# Immersive Wrapper

Transform Any Waves Mono Plugin into an Immersive Processor

## User Guide

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# Introduction

Immersive Wrapper is an innovative tool that transforms Waves mono plugins into immersive multichannel processors. This helps solve the bus processing problem when mixing music for ATMOS and other immersive formats. Now you can create immersive bus processing setups in multichannel / object-based mixes, using your favorite Waves plugins—complete with a shared internal sidechain system for mix-wide dynamics processing.

One of the biggest challenges in mixing for Immersive formats such as ATMOS is the lack of a bus: Since the immersive mix is outputted as individual beds and objects, you cannot shape the entire mix in a single place, making it harder to achieve the same glued cohesiveness as on a stereo mix. Immersive Wrapper finally enables bus processing in immersive mixing. The Immersive Wrapper plugin can host any mono-to-mono Waves plugin, in any channel configuration from mono though 7.1.2, all the way up to 9.1.6.

Immersive Wrapper opens the mono plugin across all the channels in the multichannel track, in a multi-mono configuration. All the mono instances of the plugin across the beds and objects can be control-linked to make them work as a single plugin. Control linking is flexible: you can link and unlink specific groups such as surrounds or tops and preserve relative control positions for maximum control and precision—all with a single click. For dynamics plugins that allow sidechaining, Immersive Wrapper lets you share internal sidechains across all the beds and objects, enabling you to glue your immersive mix with bus compression quickly and easily.

With the Immersive Wrapper, the vast Waves plugin catalog is now fully available for detailed, flexible, musical use in immersive mixing.

# Getting Started With Immersive Wrapper

## Using Immersive Wrapper on a multichannel track

1. Open Immersive Wrapper on your multichannel track.
2. Within Immersive Wrapper, load your desired plugin.
3. By default, the plugin loads with “All” control link group engaged. Adjust the plugin parameters as needed to affect all the channels equally.
4. Change the Control Link Group to “Front,” Surround,” or “Tops” to adjust specific channel groups.
5. Change the Control Link Group to “None” and then select a specific channel to adjust individually without affecting any other channels.
6. Change the Control Link Group back to “All” and adjust all the channels together while the relative control positions are preserved.

## Using Immersive Wrapper on a multichannel and objects tracks together

1. Open Immersive Wrapper on all your multichannel tracks and object tracks.
2. Within Immersive Wrapper, load your desired plugin on one of the tracks.
3. Assign the Immersive Wrapper to a new global group from the Global Group popup.
4. Go to the other Immersive Wrapper instances and add them one by one to the global group.
5. Now you can control whole global group under that same link groups “All” “Fronts” and so forth.

## Using Immersive Wrapper for dynamics processing

1. Open Immersive Wrapper on your multichannel track.
2. Within Immersive Wrapper, load a compressor plugin that supports sidechain.
3. By default, all the channels are sent to Sidechain Mix 1 and all the channels receive Sidechain Mix 1 as their sidechain key signal. All you need to do is adjust the compressor setting under link “All” to achieve multichannel compression where all the channels combined are compressing each channel by the same amount.
4. Fine-tune the multichannel compression by utilizing different side chain mixes for different channels. There are six sidechain mixes you can use, and each channel can receive each of the six mixes or a mix of them.
5. Additionally, you can select an external key from your DAW and use it as a send to the sidechain mixes or as a sidechain receive.

## Using Immersive Wrapper for dynamics processing of an object-based mix

1. Open Immersive Wrapper on all your multichannel tracks and object tracks.
2. Within Immersive Wrapper, load a compressor plugin that supports sidechain.
3. Assign the Immersive Wrapper to a new global group from the global group popup.
4. Go to the other Immersive Wrapper instances and add them one by one to the global group.
5. Now the sidechain mixes 1 to 6 are shared between all the Immersive Wrapper instances in the global group. Audio from your multichannel track now affects the compression of your object tracks and vice versa. Object tracks affect the compression of one another; this effectively achieves the same effect of stereo bus compression but here distributed across and object-based mix.

6. Use the control link groups, and sidechain mixes sends and receives to control and fine-tune your compression effect over the different parts of your multichannel and object tracks.
7. **Workflow Tip:** Take an external key in one of the Immersive Wrapper instances and send it to one of the mixes. This way you can receive that external key in all the Immersive Wrapper instance in the group, without adding it one by one from the DAW.

# Components

Immersive Wrapper supports all common track types, starting from mono all the way up to 9.1.6. This ensures that in any format you are mixing, Immersive Wrapper can be deployed and utilized with all its capabilities, giving you maximum flexibility and compatibility.

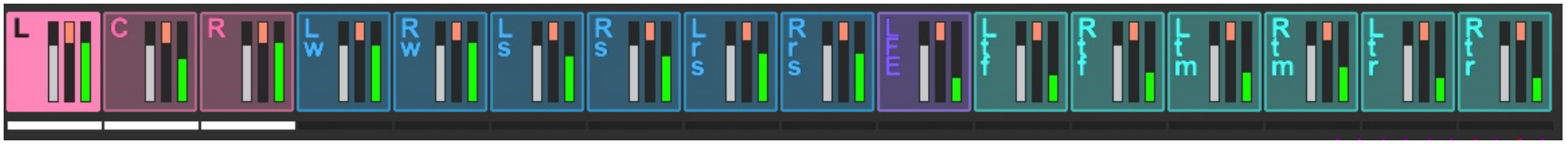
## Immersive Wrapper Components table

| Track Type | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Mono (object)** | O | | | | | | | | | | | | | | | |
| **Stereo (object)** | Ol | Or | | | | | | | | | | | | | | |
| **LCR** | L | C | R | | | | | | | | | | | | | |
| **LCRS** | L | C | R | S | | | | | | | | | | | | |
| **Quad** | L | R | Ls | Rs | | | | | | | | | | | | |
| **5.0** | L | C | R | Ls | Rs | | | | | | | | | | | |
| **5.1** | L | C | R | Ls | Rs | LFE | | | | | | | | | | |
| **5.0.2** | L | C | R | Ls | Rs | Lt | Rt | | | | | | | | | |
| **5.1.2** | L | C | R | Ls | Rs | LFE | Lt | Rt | | | | | | | | |
| **5.0.4** | L | C | R | Ls | Rs | Ltf | Rtf | Ltr | Rtr | | | | | | | |
| **5.1.4** | L | C | R | Ls | Rs | LFE | Ltf | Rtf | Ltr | Rtr | | | | | | |
| **6.0** | L | C | R | Ls | Cs | Rs | | | | | | | | | | |
| **6.1** | L | C | R | Ls | Cs | Rs | LFE | | | | | | | | | |
| **7.0** | L | C | R | Lss | Rss | Lsr | Rsr | | | | | | | | | |
| **7.1** | L | C | R | Lss | Rss | Lsr | Rsr | LFE | | | | | | | | |
| **7.0.2** | L | C | R | Lss | Rss | Lsr | Rsr | Lt | Rt | | | | | | | |
| **7.1.2** | L | C | R | Lss | Rss | Lsr | Rsr | LFE | Lt | Rt | | | | | | |
| **7.0.4** | L | C | R | Lss | Rss | Lsr | Rsr | Ltf | Rtf | Ltr | Rtr | | | | | |
| **7.1.4** | L | C | R | Lss | Rss | Lsr | Rsr | LFE | Ltf | Rtf | Ltr | Rtr | | | | |
| **7.0.6** | L | C | R | Lss | Rss | Lsr | Rsr | Ltf | Rtf | Ltm | Rtm | Ltr | Rtr | | | |
| **7.1.6** | L | C | R | Lss | Rss | Lsr | Rsr | LFE | Ltf | Rtf | Ltm | Rtm | Ltr | Rtr | | |
| **9.0.4** | L | C | R | Lw | Rw | Lss | Rss | Lsr | Rsr | Ltf | Rtf | Ltr | Rtr | | | |
| **9.1.4** | L | C | R | Lw | Rw | Lss | Rss | Lsr | Rsr | LFE | Ltf | Rtf | Ltr | Rtr | | |
| **9.0.6** | L | C | R | Lw | Rw | Lss | Rss | Lsr | Rsr | Ltf | Rtf | Ltm | Rtm | Ltr | Rtr | |
| **9.1.6** | L | C | R | Lw | Rw | Lss | Rss | Lsr | Rsr | LFE | Ltf | Rtf | Ltm | Rtm | Ltr | Rtr |

# Controls

**Load Plugin –** Click to select a plugin to load into the Immersive Wrapper. Multiple mono instances of the plugin will be loaded, one on each of the channels. After a plugin is loaded you can go back and change it. The settings of the wrapper are preserved while the plugin settings will load at default settings. When using Global Groups, changing the plugin will change it across the entire group.


**Chanel View Selector –** Click a channel button to view the plugin instance of this channel.




**Meters –**

- Green meter indicates the channel input level.
- Red meter indicates the channel gain reduction.
- Gray meter indicates the internal sidechain key signal level.

**Bypass –** Click to bypass the plugin instance whose channel is currently viewed. This action also bypass the plugins on all the control-linked channels.

## Control Link Groups

Click a control link group to activate it. Once it is activated, all the channels in that group (indicated by a white bar below the channel) will be linked. Channels in the group are controlled together; changes to any control affects all corresponding controls in the group.


- The control link is **relative,** meaning that if there is a difference in the control values between channels in the group, moving the control will move all the group together while preserving the differences in value.
- Loading or pasting a preset to the plugin within the wrapper will also load it to all the linked channels.
- Currently linked indication bar – a white bar below the channel buttons indicates when channels are currently control linked.
- Control Link Groups control – all the automatable plugin parameters, the bypass control, and the internal sidechain mixer receive faders, weight control, and summing mode.

**Note!** – Control linking is based on the automation system, a few plugins have some controls that are not automatable, these controls will not be linked across the channels.

There are five predefined control link groups and three user-defined control link groups. You can add and remove channels to any of the groups by holding down the **Command key in Mac** or the **Control key in Windows**, and clicking a channel button. It will add it or remove it from the currently selected control link group. A channel can be part of more than one control link group.

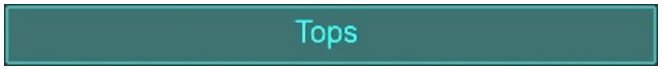
**All –** Activates All group; links all channels.


**Fronts –** Activates Fronts group; links Left, Center, and Right channels.


**Surrounds –** Activates Surrounds group; links All the ear level surround channels.


**LFE –** Activates the LFE group; links the LFE channels across the Global Group.


**Tops –** Activates the Tops group; links all the height channels.



**None –** Deactivates any control link groups used to control parameters on a single channel, without affecting other channels.

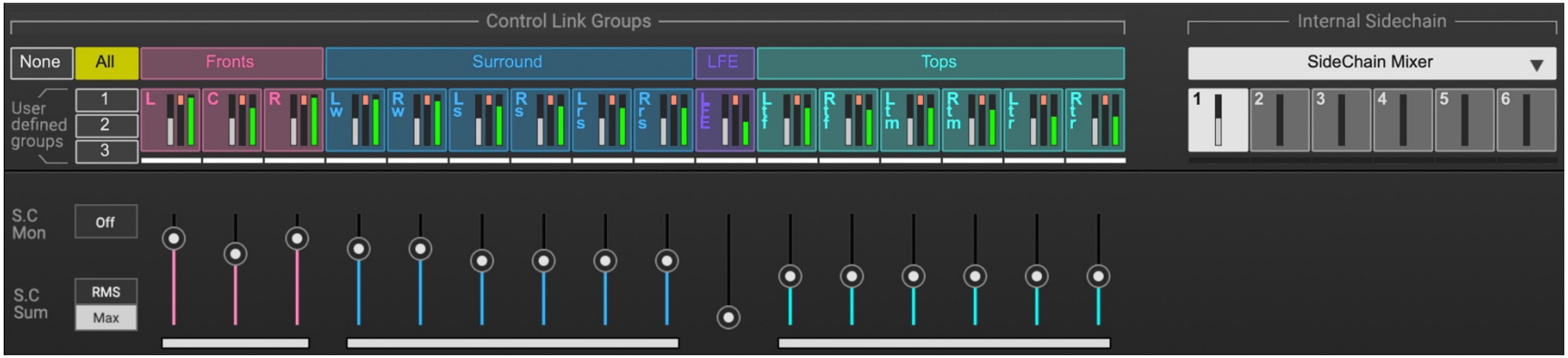

**User-Defined Groups 1 / 2 / 3 –** These three groups are empty groups. You can freely add channels to them by selecting one of the three groups and holding down the **Command key in Mac** or the **Control key in Windows** and clicking a channel button.

## Internal Sidechain Mixer

The Internal Sidechain mixer enables multiple-mono compressors to operate as a single multichannel compressor. By creating a sidechain consisting of all the channels and feeding it back to all the channels as the key signal, we get all the mono compressors compressing the entire multichannel mix, together, at the same time. This is what creates the glue effect of the master bus compressor used so often in stereo mixing.

Internal Sidechain is available only for plugins that have an external key feature. In some plugins, it is required to activate the external key function from within the plugin for the Immersive Wrapper's Internal Sidechain to take effect.

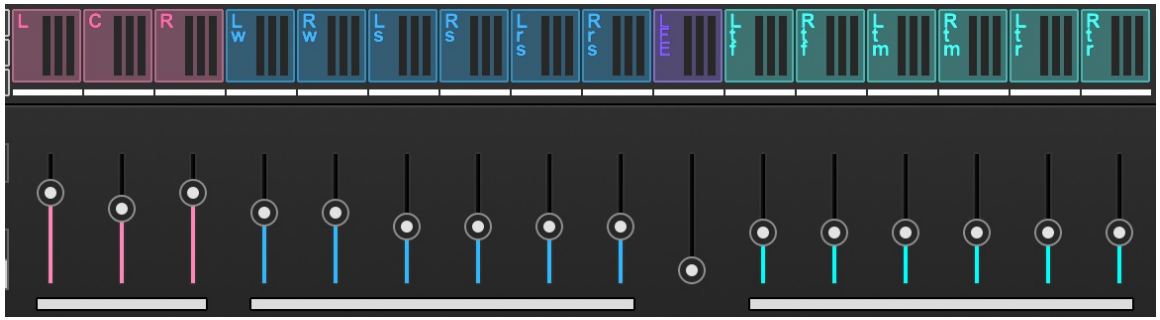
**Workflow Tip**: To easily find the Waves plugins that support sidechain, type "sc" in the load plugin menu.




**Sidechain Mix Selector –** There are six sidechain mixes you can use. By clicking on one of the Sidechain Mix buttons the mixer view will toggle to show the sends to that mix. Each Sidechain Mix button has a meter to indicate the mix audio level.


**Workflow Tip:** Use different sidechain mixes to control which channels have more—or less—effect over the compression of other channels.

**Sidechain Mix Sends –** By clicking on one of the Sidechain Mix buttons you will see its **sends** fader bank, as seen below. These faders control how much audio from each of the channels is fed into that sidechain mix. Each fader corresponds to the channel button above it. Use the white bars below the faders to control fader groups together.




**Workflow Tip:** To adjust faders together in one action, multi select faders using the Shift key or by clicking and dragging the mouse,

**Range –** 0dB to (-100) dB

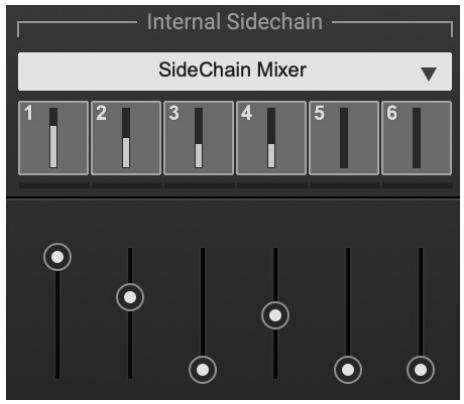
**Default Mix 1 –** (-24) dB all channels, LFE channel (-100) dB

**Default Mix 2-6 –** all channel (-100) dB

**Reset Value –** (-24) dB

**Sidechain Mix Receive –** When a channel is selected, click the Sidechain Mixer bar to see the sidechain-receive faders. These faders control how much of each sidechain mix is received by the channel as the key signal. These faders are controlled by the control link group mechanism. You can adjust them all at once by activating link “All”; or by individual channels activating the “None” button, as well as by channel link groups. Each fader corresponds to the

Sidechain Mix button above it. Toggle between the channel buttons to view the receive faders for each channel. Click the Sidechain Bar to close the faders.

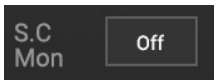



**Range –** 0 dB – (-100) dB

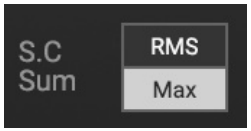
**Default Mix 1 –** 0 dB

**Default Mix 2-6 –** (-100) dB

**Sidechain Monitor –** Use this to monitor the sidechain signal of the channel—or mix—currently selected in the view. The sound will come out of the Center channel.




**Sidechain Summing Mode –** The Internal Sidechain can operate in two summing modes affecting how the signals sent into the sidechain mix are summed together. This results in a different response of the dynamic processor receiving the key signal.




- **RMS –** In this mode the signals are summed together in a standard way, as when summing signals in an audio bus. This results in slower response of the compressor and can be less accurate when out of phase signals are presents, or when using a limiter to shave off peaks in the audio channels.
- **Max (default) –** This mode operates much like a classic stereo-linked compressor. Signals are summed in a way that only registers the maximum level coming in from all the signals at every moment. The maximum level signal is then used to trigger the dynamics processor. This results in faster, punchier compression, and it sounds much like how the compressor operates in a stereo-link mode. It better allows a limiter plugin to accurately respond to the actual peaks within the signals.

**External Key Sidechain –** You can add an external key sidechain from your DAW to the Wrapper's Internal Sidechain Mixes. Once you select an external key source in your DAW, a new meter and fader will appear, called Ext Key. Use this in one of two ways, either as a send fader into one of the Internal Sidechain Mixes, or as a receive fader directly into the channel's sidechain receive. There are many creative ways to use the External Key.


**Workflow Tip:** When used in a Global Group, external key can be sent to many tracks in the session without a need to assign it one by one in the DAW. Simply send the external key to one of the Sidechain Mixes and now it is received in all the Wrappers in the global group in that mix.

**Weight** – Controls which audio source is received as the sidechain key signal. At 100 the audio is received entirely from the internal sidechain mixer. At 0 the audio is entirely received from each channels own input, meaning each channel would be compressed individually based on its own input (this is the same as when a compressor plugin

operated in a standard multi-mono configuration in the DAW). At a range in between 0 to 100 both the individual channel input and the internal sidechain mix would be combined as the key signal, meaning that channels would be compressed together to some degree and individually to some degree giving you fine control over your dynamics. This control is also governed by the link groups mechanism.


**Range –** 0 – 100

**Default –** 100

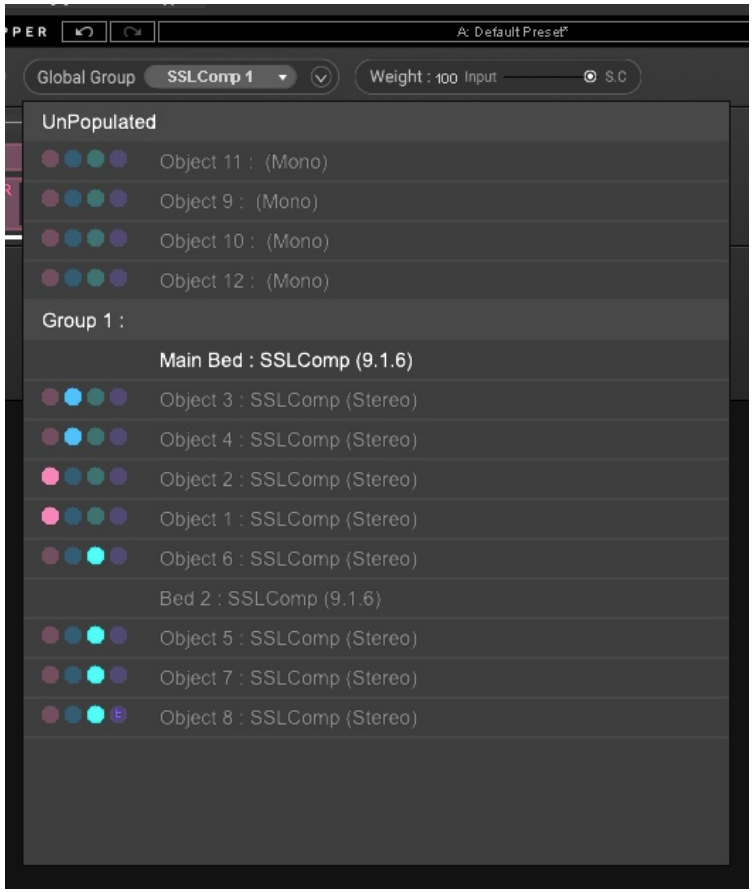
## Global Group

The Global Group allows you to link multiple Immersive Wrapper instances across your session. This is useful when a mix includes several multichannel and/or object tracks and you want to process them together, as if you had bus processing. Using a Global Group, you can do that easily, and with full control and flexibility.

**Global Group Menu –** use this menu to add a wrapper to a new global group or to an existing one.


- **Loaded Plugin in a Global Group –** A global group always has the same plugin type loaded across all the group members. An empty Wrapper can be added to any group, and the group's plugin will automatically be loaded to it. Changing a loaded plugin in one of the group members will change the plugin in all of them at once. A Wrapper with a plugin loaded in it can only be added to groups of the same plugin type.
- **Control Links in a Global Group -** All the wrappers in a global group share the control linking mechanism, so under Link All, all the channels in all the wrappers under that group will be linked together. Under link Surrounds, all the surround channels under the wrappers in the group will be linked. The same is true for all the control link groups including the three user-defined groups.
- **Internal Sidechain Mixes in a Global Group –** The Internal Sidechain Mixer is shared across the Global Group, meaning that audio sent to one of the mixes will be summed with audio sent from other wrappers in the group to that mix. Channels can receive audio from all the wrappers in the groups as the sidechain key signal.

**Instance Panel –** Open the Instance panel by clicking the arrow on the right of the Global Group section. View all the wrapper instances within the global group, as well as all the groups of the same plugin type and all the wrapper instances that are unpopulated (meaning they don't have a loaded plugin yet). This serves several proposes. First, you can get an overview of the groups. Next, you can drag and drop listed wrappers in and out of groups, making it much easier to manage the Global Groups. And finally, mono and stereo wrapper instances can be linked to the main Control Link Groups from the list itself by toggling the colored dots buttons. Each dot button corresponds to one of the groups by matching color.

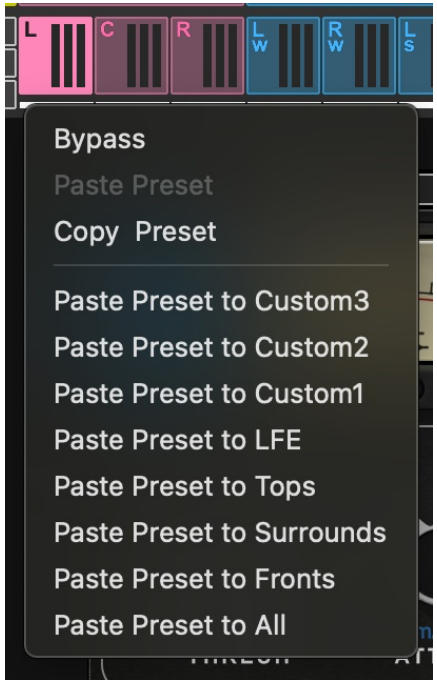



**Example:** Here you see an SSL Comp group. In the group there are two wrappers on 9.1.6 bed tracks and eight wrappers on stereo object tracks. Objects 1 and 2 are linked to the fronts, objects 3 and 4 are linked to the surrounds, and objects 5 to 8 are linked to the Tops. On the top you see four mono wrappers that are unpopulated. You can drag them into the group to make them populated with SSL Compressors as part of the Global Group.

**NOTE!**
When committing or freezing tracks while using Immersive Wrapper's internal sidechain with a Global Group, it is important to include all tracks in the group.

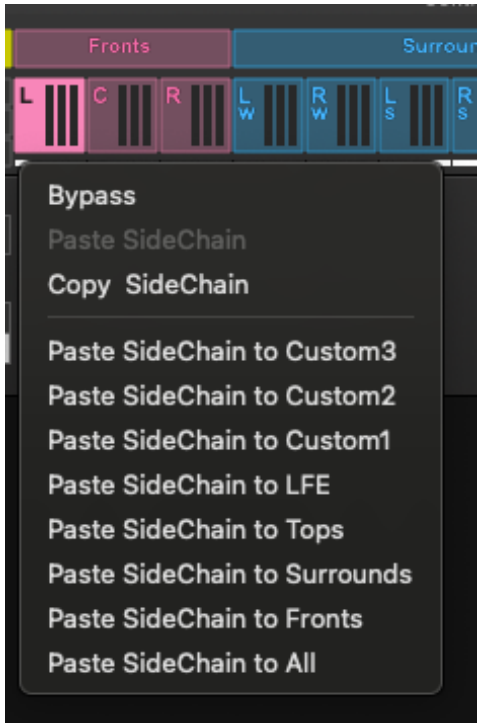
## Copy and Paste Settings

**Plugin Settings -** When working with Immersive Wrapper, there are many scenarios in which you want to copy plugin settings from one channel to other channels. One way to do this is to use the plugins' own preset menu to copy and paste settings. Immersive Wrapper provides a better way to do this all at once across entire control link groups




**Right click** on a channel button to access the Paste Preset Menu. Here you can, with one click, paste the plugin settings from one channel to all the other channels or to any of the control links groups channels.

**Workflow Tip:** Use copy and paste to align tracks to the same parameters and eliminate relative control position. Use when adding new wrappers to an existing group or when, by mistake, a difference in control parameters is created between channels. Select the channel with the desired parameters and copy it to the channel or channels you want to align. Relative control positions will be reset.




**Sidechain Receive Settings –** When the Internal sidechain mixer is open, the **right click** functionality on the channel buttons will change to allow you to copy the sidechain receive faders setting to other channels or groups of channels. Use this to align channels to the same settings and eliminate relative control positions.


**Sidechain Sends Settings – Right click** on one of the Internal Sidechain Mixes to copy its channel sends to other mixes. Use this to align channels to the same settings and eliminate relative control positions.

# Immersive Wrapper for Live Reinforcement Applications

Immersive Wrapper can link multiple Mono and/or Stereo instances of the Wrapper across multiple channels. It is not constrained by specific bus output configurations, such as ATMOS. It instead allows linked processing, using known and tested Mono instances of Waves plugins, across a flexible bus configuration.

If, for example, your Immersive Live setup consists of 16 discrete outputs, you can insert 16 mono racks—using SuperRack across all your bus outputs—and load each rack with an Immersive Wrapper plugin in Linked mode. You can then load your favorite Waves plugin in all instances of Immersive Wrapper plugin.

This allows a single nested plugin per instance; if you want to create a chain, add another instance of Immersive Wrapper and insert your additional processor.


Immersive Wrapper for Live applications supports these sample rates: 44 kHz–96 kHz. Immersive Wrapper latency in SoundGrid applications (SuperRack SoundGrid and eMotion LV1) = 0 samples.