

# **Pure Limiter**

FLUX:: Immersive

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# Table of contents

<b>1</b>	<b>Pure Limiter</b>	<b>6</b>
1.1	Input Level Meter(1) . . . . .	7
1.2	Output Level Meter(2) . . . . .	7
1.3	Limiting Level Meter(3) . . . . .	7
1.4	Input Gain (4) . . . . .	7
1.5	Knee (6) . . . . .	7
1.6	Output Gain (7) . . . . .	8
1.7	Link Knee (8) . . . . .	8
1.8	Auto Knee (9) . . . . .	8
1.9	Mode (10) . . . . .	8
1.10	Release Maximum (11) . . . . .	8
1.11	Release Minimum (12) . . . . .	9
1.12	Dynamic Velocity (13) . . . . .	9
1.13	Dynamic Factor (14) . . . . .	9
1.14	Dynamic High Pass Filter (15) . . . . .	9
1.15	Dynamic Low Pass Filter (16) . . . . .	10
1.16	Channels Link (17) . . . . .	10
1.17	Display A /B (18) (19) . . . . .	10
1.18	Make Up (20) . . . . .	10
1.19	Bypass (21) . . . . .	10
1.20	Lookahead (22) . . . . .	10
1.21	Auto Lookahead (23) . . . . .	11
1.22	Diff (24) . . . . .	11
1.23	Dynamic Filter Solo (25) . . . . .	11
1.24	Loaded Preset Display (26) . . . . .	11
1.25	Save (27) . . . . .	11
1.26	Recall (28) . . . . .	12
1.27	Copy A Copy B (29) . . . . .	12
1.28	Morphing Slider (30) . . . . .	12
1.29	Automation (31) . . . . .	12
1.30	Preset Management Access (32) . . . . .	12
<b>2</b>	<b>Plug-in Settings</b>	<b>13</b>

<b>3</b>	<b>Preset Management</b>	<b>14</b>
3.1	Preset Sections . . . . .	14
3.2	Save . . . . .	14
3.3	Copy A / Copy B . . . . .	14
3.4	Morphing Slider . . . . .	15
<b>4</b>	<b>Preset Manager</b>	<b>16</b>
<b>5</b>	<b>Specifications</b>	<b>19</b>
<b>6</b>	<b>Compatibility</b>	<b>20</b>
6.0.1	Pure Limiter . . . . .	20
6.0.2	Windows - 10, 64 bits only. . . . .	20
6.0.3	macOS (Intel and ARM) - 10.12 (Sierra) and more, 11 and 12. . . . .	20
<b>7</b>	<b>Credits</b>	<b>21</b>
7.1	Software development . . . . .	21
7.1.1	Project Manager and Designer: . . . . .	21
7.1.2	Application Development: . . . . .	21
7.1.3	FLUX:: DSP Design and Development: . . . . .	21
7.1.4	Graphic design: . . . . .	21
7.1.5	FLUX:: Framework development: . . . . .	21
7.1.6	FLUX:: Framework graphic engine: . . . . .	21
7.1.7	And . . . . .	22
7.1.8	FLUX:: Special Thanks to: . . . . .	22
7.2	FLUX:: . . . . .	22
7.3	Additional libs . . . . .	22
7.4	Open source libraries . . . . .	23
7.4.1	RTTrPM SDK (Blacktraxx) . . . . .	23
7.4.2	ThorVG (replaces crossed-out libraries above) - MIT . . . . .	23
7.4.3	r8brain free - MIT . . . . .	24
7.4.4	ooura fft from lmdsp - MIT (or MIT-like) . . . . .	24
7.4.5	LibJpeg - Custom (BSD-like) . . . . .	24
7.4.6	libpng - PNG Reference Library License version 2 . . . . .	24
7.4.7	Freetype 2 - FreeType License . . . . .	24
7.4.8	Zlib - zlib . . . . .	25
7.4.9	bzip2 - Modified zlib . . . . .	25
7.4.10	Boost - BSL-1.0 . . . . .	25
7.4.11	mimalloc - MIT . . . . .	25
7.4.12	ni-media - MIT . . . . .	25
7.4.13	pfft . . . . .	25
7.4.14	pybind11 . . . . .	25
7.4.15	rtaudio . . . . .	25

7.4.16	rtmidi . . . . .	25
7.4.17	concurrentqueue - Simplified BSD . . . . .	26
7.4.18	readerwriterqueue - Simplified BSD . . . . .	26
7.4.19	assimp . . . . .	27
7.4.20	enet - MIT . . . . .	28
7.4.21	fmt . . . . .	28
7.4.22	functions (Erik Rictorp) - MIT . . . . .	28
7.4.23	inplace_function - BSL-1.0 . . . . .	28
7.4.24	gtest - " BSD 3-Clause "New" or "Revised" " . . . . .	28
7.4.25	jsoncpp - MIT . . . . .	29
7.4.26	libcurl - MIT like . . . . .	29
7.4.27	magic_enum - MIT . . . . .	30
7.4.28	nanobench - MIT . . . . .	30
7.4.29	nlohmann_json - MIT . . . . .	31
7.4.30	openddl - MIT . . . . .	31
7.4.31	openvr - " BSD 3-Clause "New" or "Revised" " . . . . .	32
7.4.32	poly2tri - " BSD 3-Clause "New" or "Revised" " . . . . .	32
7.4.33	pugixml - MIT . . . . .	33
7.4.34	rapidjson - MIT . . . . .	33
7.4.35	shared_recursive_mutex - MIT . . . . .	34
7.4.36	sentry-native - MIT . . . . .	34
7.4.37	sqlite3 - Public Domain . . . . .	35
7.4.38	sqlite_orm - MIT . . . . .	35
7.4.39	stb - MIT . . . . .	36
7.4.40	utfcpp - BSL-1.0 . . . . .	36
7.4.41	unqlite - BSD 2-clause . . . . .	37
7.4.42	argh (Andrey Mikhaylenko) - LGPLv3 . . . . .	37
7.4.43	chardet (Mark Pilgrim, Daniel Blanchard) - LGPL v2.1 . . . . .	37
7.4.44	charset_normalizer - MIT . . . . .	37
7.4.45	docopt (Vladimir Keleshev) - MIT . . . . .	38
7.4.46	dotenv - "BSD 3-Clause"New" or "Revised" " . . . . .	38

## **Appendices 40**

### **A Release Notes 40**

A.1	Build 24.07.0.50393 - All plugins . . . . .	40
A.1.1	New Features . . . . .	40
A.1.2	Improvements . . . . .	40
A.1.3	Bugs . . . . .	40
A.1.4	Known Issues . . . . .	40
A.2	Build 24.06.0.50386 - All plugins . . . . .	41
A.2.1	Improvements . . . . .	41

A.2.2	Bugs . . . . .	41
A.2.3	Known Issues . . . . .	42
A.3	Build 23.07.50310 - All plugins . . . . .	43
A.3.1	New features . . . . .	43
A.3.2	Bugs fixes . . . . .	43
A.3.3	Known issues . . . . .	44
A.4	Build 23.1.0.50251 - All plugins . . . . .	44
A.4.1	New features . . . . .	44
A.4.2	Bugs fixes . . . . .	45
A.4.3	Known issues . . . . .	46
A.5	Build 21.12.0.50123 - All plugins except TRAX and StudioSession . . . . .	46
A.6	Build 21.11.0.50107 (HEar, IRCAM Verb) . . . . .	47
A.7	FLUX:: Immersive - Plugins (including IRCAM Tools) 21.09 . . . . .	47
A.7.1	Build 21.9.0.50083 . . . . .	47
A.8	FLUX:: Immersive - Plugins (including IRCAM Tools) 20.12 . . . . .	48
A.8.1	Build 20.12.0.49880 . . . . .	48
A.9	Known Issues . . . . .	49

# 1 Pure Limiter

[Product Page](#) | [Shop Page](#)



Pure Limiter makes transparent limiting easy; a dramatic increase of the average audio level can now be accomplished without damaging the perceived audio quality, with the exquisite proprietary Flux:: technology generating a release envelope assuring that no artifacts on the processed sound are produced. Unless you use it as a special effect, Pure Limiter should always be in the very last stage of your audio processing chain.

To make the setting even easier, the Pure Limiter also features two display modes, when mode A is engaged, both original and limited waveforms are displayed. The Mode B displays the limited waveform, the limiter action and the histogram of the release value which is especially useful when running in advanced mode. All display meters are peak-meters featuring a peak hold.

## 1.1 Input Level Meter(1)

from -96 dB to 0 dB

## 1.2 Output Level Meter(2)

from -96 dB to 0 dB

## 1.3 Limiting Level Meter(3)

from 0 dB to -12 dB

## 1.4 Input Gain (4)

Unit: dB

Value Range: -12 / +12

Step: 0.01.

Default Value: 0 dB.

Sets the gain applied to the dynamic processing input. ## Threshold (5) Unit: dB

Value Range: -12 / 0

Step: 0.01.

Default Value: 0 dB

Sets the threshold of the limiting action. This value is displayed into the input peak meter.

## 1.5 Knee (6)

Unit: dB

Value Range: 0 / +12

Step: 0.01.

Default Value: 0 dB

Sets the smoothness of the transmission curve for the limiting action. The curve is smoothed above the threshold value. The transition range between the linear transfer to the fully limited transfer is set by the knee value.

## 1.6 Output Gain (7)

Unit: dB

Value Range: -12 / +12

Step: 0.01.

Default Value: 0 dB

Sets the global gain applied to the dynamic processing output.

## 1.7 Link Knee (8)

When enabled the knee value reflects the threshold value. Setting the threshold also sets the knee.

## 1.8 Auto Knee (9)

The knee is automatically defined according to your settings and may vary according to the audio material.

## 1.9 Mode (10)

Default Value: Auto.

Three modes are available for the envelop of the dynamic processing.

Manual corresponds to the value you have set.

Auto enables our specific algorithm to generate a signal dependent value to avoid typical pumping effects.

Advanced will allow you to tweak the automatic mode.

## 1.10 Release Maximum (11)

Unit: ms

Value Range: 1.75 / 12000

Step: variable.

Default Value: 3000 ms

Sets the manual release value and the maximum release value when in Advanced Mode.



## 1.11 Release Minimum (12)

Unit: ms

Value Range: 0.75 / 11999

Step: variable.

Default Value: 60 ms

Sets the minimum release value when in Advanced Mode.

## 1.12 Dynamic Velocity (13)

Unit: %

Value Range: 0 / 100

Step: variable.

Default Value: 100%

Apply a release to the extracted real time dynamic informations.

100% Mean full velocity (no release).

## 1.13 Dynamic Factor (14)

Unit: x

Value Range: 0 / 3.0

Step: variable.

Default Value: 1

Amplify or dim the extracted real time dynamic informations.

## 1.14 Dynamic High Pass Filter (15)

Unit: Hz

Value Range: 10 / 21900

Step: variable.

Default Value: 10 Hz

Sets the Lowest frequency feeding the release control section.

## **1.15 Dynamic Low Pass Filter (16)**

Unit: Hz

Value Range: 110 / 22000

Step: variable.

Default Value: 22000 KHz

Sets the highest frequency feeding release control section.

## **1.16 Channels Link (17)**

% of channels linkage

Unit: Percents (%)

Range: 0 to 100

Min. Steps: 1

Default Value: 50%

## **1.17 Display A /B (18) (19)**

Toggle display of the dynamic curve

## **1.18 Make Up (20)**

When engaged, the output gain is increased from the threshold value.

## **1.19 Bypass (21)**

Default Value: Off. The inputs are directly routed to the outputs.

## **1.20 Lookahead (22)**

Unit: ms

Value Range: 0 / 10

Default Value: 10

Step: 1 sample

This delay line allows to decrease the gain before the audio peak arrives. It's a key point to avoid audio distortion. Note that changing this delay value may create clicks. Note also that this delay value is applied to the processed signal and it increases the processing latency.

## **1.21 Auto Lookahead (23)**

The look ahead is automatically defined according to other settings and may vary according to the audio material.

## **1.22 Diff (24)**

Allow to hear the difference only. Used to better understand the action and allow to easily tweak the parameters On/Off

Default Value: Off

## **1.23 Dynamic Filter Solo (25)**

When engaged, the signal feeding the dynamic extraction section is monitored. This allows to control which part of the audio spectrum is used to compute the release value.

## **1.24 Loaded Preset Display (26)**

A plug-in features two preset sections; A & B. Clicking on the slot of a specific section reaches the preset bank. The main display is now a preset list in which you can select the preset you want to recall or save in the specific preset section. Two different presets must be used if you plan to use the morphing capability of FLUX Plug-in.

## **1.25 Save (27)**

Save replaces the selected preset by a new one under the same name featuring the current settings. If you want to keep an existing preset without your new modifications, just select an empty place into the preset list, enter a new name for this modified preset featuring the current settings and press Save.

## 1.26 Recall (28)

Once a preset is selected from the preset list it must be explicitly loaded into section A or section B by using the recall button. A preset is effective only after it has been recalled.

## 1.27 Copy A Copy B (29)

The current parameters of a section are copied to the other one. The section A or B is re-initialized with the current values and the morphing slider is parked at 100% of the corresponding section.

## 1.28 Morphing Slider (30)

This horizontal slider has no unity nor specific value display. It allows to morph current settings between two loaded presets. A double-click on one side of the slider area toggles between full A and full B settings. The results of an in-between setting can be saved as a new preset.

## 1.29 Automation (31)

Default Value: Off

When this button is disabled, all the plug-in parameters values are recorded when writing automation. The morphing slider is ignored.

When reading automation, if this button is disabled, all the plug-in parameters are controlled by the host automation except the morphing slider.

When this button is engaged, all parameters are recorded when writing automation uncluding the morphing slider.

When this button is engaged, ONLY the morphing slider value is applied when reading automation.

The Automation button must be engaged if the morphing slider has to be mapped on a control surface.

## 1.30 Preset Management Access (32)

## 2 Plug-in Settings

Pressing the cogwheels in the top right corner opens a settings window providing information about the plug-in version/build, a direct access button to the user manual, as well as setup for latency report and OSC (Open Sound Control). OSC is available in Pure Limiter only, and is not supported in Pure Limiter Studio Session.

## 3 Preset Management

Flux:: plug-ins provides two preset slots referred to as slot A and slot B, which provide access to two sets of parameter settings simultaneously. In addition to just recall the settings for each of the slots individually and alternate between their settings, a morphing slider is provided offering the possibility to morph between the slots and their corresponding settings. When clicking on one of the preset slots, the built in preset manager appears.



### 3.1 Preset Sections

Flux:: plug-ins provides two preset sections referred to as section A and section B, offering simultaneous access to two full sets of parameter settings. Clicking the A section (bottom left) or the B section (bottom right), or clicking the arrow in the Current Selected Preset display, opens a new window accessing the built-in preset manager.

### 3.2 Save

Save replaces the selected preset by a new one under the same name featuring the current settings. If you want to keep an existing preset without your new modifications, just select an empty place into the preset list, enter a new name for this modified preset featuring the current settings and press Save.

Once a preset is selected from the preset list it must be explicitly loaded into section A or the section B by using the recall button. A preset is effective only after it has been recalled.

### 3.3 Copy A / Copy B

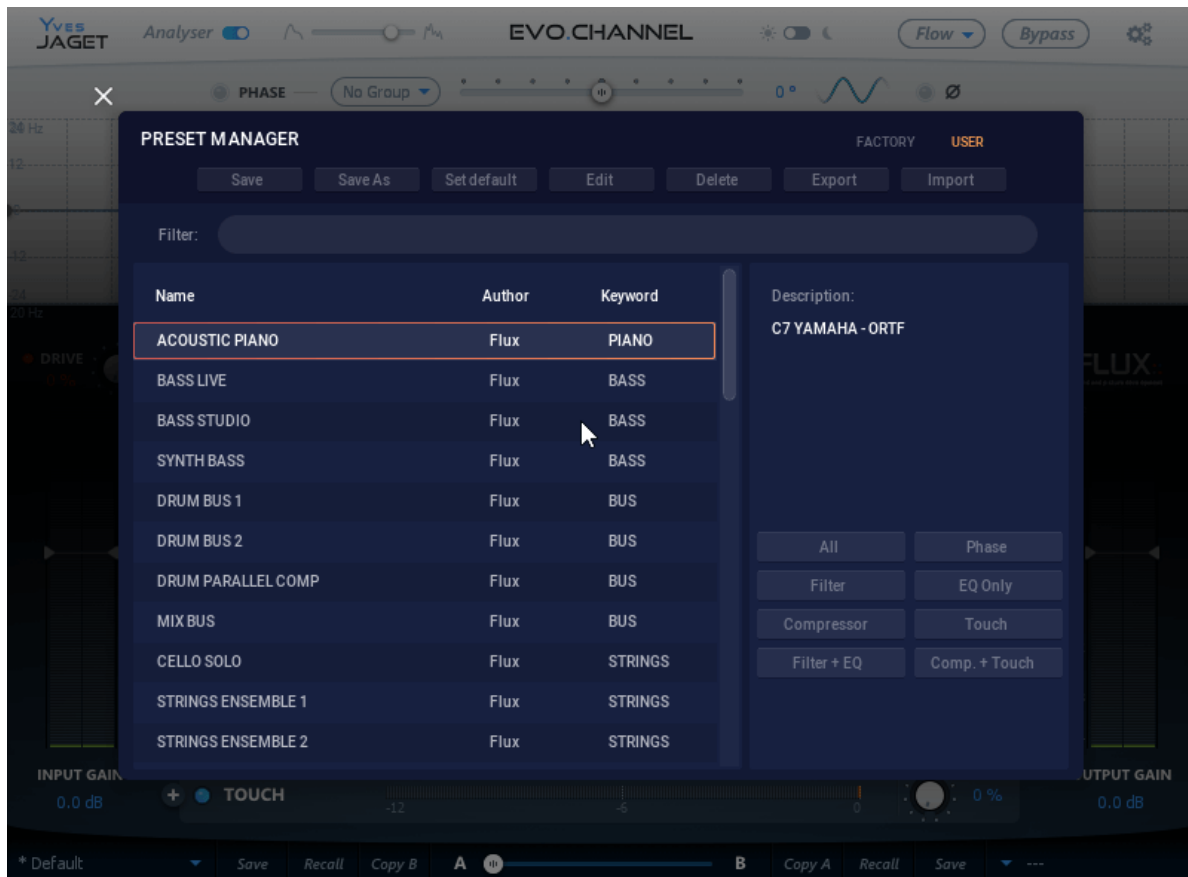
The current parameters of a section are copied to the other one. The section A or B is re-initialized with the current values and the morphing slider is parked at 100% of the corresponding section.

### 3.4 Morphing Slider

Morphs the parameter values of both parameter sections, it has no unity or specific value display; it provides morphing of the current values from both of the parameter sections (A & B). A double-click on one side of the slider area toggles between the two parameter sections. The actual result of the morphed parameter settings can be saved as a new preset.

## 4 Preset Manager

The preset manager contains two preset banks, the Factory bank contains factory presets, this bank is not available for saving of presets but any of the presets can be loaded into a preset slot and then saved into, the User bank, where all user presets are saved.



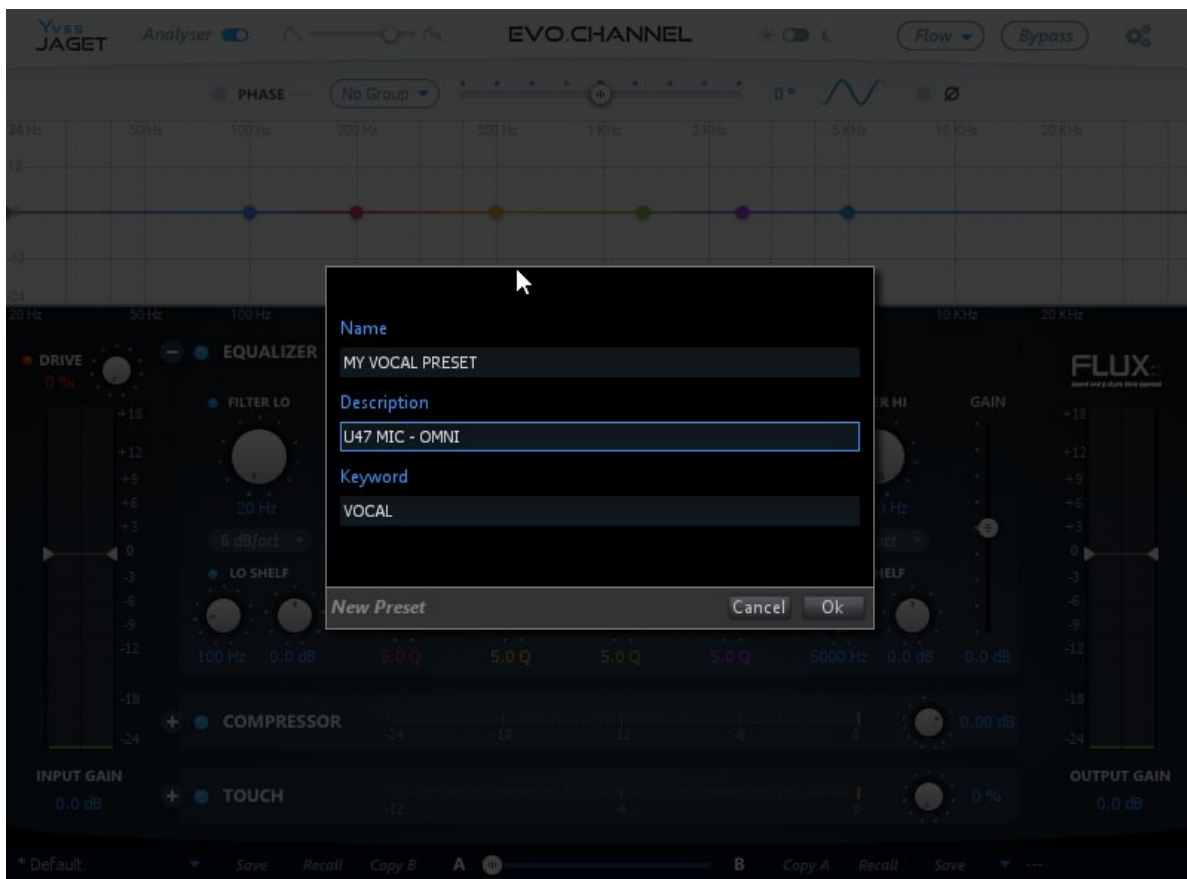
In the preset manager, any preset can be loaded into a preset slot by double clicking on the name of the desired preset in the actual preset list, the preset will then be loaded into the preset slot corresponding to the position of the morphing slider.

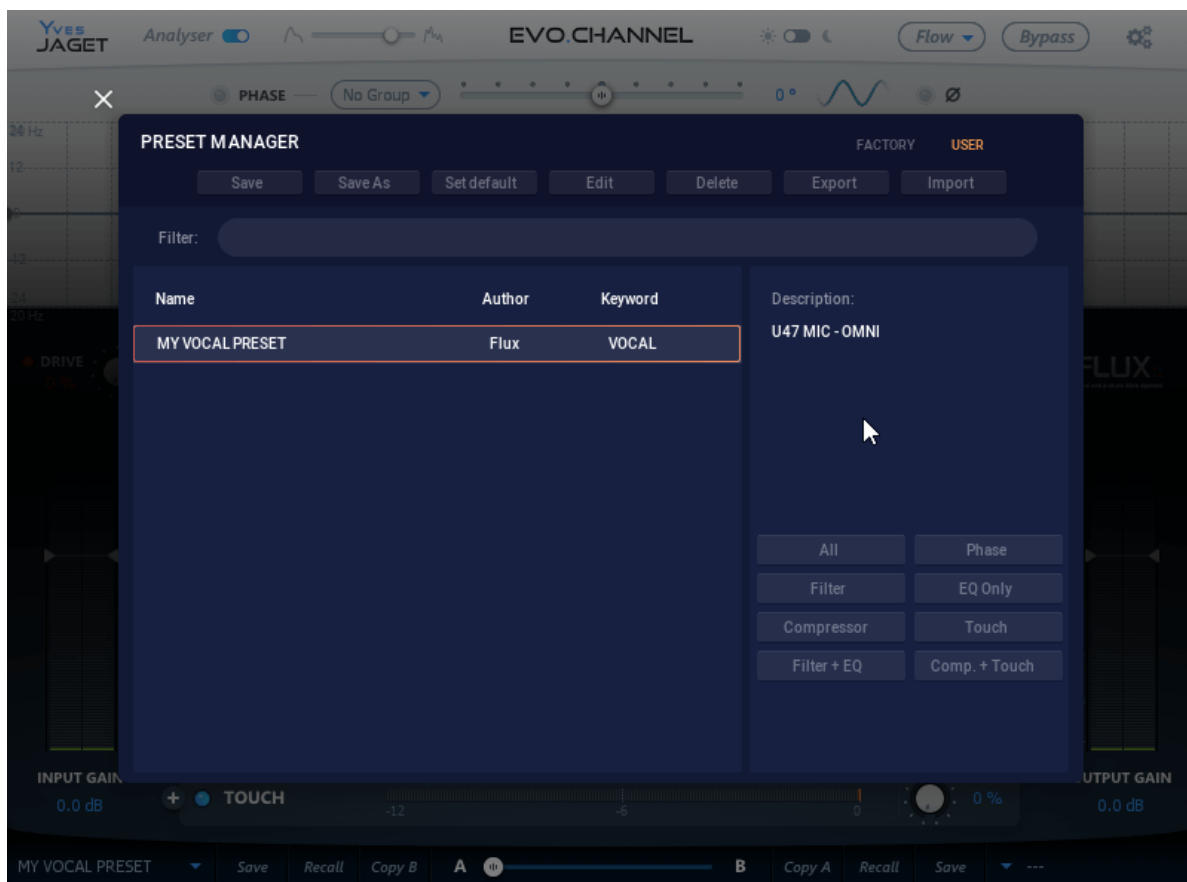
- Additional controls in the preset manager
- Recall A loads the selected preset into the corresponding slot.
- Recall B loads the selected preset into the corresponding slot.



- Update, saves the current settings into the selected preset. (Available in User Bank only)
- New, saves the current settings into a new preset. (Available in User Bank only)
- Duplicate creates a copy of the selected preset and saves it to the list.
- Edit allows for changes to the preset meta properties. (Available in User Bank only)
- Delete, removes the selected preset. (Available in User Bank only)
- Export, creates a file reflecting the content of the current preset bank.
- Import, allows for import of a preset bank file by adding the imported banks content to the content in the current preset bank.

When saving or editing a preset, an option to protect the preset is presented. The preset protection, if engaged, only allows the original preset author to uncheck and edit the preset. This means that you can protect your presets in a multi-user configuration. Protected presets can only be modified using the session used for their creation. If used in another user session they can only be imported or deleted.





## 5 Specifications

Refer to this [website](#) for complete specifications.

# 6 Compatibility

## 6.0.1 Pure Limiter

### 6.0.2 Windows - 10, 64 bits only.

- VST (2.4) in 64 bit
- VST3 (3.1) in 64 bit
- AAX Native/DSP/AudioSuite, all in 64 bit\*
- Waves WPAPI Native/Soundgrid in 64 bit
- VS3\*\* Pyramix 10 and more in 64 bit and Ovation 6 and more
- AVID VENUE Systems

### 6.0.3 macOS (Intel and ARM) - 10.12 (Sierra) and more, 11 and 12.

- VST (2.4) in 64 bit
- VST3 (3.1) in 64 bit
- AU in 64 bit
- AAX Native/DSP/AudioSuite, all in 64 bit\*
- Waves WPAPI Native/Soundgrid in 64 bit
- AVID VENUE Systems

\*\* VS3 for Pyramix & Ovation Native/MassCore sold only through Merging Technologies and authorized dealers.

# 7 Credits

## 7.1 Software development

### 7.1.1 Project Manager and Designer:

Gaël Martinet

### 7.1.2 Application Development:

Gaël Martinet, Alexis Gentil, Bastien Prevosto, Anthony Belard, Maxence Grandidier, Siegfried Hand and Antoine Lorence.

### 7.1.3 FLUX:: DSP Design and Development:

Gaël Martinet, Maxence Grandidier and Lorcan Mc Donagh

### 7.1.4 Graphic design:

Nicolas Philippot

### 7.1.5 FLUX:: Framework development:

Gaël Martinet, Florie-Anne Lafaye, Alexis Gentil, Lorcan Mc Donagh, Bastien Prevosto, Anthony Belard, Siegfried Hand and Antoine Lorence

**Additional contributions:** Vincent Carlier, Jean-Loup Pecquais, Nicolas Erard, Jean Cruypenynck, Pablo Arias, Samuel Tracol

### 7.1.6 FLUX:: Framework graphic engine:

Emmanuel Julien (GS lib) and Gaël Martinet

### 7.1.7 And

thanks to all fantastic testers...

### 7.1.8 FLUX:: Special Thanks to:

Alain, Yves, Bruno and Claude for helping to shape our minds over the years.

## 7.2 FLUX::

www.flux.audio Copyright 2024, Harman Professional, Inc. ALL RIGHTS RESERVED.

## 7.3 Additional libs

- GS lib Emmanuel Julien, Gael Martinet (Copyright 2013 Emmanuel Julien)
- ThorVG, Copyright (c) 2020 - 2023 notice for the ThorVG Project (see AUTHORS)
- r8brain free - Copyright (c) 2013-2023 Aleksey Vaneev
- LibJpeg - Copyright (c) 1991-2016, Thomas G. Lane, Guido Vollbeding
- libpng :
  - Copyright (c) 1995-2023 The PNG Reference Library Authors.
  - Copyright (c) 2018-2023 Cosmin Truta.
  - Copyright (c) 2000-2002, 2004, 2006-2018 Glenn Randers-Pehrson.
  - Copyright (c) 1996-1997 Andreas Dilger.
  - Copyright (c) 1995-1996 Guy Eric Schalnat, Group 42, Inc.
- Freetype 2 - Copyright (c) 2006-2023 by David Turner, Robert Wilhelm, and Werner Lemberg.
- Zlib - Copyright (c) 1995-2022 Jean-loup Gailly and Mark Adler
- bzip2 - Copyright (c) 1996-2010 Julian Seward [jseward@bzip.org](mailto:jseward@bzip.org)
- Boost - BSL-1.0
- ni-media - Copyright (c) 2022 Native Instruments
- pfft:
  - Copyright (c) 2004 the University Corporation for Atmospheric Research (“UCAR”)
  - Copyright (c) 2013 Julien Pommier ( [pommier@modartt.com](mailto:pommier@modartt.com) )
  - Copyright (c) 2019 Hayati Ayguen ( [h\\_ayguen@web.de](mailto:h_ayguen@web.de) )
  - Copyright (c) 2020 Dario Mambro ( [dario.mambro@gmail.com](mailto:dario.mambro@gmail.com) )
- pybind11 - Copyright (c) 2016 Wenzel Jakob [wenzel.jakob@epfl.ch](mailto:wenzel.jakob@epfl.ch)
- rtaudio - Copyright (c) 2001-2021 Gary P. Scavone

- rtmidi - Copyright (c) 2003-2021 Gary P. Scavone
- concurrentqueue - Copyright (c) 2013-2016, Cameron Desrochers.
- readerwriterqueue - Copyright (c) 2013-2021, Cameron Desrochers.
- assimp - Copyright (c) 2006-2021, assimp team
- enet - Copyright (c) 2002-2020 Lee Salzman
- fmt - Copyright (c) 2012 - present, Victor Zverovich and {fmt} contributors
- functions (Erik Rigtorp) - Copyright (c) 2015 Erik Rigtorp [erik@rigtorp.se](mailto:erik@rigtorp.se)
- inplace\_function - BSL-1.0
- gtest - Copyright 2008, Google Inc.
- jsoncpp - Copyright (c) 2007-2010 Baptiste Lepilleur and The JsonCpp Authors
- libcurl - Copyright (c) 1996 - 2023, Daniel Stenberg, [daniel@haxx.se](mailto:daniel@haxx.se), and many contributors
- magic\_enum - Copyright (c) 2019 - 2023 Daniil Goncharov
- nanobench - Copyright (c) 2019-2023 Martin Leitner-Ankerl
- nlohmann\_json - Copyright (c) 2013-2022 Niels Lohmann
- openddl - Copyright (c) 1999-2022 Eric Lengyel
- openvr - Copyright (c) 2015, Valve Corporation
- poly2tri - Copyright (c) 2009-2018, Poly2Tri Contributors
- pugixml - Copyright (c) 2006-2022 Arseny Kapoulkine
- rapidjson - Copyright (c) 2015 THL A29 Limited, a Tencent company, and Milo Yip.
- shared\_recursive\_mutex - Copyright (c) 2019 konanM
- sentry-native - Copyright (c) 2019 Sentry (<https://sentry.io>) and individual contributors.
- sqlite3 - Public Domain License
- sqlite\_orm - Copyright (c) 2012-2023 Eugene Zakharov and others
- stb - Copyright (c) 2017 Sean Barrett
- utfcpp - Copyright 2006 Nemanja Trifunovic
- unqlite - Copyright (c) 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019 Symisc Systems, S.U.A.R.L [M.I.A.G + Mrad Chems Eddine [chm@symisc.net](mailto:chm@symisc.net)].

## 7.4 Open source libraries

### 7.4.1 RTTrPM SDK (Blacktraxx)

Copyright (c) 2019 CAST Group of Companies Inc

### 7.4.2 ThorVG (replaces crossed-out libraries above) - MIT

<https://github.com/thorvg/thorvg/blob/main/LICENSE> Copyright (c) 2020 - 2024 notice for the ThorVG Project (see AUTHORS) Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the “Software”),

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#### **7.4.3 r8brain free - MIT**

<https://github.com/avaneev/r8brain-free-src/blob/master/LICENSE>

#### **7.4.4 ooura fft from lmdsp - MIT (or MIT-like)**

<https://www.kurims.kyoto-u.ac.jp/~ooura/fft.html> Copyright Takuya OOURA, 1996-2001

#### **7.4.5 LibJpeg - Custom (BSD-like)**

<https://jpegclub.org/reference/> Copyright (C) 1991-2016, Thomas G. Lane, Guido Vollbeding

#### **7.4.6 libpng - PNG Reference Library License version 2**

<https://sourceforge.net/p/libpng/code/ci/master/tree/LICENSE> Copyright (c) 1995-2023 The PNG Reference Library Authors. Copyright (c) 2018-2023 Cosmin Truta. - Copyright (c) 2000-2002, 2004, 2006-2018 Glenn Randers-Pehrson. Copyright (c) 1996-1997 Andreas Dilger. Copyright (c) 1995-1996 Guy Eric Schalnat, Group 42, Inc.

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# A Release Notes

## A.1 Build 24.07.0.50393 - All plugins

### A.1.1 New Features

- VST3 automation state on UI

### A.1.2 Improvements

- EVO EQ - Dark mode update

### A.1.3 Bugs

- All plugins - VST3 - GUI freeze when reloading a session in Studio One
- All plugins - VST3 - Wrong parameters frequencies when reloading session at 44.1KHz
- All plugins - crash when loading a StudioOne session
- All plugins AAX - Crash protocols when using the protocols plugin preset manager on Windows
- EVO Channel/Touch and BS Pro - Presets have to be loaded twice to apply the filter values from the Touch section properly
- Elixir - Latency not properly compensated after changing stage parameters value in VST and AudioUnit
- Elixir - VST - May crash or bypass the audio when reloading a previous session in Nuendo
- Evo Channel - GUI issues on Geek panel
- Evo Channel/Evo EQ - Bad init on the lowpass filter cut off frequency
- HEar - Failed to load HRTF message in Logic until audio playback
- Verb and VerbSession - VST3 - Freeze during Steinberg TestHost on Windows

### A.1.4 Known Issues

#### Important

- All plugins - AU - Crash in Logic 10.5 on MacOS Mojave



- All plugins - AU - Sidechain not available
- All plugins - VST versions - GUI issue in Izotope Ozone and Davinci Resolve
- Elixir - VST3 - Elixir is not available as 32 channels (24 max) in Reaper
- HEar - AU - Crashes Ableton
- HEar - Do not work properly with Ambisonic streams
- Trax - Ran out of CPU error and playback issue in Protools
- Verb - AAX - Moving any temporal parameter mute audio and generate noisy artefacts
- Verb - HOA 3rd order not working properly

### **Host Specific**

- All plugins - VST2 - GUI cropped in TwistedWave
- All plugins - VST3 - Do not process the audio in TwistedWave
- EVO EQ - AAX-DSP - Not listed in DSP plugins list
- EVO Series - AAX DSP - No metering
- Evo Channel/Evo EQ - AudioUnit - LPF cut off frequency badly initialized when samplerate is 2FS or more
- StereoTool - AAX DSP - No metering

## **A.2 Build 24.06.0.50386 - All plugins**

### **A.2.1 Improvements**

- All plugins - Preset manager filter options updated
- All plugins - Preset recall button improved
- All plugins - Preset save button improved

### **A.2.2 Bugs**

- AAX - Preset manager - Default preset is not applied to parameters at plugin instantiation
- All plugins - AAX bad GUI recall with user scale x2 and display scale x2
- All plugins - AU - auval real time safety checks
- All plugins - All parameters are reset when reloading a session when using presets
- All plugins - GUI issue on Windows
- All plugins - GUI issue with Retina in FLStudio
- All plugins - Mouse wheel not working anymore on knobs
- All plugins - Parameters are reset when deactivating/reactivating the plugin in Protools
- All plugins - Parameters are reset when loading a session if a preset is used
- All plugins - Preset manager font issues
- All plugins - VST3 - Keys not working in Pyramix

- All plugins - VST3 - Meters not working in Adobe premiere Pro, Adobe audition, Isotope RX10 and Waves Studio Rack
- All plugins - VST3 - preset name back reset to default when loading a session
- All plugins - VST3 - Can't edit values using keyboard on Windows
- All plugins - mouse wheel + shift key increase controls value when scroll down
- All plugins - AAX - Crash protocols when using the protocols plugin preset manager on Windows
- All plugins - VST3 - crash plugin scan when OSC enabled in prefs
- EVO Channel - Dark mode display issue when closing/opening the plugin
- EVO Channel - custom preset does not load some parameters
- EVO In - Phase shift amount automation line display issue in Logic
- EVO Series - Display issues on some parameters values
- EVO Series - Missing controls text
- EVO Series - Save button from preset manager not working
- EVO Series - save/recall/copy A & B preset buttons from main window not working
- EVO Series - wrong RMS reference value initialisation
- Elixir 1-Stage - GUI broken
- EvoEq - very low noise generated when offline rendering (32bit FP)
- HEar - AudioUnit - Crashes validation in Logic
- Preset Manager - Refresh missing - Preset name still displayed as current preset after being deleted.
- Solera - VST3 on Windows - DExp tab selected as default
- StereoTool - Correlation phase meter is wrong when quality setting set at 60fps
- StudioSession Plugins - May fail to scan in logic
- StudioSession Plugins - loads without the limitations
- Trax - VST3 - Learn feature not working
- VST3 - Some plugins are blacklisted in Cubase 13 on Windows
- VST3 - Conformity report
- VST3 - Display quality (15/30/60Hz) always reverts to initialized value
- VST3 - Verb & VerbSession - Crash in VST3 test host unit test
- VST3 - presets slots values are not correctly recalled when a session is saved after using morphing
- Verb - AAX - Matrix not reloaded on atmos 9.1.4 tracks
- Verb - Does not load the saved multichannel layout
- Verb - Multichannel layout not automatically set in Logic
- Verb - When in High Density, the dry signal is output
- Verb Session - AAX - GUI issue in HiDPI on Windows

### **A.2.3 Known Issues**

#### **Important**

- All plugins - AU - Crash in Logic 10.5 on MacOS Mojave
- All plugins - VST2 - GUI cropped in TwistedWave
- All plugins - VST3 - Do not process the audio in TwistedWave
- All plugins VST versions- GUI issue in Izotope Ozone and Davinci Resolve
- Elixir - Latency not properly compensated after changing stage parameters value in VST and AudioUnit
- Elixir - Reaper - VST3 - Elixir is not available as 32 channels (24 max)
- Evo Channel/Evo EQ - All formats -Bad init on the lowpass filter cut off frequency
- HEar - AU - Crashes Ableton
- HEar - Do not work properly with Ambisonic streams
- HEar - Failed to load HRTF message in Logic until audio playback
- Trax - Ran out of CPU error and playback issue in Protocols
- Verb - AAX - Moving any temporal parameter mute audio and generate noisy artefacts
- Verb - HOA 3rd order not working properly

## **A.3 Build 23.07.50310 - All plugins**

### **A.3.1 New features**

- Support Pro Tools new track formats

### **A.3.2 Bugs fixes**

- All plugins - Nuendo - VST3 - crash when stereo plugins are instantiated on multichannel tracks (StereoTools, ...)
- All plugins - Pace protected plugins fail to scan on Da Vinci Resolve mac
- All plugins - Popups wrong metrics when changing screen
- All plugins - Presets not imported
- All plugins - VST3 - Nuendo - WIN (UHD360) - Wrong window size init
- All plugins - VST3 - WIN (UHD630) - REAPER - GUI refresh issue when in single window mode
- All plugins - GUI issue with AMD graphics on windows - flickering issue
- All plugins - AU - Plugins parameters are reset when bouncing in Reaper
- All plugins - VST2 - no multichannel with the plugins 23.X in Reaper
- All plugins - VST - Resizing the GUI does not update the floating window size in Nuendo on Windows with UHD630 graphics
- Bittersweet - VST3 - crashes on Pyramix on instantiation
- StereoTool / EVO Channel - VST3 - No goniometer / analyzer in Wavelab
- Elixir - Not available as 32 channels in Reaper
- EVO series - AAX - Dark Mode wrong GUI init

- EVO series - remove unused and duplicated presets
- EVO Channel - VST3 - spectrum smoothing slider crashes Studio one
- EVO Channel / EVO Eq - VST3 - Analyzer not working in Ableton Live
- EVO Channel / EVO Eq - scale eq control always reload on auto mode
- EVO Eq - weird release on meter
- EVO In - GUI refresh issue when toggling night/day mode
- EVO Touch - Zero Crossing Threshold label missing in the geek panel
- EVO Touch - frequency band selector does not always recall the good settings on session reload
- EVO Touch/ EVO Channel - Frequency range slider is hard to handle
- Pure Serie - VST3 - Attack value max 80ms
- Pure Comp - Crash when loading “Bass guitar” preset
- Pure Limiter - VST3 - advanced mode does not turn on advanced settings
- StereoTool - VST3 - vector scope not working in Ableton Live on Windows
- StereoTool - Not working in Final Cut Pro
- TRAX - Crash using oversampling with sessions set at 2FS or higher
- TRAX Tr - not usable in Protools anymore (build 50123)

### **A.3.3 Known issues**

- All plugins - VST - GUI issue in Izotope Ozone and RX
- All plugins - AAX - Preset manager - Default preset is not applied to parameters at plugin instantiation
- Elixir - Latency not properly compensated after changing stage parameters value in VST and AudioUnit
- TRAX tr - Learn function returning wrong values
- VerbV3 - HOA 3rd order not working properly

## **A.4 Build 23.1.0.50251 - All plugins**

### **A.4.1 New features**

- New plugins Evo Compressor, Evo Touch and Evo EQ.
- VST3 support
- ARM support for AAX, AU and VST3
- Plugins are now resizable
- Elixir now supports 32 channels
- Alchemist, BitterSweet, Epure, Pure Compressor, Pure DCompressor, Pure Expander, Pure DExpander, PureLimiter, Solera, Syrah now support 16 channels

### A.4.2 Bugs fixes

- All plugins - Preset Manager - Update user preset do not work
- All plugins - Preset manager - Crash or freeze when saving a preset
- All plugins - UI may be black on Intel UHD 630 graphical cards
- All plugins - AU/VST3 - Preset manager - Default preset is not applied to parameters at plugin instantiation
- All plugins - AAX - Crash with OSC when changing fx slot in Pro Tools
- All plugins - AU - Logic Pro - Automation of boolean/integer parameters broken
- All plugins - AU - Plugins crash in Da Vinci Resolve
- All plugins - DaVinci Resolve - VST - UI is truncated
- All plugins - Streamlabs - Plugins do not work
- All plugins - Licensing issue in DaVinci Resolve and GarageBand
- Alchemist - The range parameter works only for the 1st band
- BitterSweet - Not possible to tweak the Output gain after unlinking it
- BitterSweet - Output gain not reloaded properly when the link is disabled
- BSPro - some modes are not accessible due to GUI issue
- Epure - macOS - Bad graphic scale initialization at 2&4FS
- Evo Channel - Meter reference is not saved
- Syrah - Crash when selecting preset “Static fast compression”
- TRAX Tr - When the link is activated, the Formant slider does not have the expected audio effect
- TRAX Tr - ProTools - Issue in AudioStudio when the modulation is enabled
- VerbSession/VerbSession Studio Session and BSPro StudioSession - Pyramix - VST crash when instantiated
- Verb/Verb Studio Session - Crash when reloading session having 2 instances

### A.4.3 Known issues

- All plugins - VST - GUI issue in Izotope Ozone and RX
- All plugins - AAX - Preset manager - Default preset is not applied to parameters at plugin instantiation
- Elixir - Latency not properly compensated after changing stage parameters value in VST and AudioUnit
- TRAX tr - Learn function returning wrong values
- VerbV3 - HOA 3rd order not working properly

## A.5 Build 21.12.0.50123 - All plugins except TRAX and StudioSession

### Bug fixes

- All plugins AudioUnit - GUI issue with Hdpi displays on macOS Monterey
- All plugins VST - Plugin scan freeze in Wavelab 11 on Mac M1 machines
- All plugins VST - Crash in Adobe Audition on macOS
- All plugins VST macOS - Fix crashes with Ableton live
- Elixir - Automation is not read for toggle parameters.
- Elixir - Crash when clicking on the settings button on Session version
- Elixir - Several fixes on the UI
- Elixir - Windows AAX - Refresh issue with two instances in ProTools
- HEar - Bypass is working in AAX
- HEar AAX - Crash when doing offline bounce on macOS
- HEar AAX - Crash when editing the matrix on macOS
- HEar AAX - Stereo - Change on Matrix are not applied until we change the preset
- HEar AudioUnit - Ableton crashes when inserting a second instance

## A.6 Build 21.11.0.50107 (HEar, IRCAM Verb)

NOTE: CURRENTLY NOT COMPLIANT WITH ABLETON LIVE MACOS

### Improvement

- HEar - 5.1.4 & 5.0.4 now available

### Bug fixes

- HEar - Fix meters refresh issue
- HEar - No verb on some presets
- HEar - Protools crashes when doing offline bounce on macOS

## A.7 FLUX:: Immersive - Plugins (including IRCAM Tools) 21.09

This release includes updates for all FLUX::Immersive plugin processing products with the exception of EVO Channel, Epure, IRCAM Trax, Studio Session.

NOTE: CURRENTLY NOT COMPLIANT WITH ABLETON LIVE MACOS

### Major optimizations

- Apple computers Big Sur (new M1 chips) AU validation
- Important updates to the Ircam Verb + Session
- Overall better handling of multichannel track setups such for Atmos. (Ircam Hear, Verb and more)
- Automatic detection of track format / channel order for DAWs when possible.

### A.7.1 Build 21.9.0.50083

#### Bug fixes

- Apple computers Big Sur (new M1 chips) AU validation failing
- Empty GUI when close/reopen plugin - Windows 10 - UHD630 graphics
- AudioUnit in Reaper - do not process audio when offline bounce
- Default preset not loaded correctly on instantiation of Verb + Verb Session
- Evo.Channel on Retina - Input and Output Sliders badly scaled
- Incompatible AudioUnit issue in Apple Final Cut Pro
- Plugins: Recall Preset Flags (e.g. “All but setup”) recall always everything
- Preset Manager - UI issue with small plugins when a preset has been created
- Ircam Verb Session reload in VST with audio interruption

- VST Plugins Session not correctly reloaded if it integrate an IO configuration change
- Verb session - Dry/wet not applied in offline render
- Verb v3 Atmos crash on AAX
- Verb: AU validation failed on Apple M1
- Verb: LFE not disabled by default on ProTools
- Verb: Recall Preset may be not correct with double click inside the preset manager
- Verb: disabled channel is not re-injected according to dry/wet parameter (100 % wet means muted)
- Verb: init issue with Nuendo
- AAX - Some plugins - Crash on Mac / No GUI on Windows
- Overall reliability / stability fixes.
- Plugin size not correct
- Potential plugins crash when opening UI

## A.8 FLUX:: Immersive - Plugins (including IRCAM Tools) 20.12

This major release includes updates for all **FLUX::Immersive** products with the exception of IRCAM Spat V3 legacy product. Please refer to Spat V3 - Spat Revolution crossgrade options.

### Major optimizations

- HiDPI / Retina support + display enhancements and fixes
- Page Table unification for **Avid Control**, S1, S3, S4, S6 and S6L.
- OSC Control for plugins.
- **IRCAM Verb** support for Dolby Atmos, Multichannel support up to 16 channels
- **IRCAM Hear** - Multichannel stability improvement, Now up to 10 channels. (Dolby Atmos 7.1.2)
- **IRCAM Tools** - Audio I/O Matrix and Multichannel enhancement
- Most plugins support of 8 channel.
- 16 channel support for **Bittersweet Pro**, **Evo In** and **Evo Channel**

### A.8.1 Build 20.12.0.49880

#### Bug fixes

Core:

- BPro - Latency report issue (AAX)
- IRCAM TRAX Tr - Latency report issue
- IRCAM Verb - Wrong initialization value for Reverb density
- IRCAM Verb -Dry signal still goes out in disabled channels when wet is 100%



- All Pure Dynamics PI + Alchemist - Wrong Thresholds initialization values
- AAX “monolithic” are broken like Hear, TRAX etc...
- Almost all AAX plugins don’t reload parameters from 47856 version session.
- Pure Limiter - Diff feature bypassed the input gain.
- Pure Limiter - Inverted sidechain filters.
- Any plugin except Evo Channel - Research Presets resets when click on a preset.
- Evo channel - Wrong values when reloading touch section.

UI:

- Current preset name disappear on re-opening GUI or session

## A.9 Known Issues

- Wavelab “Sample rate not supported” when a plugin is inserted on a clip, track or output section.
- TRAX Tr - Learn frequencies display wrong values (AAX only).
- Hear - Internal config labels change when modify LFE input config from routing matrix.
- When using OSC on a plugin in Pro Tools, a chrash will occur if you change/move FX insert slots