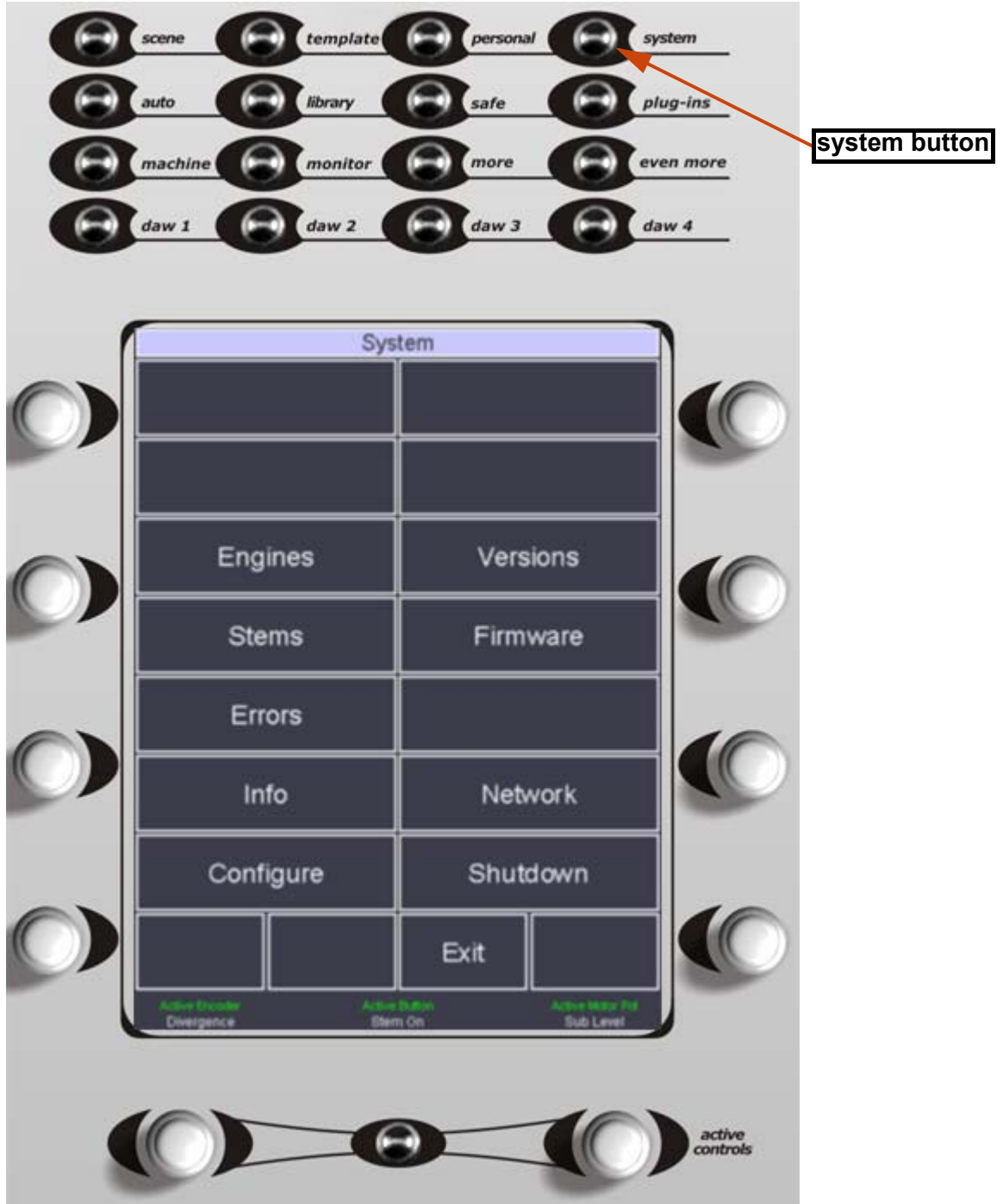
Upgrading Ramses Software and Firmware

Please refer to the **Ramses Upgrade Guide** available at:

www.merging.com/ramses/download

Setup

On the **Upper Active Panel** press the **system** button to access the **System** menu with the following choices. You can access the **System** menu at any time from any page by pressing the **system** button



Active Screen - System Page

Each **Touch Button** performs an action, displays information or opens the associated sub-menu. Where there are blanks, these are available for future expansion:

Engines

Opens the **Engines** page. All engines currently installed are listed and can be restarted from here.

Stems

Description to follow.

Errors

Displays a **log** file in the unlikely event of errors.

Info

Lists all the software versions installed currently along with the sub-module versions specific to this console.

Configure

Opens the **Configure** sub-menu

Versions

Opens the **Versions** page. I.e. this is where you can load an alternative version of the **ConsoleSoft** application or install a new one. Also where **sets** (configuration files) for the optional **Edit Bay** are installed and loaded.

Please see the Ramses MSC upgrade guide for details.

Firmware

Opens the **Firmware** page. All **Firmware versions** currently available in the console are listed and can be installed from here. Also, new versions of **Firmware** are imported into the console from this sub-menu.

Please see the Ramses MSC upgrade guide for details.

Network

Opens the **Network** page. This is where the Network connection is configured.

Please see the Ramses MSC install guide for details.

Shutdown

Initiates the **Shutdown** sequence for the console. The **Confirm** Touch Button appears. Press this to begin console **Shutdown**.

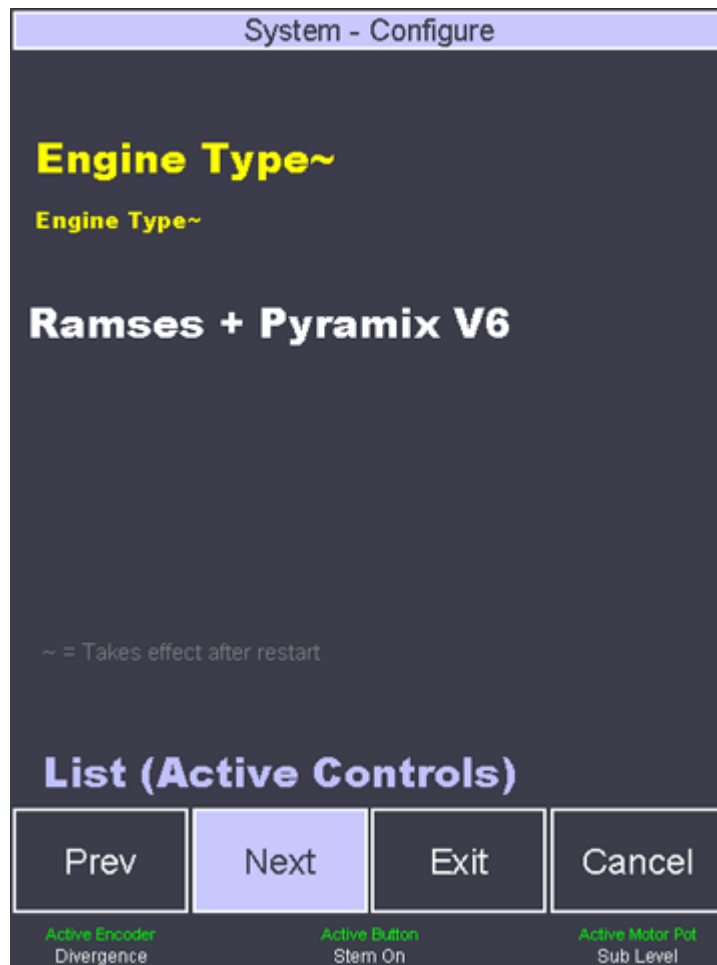


Exit

Exits the **System** menu and returns to the screen displayed prior to entering the **Setup** menu.

Configure sub-menu

The **Configure** sub-menu has a number of pages. Pages are located by pressing the **Next** and **Previous** Touch Buttons. Since this is Page 1 only the **Next** button is available



Active Screen - Configure Page 1

The name of the current page is shown in yellow at the top of the screen. The ~ symbol indicates that changes made on this page will only take effect after a console restart.

The available options are listed below in white.

The label in lilac at the bottom of the screen above the buttons indicates which parameter(s) can be changed and which physical controls may be used to change it. (In this case the **Active Controls** below the screen may be used to navigate the list)

<p>System - Configure</p> <p>Engine Type~ Engine Type~</p> <p>Ramses + Pyramix V6</p> <p>~ = Takes effect after restart</p> <p>List (Active Controls)</p> <p>Prev Next Exit Cancel</p> <p>Active Divergence Active Stem On Active Sub Level</p>	<p>System - Configure</p> <p>Model Number~ Model Number~</p> <p>Ramses 08</p> <p>~ = Takes effect after restart</p> <p>List (Active Controls)</p> <p>Prev Next Exit Cancel</p> <p>Active Divergence Active Stem On Active Sub Level</p>	<p>System - Configure</p> <p>Arc type~ Arc type~</p> <p>No arc</p> <p>~ = Takes effect after restart</p> <p>List (Active Controls)</p> <p>Prev Next Exit Cancel</p> <p>Active Divergence Active Stem On Active Sub Level</p>
--	--	---

Page 1	Page 2	Page 3
Pyramix 5 or 6 In most cases set this to V6 (MassCore)	Number of physical faders 8 - 16 - 24	ARC Option - No ARC - Arc 48 - Arc 72

<p>System - Configure</p> <p>Hide mouse cursor Hide mouse cursor</p> <p>FALSE</p> <p>~ = Takes effect after restart</p> <p>On/Off (Active Button)</p> <p>Prev Next Exit Cancel</p> <p>Active Divergence Active Stem On Active Sub Level</p>	<p>System - Configure</p> <p>Autosave time (minutes, if non Autosave time (minutes, if non-zero)</p> <p>2</p> <p>~ = Takes effect after restart</p> <p>Numeric (Active Controls)</p> <p>Prev Next Exit Cancel</p> <p>Active Divergence Active Stem On Active Sub Level</p>	<p>System - Configure</p> <p>Skin Version~ Skin Version~</p> <p>1</p> <p>~ = Takes effect after restart</p> <p>Numeric (Active Controls)</p> <p>Prev Next Exit Cancel</p> <p>Active Divergence Active Stem On Active Sub Level</p>
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Page 4	Page 5	Page 6
Hide Mouse Cursor within Iggy - TRUE - FALSE	Autosave time interval for Ramses templates In minutes if not zero	Iggy Skin Version (appearance) - 0 (not recommended) - 1 (recommended)

<p>System - Configure</p> <p>Post Panel Configuration (0=st</p> <p>Post Panel Configuration (0=standard)-</p> <p>0</p> <p>- = Takes effect after restart</p> <p>Numeric (Active Controls)</p> <p>Prev Next Exit Cancel</p> <p>Active Divergence Active Button Stem On Active Meter Pkg Sub Level</p>	<p>System - Configure</p> <p>Engine IP address</p> <p>Engine IP address</p> <p>255.255.255.255</p> <p>- = Takes effect after restart</p> <p>IP (Right Knobs)</p> <p>Prev Next Exit Cancel</p> <p>Active Divergence Active Button Stem On Active Meter Pkg Sub Level</p>	<p>System - Configure</p> <p>Stop after jog delay (0= disable</p> <p>Stop after jog delay (0= disable)</p> <p>500</p> <p>- = Takes effect after restart</p> <p>Numeric (Active Controls)</p> <p>Prev Next Exit Cancel</p> <p>Active Divergence Active Button Stem On Active Meter Pkg Sub Level</p>
---	--	--

Page 7	Page8	Page 9
<p>Edit Bay configuration 0 is default 1 - 9 are User Sets</p>	<p>Engine IP address = Pyramix IP address System > Network shows Ramses IP address</p>	<p>Sets the time after last jog event after which jog is canceled and Stop invoked 0 - disable 1 - X seconds</p>

<p>System - Configure</p> <p>Scene Mode</p> <p>Scene Mode</p> <p>FALSE</p> <p>- = Takes effect after restart</p> <p>On/Off (Active Button)</p> <p>Prev Next Exit Cancel</p> <p>Active Divergence Active Button Stem On Active Meter Pkg Sub Level</p>	<p>System - Configure</p> <p>Rewind/Fast Forward using Sh</p> <p>Rewind/Fast_Forward using Shuttle</p> <p>FALSE</p> <p>- = Takes effect after restart</p> <p>On/Off (Active Button)</p> <p>Prev Next Exit Cancel</p> <p>Active Divergence Active Button Stem On Active Meter Pkg Sub Level</p>	<p>System - Configure</p> <p>Fader touch sets fader atm onl</p> <p>Fader touch sets fader atm only</p> <p>TRUE</p> <p>- = Takes effect after restart</p> <p>On/Off (Active Button)</p> <p>Prev Next Exit Cancel</p> <p>Active Divergence Active Button Stem On Active Meter Pkg Sub Level</p>
--	---	--

Page 10	Page 11	Page 12
<p>Scene Mode for Theatre Use (future implementation) - FALSE - TRUE</p>	<p>Change Shuttle backwards and forwards commands to REWIND and Fast Forward - FALSE - TRUE</p>	<p>When TRUE automation in a strip is independent by section. (fader, auxes EQ etc.) When False Entire strip changes status with fader - TRUE - FALSE</p>

<p>System - Configure</p> <p>Inject + Fader selects channel Inject + Fader selects channel</p> <p>TRUE</p> <p>- = Takes effect after restart</p> <p>On/Off (Active Button)</p> <p>Prev Next Exit Cancel</p> <p>Active Encoder Divergence Active Button Stem On Active Meter Pot Sub Level</p>	<p>System - Configure</p> <p>Meter drop time (msec per step) Meter drop time (msec per step)</p> <p>15</p> <p>- = Takes effect after restart</p> <p>Numeric (Active Controls)</p> <p>Prev Next Exit Cancel</p> <p>Active Encoder Divergence Active Button Stem On Active Meter Pot Sub Level</p>	<p>System - Configure</p> <p>Drive engine EQ window Drive engine EQ window</p> <p>FALSE</p> <p>- = Takes effect after restart</p> <p>On/Off (Active Button)</p> <p>Prev Next Exit Cancel</p> <p>Active Encoder Divergence Active Button Stem On Active Meter Pot Sub Level</p>
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Page 13	Page 14	Page 15
<p>Selects channel to Active Screen when Inject or fader is touched</p> <p>- TRUE - FALSE</p>	<p>Meter fall-back time for all Ramses Meters in milli-seconds per step</p>	<p>Show/Hide plug-ins on Pyramix screen (only Strip Tools at present)</p> <p>- TRUE - FALSE</p>

<p>System - Configure</p> <p>Shelf buttons change selected Shelf buttons change selected EQ band</p> <p>TRUE</p> <p>- = Takes effect after restart</p> <p>On/Off (Active Button)</p> <p>Prev Next Exit Cancel</p> <p>Active Encoder Divergence Active Button Stem On Active Meter Pot Sub Level</p>	<p>System - Configure</p> <p>Engine activity timeout (secs, Engine activity timeout (secs, if applicable)</p> <p>6</p> <p>- = Takes effect after restart</p> <p>Numeric (Active Controls)</p> <p>Prev Next Exit Cancel</p> <p>Active Encoder Divergence Active Button Stem On Active Meter Pot Sub Level</p>	<p>System - Configure</p> <p>Slow down "all" (msec per press) Slow down "all" (msec per press)</p> <p>100</p> <p>- = Takes effect after restart</p> <p>Numeric (Active Controls)</p> <p>Prev Next Exit Cancel</p> <p>Active Encoder Divergence Active Button Stem On Active Meter Pot Sub Level</p>
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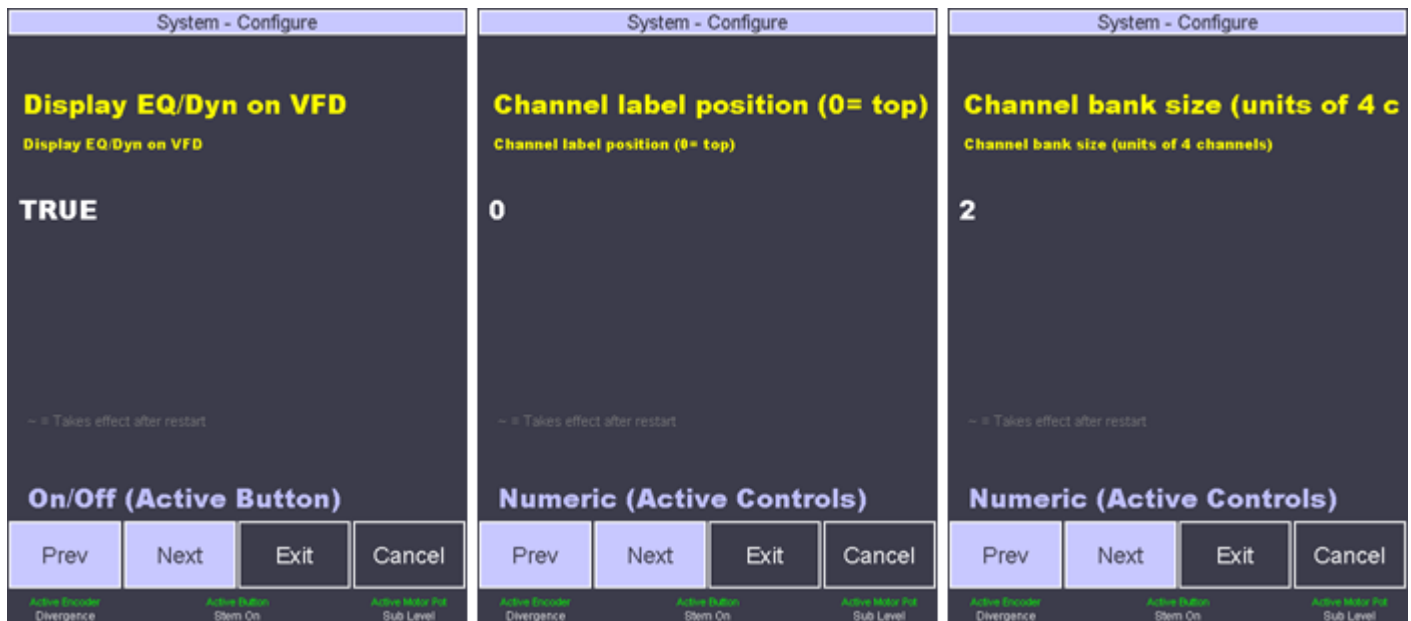
Page 16	Page 17	Page 18
<p>Buttons immediately above and below EQ rotaries switch between Shelf and band-pass OR toggle selected band.</p> <p>- TRUE - FALSE</p>	<p>N/A at present</p>	<p>Changes the ALL button behaviour from momentary to latch for the time set here per press. Obviates necessity to hold down ALL button when applying e.g. Unity Gain</p>

System - Configure	System - Configure	System - Configure
<p>18 Aux Sends (3 banks of 6) 18 Aux Sends (3 banks of 6)</p> <p>TRUE</p> <p>~ = Takes effect after restart</p> <p>On/Off (Active Button)</p> <p>Prev Next Exit Cancel</p> <p>Active Encoder Divergence Active Button Stem On Active Mixer Pot Sub Level</p>	<p>Locator hold time (units of 0.1) Locator hold time (units of 0.1 secs)</p> <p>10</p> <p>~ = Takes effect after restart</p> <p>Numeric (Active Controls)</p> <p>Prev Next Exit Cancel</p> <p>Active Encoder Divergence Active Button Stem On Active Mixer Pot Sub Level</p>	<p>Debug: make log file~ Debug: make log file~</p> <p>TRUE</p> <p>~ = Takes effect after restart</p> <p>On/Off (Active Button)</p> <p>Prev Next Exit Cancel</p> <p>Active Encoder Divergence Active Button Stem On Active Mixer Pot Sub Level</p>

Page 19	Page 20	Page 21
Toggles between 18 independent AUXs or three banks of 6 (A, B, C) - TRUE - FALSE	Sets the length of time you have to hold a locator button (Lower Active Panel below Transport) to store the current value. In 100msec increments	In the unlikely event of a Ramses failure, create a log file - TRUE - FALSE

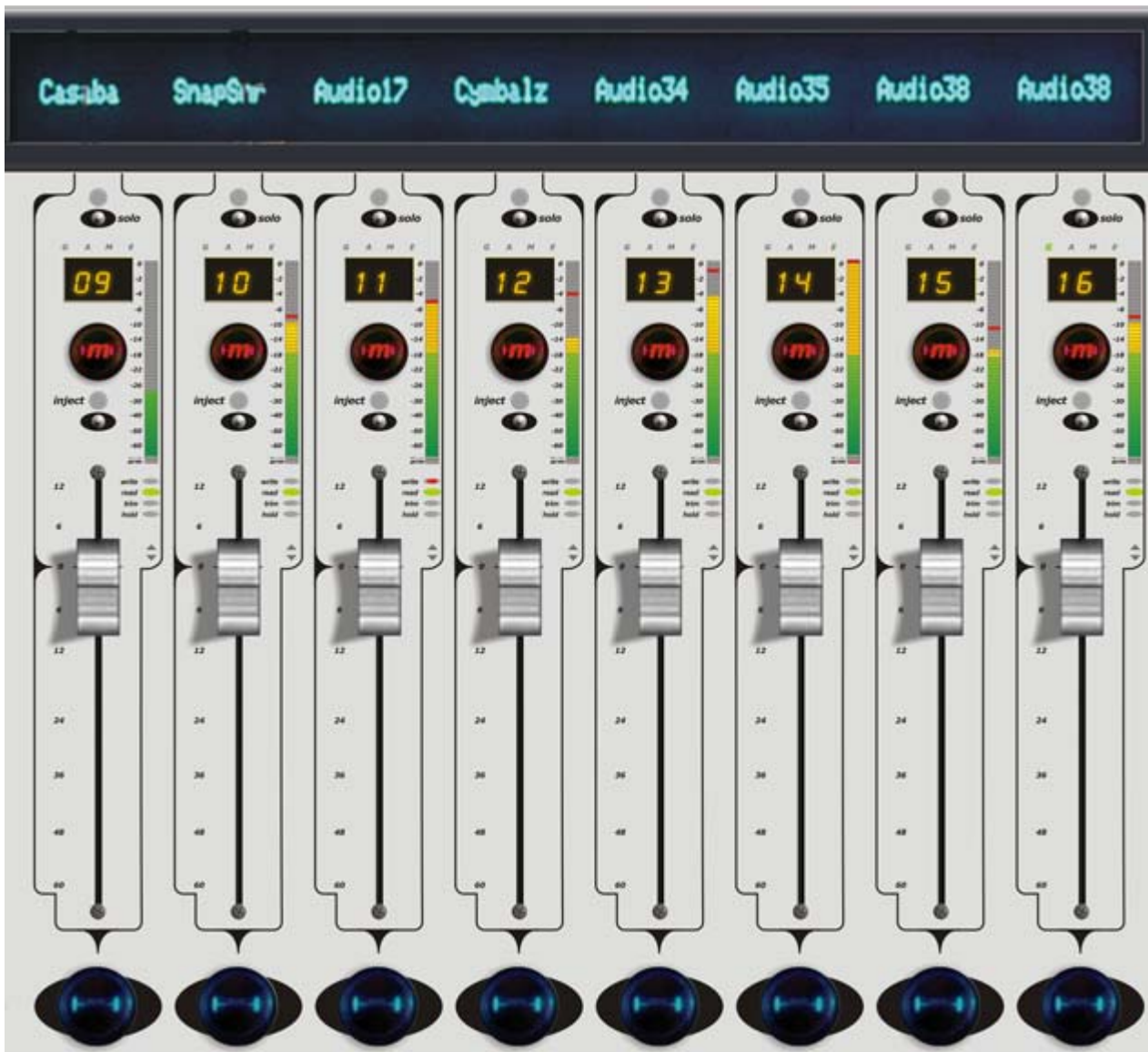
System - Configure	System - Configure	System - Configure
<p>Showcode: disable close-up pa Showcode: disable close-up pages</p> <p>FALSE</p> <p>~ = Takes effect after restart</p> <p>On/Off (Active Button)</p> <p>Prev Next Exit Cancel</p> <p>Active Encoder Divergence Active Button Stem On Active Mixer Pot Sub Level</p>	<p>Display channel name on VFD Display channel name on VFD</p> <p>TRUE</p> <p>~ = Takes effect after restart</p> <p>On/Off (Active Button)</p> <p>Prev Next Exit Cancel</p> <p>Active Encoder Divergence Active Button Stem On Active Mixer Pot Sub Level</p>	<p>Display fader dB on VFD Display fader dB on VFD</p> <p>Under Name</p> <p>~ = Takes effect after restart</p> <p>List (Active Controls)</p> <p>Prev Next Exit Cancel</p> <p>Active Encoder Divergence Active Button Stem On Active Mixer Pot Sub Level</p>

Page 22	Page 23	Page 24
Enable/Disable zoom into EQ, Dyn etc. pages when touched in Active Screen - TRUE (disable) - FALSE (enable)	Display Strip name on Alphanumeric display above the fader strip - TRUE - FALSE	Display current fader gain value in dB on Alphanumeric display - none - under name - above name



Page 25	Page 26	Page 28
Display EQ curve and Dynamics action on Alphanumeric display - TRUE - FALSE	Strip Label position (If ON) on the Alphanumeric display 0 = top	Number of Strips per Bank in 4 Strip units 1 = 4 Strips per press of Bank R or L 2 = 8 Strips per press of Bank R or L

3 Fader Panel



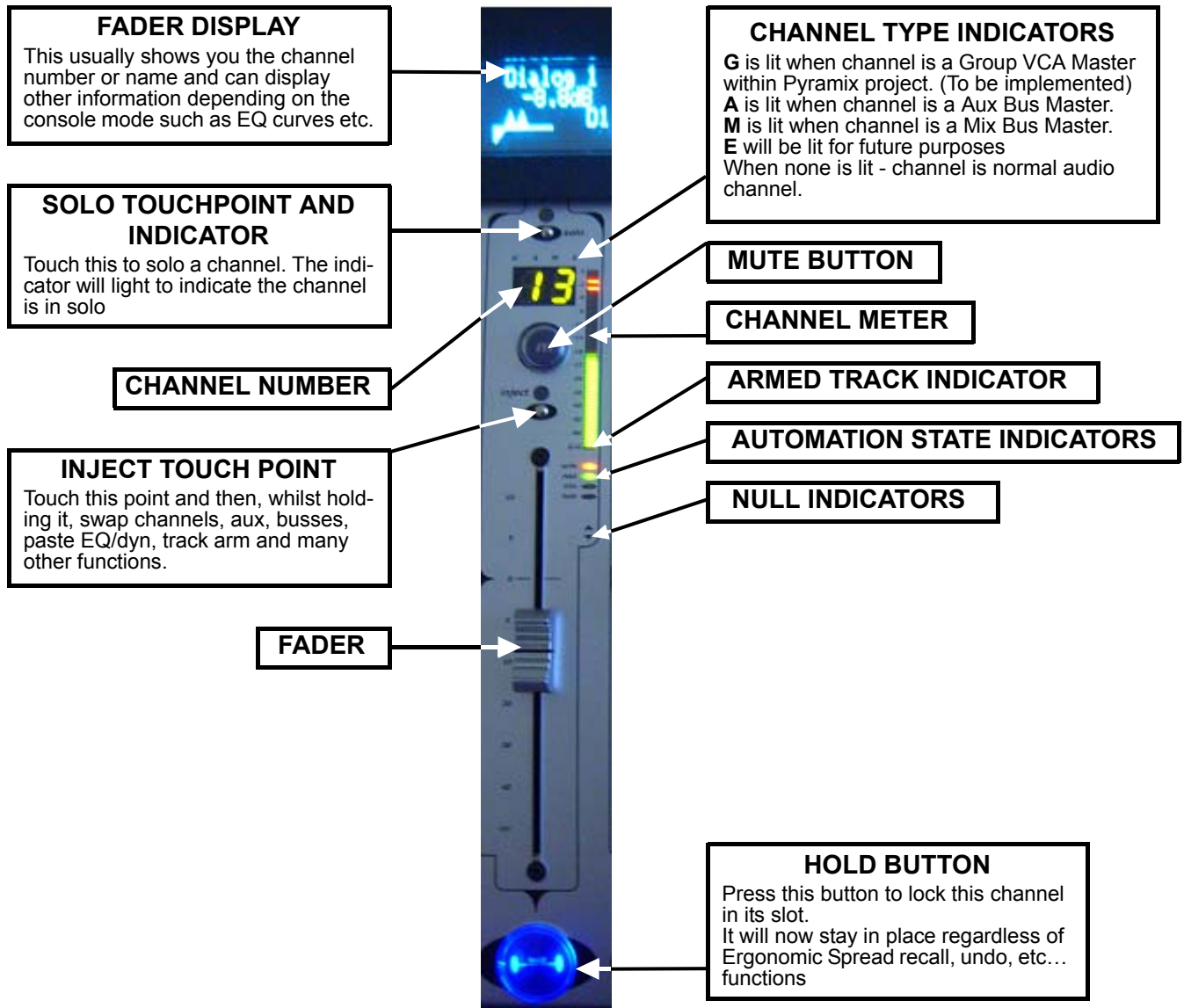
Fader Panel

Overview

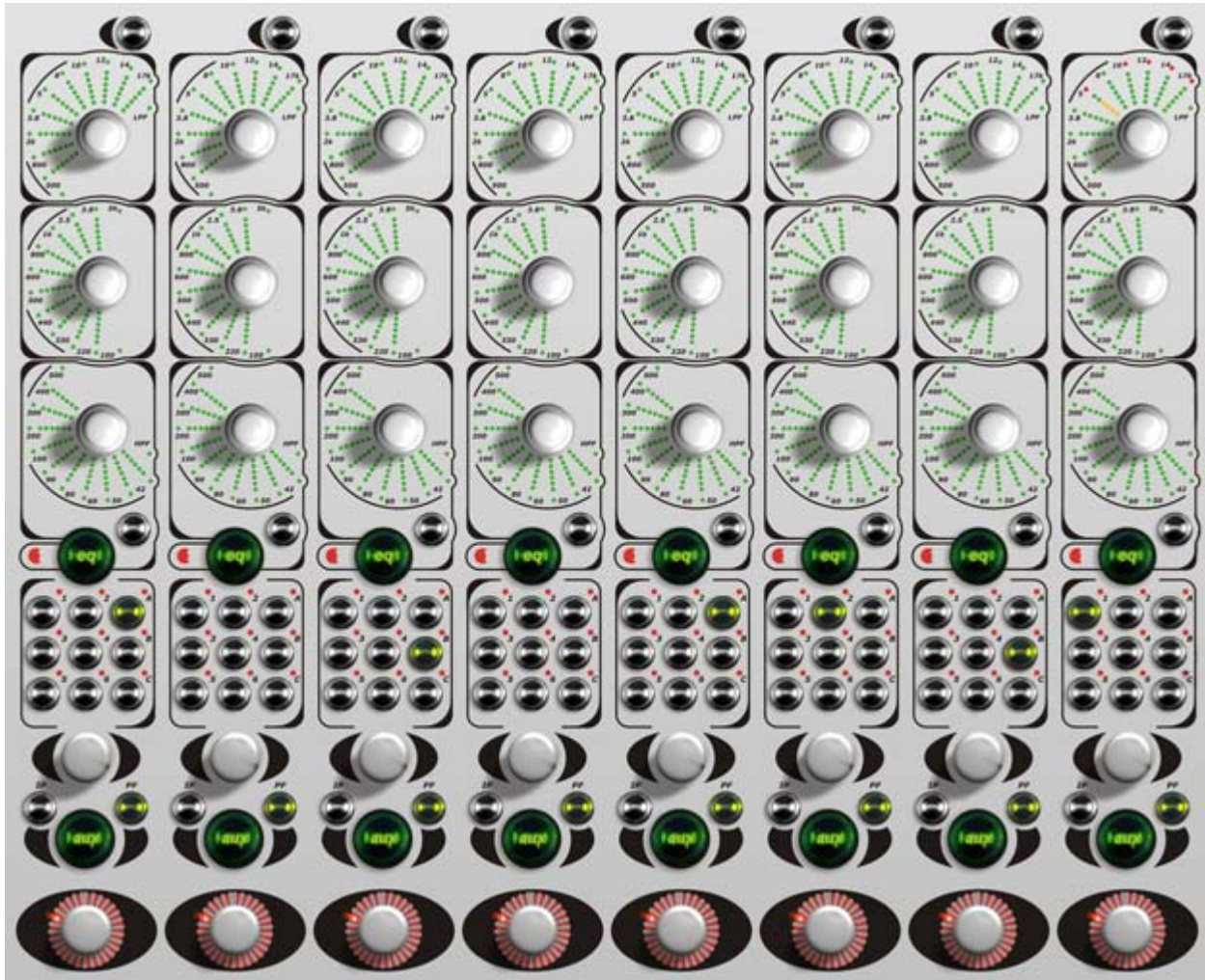
Each **Fader Panel** consists of 8 identical Fader Strips with an alphanumeric display at the top. Depending on which model Ramses MSC you have, you will have one, two or three Fader Panels.



Fader Strip



4 EQ Panel



EQ Panel

Overview

Each **EQ Panel** consists of 8 identical Strips. Depending on which model Ramses MSC you have, you will have one or two EQ Panels.



EQ Aux and Pan Strip



Each EQ Strip has a series of dedicated EQ controls. There are three Dual-concentric Encoders, the top of which control the gain and the bottom the frequency for each band. The settings of each EQ band are displayed using the EQ Fans around each encoder. For access to EQ controls additional to those on the channel strip, such as Q, band in/out and Filter controls - use the **Active Panel**. EQ Strip Overview

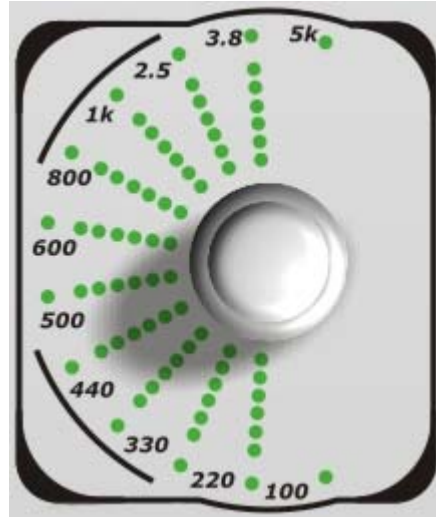
- 1. shelf
- 2. HF band EQ dual-concentric encoder and display
- 3. MF band EQ dual-concentric encoder and display
- 4. LF band EQ dual-concentric encoder and display
- 5. shelf
- 6. Master eq
- 7. more indicator
- 8. aux select buttons
- 9. aux knob.
- 10. aux IP (In-Place) button
- 11. aux PF (Pre-Fade) button
- 12. aux on/off button

13. pan/balance knob

1 shelf

The low pass **shelf** Button switches the top band of EQ to a shelving type filter. This also changes the EQ Fan display to Shelving mode.

2,3 and 4 HF, MF and LF eq eq display



The three **fan displays** are very similar. The differences are:

- The frequency legends are appropriate to the band. However, the frequency range is the same as the equaliser band being controlled. When the selected frequency cannot be displayed the **out of range** indicator will light.
- The mid band has two **out of range** indicators. the low and high bands logically only have one each.
- the 'spare' LED in the low and high bands is used to indicate **HPF** (High Pass Filter) and **LPF** (Low Pass Filter) active.

5 shelf

The high pass **shelf** Button switches the bottom band of EQ to a shelving type filter. This also changes the EQ Fan display to Shelving mode.

6 Master eq

The Master **eq** Button toggles the entire EQ section in/out of the signal path.

7 More Indicator

The 'More' Indicator is lit whenever there is more EQ applied than is displayed by the channel strip EQ controls - such as additional bands of EQ.

8 aux select

The **aux** Select section allows control over 12 discreet Aux Sends per channel (1 to 8 channels), and 6 Sends for N-1 Mixes and/or Talkbacks You can also see the settings for all Aux's on the Active Screen. The sends are divided into into three banks (A,B,C) A & B are for standard Aux's and bank C is used for N-1 (mix minus) Mixes and talkback (please refer to the Monitor section of the Pyramix User Manual)

9 aux knob

Controls the send level to the selected aux bus.

10 aux IP

When lit Aux will be sourced from the 'In Place' strip output including fader gain.

11 aux PF

When lit Aux is sourced pre-fader

12 aux on/off

Toggles selected Aux send on and off. On when lit.

13 pan

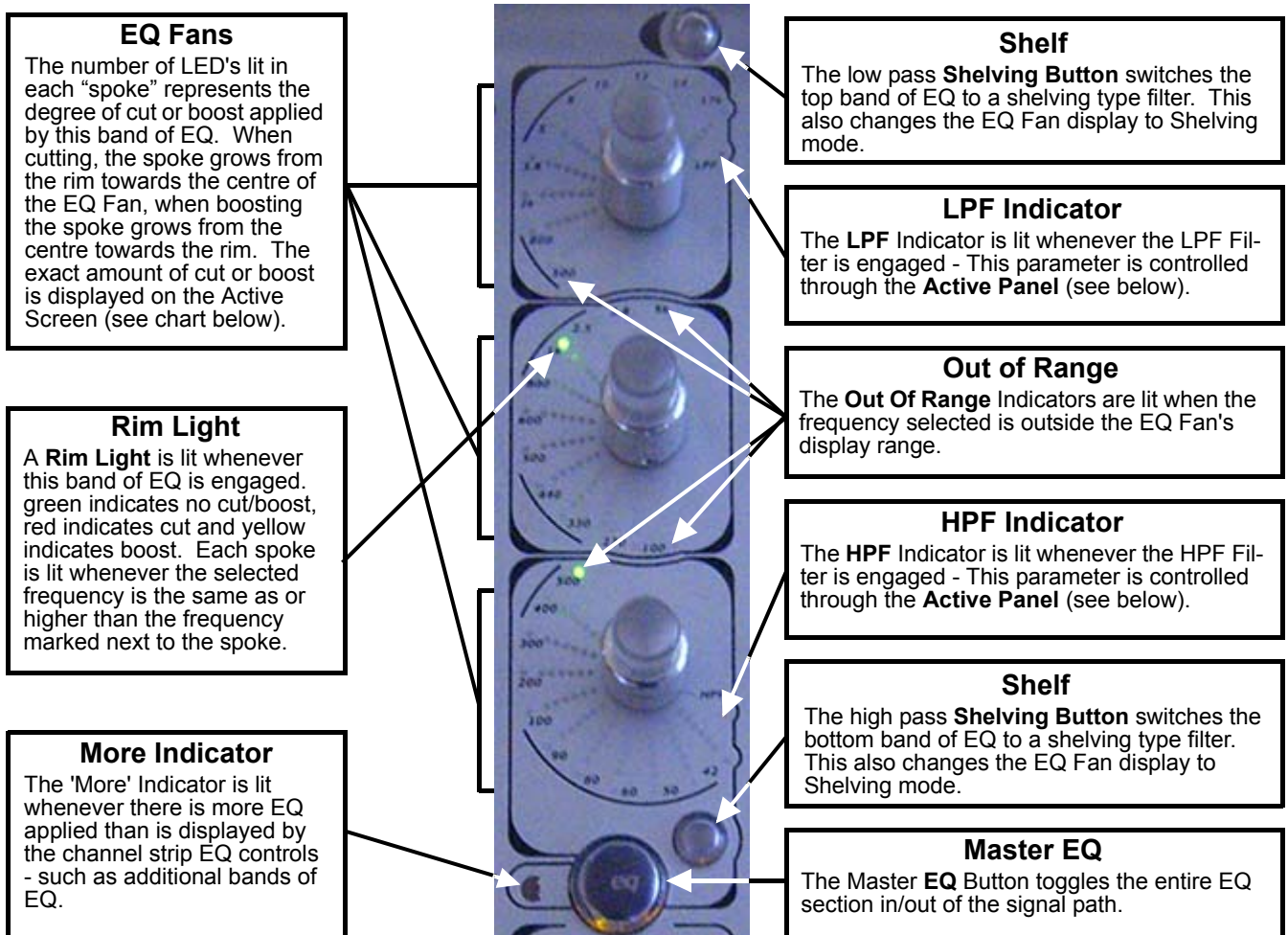
The **pan** encoder on the channel strip allows pan / balance control from left to right in the pan field. For surround panning, use the **Joystick** on the **Active Panel**. Please see: . Divergence and LFE controls can also be updated from the **Active Panel**.

The channel strip **pan** encoders display surround information as well as the left to right position. There will always be a single LED to indicate the left to right position - this LED travels from 9 o'clock to 3 o'clock across the top of the encoder. If there is any front to back panning information, the bottom 5 LED's below this line display the F-R position.

- If there is no front-to-back information, the bottom front-to-back LEDs will not be lit.
- If the pan position is all the way to the front, the bottom front-to-back LEDs will not be lit.
- If there is front-to-back information but the pan position is all the way to the left, only the left front-to-back LED will be lit.
- If there is front-to-back information but the pan position is all the way to the right, only the right front-to-back LED will be lit.

Note: For access to EQ controls additional to those on the channel strip, such as Q, band in/out and Filter controls - use the Active Panel.

EQ Summary.

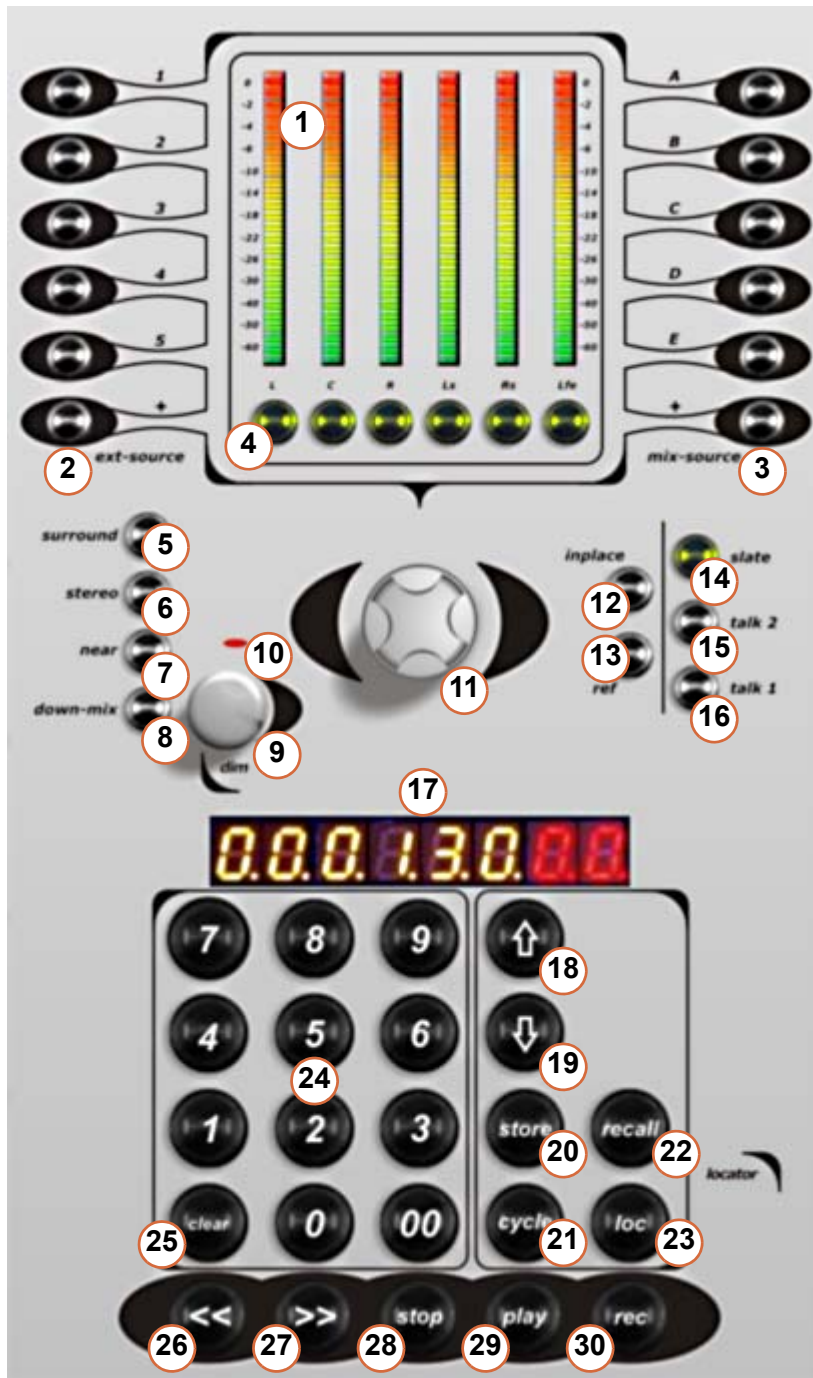


EQ Fan Spoke Values

EQ Fan Spoke Display		
No Spoke LEDs illuminated	=	No Cut or Boost Applied
1 Spoke LEDs illuminated	=	up to 1.99 dB Cut or Boost
2 Spoke LEDs illuminated	=	2 to 3.99 dB Cut or Boost
3 Spoke LEDs illuminated	=	4 to 5.99 dB Cut or Boost
4 Spoke LEDs illuminated	=	6 to 9.99 dB Cut or Boost
5 Spoke LEDs illuminated	=	10 to 14.99 dB Cut or Boost
6 Spoke LEDs illuminated	=	more than 15 dB Cut or Boost

5 Monitor Panel

Note: If you are unfamiliar with the Pyramix Monitor Section Please see: .



Monitor Panel

Monitor Panel Overview

Page No.

1. Bus Peak Meters
2. External Source select buttons
3. Mix Source select buttons
4. Monitor Mute buttons
5. **surround** speaker select
6. **stereo** speaker select
7. **near** speaker select
8. **down-mix** (toggle)
9. **dim** encoder and switch (press)
10. Dim indicator
11. Master Control Room Volume
12. **inplace** (solo)
13. **ref** level (monitors)
14. **slate** - Talkback - Slate button
15. **talk 2** - Talkback 2 button
16. **talk 1** - Talkback 1 button
17. TimeCode display
18. Display Offset button
19. Mark TimeCode location button
20. **store** TimeCode location button
21. **cycle** Mode button
22. **recall** TimeCode location button
23. **loc** 'Locate to' button / Scene loc
24. Numeric Keypad (not Pyramix)
25. **clear** TimeCode display button
26. << - Rewind button
27. >> - Fast Forward button
28. **stop** button
29. **play** button
30. **record** button

1 Bus Peak Meters 1 - 6

The Bus Peak Meters display the levels of the Bus that is currently selected using the Monitor **Mix Sources** (see page) or External Sources (see page) buttons.

The bus elements are displayed, left to right, in the following order: Left, Centre, Right, Left Surround, Right Surround, Sub (or LFE).

Thus, if **Mix Source A** is selected, the Meters display the signals present on Mix Bus 1 as shown in Pyramix monitoring from top to bottom. If External Source button 4 has been pressed, the Meters display the signals present on External Source 4.

Note: since the **Mix Source** buttons are 'radio' buttons in a group with the **External Source** buttons and exclusive, i.e. only one selection at a time is permitted, these Meters will always be monitoring either a **External Source** or **Mix Source** signal.

Note: Since there are 6 Peak meters, when a stereo signal is selected, only the Left and Right Peak Meters will be active.

2 External Sources 1 to 5 and “+”

External Sources 1 - 5 switch the monitors to monitor incoming signals from External Sources . The last button "+" cycles through all the available External Sources as defined and shown in the **Pyramix Monitor**.

The number of External Sources available for selection is defined by the number of External Sources Pyramix has been set up to monitor - if there are only three External Sources defined in the Pyramix Monitor, buttons **4** and **5** will do nothing.

These are mutually exclusive 'radio' buttons in a group with the **Mix Source** buttons (**A - E** and **+**), so either an External Source button or a Mix Source button must always be selected.

Meter Bridge

The **Mix Source** or **External Source** selected in the Monitor section is highlighted in the Meter bridge, please refer to Meter Bridge section for details.

Tips and tricks

External Sources can be used for other purposes than the traditional "tape returns". Every source required in your setup can be seen as an external source since the External Source buttons can also be used as a routing tool: Hold the desired **External Source** button and press **Inject** on the desired Ramses **Slot**. All the connected **Inputs** of the **External Source** will then be controlled and routed by the Ramses **Slot** control Strip. E.g. if **External Source 1** has 4 mono inputs and you **Inject** it into **Slot 5** and all **Slots** are stereo, than **Source 1** will be connected as follows: **Slot 5** input External Source 1 Channels 1 and 2 / **Slot 6** External Source 1 channels 3 and 4.

Summing

To sum Mix Sources and External Sources select the first source by pressing its button then add sources by holding down the **Mod** button and adding more sources by pressing their buttons.

3 Mix Sources A to E and toggle "+"

Mix Sources A - E switch the monitors to monitor incoming signals from External Sources . The last button "+" cycles through all the available External Sources as defined and shown in the **Pyramix Monitor**.

The **Mix Source** buttons switch the monitors to monitor signals on **Mix Busses A to E**. The last button "+" toggles - cycles through all the available Mix Sources as defined and shown in the Pyramix Monitor

The number of Mix Source buttons available for selection is defined by the number of Mix Busses configured in Pyramix. If there are only three Mix Busses configured in the Pyramix, buttons **D** and **E** will do nothing.

These are mutually exclusive 'radio' buttons in a group with the **External Source** buttons (**1 - 5** and **+**), so either an External Source button or a Mix Source button must always be selected.

Tips and tricks

Especially for Multistem mixing, you can “unfold” Mix Buses (click “+” on the **Mix Bus** in the Pyramix **Monitor** Section), then you can cycle through all the Stems from the Ramses **Mix Sources A-E** and “+” buttons.

Note: This option will be added in future release under the **Monitor** section in the **Active Screen**.

Summing

To sum Mix Sources and External Sources select the first source by pressing its button then add sources by holding down the **Mod** button and adding more sources by pressing their buttons.

4 Monitor Mute / SOLO buttons L, C, R, LS, RS, SUB

Mute

The **Monitor Mute** buttons Mute the Monitor Source channels routed to the corresponding speaker locations.

Thus if **C** is pressed, the '**C**' or Centre signal of the bus(es) currently selected to the Monitors is muted and the indicator lit.

Note: This is purely a monitoring function. It does not affect the signal present on the bus itself, which will continue sending as per normal.

Solo

When used with the **Mod** button, the **Monitor Mute** buttons Solo the Monitor Source channels routed to the corresponding speaker locations.

Thus if **C** is pressed, the '**C**' or Centre signal of the bus(es) currently selected to the Monitors is Soloed and the indicator lit. All other source channels are muted.

The solo mode follows the currently selected solo mode in the Pyramix monitor.

5, 6, 7, and 8 Speaker Sets and Downmix

surround

Selects the **Surround Speaker Set** currently set up in the Pyramix Monitor.

stereo

Selects the **Stereo Speaker Set** currently set up in the Pyramix Monitor.

near

Selects the **Near-field Speaker Set** currently set up in the Pyramix monitor.

down-mix

Selects the **Down Mix** currently set up in the Pyramix Monitor (toggle)

Note: Only one **Speaker Set** can be selected at a time. The **down-mix** button toggles forcing the down mix currently selected in the Pyramix Monitor onto the current **Speaker Set**.

Tips and tricks

The three speaker sets available on the Ramses surface take the first three Speaker Sets (top down) that appear in the Pyramix Monitor. Copy/Paste is available in the Pyramix Monitoring section to help reorder the Speaker Sets.

9 and 10 Dim Encoder / Button (press) and Indicator

This control is both a Button and an Encoder. Pressing down on the **dim** knob engages the **Dim Mode**. When Dim Mode is engaged the volume of the currently selected Speaker Set is reduced to the Dim Level and the **Dim Indicator** is lit. The Dim Level is determined by the Pyramix Monitoring, please refer to "how to" section (page ?).

Pressing the **Dim knob** toggles Dim Mode on/off. When **Dim** is engaged, the speaker volume can be adjusted with the **Dim Knob**. Pressing the **Dim Knob** again will restore the output volume to the original level determined by the main **Monitor Volume** encoder.

11 Main Monitor Volume Encoder

The Volume Knob adjusts the volume of the Monitor Bus(es) that is/are currently feeding the control room speakers. This control is always active unless **Dim Mode** or **Ref Mode** is engaged.

12 in-place

13 ref

The **reference** button sets the level of the monitor outputs feeding the Control Room speakers to a pre-determined level, bypassing the Volume knob. The **ref** level is set and stored in the Pyramix Monitor section, please refer to "how to" section (page ?). There is one **ref** level for all three speaker set.

Normal Operation

When the **ref** button is pressed the Main Monitor Volume Encoder setting is bypassed and the level of the selected monitor Bus or buses is set to the Reference Level for the currently selected Speaker Set. Pressing the **ref** button again exits this mode and re-activates the Volume Control.

Reference Button Indicator

The Reference Button Indicator is lit whenever the **ref** button is held down, or the Ref Mode is active.

14, 15 and 16 RAMSES CONSOLE TALKBACK FUNCTIONS

14 Slate button

15 Talk 2

16 Talk 1

Overview

The Ramses Console's **Talkback** buttons use the **Talkback** functions in the Pyramix Monitoring section. please refer to the "how to" section (page ?). The Talkback can be sent to any Mix Bus or Aux (one at the time). There is one Dynamic Microphone integrated in the Ramses Console, the signal can be recuperated at the XLR on the back of Ramses and fed into a Pyramix strip (or any other microphone fed to a Pyramix strip). The Pyramix strip will have to be properly routed so that the microphone signal only feeds the desired busses - auxes. Adjustment of the Talkback gain is also available in Pyramix Monitor section.

How to use the Talkback Functions:

Providing the above steps of defining a Talkback channel and destinations for each destination Buttons have been completed, pressing the Talk 1 or 2 will now engage the Talkback function.

Talk Buttons

The Talk Buttons have both a momentary and latching action. When pressed and held, they will engage talkback for as long as the button is held down. When pressed briefly (less than 1 second) they will latch the Talkback function ON until it is pressed again, or held and released.

Depending on the settings made in the Pyramix Monitor Talkback page, initiating talkback can also apply the Monitor **DIM** function (which can be dynamically adjusted using the **DIM** Encoder) to avoid howl round when talking to a studio with an open mic.

Slate Button

The **Slate** button will send Talkback to a Bus (Selected in the Pyramix Monitor Talkback page) while dimming the main monitors.

17 TimeCode Display

Overview

This display is the main TimeCode display for the Ramses MSC. There are two modes: Active or Data Entry.

When Active, it displays the current TimeCode position of the playhead cursor. This updates in real-time.

The TimeCode value displayed can be the identical to the current Pyramix TimeCode position, or it can include a display offset entered by using the **Display Offset** button (see page 16).

In Active Mode, pressing any **0-9** Keypad button (see page ?) enters Data Entry Mode, clears the display and enters the digit just pressed into right-most position of the display.

Pressing the **Clear** button (see page ?) at any time enters Data Entry Mode (if not already active) and sets the display to **00.00.00.00**.

Pressing the **Clear** button twice quickly at any time reverts the display to Active Mode.

Normal Operation

When in Data Entry Mode the display is static and numbers can be entered using the Keypad. The number entered can then be used for further locate functions as described below. From Data Entry Mode - the display returns to Active Mode after performing a locate command (such as **Store** (see page ?), **Locate** (see page 17), **Play**, or **Stop**) or hitting **Clear** twice in quick succession.

When in Data Entry Mode, every second decimal point in the display is lit to distinguish this from Active mode.

18 Display Offset button

*** Reserved for future software releases ***

19 Mark button

Overview

The Mark button allows the capture of the current TimeCode position. This can be achieved whilst Pyramix is in any transport mode.

Normal Operation

When pressed, the TimeCode display changes from Active to Data Entry mode (if not already active) and will display the TimeCode value where the play-head cursor was positioned when the button was pressed. The displayed number can now be stored into Keypad buttons 0-9 using the **Store** button (see below). You can locate to this position by hitting the **Loc** button without needing to store the number.

The TimeCode display will remain in Data Entry Mode until the Transport state changes (e.g: **Play** is pressed).

Pressing the **Clear** button twice also returns the display to Active Mode.

20 Store button

Overview

The **Store** button enables the currently displayed TimeCode location to be stored into Locator buttons (numeric keypad) **0-9** or the **Smart Locate** buttons **1-4** on the **Lower Active Panel**.

Normal Operation

With the desired TimeCode displayed in Data Entry Mode press **Store**. The **Store** indicator now flashes, and all locator buttons (of Keypad buttons **0-9** and Ramses **Locate** buttons **1-4**) that already contain previously stored times are lit.

Now press a Keypad button **0-9** or a **Smart Locate** button **1-4** to store the displayed value into that button. The TimeCode display now returns to Active Mode.

Pressing **Store** whilst in Play with the TimeCode display in Active Mode is equivalent to pressing both **Mark** and **Store**.

To exit Store mode without storing a number either hit **Store** again or touch either of the **Solo Clear** touch points (see page ?).

21 Cycle button

The **Cycle** button toggles Cycle mode on/off in Pyramix. It cycles between the red (Mark In) and the green (Mark Out) on the Pyramix timeline.

Note: In a future software version it will be possible to set these markers in the Active Screen Machine page.

22 Recall button

Overview

The **Recall** button retrieves a TimeCode location stored either in a Keypad button or a Ramses Locator button and enters this number into the TimeCode display. This number can now be manipulated in any way using the locator functions. You can locate to it using the **Locate** button or store it in another button etc...

Normal Operation

To recall a stored TimeCode value, press the **Recall** button. The **Recall** button indicator now flashes and indicators in buttons with stored locations (including the **Fast Locate** buttons **1-4** on the **Lower Active Panel** - see page are lit. Now pressing any **0-9** button or **Lower Active Panel 1-4** button will switch the TimeCode display to Data Entry Mode (if not already active) and load the number stored in that button into the TimeCode display.

If a button is pressed that has no stored TimeCode value nothing happens. Once a number has been recalled the **Recall** button indicator is extinguished and the keypad **0-9** button or **Lower Active Panel 1-4** button pressed is lit to indicate which **Locate** is currently displayed.

Note: Recall does not affect the transport controls in any way. The Timecode display reverts to Active Mode when the Transport changes state (eg: hit **Play** or **Stop**. At this point all Keypad button indicators and Smart Locate indicators are extinguished except the last one used to Locate.

23 Locate button / Scene loc

Overview

In Data Entry Mode, pressing the Locate/Scene **loc** button moves the Playhead Cursor to whatever number is currently displayed by the TimeCode display. This number could have been entered manually, been captured using the **Mark** button, or have been recalled using the **Recall** function.

Normal Operation

If pressed while in **Play** the Transport state will be maintained throughout this operation, so if in Play before pressing **loc**, Pyramix will move the **Playhead Cursor** to the new location and then continue to Play. If the **Loc** button is pressed whilst in **FF** or **RW** or stop Pyramix locates to the new TimeCode position and then remains in **Stop**.

Pressing the **loc** button in Play whilst the TimeCode display is in Active Mode does nothing - this button is only relevant if in Data Entry Mode. The Timecode display returns to Active Mode after hitting the **loc** button.

loc button indicator

The **loc** button indicator is lit when the button is pressed.

Note: Transport locators will be saved and re-opened as in Ramses template.

24 Numeric Keypad (not Pyramix)

Overview

The Keypad buttons are used to enter TimeCode locations into the **TimeCode Display** when in Data Entry mode. They are also used as locations to store TimeCode values in **Store** and **Recall** modes.

Normal Operation

Whilst the Timecode display is in Active Mode, pressing any keypad button 0-9 changes the timecode display to Data Entry Mode, clears the display and enters the number just pressed into the right most location of the display. Pressing further numbers will now enter the number pressed and scroll the existing numbers progressively to the left.

Data Entry Mode is indicated by every second dot on the Timecode display being illuminated.

Once a number has been entered further locate functions can be applied such as **Locate** or **Store**.

To clear the TimeCode display to 00.00.00.00 hit **Clear** at any time.

To return to Active Mode hit **Clear** twice.

Keypad buttons 0-9 as storage locations for TimeCode values

The keypad numbers can also be used as storage locations for TimeCode values. See the **Store** (page 16) and **Recall** (page 16) buttons for more detail on these modes.

25 Clear button

The **clear** button sets the TimeCode display to Data Entry Mode (if not already active) and sets the Time-Code Display to 00.00.00.00.

At this point a numerical TimeCode position can be entered using the Keypad buttons **0-9**.

Pressing **clear** twice quickly, returns the TimeCode display to Active Mode.

26, 27, 28, 29 and 30 Transport Controls

Rewind button

The Rewind button sends a Rewind command to the Pyramix Active Machine.

Rewind button indicator

The Rewind button indicator is illuminated whenever the system is in Rewind.

Fast Forward button

The Fast Forward button sends a Fast Forward command to the Pyramix Active Machine.

Fast Forward button indicator

The Fast Forward button indicator is illuminated whenever the system is in Fast Forward.

Stop button

The Stop button sends a Stop command to the Pyramix Active Machine.

Stop button indicator

The Stop button indicator is illuminated whenever the system is in Stop.

Play button

The Play button sends a Play command to the Pyramix Active Machine.

Play button indicator

The Play button indicator is illuminated whenever the system is in Play.



Record button

The Record button sends a Record command to the Pyramix Active Machine.

Record button indicator

The Record indicator is illuminated whenever the system is in Record.

Tips and Tricks

The Record button will be inactive if no Tracks are record enabled. The Record button will also be inactive if no Target Media Drives have been set for the current Pyramix Project. A popup window will show up in Pyramix indicating either of these conditions. So long as this popup remains open you may not be able to operate Ramses normally.

Monitor Setup in Pyramix

The Pyramix Monitor (**Version 6** or higher with **MassCore** option) setup is system based (as opposed to stored with individual Projects). A monitor setup is saved when the Pyramix application is closed. All the Projects you open with your **Ramses MSC** will have the Monitor section currently stored in Pyramix.

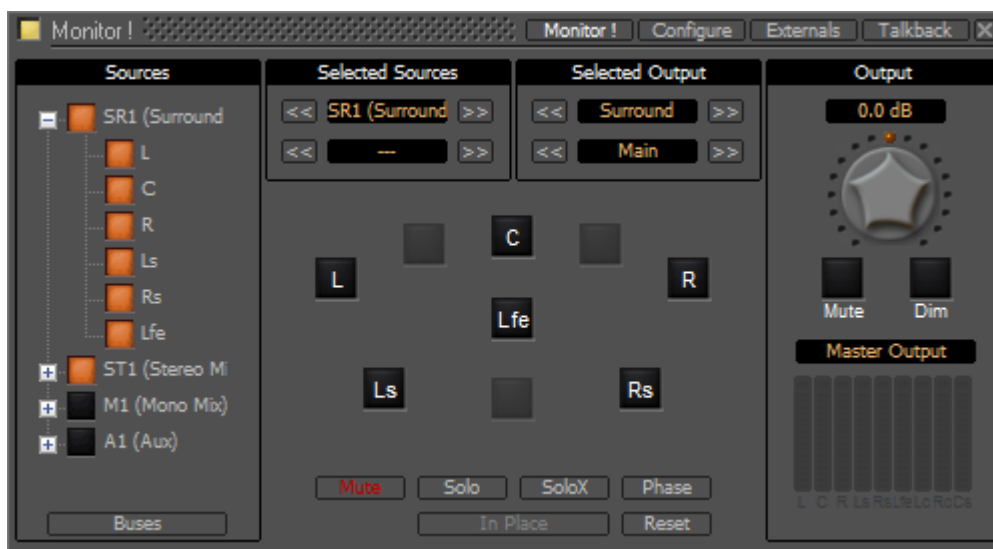
However, Talkback assignments and Mix Buses are saved with Pyramix Projects.

Before you can use the Monitor it must be enabled by clicking the button in the top-left corner of the window so that it lights yellow.

By default the **Monitor** window is hidden. It can be opened with **View > Monitor** or the



icon in the View Toolbar.



Monitor Main Monitor ! Window

Note: Please see: **Pyramix Monitor Section** on page 62 for full details.

Tips and tricks

Ramses makes available the speakers sets (orange buttons) set up in the Pyramix monitor section. They are mapped in top to bottom order from the list in **Available Sets**.

Since the Ramses buttons are labeled **surround**, **stereo** & **near** you may wish to follow this convention when naming speaker sets in the Pyramix Monitor.

External Sources in Pyramix

Note: Pyramix External Monitor Sources e.g. recorders, are set up in the **Pyramix Monitor**

Talkback in Pyramix

Note: Pyramix Talkback which provides the Ramses talkback functionality is set up in the **Pyramix Monitor**

Meter Bridge Setup in Pyramix

The **Meter Bridge** is Project based in Pyramix 6. (This might change in 6.1). So please bear in mind that it must be enabled in each project. (Pyramix Mixer Configure page, bottom-left)

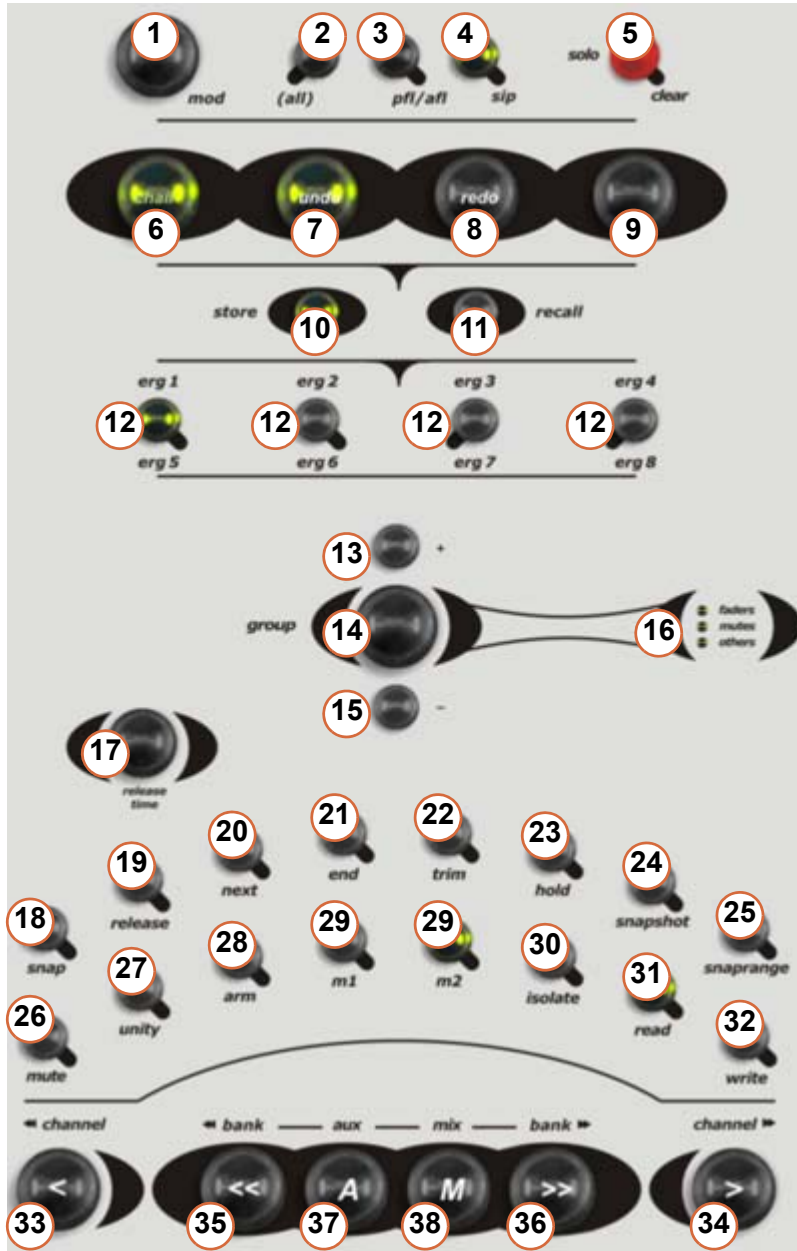
Although you can set it up in the space you need or want it has been designed to fit 32 strips per row across a 19" TFT screen.

Tip

If you enable the Meter Bridge in your Templates then it will be enabled by default in your Projects.

Note: Please see: **Meter Bridge** on page 80 for full details.

6 Expert Panel



Expert Panel

Expert panel Overview

1. mod button (modifier)
2. (all) button
3. pfl/afl - Solo Mode toggle PFL/AFL button
4. sip - Solo Mode - Solo In Place button
5. solo clear touch point

Ergonomic Spread Buttons

6. chair (ARC ONLY)
7. undo
8. redo
9. touch
10. store
11. recall
12. erg1 - erg8 Hotkeys 1-4 and 5-8 with mod

Grouping

13. + Add to Group button
14. group mode button
15. - Subtract from Group button
16. faders Target Indicator
mutes Target Indicator
others Target Indicator

Automation

17. release Time Knob
18. snap button - Release Mode
19. Auto release - Release Mode
20. to next - Release Mode
21. to end - Release Mode
22. trim Mode button
23. hold - Release Mode
24. snapshot - (Write Keyframe)
25. snaprange (Write Range Keyframe)
26. mute button (ARC only)
27. unity button
28. arm Track button
29. m1 & m2 Memory 1&2 (Clipboard) buttons
30. isolate Mode button - Automation
31. read Mode button - Automation
32. write Mode button - Automation

Navigation

33. < channel Nudge 1 Channel to the Left
34. > channel Nudge 1 Channel to the Right
35. << bank Nudge 1 Bank to the left
36. >> bank Nudge 1 Bank to the Right
37. A - aux Show Aux Master buses
38. M - mix Show Mix master Buses

Expert Panel Overview

This panel includes controls used to manipulate your work environment.

It includes the following blocks of controls:

Navigation Block : Controls navigation through channels and buses

Solo Block : Controls the behaviour of the Solo functions

Ergonomic Spread Block : Controls the selection of Channels into Slots

Grouping Block : Controls Grouping Functions

Automation Mode Block : Controls Automation modes

Strip Modifier / Automation Block : Allows different modes of interaction

1 Modifier button - mod

Overview

The **mod** button acts like a Shift key in that it changes the function of other controls on the surface. It is mainly used for the following purposes (while holding **mod**):

- with the top encoder of an EQ changes the **Q** factor
- Enables ergonomic spreads **5 - 8** to be recalled or stored
- with **isolate, read & write** changes the global automation mode
- Enables mix buses to be summed in the monitoring section

mod button indicator

This indicator is illuminated whenever the Smart button is pressed.

2 All button

The **all** buttons, when pressed, are the equivalent of selecting all channels/strips of your mixer. To apply a change everywhere, it can be seen as a modifier.

Both **all** buttons operate identically.

For example:

Holding down the **unity** button and then pressing an **all** button will set all faders available in the current project to Unity (0dB). This is not yet implemented with plugins, auxs or pans.

ALL button indicator

The **all** button indicator is illuminated whenever either **all** button is pressed.

Tips and Tricks

In the Ramses **System > Configuration** pages a timed value can be set which determines the length of time that the **ALL** remains active after it has been pressed. This avoids the need for multi-fingered virtuosity in order to access multi-button functions.

3 pfl/afl button

Overview

The **pfl / afl** button toggles the solo mode between Pre-Fade-Listen and After Fade Listen i.e. normal Solo.

PFL/AFL button indicator

The **pfl / afl** button indicator is lit whenever the console is in Pfl or Afl Solo Mode

4 SIP button

Overview

The **SIP** button toggles the solo function between **Solo-In-Place** and normal.

SIP button indicator

The **SIP** button indicator is lit whenever the console is in SIP solo mode.

5 Solo Clear touch point

Overview

Touching the **Solo Clear** touch point (which is also the **Solo Master indicator**) clears any and all currently active solos. It is functionally identical to the **Solo Clear** touch point on the **Lower Active Panel** (SEE PAGE)

Normal Operation

If any channel is solo-ed the **Solo Master** indicator will be lit. Now, when touched, all solos will be removed, all channel Solo indicators extinguished, the **Solo Master** indicator itself will be extinguished and the monitors resume their normal monitoring mode.

Additional Functions

The **Solo Clear** touch point also acts as an **escape** style command for various different modes. When touched while in **Grouping Mode**, it exits Grouping Mode and reverts to the group states before Group Mode was entered. Similarly in **Ergonomic Spreads Store Mode**, when pressed the Store mode is cleared.

Solo Master indicator

The Solo Master indicator is illuminated if any channel is solo-ed.

Note: This control has two functions. It's indicator functions as a **Solo Master** indicator, while it's **Touch Control** functions as a **Solo Clear**.

Tips and Tricks

The **Solo Clear** touch point also acts as an 'escape' style command for various different modes. When touched while in **Grouping Mode**, it exits **Grouping Mode** and reverts to the group states before **Group Mode** was entered. Similarly in Ergonomic Spreads **Store Mode**, when pressed the **Store** mode is cleared.

6 Chair button - ONLY AVAILABLE WITH ARC OPTION

Overview

The **Chair** button toggles between **Chair Mode** and **Wipe Mode**. These two modes determine how channels are selected using when touching **Segments** on the ARC™. These modes apply equally to any type of signal paths the ARC™ is displaying using the Aux "**A**" or Mix "**M**" Buttons.

Chair Mode

In **Chair mode**, when you touch a **Segment** of the ARC™, your finger becomes a central point, representing your chair, and the strip you are pointing to as well as those surrounding your finger are immediately loaded into all available strip **Slots**. The number of channels or segments being loaded into Channel **Slots** is displayed by a 'window' of lit channel numbers on the ARC™.

The size of the 'window' of faders selected around your finger, is determined by the number of physical strips, or Slots, your console has, minus the number of strips currently in Hold (see page) Thus a 16 fader console with 6 faders in hold, will display a 'window' 10 segments wide.

A slot with its **Hold** button on will not have its channel updated by this process.

A Slot whose fader is currently being touched will have a channel assigned to it as if it were a normal 'un-held' channel, but this slot will not be re-assigned until it's fader is released.

When the 'window' consists of an even number of ARC™ Segments, the centre point of the window around your finger will be the left member of the middle pair of Segments. For example, if the window is 10 Segments wide, there will be the four strips to the left of your finger, and five to the right, with the fifth window being the one your finger is on.

A further example:

In a 16 fader console, with slots 4,7,9 and 13 held (with their corresponding channel numbers) touching the ARC™ in chair mode at Segment 35 would result in a window 12 Segments wide and will load channels into slots resulting in the following order of channels: 30,31,32,4,33,34,7,35,9,36,37,38,13,39,40,41.

Note: When you touch segments near either end of the ARC™ the 'window' does not slide off the end but rather remains at full width and ceases moving.

Wipe Mode

Wipe mode allows the selection of non-sequential arrangements of channels. Here, touching the ARC Segments (in any order) on the ARC Selector Strip fills in individual channels sequentially from the left most available physical channel through to the right most. The process starts again, and the left most available physical channel slot is again filled, when the Timmometer decays.

Chair button indicator

The **Chair** button indicator is lit when the console is in **Chair mode**. When the console is in **Wipe mode**, the indicator is extinguished.

Please note that this button is inactive without the ARC option

7 Undo button

Pressing the **Undo** button reverts to the previous ergonomic spread (layout).

Undo button indicator

The **Undo** button indicator is lit whenever there is a possible state to apply Undo to.

8 Redo button

Pressing the **Redo** button re-asserts the ergonomic spread (layout) in use prior to hitting **Undo**.

Redo button indicator

The **Redo** button indicator is lit only whenever there is a **Redo** action available.

9 Touch button

Some physical controls on the Ramses Console are not touch-sensitive. The **touch** button allows you to use these controls in **touch automation modes** as if they were touch-sensitive.

If, under touch automation mode, a non touch-sensitive parameter is altered, it will send a touch message to the engine, triggering the engines usual response to a control that has been 'touched'. Now the **Touch**

button will light and the parameter you just updated will remain in touch mode until you press the **touch** button. At this point the **Touch** button is no longer illuminated and the parameter you moved no longer sends 'touched' messages. You can move as many parameters as you like and the **touch** button will continue to send touch messages for all those parameters until it is pressed at which time touch is released for those controls.

Arming non touch-sensitive controls

Should you want to put a non touch parameter into 'touch' without moving the parameter, press and hold the **touch** button and then move a non-touch control on the surface. This will end a touch message to the engine - but while, the button is held down, the controls themselves are prevented from changing their values. This is similar to the way in which parameters are selected for copying via the **m 1-2** buttons (see page).

Note: It is possible to touch parameters by holding down the **touch** button and then wiggling the control even if some controls are already in **touch** mode and the button is lit. When releasing the button after such an action, the button remains lit and parameters already in **touch** remain so. In this case, to release **touch** from all parameters, press the **Touch** button.

The Faders, aux knobs and joystick are true touch-sensitive controls and send touch messages when they are indeed touched.

10 Store button

Overview

An **Ergonomic Spread** is the layout of faders currently selected to the surface of the console. The **Ergonomic Spread Store** button allows the storage of the current **Ergonomic Spread** into one of the **Ergonomic Spread** buttons **1-8**.

Note: Storing and Recalling an Ergonomic Spread is an entirely non-destructive process. The only thing that updating, recalling or modifying an Ergonomic Spread affects is which faders are currently selected to the slots in your console.

Normal Operation

Pressing the **Store** button lights the **Store** button indicator and enters **Store Mode** - until one of the four **Ergonomic Spread** buttons on the **Expert Panel** is pressed, or using the **mod** button to access **Ergonomic Spread 5-8** - at which point the current **Ergonomic Spread** is stored into button and **Store Mode** is exited.

To escape from **Store mode** without storing the spread - touch either **Solo Clear** touch point. This will extinguish the **Store** button indicator and exits the mode.

A Store operation will store the state of slots, including **HELD** Channels. **HELD** channels are, however not updated by the corresponding **RECALL** command - see below.

Store button indicator

The **Ergonomic Spread Store** button indicator is lit whenever the system is in **Ergonomic Spread Store mode**.

Tips and tricks

The Ergonomic Spread is stored in **Templates** and is part of their recall (see page)



11 Recall button

Overview

An **Ergonomic Spread** is the layout of faders currently selected to the surface of the console. The **Ergonomic Spread Recall** button allows the recall of an **Ergonomic Spread** from one of the **Ergonomic Spread buttons 1-4** or with the **mod** button **Ergonomic Spreads 5-8**

Note: Storing and Recalling an Ergonomic Spread is an entirely non-destructive process. The only thing that updating, recalling or modifying an Ergonomic Spread affects is which-faders are currently selected to the slots in your console.

Normal Operation

Pressing the **Recall** button starts the **Recall** button indicator flashing and lights the **Ergonomic Spread buttons 1-4** that contain a saved **Ergonomic Spread**. Pressing the **mod** button will do the same for **Ergonomic spread 5-8**.

This state remains active until an **Ergonomic Spread 1-4** button (or **5-8** with **mod** button) is pressed that contains a stored **Ergonomic Spread** - at which point the **Ergonomic Spread** stored in that **Segment** or button is recalled and applied to the console. Now both the **Recall** button indicator and **UPO** indicators are extinguished and **Recall Mode** is exited. **Held** Channels are not updated by this process and retain their original channels.

Note: Whilst in **Recall mode** an **Ergonomic Spread 1-4** button that does **NOT** contain an **Ergonomic Spread** - does nothing. **Recall Mode** remains active.

Escape from Recall mode

At any time you can escape from **Recall mode** without having selected any new **Ergonomic Spread** by touching either of the **Solo Clear** touch points.

Recall button indicator

The **Ergonomic Spread Store** button indicator will be lit whenever the system is in **Ergonomic Spread Recall mode**.

Tips and tricks

- It is not necessary to press **recall** each time, just touching the desired **Ergonomic Spread** number is sufficient to **recall** it.

Note: The button will only light if there is a previously stored **Ergonomic Spread**.

12 Ergonomic Spread buttons 1 - 4 / 5 - 8

The **Ergonomic Spread** buttons **1-4/5-8** are storage locations for Ergonomic Spreads.

Ergonomic Spread buttons 1-4 indicators

An **Ergonomic Spread** button indicator is lit when it has an **Ergonomic Spread Stored**. These stored Ergonomic Spreads are saved with each console **Template** or in the **Pyramix** project (see page)

13 Add to Group button (+)

In Grouping Mode

When in **Grouping mode**, pressing the **+** button initiates '**add to existing group**' mode. See the **Group** button (page) for more details.

Expert Grouping Mode

In Grouping mode, the + button, when pressed together with the - button, initiates **Expert Grouping Mode**. In this case both + and - indicators are lit and addition as well as subtraction from the currently selected group is possible. See the **Expert Grouping Mode** description in the Grouping button page for more details.

+ button indicator

The + button indicator is lit under two conditions:

- Whenever the console is in '**Add to Group**' Mode. This is initiated by hitting the + button after hitting the **Group** button.
- Whenever the console is in **Expert Grouping Mode**. This is initiated by holding down both the - button and + button at the same time whilst in **Grouping mode**.

See the **Group** button description below for more details on these modes.

14 Group button

Overview

Pressing the **Group** button opens and closes the grouping process. Its indicator is lit whilst the mode is active.

Note: As of today, you can group **faders, mutes, solos** and **EQ**. In a future version you will be able to group **pans, Dynamics** and all other plugins. Note that only faders are "**linked**" today and all other multi-value parameters have no offset in their grouping, so it will behave as a "**hard link**" This will be change in future release.

Fader Grouping

Adding Faders to or creating a new Fader group

- Press the **Group** button. (**Group** button indicator lights, the target indicator corresponding to the last selected target lights - **Faders, Mutes** or **Others**)
- Now touch any **Fader**. (If not already, **Faders** are now selected as the grouping target and the **Faders** indicator is lit in the Meter Bridge).

If the first Fader touched is **not** already in a group, a new group is created consisting of (initially) just this Fader and **Group + Mode** is automatically initiated (+ indicator is Lit). Now any Fader or Segment touched will be added to the group. The group members are updated in real time to indicate all members of the current group.

Note: Once you've created a new group and are adding Faders, touching a Fader that belongs to another group will remove the Fader from its previous group and add it to the group currently being modified.

If the first Fader touched is already part of an existing group - that group is now selected. All Meter Bridge indicators for this group remain on. No Group modification is allowed now until either the **Group** or **Group +** button is pressed. Any other group can be selected by touching one of it's members. Meter Bridge indicators update to show this group's members.

Removing Faders from a Fader Group

- Pressing the **Group -** button whilst in **Group mode** will maintain the selection of the current Group, change from the + to the - indicator being illuminated and now allow the subtraction of any Fader/segment touched from the currently selected Group.

Escape from the Group



- Whilst in any **Grouping mode** pressing the **Group** button exits the **Grouping mode**
- Touching either **Solo Clear** touch point (**Please see: 5 Solo Clear touch point on page 41**) escapes from **Grouping mode** and discards any changes made since the mode was initiated.

Mute Grouping

Adding Mutes to or creating a new **Mute group**

- Press the **Group button**. (**Group** button indicator lights on Meter Bridge, the target indicator corresponding to the last selected target lights (**Faders, Mutes** or **Others**))
- Now touch any **Mute**

If the first Mute touched is not already in a Group, a new Group is created consisting of (initially) just this **Mute** (only this Mute's Meter bridge indicator is now lit) and **Group + Mode** is automatically initiated (+ indicator is Lit). Now any **Mute** or **Segment** touched will be added to the Group. Meter Bridge indicators are updated in real time to indicate all members of the current Group.

Note: Once you've created a new group and are adding **Mutes**, touching a **Mute** that belongs to another **Group** will remove the **Mute** from its previous **Group** and add it to the **Group** currently being modified.

If the first **Mute** touched is already part of an existing **Group** - that **Group** is now selected. No **Group** modification is allowed now until either the **Group -** or **Group +** button is pressed. Any other **Group** can be selected by touching one of its members - Meter Bridge indicators update to show this Group's members.

Removing Mutes from a Mute Group

Pressing the **Group -** button whilst in **Group mode** will maintain the selection of the current Group, change from the + to the - indicator being lit and now allow the subtraction of any **Mute/Segment** touched from the currently selected **Group**. If no **Group -** is selected on entering **Group Minus Mode**, the first **Mute** touched selects the **Group** to be subtracted from.

Escape from the Group mode

Pressing the **Group** button at any time exits the **Grouping mode**.

Touching the **Solo Clear** touch point escapes from **Grouping mode** and discards any changes made since the mode was initiated.

Additional Notes

It is possible to specify multiple Groups without ever leaving **Group mode**. For example:

- Press **Group** (**Group** buttons indicator is lit).
- Any **Faders** now touched will become grouped together
- Press any **Mute** button and the grouping function now changes to **Mute groups** (Previous Group's Meter bridge indicator's are extinguished and are replaced with Meter Bridge indicators for the new Groups mutes).
- Press any **mutes** desired to create new **mute Group**.
- Touch a **Fader** now and the grouping function switches back to **Fader grouping** (Previous Group's Meter bridge indicators are extinguished and are replaced with Meter Bridge indicator for the new Groups Faders).

Note: It is possible to define multiple **Fader groups** in this way by pressing any **mute** button between Groups of Faders. Pressing a single **mute** button and then another **Fader** will not create any Group for the mute.

Temporary Adjustment mode

Faders

In order to perform Fader (or other controls that have been grouped) moves without invoking group laws, simply press and hold the - button down (indicator illuminates under your finger), wiggle a Fader, release Fader, then release the - button. When the - button is released, the Fader returns to position previously held in relation to the group and normal grouping laws are re-asserted. This allows quick adjustments of Faders independent of the group relationship.

Mutes

Mutes behave similarly in this mode with the exception of their behaviour after the - button is released. Pressing and holding down the - button and hitting a **mute** will toggle that channel's **mute** state independently of the **mute group**. Releasing the - button does not revoke the mutes modified whilst in the temporary '**escape from group**' mode but leaves them in the state they were changed to.

Normal Group behaviour is asserted on the next Group change using the principle of positive assertion: If the first **mute** pressed after leaving **temp adjustment mode** changes from muted to un-muted, all other Group members (regardless of their state) become un-muted. If the Mute pressed changes from un-muted to muted, all other members of the Group become muted.

Expert Temporary Adjustment Mode

Whether the adjusted faders snap back to their original positions or all the untouched group members jump to the positions dictated by the moved fader is now determined by which is released first: the - button or the Fader.

- Button First

Release the - button while holding a **Fader** and all the **grouped faders** will now jump to reassert the group relationship but according to the fader level you are holding.

Fader First

Release the **Fader** and now release the - button and all the faders jump back to the positions they were in before you hit the minus key.

mod - modifier Change

Whilst in **Group mode**, pressing the **mod** button toggles through the three different Grouping targets: **Faders**, **Mutes** and **Others**. With each press each mode's respective indicators are lit and the Meter Bridge indicators of all members of all groups of this type are displayed.

Expert Grouping Mode

Whilst in **Grouping Mode**, and having selected a **Group**, pressing both the + button and the - button at the same time enters **Expert grouping mode**. In this mode both Addition and Subtraction from the group is possible. This mode can be applied to all grouping targets and all other normal grouping rules apply.

Group button indicator

The **Group** button indicator is lit whenever the console is in any grouping mode. This is initiated by hitting the **Group** button.

Tips and tricks

- To **Group** two **Faders** together (providing they are not already in a Group), simply hold the two faders you wish to Group - and tap the **group** button twice. The Faders are now grouped

- To recall a Group and all its faders onto the surface, press **recall**, then **group** and then touch a **Fader** being part of the desired Group, all the Faders belonging to this Group are now in front of you.

15 Subtract from Group button (-)

In Grouping Mode

When in Grouping mode, pressing the - button initiates a '**remove from an existing group**' mode. (Please see: **14 Group button on page 45**) for more details.

Expert Grouping Mode

In **Grouping mode**, the - button, when pressed together with the + button, initiates **Expert Grouping Mode**. In this case both + and - indicators are lit and addition as well as subtraction from the currently selected group is possible. Please see **Expert Grouping Mode on page 47** for more details.

Temporary Adjustment Mode

The - button can also be used to initiate a '**temporary adjustment**' mode. This mode allows controls to be moved independent of group laws. It is initiated by holding down the - button whilst not in **Group mode**. Please see: **Temporary Adjustment mode on page 47** for more details.

- button indicator

The - button indicator is lit under three conditions:

- Whenever the console is in '**Remove From Group**' Mode. This is initiated by hitting the - button after hitting the **Group** button.
- Whenever the console is in **Expert Grouping Mode**. This is initiated by holding down both the - button and + button at the same time whilst in **Grouping mode**.
- Whenever the - button is held down whilst not in **Grouping mode**. This temporarily suspends grouping laws allowing control of elements such as Faders or Mutes, independent of group control.

Please see item **14 Group button on page 45** for more details on these modes.

16 Faders, Mute & Other indicator

The **Faders** indicator is illuminated whenever the **grouping mode** is active and Faders have been selected as the **grouping target**.

See item **14 Group button on page 45** for more details of the Group modes.

The **Mutes** indicator is illuminated whenever the grouping mode is active and Mutes have been selected as the grouping targets.

Please see item **14 Group button on page 45** for more details on these Group modes.

The **Others** indicator is illuminated whenever the **grouping mode** is active and refers to **Others**.

After entering **group mode**, if a control such as an **EQ** or **AUX** is touched, the **target** of the grouping function changes to that control. The indicator will now illuminate and remain lit until a Fader or Mute is touched to specify an alternate grouping target, or **group mode** is exited, either through pressing **group** again, or **Solo Clear** to escape. It also can be anything on the **Active screen**.

17 Release time knob

Fader release time controls glide back when a Fader is released during automation.

This is a rotary control (non-automated) that determines the speed at which a fader glides back to its previously automated position after having been released (when in **release** mode). When set to low (knob is turned to the left) a Fader will take **0ms** to return to its automated position after being released (the same as **snap** for all practical purposes). When turned to the right, it will take 10 seconds (**10,000ms**) to return to its previously automated value after being released.

18 snap button

Invokes the Pyramix automation **Snap release** mode. The current value snaps back instantly to the value written in the previous pass when the control is released.

The button lights when the mode is engaged. Please see the Pyramix V6 User Manual for more details.

19 release button

Invokes the Pyramix automation **Auto-release** mode. The current value morphs to the value written in the previous pass when the control is released at a rate determined by the **release time knob**.

The button lights when the mode is engaged. Please see the Pyramix V6 User Manual for more details.

20 next button

Invokes the Pyramix automation **Write to Next** mode. Writes automation until the current value matches automation data written in the previous pass then it releases automation into **read**.

The button lights when the mode is engaged. Please see the Pyramix V6 User Manual for more details.

21 end button

Invokes the Pyramix automation **Write to End** mode. The button lights when the mode is engaged. Please see the Pyramix V6 User Manual for further details.

Note: At any time while writing automation you can set another release mode providing **Stop** has not been pressed.

22 trim button

Invokes the Pyramix automation **Trim** mode. The button lights when the mode is engaged. **Trim** mode operates on a "Touch" basis. So long as you are touching the desired fader (or other encoder) trim mode remains engaged. As soon as the fader is released the current release mode is activated. Please see the Pyramix V6 User Manual for details.

Note: The orange **TRIM** LED adjacent to the fader is lit when **Trim** is active.

23 hold button

The encoder currently touched will be held until released The button lights when pressed.

Note: The purple **HOLD** LED adjacent to the fader is lit when **Hold** is active.

24 snapshot

Produces an automation **snapshot** (keyframe) of all touched encoders or, if **inject** is touched, for the whole strip(s) of the current values at the Play cursor position.

25 snap range

This is similar to the **snapshot** function except that it operates over a range determined by a **Region Selection** or **In** and **Out** Markers within the Pyramix application. Please see the Pyramix V6 User Manual for details.

In the future (Pyramix V6.1) it will be possible to set these markers from within the Transport and Automation Active Screen.

26 Mute

Works as a normal **mute** button (used with **inject**) but is especially useful as modifier button when used in conjunction with the optional ARC. The **mute** button indicator is lit whenever the button is pressed.

Press and hold the **Mute** Modifier button while wiping the ARC either mutes or un-mutes those channels using the following rules.

mute with ARC

Touching an ARC Segment with **mute** held down not only changes the mute state of that strip but also loads this change of state into memory and applies it to all other Segments touched while the button is held down.

E.g. If the first segment touched is muted, this Segment will be un-muted and, if you continue to wipe along the ARC all muted channels touched will be un-muted whilst strips already un-muted are unchanged.

If the first Segment touched is un-muted, this Segment will become muted and all subsequent Segments touched will either become muted, or if already so, remain muted.

I.e. The first strip you touch determines whether you're modifying things to turn ON or to turn OFF.

27 unity button

Press and hold **unity** and wipe over **inject** button. This will restore your faders to **unity** gain. You can do the same with EQ's and other Ramses parameters.

Tips and Tricks

- Press and hold **unity** then press **ALL** restores the entire console (faders) to unity.

28 arm button

Hold **arm** and wipe over **inject** button. This will track **arm** your edit tracks (red indicator at the bottom of the channel Vu meter and red outline in the Meter bridge) .

Note: Tracks can only be armed when they have an input connected to them.

Tips and Tricks

- If you press and hold **arm** then press **ALL** then all available tracks with inputs will track arm or disarm.

29 m1 & m2 buttons

These are two "clipboard" memories. E.g. if there is a EQ curve that you wish to copy to another channel. hold **m1** and press the **EQ** button on the desired strip. Then press and hold **m1** and **inject** it into the desired destination channel(s).

Tip and tricks

- Any type of value can be stored in these memories. While pressing and holding **m1** you can move a fader or any type of rotary control and, so long as you don't release the **m1** button, all those parameters will be stored in **m1**.
- In the future the **library** button above the **Active Screen** will offer many more memories.

30 isolate button

Automation

Holding down the Automation **isolate** button and then injecting any fader will change the state of the selected strip to automation **Isolate Mode** (or just the section(s), **EQ, Dynamics, AUX** etc. if you touch them in the **Active Screen**).

Strips selected using this mode remain in Automation Isolate mode until another mode is selected for them.

While the **isolate** button is held down, the **Meter Bridge** indicators display all channels currently in Isolate if automation feedback is activated in the Meter Bridge configuration. **Please see: Automation Fader Mode on page 85**

Isolate button indicator

The Automation Isolate indicator is illuminated when the Isolate button is pressed.

31 read button

Automation

Holding down the Automation **read** button and then injecting any fader will change the state of the selected strip to automation **read Mode** (or just the section(s), **EQ, Dynamics, AUX** etc. if you touch them in the **Active Screen**).

Strips selected using this mode remain in Automation Read mode until another mode is selected for them.

While the **read** button is held down, the **Meter Bridge** indicators display all channels currently in **isolate** if automation feedback is activated in the Meter Bridge configuration. **Please see: Automation Fader Mode on page 85**

Read button indicator

The Automation Read button indicator is illuminated when the Read button is pressed.

32 write button

Automation

Holding down the Automation **read** button and then injecting any fader will change the state of the selected strip to automation **write Mode** (or just the section(s), **EQ, Dynamics, AUX** etc. if you touch them in the **Active Screen**).

Strips selected using this mode remain in Automation Read mode until another mode is selected for them.



While the **read** button is held down, the **Meter Bridge** indicators display all channels currently in **write** if automation feedback is activated in the Meter Bridge configuration. **Please see: Automation Fader Mode on page 85**

Read button indicator

The Automation Read button indicator is illuminated when the Read button is pressed.



31/32 Auto Write

Automation

Holding down the Automation **read** and **write** buttons together and then injecting any fader will change the state of the selected strip to automation **read Mode** (or just the section(s), **EQ**, **Dynamics**, **AUX** etc. if you touch them in the **Active Screen**).

Strips selected using this mode remain in Automation **auto-write** mode until another mode is selected for them.

While the **read** & **write** buttons are held down, the **Meter Bridge** indicators display all channels currently in **auto -write** by lighting both **read** and **write** indicators if automation feedback is activated in the Meter Bridge configuration. **Please see: Automation Fader Mode on page 85**

Auto Write buttons indicators

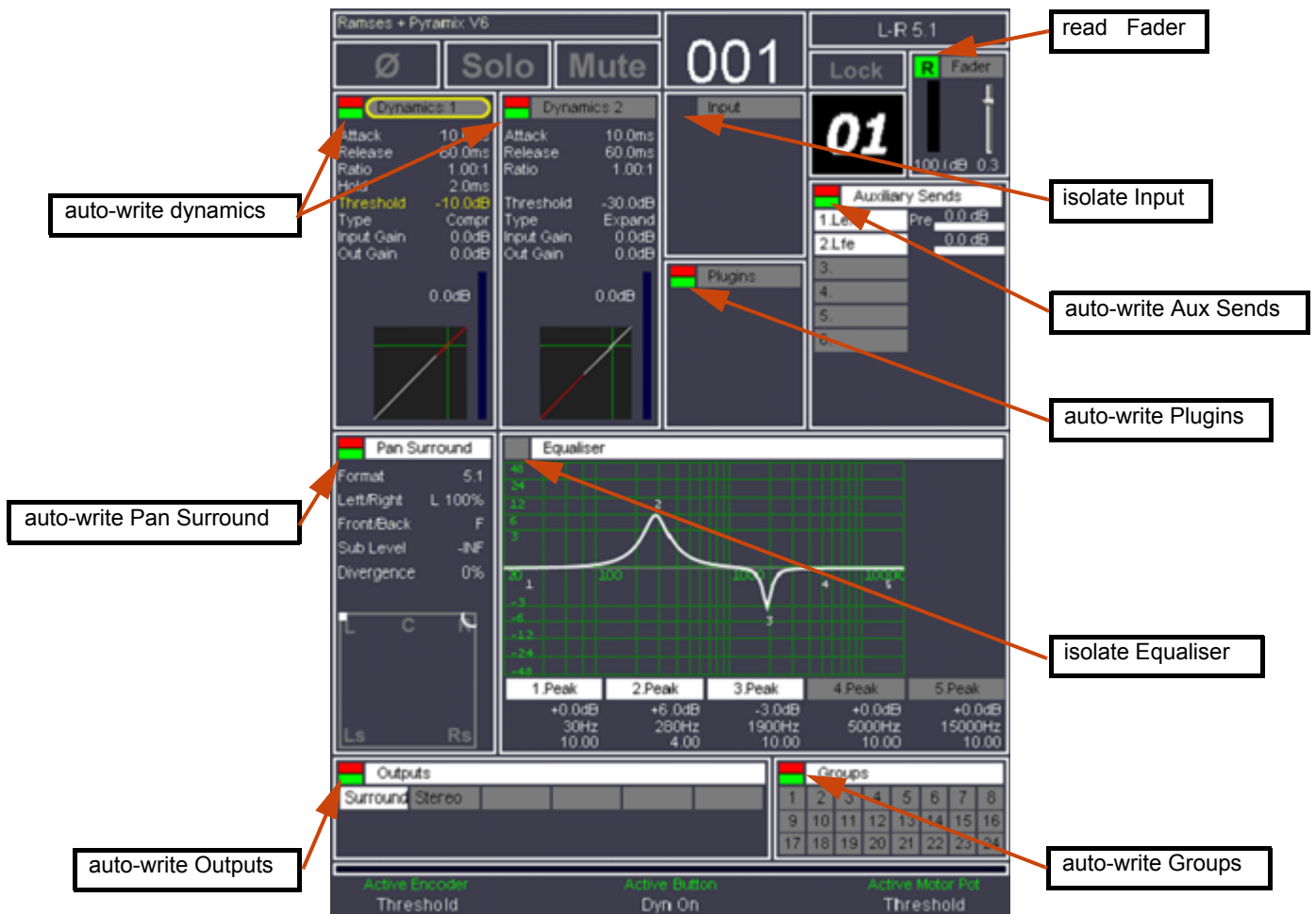
The Automation Read and Write button indicators are illuminated when the Read and Write buttons are pressed.

Tips and tricks.

- You can have two automation status options, set in the **Active Screen System > Configure** menu. One is single automation status per channel. I.e. Wherever you touch, the fader or inject will change the automation status for the entire channel. The second option is per section. If you change the automation status and e.g. touch the fader or the EQ button, the automation status only changes for those elements touched. If you wish to change the status for the entire channel then use **inject**.

Note: The automation LED adjacent to the fader indicates the automation status for the fader **ONLY** in the second mode.

- Automation status feedback on active screen



Automation indicators - Active Screen

33 & 34 channel nudge buttons

Navigation

Nudges the virtual strips to slots assignment one place to the left or right. Fader strips that are in **Hold** mode remain unaffected.

35 & 36 bank nudge buttons

Navigation

Nudges the virtual strips to slots assignment one bank (8 fader strips) to the left or right. Fader strips that are in **Hold** mode remain unaffected.

37 Aux button

Navigation

Forces the **aux bus masters** onto physical fader strips. Fader strips that are in **Hold** mode remain unaffected.



38 Mix button

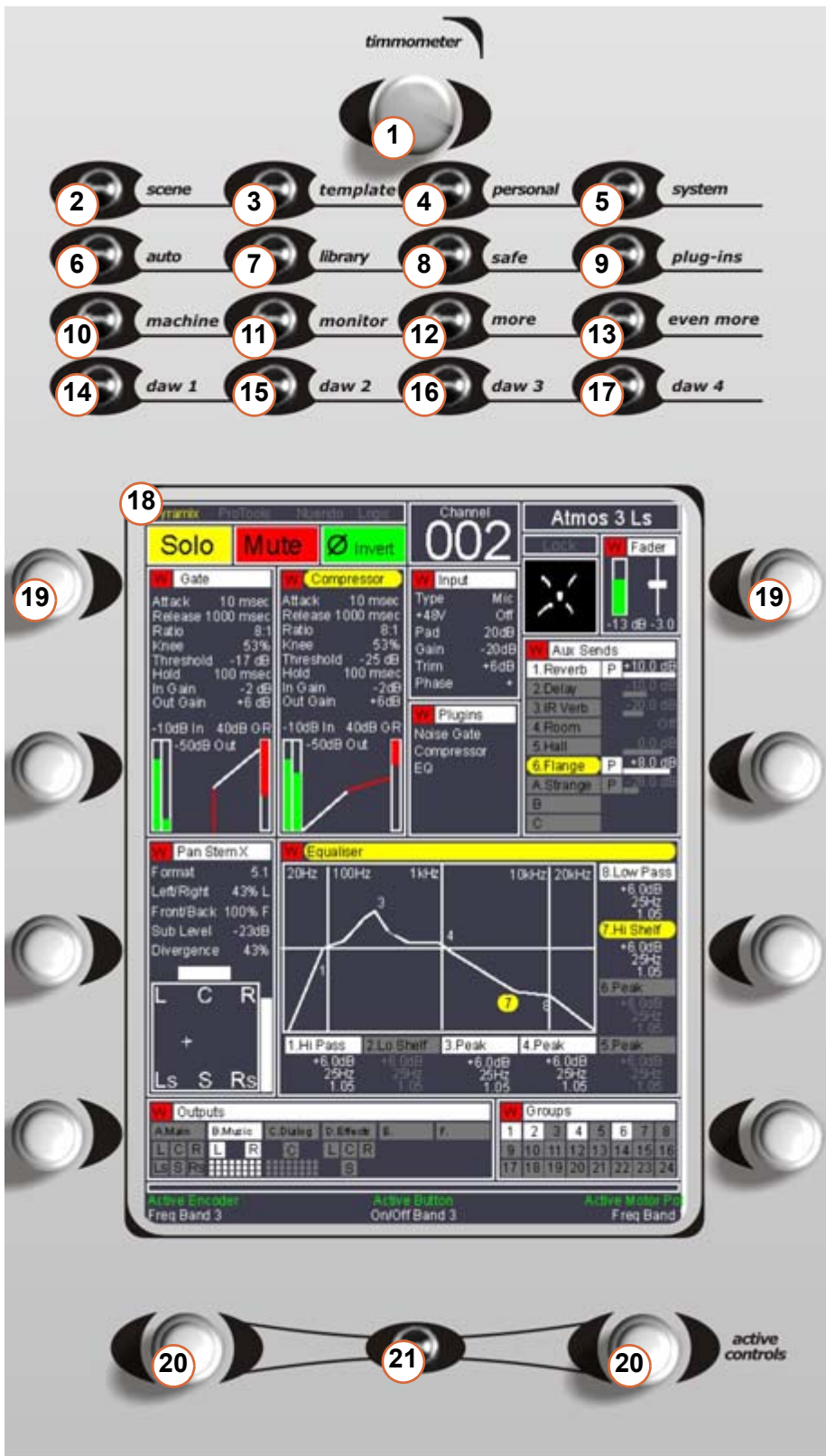
Navigation

Forces the **mix bus masters** onto physical fader strips. Fader strips that are in **Hold** mode remain unaffected.

7 Upper Active Panel

Upper Active Panel Overview

1. **timmometer** knob
2. **scene** button
3. **template** button
4. **personal** button
5. **system** button
6. **auto** button
7. **library** button
8. **safe** button
9. **plug-ins** button
10. **machine** button
11. **monitor** button
12. **more** button
13. **even more** button
14. **daw 1** button
15. **daw 2** button
16. **daw 3** button
17. **daw 4** button
18. **Active Screen**
19. **dual-concentric encoders**
20. **active dual-concentric encoders**
21. **active button**



Upper Expert Panel

1 timmometer knob

2 scene button

3 template button

4 personal button

5 system button

6 auto button

7 library button

8 safe button

9 plug-ins button

10 machine button

11 monitor button

12 more button

13 even more button

14 daw 1 button

15 daw 2 button

16 daw 3 button

17 daw 4 button

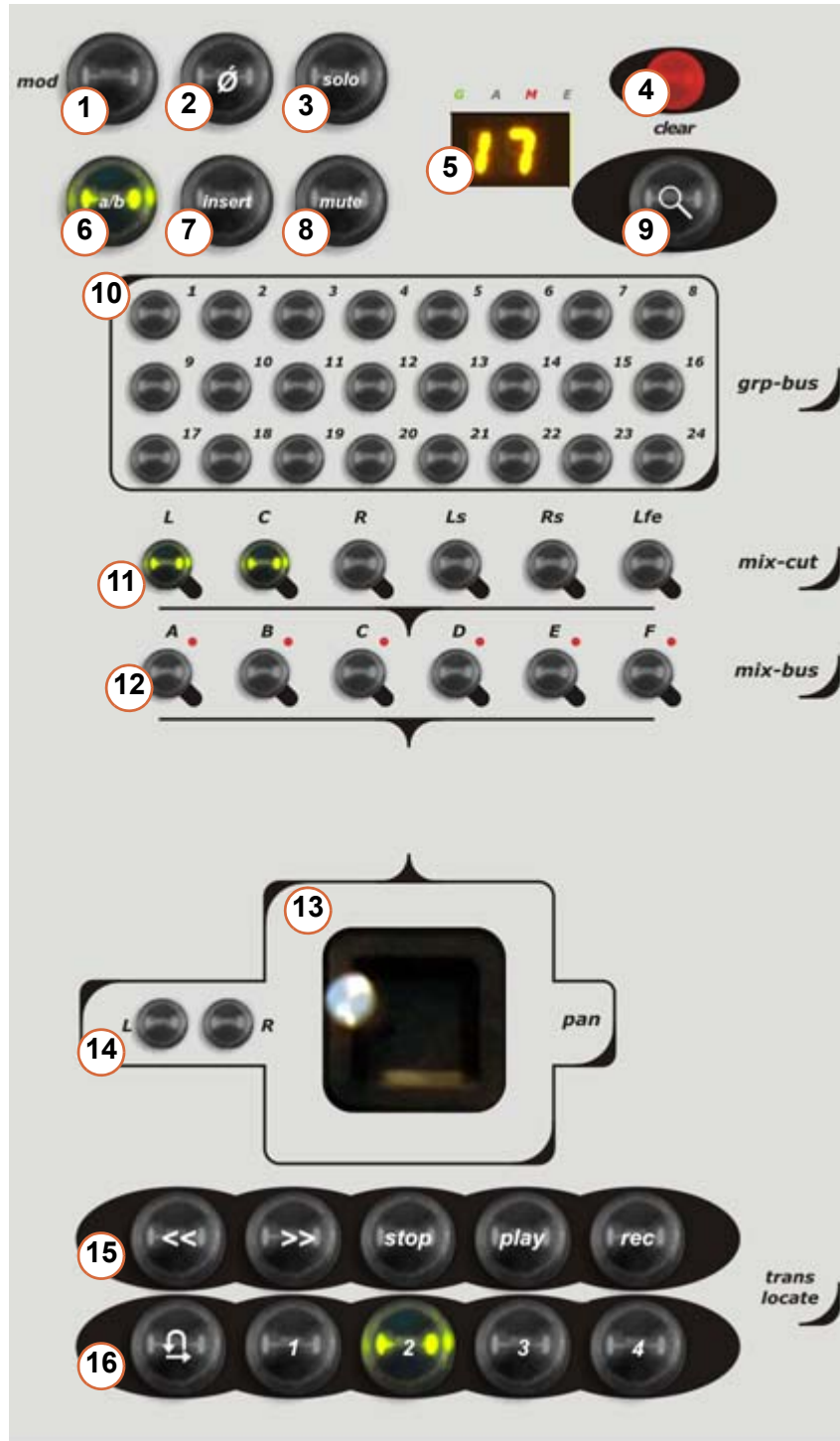
18 Active Screen

19 dual-concentric encoders

20 active dual-concentric encoders

21 active button

8 Lower Active Panel



Lower Active Panel

1. mod button
2. Ø phase reverse button
3. solo button
4. clear touch point
5. strip number display
6. a/b button
7. insert button
8. mute button
9. zoom button
10. grp - bus 1 - 24 select buttons
11. mix - cut surround channel buttons
12. mix - bus A - F select buttons
13. pan joystick panner
14. L & R panner select buttons
15. transport controls
16. locate buttons

1 mod button

2 Ø phase reverse button

3 solo button

4 clear touch point

Overview

Touching the **Solo Clear** touch point (which is also the **Solo Master indicator**) clears any and all currently active solos. It is functionally identical to the **Solo Clear** touch point on the **Expert Panel** (Please see item **5 Solo Clear touch point on page 41**)

Normal Operation

If any channel is solo-ed the **Solo Master** indicator will be lit. Now, when touched, all solos will be removed, all channel Solo indicators extinguished, the **Solo Master** indicator itself will be extinguished and the monitors resume their normal monitoring mode.

Additional Functions

The **Solo Clear** touch point also acts as an **escape** style command for various different modes. When touched while in **Grouping Mode**, it exits Grouping Mode and reverts to the group states before Group Mode was entered. Similarly in **Ergonomic Spreads Store Mode**, when pressed the Store mode is cleared.

Solo Master indicator

The Solo Master indicator is illuminated if any channel is solo-ed.

Note: This control has two functions. It's indicator functions as a **Solo Master** indicator, while it's **Touch Control** functions as a **Solo Clear**.

Tips and Tricks

The **Solo Clear** touch point also acts as an 'escape' style command for various different modes. When touched while in **Grouping Mode**, it exits **Grouping Mode** and reverts to the group states before **Group Mode** was entered. Similarly in Ergonomic Spreads **Store Mode**, when pressed the **Store** mode is cleared.

5 strip number display

Displays the number of the strip currently being controlled by the **Active Panels**

6 a/b button

7 insert button

Bypasses the physical insert on the channel (future release)

8 mute button

9 zoom button

10 grp - bus 1 - 24 select buttons

11 mix - cut surround channel buttons

See 12 below

12 mix - bus A - F select buttons

mix bus A - F buttons select a given bus's stem. The LEDs above each Mix Bus button display the currently selected bus-stem. Once selected, you can use the **mix - cut** buttons to determine which channels of that stem you wish to send your signal to, simply by pressing the **mix - cut** buttons. Lit buttons indicate that the signal is being sent to this channel (the level is determined by the panner and fader). Unlit buttons indicate that this signal is not being sent to this channel.

13 pan joystick panner



The joystick can be used to pan in surround space. I.e. **LCR** and **FR** or, by using the **L & R** buttons it can be locked to horizontal or vertical axes. Panning can also be locked for the strip.

14 L & R panner select buttons

Pan Locking

The **L - R** buttons allow you to do the following depending on the combination:

- **L** - locks the pan to horizontal **LCR** panning
- **R** - locks the pan to vertical **FR** panning
- **L+R** locks all panning for the strip

Indicators lit when mode selected.

15 transport controls

16 locate buttons

9 Pyramix Monitor Section

Monitor ! Window

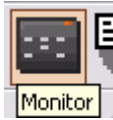
Scope

Pyramix has a dedicated **Monitor** section. This extremely powerful tool offers comprehensive monitoring facilities including summing and downmixing for all supported formats. External Machine Inputs, comprehensive Talkback, Foldback and External Metering are also supported depending on your system specification.

The **Monitor** presents monitor outputs of all buses present in the current Mixer as sources. It is also possible to configure external sources both for recorder returns and for talkback. Sources can be summed for monitoring without affecting the Mixer bus outputs. This is useful, for example, when you need to listen to a guide track while recording.

You do not have to use the **Monitor** and disabling it will save DSP power but, with complex Mixers and routing, the Monitor helps to keep things logical.

The monitor is also used to output the audio signal from the audition function of the Media Manager and Libraries as an unformatted input. (I.e. Routed to LRC in a Surround 5.1 Speaker Set and to LR in a Stereo one)

By default the **Monitor** window is hidden. It can be opened with **View > Monitor** or the  icon in the View Toolbar.



Monitor Main Monitor ! Window

The Monitor has four pages: a Main **Monitor !** page in normal operation, a **Configure** page for setting up and two further pages for configuring **Externals** (machines) and **Talkback**.



Monitor ! page

The **Monitor !** window is divided vertically into three sections.

Sources, left-hand section:

The button top-left of the title bar enables/disables the Monitor and lights yellow when enabled. This allows DSP power to be saved when comprehensive monitoring control is not required. Below the **Enable Monitoring** button is a tree view of all busses used in the mixer. Clicking on the **+** and **-** boxes shows and hides branches in the usual way. Click on any complete bus or any available stem or any bus/stem channel to select it for monitoring. Selection is exclusive unless the **Ctrl key** held is down. Then selection is cumulative and clicking adds or subtracts Sources according to their current state.

Buses / Externals button

Note: At bottom left in the screenshot above the button labelled **Buses** indicates which sources are available for activation. Clicking on this button toggles through **Buses**, **Externals** and **Buses / Externals**

Main, centre section:

Selected Sources

<< SR1 >>: Select previous/next Pyramix source. Only sources visible in the **Sources** section are available. I.e. If the component channels of a bus or stem are collapsed this bus or stem is switched as a unit when the component channels are visible in the **Sources** section then clicking on the **<<** or **>>** buttons steps through each available channel in turn.

<< DA-88 >>: Select previous/next External Source. Only External Sources visible in the **Sources** section are available.

Note: Clicking on any of the **<<** or **>>** buttons cancels the selection made previously in the **Sources** section.

Selected Output

<< Surround 5.1 >>: Select **previous/next Speaker Set**.

<< Main >>: Select the **previous/next Downmix** defined in the Configure page.

Main area

Speakers are inactive (grayed) if they are not connected in the **Configure** page.

The **Mode** buttons at the bottom determine the function of the active Speaker buttons.

Mute: Clicking on a speaker mutes it. Selections are cumulative.

Solo: Clicking on a speaker solos it. Selections are cumulative.

SoloX: Solo eXclusive on the clicked speaker. Selections toggle.

Phase: Clicking on a speaker reverses its phase. Selections are cumulative. Useful for quick imaging checks.

In Place Works in conjunction with **Solo** and **SoloX**. Toggles between **In Place** and **Center**.

Reset: Deselect all speakers.



In Place/Center: In **Solo** and **SoloX**, toggles between **In Place** and **Center**. **Center** routes the soloed channel(s) to the Center speaker or equally to the L/R speakers if no center speaker is present. **In Place** mode is the normal Solo, SoloX mode.

Output, right-hand area

Monitor Level box Displays the current output level. Output level can be entered numerically in the box after clicking on it.

Volume Knob: sets all the output gains in a range from -144.5dB to +24dB. Double-click to set it to 0dB.

Note: Maximum permissible volume can be set in the **Configure** page.

Mute: button mute the outputs.

Dim: button reduces the output level by an amount set in the **Configure** page. Default value is -20dB.

Below these buttons is the

Peak Meter Selection: Indicator/Button. This indicates what the Peak Meter display below the button is looking at. (The selection also affects External Metering if you are using it) Clicking on the button drops down a list of sources that can be metered from a choice of **Master Output** i.e. Monitor Output, **Mixer Buses** and any available **Externals**.



Monitor Main Monitor ! Window Peak Meter Selection drop-down

Speaker Sets

Speaker Sets are set-up in the **Configure** page.

A speaker set consists of:

A Patch: This connects signals to the physical outputs of the board(s). The number of connection will depend on the number of speakers you want to connect. Since the number of available live outputs depends on the selected sampling rate, the patch will differ for 1Fs, 2 Fs, 4Fs and 8 Fs sampling rates.



A **Main grid**: this matrix defines the relation between the Mixer's busses output channel types and the monitor's output channel types (thus the monitor's physical outputs). Typically, the main grid would show a diagonal for the channel types patched:

The screenshot shows the 'Monitor Configure' window with several sections:

- Speaker Sets:** Includes buttons for 'New Set', 'Duplicate Set', 'Delete Set', 'Down-Mixes', 'Add Down-Mix', and 'Remove Down-Mix'.
- Available Sets:** Shows 'Surround', 'Stereo', and 'Near' with checkboxes.
- Output Speakers Patch and Delay [ms]:** A table showing patching for MJ1 and MJ2.
- Main Grid and Down-Mixes:** A large matrix for patching channels.
- Output Metering Patch:** A table mapping monitor outputs to mixer channels.
- Volume Controls:** 'Max Vol.' and 'Dim Value' sliders for both speaker and metering sections.

	L	C	R	Ls	Rs	Lfe	Lc	Rc	Cs
MJ1	--		MJ2	--	--	--	--	--	--
	0.0		0.0						

Main	Stereo		Mono		Stereo ORF		Mono ORF		
	L	C	R	Ls	Rs	Lfe	Lc	Rc	Cs
None	0.0	0.0	0.0						
L	0.0								
C		0.0							
R			0.0						
Ls				0.0					
Rs					0.0				
Lfe						0.0			
Lc	-3.0	-3.0							
Rc		-3.0	-3.0						
Cs				-3.0	-3.0				

L	C	R	Ls	Rs	Lfe	Lc	Rc	Cs
9	10	11	12	13	14	15	16	--

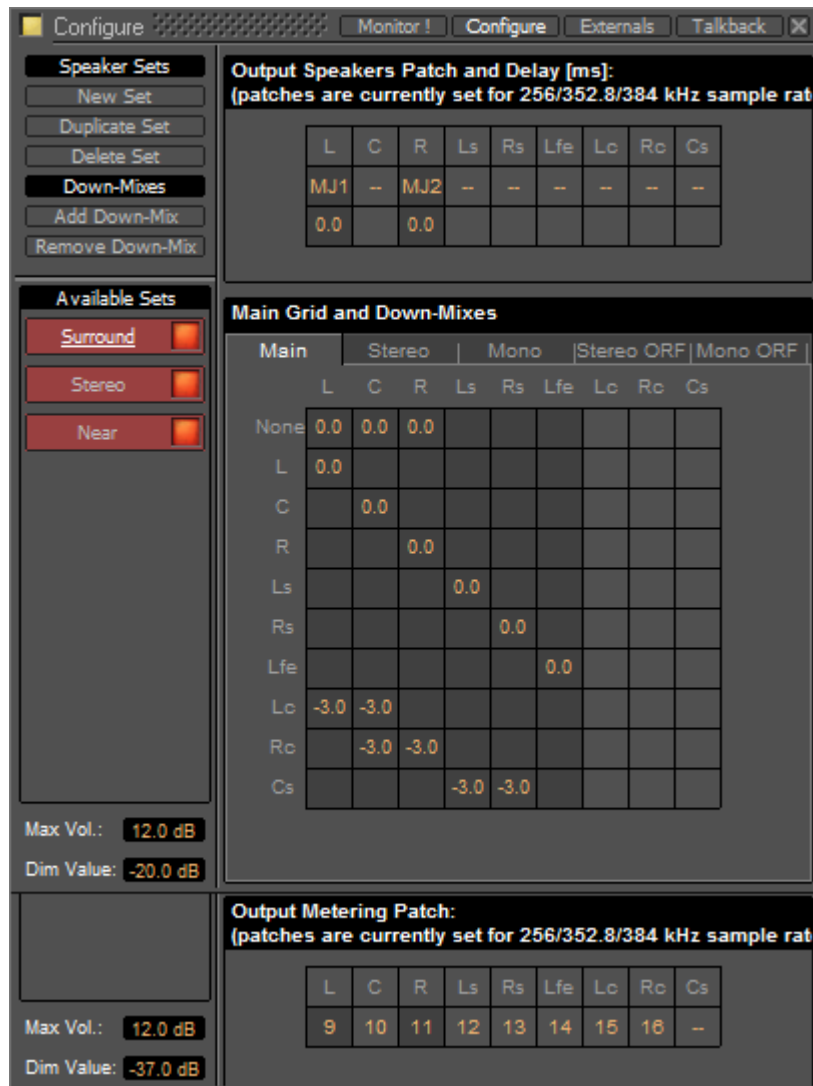
Monitor Configure Window

A set of **Downmixes** (max: 4) : A downmix is a an alternative grid which uses the same patch as the main grid. In this page you can patch the outputs of you monitor, add/remove downmixes, and defines the corresponding grids in dB (only the channel types which are patched).



Configure page

The **Configure** page enables multiple **Speaker Sets**, each with multiple down-mixes, to be created and edited. Two factory Speaker Sets (**Stereo** and **Surround 5.1** labelled on a red background at the top of the **Speaker Sets** list) are installed with Pyramix. Their Main channel to speaker Main Grid and Down-Mix assignments cannot be changed, but their output Patches from speakers in the Monitor to physical outputs can. They and each of their down-mixes can be enabled/disabled in order to determine which ones are visible in the main Monitor page.



Monitor Configure Window

The **Configure** page is divided into four main areas; **Speaker Sets** and **Down-Mixes**, **Available Sets**, **Output Speakers Patch and Delay[ms]**, **Main Grid and Down-Mixes** and **Output Metering Patch**.

Available Sets

To select an existing Speaker Set in order to view or alter its settings, click on its title in the **Available Sets** list. The label will become underlined and the Set's parameters will appear in the grid. If the Set has Down-Mixes already defined there will be one or more tabs next to the **Main** Tab in the **Main Grid and Down-Mixes** area.



Two sets, **Stereo** and **Surround 5.1** are factory defined and cannot be altered. New Sets and Down-Mixes can be **Created**, **Duplicated** and **Deleted** using the Command buttons.

Max Vol

To set the maximum volume attainable click on the value box to highlight it and type the desired value then hit **Enter** or click elsewhere on the window to save the change.

Dim Value

To change the Dim Level, click on the value box to highlight it and type the desired attenuation value then hit **Enter** or click elsewhere on the window to save the change.

Note: Only negative values are accepted. Positive values revert to 0dB. I.e. Type “-15”

Commands

Speaker Sets

New Set

Clicking on **New Set** creates a new Speaker Set with a blank matrix Grid and adds a new entry to the **Available Sets** list with the label highlighted ready for text entry:



Monitor Configure New Speaker Set

Type a suitable name and click on a blank area or hit **ENTER** to accept the name.

Duplicate Set

Creates a new Speaker Set with a the same matrix Grid settings and Down-Mixes and settings as the set currently selected (underlined) and displayed in the grid. The new label is highlighted ready for text entry.

Delete Set

Deletes the currently selected (underlined) Speaker Set.

Down-Mixes

Add Down-Mix

Creates a new Down-Mix associated with the currently selected Speaker Set with a new tab in the **Main Grid** and **Down-Mixes** section.

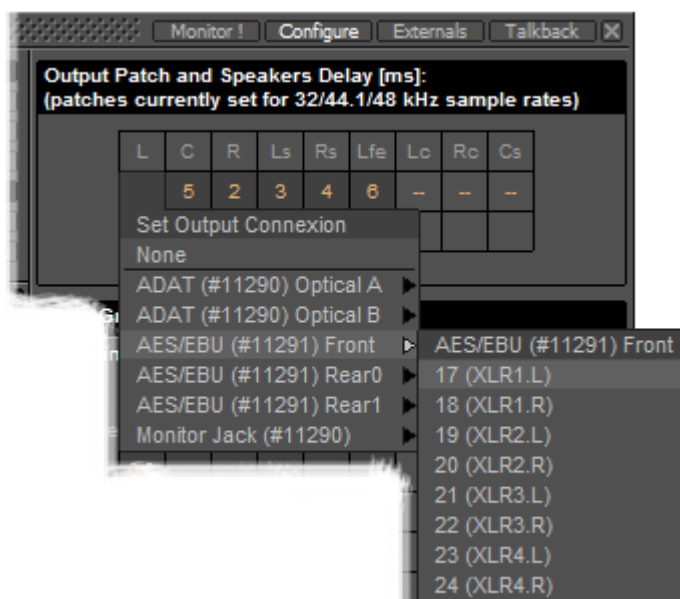
Remove Down-Mix

Deletes the current Down-Mix



Output Patch:

This is where the Monitor's Speaker Set outputs are patched to physical outputs.



Monitor Configure Output Patch

Clicking on a cell pops up the **Set Output Connection** menu with all available physical outputs grouped by their connectors. The sub-menus list the group and the individual channels. Select an individual channel to connect it or select the group, e.g. **AES/EBU (#11291) Front** to connect the whole group in ascending order from the cell clicked on.

Note: Each Speaker Set has its own **Output Patch** associated with it. This is useful where different speakers are used for different formats. If there is only one set of speakers patch all Speaker Sets to the same physical outputs.

Double Assignment

When an output of the Mixer and an output of the Monitor are connected to the same physical output then these are summed and the Mixer displays the connection in orange as a warning.

Speaker Delays

Delay can be set per Speaker by clicking in the box below the Output Connection and typing in a value. Speaker delays are typically used to compensate for the physical positioning of the loudspeakers for example where the Left Centre and Right speakers are placed in a straight line, the Centre speaker will be nearer to the listening position and should be delayed accordingly.

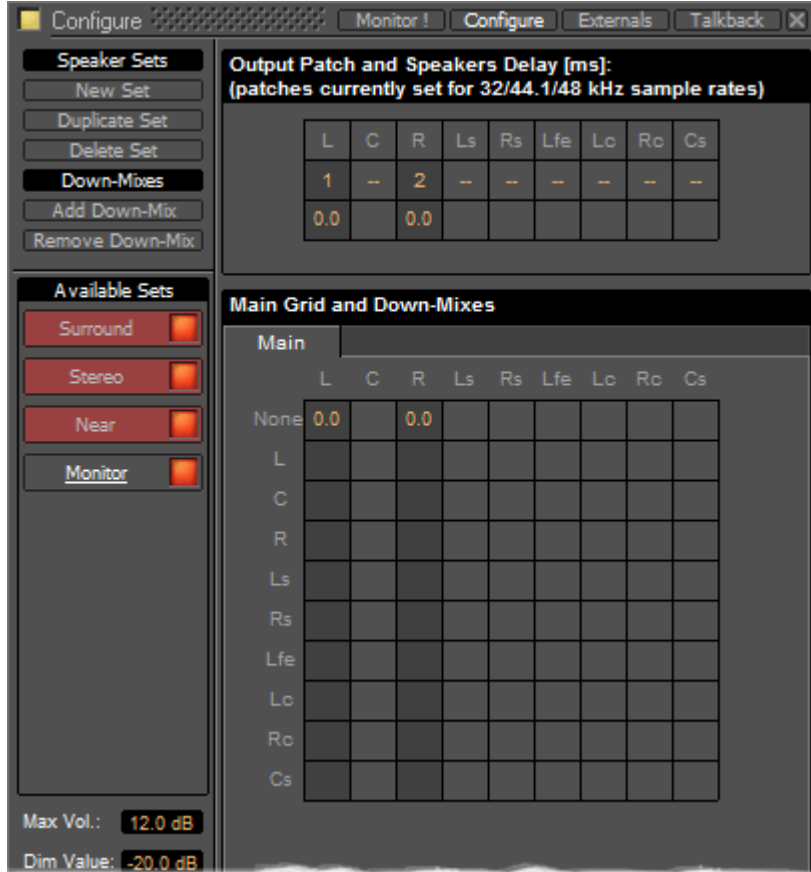
Saving Speaker Sets

Mixer to Monitor connection status is saved in the project.

The Speaker Set settings are saved when you leave the page to go back to the **Monitor !** page; otherwise, modifications are not saved.

Media Manager Monitoring

Note: In order to be able to audition cues in the **Media Manager** the **L** and **R None** entries in the **Main Grid** matrix must be set to a value, e.g. **0.0**



The screenshot shows the 'Configure' window for the Media Manager. It includes sections for 'Speaker Sets', 'Output Patch and Speakers Delay [ms]', 'Available Sets', and 'Main Grid and Down-Mixes'.

Speaker Sets: New Set, Duplicate Set, Delete Set, Down-Mixes, Add Down-Mix, Remove Down-Mix

Output Patch and Speakers Delay [ms]: (patches currently set for 32/44.1/48 kHz sample rates)

	L	C	R	Ls	Rs	Lfe	Lc	Rc	Cs
1	--		2	--	--	--	--	--	--
0.0			0.0						

Available Sets: Surround, Stereo, Near, Monitor

Main Grid and Down-Mixes:

Main

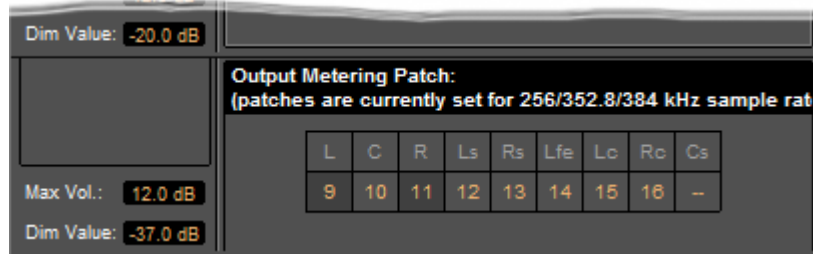
	L	C	R	Ls	Rs	Lfe	Lc	Rc	Cs
None	0.0		0.0						
L									
C									
R									
Ls									
Rs									
Lfe									
Lc									
Rc									
Cs									

Max Vol.: 12.0 dB
Dim Value: -20.0 dB

Monitor Configure Media Manager

External Metering

If you wish to use your favourite external hardware meters with Pyramix this can be achieved easily and conveniently.



Monitor Configure Output Metering Patch

At bottom right of the **Monitor Configure** page an extra set of nine patches is provided to configure external outputs specifically for metering.

Patches are made in exactly the same way as the Speaker **Output Patches**. **Please see: Output Patch: on page 68**



External Inputs

External devices may be added in the Monitor panel. This is useful for connecting monitoring returns from the Studio's fixed external audio devices such as recorders.

Note: This feature is currently available for Native, Mykerinos mono-board and MassCore systems. It is not currently supported on Mykerinos multi-board non MassCore systems.



Adding an External Machine

Up to 8 new externals can be added.



Monitor Externals page

Note: External machines will only be visible and available as monitor sources in the **Monitor !** page when the **Buses /Externals** button is set appropriately. **Please see: Buses / Externals button on page 63**

Each external has a dedicated input Patch. Patches are set up by clicking in the boxes below the speaker letters and choosing inputs from those available.

Talkback

Talkback facilities are provided in the **Monitor** section for studios without a separate talkback system.

These facilities are intended to be used with **GPI/O** external connections for physical talkback switches.

Please see: the main Pyramix User Manual, GPI/GPO Support for information about setting up **GPI/Os**.

Note: Talkback is currently available for Native, Mykerinos mono-board and MassCore systems. It is not currently supported on Mykerinos multi-board non MassCore systems.



When **Talkback** is set up and active the **Talkback** section appears at the bottom of the main **Monitor !** page:

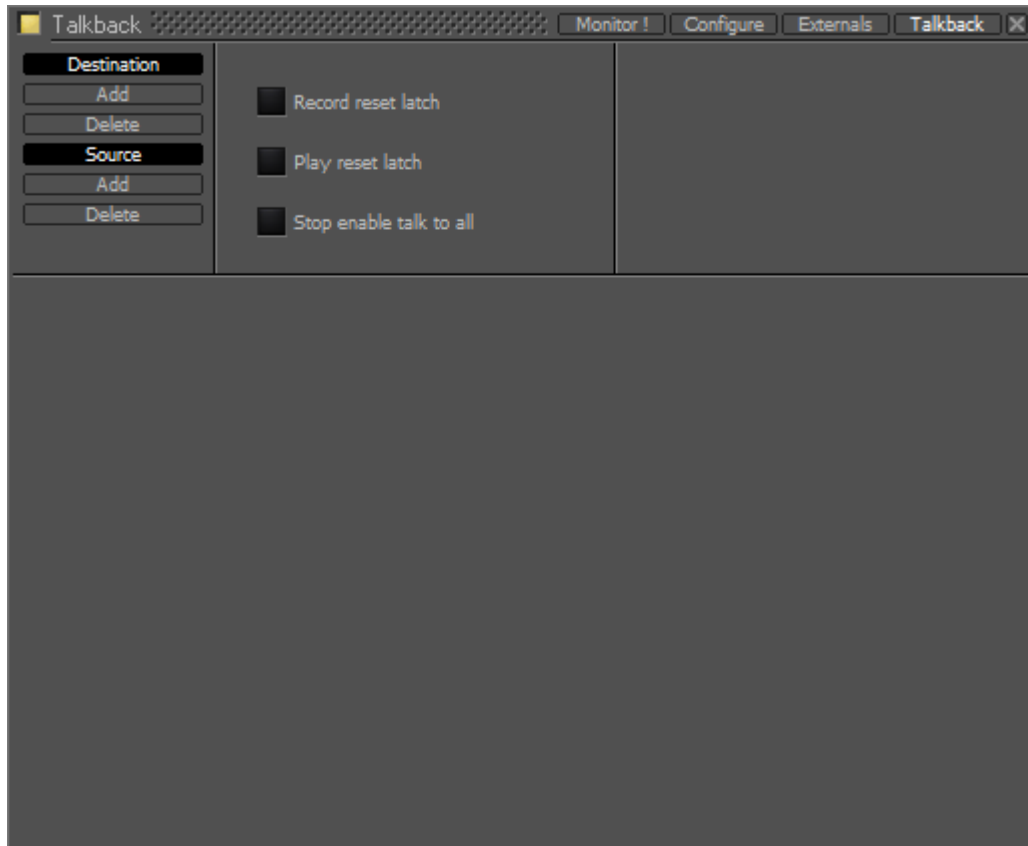


Monitor ! page with Talkback Section

Setting Up

Talkback Page

You can add up 8 Studios (Destinations) and 3 Talkbacks (Sources) in the **Talkback** page:



Monitor Talkback page

Destination

Add Adds a **Destination**

Delete Deletes the selected **Destination** or the remaining one when there is only one shown.

Source

Add Adds a **Source**

Delete Deletes the selected **Source** or the remaining one when there is only one shown.

Record reset latch

When lit red all active conversations are muted when the transport is in **Record**.

Play reset latch

When lit green all active conversations are muted when the transport is in **Play**

Stop enable talk to all

When lit yellow the **Talk To All** function is activated when the transport is in **Stop**.

Example

This is how you would set up talkback for a simple facility with a **Mix Room**, **Studio** and **Machine Room**.

- The **Mixer** will be able to speak to the **Vocal Booth** or the **Machine Room** independently.
- The **Assistant** will only be able to speak to the **Mix Room**.
- The **Vocal Booth** will only be able to speak to the **Mix Room**.

Note: If a separate 'Producer' Talkback unit is required this can be achieved with a simple parallel physical connection of buttons that both activate the **Mixer to Vocal Booth GPI**.

Setting Up

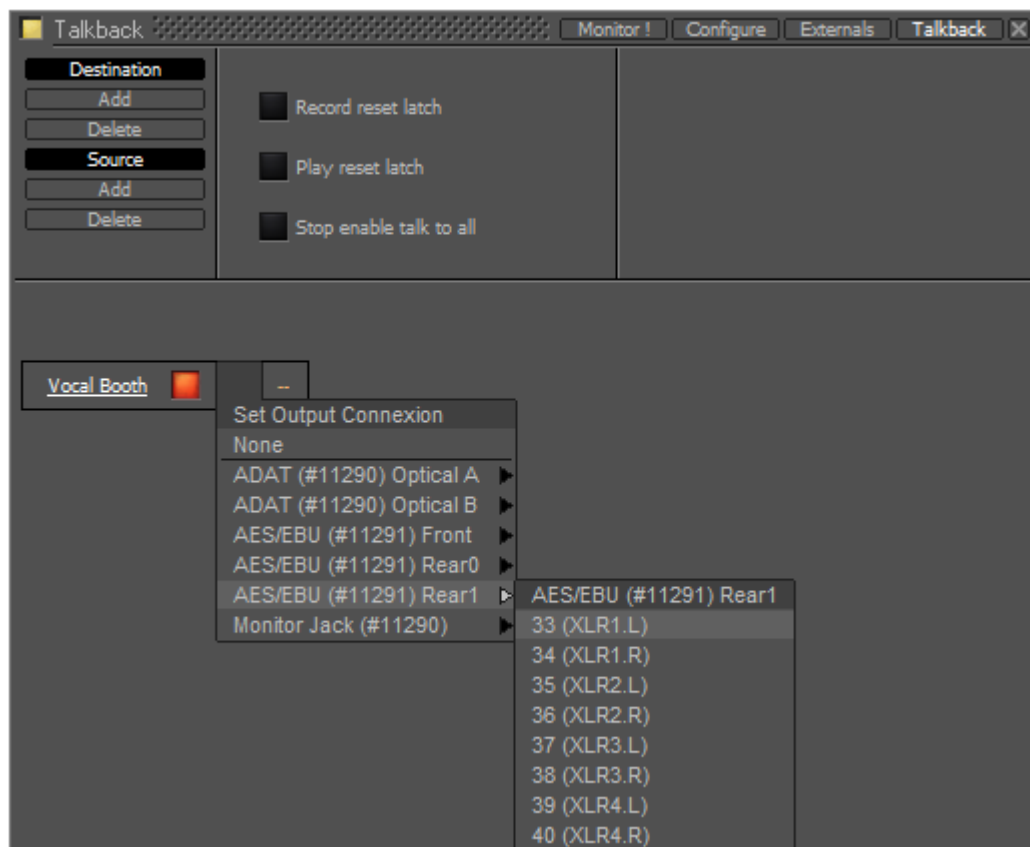
1. Click on **Studio Add**

A **New Monitor Studio** box appears. Type a suitable name for the Studio, in this case, **Vocal Booth** and press the keyboard **Enter** key to confirm.

The red button indicates that the destination is active.

Note: The **Talkback** section will be shown at the bottom of the **Monitor !** page if any destinations are active in the **Talkback** page.

2. Notice the two boxes to the right of the name with orange dashes. Click on the left box to drop down the **Set Output Connection** menu:



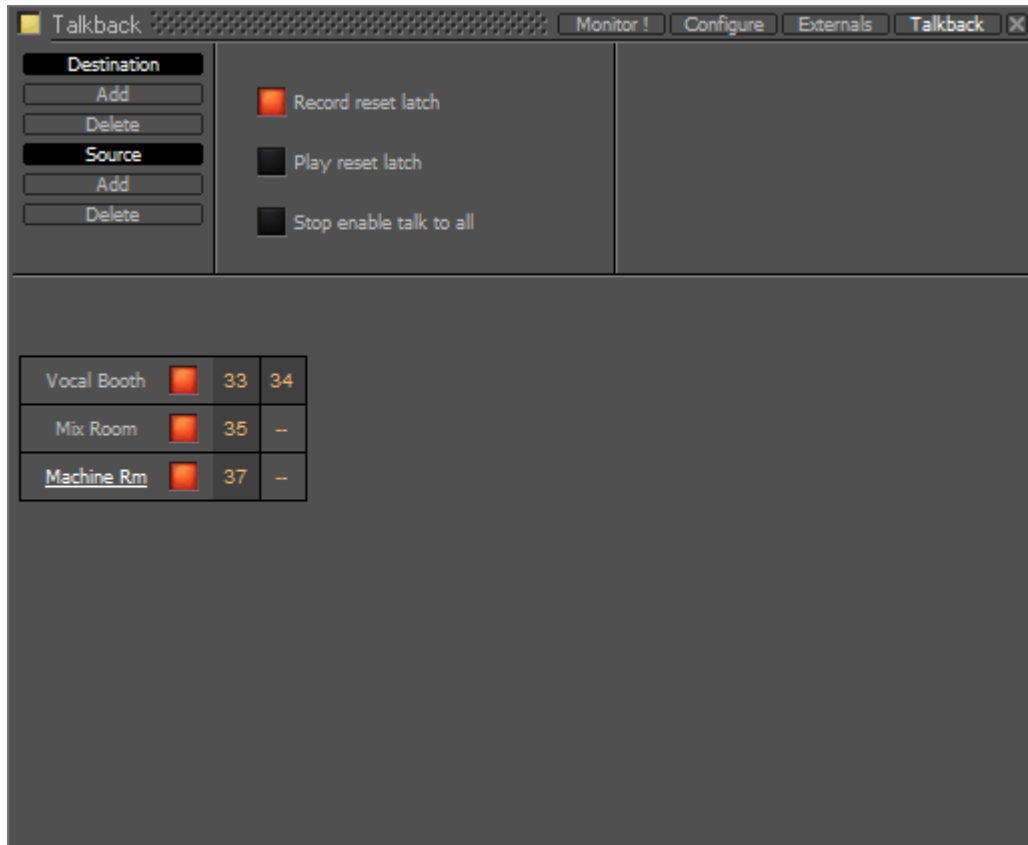
Monitor Talkback page Destination Output Connection

3. choose a suitable physical output to feed the Talkback amplifier/loudspeaker.

Note: If you only have digital outputs then you will need a converter.

4. If you wish to have stereo talkback/foldback repeat steps 2&3 for the right-hand box. Here only the **Vocal Booth** is to be fed with Foldback so that is the only stereo destination.
5. Repeat steps 1 to 3 twice to add two more destinations.
6. Label these to suit, in this case, Mix Room and Machine Room.

You should now have something like this on screen:

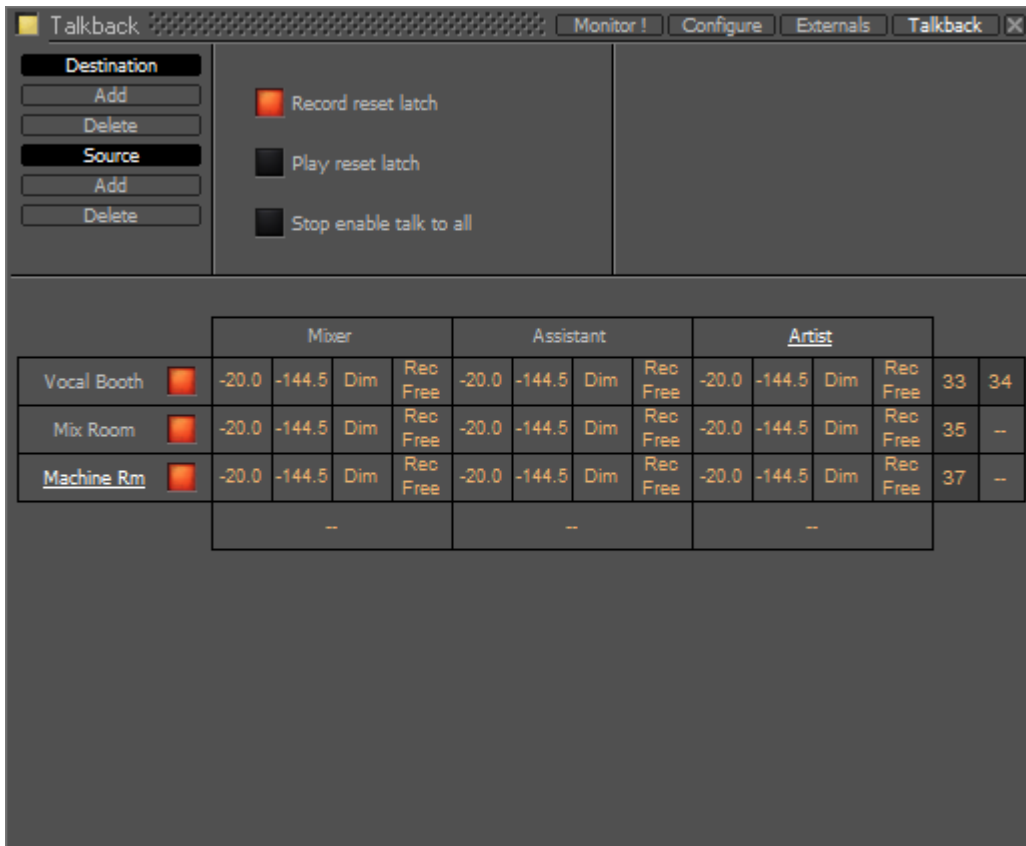


Monitor Talkback page with destinations

Note: Only the Vocal Booth has been set up as a stereo destination. If you want separate speaker and headphone feeds to the studio just add another destination and label it appropriately. E.g **Vocal Booth HP** for maximum control.

7. Now set up the sources by clicking on **Source Add**
8. A column appears with **New Talker** highlighted in a box. Type a suitable name for the source. In this case **Mixer**.

9. Add two more sources and label them **Assistant** and **Artist**



Monitor Talkback page with Sources and Destinations

10. Click on the boxes with the orange dashes at the bottom of each source column to open the **Set Input Connection** menu and choose a suitable input connection for each of the talkback microphones.

Note: If you only have line level analogue inputs you will need external mic pres and if you only have digital inputs then you will need converters as well.

11. Now the levels, **Dim** and **Mute** switching must be set.

- The boxes in the first column of each **Source** set the attenuation that will be applied to the **Destination** output when Talkback is activated from each source.
- The second column sets the send level per **Destination**. You can type **mute** or a numeric value in the box.

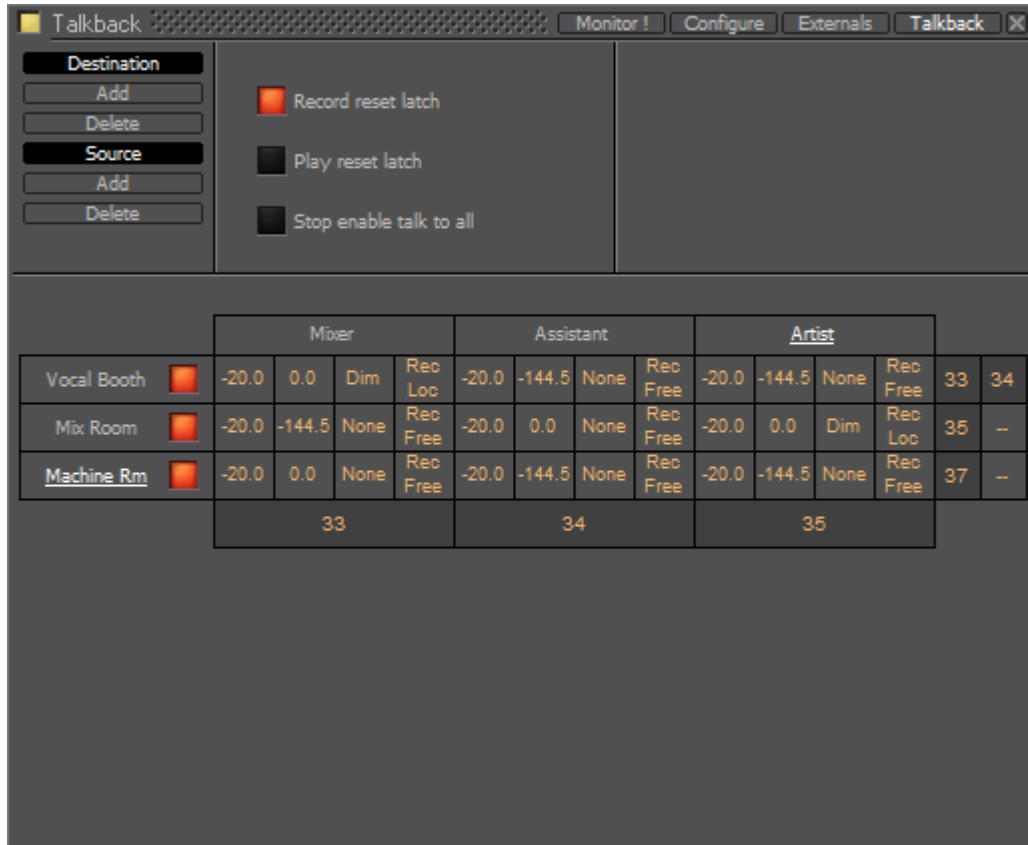
Note: If **mute** or **-144.5** is entered this **Destination** will be grayed out and unavailable in the **Talkback** section of the **Monitor** page. For example, it is illogical for the **Mixer Source** to talk to the **Mix Room Destination** and so on.

- The third column offers the choice of **Dim** or **None**. Selecting **Dim** means that when this cross-point (**Source** to **Destination**) is activated by pressing the relevant **Talk** button, the **Main Monitor Output** will be dimmed.

Note: This is essential when, for example, the **Mix Room** talks to the **Vocal Booth** with the programme mic channel open to avoid howl-round and possible damage to loudspeakers and hearing.

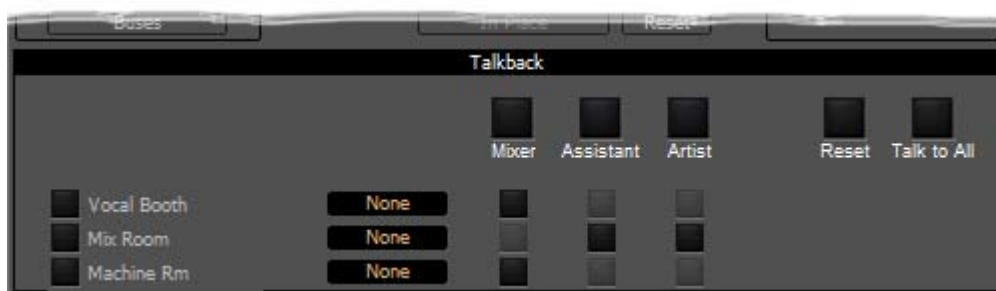
- The fourth and final column offers a choice between **Rec Free** and **Rec Loc**.
Rec Free means that talkback on this crosspoint can be initiated when the Transport is in Record and the **Record Reset Latch** is set.
Rec Loc disables the crosspoint when when the Transport is in Record and the **Record Reset Latch** is set.

So, bearing in mind who is going to be allowed to talk to whom and given that it is illogical to use talkback to talk to yourself, the levels should now look approximately like this:



Monitor Talkback page with Sources and Destinations and levels set

Returning to the **Monitor !** page you will see this in the **Talkback** section:



Monitor ! page Talkback Section

(If the buttons on the left are lit blue ignore them for now) The big buttons with the labels **Mixer**, **Assistant** and **Artist** are **Talk to All** destinations (In this case only relevant to **Mixer**)

Operation

The smaller buttons vertically below the bigger, labelled Source buttons initiate talkback from the horizontal sources to the vertical destinations. These are the buttons you are most likely to want to map to **GPIs**. For example in the following screenshot the **Mixer** is talking to the **Vocal Booth**:



Monitor Talkback page : Mixer talking to Vocal Booth

Note: Notice that, due to the settings made earlier, **Mixer** talking to **Vocal Booth** also **Dims** the Main Monitor **Output**.

Talkback Button Operation

All the Talkback buttons are dual mode. A press of less than one second latches the Talkback open. A second press cancels. A press of more than one second initiates Talkback on press and cancels when the button is released.

Reset cancels all latched talkbacks.

Talk to All initiates open Talkback between all enabled **Sources** and **Destinations**

Foldback

Continuing the foregoing **Talkback** example it is also possible to add foldback to the Talkback outputs. To add Foldback to the **Vocal Booth** Talkback outputs click on the black box to the right of the **Vocal Booth** label to drop-down a list of available Foldback sources:

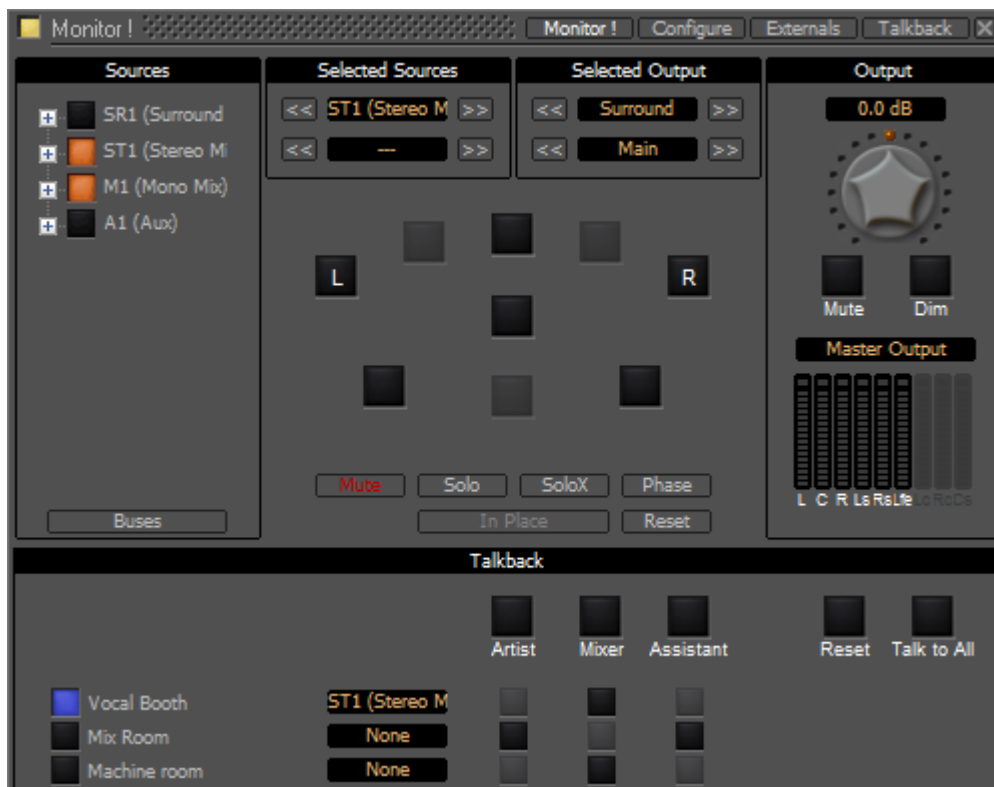


Monitor Talkback page : Select Foldback Source

Select the required **Foldback Studio Monitor Source**.

Note: You can add a bus in the mixer specifically to produce a mix for **Foldback**.

The buttons on the left of the **Vocal Booth** label etc. toggles the foldback on and off per destination:



Monitor Talkback page : Foldback to Vocal Booth Active

Here, the **Vocal Booth** is fed with **ST1 (Main)** bus output. The vocals are recorded clean on **M1 (Mono Mix)** and, as can be seen above, the **Mixer Room** monitors are being fed with the sum of these buses.

10 Meter Bridge

Scope

Ramses MSC takes full advantage of the Pyramix dedicated **Meter Bridge** window.

The **Meter Bridge** can present a meter display for every Input strip and Bus present in the current Mixer and external Machine configured in the **Monitor : Externals** page.

The **Meter Bridge** also indicates the currently selected mixer strip with a yellow outline, any strips in Record Ready condition with a red outline, whether any strips are **Muted** or **Soloed** and optionally shows Ramses Groups and Fader **Automation** mode per strip.

You do not have to use the **Meter Bridge** but, especially when used with **Ramses MSC**, it offers flexible metering in one place. With complex Mixers and routing, the Meter Bridge can help to keep things logical.

Note: The **Meter Bridge** is displayed “Always On Top” of other windows.

Meter Bridge Switch

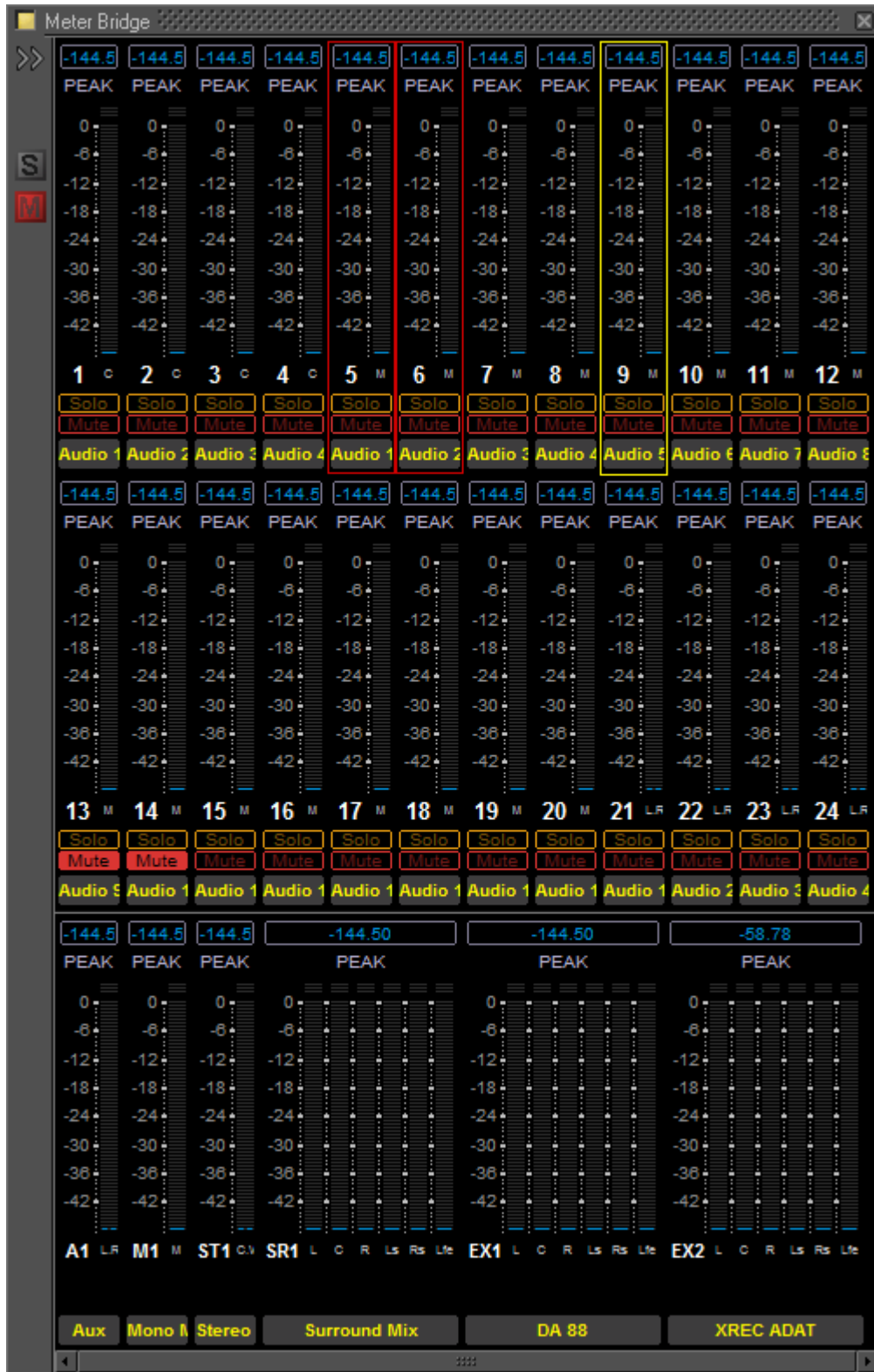
Before the Meter Bridge Window can be opened it must be switched on in the **Settings** section of the Pyramix **Mixer Configure Page** :



Meter Bridge Switch

Meter Bridge Window

By default the **Meter Bridge** window is hidden. It can be opened with **View > Meter Bridge** or the icon in the View Toolbar.



Meter Bridge Window - Triple Row Mode

Resize

The **Meter Bridge Window** can be resized by clicking and dragging the edges. (Mouse cursor changes to double arrow) Vertical resizing is limited to sensible display options. Scroll bars will appear when there is more information to display than the window can accommodate. There is a separate auto-hide scrollbar for the Input Strips so you can keep all the Buses and Externals visible together with a contiguous section of the Input Strips of a very large mixer. (This will appear when the mouse cursor is over the right-hand edge of the top two rows.)

Global Mute and Solo Indicators

If any strip is Muted or Soloed the global indicators in the left margin illuminate.

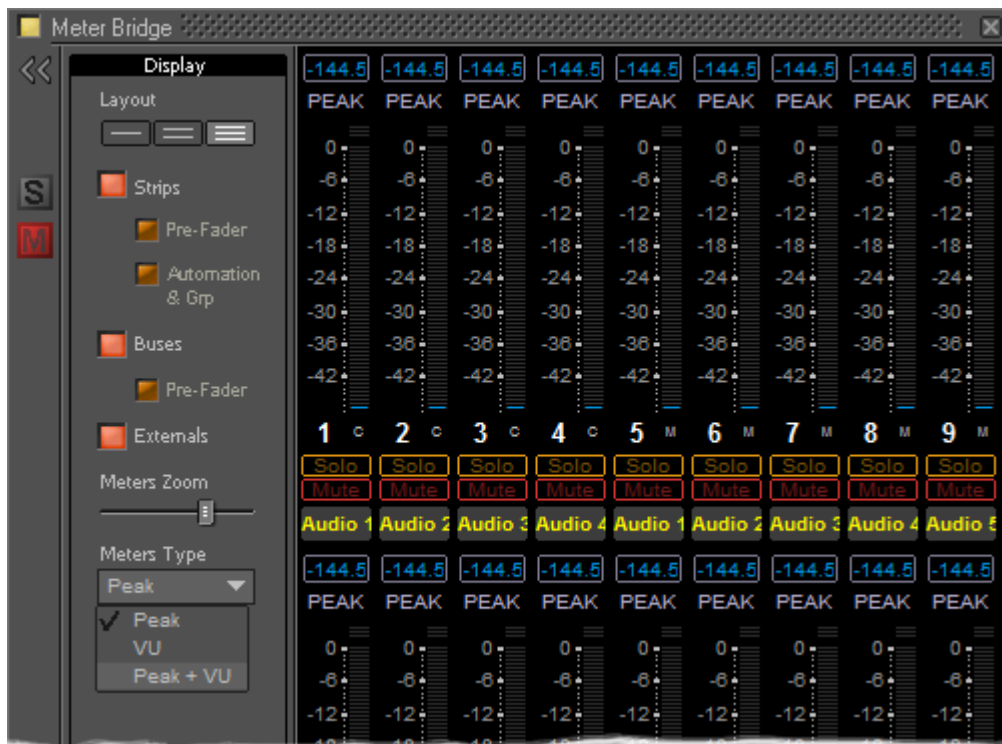
Selected Strip and Record Ready Status

The currently selected strip is shown with a yellow outline.

Any strips currently in Record Ready mode are shown outlined in red.

Configuring the Meter Bridge

When first opened the **Mixer Bridge** appears as above. clicking on the double arrow >> below the Yellow Activate button opens the **Display** panel (a subsequent click on the << arrows closes):



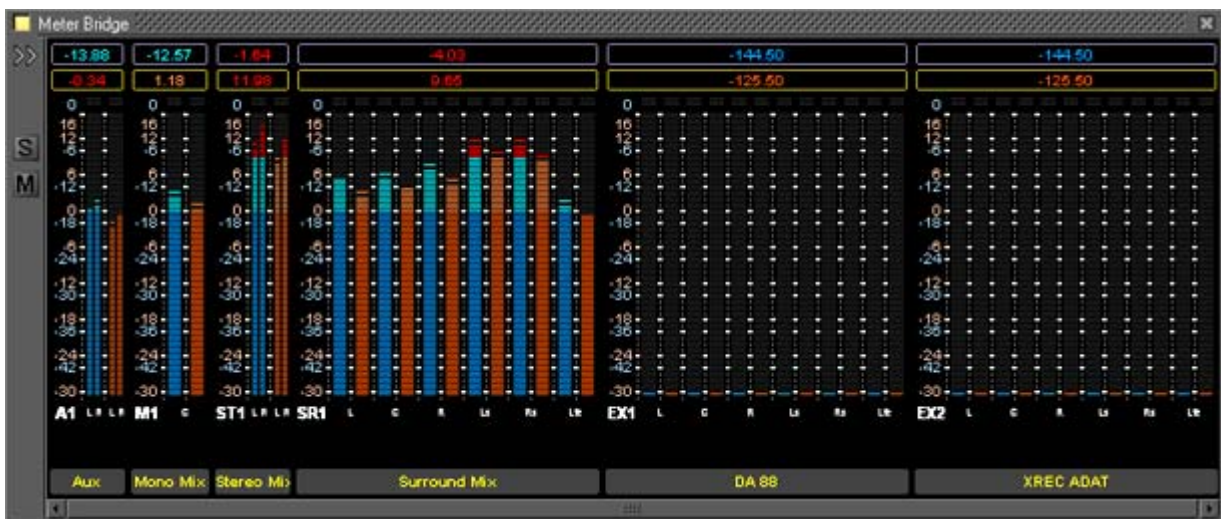
Meter Bridge Configuration : Display Section

Layout

The three buttons determine whether the meters are displayed as a single, double or triple row (default).

Single Row

Single row is useful if you only wish to display buses and or **Externals** (returns).



Meter Bridge - Single Row Mode

Strips

The red button shows/hides the Input Strip Meters (default is Show)

Note: Show/Hide for Input Strips is only available in 'single row' display mode. Useful in applications where the Bus and External Machines are of more interest than the Inputs.

Pre-Fader

When lit, the Input Meters source is taken pre-fader. (default is post-fader)

Automation

When lit, four Fader Automation Mode indicators are shown in each Input Strip. (default is hidden)

Buses

The red button shows/hides the Bus Strip Meters (default is Show)

Pre-Fader

When lit, the Buses Meters source is taken pre-fader. (default is post-fader)

Externals

The red button shows/hides the External Machines Meters (default is Show)

Note: Externals, External machine Returns, are set up in the Pyramix **Monitor : Externals** page.

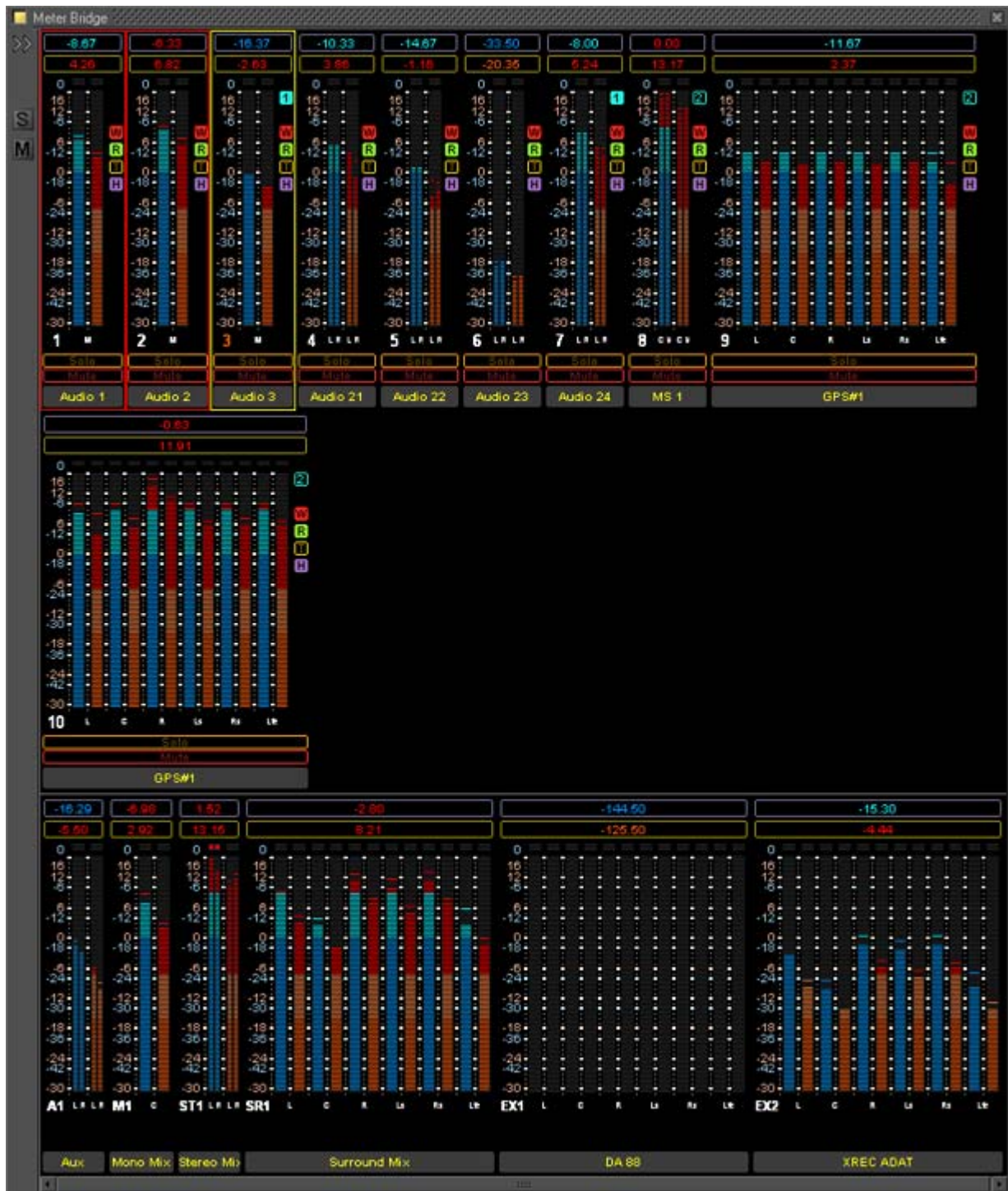
Meters Zoom

The slider adjusts the meter scaling. Range is from 0dB to -144.5dB maximum to 0dB to -10dB minimum.

Double-clicking on the slider 'knob' resets to default scaling.

Meters Type

The drop-down offers a choice between **Peak** (default), **VU** or **Peak + VU** as seen here along with the **Automation Indicators**:



Meter Bridge - Triple Row Mode

Automation Fader Mode and Group Indicators

Ramses Group



Member of Group



Member of selected Strip's Group

This indicator shows that the associated strip is a member of a Ramses MSC control Group. When in inverse video (filled in) it also indicates that the associated strip is a member of the currently selected strip's Group.

Note: These Ramses MSC Control Groups are currently completely independent of the Pyramix grouping arrangements.

Automation Fader Mode



Write

Read

Trim

Hold

In the default, **Auto-Write**, mode only the **Write** and **Read** indicators are lit together.

As soon as a fader is touched with the transport in play the **Read** indicator extinguishes leaving only the red **Write** indicator lit.

If an Automation **Trim** mode is selected the yellow **Trim** indicator will also be lit.

Similarly, if a **Hold** mode is selected the purple **Hold** indicator will be lit.

Thus, in the **Meter Bridge** screenshot above, the automation is in **Auto-Write** plus **Trim & Hold** modes.

11 Edit Bay

Introduction

Scope

The edit bay will function as described in this document, although please bear in mind that functions will be added in the coming months to arrive at the full functionality of Edit Bay as labelled on its surface.

We have developed workarounds for the few remaining functions not yet available.

All functions **NOT** described in this quick start guide are already fully functional as they will be in the final version. Please refer to the labelling on the Edit Bay surface and to the Pyramix 6.0 user manual for the specifics.

Software Versions

Important Note:

It is **ESSENTIAL** to have the following versions of software or later to avoid unpredictable operation:

- Pyramix Version 6.0.4 Pre RC1 build 323
- Ramses Consolesoft 1.5.3 3709 14th November 2007
- Edit bay Consolesoft set2 21st November 2007

Please refer to the Ramses update guide and Pyramix 6 Installation Guide for guidance on how to install those updates.



General Overview



Ramses MSC Edit Bay Panel

1. **View Select and Modifiers;** These keys open Pyramix Windows and dialogs such as **All Settings** and the **Fade Editor** or **Library Tab** Windows. In a later iteration of software the **Editor** will have the focus on those windows when they are opened.
2. **Transport Control;** This is the same as the Transport Control panel on the main Ramses MSC surface with the same functions available.
3. **Track Selection and User keys;** these keys are used to select a **Track**, or to **Mute, Arm** etc. a track depending on which Modifier they are temporarily assigned to. It is closely linked to the above VCD (alphanumeric feedback) and will be in the future available for User Defined Macros and Functions.
4. **Editor;** all the functions needed to edit quickly and efficiently are labelled on the surface. The big buttons at the bottom of the panel are used to select the **Jog Mode** and Modifiers (**Ctrl, Alt** etc) to provide greater functionality. When the Modifiers are pressed and held the available functions will light up on the editor.

The Editor

Note: ONLY FUNCTIONS WHICH ARE NEW AND NOT FULLY OR PARTIALLY IMPLEMENTED (WORKAROUNDS) WILL BE DESCRIBED

Navigation



Edit Bay Panel Navigation area

You can navigate independently **OR** with the Ramses fader/strips navigation.

When **loc-bank** is disabled you will navigate in combination with the Ramses fader strip navigation. The right-most eight faders will also be the **Edit Tracks** shown on you VCD available for Selection and Editing.

When **loc-bank** is enabled navigation around the **Edit Tracks** is independent of your Ramses.

Note: Please remember that in order for the Navigation keys on the Edit Bay to work you must enable **loc-bank**.

trk-sel - press and hold to use the jog wheel to navigate through the Edit Tracks

< bank- each time you depress the VFD shows the previous eight Edit Tracks

> bank- each time you depress the VFD shows the next eight Edit Tracks

prev- not yet implemented. Jumps to previous Edit Track layout

Note: You can also touch a fader on Ramses and the corresponding Edit Track will be highlighted automatically. Another way of navigating is to use the up and down arrows to move from one Edit Track to the previous / next.



Modifiers - Left-hand Side



lay-all	not yet implemented
lay-prim	not yet implemented
solo	when pressed the small Track Selection and User Keys will toggle Solo on the Edit Tracks
mute	when pressed the small Track Selection and User Keys will toggle Mute on the Edit Tracks
loc- bank	Toggles linking navigation to Ramses main fader navigation
trk-arm	when pressed the small Track Selection and User Keys will toggle Track Arm on the Edit Tracks

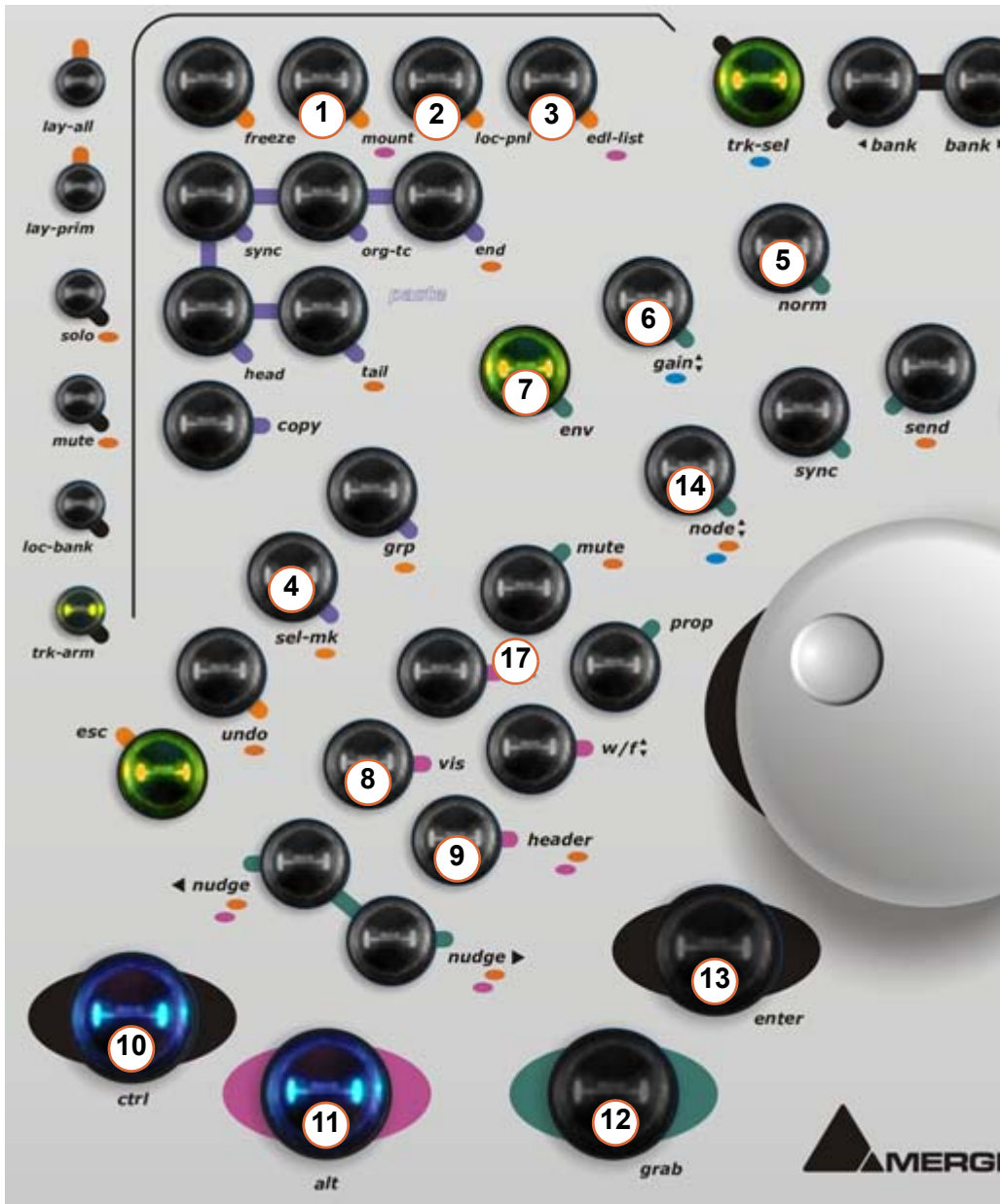
Modifiers - Right-hand side



trans	not yet implemented
snap	enables Snap Head to Nearest. CTRL + snap disables Snap Head to Nearest
update-tc	Updates the original TimeCode of the actual composition to the original medias. Use with caution!
auto-x	toggles auto cross fade enable/disable
auto-rip	toggles auto-ripple (shuffle) enable/disable
auto-sel	auto selection mode (Clip - and Clip group - under cursor) when Stopped or when another another Edit Track is selected



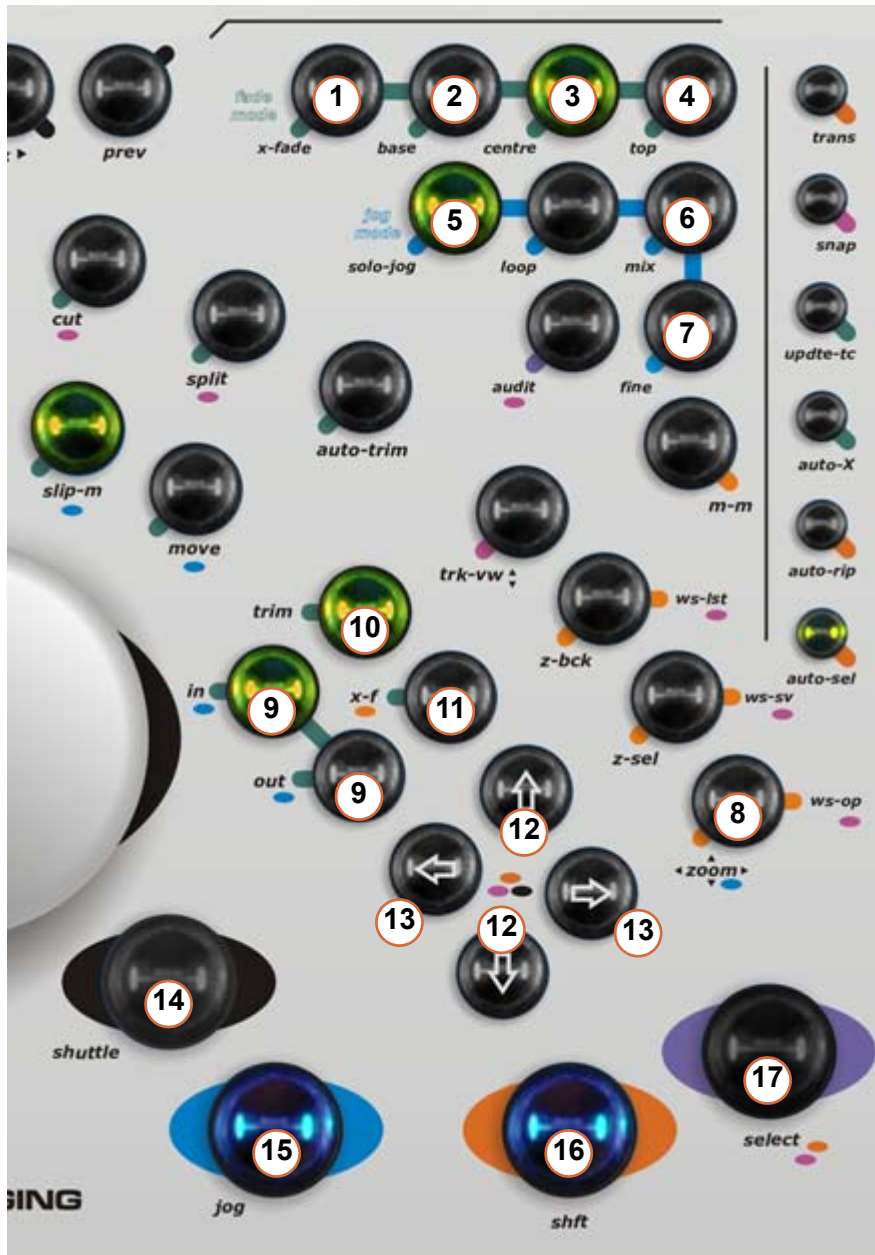
Editor - Left-hand side



1. Mount referenced Media Files/More options to come
2. Lock Edit Panel/not yet implemented
- 3.3.opens edl list/more options to come
4. Select Next Marker, **+Ctrl** select previous marker **Shift** move selected Marker to Cursor/ More options to come
5. Normalize **Clip** or selection of Clips keeping relative gain/More options to come
6. Adjust **Clip Gain** with fader/More options to come
7. Inactive for now / Envelope not yet implemented yet
8. Visible/Invisible track/ not yet implemented
9. Track Header/ not yet implemented
10. **Ctrl** modifier as on keyboard
11. **Alt** modifier as on keyboard
12. **Clip & Media** grab from Libraries and Media Manager / not yet implemented
13. **ENTER** as on keyboard
- 14.1deactivated for now / Envelope not yet implemented



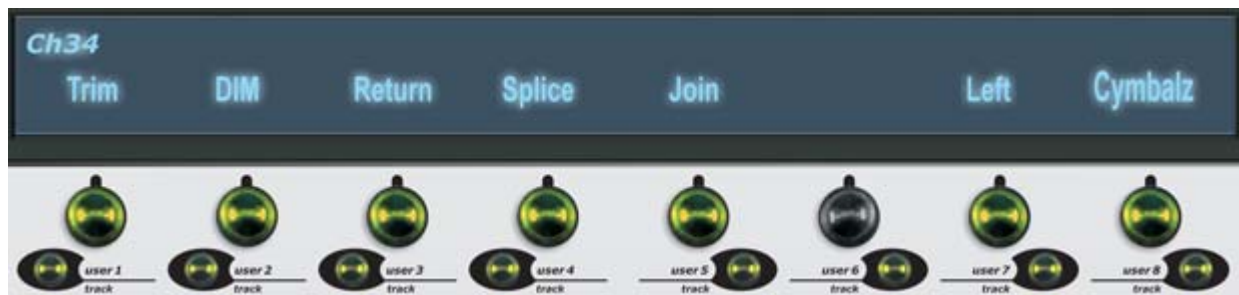
Editor - Right-hand side



1. Opens **X-Fade** Editor / more options to come
2. Inactive for now / not yet implemented
3. Inactive for now / not yet implemented
4. Inactive for now / not yet implemented
5. Solos selected track when jogging
6. Listen to all when jogging
7. Toggles fine jog mode
8. Zoom with jog wheel / not implemented yet with up-down & left-right arrows
9. **In & Out** point selection of region or clip / **+ Ctrl** cuts **In & Out** to Playhead / more options to come
10. **Trim In (jog) / + Ctrl Trim Out** / more options to come
11. **Fade In (jog) / + Shift Fade Out** / more options to come
12. Up-Down / **+ Ctrl Move Selection / + Alt Move Clip** / more options to come
13. Left-Right / **+ Ctrl Select Previous-Next Clip / + Alt Goto Previous-Next Edit**
14. **Shuttle Mode (jog) / + Ctrl** Navigate Silent (jog)
15. **Jog Mode / + Ctrl Loop Jog** mode
16. **Shift** modifier as on keyboard
17. **Select Clip Under Cursor** / more options to come



Track Selection and User Keys

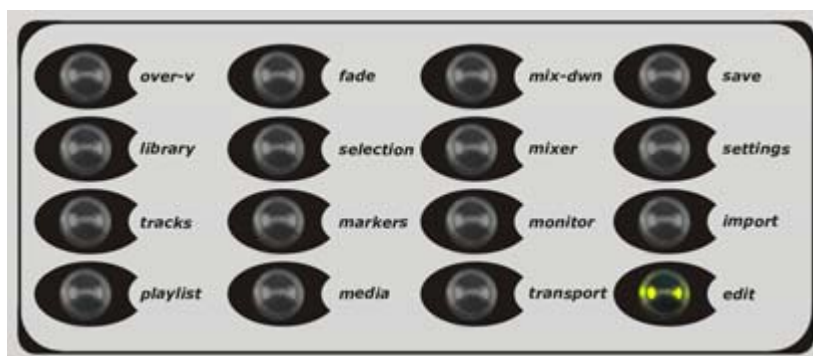


This is an example of the kind of functionalities and display possibilities that will **IN THE NEAR FUTURE** be available on your edit bay. As of today the top part of the Alphanumeric Display is dedicated to displaying **Track Names** and the bottom part for **Edit Track numbers**.

The big buttons select the desired **Track** on which, for example, you wish to edit a Clip.

The small buttons action is dependent on which **Modifier** is currently enabled on the **Editor**; i.e. **Mute**, **Solo** or **Track-arm**. It will also be as mentioned above for future implemented user defined functionalities

View and Modifiers



All the buttons in the **View and Modifier** section of the Editor are functional on a basic level. Once the Edit bay functionality is complete the aim is to use a combination of the Jog-wheel, up/down-left/right arrows and the small buttons underneath the select buttons under the Alphanumeric screen to help navigate within windows such as libraries and the Media Manager. This will also mean that the focus will be given to those windows when open.

At present these Modifiers toggle Pyramix Tab Windows Open and Closed.

Note: the **editor** button is not functional yet.

12 Pyramix Mixer

Overview

The Pyramix Mixer has evolved into an extremely powerful tool kit. The extensive range of components and the routing and automation possibilities can be a potential source of confusion. However, the basic principles are simple and logical. Signals enter mixer strips at the bottom, go through various controls and processing to the top of the strip where they are routed to a bus or busses. The busses run horizontally and the sum of the bus signals enters the bus master strip at the top and moves down through a master fader and other controls to the output(s).

Native VS3, VST and External Insert plug-in effects can be inserted in input strips, aux masters and buses.

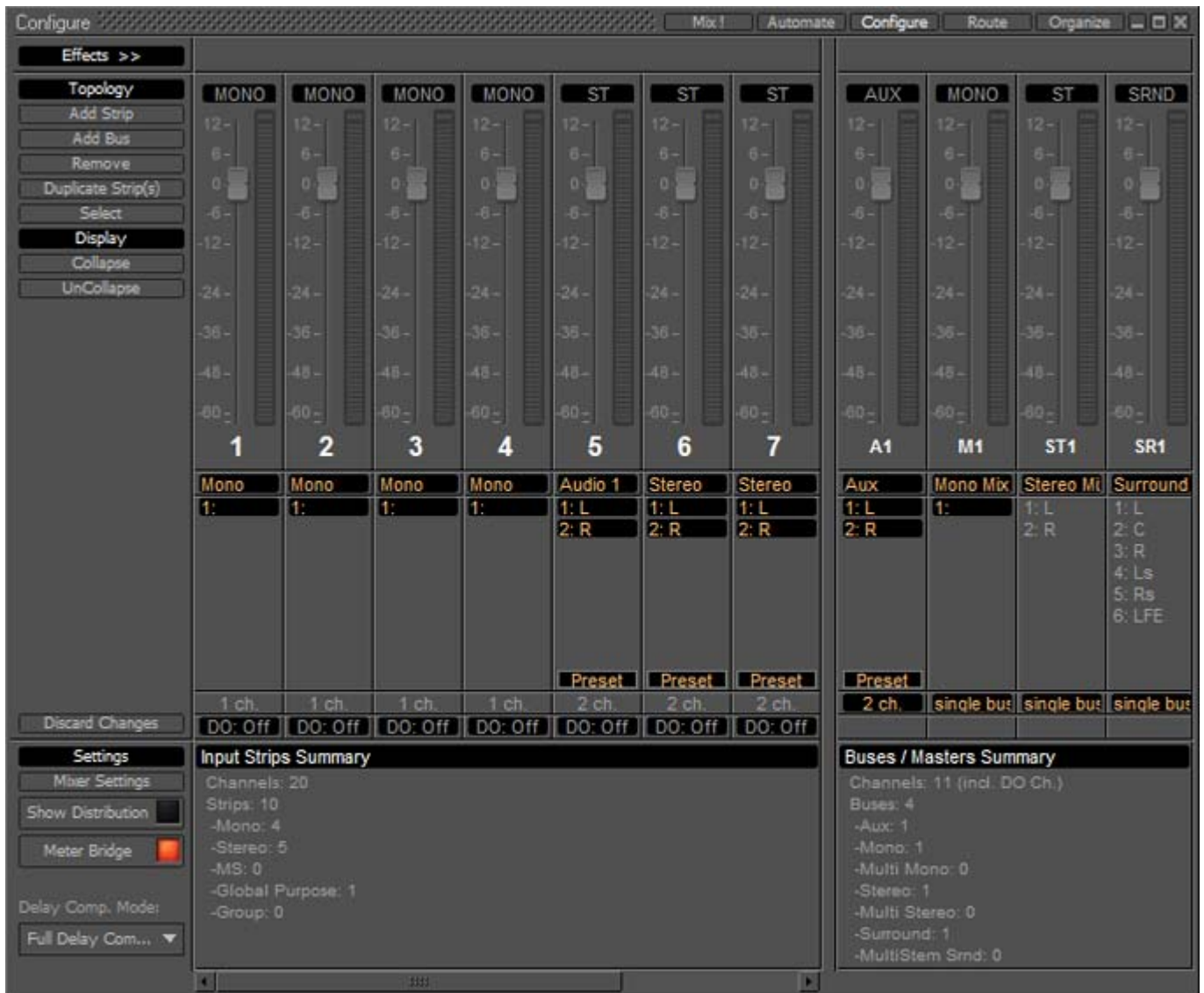
If you are new to Pyramix, use one of the simpler mixer templates to familiarize. E.g. **Mix 08 X 02 (Stereo)**

Mixer Pages

The Mixer user interface is arranged in five pages grouping functions in a logical manner. Most time will be spent working in the main **Mix !** page. The other pages, **Automate**, **Configure**, **Route** and **Organize**, toggle with the **Mix !** screen and are accessed from buttons at top right of the screen...



Configure Page



The screenshot displays the 'Configure' page of the Pyramix Mixer. It features a central grid of input strips and buses. The strips are labeled 1 through 7, with the first four being MONO and the last three being ST (Stereo). Each strip has a vertical gain knob ranging from -60 to 12 dB and a 'DO: Off' button. Below the strips, there are summary panels: 'Input Strips Summary' showing 20 channels and 10 strips (4 Mono, 5 Stereo, 0 MS, 1 Global Purpose, 0 Group), and 'Buses / Masters Summary' showing 11 channels and 4 buses (1 Aux, 1 Mono, 0 Multi Mono, 1 Stereo, 0 Multi Stereo, 1 Surround, 0 Multi Stem Smd).

Mixer Configure Page

In the **Configure** page multiple changes may be made to the mixer without it rebuilding after each change. The rebuild only occurs when you exit the page.

Settings

Mixer Settings

Opens the **Mixer Settings** window at the **All Settings > Misc > Mixer Settings** page.

Show Distribution

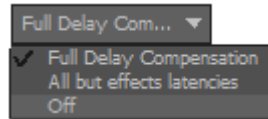
When on (lit), a narrow colored bar is inserted at the bottom of each input strip. This indicates which card (in a multi-board system) is providing the DSP for the strip.

Meter Bridge

When on (lit) the **Meter Bridge** Window is available to be opened from **View > Windows / Tools > Meter Bridge** or the Toolbar icon. **Please see: Meter Bridge on page 80**

Delay Comp Mode

Drop down list menu:



Offers the choice of **Full Delay Compensation**, **All but effects latencies** and **Off**.

Please see: Mixer Delay Compensation on page 120

Mixer Configuration Summaries

The two panels at bottom right summarize the current mixer configuration. **Input Strip Summary** lists the total number of Channels and Input Strips and the quantity of each type. **Buses / Masters Summary** lists the total number of bus channels and buses strips with the quantity of each type.

Note: Rebuilding a large mixer with many effects can take some time.

Click and drag the separator bar between Strips and Busses to show more or less busses. The scroll bars give access to strips currently off screen.

Direct Outputs

The **Direct Out** connection is disabled by default. It can be enabled in the **Configuration** Page by selecting the strip and clicking on the **DO: Off** box or disabled if the box shows **DO: On**. Alternatively Direct Out can be set in the **Route** Page by clicking on the Strip Header.

The **Direct Out** can be routed by Channel to any output of the HDTDM or XDTDM bus. The Direct Out can be sent Pre or Post Fader. Click on the **DO: Post** box in the Mixer I/O section to toggle. The Direct Out is currently always **Post Effects**. For multi-channel strips clicking in the box above the **DO:** box pops-up a **Set Direct Out** list:



Highlight the required channel. This will be fed to the logical output assigned in the **Mixer Route** page or by clicking on the **DO XLR** icon in the **Mix** page.

Selecting Strips

Strips can be selected by clicking on the label at the top of the strip which turns orange to show it is selected. Selection uses the conventional modifier logic: Clicking a second strip while holding **SHIFT** selects all strips in between and strips can be individually added or subtracted from a selection by clicking

with the **Ctrl** key held down. **Ctrl + A** selects all strips. Strips can be selected by type using the **Select** context menu.

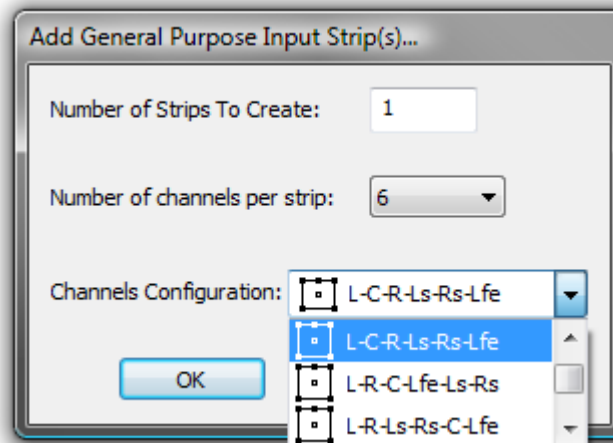
Strip and Bus operations

Once selected, strips can be dragged and dropped to reorganize. Other strip operations make use of the **Topology** and **Display** menu buttons. Each button pops up a list of options:



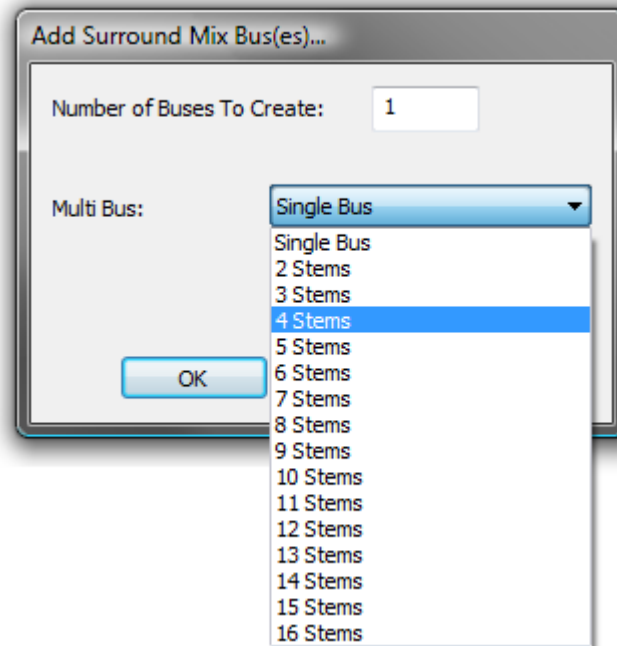
Topology and Display menus

Add Strip - Mono, Stereo, MS, GPS and Group pops up a dialog with appropriate options:



Add General Purpose Input Strip(s) dialog

Add Bus - Mono Mix Stereo Mix Surround Mix and Aux is similar:



Add Surround Mix Bus(es) dialog

Duplicate Strip(s) adds a copy of the selected strip(s) to the right of the selected strip(s) including settings (pan, gain etc.) and effects.

Select Offers selection choices to speed up configuration.

All Strips

All Buses

All Mono Strips

All Stereo Strips

All GPS Strips

All Group Strips

Productivity Shortcuts

Ctrl + A selects All Strips, **DELEte**, deletes all selected strips.

Selected Strips can be dragged to a new location in the mixer. The screen scrolls horizontally when you hit the edges of the Strip panel.

Double-clicking a Strip toggles it's collapsed/uncollapsed states.

Strip names can be edited by clicking in the name box and typing. **Tab** moves to the name box of the next strip to the right, **SHIFT + Tab** moves to the name box of the next Strip on the left.

Effect Management

Clicking on **Effects** >> expands the Effects section.

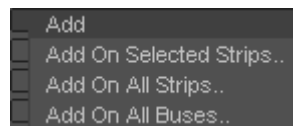


Configure Page - Effects section

This offers several methods of managing effects on strips and busses.

Configure: Effects Buttons

Add Pops up a sub-menu with options

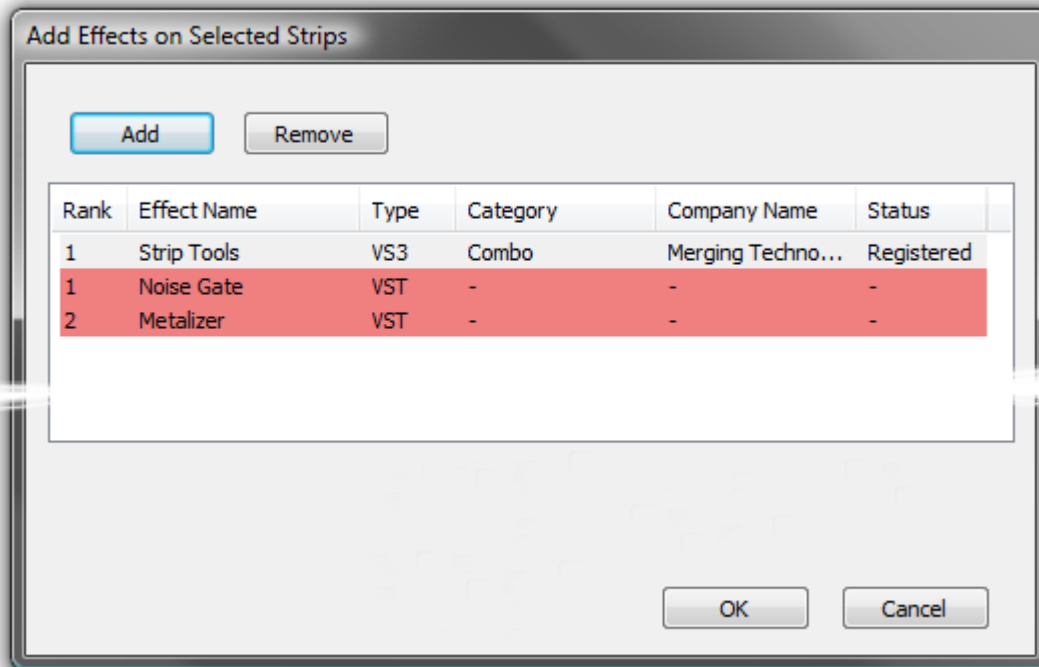


Add On Selected Strips..

Add On All Strips..

Add On All Buses..

Each of these three options opens an **Add Effect On XXX** dialog, identical apart from the title

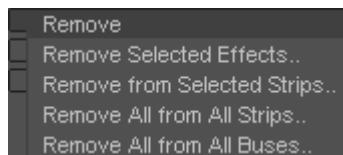


Add Effects On Selected Strips dialog

Note: That the different types of effect are shown by color. Pale Gray for VS3 and Red for VST. These colors are also used when effects are shown in containers in the Strips display.

Remove

Pops up a sub-menu with options:



Remove Selected Effects..

Remove From Selected Strips..

Remove All From All Strips..

Remove All From All Buses..

Move Up

Moves the selected effect(s) up in the list.

Move Down

Moves the selected effect(s) down in the list.

Effects Section Containers

The Effects section of each strip is divided into two container areas by plug-in type, **VS3** at the top and **VST** below. Clicking on the **Click to Add** buttons in each container pops-up a list of available plug-ins in the relevant format sub-grouped by type. E.g. Dynamics, Restoration etc. Simply select from the list by clicking on an entry to install the plug-in in the Strip. When a Strip or Bus has many effects, the container expands to accommodate them.

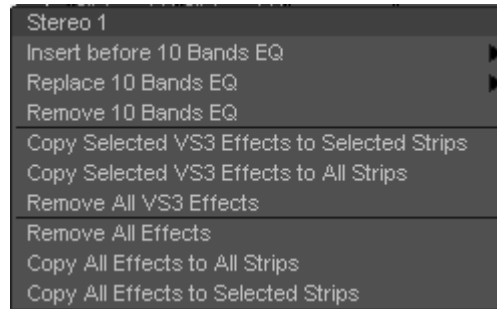
Shift Order

You can change the order of the VS3 and VST containers by clicking on the **Shift Order** buttons below the containers.

Selecting, Copying and Moving Effects

You can select an installed effect with a **left-Click** then **drag and drop** to move or **Ctrl + drag and drop** to copy effects of the same type to a Strip or Bus of the same dimensions or change the order of effects within the effect type container of the strip. **SHIFT + Clicking** a second effect with an effect already selected, selects all effects between the first and last selected. **Ctrl + Click** adds to selection.

Right-clicking on an installed plug-in pops-up a context menu, for example:



Effect context popup

- Insert before (effect clicked on)** > drops down a list of effects of the same type that can be inserted before current the effect.
- Replace (effect clicked on)** > drops down a list of effects of the same type that can replace the current effect. **Double-Clicking** an installed effect does the same thing.
- Remove (effect clicked on)** Uninstalls the current effect from the Strip or Bus
- Copy Selected (Effect type) Effects to selected strips** As it says. Target strips can be selected before or after selecting the effect(s)
- Copy Selected (Effect type) to All Strips** As it says.
- Remove All (Effect type) Effects** Removes all effect of the current type from the Strip.
- Remove All Effects** Removes all effects of all types from the current Strip.
- Copy All Effects to All Strips** Copies all the effects installed in the current Strip to all other Strips.
- Copy All Effects to Selected Strips** Copies all the effects installed in the current Strip to all selected Strips.

External Effects Inserts

External Inserts are added in the same way as VS3 Effects. Click on **Click to Add** and choose **Other > External Insert**

Organize Page

Here Mixer Presets and Settings can be managed:



Mixer Organize Page

Presets

Storing and Recalling Mixer Presets

Mixer Presets can be saved in a user folder or added to the main Mixer Preset list either for the current user or all users.

Default Mixer

To Save the current Mixer setup as the default Mixer, select **Store Default**.

Storing New Mixer Presets

To add a preset to the main list of available Mixer presets I.e. the list which appears when starting a new project, **Store New...** and enter a name for your Mixer Preset. If the **Global** box is checked then the preset will be available for any user logged on the current machine, if not the preset will be available only for the user that created the new preset.

Removing Mixer Presets

To remove a preset from the main list, select it and click on **Remove Selected**. The **Remove Preset** dialog box appears with OK and Cancel options.

Updating Mixer Presets

To update a Preset with the current settings, highlight it in the list and select **Update Selected...** the **Update Preset** dialog appears asking if you wish to replace the 'current preset'. Choose **OK** or **Cancel**.

Recall Selected State

This option recalls parameters, panning, levels etc. from a saved mixer preset and applies these to the current mixer.

Note: This only applies to strips and effects common to both configurations. If the current mixer does not have the same plug-ins etc. non-coincident items will be ignored. similarly if you recall the state of a 100 strip mixer to a 10 strip mixer the last 90 strips are ignored.

Saving / Loading Mixer Presets to / from files

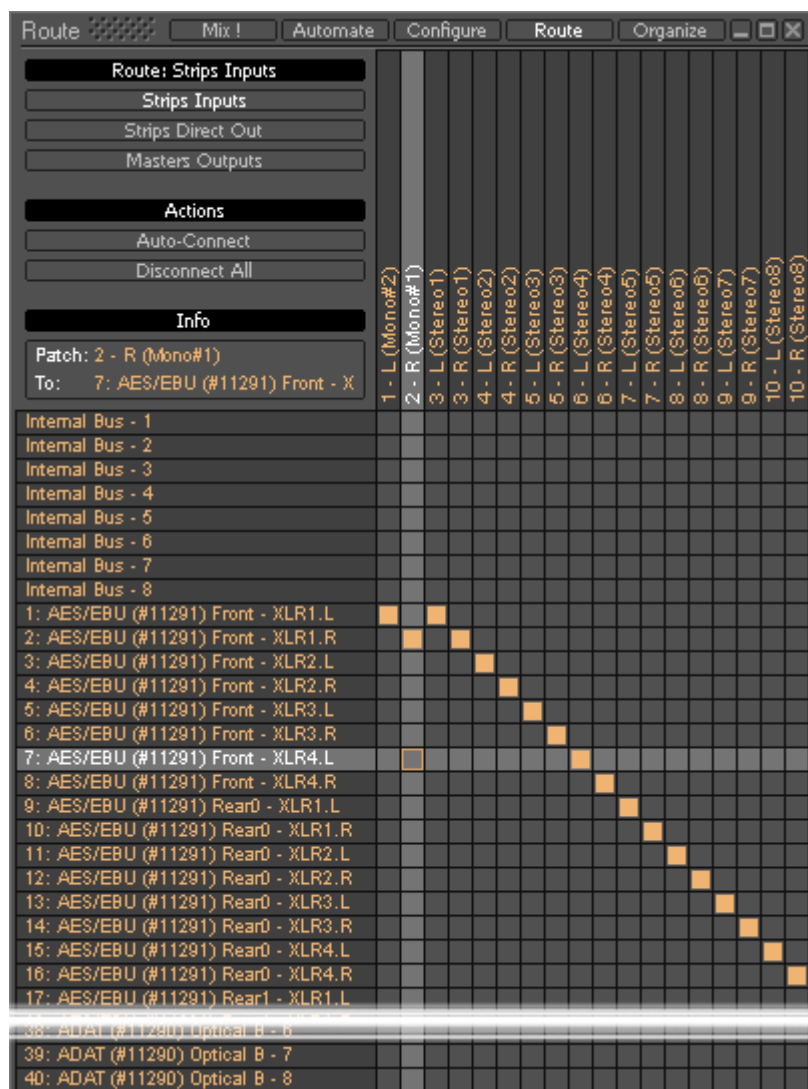
Mixer Presets can also be stored in Windows folders. Select **Load from file...** or **Save to file...** as appropriate. A Windows Explorer window opens enabling a previously saved Mixer Preset to be loaded or the current Mixer Preset to be named and saved to any Windows folder.

Wizard...

Opens the **Configuration Wizard** Window

Route Page

Route brings together all routing to and from physical I/O in an intuitive matrix routing grid environment. It opens in the **Strips Input** page:



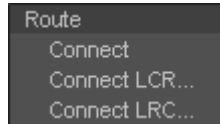
Mixer Configure Page

Strips Direct Out and **Masters Outputs** are similar.

Making Connections

When the cursor is hovering over a destination crosspoint the column and row are highlighted for ease of viewing. If the cursor is over a crosspoint which is part of a multichannel strip or bus the other channels in the group are also dimly highlighted. In **Strips Inputs** clicking on a crosspoint routes the source in the left hand column to the destination in the top row. In **Strips Direct Out** and **Masters Outputs** sources are horizontal and destinations vertical. Clicking and dragging allow multiple assignments to be made rapidly.

Right-clicking a crosspoint pops-up a context menu with options appropriate to the destination.:



Auto-Connect

Connects all the **Strip Input Channels** to physical inputs in ascending order.

Disconnect All

Removes all crosspoint assignments.

Info

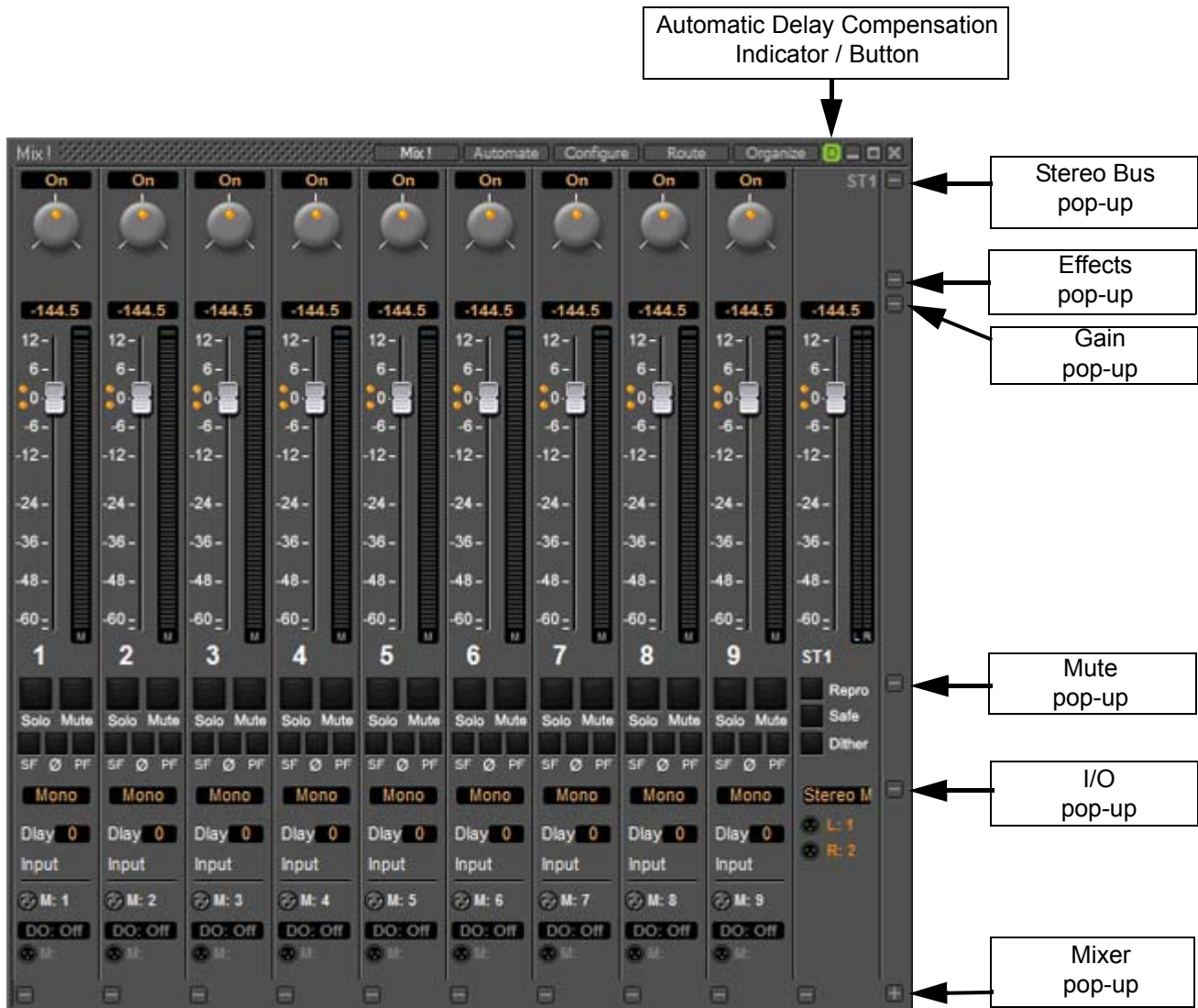
The **Info** box shows detail about the currently highlighted crosspoint.

Automate Page

UNDER CONSTRUCTION

Mix !

Basic Mixer



Simple 8 X 2 stereo mixer Window with all areas visible

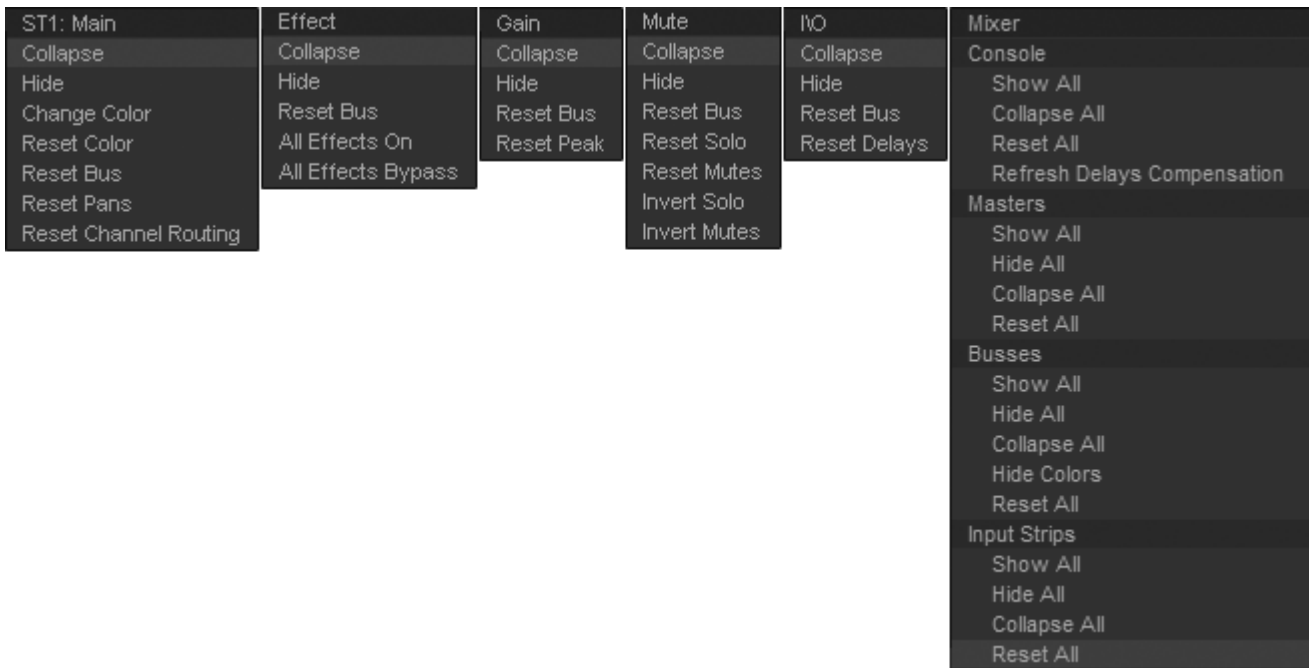
Expand / Collapse

The small, grey + - boxes on the right of the mixer surface toggle horizontal areas of the mixers surface shown full size or collapsed. They also pop-up context menus when the cursor is above them. (see below) Expand / Collapse and Hide can reduce clutter by concealing unused controls. This is the same mixer with all areas Collapsed:



Simple 8 X 2 stereo mixer Window with all areas hidden

Each + - box also pops-up a menu relevant to the area of the mixer it deals with when the cursor is above it. E.g. :



Simple 8 X 2 stereo mixer + - pop-up menus

Collapse/Hide

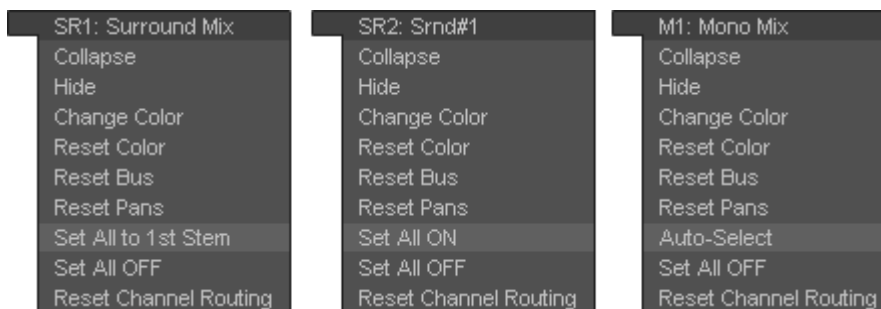
Choosing **Collapse** leaves a small artefact of the mixer area visible, a gray horizontal bar with a + box at the right-hand side. **Hide** completely removes the area from view. Choosing **Show All** in the **Mixer** + - pop-up will restore.

Resets

These context menus also provide a convenient way to restore all controls of specific types or, in the relevant sections, the entire strip or mixer to the default condition.

Bus + - context menus

The precise content of this pop-up depends on the type of bus and whether there are multiple stems:



Set All to 1st Stem

As it says. All sources will be routed to the first stem of a multiple bus.

Set All ON/Off

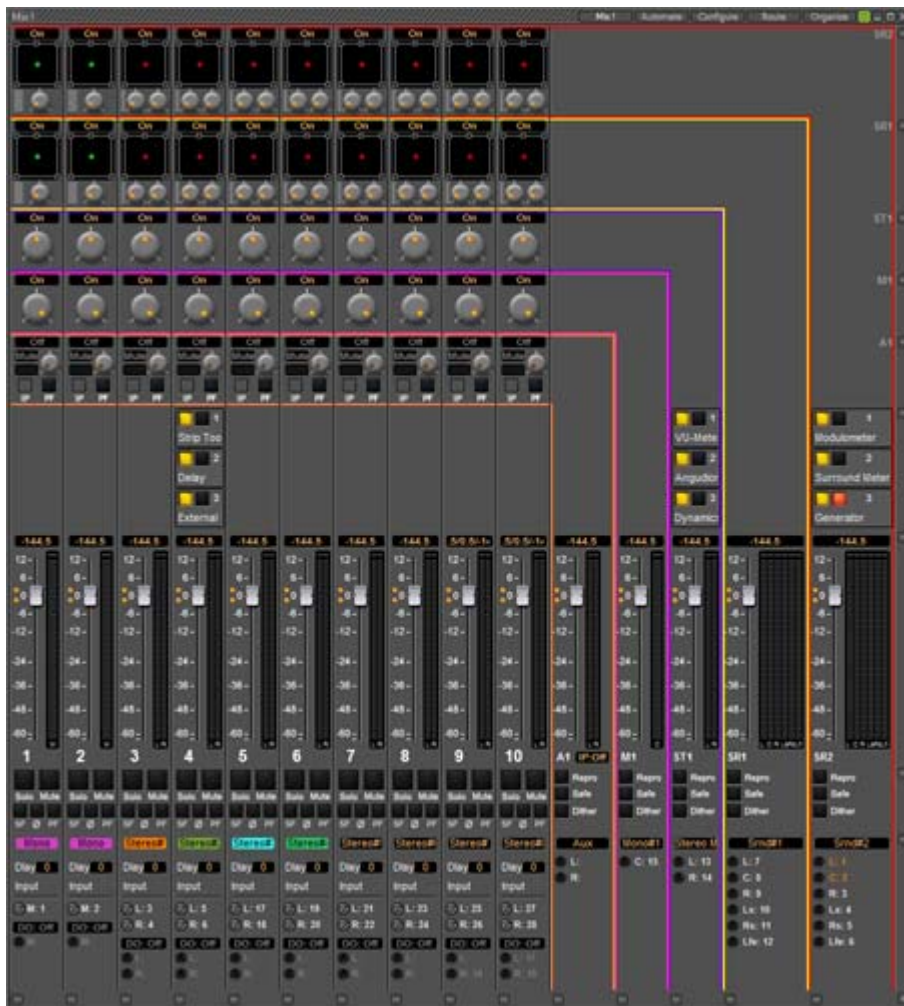
Activates/deactivates the routing to a Bus or Bus Stem for every Input Strip.

Auto-Select

Is exactly the same function as the one provided in the right-click menu over a Multi Mono bus from the 1st strip; ie it auto-sets the routing of every strip's channels to a Multi Channel Bus, so that (as far as possible) each Input Strip channel is routed to a Bus channel matching the same grid index (diagonal routing).

Colors

Bus paths can be colored to aid comprehension.



Mixer with colored bus paths

Hide or **Show Colors** hides or restores the colored lines. **Change color** allows the color of an individual bus to be altered. **Reset color** restores the color to its previous state.

Mixer Components

Input Strips

Mixer Input Strips associated with tracks (the pale green box in the track header) are fed by and control the monitor output of the tracks. The Mixer Strip Channel **Live** (physical) or **Internal Return Bus** Input goes direct to the associated Track. When a strip has no associated track it is fed by and controls the **Live** (physical) or **Internal Return Bus** input assigned to it.

When the strip has an associated track, the track output is automatically switched between input and playback output depending on transport mode, the monitoring setting in the track header and the setting of the **Settings > All Settings > Application > Playback/Record : Auto-monitoring** option, **European Monitoring (all tracks turn to INPUT on stop)** or **US Monitoring (only Record Ready tracks turn to INPUT on stop)**

Note: When strip channels have an associated track **NONE** of the strip controls, fader, mute, eq etc. affect the signal fed to the track input.

Mixer Input Strips have the same functions as the input strips of any standard mixing console providing level control, pan, mute, etc.

The following types of input strips are available:

- Mono input Strips
- Stereo input Strips
- MS decoder Strips - decode a Sum and Difference signal to standard stereo format
- GPS (General Purpose Strip)

Mixing/Monitoring/Aux Busses

These are the summing busses where mixer strip signals are routed to. Each bus type (Mix or Aux) has a **Repro** button in the Master section to allow this bus to output signal only when the system is playing back. No signal will be output in **Stop** or **Record** modes, for example to avoid audio feedback (howl round) in the Studio main speakers when Tracks auto switch to input when **Recording** or **Stopped**.

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**. Apart from their other uses, these enable the final mix to be recorded in Pyramix. Main **Mixing** and **Aux Busses** also appear in the **Monitor**.

Mix Busses 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 stem of a multiple surround bus. This reflects their normal use. E.g. a common set-up will have three surround bus stems for Dialogue, Effects and Music. Each Input strip is routed to the appropriate surround bus by clicking on the **Stem 'X'** button.

All surround bus stems can be summed for monitoring in the **Monitor**.

Multiple Mix Busses

Mono / Stereo

When a mono or stereo multiple mix bus is added to the mixer a routing matrix box appears in the input strips with a send level control (mono) or pan control (stereo).



Mix bus matrix

The 8 by 8 matrix gives access to up to 64 output busses. Routing is shown by lit crosspoints.

Double-clicking the matrix in the strip opens the routing matrix window.

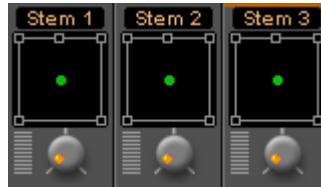


Mix bus routing matrix

Valid choices are shown in gray. Once the window is open, other input channels can be route by either selecting them from the drop-down list or using the < and > arrows to step across the mixer surface.

Surround

Up to 16 surround busses each with from six to nine channels may be added as a single **Multiple Surround Mix** output strip. The principle use of these is for stem mixing where, for example, dialog, background effects, spot effects, foley and music are recorded as separate recordings but monitored as a complete mix. Each surround bus is identified by number. In this illustration, a **Multiple Surround Mix** strip has been added to the mixer with three surround busses.



Clicking on the label above the Surround Panner pops up a list of the available stems. Simultaneously selecting more than one on a strip is not possible.

The associated **Surround Mix** output strip routing is shown below:



Multiple Surround Mix Output Routing

The top (SR1) box shows what the meters are displaying. Clicking on it cycles through each Stem and **Lvl: All** which meters the sum of all the **Stems**. The bottom box shows and selects which Stem the XLR icons refer to. Routing to physical outputs or Internal Return Busses is accomplished in the same way as other busses. I.e. right-click the relevant XLR icon and select **Connect >** etc. from the menu.

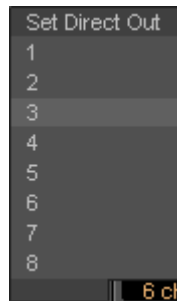
Groups

Master Group Strips - allow the grouping of faders of several mixer strips. Analogous to VCA grouping. When a group or groups are added (from the mixer contextual menu **Settings > Add Strip > Group**) A group button for each group created will appear below the strip name box on each input strip. When selected, the associated Group strip will control the grouped input strips if the **On** button is lit on the Group strip.

Channel Direct Outputs

All input strips can have **Direct Outputs**. The **Direct Out** connection is disabled by default. It can be enabled in the **Configuration** Page by selecting the strip and clicking on the **DO: Off** box or disabled if the box shows **DO: On**. Alternatively Direct Out can be set in the **Route** Page by clicking on the Strip Header.

The **Direct Out** can be routed by Channel to any output of the HDTDM or XDTDM bus. The Direct Out can be sent Pre or Post Fader. Click on the **DO: Post** box in the Mixer I/O section to toggle. The Direct Out is currently always **Post Effects**. For multi-channel strips clicking in the box above the **DO:** box pops-up a **Set Direct Out** list:



Set Direct Out

Highlight the required channel. This will be fed to the logical output assigned in the **Mixer Route** page or by clicking on the **DO XLR** icon in the **Mix** page.

Although there can be any number of Input Strips and Busses from 1 to 64 in **HDTDM** or 1 to 128 in **XDTDM**, there is a limitation on the number of Direct Out connections: The sum of the **Direct Out** connections **PLUS** all Busses channels can not exceed **64** in **HDTDM** or **128** in **XDTDM**.

Strip & Bus Channel Types

All Strips and Busses Channels have a custom type that can be manually set in the **Configuration Page** to:

- Left (L)
- Center (C)
- Right (R)
- Surround Left (Ls)
- Surround Right (Rs)
- LFE (Lfe)
- Left Center (Lc)
- Right Center (Rc)
- Surround Center (Cs)
- No particular type

Mono Strips are tagged by default to no particular type

Stereo Strips are tagged by default to **L-R**

MS strips are tagged by default to **C-W**

GPS Strip (General Purpose Strip):

GPS Strips can have from 1 to 8 channels

They can be used as Aux returns or for any kind of direct Input usage e.g. premixes or multi-channel recordings.(LCR, LCRS, etc...) By default a 2 channel GPS Strip is initialized to L-R and a 6 channel GPS Strip is initialized to LCRLsRsLfe 5.1. This can be changed/customized in the Configuration Page.

GPS Strips feeding any busses (Aux or Mix) are routed by default by Channel Type (like any other strip) but this routing can be manually changed by clicking on the Channel Routing grid (like any other strip).

Aux Busses:

General Purpose **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.


Aux Busses can have from 1 to 8 channels. Channels have a custom type that can be manually set in the Configuration Page to:

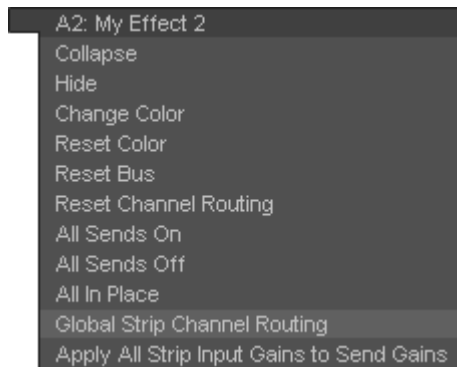
- Left (L)
- Center (C)
- Right (R)
- Surround Left (Ls)
- Surround Right (Rs)
- LFE (Lfe)
- Left Center (Lc)
- Right Center (Rc)
- Surround Center (Cs)

By Default a 2 channel **Aux Bus** is initialized to **L-R** and a 6 channel **Aux Bus** is initialized to 5.1. This can be changed/customized in the Configuration Page.

Note: When an Aux bus is added it is important to ensure that the Type for each channel of the Aux bus is set correctly.

Context Menu

As with other buses, Clicking on an Aux bus's small gray  box on the right-hand edge of the mixer window Expands / Collapses the send display. When the cursor is above the box the Aux Bus pop-up context menu opens:

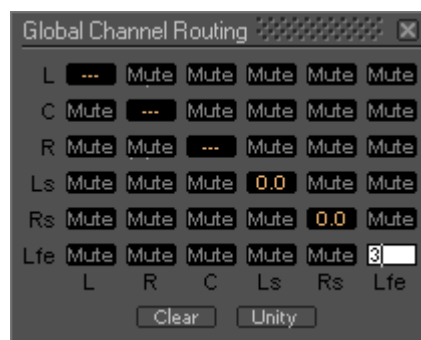


Aux bus pop-up context menu

Most of the entries are the same as other buses, but the last two entries are specific to Aux buses.

Global Strip Channel Routing

Opens the **Global Channel Routing** window for the Aux bus



Global Channel Routing window

This routing grid groups together the Channel Types of all the input Strips present in the current mixer, shown horizontally (L, R, C, ...). The vertical channels are the Channel Types of this Aux bus. When a node's value is edited, the static aux send gain of all strips having this channel type is updated with the new value for this aux bus. When some strips are already set to different values for a specific node "---" is displayed.

Clear Sets the entire grid to Mute

Unity Sets the entire grid to Mute

Note: Invoking either **Clear** or **Unity** will affect all Strips Aux Sends to this Aux Bus.

Apply All Strip Input Gains to Send Gain

The current input gain value of every strip in the mixer will be applied to all the Aux sends feeding this Aux bus.

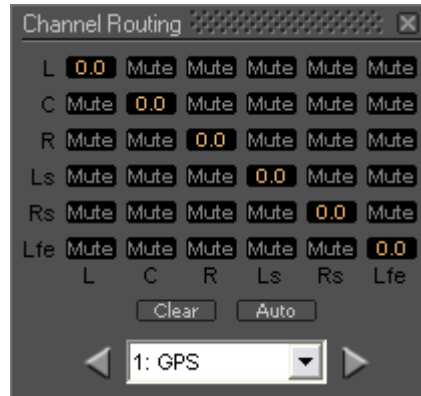
Aux Send Routing

When a Strip feeding an Aux Bus is of the same type as the Aux bus E.g. Stereo strip feeding stereo Aux bus 5.1, Strip feeding a 5.1 Bus the sending Strip's Channels are automatically routed to the corresponding Aux bus Channel Type. (Left to Left, Right to Right, etc...).

Where the sending Strip differs in Type to the Aux Bus E.g. a Stereo Strip feeding a 5.1 Aux Bus, the routing must be made manually. The same method is used if you wish to alter auto-routed values.

Static Channel Routing

Aux Send Channel Routing is set by clicking on the little grid icon adjacent to the knob on the Aux Bus send in the channel strip. This opens a **Channel Routing** window:



Channel Routing window

Shown here with a 5.1 channel feeding a 5.1 Aux Bus. Gain values can be entered for each node of the Strip/Bus crossing. Just click on any node and enter a dB value. Enter nothing (no character) or -144.5 to reset the node to Mute.

Clear

Clears all nodes to **Mute**

Auto

Sets a **1 : 1** flat routing as shown above

Aux Buses In-Place Panning

In-Place panning for each Aux bus is turned on with the **IP** button in Aux Send section(s) of each Input Strip. **In-Place** Aux Sends take the output(s) of the appropriate panner at the same level(s) the panner is feeding its output bus.

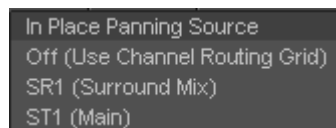
Note: Only corresponding Bus **Types** are fed in this way. Thus if you feed a Mono Aux Bus typed **Center** from a 5.1 panner and there is no signal on the centre channel no signal will be fed to the Aux Bus even if the signal on the left and right outputs is identical creating a 'phantom center'.



In-Place Panning Indicator/Selector

In-Place Panning Source

When an **IP** button is lit (yellow) on an Input Strip, the way in which the aux send channels are routed to an Aux bus is determined in the Aux return strip. For example, in a mixer configuration with an Aux bus, a Surround bus and a Stereo bus. Clicking on the highlighted box below the Aux master fader pops up a list of options:



In-Place Panning Source pop-up

These determine whether the Aux send will follow one of the output bus panners or the Static Channel Assignment set in the Input Strip. E.g. for Aux bus 1:

Off (Use Channel Routing Grid) Aux pan follows Static Channel Routing assignment

SR1 (Surround Mix) Aux pan follows Surround Mix bus panners

ST1 (Stereo Mix) Aux pan follows Stereo Mix bus panners

To make all the Aux 1 sends follow the Mixer Strip Surround Panners, click on the box below the fader and select **SR1 (Surround Mix)**

Note: When **IP:Off** is displayed in the Aux master strip I.e. no In-Place source is selected, then the **IP** buttons in the input strips will be grayed out. Similarly, when an In-Place source **IS** selected and the yellow **IP** button in the input strip is lit then the static routing grid is grayed out and unavailable as in this illustration.

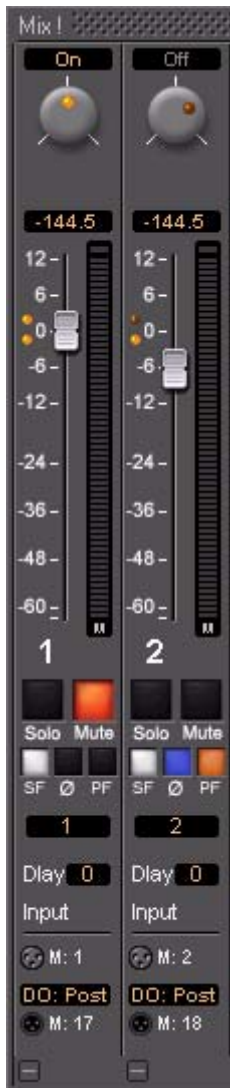


Strip Aux sends and Channel Routing dialog

The three strips shown are **10**, **11**, and **12**. Since the **IP** button is selected (Yellow) on strips **10** and **11** the static routing grid is grayed out and thus unavailable. On strip **12** the **IP** button is deselected (dark) and the Static **Channel Routing** grid can be opened by clicking on the grid button next to the knob.

Note: The **IP** button defaults to **On** when the aux send is first turned on. If the send is subsequently turned Off (muted) then the current setting of the **IP** button is remembered when it is unmuted.

Basic Strip



Basic Strip

A basic mono channel strip contains:

On /Off toggle switch

Pan pot to Main output bus. In this case there is just a single stereo mix bus.

Numeric display of fader output level value, if cursor is over a fader knob shows fader gain. If cursor is over pan-pot, shows current pan position. May be clicked to directly enter a fader gain 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. Bargraph shows peak level

Buttons

Buttons on the main mixer surface are black when inactive. When active they 'light up'.

Solo solos the strip, **Mute** mutes the strip **Ctrl + Solo** cancels all other Solos

SAFE prevents the strip being muted by solo operations elsewhere. **Ø** reverses the channel phase. **PF** changes the metering position to Pre-Fader.

Delay A delay value (in samples) can be set in this box.

Input Clicking on **Input** pops-up a box with the choice of the strip taking its input from a physical connection or any output bus.

Logical Input and Direct Output Assignment

Right-click on the XLR icons to pop-up a drop down list of valid assignments.

Note: Direct Outputs must first be enabled in the **Configure** page. **Please see: Channel Direct Outputs on page 110**

Stereo Strips

In a Stereo Strip feeding a stereo bus the pan pot is replaced by a balance control and the single bargraph meter is replaced by a pair.

Stereo Strips can reverse the **Phase** of both the Left and Right channels. The single button has four possible states:

Black:	No phase inversion
White:	Left channel inverted
Red:	Right channel inverted
Blue:	Both channels inverted

M&S Stereo Strips



What is M&S?

M&S stands for **M**iddle and **S**ide. **M&S** is a microphone technique which outputs **Sum** and **Difference** signals instead of **Left** and **Right** (also known as **LR**, **AB** or **XY**). These Sum and Difference signals are often known as **M&S** although this nomenclature is often a source of confusion...

Sum and Difference signals can be created from a conventional Left, Right source. For example, by using the Pyramix **MS Encoder** plug-in.

Decoding M&S

A **Sum and Difference** or **M&S** decoder reconstitutes Left and Right by adding the **Difference (S)** signal to the **Sum (M)** signal to produce Left and adding the **phase-reversed Difference (S)** signal to the **Sum (M)** signal to produce Right. This is often represented as:

$$L = M + S \text{ and } R = M - S$$

Benefit of M&S

In mixing as opposed to recording, the main practical benefit of manipulating a signal in the Sum and Difference domain is true control over the **width** of the image. Pyramix can handle these signals directly thanks to the provision of **M&S Stereo** strips.

M&S Strip controls

An **M&S** strip stereo bus send has three controls. The center knob determines the **Sum (M)** contribution to the Left and Right outputs. The **L** knob determines the in-phase **Difference (S)** contribution to the Left output and the **R** knob determines the out-of-phase **Difference (S)** contribution to the Right output. The **L&R** knobs are ganged by default. To move them independently click and drag with the **Ctrl** key held down.

The **Phase** of both the Sum and Difference channels can be reversed. The single **Ø** button has four possible states:

Black:	No phase inversion
White:	Sum (M) channel inverted
Red:	Difference (S) channel inverted
Blue:	Both channels inverted

Inverting either Sum or Difference results in the image being reversed left to right.

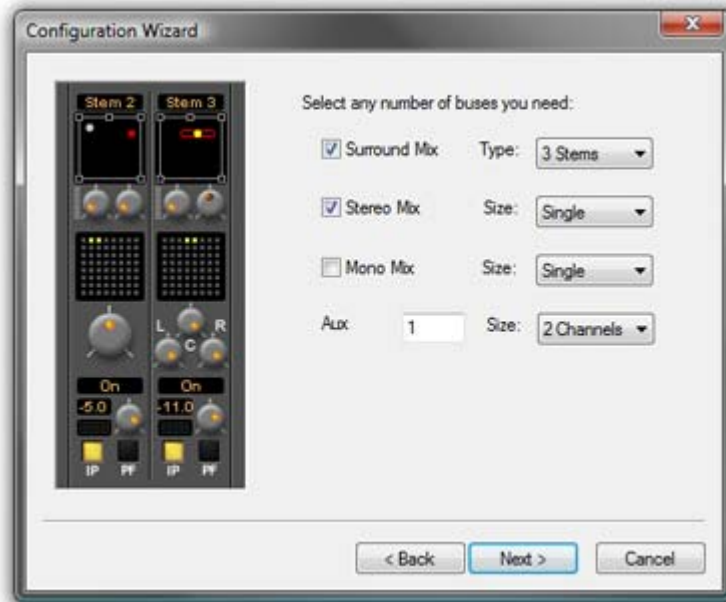
Note: If the **Input meters** consistently show **S** higher than **M** then either the image is very wide and unlikely to be compatible for a mono listener or the **M** and **S** inputs have become reversed at some point. Regrettably, this is extremely common when dealing with location recordings in film and TV.

Creating and Configuring Mixers

If one of the numerous mixer presets does not quite suit your application it is simple to modify an existing mixer, create one using the Mixer Wizard or design one from scratch. The Wizard can be started from an existing mixer by right-clicking anywhere on the mixer surface and selecting **Settings > Wizard...**

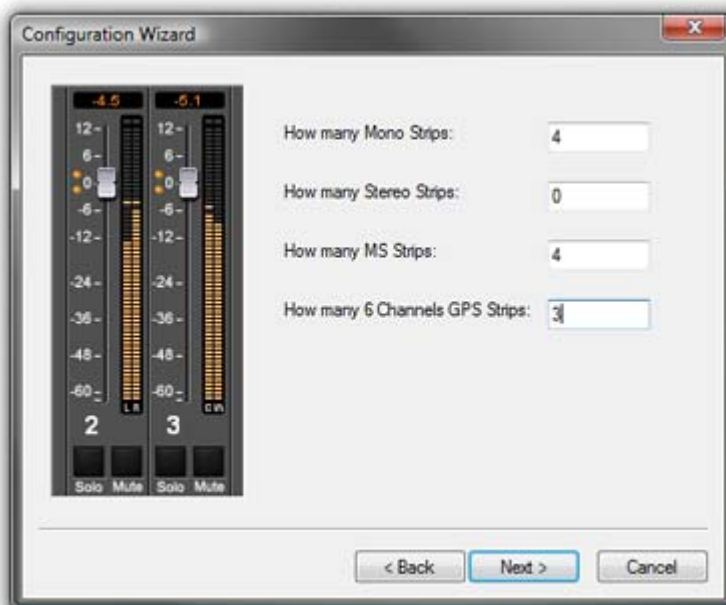


Mixer Configuration Wizard



Configuration Wizard buses dialog

Select the type(s) of buses required using the check boxes and the number needed from the drop down lists on the right. Note that a single **Mono or Stereo Mix Bus** can consist of from **1 - 64** buses, and a **Surround Mix Bus** can consist of from **1 - 16** multi-channel stems. **Aux Buses** can have from **1 - 8** channels. Click the **Next** button to move on to the next page.



Configuration Wizard strips dialog

Select the type(s) of channel strips required using the check boxes and the number needed from the drop down lists on the right. Click the **Next** button to move on to the next page.



Configuration Wizard auto connect dialog

Checking the **Connect automatically as many inputs and outputs as possible** check-box will create the same number and types of **Tracks** as there are **Input Strips** and connect as many as possible to the available physical inputs in ascending order and output 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)

I/O Busses Explained

The total number of available output busses, regardless of the number of Mykerinos cards, is 64 in HDTDM Mode and 128 in XDTDM Mode. The maximum number of logical inputs and outputs to Pyramix is also 64 and 128 respectively. However, it is perfectly possible, and permissible, to have more than 128 physical inputs and outputs connected to a Pyramix system. Routing to assign physical inputs and outputs to Pyramix logical inputs and outputs is made in the **Settings > Hardware > HDTDM Routing** or **XDTDM** pages. For example: a system containing three Mykerinos boards, with MAD1 daughterboards has a total of 192. In HDTDM mode any 128 of these may be routed to Pyramix logical inputs and any 128 Pyramix logical outputs (less the number of assigned **Internal Return Busses**; see below), can be routed to physical outputs.

Input Strip Types

To make it easier to work with a variety of source **Formats** Pyramix offers a number of different types of Input Strip. These can control from one to 8 channels from a single set of controls.

Internal Return Busses

Some of the time slots on the HDTDM/XDTDM 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 all open Projects (if any) and go to:

Settings > All Settings > HDTDM Routing or **HSR-HTDM** if using **HTDM** mode.



XDTDM Routing > PCM I/O routing or PCM-HSR I/O Routing if using XDTDM mode.

DXD Projects I/O Routing if you wish to use Internal Return Busses in a DXD Project.

The number of Internal Return Busses can be set using the **Internal Busses** combo box. Click on the **OK** button to memorize the setting and exit.

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

Mixer Delay Compensation

Summary

Mixer Delay Compensation offers a choice between:

Full Delay Compensation (including effects)

All but effects latencies

Off

This choice is made in the **All Settings > Project > Mixer > Mixer Settings** page along with a switch to turn Automatic Compensation on or off and a slider to set the **Maximum Mixer Delay Compensation**.

Delay Compensation Switching

As detailed above, Compensation can be selected in the **All Settings** menu. It can also be toggled On/Off in the Mixer context menu. Right click and select **Settings** then click on **Enable Delay Compensation** to toggle On or Off.

Note: The **Full Delay Compensation / All but effects latencies** setting is retained when Compensation is switched on and off from the mixer window.

With Mixer Delay Compensation turned **On** and **All but effects latencies** selected:

1. Input strip set as a (normal) Input: no compensation. If a Delay is applied manually the output signal of this strip will be delayed by the applied value.
2. Input strip used as an Aux or Bus return, i.e. patched to an Internal Bus and set as an Aux or bus return (see **Input Strip Mode on page 122**): all other Output Strips are automatically delayed by the amount equal to the Bus internal processing delay.
3. Input strip used as an External Aux or Bus return, i.e. where the Aux or bus signal is sent outside the workstation and returned to a physical Input: All other Strips are automatically delayed by the amount equal to the Bus internal processing delay providing the Input is set as an Aux or Bus (see **Input Strip Mode on page 122**). If a Delay is applied manually, for example to compensate for the delay in an external processor, the signal of all other output strips will be further delayed, according to the value entered.

When **Full Delay Compensation** is selected, Plug-in effects that correctly report their latency will also have their delay compensated. Further, this delay will be maintained when the plug-in is in **bypass** mode.

Please see also: See “Delay Compensation Policy” on page 154.



Delay Compensation

Delay Compensation Indicator

A small button labeled **D** adjacent to the **Organize** button indicates the current state of delay compensation in the mixer:



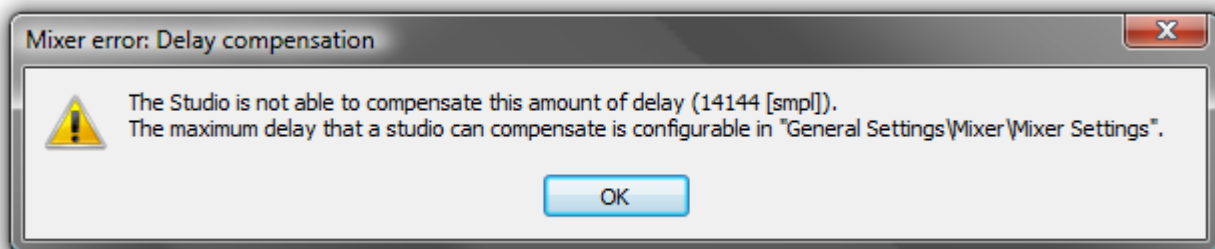
A stable **green** indicates that delays are compensated.

Stable **red** indicates that delays are **not** compensated.

Blinking **red** indicates that you need to adjust the maximum length of delay that can be compensated in order to achieve proper compensation.

Maximum Delay Compensation

Pyramix sets a default value for the maximum number of samples of delay that can be compensated automatically. As effects are added the required total delay value is calculated. If an Effect is instantiated that will exceed this limit the **Mixer error: Delay compensation** dialog appears:



To deal with the problem either remove an effect or effects or go to **Settings > All Settings > Project > Mixer > Mixer Settings** and increase the **Max Mixer delay Compensation - Delay** setting to a value slightly in excess of that proposed in the dialog.



Note: Increasing the Delay value too much steals valuable memory from MassCore.

Outboard Latency

Typical latency in ms of outboard gear ranges from 2 to 5 ms. The following chart may help you to compute the proper delay compensation values for outboard equipment:



Delay Chart

Ms	samples@ 44.1kHz	samples@ 48kHz	samples@ 88.2kHz	samples@ 96kHz	samples@ 176.4kHz	samples@ 192kHz	samples@ 352.8kHz
1	44	48	88	96	176	192	352
3	132	144	265	288	529	576	1058
5	221	240	441	480	882	960	1764
7	309	336	617	672	1235	1344	2470
9	397	432	794	864	1588	1728	3175
10	441	480	880	960	1764	1920	3528
12	529	576	1058	1152	2117	2304	4234
Max Delay (Auto PLUS Manual)	1216	1216	2432	2432	4864	4864	9728

Time Alignment of Recorded Clips

All recordings from Input Strips designated as **Input** are automatically time-aligned. E.g. recordings from live inputs.

Recording Bus Returns

When recording the output of an input strip taking an Aux or Bus return, for example to “freeze” a reverb track, the recorded media will be placed too early in the Timeline. In this situation it may therefore be desirable to designate this Aux or Bus return as a normal **Input** in order to ensure correct time-alignment of the recorded clip.

Note: For Power Users the **SABR** debug windows show the delay values applied to each bus / aux node and may prove useful.

Delay Compensation Detail

All digital processing takes a finite amount of time. When **Internal Return Busses** are used to route **Aux** or **Master** output busses back into channel inputs (by selecting an **Internal Return Bus** input from the routing pop-up for the **Aux** or **Bus** output, and selecting an **Internal Return Bus** output as the return channel input) all other busses not so routed must be delayed if the Mixer is to be ‘time-aligned’ I.e. If a signal is fed to two inputs, the first feeding the Main Output direct and the second routed back to an input via (say) an **Aux** bus with the return input strip routed to the Main Output, then the second will be delayed with respect to the first. Selecting **Settings > Enable Delay Compensation** from the mixer context pop-up menu will automatically ensure both signals remain in sync by delaying the signals directly routed to the Main Output by an amount equivalent to the delay introduced by the extra processing in the second path.

Input Strip Mode

In order for Pyramix to correctly calculate the required delay you have to tell it which bus is the source for the Internal Return Bus. Clicking on **Input** at the bottom of the strip, above the XLR icon, pops-up a list of



all the output busses and **Input**. **Input** is the default and means the strip is fed from a physical live input and no delay compensation is required. If any Internal or External Return Bus is ticked and **Automatic Delay Compensation** is turned on, Pyramix calculates the required delay and applies it to all Output buses not feeding a return bus.

Delay vs. Delay Compensation

When the Input Strip Mode is set to **Input** the delay setting affects the only the delay on the strip's signal. When **{any Bus name} Return** is selected as the Input Strip Mode the delay setting affects the delay on all other output bus signals to ensure correct time-alignment.

Delay Compensation of External Inputs

Where an Output Bus or Aux Bus is used to feed an external processor via a physical output and the external processor output is fed back into Pyramix via an external live input, then the necessary delay compensation must be computed and applied by the operator since Pyramix has no means of determining the delay of the external device. However, the Input Strip Mode (Click on **Input** to pop-up the menu) should be set to the bus feeding the external processor (as above) so that the input channel delay setting affects delay compensation rather than simply delaying the signal through the input strip.



Input Type pop-up

In the illustration, **Aux Bus Ext Rev** feeds an external device via physical outputs **17 & 18**. The outputs of the external device are connected to physical inputs **7 & 8**. The channels' **Mode** has been set to **Ext. FX Return** and delay compensation of **256** samples applied.

In contrast **Int FX** output bus feeds **Internal Return Busses 1 & 2 (IB1 & IB2)**. Two channels are fed by the **IB1 & IB2** outputs with their mode set to **Int FX Return**.

External Insert Plug-ins

Internal VS3 Engine latency is automatically compensated except for the daughter card I/O latency (for example a Send/Return on AES/EBU takes 6 samples). Thus you have to manually set the delay of the external unit plus the I/O latency. It is not possible to change the delay or change the bypass status during playback or recording.

Determining Delay Compensation for External Effects Loops

One strategy for achieving this is to route a signal directly to an output bus and, via an Aux, to a physical output, to the external processor's input. The processor's output is connected to a physical Pyramix input and routed to an input strip. The strip mode must be set to the bus used as the source. Then use impulse sounds, clicks, rimshots etc. to aid manual adjustment of the delay compensation.

Determining Delay Compensation for External Insert Plug-ins

A similar strategy can be employed here. Route the signal you wish to treat via an External Insert Plug-in to two input strips. Add the External Insert in one strip only complete with the external processor in circuit. Delay the untreated strip until the audio is in sync with the treated audio and note the delay value. Then apply this value in the **Ext. Unit Delay** field in the **External Insert** window.

Effects Delay Indication

When the mouse cursor is hovered over a plug-in in a strip the required delay value is displayed:



Plug-in Name and Delay pop-up

Here you can see that **Angudion II** currently requires a 448 sample delay to be applied to the other output buses. This will be applied automatically when **Full Delay Compensation** is switched on.

Configuring a Blank or Existing Mixer

Configuration of the mixer control surface is accomplished via the **Configure Page, Route Page (Please see: Configure Page on page 94 and See "Route Page" on page 102.)** or contextual menus. The precise options available will depend on where you click on the mixer. If you wish to affect the entire mixer, right-click on the top bar of the Mixer window. To change options for a Bus, right-click on a blank area of the Bus strip. Similarly, for a channel input strip, right click on a blank area of the Strip. Right-clicking within a function block adds menu entries to the top of the list, relevant to the specific block.

Adding Strips

Right-click anywhere on the Faders, choose **Strip > Add** and select the appropriate type of strip to add or right-click anywhere on the Faders, choose **Bus > Add** and select the appropriate type of bus to add.

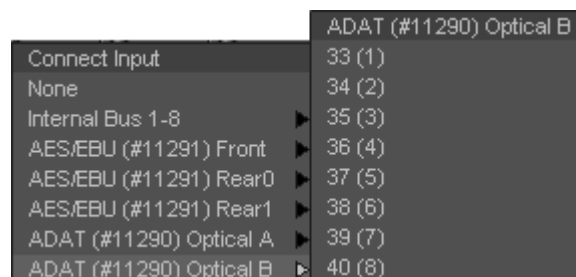
Removing Strips

To remove a given input strip, bus or group, right-click directly on it and choose **Strip > Remove (Strip, Bus or Group)** as appropriate.

Mixer I/O Assignments

To or from physical I/O

To change **I/O** assignments to or from physical **I/O** or the **Internal Return Busses**, click on the appropriate **XLR icon**. Choose **Connect Input** or **Connect Output** from the pop-up menu and choose the desired connection.



I/O assignment pop-up

When connecting a multichannel strip clicking on the header (ADAT(#11290) Optical B in the above illustration) will connect all channels consecutively.

From tracks

Note that several tracks may be routed to the same mixer input strip. Tracks are assigned to mixer input strips either automatically or manually from the **Track Header**.

Plug-ins

Mixer Strip Controls

When **Native VS3 Plug-ins**, **VST Plug-ins** and **External Inserts** are instantiated in mixer strips each instance has a block of one or two buttons. The full Plug-in name or **External Insert** pops-up along with the required delay compensation when you hover the mouse pointer over each block:



Mixer Strip Plug-in Controls with Name and Delay pop-up

Buttons

Each block has one or two buttons. The left-hand, yellow button is lit when the effect or insert is switched on. Switching an effect or insert off removes it from the signal chain and this may well be audible. The right-hand, red button indicates that the effect is **bypassed** when lit. Bypassing an effect retains the same delay as when the effect is active. Further, well behaved effects will continue to calculate internal parameters when bypassed making seamless switching possible.

When **Full Delay Compensation** is selected, Plug-in effects that correctly report their latency will have their delay compensated. This delay is maintained when the plug-in is in **bypass** mode.

Please see also Mixer Delay Compensation on page 120

Native VS3 Plug-ins

These include the eq and dynamics found on a conventional hardware mixer's channel strip. To add a native plug-in when in **Mix !** mode, right-click with the mouse cursor over the strip where the plug-in is to be added. 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 sub-menu. It will appear in the strip.

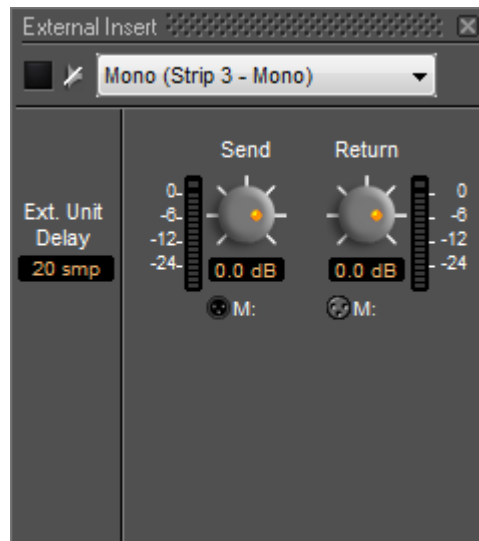
VST Plug-ins

To add a VS3 plug-in the procedure is the same except select **VST Plug-In** or **Add VST Plug-In**.

Note: VST Plug-ins can be added at any time, even during playback, without rebuilding the mixer.

External Insert

To add an External Insert simply right-click over the strip where the plug-in is to be added and choose: **VS3 Effects > Add > Other > External Insert**



Mixer Strip External Insert Plug-in Control Window

Clicking on the **External Input** name in the strip opens the **External Insert** Control Window.

Send and **Return** Connections can be made by clicking on the XLR icons and levels set with the knobs. When you have determined the delay introduced by the I/O loop including the external effect the value in samples should be entered in the **Ext. Unit Delay** field.

Further Mixer Configuration Options

Mixer Context Pop-up menu

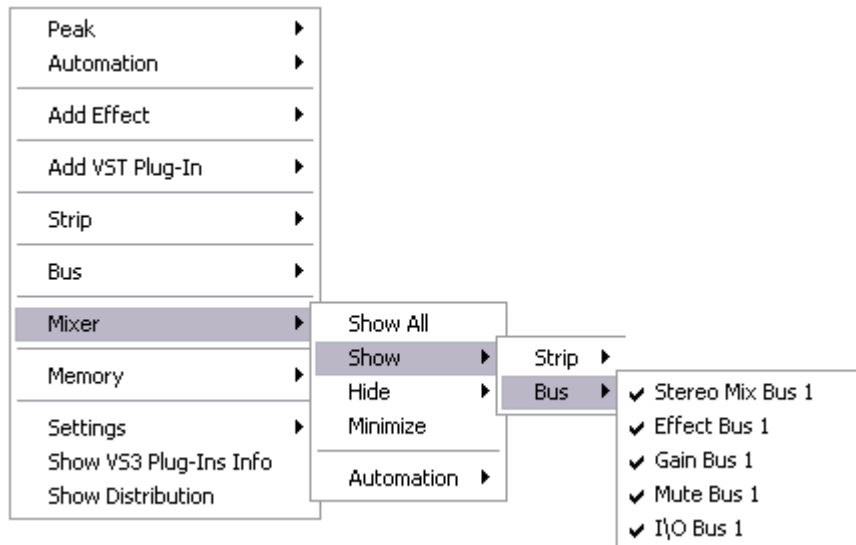
The entries on this menu vary according to where you right-click on the mixer surface. At the top of the menu the entries concern the specific mixer component under the mouse cursor when you right click. The next section of the menu has entries which affect the Strip. Entries from **Mixer** to the end of the menu affect the entire mixer and are available wherever the mouse is right-clicked.

Mixer > Show

Show All Makes all input strips and busses visible

Show / Hide >

Selects **Strips** and **Busses** 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.



Mixer Show / Hide pop-up

Minimize

When checked, Mixer window is minimized

Automation >

Isolate

These menu choices toggle the Automation mode for the entire mixer.

Play

Record

Auto-write

Memory >

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

Please see: Mixer Presets on page 129

Settings >

General...

Opens the Mixer Settings window at the **All Settings > Hardware > Hardware > Formats & Sync** page.

Enable Delay Compensation Enables Delay Compensation for the mixer

Dithering

Opens the **Dithering** window.

Remove

Select **All Strips**, **All Busses** or **All** to remove groups of mixer components or every component.

Auto-connect

Automatically connects the Mixer inputs and outputs using the available inputs and outputs of the installed daughter card (s) and the Mixers Preferred Monitoring Outputs

Wizard...

Launches the Configuration Wizard. **Please see: Mixer Configuration Wizard on page 118**

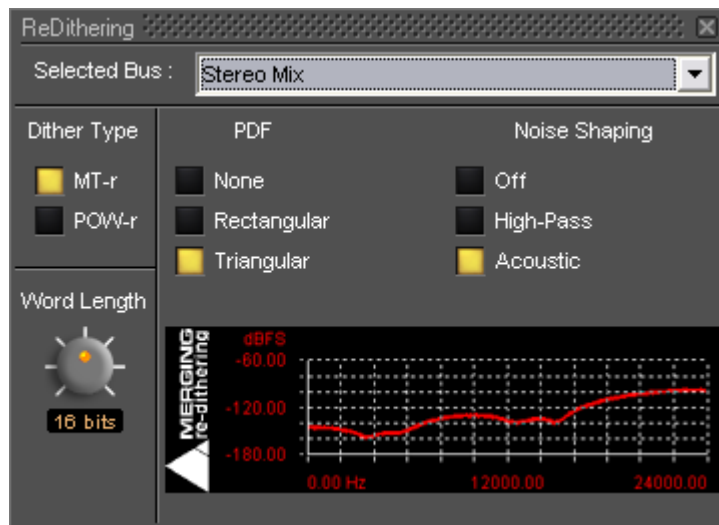
Show VS3 Plug-Ins Info

Pops up the **VS3 Plug-Ins Information** window.

Show Distribution

When checked, a narrow colored bar is inserted at the bottom of each input strip which indicates which card (in a multi-board system) is providing the DSP for the strip.

Dithering Options



Dithering **MT-r** floating Window

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

Selected Bus :

The combo box allows the choice of any of the Mixer's busses.

Dither Type

The Pyramix Mixer offers a choice of dither algorithms. **MT-r** and **POW-r** click the box to choose.

Word Length

The output word length of the digital audio data can be varied from 8 bits to 24 bits. Click on the rotary knob and drag left and right to adjust the value.

MT-r

PDF (Probability Density Function)

In basic terms, the addition of a dither signal (noise) into the digital audio streams improves linearity in the reproduction of low-level signals. In other words, as signal level drops (such as in a fade out) dithering helps to maintain a smooth decay. There are three options:

None

No dither signal will be added to the data.

Rectangular

A rectangle shape dither signal will be added to the data.

Triangular

A triangle shape dither signal will be added to the data.

Noise Shaping

Noise shaping is a technique that is used to push quantization noise energy, which in linear digital systems is normally spread over the whole audio spectrum (0 Hz up to half the sampling frequency), into higher frequencies where the human ear is less sensitive to its effects. There are three noise shaping options and the graph shows the curve applied:

Off

No noise shaping added.

Hi Pass

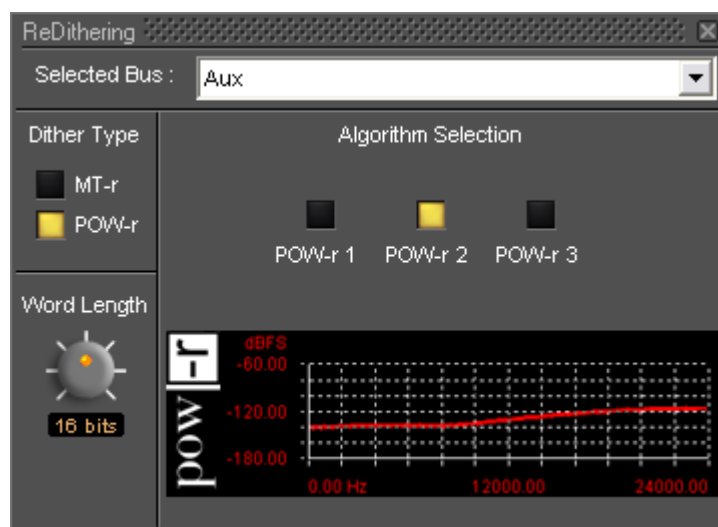
This provides a first-order high-pass filter for the noise transfer function. This type of noise shaping takes little computational power to produce, but at the expense of not tracking the characteristics of the human ear very accurately compared to:

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.

POW-r

POW-r offers the choice of three settings, **POW-r 1**, **POW-r 2** and **POW-r 3**. The graph indicates the effect of the noise-shaping.



Dithering **POW-r** floating Window

Mixer Presets

Mixer Presets can be saved in a user folder or added to the main **Mixer Preset** list either for the current user or all users.

Default Mixer

To Save the current Mixer setup as the default Mixer, right click on the Mixing Console and select **Memory > Presets > Store > Default**.

Storing New Mixer Presets

To add a preset to the main list of available Mixer presets I.e. the list which appears when starting a new project, right click on the Mixing Console, select **Memory > Presets > Store > New...** and enter a name for your Mixer Preset. If the **Global** check box is checked then the preset will be available for any user logged on the current machine, if not the preset will be available only for the user that created the new preset.

Removing Mixer Presets

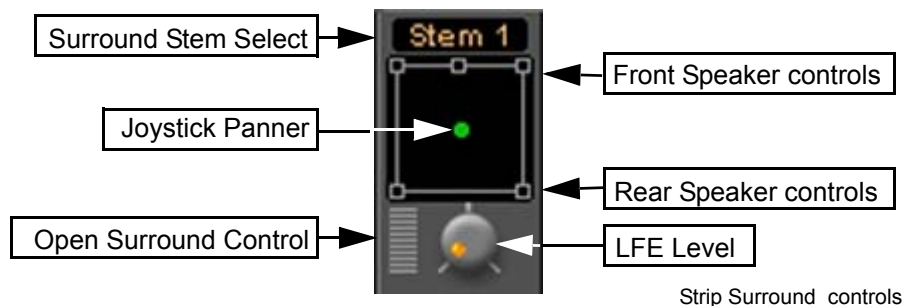
To remove a preset from the main list, right-click on the Mixing Console, select **Memory > Presets > Remove > (preset you wish to remove)**. The **Remove Preset** dialog box appears with **OK** and **Cancel** options.

Saving / Loading Mixer Presets

Mixer Presets can also be stored in Windows folders. Right-click on the Mixing Console, select **Memory > Save**. A Windows Explorer window opens enabling the current Mixer Preset to be named and saved to any Windows folder. Similarly, selecting **Memory > Load** enables a Mixer Preset to be loaded from any Windows folder.

Mixer Surround Components

When a **Surround Bus** is added to the mixer an surround panner appears at the top on the **Input Strips**



Speaker Controls

Double-clicking on any of the Speaker Controls toggles the mute on/off of the selected surround channel (also muting any audio routed to that surround channel output). When a channel control is muted, it is no longer displayed on the Mixer Input Strip.

Joystick Panner

Determines the position of the source within the surround sound space. To position it, simply left-click on the control and move it to the desired location. Double-clicking on this control will automatically center it.

LFE Level

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

Surround Stem select

If a Multiple Surround Bus has been added to the mixer **Stem 'X'** appears at the top of the strip. Click on the box to select the stem you wish to route the strip to.

Stereo Input Strips.



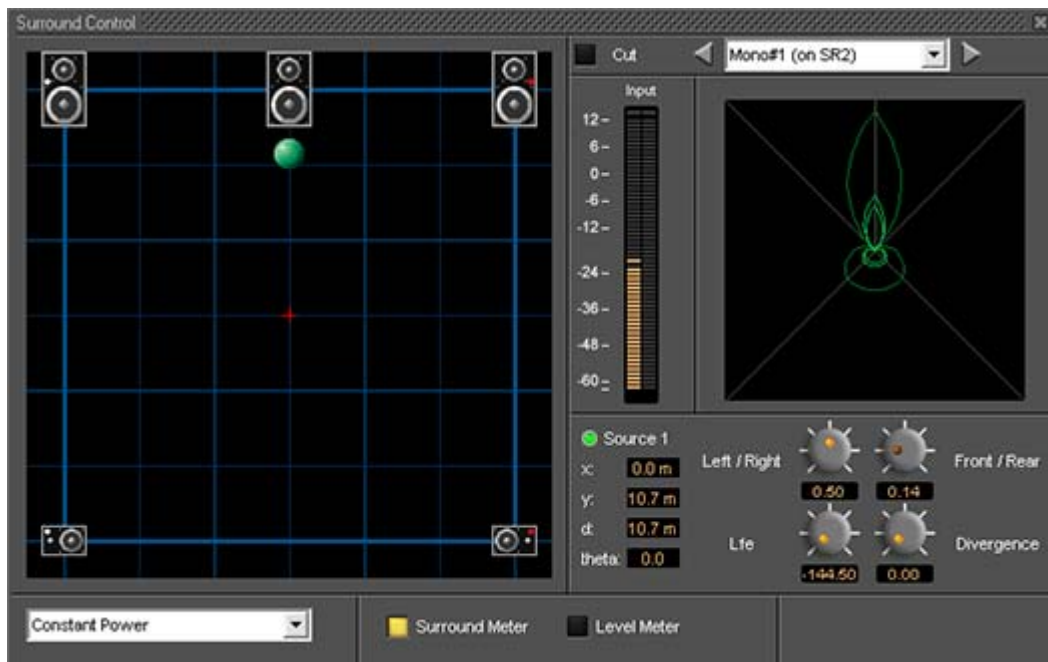
Stereo strip surround controls

The Surround Sound Panner Position control behaves slightly differently in a Stereo Input Strip. Notice there are now two independent position controls and two independent LFE sends. One for each input channel.

Open Surround Control

The **Surround Control** window offers far more information and a greater degree of control over all the surround panning parameters than could be shown on an individual Input strip. It can be opened and closed by clicking on the appropriate area on the strip, from **View > Windows / Tools > Surround Panner** or the icon in the **View** Toolbar when an input strip with a Surround Panner is selected.

Surround Control window



Surround Control floating Window

Options available will depend on whether the Mixer Channel is single source (mono) or 2 sources (stereo)

.Position/Speaker Control

When a single source is used, the Position Control is displayed as a green dot on a grid with 5 speaker icons. Each speaker icon represents a Surround Speaker Position (L, C, R, SL, SR). The position of the Green Dot determines the position of the source within the surround sound space. To position it, simply left-click anywhere within the surround sound space. To position it, simply left-click on the control and move it to the desired location or use the knobs. Double-clicking on the Green Dot automatically centers it.

Surround Panning Algorithm

The drop down list gives a choice of panning algorithms.

Constant Gain

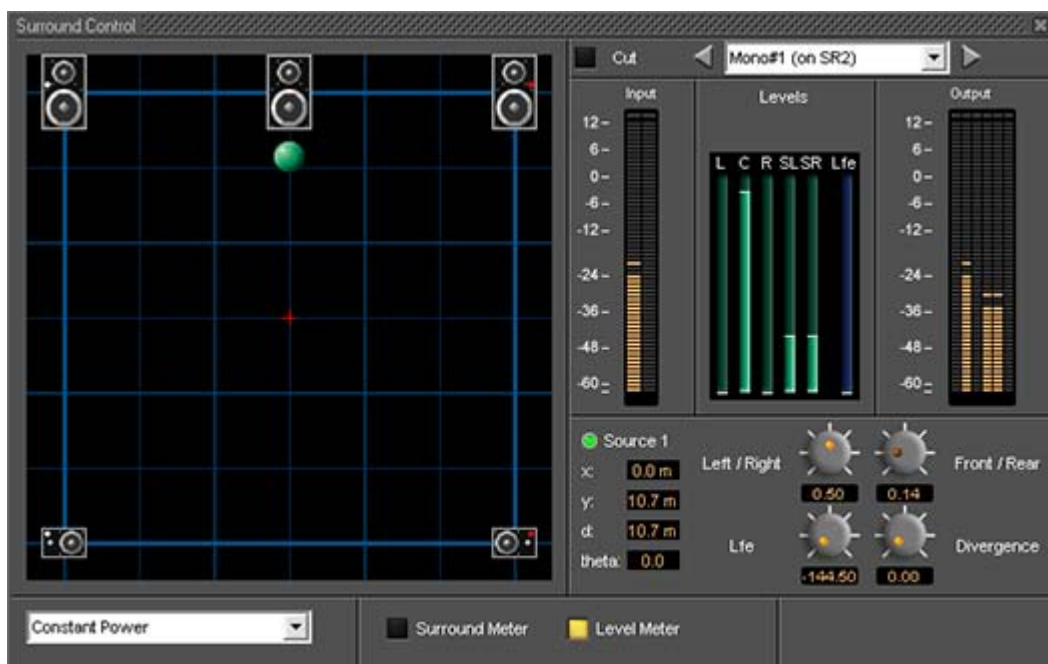
Allows the surround panning to preserve a constant gain sum on all speakers wherever the Position Control is placed.

Constant Power

Allows the surround panning to preserve a constant power sum on all speakers wherever the Position Control is placed.

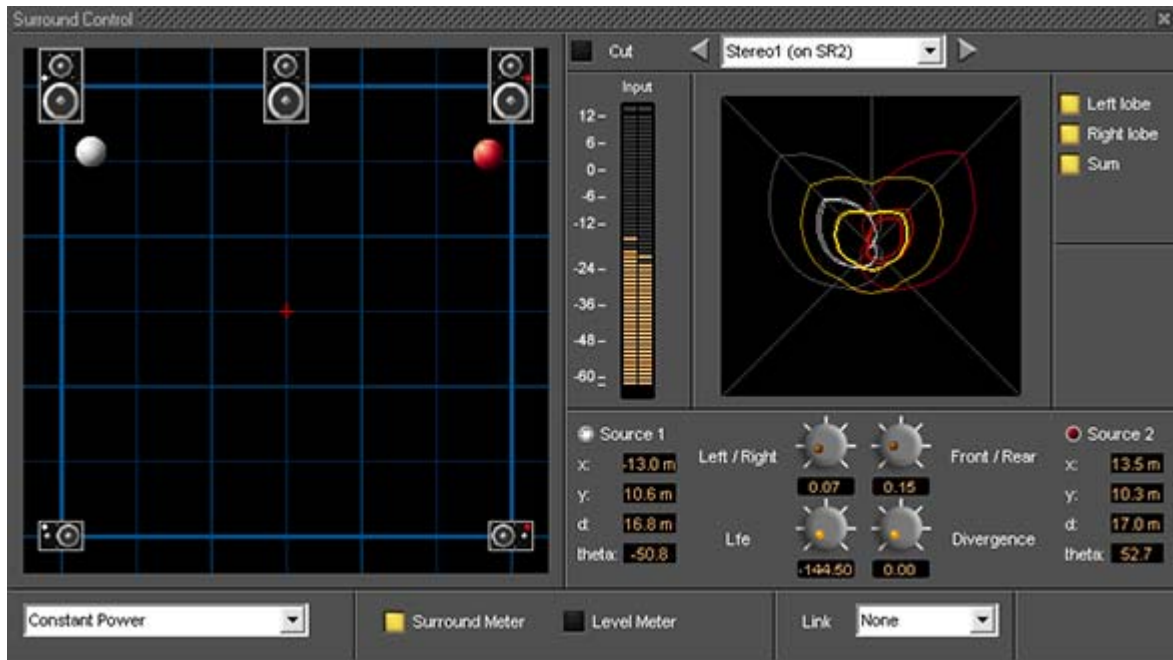
Level Meter

Toggles the main display between the **Surround Meter** and **Level Meter**. This shows the send **Levels** to each surround channel in the middle of the right-hand section and **Output** meters on the right:



Surround Control floating Window

Stereo Surround Control



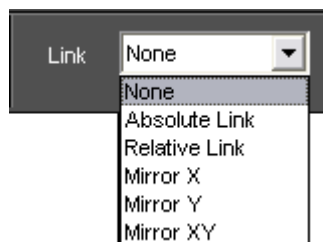
Surround Control floating Window

Surround Meter

The Display can show static Left, Right and Summed Lobes in white, red and yellow, respectively when the buttons are lit with the actual signal in bright red.

Link

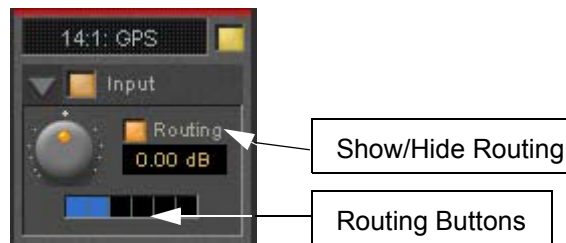
Click and drag on the red and white balls is independent and the controls are switched between **Source 1** and **Source 2** by clicking on the buttons. If a **Link** option is chosen from the combo box click and drag and the controls will affect both sources depending on the chosen linking.



Surround Control Link combo box

Strip and Bus Tools

In a multi-channel strip the clicking the show/hide **Routing** button displays the channel routing buttons. There are as many routing buttons as there are channels in the strip. Strip and Bus Tools affect all channels whose routing buttons are lit blue. In Mono and Stereo strips the routing buttons are on by default. In GPS strips only channels 1 & 2 have their routing buttons on by default.



If more than one instance of Strip or Bus Tools is used in the strip this allows, for example, different settings to be applied to Front L-R and Rear L-R.



13 Strip and Bus Tools

Strip and Bus Tools

Eq, Comp/Limiter/Expander

Strip and Bus Tools are a quick and efficient way of adding the Equalization and Dynamics (compression and expansion) functions commonly found on hardware consoles to channels and 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 section and a control triangle which toggles between showing or hiding the section.

Display Options

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



Strip Tools - General Display Options

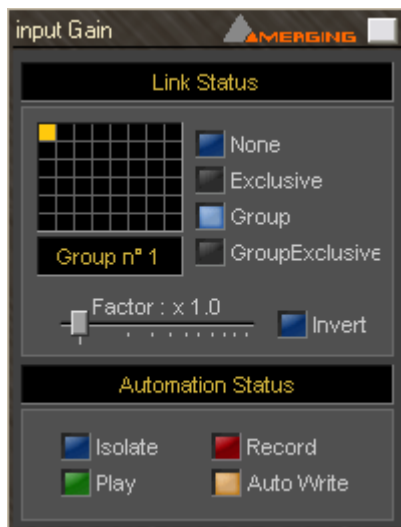


This menu allows you to either directly select the number of strips displayed in the plug-in window, or to increment/decrement this number by one. The maximum number will vary depending on how many Strip Tools are assigned.

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.:



Strip Tools - Link and Automation Status

Group assignment mode buttons

These four buttons define the link mode of the control. Four choices are available:

- | | |
|------------------------|--|
| None | The control is not a member of any group. |
| Group | The control is a member of the selected group. When you move (or switch) this control or any other control which is a member of this group, all the members of the group will move (or switch) along with it. |
| Exclusive | This mode is only available for switches. With this mode selected, when this switch is on, all the other members of the group will be switched off. |
| Group Exclusive | This is a mode which has a superior effect on all groups which are set to Group Exclusive. When any of the groups which are set to Group Exclusive is switched on, all the other groups set to Group Exclusive will be switched off. |



Grouped controls are indicated by a yellow L in the corner of the control 'block'.



Strip Tools - Grouped Controls

Factor X Slider

Works only on continuous (rotary or linear) controls. It determines the gearing of this control in relation to other members of the group and vice versa. E.g, assume the input gain of strip tools #1 and the input gain of strip tools #2 are both assigned to group one. The scale factor of the gain of strip tools #2 is set to 2. Now when you change the gain of strip tools #1 by 1 dB, the gain of strip tools #2 will change by 2 dB's.

Invert

Also works only on continuous controls. It inverts the effect of the movement for this control caused by another group member or vice versa. E.g, assume the input gain of strip tools #1 and the input gain of strip tools #2 are both assigned to group one. The invert button of the gain of strip tools #2 is on. Now when you increase the gain of strip tools #1 by 1 dB, the gain of strip tools #2 will diminished by 1 dB.

Automation mode switches

When a grouped control is clicked, all other members of the group are shown with a yellow box around them.

Offset

If controls are offset when grouping is turned on, they retain the offset as shown here.



Strip Tools - Grouped Knobs

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



Sections



From top to bottom, Strip Tools contains the following Sections:

Input Level

This section contains the input level control and shows the name of the mixer strip this instance of the plug-in is assigned to.

Dynamics

This section contains a compressor. It can be switched, as shown here, to act as a decompressor.

Expander

This is a downwards expander. It can also be switched to act as an upwards expander.

Equalizer

This is a five band fully parametric equalizer. Each band can be switched to high or low pass, shelving or peaking characteristics.

Output

This section controls the output level of the strip tool and also offers automatic gain make up for the compressor.

Common Features

Each Section or module of Strip and Bus Tools has a number of controls in common.

Title Bar

A text description of Section's function, e.g. **Input**, **Dynamic** etc. Also contains:

Show/Hide triangle

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



Note: Sections remain active when hidden.

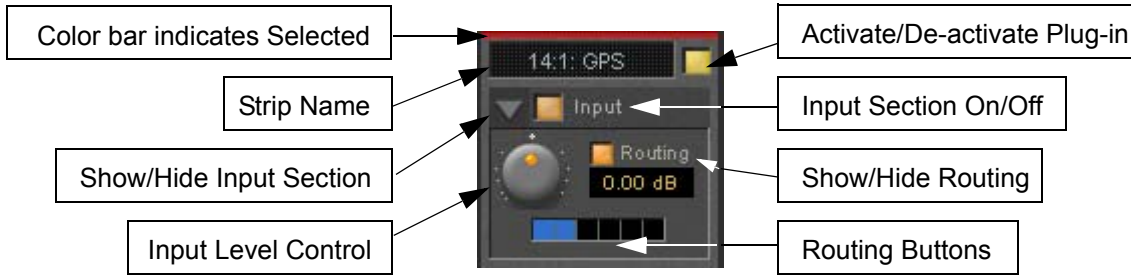
Section On/Off Button

Between the **Show/Hide** triangle and the Section **Title** is the **On/Off** button for the Section.

Knobs

The position indicator dot lights orange when the control is at the default value. A white star appears top-left of the scale of the last control 'touched'.

Input Section



Color Bar

Indicates strip is selected.

Strip Name

Displays the name of the strip the plug-in is assigned to. The name for the plug-in can be changed by double-clicking on the strip name, then typing in a name and hitting the **Return** key to confirm. If a plug-in name is changed in this way, subsequent changes to the parent mixer-strip name do not affect the plug-in strip name. To recover the name of the parent strip, simply remove the strip name.

The strip name is saved with presets and within Pyramix projects.

Activate/deactivate plug-in

This button switches the entire Strip plug-in on or off. Note that when the plug-in is switched off, it doesn't consume any DSP power.

Show/Hide input section

Input section on/off

Input level control

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

Show/hide Routing

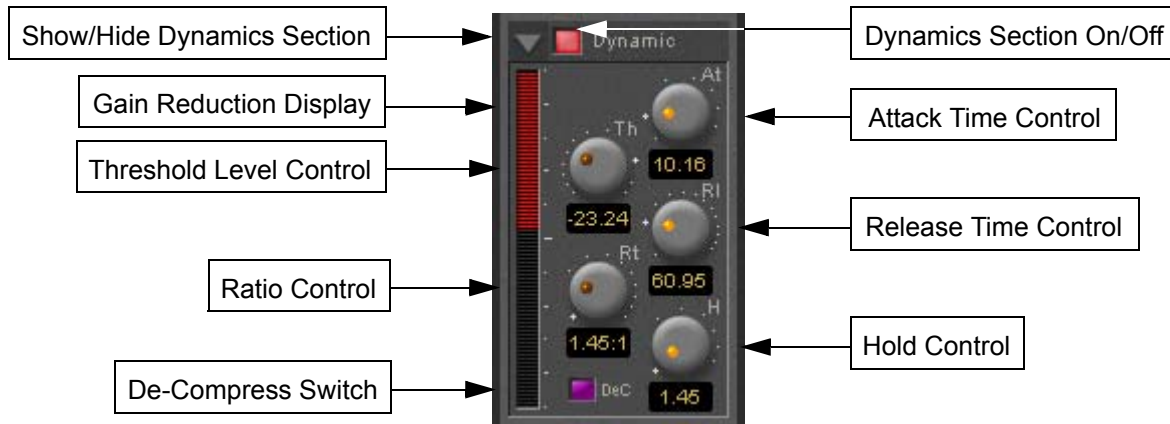
By default Routing buttons are hidden. This button toggles between Showing and Hiding the Routing Buttons. Routing remains active when hidden.

Routing Buttons

Determine which audio streams running through the strip will be processed by the plug-in. The number of buttons depends on the number of streams controlled by the strip. This means one for a mono input channel or two for a stereo input channel and so on up to 8 for a 7.1 input channel. Streams which are not selected will be left untouched.



Dynamics Section



Show/Hide Dynamics section

Dynamics Section On/Off

Gain reduction display

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.

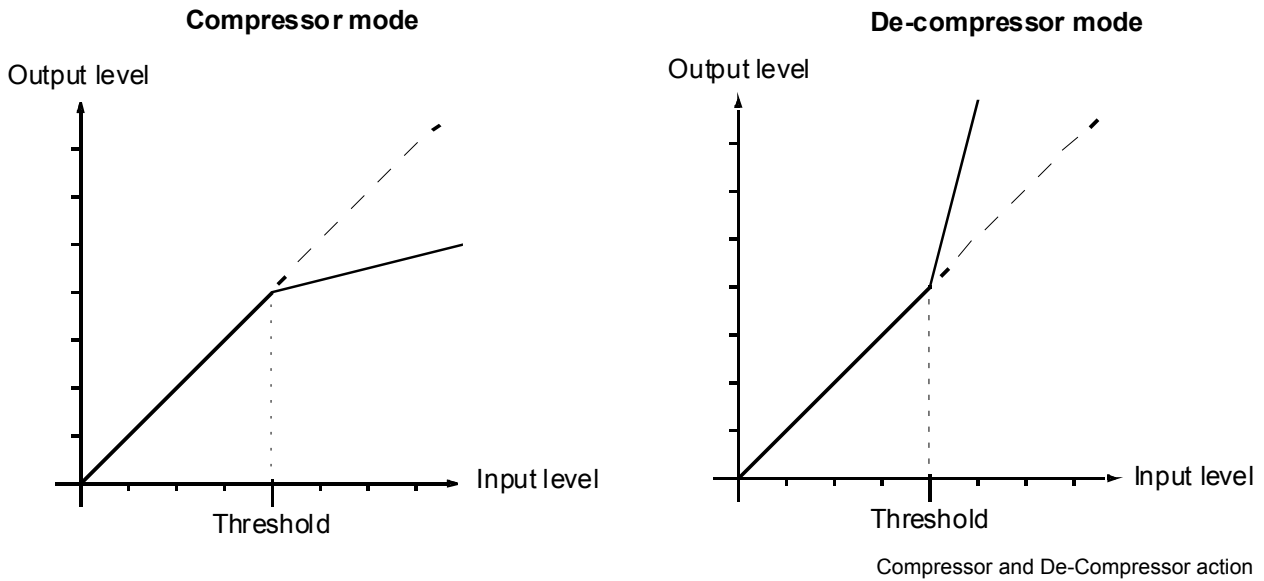
Release and Hold Time controls

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.

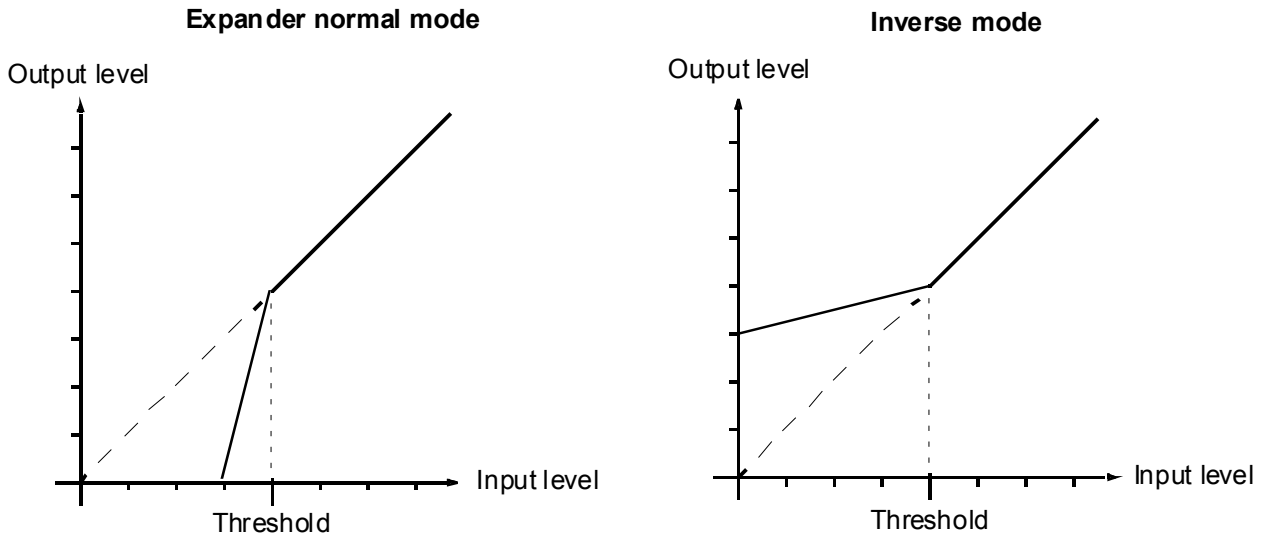
Ratio control

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.



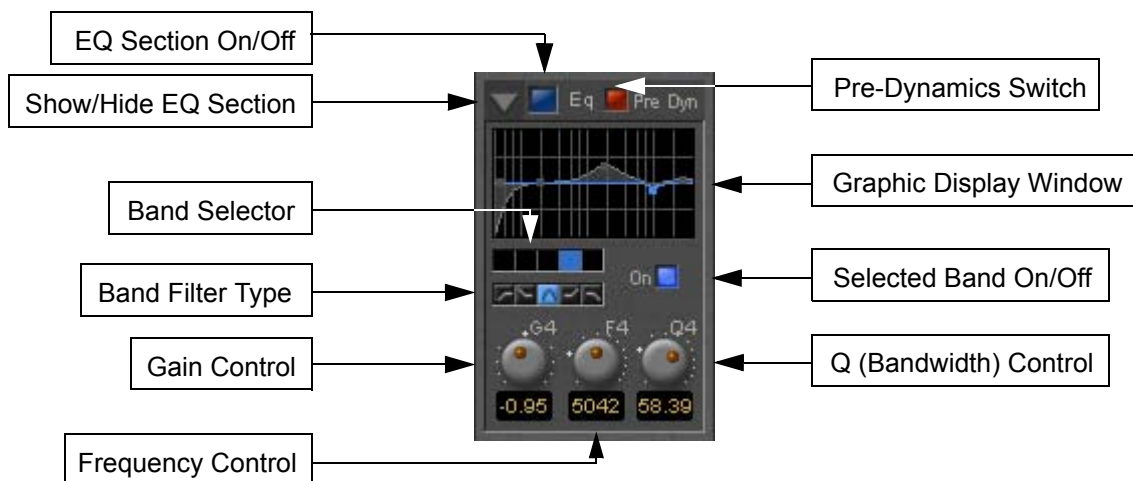
Expander normal and Inverse mode action

Attack/Release/Hold controls

The **Expander Section** uses the settings of the **Attack/Release/Hold** controls in the **Dynamics Section** to control it's timing.

Equalizer section

A fully parametric five band equalizer. Each band covers the entire frequency range from 20 Hz to 20 kHz (or higher, depending on the sampling rate of the project) and can be switched between peaking, high or low shelving and low-pass or high-pass characteristics. Each of the five bands can be switched off. De-activated bands do not consume DSP power.



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 144.

Band Selector

Click onto one of these five buttons to select the band to be manipulated by the Gain, Frequency and Q control underneath. A band gets also selected if it is manipulated in the small or big graph window.

Selected band characteristics

These five buttons determine the characteristics of the selected EQ band. The choices from left to right are High-Pass Filter, Low Shelving, Peak, High Shelving and Low-Pass Filter.

Selected Band On/Off

Switches the selected EQ band on or off. By default the five bands are switched off in order to economize DSP power, so don't forget to switch an EQ band on before you can hear what it is doing.

Gain Control

-24 dB to +24 dB, boost and cut.

Frequency Control

The range for each band is depending on the sampling rate of the project:

- For sampling rates up to 48 kHz the frequency range of each band is 20 Hz to 20 kHz.
- For sampling rates up to 96 kHz the frequency range of each band is 20 Hz to 40 kHz.
- For sampling rates up to 384 kHz (e.g. DSD mixing) the frequency range of each band is 20 Hz to 80 kHz.

Q (bandwidth) Control

The range for the Q parameter is 0.2 up to 100. A Q of 0.2 results in a very wide bandwidth, a Q of 100 will give an extremely narrow notch.

Output Section



Show/ Hide Output section

Output section on/off

Output Level control

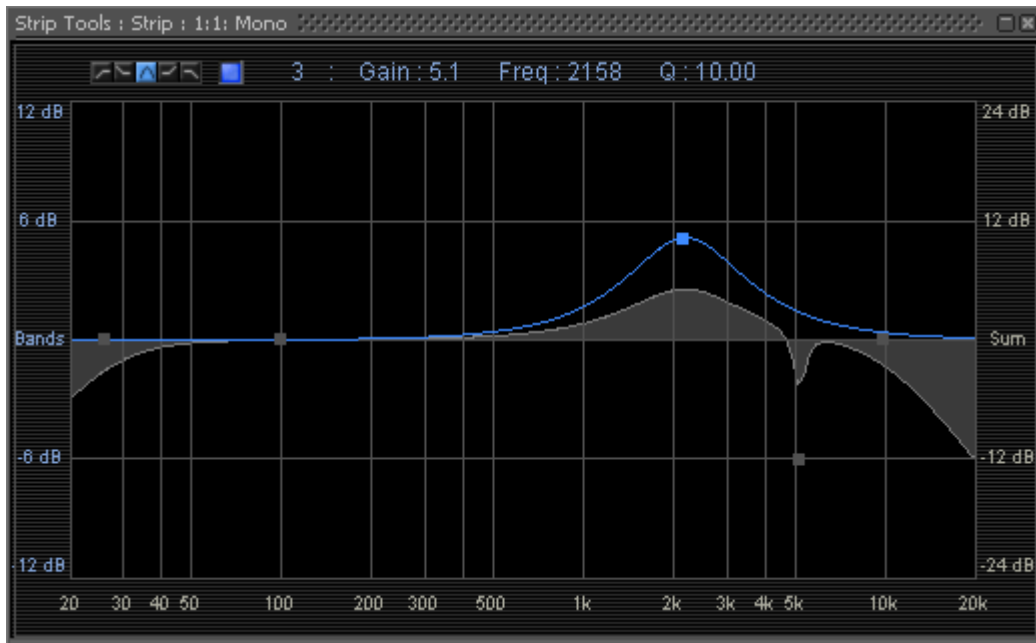
Adjusts the output level over a range of -48 dB to +48 dB.

Automatic Gain Make Up switch

When lit, Output gain is automatically adapted according to the settings in the **Dynamics Section**. In this case the **Output Level Control** will be grayed out and inaccessible.

The Big Graph Window

The big graph window opens when you double-click the small graph window inside the **EQ Section**. The current settings of the selected EQ band are displayed as a blue line and the resulting overall EQ curve is displayed as a gray shaded area. Frequency and Gain parameters of each of the five bands can be altered by clicking on a band's handle and dragging with the mouse. Handles of bands which are not selected are displayed as small gray squares. Grabbing and drag a handle selects the band.



Big Graph floating Window

The frequency response display uses two separate gain scales. The left hand, blue scale shows the scale used for individual bands. The right hand, gray scale shows the scale for the overall EQ curve. Both scales automatically adapt their range according to the settings of the curves they apply to. The range of the left and the right scale may 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

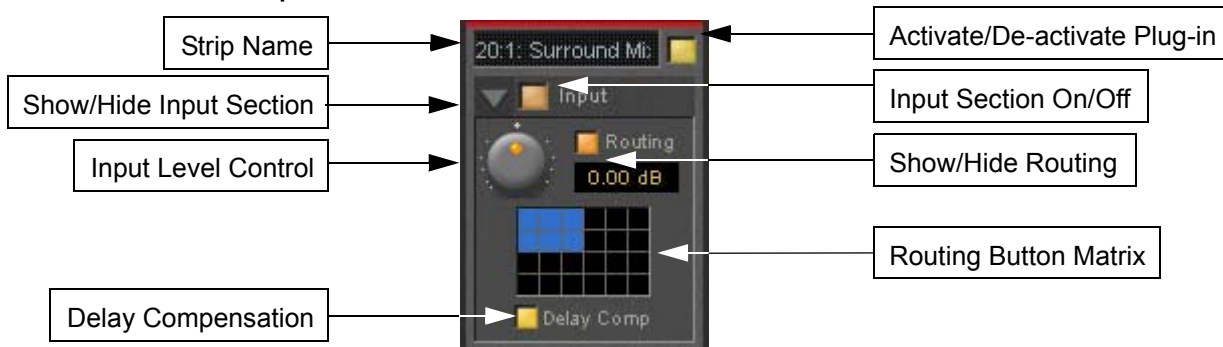
This is a five band fully parametric equalizer. Each band can be switched to high or low pass, shelving or peaking characteristics.

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

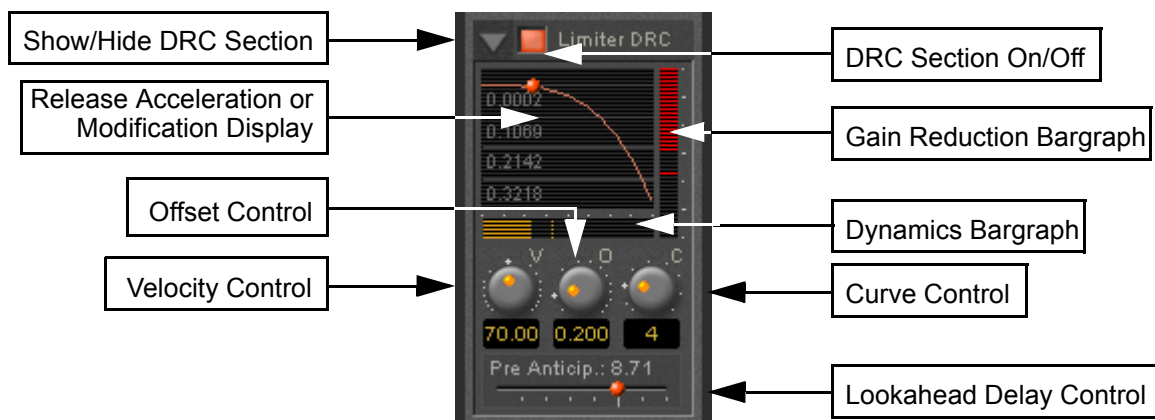
If the input signal level rises above the threshold level, the gain of the limiter is reduced. This limiter guarantees that at no time will the level of the output signal exceed the threshold.

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 **Dynamic Release Compensation**. In short, this means the release time of the limiter is altered depending on the dynamic nature of the signal routed through the processor.



Show/hide DRC section

DRC section on/off

Release Acceleration or Modification Display

Shows a curve which illustrates the relationship between the change in dynamics of the input signal and the variation of the release time. The curve can be adapted between linear and power function characteristics (see also the description of the **Curve Control** parameter). During playback the display will also show a small red ball moving along the curve. This shows the range the algorithm is working in.

Gain reduction bargraph

Displays the gain reduction of the limiter while the DRC circuit is active. The scale is fixed at 6 dB.

Dynamics bargraph

Displays the dynamics of the input signal, which is the basis for the DRC algorithm.

Velocity control

Determines the speed of the DRC algorithm. The lower the value, the faster the algorithm reacts to changes of the dynamics of the signal and the more it reacts to dynamics the more the release time will remain constant.

Offset control

This parameter basically sets the minimum release time. In this sense the release control of the limiter defines the maximum release time, so the release time determined by the DRC algorithm will vary between these two times.

Curve control

This parameter controls the characteristics of the relationship between the dynamics of the signal and the resulting release time

Pre-Anticipation (Lookahead delay) control

This parameter changes the integration time for RMS detection and thus changes the effect of the DRC circuit.

The delay setting here also determines the delay that will be applied to signals passing through the plug-in NOT not be selected for processing when Delay Compensation is switched ON

Note: Please note that this parameter delays the all signals running through the **Bus Tools** plug-in, so phase or other timing errors may occur when the plug-in is used in places other than the mix bus.

EQ and Output Sections

These are identical to the Strip Tools versions.

It is worth noting that, since the Limiter is in this case a brickwall design, the Automatic Gain Make-up function compensates for the same amount as the value set by the **Threshold Control** of the **Limiter**. The resulting signal will be close to, but never exceed 0dBfs. If **Gain Make-up** is **Off** the **Output Level Control** will act as a 'ceiling' control, setting the absolute level of the resulting output signal.

Delay Compensation / Pre-Anticipation

Example

5.1 Surround Mix Bus using two Bus Tools						
Channel	BUS 1	BUS 2	BUS 3	BUS 4	BUS 5	BUS 6
Routing	L	C	R	SL	SR	SW
Instance 1	IN	OUT	IN	OUT	OUT	OUT
Delay	8,71 (PA)	8.71 (DC)	8,71 (PA)	8.71 (DC)	8.71 (DC)	8.71 (DC)
Instance 2	OUT	OUT	OUT	IN	IN	OUT
Delay	5.8 (DC)	5.8 (DC)	5.8 (DC)	5.8 (PA)	5.8 (PA)	5.8 (DC)
Total Delay	14.51 ms	14.51 ms	14.51 ms	14.51 ms	14.51 ms	14.51 ms

In this table Bus Tools Instance 1 is IN circuit for the Left and Right channels of the mix and Bus Tools Instance 2 is IN circuit for the Left Surround and Right Surround channels. For the Center and Sub-Woofer Channels both Bus Tools are OUT of circuit. BUT Pre-Anticipation and Delay Compensation is switched ON for the channels selected for processing. To ensure proper time alignment all channels are automatically delayed by the same total amount. (the 8.71 and 5.8 figures are arbitrary)

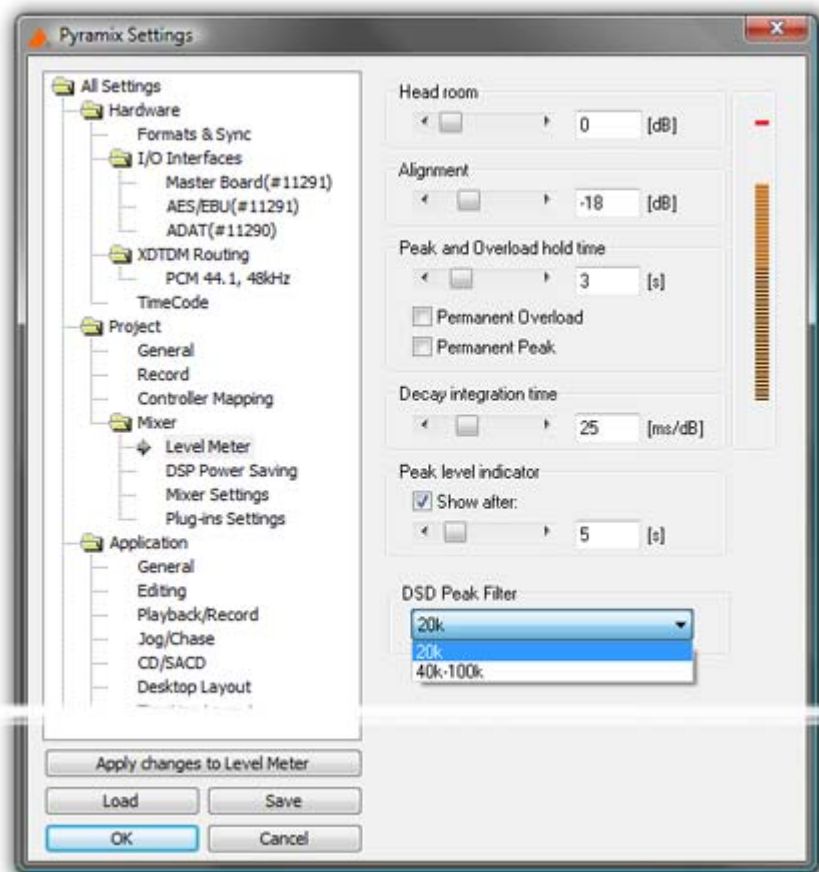
If all channels are selected for processing (in circuit) with linked Pre-Anticipation then there is no need to activate Delay Compensation.

14 Pyramix Mixer Settings

Mixer

Level Meter

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



All Settings Project Mixer Level Meter Page

These settings only apply to the current **Mixer**. This allows each **Mixer** to have its own custom **General** and **Level Meter** settings.

To change any of the settings, click the left or right buttons or drag the horizontal scroll bar to increment or decrement the selected parameter. Alternatively, type directly into the number field for each parameter (these fields will only accept numbers within the permissible range for each parameter). The color graphic display of the level meter will respond immediately to show the effect of Headroom and Alignment parameter changes.

Headroom

Sets the amount of headroom displayed as red meter segments before clipping.

Alignment

Sets the alignment level. Displayed by the point on the scale at which the dark orange segments begin.

Peak and Overload Hold Time

Sets the amount of time in seconds that the peak segment or overload segment (topmost red segment) of the level meter remains illuminated.

Permanent Overload

When the box is checked, the red Overload LED above a track will remain lit, even after playback is stopped. To clear the LED, double-click it. When not checked, the Overload LED will automatically clear itself after a few seconds and remain off until the next overload occurrence.

Note: The overload LED will go on after one sample with the maximum level.

Permanent Peak

This parameter works in conjunction with the Peak Level Display. When this is on (checked), the Peak Level pop-up display will show the value and location of the highest level reached on a track up to the time when the mouse was clicked on the meter. The level display will not be updated until the next time playback is stopped and re-started. If it is not on (unchecked), the Peak Level Popup Display will show the highest level reached in that track from the last time the Popup Display is activated (while playback continues). For example, clicking a channel's meter while playing back will display the Peak Level Popup, which will show the peak level (and its location) reached so far. Click away from the Popup, and it will disappear. Click on that meter again, and the Popup will appear again, this time showing the peak level/location reached since the last time the Popup was displayed.

Decay integration time

This parameter sets the rate at which the level meter display decays after the level falls below the most recent peak. The slope of the decay is given in terms of milliseconds per decibel (ms/dB).

Peak level indicator

Show After

When the box is checked, the **Fader/Input Level** displays located above the faders on each mixer strip display the peak level of the signal running through the corresponding mixer strip. The value are updated at the interval set by the slider below the check box. If the check box **Show After** is off, the **Fader/Input Level** displays always show the setting of their corresponding fader.

DSD Peak Filter

For DSD projects this drop-down list offers the choice between two filtering options which will be applied to the DSD signal before it is measured by the level meter.

This will help enable you to ensure that the DSD signal is compatible with the AES recommendations concerning the high frequency dither noise content.

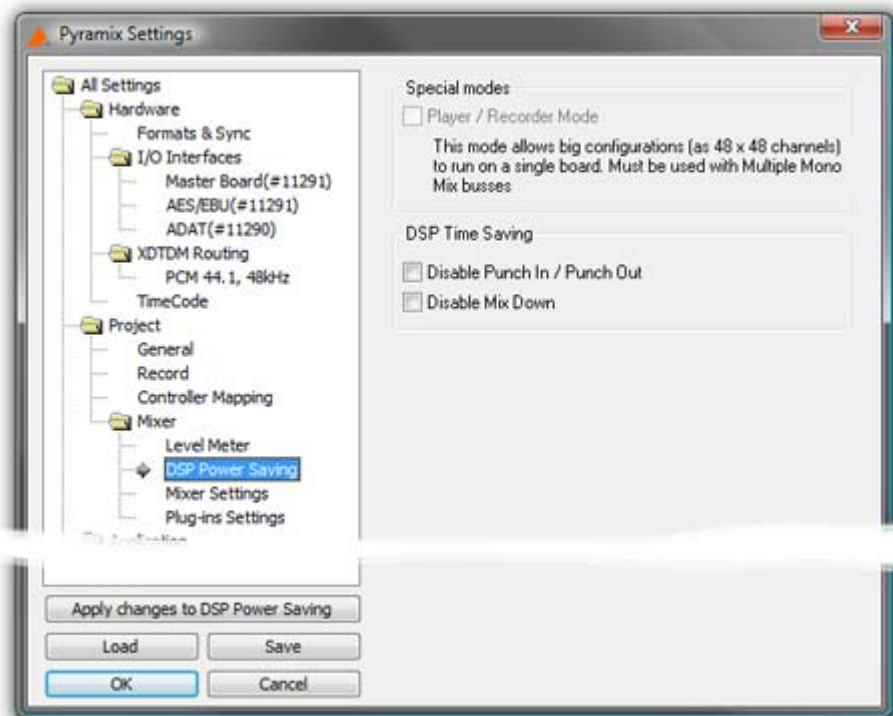
20k

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

40k-100k

Applies a band pass filter with a frequency range of 40 kHz to 100kHz to the signal. According to the AES recommendation the signal level in this frequency range should not exceed -20 dB.

DSP Power Saving



All Settings Mixer DSP Power Saving Page

Special Modes

Player/Recorder Mode

This mode allows big configurations (such as 48 x 48 channels) to run on a single board. Player/Recorder Mode is intended for use with an external hardware console. When this mode is activated, the Pyramix mixer is relegated to the role of signal router, there is no level control, no panning, no plug-ins and no inserts. This option is only available in configurations with multiple mono mix busses.

The Pyramix **Direct Out** functionality provides an alternative, more user configurable method of achieving similar DSP savings. **Please see: Channel Direct Outputs on page 164**

DSP Time Saving

Disable the Punch in/out

When the box is checked, Punch-in and out recording capabilities are disabled.

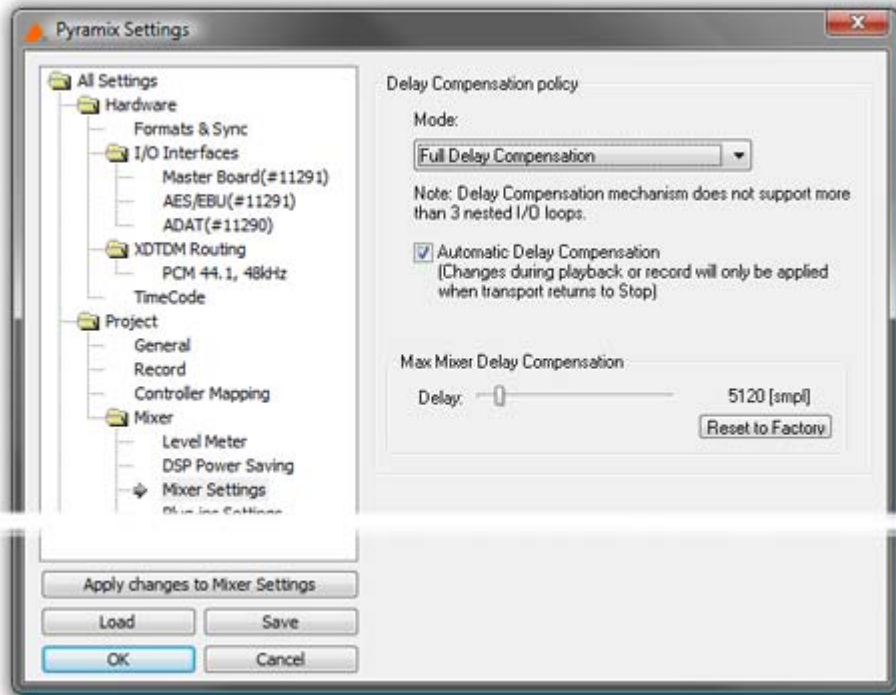
Important! Pyramix still will allow you to arm tracks and to start the recording process, but the resulting media file will contain digital nulls.

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.

Mixer Settings

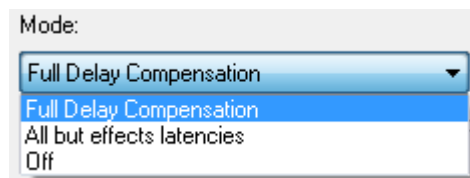


All Settings Mixer Mixer Settings Page

Delay Compensation Policy

Mode

The drop-down menu offers a choice between:



Full Delay Compensation

All but effects latencies

Off

Note: Automatic Delay Compensation does not support more than 3 nested I/O loops.

Automatic Delay Compensation

When ticked, turns Automatic Delay Compensation **On**

Note: Any changes to the delay required that occur during playback or recording will only be computed and applied when the Transport is next in **Stop**.

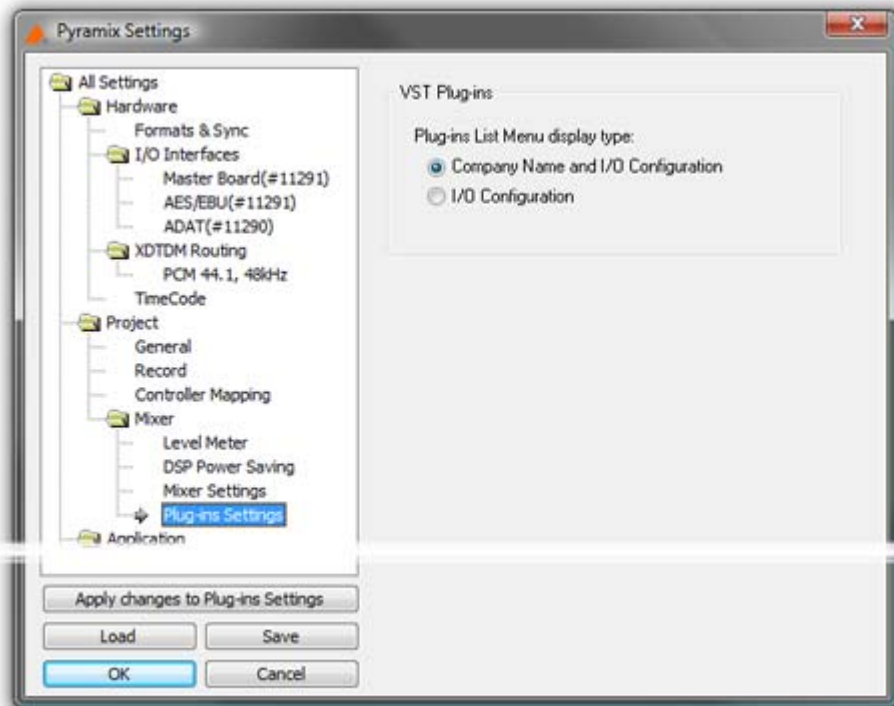
Max Mixer Delay Compensation

When required by the **Mixer error: Delay compensation** dialog the slider should be set to a value just above the delay latency value requested.

Reset to Factory

Click the button to restore the factory computed maximum delay value.

Plug-ins Settings



All Settings Mixer DSP Plug-ins Settings Page

VST Plug-ins

The buttons offer a choice of how the VST Plug-ins are ordered and grouped in the **Plug-ins List Menu**.

If **Company Name and I/O Configuration** is chosen the list will be ordered by Company Name and the plug-in's grouped according to their I/O configuration. I.e. **1 in - 1 out, 1 in - 2 out, 2 in - 2 out** and so on.

Alternatively, choosing **I/O Configuration** groups the Plug-ins by I/O Configuration and within each group lists them alphabetically by name.

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