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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 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 containg Iggy software

Firmware  
Files for programming Hardware upgrades (flash)

Consolesoft Sets  
Files containing Edit Bay mappings
Panels

- EQ PANEL
- UPPER ACTIVE PANEL
- MONITOR PANEL
- EXPERT PANEL
- FADER PANEL
- LOWER ACTIVE PANEL

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:

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](http://www.merging.com/ramses/download)

Upgrading Ramses Software and Firmware
Please refer to the Ramses **Upgrade Guide** available at:

[www.merging.com/ramses/download](http://www.merging.com/ramses/download)
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.

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**.

<table>
<thead>
<tr>
<th>System</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Engines</td>
<td>Versions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stems</td>
<td>Firmware</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Errors</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Info</td>
<td>Network</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Configure</td>
<td>Shutdown</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Confirm</th>
<th>Exit</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## 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.

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.
<table>
<thead>
<tr>
<th>Engine Type~</th>
<th>Model Number~</th>
<th>Arc type~</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ramses + Pyramix V6</td>
<td>Ramses 08</td>
<td>No arc</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>List (Active Controls)</th>
<th>List (Active Controls)</th>
<th>List (Active Controls)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prev</td>
<td>Next</td>
<td>Exit</td>
</tr>
<tr>
<td>Prev</td>
<td>Next</td>
<td>Exit</td>
</tr>
<tr>
<td>Prev</td>
<td>Next</td>
<td>Exit</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pyramix 5 or 6 In most cases set this to V6 (MassCore)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of physical faders 8 - 16 - 24</td>
</tr>
<tr>
<td>ARC Option</td>
</tr>
<tr>
<td>- No ARC</td>
</tr>
<tr>
<td>- Arc 48</td>
</tr>
<tr>
<td>- Arc 72</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>System - Configure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hide mouse cursor</td>
</tr>
<tr>
<td>Hide mouse cursor</td>
</tr>
<tr>
<td>FALSE</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>System - Configure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autosave time (minutes, if non-zero)</td>
</tr>
<tr>
<td>Autosave time (minutes, if non-zero)</td>
</tr>
<tr>
<td>2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>System - Configure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin Version~</td>
</tr>
<tr>
<td>Skin Version~</td>
</tr>
<tr>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>System - Configure</th>
</tr>
</thead>
<tbody>
<tr>
<td>On/Off (Active Button)</td>
</tr>
<tr>
<td>On/Off (Active Button)</td>
</tr>
<tr>
<td>On/Off (Active Button)</td>
</tr>
</tbody>
</table>

| Prev | Next | Exit | Cancel |
| Prev | Next | Exit | Cancel |
| Prev | Next | Exit | Cancel |

<table>
<thead>
<tr>
<th>Hide Mouse Cursor within Iggy</th>
</tr>
</thead>
<tbody>
<tr>
<td>- TRUE</td>
</tr>
<tr>
<td>- FALSE</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Autosave time interval for Ramses templates</th>
</tr>
</thead>
<tbody>
<tr>
<td>In minutes if not zero</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Iggy Skin Version (appearance)</th>
</tr>
</thead>
<tbody>
<tr>
<td>- 0 (not recommended)</td>
</tr>
<tr>
<td>- 1 (recommended)</td>
</tr>
</tbody>
</table>
### Ramses Setup: The Basics

<table>
<thead>
<tr>
<th>Table</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Post Panel Configuration (0=standard)</strong></td>
<td>0</td>
</tr>
</tbody>
</table>
| **Numeric (Active Controls)** | Edit Bay configuration  
0 is default  
1 - 9 are User Sets |
| **IP (Right Knobs)** | Engine IP address = Pyramix IP address  
System > Network shows Ramses IP address  
Sets the time after last jog event after which jog is canceled and Stop invoked |
| **Scene Mode** | Scene Mode  
FALSE |
| **Rewind/Fast Forward using Sh** | Rewind/Fast Forward using Shuttle  
FALSE |
| **Fader touch sets fader atm only** | Fader touch sets fader atm only  
TRUE |

---

**Scene Mode for Theatre Use**  
(future implementation)  
- FALSE  
- TRUE

**Change Shuttle backwards and forwards commands to REWIND and Fast Forward**  
- FALSE  
- TRUE

When TRUE automation in a strip is in independent by section. (fader, auxes EQ etc.) When False Entire strip changes status with fader  
- TRUE  
- FALSE
### Ramses MSC reference guide
### Ramses Setup: The Basics

<table>
<thead>
<tr>
<th>System - Configure</th>
<th>System - Configure</th>
<th>System - Configure</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Inject + Fader selects channel</strong>&lt;br/&gt;Inject + Fader selects channel</td>
<td><strong>Meter drop time (msec per step)</strong>&lt;br/&gt;Meter drop time (msec per step)</td>
<td><strong>Drive engine EQ window</strong>&lt;br/&gt;Drive engine EQ window</td>
</tr>
<tr>
<td><strong>On/Off (Active Button)</strong>&lt;br/&gt;Selects channel to Active Screen when Inject or fader is touched&lt;br/&gt;- TRUE&lt;br/&gt;- FALSE</td>
<td><strong>Numeric (Active Controls)</strong>&lt;br/&gt;Meter fall-back time for all Ramses Meters in milli-seconds per step</td>
<td><strong>On/Off (Active Button)</strong>&lt;br/&gt;Show/Hide plug-ins on Pyramix screen (only Strip Tools at present)&lt;br/&gt;- TRUE&lt;br/&gt;- FALSE</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>System - Configure</th>
<th>System - Configure</th>
<th>System - Configure</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Shelf buttons change selected</strong>&lt;br/&gt;Shelf buttons change selected EQ band</td>
<td><strong>Engine activity timeout (secs, Engine activitytimeout (secs, if applicable)</strong>&lt;br/&gt;Slow down &quot;all&quot; (msec per press)</td>
<td><strong>Numeric (Active Controls)</strong>&lt;br/&gt;Slow down &quot;all&quot; (msec per press)</td>
</tr>
<tr>
<td><strong>On/Off (Active Button)</strong>&lt;br/&gt;Buttons immediately above and below EQ rotaries switch between Shelf and band-pass OR toggle selected band.&lt;br/&gt;- TRUE&lt;br/&gt;- FALSE</td>
<td><strong>Numeric (Active Controls)</strong>&lt;br/&gt;N/A at present</td>
<td><strong>Numeric (Active Controls)</strong>&lt;br/&gt;N/A at present</td>
</tr>
</tbody>
</table>

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
# Ramses MSC reference guide

## Ramses Setup: The Basics

### Page 19

**Toggles between 18 independent AUXs or three banks of 6 (A, B, C)**
- TRUE
- FALSE

### Page 20

**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

### Page 21

**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
<table>
<thead>
<tr>
<th>Page 25</th>
<th>Page 26</th>
<th>Page 28</th>
</tr>
</thead>
</table>
| 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 |
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

**FADER DISPLAY**
This usually shows you the channel number or name and can display other information depending on the console mode such as EQ curves etc.

**SOLO TOUCHPOINT AND INDICATOR**
Touch this to solo a channel. The indicator will light to indicate the channel is in solo.

**CHANNEL TYPE INDICATORS**
- **G** is lit when channel is a Group VCA Master within Pyramix project. (To be implemented)
- **A** is lit when channel is a Aux Bus Master.
- **M** is lit when channel is a Mix Bus Master.
- **E** will be lit for future purposes
When none is lit - channel is normal audio channel.

**CHANNEL NUMBER**

**INJECT TOUCH POINT**
Touch this point and then, whilst holding it, swap channels, aux, busses, paste EQ/dyn, track arm and many other functions.

**MUTE BUTTON**

**CHANNEL METER**

**ARMED TRACK INDICATOR**

**AUTOMATION STATE INDICATORS**

**NULL INDICATORS**

**FADER**

**HOLD BUTTON**
Press this button to lock this channel in its slot.
It will now stay in place regardless of Ergonomic Spread recall, undo, etc… functions.
4 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.
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 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 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 Fans**
The number of LED's lit in each "spoke" represents the degree of cut or boost applied by this band of EQ. When cutting, the spoke grows from the rim towards the centre of the EQ Fan, when boosting the spoke grows from the centre towards the rim. The exact amount of cut or boost is displayed on the Active Screen (see chart below).

**Rim Light**
A Rim Light is lit whenever this band of EQ is engaged, green indicates no cut/boost, red indicates cut and yellow indicates boost. Each spoke is lit whenever the selected frequency is the same as or higher than the frequency marked next to the spoke.

**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.

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

**LPF Indicator**
The LPF Indicator is lit whenever the LPF Filter is engaged - This parameter is controlled through the Active Panel (see below).

**Out of Range**
The Out Of Range indicators are lit when the frequency selected is outside the EQ Fan's display range.

**HPF Indicator**
The HPF Indicator is lit whenever the HPF Filter is engaged - This parameter is controlled through the Active Panel (see below).

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

---

**EQ Fan Spoke Values**

<table>
<thead>
<tr>
<th>EQ Fan Spoke Display</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Spoke LEDs illuminated</td>
<td>No Cut or Boost Applied</td>
</tr>
<tr>
<td>1 Spoke LEDs illuminated</td>
<td>up to 1.99 dB Cut or Boost</td>
</tr>
<tr>
<td>2 Spoke LEDs illuminated</td>
<td>2 to 3.99 dB Cut or Boost</td>
</tr>
<tr>
<td>3 Spoke LEDs illuminated</td>
<td>4 to 5.99 dB Cut or Boost</td>
</tr>
<tr>
<td>4 Spoke LEDs illuminated</td>
<td>6 to 9.99 dB Cut or Boost</td>
</tr>
<tr>
<td>5 Spoke LEDs illuminated</td>
<td>10 to 14.99 dB Cut or Boost</td>
</tr>
<tr>
<td>6 Spoke LEDs illuminated</td>
<td>more than 15 dB Cut or Boost</td>
</tr>
</tbody>
</table>
5 Monitor Panel

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

Monitor Panel Overview

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 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 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 restores 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 inplace**

**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 locarte 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.

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 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 it's 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 an 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.

<table>
<thead>
<tr>
<th>mute with ARC</th>
</tr>
</thead>
<tbody>
<tr>
<td>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.</td>
</tr>
<tr>
<td><strong>E.g.</strong> 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.</td>
</tr>
<tr>
<td>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.</td>
</tr>
<tr>
<td><strong>I.e.</strong> The first strip you touch determines whether you're modifying things to turn ON or to turn OFF.</td>
</tr>
</tbody>
</table>

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.
Expert Panel: Expert Panel Overview

• Automation status feedback on 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.
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
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
   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.

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.

---

**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:

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

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:

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 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.

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

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

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

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

Saving Speaker Sets
Mixer to Monitor connection status is saved in the project.

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

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

Monitor Configure Media Manager
External Metering

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

![Monitor Configure Output Metering Patch]

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

Patches are made in exactly the same way as the Speaker Output 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.

**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 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](image)
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:

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](image)

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

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

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

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

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

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

**Note:** This is essential when, for example, the **Mix Room** talks to the **Vocal Booth** with the programme mic channel open to avoid howl-round and possible damage to loudspeakers and hearing.
The fourth and final column offers a choice between **Rec Free** and **Rec Loc**. **Rec Free** means that talkback on this crosspoint can be initiated when the Transport is in Record and the **Record Reset Latch** is set. **Rec Loc** disables the crosspoint when 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](image)

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

![Monitor ! page Talkback Section](image)

(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](image)

**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:

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:

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.
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](image-url)
By default the Meter Bridge window is hidden. It can be opened with View > Meter Bridge or the icon in the View Toolbar.
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](image)

**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).

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:
Automation Fader Mode and Group Indicators

Ramses Group

1. Member of Group
2. 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.
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 unpredictatable 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.
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

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**

<table>
<thead>
<tr>
<th>Modifier</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>lay-all</td>
<td>not yet implemented</td>
</tr>
<tr>
<td>lay-prim</td>
<td>not yet implemented</td>
</tr>
<tr>
<td>solo</td>
<td>when pressed the small Track Selection and User Keys will toggle Solo on the Edit Tracks</td>
</tr>
<tr>
<td>mute</td>
<td>when pressed the small Track Selection and User Keys will toggle Mute on the Edit Tracks</td>
</tr>
<tr>
<td>loc-bank</td>
<td>Toggles linking navigation to Ramses main fader navigation</td>
</tr>
<tr>
<td>trk-arm</td>
<td>when pressed the small Track Selection and User Keys will toggle Track Arm on the Edit Tracks</td>
</tr>
</tbody>
</table>

**Modifiers - Right-hand side**

<table>
<thead>
<tr>
<th>Modifier</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>trans</td>
<td>not yet implemented</td>
</tr>
<tr>
<td>snap</td>
<td>enables Snap Head to Nearest. <strong>CTRL + snap</strong> disables Snap Head to Nearest</td>
</tr>
<tr>
<td>update-tc</td>
<td>Updates the original TimeCode of the actual composition to the original medias. <strong>Use with caution!</strong></td>
</tr>
<tr>
<td>auto-x</td>
<td>toggles <strong>auto cross fade</strong> enable/disable</td>
</tr>
<tr>
<td>auto-rip</td>
<td>toggles <strong>auto-ripple</strong> (shuffle) enable/disable</td>
</tr>
<tr>
<td>auto-sel</td>
<td><strong>auto selection mode</strong> (Clip - and Clip group - under cursor) when <strong>Stopped</strong> or when another another Edit Track is selected</td>
</tr>
</tbody>
</table>
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
14.1 deactivated for now / Envelope not yet implemented
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
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.
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, Automation, Configure, Route and Organize, toggle with the Mix ! screen and are accessed from buttons at top right of the screen...
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:

- Full Delay Compensation
- All but effects latencies
- Off

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 busses 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: Off. 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:

<table>
<thead>
<tr>
<th>Topology</th>
<th>Remove</th>
<th>Duplicate Strips</th>
</tr>
</thead>
<tbody>
<tr>
<td>Add Strip</td>
<td>Add Bus</td>
<td></td>
</tr>
<tr>
<td>Mono</td>
<td>Mono Mix</td>
<td>All Buses</td>
</tr>
<tr>
<td>Stereo</td>
<td>Stereo Mix</td>
<td>All Strips</td>
</tr>
<tr>
<td>MS</td>
<td>Surround Mix</td>
<td>All Buses</td>
</tr>
<tr>
<td>GPS</td>
<td>Aux</td>
<td></td>
</tr>
<tr>
<td>Group</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Display</th>
<th>UnCollapse</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Collapse</td>
<td>Selected</td>
<td></td>
</tr>
<tr>
<td>Selected</td>
<td>All Strips</td>
<td></td>
</tr>
<tr>
<td>All</td>
<td>All Buses</td>
<td></td>
</tr>
<tr>
<td>All Strips</td>
<td>All Strips</td>
<td></td>
</tr>
<tr>
<td>All Buses</td>
<td>All Buses</td>
<td></td>
</tr>
</tbody>
</table>

**Topology and Display menus**

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

<table>
<thead>
<tr>
<th>Number of Strips To Create:</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of channels per strip:</td>
<td>6</td>
</tr>
<tr>
<td>Channels Configuration:</td>
<td>![Channels Configuration Options]</td>
</tr>
</tbody>
</table>

**Add General Purpose Input Strip(s) dialog**
Add Bus - Mono Mix Stereo Mix Surround Mix and Aux is similar:

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: Effects Buttons

Add

Pops up a sub-menu with options

Add
Add On Selected Strips..
Add On All Strips..
Add On All Buses..

Configure Page - Effects section

This offers several methods of managing effects on strips and busses.
Each of these three options opens an Add Effect On XXX dialog, identical apart from the title.

**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
- Remove Selected Effects...
- Remove From Selected Strips..
- Remove All From All Strips..
- Remove All From All Buses..

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

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

**Effects Section Containers**

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

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

**Selecting, Copying and Moving Effects**

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

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

- **Insert before (effect clicked on)** > drops down a list of effects of the same type that can be inserted before current the effect.
- **Replace (effect clicked on)** > drops down a list of effects of the same type that can replace the current effect. **Double-Click**ing an installed effect does the same thing.
- **Remove (effect clicked on)** Uninstalls the current effect from the Strip or Bus
- **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**
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:

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:

![Route Menu](image)

- **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

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:
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.:

<table>
<thead>
<tr>
<th>ST1: Main</th>
<th>Effect</th>
<th>Gain</th>
<th>Mute</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collapse</td>
<td>Collapse</td>
<td>Collapse</td>
<td>Collapse</td>
<td>Collapse</td>
</tr>
<tr>
<td>Hide</td>
<td>Hide</td>
<td>Hide</td>
<td>Hide</td>
<td>Hide</td>
</tr>
<tr>
<td>Change Color</td>
<td>Reset Bus</td>
<td>Reset Bus</td>
<td>All Effects On</td>
<td>All Effects On</td>
</tr>
<tr>
<td>Reset Color</td>
<td>All Effects On</td>
<td>All Effects On</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Reset Bus</td>
<td>Reset Peak</td>
<td>Reset Peak</td>
<td>Reset Effects Bypass</td>
<td>Reset Effects Bypass</td>
</tr>
<tr>
<td>Reset Pans</td>
<td>Reset Pans</td>
<td>Reset Pans</td>
<td>Invert Effects Bypass</td>
<td>Invert Effects Bypass</td>
</tr>
<tr>
<td>Reset Channel Routing</td>
<td>Reset Channel Routing</td>
<td>Reset Channel Routing</td>
<td>Invert Mutes</td>
<td>Invert Mutes</td>
</tr>
</tbody>
</table>

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.

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).

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.

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:

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:

1. 1
2. 2
3. 3
4. 4
5. 5
6. 6
7. 7
8. 8

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 reverb, 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:

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

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](image)

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](image)

**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](image)

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.

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**

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

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

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

L = M + S and R = M - S

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

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

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

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

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

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

Creating and Configuring Mixers

If one of the numerous mixer presets does not quite suit your application it is simple to modify an existing mixer, create one using the Mixer Wizard or design one from scratch. The Wizard can be started from an existing mixer by right-clicking anywhere on the mixer surface and selecting Settings > Wizard...
Select the type(s) of busses 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 busses, and a Surround Mix Bus can consist of from 1 - 16 multi-channel stems. Aux Busses can have from 1 - 8 channels. Click the Next button to move on to the next page.

Select the type(s) of channel strips required using the check boxes and the number needed from the drop down lists on the right. Click the Next button to move on to the next page.
Checking the **Connect automatically as many inputs and outputs as possible** check-box will create the same number and types of **Tracks** as there are **Input Strips** and connect as many as possible to the available physical inputs in ascending order and output Busses to the physical I/O attached to the Mykerinos board(s) and Track outputs to Mixer Input Strips, although you can easily reconfigure this later. If the box is not ticked, the tracks will be created in the same way with Track outputs connected to Mixer strips but no physical Inputs or Outputs will be connected.

Clicking **Cancel** opens the new Project with a **Blank Mixer Window** (See below)

**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 MADI daughterboards has a total of 192. In HDTDM mode any 128 of these may be routed to Pyramix logical inputs and any 128 Pyramix logical outputs (less the number of assigned **Internal Return Busses**; see below), can be routed to physical outputs.

**Input Strip Types**

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

**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

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

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.

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 processors 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:

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.

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](image)

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: **Effects > Add > Other > External Insert**

![Mixer Strip External Insert Plug-in Control Window](image)

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.

- Peak
- Automation
- Add Effect
- Add VST Plug-In
- Strip
- Bus

Mixer -> Show All -> Show
Mixer -> Show All -> Hide
Mixer -> Bus -> Stereo Mix Bus 1
Mixer -> Bus -> Effect Bus 1
Mixer -> Bus -> Gain Bus 1
Mixer -> Bus -> Mute Bus 1
Mixer -> Bus -> I/O Bus 1

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

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.

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.

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

Open Surround Control

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

Surround Control window

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

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

Surround Panning Algorithm

The drop down list gives a choice of panning algorithms.

Constant Gain

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

Constant Power

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

Level Meter

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

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.
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:
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:

![Link Status and Automation Status pop-up window](image)

**Group assignment mode buttons**

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

- **None**: The control is not a member of any group.
- **Group**: The control is a member of the selected group. When you move (or switch) this control or any other control which is a member of this group, all the members of the group will move (or switch) along with it.
- **Exclusive**: This mode is only available for switches. With this mode selected, when this switch is on, all the other members of the group will be switched off.
- **Group Exclusive**: This is a mode which has a superior effect on all groups which are set to Group Exclusive. When any of the groups which are set to Group Exclusive is switched on, all the other groups set to Group Exclusive will be switched off.
Grouped controls are indicated by a yellow L in the corner of the control ‘block’.

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

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

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

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

The red bar at the top of the strip indicates it is selected. The grayed out knob is the one which was right-clicked.
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.
- **Activate/de-activate 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.
- **Input Section On/Off**: Input section on/off
- **Input Level Control**: Adjusts the input level over a range of -48 dB to +48 dB.
- **Show/Hide Input Section**: By default Routing buttons are hidden. This button toggles between Showing and Hiding the Routing Buttons. Routing remains active when hidden.
- **Routing Buttons**: Determine which audio streams running through the strip will be processed by the plug-in. The number of buttons depends on the number of steams controlled by the strip. This means one for a mono input channel or two for a stereo input channel and so on up to 8 for a 7.1 input channel. Streams which are not selected will be left untouched.
Dynamics Section

Show/Hide Dynamics section

Dynamics Section On/Off

Gain reduction display

The bar graph shows the gain reduction/increase generated by the Dynamics Section or by the Expander. The range of the display can be switched between ±10 or 20 dB by clicking on the bar graph. Scale markings in 1dB increments on the right-hand side of the bar graph make it easy to see if the range is 10 or 20 dB.

Colors are used to denote a gain reduction or increase generated by either the compressor or the expander:

- Gain reduction by the Compressor is displayed in Red from top to bottom.
- Gain increase by the De-Compressor is displayed in Pink from bottom to top.
- Gain reduction by the Expander (normal or inverse) is displayed in Green from bottom to top. With the compressor in inverse mode, the gain reduction of the expander is displayed in Green from top to bottom.

Threshold Level Control

Sets the level at which the compressor begins to act. If the input signal level exceeds the Threshold Level, the gain is reduced (or increased in De-Compressor mode) in proportion to the setting of the ratio control.

Ratio Control

Determines the proportion of gain reduction (or increase) for signals above the threshold level. If, for example, the ratio is set to 2.00:1, in Compressor mode, if the input level rises by 2dBs above the threshold level, the output level will only rise by 1 dB.

Attack Time Control

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

Release and Hold Time controls

These two parameters work together and control the amount of time the compressor takes to react when the input level is above the threshold level and starts fall. During the hold time the gain of the compressor remains constant. After the hold time the gain of the compressor is changed at the rate set by the release time. The lower the release time, the faster the reaction.
De-Compress Switch

Switches the compressor between the compress and the de-compress modes.

### Compressor mode

- **Output level**
- **Input level**
- **Threshold**

### De-compressor mode

- **Output level**
- **Input level**
- **Threshold**

Compressor and De-Compressor action

In compressor mode, when the input level exceeds the threshold level, the gain is reduced according to the setting of the ratio control. In de-compressor mode, when the input level exceeds the threshold level, the gain is increased according to the setting of the ratio control.

---

**Expander Section**

- **Show/Hide Expander Section**
- **Threshold Level Control**
- **Expander Section On/Off**
- **Ratio Control**
- **Inverse Switch**

**Show/hide Expander section**

**Dynamics section on/off**

**Threshold Level Control**

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

**Ratio control**

Determines the proportion of gain reduction (or increase) for signals below the threshold level. If, for example, the ratio is set to 2.00:1, in normal mode the output level will be decreased by 2 dB if the input level is decreased by 1 dB below the threshold level.
Inverse switch
Switches the between normal and inverse expander modes.

Expander normal mode

Inverse mode

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.

[Diagram of equalizer section controls]
This switch offers the option to 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
Auto Gain Make-Up Switch
Color bar indicates Selected

**Output Level Control**

Adjusts the output level over a range of -48 dB to +48 dB.
Automatic Gain Make Up switch
When lit, Output gain is automatically adapted according to the settings in the Dynamics Section. In this case the Output Level Control will be grayed out and inaccessible.

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

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

**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**

<table>
<thead>
<tr>
<th>Channel</th>
<th>BUS 1</th>
<th>BUS 2</th>
<th>BUS 3</th>
<th>BUS 4</th>
<th>BUS 5</th>
<th>BUS 6</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Routing</strong></td>
<td>L</td>
<td>C</td>
<td>R</td>
<td>SL</td>
<td>SR</td>
<td>SW</td>
</tr>
<tr>
<td><strong>Instance 1</strong></td>
<td>IN</td>
<td>OUT</td>
<td>IN</td>
<td>OUT</td>
<td>OUT</td>
<td>OUT</td>
</tr>
<tr>
<td><strong>Delay</strong></td>
<td>8.71 (PA)</td>
<td>8.71 (DC)</td>
<td>8.71 (PA)</td>
<td>8.71 (DC)</td>
<td>8.71 (DC)</td>
<td>8.71 (DC)</td>
</tr>
<tr>
<td><strong>Instance 2</strong></td>
<td>OUT</td>
<td>OUT</td>
<td>OUT</td>
<td>IN</td>
<td>IN</td>
<td>OUT</td>
</tr>
<tr>
<td><strong>Delay</strong></td>
<td>5.8 (DC)</td>
<td>5.8 (DC)</td>
<td>5.8 (DC)</td>
<td>5.8 (PA)</td>
<td>5.8 (PA)</td>
<td>5.8 (DC)</td>
</tr>
<tr>
<td><strong>Total Delay</strong></td>
<td>14.51 ms</td>
<td>14.51 ms</td>
<td>14.51 ms</td>
<td>14.51 ms</td>
<td>14.51 ms</td>
<td>14.51 ms</td>
</tr>
</tbody>
</table>

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.

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

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

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.
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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