

# **Evo EQ**

FLUX:: Immersive

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# Table of contents

<b>1</b>	<b>Introduction</b>	<b>6</b>
<b>2</b>	<b>General Settings</b>	<b>8</b>
2.1	Bypass . . . . .	8
2.2	Skin . . . . .	8
<b>3</b>	<b>Module Settings</b>	<b>9</b>
3.1	Analyser . . . . .	9
3.1.1	Analyser Switch . . . . .	9
3.1.2	Analyser Slider . . . . .	9
3.2	Input . . . . .	9
3.2.1	Input Gain . . . . .	9
3.2.2	Drive . . . . .	10
3.3	Equalization module . . . . .	10
3.3.1	Low-Cut Switch . . . . .	11
3.3.2	Low-Cut Cutoff Frequency . . . . .	11
3.3.3	Low-Cut Slope . . . . .	11
3.3.4	Low Shelf Switch . . . . .	11
3.3.5	Low Shelf Cutoff . . . . .	11
3.3.6	Low Shelf Gain . . . . .	12
3.3.7	High-Cut Switch . . . . .	12
3.3.8	High-Cut Cutoff Frequency . . . . .	12
3.3.9	High-Cut Slope . . . . .	12
3.3.10	High Shelf Switch . . . . .	12
3.3.11	High Shelf Cutoff . . . . .	13
3.3.12	High Shelf Gain . . . . .	13
3.3.13	Parametric Equalization Switches . . . . .	13
3.3.14	Parametric Equalization Gain . . . . .	13
3.3.15	Parametric Equalization Center Frequency . . . . .	13
3.3.16	Parametric Equalization Q . . . . .	14
3.3.17	Equalization Output Gain . . . . .	14
3.4	Output . . . . .	14
3.4.1	Output Gain . . . . .	14
<b>4</b>	<b>Shortcuts</b>	<b>15</b>

<b>5</b>	<b>Plugin Settings</b>	<b>16</b>
5.1	Main Setup . . . . .	16
5.1.1	UI Refresh Rate . . . . .	16
5.2	I/O . . . . .	17
5.2.1	Input / Output . . . . .	17
5.2.2	Config . . . . .	17
5.2.3	Layout . . . . .	17
5.3	Processing . . . . .	17
5.3.1	Report Latency . . . . .	17
5.4	Automation . . . . .	17
5.4.1	Multithread . . . . .	17
5.5	OSC . . . . .	17
5.5.1	Enable . . . . .	18
5.6	Version Information . . . . .	18
5.7	User Manual / Credits . . . . .	18
<b>6</b>	<b>Preset Management</b>	<b>19</b>
6.1	Preset Sections . . . . .	19
6.2	Save . . . . .	19
6.3	Copy A / Copy B . . . . .	19
6.4	Morphing Slider . . . . .	20
<b>7</b>	<b>Preset Manager</b>	<b>21</b>
<b>8</b>	<b>Specifications</b>	<b>24</b>
8.1	Availability . . . . .	24
8.2	Processing . . . . .	24
8.3	Hardware Requirements . . . . .	24
8.4	Software License Requirements . . . . .	24
8.5	Compatibility . . . . .	25
8.5.1	Windows – 11, in 64 bits only. . . . .	25
8.5.2	macOS (Intel and ARM) . . . . .	25
<b>9</b>	<b>Credits</b>	<b>26</b>
9.1	Software development . . . . .	26
9.1.1	Project Manager and Designer: . . . . .	26
9.1.2	Application Development: . . . . .	26
9.1.3	FLUX:: DSP Design and Development: . . . . .	26
9.1.4	Graphic design: . . . . .	26
9.1.5	FLUX:: Framework development: . . . . .	26
9.1.6	FLUX:: Framework graphic engine: . . . . .	26
9.1.7	And . . . . .	27
9.1.8	FLUX:: Special Thanks to: . . . . .	27

9.2	FLUX::	27
9.3	Additional libs	27
9.4	Open source libraries	28
9.4.1	RTTrPM SDK (Blacktraxx)	28
9.4.2	ThorVG (replaces crossed-out libraries above) - MIT	28
9.4.3	r8brain free - MIT	29
9.4.4	ooura fft from lmdsp - MIT (or MIT-like)	29
9.4.5	LibJpeg - Custom (BSD-like)	29
9.4.6	libpng - PNG Reference Library License version 2	29
9.4.7	Freetype 2 - FreeType License	29
9.4.8	Zlib - zlib	30
9.4.9	bzip2 - Modified zlib	30
9.4.10	Boost - BSL-1.0	30
9.4.11	mimalloc - MIT	30
9.4.12	ni-media - MIT	30
9.4.13	pfft	30
9.4.14	pybind11	30
9.4.15	rtaudio	30
9.4.16	rtmidi	30
9.4.17	concurrentqueue - Simplified BSD	31
9.4.18	readerwriterqueue - Simplified BSD	31
9.4.19	assimp	32
9.4.20	enet - MIT	33
9.4.21	fmt	33
9.4.22	functions (Erik Rigtorp) - MIT	33
9.4.23	inplace_function - BSL-1.0	33
9.4.24	gtest - " BSD 3-Clause "New" or "Revised" "	33
9.4.25	jsoncpp - MIT	34
9.4.26	libcurl - MIT like	34
9.4.27	magic_enum - MIT	35
9.4.28	nanobench - MIT	35
9.4.29	nlohmann_json - MIT	36
9.4.30	openddl - MIT	36
9.4.31	openvr - " BSD 3-Clause "New" or "Revised" "	37
9.4.32	poly2tri - " BSD 3-Clause "New" or "Revised" "	37
9.4.33	pugixml - MIT	38
9.4.34	rapidjson - MIT	38
9.4.35	shared_recursive_mutex - MIT	39
9.4.36	sentry-native - MIT	39
9.4.37	sqlite3 - Public Domain	40
9.4.38	sqlite_orm - MIT	40
9.4.39	stb - MIT	41
9.4.40	utfcpp - BSL-1.0	41

9.4.41	unqlite - BSD 2-clause . . . . .	42
9.4.42	argh (Andrey Mikhaylenko) - LGPLv3 . . . . .	42
9.4.43	chardet (Mark Pilgrim, Daniel Blanchard) - LGPL v2.1 . . . . .	42
9.4.44	charset_normalizer - MIT . . . . .	42
9.4.45	docopt (Vladimir Keleshev) - MIT . . . . .	43
9.4.46	dotenv - “BSD 3-Clause”“New”” or ““Revised”“ ” . . . . .	43

## **Appendices 45**

### **A Release Notes 45**

A.1	Build 23.07.50310 - All plugins . . . . .	45
A.1.1	New features . . . . .	45
A.1.2	Bugs fixes . . . . .	45
A.1.3	Known issues . . . . .	46
A.2	Build 23.1.0.50251 - All plugins . . . . .	46
A.2.1	New features . . . . .	46
A.2.2	Bugs fixes . . . . .	46
A.2.3	Known issues . . . . .	47
A.3	Build 21.12.0.50123 - All plugins except TRAX and StudioSession . . . . .	48
A.4	Build 21.11.0.50107 (HEar, IRCAM Verb) . . . . .	48
A.5	FLUX:: Immersive - Plugins (including IRCAM Tools) 21.09 . . . . .	49
A.5.1	Build 21.9.0.50083 . . . . .	49
A.6	FLUX:: Immersive - Plugins (including IRCAM Tools) 20.12 . . . . .	50
A.6.1	Build 20.12.0.49880 . . . . .	50
A.7	Known Issues . . . . .	51

# 1 Introduction

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

## **EVO EQ - The canvas for painting the colors**

One of the cornerstones in a Channel Strip is a well-built, efficient and complete Equalizer. The equalizer in the EVO Channel and EVO EQ is a straightforward comprehensive 4-band parametric equalizer with an additional low/high shelf and a 6-24 dB low/high cut filter.

The graphical interactive EQ curve is layered on top of the built in Spectrum Analyzer for hands-on editing with direct connection to the visual response.

The spectrum analyzer originates from the FLUX:: Analyzer and has been optimized for the EVO Channel and EVO EQ. It gives you an accurate direct view of what's going on in the different frequency domains of your material.



## 2 General Settings

### 2.1 Bypass

Global bypass, when pressed, the signal is routed directly from the inputs to the outputs.

Value Range : Enabled/Disabled

Default Value : Disabled

### 2.2 Skin

The look of the EVO Eq user interface.

Value Range : Light/Dark

Default Value : Light



## 3 Module Settings

### 3.1 Analyser

#### 3.1.1 Analyser Switch

The spectrum analyzer originates from the FLUX:: FLUX:: Analyzer and has been optimized for the EVO Channel. It gives you an accurate direct view of what's going on in the different frequency domains of your audio. When switched on, the spectrum analysis is activated and displayed in the equalization view panel. The grey waveform corresponds to your input signal (post gain/drive), the same as the input meter. The black one is the output signal (post output gain), the same as the output meter.

Value Range : Enabled/Disabled

Default Value : Enabled

#### 3.1.2 Analyser Slider

Controls the amount of frequency detail of the curve. Move the slider to the left to get a more smoothed curve, and to the right to get more details.

Value Range : No Value

### 3.2 Input

#### 3.2.1 Input Gain

The input gain control trims the level of the signal at the input of EVO Channel. The meter shows both RMS signal (VU-Meter, blue) and peak signal (peak meter, green), from -24 to +18 dB range, referenced at -18dB.

Value Range : -24.0 dB / +18.0 dB

Colors : - Blue : RMS Value - Green : Peak Value

Default Value : 0.0 dB

### 3.2.2 Drive

In EVO EQ a signal Drive is available direct at the input Gain for restoring and maintaining the vitality of the sound.

The drive module has been specially designed to add a soft saturation and warmth to your audio tracks.

Value Range : 0% / 100%

Default Value : 0%

## 3.3 Equalization module

One of the corner stones in a Channel Strip is a well-built, efficient and complete Equalizer.

The EVO EQ is a straightforward comprehensive 4-band equalizer with additional 6-24 dB Hi/Lo filters.

The graphical interactive EQ curve is layered on top of the built in Spectrum Analyzer for hands-on editing with direct connection to the visual response.

Built with a 64 bit dynamic range, the EQ section has been carefully tuned to preserve the optimal signal to noise ratio independent of the parameter settings preventing the signal from deteriorating when the gain is reduced. It's an efficient sharp-edged surgical precision tool for the most demanding equalizing and filtering tasks conceivable.

Equalization module is divided in two parts : - A filtering part composed of a low cut, a low shelf, a high cut and a high shelf filter. - A parametric equalization stage made of four parametric EQs.



### **3.3.1 Low-Cut Switch**

Enables the low cut filter.

Value Range : Enabled / Disabled

Default Value : Enabled

### **3.3.2 Low-Cut Cutoff Frequency**

Cutoff frequency of the low cut filter.

Value Range : 20Hz to sampling rate / 2

Default Value : 20Hz

### **3.3.3 Low-Cut Slope**

Slope of the low cut filter.

Value Range : 6dB/oct - 24dB/oct

Default Value : 6dB/oct

### **3.3.4 Low Shelf Switch**

Enables the low shelf.

Value Range : Enabled / Disabled

Default Value : Enabled

### **3.3.5 Low Shelf Cutoff**

Cutoff frequency of the low shelf.

Value Range : 20Hz / 22050Hz

Default Value : 100Hz

### **3.3.6 Low Shelf Gain**

Target gain for frequencies below the cutoff frequency.

Value Range : -24.0dB / +24.0dB

Default Value : 0.0dB

### **3.3.7 High-Cut Switch**

Enables the high cut filter.

Value Range : Enabled / Disabled

Default Value : Enabled

### **3.3.8 High-Cut Cutoff Frequency**

Cutoff frequency of the high cut filter.

Value Range : 20Hz to sampling rate / 2

Default Value : Sampling rate / 2

### **3.3.9 High-Cut Slope**

Slope of the high cut filter.

Value Range : 6dB/oct - 24dB/oct

Default Value : 6dB/oct

### **3.3.10 High Shelf Switch**

Enables the high shelf.

Value Range : Enabled / Disabled

Default Value : Enabled

### **3.3.11 High Shelf Cutoff**

Cutoff frequency of the high shelf.

Value Range : 20Hz to sampling rate / 2

Default Value : 5000Hz

### **3.3.12 High Shelf Gain**

Target gain for frequencies above the cutoff frequency.

Value Range : -24.0dB / +24.0dB

Default Value : 0.0dB

### **3.3.13 Parametric Equalization Switches**

Enables the corresponding parametric equalizer.

Value Range : Enabled / Disabled

Default Value : Enabled

### **3.3.14 Parametric Equalization Gain**

Gain stage of parametric equalization.

Value Range : -24.0dB / +24.0dB

Default Value : 0.0dB

### **3.3.15 Parametric Equalization Center Frequency**

Center frequency of parametric equalization.

Value Range : 20Hz to sampling rate / 2

Default Value : Default value depends of the equalizer used.

- Low parametric equalizer : 200Hz
- Mid-Low parametric equalizer : 500Hz

- Mid-High parametric equalizer : 1300Hz
- High parametric equalizer : 2500Hz

### **3.3.16 Parametric Equalization Q**

Q value of parametric equalization. Defines the width of the EQ band.

Value Range : 1.0 Q / 100.0 Q

Default Value : 5.0 Q

### **3.3.17 Equalization Output Gain**

A stage of gain at the output of the equalization module.

Value Range : -12.0dB / +12.0dB

Default Value : 0.0dB

## **3.4 Output**

### **3.4.1 Output Gain**

The output gain control trims the level of the signal at the output of EVO Eq. The meter shows both RMS signal (VU-Meter, blue) and peak signal (peak meter, green), from -24 to +18 dB range, referenced at -18dB.

Value Range : -24.0 dB / +18.0 dB

Colors : - Blue : RMS Value - Green : Peak Value

Default Value : 0.0 dB

## 4 Shortcuts

Shortcuts have been added to further enhance the user interaction and improve the workflow.

Shortcut	Description
Mouse Click + Alt	Reset to default value
Mouse Move + Ctrl	Q change only
Mouse Move + Shift	Gain change only
Mouse Move + Ctrl + Shift	Frequency change only
Wheel + Ctrl	Q change only
Wheel + Shift	Gain change only

## 5 Plugin Settings

Clicking the cogwheel symbol opens a window with a range of general settings and a direct access button to the user manual.



### 5.1 Main Setup

#### 5.1.1 UI Refresh Rate

Max refresh rate of the plug-in's UI.



## **5.2 I/O**

### **5.2.1 Input / Output**

I/O Config and Layout is not always available, though it is always displayed, it can only be edited in some configurations and formats.

### **5.2.2 Config**

Current I/O configuration, is only available in certain VST hosts; typically hosts with limited capabilities for handling multichannel configurations.

### **5.2.3 Layout**

Available I/O routings based on current I/O configuration. Layout is available for editing if more than two input channels are available. If the Layout is changed from the default value, an asterisk \* is displayed next to the Layout information in the Input section.

## **5.3 Processing**

### **5.3.1 Report Latency**

Enables/Disables the latency reporting to the host.

## **5.4 Automation**

### **5.4.1 Multithread**

Enables/Disables Multithread Automation.

## **5.5 OSC**

OSC is available in EVO Eq.

### **5.5.1 Enable**

Enables/Disables OSC control and mapping of the plug-in's parameters.

## **5.6 Version Information**

Plug-in version and build-number information.

## **5.7 User Manual / Credits**

Quick link to the User Manual. Plug-in creation credits.

## 6 Preset Management

EVO Eq, as well as all other 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.



### 6.1 Preset Sections

EVO Eq 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.

### 6.2 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. Recall

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.

### 6.3 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.

## 6.4 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.

## 7 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.

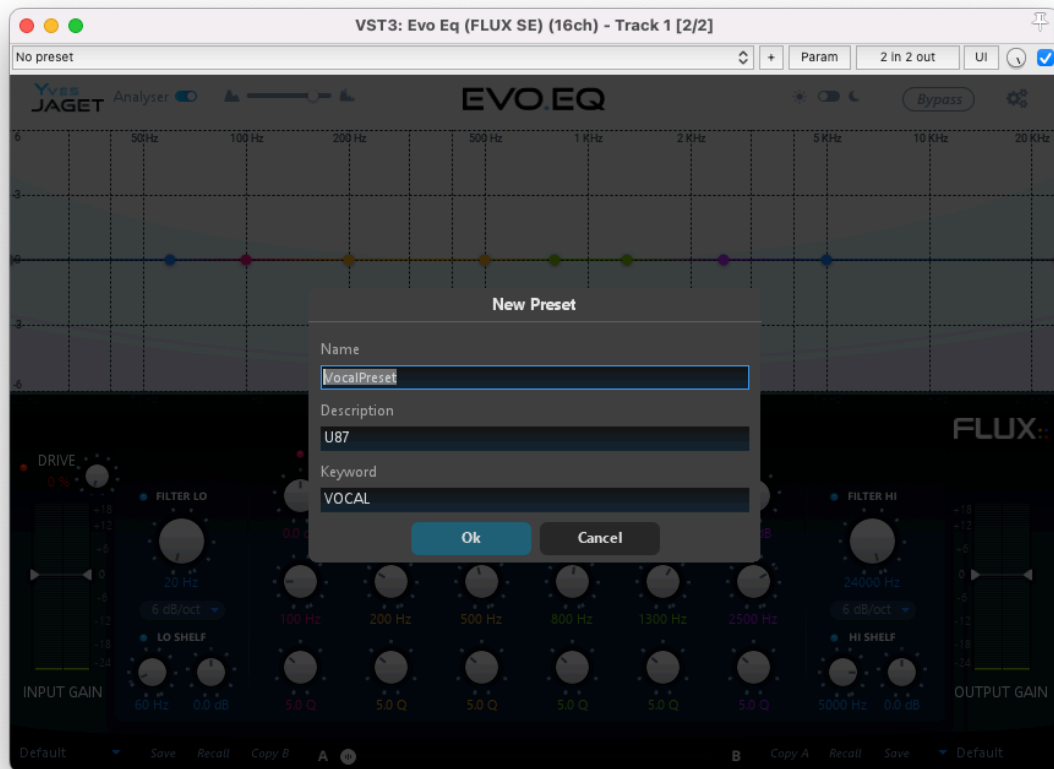


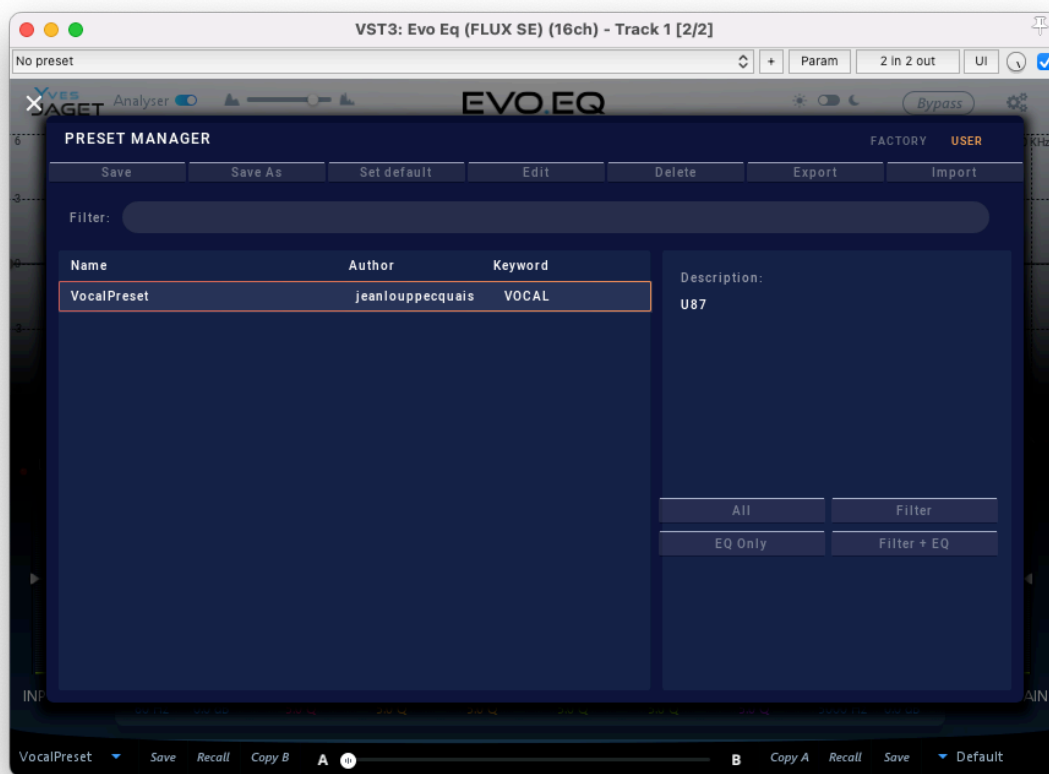
In the preset manager, any preset can be loaded into a preset slot by double clicking on the name of the desired preset in the actual preset list, the preset will then be loaded into the preset slot corresponding to the position of the morphing slider.

- 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.





# 8 Specifications

## 8.1 Availability

EVO EQ is available in:

AU / VST / VST3 / AAX Native\* / AAX AudioSuite\* / Waves WPAPI

*\* AAX Native & AAX AudioSuite in Pro Tools 11 and later*

## 8.2 Processing

EVO EQ provides :

- Up to 16 channels Input/Output in VST/AU/AAX.
- Up to 8 channels in WPAPI for Waves Soundgrid.
- 64-bits internal floating point processing.
- Sampling rate up to 384 kHz.

## 8.3 Hardware Requirements

A graphic card fully supporting OpenGL 2.0 is required.

- macOS: OpenGL 2.0 required – Mac Pro 1.1 & Mac Pro 2.1 are not supported.
- Windows: If your computer has an ATi or NVidia graphics card, please assure the latest graphic drivers from the ATi or NVidia website are installed.

## 8.4 Software License Requirements

In order to use the software an iLok.com user account is required (the iLok USB Smart Key is not required).



## 8.5 Compatibility

All major native formats are supported

### 8.5.1 Windows – 11, in 64 bits only.

- VST (2.4)
- VST3 (3.1)
- AAX Native\*
- AAX AudioSuite\*
- Waves WPAPI

### 8.5.2 macOS (Intel and ARM)

All versions from Sierra (10.12) to latest. (Compatible with previous versions but not supported)

- VST (2.4)
- VST3 (3.1)
- AU
- AAX Native\*
- AAX AudioSuite\*
- Waves WPAPI

\* *AAX Native & AAX AudioSuite in Pro Tools 11 and later*

# 9 Credits

## 9.1 Software development

### 9.1.1 Project Manager and Designer:

Gaël Martinet

### 9.1.2 Application Development:

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

### 9.1.3 FLUX:: DSP Design and Development:

Gaël Martinet, Maxence Grandidier and Lorcan Mc Donagh

### 9.1.4 Graphic design:

Nicolas Philippot

### 9.1.5 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

### 9.1.6 FLUX:: Framework graphic engine:

Emmanuel Julien (GS lib) and Gaël Martinet

### 9.1.7 And

thanks to all fantastic testers...

### 9.1.8 FLUX:: Special Thanks to:

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

## 9.2 FLUX::

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

## 9.3 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)].

## 9.4 Open source libraries

### 9.4.1 RTTrPM SDK (Blacktraxx)

Copyright (c) 2019 CAST Group of Companies Inc

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

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# A Release Notes

## A.1 Build 23.07.50310 - All plugins

### A.1.1 New features

- Support Pro Tools new track formats

### A.1.2 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.1.3 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.2 Build 23.1.0.50251 - All plugins**

### **A.2.1 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.2.2 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.2.3 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.3 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.4 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.5 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.5.1 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.6 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.6.1 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.7 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 crash will occur if you change/move FX insert slots