EASTWEST / QUANTUM LEAP

FORBIDDEN PLANET

PRODUCED BY DOUG ROGERS AND NICK PHOENIX

A HYBRID SYNTH ODYSSEY

USER MANUAL

1.0.7

INFORMATION

East West Sounds, Inc.
6000 Sunset Blvd.
Hollywood, CA 90028
USA

For questions about licensing of products: licensing@eastwestsounds.com

For more general information about products: info@eastwestsounds.com

For technical support for products: https://www.soundsonline.com/support

CREDITS

PRODUCERS
Doug Rogers, Nick Phoenix

PRODUCTION COORDINATORS
Doug Rogers, Blake Rogers

PROGRAMMING / SOUND DESIGN
Justin Harris, Jason Coffman, Doug Rogers, Nick Phoenix

SCRIPTING
Wolfgang Schneider

EDITING
Justin Harris, Mike DiMattia, Jason Coffman

ART DIRECTION
Doug Rogers, Blake Rogers, Nick Phoenix, Eike Jonas,
Steven Gilmore, Jonas Sellami, Nataliia Hera

OPUS SOFTWARE
Wolfgang Kundrus, Wolfgang Schneider, Eike Jonas, Klaus Lebkücher; QA by: Gerrit Haasler
Inspiration by: Doug Rogers, Nick Phoenix, Blake Rogers, Rhys Moody, Justin Harris, Jason Coffman

VIDEO PRODUCTION
Blake Rogers, Sam Hanson, Ryan Thomas, Julio Tobar

USER MANUAL
Jason Coffman

DEDICATED TO THE MEMORY OF
Rhys Moody

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Journey to the outer reaches of the sonic universe with this vast collection of cinematic and heavy-hitting synths.

1.2 ABOUT THE TEAM

Produced by sound titan Doug Rogers and Two Steps from Hell producer Nick Phoenix.

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Visit our Support Center to Live Chat with a Support Agent, or watch videos on installation and setup, product trailers, walkthroughs, and more.

1.1 FORBIDDEN PLANET

Journey to the outer reaches of the sonic universe with this vast collection of cinematic and heavy-hitting synths. Freely morph between electronic and acoustic instrument layers, for futuristic sounds that are perfect for soundtracks, EDM, hip hop and more.

Forbidden Planet was produced by Doug Rogers and Nick Phoenix. “Its the result a 20 year journey with analogue synthesizers, and unlike any synth plug-in ever created,” says Phoenix.

1.1.1 WELCOME

Forbidden Planet is a hybrid synth featuring a premier collection of sampled analog synthesizers, both modern and vintage, acoustic instruments from rock, orchestral, choir, and world music genres, and other sound design elements.

EASTWEST SOUNDS VIDEO: FORBIDDEN PLANET WALKTHROUGH

MAIN FEATURES

Forbidden Planet features hundreds of curated instruments that are playable out-of-the-box, as well as a deep level of control to manipulate the sound. A brief outline of its main features are outlined below, with a deeper dive further in the manual.

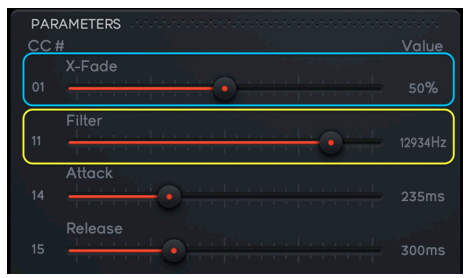
- **THE ORBITAL CONTROL** is central to the design of Forbidden Planet. It controls the 'X-Fade' and 'Filter' parameters using a dual-axis **ORBITAL** CONTROL found in the center **XY PAD VIEW**.

Click and drag the Orbital control around the area surrounding the larger planet to engage its dual-axis control.

Move the **X-FADE** PARAMETER horizontally along the x-axis to cross-fade between instrument layers to create unique blends, or a sound that transforms from one to another.

Move the **FILTER** PARAMETER vertically along the y-axis to control the filter's cutoff frequency,opening the filter to allow the entire sound through, or closing it to completely silence it.

- **MIDI CONTROLS** create dynamic and evolving synth performances with an array of parameters that are assigned to MIDI Continuous Controllers (CCs).



Program a MIDI controller's knobs or sliders to these MIDI CC #'s to record them live into a DAW, or use the MIDI CC automation lane in a DAW to manually draw them in.

Use the Mod Wheel (MIDI CC 01) to control the **X-FADE** PARAMETER, which will also move the Orbital control in the XY Pad view horizontally.

Use Expression (MIDI CC 11) to control the **FILTER** PARAMETER, which will move the Orbital control in the XY Pad view vertically.

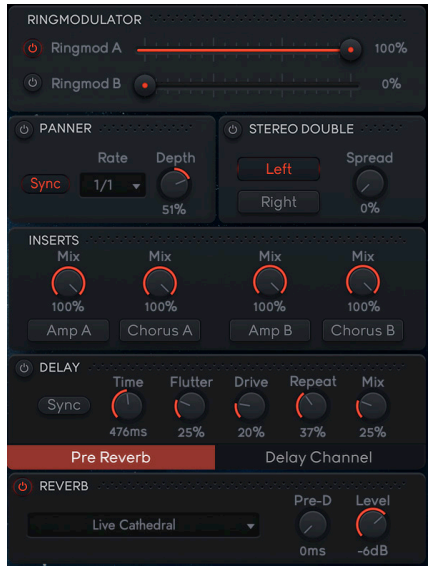
- **FILTER MODULATION** creates movement by modulating the filter's cutoff frequency to produce gated rhythms with the Step LFO effect, or a multi-stage sweep using the Mod Envelope effect, or use them both for layers of movement.

For example, try the Step LFO effect on sustained pads to create a gated rhythm, as the filter cutoff is modulated by the step sequencer. To produce this effect, click on the **STEP LFO** AMOUNT knob and drag it up or down to change its value, and then click the **ON/OFF** BUTTON in the Step LFO section to turn it on.

To add an additional layer of movement, dial in some of the Mod Envelope effect, so the filter cutoff follows the envelope shape as well.

To add this effect click on the **MOD ENVELOPE** AMOUNT knob and drag it up or down to change its value, and then click the **ON/OFF** BUTTON in the Mod Envelope section to turn it on. With some settings in place, play some notes and experiment with different Filter Cutoff knob settings. You can use MIDI CC 11 to control it in real-time. As you do, notice how the Step LFO and Mod Envelope effects are influencing the Filter Cutoff at those different settings.

- **AN ARRAY OF POWERFUL EFFECTS** are available, which can be applied globally or per instrument layer, depending on the effect.



For instance, Panner is a auto-panner effect that modulates the global pan position. It can be synced to tempo (BPM) with sub-divisions between 32 bars and a 1/32nd note triplet.

The Ring Modulators can be applied separately to each instrument layer (Sources A and B). They produce colorful sounds that are even more extreme when in motion.

Each instrument layer also contains the Amp and Chorus Ensemble effects inserted in series, offering either distortion characteristics, and/or a thicker texture respectively.

Global Delay and Reverb are available as effects sends, allowing just the right amount to be added to the mix.

- **THE DUAL ARPEGGIATOR** creates beautifully complex and evolving arpeggiator patterns by applying unique settings to each of the instrument layers (Souces A and B). Get started by trying out some of the fantastic Arpeggiator instrument presets.

Use the Mod Wheel (MIDI CC 01) to cross-fade between instrument layers with the arpeggiator engaged on both to produce beautifully evolving patterns.

Even when there are only subtle differences between the arpeggiator patterns of the 2 layers, the act of cross-fading between them creates a transformation.

For example, even altering a single control like ‘Swing’, which shifts the downbeat off-axis, can transform an arpeggiator’s rhythm from straight to swung as you cross-fade.

The Glide and Portamento controls can be applied independently to Sources A and B, and can be used regardless of whether the arpeggiator is turned on or off. And while there are no hard rules, we generally recommend using Glide with the Dual Arpeggiator.

POWERED BY THE REVOLUTIONARY OPUS SOFTWARE

Opus is the revolutionary software engine that powers all EastWest virtual instruments. It is faster, more powerful, more flexible, and better looking than the previous generation software engine, and it comes with some incredible new features.

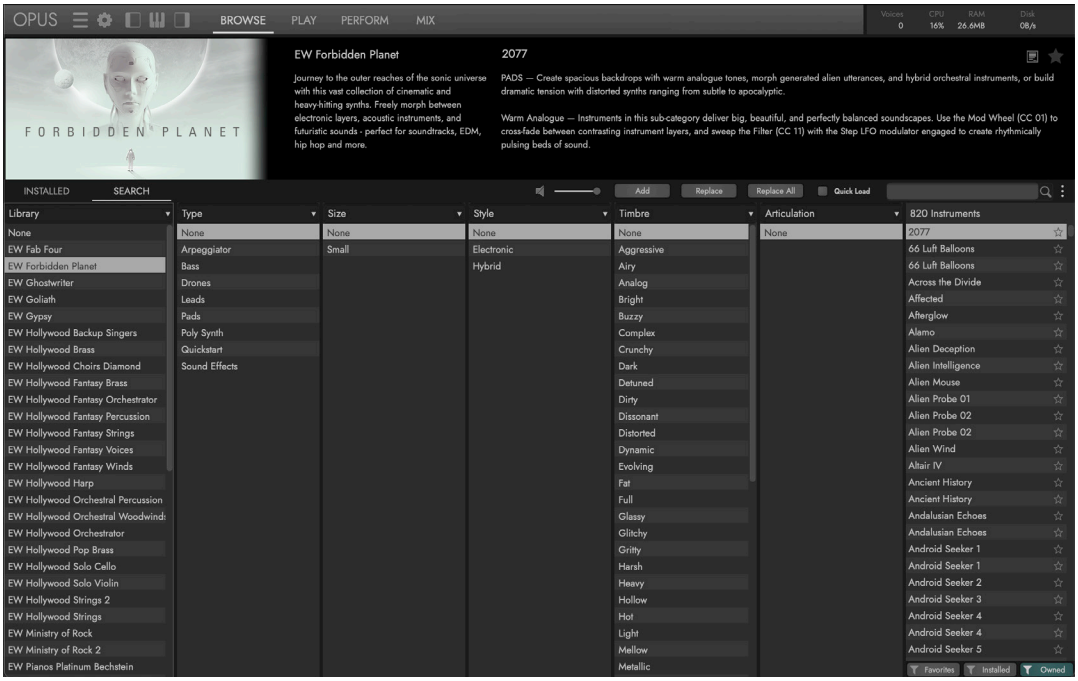
EASTWEST SOUNDS VIDEO: OPUS SOFTWARE WALKTHROUGH

Below is a brief list of some of the main features of the Opus software engine. Refer to the Opus Software Manual for more in-depth coverage of all the powerful controls and features available in Opus.

- **FAST AND EFFICIENT PERFORMANCE** was a top priority as Opus was being developed from the ground up. With an emphasis on achieving the most efficient use of computer resources possible, it is the fastest sample engine on the market. Opus runs natively on Apple's new M1 processors, and Intel-based Macs, and is compatible with the latest Mac and Windows operating systems.
- **HIGH RESOLUTION USER INTERFACE** are now available for all EastWest product's in Opus. The high resolution (retina) user interfaces are also scalable to any size, providing ultimate flexibility when used with high-resolution computer monitors.
- **A POWERFUL SCRIPTING LANGUAGE** is an essential part of overall instrument design. It is used to model instrument behavior, implement sonic features not

possible to achieve otherwise, and define user interaction. Opus features a brand new, powerful script language called OpusScript developed by Wolfgang Schneider, the creator of Kontakt. It empowers sound designers to express their ideas, and deploy actual functionality and behavior beyond what the underlying software contains.

- **INSTRUMENT DOWNLOADS** mean you no longer have to wait hours for large libraries to download. Instruments can now be downloaded individually at the speed of your internet connection. With Audio Previews you can audition a sound, download it, and be playing in minutes!



- **CUSTOM KEYSWITCHES** allow users to build their own keyswitch instruments, and the ability to create multi-articulation instruments with a variety of options to switch between articulations on the fly. Trigger Options include Keyswitches, Continuous Controllers (CCs), Velocity, Program Changes, and more!

- **ADVANCED AUTOMATION** options come pre-configured on a per-instrument basis, with custom settings tailored to that instrument or library's unique features. Users are also free to configure their own automation settings by adding automation parameters and macro parameters, the latter of which controls multiple targets with a single macro. Existing MIDI Controller Mapping assignments can also be re-mapped to any freely available MIDI CC assignment you like.

- **MULTI-INSTRUMENT SETUPS** are easier than ever to manage thanks to a dedicated area of the user interface that handles these 'Performances'. Use an array of controls and options that allow you to customize how multiple instrument interact with each other, including defining octaves, key ranges, trigger actions, and more.

1.1.2 WALKTHROUGH

This section is for new users of the Opus software, the sample engine that powers Forbidden Planet and all other EastWest Libraries.

This section covers the initial steps of setting up Opus, loading your first instrument, using the controls to alter the sound, building various multi-instrument setups, and polishing off the sound with mixing and effects.

- **INITIAL SETUP** involves a few steps to optimize settings, setup audio and midi devices, and run the latest automatic updates.
- **USER INTERFACE** An overview of navigating the Opus software's user interface.
- **LOADING AN INSTRUMENT** is easy using the features found in the Browse page, where you can search for instrument, audition sounds, and load instrument(s).
- **PLAYING AN INSTRUMENT** is intuitive as ever by using a libraries custom user interface and set of controls available in the Play page and its series of sub-pages: Player (default), MIDI Tools, Automation, and Articulations.
- **BUILDING A PERFORMANCE** Create multi-instrument setups (splits, stacks, keyswitches) in moments by modifying instrument properties using controls like key range, octave, and trigger actions to shape and control them in a variety of ways.
- **MIXING AND EFFECTS** can be applied to an instrument (or its individual microphone positions) using a suite of effects covering every category, adding extra polish to the final output with eq, compression, chorus, reverb, delay, and more.

INITIAL SETUP

Before diving in, a few steps are required to optimize and setup Opus for use.

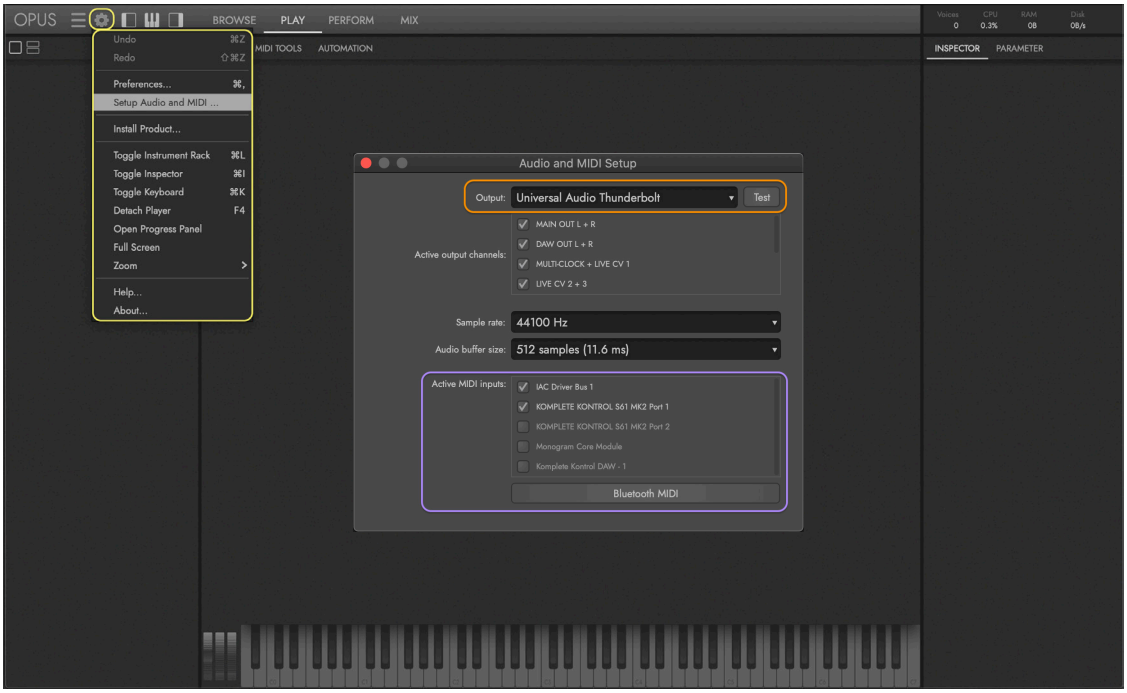
1. **THE SETUP WIZARD** dialog appears the very first time Opus is launched. Follow the series of prompts to help optimize the CPU and disk performance of Opus based on your workflow and computer's specifications. This can be changed at any time in Preferences.

2. **RUN THE AUTO UPDATE** upon launching Opus if the 'Updates Available' prompt appears. It should only take a few seconds to complete.

3. **AUDIO AND MIDI DEVICES** can be selected in the **SETTINGS** MENU by selecting the **SETUP AUDIO AND MIDI** OPTION from the list.

   (A) Select an audio device from the **OUTPUT** MENU, and test the connection by clicking the **TEST** BUTTON to send a test tone.

   (B) In the **ACTIVE MIDI INPUTS** AREA check the box next to any available MIDI device(s) you wish to enable.



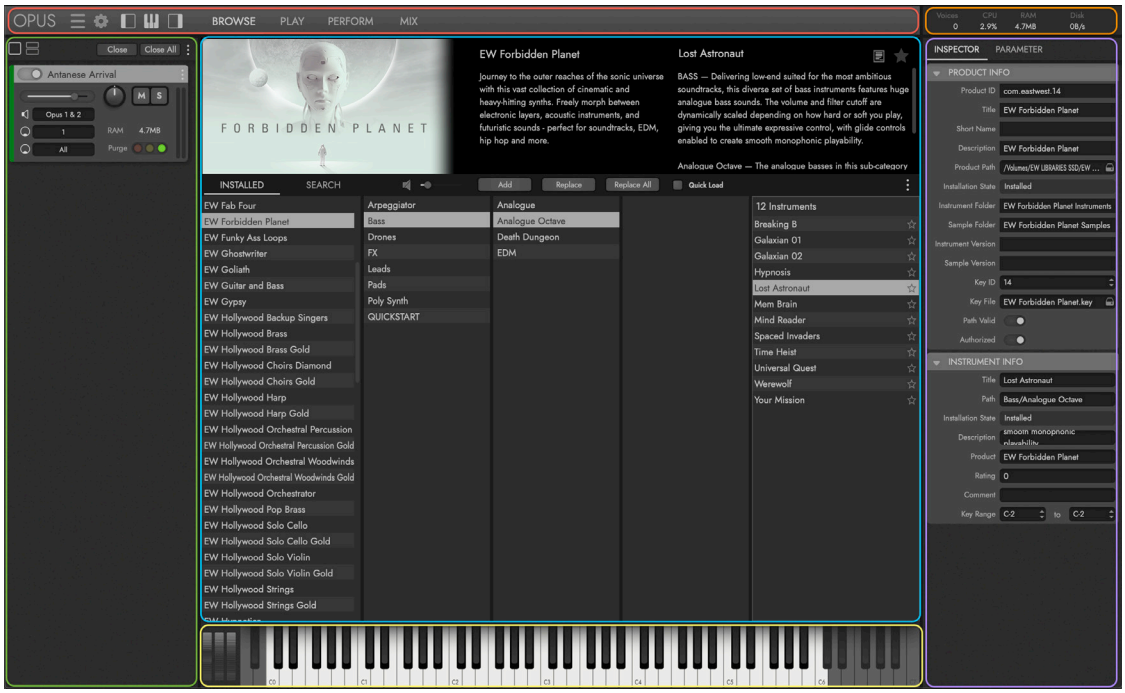
OPUS SOFTWARE MANUAL | SECTION 1.1.3 PREFERENCES contains more information about the settings available in the preferences window.

USER INTERFACE

The Opus user interface is divided into 6 main areas (some initially hidden from view).

At the top is the **NAVIGATION BAR** AREA that contains important menus and buttons to access all the main areas of the Opus user interface. From left to right that includes:

- The **OPUS** BUTTON prompts an 'About' window to appear with software information.
- The **MAIN MENU** OPTIONS (horizontal lines) are related to saving and opening instruments and performances, and the **SETTINGS MENU** OPTIONS (gear icon) contain preferences for audio and MIDI, and more.
- The **INTERFACE** TOGGLES show and hide parts of the Opus user interface: the Instrument Rack (left), the Virtual Keyboard (middle), and the Inspector (right).
- The **PAGE** SELECTORS switch the **MAIN DISPLAY** AREA between the Browse (shown), Play, Perform, and Mix pages.



The **INSTRUMENT RACK** AREA populates with loaded instruments, and includes basic controls for volume, pan, solo / mute, and more. Further details are contained in the section below.

The **VIRTUAL KEYBOARD** AREA shows the selected instrument's sampled key range, pitch wheel, modulation wheel (CC 1), and expression wheel (CC 11).

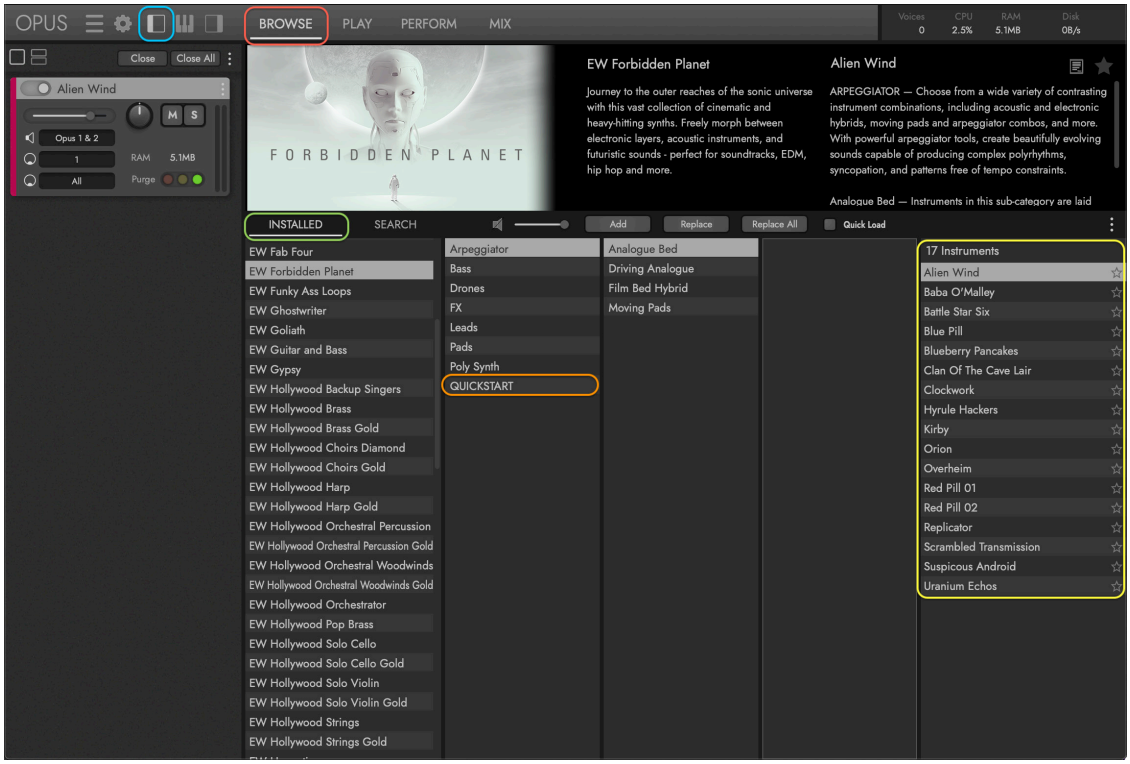
The **SYSTEM USAGE** AREA area provides real-time stats related to the number of simultaneous voices, CPU usage, RAM usage and disk usage.

The **INSPECTOR** AREA shows information pertaining to the current selection, whether it's an instrument selected in the Browse page, or a channel selected in the Mix page. Please see the Opus software manual for more information.

LOADING AN INSTRUMENT

The Browse page is where instruments can be searched for, auditioned and loaded.

1. Click the **BROWSE PAGE** SELECTOR in the **NAVIGATION** BAR to enter the Browse page.
2. Click the **INSTRUMENT RACK** BUTTON in the **NAVIGATION** BAR to see the Instrument Rack, where loaded instruments populate with controls like volume, pan, and more.



3. Click the **INSTALLED MODE** BUTTON, then click on 'EW Forbidden Planet' in the list of installed libraries that appear in the left column. Search through its sub-categories until a folder containing instruments is clicked on.
4. Click on the **QUICKSTART** FOLDER to access producer choice instruments ideal for getting ideas started fast!
5. Instruments will appear in the **RESULTS LIST** COLUMN, where you can double-click on one to load it, and double-click another one to replace it. Hold the [option/alt] key while you double-click to add an instrument, instead of replacing it.

CONTINUE READING | SECTION 2.1 FORBIDDEN PLANET INSTRUMENTS for details about the instruments available in Forbidden Planet, and the ways to search for them.

PLAYING AN INSTRUMENT

Each product has a unique set of controls and features, accessible in the Play page and its series of sub-pages: Player (default), MIDI Tools, Automation, and Articulation.

1. Click the **PLAY PAGE** SELECTOR in the **NAVIGATION** BAR to enter the Play page.
2. Click the **PLAYER SUB-PAGE** SELECTOR in the **PALETTE** MENU to see the custom user interface for the loaded and currently selected instrument.

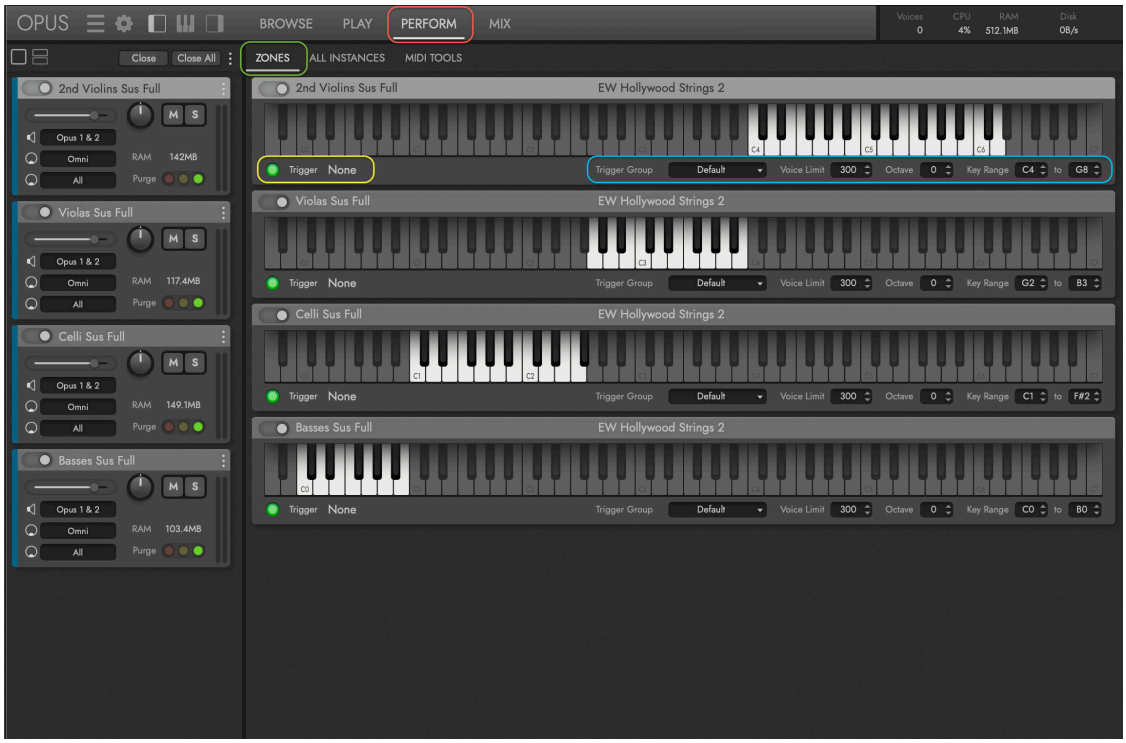
3. Use the **INSTRUMENT** SELECTOR to view the currently selected instrument, and to change the instrument selection using the up and down arrows (you can also use the up/down arrow keys on your keyboard).
4. Manipulate the sound by modifying the control on the user interface by clicking with your mouse, or continue reading the manual for details on manipulating controls in real-time using MIDI CCs.

CONTINUE READING | SECTION 2.2 FORBIDDEN PLANET CONTROLS for more details about the controls available to manipulate an instrument's sound.

BUILDING A PERFORMANCE

Create multi-instrument setups (or 'performances') by defining a variety of parameters that control how the individual instruments interact with each other.

1. Click on the **PERFORM PAGE** SELECTOR in the **NAVIGATION** BAR to enter the Perform page after loading multiple, individual instruments (or a single performance).
2. The **ZONES SUB-PAGE** SELECTOR is the default selection in the **PALETTE** MENU, and displays the instrument properties for all instruments, enabling you to quickly build multi-instrument setups, called performances.



3. Use the **INSTRUMENT PROPERTIES** SETTINGS to create multi-timbre instruments like keyboard splits and stacks by using key range, octave, and more.
4. Use the **MIDI TRIGGER** OPTIONS to create multi-articulation instruments that use various trigger options, like keyswitches, to switch between them.

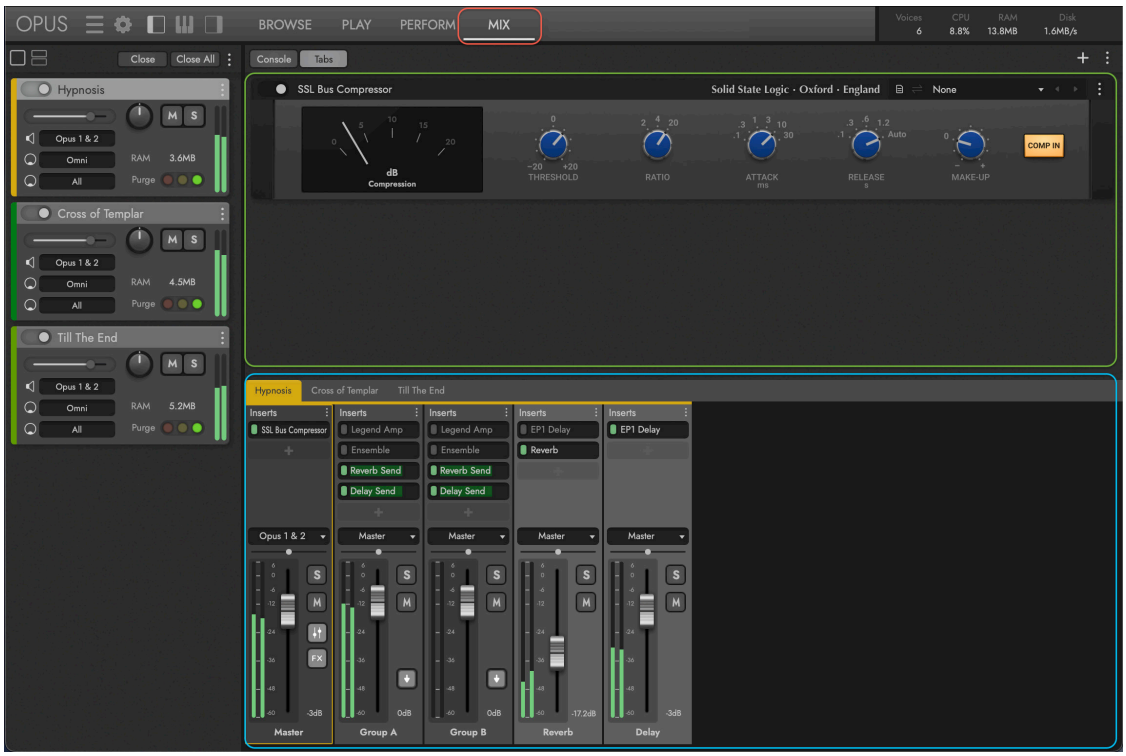
PLEASE NOTE: Several EastWest libraries feature custom sub-pages that are available in the Perform page after loading a special performance file. For example, Hollywood Fantasy Orchestra features the Orchestrator sub-page, which is briefly introduced in this walkthrough, and covered more thoroughly later in the manual.

OPUS SOFTWARE MANUAL | SECTION 2.3 THE PERFORM PAGE for more about the sub-pages and controls available to manage multi-instrument performances.

MIXING AND EFFECTS

Craft the final sound of an instrument's output using mix controls and a suite of powerful effects processors.

1. Click the **MIX PAGE** SELECTOR in the **NAVIGATION** BAR to enter the Mix page to change the selected instrument's mix and effect settings
2. The **EFFECTS** AREA occupies the top half of the Mix page, and displays the insert effects loaded on the selected channel (by default, the Master channel).



3. The **MIXER** AREA is located in the bottom-half of the Mix page, and populates with a standard mixer channel setup for Forbidden Planet: a Master channel, 2 Sub Mixer channels, and 2 FX Bus channels, with effects inserted on each.

   The 2 Sub Mixer channels provide independent outputs for Sources A and B, enabling unique effects settings per-channel. The Legend Amp and Ensemble Chorus effects are inserted in series, and Effect Send amounts are available to send signal to the Delay and Reverb FX Bus channels.

OPUS SOFTWARE MANUAL | **SECTION 2.4** THE MIX PAGE for details about how to mix and finalize and instrument's output.

WHERE TO LEARN MORE

To learn more about the Opus Software, beyond that specifically related to Forbidden Planet, please refer to the Opus Software Manual. It covers all aspects of the Opus software's feature set, controls, and options.

Access the Opus Software Manual within the Opus software itself by clicking on the **SETTINGS MENU** BUTTON in the top-left corner of the Navigation Bar, and selecting the **HELP** OPTION that appears at the bottom of the menu.

This Forbidden Planet user manual contains references to sections within the Opus Software Manual (example shown below), where topics beyond the scope of this product are expanded upon.

> **OPUS SOFTWARE MANUAL | SECTION 1.1.3** PREFERENCES contains more information about the settings available in the preferences window.

1.1.3 WHAT'S INCLUDED

EastWest's Forbidden Planet includes:

- A collection of 645 instruments in 7 main categories
- Approximately 54 Gigabytes (GB) of 24-bit, 44.1 kHz samples
- EastWest's powerful, new Opus software engine.
- A license that identifies the product you bought.
- A Forbidden Planet User Manual.pdf
- An Opus Software Manual.pdf
- The EW Installation Center to setup the libraries, software, and documentation

A NOTE ABOUT ILOK

An iLok account is required for a machine-based (electronic) license to be placed on your computer. You may also place the license on an optional iLok 2 or 3 key. The iLok 1 key is no longer supported.

PLEASE NOTE: Due to the age and release date of this hardware, the iLok 1 key is no longer supported by the latest iLok License Manager, Opus software, and Installation Center software. It will result in very slow loading speeds, or the programs not locating the libraries. Please move your licenses either to your computer as a Machine License or to an iLok 2 or 3 key. Simply having the iLok 1 key plugged in to your computer is known to also exhibit this limiting behavior.

REQUIRED INTERNET CONNECTION

An Internet connection is required for several things:

- The first time download of the EW Installation Center and Opus software
- The first time activation of perpetual licenses
- To use the 'Auto Update' feature in Opus
- The renewed activation of subscription licenses (ComposerCloud)
- The download of EastWest Libraries (see below for other options)

Once everything is setup, you will only need a connection once per month so that the license remains active. If you're not active and the sync doesn't happen automatically, you will need to deactivate, then reactivate the license using the iLok License Manager.

1.1.4 SYSTEM REQUIREMENTS

The minimum and recommended hardware and software specifications for running Opus (version 1.5 and above) on Windows and macOS systems are stated below.

The Opus software must be installed on an operating system drive, and that drive must be formatted in an operating system's native file format to prevent installation issues and largely inflated file sizes. Use NTSF format for Windows drives, Mac OS Extended (Journaled) for macOS 12 and below, and APFS for macOS 13 and above.

MINIMUM SPECIFICATIONS

- CPU: Quad-core (four cores), running at 2.7 GHz (or above)
- RAM: 16 GB
- OS: macOS 10.15 (Catalina) and above; Windows 10 and above (with ASIO sound drivers)
- Drive: HDD (7200 rpm, non-energy saving)

RECOMMENDED SPECIFICATIONS

- CPU: Octa-core (eight cores), running at 2.7 GHz (or above)
- RAM: 32 GB or more
- OS: macOS 10.15 (Catalina) and above; Windows 10 and above (with ASIO sound drivers)
- Drive: SSD (SATA or PCIe)

PLEASE NOTE: Opus runs natively on Apple silicon ARM CPUs (M1, M2, M3, etc.), and Intel-based Macs.

1.2 ABOUT THE TEAM

Forbidden Planet was produced by sound titan Doug Rogers and Two Steps from Hell producer Nick Phoenix.

1.2.1 DOUG ROGERS

With over three decades of experience in the audio industry, founder and producer Doug Rogers is the recipient of many industry awards including “Recording Engineer of the Year”. “The Art of Digital Music” named him one of “56 Visionary Artists & Insiders” in the book of the same name.

In 1988 he founded EastWest, the most critically acclaimed virtual (software) instrument developer in the world. Since then, EastWest has been the recipient of over 120 international industry awards. Rogers uncompromising approach to quality, and innovative ideas has enabled EastWest to lead the industry for over 30 years.

After forming EastWest, he produced the very first commercial drum samples collection, followed with a sequel co-produced with Bob Clearmountain, which was so successful a new industry was born. Rogers and Clearmountain produced subsequent releases that won many awards. In 1991, Rogers released the first collection to include MIDI driven drum loops, which enabled users to adjust each loop tempo in their sequencer without adjusting pitch or decreasing quality.

With sampling technology improving, Rogers released the Ultimate Piano Collection in 1995, the first multi-velocity sampled piano collection, which received many industry awards. In 1997 Rogers partnered with Nemesys to create the GigaSampler software and instrument collections, which pioneered the use of “streaming from hard drive technology”, a technical breakthrough without which, the high quality virtual instruments of today would not be possible.

In 2003 he co-produced with Nick Phoenix the first surround sound virtual orchestra, Symphonic Orchestra, engineered by 11-time Grammy nominated classical recording engineer Keith Johnson, and recorded in a ‘state of the art’ concert hall (awarded Keyboard Magazine “Key Buy Award,” EQ Magazine “Exceptional Quality Award,” Computer Music Magazine “Performance Award,” and G.A.N.G. [Game Audio Network Guild] “Best Sound Library Award”); and followed that release with Symphonic Choirs (awarded Electronic Musician “2006 Editor’s Choice Award,” G.A.N.G. “Best Sound Library Award,” and Keyboard Magazine “Key Buy Award”). Symphonic Choirs and it’s predecessor Voices of the Apocalypse were the first music software products to enable users to type in words for the choirs to sing in any key with a computer. This was followed in 2007 with EastWest/Quantum Leap Pianos, the most detailed virtual piano collection ever produced, also in surround sound.

In 2005 Rogers established a software development division for EastWest, and released the first 64-bit virtual instruments that became the new standard. Rogers

most recent productions include Iconic; Hollywood Strings 2, Hollywood Fantasy Orchestra, Forbidden Planet, co-produced with Nick Phoenix; Hollywood Orchestra Opus Edition, co-produced with Nick Phoenix; Hollywood Orchestrator, co-produced with Sonuscore; Hollywood Backup Singers, co-produced with Nick Phoenix; Voices Of Opera featuring Larisa Martinez (Andrea Bocelli's soprano) and Carlton Moe (Phantom of the Opera tenor), co-produced with Nick Phoenix; Voices Of Soul featuring C.C. White, co-produced with Nick Phoenix; Hollywood Choirs, co-produced with Nick Phoenix; Spaces II Reverb, co-produced with Nick Phoenix; Voices Of The Empire featuring Uyanga Bold, co-produced with Nick Phoenix; EastWest MIDI Guitar Series, co-produced with Nick Phoenix; ProDrummer 1, co-produced with Mark "Spike" Stent; ProDrummer 2, co-produced with Joe Chiccarelli; Ghostwriter, co-produced with Steven Wilson; Hollywood Solo Violin, Hollywood Solo Cello, and Hollywood Harp, co-produced with Nick Phoenix; Hollywood Strings, Hollywood Brass, Hollywood Orchestral Woodwinds, and Hollywood Orchestral Percussion, co-produced with Nick Phoenix and Thomas Bergersen. The Dark Side, co-produced with David Fridmann; and Fab Four with Beatle's engineer Ken Scott, inspired by the sounds of the Beatles. Both Fab Four and The Dark Side won M.I.P.A Awards, judged by over 100 international music magazines. EastWest has won 3 out of the last 5 NAMM TEC Awards for Best Musical Instrument Software.

1.2.2 NICK PHOENIX

Nick Phoenix joined Doug Rogers in the early days of sampling and together they have produced dozens of the most popular virtual instruments available today.

Phoenix's career has been driven by new ideas and innovation. He pioneered concepts like creating choirs that can sing the words you type on the keyboard and reverse engineered musical performances to create virtual instruments capable of flowing and expressive performances. Virtual instruments like Silk captured the "complete" sound of unusual world instruments using an innovative multi-mic, phase aligned technique. Phoenix co-produced the EastWest Quantum Leap Symphonic Orchestra and Hollywood Orchestra, the two most popular complete orchestral virtual instruments ever released. These collections were the result of many talents, with Phoenix directing the performance, attitude and articulation of the orchestra. Cutting edge reverb to accompany these orchestral sounds became an obsession for Phoenix. After many years of struggling with available reverbs, Phoenix created a method of capturing instrument specific and stage location specific convolution reverb and created Spaces and Spaces 2.

Phoenix's career as a composer has always been a huge part of what he does as a virtual instrument producer. He was involved in the birth of trailer music in the early 90s. Epic collections like Stormdrum and Voices Of The Apocalypse were created to allow him to compose huge soundscapes on a very tight schedule for blockbuster trailers. In the early 2000s, Phoenix scored over 1000 film trailers and TV ads.

Phoenix partnered with Thomas Bergersen in 2006 and started Two Steps From Hell. Two Steps From Hell is credited as starting a whole new genre of music called “Epic Music.” Two Steps is currently the #1 streaming film music artist worldwide with 1.6 million YouTube subscribers. Their albums “Invincible” and “Battlecry” both went gold. They are touring Europe in 2023.

For more information, please visit: www.twostepsfromhell.com

Phoenix and Rogers have never been interested in rehashing old ideas. Every product has been an attempt to bring something new to the table. Stormdrum 3 with Mickey Hart captured unique instruments way outside the spectrum. Hollywood Pop Brass is the first pop brass collection that sounds like a hit record out of the box. Hollywood Choirs has taken the word building concept to new levels and has won numerous awards. The latest release “Forbidden Planet” is the result a 20 year journey with analogue synthesizers. It is unlike any synth plug-in ever created.

Phoenix also started a solo rock career in 2021. The band has members from John Mayer’s band and Death Cab. Phoenix has described it as modern rock with classic rock undertones. It is his current passion. Phoenix has a unique website that allows you to create your own mixes of his music, among other things.

For more information, please visit: www.nickphoenix.com

1.3 SUPPORT

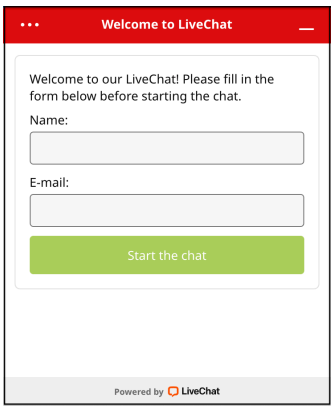
This section provides links to a variety of help resources where you can go to get help if you encounter trouble installing your product, want to know more about a product's features, or are interested in composing tips.

1.3.1 ONLINE RESOURCES

The EastWest Support Center allows you to:

- Live Chat with a Support Agent
- Download Software and Product Updates
- View and download manuals, guides, and FAQs

LIVE CHAT WITH A SUPPORT REP



EastWest's Support Center offers Live Chat, the fastest way to reach a Support Team Member to help resolve any technical issues you may be having.

Click on the red "Chat Now" box that appears in the lower-right corner. Fill in your name and email address, then click "Start the Chat", or if an agent is not available click "Leave a Message" by explaining your issue, and a Support Agent will respond as soon as they're available.

INSTALLATION GUIDES

Click a link below to view the Getting Started guides to help you install your product.

- ComposerCloud+ Getting Started (for subscription-based users)
- Eastwest Libraries Getting Started (for perpetual license users).

1.3.2 WATCH OUR VIDEOS

Visit EastWest Sounds on YouTube for the latest:

- Installation and setup tutorials
- Product trailers and walkthroughs
- Software walkthroughs
- Composing tips and more!

1.3.3 COMMUNITY

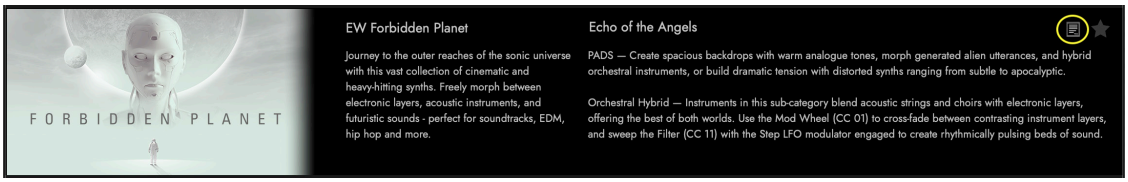
Visit EastWest on Facebook to get the latest announcements, and to join the discussion with other community members!

1.3.4 MANUALS

In addition to being available at the EastWest Support Center, the latest User Manuals for each product, and the Opus Software Manual are accessible directly inside the Opus Software itself.

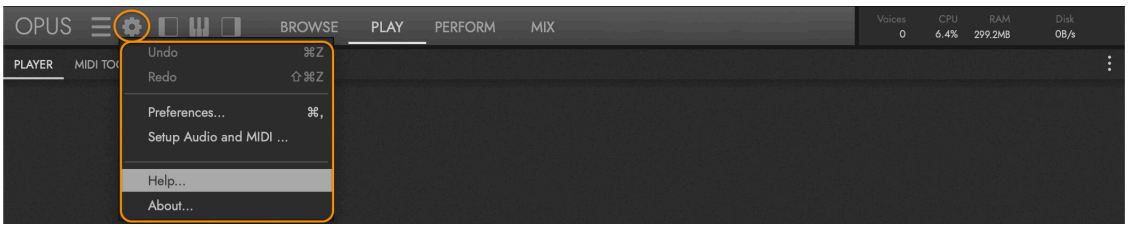
FORBIDDEN PLANET USER MANUAL

This Forbidden Planet User Manual is accessible by clicking on the **USER MANUAL BUTTON** located in the top-right corner of the Description Box, found in the Browse page. It focuses on topics that are specific to Forbidden Planet.



OPUS SOFTWARE MANUAL

The Opus Software Manual is accessible by clicking on the **SETTINGS MENU** BUTTON in the Navigation Bar, and selecting the **HELP** OPTION at the bottom of the menu. It provides a comprehensive dive into all the features and controls available in Opus more broadly, beyond those specific to Forbidden Planet.



MANUAL REFERENCES

Throughout this manual there are references to sections in the Opus Software Manual that expand upon the current topic in greater detail. For example:

> **OPUS SOFTWARE MANUAL | SECTION 1.1.3** PREFERENCES contains more about the settings available in the preferences window.

Interrelated topics in this manual are referenced in a similar manner, shown below.

> **CONTINUE READING | SECTION 2.1** FORBIDDEN PLANET INSTRUMENTS for more information about the instruments available in this collection.

The numbering system identifies the chapter, section, and sub-section to identify the referenced section. For instance, this section is numbered 1.4.4, meaning it's from chapter 1, section 4, sub-section 4.

Use either the included chapter links that are a standard in PDF formatted documents, or use the link in the top-left area of the header on each page to reach the Contents (< CONTENTS) of the manual.

2. DIVING DEEPER

A comprehensive look at the instruments included in Forbidden Planet, and a breakdown of the parameters available to control the sound.

2.1 FORBIDDEN PLANET INSTRUMENTS

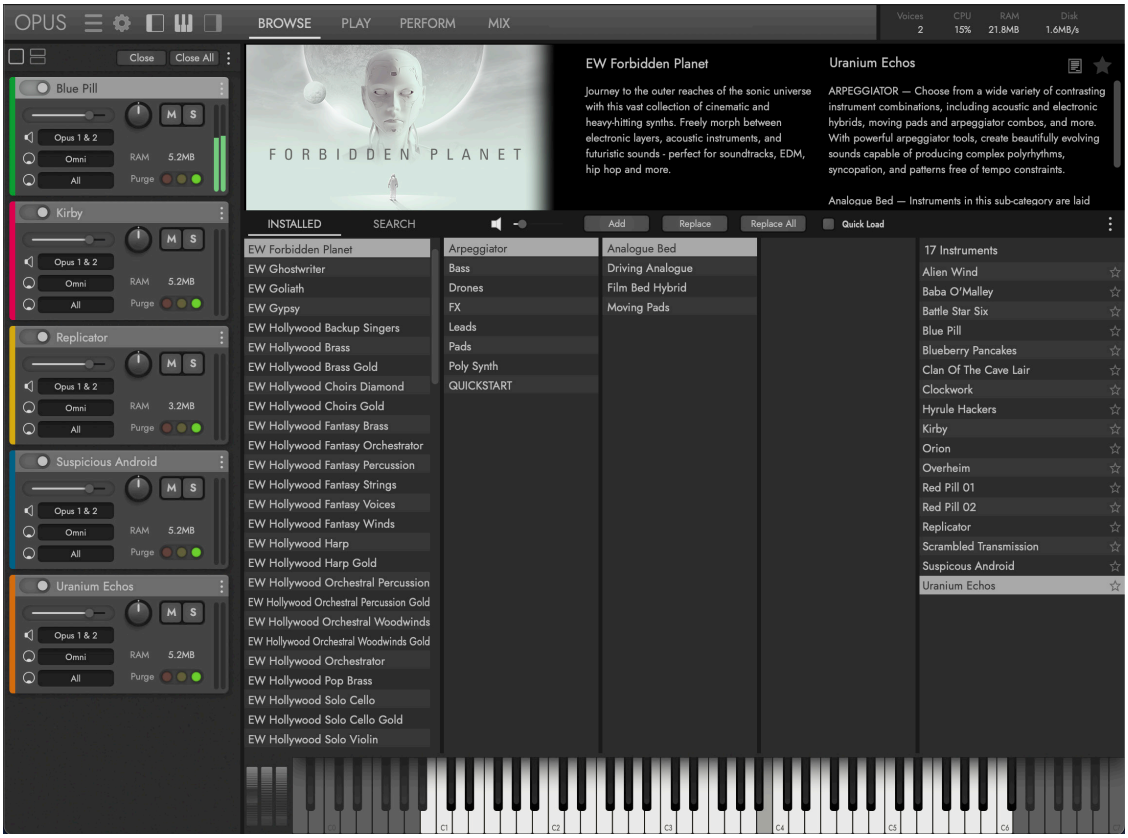
Forbidden Planet features over 600 instruments across 7 categories: Arpeggiator, Bass, Drones, Effects, Leads, Pads, and Poly Synths.

2.2 FORBIDDEN PLANET CONTROLS

A custom user interface puts an array of controls at your fingertips, giving you the power to shape important aspects of an instrument's sound.

2.1 FORBIDDEN PLANET INSTRUMENTS

The 645 instruments in Forbidden Planet span 7 main categories, and an additional ‘Quickstart’ category that contains a selection of producer favorites, providing a great way to dive into the library and see what it has to offer.



INSTRUMENT TYPES AND CATEGORIES

Forbidden Planet appears among the other installed EastWest Libraries in the Installed mode column in alphabetical order.

- EW Forbidden Planet

Click on it to reveal the 7 instrument categories (and the ‘Quickstart’ category) that appear in the column to the right.

- Arpeggiator
- Bass
- Drones
- FX
- Leads
- Pads
- Poly Synths
- Quickstart

Each instrument category has a unique set of instrument sub-categories. Click on one to populate the Results List with instruments. Double-click an instrument to load it.

ARPEGGIATOR

- Analogue Bed
- Driving Analogue
- Film Bed Hybrid
- Moving Pads

BASS

- Analogue
- Analogue Octave
- Death Dungeon
- EDM

DRONES

- Chordal Moods
- Deep Musical
- Deep Noise
- Emotive Control
- Sci-Fi Horror

FX (EFFECTS)

- n/a (no sub-categories)

LEADS

- Analogue Overdrive
- Android Seeker
- Epic Doom
- Liquid Analogue
- Rap
- World Hybrid

PADS

- Analogue Armageddon
- Firepower
- Forbidden Planet
- Future Analogue
- Orchestral Hybrid
- Planet Death
- Warm Analogue

POLY SYNTHS

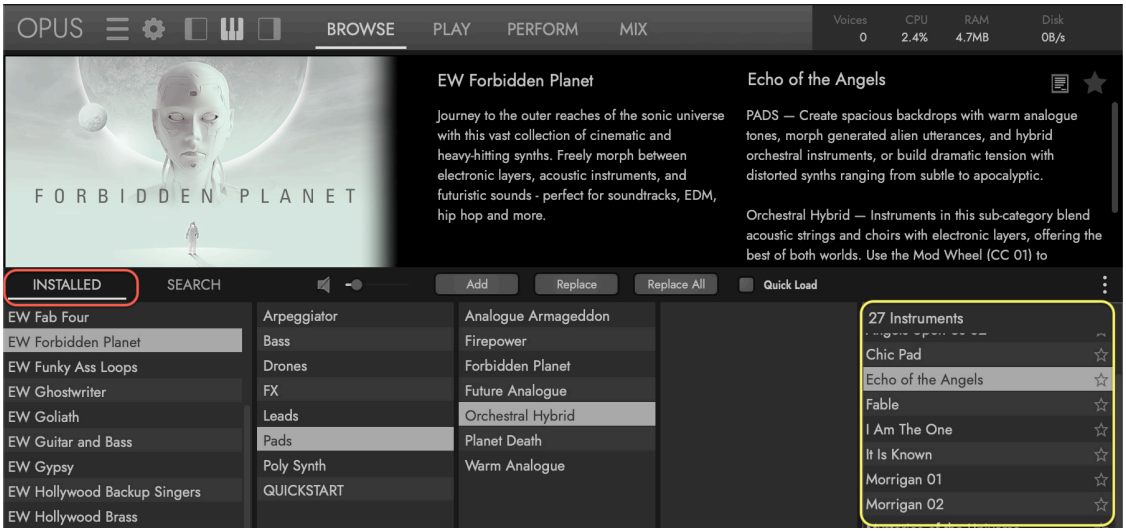
- Driving Analogue
- Songwriter

2.1.1 INSTRUMENT BROWSER

There are several ways to find instruments in the Browse page (shown below), including by browsing the library folders of a given product, narrowing down instrument selections using attribute tags, or by entering key words directly into the search field.

INSTALLED LIBRARIES

Click on the **INSTALLED** MODE button to browse for instruments based on the product's instrument folder structure. To begin, click on 'EW Forbidden Planet' in the list of installed EastWest Libraries that populates the left column in alphabetical order.



Next, click one of the 7 main categories that appears in the next column to the right, then click on one of its sub-categories in the column to the right of that.

Once the library, category, and sub-category is selected, instruments will populate in the **RESULTS LIST** COLUMN. Double-click on an instrument to load it, which will also overwrite any previously loaded instrument.

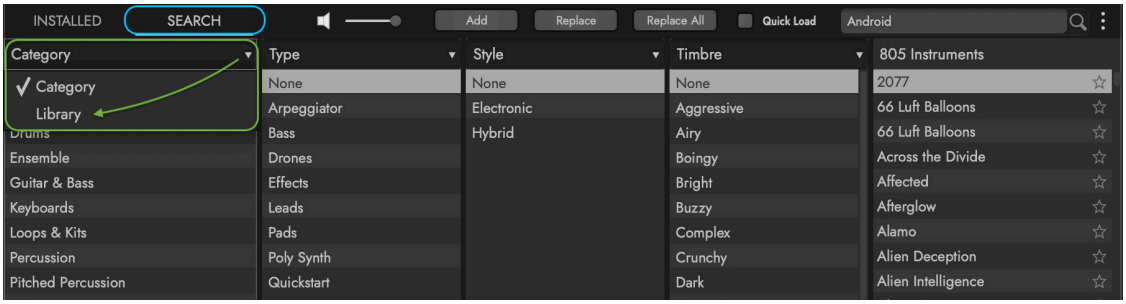
Refer to the table below for a list of all available categories and sub-categories. There is also a 'Quickstart' folder that contains a selection of producer choice instruments from every category, perfect for diving into the library to see what it has to offer.

ARPEGGIATOR	BASS	DRONES	FX	LEADS	PADS	POLY SYNTH
Analogue Bed	Analogue	Chordal Mood	n/a	Analogue Overdrive	Analogue Armageddon	Driving Analogue
Driving Analogue	Analogue Octave	Deep Musical		Android Seeker	Firepower	Songwriter
Film Bed Hybrid	Death Dungeon	Deep Noise		Epic Doom	Forbidden Planet	
Moving Pads	EDM	Emotive Control		Liquid Analogue	Future Analogue	
		Sci-Fi Horror		Rap	Orchestral Hybrid	
				World Hybrid	Planet Death	
					Warm Analogue	

SEARCH CATEGORIES

Click on the **SEARCH** MODE button to quickly narrow down the instruments by selecting attributes across a range of categories like Type, Style, Timbre, and more.

To begin, first click in the **ATTRIBUTES** HEADER and select **LIBRARY** ATTRIBUTES from the drop-down menu to narrow the search to instruments within Forbidden Planet.

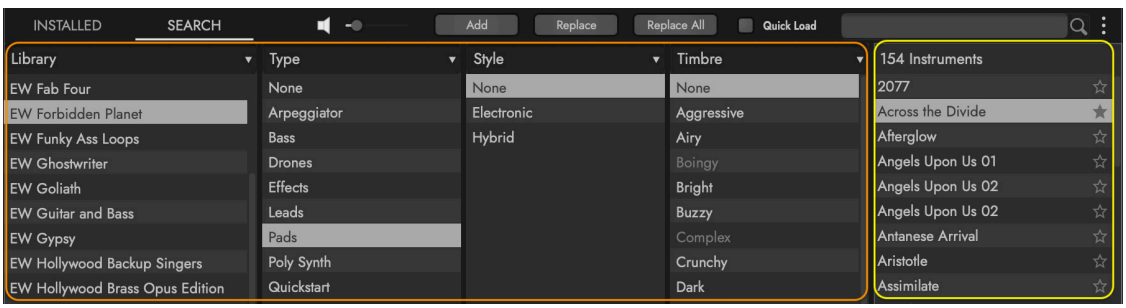


Use **LIBRARY** ATTRIBUTES to find the 'EW Forbidden Planet' entry that appears in alphabetical order in the list of installed products (shown below).

Use **TYPE** ATTRIBUTES to select one of Forbidden Planet's 7 main instrument types: Arpeggiator, Bass, Drones, Effects, Leads, Pads, Poly Synths.

Use **STYLE** ATTRIBUTES to select instruments that are either comprised purely of electronic sources (by selecting the 'Electronic' tag), or instruments that are comprised of both electronic and acoustic sources (by selecting the 'Hybrid' tag).

Use **TIMBRE** ATTRIBUTES to narrow down instruments by how they sound or feel, using descriptive words like 'Warm', 'Buzzy', and 'Distorted'.

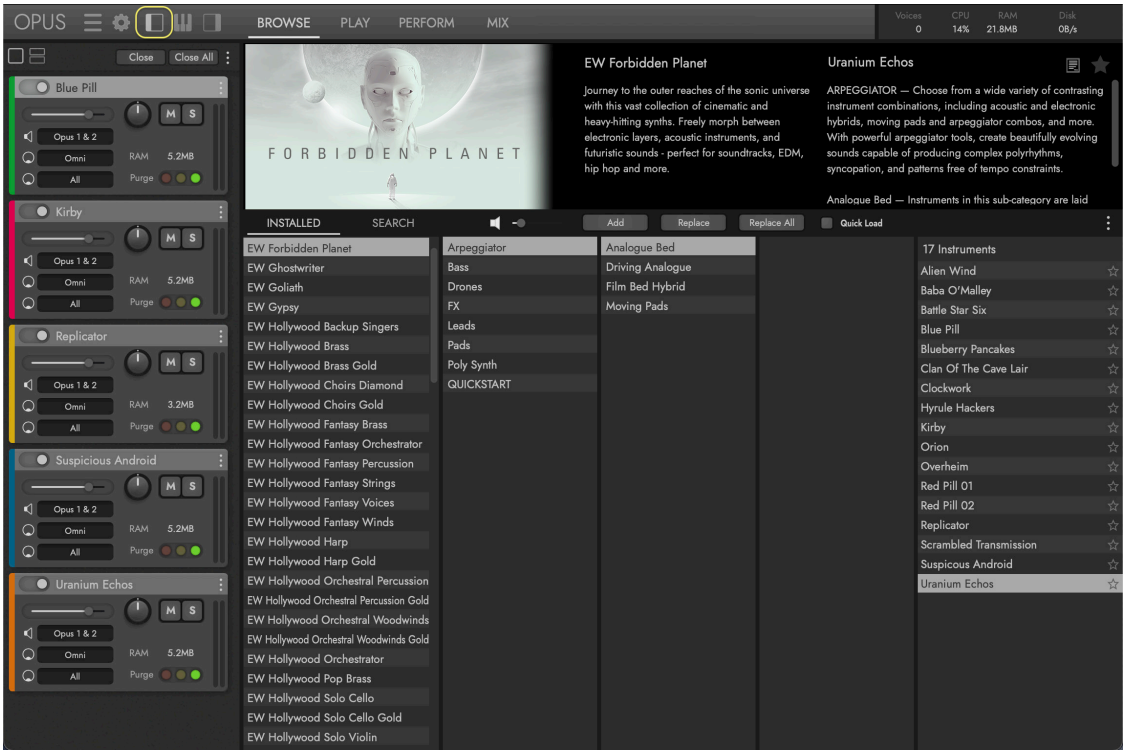


Instruments will populate the **RESULTS LIST** COLUMN based on the attribute tags selected. Double-click on an instrument to load it, which will also overwrite any previously loaded instrument.

OPUS SOFTWARE MANUAL | SECTION 2.1 THE BROWSE PAGE contains more details on all the ways to find, preview, and load instruments.

2.1.2 INSTRUMENT RACK

To open and close the Instrument Rack that appears on the left side of the Opus user interface, click the **INSTRUMENT RACK** TOGGLE in the **NAVIGATION** BAR.

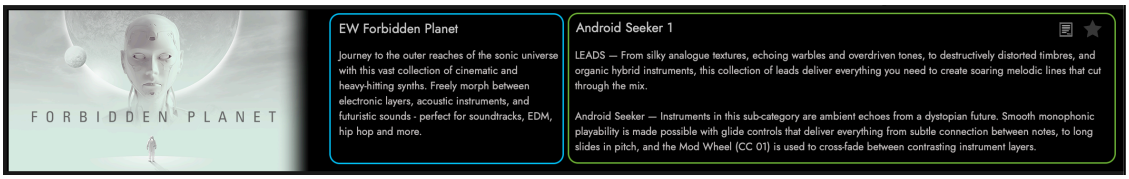


The Instrument Rack contains a few options at the top, and each loaded instrument appears in its own rack space with an Instrument Name and **ACTIVATION** SWITCH that runs along the top, and a variety of controls contained within.

- Use the **RACK SIZE** SELECTORS located in the top-left corner to view instruments in a full-rack view (default) with all available controls, or a half-rack view that only contains the **ESSENTIAL** CONTROLS that includes volume, pan, mute and solo.
- Click the **CLOSE** BUTTON or the **CLOSE ALL** BUTTON to remove the currently selected instrument, or to remove all currently loaded instruments, respectively.
- Use the **INPUT / OUTPUT** MENUS to select (from the top) an instrument's audio output, MIDI channel assignment, and MIDI input port.
- Use the **PURGE** CONTROL to change an instrument's memory footprint. To remove it from memory, click the red button. The yellow light indicates notes are being loaded into memory as you play. Click the green button to load an instrument fully into memory.

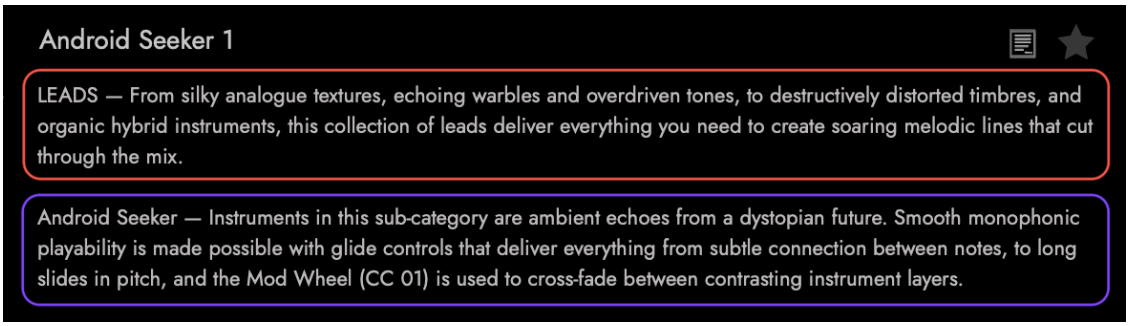
2.1.3 DESCRIPTION BOX

The Description Box populates with information on the currently selected library and instrument. It's divided into 3 main sections: the **LIBRARY** ARTWORK is located on the left, the **LIBRARY** DESCRIPTION is in the center, and the **INSTRUMENT** DESCRIPTION appears on the right.



In Forbidden Planet the Instrument Description is divided into 2 parts:

- **MAIN CATEGORY** DESCRIPTION provides a information for the selected instrument category including Arpeggiator, Bass, Drones, FX, Leads, Pads, and Poly Synths.
- **SUB-CATEGORY** DESCRIPTION provides information for the instrument sub-category, like the Analogue Bed, Driving Analogue, Film Bed Hybrid, and Moving Pads that are within the Arpeggiator main category.



LIBRARY AND INSTRUMENT DESCRIPTIONS

The library and instrument descriptions (main category) found in the Description Box are contained below. Please refer to the Description Box in the Opus software itself for the sub-category descriptions within each main category.

FORBIDDEN PLANET Journey to the outer reaches of the sonic universe with this vast collection of cinematic and heavy-hitting synths. Freely morph between electronic layers, acoustic instruments, and futuristic sounds - perfect for soundtracks, EDM, hip hop and more.

ARPEGGIATOR — Choose from a wide variety of contrasting instrument combinations, including acoustic and electronic hybrids, moving pads and arpeggiator combos, and more. With powerful arpeggiator tools, create beautifully evolving sounds capable of producing complex polyrhythms, syncopation, and patterns free of tempo constraints. It includes the following sub-categories:

- Analogue Bed
- Driving Analogue

- Film Bed Hybrid
- Moving Pads

BASS — Delivering low-end suited for the most ambitious soundtracks, this diverse set of bass instruments features huge analogue bass sounds. The volume and filter cutoff are dynamically scaled depending on how hard or soft you play, giving you the ultimate expressive control, with glide controls enabled to create smooth monophonic playability. It includes the following sub-categories:

- Analogue
- Analogue Octave
- Death Dungeon
- EDM

DRONES — A huge collection of widely varied atmospheric drones from lush sound beds, to noisy industrial hums, and strange sci-fi effects. Many drones feature harmonic and inharmonic underpinnings around a tonal center that evoke a range of emotions. It includes the following sub-categories:

- Chordal Moods
- Deep Musical
- Deep Noise
- Emotive Control
- Sci-Fi Horror

EFFECTS (FX) — A collection of effects that defy classification, from vocal utterances, and alien soundscapes, to heavily processed acoustic instruments, and synthesized effects, these instruments are ideal for adding tension, noise and chilling accents to any soundscape. It does not include any sub-categories.

- n/a (not available)

LEADS — From silky analogue textures, echoing warbles and overdriven tones, to destructively distorted timbres, and organic hybrid instruments, this collection of leads deliver everything you need to create soaring melodic lines that cut through the mix. It includes the following sub-categories:

- Analogue Overdrive
- Android Seeker
- Epic Doom
- Liquid Analogue
- Rap
- World Hybrid

PADS — Create spacious backdrops with warm analogue tones, morph generated alien utterances, and hybrid orchestral instruments, or build dramatic tension with distorted synths ranging from subtle to apocalyptic. It includes the following sub-categories:

- Analogue Armageddon
- Firepower
- Forbidden Planet
- Future Analogue
- Orchestral Hybrid
- Planet Death
- Warm Analogue

POLY SYNTHS — A collection of punchy, warm polyphonic analogue synthesizers, some hybridized with acoustic piano layers, perfect for laying down a magical chordal accompaniment, or doubling a bass line. It includes the following sub-categories:

- Driving Analogue
- Songwriter

2.2 FORBIDDEN PLANET CONTROLS

An array of controls populate Forbidden Planet's main user interface (shown below).

Find them by clicking on the **PLAY PAGE** SELECTOR in the **NAVIGATION** BAR to enter the Play page, where the **PLAYER SUB-PAGE** SELECTOR is the default selection.

In additional to the main Player sub-page (default), there are additional sub-pages within the Play page that feature their own array of controls. They are described briefly later in this section, and thoroughly in the Opus software manual.

- **MIDI TOOLS SUB-PAGE (p. 52)** features a suite of MIDI Tools that offer a range of MIDI processing options, like transposition, MIDI compressor, and more.
- **AUTOMATION SUB-PAGE (p. 53)** populates with controls that allow you to add movement to an instrument by automating their parameters in a DAW, or program your MIDI controller to control and record them into a DAW in real-time.

2.2.1 PLAYER SUB-PAGE

The Player sub-page contains all of Forbidden Planet's main controls, like the XY Pad, Filter controls, Dual Arpeggiator, and much more.

The Forbidden Planet user interface is divided into 4 main areas:

- **CENTER** AREA features 3 selectable views that each contain distinct control arrays: XY Pad view (shown), the Filter view, and the MIDI view.
- **LEFT** AREA (from top) features the Parameters (MIDI CCs), Amp Envelope, and Waveform Display sections.
- **RIGHT** AREA (from top) features the Transpose, Arpeggiator, Ring Modulator, Panner, Stereo Double, Inserts, Delay, Reverb, and Master sections.
- **VIRTUAL KEYBOARD** AREA shows the sampled range of an instrument in white keys.

GLOBAL CONTROLS

These controls apply to both layers of an instrument (Source A and Source B).

- **XY PAD** is the default view in the Center Display, and features a dual-axis Orbital Control that simultaneously cross-fades between Sources A and B when moved horizontally along the x-axis [**CC 01**], and controls the filter cutoff when moved vertically along the y-axis [**CC 11**].

  CONTINUE READING | SECTION 2.2.1 PLAYER SUB-PAGE 'XY Pad Control' sub-section for more information.

- **FILTER** features a multi-mode filter, with an option to modulate the filter's cutoff frequency [**CC 11**] using the Step LFO and Mod Envelope effects, creating gated and/or multi-stage envelope movements respectively.

  Use the 'Step LFO Depth' [**CC 17**] Parameter control to change the amount of modulation affecting the filter's cutoff frequency.

  CONTINUE READING | SECTION 2.2.1 PLAYER SUB-PAGE 'Filter Controls' and 'Filter Modulation' sub-sections for more information.

- **PARAMETERS** section features controls over an array of parameters using MIDI CCs, handling everything from cross-fading instrument layers, to adjusting the amount of Step LFO modulation applied to the filter cutoff.

  CONTINUE READING | SECTION 2.2.1 PLAYER SUB-PAGE 'MIDI Controls' sub-section for a complete list of control parameters and their MIDI CC assignments [**CCs**].

- **AMP ENVELOPE** is used to control an instrument's global volume over time. It contains a standard 5-stage envelope, with the addition of a **CURVE** KNOB to change the attack stage from its default linear setting to either concave (left), or convex (right). Use the 'Attack' [**CC 14**] and 'Release' [**CC 15**] Parameter controls to adjust the Attack and Release stages of the envelope respectively.

- **TRANSPOSE** contains both coarse and fine tuning controls. Use the **+/- TRANSPOSE** BUTTONS to adjust global tuning in semitone (half-step) increments, up to +/- 24 semitones (2 octaves) in either direction. Use the **FINE TUNE** KNOB to change global tuning up to 100 cents in either direction (100 cents = 1 semitone).

- **PANNER** is an effect that automates the pan position with a sine LFO modulator. The effect can be synced to tempo using sub-divisions between 1/32nd triplet note

and 32 bars, or run free of tempo constraints at an audio rate up to 65 Hz. Use the **DEPTH** KNOB to adjust the width of the pan position.

- **STEREO DOUBLE** widens the stereo image, by adding in a source from either the right or left side of the stereo image.

  PLEASE NOTE: The Stereo Double effect will only work when the **CHANNEL SOURCE** is set to 'Stereo' in the Master section, which is the default setting.

- **DELAY** is a send effect featuring the EP-1 Delay that is modeled after the Echoplex Delay designed in 1959. It operates in 2 configurations. The 'Pre-Reverb' configuration features the EP-1 Delay in series with the Reverb, creating washed out delay sound. The 'Delay Channel' configuration features the EP-1 Delay on independent channel in parallel with the Reverb, for more separation between the delay and reverb effects.

  Use the 'Global FX Volume' [**CC 16**] Parameter control to adjust the volume of the Delay and Reverb send effect channels simultaneously.

- **REVERB** is a send effect that features the celebrated Convolution Reverb, which uses impulse responses (IRs) containing the characteristics of a particular space, and applies (convolves) it with the input signal to simulate that sound of playing that instrument in the given space.

  Use the 'Global FX Volume' [**CC 16**] Parameter control to adjust the volume of the Delay and Reverb send effect channels simultaneously.

> **OPUS SOFTWARE MANUAL** | SECTION 2.4.3 EFFECTS LIST contains more details about all the powerful effects suite included in Opus.

- **MASTER** section controls the final audio output, allowing the volume, pan, mute, and solo controls to be dialed-in, and the Output Selection and Channel Routing to be defined.

SOURCE CONTROLS

These controls apply to either layers of an instrument (Source A and/or Source B).

- **MIDI** features a Dual Arpeggiator with settings that can be applied independently to each Source to create complex patterns that can evolve from one layer to the next when cross-fading between them using the Mod Wheel [**CC 01**].

  Use the 'Arpeggiator Gate' [**CC 18**] Parameter control to adjust the length of the arpeggiator gate, creating a shorter duration of each step, or the full length of each step.

  It also contains Glide and Portamento controls that can be used with or without the Dual Arpeggiator engaged.

  Use the 'Glide Time' [**CC 19**] Parameter control to change the length of the pitch slide from subtle connection between notes, to dramatic slides in pitch.

  CONTINUE READING | SECTION 2.2.1 PLAYER SUB-PAGE 'Dual Arpeggiator' sub-section for more information.

- **ARPEGGIATOR** section provides "quick access" to enable and disable the Dual Arpeggiator, Glide, and Portamento effects for either Source A or B. These controls are also available in the MIDI View.
- **RING MODULATORS** produces a colorful, harmonically rich effect that can be applied independently to either Source A or B.

  Use the 'Ringmod A' [**CC 20**] and 'Ringmod B' [**CC 21**] Parameter controls to adjust the amount of Ring Modulation applied to the respective Sources.

- **INSERT EFFECTS** include the Legend Amp and Ensemble effects that can be applied independently to either Source A or B using the Mix knob.

  Legend Amp provides distortion and re-amping characteristics, with custom Tonestack and Cabinet combinations.

  Ensemble is a multi-mode chorus effect that adds thickness and shimmer to sounds by producing multiple voices based on the input signal, and slightly varies their pitch and timing qualities so they are perceived as a single voice.

  OPUS SOFTWARE MANUAL | SECTION 2.4.3 EFFECTS LIST contains more details about all the powerful effects suite included in Opus.

- **WAVEFORM** displays the audio waveform output for the selected Source. Use the 'Source A', and 'Source B' buttons to switch the display between Sources.

MIDI CONTROLS

MIDI is implemented in a variety of ways for real-time control over a number of Global and Source parameters.

- **MIDI CONTINUOUS CONTROLLERS (CCs)** are assigned to a host of Global and Source parameters, most of which appear in the Parameters area.

  - **CC 01** - X-FADE [MOD WHEEL]
  - **CC 11** - FILTER
  - **CC 14** - ATTACK
  - **CC 15** - RELEASE
  - **CC 16** - GLOBAL FX VOLUME
  - **CC 17** - STEP LFO DEPTH
  - **CC 18** - ARPEGGIATOR GATE
  - **CC 19** - GLIDE TIME
  - **CC 20** - RING MODULATOR A
  - **CC 21** - RING MODULATOR B

  Program the knobs and/or sliders of a MIDI controller to these MIDI CCs for real-time control over these Parameters, enabling you to create expressive performances and record them live into a DAW's MIDI automation lane.

- **MIDI VELOCITY** is the speed at which a key is struck, and it controls global volume and filter cutoff for bass instruments.
- **MIDI AFTERTOUCH** is the pressure applied after a key is struck, and is used to blend between Sources across all instruments.

  PLEASE NOTE: Not all MIDI controllers support MIDI Aftertouch. Please check the controller's documentation for more information.

- **PITCH WHEEL** bends the pitch of an instrument plus or minus (+ / -) 2 semitones in either direction. 2 semitones is equivalent to a whole step.

AUTOMATION

The Parameters controlled by MIDI CCs listed above also appear in the Automation sub-page, and in addition to being available to automate in the MIDI controller lane, are also available to automate in a DAW's plug-in automation lane.

CONTINUE READING | SECTION 2.2.3 AUTOMATION SUB-PAGE contains more information about automation parameters, macro parameters, and additional options.

XY PAD CONTROL

Click on the **XY PAD VIEW** SELECTOR button to enter that view (shown below). This area depicts a small, reddish-brown 'Orbital Control', which you can click and drag around the area surrounding the larger planet. The dual-axis control simultaneously engages the 'X-Fade' [**CC 01**] Parameter control when moving horizontally along the x-axis, and the 'Filter' [**CC 11**] Parameter control when moving vertically along the y-axis.

- **X-FADE** [**CC 01**] is engaged by moving the Orbital Control left and right along the x-axis. It controls the cross-fade between 2 instrument layers, allowing each to be played in near isolation, or a varying blend of the two together.

  While many instruments follow the standard 2 instrument layer configuration, there are exceptions. For example, the Drones in the Emotive Control category cross-fade between 6 instrument layers, with increasing level of intensity, and some hybrid instruments blend additional acoustic layers into the standard 2 instrument layer configuration.

- **FILTER** [**CC 11**] is engaged by moving the Orbital Control up and down along the y-axis. It controls the filter's cutoff frequency, from fully open to fully closed (on most instruments).

  Depending on the Step LFO and Mod Envelope amounts set in the Filter section of the Center Display area, you may hear the modulators acting on the filter cutoff. For instance, you may hear the gated effect of the Step LFO modulator as you bring down the filter cutoff value. Or, you may hear the movement of the filter cutoff as it follows the stages of the Mod Envelope.

The most simple way to use the XY Pad is to click and hold on the Orbital Control and move it around the area surrounding the Forbidden Planet. This can be done with a standard mouse, but is more intuitive with a track pad. These movements create MIDI data that can be recorded into a DAW's MIDI automation lane.

To use the 'Orbital Control' in conjunction with an XY Pad MIDI controller, assign the x-axis control to [**CC 01**] , and the y-axis control to [**CC 11**] to provide dual-axis control with visual feedback from the on-screen XY Pad.

PLEASE NOTE: The MIDI CC assignments for the X-Fade and Filter Parameter controls can also be assigned to individual knobs and/or sliders of a MIDI controller, however, this will not provide simultaneous control.

FILTER CONTROLS

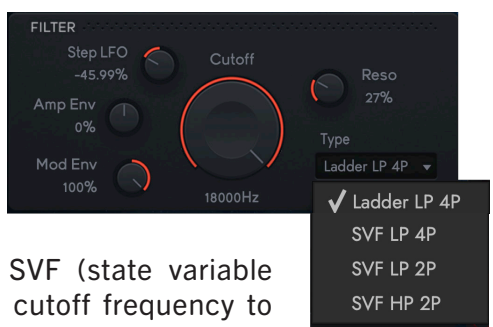
Click the **FILTER VIEW** SELECTOR to enter that view, which features a multi-mode **FILTER** EFFECT along the top, and a **STEP LFO** MODULATOR and **MOD ENVELOPE** MODULATOR below that to modulate the filter's cutoff frequency.

In the **FILTER** EFFECT, use the **FILTER CUTOFF** KNOB to change the filter's cutoff frequency. When a low pass (LP) filter type is selected, all frequencies below the cut-off frequency will pass through, and when a high pass (HP) filter type is selected, all frequencies above the cutoff frequency will pass through. The filter's cutoff frequency is also connected to the FILTER parameter, which is assigned to MIDI CC 11, which in turn is also connected to the y-axis of the XY Pad's Orbital Control's y-axis. Any of these input methods will control the filter's cutoff frequency.

The **FILTER RESONANCE** KNOB is used to define how broad or narrow the range of frequencies around the cutoff frequency are. To create a narrow band that results in sharper, more resonant frequencies, use higher values. For more rounded, less resonant tones that cover a wider range of frequencies, use lower values.

The **FILTER TYPE** MENU includes 4 selectable types. Click inside the drop-down menu, then click on a filter type to select it.

- **LADDER LP 4P (DEFAULT)** is a 4-pole LP (Low Pass) Ladder filter that emulates those found on classic analog synths. It allows frequencies below the cutoff frequency to pass through, and the 4-pole design produces a precise attenuation of frequencies with a steeper 24db per octave slope
- **4-POLE SVF LP** is a 4-Pole LP (Low Pass) SVF (state variable filter) type. It allows frequencies below the cutoff frequency to pass through, and the 4-pole design produces a precise attenuation of frequencies with a steeper 24db per octave slope



- **2-POLE SVF LP** is a 2-Pole LP (Low Pass) SVF (state variable filter) type. It allows frequencies below the cutoff frequency to pass through, and the 2-pole design producing smoother attenuation of frequencies with a more gentle 12db per octave slope.
- **2-POLE SVF HP** is a 2-Pole HP (High Pass) SVF (state variable filter) type. It allows frequencies above the cutoff frequency to pass through, and the 2-pole design producing smoother attenuation of frequencies with a more gentle 12db per octave slope.

FILTER MODULATION

The Filter section's cutoff frequency can be modulated by the Step LFO for a gated rhythm effect, and/or the Mod Envelope for a multi-stage envelope movement.

First dial in the amount of modulation you wish to affect the cutoff frequency by adjusting the **STEP LFO AMOUNT** KNOB and/or the **MOD ENVELOPE AMOUNT** KNOB in the Filter view.

Each of these knobs are bi-polar, meaning they can affect the cutoff frequency with positive and negative values. The center position results in no modulation (0%), while turning the knob all the way to the right results in +100% modulation amount, and turning it all the way to the left results in -100% modulation amount.

For example, if the Filter's cutoff frequency is set near the middle of the knob position (approximately 4.5 khz), and a negative value of the **STEP LFO AMOUNT** KNOB is applied, it will affect the Filter's cutoff in a negative direction, relative to its current position, toward the lower value range of the filter. This will create a gated effect as the filter cutoff is modulated by the shape of the pattern sequence in the **STEP LFO** MODULATOR, rapidly closing and reopening the filter cutoff. The Step LFO Depth control can also be controlled via MIDI CC.

In another example, if the Filter's cutoff frequency is set near the middle of the knob position (approximately 4.5 khz), and a positive value of the **MOD ENVELOPE AMOUNT** KNOB is applied, it will affect the Filter's cutoff in a positive direction, relative to its current position, toward the higher value range of the filter. This will create filter movement that reflects the shape of the envelope in the **MOD ENVELOPE** MODULATOR, increasing the filter cutoff frequency during the envelope's attack stage, maintaining it during the hold stage, then decreasing over the course of the decay stage, where it remains during the sustain stage until the note is released, at which point the filter cutoff returns to its base value at the end of the release stage.

PLEASE NOTE: If the filter cutoff is all the way open (~18 khz) positive modulation values will have no affect, because no values beyond the maximum value exist. Likewise, if the filter cutoff is all the way closed (~26 hz), negative modulation values will have no affect, because no values below the lowest value exist. In other words, the modulation must have "headroom" between its existing value and the minimum and maximum values in order for the filter cutoff to be acted upon by its modulators.

- **STEP LFO MODULATOR** The previous section, 'Filter Modulation', explains how to set-up the Step LFO Modulator to modulate the filter cutoff over time to create a gated rhythm effect. This section covers how to change the underlying Step LFO settings to customize this effect.

  Before beginning, click on the power button to enable the **STEP LFO** MODULATOR.

  If you wish to synchronize the gated rhythm to tempo (BPM), ensure the **SYNC** BUTTON is enabled, and use the **RATE** MENU to select the desired sub-division, between a 32nd-note triplet and 32 bars. Alternatively, disable it and use the **RATE** KNOB to dial-in a value between .01 Hz and 65 Hz, which runs at audio rate not synced to tempo.

  The **STEP LFO** SEQUENCER contains 8 steps that are either on or off. Click inside this graph to turn steps on and off as you wish, or use the **FILL** KNOB to dial-in the number of steps, between 1 and 8.

  Use the **GATE** KNOB to adjust the length of time the gate is open as a percentage. At 100%, the gate is wide open and the full value of the step passes through, and as the value is reduced, the gate length becomes less and less. The **SLEW** KNOB can be used to smooth out the gated rhythm to a certain degree.

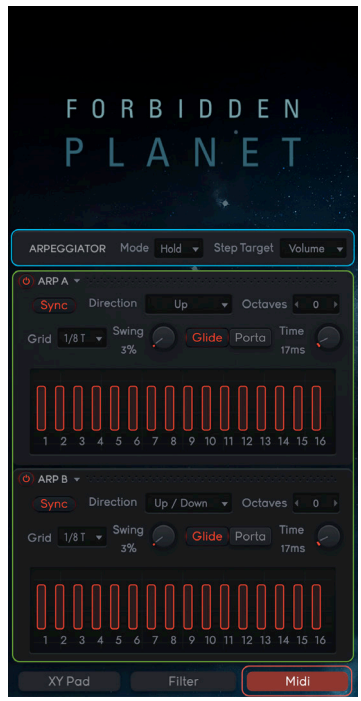
- **ENVELOPE MODULATOR** The 'Filter Modulation' section above details how to setup the Mod Envelope Modulator to modulate the filter cutoff over time to create movement. This section covers how to change the underlying Mod Envelope settings to customize this effect.

  To begin, click on the power button to enable the **MOD ENVELOPE** MODULATOR. It contains a 5-stage envelope (attack, hold, decay, sustain, release), with an additional **CURVE** CONTROL to alter the attack stage. The settings on each of the 5 stages of the envelope determine the movement of the filter cutoff as it goes through each stage.

  The **CURVE** CONTROL adjusts the slope of the Attack stage, making the ascent to the Hold stage faster (convex), default (linear), or slower (concave). When the curve control is in the center position (12 o'clock) it is at 0%, having no affect on the default linear position of the attack stage. Turning the knob all the way to the right (+100%) results in a convex curve that makes the Attack stage steeper, producing a faster ascent. Turning the knob all the way to the left (-100%) results in a concave curve that makes the Attack stage dip, creating a slower ascent.

DUAL ARPEGGIATOR

Click on the **MIDI VIEW** SELECTOR button to enter that view (shown below). At the top is the **GLOBAL OPTIONS** SECTION that contains settings that apply to both the Arp A and Arp B sections.



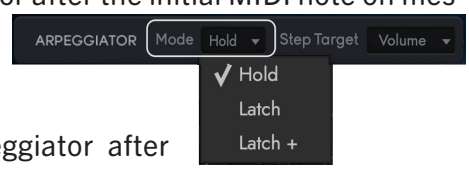
The Dual Arpeggiator is made up of **ARP A** SECTION and **ARP B** SECTION. They can be applied independently to each instrument layer (Source A and B), enabling complex patterns to evolve by using the Mod Wheel (CC 01) to cross-fade between instrument layers where unique arpeggiator patterns are running.

Arpeggiator controls like Direction, Octave, Swing and Glide / Portamento Time offer a range of performance customization, and extensive editing options are available to quickly create dynamic and evolving patterns.

The **GLOBAL OPTIONS** SECTION contains the following option menus that apply to both the Arp A and B sections.

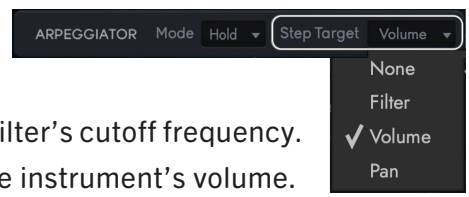
Use the **MODE** MENU to control how the arpeggiator responds to MIDI Note input, using 1 of 3 options: Hold, Latch, and Latch +.

- **HOLD** is the default mode that only plays the arpeggiator if you continue to hold notes after the initial MIDI note on messages are received.
- **LATCH** mode will continue to play the arpeggiator after the initial MIDI note on messages, without the need to sustain the notes. New MIDI note on messages will reset the arpeggiator pattern based on the new input.



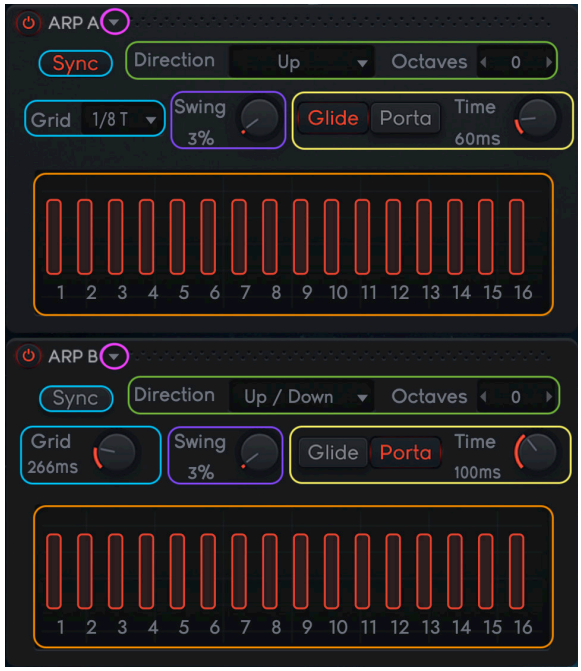
- **LATCH+** mode will continue to play the arpeggiator after the initial MIDI note on messages, without the need to hold them down. New MIDI note on messages will be added to the initial arpeggiator pattern, as opposed to resetting it.

Use the **STEP TARGET** MENU to choose the parameter which is to be controlled by the Step Height value. This is covered in the Step Sequencer Editor section below, in the Step Height bullet point.



- **NONE** results in the Step Height affecting nothing beyond MIDI note on / off messages.
- **FILTER** results in the Step Height affecting the filter's cutoff frequency.
- **VOLUME** results in the Step Height affecting the instrument's volume.
- **PAN** results in the Step Height affecting the instrument's pan position.

To begin, click on the power button in the top left area of the **ARP A** SECTION and/or the **ARP B** SECTION to enable it



To synchronize an arpeggiator to the tempo (BPM), click the **SYNC** BUTTON to enable it, and use the **GRID** MENU to select the desired sub-division, between a 32nd-note triplet and 32 bars in length. Arp A shows sync enabled.

Click the **SYNC** BUTTON again to disable it, and dial-in a value between .01 Hz and 65 Hz on the **GRID** KNOB, which runs freely at audio rate, not synced to tempo. Arp B shows sync disabled.

The **DIRECTION** MENU determines the note order of an arpeggiated chord, with 4 unique options: Up, Down, Up/Down, and Input Order.

- **UP** goes in the specified direction from the lowest note to the highest note. So, if you play the 3-note C major chord, the arpeggiator will play notes C, E, and G, and then repeat the pattern.
- **DOWN** goes in the specified direction from the highest note to the lowest note. So, if you play the 3-note C major chord, the arpeggiator will play notes G, E, and C, and then repeat the pattern.
- **UP / DOWN** goes in order of the specified direction (first up, then down). So, if you play the 3-note C major chord, the arpeggiator will play notes C, E, G, E, and then repeat the pattern.
- **INPUT ORDER** goes in order of the MIDI note input. So, if you play and hold notes C, then E, then G, it will play C, E, G repeatedly in an upward direction. If you play and hold notes G, then E, then C, it will play notes G, E, C repeatedly in a downward fashion.

OCTAVE RANGE SELECT sets the octave range of the arpeggiator. With a value of 0, only the notes of a chord actually played will be arpeggiated. With a value of 1, the notes of a chord actually played will be arpeggiated, and then that pattern will continue an octave above. Values of 2 or 3 will play the notes of the chord within a 2 and 3 octave range respectively.

The **ARPEGGIATOR PATTERN** EDITOR is made up of 16 steps that can be edited by clicking and holding on an individual step, and dragging it around to re-size its Step Height and Step Width to create a pattern with control over multiple parameter values.

- **MIDI NOTE ON** messages are produced with each step of the arpeggiator, except those with a value of 0. To create notes that do not send a note on message, click

and hold on an individual step, and drag it down until it appears as a small horizontal line.

- **STEP HEIGHT** controls the target selected in the **STEP TARGET** MENU, described in the Global Controls section above. Step Targets include None, Volume, Filter, and Pan. To adjust the Step Height, click and hold on an individual step, and drag it vertically upward to increase the value, or downward to decrease the value. Note the difference in Step Heights in the example to the right.

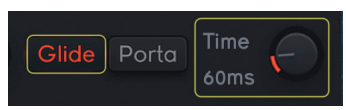
- **STEP WIDTH** controls the length of the arpeggiator gate. It can be adjusted by clicking and holding on an individual step, and dragging it horizontally to the left to make the gate time shorter, and to the right to make the gate time longer.

SWING KNOB controls the rhythmic feel of the arpeggiator, adding an element of human feel to a sequence. Without adding any Swing Amount (0%), the steps of the sequence fall strictly on the beat sub-divisions. As the Swing Amount is increased (up to 100%), notes are shifted forward (later) off the beat sub-division, creating everything from a subtle shuffled feel, to more dramatic syncopated rhythms.

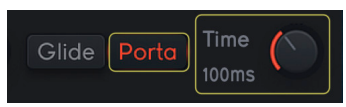
The Glide and Portamento controls can be used with or without the arpeggiator engaged. When used in conjunction with the arpeggiator, the pitch slide occurs between each note of the arpeggiator pattern, and when the arpeggiator is off, notes played in a connected fashion (legato) contain a slide in pitch between them.

In either case, the controls in Arp A will affect the first instrument layer (Source A), and the controls in Arp B will affect the second instrument layer (Source B). Either Glide or Portamento can be applied per instrument layer, but not both.

When the **GLIDE** BUTTON is enabled, a **GLIDE TIME** KNOB appears to the right, and the speed (time) of glide in pitch can be dialed-in between the values of 5 milliseconds (ms) and 2.5 seconds (s). The Glide control is better suited for use with the arpeggiator, and for creating dramatic slides in pitch. It creates a slide in pitch between notes with a pitch stretch algorithm, without cross-fading into other sampled notes.



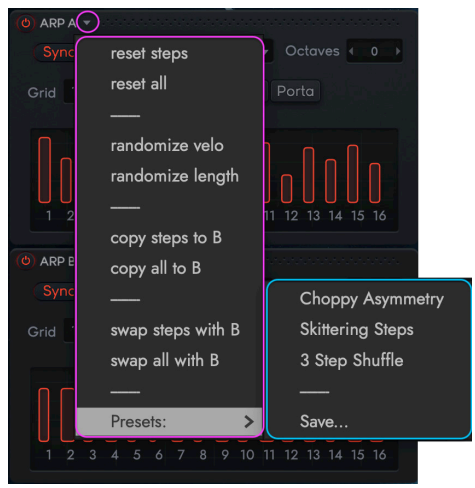
When the **PORTAMENTO** BUTTON is enabled, a **PORTAMENTO TIME** KNOB appears to the right, where the speed of the portamento pitch slide can be dialed-in between the values of 5 milliseconds (ms) and 750 milliseconds (ms). The Portamento control is better suited for scenarios that do not use the arpeggiator, and/or if the interval between notes is quite large. This is because Portamento creates a slide in pitch between notes, but cross-fades into the sampled destination note. Dial-



ing in a small amount of either Glide or Portamento will create a subtle connected feel between notes, while larger amounts result in a longer, more continuous pitch slide.

The **ARP A OPTIONS** MENU and the **ARP B OPTIONS** MENU are available via a drop-down menus, and contain a variety of options for modifying the given arpeggiator pattern. This includes the ability to reset and randomize it, as well as copy and swap patterns between the Arp A and B sections.

- **RESET STEPS** will reset the arpeggiator pattern to its default values.
- **RESET ALL** will reset all arpeggiator controls and the pattern to their default values.
- **RANDOMIZE VELOCITY** will randomize the vertical height of the steps within the arpeggiator pattern, which controls the parameter selected in the Step Target (see previous sections for details).
- **RANDOMIZE LENGTH** will randomize the horizontal width of the steps within the arpeggiator pattern, which controls the length of the gate time.
- **COPY STEPS TO A / B** will copy the pattern of the arpeggiator from Arp A to Arp B, or vice versa.
- **COPY ALL TO A / B** will copy all control settings (including arpeggiator pattern) from Arp A to Arp B, or vice versa.



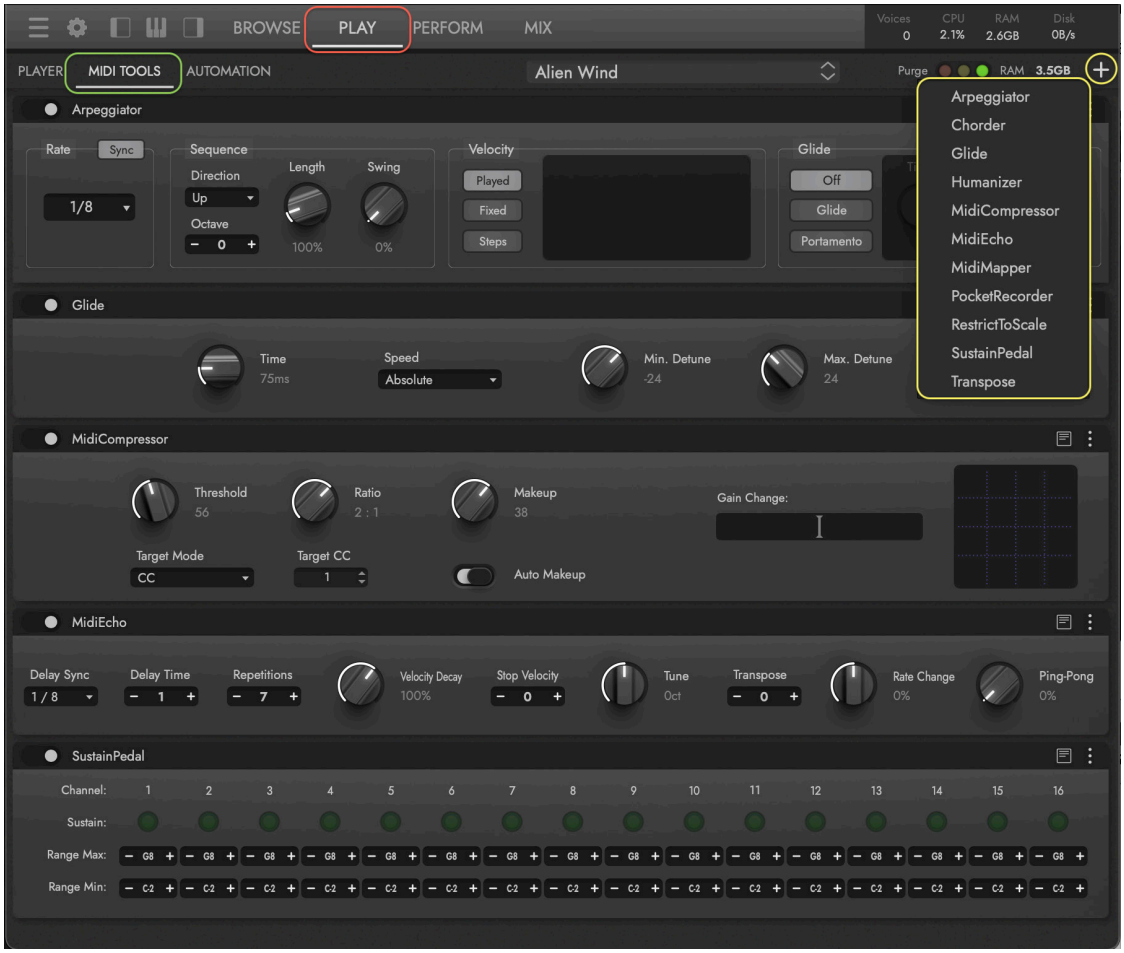
- **SWAP STEPS TO A / B** will swap the arpeggiator pattern from Arp A to Arp B, or vice versa.
- **SWAP ALL TO A / B** will swap all control settings (including the pattern of the arpeggiator) from Arp A to Arp B, or vice versa.
- **PRESETS** will open the **ARP PRESET** SUB-MENU where you can save the existing arpeggiator preset (that includes all control settings and arpeggiator pattern steps) by clicking on the 'Save...' option. This will open a 'Preset Name' window, where the preset can be named and saved for later recall. The presets populate above the 'Save...' option, in this same sub-menu they were saved in.

2.2.2 MIDI TOOLS SUB-PAGE

A suite of MIDI Tools are available that offer a range of MIDI processing options.

Click on the **PLAY PAGE** SELECTOR in the **NAVIGATION** BAR, then click on the **MIDI TOOLS SUB-PAGE** SELECTOR in the **PALETTE** MENU to enter the MIDI Tools sub-page.

Click in the **MIDI TOOL** MENU in the secondary **PALETTE** MENU to open a menu with a list of available MIDI Tools, then click on one to load it.

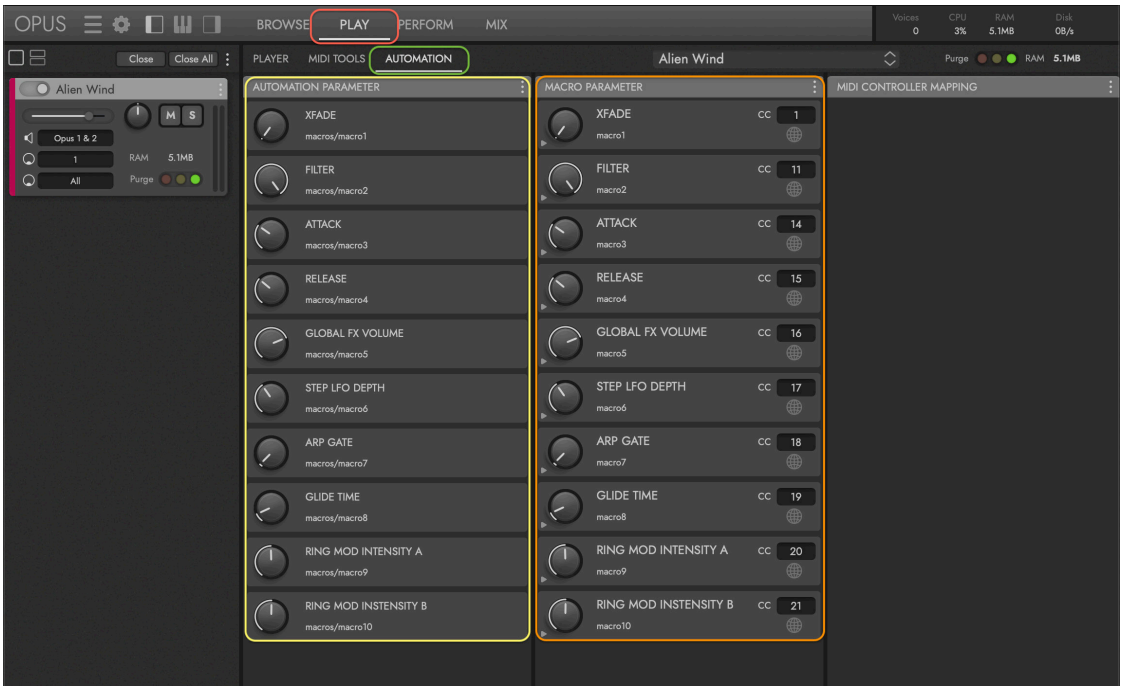


OPUS SOFTWARE MANUAL | **SECTION 2.2.2** MIDI TOOLS SUB-PAGE contains more information about each MIDI Tool and all the options available in this sub-page.

2.2.3 AUTOMATION SUB-PAGE

Add movement to an instrument by automating their parameters in a DAW, or program your MIDI controller to control and record them into a DAW in real-time.

To enter the Automation sub-page, click on the **PLAY PAGE** SELECTOR in the **NAVIGATION** BAR, then click on the **AUTOMATION SUB-PAGE** SELECTOR in the **PALETTE** MENU.



The **AUTOMATION PARAMETERS** AREA populates with controls that appear in a DAW's plug-in automation lane. Similarly, the **MACRO PARAMETERS** AREA populates with those same controls that appear in a DAW's MIDI controller lane, which allows real-time control via MIDI CCs.

Below is a list of the Automation and Macro Parameters and their MIDI CC numbers:

- **CC 01** - X-FADE (MOD WHEEL)
- **CC 11** - FILTER
- **CC 14** - ATTACK
- **CC 15** - RELEASE
- **CC 16** - GLOBAL FX VOLUME
- **CC 17** - STEP LFO DEPTH
- **CC 18** - ARP GATE
- **CC 19** - GLIDE TIME
- **CC 20** - RING MOD INTENSITY A
- **CC 21** - RING MOD INTENSITY B

OPUS SOFTWARE MANUAL | SECTION 2.2.3 AUTOMATION SUB-PAGE contains more information about the automation tools available.

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