

Syrah

FLUX:: Immersive

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1 Syrah

1.0.1 The Creative adaptive-dynamics processor

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Thank you for using Syrah. We hope that you will get good use of the information found in this manual, and to help you getting acquainted with Syrah we have included a basic walk through in the end of the document.



2 Introduction

When we started sketching our new plug-in project, our aim was to create a versatile and truly musical dynamics processor, which handles the dynamics in a way that allows you to be creative, without a complicated user interface.

The result is Syrah, a new generation dynamics processor utilizing real time dynamic detection and level dependent processing, providing adaptive dynamic capabilities, which mean that Syrah is always trying to adapt to the music and to the beat of the material.

Using parts of our exquisite ‘BitterSweet’ technology, our new adaptive-dynamics technology, and our well-recognized level independent dynamics processing, Syrah will be well suited as a creative versatile processor for recording and mixing, as well as for delicate and demanding mastering tasks.

3 User Interface

As you may notice, the controls are not the usual suspects found on a dynamics processor (I/O Gain, Dry Mix and Clipper excepted).

Instead, the controls provided typically affect more than one parameter in the underlying algorithms, with everything carefully tweaked allowing for creative processing still ensuring the finest sound achievable.



4 Input Output Section

4.1 Input Gain (1)

Controls the gain applied to the dynamic processing input. This setting may affect the dynamics signal detection.

Unit: Decibel (dB)

Range: -48.00 to +48.

Min. Steps: 0.

Default Value: 0.

4.2 Output Gain (2)

Controls the gain at the output stage of the dynamic processing, right before the Clipper (and the Clipper is the last, final step, in the entire processing chain).

Unit: Decibel (dB)

Range: -48.00 to +48.

Min. Steps: 0.

Default Value: 0.

4.3 Link (3)

Connects Output Gain to Input Gain, when adjusting Input Gain the Output Gain automatically reflects the change.

4.4 Gain Comp. (4)

The gain compensation attempts to adjust the output level to match the input level, and compensate for gain alterations produced by the dynamic processing (compression, de-expansion). Due to the extreme range of possible gain structure modifications in the algorithm, according

to the complexity of the audio material, a precise result is nearly impossible to accomplish, and so forth the gain compensation should not be expected to achieve perfection.

4.5 Dry Mix (5)

A true dry/wet mix control with gain compensation allowing for parallel compression or simply for fine adjustment of the entire processing.

Unit: Percent (%)

Range: 0.00 to 100.

Min. Steps: 0.

Default Value: 0.

4.6 Clipper (6)

The Brick wall clipper is applied at the very last stage of the processing chain. The clipper knee is dependent on other parameter settings and is automatically adjusted in the algorithm. When setting “Mode” to one of the “Dynamic” settings the knee will also alter according to the audio material.

4.7 Bypass (7)

Bypasses the plug-in processing by routing the input direct to the output. The actual processing is still performed in the background allowing for a true and smooth transition between the processed and the actual incoming signal.

5 Processing Section

5.1 Lookahead (8)

Introduces a true zero attack and a “real” sync of the algorithm over the dynamic detection. Default setting is off, and in this state, the attack depends on the Speed parameter value. Turning on the Lookahead will introduce some delay in the processing (not in the detection though).

5.2 Mode (9)

This is one of the most significant controls on Syrah, and is defining how the algorithm automatically tries to adapt the processing to the audio material.

5.2.1 Mode settings

By selecting one of the two provided dynamic modes, there’s a range of parameters that becomes dynamic, these parameters will vary in sync according to the audio analysis, and the algorithm will attempt to process aiming at a result that feels closer to the original material, more natural (unless you are over-processing to achieve a more effectfull processing).

- **Dynamic Soft (Default)**

In Soft mode, the release becomes automatic (according to the “Velocity” setting) so does the compression, de-expansion, the clipper knee and the “Relax” value.

This setting is suitable when a more natural kind of sound is desired, such as track compression, bus mix and final mix.

- **Dynamic Deep**

Dynamic Deep is similar to Dynamic Soft, but with a deeper, stronger compression providing a higher range of effect.

This mode invites to a much more “creative” use of Syrah, and is very suitable for track compression.

- **Static**

As opposed to the dynamic modes, the Static Mode provides a more manual processing with less dynamic influences and manual release (according to the Velocity).

This mode is more a traditional kind of dynamic processing, well suited for both track compression and final

mix.

5.3 Speed (10)

Controls the processing integration time and the attack time when Lookahead is not enabled.

Unit: Percent (%)

Range: 0.00 to 100.

Min. Steps: 0.

Default Value: 10.

5.4 Velocity (11)

Defines the release time as well as the global algorithm velocity (how fast the processing will react to the dynamic changes in the material).

Unit: Percent (%)

Range: 0.00 to 100.

Min. Steps: 0.

Default Value: 50.

5.5 x3 (12)

Multiplies the release range by three, allowing for very slow release times.

5.6 Log (13)

By using logarithmic calculations (instead of linear) when defining the release time, a faster reaction time, resulting in a deeper compression impression, is achieved.

5.7 Link Ch. (14)

Links the detection over all the processed channels.

Not available when M/S Mode is enabled as the Mid and Side is then processed individually.

5.8 Boost (15)

Increases the entire processing intensity; more compression, more de-expansion, more dynamic influence (when using the dynamic “Mode” settings), straightforwardly described – More of everything!

5.9 Inverse (16)

Inverts the final gain envelope proposing particularly effect-full processing such as hashing the sound, auto-gating or ambience/reverb reduction.

The inverse parameter is allowing for some really creative tweaking, entirely changing the ongoing processing, and transforming Syrah in a “Dr. Jekyll and Mr. Hyde” kind of way. If no “Amount” is defined, it’s perfectly normal if there’s no sound at all coming from the Output!

5.10 M/S Mode (17)

The Mid/Side mode is only available when processing stereo material.

When enabling the M/S Mode, the material is M/S encoded for individual processing, and then decoded back to stereo again just before the Dry Mix stage.

This is a well known technique often used in mastering allowing to increase or decrease the stereo image, keep or fall down center impact like kick, snare and similar.

An interesting feature with this mode, is that since Syrah analyzes the audio material to adapt the processing, the result will generally match the standard stereo material better, allowing for a bigger range of possible sound modification: dynamically increasing the space (room) impression, boost the main center components and similar tasks.

Link Channel function will not be available in this mode and “Relax Bass” function will only be applied on the M (Mid) component of the material.

5.11 MS Width (18)

Only available when in “M/S Mode”

Since the M/S processing can dramatically change the stereo image (as in possibly making it too wide..), MS Width provides control over the actual stereo width.

This setting can be effective when there’s a need for enhancing the stereo image width, increasing the room impression and similar tasks.

5.12 Thickness (19)

Fattens up the processed material by enhancing the low level frequencies when possible. The processing action will then go from de-expansion to compression (instead of compression only). This parameter works completely sound level independent.

5.13 Relax (20)

Defines a certain amount of auto ratio according to the audio material, “relaxing” the compression when working with high dynamics and generates a kind of smooth and dynamic attack. Relax also affects the release by modifying how the dynamic detection will react in time.

5.14 Relax Bass (21)

Controls the amount of low-shelve frequencies inserted into the side chain. The more you increase the value, the less the compression will react to low frequency content allowing for more low frequencies to pass through the processing.

In M/S Mode this will only be applied to the M (Mid) component of the material.

5.15 Amount (22)

Controls the amount (compression, de-expansion) and the solidity of the processing.

6 Metering Section

6.1 Signal Input VU meter (23)

Unit: dB vu (Decibel Volume Unit)

Ref: -16 dBFS (Decibels relative to Full Scale)

6.2 Signal Output VU meter (24)

Unit: dB vu (Decibel Volume Unit)

Ref: -16 dBFS (Decibels relative to Full Scale)

6.3 LCD On/Off (25)

Turns on or off the scroll LCD window.

6.4 LCD Scroll Waveform Speed (26)

Defines the display integration time (the scroll speed).

6.5 LCD Scroll Waveform Freeze. (27)

Freezes the scroll display waveform at its current state.

6.6 LCD Input Waveform (28)

The waveform displays the mono mix of the incoming signal.

6.7 LCD Output Waveform (29)

The waveform displays the mono mix of the outgoing processed signal.

6.8 Gain Envelope (30)

Displays the final gain envelope (linear).

6.9 Compressor and De-Expander meter (31)

6.9.1 Compressor (Red)

Unit: Decibel (dB)

Range: -16 to 0

6.9.2 De-Expander (Orange)

Unit: Decibel (dB)

Range: 0 to +

All information is displayed at a refresh rate of 30 fps and displaying the maximum action during the processing period.

7 Preset Management

Syrah, as well as all other Flux:: plug-ins, provides two preset slots referred to as slot A and slot B, which means that you can have direct access to two sets of parameter settings simultaneously. In addition to just recall (33) the settings for each of the slots individually and alternate between their settings, a morphing slider (35) is provided offering the possibility to morph between the slots and their corresponding settings. When clicking on one of the preset slots (38), the built in preset manager appears.

The preset manager contains three 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. Finally, the Global bank, which is a bit special, here you can save a complete snapshot with all the settings from both preset slots, as well as the position of the morphing slider.

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.

7.1 Additional Controls In The Preset Manager Window

- 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.
- New, saves the current settings into a new preset.
- Duplicate creates a copy of the selected preset and saves it to the list.
- Edit allows for changes to the preset meta properties.
- Delete, removes the selected preset.
- 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.

7.2 Preset Management Controls

7.3 Save (32)

To save a new preset using the built in preset manager, simply click Save in the corresponding preset slot (A/B), and to save changes to your preset, simply click Save again.

If you want to resave your preset under a new name, open the preset manager by clicking the corresponding (A/B) preset slot (38), select New, enter a name for your preset, and press Save.

7.4 Recall (33)

Recalls the settings of the corresponding slot.

7.5 Copy A/B (34)

To copy all parameters between the preset slots (A to B or B to A), press the Copy A or Copy B button, and the parameters from the corresponding preset slot will be copied into the current preset slot. When copying parameters from one slot to another, the preset morph slider will automatically slide to the slot the parameters were copied to.

7.6 Morphing Slider (35)

The morphing slider provides mixing between the settings of slot A and B and allows for some very creative tweaking.

The result of the morphing can be saved as a global preset containing the actual settings of both preset slots as well as the morphing slider position.

To save a Global preset, open the preset manager by clicking the corresponding (A/B) preset slot (38), then click Global, select New and enter a name for your global preset, then press Save.

7.7 Automation (Morphing Slider) (36)

When enabling the Automation control button, the morphing slider will be exposed and available for both automation read and write.

Though with the button engaged, only the morphing slider value is applied when reading automation.

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

7.8 Preset Name (37)

Displays the name of the current preset.

7.9 Preset Slot (38)

By pressing the little arrows in the preset slot, the built in preset manager appears

8 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 Syrah only, and is not supported in Syrah Studio Session.

9 Get started

As with everything, there's always more than one way to perform a certain task, but to understand how the processing reacts, and to get acquainted with Syrah, we have created this basic walk through.

First of all, make sure all settings are at their default value (easily done by creating a new instance of Syrah).

Then while listening:

- Increase the Amount progressively then decrease it and enable Boost.
- Increase the Amount progressively then decrease it, disable Boost and then enable Wide.
- Increase the Amount progressively then decrease it, now enable Boost again.
- Increase the Amount progressively and then decrease it.
- Then do the same all over again, but when you reach the maximum Amount, try modifying the Relax and the Relax Bass settings.
- Now do the same once again, but when you reach the maximum Amount, or any other value that you prefer, try increasing the Thick parameter.
- Do the same process one more time, but with Lookahead enabled, and when you find a sound that you like, disable it and toggle between enabled/disabled to feel and hear the difference.
- Finally, switch Mode, and change the Velocity setting, and repeat one or several of the above tasks, more than once, to get a feel for how Mode and Velocity works.

Another thing that can create quite interesting results is when modifying the Input Gain with different Amount settings.

The Relax parameter is much more efficient and significant when Lookahead is enabled.

Try the invert (Inv) without Thickness on drums or other percussion, you will pretty soon find out that this can create some very interesting results..

With the Gain Comp enabled, Syrah will adjust the Output Gain, which can make it easier to compare with the incoming signal and understand the changes you have made on the sound. And then you can enable the clipper to increase the Output Gain and make your sound louder.

9.1 And some extra tricks

As Thickness is completely level independent, and since it's not adding any compression, you can add a lot off thickness and still fine tune the amount of compression by doing the following:

- Set Amount and Thickness to 100 %
- Enable the gain Link control
- Now start decreasing the Input Gain

Now you will see and hear the Thickness acting, but the compression will decrease. Now try it again, but make sure to adjust all the other parameters to get the kind of processing you want first.

Another little trick, is to decrease the Amount up to round about 50 %, this will be particularly interesting when in “Dynamic Deep” Mode.

9.2 Have fun!

Now you should have a basic understanding of how the processing works, but never forget that Syrah tries to adapt to material you are processing and the result can be astonishingly different for a voice than for a bass or for drums, or a keyboard, guitar etc. and of course, for a complete mix...

10 Specifications

10.0.1 Processing Specifications - Syrah

- Up to 16 channels Input/Output.
- 64-bits internal floating point processing.
- Sampling rate up to 384 kHz DXD (Pyramix and Ovation MassCore/Native).
- Sampling rate up to 192 kHz for Native (AU/VST/ST3/AAX/AAX AudioSuite).

10.0.2 Processing Specifications - Syrah Studio Session

- Mono/Stereo Input/Output.
- 64-bits internal floating point processing.
- Sampling rate up to 96 kHz.

10.0.3 Licence Requirements

In order to use Syrah or Syrah Studio Session, an iLok.com user account is required (the iLok USB Smart Key is not required).

11 Compatibility

11.0.1 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

11.0.2 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.

12 Credits

12.1 Software development

12.1.1 Project Manager and Designer:

Gaël Martinet

12.1.2 Application Development:

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

12.1.3 FLUX:: DSP Design and Development:

Gaël Martinet, Maxence Grandidier and Lorcan Mc Donagh

12.1.4 Graphic design:

Nicolas Philippot

12.1.5 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

12.1.6 FLUX:: Framework graphic engine:

Emmanuel Julien (GS lib) and Gaël Martinet

12.1.7 And

thanks to all fantastic testers...

12.1.8 FLUX:: Special Thanks to:

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

12.2 FLUX::

www.flux.audio COPYRIGHT (C) 2024, HARMAN INTERNATIONAL. ALL RIGHTS RESERVED. FLUX:: is a trademark of HARMAN International.

12.3 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 Schlnat, 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
- 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)
 - Copyright (c) 2019 Hayati Ayguen (h_ayguen@web.de)
 - Copyright (c) 2020 Dario Mambro (dario.mambro@gmail.com)
- pybind11 - Copyright (c) 2016 Wenzel Jakob 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
- 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, 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].

12.4 Open source libraries

12.4.1 RTTrPM SDK (Blacktraxx)

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12.4.2 ThorVG (replaces crossed-out libraries above) - MIT

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12.4.3 r8brain free - MIT

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

12.4.4 ooura fft from lmdsp - MIT (or MIT-like)

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

12.4.5 LibJpeg - Custom (BSD-like)

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

12.4.6 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.

12.4.7 Freetype 2 - FreeType License

<https://github.com/freetype/freetype/blob/master/LICENSE.TXT> Copyright (C) 2006-2023 by David Turner, Robert Wilhelm, and Werner Lemberg

12.4.8 Zlib - zlib

https://zlib.net/zlib_license.html Copyright (C) 1995-2022 Jean-loup Gailly and Mark Adler

12.4.9 bzip2 - Modified zlib

Copyright (C) 1996-2010 Julian Seward jseward@bzip.org

12.4.10 Boost - BSL-1.0

https://github.com/boostorg/boost/blob/master/LICENSE_1_0.txt

12.4.11 mimalloc - MIT

<https://github.com/microsoft/mimalloc/blob/master/LICENSE>

12.4.12 ni-media - MIT

<https://github.com/NativeInstruments/ni-media/blob/master/LICENSE>

12.4.13 pfft

<https://github.com/marton78/pfft/blob/master/LICENSE.txt>

12.4.14 pybind11

<https://github.com/pybind/pybind11/blob/master/LICENSE>

12.4.15 rtaudio

<https://github.com/thestk/rtaudio/blob/master/LICENSE>

12.4.16 rtmidi

<https://github.com/thestk/rtmidi/blob/master/LICENSE>

12.4.17 concurrentqueue - Simplified BSD

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12.4.21 fmt

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12.4.22 functions (Erik Rigtorp) - MIT

<https://github.com/rigtorp/Function/blob/master/LICENSE>

12.4.23 inplace_function - BSL-1.0

12.4.24 gtest - ” BSD 3-Clause “New” or “Revised” ”

<https://github.com/google/googletest/blob/main/LICENSE>

12.4.25 jsoncpp - MIT

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12.4.26 libcurl - MIT like

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12.4.27 magic_enum - MIT

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12.4.28 nanobench - MIT

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12.4.29 nlohmann_json - MIT

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12.4.30 openddl - MIT

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12.4.33 pugixml - MIT

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12.4.34 rapidjson - MIT

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12.4.35 shared_recursive_mutex - MIT

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12.4.37 sqlite3 - Public Domain

<https://www.sqlite.org/copyright.html>

12.4.38 sqlite_orm - MIT

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12.4.39 stb - MIT

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12.4.40 utfcpp - BSL-1.0

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<https://pypi.org/project/argh/>

12.4.43 chardet (Mark Pilgrim, Daniel Blanchard) - LGPL v2.1

<https://github.com/chardet/chardet/blob/main/LICENSE>

12.4.44 charset_normalizer - MIT

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12.4.45 docopt (Vladimir Keleshev) - 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