

E A S T W E S T / Q U A N T U M L E A P

HOLLYWOOD ORCHESTRA OPUS EDITION

U S E R M A N U A L



PRODUCED BY DOUG ROGERS AND NICK PHOENIX



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

1-323-957-6969 voice

1-323-957-6966 fax

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

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

For technical support for products: <http://www.soundsonline.com/Support>

CREDITS

PRODUCERS

Doug Rogers, Nick Phoenix, Thomas Bergersen

SOUND ENGINEER

Shawn Murphy

ENGINEERING ASSISTANCE

Jeremy Miller, Ken Sluiter, Bo Bodnar

PRODUCTION COORDINATORS

Doug Rogers, Blake Rogers, Rhys Moody

PROGRAMMING / SOUND DESIGN

Justin Harris, Jason Coffman, Doug Rogers, Nick Phoenix

SCRIPTING

Wolfgang Schneider, Thomas Bergersen, Klaus Voltmer, Patrick Stinson

EDITING

Justin Harris, Mike DiMattia, Jason Coffman, Andrzej Warzocha, Arne Schulze, Pierre Martin, Spencer Putnam

ART DIRECTION

Doug Rogers, Blake Rogers, Nick Phoenix, Wolfgang Kundrus, Eike Jonas,
Steven Gilmore, Thomas Merkle, Jonas Sellami, Daniel Lepik, Elisabeth Kiviorg

OPUS SOFTWARE

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

ORCHESTRATOR SOFTWARE

Tilman Sillescu, Nico Dilz, Wolfgang Schneider, Wolfgang Kundrus; Inspiration by: Doug Rogers, Blake Rogers

VIDEO PRODUCTION

Blake Rogers

USER MANUAL

Jason Coffman

SPECIAL THANKS

Pierre Langer Sonuscore, all of the Musicians, we salute you!

DEDICATED TO THE MEMORY OF

Rhys Moody

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1.1 HOLLYWOOD ORCHESTRA OPUS EDITION

Hollywood Orchestra Opus Edition is the highly anticipated expansion to Hollywood Orchestra, the best-selling and most awarded orchestral virtual instrument ever produced. It includes brand new pristine recordings, reimagined original content, and powerful new features, all housed in our new revolutionary Opus software engine.

Produced by Doug Rogers and Nick Phoenix, recipients of over 100 international industry Awards, and sound engineered by multiple Academy Award and BAFTA winner Shawn Murphy, Hollywood Orchestra Opus Edition is the culmination of years of recording and programming and will set a new industry standard for achieving professional sounding orchestral soundtracks.

Hollywood Orchestra Opus Edition comes with the new Opus software and a companion product Hollywood Orchestrator, a must-have tool for composers of every skill level who want to achieve that Hollywood blockbuster sound quickly.



1.1.1 Brand New Recordings and Reimagined Content

Brand new recordings include a new 18 violin string section for Hollywood Strings, new ensembles for Hollywood Brass and Hollywood Orchestral Woodwinds, plus new string, brass, and wind multi ensembles. “The new 18 violins are an alternate to the first 16 violins of the original library. They have a different sound,” says producer Nick Phoenix, “the players are different. The vibrato is different. The legato is the best we have ever recorded. They work well with the existing collection or as a re-

placement for the original 1st violins. The new 2 tenor trombones have a completely different sound from the 3 trombones in the original collection. The new trombones are warm, full, and extremely precise. 2 trumpets were recorded again using two of the best players in the Hollywood film score scene. The legato is blazing at high velocities and sounds like a live performance.”

The programming of the original content from Hollywood Orchestra has been updated to take advantage of the features included in the new Opus software engine, as well as the Hollywood Solo Instrument Series (now included in this expansion). Particular focus was placed on Hollywood Orchestral Woodwinds. After improving the original woodwinds, new ensembles were recorded, including 3 bassoons, 3 clarinets, and 3 flutes. “Once again, this was a huge success because of the quality of the players,” says Phoenix, “Each woodwind ensemble works together on a regular basis and the tuning and timing are immaculate. These new recordings are unmatched in the virtual instruments world. The Opus Edition also includes new string, brass and wind multi ensembles that have a unique fat sound that captures the tuning of a large orchestra playing together in a live setting.”



Of course, multiple Academy Award and BAFTA winner Shawn Murphy was brought back to sound engineer all of the new recordings. Shawn Murphy is one of the most prolific sound engineers and mixers in the history of cinema. Just some of his over 500 feature film credits include the Star Wars franchise (The Rise of Skywalker, The Last Jedi, The Force Awakens, Revenge of the Sith, Attack of the Clones, The Phantom Menace), The Hunger Games franchise, Harry Potter and the Prisoner of Azkaban, Jurassic Park and The Lost World, Titanic, Schindler’s List, Saving Private Ryan, Mission: Impossible, Apollo 13, the Indiana Jones franchise (Kingdom of the Crystal Skull, Indiana Jones and The Last Crusade), and the Fantastic Beasts franchise.

1.1.2 Our Revolutionary New Opus Software Engine

Our brand new Opus software engine replaces Play and has been years in development. “Many improvements were made to the Play software engine over the last decade but we suddenly had a unique opportunity,” says producer Doug Rogers, “we were able to bring Wolfgang Kundrus in as head of software development. He was the mastermind behind the creation of Cubase, Nuendo, and Studio One. Then we were able to bring in Wolfgang Schneider, the creator of Kontakt. With these two titans of music software development now on our team, we decided it was time to develop a brand new software engine from the ground up.

The Opus software engine is the realization of this effort. Not only is it faster, more powerful, more flexible, and better looking than Play, it comes with some incredible new features such as individual instrument downloads, customized key-switches, new effects for the mixer page, scalable retina GUI upgrades for legacy products, a powerful new script language, and many more features that allow you to completely customize the sound of each instrument. It’s one of the most exciting developments in the history of our company and will be the launching pad for many exciting new products in the future.

1.1.3 Featuring Hollywood Orchestrator

Create full-scale orchestral music with complex arrangements by playing a few simple chords with one hand and shaping expression with the other. Developed in collaboration with Sonuscore, Hollywood Orchestrator used all the instruments in Hollywood Orchestra Opus Edition to create real-time arrangements based on your MIDI input with our innovative Scoring Engine.

With over 500 presets the can be customized, you can instantly create music in the style of Hollywood’s greatest composers. Select from Ensemble presets to quickly create rich orchestral arrangements. With Ostinato presets, you can build rhythmic tension in different meters or create moving melodic lines by only changing a few notes. With Score, classic Hollywood orchestrations become an endless source of inspiration. Create your own User presets by modifying existing presets or build your own ensembles from scratch!

Our Innovative Scoring Engine

At the heart of Hollywood Orchestrator is our innovative Scoring Engine, which can produce results ranging from a basic string arrangement, to very complex orchestrations played by the full orchestra. It achieves this in a two-step process by first modifying the MIDI input with a Note Selection process, then sending those note selections to a powerful Step Sequencer where chords are played with the programmed rhythms. If you want to take things a step further, you can optionally activate our step sequencers. Each slot has one of them. They take whatever the note selection process outputs, and manipulates that. If you program a rhythmic pattern into the sequencers and play a C-Major chord, the sequencers will take the notes from the note selection and play the chord with that rhythm.

In the Mixer section, refine the final output of each instrument by adjusting the volume, pan, equalization, reverb preset, reverb send amounts, and other reverb controls like pre-delay, length, and filters.



Hollywood Orchestrator is the perfect tool both for new composers who want to get that magical Hollywood sound quickly and effortlessly, and for professional composers who need to produce large amounts of compositions on a deadline. Please note: Hollywood Orchestrator requires Hollywood Orchestra Opus Edition, it is not a standalone product, and is not compatible with the original Hollywood Orchestra or Hollywood Solo Instruments which are now included in the Opus Edition with the newly recorded instruments. Hollywood Orchestra Opus Edition, Hollywood Orchestrator, and the Opus software engine are now available for purchase, and in our ComposerCloud subscription service.

1.1.4 What's Included

EastWest Hollywood Orchestra Opus Edition is:

- A collection of 1,807 instruments (Diamond)
- A collection of 1,259 instruments (Gold)
- The Hollywood Orchestrator scoring engine, with over 500 presets
- Approximately 944 Gigabytes (GB) of 24-bit, 44.1 kHz samples (Diamond)
- Approximately 130 Gigabytes (GB) of 16-bit, 44.1 kHz samples (Gold)
- Approximately 242 Gigabytes (GB) of 16-bit, 44.1 kHz samples (Gold X) *
- EastWest's powerful, new Opus software engine.
- A license that identifies the product you bought.
- An Hollywood Orchestra Opus Edition User Manual.pdf
- The EW Installation Center to setup the libraries, software, and documentation

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 not longer supported.

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
- The renewed activation of subscription licenses (ComposerCloud)
- The download of EW 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.

* Only available with a ComposerCloud X subscription.

1.1.5 The Different Opus Editions

Hollywood Orchestra is released as Opus Edition Gold, and Opus Edition Diamond.

The Opus Edition Gold version, which you can purchase or access with the ComposerCloud subscription, is 16-bit samples and one microphone position. It is approximately 130 GB in size, which includes both the original and new expansion content.

The Opus Edition Gold X version, only available with a ComposerCloud X subscription, adds one additional microphone position to the Gold version. As a combined total, it is approximately 242 GB in size.

The Opus Edition Diamond version, which you can purchase or access with the ComposerCloud Plus subscription, is 24-bit samples with all microphone positions. It is approximately 944 GB in size, which includes both the original and new expansion content.

ComposerCloud	CC	CC X	CC PLUS
LIBRARY	Opus Edition Gold	Opus Edition Gold X	Opus Edition Diamond
INSTRUMENTS	All	All	All
BIT DEPTH	16-bit	16-bit	24-bit
MICROPHONES	1	2	5 +
LIBRARY SIZE (GB)	130 GB	242 GB	944 GB
HARD DRIVE	available here	available here	available here

1.1.6 Using Opus and Play Together

Opus and Play are two separate software products, anything you have saved in your projects will still load up inside the saved Play version of the plugins. You can update your current/existing projects to Opus if you so choose, or leave them saved within Play.

If you already have the Hollywood Orchestra installed, you will only need to download the additional Opus Edition content which will be available as a download via the Installation Center.

While individual sections can be split between different systems, the Opus Edition expansion must be installed into the same directory as the original Hollywood Orchestra. For example both Hollywood Strings Diamond and the Hollywood Strings Opus Edition Diamond will have to be in the same directory, but you could have Hollywood Brass and Hollywood Brass Opus Edition Diamond in the same directory in another location.

PLEASE NOTE Only Hollywood Orchestra Opus Edition is compatible with the new Opus software. Providing support for old and new versions of Hollywood Orchestra in the Opus software would create confusion and require us to support two versions of the same product in the same software. Original Hollywood Orchestra users that do not upgrade can continue to use the Play software.

1.1.7 System Requirements

Below are the minimum and recommended hardware and software specifications for using Opus on Windows and MacOS systems.

Minimum System:

- CPU: Quad-core (four cores), running at 2.7 GHz (or above)
- RAM: 16 GB
- OS: MacOS 10.13 (or later); Windows 10 with ASIO sound drivers
- Drive: SSD

Recommended System:

- CPU: Octa-core (eight cores), running at 2.7 GHz (or above)
- RAM: 32 GB or more
- OS: MacOS 10.13 (or later); Windows 10 with ASIO sound drivers
- Drive: NVMe SSD

1.1.8 Sequencer Compatibility

The chart below outlines the MacOS and Windows 64-bit operating systems and sequencers that are officially supported (fully tested) with the latest version of Opus.

PLEASE NOTE Most DAWs (Sequencers) are VST2, VST3, AU and AAX plug-in format compatible, but only those specified in the chart below are officially supported.

Sequencer		Operating Systems	
DAW Software	Version	MacOS (10.13 +)	Windows 10
EW Opus Stand-Alone	1.0 +	✓	✓
Ableton Live	10.0 +	✓	✓
Apple Logic Pro	10.0 +	✓	-
Apple Garageband	10.3 +	✓	-
Avid Pro Tools	2018.1 +	✓	✓
Bitwig Studio	3.0 +	✓	✓
Cockos Reaper	6.0 +	✓	✓
Image-Line FL Studio	20 +	✓	✓
Motu Digital Performer	9.0 +	✓	✓
Steinberg Cubase ⁽¹⁾	9.0 +	✓	✓
Steinberg Nuendo ⁽¹⁾	8.0 +	✓	✓
Presonus Studio One	4.0 +	✓	✓
VSL Vienna Ensemble Pro	6.0 +	✓	✓
Notation Software			
Avid Sibelius ⁽²⁾	7.0 +	✓	✓
MakeMusic Finale ⁽²⁾	25.0 +	✓	✓
Steinberg Dorico ⁽²⁾	2.2 +	✓	✓

(1) VST3 Usage is recommended.

(2) Notation programs work with Opus, but do not support the full feature set of some East West Libraries, such as those that use WordBuilder. Please contact support for details.

1.2 PRODUCERS AND ENGINEER

With an authentic Hollywood sound and the most detailed set of instruments ever assembled, the Hollywood Orchestra Series was recorded in EastWest Studio 1 by Shawn Murphy and produced by Doug Rogers, Nick Phoenix and Thomas Bergersen.

1.2.1 Doug Rogers

With over 35 years experience in the audio industry, founder and producer Doug Rogers is the recipient of over 100 industry awards, more than any other sound developer. His uncompromising approach to quality, and innovative ideas have enabled EastWest to lead the sound-ware business for nearly 30 years. “The Art of Digital Music” named him one of “56 Visionary Artists & Insiders” in the book of the same name.



He released the very first commercial Drum Samples CD in 1988, and followed it with the multiple award-winning “Bob Clearmountain Drums” sample collection which he co-produced. In the years that followed he practically re-invented the sound-ware industry. EastWest introduced loop sample libraries to the market in the early nineties, followed closely by the first midi driven loops collection (Dance/Industrial). He released the first library to include

multiple dynamics, followed by the first sample library to stream from hard disk, an innovation that led to the detailed collections users expect today.

His productions include Symphonic Orchestra (awarded a Keyboard Magazine “Key Buy Award,” EQ Magazine “Exceptional Quality Award,” Computer Music Magazine “Performance Award,” “Sound On Sound Readers Award” (twice), and G.A.N.G. [Game Audio Network Guild] “Best Sound Library Award”); and Symphonic Choirs (awarded Electronic Musician “Editor’s Choice Award,” G.A.N.G. “Best Sound Library Award,” and Keyboard Magazine “Key Buy Award”). Other productions include Quantum Leap Pianos, the most detailed virtual piano collection ever produced; Fab Four, inspired by the sounds of the Beatles; The Dark Side (Fab Four and The Dark Side were both M.I.P.A. Award winners, judged by 100 music magazines); Hollywood Strings, Hollywood Brass, Hollywood Orchestral Woodwinds, Hollywood Orchestral Percussion; ProDrummer 1, co-produced with Mark “Spike” Stent; ProDrummer 2, co-produced with Joe Chiccarelli; and Ghostwriter, co-produced with Steven Wilson.

Over the last 20 years he has partnered with producer/composer Nick Phoenix and set up the Quantum Leap imprint, a subsidiary of EastWest, to produce high-quality, no-compromise virtual instruments. EastWest/Quantum Leap virtual instruments are considered the best available and are in daily use by the who’s who of the industry.

1.2.2 Nick Phoenix

Since composer and producer Nick Phoenix began scoring film trailers in 1994, and since founding [Two Steps From Hell](#) with Thomas Bergersen in 2006, Nick has scored or licensed music for the ad campaigns of over 1000 major motion pictures.

Some of these works include: “Godzilla”, “Ender’s Game”, “Skyfall”, “World War Z”, “Rush”, “The Hobbit”, “Avengers”, “Star Trek 2”, “Inception”, “Harry Potter and the Deathly Hallows”, “Tomb Raider 2”, “Terminator 3”, “Lord of the Rings Return of the King”, “Harry Potter 2”, “Star Wars Episode 2”, “Spiderman 3”, “Pirates of the Caribbean 3”, “Blood Diamond”, “Night at the Museum”, and “The Da Vinci Code”.

The journey as a composer has inspired Nick to record and program his own sounds and samples. For over 20 years, a partnership with Doug Rogers and EastWest under the Quantum Leap imprint, has yielded award winning software titles such as the Hollywood Series, Stormdrum 1, 2 and 3, Symphonic Orchestra, Symphonic Choirs, Silk, RA, Voices Of Passion, Ministry Of Rock 2, Gypsy, Pianos, Goliath, and many others



1.2.3 Thomas Bergersen

Thomas Bergersen holds a composition and orchestration Master’s degree, and has worked in the capacity of composer, orchestrator, or music arranger on many Hollywood productions.

He founded [Two Steps From Hell](#) with Nick Phoenix in 2006, and has since written music for countless movie trailers. “Star Trek,” “Harry Potter 6,” “Tales of Despereaux,” “The Dark Knight,” “Valkyrie,” “The Hulk,” “Rendition,” “Spider-Man 3,” “Golden Compass.” “The Assassination of Jesse James,” “Pirates of the Caribbean 3,” “Babel,” “Hitman,” “I Am Legend,” “300,” “No Country For Old Men,” “Harry Potter 5,” “The Brave One,” “Wall-E,” “Blood Diamond,” “Speed Racer,” and “Night at the Museum” are a few recent examples.



Thomas is also a trumpeter and has performed on major TV productions including NBC News. In his pursuit of the ultimate realism in samples, he has produced a great number of orchestral sample libraries for his own use. With Hollywood Strings, it was time to join forces with veteran producers Doug Rogers and Nick Phoenix, and to share this knowledge with the rest of the world.

Thomas’ studio is located in Santa Monica, California.

Website: www.thomasbergersen.com

1.2.4 Shawn Murphy

Shawn Murphy is an Academy Award, C.A.S. (Cinema Audio Society), BAFTA, and Emmy award-winning sound engineer who has recorded and mixed the scores for more than 300 feature films including: “Indiana Jones and the Kingdom of the Crystal Skull,” “Star Wars: The Phantom Menace,” “Star Wars: Episode II - Attack of the Clones,” “Star Wars: Episode III - Revenge of the Sith,” “Star Wars: A Musical Journey,” “Jurassic Park,” “Jurassic Park, The Lost World,” “Harry Potter and the Prisoner of Azkaban,” “Titanic,” “The Curious Case of Benjamin Button,” “The Bourne Ultimatum,” “Minority Report,” “Saving Private Ryan,” “Munich,” “The Passion of the Christ” (score mix), “X-Men: The Last Stand,” “Memoirs of a Geisha,” “Ice Age 2,” and “Ice Age 3.”



1.3 ABOUT EASTWEST

Founder and producer Doug Rogers has over 35 years experience in the audio industry. His uncompromising approach to quality, and innovative ideas have enabled EastWest to lead the sound business for nearly 30 years.

1.3.1 EastWest Sounds

EastWest Sounds (www.soundsonline.com) has been dedicated to perpetual innovation and uncompromising quality, setting the industry standard as the most critically acclaimed producer of Sample CDs and Virtual Instruments software.

In 1997 Rogers partnered with producer/composer Nick Phoenix and set up Quantum Leap, a wholly owned division of EastWest, to produce high-quality, no-compromise sample libraries and virtual instruments.

Quantum Leap virtual instruments are mostly produced by Nick Phoenix. Some of the larger productions, such as Symphonic Orchestra, Symphonic Choirs, Quantum Leap Pianos, and Hollywood Strings are co-produced by Doug Rogers and Nick Phoenix.

As a composer, Phoenix began scoring film trailers and television commercials in 1994. To date, he has either scored or licensed music for the ad campaigns of over 1000 major motion pictures including Tomb Raider 2, Terminator 3, Lord of the Rings Return of the King, Harry Potter 2, Star Wars Episode 2, Spiderman 3, Pirates of the Caribbean 3, Blood Diamond, Night at the Museum, and The Da Vinci Code. Quantum Leap has now firmly established itself as one of the world's top producers of high-end sample libraries and virtual instruments.

1.3.2 EastWest Studios

In 2006, EastWest purchased the legendary Cello Studios (formerly United Western Recorders) on Sunset Boulevard in Hollywood, re-naming it EastWest Studios. The 21,000 sq. ft. facility, since remodelled by master designer Philippe Starck, houses five recording studios and is the world headquarters for EastWest.

EastWest Studios (formerly United Western Recorders) is the world's premiere studio. Here is a quote from page 33 of the book *Temples of Sound*: "United Western Recorders has been the scene of more hit records—from the 1950's to right now—than any other studio. No other studio has won more technical excellence awards, and no other studio has garnered as many Best Engineered Grammys as this complex of studios on Sunset Boulevard." One thing everyone agrees on: The acoustics and the vibe in the recording rooms of 6000 Sunset Boulevard are unmatched.

EastWest Studios has hosted the who's who of music for over 45 years. In the beginning, artists like Bing Crosby, Frank Sinatra, Dean Martin, Sammy Davis, Nat King Cole, Johnny Mercer and Ray Charles were recording the hits of the day. Ray Charles' classic, "I Can't Stop Loving You" was recorded here as well as Sinatra's, "Strangers In The Night" and "That's Life," and the legendary Beach Boys "Pet Sounds" album, which was the inspiration for The Beatles' "Sgt. Peppers" album, was recorded here also. The Mamas

and Papas “California Dreamin,” “Monday Monday,” and Scott McKenzie’s “San Francisco” were recorded here. Elvis Presley recorded his 1968 Christmas special in Studio 1. Famous themes for film and television were recorded here including the “M*A*S*H” theme, “Mission Impossible” theme, “Hawaii Five-O” theme, “Beverly Hillbillies” theme, “Godfather” theme, plus much of the “Monkees” and “Partridge Family” television series.



It would be impossible to name all the musical royalty who have worked at EastWest Studios, but here are some of them (in alphabetical order): Christina Aguilera, Herb Albert, America, Paul Anka, Fiona Apple, Audioslave, Franky Avalon, Barenaked Ladies, Better Than Ezra, Blondie, Buffalo Springfield, Burt Bacharach, Beach Boys, Blink 182, Glen Campbell, Canned Heat, Vickie Carr, Carpenters, Johnny Cash, David Cassidy, Ray Charles, Chicago, Petula Clarke, Ry Cooder, Elvis Costello, Count Basie & Orchestra, Eric Clapton, Nat King Cole, Natalie Cole, Ornette Coleman, Duane Eddy, Jan & Dean, John Coltrane, Petula Clark, Joe Cocker, Sam Cooke, Bing Crosby, Bobby Darin, Sammy Davis, Jr., Jackie DeShannon, Duke Ellington, Neil Diamond, Fifth Dimension, Bob Dylan, Ella Fitzgerald, Benny Goodman Big Band, Grateful Dead, Grass Roots, Green Day, Guess Who, Lani Hall, Herbie Hancock, Don Ho, Whitney Houston, Howlin’ Wolf, Janis Ian, Ike & Tina Turner, Incubus, Isley Brothers, Michael Jackson, Elton John, Stan Keaton, Carole King, Kris Kristofferson, Franky Laine, K.D. Lang, Avril Laverne, Michel LeGrand, Peggy Lee, Little Feat, Trini Lopez, Madonna, Mamas & the Papas, Dean Martin, Johnny Mathis, Meatloaf, Sergio Mendez & Brazil 66, Metallica, Johnny Mercer, Paul McCartney, Barry Manilow, Scott McKenzie, Natalie Merchant, Bette Midler, Monkees, Alanis Morissette, Motley Crue, Muse, Rick Nelson, Willie Nelson, Wayne Newton, Harry Nilsson, Nitty Gritty Dirt Band, Ozzy Osborne, Partridge Family, Paul Revere and the Raiders, Tom Petty and the Heartbreakers, Pointer Sisters, Iggy Pop, Elvis Presley, Lisa Marie Presley, Billy Preston, Rage Against the Machine, Red Hot Chilli Peppers, Kenny Rogers, Rolling Stones, Ronnie & the Ronettes, Bonnie Raitt, Helen Reddy, R.E.M., Nelson Riddle, Righteous Brothers, Johnny Rivers, Ronnie & the Ronettes, Dianna Ross, Santana, Jimmy Smith, Sonny & Cher, Phil Spector, Tom Scott, Carly Simon, Frank Sinatra, Nancy Sinatra, Bruce Springsteen, Steppenwolf, Rod Stewart, Mathew Sweet, Stone

Temple Pilots, Barbra Streisand, System of a Down, Temptations, The Animals, The Association, The Four Tops, The GoGos, The Kingston Trio, The O’Jays, The Vines, The Who, Mel Torme, U2, Richie Valens, Stevie Wonder, Tool, Turtles, Sarah Vaughn, Jimmy Webb, Weezer, Andy Williams, Nancy Wilson, Young Rascals, Frank Zappa.

What’s now called EastWest Studios was founded by Bill Putnam in 1961. Considered to be the “Father of modern recording,” he is acknowledged to be the first person to use artificial reverberation for commercial recording. He also developed the first multi-band equalizers and, with his company Universal Audio, was responsible for the development of classic equipment like the Urei 1176LN and Urei Time Align Monitors. He was involved in the early development of stereophonic recording and founded studios in Chicago, Hollywood, and San Francisco. He was responsible for a number of innovations including: the first use of tape echo and echo chambers, the first vocal booth, the first multiple voice recording, the first use of 8-track recording, half-speed disc mastering.

In 1957, he started United Recording Corp. in a building at 6050 Sunset and started new construction on new studios. Stereo was taking off and Putnam was determined to incorporate as many technological innovations into the new complex as possible. In 1961, Western Recorders (now EastWest Studios) at 6000 Sunset was acquired, remodeled, and incorporated into the complex with the facilities being known as United Western Recorders. After Bill Putnam passed away in 1989, the studio was acquired by Allen Sides and renamed Oceanway recording. In 1999 Rick Adams acquired the studios and renamed it Cello, and in January 2006 it was acquired by Doug Rogers of EastWest Sounds, the #1 sounds producer in the world, with over 50 international awards.

Looking for a designer to take on the task of refurbishing the exterior and non-technical interior areas, while preserving the historic studios, Rogers contacted renowned designer Philippe Starck, whose trend-setting work is known the world over for its sheer brilliance and beauty. Starck jumped at the opportunity and headed to Hollywood. He insisted on restoring all historic elements inside and out, adding new designs to the interior and creating a new exterior look that incorporated elements of the current one. Rogers strongly supported this.

Plans are also afoot by Rogers to add historic names and records to the sidewalk on Sunset Boulevard, giving the illustrious studio its own walk-of-fame. Another highlight of the restoration has included Rogers’ purchase of other analog studio equipment to be used for recording the classic way and not just digital (including two EMI mixing boards that the Beatles used to record their hits). His plans for reactivating the studios are a model for historic and cultural preservation as well as providing EastWest with the finest recording environment in the world. In addition to EastWest’s own use of the facilities, the five studio complex will be open to a limited number of outside clients after the Starck restoration.

1.4 SUPPORT

Visit the [Support Center](#) for:

- Guides to Getting Started
- Frequently Asked Questions (FAQs)
- Software and Product Updates
- Support Videos
- Manuals

1.4.1 Live Chat

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.

Visit www.soundsonline.com, then 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.

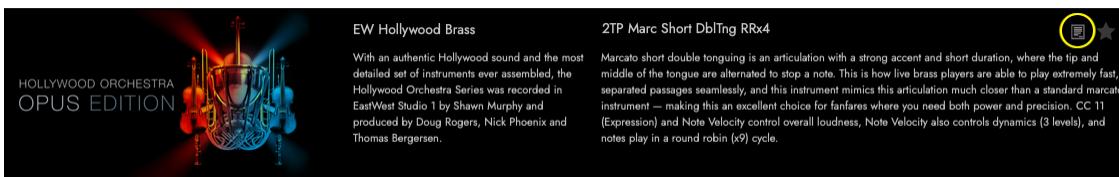
1.4.2 Online Resources

Visit us online for newsletters, trailers, walkthroughs, and more.

- **YouTube:** check out our tutorials, walkthroughs, and trailers.
<https://www.youtube.com/user/EWQLTutorials>
- **Facebook:** get the latest EW announcements, and join the community discussion.
<https://www.facebook.com/eastwestsound>

1.4.3 User Manuals

User Manuals are installed into each product’s library folder, and can be accessed by clicking the **MANUAL BUTTON** in the top-right corner of the Description Box found in Opus’ Browse page.



User Manuals can also be found in the East West/Documentation folder in the Applications (MacOS) or Program Files (Win). It includes software manuals for Play 6 and Spaces II, along with all library manuals

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- 2.1.2 Install the Installation Center
- 2.1.3 Install Opus and Product Support
- 2.1.4 Activate Hollywood Orchestra Opus Edition
- 2.1.5 Set the Installation Path
- 2.1.6 Download Hollywood Orchestra Opus Edition
- 2.1.7 Update Hollywood Orchestra Opus Edition
- 2.1.8 Instrument Downloads

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2.1 HOW TO INSTALL

To begin, download the EastWest Installation Center, through which you will be able to download the Software, Libraries, and activate your Licenses.

2.1.1 Setup An EastWest Account

Create an EastWest Account by filling out a [New Customer Registration](#) form through Soundsonline.com, or log in to your existing EastWest account.

iLOK EastWest uses the iLok security system, and requires an iLok account in order to complete the registration process. Licenses for purchased products are deposited directly into the iLok account associated with your EastWest account. Existing iLok users can enter their iLok account name during registration. Those new to iLok can leave that field blank during registration, and an iLok account name will be created for you based on your EastWest account name.

IMPORTANT: If you're unsure whether or not an iLok account is already associated with your EastWest account, log in with your EastWest account name at [Soundsonline.com](#) and check the 'My Account' section to view your 'Account Details'.

Once you have successfully create an account and place an order, a confirmation email will be sent with steps on how to proceed. These instructions are also contained below.

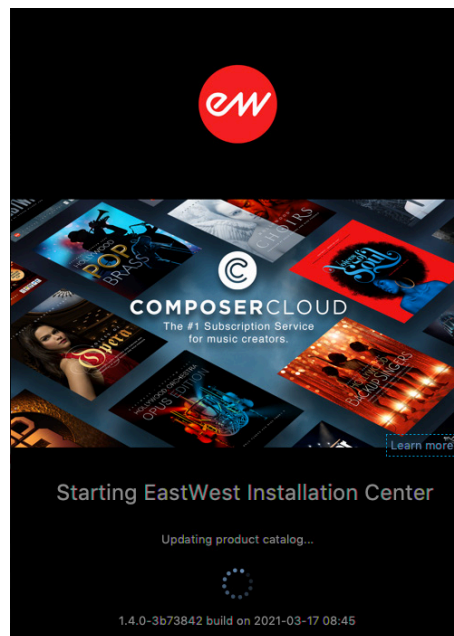
2.1.2 Install the Installation Center

The Installation Center can be downloaded from the 'Software & Product Updates' section of the EastWest [Support Center](#). After downloading and installing the package, the Installation Center will open automatically. It is found here:

- MacOS: MacHD/Applications/EastWest/
EW Installation Center
- Windows: C:\Program Files\EastWest\
EW Installation Center

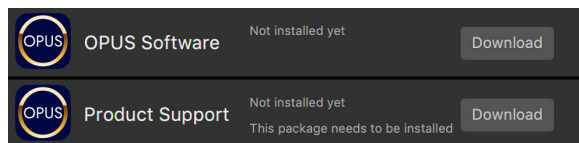
When the Installation Center opens, enter the EastWest account name and password created during registration and allow a moment while it gathers data from your account.

If the Installation Center is already installed, log in and download the latest version by clicking the 'Download' button on the update panel located near the top the Installation Center. The installer will launch automatically, allowing you to proceed through the prompts to update your software.



2.1.3 Install Opus and Product Support

Click the ‘Download’ button in the Opus Software panel that appears near the top of the Installation Center. Once the downloads are complete, the installer will launch automatically, allowing you to proceed through the dialog windows to install Opus, the software engine that powers Hollywood Orchestra.



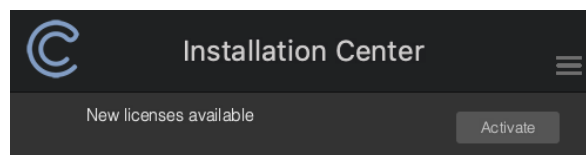
IMPORTANT! Please ensure the Product Support installer has been run! If the Product Support installer does not run automatically after downloading, go to the downloads location on your computer and launch the installer from there, proceeding through the prompts to complete the installation.

Proceed with the next steps to ensure EastWest Libraries are activated and installed for use within Opus.

2.1.4 Activate Hollywood Orchestra Opus Edition

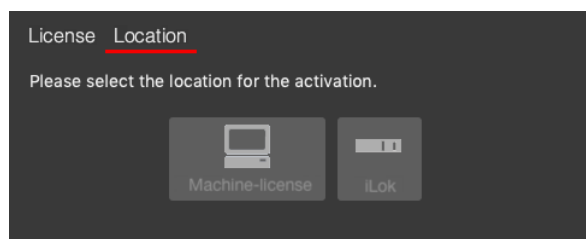
Click the “Activate” button near the top of the Installation Center to open the Activation Assistant window, which will lead you through the activation process.

Click ‘Next’ to proceed past the Introduction tab, then select the license(s) you want to activate in the License tab and click ‘Next’.



The Location window will give you the option to activate your license on your computer (called a machine-based license) or to a registered iLok security key.

Make sure your iLok security key is plugged in if that’s your preferred option.



iLOK If you have an iLok account but you have not connected it to your EastWest account, an Activation Assistant will help link the two accounts. This only needs to be done once.

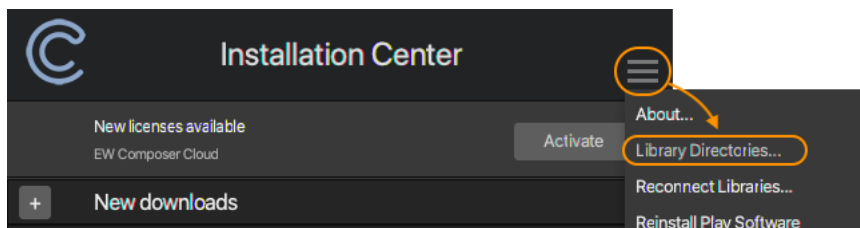
2.1.5 Set the Installation Path

For new users, create a folder on your computer using the Finder (MacOS) or File Explorer (Windows) called ‘EastWest Libraries’ (or something similar) where you’d like to download the libraries to.

PLEASE NOTE: Existing users can skip this step, since the Installation Center will detect an existing installation of Hollywood Orchestra, and only install the new expansion content, not the entire library.

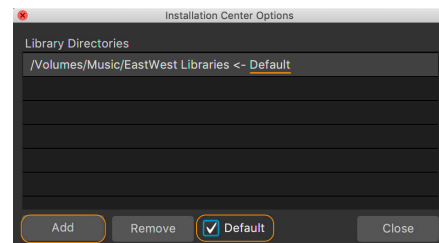
If you are on Windows, we recommend putting that folder close to your drive name to avoid errors related to file path length being too long. For example, we recommend something like this: F:\EastWest Libraries.

In the EW Installation Center, click the Main Menu and choose 'Library Directories...'



Next, click the 'Add' button and add in the location of the folder you just created.

Then make the location the default location to download libraries to by clicking the 'Default' check-box at the bottom of the options window (it will show a < - Default next to it).



2.1.6 Download Hollywood Orchestra Opus Edition

After setting the installation path (or if it was already set previously), return to the main EW Installation Center window, where you can click the download arrow next to each of the 7 libraries that make up the Hollywood Orchestra Opus Edition library and have it download and install into that installation path.

Each of the 7 libraries that make up the Hollywood Orchestra Opus Edition will appear in the 'New Downloads' section of the Installation Center.

- Hollywood Orchestra Strings [Expansion: 18 Violins and Ensemble]
- Hollywood Orchestra Brass [Expansion: 2 Trumpets and 2 Trombones]
- Hollywood Orchestra Woodwinds [Expansion: 3 Flutes, 3 Clarinets, 3 Bassoons]
- Hollywood Orchestra Percussion
- Hollywood Harp
- Hollywood Solo Violin
- Hollywood Solo Cello

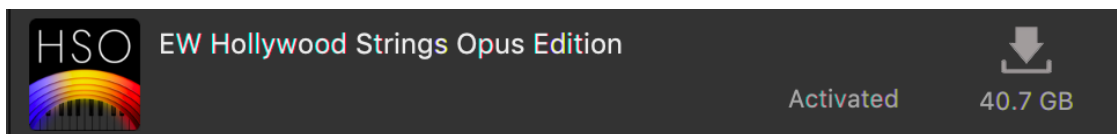
Instructions For Existing Users

If the Installation Center detects an existing installation of Hollywood Orchestra, it will only install the new expansion content, not the entire library. A new Opus Instruments set will also be installed, alongside the existing Instruments set (which can be used simultaneously).

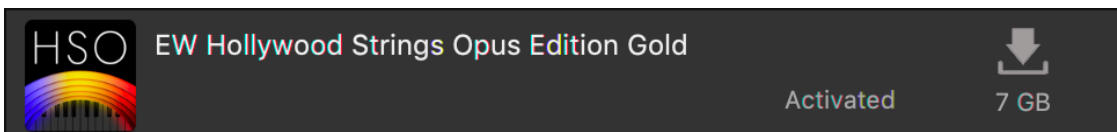
The expansion content for this collection of libraries requires approximately 132 gigabytes (GB) of drive space for the Opus Edition Diamond, 15 gigabytes (GB) of

drive space for the Opus Edition Gold, and 31 (GB) of drive space for the Opus Edition Gold X (only available for ComposerCloud X subscribers).

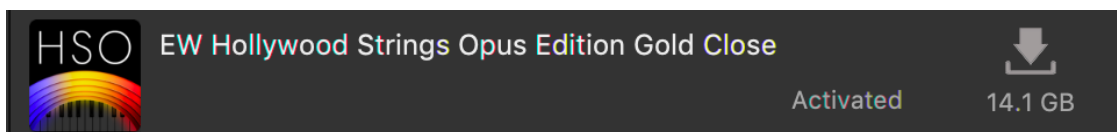
Click the download button within the product panel to immediately begin downloading the expansion content into the existing Hollywood Orchestra install directory.



With a Hollywood Orchestra Opus Edition Gold license, or with a ComposerCloud subscription, the Gold edition will appear instead of the base edition.



With a ComposerCloud X subscription, an extra microphone is available.



Instructions For New Users

If you're a new user, or there are no existing installations of Hollywood Orchestra detected, begin by deciding on a good place to install Hollywood Orchestra Opus Edition.

This collection of libraries requires approximately 944 gigabytes (GB) of drive space for the Opus Edition, 130 gigabytes (GB) of drive space for the Opus Edition Gold, and 242 (GB) of drive space for the Opus Edition Gold X (only available for ComposerCloud X subscribers).

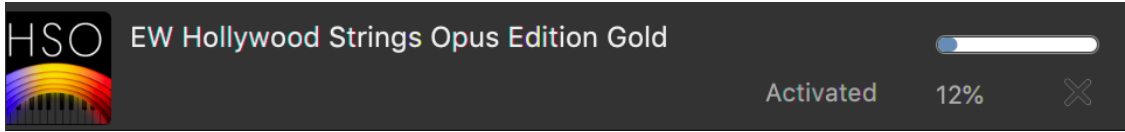
Click the download button within the product panel to prompt a message that asks you to locate the desired installation directory. Navigate to the desired location and click 'Open'. You will be asked if this is the preferred 'Default' location for future installations.

PLEASE NOTE: Umlauts (ä, ö, ü), diacritics (ó, ò, õ, ô, õ, õ etc.) and any non-roman characters can result in the file path not being properly read. This can result in an error after the installation, when the library is in use. Please remove these umlauts and diacritics from your file path!

The Download Process

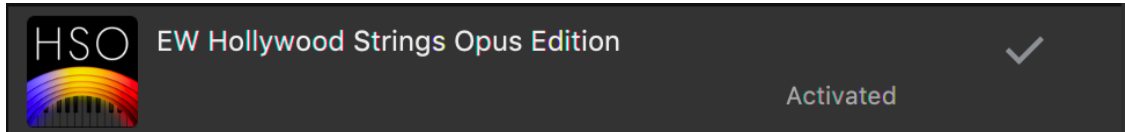
The download process will now begin, with a blue bar displaying its progress. Click the "X" button to pause the download process, and click "Resume" to continue the download where it was left off.

The Installation Center will cycle through 100% twice. Once for the initial download of the files, and a second time for the unpacking and installation of the library.



Activated and Ready For Use

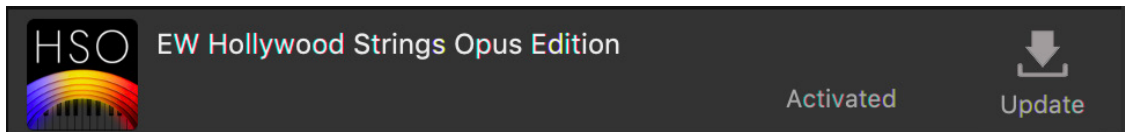
When a product is installed and ready to use, a check-mark is displayed.



2.1.7 Update Hollywood Orchestra Opus Edition

If an instrument and/or sample update becomes available for any of the 7 libraries in the the Hollywood Orchestra Opus Edition, it will appear in the Installation Center with the downward arrow icon above the word 'Update'.

Simply click the 'Update' icon to download and install the latest update.

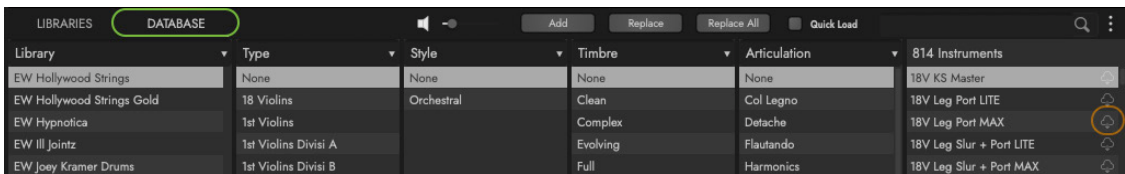


2.1.8 Instrument Downloads

Instruments can now be downloaded individually, given you own the proper license. This means there's no need to wait for an entire library to finish downloading, if you choose.

In the **DATABASE MODE** of the Browse page, Instruments available for download populate the Results List with the **ON-DEMAND DOWNLOAD ICON**.

Click the download icon to begin the download process.



FOR MORE INFORMATION:

3.1.6 Individual Instrument Downloads

2.2 INITIAL SETUP

If it's your first time launching Opus, an initial setup will begin to help optimize CPU and disk performance based on how you intend to use Opus as a plug-in, what type of drive you plan to install the libraries on, and also the preferred location for the 'On Demand Download Directory'.

2.2.1 Welcome to Opus

Launch Opus in stand-alone mode by double-clicking on the application in this directory:

- MacOS: MacHD/Applications/East West
- Windows: C:\Program Files\EastWest

This will launch the 'Startup Wizard', which will help you optimize Opus. Proceed through the prompts, outlined below.



Multi-Processing

The optimal settings depend on whether you intend to use many plugin instances with a moderate number of voices each, or if you intend to use fewer or even a single instance with many voices. When in doubt, stick to the default.

- I will be using many plugin instances with only 1 instrument each in a DAW.
- I will be using few plugin instances with multiple instruments in a DAW.
- I will be using only one plugin instance in a DAW or in Standalone.

Disk Speed

The type of your data disk(s) determines how fast they respond and how much memory is required to ensure seamless playback. The slower the disk, the more memory is required, which can add up significantly for large projects. You can also change these settings manually on a per-disk basis in the preferences at any time!

- I store my libraries on a mechanical hard drive (slow, needs considerable memory).
- I store my libraries on a solid state drive (faster, needs less memory).
- I store my libraries on a fast NVMe (M.2 / PCIe) drive (needs the least memory).
- I store my libraries on a high end, high performance RAID device (M.2 / PCIe) and / or want to save as much memory as possible (no pre-load memory required)

Server Regions

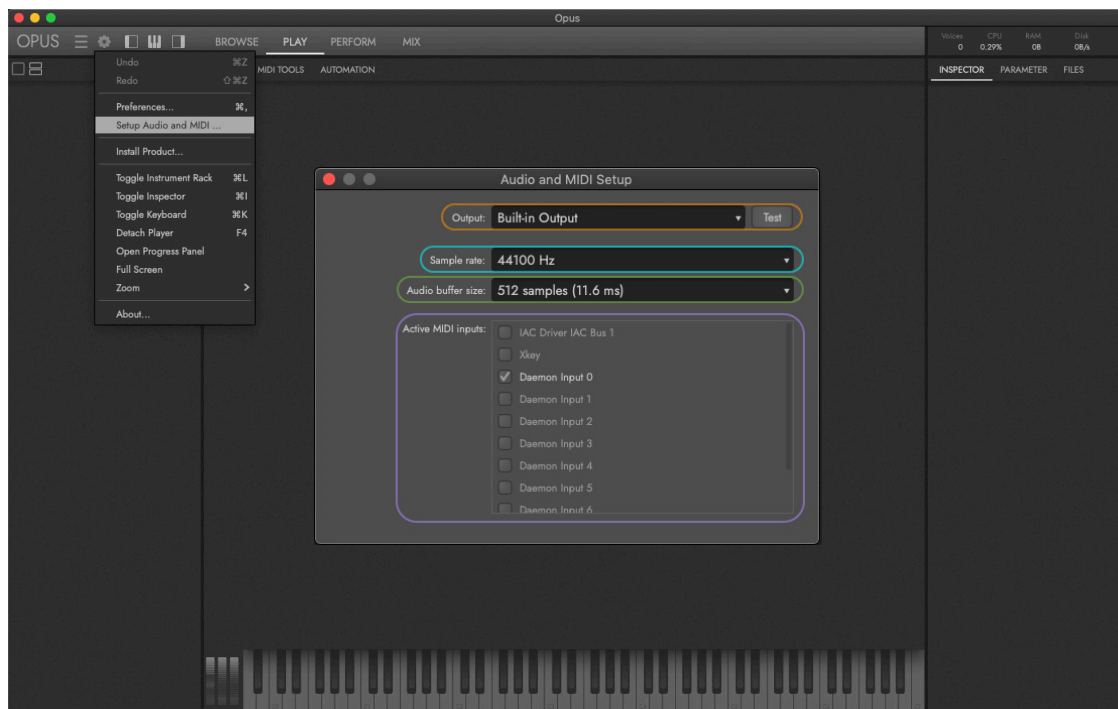
To get optimal performance for a single instrument download you should set the region to the nearest Amazon servers.

- United States
- Europe
- Asia / Pacific

ALSO SEE: 2.3 OPUS PREFERENCES

2.2.2 Audio and MIDI Setup

Before you load an instrument, make sure the audio and MIDI settings are setup properly. Click on the Settings Menu, then click on **SETUP AUDIO AND MIDI OPTIONS** from the menu.



Audio Setup

In the **OUTPUT SELECTION**, select an audio device from the drop-down menu. Make sure your audio device is working by clicking the **TEST BUTTON** to send a test tone. If you don't hear anything, make sure your audio device is selected and that it is not muted or turned down.

In the **SAMPLE RATE SELECTION**, select between 4 sampling rates: 44.1 khz, 48 khz, 88.2 khz, and 96 khz. Please note, the higher the sampling rate, the more CPU-intensive it is.

By default, the **AUDIO BUFFER SIZE SELECTION** is set to 512 samples, which introduces 11.6 milliseconds (m/s) of latency (the time it takes for you to hear a sound after playing a note). This is a good place to start, but we recommend you find the lowest audio buffer size your computer can run before encountering performance issues (dropped notes, crackling playback, etc). Please remember, the voice count can climb very quickly with large instruments containing many layers and multiple microphone positions.

MIDI Setup

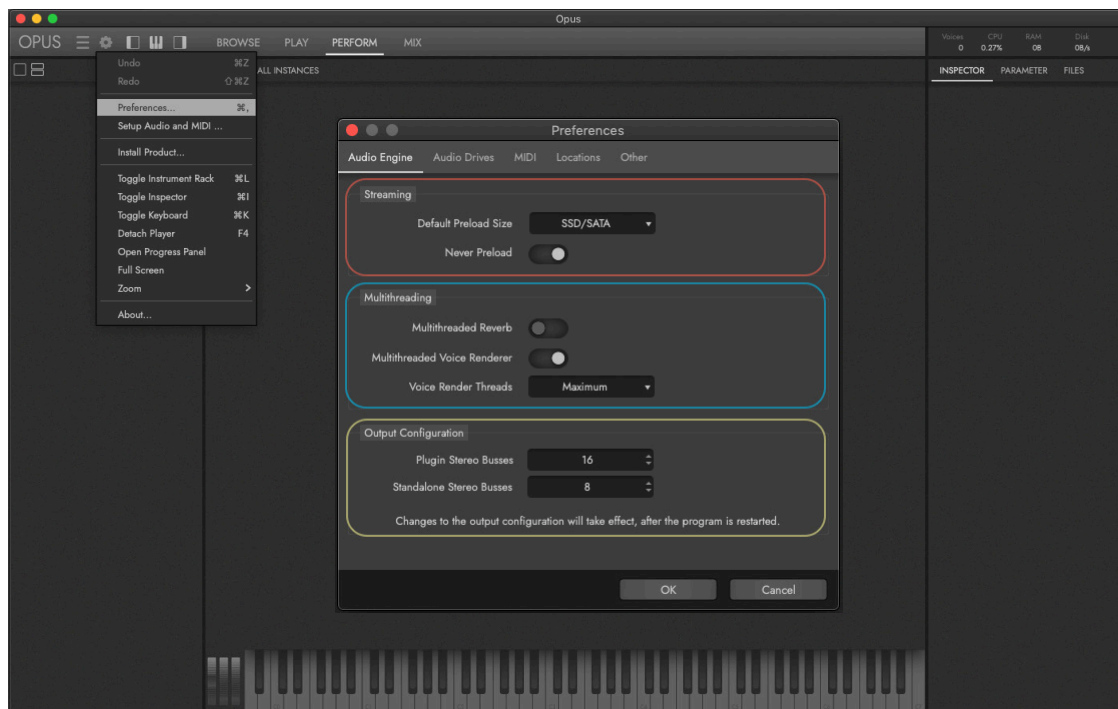
The **ACTIVE MIDI INPUTS AREA** will show all MIDI inputs that are available. Check the box next to the MIDI device(s) you wish to enable.

2.3 OPUS PREFERENCES

The questions in the Initial Setup are intended to determine the best settings based on your system specs and intended use of Opus (single instrument per instance, multiple instances, etc). These can be changed at any time by going to Settings Menu > Preferences, where there are 5 different preference areas: Audio Engine, Audio Drives, MIDI, Locations, and Other.

2.3.1 Audio Engine

In the **AUDIO ENGINE PREFERENCES**, set options for Streaming, Multi-threading and Outputs.



Streaming

The **STREAMING OPTIONS** determine the ratio of how much of each instrument is loaded into memory (RAM), versus how much of it is streamed from a drive in real-time. Faster drives require less memory, since more can be streamed directly from the drive, while samples streamed from slower drives require more memory because less can be streamed from the drive in real-time.

Choose a drive type from the **DEFAULT PRELOAD SIZE OPTIONS** menu:

- **HDD (Harddrive):** a mechanical hard drive (slow, needs considerable memory).
- **SSD (SATA):** a solid state drive on a SATA connection (faster, needs less memory).
- **SSD (PCIe):** a fast NVMe (M.2 / PCIe) drive (needs the least memory).

You can also enable the **NEVER PRELOAD SWITCH**, to exclusively stream from the drive in real time, with nothing loaded into memory (RAM). For optimal performance, this requires high-end, high performance drives (M.2 / PCIe) in a RAID 0 configuration, which combines 2 drives into a single volume to increase its speed.

Multi-Threading

The **MULTI-THREADING OPTIONS** determine whether or not multithreading is enabled on the Reverb and Voice Renderer, and how many Voice Render Threads to allow. Multithreading is the ability for multiple threads (processes) to be executed simultaneously on separate processors. The settings configured during the initial setup are intended to help select the best options based on your computer specifications.

- **MULTI-THREADED REVERB**
- **MULTI-THREADED VOICE RENDERER**
- **VOICE RENDER THREADS**

Output Configuration

The **OUTPUT CONFIGURATION OPTIONS** determines how many stereo outputs are available when using Opus in standalone mode, or as a plugin. Use the up or down arrows to choose a number between 1 and 16 in the **PLUGIN STEREO BUSSES BOX**, or between 1 and 8 in the **STANDALONE STEREO BUSSES BOX**, or click in the box and type the number.

ALSO SEE: 2.5.5 Using Multi-Outputs

2.3.2 Audio Drives

In the **AUDIO DRIVES PREFERENCES**, specify the type of each drive, which will change the ratio of how much of each instrument is loaded into memory (RAM), versus how much of it is streamed from a drive in real-time. Faster drives require less memory, since more can be streamed directly from the drive in real-time, while samples streamed from slower drives require a higher ratio to be loaded into memory, to compensate for slower disk speed.

- **DEFAULT:** defaults to the drive type selected in the **STREAMING OPTIONS** menu.
- **HDD (Harddrive):** a mechanical hard drive (slow, needs considerable memory).
- **SSD (SATA):** a solid state drive on a SATA connection (faster, needs less memory).
- **SSD (PCIe):** next-generation solid state drives using NVMe (needs the least memory).

There are several factors that determine what kind of performance you can expect when streaming samples from a hard drive in real-time, including the type and speed of the drive itself, the speed of the connection type, and other options (like using a RAID 0 setup) for increasing transfer speed.

Solid State Drive (PCIe)

Solid State Drives using NVMe gives you seek and retrieval times that are near instantaneous, allowing for smooth performance even when working with larger projects, with less memory and with lower latencies. To take full advantage of the speed, use with high bandwidth interfaces like PCIe (M.2), or externally via a USB 3.1 gen 2 or Thunderbolt 3 ports.

Solid State Drive (SATA)

Solid State Drives using a SATA also gives fast seek and retrieval times, and allow for smooth performance with larger projects. While much faster than traditional Hard Disk Drives (HDD), next-generation SSDs using NVMe are many times faster. Regardless, to

take most advantage of their speed, install them internally to a SATA III connection, or externally via a USB 3.1 gen 1 or Thunderbolt 2 port, or higher.

Hard Disk Drive (SATA)

Mechanical hard drives running at 7200 rpm (non-energy saving) are the minimum drive specification. They are slow, and need considerable memory for optimal performance. It's best to install these drives internally to a SATA III connection, or externally via eSATA or USB 3.0. Slower connection types like USB 2.0 or Firewire 400 / 800 will offer much less performance, and may not be fast enough for instruments with high voice counts.

RAID 0 Setup

This option is for professional users who want to achieve the highest performance configuration when using drives to stream samples, by combining 2 drives into a single volume to increase its speed. There are many resources available online that provide instructions, or you can consult a computer specialist.

Other Considerations

To ensure best performance, it's also recommended to have multiple drives dedicated solely to streaming. This avoids bottlenecks with intensive projects that are streaming thousands of voices simultaneously.

2.3.3 MIDI

In the **MIDI PREFERENCES**, set options for several important MIDI functions.

MIDI Channel Assignment

The **MIDI CHANNEL ASSIGNMENT OPTIONS** determine how instruments are assigned to MIDI channels.

- **AUTO INCREMENT** will assign each new loaded instrument to the next available MIDI channel (1, 2, 3, etc).
- **OMNI** will assign instruments to receive MIDI on all channels (1-16).

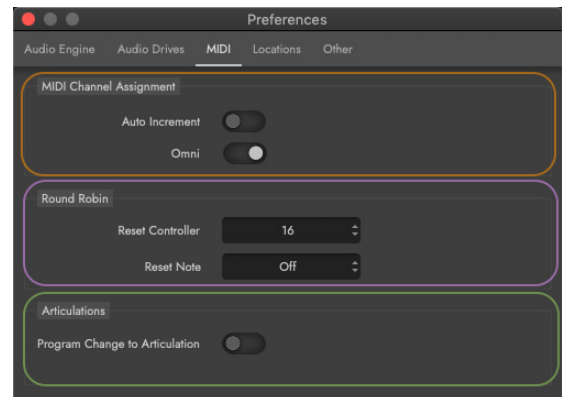
Round Robin

The **ROUND ROBIN OPTIONS** determines what MIDI CC or Note will reset the Round Robin cycle back to the first rotation.

- **RESET CONTROLLER** allows you to select a MIDI CC number to reset the Round Robin (RR) cycle. Use the up or down arrows, or click in the field and type a number directly in.
- **RESET NOTE** allows you to use a MIDI Note to reset the Round Robin (RR) cycle. Use the up or down arrows, or click in the field and type the MIDI Note number directly in.

Articulations

The **ARTICULATIONS OPTION** includes the **PROGRAM CHANGE TO ARTICULATION SWITCH** that allows you to use program changes in addition to keyswitches (simultaneously).



2.3.4 Locations

In the **LOCATIONS PREFERENCES**, set the location to store instruments downloaded on an individual basis.

On Demand Download Directory

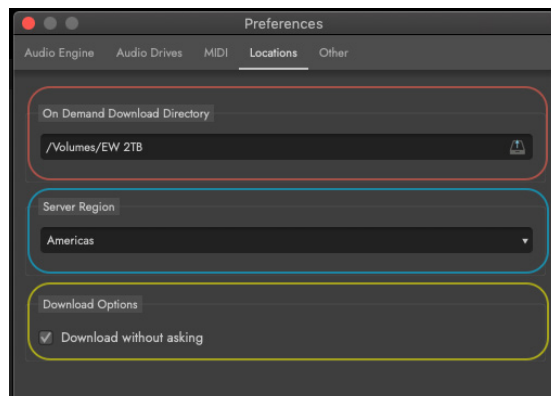
In the **ON DEMAND DOWNLOAD DIRECTORY PATH**, click on the disk icon on the right to open a search window, where you can select a location to download instruments to, then click 'Open'.

Server Region

Select the **SERVER REGION OPTION** closest to you: Americas, Europe, or Asia Pacific.

Download Options

Check the **DOWNLOAD OPTIONS BOX** to automatically download instruments not yet downloaded, without asking you each time.



FOR MORE INFORMATION: 3.1.6 Individual Instrument Downloads

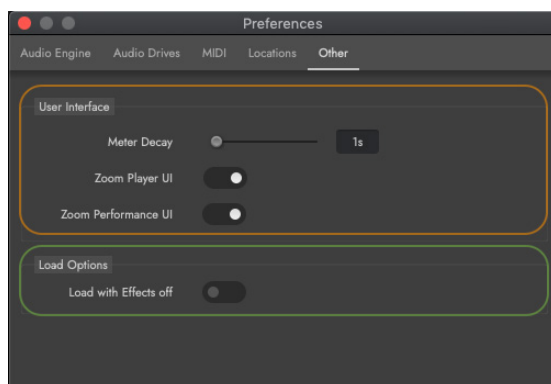
2.3.5 Other

The **OTHER PREFERENCES** contains a User Interface and Load Options.

User Interface (UI)

The **USER INTERFACE OPTIONS** contains several options affected the user interface (UI):

- **METER DECAY** allows you to choose how fast the volume meters decay from their peak, between 1 and 12 milliseconds.
- **ZOOM PLAYER UI** will scale the Player window when the size of the UI is increased. Disabling this option keeps the Player window a default size regardless of the UI size.
- **ZOOM PERFORM UI** will scale the Perform windows when the size of the UI is increased. Disabling this option keeps the Perform window a default size regardless of the UI size.



Load Options

The **LOAD OPTIONS** contain the **LOAD WITH EFFECTS OPTION** that will load an instrument with all of the effects turned off. This is both helpful for those that wish to save CPU resources, and for those that prefer to setup instrument's effects bus routing within their DAWs.

2.4 USER INTERFACE OVERVIEW

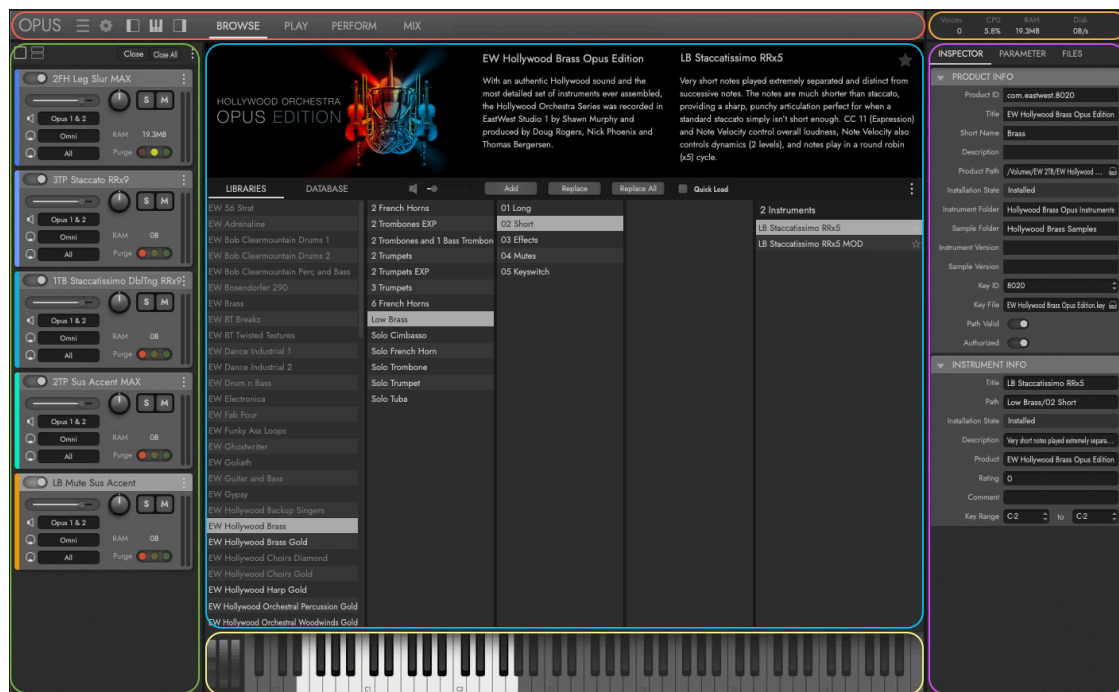
This section covers the basics of getting around the Opus user interface (UI), including where things are located, what they do, and where to read more.

2.4.1 Opus User Interface (UI)

The Opus user interface is divided into 6 main areas, some initially hidden from view, until you show them by clicking their corresponding Interface Toggles (learn how below).

Navigation Bar

The **NAVIGATION BAR (top)** contains important menus and buttons to access all the main areas of the Opus UI. This includes the Page Selectors for the Browse, Play, Perform and Mix pages, that appear in the Main Display area.



Main Display

The **MAIN DISPLAY (center)** shows the page (Browse, Play, Perform, and Mix) currently selected by the Page Selectors in the Navigation Bar. A majority of the time spent in Opus will be on these 4 pages.

Instrument Rack

The **INSTRUMENT RACK (left)** populates with loaded instruments, and includes basic controls for volume, pan, solo / mute, and more.

Virtual Keyboard

The **VIRTUAL KEYBOARD (bottom)** shows the selected instrument's keyrange, blue-colored key-switches (if the instrument contains them), pitch wheel, modulation wheel (CC 1), and expression wheel (CC 11).

System Usage

The **SYSTEM USAGE** (top-right) area provides real-time stats related to the number of simultaneous voices, CPU usage, RAM usage and Disk usage.

Inspector

The **INSPECTOR** (right) shows information pertaining to the current selection, whether that's an instrument selected in the Browse page, or a channel selected in the Mix page.

2.4.2 Navigation Bar

Find the current software version, set menu options, change the user interface, and switch the Main Display between 4 main pages.



Opus

The **OPUS** title will display a splash screen when clicked on. It contains the current software version number, and software credits.

Menu Options

The **MENU OPTIONS** include the **MAIN MENU** (horizontal lines), which contains many options including those related to saving and opening instruments and performances, and the **SETTINGS MENU** (gear icon), which contains important options like Audio and MIDI Setup and Preferences.

Interface Toggles

The **INTERFACE TOGGLES** show and hide parts of the Opus user interface (UI), including the **INSTRUMENT RACK** (left), the **VIRTUAL KEYBOARD** (middle), and the **INSPECTOR** (right).

Page Selectors

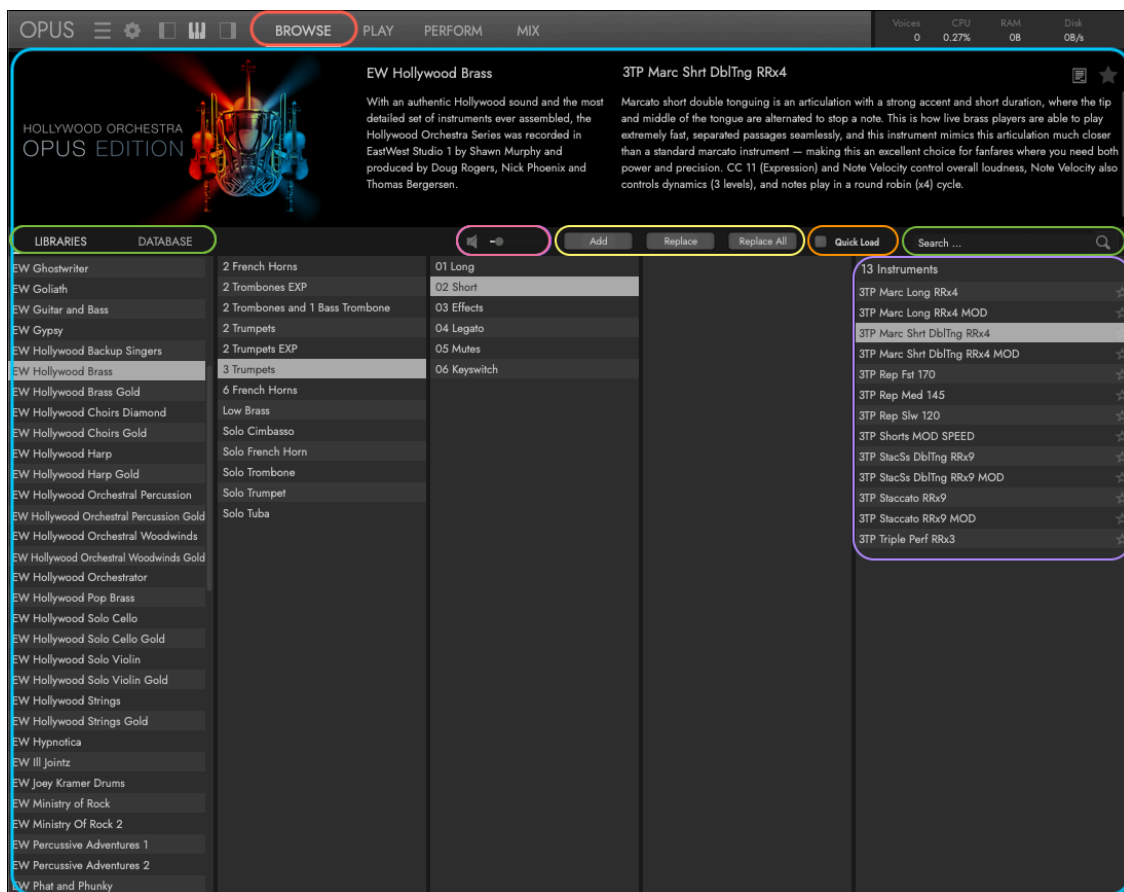
The **PAGE SELECTORS** changes the **MAIN DISPLAY** between 4 pages: Browse, Play, Perform, Mix. An overview of each of these pages is described in the following sections, and further details are available later in the manual.

2.4.3 Browse Page

Click the **BROWSE PAGE SELECTOR** in the **NAVIGATION BAR** to switch the **BROWSE PAGE**.

In the Browse page you can search, audition, load, or download any of the tens of thousands of available instruments.

In the secondary **PALETTE MENU** find instruments in a variety of ways: **LIBRARIES MODE** will search for instruments based on their library folder structure, **DATABASE MODE** will narrow down instruments across a range of attribute categories, and the **SEARCH BAR** will find instruments based on keywords.



The **ADD**, **REPLACE** and **REPLACE ALL** buttons load and replace instruments. To begin, simply double-click on an instrument in the **RESULTS LIST COLUMN** to load it.

Select **QUICK LOAD** to load instruments in a purged state. As you play, samples are streamed from the disk in real-time, and stored in the preload buffer. **SOUND PREVIEWS** playback an audio example when you click on an instrument in the Results List. Use the Speaker icon to turn it on and off, and use the slider to control volume.

FOR MORE INFORMATION: CHAPTER 3: BROWSE

2.4.4 Play Page

Click the **PLAY PAGE SELECTOR** in the **NAVIGATION BAR**.

The Play page includes instrument-level controls that are unique to each library or collection, and other instrument-level controls that are available to all libraries.

Use the **WINDOW SELECTORS** in the secondary **PALETTE MENU** to switch the **PLAY PAGE** between its various windows: Player, MIDI Tools, Automation, and Articulation.



The **INSTRUMENT SELECTOR MENU** displays the currently selected instrument, and allows you to switch between all loaded instruments by clicking in the drop-down menu.

The **PURGE CONTROL** is divided into 3 sections: green indicates an instrument loaded into memory (RAM) based on the Preload Size preference selected under Settings. Click on the left side of the pill to turn it red, indicating an instrument has been purged from memory. As you begin playing the center of the pill will light up yellow, indicating samples are being streamed in real-time and loaded into memory, only as needed.

FOR MORE INFORMATION: CHAPTER 4: PLAY

2.4.5 Perform Page

Click the **PERFORM PAGE SELECTOR** in the **NAVIGATION BAR**.

The Perform page contains performance-level controls, some that are available to all products, and others like the Hollywood Orchestrator, that are unique to a given library.

Use the **WINDOW SELECTORS** in the secondary **PALETTE MENU** to switch the **PERFORM PAGE** between the 3 windows: Zones, All Instances, and Hollywood Orchestrator.



The **HOLLYWOOD ORCHESTRATOR WINDOW** (shown) will appear when the corresponding performance file has been loaded in the Browse page.

FOR MORE INFORMATION: 5.2.1 How to Load Hollywood Orchestrator

The **ZONES WINDOW** is available for all instruments, allowing you set instrument properties like key range, octave transposition, and trigger actions to shape how instruments interact together. The **ALL INSTANCES WINDOW** provides an overview of all loaded instruments and articulations, across all instances of Opus.

FOR MORE INFORMATION: CHAPTER 5: PERFORM

2.4.6 Mix Page

Click the **MIX PAGE SELECTOR** in the **NAVIGATION BAR** to reach the **MIX PAGE**, which is divided into the **EFFECTS RACK AREA** on the top half, and the **MIXER AREA** on the bottom half.

The Mix page contains a channel strip for each loaded instrument and their respective sub-channels (microphone mixes), with controls for volume, panning, mute, solo, on/off load state, output channel, and insert effects.

Use the **MIXER VIEW SWITCHES** in the secondary **PALETTE MENU** to change the way the Mixer channels are presented. The **CONSOLE SWITCH** will arrange an instrument's mix faders horizontal from end to end, with a scroll bar to navigate between them. The **TABS SWITCH** will collapse each instrument's mix faders into separate tabs that can be viewed individually.



Click on the **ADD INSERT EFFECT BUTTON** to add an effects insert to the selected channel.

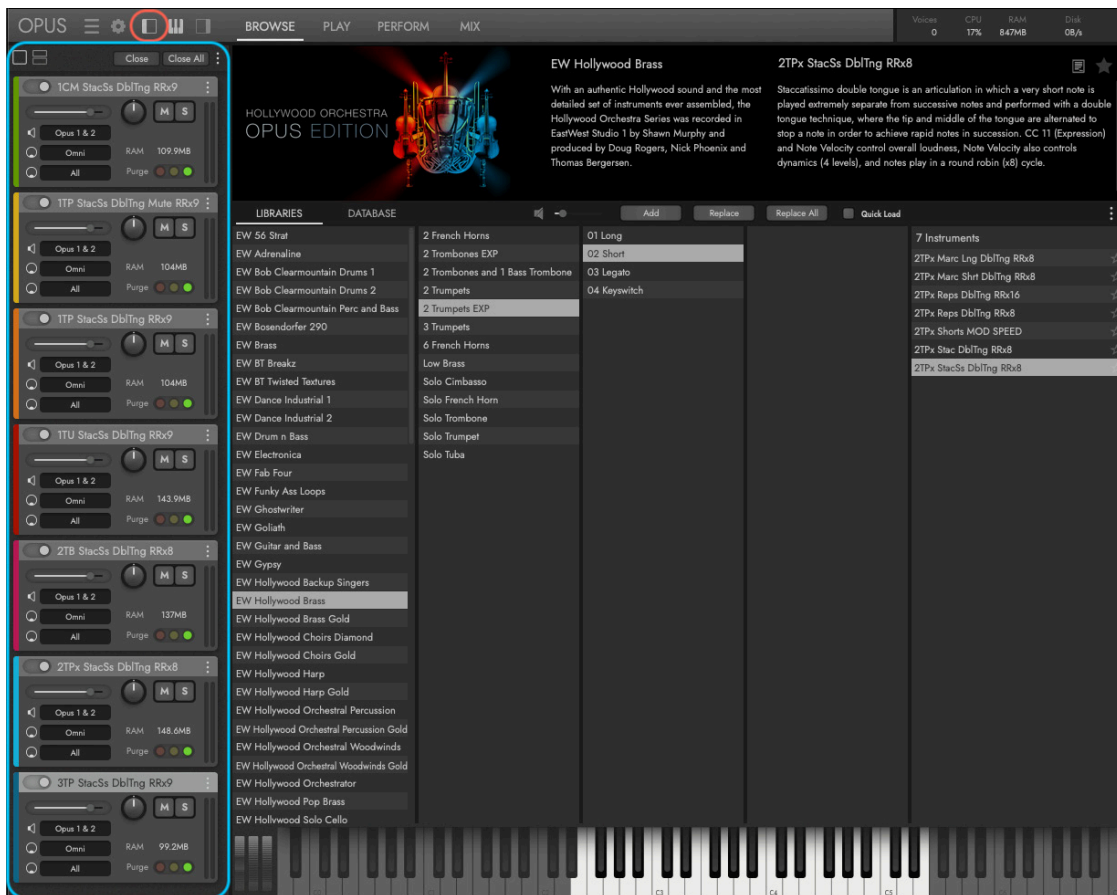
Click on the **ELLIPSIS MENU (:)** to add an FX Bus Channel, and store and recall Mix settings.

FOR MORE INFORMATION: CHAPTER 6: MIX

2.4.7 Instrument Rack

Click the **INSTRUMENT RACK TOGGLE** in the **NAVIGATION BAR** to open and close the **INSTRUMENT RACK**.

Each loaded instrument appears in the Instrument Rack, located in the left side of the Opus UI. Each instrument has its own rack space that contains a number of essential controls, described below.



Rack Size and Closing Instruments

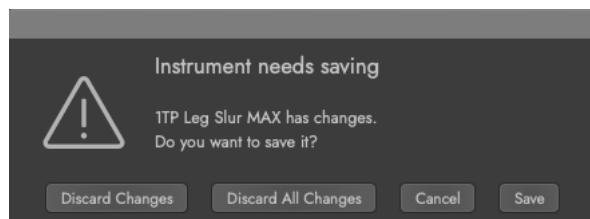
In the secondary **PALETTE MENU**, the **FULL RACK** is enabled by default, and provides an entire view of instrument controls. To free up space, and par back to essential controls, click the **HALF RACK**, represented by a stack of two rectangles.



Click on the **CLOSE BUTTON** to remove the selected instrument, and click on the **CLOSE ALL BUTTON** to remove all loaded instruments.

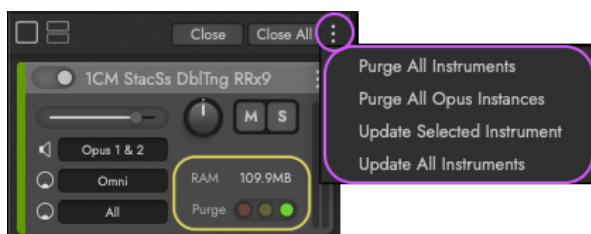
If no changes to the instrument(s) were made, the instrument(s) will be removed. If any of the instruments were modified, a dialog box that says 'Instrument needs saving' will appear.

Select **DISCARD CHANGES** to remove the current instrument and lose any unsaved changes. This option allows you to go through each instrument individually and determine whether to discard or save changes. Select **DISCARD ALL CHANGES** to remove all instruments and lose all unsaved changes. Select **SAVE** to retain any changes made to the instrument for later recall. Select **CANCEL** to close the dialog box and return to the Opus user interface.



Purging and Updating Instruments

The **INSTRUMENT RACK ELLIPSIS MENU (:)** contains options for purging and updating instruments.



Select the **PURGE ALL INSTRUMENTS OPTION**, or the **PURGE ALL OPUS INSTANCES OPTION**, to remove instruments from memory in the given instance, or across all instances of Opus, respectively.

When this option has been run, the **PURGE CONTROL** in the Instrument Rack will be colored Red, in the lower-third of the indicator, and the RAM usage reports 0 bytes.

As notes are played, samples are loaded instantly into memory in real-time, and the Purge State will reflect this by turning Yellow, occupying the middle-third of the indicator, and reporting the current RAM usage of the instrument.

Once an instrument is fully loaded into memory, the Purge State will be Green, occupy the upper-third of the indicator, and report the RAM used by the entire instrument.

Instrument Rack Controls

Each instrument has a dedicated rack space in the Instrument Rack that contains essential audio and MIDI controls for each loaded instrument, outlined below.

ON / OFF SWITCH is located in the top-left corner, allowing each instrument within the Instrument Rack to be turned on and off without deleting or unloading it entirely.

INSTRUMENT NAME OPTIONS appears along the center top.

INSTRUMENT ELLIPSIS OPTIONS (:) are located in the top-right corner. with options to 'Remove' the instrument from the Instrument Rack, and 'Reveal in Libraries', which snap to the Libraries mode of the Browser, highlighting the library from which the instrument originates from.



VOLUME SLIDER controls the selected instrument's volume. It's the same control present in the corresponding Instrument Channel fader in the Play page, and the Mix Console fader in the Mix page, which both follow the slider's movement.

PAN KNOB controls the selected instrument’s pan. It’s the same control present in the corresponding Master Instrument Channel’s pan knob in the Play page, and the Mix Console’s pan slider in the Mix page, which will both follow the knob movement.



SOLO / MUTE BUTTONS control the selected instrument’s solo and mute functions. It’s the same control present in the corresponding Master Instrument Channel’s solo and mute buttons in the Play page, and the Mix Console’s pan slider in the Mix page, which will both follow the on / off state of the buttons simultaneously.

AUDIO OUTPUT SELECTOR controls the selected instrument’s audio output. It’s the same control present in the corresponding Master Channel’s output selection in the Play page, and the Mix Console’s output selection the Mix page, which will both conform to the selection made.



MIDI CHANNEL SELECTOR allows the selection of various modes that control the way in which incoming MIDI is received by the selected instrument. The various MIDI Channel modes are described below.

MODE	DESCRIPTION
MULTI	This MIDI mode is useful for MIDI guitar controllers by allowing per-note control of Mod Wheel (CC1), Expression (CC11) and Pitch Bend by sending those MIDI messages only to the voices on the same MIDI channel as the controller event.
MPE	This MIDI mode stands for “Multi-Dimensional Polyphonic Expression” and is a MIDI standard developed by the MIDI Manufacturer Association to accommodate a new class of MIDI controllers like the Roli Keyboard, the Linnstrument, and the EigenHarp. In this mode, each note is sent to its own MIDI channel, cycling through an allocated block of channels that enables MIDI messages (restricted to Note On, Note Off, Channel Pressure, Pitch Bend and CC74) to be sent per-note, while global MIDI messages like CC7 (Volume) and CC64 (Sustain) are applied to all voices, regardless of the MIDI channel they were sent over.
OMNI	This MIDI mode sets an instrument to receive MIDI on all channels (1-16), with Mod Wheel (CC1), Expression (CC11) and Pitch Bend modulation applied to notes on all MIDI channels. This is useful when layering sounds intended to be played together, like when stacking separate string sections together to create a full string patch.
1-16	Set instruments to receive MIDI on discrete channels (1-16), with Mod Wheel (CC1), Expression (CC11) and Pitch Bend modulation applied to notes on that specific MIDI channel. This is useful when using Opus as a Multi-Timbral plugin, where individual control is needed.

MIDI PORT SELECTOR allows the selection of any active MIDI inputs that are enabled in the Settings menu under the Audio and MIDI Setup window.

2.4.8 Virtual Keyboard

Click the **VIRTUAL KEYBOARD TOGGLE** in the **NAVIGATION BAR** to open and close the **VIRTUAL KEYBOARD** that appears at the bottom of the Opus UI.



The sampled key range of the currently selected instrument appears as white keys in the Virtual Keyboard located at the bottom of the Opus UI. In addition, an instrument's blue keyswitches, and expression controls are located here.

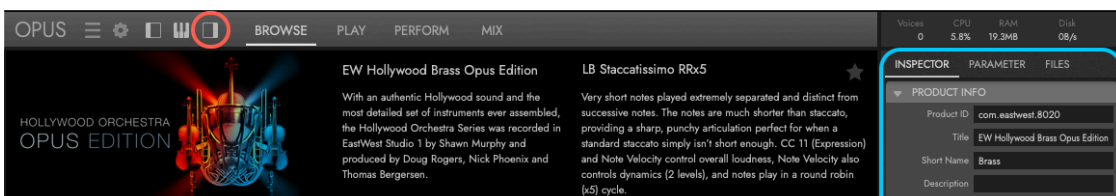


- **KEY RANGE** is the playable (sampled) range of keys (notes) that appear highlighted in white on the Virtual Keyboard. Keys appear gray where no samples are mapped. The MIDI note number appears at every octave on note C.
- **KEYSWITCHES** appear outside the key range of the selected instrument, highlighted in blue on the Virtual Keyboard. These blue-colored keys allow instant switching between articulations, and are highlighted yellow to indicate the current selection.
- **PITCH BEND** slider allows the pitch of an instrument to be raised or lowered plus (+) or minus (-) the designated amount programmed into the instrument.
- **MODULATION (CC #1)** slider controls the amount of modulation applied to an instrument between the values of 0 and 127. Modulation (CC 1) can be connected to control any parameter(s), but is commonly used to the cross-fade between dynamic layers and / or vibrato layers, control overall instrument volume, or switch between articulations (typically for instruments that contain MOD or MOD SPEED in their name).
- **EXPRESSION (CC #11)** slider controls the amount of expression applied to an instrument between the values of 0 and 127. Expression (CC 11) can be connected to control any parameter(s), but is commonly used to control overall instrument volume, or used to independently control dynamics when Modulation (CC 1) is being used to control vibrato depth.

2.4.9 Inspector

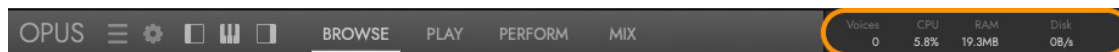
Click the **INSPECTOR TOGGLE** in the **NAVIGATION BAR** to open and close the **INSPECTOR PANEL**.

Each element of the Opus UI that is currently selected will populate the Inspector with relevant information and controls. It is located on the right side of the Opus UI.



2.4.10 System Usage

The **SYSTEM USAGE STATS** provide real-time data about the resources being used by your computer at any given moment.



VOICES displays how many simultaneous voices are active.

CPU displays the percentage of computer processing power being used.

RAM displays the current memory usage (RAM).

DISK displays the amount of disk usage being utilized to stream samples from the drive.

2.4.11 Menu Options

The **MAIN MENU OPTIONS** contains options related to opening, saving and loading instruments and performances.

The table below contains a list of all available options, shortcuts available when in stand-alone mode, and a description.



OPTIONS	SHORTCUTS *	DESCRIPTIONS
New Instrument	⌘ N	Brings up the 'Create Instrument' dialog, where a new Project and Template can be chosen to save it to.
New Performance		Brings up the 'Create Performance' dialog, where a new Project and Template can be chosen to save it to.
Open	⌘ O	Opens a search window, where an existing instrument can be searched for and loaded.
Save Instrument	⌘ S	Saves any changes made to the existing instrument.
Save Performance	⌘ ⌘ S	Saves any changes made to the existing performance.
Save Instrument As...		Opens a 'Save As' window, where an existing instrument can be saved as a new file in the selected directory.
Save Performance As...		Opens a 'Save As' window, where an existing performance can be saved as a new file in the selected directory.
Save Patch...		Saves a reference file for the selected instrument, where Player and Mixer parameters modified by the user can be saved.
Check Missing Files...		A command that checks an instrument for missing files.
Close Instrument	⌘ W	A command that closes the currently selected instrument.
Close All Instruments	⌘ ⌘ W	A command that closes all loaded instruments.
Recent Files		A sub-menu that shows the last 15 instrument and/or performances that have been loaded.
Quit		A command that quits the Opus software.

* Windows Users: instead of the Command (⌘) modifier key, use Control.

The **SETTINGS MENU OPTIONS** contains options related to Preferences, Audio and MIDI Setup, and a variety of other options described in detail below.

The table below contains a list of all available options, shortcuts available when in stand-alone mode, and a description.



OPTIONS	SHORTCUTS *	DESCRIPTIONS
Preferences	⌘ ,	A variety of preferences across a range of categories. For details, see section '2.3 Opus Preferences'.
Setup Audio and MIDI		Setup Audio and MIDI devices. For details, see section '2.2.2 Audio and MIDI Setup'.
Toggle Instrument Rack	⌘ L	Show and hide the Instrument Rack, which populates with loaded instruments. It appears as a panel on the left side of the Opus user interface.
Toggle Inspector	⌘ I	Show and hide the Inspector, which populates with properties depending on what's currently selected. It appears as a panel on the right side of the Opus user interface.
Toggle Keyboard	⌘ K	Show and hide the Virtual Keyboard, which appears on the bottom of the Opus user interface.
Detach Player	F4	This option will detach the Play page from the Opus user interface, offering flexibility in multi-monitor setups.
Full Screen		Enters Opus into a full screen mode.
Zoom		Offers varying zoom levels to accommodate different monitor resolutions and sizes: 50%, 75%, 100% (default), 150%, 200%.
About		Brings up a splash screen with information related to Opus, including the version number, build date, and software credits.

* Windows Users: instead of the Command (⌘) modifier key, use Control.

2.5 PLUGIN WALKTHROUGH

The following sections briefly walkthrough how to use Opus as a plugin inside a DAW (Digital Audio Workstation), also known as a Sequencer. Before using Opus as a plugin, please ensure it's compatible with the DAW (sequencer) you wish to use.

FOR MORE INFORMATION: 1.1.7 System Requirements

This section assumes you have gone through the initial setup, a series of prompts that appears the first time you launch Opus.

FOR MORE INFORMATION: 2.2 INITIAL SETUP

This section also assumes you familiar with the user interface, covered in detail in the section linked to below.

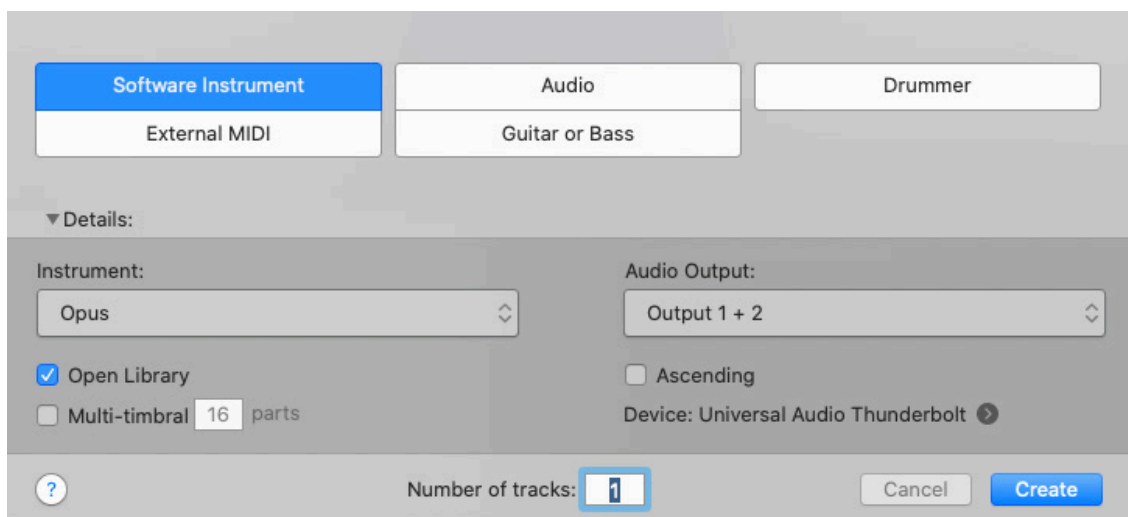
FOR MORE INFORMATION: 2.4 USER INTERFACE OVERVIEW

This walkthrough includes the basics of how to load a single instrument, or how to load multiple instruments into a multi-timbral setup, as well as how to shape dynamics and expression, use plugin automation, and more.

PLEASE NOTE! In the following sections, Apple's Logic Pro will be used as an example, but each DAW has a unique way of doing things, so please follow the manufacturer's instructions for using plugins in the DAW.

2.5.1 Load Opus as a Plugin

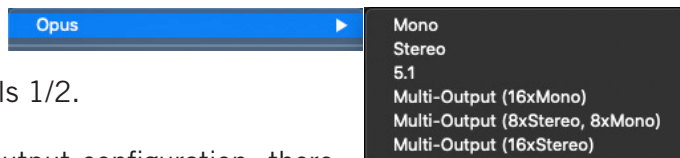
In Logic Pro, use the 'Add Tracks' window to select 'Software Instrument' track (default), then click in the Instrument drop-down menu. Mouse all the way down to 'AU Instruments', then mouse over to East West / Opus.



2.5.2 Selecting an Output Configuration

Opus can be loaded with several output configurations: Mono, Stereo, 5.1, Multi-Output (16xMono), Multi-Output (8xStereo, 8xMono), and Multi-Output (16xStereo).

In the Stereo output configuration, all instruments are output as a stereo pair on channels 1/2.



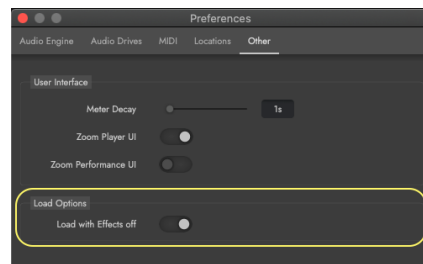
In the Multi-Output (16xStereo) output configuration, there are up to 16 stereo output pairs available to assign (1/2, 3/4, 5/6, etc).

FOR MORE INFORMATION: 2.5.5 Using Multi-Outputs

2.5.3 Loading With Effects Off

If you need to save CPU resources, or want to hold the reverb and cover it with plugins in your DAW, this option is for you.

To find this option, click on the Settings Menu, then click Preferences. Select the Other tab in the Preferences window, and in the 'Load Options' area, turn the 'Load with Effects off' switch on.



Using this option eliminates the need to disable the on board Opus convolution reverb that loads up with each instrument by default.

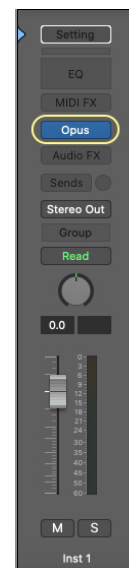
Used in combination with multi-outputs, flexibly route microphones to separate channels in your DAW, and send varying amounts of signal to the reverb setup on an FX Bus as described further below.

2.5.4 Loading an Instrument

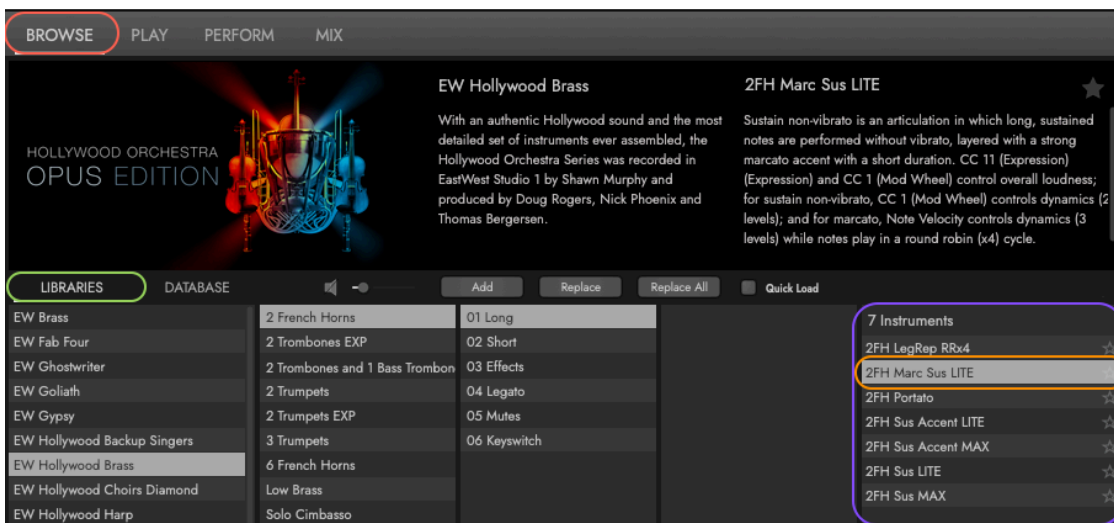
To begin, click on the **OPUS INSTRUMENT SLOT** in Logic Pro to bring up the Opus plugin window.

In Opus, go to the Browse page by clicking on the **BROWSE PAGE SELECTOR**, located in the Navigation Bar that runs along the top of Opus.

In **LIBRARIES MODE**, in the left column, select one of the Hollywood Orchestra Opus Edition libraries. We'll choose EW Hollywood Brass from the list, then select 2 French Horns in the column to the right, and select the 01 Long folder in the next column to the right. The **RESULTS LIST COLUMN** shows the instrument in the selected path.



Double-click on the **2FH MARC SUS LITE INSTRUMENT** to load it.



2.5.5 Using Multi-Outputs

Multi-Outputs can be used to route audio to achieve a variety of mix setups. In this example, multi-outputs are used to route each microphone position to its own channel.

In Opus, with an instrument loaded, go to the Mix page by clicking on the Mix Page Selector, located in the Navigation Bar that runs along the top of Opus.

Click the **SUB MIXER BUTTON** to open and close the Sub Mixer channels. In the **OUTPUT SELECTOR** assign each microphone to output on their own stereo pair (3/4, 5/6, 7/8, etc).

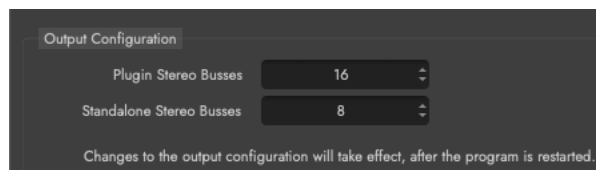
Click the **MIC LOAD BUTTON** on to load the microphone positions you wish to use.



IMPORTANT! Set the number of Plugin Stereo Busses in the Output Configuration area of the Preferences > Audio Engine.

Adding Multi-Outputs in Logic Pro

In Logic Pro, plugins loaded as Multi-Output plugins have buttons to ADD (+) and DELETE (-) auxiliary channel strips linked to the multi-output instrument.



Click the ADD (+) button to create 5 output channels, each of which is automatically assigned to the next available stereo output pair (3/4, 5/6, 7/8, etc). Name each channel its respective microphone position: Close, Mid, Main, Surround, and Vintage.

Now play a note and check the meters to ensure each instrument is routed correctly.



Setting Up an Reverb Effects Bus

Continuing with the example above, with microphone positions routed to their own channels, you can send varying amounts of signal from each microphone to the Reverb Effects Bus.

In Logic Pro's Mixer area, go to Options, then click 'Create New Auxiliary Channel Strip' (or press Control + N). Click in the Audio FX area of the newly created channel, and load a reverb plugin from the menu. In this example we'll be using EastWest's Spaces II reverb.

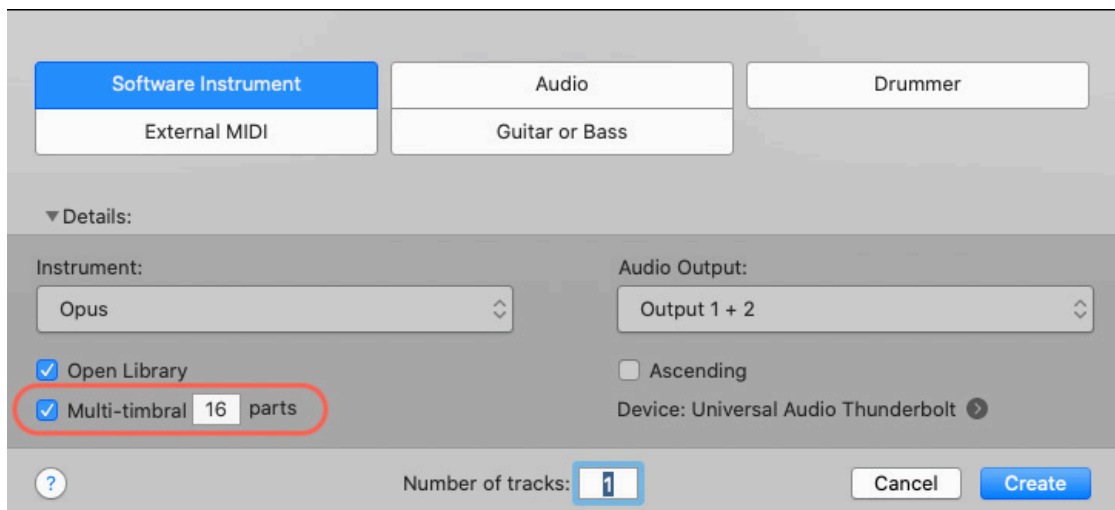
Click on the Close channel, hold shift, then click on Vintage channel, selecting all the multi-output channels. Then, click in the Sends area of any of the selected channels, and assign them to 'Bus 1'. Now, in the reverb channel, click in the Input area and assign it to 'Bus 1' (as shown in the example above).

2.5.6 Using Opus as a Multi-Timbral Plugin

When used as a multi-timbral plugin, you can individually control up to 16 instruments within a single instance of Opus.

In Logic Pro, use the ‘Add Tracks’ window to select ‘Software Instrument’ track (default), then click in the Instrument drop-down menu. Mouse all the way down to ‘AU Instruments’, then mouse over to East West / Opus.

Check the the Multi-timbral box and type in the number of parts.



MIDI Channel Assignment Mode

When using Opus as a multi-timbral plugin, be sure to set the MIDI Channel Assignment Mode to Auto Increment, which will assign each newly loaded instrument to the next available MIDI channel (1, 2, 3, etc).

Click on the Settings Menu, then Preferences. In the Preferences window, click the MIDI Preferences tab to find the MIDI Channel Assignment Mode area. Click the Auto Increment switch to enable it.



Load Multiple Instruments At Once

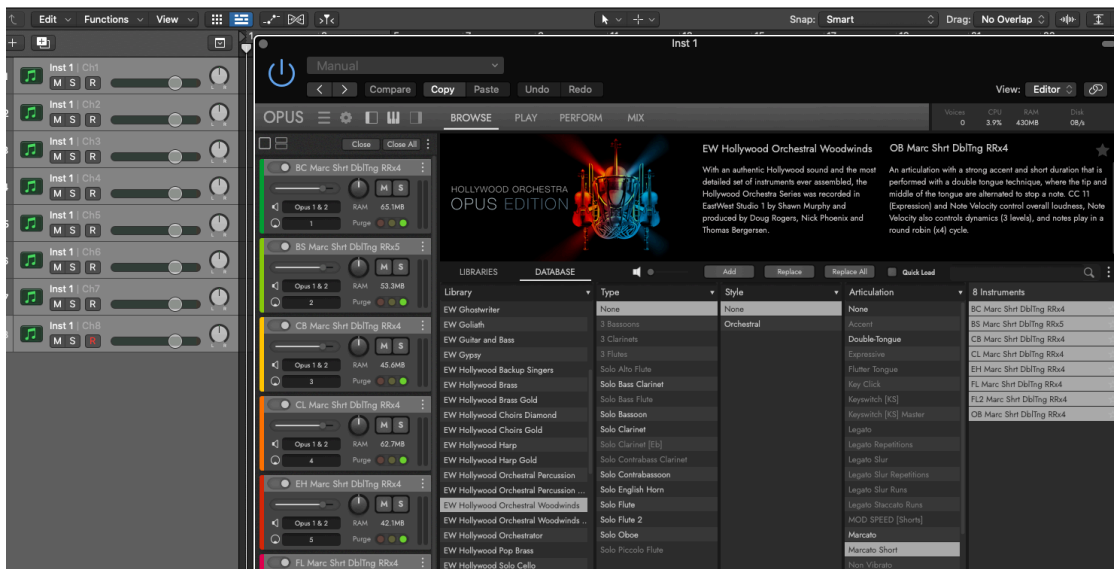
In Opus, go to the In Browse page by clicking on the Browse Page Selector, located in the Navigation Bar that runs along the top of Opus.

In Database mode, we’ll narrow down all the short marcatos in Hollywood Orchestral Woodwinds Opus Edition by selecting several attribute tags from a few categories.

Using the Database mode of the Browse page, change the first column on the left from ‘Category’ to ‘Library’ by clicking in the category header area. Keep the next column, ‘Type’, but swap out ‘Style’, or ‘Timbre’ for ‘Articulations’. It should look like the example below.

With these categories selected, choose ‘EW Hollywood Orchestral Woodwinds’ from the Library category, and ‘Marcato Short’ from the Articulations category.

Click on the first instrument in the Results List to select it, then click on the last instrument while holding the shift key to select all the instruments. Next, click and drag the selected instruments from the Results List to the Instrument Rack area to load them all at once.

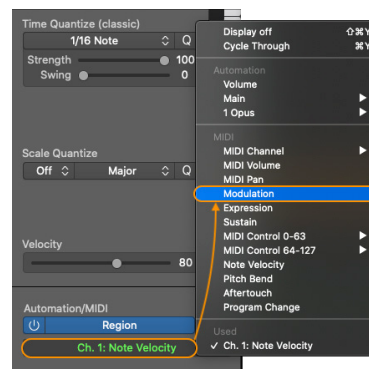


2.5.7 Shaping Dynamics and Expression

Learning to shape musical lines the same way an instrumentalist does will give your work a more natural musicality. It is possible to shape overall loudness and/or dynamics using MIDI CCs by either playing them on your MIDI controller and recording them into your DAW in real-time, or by drawing envelopes directly into a DAWs controller lanes.

Real-time control over the shape of an instrumental line is usually more efficient than drawing an envelope, and often achieves more convincing results. MIDI controllers have programmable controls that can be set to send specific MIDI CC messages, with sliders generally considered to be best suited for this task.

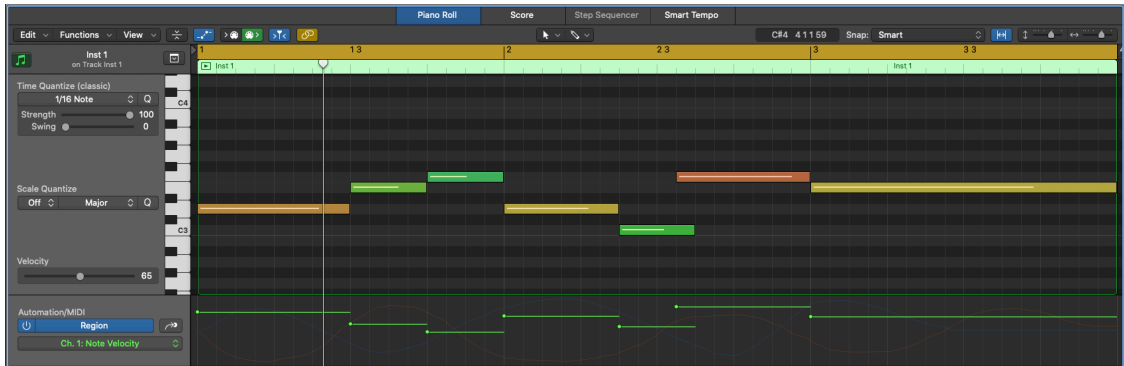
This process can also be done in a two step process, if desired, by first recording the MIDI notes, and then recording the MIDI CCs automation in a second pass, depending on the musical line being written, or preferences of the composer.



Note Velocity is also used to control overall loudness and/or dynamics, and is measured by how strongly a player strikes the MIDI controller's keys or pads. Typically, Note Velocity is used for short articulations, since it cannot be changed mid-note, while MIDI CCs are used on longer, sustained instruments because they can affect overall loudness and/or dynamics in the middle of a note or phrase.

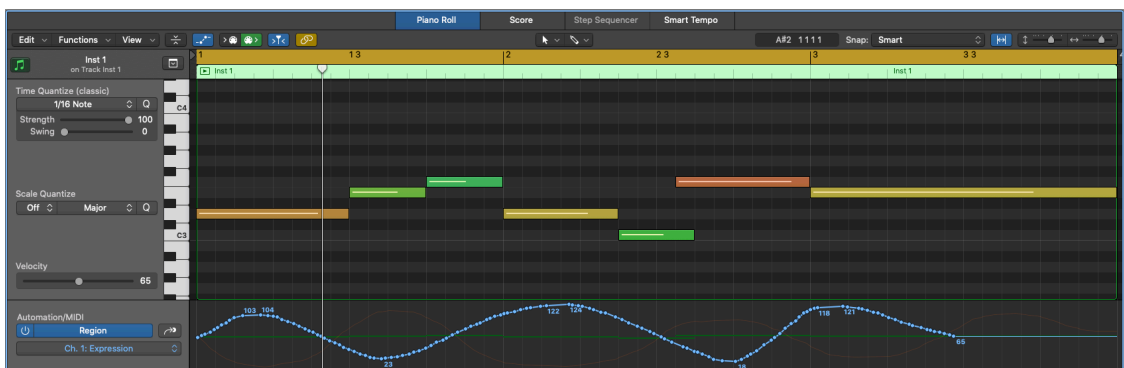
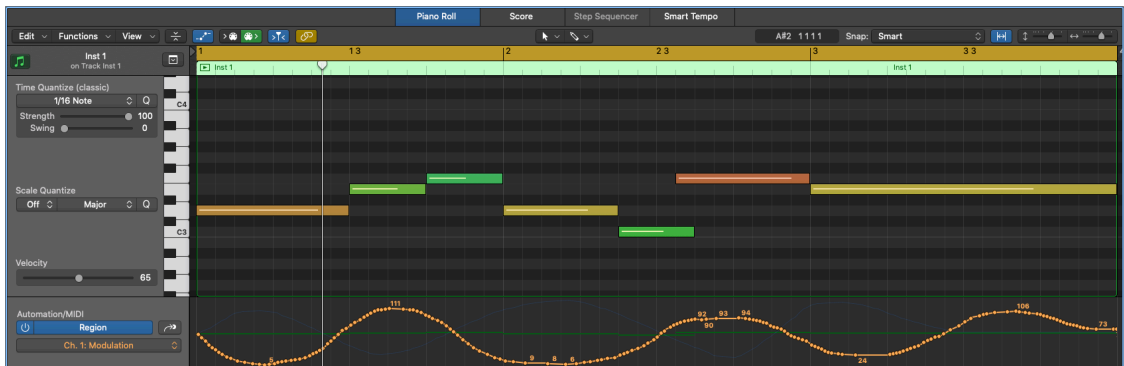
Note Velocity

In the example depicted below using Apple’s Logic Pro X, Note Velocities are represented by a single value (node) at the start of each MIDI note, with a line extending through the rest of its duration (because it cannot be changed mid-note).



Mod Wheel (CC 1) and Expression (CC 11)

In the example depicted below, the automation for Modulation Wheel and Expression is shown, represented by a string of values. This is because both the Mod Wheel and Expression are MIDI CCs (continuous controllers), with the ability to control an instrument mid-note, or mid-phrase.



FOR MORE INFORMATION:

3.2.5 How to Produce Realistic Performances

CHAPTER 3

BROWSE

3.1 OVERVIEW OF THE BROWSE PAGE

- 3.1.1 Description Box
- 3.1.2 Browse Modes
- 3.1.3 Database Categories
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- 3.1.5 Loading Instruments
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- 3.7.1 Instrument Sections and Ensembles
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- 3.8.2 Instrument Categories and Types

3.9 HOLLYWOOD ORCHESTRAL WOODWINDS

- 3.9.1 Solo Instruments and Sections
- 3.9.2 Instrument Categories and Types

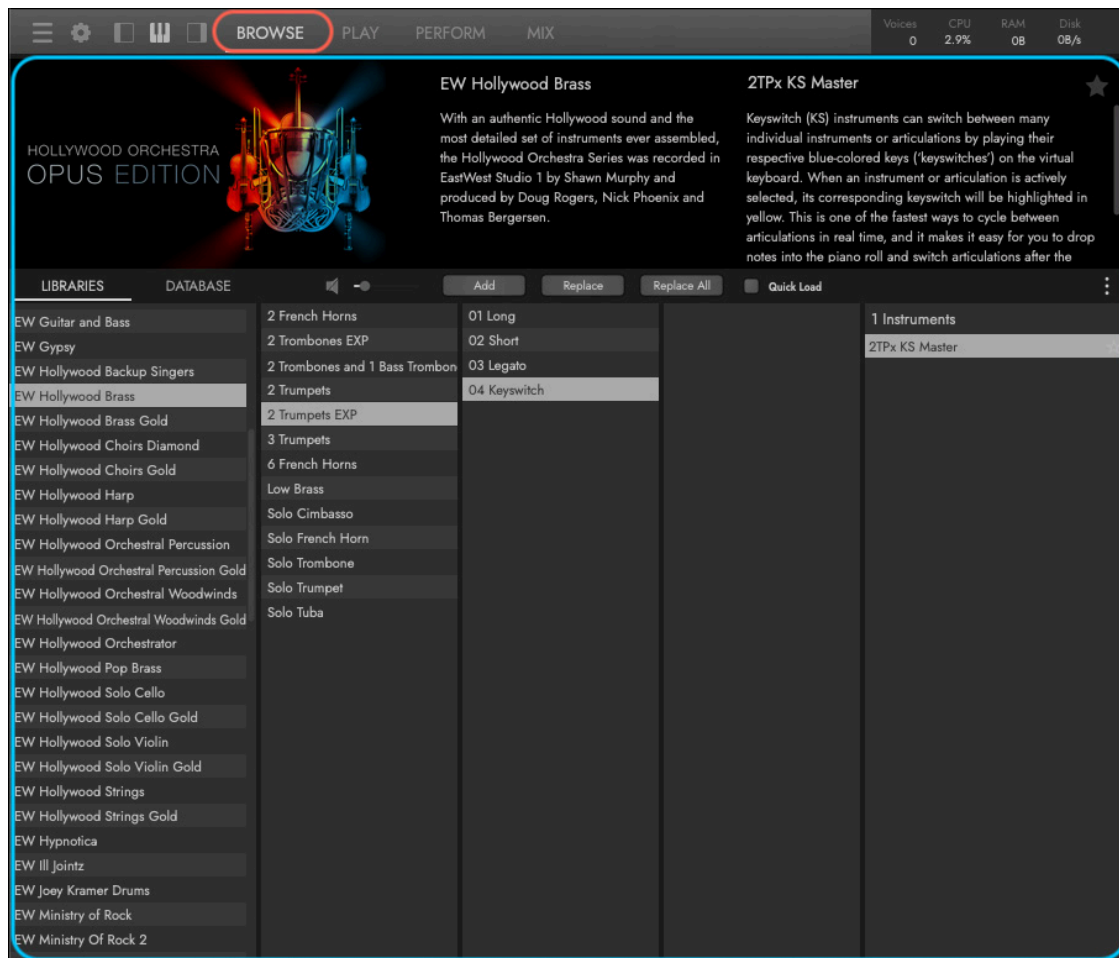
3.10 HOLLYWOOD ORCHESTRAL PERCUSSION

- 3.10.1 Solo Instruments and Kits
- 3.10.2 Instrument Categories and Types

3.1 OVERVIEW OF THE BROWSE PAGE

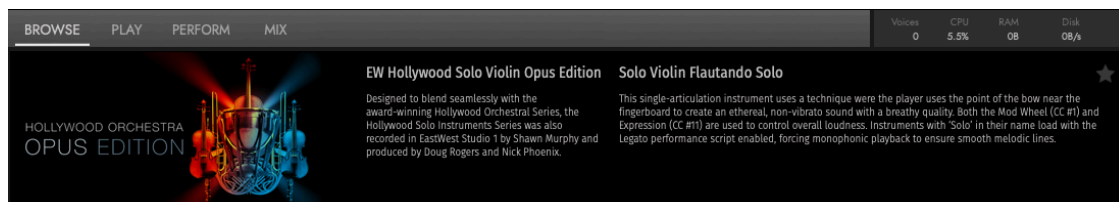
Click the **BROWSE PAGE SELECTOR** in the **NAVIGATION BAR** to switch the **BROWSE PAGE**.

This is where you can search, audition, load, or download any of the tens of thousands of available instruments.



3.1.1 Description Box

Just below the Navigation Bar is the **DESCRIPTION BOX**, which provides information about the currently selected library and instrument. Artwork for the selected library appears on the left, with the **LIBRARY DESCRIPTION** in the middle, and the **INSTRUMENT DESCRIPTION** on the right. In the Hollywood Orchestra, descriptions focus on articulations, performance scripts, and controllers.

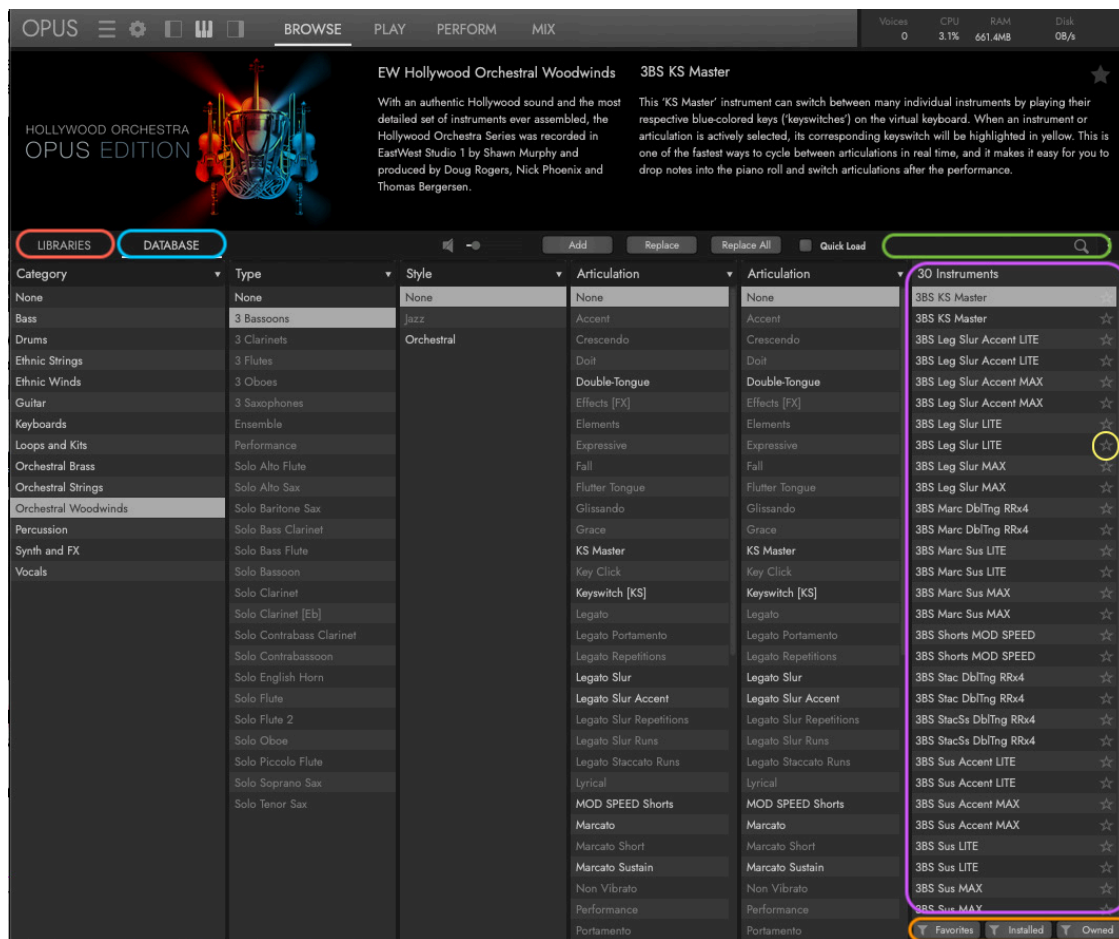


3.1.2 Browse Modes

Instruments can be browsed for in a few different ways. To search for instruments according to the library or collection they were originally released in, click on **LIBRARIES MODE**. The currently installed libraries populate the left column, where the contents can be browsed through based on the product’s original folder structure.

To narrow down a selection of instruments by selecting from a variety of attributes across a range of categories, click on **DATABASE MODE**.

To search for instruments based on key words, type them into the **SEARCH BAR** field located near the top-right corner to query results.



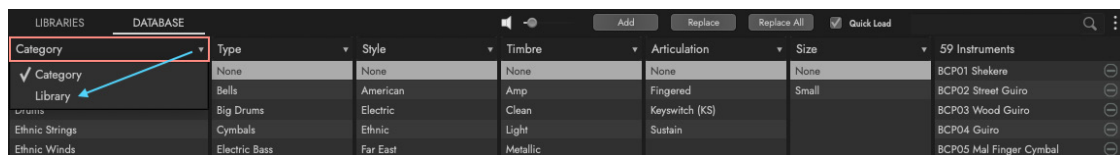
The **RESULTS LIST COLUMN** is located on the right. It displays the number of instruments that match the selected criteria at the top, and populates with the instruments below. To tag an instrument as a **FAVORITE TAG**, click on the star icon to the right of the Instrument name in the Results List. The star icon will light up to indicate it has been tagged.

At the bottom of the Results List column are a set of **FILTER BUTTONS** that allow you to further narrow the results to only show instruments that are tagged as a Favorite, or only those that are currently Installed and/or Owned (licensed) on the computer.

3.1.3 Database Categories

The column on the left is the highest level of hierarchy in the database. Only a single entry can be selected from this column at a given time, and it affects all other categories, removing the visible results from each.

This column defaults to **CATEGORY**. It contains entries like Drums, Orchestral Woodwinds, Ethnic Strings, and Loops & Kits. Alternatively, **LIBRARY** can be chosen for this column by clicking on the column header to reveal a drop-down menu, allowing you to narrow results from specific libraries with attributes like style, timbre and articulation.

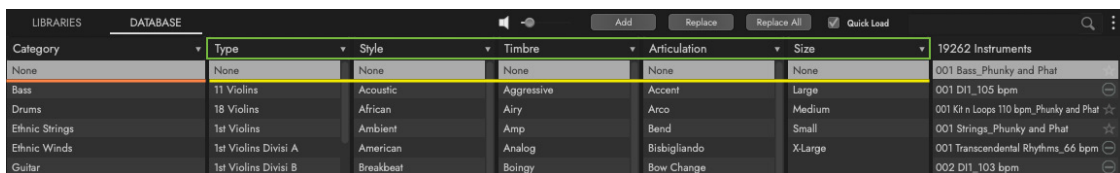


The middle columns are of a secondary level of hierarchy in the database. Selecting an entry in any of these columns will affect all other secondary columns, graying out entries that do not contain instruments with the selected attribute (and will thus display an empty Results List if selected).

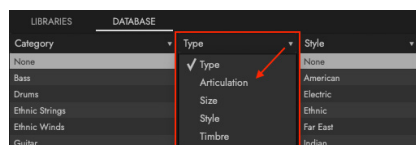
This allows you to narrow the search down by finding instruments that match all the selected attributes. For instance, selecting Orchestral Strings (Category), 1st Violins (Type), and Legato (Articulations), will populate the Results List with all types of legato (slur, portamento, and bow change), but if you also select Bow Change (Articulations) the results will narrow further to only bow change legato.

These columns default to **TYPE**, a subset of the main category that contains entries like Solo Flute, Dulcimer, and Drum Loops, **STYLE**, that pertains to musical genre and/or production style, **TIMBRE**, that describe the quality or tone of a sound, **ARTICULATION**, which describes the performance techniques employed, and **SIZE**, that is related to the number of samples an instrument contains (and the amount of memory it uses).

To reset selections across all columns, click **NONE** at the top of the Category column. To reset selections in any other column (and only that column), click **NONE** at the top of the specified column.



PLEASE NOTE! The number of middle columns is dependant on the window size of Opus. If you're unable to expand the window to reveal all available categories, click on any of the column headers to reveal a drop-down menu where you can select any of the available categories.



3.1.4 Sound Previews and Quick Load

A variety of tools are available to help speed up the instrument selection process, including playback of an audio example, and an instant loading process.



The **SOUND PREVIEW OPTION** allows you to hear an audio example by selecting an instrument in the Results List, without having to load it. Click on the speaker icon to turn this feature on and off, and use the volume slider to set the desired level. While this preview only represents a single note of a single dynamic layer, it is a useful tool to aid in the selection process.

The **QUICK LOAD ENABLE** offers a near instant loading process, by loading an instrument in a purged state (nothing loaded into memory). As you play notes, samples are instantly loaded into memory in real-time. To enable this feature, click on the box next to Quick Load to leave a check-mark.

3.1.5 Loading Instruments

Instruments can be loaded in various ways either by using the buttons shown below, or by using keyboard shortcuts in conjunction with mouse-clicks.

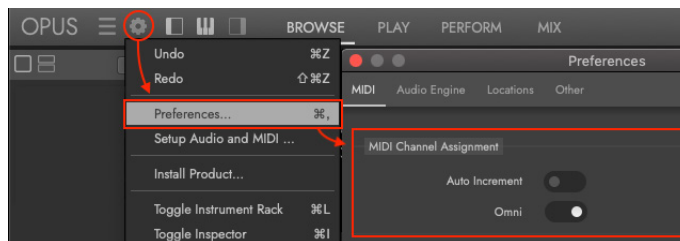


To add one or more instruments, click on an instrument from the Results List, and then click the **ADD BUTTON**. Repeat this process to continue loading instruments. Alternatively, hold the [shift] key while you double-click on an instrument to add it to the current selection.

To replace the currently selected instrument, click on an instrument from the Results List, and then click the **REPLACE BUTTON**. To load a different instrument in place of the one you just loaded, repeat this process. Alternatively, simply double-click on an instrument to replace the current selection.

To replace all loaded instruments with a single instrument, first select an instrument from the Results List by clicking on it, then click the **REPLACE ALL BUTTON**. Alternatively, hold the [command] key while you double-click on an instrument to replace all loaded instruments with the current one.

PLEASE NOTE! When loading multiple instruments, make sure the desired MIDI Channel Assignment mode is set. Click on the Settings Menu, click on Preferences, then click on the MIDI tab. Now select either Auto Increment, which will load each new instrument to the subsequent MIDI channel (1, 2, 3, etc), or OMNI, which will load each instrument to receive MIDI on all channels (1-16).



3.1.6 Individual Instrument Downloads

Instruments can now be downloaded individually, with no need to wait for an entire library to finish downloading. Click on the Settings Menu and go to Preferences, then Locations.

On Demand Download Directory

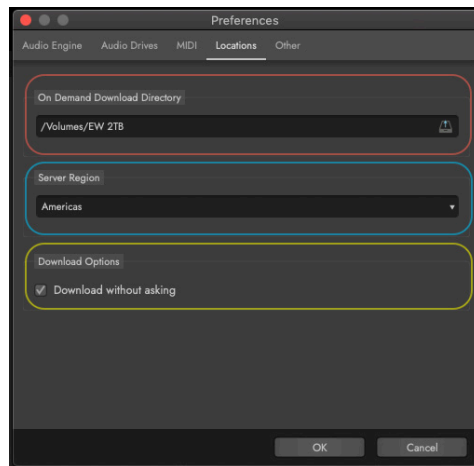
In the **ON DEMAND DOWNLOAD DIRECTORY PATH**, click on the disk icon on the right to open a search window, where you can select a location to download instruments to, then click 'Open'.

Server Region

Select the **SERVER REGION OPTION** closest to you: Americas, Europe, or Asia Pacific.

Download Options

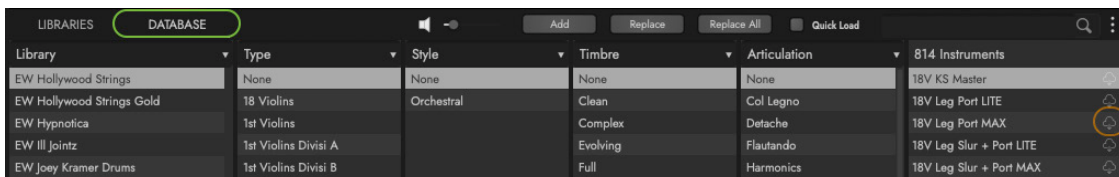
Check the **DOWNLOAD OPTIONS BOX** to automatically download instruments not yet downloaded, without asking you each time.



Downloading an Individual Instrument

In the Browse page, click on the **DATABASE MODE** and select attributes from the various categories to narrow down an instrument selection.

Instruments populate the Results List, with status icons to their right. Instruments with the **ON-DEMAND DOWNLOAD ICON** indicates that an instrument is available for download.

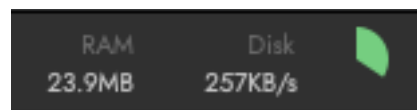
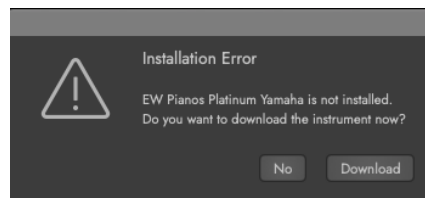


Click once on the icon, or double-click the instrument, and a dialog will appear that asks if you'd like to download the instrument now. Click 'Download' to begin.

PLEASE NOTE: If you want to download instruments without a message asking you each time, check the 'Download without asking' option in the 'Download Options' described above.

The instrument will immediately load and begin downloading instruments and samples into the 'On Demand Download Directory' set above.

Track the download progress in the top-right corner of the Opus UI, where a green circle will form when the download has completed.



3.2 THE HOLLYWOOD ORCHESTRA OPUS EDITION

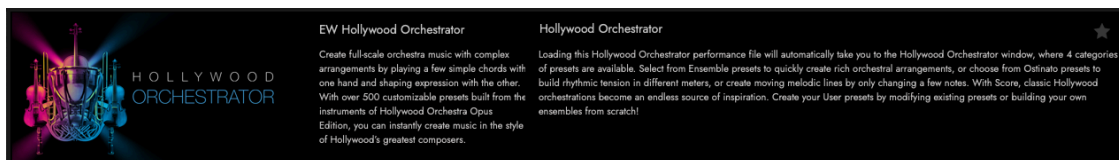
The Hollywood Orchestra Opus Edition includes 7 libraries (listed below). Each library was recorded in EastWest’s Studio 1, giving them the sound of a large studio orchestra. Their selection of instruments, sections, and ensembles can be heard in both traditional and modern orchestras.

- Hollywood Harp
- Hollywood Solo Violin
- Hollywood Solo Cello
- Hollywood Orchestra Strings [**NEW:** 18 Violins and Ensemble]
- Hollywood Orchestra Brass [**NEW:** 2 Trumpets and 2 Trombones]
- Hollywood Orchestra Woodwinds [**NEW:** 3 Flutes, 3 Clarinets, 3 Bassoons]
- Hollywood Orchestra Percussion

The extensive collection of libraries includes approximately 130 GB of newly recorded expansion content including a large string section, an orchestral ensemble, 2 brass pairings, and 3 woodwind sections. Altogether adding up to nearly 950 GB of content.

3.2.1 Hollywood Orchestrator

The Hollywood Orchestra Opus Edition features the Hollywood Orchestrator, which is a scoring engine that allows you to create full-scale orchestra music with complex arrangements by playing a few simple chords with one hand and shaping expression with the other. With up to 16 instruments playing simultaneously across all orchestral sections, using the instruments in this collection, you have the power of the entire orchestra at your fingertips.

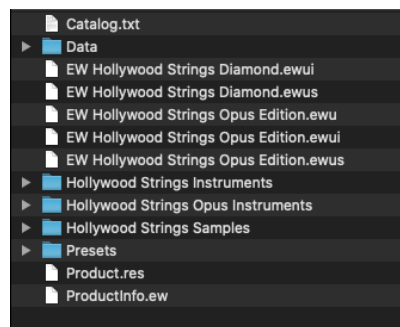


3.2.2 Compatibility Notes For Existing Play Users

For existing users, the Hollywood Orchestra Opus Edition installs into the existing library folder of each of the 7 libraries included in this collection. It does not affect the existing Play edition, however, as the original instrument and sample folders are retained.

Included in the installation of each library is a new Opus instruments folder (Hollywood Orchestra Opus Instruments), a few component files Opus requires, new expansion content (for Strings, Brass, and Woodwinds) that is installed directly into the existing Samples folder, and a Presets folder for the different Mood presets that can be changed in the Player Window between Classic (default), Soft and Epic.

FOR MORE INFORMATION: 4.2.1 Moods



The samples folders are referenced by both the Play and Opus edition Instruments, however, the new expansion content is only available in the Opus edition Instruments.

Simultaneous Use of Opus and Play Editions

Even though the library folder is shared between the Play and Opus editions, they have separate Instruments and are used as separate products.

- The Hollywood Orchestra Opus Edition can only be used in Opus, just as the Play edition can only be used in Play.
- Opus and Play can be used simultaneously, so projects saved with the Play edition of Hollywood Orchestra can be used in conjunction with the Opus edition.

This makes the transition to Opus as smooth as possible for users that wish to convert existing projects using the Play edition to Opus. Unfortunately, there's no way to simply convert your projects without building them in Opus, but being able to run Play and Opus side by side can aide in the process.

3.2.3 Comparing Opus and Play Edition Instruments

The instruments in the Opus edition have been vastly simplified from the Play edition, and the use of abbreviations in the instrument naming conventions has been significantly reduced.

Instrument Descriptions

Instead of relying on naming conventions, instrument descriptions are available for each instrument in the Description Box located at the top of the Browse page.

These descriptions provide a detailed breakdown of the articulations used in each instrument, how many dynamic, vibrato and articulation layers they contain, and how to control them in terms of MIDI CCs and performance scripts.



FOR MORE INFORMATION: 3.1.1 Description Box

MAX and LITE Instruments

Since the release of the Play edition, computer specifications have come a long way in terms of the cost, CPU performance, capacity of memory (RAM), and drive speed (SSDs).

As a result, the number of instrument variations dedicated to help improve performance on lower specification system has been reduced. Gone are separate 'Powerful System' folders and instruments, replaced by just two variations (where available): LITE and MAX.

As the name suggests, instruments denoted with MAX contain the most available dynamic and vibrato layers. Typically, the LITE instruments contain about half the num-

ber of dynamic and vibrato layers. Refer to the instrument descriptions to learn exactly how many layers are contained in a particular instrument.

Other Discontinued Abbreviations

Abbreviations like Ni (Niente) have been removed from instrument naming, because all instruments now use CC 11 (Expression) to fade to silence as a standard across the entire library.

Likewise, the KSFP (Keyswitch Finger Position) abbreviation is no longer necessary, since instruments no longer use Keyswitches (KS) to switch between the 4 Finger Positions. Instead, the Performance section of the Player Window populates with Finger Position selectors only when an instrument is loaded (and selected) that contains it. Also, MIDI CC 70 can still be used to switch Finger Positions.

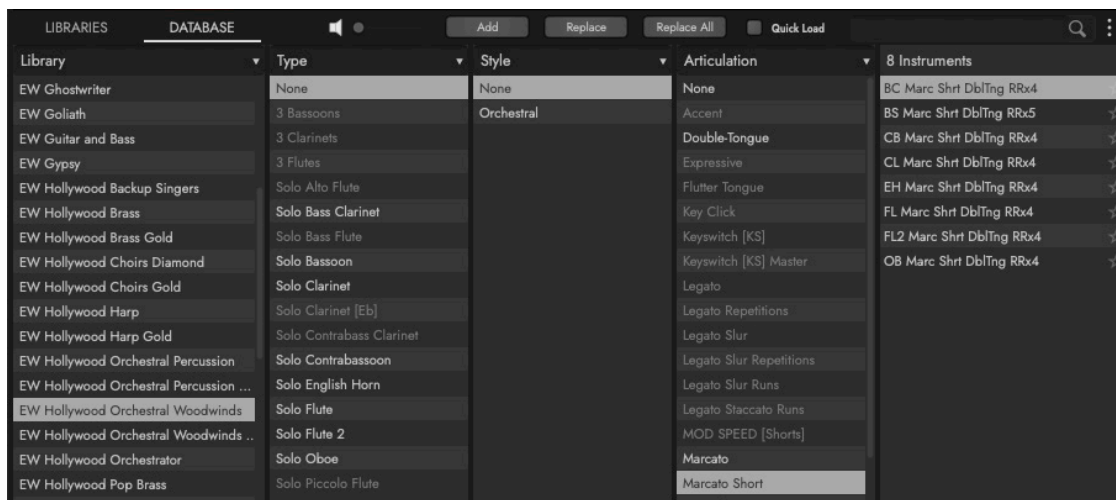
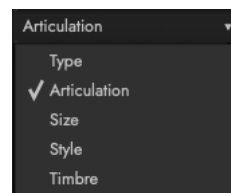
3.2.4 Tips When Using the Instrument Database

The Database mode of the Browse page is very useful to search for instruments based on specific criteria. By selecting attributes across a variety of categories, you can narrow down the instruments that appear in the Results List (far-right column).

Switching Categories

The column headers at the top of each category can be used to switch categories. When building templates you may want to find all the short marcatos in Hollywood Orchestral Woodwinds.

Click in the category header of Category (far-left column) and select Library, which lists all the libraries in EastWest’s catalog. In the list, select EW Hollywood Orchestral Woodwinds. Next, swap in the Articulations category by clicking in one of the middle column’s category headers and selecting it. Then, click on the desired articulation type from the list. You can quickly narrow down whatever your template calls for based on a variety of attribute categories (style, timbre, articulations, and more).



FOR MORE INFORMATION: 3.1.2 Browse Modes

3.2.5 How to Produce Realistic Performances

Using MIDI Continuous Controllers (CCs) to shape volume, dynamics, expression, vibrato and more, is essential to achieving realistic performances.

Instruments in the Hollywood Orchestra Opus Edition use MIDI CCs to cross-fade between samples of varying dynamics and vibrato amounts, giving the composer much more continuous control over both the loudness and the timbre.

The basic idea of a cross-fade is that 2 or more samples of the same instrument—but that differ in some aspect, such as loudness, timbre, and/or vibrato—are played back simultaneously. And the mix of how much of each sample makes it into the audio output is controlled by MIDI CCs.

Commonly used MIDI CCs include:

- Mod Wheel (CC 1)
- Volume (CC 7)
- Expression (CC 11)

The Mod Wheel (CC 1)

The Mod Wheel (CC 1) implementation depends on the library and instrument type. In instruments that feature independent control of both dynamics and vibrato (Hollywood Orchestra Opus Edition Strings and Woodwinds), CC 11 (Expression) controls overall loudness and dynamics, while CC 1 (Mod Wheel) controls vibrato amount. In other cases, such as the LITE instruments in Hollywood Orchestra Opus Edition Strings, CC 11 (Expression) controls overall loudness, while CC 1 (Mod Wheel) handles both dynamics and vibrato simultaneously. In yet other cases, instruments with ‘MOD’ in their name use the controller to switch between articulations.

Volume (CC7) and Expression (CC 11)

Both of these MIDI CCs work on any and all instruments, however Volume should be used to set a loudness level relative to other instruments, while Expression should be used to shape the continually changing dynamics and expressiveness of each instrument individually.

Note Velocity

Note Velocity affects loudness (and dynamics) for short instruments like Staccato, Staccatissimo, and Marcato. Note Velocity measures the speed at which you strike a key, on a scale of 1 (minimum) to 127 (maximum). On the lower end of the velocity range, notes will playback quieter (softer dynamics), and on the higher end of the velocity range, notes will playback louder (loud dynamics).

PLEASE NOTE: If there’s any doubt as to how an instrument works, check out the Description Box of the Browse page for a detailed description of the articulations used in each instrument, and how to control them in terms of MIDI CCs.

3.3 HOLLYWOOD ORCHESTRATOR

Create full-scale orchestra music with complex arrangements by playing a few simple chords with one hand and shaping expression with the other. With up to 16 instruments playing simultaneously across all orchestral sections, you have the power of the entire orchestra at your fingertips.

PLEASE NOTE: In order to ensure the timing of the patterns in Hollywood Orchestrator are accurate, there is a 40 millisecond (ms) input delay. When used in an existing arrangement, we recommend using delay compensation on the Hollywood Orchestrator track in your DAW to avoid sync issues.

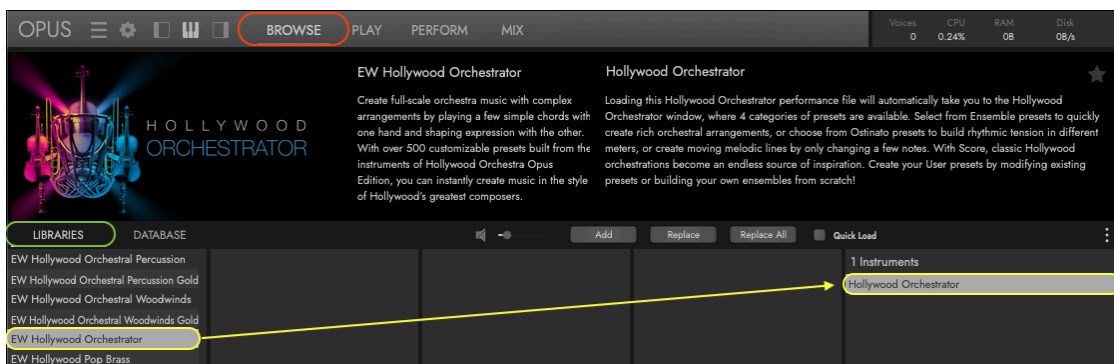
3.3.1 How to Load Hollywood Orchestrator

In order to access the 500 presets built from the instruments of Hollywood Orchestra Opus Edition, you must first load the 'Hollywood Orchestrator' performance file, which will load the Hollywood Orchestrator into the Perform page.

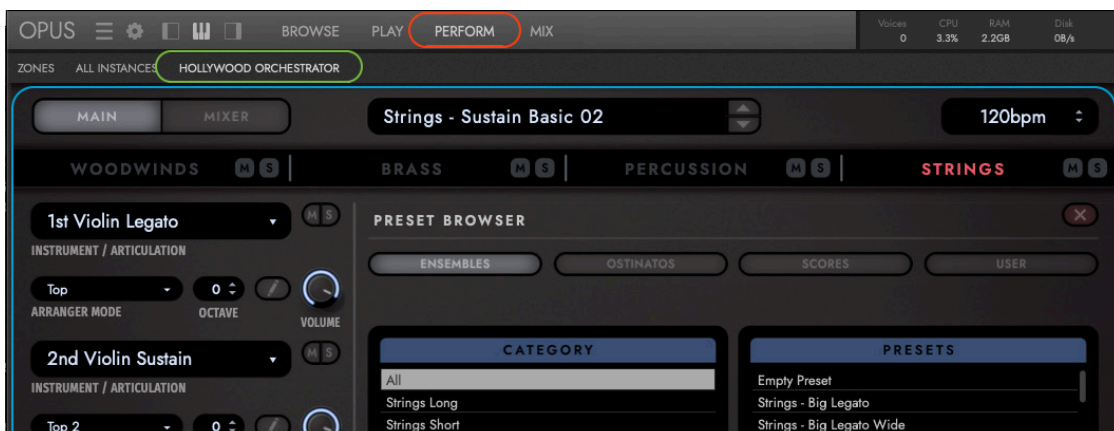
Click on the **BROWSE PAGE SELECTOR** in the **NAVIGATION BAR**.

In **LIBRARIES MODE**, on the left column, find and click on **EW HOLLYWOOD ORCHESTRATOR LIBRARY**.

The **EW HOLLYWOOD ORCHESTRATOR PERFORMANCE** file appears in the **RESULTS LIST** in the right column. Double-click to load it.



The **HOLLYWOOD ORCHESTRATOR WINDOW** will automatically appear in the **PERFORM PAGE**.



3.3.2 How To Load Presets

Click on the **PRESET BROWSER BUTTON** (which also serves to display the currently loaded preset).

This reveals the **PRESET BROWSER AREA**, there are more than 500 presets to get you started.

Here, each of the **PRESET TYPES BUTTONS** will populate the Category and Presets columns with its respective category: Ensembles, Ostinatos and Scores, and User (for your own presets). First, select a Preset Types, then select a Category in the left column, and then double-click on one of the Presets from the list to load it.



Preset Types

The types of presets range from basic ensembles to full fledged scores playing rhythmic and melodic variation.

- **Ensembles** are basic combinations of instruments, mostly using the same articulations. If you want to lay down a bed of sustain strings or quickly play staccato chords with the woodwind section, these presets are your way to go. They are subcategorized by instrumentation and articulation. Within a subcategory you will find several presets, that use the same instruments and articulations, but are arranged differently. Ensemble presets only use the note selection, not the step sequencing.

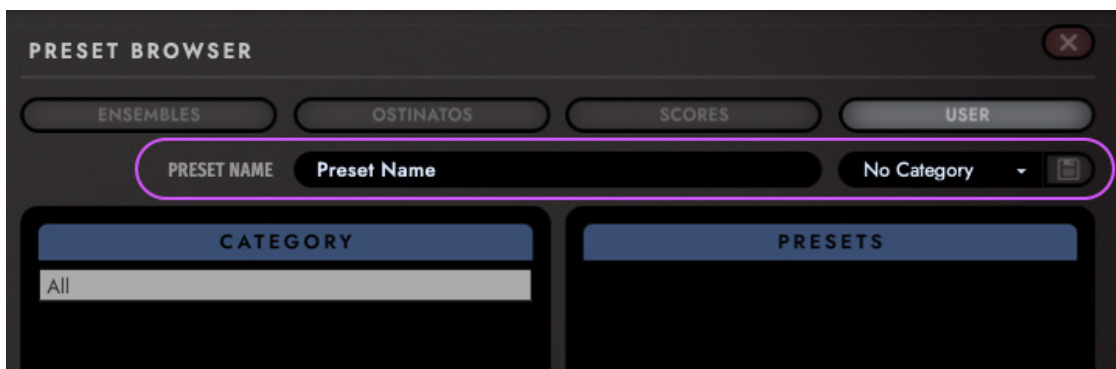
- **Ostinatos** are an extended version of the Ensembles. You will find lots of different Ensembles playing basic bread and butter rhythms. They are subcategorized by the feel of the rhythm (i.e. Quarter Notes or Triplets).
- **Scores** bring the magic of Hollywood to your doorstep. They contain complex orchestrations with both rhythmic and melodic variation at a length of up to four bars, that sound like that blockbuster you have always wanted to score. These presets are subcategorized by different moods and styles, like Hollywood Action, Elves World, Family Adventure, Symphonic and many more.
- **User** presets allow you to categorize and save your own presets. Go to the User category within the preset browser, where you can create your own subcategories and save user customized presets into them.

3.3.3 How to Save Your Own Presets

Click on the “User” button in the Preset Browser area of the Hollywood Orchestrator.

How to Save a User Preset

1. Click on the “User” button in the Preset Browser area of the Hollywood Orchestrator.
2. In the “Preset Name” field, type a name for the preset you wish to save.
3. Next, click in the Category drop-down menu and choose a category. If you wish to create your own category, see the instructions below.
4. Last, click the save icon to the right of the Category selector to save the presets.



How to Save a User Category

1. If you wish to create your own category, simply click inside the “Category Name” field and type a name for the category you wish to save.
2. Then click the “Add” button to add the new category to the list. To delete a category, highlight an entry in the Category column, then click the “Del” (Delete) button.



FOR MORE INFORMATION:

5.2 HOLLYWOOD ORCHESTRATOR WINDOW

3.4 HOLLYWOOD HARP

The Hollywood Harp Opus Edition library is designed to work together with the other libraries in the Hollywood Orchestra Opus Edition series.

While it includes the same number of microphone positions, and many of the same features, the microphone configuration is designed for solo instruments, as opposed to a full orchestra. Instead of the surround and vintage surround microphone positions used in the full orchestra, the Hollywood Harp includes vintage alternatives for the close and mid microphone positions.

3.4.1 Solo Instrument

The instruments in Hollywood Harp all feature a harp. Some instruments contain a single articulations, while others feature multiple articulations combined into a single instrument file.

- Harp

3.4.2 Instrument Categories and Types

The following section describes the categories and types of instruments contained in the Hollywood Harp.

- Maestro Patches
- Individual Articulation Patches
- FX
- Keyswitches

PLEASE NOTE: Detailed instrument and performance descriptions are available in the Description Box of the Browse page.

Maestro Patches

This folder contains ‘combo’ instruments that are made up of multiple articulations. Instruments that include ‘MOD’ in the instrument name rely on cross fading between articulations using the Mod Wheel (CC1), while others trigger different articulations based on MIDI Velocity value. Also included in this folder is a KS Master instrument that allows you to select between articulations using keyswitches located outside of the instrument range and highlighted in blue on Play’s virtual keyboard. The various types of instruments are described below.

Angels

This instrument uses Note Velocity to select between 2 articulations while simultaneously controlling dynamics. The Gliss Technique articulation between Note Velocities 1 and 122 produces plucks perfect for simulating glissandi (3 dynamic levels), and the Nail Picks articulation between Note Velocities 123 and 127 produces a firm, picked tone (1 dynamic level). CC 11 (Expression) and Note Velocity control overall loudness.

Angels Bisbigliando

This instrument combines 2 articulations — Bisbigliando, a light, fingered tremolo, and Double Hit, two notes played in rapid succession, an embellishment akin to a grace note. CC 1 (Mod Wheel) controls Bisbigliando dynamics (2 levels), from silence with a value of 0 (minimum), to full volume with a value of 127 (maximum). Note Velocity controls Double Hit dynamics (2 levels). CC 11 (Expression) and Note Velocity control overall loudness.

Angels Harmonics

This instrument uses Note Velocity to select between 2 articulations while simultaneously controlling dynamics. The Gliss Technique articulation between Note Velocities 1 and 122 produces plucks perfect for simulating glissandi (3 dynamic levels), and the Harmonics articulation between Note Velocities 123 and 127 produces a transparent, hollow sound of a note's partial which is void of the note's fundamental frequency (1 dynamic level). CC 11 (Expression) and Note Velocity control overall loudness.

Maestro

This instrument uses Note Velocity to select between 3 articulations while simultaneously controlling dynamics. The Double Hit articulation between Note Velocities 1 and 60 produces two notes played in rapid succession, an embellishment akin to a grace note (1 dynamic level), the Gliss Technique articulation between Note Velocities 61 and 102 produces plucks perfect for simulating glissandi (2 dynamic levels), and the Nail Picks articulation between Note Velocities 103 and 127 produces a firm, picked tone (1 dynamic level). CC 11 (Expression) and Note Velocity control overall loudness.

Maestro Bisbigliando

This instrument uses Note Velocity to select between 3 articulations while simultaneously controlling dynamics, with the ability to blend in Bisbigliando, a lightly fingered tremolo articulation. CC 1 (Mod Wheel) controls Bisbigliando dynamics (2 levels), from silence with a value of 0 (minimum), to full volume with a value of 127 (maximum). Note Velocity controls the 3 remaining articulations: the Double Hit articulation between Note Velocities 1 and 60 produces two notes played in rapid succession, an embellishment akin to a grace note (1 dynamic level), the Gliss Technique articulation between Note Velocities 61 and 102 produces plucks perfect for simulating glissandi (2 dynamic levels), and the Nail Picks articulation between Note Velocities 103 and 127 produces a firm, picked tone (1 dynamic level). CC 11 (Expression) and Note Velocity control overall loudness.

Sustain RR

This instrument allows the seamless alternation between thumb and finger plucks using a Round Robin (RR) cycle, while reserving the highest velocities for a nail pick articulation. Notes alternate back and forth between Pluck Long (RRx1) and Thumb Pick (RRx2) articulations between Note Velocities 1 and 123 (with 5 dynamic levels each), while the Nail Pick articulation is selected between Note Velocities 124 and 127 (1 dynamic level), regardless of the Round Robin (RR) cycle. CC 11 (Expression) and Note Velocity control overall loudness.

Sustain RR Bisbigliando

This instrument allows the seamless alternation between thumb and finger plucks, while reserving the highest velocities for a nail pick, with the ability to blend in Bisbigliando, a fingered tremolo articulation. CC 1 (Mod Wheel) controls Bisbigliando dynamics (2 levels), from silence with a value of 0 (minimum), to full volume with a value of 127 (maximum). Notes alternate back and forth between Pluck Long (RRx1) and Thumb Pick (RRx2) articulations between Note Velocities 1 and 123 (with 5 dynamic levels each), while the Nail Pick articulation is controlled

between Note Velocities 124 and 127 (1 dynamic level), regardless of the Round Robin (RR) cycle. CC 11 (Expression) and Note Velocity control overall loudness.

Individual Articulation Patches

This folder contains instruments that are made up of a single articulation. They are programmed with multiple dynamic layers that are sensitive to MIDI Velocity. Below is a description of the articulation each instrument contains.

Bisbigliando

A light tremolo produced by rapid finger plucks alternating between multiple fingers in sequence — multiple different timbres are produced in rapid sequence to create complex sustained sound. It layers well with a string section and other plucked string instruments, and creates a subtle twinkle effect when mixed in at low volumes. CC 11 (Expression) and Note Velocity control overall loudness, and Note Velocity also controls dynamics (2 levels).

Double Hit

A single-articulation instrument that produces two notes played in rapid succession, an embellishment akin to a grace note. The first note is gentle and soft, while the second is slightly stronger — this combination is perfect for soft passages, especially when doubling piano or pizzicato strings. CC 11 (Expression) and Note Velocity control overall loudness, and Note Velocity also controls dynamics (2 levels).

Gliss Technique

A single-articulation instrument in which the fingers slide gently over each string to produce a glissando. Individual notes in the glissando are separated out to their individual notes, giving you more control over the timing and notes in the glissando — they can also be played normally, producing a softer articulation than normal notes on the harp. CC 11 (Expression) and Note Velocity control overall loudness, and Note Velocity also controls dynamics (3 levels).

Harmonics

A single-articulation instrument that produces only harmonics. They have a hollow, transparent sound where the highest overtones are less pronounced and the fundamental is completely missing, leaving only the upper partials. They produce the same pitch, but the absence of their fundamentals creates a float-like quality that blends well with pizzicato strings and allows the harp to play outside of its normal range. CC 11 (Expression) and Note Velocity control overall loudness, and Note Velocity also controls dynamics (2 levels).

Nail Pick

A single-articulation instrument that triggers articulations from nails against the strings — this produces a hard, overtone-rich note where the fundamental flares out. It creates a stronger note than that of conventional harp plucks. CC 11 (Expression) and Note Velocity control overall loudness, and Note Velocity also controls dynamics (2 levels).

Pluck

The standard method of harp performance without any ornamentation or unusual timbre changes. Notes are rounded, without any particular emphasis on the fundamental or upper partials. CC 11 (Expression) and Note Velocity control overall loudness, and Note Velocity also controls dynamics (5 levels).

Pres de la Table

This single-articulation instrument is played near the sound board, resulting in a drier, brighter sound than is normal. It has a twang-like quality that emphasizes the lower partials, and the fundamental is less pronounced. CC 11 (Expression) and Note Velocity control overall loudness, and Note Velocity also controls dynamics (4 levels).

Repetition Rep

An instrument designed for manually playing repeated notes without the dreaded “machine gun” effect (in which an instrument sounds mechanical due to repeatedly triggering the same sample). This helps to create continuity in passages that require a quick succession of repeated notes, as previous notes are allowed to ring to their full duration, even if they have recently been triggered. CC 11 (Expression) and Note Velocity control overall loudness, and Note Velocity also controls dynamics (2 levels).

Thumb Pick

The standard method of harp performance without any ornamentation or unusual timbre changes. The tone is similar to a regular pluck, but shifted to a more guitar-like sound as notes are plucked in a wider surface area. CC 11 (Expression) and Note Velocity control overall loudness, and Note Velocity also controls dynamics (5 levels).

FX

The instruments in this folder include special FX and glissando performances. A single sample is mapped to each note, and only white keys are used. For glissandos, a table is provided that details the MIDI note number that each performance is mapped to, as well as the root note and scale of the glissando.

FX

An array of scrapes, hits and otherwise unusual sounds produced by non-traditional playing techniques mapped to white keys between notes C1 and C4. The hits emphasize the dimension of the sound board, producing an effect similar to an eerie reverb, and the scrapes create an unsettling metallic buzz ideal for adding to suspense or horror sounds. CC 11 (Expression) and Note Velocity control overall loudness.

Gliss

Upward and downward glissandi over a variety of scales and spanning multiple octaves, mapped to white keys between notes C1 and B4. Perfect for large-scale orchestral performances. CC 11 (Expression) and Note Velocity control overall loudness.

Below is a list of the starting notes of each glissando in parentheses, followed by its root note, and scale / mode.

PERFORMANCE KEY MAP		
01 MAESTRO PATCHES		
Gliss		
NOTE	ROOT	SCALE
• C1	G	Major
• D1	F#	Major

• E1	F	Major
• F1	F#	Major
• G1	F	Lydian
• A1	F#	Major
• B1	F	Major
• C2	F#	Major
• D2	F	Major
• E2	E	Phrygian
• F2	G#	Minor
• G2	D#	Major
• A2	F	Minor
• B2	D#	Minor
• C3	F	Phrygian
• D3	E	Locrian
• E3	A	Minor
• F3	F#	Major
• G3	F	Major
• A3	F	Lydian
• B3	G#	Minor
• C4	D#	Major
• D4	F	Minor
• E4	A#	Locrian
• F4	F	Phrygian
• G4	E	Locrian
• A4	E	Phrygian
• B4	B	Locrian

Gliss Angelic

Containing both Gliss Angelic Slow and Fast, these overlapping glissandi across a variety of scales and spanning multiple octaves, including both upward and winding (up and down) glissandi, which are perfect for evoking mystical and ethereal scenes in film and game scores. CC 11 (Expression) and Note Velocity control overall loudness. Slow glissandi are mapped to white keys between C0 and A2, and fast glissandi are mapped to white keys between C3 and G5.

PERFORMANCE KEY MAP		
01 MAESTRO PATCHES		
Gliss Angelic (Slow)		
NOTE	ROOT	SCALE
• C0	F#	Major

• D0	F#	Major
• E0	F	Major
• F0	F	Major
• G0	E	Phrygian
• A0	E	Phrygian
• B0	G#	Minor
• C1	G#	Minor
• D1	D#	Major
• E1	D#	Major
• F1	F	Minor
• G1	F	Minor
• A1	D#	Minor
• B1	D#	Minor
• C2	F	Phrygian
• D2	F	Phrygian
• E2	E	Locrian
• F2	E	Locrian
• G2	E	Minor
• A2	E	Minor
• B2	-	-
Gliss Angelic (Fast)		
• C3	F#	Major
• D3	F#	Major
• E3	F	Major
• F3	F	Major
• G3	E	Phrygian
• A3	E	Phrygian
• B3	G#	Minor
• C4	G#	Minor
• D4	D#	Major
• E4	D#	Major
• F4	F	Minor
• G4	F	Minor
• A4	D#	Minor
• B4	D#	Minor
• C5	F	Phrygian
• D5	F	Phrygian
• E5	E	Locrian

• F5	E	Minor
• G5	E	Minor

Gliss Angelic Slow

Overlapping, slow glissandi across a variety of scales and spanning multiple octaves, including both upward and winding (up and down) glissandi, which are perfect for evoking mystical and ethereal scenes in film and game scores. CC 11 (Expression) and Note Velocity control overall loudness.

Gliss Angelic Fast

Overlapping, fast glissandi across a variety of scales and spanning multiple octaves, including both upward and winding (up and down) glissandi, which are perfect for evoking mystical and ethereal scenes in film and game scores. CC 11 (Expression) and Note Velocity control overall loudness.

Keyswitch

Keyswitch (KS) Master instruments can switch between many individual instruments or articulations by playing their respective blue-colored keys ('keyswitches') on the virtual keyboard. When an instrument or articulation is actively selected, its corresponding keyswitch will be highlighted in yellow. This is one of the fastest ways to cycle between articulations in real time, and it makes it easy for you to drop notes into the piano roll and switch articulations after the performance.

3.5 HOLLYWOOD SOLO VIOLIN

The Hollywood Solo Violin Opus Edition library is designed to work together with the other libraries in the Hollywood Orchestra Opus Edition series.

While it includes the same number of microphone positions, and many of the same features, the microphone configuration is designed for solo instruments, as opposed to a full orchestra. Instead of the surround and vintage surround microphone positions used in the full orchestra, the Hollywood Solo Violin includes vintage alternatives for the close and mid microphone positions.

In the Hollywood Solo Violin, dynamics and vibrato depth are linked together on the Mod Wheel (CC1), whereas the Hollywood Orchestra series offers independent control of dynamics and vibrato depth. Also, a new type of Legato instrument is available (Legato Sustain) that combines legato and sustain articulations into one sample layer, allowing for more continuity over the duration of a note.

3.5.1 Solo Instrument

The instruments in Hollywood Solo Violin all feature a solo violin. Some instruments contain a single articulations, while others feature multiple articulations combined into a single instrument file.

- Solo Violin

3.5.2 Instrument Categories and Types

The following section describes the categories and types of instruments contained in the Hollywood Solo Violin.

- Long Solo
- Long
- Short
- Legato
- Keyswitch

PLEASE NOTE: Detailed instrument and performance descriptions are available in the Description Box of the Browse page.

Long Solo

This instrument is loaded with a legato performance script that blends overlapping notes and eliminates strong attacks, forcing monophonic playback; this allows you to easily create smooth melodic lines. Non-overlapping will trigger with their regular attacks.

Flautando

This instrument features a bowing technique where the player moves the bow up toward the fingerboard to create an ethereal, non-vibrato, breathy sound. It is loaded with a legato performance script that blends overlapping notes and eliminates strong attacks, forcing monophonic playback; this allows you to easily create smooth melodic lines. Non-

overlapping will trigger with their regular attacks. CC 11 (Expression), and CC 1 (Mod Wheel) control overall loudness.

Grand Détaché RR

This instrument features an articulation that creates sustained notes without a legato connection (the term “détaché” means “separated” in English), and has a clear attack at the start of every note regardless of what comes before it. It is loaded with a legato performance script that blends overlapping notes and eliminates strong attacks, forcing monophonic playback; this allows you to easily create smooth melodic lines. Non-overlapping will trigger with their regular attacks. CC 11 (Expression), and Note Velocity control overall loudness, and there is a round robin (x2) cycle per note.

Lyrical Mute (Lyr Mte)

This instrument employs an expressive style of vibrato reminiscent of a singing voice, and is played with a mute attached, that mellows out the violin's timbre. It is loaded with a legato performance script that blends overlapping notes and eliminates strong attacks, forcing monophonic playback; this allows you to easily create smooth melodic lines. Non-overlapping will trigger with their regular attacks. CC 11 (Expression), and CC 1 (Mod Wheel) control overall loudness.

Lyrical Vibrato (Lyr Vib)

This instrument features an articulation that employs an expressive style of vibrato reminiscent of a singing voice. It is loaded with a legato performance script that blends overlapping notes and eliminates strong attacks, forcing monophonic playback; this allows you to easily create smooth melodic lines. Non-overlapping will trigger with their regular attacks. CC 11 (Expression), and CC 1 (Mod Wheel) control overall loudness.

Sustain Expressive (Sus Exp)

This instrument features an articulation that employs a molto vibrato style (highly pronounced vibrato). It is loaded with a legato performance script that blends overlapping notes and eliminates strong attacks, forcing monophonic playback; this allows you to easily create smooth melodic lines. Non-overlapping will trigger with their regular attacks. CC 11 (Expression), and CC 1 (Mod Wheel) control overall loudness, and CC 1 (Mod Wheel) controls dynamics (2 levels).

Sustain NV NV VB

This instrument combines 2 articulations: non vibrato in the lower 2 dynamic levels, and a sustain vibrato in the loudest dynamic level. It is loaded with a legato performance script that blends overlapping notes and eliminates strong attacks, forcing monophonic playback; this allows you to easily create smooth melodic lines. Non-overlapping will trigger with their regular attacks. CC 11 (Expression), and CC 1 (Mod Wheel) control overall loudness, and CC 1 (Mod Wheel) controls dynamics (3 levels).

Sustain NV VB VB

This instrument combines 2 articulations: non vibrato in the lowest dynamic level, and a sustain vibrato in the loudest dynamic level. It is loaded with a legato performance script that blends overlapping notes and eliminates strong attacks, forcing monophonic playback; this allows you to easily create smooth melodic lines. Non-overlapping will trigger with their regular attacks. CC 11 (Expression), and CC 1 (Mod Wheel) control overall loudness, and CC 1 (Mod Wheel) controls dynamics (3 levels).

Sustain Non Vibrato (Sus Non Vib)

This instrument features an articulation that has no vibrato, creating a pure, uncommonly static sound for bowed string instruments. It is loaded with a legato performance script that blends overlapping notes and eliminates strong attacks, forcing monophonic playback; this allows you to easily create smooth melodic lines. Non-overlapping will trigger with their regular attacks. CC 11 (Expression), and CC 1 (Mod Wheel) control overall loudness, and CC 1 (Mod Wheel) controls dynamics (3 levels).

Sustain Vibrato

This instrument features an articulation that employs a moderate amount of vibrato, in contrast to some of the more dramatic instruments in this collection. It is loaded with a legato performance script that blends overlapping notes and eliminates strong attacks, forcing monophonic playback; this allows you to easily create smooth melodic lines. Non-overlapping will trigger with their regular attacks. CC 11 (Expression), and CC 1 (Mod Wheel) control overall loudness, and CC 1 (Mod Wheel) controls dynamics (3 levels).

Long

The instruments in this group are played without legato, meaning that every note has a clear attack — even overlapping notes. This is ideal for passages that require more emphasis on each note, or where you don't need the melody to sound nearly as lyrical or connected.

Flautando

This instrument features a bowing technique where the player moves the bow up toward the fingerboard to create an ethereal, non-vibrato, breathy sound. CC 11 (Expression), and CC 1 (Mod Wheel) control overall loudness.

Grand Détaché RR

This instrument features an articulation that creates sustained notes without a legato connection (the term “détaché” means “separated” in English), and has a clear attack at the start of every note regardless of what comes before it. CC 11 (Expression), and Note Velocity control overall loudness, and there is a round robin (x2) cycle per note.

Lyrical Mute (Lyr Mte)

This instrument employs an expressive style of vibrato reminiscent of a singing voice, and is played with a mute attached, that mellows out the violin's timbre. CC 11 (Expression), and CC 1 (Mod Wheel) control overall loudness.

Lyrical Vibrato (Lyr Vib)

This instrument features an articulation that employs an expressive style of vibrato reminiscent of a singing voice. CC 11 (Expression), and CC 1 (Mod Wheel) control overall loudness.

Sustain Expressive (Sus Exp)

This instrument features an articulation that employs a molto vibrato style (highly pronounced vibrato). CC 11 (Expression), and CC 1 (Mod Wheel) control overall loudness, and CC 1 (Mod Wheel) controls dynamics (2 levels).

Sustain NV NV VB

This instrument combines 2 articulations: non vibrato in the lower 2 dynamic levels, and a sustain vibrato in the loudest dynamic level. CC 11 (Expression), and CC 1 (Mod Wheel) control overall loudness, and CC 1 (Mod Wheel) controls dynamics (3 levels).

Sustain NV VB VB

This instrument combines 2 articulations: non vibrato in the lowest dynamic level, and a sustain vibrato in the loudest dynamic level. CC 11 (Expression), and CC 1 (Mod Wheel) control overall loudness, and CC 1 (Mod Wheel) controls dynamics (3 levels).

Sustain Non Vibrato (Sus Non Vib)

This instrument features an articulation that has no vibrato, creating a pure, uncommonly static sound for bowed string instruments. CC 11 (Expression), and CC 1 (Mod Wheel) control overall loudness, and CC 1 (Mod Wheel) controls dynamics (3 levels).

Sustain Vibrato (Sus Vib)

This instrument features an articulation that employs a moderate amount of vibrato, in contrast to some of the more dramatic instruments in this collection. CC 11 (Expression), and CC 1 (Mod Wheel) control overall loudness, and CC 1 (Mod Wheel) controls dynamics (3 levels).

Short

This folder contains a collection of instruments that encompass articulations that the Solo Violin can use to generate short sounds, including various plucking and bowing techniques. Most of the instruments respond to MIDI Velocity to control loudness and have multiple Round Robin samples per note.

Marcato Vibrato RRx4

This instrument features an articulation that begins with a strong accent and lasts a moderate duration, with a light vibrato on the end for color. Marcato articulations are well-suited to marches, strong repeating rhythms, and generally any place where you want something a bit more forceful. CC 11 (Expression), and Note Velocity control overall loudness, and there is a round robin (x4) cycle per note.

Martele RRx4

From the French word meaning ‘hammered’, this articulation is produced by playing percussively to create a sharp accent on the attack of a note, and a quick definite release. Martele is similar to staccato and well-suited to marches, strong repeating rhythms, and generally any place where you want something a bit more forceful while adding space between notes and extra choppiness. CC 11 (Expression), and Note Velocity control overall loudness, Note Velocity controls dynamics (3 levels), and there is a round robin (x4) cycle per note.

Pizzicato RRx4

This instrument features an articulation that uses a technique that involves plucking one or more strings at a time to create a characteristic percussive sound. These have a lighter quality than bowed notes and are generally quieter and woodier. They’re an excellent compliment to woodwind staccato notes. CC 11 (Expression), and Note Velocity control overall loudness, Note Velocity controls dynamics (3 levels), and there is a round robin (x4) cycle per note.

Sforzando

This instrument features an articulation that is characterized by a sudden, strong accent that quickly tapers off into a quiet, expressive vibrato note that is sustained for a couple beats. CC 11 (Expression), and Note Velocity control overall loudness.

Spiccato

This instrument features an articulation that bounces the bow on the string to create very short notes followed by a pure ring as they are allowed to vibrate freely without further contact from the bow. CC 11 (Expression), and Note Velocity control overall loudness, Note Velocity controls dynamics (3 levels), and there is a round robin (x4) cycle per note.

Legato

The instruments in this group are played ‘Monophonic True Legato,’ meaning that each legato transition was recorded live at multiple different volumes and velocity layers, as opposed to being created artificially by the program. This produces more realistic results and captures more of the performer’s character in each note transition.

Leg Bow Change

This instrument features a legato bow direction change, in which overlapping notes produce a dramatic and expressive bowing to accent the second note while still playing in a connected fashion (as opposed to a slur, which makes the transition as seamless as possible). A performance script determines which layer is selected based on whether legato playing is detected or not, and timing between legato intervals is adjusted (tighter or looser) based on how hard or soft you play (Note Velocity). When playing connected notes (legato) up to an octave in either direction, a legato bow change articulation will play, cross-fading into a sustain vibrato layer. When playing disconnected notes (non-legato), a détaché layer with a round robin (x2) cycle per note will playback. CC 11 (Expression), and CC 1 (Mod Wheel) controls overall loudness, and CC 1 (Mod Wheel) controls dynamics (up to 3 levels).

Leg Bow Change Fast

This instrument features a rapid legato bow direction change, in which overlapping notes produce a quick jump in volume and give the beginning of each note a clear attack. A performance script determines which layer is selected based on whether legato playing is detected or not, and timing between legato intervals is adjusted (tighter or looser) based on how hard or soft you play (Note Velocity). When playing connected notes (legato) up to an octave in either direction, a legato bow change articulation will playback, cross-fading into a détaché layer with a round robin (x2) cycle per note. When playing disconnected (non-legato), the same détaché layer will playback. CC 11 (Expression), and CC 1 (Mod Wheel) control overall loudness.

Leg Bow Change Smooth

This instrument features a gentle legato bow direction change that blends two connected notes together with a soft, non-slurred attack. A performance script determines which layer is selected based on whether legato playing is detected or not, and timing between legato intervals is adjusted (tighter or looser) based on how hard or soft you play (Note Velocity). When playing connected notes (legato) up to an octave in either direction, a legato bow change articulation will playback, cross-fading into a sustain vibrato layer. When playing disconnected (non-legato), the same sustain vibrato layer will playback. CC

11 (Expression), and CC 1 (Mod Wheel) controls overall loudness, and CC 1 (Mod Wheel) controls dynamics (up to 3 levels).

Leg Exp Vib

This instrument features legato playing in an expressive style, and is best suited for slower tempos. A performance script determines which layer is selected based on whether legato playing is detected or not, and timing between legato intervals is adjusted (tighter or looser) based on how hard or soft you play (Note Velocity). When playing connected notes (legato) up to an octave in either direction, an expressive legato articulation will playback, cross-fading into a sustain vibrato layer. When playing disconnected (non-legato), the same sustain vibrato layer will playback. CC 11 (Expression), and CC 1 (Mod Wheel) controls overall loudness, and CC 1 (Mod Wheel) controls dynamics (up to 3 levels).

Leg Lyr Vib

This instrument allows legato playing in a lyrical style, which is reminiscent of singing, and is intended for use at slow to moderate tempos. A performance script determines which layer is selected based on whether legato playing is detected or not, and timing between legato intervals is adjusted (tighter or looser) based on how hard or soft you play (Note Velocity). When playing connected notes (legato) up to an octave in either direction, a lyrical legato articulation will playback, cross-fading into a lyrical vibrato layer. When playing disconnected (non-legato), the same lyrical vibrato layer will playback. CC 11 (Expression), and CC 1 (Mod Wheel) controls overall loudness.

Leg Runs

This instrument allows you to create seamless multi-note runs, most realistic at fast tempos, while affording more flexibility than pre-recorded runs. A performance script determines which layer is selected based on whether legato playing is detected or not, and timing between legato intervals is adjusted (tighter or looser) based on how hard or soft you play (Note Velocity). When playing connected notes (legato) up to 3 semitones (a minor 3rd) in either direction, a legato runs articulation will playback, with a round robin (x2) cycle per note. When playing connected notes (legato) 4 semitones and up to an octave in either direction, a legato bow change articulation will playback. Both runs and legato layers cross-fade into a détaché layer with a round robin (x2) cycle per note. Playing disconnected (non-legato) will trigger the same détaché layer. CC 11 (Expression), and CC 1 (Mod Wheel) control overall loudness.

Leg Slur

This instrument features a legato slur articulation in which multiple notes can be played uninterrupted on a single bow stroke. Each note moves in the direction of the next just as it's ending to ensure smooth playback. It shines at slow to medium tempos when there's plenty of time to hear the individual transitions between notes. A performance script determines which layer is selected based on whether legato playing is detected or not, and timing between legato intervals is adjusted (tighter or looser) based on how hard or soft you play (Note Velocity). When playing connected notes (legato) up to an octave in either direction, a legato slur articulation will play, cross-fading into a sustain vibrato layer. When playing disconnected (non-legato), the same sustain layer will playback. CC 11 (Expression), and CC 1 (Mod Wheel) control overall loudness, and CC 1 (Mod Wheel) controls dynamics (up to 3 levels).

LegSus

This instrument features a legato articulation in which multiple notes can be played uninterrupted on a single bow stroke. Each note moves in the direction of the next just as it's ending to ensure smooth playback — but instead of separate layers for the legato and sustain portions, each note is sustained at the end of the legato transition, allowing for less cross-fading to preserve the feeling of a live performance. A performance script determines which layer is selected based on whether legato playing is detected or not, and timing between legato intervals is adjusted (tighter or looser) based on how hard or soft you play (Note Velocity). When playing connected notes (legato) up to an octave in either direction, a combined legato / sustain articulation will play. When playing disconnected (non-legato), a sustain vibrato layer will play (consisting of a lyrical vibrato articulation in the soft dynamic, and a sustain vibrato articulation in the loud dynamic). CC 1 (Mod Wheel) controls dynamics of both the connected (legato) and disconnected (non-legato) layers based on its initial value (2 levels), but does not cross-fade between these dynamic layers. Both CC 11 (Expression), and CC 1 (Mod Wheel) can, however, control overall loudness mid-note.

Keyswitch

Keyswitch (KS) Master instruments can switch between many individual instruments or articulations by playing their respective blue-colored keys ('keyswitches') on the virtual keyboard. When an instrument or articulation is actively selected, its corresponding keyswitch will be highlighted in yellow. This is one of the fastest ways to cycle between articulations in real time, and it makes it easy for you to drop notes into the piano roll and switch articulations after the performance.

3.6 HOLLYWOOD SOLO CELLO

The Hollywood Solo Cello Opus Edition library is designed to work together with the other libraries in the Hollywood Orchestra Opus Edition series.

While it includes the same number of microphone positions, and many of the same features, the microphone configuration is designed for solo instruments, as opposed to a full orchestra. Instead of the surround and vintage surround microphone positions used in the full orchestra, the Hollywood Solo Cello includes vintage alternatives for the close and mid microphone positions.

In the Hollywood Solo Cello, dynamics and vibrato depth are linked together on the Mod Wheel (CC 1), whereas the Hollywood Orchestra series offers independent control of dynamics and vibrato depth. Also, a new type of Legato instrument is available (Legato Sus Slur) that combines the legato and sustain articulations into one sample layer, allowing for more continuity over the duration of a note.

3.6.1 Solo Instrument

The instruments in Hollywood Solo Cello all feature a solo violin. Some instruments contain a single articulations, while others feature multiple articulations combined into a single instrument file.

- Solo Cello

3.6.2 Instrument Categories and Types

The following section describes the categories and types of instruments contained in the Hollywood Solo Cello.

- Long Solo
- Long
- Short
- Legato
- Keyswitch

PLEASE NOTE: Detailed instrument and performance descriptions are available in the Description Box of the Browse page.

Long Solo

This instrument is loaded with a legato performance script that blends overlapping notes and eliminates strong attacks, forcing monophonic playback; this allows you to easily create smooth melodic lines. Non-overlapping will trigger with their regular attacks.

Flautando

This instrument features a bowing technique where the player moves the bow up toward the fingerboard to create an ethereal, non-vibrato, breathy sound. It is loaded with a legato performance script that blends overlapping notes and eliminates strong attacks, forcing monophonic playback; this allows you to easily create smooth melodic lines. Non-

overlapping will trigger with their regular attacks. CC 11 (Expression), and CC 1 (Mod Wheel) control overall loudness.

Grand Détaché RR

This instrument features an articulation that creates sustained notes without a legato connection (the term “détaché” means “separated” in English), and has a clear attack at the start of every note regardless of what comes before it. It is loaded with a legato performance script that blends overlapping notes and eliminates strong attacks, forcing monophonic playback; this allows you to easily create smooth melodic lines. Non-overlapping will trigger with their regular attacks. CC 11 (Expression), and Note Velocity control overall loudness, and there is a round robin (x2) cycle per note.

Lyrical Vibrato

This instrument features an articulation that employs an expressive style of vibrato reminiscent of a singing voice. It is loaded with a legato performance script that blends overlapping notes and eliminates strong attacks, forcing monophonic playback; this allows you to easily create smooth melodic lines. Non-overlapping will trigger with their regular attacks. CC 11 (Expression), and CC 1 (Mod Wheel) control overall loudness, and CC 1 (Mod Wheel) controls dynamics (2 levels).

Sustain Expressive (Sus Exp)

This instrument features an articulation that employs a molto vibrato style (highly pronounced vibrato). It is loaded with a legato performance script that blends overlapping notes and eliminates strong attacks, forcing monophonic playback; this allows you to easily create smooth melodic lines. Non-overlapping will trigger with their regular attacks. CC 11 (Expression), and CC 1 (Mod Wheel) control overall loudness, and CC 1 (Mod Wheel) controls dynamics (2 levels).

Sustain Light Vibrato (Sus LtVib)

This instrument features an articulation that employs a light amount of vibrato, in contrast to some of the more dramatic instruments in this collection. It is loaded with a legato performance script that blends overlapping notes and eliminates strong attacks, forcing monophonic playback; this allows you to easily create smooth melodic lines. Non-overlapping will trigger with their regular attacks. CC 11 (Expression), and CC 1 (Mod Wheel) control overall loudness.

Sustain Non Vibrato (Sus Non Vib)

This instrument features an articulation that has no vibrato, creating a pure, uncommonly static sound for bowed string instruments. It is loaded with a legato performance script that blends overlapping notes and eliminates strong attacks, forcing monophonic playback; this allows you to easily create smooth melodic lines. Non-overlapping will trigger with their regular attacks. CC 11 (Expression), and CC 1 (Mod Wheel) control overall loudness, and CC 1 (Mod Wheel) controls dynamics (3 levels).

Sustain NV NV VB

This instrument combines 2 articulations: non vibrato in the lower 2 dynamic levels and a light vibrato in the loudest dynamic level. It is loaded with a legato performance script that blends overlapping notes and eliminates strong attacks, forcing monophonic playback; this allows you to easily create smooth melodic lines. Non-overlapping will trigger with their regular attacks. CC 11 (Expression), and CC 1 (Mod Wheel) control overall loudness, and CC 1 (Mod Wheel) controls dynamics (3 levels).

Sustain NV VB VB

This instrument combines 3 articulations: non vibrato in the lowest dynamic, light vibrato in the middle dynamic, and a lyrical vibrato in the upper dynamic. It is loaded with a legato performance script that blends overlapping notes and eliminates strong attacks, forcing monophonic playback; this allows you to easily create smooth melodic lines. Non-overlapping will trigger with their regular attacks. CC 11 (Expression), and CC 1 (Mod Wheel) control overall loudness, and CC 1 (Mod Wheel) controls dynamics (3 levels).

Tremolo

This instrument features an articulation that plays repeated, rapidly alternating bow strokes on each note, creating a haunting, noisy effect at low volume levels and an aggressive buzzing sound at higher ones. Combined with other instruments, it's useful for creating a sense of movement or "thickening" the sound with repeated note attacks. This instrument is loaded with a legato performance script that blends overlapping notes and eliminates strong attacks, forcing monophonic playback; this allows you to easily create smooth melodic lines. Non-overlapping will trigger with their regular attacks. Dramatic passages are an ideal place to add characteristic tremolo writing, with long crescendos and decrescendos. CC 11 (Expression), and CC 1 (Mod Wheel) control overall loudness.

Long

The instruments in this group are played without legato, meaning that every note has clear attack — even overlapping notes. This is ideal for passages that require more emphasis on each note, or where you don't need the melody to sound nearly as lyrical or connected.

Flautando

This instrument features a bowing technique where the player moves the bow up toward the fingerboard to create an ethereal, non-vibrato, breathy sound. CC 11 (Expression), and CC 1 (Mod Wheel) control overall loudness.

Grand Détaché RR

This instrument features an articulation that creates sustained notes without a legato connection (the term "détaché" means "separated" in English), and has a clear attack at the start of every note regardless of what comes before it. CC 11 (Expression), and Note Velocity control overall loudness, and there is a round robin (x2) cycle per note.

Lyrical Vibrato (Lyr Vib)

This instrument features an articulation that employs an expressive style of vibrato reminiscent of a singing voice. CC 11 (Expression), and CC 1 (Mod Wheel) control overall loudness, and CC 1 (Mod Wheel) controls dynamics (2 levels).

Sustain Expressive (Sus Exp)

This instrument features an articulation that employs a molto vibrato style (highly pronounced vibrato). CC 11 (Expression), and CC 1 (Mod Wheel) control overall loudness, and CC 1 (Mod Wheel) controls dynamics (2 levels).

Sustain Light Vibrato (Sus LtVib)

This instrument features an articulation that employs a light amount of vibrato, in contrast to some of the more dramatic instruments in this collection. CC 11 (Expression), and CC 1 (Mod Wheel) control overall loudness.

Sustain Non Vibrato (Sus Non Vib)

This instrument features an articulation that has no vibrato, creating a pure, uncommonly static sound for bowed string instruments. CC 11 (Expression), and CC 1 (Mod Wheel) control overall loudness, and CC 1 (Mod Wheel) controls dynamics (3 levels).

Sustain NV NV VB

This instrument combines 2 articulations: non vibrato in the lower 2 dynamic levels and a light vibrato in the loudest dynamic level. CC 11 (Expression), and CC 1 (Mod Wheel) control overall loudness, and CC 1 (Mod Wheel) controls dynamics (3 levels).

Sustain NV VB VB

This instrument combines 3 articulations: non vibrato in the lowest dynamic, light vibrato in the middle dynamic, and a lyrical vibrato in the upper dynamic. CC 11 (Expression), and CC 1 (Mod Wheel) control overall loudness, and CC 1 (Mod Wheel) controls dynamics (3 levels).

Tremolo

This instrument features an articulation that plays repeated, rapidly alternating bow strokes on each note, creating a haunting, noisy effect at low volume levels and an aggressive buzzing sound at higher ones. Combined with other instruments, it's useful for creating a sense of movement or "thickening" the sound with repeated note attacks. Dramatic passages are an ideal place to add characteristic tremolo writing, with long crescendos and decrescendos. CC 11 (Expression), and CC 1 (Mod Wheel) control overall loudness.

Short

This folder contains a collection of instruments that encompass articulations that the Solo Cello can use to generate short sounds, including various plucking and bowing techniques. Most of the instruments respond to MIDI Velocity to control loudness and have multiple Round Robin samples per note.

Marcato Long Vibrato RR

This instrument features an articulation that begins with a strong accent and lasts a moderate duration, with a light vibrato on the end for color. Marcato articulations are well-suited to marches, strong repeating rhythms, and generally any place where you want something a bit more forceful. CC 11 (Expression), and Note Velocity control overall loudness, and there is a round robin (x2) cycle per note.

Marcato Short RRx4

This instrument features an articulation that begins with a strong accent and lasts a short duration. Short marcato articulations are similar to staccato and well-suited to marches, strong repeating rhythms, and generally any place where you want something a bit more forceful while adding space between notes and extra choppiness. CC 11 (Expression) controls overall loudness, Note Velocity controls dynamics (3 levels), and there is a round robin (x4) cycle per note.

Pizzicato RRx4

This instrument features an articulation that involves plucking one or more strings at a time to create a characteristic percussive sound. These have a lighter quality than bowed

notes and are generally quieter and woodier. They're an excellent compliment to woodwind staccato notes. CC 11 (Expression) controls overall loudness, Note Velocity controls dynamics (3 levels), and there is a round robin (x4) cycle per note.

Sforzando

This instrument features an articulation that is characterized by a sudden, strong accent that quickly tapers off into a quiet, expressive vibrato note that is sustained for a couple beats. CC 11 (Expression), and Note Velocity control overall loudness.

Spiccato

This instrument features an articulation that bounces the bow on the string to create very short notes followed by a pure ring as they are allowed to vibrate freely without further contact from the bow. CC 11 (Expression) controls overall loudness, Note Velocity controls dynamics (3 levels), and there is a round robin (x4) cycle per note.

Legato

The instruments in this group are played 'Monophonic True Legato,' meaning that each legato transition was recorded live at multiple different volumes and velocity layers, as opposed to being created artificially by the program. This produces more realistic results and captures more of the performer's character in each note transition.

Legato Bow Change

This instrument features a legato bow direction change, in which overlapping notes produce a dramatic and expressive bowing to accent the second note while still playing in a connected fashion (as opposed to a slur, which makes the transition as seamless as possible). A performance script determines which layer is selected based on whether legato playing is detected or not, and timing between legato intervals is adjusted (tighter or looser) based on how hard or soft you play (Note Velocity). When playing connected notes (legato) up to an octave in either direction, a legato bow change articulation will playback, cross-fading into a sustain vibrato layer (consisting of a light vibrato articulation in the soft dynamic level, and a lyrical vibrato articulation in the loud dynamic level). When playing disconnected notes (non-legato), the same sustain vibrato layer will playback. CC 11 (Expression), and CC 1 (Mod Wheel) controls overall loudness, and CC 1 (Mod Wheel) controls dynamics (up to 2 levels).

Legato Bow Change Fast

This instrument features a rapid legato bow direction change, in which overlapping notes produce a quick jump in volume and give the beginning of each note a clear attack. A performance script determines which layer is selected based on whether legato playing is detected or not, and timing between legato intervals is adjusted (tighter or looser) based on how hard or soft you play (Note Velocity). When playing connected notes (legato) up to an octave in either direction, a legato bow change articulation will playback, cross-fading into a détaché layer with a round robin (x2) cycle per note. When playing disconnected (non-legato), the same détaché layer will playback. CC 11 (Expression), and CC 1 (Mod Wheel) control overall loudness.

Legato Bow Change Smooth

This instrument features a gentle legato bow direction change that blends two connected notes together with a soft, non-slurred attack. A performance script determines which layer is selected based on whether legato playing is detected or not, and timing between legato intervals is adjusted (tighter or looser) based on how hard or soft you play (Note Velocity). When playing connected notes (legato) up to an octave in either direction, a legato bow change articulation will playback, cross-fading into a sustain vibrato layer (consisting of a light vibrato articulation in the soft dynamic level, and a lyrical vibrato articulation in the loud dynamic level). When playing disconnected (non-legato), the same sustain vibrato layer will playback. CC 11 (Expression) controls overall loudness, and CC 1 (Mod Wheel) controls dynamics (up to 2 levels).

Legato Runs

This instrument allows you to create seamless multi-note runs, most realistic at fast tempos, while affording more flexibility than pre-recorded runs. A performance script determines which layer is selected based on whether legato playing is detected or not, and timing between legato intervals is adjusted (tighter or looser) based on how hard or soft you play (Note Velocity). When playing connected notes (legato) up to 3 semitones (a minor 3rd) in either direction, a legato runs articulation will playback, with a round robin (x2) cycle per note. When playing connected notes (legato) 4 semitones and up to an octave in either direction, a legato bow change articulation will playback. Both runs and legato layers cross-fade into a détaché layer with a round robin (x2) cycle per note. Playing disconnected (non-legato) will trigger the same détaché layer. CC 11 (Expression), and CC 1 (Mod Wheel) control overall loudness.

Legato Slur

This instrument features a legato slur articulation in which multiple notes can be played uninterrupted, on a single bow stroke; each note moves in the direction of the next just as it's ending to ensure smooth playback. It shines at slow to medium tempos when there's plenty of time to hear the individual transitions between notes. A performance script determines which layer is selected based on whether legato playing is detected or not, and timing between legato intervals is adjusted (tighter or looser) based on how hard or soft you play (Note Velocity). When playing connected notes (legato) up to an octave in either direction, a legato slur articulation will play, cross-fading into a sustain vibrato layer (consisting of a light vibrato articulation in the soft dynamic level, and a lyrical vibrato articulation in the loud dynamic level). When playing disconnected (non-legato), the same sustain layer will playback. CC 11 (Expression), and CC 1 (Mod Wheel) control overall loudness, and CC 1 (Mod Wheel) controls dynamics (2 levels).

LegSus Slur

This instrument features a legato slur articulation in which multiple notes can be played uninterrupted, on a single bow stroke; each note moves in the direction of the next just as it's ending to ensure smooth playback — but instead of separate layers for the legato and sustain portions, each note is sustained at the end of the legato transition, allowing for less cross-fading to preserve the feeling of a live performance. A performance script determines which layer is selected based on whether legato playing is detected or not, and timing between legato intervals is adjusted (tighter or looser) based on how hard or soft you play (Note Velocity). When playing connected notes (legato) up to an octave in either direction, a combined legato / sustain slur articulation will play. When playing disconnected (non-legato), a sustain expressive vibrato layer will play. CC 1 (Mod Wheel) controls dynamics of both the connected (legato) and disconnected (non-legato) layers based on its

initial value (2 levels), but does not cross-fade between these dynamics layers. Both CC 11 (Expression), and CC 1 (Mod Wheel) can, however, control overall loudness mid-note.

Keyswitch

Keyswitch (KS) Master instruments can switch between many individual instruments or articulations by playing their respective blue-colored keys ('keyswitches') on the virtual keyboard. When an instrument or articulation is actively selected, its corresponding keyswitch will be highlighted in yellow. This is one of the fastest ways to cycle between articulations in real time, and it makes it easy for you to drop notes into the piano roll and switch articulations after the performance.

3.7 HOLLYWOOD STRINGS

The Hollywood Strings Opus Edition library is designed to work together with the other libraries in the Hollywood Orchestra Opus Edition series. It includes the same variety of microphone positions and other features that help them blend into a unified sound.

The Hollywood Strings Opus Edition library is designed to create orchestrations of the kind heard in movie soundtracks—but, of course, it can be used for many other types of music, as well.

3.7.1 Instrument Sections and Ensembles

The instruments in Hollywood Strings contain instruments that capture the sound of the 5 string sections (1st Violins, 2nd Violins Violas, Celli, and Basses) playing in the multitude of articulations strings are capable of. There is also a Full Strings performance where you can load up and play the entire string orchestra at the same time.

The Opus Edition includes new expansion content including 18 Violins and Ensemble. The Ensemble features 3 Flutes, 3 Clarinets, 3 Bassoons, 2 Trumpets, 2 Trombones, 18 Violins, and 7 Basses all playing together simultaneously.

Some instruments contain a single articulations, while others feature multiple articulations combined into a single instrument file. Full Strings are in a separate class, called performances, which contain multiple instruments, but function as a unified whole.

- 18 Violins **[new]**
- 1st Violins
- 2nd Violins
- Violas
- Basses
- Full Strings
- Ensemble **[new]**

Divisi Instruments

The 1st Violins, 2nd Violins, Violas, Celli, Basses, and Full Strings include Divisi instruments that end in ‘DIV A’ and ‘DIV B’. They appear in separate folders in the Browser: for example, both ‘Violas’ and ‘Violas Divisi’.

Each of the divisi folders contain Divisi A and Divisi B versions of each of the instruments in their respective main instrument set. They capture the sound of only the left chair or the right chair at each shared music stand, and they are only available with the close microphones, as opposed to the 5 microphone positions available in the main instrument set.

Divisi is common in orchestral string writing to sometimes split a string section into two halves so they can play different phrases or notes. In a live orchestra, it is usual to have the two string players sharing a music stand each take a different divisi part. And due to the physics of orchestral sections, the loudness of a divisi part is not much less than if the whole section were playing the part.

During the Hollywood Strings recording sessions, microphones were placed close to the left and right of each section to capture mostly the left, or mostly the right, side of the section. The approach of recording the divisi mics at the same time as all the other mics was necessary to prevent intonation problems that might occur from separate takes.

The Divisi instruments include only Close mics because anything further away would capture both halves of the section, however, you can mix the divisi close mics and the other non-divisi mics. For the other mic positions in your projects, include the same articulations (in their non-divisi versions) and adjust the loudness.

Full Strings Performances

Full Strings combine multiple instruments (1st Violins, 2nd Violins, Violas, Celli, and Basses), into a single performance that covers the entire range of the string orchestra.

A performance is essentially multiple instruments that work together as a single entity. Opus does this by loading all the instruments at once, and assigning the MIDI channel to OMNI MIDI Mode, which means that they all respond to MIDI on all channels.

Each instrument type is assigned a range of notes, so that instruments do not overlap. The most common ranges are listed here, but the break might occur at a slightly different point:

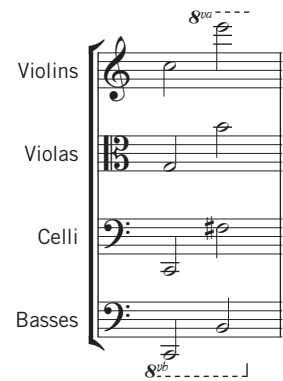
- Violins C4–E
- Violas G2–B3
- Celli C1–F#2
- Basses C0–B0

You can see the exact ranges of each instrument by looking at the Zones Window in the Perform page.

In the Full Strings 01 Long folder, there are a variety of combined legato and sustain instruments, providing a range of notes that can play a legato melody, while the rest of the string orchestra providing a sustained accompaniment.

- Full STR Sus + 1st Vln Leg
- Full STR Sus + 2nd Vln Leg
- Full STR Sus + Vc Leg

PLEASE NOTE: All the individual strings instruments that make up the Full Strings performances are described in the next section.



3.7.2 Instrument Categories and Types

The following paragraphs explain some of the various types of instruments available in Hollywood Strings. The principles described here generally apply across all string sections and ensembles, except where noted.

- Long
- Short
- Effects
- Legato
- Mutes
- Keyswitch

PLEASE NOTE: Detailed instrument and performance descriptions are available in the Description Box of the Browse page.

Long

The instrument types in this folder include Sustain, Détaché, Flautando, and Harmonics. The first two are available in all 5 orchestral sections; the last two, only in the 2nd Violins. All of them except for Détaché can be held indefinitely.

Detache

The musical term Détaché means “detached.” Notes played in this style do not have a legato connection to the following note. The samples are longer than staccato notes but come to a well defined end; unlike the Sustain style, they cannot be played indefinitely. The samples work well whether you play the samples to the end or you end the note before that. But if your notes are short enough to be considered staccato, it’s best to use one of the articulations in that style in order to get the real note-ending sounds from one of the various techniques for creating true staccato.

Sustain

All Sustain instruments continue to play a note audibly as long as the note is held; this is achieved by looping the samples. They are a good choice for slow-moving lines that need a consistent sound no matter how long the notes are held.

The Sustain instruments feature several performance parameters:

- Bow Direction – a Round Robin (RR) cycle that alternates between up and down bow strokes, to achieve the effect of a string player reversing bow direction with each note.
- Finger Position – The Détaché and Sustain instruments (except for the Basses) give you access to samples of each note recorded on each of the four strings (where possible).
- Vibrato Amount – The depth of the vibrato in Hollywood Strings is provided in 3 levels: non-vibrato, vibrato, and molto vibrato.

Marcato Sustain

This instrument type—there’s one in each orchestral section—plays a marcato sample in addition to the multiple sustain samples. The marcato sample ends relatively quickly; the sustain

samples are looped so they continue to play as long as the note is held. This combination provides extra power at the start of the note.

Flautando

Only the 2nd Violins include a Flautando patch. You may find, though, that the Sustain patch in other sections, when played *pp* with no vibrato (*i.e.*, with the Mod Wheel pulled all the way down), achieves a similar sound.

This is a style of string playing that uses the point of the bow above the fingerboard to create a breathy, ethereal, non-vibrato sound with a flute-like quality.

This instrument does not include control of finger position or vibrato, nor does it include round robin samples, as do the other instruments mentioned earlier in this section.

Harmonics

Only the 2nd Violins include a Harmonics patch. This high and whistling sound is generated when the light touch of a finger at a harmonic node (for example, at exactly half, a third, or a fourth of the sounding length of the string) causes the bowed string to vibrate at a natural harmonic of the fundamental tone.

In Hollywood Strings, all harmonics are two octaves above the fundamental, meaning that the lowest note to sound is G4, two octaves above the open G string, G2.

This instrument does not include control of finger position or vibrato, nor does it include round robin samples, as do some instruments mentioned earlier in this section.

Short

This folder contains a large collection of instruments that encompass the many articulations that string instruments can use to generate short sounds. That includes forms of plucking the strings with the fingers, bouncing the bow off the strings, and just bowing a note of short duration. This section describes these short articulations:

- Plucks: Pizzicato and Bartók Pizzicato
- Bounces: Ricochet and Col Legno
- Short Bows: Marcato, Spiccato, various kinds of Staccato
- Repetitions

The Short folder includes a subfolder called “MOD COMBOS.” In here you’ll find several instruments that allow you to use the Mod Wheel (CC1) to affect which type of articulation plays back.

Pizzicato

Pizzicato is the act of plucking one or more strings at a time to create the characteristic sound. Although the sound is very brief it can have the power to cut through the loudest of orchestration.

All 5 sections include a Pizzicato instrument. In each case, it is a round robin instrument with either 2 or 4 distinct samples for each note. See the instrument names (for example “RRx4”) to see how many distinct samples are in each round robin.

Barok Pizzicato

In this articulation, the string is pulled away from the fingerboard and released so that it snaps back and strikes the fingerboard. The sound incorporates pitched as well as non-pitched, percussive elements.

All sections except the 2nd Violins include this instrument. (If you need a Bartók pizzicato sound in the 2nd Violins part, use the instrument from the 1st Violins; the sound is so percussive and short that no one will know which section played the notes.) This is a round robin instrument with 2 distinct samples for each note.

Ricochet

This articulations, also known as Jeté, is played by throwing the bow onto the string in a way that causes it to bounce on and off the string several times. Within a single MIDI note, you can hear the same note played about 3 or 4 times in rapid succession.

This is a Round Robin instrument with 2 sets of alternating samples.

Col Legno

With this style of playing, the bow strikes the string with the wood (instead of the horsehair) and immediately bounces off. This causes a percussive and distinctive sound of short duration. Col Legno is Italian for “with the wood.”

This is always a Round Robin instrument with 4 or 2 sets of samples in rotation.

Marcato

When used in a score, the term “marcato” indicates that every note is to be accented. This articulation contains notes of a short duration that begin with a strong accent.

This is a Round Robin instrument with 4 sets of samples in rotation.

Note that the 2nd Violins and the Basses include, in addition, instruments called Marcato Long with the same strong attack but a slightly longer duration.

Spiccato

In this style of playing, notes of very short duration are created by bouncing the bow so that it is in contact with the string for a very short time.

In Hollywood Strings, Spiccato is available in two versions:

- plain Spiccato
- Spiccato in which the Mod Wheel can be used to change to Marcato

In the patch Spiccato Marcato MOD (found in the MOD COMBOS subfolder), Opus cross-fades between spiccato and marcato samples to achieve a smooth transition: the further up you push the Mod Wheel (or increase the value of MIDI CC 1), the more the notes have a marcato sound. This feature gives you the ability to control the accent of individual notes within a part, including the use of sounds of an intermediate quality between spiccato and marcato.

This is a Round Robin instrument with 9 sets of samples in rotation for the Spiccato patch. And there are 8 sets of samples for the Spiccato Marcato MOD patch.

Staccato

The term “staccato” refers to any note of short duration that is not connected legato to the following note. In this listing, it is more narrowly used to signify any short, bowed note not included in one of the earlier-listed articulations.

Hollywood Strings includes the following types of Staccato articulations:

- plain Staccato
- Staccato On Bow
- Staccato in which the Mod Wheel can be used to change to Marcato
- Staccatissimo

The instrument named Staccato On Bow captures the sound of short notes in which the bow does not lift off the string at the end of the bow but, instead, comes to a full stop. This creates the distinctive sound of the bow stopping its movement at the end of each note.

Staccatissimo is otherwise like Staccato, but with notes of even shorter duration.

The instrument named Staccato Marcato MOD cross-fades between staccato and marcato samples. It allows the user to increase the strength of the accent on some notes within a part by pushing up the Mod Wheel (or increasing the value of MIDI CC 1 in a sequencer envelope).

All the staccato patches are Round Robin instruments with in-the-range-of 9–16 sets of samples in rotation.

Shorts MOD SPEED

This instrument, found in the MOD COMBOS subfolder, allows you to use the Mod Wheel to move continuously among several short articulations. As you push the Mod Wheel up from the bottom, the articulations you hear are, in order:

- Staccatissimo
- Staccato
- Staccato on Bow
- Marcato Short

This Shorts MOD SPEED instruments include 8 distinct samples in their round robins.

Repetitions

In this instrument, the section plays the same note repeatedly about a dozen times in quick succession. For fewer repetitions, end the note before the end of the sample. This sequence of notes is slower than a tremolo. And it's more realistic than just playing the same staccato note multiple times because you get the sound of the bow changing direction between notes. Unlike most instruments in the Short folder, this one does include release trails

This is not a Round Robin instrument. If you do repeat a MIDI note—perhaps because you need more repetitions than are recorded in the samples—the listener will hear the last repetition followed by the first one, so there's no concern about mechanically identical notes following each other.

Effects

The instruments in this folder fall into several types:

- runs, both pre-recorded and playable
- tremolos
- trills
- repetitions
- sul ponticello

Pre-Recorded Runs

Only 3 sections include pre-recorded runs:

- 1st Violins
- Violas
- Celli

Use the runs in the 1st Violins if you need them for the 2nd Violin part. And such very fast runs are less characteristic of writing for Basses than for the higher sections.

Hollywood Strings includes a large variety of runs. The various runs in the Pre Recorded Runs subfolder are scales that were played and sampled during the recording sessions; you hear the entire run within a sample. In each case, the length of the run is one octave, but otherwise there is great variety in what was sampled. These various runs can be grouped according to several parameters:

- **Direction** – The name of the instrument includes “Up” or “Dn” or some combination to specify what is included. Those that list both directions in the name include a means for the user to specify Up or Down (see below for details). The MIDI note you play is the lowest note of the run; in the case of downward runs, that means the scale will end on the note you play on the keyboard.
- **Scale** – “Maj,” “Min,” or “WT” runs are major, minor, or whole-tone scales, respectively. And “8va” specifies a chromatic scale.
- **Control** – Instruments with “KS” in the name use 2 keyswitch notes to control the direction up or down. In each case, the keyswitch notes are C0 to play a downward scale and C#0 to play an upward scale. When an instrument name includes “MOD,” the Mod Wheel controls the direction. Pull the Mod Wheel to the bottom half of its range and a scale runs downward. Push it to the top half and the scale runs upward. An instrument name with “SPLIT” uses different parts of the keyboard for the 2 directions, as follows.

For the 1st Violins:

- Playing G0 plays an upward scale starting on the usual lowest violin note, G2. And all notes G0 to F3 play upward scales.
- Playing G3 plays a downward scale ending on G2. And all notes G3 to F6 play downward scales.

For the Violas:

- Playing C1 plays an upward scale starting on the usual lowest viola note, C2. And all notes C1 to G3 play upward scales.
- Playing C4 plays a downward scale ending on C2. And all notes C4 to G6 play downward scales.

For the Celli:

- Playing C1 plays an upward scale starting on the usual lowest cello note, C1. And all notes C1 to G3 play upward scales.
- Playing C4 plays a downward scale ending on C1. And all notes C4 to G6 play downward scales.

Playable Runs

Unlike the prerecorded runs, the instruments in this folder allow you to perform runs by playing the notes. The several instrument types use different approaches to achieve the natural sound of a run.

Repetitions Runs Script

This instrument uses a script to detect whether the run is moving upward or downward, and playback the appropriate slur direction. When playing upward, there's a slur from the lower note, When playing downward, there's a slur from the higher note. For the first note in a run, or after a gap, there's no slur.

The notes in this instrument do not respond to MIDI velocity; that is, changing the velocity on any given note will not affect how loudly it is played. Instead, use the “Expression” MIDI CC 11 to set the loudness of the notes in the run.

Note that all samples in this patch are “repetitions,” that is, the sound of a single note being played multiple times in quick succession (similar to a tremolo). In a fast run, each note in the run is short enough that only the first note in the repetition has time to play, but if the run stops on any note, you will hear the repetition. If you do not want this repetition effect, then you will want to select a different patch for these longer notes.

If, for any reason, you want a different pattern of when to play the upward and downward samples in this instrument, take the following steps:

- Turn off the script in this instrument by clicking on the Other button in the Player view, as shown in the image at the left of the button turned on.
- Invoke MIDI CC 14 on the MIDI channel for this instrument (using a slider on a control surface or an envelope in a sequencer).
- Set CC 14 to a value of 66–127 when you want to force the playback of downward samples
- Set CC 14 to a value of exactly 65 to force the playback of repetition samples (neither upward no downward)
- Set CC 14 to a value of 0–64 to force the playback of upward samples.

Slur Runs

These instruments—only available in the 1st and 2nd Violins—generate the sound of a fast-playing scale. Each patch includes all the components needed for every part of the run:

- the fast notes in the run
- the slurs that move the pitch from one note to the next
- the longer notes when you sustain a note in the middle of, or at the end of, the run

The sustained notes are available at 3 levels of vibrato:

- non-vibrato
- vibrato
- molto vibrato

Use the Mod Wheel (MIDI CC 1) to select among these 3 levels; the further up you push the Mod Wheel the more vibrato you hear. And remember that vibrato can be changed continuously, including in the middle of a note.

The sustained notes are available at 5 dynamic levels (think of them as *pp*, *p*, *mf*, *f*, and *ff*) which are controlled by the MIDI “Expression” MIDI CC 11. The MIDI Velocity parameter does not control the loudness of the notes in this instrument.

The selection of which string to play the sustained notes on can be controlled with either the Finger Position buttons in the Player window.

These instruments are intended for very fast runs. A minimum speed is sixteenth notes (semi-quavers) at about 125 beats per minute. While it is possible to play at a slower tempo, the results will likely be less realistic than at faster speeds.

Spiccato Runs

Both of these Spiccato Run instruments are available only in the 2nd Violins section. They are intended for playing fast runs with the sound of the spiccato articulation.

As the run moves up or down, the appropriate sample based on the direction and the interval between notes:

- up a whole tone
- up a half tone
- no change (because it’s the first note in the run)
- down a half tone
- down a whole tone

The differences among these 5 samples are subtle but provide a real sense of a run and not just individual spiccato samples played in rapid succession. This instrument cannot play a run in which any consecutive notes are more than a whole tone apart.

In the “Smooth” version, a layer of staccato is layered on top of the transitions between notes. This composite patch achieves a less abrupt but still characteristically spiccato run.

Tremolos

Hollywood Strings includes two types of tremolos: unmeasured (called simply “Tremolo”) and measured. In the unmeasured instruments, each player moves his bow without regard to the tempo, creating a sound with no discernible rhythm.

The measured version is aware of the overall piece’s current tempo, allowing the patch to pulse in time with that tempo. The “TS” in the name of this instrument means that it uses the Tempo-Sync (TS) feature to align the speed of the internal beats within the measured tremolo to the overall tempo of the piece. When Opus runs as a plug-in, it asks the host for the current tempo. When it runs in standalone mode, the tempo is set in the Engine Tempo Sync control, which you can find by opening the Main Menu, selecting Current Instrument, and then opening the Advanced Properties dialog.

Neither of these tremolo instruments responds to the MIDI Velocity parameter. Instead, you need to use CC 11 to change the loudness. This approach permits a continuous change in both dynamics and timbre in the middle of notes instead of having a fixed timbre set at the beginning of each note. This is done because long-held passages—including the possibility of crescendo or decrescendo—are characteristic of tremolo writing.

All 5 orchestral sections include both Tremolo and Measured Tremolo.

Trills

A trill is the rapid alternation between 2 notes either a half tone or a whole tone apart. On a string instrument, the two notes are played on the same string.

All the string sections (except the Basses) include an instrument that allows the user to select between a half tone trill and a whole tone trill with a keyswitch: Play C0 in advance of the trill to get a half tone trill, or C#0 to get a whole tone trill. The Trill instrument for the Basses includes only a half tone trill.

Repetitions

A Repetitions instrument is available in only 2 sections: Violas and Basses.

The sound is that of a single note played over and over again for a little more than one second. The repetition is slower than a tremolo, but fast enough to fit about a dozen pulses in the note. This sound is more realistic than just repeating the same note over and over from some other patch because you hear the continuity of the sound, including the bow reversal, within the sample. See the second paragraph for Tremolos above to learn more about Tempo Sync. Just as with the Measured Tremolo TS patches, repetitions adjust the speed of the internal beats to the current tempo of the piece.

This instrument uses CC 11 to cross-fade between 3 dynamic levels, which lets you change both loudness and timbre continuously while the note is playing. It does not respond to MIDI Velocity.

Sul Ponticello

This articulation is only available in the Viola section. It's a style of playing with the bow very near the bridge; it achieves a more intense sound than usual that features the notes' higher harmonics.

This instrument does not respond to MIDI Velocity. Use CC 11 to affect the dynamics.

Legato Slur + Portamento

This category includes a variety of different types of legato playing. Which type to use in any particular context depends on factors such as tempo, size of the intervals between consecutive notes, and the orchestrator's preferences.

Note that the Basses include only Legato Slur, therefore, the descriptions of other legato styles below apply to 1st and 2nd Violins, Violas, and Celli only.

Instruments include 1 or more of these legato techniques:

- Bow Change
- Portamento
- Slur

In both portamento legato and slur legato, you hear the pitch start to move in the direction of the next note as the first note is ending. The difference is:

- With portamento legato, the pitch slides all the way up or down to the next note, passing very quickly over all the intervening notes.

- With slur legato, the pitch jumps over most of the intervening notes, with only the start and end of the slide heard in the transition.

For any legato patch to generate a slur or portamento, two notes must have no significant time gap between the end of one note and the start of the next. As a consequence of this rule, as expected, the first note of a phrase has no legato effect at the start of the note.

By default, all legato instruments are monophonic. By allowing only one note to play at a time, PLAY makes sure that there is no ambiguity about what two notes should have a legato transition between them.

It is possible to turn off the monophonic behavior with MIDI CC 22. When in the bottom half of its range, 0–63, the controller preserves the default behavior. But whenever CC 22 is in the range 64–127, polyphonic behavior is turned on. You do need to listen to the output carefully to see whether there are unwanted legato glides between notes in different polyphonic voices. If so, one remedy is to move those two voices to separate MIDI tracks.

Legato Slur Staccato

These instruments add a Slur Staccato accent to notes that do not have a legato connection to the previous note. That is, you can use one of these patches when you want the first note of each legato phrase to automatically receive a slightly stronger attack.

Legato Bow Change

This folder contains legato instruments that include bow change, either on its own or in combination with slur legato and/or portamento legato.

During a legato passage, string players sometimes have to change the direction out of necessity and sometimes do so for the effect. Hollywood Strings gives you the option of using this articulation at any time it suits your needs. The sound of the bow changing direction has a characteristic sound independent of any slur or portamento.

In the legato instruments that include Bow Change together with Portamento and/or Slur effects, Opus decides which of the components to play based on the MIDI data, as described in detail in the Combinations section below.

Keyswitch

Keyswitch (KS) Master instruments can switch between many individual instruments or articulations by playing their respective blue-colored keys ('keyswitches') on the virtual keyboard. When an instrument or articulation is actively selected, its corresponding keyswitch will be highlighted in yellow. This is one of the fastest ways to cycle between articulations in real time, and it makes it easy for you to drop notes into the piano roll and switch articulations after the performance.

3.8 HOLLYWOOD BRASS

The Hollywood Brass Opus Edition library is designed to work together seamlessly with the other libraries in the Hollywood Orchestra Opus Edition series. It includes the same variety of microphone positions and other features that help them blend into a unified sound.

The Hollywood Brass Opus Edition library is designed to create orchestrations of the kind heard in movie soundtracks—but, of course, it can be used for many other types of music, as well.

3.8.1 Solo Instruments and Sections

The library contains instruments that cover several groups of brass instruments in various configurations. They are:

- Solo Cimbasso
- Solo French Horn
- Solo Trombone
- Solo Trumpet
- Solo Tuba
- 2 French Horns
- 2 Trombones **[new]**
- 2 Trombones and 1 Bass Trombone
- 2 Trumpets
- 2 Trumpets Exp **[new]**
- 3 Trumpets
- 6 French Horns
- Low Brass

3.8.2 Instrument Categories and Types

The following paragraphs explain many of the various types of instruments (.ewi files) available in Hollywood Brass. The principles described here apply across all sections and all solo instruments. The **Instrument Categories** in Hollywood Orchestra Brass are:

- Long
- Short
- Effects
- Legato
- Mutes (Jazz)
- Keyswitch

PLEASE NOTE: Detailed instrument and performance descriptions are available in the Description Box of the Browse page.

Long

The instrument types in this folder include various types of Sustain (abbreviated ‘Sus’), Portato, and Legato Repetitions. Not all varieties of these articulations (for example, accented attack and non-vibrato) are available for all solo instruments and orchestral sections. All of them can be held indefinitely; this is achieved by looping the samples.

Sustain

All Sustain instruments continue to play a note audibly as long as the note is held. They are a good choice for slow-moving lines that need a consistent sound no matter how long the notes are held.

The dynamics of the Sustain patches are controlled with the Mod Wheel. The further you push it up, the louder the sound. By using the Mod Wheel instead of Velocity to control loudness, you can create a realistic crescendo and/or decrescendo during a held note.

When you play any note in one of the patches all 4 dynamic layers start to play simultaneously, but only one or two of them are audible at any one time, as controlled by the Mod Wheel. This approach increases the voice count in PLAY and makes more demands on the computer processor. If you need to reduce these demands, consider using the Sustain Lite patch described below, when available.

Sustain Accent

Most solo instruments and sections include a patch which is sustained but with an accent at the beginning of the note. The MIDI Velocity parameter controls the loudness of the attack. The Mod Wheel controls the loudness of the sustained note. Push up the Mod Wheel (or increase CC 1) to swell the overall volume of this instrument. And strike the keys harder (or increase the velocity in a sequencer) whenever you want a louder accent.

Sustain Marcato Long and Short

In these patches, each note starts with a marcato attack to add some strength at the beginning, but not as forceful an attack as in the Sustain Accent patch. The “Long” or “Short” in the names specifies the length of this marcato attack.

The velocity with which you play each note affects the cutoff frequency of a low-pass filter on the marcato samples. The harder you play a note on the keyboard, the more of the higher frequencies are included, giving the note a harsher sound during the attack.

Portato

When playing portato, an instrumentalist holds each note its full length—or close to it—but without tying it to the next note. This creates a non-legato effect, but without making the notes sound staccato.

Legato Repetitions

This patch provides retongued repetitions to create the sound of repeated notes within a legato phrase. These same samples are used in the Legato Slur Repetition patches where a script plays them only in the appropriate context within a legato phrase. In this patch, you can determine in which ways you want to use this sound.

Mariachi Sustain

This patch includes a strong attack followed by a sustain with a lot of vibrato, in the style of a mariachi band.

Note that unlike most sustain instruments, this one does not use the Mod Wheel to control dynamics; it uses Velocity instead.

Expressive Vibrato

Available only in the Solo Trumpet, this instrument starts out with no vibrato and adds vibrato as the note progresses. Use this instrument when you want the faster-moving notes to be non-vibrato but the longer notes to add an expressive vibrato.

Short

Articulations included in this folder include varieties of Staccato, Staccatissimo, Marcato, Repetitions, and Sforzando.

PLEASE NOTE: Even if there are no rests between short notes, be sure to hold the last note of the phrase long enough to let the reverberation of that last note ring. Short articulations do not include release trails. But there is some reverberation at the end of the main sample, once the note stops playing. This approach allows you to play fast passages without building up a lot of overlapping reverberations. Therefore, when playing a phrase of staccato notes, be sure to play the MIDI notes in a connected fashion so that you do hear the natural reverberation of the recording studio in the short rests between the sounding notes.

Staccato and Staccatissimo

The term “staccato” refers to any note of short duration that is not connected legato to the following note. Staccatissimo is like Staccato, but with notes of even shorter duration.

In Hollywood Brass, staccato notes with the highest velocity include an attack that includes the rougher sound of overblowing, which features more of the higher pitched harmonics.

Marcato

When used in a score, the term “marcato” indicates that every note is to be accented. This articulation contains notes of a short duration that begin with a strong accent. Some O2 Short folders contain both Short and Long versions, differing in how long the note is held after the attack.

These are a Round Robin instruments with 4 sets of samples in rotation.

Shorts MOD SPEED

This instrument allows you to use the Mod Wheel to move continuously among several short articulations. The numbers in parentheses the Mod Wheel values that trigger each level. As you push the Mod Wheel up from the bottom, the articulations you hear:

- Staccatissimo (0 - 25)
- Staccato (26 - 51)
- Marcato Short (52 - 77)
- Marcato Long (78 - 103)
- Marcato Long + Sus (104 - 127)

Repetitions

In this patch, the same note is played repeatedly at least a dozen times in quick succession. For fewer repetitions, end the note before the end of the sample. This sequence of notes is more realistic than just playing the same staccato note multiple times.

This is not a Round Robin instrument. If you do repeat a MIDI note—perhaps because you need more repetitions than are recorded in the samples—the listener will hear the last repetition followed by the first one, so there’s no concern about mechanically identical notes following each other.

The Mod Wheel affects the loudness, allowing you to increase or decrease the loudness during the repetitions within a single MIDI note.

Repetitions are available in 3 speeds:

- Fast (170 bpm)
- Medium (145 bpm)
- Slow (120 bpm)

The numbers are the base tempos for the repetitions, that is, what was played during the recording session. These instruments all “sync to tempo,” which means when Opus is used as a plugin, the tempo matches the speed of the MIDI tempo in the sequencer.

Each patch sounds best when the tempo to which it is being synced is close to its base tempo. For example, at a tempo of 160, use the closest patch, Fast 170, for the most lifelike playback.

You may need to adjust the length of the MIDI note a little bit in order to end the sequence between repetitions and not in the middle of one of the repeated notes.

Note: unlike most instruments in the O2 Short folder, this one does include release trails.

Triple Performance

For the 3 Trumpets, there’s a patch called “Triple Performance” that repeats the selected note exactly 3 times in quick succession. Unlike the Repetitions patches, this does *not* respond to the Mod Wheel to affect the loudness.

Double Tongue

Some articulation files indicate that they use the technique known as double tonguing. This effect lets the user achieve a faster sequence of notes by stopping the airflow alternately with the tip of the tongue and with the back of the tongue against the palate. The tongue moves in the same pattern as when saying “tiki tiki tiki.”

Sforzando Crescendo

The Solo Horn and Solo Tuba include a patch called Sforzando Crescendo. Each note starts with an accented attack (sforzando) which is followed by a strong crescendo.

MIDI Velocity controls the loudness—and the timbre—of the attack as well as the loudness of the crescendo.

When a note is played short enough to end before the crescendo, this patch can act as a sforzando staccato patch.

Effects

The instruments in this folder fall into several types:

- trills
- rips and shakes
- crescendos
- flutter tongue
- clusters
- special effects (FX), rises, and oddities

Trills

A trill is the rapid alternation between two notes either a half tone or a whole tone apart. Any file with “HT” in the name contains a half-tone trill. And with “WT” in the name, it contains a whole-tone trill. With “KS” in the name, it contains both versions of the trill and the user can select which version using a keyswitch note: play C0 in advance of the trill for a half-tone trill or play C#0 in advance for a whole-tone trill.

This instrument responds to the Mod Wheel to control the volume. It does not respond to MIDI Velocity. This approach allows you to increase or decrease the loudness mid-note, that is, during the trill.

Rips and Shakes

Brass instruments (especially the horns, but also the trumpets) can play a characteristic sound called a rip. This is a kind of glissando that works up the scale of harmonics. The effect evokes the sound of a natural hunting horn.

Horns can also perform an effect called a shake: the sound is similar to a short trill but coarser (less controlled).

The shake is sometimes used in jazz performances. And this library includes a few examples with a jazz-specific sound.

These two effects can also be combined into a patch known as a rip shake.

The patch called Rip Flutter Tongue starts with a short rip and then holds the end note with a flutter tongue. The rip at the start has its volume controlled with the Velocity parameter. The loudness of the sustained flutter tongue is controlled with the Mod Wheel.

Crescendos

The crescendo instruments capture the sound of a single-note crescendo, a common usage in brass music. Using one of these instruments can often be more realistic than using MIDI volume or expression to achieve the effect. In most cases, there are Fast, Medium, and Slow versions available. In an instrument called “Crescendo MOD SPEED,” the speed of the crescendo is controlled by the Mod Wheel (CC 1): the further you push up the Mod Wheel, the faster the loudness increases:

- Slow (1–42)
- Medium (43–85)
- Fast (86–127)

The numbers in parentheses specify the Mod Wheel (CC 1) values that trigger each speed. These are 3 discrete levels; so, for example, pushing the Mod Wheel from 50 up to 70 does *not* increase the speed.

These patches do not include release trails.

Flutter Tongue

When a brass player flutters his tongue while playing, similar to the rolled R in some languages, it produces a characteristic sound captured in the several Flutter Tongue files in this library.

The Mod Wheel affects the loudness, allowing a continuous crescendo or decrescendo mid-note. Velocity does not control loudness for this instrument.

Clusters

When the several players in a section play different notes close to each other in pitch, usually a minor or major second apart, the effect is called a cluster.

Use the Mod Wheel to control the loudness, even in the middle of a single note. The Velocity parameter does not influence the dynamics.

Because more than one pitch is being played, you may need to experiment to find the best MIDI note to achieve the sound you want.

Special Effects (FX), Rises, and Oddities

The Hollywood Brass library contains several instrument files with unusual effects. You will get a better idea of what is available by listening than by reading any attempt at descriptions.

Legato

For most brass instruments, a legato sound is created with a slur that joins the two consecutive notes without a fresh attack at the start of the later note. This slur occurs only when there is no significant gap between the end of the earlier note and the start of the later note. In addition, the two notes have to be at most an octave apart. Moving from D3 to D4 generates a legato slur; moving from D3 to D#4 does not.

Trombones, by virtue of their slide mechanism, can generate another kind of legato, one in which there is some amount of portamento connecting the two notes, an audible anticipatory movement of the pitch toward the next note. This effect is known as “slide legato.”

PLEASE NOTE: By default, all legato instruments are monophonic. By allowing only one note to play at a time, PLAY makes sure that there is no ambiguity about what two notes should have a legato transition between them. It is possible to turn off the monophonic behavior with MIDI Control Code 22. When in the top half of its range, 64–127 the controller preserves the default behavior. But whenever CC 22 is in the range 0–63, polyphonic behavior is turned on. You do need to listen to the output carefully to see whether there are unwanted legato slurs between notes in different polyphonic voices. If so, one remedy is to move those two voices to separate MIDI tracks.

Legato Slur

The basic slur legato patch creates a slur between notes as long as there is no delay between the end of the first note and the start of the following note. Plus, the interval between the two notes has to be no more than an octave.

The volume is controlled with the Mod Wheel and not with Velocity. In addition, in the loudest range of dynamics, the Mod Wheel opens a low-pass filter to allow the rougher sound of overblowing to color the notes more and more as the Mod Wheel value gets closer to the maximum of 127.

MIDI Velocity is used to control the speed of the legato transitions. The harder you press on the keys, the faster the slur between notes.

Because these patches always start playing 4 sustain samples (and cross-fade between them based on the Mod Wheel) and also use separate sample to provide the slurs, be aware that the patches use more computer resources than most of the simpler instruments.

Legato Slur Accent

This patch works the same as the basic Legato Slur (described above) except that it includes an accent at the attack. While the volume of the notes is controlled with the Mod Wheel, the strength of the accents is controlled with the Velocity.

Legato Slur Repetitions

This patch is similar to the basic Legato Slur except that it also uses separate samples to handle repeated notes. For example, if in a phrase 3 notes of the same pitch are played consecutively without space between the notes, the second and third occurrences use a retongued version of the note to achieve the correct sound.

Slur Runs

This patch provides a slur legato sound with a lot of portamento that works well in very fast runs. Each note can be held indefinitely, so if you want to, for example, run up to a note and hold it, you can use this patch for both the run and the held note.

The characteristic sound occurs only when the interval between consecutive notes is either a minor second or a major second. Larger intervals do not create the strong slur.

Dynamics for this instrument are controlled with the Mod Wheel, not Velocity. And, as with the basic Legato Slur patch, this one uses a lot of resources because each note uses 4 Voices for the 4 dynamic levels playing concurrently.

Mutes

The use of mutes provides brass instruments with a wide variety of timbres significantly different from the un-muted sounds. These mutes fit into the flared bell of the instruments, but are fashioned into various shapes to achieve the desired sound. The O6 Mutes folder contains muted instruments performing many of the articulations listed in previous sections, such as staccato, legato slur, crescendo, and clusters. See the tables above for what is available for each section or solo instrument.

Another way to mute a brass instrument is to place one's free hand in the bell. Such a mute is called a "stop." It is most characteristic of the French Horn.

See the descriptions of the unmuted versions of these instruments for details about Mod Wheel usage and other factors.

The Solo Trombone instruments in the O6 Mutes folder include some specialized hardware, such as the plunger mute. You should audition these muted patches to see which ones provide the sounds you're looking for.

In general, it is more effective for you to audition the many varieties of muted articulations than to read about them in a manual.

Keyswitch

Keyswitch (KS) Master instruments can switch between many individual instruments or articulations by playing their respective blue-colored keys ('keyswitches') on the virtual keyboard. When an instrument or articulation is actively selected, its corresponding keyswitch will be highlighted in yellow. This is one of the fastest ways to cycle between articulations in real time, and it makes it easy for you to drop notes into the piano roll and switch articulations after the performance.

3.9 HOLLYWOOD ORCHESTRAL WOODWINDS

The Hollywood Orchestral Woodwinds Opus Edition library is designed to work together with the other libraries in the Hollywood Orchestra Opus Edition series. It includes the same variety of microphone positions and other features that help them blend into a unified sound.

The Hollywood Orchestral Woodwinds Opus Edition library is designed to create orchestrations of the kind heard in movie soundtracks—but, of course, it can be used for many other types of music, as well.

3.9.1 Solo Instruments and Sections

For the purpose of the tables in this chapter, the library can be grouped into three sets of instruments based on how the sound is generated.

The various articulations of each instrument are enumerated in the three tables that follow. You might want to print out the pages containing these tables as a reference.

The characteristics of these orchestral instruments are not described in this manual because they are members of standard instrumental families. A few, such as the Bass Flute and Contrabass Clarinet, are uncommon, though their usage can be easily extrapolated from the more common members of the family.

The one instrument that needs some explanation is the one called “Flute 2.” It is a standard transverse flute, just like “Flute,” but it was played by a different flautist who sat in a slightly different position on stage. In other words, no samples are shared between “Flute” and “Flute 2,” so if played together in unison, they will not collapse into a single performance.

The **Flutes** featured in Hollywood Orchestral Woodwinds are:

- Solo Piccolo Flute
- Solo Flute
- Solo Flute 2
- 3 Flutes **[new]**
- Solo Alto Flute
- Solo Bass Flute

The **Clarinets** featured in Hollywood Orchestral Woodwinds are:

- Solo Clarinet
- 3 Clarinets **[new]**
- Solo Eb Clarinet
- Solo Bass Clarinet
- Solo Contrabass Clarinet

The **Double Reeds** featured in Hollywood Orchestral Woodwinds are:

- Solo Oboe
- Solo English Horn

- Solo Bassoon
- 3 Bassoons [new]
- Solo Contrabassoon

3.9.2 Instrument Categories and Types

The following paragraphs explain many of the various types of instruments (.ewi files) available in Hollywood Orchestral Woodwinds. The principles described here apply across all instruments where the described articulation is available.

The **Instrument Category Types** in Hollywood Orchestra Woodwinds are:

- Long
- Short
- Effects
- Legato
- Keyswitch

PLEASE NOTE: Detailed instrument and performance descriptions are available in the Description Box of the Browse page.

Long

The instrument types in this folder include various types of Sustain (abbreviated ‘Sus’) and Legato Repetitions (abbreviated ‘LegRep’).

Sustain

All Sustain instruments continue to play audibly as long as the note is held. They are a good choice for slow-moving lines that need a consistent sound no matter how long the notes are held.

The dynamics of the Sustain patches are controlled with the Mod Wheel. The further you push it up, the louder the sound. By using the Mod Wheel instead of Velocity to control loudness, you can create a realistic crescendo and/or decrescendo during a held note.

When you play any note in one of the patches, all 3 dynamic layers start to play simultaneously, but only one or two of them are audible at any one time, as controlled by the Mod Wheel. This approach increases the voice count in PLAY and makes more demands on the computer processor, but produces much more realistic dynamics.

There are several variants for the Sustain patches, described below:

Sus Expressive

This patch adds an expressive feel to the notes with a slower attack and a gently increasing vibrato.

Legato Repetitions

This patch provides re tongued repetitions to create the sound of repeated notes within a sustained phrase. For each note, this patch plays both a sustained non-vibrato note and a short

note to act as the retongued attack. It is this start of each note that participates in the 4-way round robin (as indicated by “RRx4” in the name). This patch is designed for repeated notes within an otherwise legato phrase, but you may find other circumstances in which it works in your compositions

Short

Articulations included in the O2 Short folder include varieties of Staccato, Staccatissimo, and Marcato.

PLEASE NOTE! Even when there are no rests between short notes, be sure to hold the last note of the phrase long enough to let the reverberation of that last note ring. Be aware that, in general, short articulations do not include release trails. But there is some reverberation at the end of the main sample once the instrument stops playing. This approach allows you to play fast passages without building up a lot of overlapping reverberations. Therefore, when playing a phrase of staccato notes, be sure to hold the MIDI notes long enough to hear the natural reverberation of the recording studio in the short rests between the sounding notes (if your tempo allows it).

Staccato and Staccatissimo

The term “staccato” refers to any note of short duration that is not connected legato to the following note. Staccatissimo is like Staccato, but with notes of even shorter duration. In the names of the articulation files, Staccatissimo is abbreviated “StacSs.”

Double Tongue

Some short articulation files indicate that they use the technique known as double tonguing. This lets the instrumentalist achieve a faster sequence of notes by stopping the airflow alternately with the tip of the tongue and with the back of the tongue against the palate. The tongue moves in the same pattern as when saying “tiki tiki tiki.”

Marcato

When used in a score, the term “marcato” indicates that every note is to be accented. This articulation contains notes of a short duration that begin with a strong accent.

These are Round Robin instruments with 4 sets of samples in rotation.

Shorts MOD SPEED

Each one of these instruments allows you to use the Mod Wheel to move continuously among several short articulations. As you push the Mod Wheel up from the bottom, the articulations you hear proceed from the shortest (staccatissimo) to longer to marcato. Near the top of the Mod Wheel’s range, the generated notes play a short attack and a sustained note. Use this patch when you need a variety of note lengths, most of which are short.

Each of the four included articulations sits in about a quarter of the Mod Wheel’s 128-value range. As you move from 0 to 127, you pass through:

- Staccatissimo
- Staccato
- Marcato Short
- Marcato Short played simultaneously with a Sustain

Effects

The instruments in this folder fall into several types:

- runs on several different scales
- trills
- flutter tongue
- repetitions
- special effects (FX)

Runs

These patches are scales recorded to a single MIDI note. Four different scales are included:

- Chromatic
- Major
- Minor
- Whole Tone

All of these runs cover a full octave and are available in two directions: upward and downward. Note that the MIDI note always specified the lowest note in the scale, whether going up or down. The speed of the scale is fixed, so if you need a scale at a specific tempo, it's best to use one of the other patches and play the scale note by note.

Trills

A trill is the rapid alternation between two notes either a half tone or a whole tone apart. Any file with "HT" in the name contains a half-tone trill. And with "WT" in the name, it contains a whole-tone trill.

This instrument responds to the Mod Wheel to control the volume. It does not respond to MIDI Velocity. When you play a MIDI note, the samples for all three dynamic layers start playing, with the Mod Wheel controlling whether, and how much of, each layer is audible. This approach allows you to increase or decrease the loudness during the trill.

Flutter Tongue

When a flautist flutters his tongue while playing, similar to the rolled R in some languages, it produces a characteristic sound captured in the several Flutter Tongue files in this library.

The Mod Wheel affects the loudness, allowing a continuous crescendo or decrescendo mid-note. Velocity does not control loudness for these instruments.

Repetitions

Each MIDI note in these patches is the sound of the instrument playing a single note repeatedly. If you need fewer repetitions than available in the whole sample, then end the MIDI note after the number of repetitions you're looking for. In some cases, the repeated notes are available at different speeds: slow, medium, and fast. The advantage of using one of these patches over just repeated MIDI notes, is that the transitions between repetitions are exactly correct for the sampled instrument.

Effects (FX)

A few O3 Effects folders contain patches that feature recordings of the instrument playing sounds beyond the usual diatonic notes, including squawks, breathy sounds, glissandi, and the like. It's best just to listen to the range of sounds and see whether you can use any of them.

In some cases, these effects are divided into separate files for sounds or phrases of long and short duration.

Sing

The Flute contains an articulation called Sing RR. This is the sound of the flautist vocalizing into the flute while also blowing across the mouthpiece. This creates a sound which is a mixture of the human voice and the usual flute timbre.

Legato

For most woodwind instruments, a legato sound is created with a slur that joins the two consecutive notes without a fresh attack at the start of the later note. This slur occurs only when there is no significant gap between the end of the earlier note and the start of the later note. In addition, the two notes have to be at most an octave apart. Moving from D3 to D4 generates a legato slur; moving from D3 to D#4 does not.

PLEASE NOTE! By default, all legato instruments in this library are monophonic. By allowing only one note to play at a time, PLAY makes sure that there is no ambiguity about what two notes should have a legato transition between them. It is possible to turn off the monophonic behavior with MIDI Control Code 22. When in the top half of its range, 64–127, the controller preserves the default behavior. But whenever CC 22 is in the range 0–63, polyphonic behavior is turned on. You do need to listen to the output carefully to see whether there are unwanted legato slurs between notes in different polyphonic voices. If so, one remedy is to move those two voices to separate MIDI tracks.

Legato Slur

The basic slur legato patch creates a slur between notes as long as there is no delay between the end of the first note and the start of the following note. Plus, the interval between the two notes has to be no more than an octave.

Because these patches always start playing 3 sustain samples (in addition to cross-fade between them based on the Mod Wheel) and also use separate samples to provide the slurs, be aware that the patches use more computer resources than most of the simpler instruments.

Legato Slur Repetitions

This patch is similar to the basic Legato Slur except that it also uses separate samples to handle repeated notes. For example, if in a phrase 3 notes of the same pitch are played consecutively without space between the notes, the second and third occurrences use a retongued version of the note to achieve the correct sound.

Slur Runs

These patches provide a slur legato sound with a lot of portamento that works well in very fast runs. Each note can be held indefinitely, so if you want to, for example, run up to a last note and hold it, you can use this patch for both the run and the held note.

The characteristic sound occurs only when the interval between consecutive notes is either a minor second or a major second. Larger intervals do not create the strong slur.

Dynamics for this instrument are controlled with the Mod Wheel, not Velocity. And, as with the basic Legato Slur patch, this one uses a lot of resources because each note uses 3 voices for

the 3 dynamic levels playing concurrently, plus another 3 voices for the samples of the slurs. When playing a fast run, the voice count can easily exceed 40 for only this one patch.

Keyswitch

Keyswitch (KS) Master instruments can switch between many individual instruments or articulations by playing their respective blue-colored keys ('keyswitches') on the virtual keyboard. When an instrument or articulation is actively selected, its corresponding keyswitch will be highlighted in yellow. This is one of the fastest ways to cycle between articulations in real time, and it makes it easy for you to drop notes into the piano roll and switch articulations after the performance.

3.10 HOLLYWOOD ORCHESTRAL PERCUSSION

The Hollywood Orchestral Percussion Opus Edition library is designed to work together with the other libraries in the Hollywood Orchestra Opus Edition series. It includes the same variety of microphone positions and other features that help them blend into a unified sound.

The Hollywood Orchestral Percussion Opus Edition library contains a wide variety of instruments typical in an orchestral movie soundtrack—and, of course, it can be used for many other types of music, as well.

3.10.1 Solo Instruments and Kits

For the purpose of the tables in this chapter, the library can be grouped into five sets of instruments based on how the sound is generated. They are:

- Combo Kits
- Cymbals
- Drums
- Metals
- Wood

3.10.2 Instrument Categories and Types

The **Instruments Types** in each category are relatively consistent between instruments.

PLEASE NOTE: Detailed instrument and performance descriptions are available in the Description Box of the Browse page.

Combo Kits

These instruments combine a variety of core orchestral percussion instruments into a single instrument.

Orchestral Perc Basics Kit 1

An assortment of core orchestral percussion instruments mapped to white keys from note C0 to A6, each with a variety of articulations and a round robin (x2) cycle. CC 11 (Expression), and Note Velocity control overall loudness, and Note Velocity controls dynamics (up to 16 levels). It provides quick access to all the essentials of a percussion section so you can create detailed mock ups faster.

Below is a list of the starting note of each instrument in parenthesis, followed by the instrument name, followed by the range of notes containing each articulation, and details related to them.

- (C0) Timpani Felt Long — C0–E1; a chromatic scale of long hits, alternating LH and RH
- (F1) 32-inch Bass Drum — F1=short hit; G1=long hit; A1=roll; B1=cresc (1 sec)
- (C2) 40-inch Bass Drum — C2=short hit; D2=long hit; E2=roll; F2=cresc (1 sec)

- (G2) 6x14 Brass Calf Head Ludwig Snare Drum — G2–A2=center hit LH, RH; B2=flam; C3=rims shot; D3=bounce; E3=roll
- (F3) 5x14 Brass Ludwig Snare Drum — F3–G3=center hit LH, RH; A3=flam; B3=rims shot; C4=bounce; D4=roll
- (E4) 12x15 Slingerland Field Drum — E4–F4=center hit LH, RH; G4=flam; A4=rims shot; B4=bounce; C5=roll
- (D5) 15-inch Old Italian Crash Cymbal — D5=long hit; E5=short hit
- (F5) 19-inch Sabian Crash Cymbal — F5=long hit; G5=short hit
- (A5) 20-inch Zildjian Crash Cymbal — A5=long hit; B5=short hit
- (C6) 38-inch Large Tam Tam — C6=long hit; D6=short hit; E6=cresc
- (F6) 18-inch Zildjian Sus Cymbal Cres — F6–A6=crescendo sustain

Orchestral Perc Basics Kit 2

An assortment of extended percussion instruments mapped to white keys from note C0 to A6, each with a variety of articulations and a round robin (x2) cycle. CC 11 (Expression) and Note Velocity control overall loudness, and Note Velocity controls dynamics (up to 12 levels). These are less common than the essentials in Orchestral Perc Basics Kit 1 and are ideal for expanding your orchestral palette with more variety and nuance.

Below is a list of the starting note of each instrument in parenthesis, followed by the instrument name, followed by the range of notes containing each articulation, and details related to them.

- (C0) 36-inch Ludwig Bass Drum Felt — C0=short hit; D0=long hit; E0=roll; F0=cresc (1 sec)
- (G0) 6x14 Pearl Philharmonic Snare Drum — G0–A0=center hit LH, RH; B0=flam; C1=rims shot; D1=bounce; E1=roll
- (F1) 10x14 Black Swamp Field Drum — F1–G1=center hit LH, RH; A1=flam; B1=rims shot; C2=bounce; D2=roll
- (E2) Black Swamp Tambourine — E2–F2=hits; G2=rolls
- (A2) 16-inch Sabian Crash Cymbal — A2=long crash; B2=short crash
- (C3) 19-inch Zildjian A Crash Cymbal — C3=long crash; D3=short crash
- (E3) 22-inch Zildjian Crash Cymbal — E3=long crash; F3=short crash
- (G3) 20-inch Zildjian Sus Cymbal Cres — G3–B3=crescendo sustain (G3=fastest to B3=slowest)
- (C4) 32-inch Medium Tam Tam — C4=long; D4=short; E4= crescendo Pulli Sticks F4 2 2 F4–G4=hits
- (A4) Shakers — A4–B4=short shakes
- (C5) Castanets — C5–D5=Castanet LH, RH; E5=Castanet flam; F5=Castanet roll
- (G5) Anvils — G5=anvil; A5=Carol Sound anvil; B5=Carol Sound anvil mute; C6=railroad track; D6–E6=railroad track mute
- (F6) Triangle — F6–G6=triangle hits; A6=triangle roll

Cymbals / Cymbal Pairs

This folder of instruments contains crash cymbal pairs ranging in size from 22 inches down to 12 inches.

12in - 22in Crash Combo

Crash cymbal pairs ranging in size from 22 inches down to 12 inches mapped across white keys starting on note C1. Each crash cymbal pair has 3 lengths mapped from longest to shortest (long, short, even shorter), and each plays in a round robin (x3) cycle. CC 11 (Expression) and Note Velocity control overall loudness, and Note Velocity controls dynamics (7 levels). For any dramatic moment that needs extra energy, this instrument provides a range of easy options to drop in and punch it up.

Below is a list of the starting notes of each instrument in parenthesis, followed by the instrument name.

- (C1) 22-inch Zildjian K Crash
- (F1) 20-inch Zildjian Crash
- (B1) 20-inch Constantinople Crash
- (E2) 19-inch Zildjian Crash
- (A2) 19-inch Zildjian A Crash
- (D3) 19-inch Sabian Crash
- (G3) 17-inch Istanbul Crash
- (C4) 16-inch Sabian Crash
- (F4) 15-inch Old Italian Crash
- (B4) 14-inch Old Zildjian K Crash
- (E5) 12-inch Old Zildjian K Crash

12in Old Zildjian K Crash

A 12-inch crash cymbal pair starting on note C3, composed of 3 lengths mapped to the white keys from longest to shortest (C3=long; D3=short; E3=even shorter), each played in a round robin (x3) cycle. They have a pleasant splashing quality with much less harshness than average cymbals, with a slight pitch lift that adds in some extra life throughout each hit. CC 11 (Expression) and Note Velocity control overall loudness, and Note Velocity also controls dynamics (7 levels).

14in Old Zildjian K Crash

A 14-inch crash cymbal pair starting on note C3, composed of 3 lengths mapped to the white keys from longest to shortest (C3=long; D3=short; E3=even shorter), each played in a round robin (x3) cycle. They have a sturdy metallic impact and ring, with a slight pitch lift for added character. CC 11 (Expression) and Note Velocity control overall loudness, and Note Velocity also controls dynamics (7 levels).

15in Old Italian Crash

A 15-inch crash cymbal pair starting on note C3, composed of 3 lengths mapped to the white keys from longest to shortest (C3=long; D3=short; E3=even shorter), each played in a round robin (x3) cycle. Each hit has a different body sound, and you can choose between open or choked hits. CC 11 (Expression) and Note Velocity control overall loudness, and Note Velocity also controls dynamics (7 levels).

16in Sabian Crash

A 16-inch crash cymbal pair starting on note C3, composed of 3 lengths mapped to the white keys from longest to shortest (C3=long; D3=short; E3=even shorter), each played in a round robin (x3) cycle. These hits are small and quite harsh, ideal for high-frequency accents when you really need the cymbal to cut through. CC 11 (Expression) and Note Velocity control overall loudness, and Note Velocity also controls dynamics (7 levels).

17in Istanbul Crash

A 17-inch crash cymbal pair starting on note C3, composed of 3 lengths mapped to the white keys from longest to shortest (C3=long; D3=short; E3=even shorter), each played in a round robin (x3) cycle. This is a good all-purpose crash, balanced in tone and its placement on the frequency spectrum. CC 11 (Expression) and Note Velocity control overall loudness, and Note Velocity also controls dynamics (7 levels).

19in Sabian Crash

A 19-inch crash cymbal pair starting on note C3, composed of 3 lengths mapped to the white keys from longest to shortest (C3=long; D3=short; E3=even shorter), each played in a round robin (x3) cycle. This has a similar potency to the 16in Sabian Crash, but is lower in pitch. CC 11 (Expression) and Note Velocity control overall loudness, and Note Velocity also controls dynamics (7 levels).

19in Zildjian A Crash

A 19-inch crash cymbal pair starting on note C3, composed of 3 lengths mapped to the white keys from longest to shortest (C3=long; D3=short; E3=even shorter), each played in a round robin (x3) cycle. The timbre is rounded rather than harsh, and has a thick body that fills up more space in the mix for when you need something a little fuller. CC 11 (Expression) and Note Velocity control overall loudness, and Note Velocity also controls dynamics (7 levels).

19in Zildjian Crash

A 19-inch crash cymbal pair starting on note C3, composed of 3 lengths mapped to the white keys from longest to shortest (C3=long; D3=short; E3=even shorter), each played in a round robin (x3) cycle. It has a mellow quality, and is better for subtly punching up the right moments rather than creating as big a splash as possible. CC 11 (Expression) and Note Velocity control overall loudness, and Note Velocity also controls dynamics (7 levels).

20in Constantinople Crash

A 20-inch crash cymbal pair starting on note C3, composed of 3 lengths mapped to the white keys from longest to shortest (C3=long; D3=short; E3=even shorter), each played in a round robin (x3) cycle. It has a nice hiss and splashiness for when you want a broad spectrum crash that can stand up amidst a full orchestra. CC 11 (Expression) and Note Velocity control overall loudness, and Note Velocity also controls dynamics (7 levels).

20in Zildjian Crash

A 20-inch crash cymbal pair starting on note C3, composed of 3 lengths mapped to the white keys from longest to shortest (C3=long; D3=short; E3=even shorter), each played in a round robin (x3) cycle. Its attack is quite soft, making it a good choice when you want the splash of the tail without a hard metallic hit at the beginning. CC 11 (Expression) and Note Velocity control overall loudness, and Note Velocity also controls dynamics (7 levels).

22in Zildjian K Crash

A 22-inch crash cymbal pair starting on note C3, composed of 3 lengths mapped to the white keys from longest to shortest (C3=long; D3=short; E3=even shorter), each played in a round robin (x3) cycle. Its timbre is quite suitable for marching bands and drum corps due to its grandiose quality. CC 11 (Expression) and Note Velocity control overall loudness, and Note Velocity also controls dynamics (7 levels).

28in Small Tam Tam

A 28-inch tam-tam starting on note C1, composed of 5 articulations mapped to the white keys (C1=long; D1=short; E1= fast crescendo; F1=medium-fast crescendo; G1=slow crescendo), each played in a round robin (x2) cycle. The sound is mellow and complex, offering a good way to punctuate important moments without the bombastic quality of most gongs. CC 11 (Expression) and Note Velocity control overall loudness, and Note Velocity also controls dynamics (12 levels for long and short, and 2 levels for crescendos).

32in Med Tam Tam

A 32-inch tam-tam starting on note C1, composed of 5 articulations mapped to the white keys (C1=long; D1=short; E1= fast crescendo; F1=medium-fast crescendo; G1=slow crescendo), each played in a round robin (x2) cycle. There's a bassy resonance coupled with its high frequency splash that gives it a fuller sound, which is particularly useful when you want to completely fill an otherwise silent moment in any score. CC 11 (Expression) and Note Velocity control overall loudness, and Note Velocity also controls dynamics (12 levels for long and short, and 2 levels for crescendos).

38in Large Tam Tam

A 38-inch tam-tam starting on note C1, composed of a variety of articulations mapped to the white keys (C1=long; D1=short; E1=fast crescendo; F1=medium-fast crescendo; G1=slow crescendo; A1–E3=bowed FX; F3–B3=scraped FX), each played in a round robin (x2) cycle. It possesses a strong bassy resonance and firm body that add mystery and intrigue (or generally create a commanding presence). CC 11 (Expression) and Note Velocity control overall loudness, and Note Velocity also controls dynamics (12 levels for long and short, 2 levels for crescendos, and 1 level for FX).

Cymbals / Sus Cymbals

This folder of instruments contains cymbals ranging in size from 22 inches down to 14 inches.

14in Paiste Sus Cymbal Cresc

A 14-inch suspended cymbal starting on note C3, composed of 2 types of crescendos: crescendo sustain, where the cymbal is played with increasing speed and force so that its volume grows to a peak and is allowed to ring out (sustain); and crescendo stopped, where the cymbal is played with increasing speed and force so that its volume grows to a peak and is then dampened (stopped) to prevent it from ringing out. Its small size gives it a pleasant rain-like quality, and it's great for short but dramatic buildups when it won't be overpowered by the rest of the orchestra. Each contains 4 different lengths mapped to the white keys from shortest to longest (C3–F3=crescendo sustain; G3–B3=crescendo stopped), and is played in a round robin (x2) cycle. CC 11 (Expression) and Note Velocity control overall loudness, and Note Velocity also controls dynamics (2 levels).

18in Wuhan Sus Cymbal Cresc

A 18-inch suspended cymbal starting on note C3, composed of 2 types of crescendos: crescendo sustain, where the cymbal is played with increasing speed and force so that its volume grows to a peak and is allowed to ring out (sustain); and crescendo stopped, where the cymbal is played with increasing speed and force so that its volume grows to a peak and is then dampened (stopped) to prevent it from ringing out. Its profile is deeper than a standard suspended cymbal, and it has a broad-spectrum frequency span with little additional coloration. Each contains 4 different lengths mapped to the white keys from shortest to longest (C3–F3=crescendo sustain; G3–B3=crescendo stopped), and is played in a round robin (x2) cycle. CC 11 (Expression) and Note Velocity control overall loudness, and Note Velocity also controls dynamics (2 levels).

18in Zildjian Sus Cymbal Cresc

An 18-inch suspended cymbal starting on note C3, composed of 2 types of crescendos: crescendo sustain, where the cymbal is played with increasing speed and force so that its volume grows to a peak and is allowed to ring out (sustain); and crescendo stopped, where the cymbal is played with increasing speed and force so that its volume grows to a peak and is then dampened (stopped) to prevent it from ringing out. Its profile is close to a standard suspended cymbal, with an upper frequency span that has very little coloration. Each contains 4 different lengths mapped to the white keys from shortest to longest (C3–F3=crescendo sustain; G3–B3=crescendo stopped), and is played in a round robin (x2) cycle. CC 11 (Expression) and Note Velocity control overall loudness, and Note Velocity also controls dynamics (2 levels).

20in Zildjian w Cutouts Sus Cymbal Cresc

A 20-inch suspended cymbal starting on note C3, composed of 2 types of crescendos: crescendo sustain, where the cymbal is played with increasing speed and force so that its volume grows to a peak and is allowed to ring out (sustain); and crescendo stopped, where the cymbal is played with increasing speed and force so that its volume grows to a peak and is then dampened (stopped) to prevent it from ringing out. It has a splashy timbre with added mid range presence, and is set in a reverb that enables it to easily blend into orchestral arrangements. Each contains 4 different lengths mapped to the white keys from shortest to longest (C3–F3=crescendo sustain; G3–B3=crescendo stopped), and is played in a round robin (x2) cycle. CC 11 (Expression) and Note Velocity control overall loudness, and Note Velocity also controls dynamics (2 levels).

22in Dream Sus Cymbal Cresc

A 22-inch suspended cymbal starting on note C3, composed of 2 types of crescendos: crescendo sustain, where the cymbal is played with increasing speed and force so that its volume grows to a peak and is allowed to ring out (sustain); and crescendo stopped, where the cymbal is played with increasing speed and force so that its volume grows to a peak and is then dampened (stopped) to prevent it from ringing out. It has a clearer, inharmonic quality than most suspended cymbals that brings its timbre closer to that of a gong. Each contains 4 different lengths mapped to white keys from shortest to longest (C3–F3=crescendo sustain; G3–B3=crescendo stopped), and is played in a round robin (x2) cycle. CC 11 (Expression) and Note Velocity control overall loudness, and Note Velocity also controls dynamics (2 levels).

Large Sizzle Sus Cymbal Cresc

A large suspended cymbal fitted with rivets that creates a very long sustain (sizzle) starting on note C3, composed of 2 types of crescendos: crescendo sustain, where the cymbal

is played with increasing speed and force so that its volume grows to a peak and is allowed to ring out (sustain); and crescendo stopped, where the cymbal is played with increasing speed and force so that its volume grows to a peak and is then dampened (stopped) to prevent it from ringing out. The sizzle layer floats over top of the core cymbal sound, and it adds a lot of detail best suited for moments where it isn't competing with a bunch of other instruments (though it's a viable substitute for a standard suspended cymbal as well). Each contains 4 different lengths mapped to white keys from shortest to longest (C3–F3=crescendo sustain; G3–B3=crescendo stopped), and each has a round robin (x2) cycle. CC 11 (Expression) and Note Velocity control overall loudness, and Note Velocity also controls dynamics (2 levels).

Drums

This folder of instruments includes bass drums, snare drums, field drums, toms, taos drums, tambourines, and ensembles of various sizes and materials.

5in x 14in Brass Ludwig Snare

A 5" x 14" snare drum starting on note C1, composed of several different articulations mapped to the white keys (C1–D1=center hit LH, RH; E1–F1=edge hit LH, RH; G1=flam; A1=rim shot; B1=bounce; C2=roll; D2=roll with DXF; E2–G2=roll crescendos). These hits and rolls are very 'wet,' with a healthy dispersed smack that fits well in large orchestral arrangements. CC 11 (Expression) and Note Velocity control overall loudness, Note Velocity also controls dynamics (up to 12 levels), and notes play in a round robin (x4) cycle.

5in x 14in Mahogany Ludwig Snare

A 5" x 14" snare drum starting on note C1, composed of several different articulations mapped to the white keys (C1–D1=center hit LH, RH; E1–F1=edge hit LH, RH; G1=flam; A1=rim shot; B1=bounce; C2=roll; D2=roll with DXF; E2–F2=roll crescendos). The hits are meaty, with a strong mid range presence that causes each strike to ring out in the tail. CC 11 (Expression) and Note Velocity control overall loudness, Note Velocity also controls dynamics (up to 12 levels), and notes play in a round robin (x4) cycle.

5in x 14in Pearl Philharmonic Snare

A 5" x 14" snare drum starting on note C1, composed of several different articulations mapped to the white keys (C1–D1=center hit LH, RH; E1–F1=edge hit LH, RH; G1=flam; A1=rim shot; B1=bounce; C2=roll; D2=roll with DXF; E2–F2=roll crescendos). Each hit has an upper mid range, hard woody quality that functions well as military or marching snare. CC 11 (Expression) and Note Velocity control overall loudness, Note Velocity also controls dynamics (up to 12 levels), and notes play in a round robin (x4) cycle.

6in x 14in Brass Calf Head Ludwig Snare

A 6" x 14" snare drum starting on note C1, composed of several different articulations mapped to the white keys (C1–D1=center hit LH, RH; E1–F1=edge hit LH, RH; G1=flam; A1=rim shot; B1=bounce; C2=roll; D2=roll with DXF; E2–F2=roll crescendos). It has a strong low mid presence, giving it more weight than most snares — this is easy to lose in a large ensemble, but shines during percussion solos or any time you want the snare to occupy more space in a mix. CC 11 (Expression) and Note Velocity control overall loudness, Note Velocity also controls dynamics (up to 12 levels), and notes play in a round robin (x4) cycle.

6in x 14in Pearl Philharmonic Snare

A 6" x 14" snare drum starting on note C1, composed of several different articulations mapped to the white keys (C1–D1=center hit LH, RH; E1–F1=edge hit LH, RH; G1=flam; A1=rim shot; B1=bounce; C2=roll; D2=roll with DXF; E2–F2=roll crescendos). It has a medium strength attack and a healthy ring at the end, making it consistent with a standard orchestral snare drum. CC 11 (Expression) and Note Velocity control overall loudness, Note Velocity also controls dynamics (up to 12 levels), and notes play in a round robin (x4) cycle.

10in x 14in Black Swamp Field Drum

A 10" x 14" field drum starting on note C1, composed of several different articulations mapped to the white keys (C1–D1=center hit LH, RH; E1–F1=edge hit LH, RH; G1=flam; A1=rim shot; B1=bounce; C2=roll; D2=roll with DXF; E2–F2=roll crescendos). The attack is softened, with a strong low mid resonance to give it extra weight and a slight pitch rise on the tail that gives it some extra flair. CC 11 (Expression) and Note Velocity control overall loudness, Note Velocity also controls dynamics (up to 12 levels), and notes play in a round robin (x4) cycle.

10in x 14in Ludwig Field Drum

A 10" x 14" field drum starting on note C1, composed of several different articulations mapped to the white keys (C1–D1=center hit LH, RH; E1–F1=edge hit LH, RH; G1=flam; A1=rim shot; B1=bounce; C2=roll; D2=roll with DXF; E2–G2=roll crescendos). It works well as a military or marching snare drum, owing to its heavy smack and fundamental tone. CC 11 (Expression) and Note Velocity control overall loudness, Note Velocity also controls dynamics (up to 12 levels), and notes play in a round robin (x4) cycle.

12in x 15in Slingerland Field Drum

A 12" x 15" field drum starting on note C1, composed of several different articulations mapped to the white keys (C1–D1=center hit LH, RH; E1–F1=edge hit LH, RH; G1=flam; A1=rim shot; B1=bounce; C2=roll; D2=roll with DXF; E2–F2=roll crescendos). The timbre is rounded out and the snare itself is less pronounced — this is ideal for quieter passages where you don't need as much punch on each attack. CC 11 (Expression) and Note Velocity control overall loudness, Note Velocity also controls dynamics (up to 12 levels), and notes play in a round robin (x4) cycle.

16in x 16in Antique Field Drum

A 16" x 16" field drum starting on note C1, composed of several different articulations mapped to white keys (C1–D1=center hit LH, RH; E1–F1=edge hit LH, RH; G1=flam; A1=rim shot; B1=bounce; C2=roll; D2=roll with DXF; E2–G2=roll crescendos). It emphasizes the body resonance and fundamental vs. the actual snare, focusing more on its ability to blend with the ensemble than to cut through a mix. CC 11 (Expression) and Note Velocity control overall loudness, Note Velocity also controls dynamics (up to 12 levels), and notes play in a round robin (x4) cycle.

32in Gretsch Bass Drum

A 32" bass drum starting on note C1, composed of several different articulations mapped to the white keys (C1=felt short; D1=felt long; E1=felt roll; F1=felt roll with DXF; G1–E2=felt crescendos; C3–E4=hard mallet crescendos). It emphasizes the hard knock in the attack more than its bassy rumble, making it better suited to cutting through a large arrangement than providing a low foundation. CC 11 (Expression) and Note Velocity control

overall loudness, Note Velocity also controls dynamics (up to 12 levels), and notes play in a round robin (x4) cycle.

36in Ludwig Bass Drum

A 36" bass drum starting on note C1, composed of several different articulations mapped to the white keys (C1=felt short; D1=felt long; E1=felt roll; F1=felt roll with DXF; G1–E2=felt crescendos; C3–E4=hard mallet crescendos). It has a deep, rumbling quality with a strong woody hit on the attack. CC 11 (Expression) and Note Velocity control overall loudness, Note Velocity also controls dynamics (up to 12 levels), and notes play in a round robin (x4) cycle.

40in Ludwig Bass Drum

A 40" bass drum starting on note C1, composed of several different articulations mapped to the white keys (C1=felt short; D1=felt long; E1=felt roll; F1=felt roll with DXF; G1–E2=felt crescendos; C3–E4=hard mallet crescendos). It has a strong low frequency rumble and a firm attack, making it a viable all-around bass drum for a range of small and large ensemble settings. CC 11 (Expression) and Note Velocity control overall loudness, Note Velocity also controls dynamics (up to 12 levels), and notes play in a round robin (x4) cycle.

12in Lefima Tambourine

A 12" tambourine starting on note C1, composed of several different articulations mapped to the white keys (C1=hits; D1=slow roll; E1=slow roll with DXF; F1=tight roll; G1=tight roll with DXF; A1=crescendos; B1=roll then hit). The jingles have a splashy quality, and the frequency spread is focused on in the high end, allowing it to sit over top of an orchestral arrangement easily and make the mixing process more efficient. CC 11 (Expression) and Note Velocity control overall loudness, Note Velocity also controls dynamics (up to 8 levels), and notes play in a round robin (x4) cycle.

Black Swamp Tambourine

A tambourine starting on note C1, composed of several different articulations mapped to the white keys (C1=hits; D1=slow roll; E1=slow roll with DXF; F1=tight roll; G1=tight roll with DXF; A1=crescendos; B1=roll then hit). There's some harshness in the 2-5k area that allow it to cut through the percussion section better than other tambourines, plus a light mid range body resonance that gives it added character. CC 11 (Expression) and Note Velocity control overall loudness, Note Velocity also controls dynamics (up to 6 levels), and notes play in a round robin (x8) cycle.

Ludwig Headless Tambourine

A tambourine starting on note C1, composed of several different articulations mapped to the white keys (C1–D1=hits; E1=slow roll; F1=slow roll with DXF). The absence of a head membrane cuts out any fundamental, focusing more energy to the characteristic jingles around the edge, allowing them to cut through easily and giving them a more pointed quality. CC 11 (Expression) and Note Velocity control overall loudness, Note Velocity also controls dynamics (up to 6 levels), and notes play in a round robin (x4) cycle.

Concert Toms

An array of floor toms starting on note C1, each composed of the same 3 articulations (left-hand hit, right-hand hit, flam) mapped to the white keys across several octaves. The toms include an 18" floor tom (C1), a 16" floor tom (F1), another 16" floor tom (C2), a 14" floor tom (F2), a 13" floor tom (C3), a 12" floor tom (F3), a 10" floor tom (C4), and

a 8" floor tom (F4). This gives a full frequency range from low to high, and each drum has a strong attack and meaty body that make this a versatile instrument for all orchestral tom needs. CC 11 (Expression) and Note Velocity control overall loudness, Note Velocity also controls dynamics (up to 12 levels), and notes play in a round robin (x4) cycle.

Marching Drum Ensemble

A marching drum ensemble starting on note C1, composed of hits mapped to the white keys (C1–F1=hits). These are hefty, thick drums with a thunderous bass resonance (while still having a controlled tail that isn't prone to muddy up your mix). CC 11 (Expression) and Note Velocity control overall loudness, Note Velocity also controls dynamics (up to 7 levels), and notes play in a round robin (x2) cycle.

Taos Drum with Mallet

A taos drum played with a mallet starting on note C1, composed of a variety of hits mapped to the white keys (C1–D1=mallet hits). Each hit captures the full resonance of the drum's large frame and has a light hiss on the attack that add to the taos drum's unique timbre. CC 11 (Expression) and Note Velocity control overall loudness, Note Velocity also controls dynamics (up to 12 levels), and notes play in a round robin (x4) cycle.

Drums / Timpani

This folder of instruments contains a wide variety of Timpani articulations played with both hard and soft mallets.

Timpani Felt Cresc

Live-recorded crescendos played with felt mallets that start on note C1, composed of 3 separate 22-note chromatic ranges, with each note range (C1–A2, C3–A4, C5–A6) containing different speed crescendos. The felt tips create strong rolls with a blended timbre since the individual attacks aren't as strong — but this doesn't stop the final strike of each roll from hitting hard. CC 11 (Expression) and Note Velocity control overall loudness, and Note Velocity also controls dynamics (2 levels).

Timpani Felt Flam

Soft double hits played with felt mallets that start on note C1, composed of a 22-note chromatic range with different flam variations. Flams are a great way of creating thicker, more complex hits, and can even increase the perceived size of the instrument or make it feel like multiple timpanists are playing in unison. CC 11 (Expression) and Note Velocity control overall loudness, Note Velocity also controls dynamics (2 levels), and notes play in a round robin (x2) cycle.

Timpani Felt Long

Various long single and double hits played with felt mallets that start on note C1, composed of 22-note chromatic ranges with different left-hand (between notes C1–A2) and right-hand (between notes C3–A4) hit variations. Playing greater than 65 milliseconds apart will trigger long hits, and playing notes within 65 milliseconds of each other will trigger double hits (an effect designed to simulate a dampening of the previous hit at the beginning of the second strike). This adds an extra layer of realism to the standard performance style of a felt-struck timpani head, and the felt coating on the mallets makes each note quite soft. CC 11 (Expression) and Note Velocity control overall loudness, Note Velocity also controls dynamics (up to 16 levels), and notes play in a round robin (x2) cycle.

Timpani Felt Rolls

Felt mallet timpani rolls that start on note C1, composed of a 22-note chromatic range with different roll variations. CC 11 (Expression) and Note Velocity control overall loudness, while CC 1 (Mod Wheel) controls dynamics (8 levels) — this fine control from the Mod Wheel allows you to create crescendos and decrescendos. Whereas Timpani Felt Cresc gives you the most realism (since the rolls are pre-recorded), this instrument gives you much more control over the length and drama of every roll.

Timpani Felt Short

Quickly muted, short felt mallet timpani hits that start on note C1, composed of 22-note chromatic ranges with different left-hand (between notes C1–A2) and right-hand (between notes C3–A4) hit variations. This allows you to create more realistic stops and dampening effects than are possible with automation alone — this is particularly useful when you know that each hit needs to be cut off within a beat or two of the initial timpani hit. CC 11 (Expression) and Note Velocity control overall loudness, Note Velocity also controls dynamics (up to 16 levels), and notes play in a round robin (x2) cycle.

Timpani Felt Sus Pedal

Various short, long, and double hits played with felt mallets and starting on note C1, composed of 22-note chromatic ranges with different left-hand (between notes C1–A2) and right-hand (between notes C3–A4) hit variations. When CC 64 (Sustain Pedal) is off (values 0-64), playing will trigger short hits; when CC 64 (Sustain Pedal) is on (values 65-127), playing greater than 65 milliseconds apart will trigger long hits, while playing notes within 65 milliseconds of each other will trigger double hits in which the previous hit hasn't fully decayed prior to the next hit being played. This effectively combines the Timpani Felt Long and Timpani Felt Short instruments into one for much greater flexibility between long and short notes — and it also mimics the behavior of an actual timpani pedal, bringing you closer to the instrument while recording into your DAW. CC 11 (Expression) and Note Velocity control overall loudness, Note Velocity also controls dynamics (up to 16 levels), and notes play in a round robin (x2) cycle.

Timpani Felt KS

This keyswitch instrument features long and double hits, short hits, flams, rolls, and crescendos played by a timpani with felt mallets, effectively combining all the felt mallet instruments in this collection into one to give you greater flexibility and production speed. All articulations start on note C1, while notes C0-E0 are reserved for keyswitches that set one of the five articulations active. CC 11 (Expression) and Note Velocity control overall loudness.

- (C0) activates long and double hits composed of a 22-note chromatic range with different left-hand (between notes C1–A2) and right-hand (between notes C3–A4) hit variations. Playing greater than 65 milliseconds apart will trigger long hits, and playing notes within 65 milliseconds of each other will trigger double hits (an effect designed to simulate a dampening of the previous hit at the beginning of the second strike). Note Velocity controls dynamics (up to 16 levels), and notes play in a round robin (x2) cycle.
- (C#0) activates short hits in a 22-note chromatic range with different left-hand (between notes C1–A2) and right-hand (between notes C3–A4) hit variations. This allows you to create more realistic stops and dampening effects than are possible with automation alone — this is particularly useful when you know that each hit needs to be cut

off within a beat or two of the initial timpani hit. Note Velocity controls dynamics (up to 16 levels), and notes play in a round robin (x2) cycle.

- (D0) activates flams with a 22-note chromatic range of different variations. Flams are a great way of creating thicker, more complex hits, and can even increase the perceived size of the instrument or make it feel like multiple timpanists are playing in unison. Note Velocity controls dynamics (2 levels), and notes play in a round robin (x2) cycle.
- (D#0) activates rolls in a 22-note chromatic range with different roll variations. The Mod Wheel allows you to create crescendos and decrescendos with an 8 dynamic level spread. Whereas Timpani Felt Cresc gives you the most realism (since the rolls are pre-recorded), this instrument gives you much more control over the length and drama of every roll.
- (E0) activates live-recorded crescendos over 3 separate 22-note chromatic ranges, with each note range (C1–A2, C3–A4, C5–A6) containing a crescendo of a different length. You can select from two dynamic levels based on Note Velocity.

Timpani Hard Cresc

Live-recorded crescendos played with hard mallets that start on note C1, composed of 3 separate 22-note chromatic ranges, with each note range (C1–A2, C3–A4, C5–A6) containing different speed crescendos. The hard tips create distinctive rolls with clear individual hits, making for a dramatic increase in volume and brightness. CC 11 (Expression) and Note Velocity control overall loudness, and Note Velocity also controls dynamics (2 levels).

Timpani Hard Flam

Strong double hits played with hard mallets that start on note C1, composed of a 22-note chromatic range with different flam variations. Flams are a great way of creating thicker, more complex hits, and can even increase the perceived size of the instrument or make it feel like multiple timpanists are playing in unison. CC 11 (Expression) and Note Velocity control overall loudness, Note Velocity also controls dynamics (2 levels), and notes play in a round robin (x2) cycle.

Timpani Hard Long

Various long single and double hits played with hard mallets that start on note C1, composed of 22-note chromatic ranges with different left-hand (between notes C1–A2) and right-hand (between notes C3–A4) hit variations. Playing greater than 65 milliseconds apart will trigger long hits, and playing notes within 65 milliseconds of each other will trigger double hits (an effect designed to simulate a dampening of the previous hit at the beginning of the second strike). This adds an extra layer of realism to the standard performance style of a hard-struck timpani head, and it has a brighter timbre overall than in the case of felt mallets. CC 11 (Expression) and Note Velocity control overall loudness, Note Velocity also controls dynamics (up to 16 levels), and notes play in a round robin (x2) cycle.

Timpani Hard Rolls

Hard mallet timpani rolls that start on note C1, composed of a 22-note chromatic range with different roll variations. CC 11 (Expression) and Note Velocity control overall loudness, while CC 1 (Mod Wheel) controls dynamics (8 levels) — this fine control from the Mod Wheel allows you to create dramatic crescendos and decrescendos. Whereas Timpani

Hard Cresc gives you the most realism (since the rolls are pre-recorded), this instrument gives you much more control over the length and drama of every roll.

Timpani Hard Short

Quickly muted, short hard mallet timpani hits that start on note C1, composed of 22-note chromatic ranges with different left-hand (between notes C1–A2) and right-hand (between notes C3–A4) hit variations. This allows you to create more realistic stops and dampening effects than are possible with automation alone — this is particularly useful when you know that each hit needs to be cut off within a beat or two of the initial timpani hit. This effect is more pronounced than with felt mallets due to the strength of the initial attack. CC 11 (Expression) and Note Velocity control overall loudness, Note Velocity also controls dynamics (up to 16 levels), and notes play in a round robin (x2) cycle.

Timpani Hard Sus Pedal

Various short, long, and double hits played with hard mallets and starting on note C1, composed of 22-note chromatic ranges with different left-hand (between notes C1–A2) and right-hand (between notes C3–A4) hit variations. When CC 64 (Sustain Pedal) is off (values 0-64), playing will trigger short hits; when CC 64 (Sustain Pedal) is on (values 65-127), playing greater than 65 milliseconds apart will trigger long hits, while playing notes within 65 milliseconds of each other will trigger strong double hits in which the previous hit hasn't fully decayed prior to the next hit being played. This effectively combines the Timpani Hard Long and Timpani Hard Short instruments into one for much greater flexibility between long and short notes — and it also mimics the behavior of an actual timpani pedal, bringing you closer to the instrument while recording into your DAW. CC 11 (Expression) and Note Velocity control overall loudness, Note Velocity also controls dynamics (up to 16 levels), and notes play in a round robin (x2) cycle.

Timpani Hard KS

This keyswitch instrument features long and double hits, short hits, flams, rolls, and crescendos played by a timpani with hard mallets, effectively combining all the hard mallet instruments in this collection into one to give you greater flexibility and production speed. All articulations start on note C1, while notes C0-E0 are reserved for keyswitches that set one of the five articulations active. CC 11 (Expression) and Note Velocity control overall loudness.

- (C0) activates hard long and double hits composed of a 22-note chromatic range with different left-hand (between notes C1–A2) and right-hand (between notes C3–A4) hit variations. Playing greater than 65 milliseconds apart will trigger long hits, and playing notes within 65 milliseconds of each other will trigger double hits (an effect designed to simulate a dampening of the previous hit at the beginning of the second strike). Note Velocity controls dynamics (up to 16 levels), and notes play in a round robin (x2) cycle.
- (C#0) activates short hits in a 22-note chromatic range with different left-hand (between notes C1–A2) and right-hand (between notes C3–A4) hit variations. This allows you to create more realistic stops and dampening effects than are possible with automation alone — this is particularly useful when you know that each hit needs to be cut off within a beat or two of the initial timpani hit, and the effect is more dramatic than with felt mallets due to the initial hit. Note Velocity controls dynamics (up to 16 levels), and notes play in a round robin (x2) cycle.
- (D0) activates flams with a 22-note chromatic range of different variations. Flams are a great way of creating thicker, more complex hits, and can even increase the perceived

size of the instrument or make it feel like multiple timpanists are playing in unison with hard mallets. Note Velocity controls dynamics (2 levels), and notes play in a round robin (x2) cycle.

- (D#0) activates rolls in a 22-note chromatic range with different roll variations. The Mod Wheel allows you to create crescendos and decrescendos with an 8 dynamic level spread. Whereas Timpani Hard Cresc gives you the most realism (since the rolls are pre-recorded), this instrument gives you much more control over the length and drama of every roll.
- (E0) activates live-recorded crescendos over 3 separate 22-note chromatic ranges, with each note range (C1–A2, C3–A4, C5–A6) containing a crescendo of a different length. You can select from two dynamic levels based on Note Velocity.

Metals

This folder of instruments contains a variety of metal percussion, including bells, anvils, mark trees, vibraphones, and more.

Brake Drum and Anvils Hits

A brake drum and anvil set starting on note A-1 and mapped across the entire key range, composed of: brake drum (A-1-D0), muted brake drum (E0-D1), anvil (G1-D2), muted anvil (E2-C3), anvil “carol sound” (E3-F4), muted anvil “carol sound” (G4-C5), railroad tracks (F5-D6), and muted railroad tracks (E6-C7). This assortment of metals has a playful, musical quality when different notes play in rapid succession — their pitches are slightly different, ring out, and have a very organic quality to them. CC 11 (Expression) and Note Velocity control overall loudness, and Note Velocity also controls dynamics (up to 6 levels).

Crotales Hard

Hard crotales mapped chromatically between notes C3-C5. Short notes play when CC 64 (Sustain Pedal) is off (values 0-64), while long notes play when CC 64 (Sustain Pedal) is on (values 65-127). They're similar in range and timbre to the glockenspiel, but with a magical sparkle — and pressing the sustain pedal gives them a long tail reminiscent of wind chimes. CC 11 (Expression) and Note Velocity control overall loudness, and Note Velocity also controls dynamics (up to 3 levels).

Crotales Soft

Soft crotales mapped chromatically between notes C3-C5. Short notes play when CC 64 (Sustain Pedal) is off (values 0-64), while long notes play when CC 64 (Sustain Pedal) is on (values 65-127). They're similar in range and timbre to the glockenspiel, but with a magical sparkle — and pressing the sustain pedal gives them a long tail reminiscent of wind chimes. The note attacks are nearly inaudible, which also gives this instrument a similar feel to the celesta. CC 11 (Expression) and Note Velocity control overall loudness, and Note Velocity also controls dynamics (up to 3 levels).

Finger Cymbals

Finger cymbals mapped to the white keys between notes C1-F1, drenched in reverb and only allowing a distant ring to emerge, giving them a magical, ethereal quality that's great for adding depth to quiet moments in the orchestra. CC 11 (Expression) and Note Velocity control overall loudness, Note Velocity also controls dynamics (up to 3 levels), and notes play in a round robin (x4) cycle.

Glockenspiel

A set of small, high-pitched, and metallic keys mapped chromatically between notes G3-C6. They layer well with high woodwinds like piccolos, flutes, oboes and clarinets, and create a nice sparkle when doubling melody lines. CC 11 (Expression) and Note Velocity control overall loudness, and Note Velocity also controls dynamics (up to 3 levels).

Orchestral Chimes

Large, inharmonic, tuned bells mapped chromatically between notes C3-F4. They have a distinctive sound and can stand out amidst a full orchestra — they're often associated with holiday and religious music, but they're also excellent for creating a strong counter-melody to the lead instrument in virtually any orchestral genre. CC 11 (Expression) and Note Velocity control overall loudness, and Note Velocity also controls dynamics (up to 3 levels).

Sleigh Bells

Traditional sleigh bells mapped to the white keys between notes C1-E1, including: lower-pitched sleigh bell (C1), higher-pitched sleigh bell (D1), and both lower and higher-pitched sleigh bells played together (E1). Naturally, they're a great addition any time you're looking to evoke a wintry feel in your music! CC 11 (Expression) and Note Velocity control overall loudness, Note Velocity also controls dynamics (up to 3 levels), and notes play in a round robin (x4) cycle.

Spectrasound Mark Tree 1 Db1 Length

A specialized, ultra high-pitched metallic set of wind chimes mapped to the white keys between notes C1-G3, including the following glissandos: high-to-low fast (C1), high-to-low slow (D1-E1), low-to-high fast (F1), low-to-high slow (G1-A1), soft sustain all (B1), loud sustain all (C2), sustain high (D2-G2), sustain low (A2-D3), sustain mid (E3-G3). They provide a beautiful glistening effect that's perfect for gently adding to quiet, intimate passages. CC 11 (Expression) and Note Velocity control overall loudness.

Spectrasound Mark Tree 2

A specialized, metallic set of wind chimes mapped to the white keys between notes C1-F3 that extends Spectrasound Mark Tree 1. It includes the following glissandos: high-to-low fast (C1), high-to-low slow (D1-E1), low-to-high fast (F1), low-to-high slow (G1-A1), sustain all (B1-E2), sustain high (F2-B2), sustain low (C3-D3), sustain mid (E3-F3). They provide a beautiful glistening effect that's perfect for gently adding to quiet, intimate passages. CC 11 (Expression) and Note Velocity control overall loudness.

Triangles

6 different triangles mapped on the white keys C, D, and E across every octave between notes C1-C7, each including long notes (C), short notes (D), and rolls (E). CC 11 (Expression) and Note Velocity control overall loudness, Note Velocity also controls dynamics (5 levels), and notes play in a round robin (x2) cycle for both long and short notes.

Vibraphone

A large, metallic, keyed instrument played with felt mallets with notes mapped chromatically from F2-F5. Short notes play when CC 64 (Sustain Pedal) is off (values 0-64), while long notes play when CC 64 (Sustain Pedal) is on (values 65-127). If notes are played 75 milliseconds or less apart, a double hit will playback, where the previous note hasn't fully decayed prior to the next note being played — this adds realism by simulating the

dampening effect and cutoff that naturally occurs when a note is double-hit in real life. CC 11 (Expression) and Note Velocity control overall loudness, and Note Velocity also controls dynamics (up to 6 levels).

Vibraphone LITE

A large, metallic, keyed instrument played with felt mallets with notes mapped chromatically from F2-F5. The LITE version only includes long notes, omitting both short notes and repetitions to save RAM and processing power for when you're working under these constraints. CC 11 (Expression) and Note Velocity control overall loudness, and Note Velocity also controls dynamics (up to 6 levels).

Woods

This folder of instruments contains a variety of wooden percussion, including castanets, claves, celesta, marimba, and more.

Castanets

2 castanets mapped to the white keys between notes C1-F1 and C2-F2, respectively, including left-hand (C1 and C2), right-hand (D1 and D2), flam (E1 and E2), and rolls (F1 and F2). They're a great, earthy rhythmic addition to folk dances, especially in gypsy music. CC 11 (Expression) and Note Velocity control overall loudness, Note Velocity also controls dynamics (up to 5 levels), and notes play in a round robin (x6) cycle for all but the rolls.

Celesta

A metallic keyboard instrument with a soft, glass-like timbre and long sustain, mapped chromatically between notes C3-C7. Short notes play when CC 64 (Sustain Pedal) is off (values 0-64), while long notes play when CC 64 (Sustain Pedal) is on (values 65-127). If notes are played 75 milliseconds or less apart, a double hit will playback, where the previous note hasn't fully decayed prior to the next note being played — this adds realism by simulating the dampening effect and cutoff that naturally occurs when a note is double-hit in real life. CC 11 (Expression) and Note Velocity control overall loudness, and Note Velocity also controls dynamics (up to 6 levels).

Celesta FX

Glissandi played across a metallic keyboard instrument with a soft, glass-like timbre, mapped to the white keys between notes C2-F2. These celesta glissandi are perfect for adding a grandiose, magical effect to any orchestral score, an effect that has been used repeatedly in films with large-scale romantic soundtracks. CC 11 (Expression) and Note Velocity control overall loudness.

Celesta Sus

A metallic keyboard instrument with a soft, glass-like timbre and long sustain, mapped chromatically between notes C3-C7. The LITE version only includes long notes, omitting both short notes and repetitions to save RAM and processing power for when you're working under these constraints. CC 11 (Expression) and Note Velocity control overall loudness, and Note Velocity also controls dynamics (4 levels).

Claves

Short, wooden sticks struck together to form a clacking sound, mapped to the white keys between notes C1-E1, including: low pitch (C1), medium pitch (D1), and high pitch (E1).

They're great for establishing a steady rhythm or adding high-frequency-rich transients to a range of percussion instruments when layered together. CC 11 (Expression) and Note Velocity control overall loudness, Note Velocity also controls dynamics (4 levels), and notes play in a round robin (x4) cycle.

Mahler Hammer

The giant Mahler Hammer (featured in Gustav Mahler's 6th symphony) produces a powerful crack spanning the entire frequency spectrum and mapped to the white keys between notes C1-G1. Various hits were recorded, and have been mapped in pitch from lowest to highest. CC 11 (Expression) and Note Velocity control overall loudness, and Note Velocity also controls dynamics (up to 7 levels).

Marimba Rolls

Continuous mallet rolls performed on a large set of wooden bars, mapped chromatically between notes A1-C6. The marimba is used in a wide variety of settings, though a tried and true use is in music designed to evoke a tribal feel. CC 11 (Expression) and Note Velocity control overall loudness, and CC 1 (Mod Wheel) controls dynamics (2 levels).

Marimba

A large set of wooden bars with a medium-length sustain, mapped chromatically between notes A1-C6. The marimba is used in a wide variety of settings, though a tried and true use is in music designed to evoke a tribal feel. CC 11 (Expression) and Note Velocity control overall loudness, Note Velocity also controls dynamics (6 levels), and notes play in a round robin (x2) cycle.

Pulli Sticks

A set of large, frayed wooden sticks struck together to create a clacking sound — their construction makes them most useful as an accent to various orchestral drums, punctuating the moments you care about without the transient being too sharp. The instrument is mapped to the white keys between notes C1-F1, and includes various hits that are mapped in pitch from lowest to highest. CC 11 (Expression) and Note Velocity control overall loudness, Note Velocity also controls dynamics (6 levels), and notes play in a round robin (x4) cycle.

Ratchet

A wooden gear with a crank handle that produces a rapid ripping sound occasionally used by orchestral percussionists, mapped to the white keys between notes C1-F2. Short ratchet rolls under 1 second are mapped to C1-G1, while long ratchet rolls lasting several seconds are mapped to C2-F2. When you use them sparingly, they make for a great occasional accent or as part of a dramatic build. CC 11 (Expression) and Note Velocity control overall loudness.

Shakers

A variety of hits, shakes, rattles, and rhythms performed on 7 different shakers mapped to the white keys C, D and E at every octave between notes C1-C7. Each shaker includes lower-pitch (C), higher-pitch (D), and rolls (E), and they're great for keeping rhythm without drawing too much attention to themselves. CC 11 (Expression) and Note Velocity control overall loudness, and notes play in a round robin (x8) cycle for both long and short notes.

Slapsticks

Traditional orchestral slapsticks mapped on the white keys C1 and D1, split into a lower-pitched slap (C1) and a higher-pitched one (D1). It's highly effective at punching through large ensembles with a sharp transient whenever you need a strong accent — and it layers well with most unpitched orchestral percussion instruments CC 11 (Expression) and Note Velocity control overall loudness, and notes play in a round robin (x4) cycle.

Temple Blocks

3 different temple blocks mapped on the white keys C, D and E at every octave between notes C1-C4, composed of hits (C), flams (D), and rolls (E). They're a good bridge between pitched and unpitched orchestral percussion, and whenever you write a section heavy on the drums, considering slotting in a temple block fill to give things a bit more character. CC 11 (Expression) and Note Velocity control overall loudness, and there is a round robin (x4) cycle for the hits and flams.

Wood Blocks

6 different wood blocks mapped on the white keys between C-G at every octave between notes C1-C7. Each includes hits (C), left-hand hits (D), right-hand hits (E), flams (F), and rolls (G), and they serve a similar unpitched role as temple blocks, except higher in pitch and with a broader set of notes. CC 11 (Expression) and Note Velocity control overall loudness, Note Velocity also controls dynamics (up to 4 levels), and notes play in a round robin (x4) cycle for the hits and flams.

Wood Blocks Piccolo

3 different high-pitched wood blocks mapped on the white keys between C-G at every octave between notes C1-C4. Each includes hits (C), left-hand hits (D), right-hand hits (E), flams (F), and rolls (G) — their timbre is nearly identical to that of the Wood Blocks instrument, but every hit is significantly higher in pitch. CC 11 (Expression) and Note Velocity control overall loudness, Note Velocity also controls dynamics (up to 4 levels), and notes play in a round robin (x4) cycle for the hits and flams.

Xylophone DXF

This instrument features a xylophone mapped chromatically between notes F2-C6, and includes both hits and rolls. CC 11 (Expression) and Note Velocity control overall loudness. For hits, Note Velocity controls dynamics (up to 6 levels), and there is a round robin (x2) cycle. For rolls, CC 1 (Mod Wheel) controls dynamics (2 levels), allowing you to fade-in the rolls from silence to a loud dynamic.

Xylophone Rolls

An articulation mapped chromatically between notes F2-C6 — these rolls are very useful for doubling and adding movement to long, lyrical melodies, particularly when they are played by high woodwinds. This is best used as a subtle effect, so you'll likely want to keep the volume level of the rolls quite low, just as a subtle addition. CC 11 (Expression) and Note Velocity control overall loudness, while CC 1 (Mod Wheel) controls dynamics (2 levels), allowing you to fade-in the rolls from silence to full volume with a seamless transition in timbre.

Xylophone Sus

Standard xylophone hits mapped chromatically between notes F2-C6 — they double well with upper woodwinds like flutes, particularly when you want to evoke a light and magical feel. The combo of the xylophone's hard attack and woodwinds' smooth sustain articu-

lation give more character to melodies, and you can also have a lot of fun layering this instrument with woodwind staccato articulations. CC 11 (Expression) and Note Velocity control overall loudness, Note Velocity also controls dynamics (6 levels), and notes play in a round robin (x2) cycle.

Xylophone LITE

Standard xylophone hits mapped chromatically between notes F2-C6 — they double well with upper woodwinds like flutes, particularly when you want to evoke a light and magical feel. The combo of the xylophone's hard attack and woodwinds' smooth sustain articulation give more character to melodies, and you can also have a lot of fun layering this instrument with woodwind staccato articulations. CC 11 (Expression) and Note Velocity control overall loudness, Note Velocity also controls dynamics (5 levels), and there are no round robin articulations. If you don't anticipate using a lot of repeating notes, this instrument will save you a bit of processing power over the Xylophone Sus instrument.

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4.1 OVERVIEW OF THE PLAY PAGE

Click the **PLAY PAGE SELECTOR** in the **NAVIGATION BAR**.

The Play page includes instrument-level controls that are unique to each library or collection, and other instrument-level controls that are available to all libraries.

Use the **WINDOW SELECTORS** in the secondary **PALETTE MENU** to switch the **PLAY PAGE** between its various windows: Player, MIDI Tools, Automation, and Articulation. These are explained in detail in this chapter.



The **INSTRUMENT SELECTOR MENU** displays the currently selected instrument, and allows you to switch between all loaded instruments by clicking in the drop-down menu.

The **PURGE CONTROL** is divided into 3 sections: green indicates an instrument loaded into memory (RAM) based on the Preload Size preference selected under Settings. Click on the left side of the pill to turn it red, indicating an instrument has been purged from memory. As you begin playing the center of the pill will light up yellow, indicating samples are being streamed in real-time and loaded into memory, only as needed.

The **VIRTUAL KEYBOARD** at the bottom of the Opus UI shows the sampled range of an instrument (white keys), keyswitches (blue), and the active keyswitch (yellow).

4.2 THE PLAYER WINDOW

The Hollywood Orchestra Opus Edition user interface features an array of controls. Each section below covers them in detail, and a brief overview is available below.

In the middle is the **CENTER DISPLAY AREA**, featuring 3 selectable views that includes **LIBRARY**, that showcases library artwork, **ARTICULATIONS**, showing articulations available for the loaded instrument, and **MICROPHONE POSITIONS**, a graphic representation of the instrument sections on an orchestral stage, and the position of the microphones that captured them.

In the upper-left quadrant, **MOOD** can switch between 3 preset states for each instrument, **PERFORMANCE** contains scripts that modify playback, **SENSITIVITY & MIDI CONTROL** handle MIDI Note Velocity and Continuous Controllers (CCs), and **ENVELOPE** modifies the stages of an instrument's volume envelope.

In the upper-right quadrant, **EFFECTS** include **STEREO DOUBLE**, an effect that changes the width of stereo spread, and **REVERB**, a convolution reverb effect that uses impulse responses to capture the characteristics of a space.

In the lower-right quadrant, **CHANNELS** include **MICROPHONES**, where individual microphone channels are handled, and the **MASTER INSTRUMENT CHANNEL**, where the final output of each instrument is crafted (including Tuning and Channel Routing).

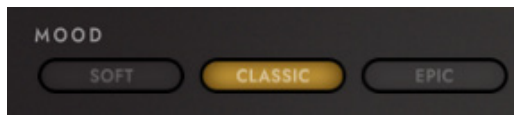


4.2.1 Moods

Customize each instrument’s sound using Moods, which modify settings like microphone mix (Diamond only), reverb, and MIDI Compressor parameters. The color of the user interface will change to match the mood selection.

Classic

An instrument will load in **CLASSIC MOOD** by default. It’s the sound of the original Hollywood Orchestra, with settings that are well suited for a studio orchestra sound.

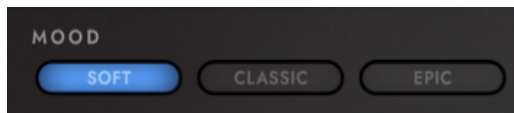


It features the Main microphone mix, which includes the decca-tree and outrigger microphones, providing a well-balanced, unified sound. The reverb featured is a large hall in Southern California, with a long, 3.4 second decay time.

Soft

Soft Mood modifies the sound for slower, more emotional passages.

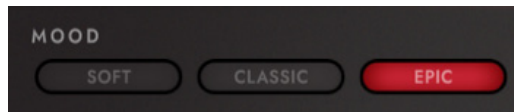
Click on the **SOFT MOOD** to change the settings to lighter touch, providing the definition and depth, with the Mid and Surround (or Vintage) microphones going through the large Abravanel Hall.



Epic

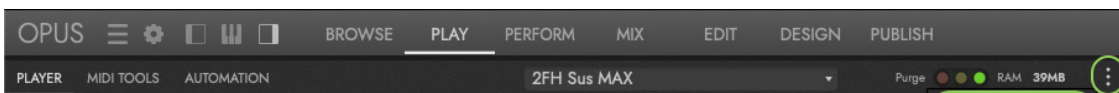
Epic Mood gives you a sound perfectly suited for your next Action Adventure score.

Click on the **EPIC MOOD** to change the settings to a more modern, epic sound. It delivers a large sound with presence and detail by pairing the Close, Main, and Surround (or Vintage) microphones, going through a large cathedral with a moderately long decay time of 2.8 seconds.

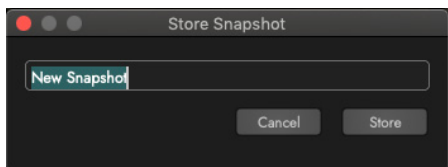


Making Your Own Snapshots

Make your own changes to an instrument using the controls in the Player window, then instantly recall them.



Simply make changes to the instrument settings, then click on the **SNAPSHOT ELLIPSIS MENU (:)** and choose ‘Store Snapshot’. Enter a name in the dialog window, and click ‘Store’.



Now, use the ‘Reset Instrument’ to restore the original settings, then click inside the ‘Restore Patch’ sub menu, and choose the saved snapshot to see your settings restored. Multiple snapshots can be saved on a per instrument basis.

4.2.2 Center Display

This area is dedicated to 3 views: Library, Articulations, and Mic Positions. Click the buttons that appear at the bottom of the Center Display to switch between them.

Library

The **LIBRARY VIEW** indicates from which library an instrument has been loaded. Each of the 7 libraries in the Hollywood Orchestra feature their own artwork, and the selected Mood preset (Soft, Classic, Epic) determines the color.



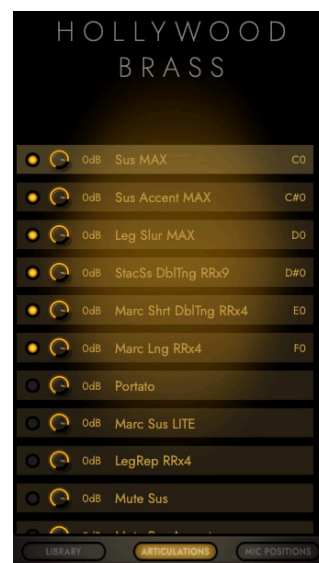
Articulations

The **ARTICULATIONS VIEW** shows all available articulations for instruments that contain multiple articulations, such as the KS (Keyswitch) Master instruments.

Each row in this view contains a single articulation with several controls. The **LOAD BUTTON** on the left can be used to turn on and off an articulation, loading or unloading it from memory (RAM). The **VOLUME KNOB** can be used to adjust the loudness of each articulation. In the center of each row is the **ARTICULATION NAME**.

On the right the **TRIGGER ASSIGNMENT** is displayed, which selects for (“triggers”) an articulation based on the selected option in the **TRIGGER OPTION MENU**. KS Master instruments load with the ‘Keyswitch’ Trigger Option selected by default, where each articulation is selected for (“triggered”) based on its assigned MIDI note number value. Other Trigger Options are available, and explained in the link below.

FOR MORE INFORMATION: [4.5 ARTICULATIONS VIEW](#)



4.2.3 Microphones

Hollywood Orchestra contains microphone mixes (or a single microphone) that can be controlled from the Play page, as shown in the image below, or from the Mix page, as described later in the manual in Chapter 6: Mix.

The Mixes section features controls for volume, panning, on/off state, and mute/solo.

Click on the light below each sub-mix to toggle its on/off state, loading or unloading the samples from memory, or use the Mute (M) and Solo (S) buttons that behave in the same manner as they do in the Master Instrument Channel described in the next section.

Microphone Details

Please refer to the previous section for details on where the microphone positions are placed in the orchestral stage. Below, the microphone used to make up each position are outlined.

CLOSE microphones are made up of:

- AKG C12
- Neumann U47
- Neumann U67
- Nordic Audio Labs NU-47

MID microphones are made up of:

- Neumann KM i
- Neumann KM 254
- Sony C37A
- Neumann U-47

MAIN microphones are made up of:

- (3) Neumann M50's in a Decca tree configuration
- Brauner VM1 KHE (Klaus Heyne Edition) outriggers

SURROUND microphones are made up of:

- Neumann KM 83's

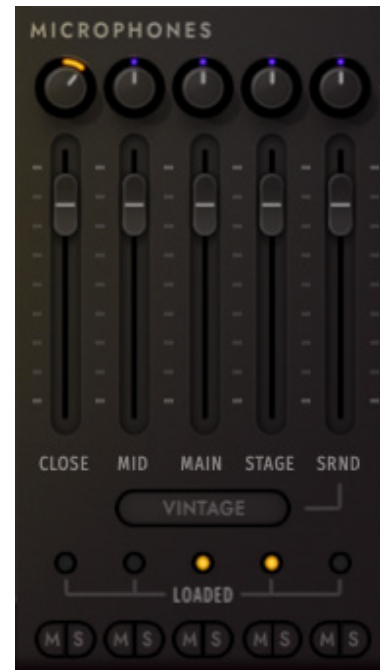
VINTAGE microphones are made up of:

- RCA 44 ribbon microphones

STAGE microphones **[expansion only]** are made up of:

- (2) outrigger microphones

PLEASE NOTE: This additionally recorded mic position is only available for the new expansion instruments, and are included in special mic mixes by Shawn Murphy created especially for Hollywood Orchestra Opus Edition.



4.2.4 Master Channel

Along the right side of the Hollywood Orchestra user interface is the Master Channel of the selected instrument.

The **PAN** knob adjusts the volume of the left and right audio signal to change the perceived position of the sound source, while preserving the relative panning of the individual microphones. Use the Pan knob to define the position in the stereo image, or for special effect.

The **GAIN** fader adjusts the volume of the instrument's master output, without affecting the relative mix of the microphone sub-mixer channels. The audio meter display the signal of the stereo output.

The **OUTPUT** defaults to 'Opus 1 & 2' in the Output channel field. To assign an instrument to a stereo output other than the default, click in the field and select another stereo output. This option allows you to send the stereo outputs of each loaded instrument to separate audio tracks in your system's sound card. In stand alone mode, up to 8 stereo output pairs are available, and in plugin mode, up to 16 stereo output pairs are available. Go to the Preferences / Audio Engine / Output Configuration to change the standalone and plugin output configuration.

When enabled, the **MUTE (M)** button silences the audio output for the selected instrument, and the **SOLO (S)** button silences the audio outputs for all instruments that are not currently soloed.



4.2.5 Tune

The **TUNE** section includes coarse and fine tuning options. **TRANPOSE** adjusts tuning in semitone increments, and **FINE** adjusts tuning in cents, which are 1/100th of a semitone. The spinboxes display the tuning values for both controls.

Change the tuning in semitones by clicking the plus (+) or minus (-) buttons to adjust the tuning up or down by a semitone respectively.

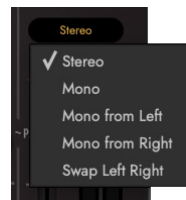
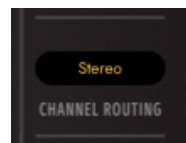
Change the tuning in cents by clicking on the knob, and holding it while you drag up or down to +/- 100 cents



4.2.6 Channel Routing

Click in the **CHANNEL ROUTING** field to reveal a drop-down list with options to configure the output.

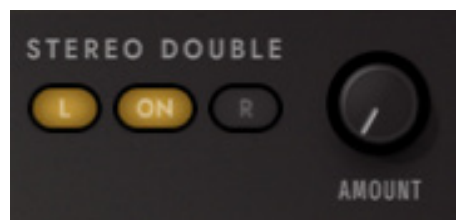
- STEREO outputs the original stereo channels as they were recorded.
- MONO sums the left and right channels into a dual mono channel.
- MONO FROM LEFT outputs the left channel to a dual mono output, discarding the right channel.
- MONO FROM RIGHT outputs the right channel to a dual mono output, discarding the left channel.
- SWAP LEFT AND RIGHT outputs a reverse stereo image of the original audio (swapping the left and right channels).



4.2.7 Stereo Double

The Stereo Double controls allow you to set the width of the stereo spread. Select between the **LEFT (L)** and **RIGHT (R)** signal with the buttons on either side of the **ON** button, then use the **AMOUNT** knob to dial in the desired depth.

Turning the 'Amount' knob all the way to the left results in no effect, the equivalent of disabling the effect entirely. Turning the 'Amount' knob all the way to the right results in the maximum stereo spread.



PLEASE NOTE: The Stereo Double effect only works when 'Stereo' is selected with in the **CHANNEL SOURCE** of the Master Channel (which is the default setting).

4.2.8 Reverb

Play features convolution reverb, which uses short impulses to excite a space, like a studio or cathedral, and captures the resulting ambience in an impulse response (IR). This IR contains the characteristics of that space, which can then be applied (or, convolved) with an input signal to simulate that sound of playing an instrument in the given space.

Click the **ON** button to toggle the on/off state of the Reverb. When enabled, the button becomes illuminated.

PLEASE NOTE: If you wish to load instruments without Effects turned on (including Reverb), go to the Settings Menu > Other > Load Options, and enable 'Load with Effects Off'.



Click on the **PRESET MENU** containing the name of the current preset selection to reveal a drop-down list of available presets. Click on the desired preset to select it, and a check-mark will indicate it is the current selection.

Adjust the **PRE-DELAY** value to change the onset time (in milliseconds) of the convolved audio signal.

Adjust the **VOLUME** to specify the amount of reverb to apply to the signal.

Click the **MASTER** button to toggle the on/off state of the Master Reverb control. When enabled the Reverb 'On' button becomes illuminated and reverb is applied to all instruments within a given instance of Opus, saving CPU resources.

4.2.9 Envelope

The Envelope controls the volume of a sound across 5 stages. Each knob controls the length (measured in milliseconds) or loudness (measured in decibels) of the stages of the envelope. All instruments are programmed with envelope values to achieve a natural result, so please be careful when changing them.

Stages of the Envelope

The stages of the envelope determine how long it takes for the sound to go from the initial attack to the beginning of the sustain stage. Typically, a sound begins to drop in volume immediately after reaching its loudest point, but using the Hold value maintains the volume at its loudest point until reaching the decay stage.

- **CURVE** adjusts the slope of the Attack stage, making it either convex or concave.
- **ATTACK** is measured in milliseconds (ms), and starts at the beginning of the note until it reaches its highest volume.
- **HOLD** maintains the loudest volume of the attack for the specified time measured in milliseconds (ms).
- **DECAY** is the time it takes in milliseconds (ms) to drop from the loudest point of the attack or hold stage, to the sustain stage that follows.
- **SUSTAIN** is the loudness stage of the sound measured in decibels (dB) after the initial attack and hold stages, and until the note is released.
- **RELEASE** determines how long the sound remains audible after a note is released, measured in milliseconds (ms).



4.2.10 Performance

The Performance section contains several performance scripts that changes the sample playback behavior of an instrument in various ways. Some are best applied particular instruments to achieve certain effects, while others only appear when an instrument programmed with a particular script is loaded.

How to Automate Scripts

In addition to simply clicking on the user interface to activate a performance script, they can also be controlled by sending MIDI Continuous Controller (CC) data to the specified controller lane.



MIDI CCs can be written directly into the sequencer of your DAW, allowing you to program a piece with specific commands, as well as be assigned to the knobs and sliders of a MIDI controller, allowing play and record controller movements in real-time.

Use the MIDI CC number that is assigned to a script, and send controller data between the values listed in the table below to automate that script. If no MIDI CC value is present, the script retains its default setting.

MIDI Continuous Controllers (CCs)			
CC	Performance Script Name	MIDI CC Values (0 - 63)	MIDI CC Values (64 - 127)
5	Legato / Portamento Time	CONTINUOUSLY VARIABLE (0-127)	
15	Con Sordino	OFF	ON
22	True Legato	Polyphonic	Monophonic
36	Round Robin Reset	Any Value Triggers Reset (1-127)	
57	Legato Script	OFF	ON
65	Portamento Script	OFF	ON
69	Repetitions Script	OFF	ON
70	Finger Position	FP 1 (0-38); FP 2 (39-76); FP 3 (77-114); FP 4 (115-127)	

Each script is described in detail in the paragraphs below, including how the script affects sample playback, and how automate it using MIDI Continuous Controllers (CCs).

Portamento

This performance script emulates portamento playing by forcing monophonic playback, and forming a continuous pitch slide from one note to another. You can make this effect more or less pronounced by adjusting the ‘Time’ knob in the Performance section, which can also be controlled by sending values on a scale between 0 (least pronounced) and 127 (most pronounced) to MIDI CC 5.

If you wish to have two concurrent legato lines played by the same instrument, a second instance of that instrument should be loaded. However, if your writing calls for both le-

gato (monophonic) and non-legato (polyphonic) writing by the same instrument, you can enable and disable the Portamento script by sending values between 0-63 (OFF) and 64-127 (ON) to MIDI CC 65.

Legato

This performance script that emulates legato playing by forcing monophonic behavior, and adjusting note timing with no significant silence between them in order to produce smooth melodic lines. You can make this effect more or less pronounced by adjusting the 'Time' knob in the Performance section, which can also be controlled by sending values on a scale between 0 (least pronounced) and 127 (most pronounced) to MIDI CC 5.

If you wish to have two concurrent legato lines played by the same instrument, a second instance of that instrument should be loaded. However, if your writing calls for both legato (monophonic) and non-legato (polyphonic) writing by the same instrument, you can enable and disable the Portamento script by sending values between 0-63 (OFF) and 64-127 (ON) to MIDI CC 57.

PLEASE NOTE The portamento and legato scripts are only emulations of these techniques, and do not playback "true" portamento or legato interval samples. That is reserved for instruments in the Legato folders, which use the 'Monophonic True Legato' performance script described below.

Monophonic True Legato

This performance script is enabled by default on instruments that use "true" portamento and legato samples, where each portamento and legato interval is meticulously sampled for ultimate realism. It forces monophonic playback (by default), and uses MIDI Note Velocity to adjust the timing of the legato transition playback, resulting in a looser or tighter feel depending on hard hard or soft you play.

Playing softly (around a Note Velocity range of 50-60) will result in a longer legato transition time, allowing the melody to breathe more. Playing more forcefully (around a Note Velocity range of 110-127), will result in a shorter legato transition time, tightening up the timing between notes. When Note Velocity is used to control Legato Speed, it does not affect loudness.

The forced monophonic behavior can be turned on and off by sending values to MIDI CC 22 between 0 and 63 to enable polyphony, and between values 64 and 127 to enable monophonic behavior. Note Velocity will continue to affect legato transition time unless the script is turned off.

PLEASE NOTE: Disabling monophonic behavior runs the risk of inadvertently playing back unwanted legato transitions when there is more than one melodic line being played.

Con Sordino

This performance script emulates playing strings con sordino, which means "with mute". On string instruments, a mute attached to the strings near the bridge dampens the vibration, and creates a sound with fewer high overtones. You can turn this script on or off by clicking the 'Con Sordino' button in the Performance section, or by sending values between 0-63 (off) or 64-127 (on) to MIDI CC 15.

Repetition

This performance script causes repeating notes to sound slightly different, avoiding the sense of mechanical repetition that occurs when a single sample is played consecutively on the same pitch (also referred to as the “machine gun” effect).

For any articulation, the repetition script will make the sound a little different on each repetition, giving it a more human feel. To achieve realistic results, the approaches listed below are employed based on the instrument type it is being applied to, including how much variability within each approach is allowed. Some instruments randomly use both approaches, while others may use only one of them.

- Detune the sample a few cents (hundredths of a semitone) higher or lower.
- Use the sample for a nearby note, and retune it to the needed pitch.

PLEASE NOTE: The Repetition script solves the problem of mechanical repetition by applying randomized effects to an existing instrument, while Round Robin (RR) Reset solves this problem in a consistent manner (where the results sound identical when playing back your sequence). Use accordingly based on whether consistency is important.

Round Robin Reset

This performance script is used in conjunction with Round Robin (RR) instruments that use a sampling technique of recording multiple takes of the same note (played in a similar manner) to capture the inherent variation from one to the next, and to avoid the unnatural sound of the same note (and identical sample) playing repeatedly. Any instrument with an “RR” in its name uses round robin technology. Instruments containing “RR” contain 2 Round Robin sample per note, while those with an (RRx3), (RRx4), etc, use 3, 4, or more sample variations per note.

While RR instruments solve the problem of repetition, RR Reset solves to problem of inconsistent playback. The reason being is that Opus remembers which sample should be played the next time a note sounds. If a round robin patch contains two samples, A and B, and a piece uses that note 3 times over the whole piece, the playback will be A B A. When the piece is played again from the beginning, the second playback will be subtly different, playing BAB, because that’s next in order based on the last RR note that was played.

You can manually trigger this reset by clicking on the Round Robin Reset button at anytime in the Performance section, or by sending any value (between 0-127) to MIDI CC 36. It is most useful to automate this control so your sequence will playback consistently each time. For instance, if you frequently play a sequence from any arbitrary spot in the middle, you may want a round robin reset at important positions throughout the sequence to force a particular order of RR samples to playback.

Finger Position

This performance script controls the string on which a note will be played (as much as is possible). It is used in Hollywood Strings (1st Violins, 2nd Violins, Violas, and Celli) for all instruments that contain long, sustained articulations.

When an instrument with multiple finger positions available is loaded, the Performance section will automatically populate with 1 button for each of the 4 Finger Positions. Each of these correspond to the finger positions that a string player uses during a real performance.

Clicking the button with the corresponding number in the Performance section will select that Finger Position, but values can also be sent on MIDI CC 70 controller lane. Values between 0-38 to select Finger Position 1, 39-76 to select Finger Position 2, 77-114 to select Finger Position 3, and 115-127 to select Finger Position 4.

PLEASE NOTE: Not all notes can be played on all 4 strings, so the Finger Position selected is only a preference when available. An instrument's lowest notes, such as Middle C on a violin, can only be played one way, but as you go higher up the scale, the number of ways to play a note rises to 4, and then decreases again for the highest notes. A stringed instrument's lowest string can only be open.

The sound changes for any given note when played on different strings. It is theoretically possible to play some notes in an instrument's mid-range in up to 4 different ways (ignoring harmonics). In practice, most string players use two—or occasionally a third—finger positions in most cases. Instruments in Hollywood Strings give you much of that control, providing the two most common options. Generally speaking, notes played closer to the bridge have a warmer, more emotional sound (Finger Position 4).

The next few pages specify how the 4 Finger Positions translate into actual string selection for each note in an instrument's range. If you want to ensure that a specific note will be played on a specific string, find the note name at the left side of the table. Then scan across to determine which columns are shaded with the color of the string number you're looking for. For example, in the 1st or 2nd Violins:

- If you want A#3 to be played on String 3 (the green shading) then you need to set the Finger Position knob to 1.
- if you want that same A#3 played on String 2 (the tan shading), then you need to set the Finger Position knob to 2, 3, or 4.

The actual values for the Violas and Celli are different from the Violins, but the principle of how to read the tables is the same.

An open string note is specified with the letter "O" in the tables. The sound of an open string is significantly different from the same note played by articulating the string on the fingerboard, so you will want to explicitly decide whether you prefer that sound or not, and select the Finger Position accordingly.

In addition to the tables for each of the 3 sections where a Finger Position control is available, the same information is provided in traditional music notation, for those who prefer to read the note values from staves.

VIOLIN FINGER POSITIONS				
NOTE	FP 1	FP 2	FP 3	FP 4
<i>NOTES ABOVE A#4 ARE PLAYED ON STRING 4</i>				
A4	STRING 4			
G#4	STRING 4			STRING 3
G4	STRING 4		STRING 3	
F#4	STRING 4		STRING 3	
F4	STRING 4	STRING 3		
E4	(OPEN)	STRING 3		
D#4	STRING 3			STRING 2
D4	STRING 3		STRING 2	
C#4	STRING 3		STRING 2	
C4	STRING 3		STRING 2	
B3	STRING 3		STRING 2	
A#3	STRING 3	STRING 2		
A3	(OPEN)	STRING 2		
G#3	STRING 2			
G3	STRING 2			
F#3	STRING 2			STRING 1
F3	STRING 2		STRING 1	
E3	STRING 2	STRING 1		
D#3	STRING 2	STRING 1		
D3	(OPEN)	STRING 1		
C#3	STRING 1			
<i>NOTES BELOW C3 ARE PLAYED ON STRING 1</i>				

The musical score illustrates the finger positions for four different fingerings (FP 1, FP 2, FP 3, FP 4) across the four strings of a violin. The notes are: C#3, D3, E3, F3, F#3, G3, G#3, A3, A#3, B3, C4, C#4, D4, D#4, E4, F4, F#4, G4, G#4, A4. The strings are labeled as String 1, String 2, String 3, and String 4. The notes are grouped by string: String 1 (C#3, D3, E3, F3, F#3, G3, G#3, A3, A#3, B3, C4), String 2 (C#4, D4, D#4, E4, F4, F#4, G4, G#4, A4), String 3 (C#4, D4, D#4, E4, F4, F#4, G4, G#4, A4), and String 4 (A4, G#4, G4, F#4, F4, E4, D#4, D4, C#4, C4, B3, A#3, A3, G#3, G3, F#3, F3, E3, D#3, D3, C#3, C3). The notes are grouped by string: String 1 (C#3, D3, E3, F3, F#3, G3, G#3, A3, A#3, B3, C4), String 2 (C#4, D4, D#4, E4, F4, F#4, G4, G#4, A4), String 3 (C#4, D4, D#4, E4, F4, F#4, G4, G#4, A4), and String 4 (A4, G#4, G4, F#4, F4, E4, D#4, D4, C#4, C4, B3, A#3, A3, G#3, G3, F#3, F3, E3, D#3, D3, C#3, C3). The notes are grouped by string: String 1 (C#3, D3, E3, F3, F#3, G3, G#3, A3, A#3, B3, C4), String 2 (C#4, D4, D#4, E4, F4, F#4, G4, G#4, A4), String 3 (C#4, D4, D#4, E4, F4, F#4, G4, G#4, A4), and String 4 (A4, G#4, G4, F#4, F4, E4, D#4, D4, C#4, C4, B3, A#3, A3, G#3, G3, F#3, F3, E3, D#3, D3, C#3, C3). The notes are grouped by string: String 1 (C#3, D3, E3, F3, F#3, G3, G#3, A3, A#3, B3, C4), String 2 (C#4, D4, D#4, E4, F4, F#4, G4, G#4, A4), String 3 (C#4, D4, D#4, E4, F4, F#4, G4, G#4, A4), and String 4 (A4, G#4, G4, F#4, F4, E4, D#4, D4, C#4, C4, B3, A#3, A3, G#3, G3, F#3, F3, E3, D#3, D3, C#3, C3).

VIOLA FINGER POSITIONS				
NOTE	FP 1	FP 2	FP 3	FP 4
NOTES ABOVE D#4 ARE PLAYED ON STRING 4				
D4	STRING 4			
C#4	STRING 4			STRING 3
C4	STRING 4		STRING 3	
B3	STRING 4		STRING 3	
A#3	STRING 4	STRING 3		
A3	(OPEN)	STRING 3		
G#3	STRING 3			
G3	STRING 3			
F#3	STRING 3			
F3	STRING 3		STRING 2	
E3	STRING 3		STRING 2	
D#3	STRING 3	STRING 2		
D3	(OPEN)	STRING 2		
C#3	STRING 2			
C3	STRING 2			
B2	STRING 2			
A#2	STRING 2		STRING 1	
A2	STRING 2		STRING 1	
G#2	STRING 2	STRING 1		
G2	(OPEN)	STRING 1		
F#2	STRING 1			
NOTES BELOW F2 ARE PLAYED ON STRING 1				

For those unfamiliar reading a viola's alto clef, note that the breaks between strings on the celli are at exactly the same notes as on the violas, but an octave lower. You might find it easier to read the bass clef for the celli and mentally transpose up an octave for the violas.

CELLI FINGER POSITIONS				
NOTE	FP 1	FP 2	FP 3	FP 4
<i>NOTES ABOVE D#3 ARE PLAYED ON STRING 4</i>				
D3	STRING 4			
C#3	STRING 4			STRING 3
C3	STRING 4		STRING 3	
B2	STRING 4		STRING 3	
A#2	STRING 4	STRING 3		
A2	(OPEN)	STRING 3		
G#2	STRING 3			
G2	STRING 3			
F#2	STRING 3			STRING 2
F2	STRING 3		STRING 2	
E2	STRING 3		STRING 2	
D#2	STRING 3	STRING 2		
D2	(OPEN)	STRING 2		
C#2	STRING 2			
C2	STRING 2			
B1	STRING 2			STRING 1
A#1	STRING 2		STRING 1	
A1	STRING 2		STRING 1	
G#1	STRING 2	STRING 1		
G1	(OPEN)	STRING 1		
F#1	STRING 1			
<i>NOTES BELOW F1 ARE PLAYED ON STRING 1</i>				

The musical score displays four Cello parts (FP 1, FP 2, FP 3, FP 4) in bass clef. The notes are grouped by string assignment: String 1 (F#1-G#1), String 2 (C#2-D#2), String 3 (E2-F#2), and String 4 (G2-A#2). Fingerings (FP 1-4) are indicated by numbers 1-4. Octave shifts are marked with '8va' and a dashed line. The notes are: FP 1: D3, C#3, C3, B2, A#2, A2, G#2, G2, F#2, F2, E2, D#2, D2, C#2, C2, B1, A#1, A1, G#1, G1, F#1. FP 2: D3, C#3, C3, B2, A#2, A2, G#2, G2, F#2, F2, E2, D#2, D2, C#2, C2, B1, A#1, A1, G#1, G1, F#1. FP 3: D3, C#3, C3, B2, A#2, A2, G#2, G2, F#2, F2, E2, D#2, D2, C#2, C2, B1, A#1, A1, G#1, G1, F#1. FP 4: D3, C#3, C3, B2, A#2, A2, G#2, G2, F#2, F2, E2, D#2, D2, C#2, C2, B1, A#1, A1, G#1, G1, F#1.

4.2.11 Note Velocity Sensitivity

This section contains a sensitivity curve that determines the responsiveness of MIDI Note Velocity. That means it changes how hard or soft you have to play to reach the same volume and/or dynamics.

The default state in the Sensitivity section is a linear, which has a value of 0, in middle of a value range between -100 and +100. Click and drag downward inside the box to create a concave curve that makes Note Velocity less responsive (-100). Or, click and drag upward inside the Sensitivity box to create a convex curve that makes Note Velocity more responsive (+100).



- **NOTE VELOCITY** is a term based on how strongly a keyboard player plays the keys, which not only affects the loudness of notes, but in instruments that contain multiple dynamic levels, also changes the timbre of notes. To achieve this, different samples are mapped to specific Note Velocity value ranges. For example, samples recorded at a *p* (soft) dynamic are mapped to Note Velocities 1–25, *mp* (medium soft) samples are mapped to Note Velocities 26–45, and so on. Since Note Velocity cannot be changed mid-note, it's most often used in short instruments, where natural sounding dynamics can be achieved.

4.2.12 MIDI Control

This section deals with the most fundamental aspects of how to control sampled instruments in terms of volume, dynamics, vibrato, and more. Effectively using these controls is essential to writing convincing parts, and creating realistic performances.

MIDI Continuous Controllers (CCs) can be written directly into the sequencer of your DAW, allowing you to program a piece with specific controller movements, or assigned to the knobs and sliders of a MIDI controller, allowing you to play and record controller movements that affect volume, dynamics, and vibrato in real-time.

Composers use both inputs fluidly, recording volume and dynamics to create expressive performances, editing the recorded MIDI for polish, and programming Keyswitches (KS) and other controls directly into the DAW's sequencer.

MIDI CONTROL #	
Modulation wheel	1
Legato Time	5
Expression	11
Con Sordino On	15
True Legato: Mono	22
Repetition: Reset RR	36
Repetition: Sustain	64

PLEASE NOTE: The MIDI Control area of the Player window will display all the available MIDI CCs for the loaded instrument. While there are some general rules for how MIDI CCs are implemented, please refer to the Instrument Descriptions found in the Description Box of the Browse page for specific details on how an instrument is programmed.

Prepping MIDI CCs

After loading an instrument, it is recommended that you send MIDI CC messages to Opus before the first notes are played, especially CC 1 (Mod Wheel) and CC 11 (Expression). With MIDI CCs mapped to your MIDI controller, that means tweaking the knobs, sliders, and/or wheels. If writing MIDI CCs directly into a sequencer, a short sloped envelope can be drawn for each MIDI CC before the start of the first notes.

The focus of the next section will be on using the most common MIDI CCs, including CC 1 (Mod Wheel), CC 7 (Volume), and CC 11 (Expression), as well as MIDI Note Velocity, since it is also used to control loudness and/or dynamics (even though it is not technically a MIDI CC).

Volume, Velocity, and Expression

There are at least three ways to make sampled instruments sound louder, or at least make the real instrument seem to have been played louder.

Volume is just the loudness of a sound. Changing volume is basically the same as turning the volume knob on your audio system. For instance, violas played softly can be cranked up; a loud cello section can be turned way down.

Volume can be adjusted mid-note; that is, the listener can experience a crescendo or diminuendo for a held note, and as with a live orchestra, the various instruments are changing their loudness independently.

- **MOD WHEEL (CC 1)** implementation depends on the library and instrument type. Instruments that feature independent control of both dynamics and vibrato (Hollywood Orchestra Strings and Woodwinds Opus Edition), CC 11 (Expression) controls overall loudness and dynamics, while CC 1 (Mod Wheel) controls vibrato amount. In other cases, such as the LITE instruments in Hollywood Orchestra Strings Opus Edition, CC 11 (Expression) controls overall loudness, while CC 1 (Mod Wheel) handles both dynamics and vibrato simultaneously. In yet other cases, instruments with 'MOD' in their name use the controller to switch between articulations.
- **VOLUME (CC 7)** is best used to set the overall upper limit on the volume of each track in the mix, relative to each of the other tracks, as opposed to shaping an individual musical line of an instrument as achieved with Expression (CC 11).
- **EXPRESSION (CC 11)** is typically used to control overall loudness, or both overall loudness and dynamics simultaneously, an approach that can achieve a realistic, expressive sound. Expression (CC 11) can provide the kind of dynamic shaping of notes to create swells in the middle of a note, or over the course of a phrase, creating crescendos and fluid dynamics. CC 11 affects overall loudness across all instruments, but you will generally find CC 11 used to cross-fade dynamics on long, sustained instruments that can benefit from mid-note changes.

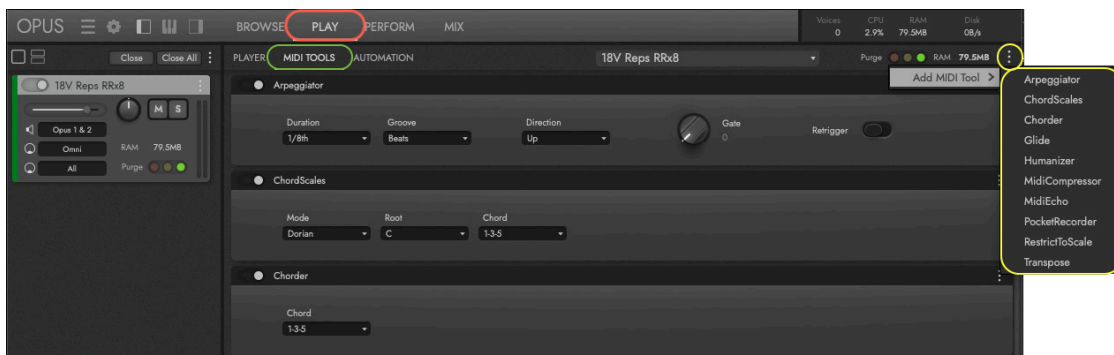
FOR MORE: 3.2.5 How to Produce Realistic Performances

4.3 THE MIDI TOOLS WINDOW

This window features a suite of MIDI Tools that offers everything from simple note transposition, to more complex humanization of MIDI timing and events, and more.

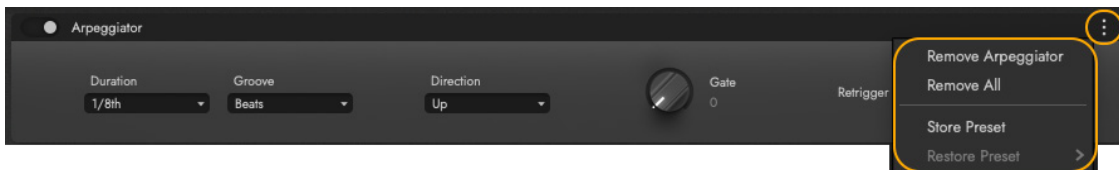
The MIDI Tools can be found by clicking on the **PLAY PAGE SELECTOR** in the **NAVIGATION BAR**, then clicking on the **MIDI TOOLS WINDOW SELECTOR** in the secondary **PALETTE MENU**.

To load a MIDI Tool, click in the **ADD MIDI TOOL ELLIPSIS MENU (...)** in the secondary **PALETTE MENU**, then select one from the list.



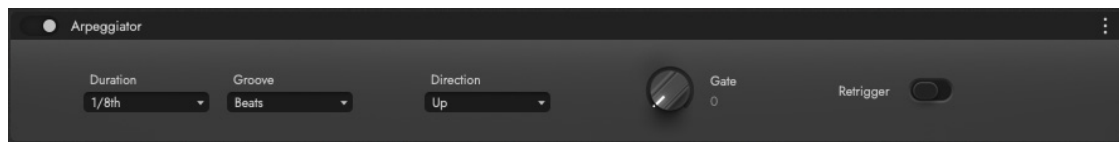
MIDI Tool Options

Each MIDI Tools module features a header area that contains an **ON / OFF SWITCH**, where the module can be enabled or disabled, a **NAME**, and a **MIDI TOOL ELLIPSIS MENU (...)**, where options are available for removing the selected MIDI Tool, removing all MIDI Tools, storing the current settings as a preset, and restoring those saved preset settings.



4.3.1 Arpeggiator

This MIDI Tool turns chords into a sequence of notes (arpeggios), synced to tempo.



Select note sub-divisions in the **DURATION MENU** to control how many beats will play within a bar of music. Standard sub-divisions (Whole, Half, 1/4, 1/8, 1/16, 1/32, and 1/64), and triplet sub-divisions (1/4 triplet, 1/8 triplet and 1/16 triplet), are available.

In the **GROOVES MENU**, select from a large assortment of patterns and variations, or use the default 'Beats' option to play the arpeggio at the selected sub-division.

In the **DIRECTION MENU**, select the order in which notes are played. Playing a standard triad (with note intervals of 1, 3, and 5), with 'Up' selected will playback notes 1, 3, 5, then repeat. Playing the triad with 'Down' selected will playback notes 5, 3, 1, then repeat. Playing the triad with 'UpDown' selected will playback notes 1, 3, 5, 3, 1, then repeat. Playing the triad with 'PlayOrder' selected will playback notes in the order in which their note on messages were received.

With the **GATE CONTROL**, determine the length of note played at each sub-division within an arpeggio. With a value of 0, no sound will come through, and with a setting of 1, the full length of a note at its current sub-division (and tempo) will playback. Values in between scale the length from fully open to fully closed.

With the **RETRIGGER CONTROL** enabled, remaining notes are retriggered when a note within a chord are released.

4.3.2 Chord Scales

This MIDI Tool uses a single note (which serves as the root of the chord), to trigger chords based on the Mode, Root and Chord selections.



In the **MODE MENU**, each preset restricts the notes of a scale to the selected mode. Each mode can be determined with a series of whole-steps (2 semitones) and half-steps (1 semitone) starting on the root note.

- Ionian: W, W, H, W, W, W, H
- Dorian: W, H, W, W, W, H, W
- Phrygian: H, W, W, W, H, W, W
- Lydian: W, W, W, H, W, W, H
- Mixolydian: W, W, H, W, W, H, W
- Aeolian: W, H, W, W, H, W, W
- Locrian: H, W, W, H, W, W, W

In the **ROOT MENU**, determine the notes included in the selected mode by choosing the root note of that mode. For example, with a Mode of Dorian selected, and a Root of D, the scale formed with the series of half and whole steps are all natural (white) keys: D, E, F, G, A, B, C, and so on.

In the **CHORD MENU**, select the chord type based on the scale degree: 1-3-5 (triad), 1-3-5-7 (seventh chord), 1-3-5-7-9 (ninth chord), and 1-3-4-6 (sus chord). The specific chord type (for example, Major triad or Minor triad) is determined by the selected Mode and Root.

4.3.3 Chorder

This MIDI Tool uses a single note (which serves as the root of the chord), to trigger chords based on the preset selected in the **CHORD MENU**, which are organized by the scale degrees in the chord: 1-3-5, 1-3-5-7, 1-3-5-7-9, 1-3-4-6.



4.3.4 Glide

This MIDI Tool creates a continuous glide in pitch between notes that are played in a connected fashion (legato).

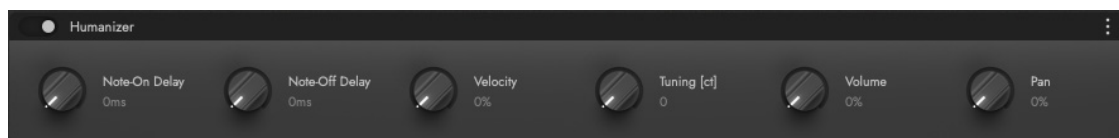


Adjust the **TIME CONTROL** to set the time it takes to glide between the two notes, from 5 m/s (milliseconds) to 2.5 seconds.

In the **SPEED MENU** select either Absolute, which applies the Time control across the note interval, regardless of distance, or Per Octave, which applies the Time control value to each octave. For instance, if you set the Time control to 1 second and selected Absolute from the Speed menu, playing 2 octaves will take 1 second to glide between, but with Per-Octave selected, it will take 2 seconds (1 second per octave).

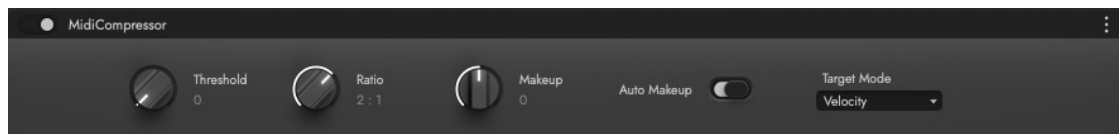
4.3.5 Humanizer

This MIDI Tool randomizes Note On and Off Delays between 0 - 100 milliseconds, Velocity as a percentage up to 50%, Tuning between 0 - 100 cents, Volume between 0 - 100% and Pan between 0 - 100%. Use the controls to determine the range within which the randomization occurs.



4.3.6 MIDI Compressor

This MIDI Tool modifies the range of MIDI values, for either Note Velocity or MIDI CCs, in a similar way that a compressor modifies the dynamic range of audio.



The **THRESHOLD CONTROL** determine the Note Velocity or MIDI CC values above which a note is processed, between values of 0 and 127 (notes below the selected threshold are not played).

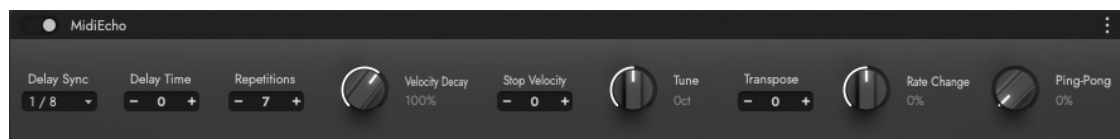
Use the **RATIO CONTROL** to determine the resulting Note Velocity or MIDI CC values for those that passed through the Threshold control.

Use the **MAKEUP CONTROL** to increase or decrease the Note Velocity or MIDI CC values relative to their original values, between values of -127 and 127. Or, enable the **AUTO MAKEUP SWITCH** to set this value.

Use the **TARGET MODE MENU** to select which values the MIDI Compressor should target, Note Velocities or MIDI CCs.

4.3.7 MIDI Echo

This MIDI Tool creates a delay line with MIDI data, with the ability to change velocity, tuning and panning over the course of that delay line.



In the **DELAY SYNC MENU** select a note sub-division: standard sub-divisions (Whole, Half, 1/4, 1/8, 1/16, 1/32, and 1/64), and triplet sub-divisions (1/4 triplet, 1/8 triplet and 1/16 triplet) are available.

The **DELAY TIME CONTROL** relates to the Delay Sync control, essentially changes the sub-division. For instance, a 1/4 Delay Sync value with a Delay Time of 1 equals a 1/8 Delay Sync value with a Delay Time of 2.

The **REPETITIONS CONTROL** determines how many repeats of the delay lines will play. With 3 repetitions selected, you will hear the original note, plus 3 repeats (for a total of 4 beats).

The **VELOCITY DECAY CONTROL** will change Note Velocity as a percent of its original value over the course of the delay line. Use positive values between 100-150% to produce a crescendo effect, or values between 10-100% to produce decrescendo effect.

The **STOP VELOCITY CONTROL** pertains to the Velocity Decay control, stopping the output of velocities below a certain threshold at higher values.

The **TUNE CONTROL** will change fine tuning over the course of the delay line. With positive values between 0 and 100 cents, the pitch will bend upward, and with negative values between -100 and 0 cents, the pitch will bend downward.

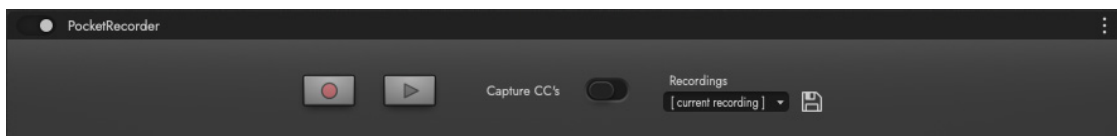
The **TRANSPOSE CONTROL** will incrementally increase or decrease over the course of the delay line according to the transposition value, that ranges from -12 to +12 semitones. With a value of 1, each delay line repetition will rise by 1 semitone (chromatically). Please be aware, if the transposition exceeds the sampled range of the instrument, nothing will play.

The **RATE CHANGE CONTROL** will elongate or compress the delay line over time as a percentage (between -25% and 25%).

The **PING PONG CONTROL** pans the delay line from right to left. At 0% there is no effect, and at 100% it alternates between hard-right and hard-left.

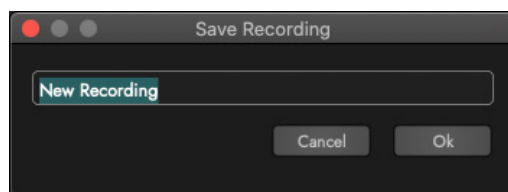
4.3.8 Pocket Recorder

This MIDI Tool allows you to record, store, and playback MIDI files.

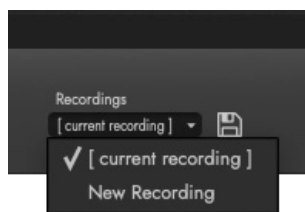


Enable the **CAPTURE CCs SWITCH** to capture MIDI CCs in addition to MIDI note data.

Click the **RECORD BUTTON** to begin recording MIDI Note (and MIDI CC) data. Click the Record button again to finish the recording. Click the **PLAY BUTTON** to begin playback of the [current recording].



If you wish to save the [current recording], click on the **DISK ICON** and enter a name in the **SAVE RECORDING DIALOG**, then click 'Ok'.



Click in the **RECORDINGS MENU** to load any of the saved recordings.

4.3.9 Restrict to Scale

This MIDI Tool only plays notes based on the selected Scale, Root Note and Mode selection.



In the **MODE MENU**, select a mode to determine how notes played outside of the selected Scale are re-mapped to remain within the Scale. The modes are: Always to Upper, Always to Lower, Auto to Upper, Auto to Lower, and Ignore. Essentially, notes not in the Scale are re-mapped to next higher or lower notes, or ignored altogether (no note is played).

In the **SCALE MENU**, each preset restricts the notes of a scale to the selected mode. Each mode can be determined with a series of whole-steps (2 semitones) and half-steps (1 semitone) starting on the root note.

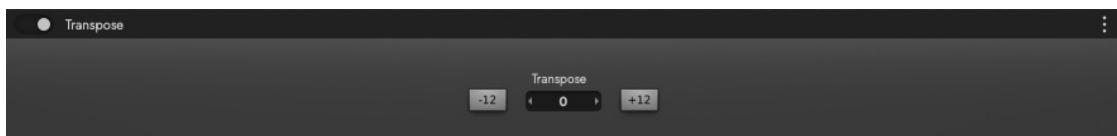
- Ionian: W, W, H, W, W, W, H
- Dorian: W, H, W, W, W, H, W

- Phrygian: H, W, W, W, H, W, W
- Lydian: W, W, W, H, W, W, H
- Mixolydian: W, W, H, W, W, H, W
- Aeolian: W, H, W, W, H, W, W
- Locrian: H, W, W, H, W, W, W

In the **ROOT NOTE MENU**, determine the notes included in the selected mode by choosing the root note of that mode. For example, with a Mode of Dorian selected, and a Root of D, the scale formed with the series of half and whole steps are all natural (white) keys: D, E, F, G, A, B, C, and so on.

4.3.10 Transpose

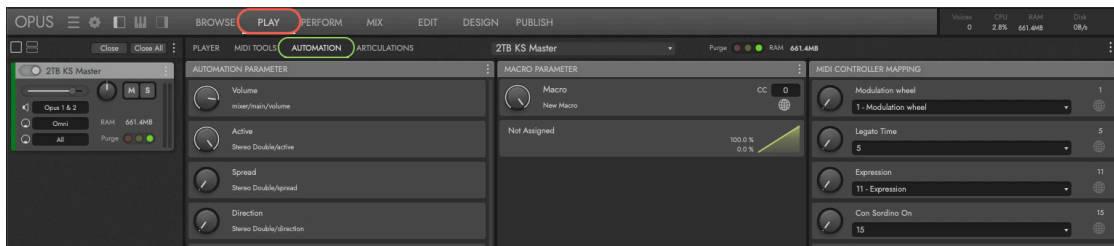
This MIDI Tool transposes the incoming MIDI note by (+ / -) 48 semitones. Use the right and left arrows inside the **TRANPOSE CONTROL** to increment the transposition (+/-) 1, or use the **+12 BUTTON** and **-12 BUTTON** to change the transposition (+/-) 12.



4.4 THE AUTOMATION WINDOW

This window handles options related to automation, including automatable parameters, macro parameters, and MIDI controller mapping.

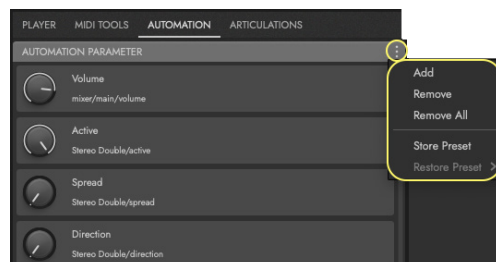
The Automation window can be found by clicking on the **PLAY PAGE SELECTOR** in the **NAVIGATION BAR**, then clicking on the **AUTOMATION WINDOW SELECTOR** in the secondary **PALETTE MENU**.



4.4.1 Automation Parameter

The Automation Parameter column in the left of the Automation window populates automatically with the most common parameters, each of which can be automated within a DAW.

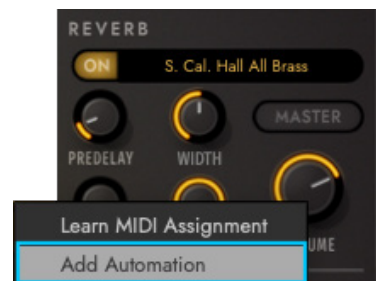
Use the **AUTOMATION PARAMETER ELLIPSIS MENU (:)** to perform the following options: add, remove, remove all, store, and restore.



Add Automation

If you don't see a parameter that you wish to automate, go to the Player window and right-click on a knob, slider, or button to bring up the pop-up window with the **ADD AUTOMATION OPTION** (which only appears if a parameter can be automated). Select this option to add the parameter to the list of automatable parameters in the Automation Window.

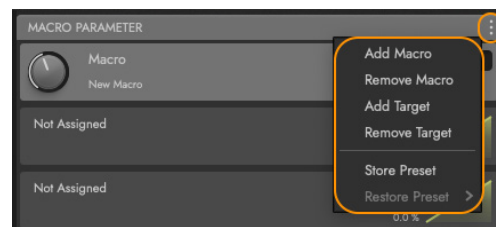
Any control that has been added to automation can be removed by right-clicking and choosing 'Remove Automation'.



4.4.2 Macro Parameter

The Macro Parameter column allows control of multiple automation parameters with a single knob. Use the **MACRO PARAMETER ELLIPSIS MENU (:)** to the right of the header to Add Macro, then Add Target for each automation parameter you'd like to control.

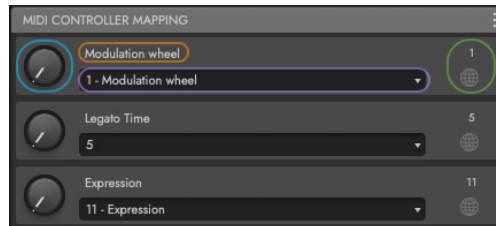
For each Target, set the depth of modulation with the knob, and use the table graph to scale the values, giving individual control over how the Macro affects each Target.



4.4.3 MIDI Controller Mapping

The MIDI Controller Mapping column allows you to re-map existing MIDI Continuous Controller (CC) assignments to new ones. It automatically populates with MIDI CCs that are available for the selected instrument, appearing in numerical order according to their default MIDI CC assignment.

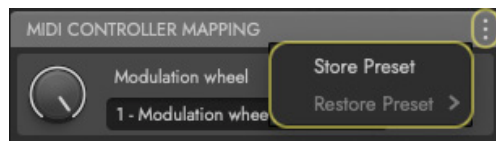
In each panel, the **MIDI CC VALUE KNOB** on the left shows the current value of the MIDI CC, ranging from 0 to 127, the **MIDI CC NAME ASSIGNMENT** appears just to the right, and the default **MIDI CC NUMBER ASSIGNMENT** appears on the right side of the panel, above the globe icon.



To re-map the default MIDI CC Number assignment to a new one, click on the **MIDI CC REMAPPER MENU** and select a MIDI CC from the list, from 0 to 126.

PLEASE NOTE: Be careful to avoid conflicting MIDI CC messages by ensuring they are not currently in use.

Click on the **MIDI CONTROLLER MAPPING ELLIPSIS MENU (:)** and select 'Store Preset' to save any changes. When you wish to recall this preset, click in the same menu, select 'Restore Preset', and select the preset from the list of saved presets.



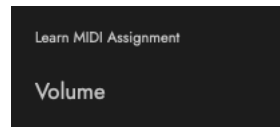
Learn MIDI Assignment

In addition to re-mapping existing MIDI CC assignments to new ones, you can also assign controls in the Player window to respond to any MIDI CCs by using **LEARN MIDI ASSIGNMENT OPTION**, otherwise known as MIDI Learn.



Right-click on a knob in the Player window, like the Reverb volume knob (left), and choose the 'Learn MIDI Assignment' option.

A pop-up will appear to indicate its ready to learn (right).



The next MIDI CC that sends a message to Opus will automatically be assigned to that knob, whether it comes from turning a physical knob on your MIDI controller, or from your DAW when Opus is used as a plugin.

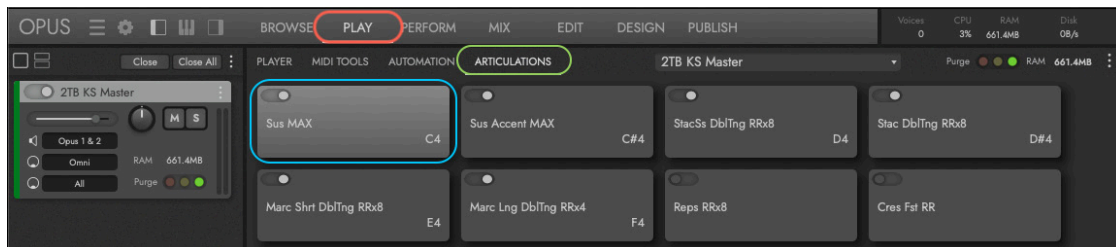
Any control that has learned a MIDI assignment can be removed by right-clicking and choosing 'Remove MIDI Assignment'.

4.5 THE ARTICULATIONS WINDOW

This window will only appear if an instrument with multiple articulation layers has been loaded. For Hollywood Strings Opus Edition, that means loading one of the KS Master instruments that is available for each instrument type.

PLEASE NOTE: KS is short for Keyswitch, a type of instrument that assigns MIDI note numbers outside the sampled range of notes to select (“trigger”) an articulation for use.

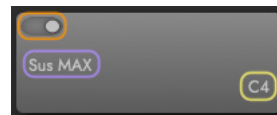
The Articulations window is found by clicking the **PLAY PAGE SELECTOR** in the **NAVIGATION BAR**, then clicking the **ARTICULATIONS WINDOW SELECTOR** in the secondary **PALETTE MENU**.



Articulation Cells

Each articulation layer within an instrument appears as an **ARTICULATION CELL**.

It contains a **LOAD SWITCH** in the top-left corner that is used to turn the articulation on and off, loading it into memory (RAM) when the switch is oriented to the right, and unloading it from memory when the switch is oriented to the left. Just below this switch, is the **ARTICULATION NAME**.

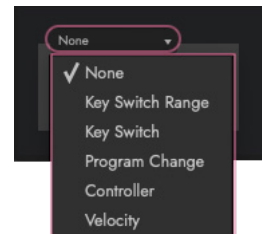


In the lower-right the **TRIGGER ASSIGNMENT** is displayed, which selects for (“triggers”) an articulation based on the selected option in the **TRIGGER OPTION MENU**. KS Master instruments load with the ‘Keyswitch’ Trigger Option selected, where each articulation is selected for (“triggered”) based on its assigned MIDI note number value. Other Trigger Options are available, and explained further below.

4.5.1 How To Use Trigger Options

To assign or modify a Trigger Option, right-click on a cell to bring up a small pop-up window. Then, click on the **TRIGGER OPTION MENU** and select an option.

Once a Trigger Option is selected, the pop-up menu will display the settings for the selected option. Each of these options are detailed below.

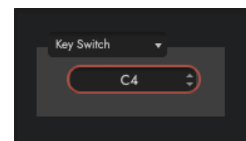


Keyswitch

KS Master instruments load with the ‘Keyswitch’ Trigger Option set by default.

KS is an abbreviation for Keyswitch, a type of instrument that uses MIDI note numbers between C-2 and G8 to select (“trigger”) articulations for use.

Click in the **KEYSWITCH TRIGGER MENU** to enter the desired MIDI note number field to enter the desired note, or use the up or down arrows to increment up or down the range.



To exit, click anywhere outside of the pop-up menu.

Once defined, **KEYSWITCH TRIGGER ASSIGNMENTS** appears in the lower-right corner of each articulation cell.

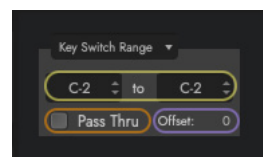


Each of these **KEYSWITCH TRIGGER NOTES** appears on the Virtual Keyboard colored blue (or yellow when currently active), and is located outside the playable range of notes that appear in white. Simply play or program an articulation’s Keyswitch Trigger to select it for use.



Keyswitch Range

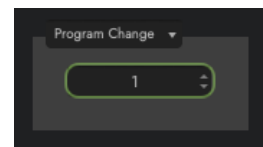
This Trigger Option is for using keyswitch instruments in addition to individual instruments. If a key is hit within the **KEYSWITCH RANGE ASSIGNMENTS** that instrument becomes activated. The **PASS THRU OPTION** ensures that the keyswitch in the underlying instrument is activated. Use the **OFFSET VALUE** to allow the use of a different key range than what the underlying instrument uses.



Program Change

This Trigger Option uses MIDI Program Change messages to select (“trigger”) articulations for use.

To define a program change number, enter a value between 1 and 128 into the **PROGRAM CHANGE NUMBER FIELD**, or use the up and down arrows to increment through the value range.



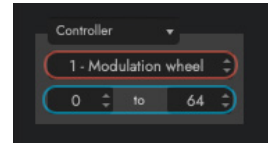
PLEASE NOTE: Refer to the documentation for your preferred DAW (sequencer) for instructions on how to send program changes messages, as each handles this differently.

Controller

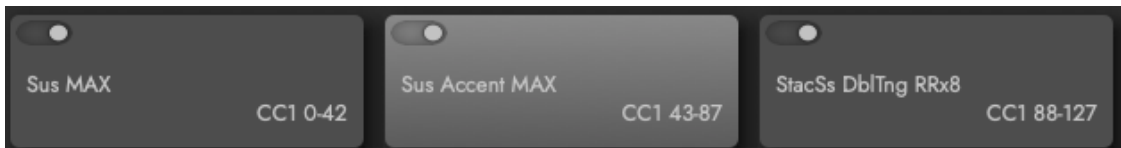
This Trigger Option uses MIDI CC (Continuous Controller) messages to select (“trigger”) articulations for use.

To define a controller, click in the **CONTROLLER NUMBER FIELD** and enter a number between 0 and 127, or use the up and down arrows to increment through the value range.

Next, define the minimum and maximum value range that the controller will respond to by entering them into the **CONTROLLER VALUE FIELDS**

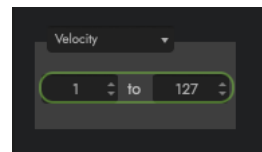


For example, the ‘1 - Modulation Wheel’ controller is entered into the **CONTROLLER NUMBER FIELD** for each of the 3 articulations below, and each is assigned unique value ranges (0-42, 43-87, and 88-127 respectively) in their **CONTROLLER VALUE FIELDS**. That way, each instrument will only playback when the Mod Wheel is within its assigned value range.



Velocity

This Trigger Option uses MIDI Note Velocity values to select (“trigger”) articulations for use. MIDI Note Velocity, Note Velocity, or just Velocity refers to how hard or soft you play a MIDI controller’s keys or pads, which is translated into values between 1 (softest) and 127 (hardest).



An example that illustrates this in a practical sense is to load a long, sustained instrument, and a short, accented instrument. Then, restrict the **CONTROLLER VALUE FIELDS** of the short instrument between 110 (minimum) and 127 (maximum) so that a short note accent will play at higher velocities (between those assigned values).

- CHAPTER 5 PERFORM**
- 5.1 OVERVIEW OF THE PERFORM PAGE**
- 5.2 HOLLYWOOD ORCHESTRATOR WINDOW**
 - 5.2.1 How to Load Hollywood Orchestrator
 - 5.2.2 Overview of the User Interface
 - 5.2.3 The Preset Browser
 - 5.2.5 The Main View
 - 5.2.6 The Mixer View
 - 5.2.7 Exporting MIDI Output
 - 5.2.8 Global Controls
- 5.3 ZONES WINDOW**
 - 5.3.1 Zone Options
 - 5.3.2 Trigger Options
- 5.4 ALL INSTANCES WINDOW**

5.1 OVERVIEW OF THE PERFORM PAGE

Click the **PERFORM PAGE SELECTOR** in the **NAVIGATION BAR**.

The Perform page centers around getting instruments to sound good together, with the ultimate expression of that being the Hollywood Orchestrator, an orchestral scoring engine described in the following sections.

Use the **WINDOW SELECTORS** in the secondary **PALETTE MENU** to switch the **PERFORM PAGE** between the 3 windows: Zones, All Instances, and Hollywood Orchestrator.

PLEASE NOTE: The Hollywood Orchestrator is only available for the Hollywood Orchestra Opus Edition.



The **HOLLYWOOD ORCHESTRATOR WINDOW** (shown) will only appear when the corresponding performance file has been loaded in the Browse page (instructions are contained in the next section).

The **ZONES WINDOW** is available for all instruments, allowing you to set instrument properties like key range, octave transposition, and trigger actions to shape how instruments interact together. The **ALL INSTANCES WINDOW** provides an overview of all loaded instruments and articulations, across all instances of Opus.

5.2 HOLLYWOOD ORCHESTRATOR WINDOW

Create full-scale orchestra music with complex arrangements by playing a few simple chords with one hand and shaping expression on the Mod Wheel with the other. With up to 16 instruments playing simultaneously across all orchestral sections, you have the power of the entire orchestra at your fingertips.

PLEASE NOTE: The Hollywood Orchestrator depends on the MIDI channel assignments set in the loaded preset. Do not change them!

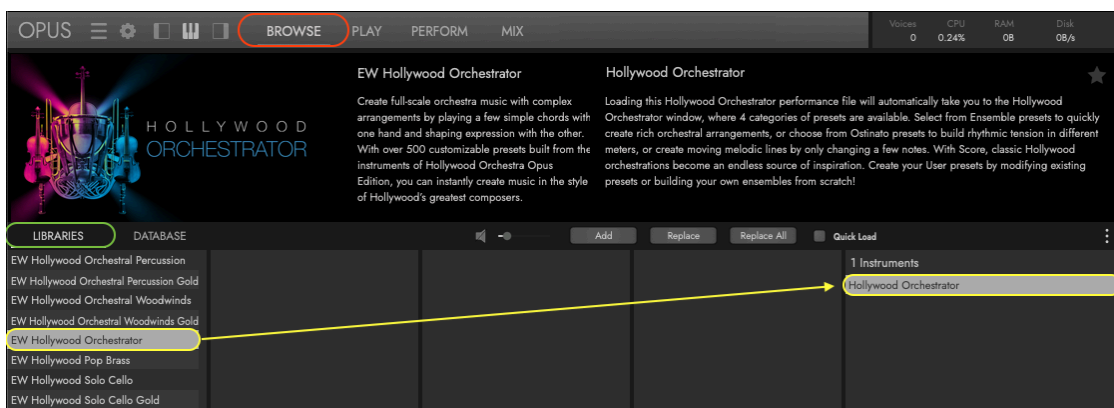
5.2.1 How to Load Hollywood Orchestrator

In order to see the Hollywood Orchestrator window, you must load the Hollywood Orchestrator performance file. To do this:

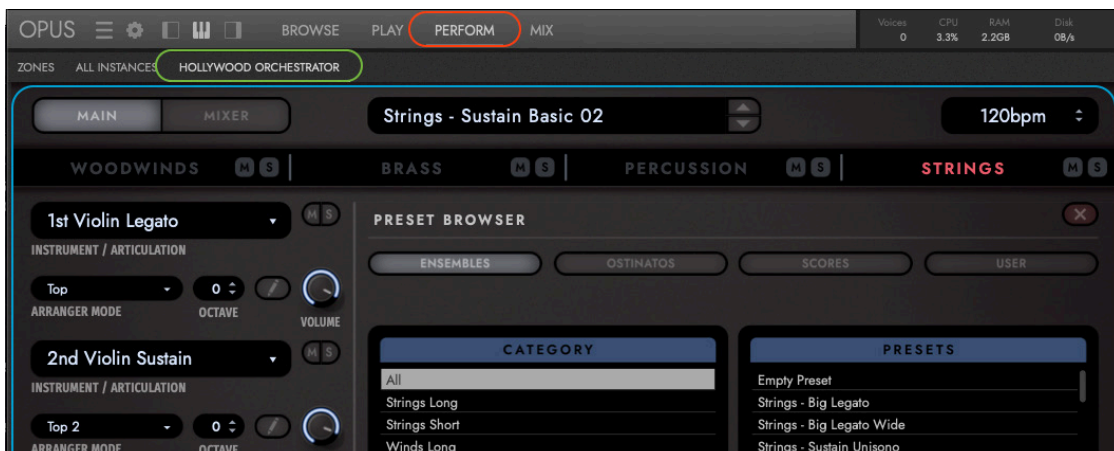
Click on the **BROWSE PAGE SELECTOR** in the **NAVIGATION BAR**.

In **LIBRARIES MODE**, on the left column, find and click on **EW HOLLYWOOD ORCHESTRATOR LIBRARY**.

The **HOLLYWOOD ORCHESTRATOR PERFORMANCE** file appears in the **RESULTS LIST** in the right column. Double-click to load it.



The **HOLLYWOOD ORCHESTRATOR WINDOW** will automatically appear in the **PERFORM PAGE**.



5.2.2 Overview of the User Interface

The Hollywood Orchestrator window has several different views, accessible by buttons that appear near the top row of the user interface.

- **PRESET BROWSER BUTTON / DISPLAY**
- **MAIN VIEW BUTTON**
- **MIXER VIEW BUTTON**
- **ORCHESTRAL SECTIONS SELECTOR**
- **ORCHESTRAL SECTION-MUTE KEYSWITCHES**
- **GLOBAL TEMPO CONTROL**
- **SEQUENCER BYPASS CONTROL**



5.2.3 The Preset Browser

Click on the **PRESET BROWSER BUTTON** (which also serves to display the currently loaded preset).

This reveals the **PRESET BROWSER AREA**, there are more than 500 presets to get you started.

Here, each of the **PRESET TYPES BUTTONS** will populate the Category and Presets columns with its respective category: Ensembles, Ostinatos, Scores, and User (for your own presets). First, select a Preset Type, then select a Category in the left column, and then double-click on one of the Presets from the list to load it (or replace an existing one).



Preset Types

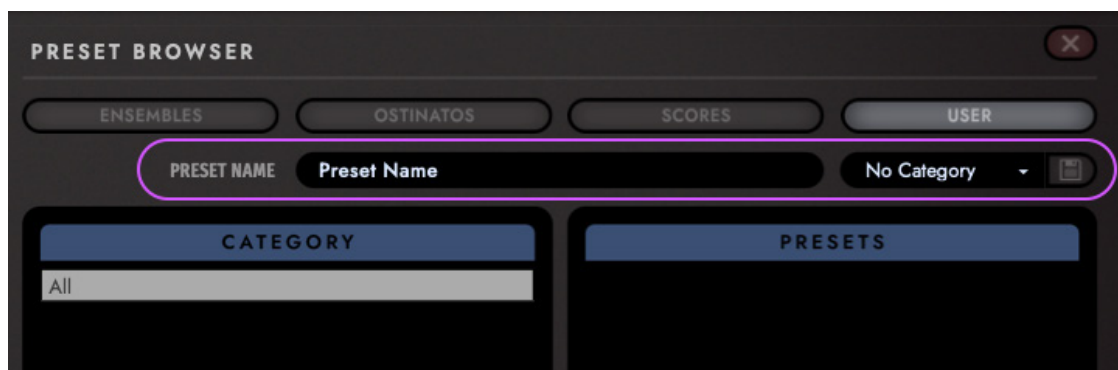
The types of presets range from basic ensembles to full fledged scores playing rhythmic and melodic variation.

- **Ensembles** are basic combinations of instruments, mostly using the same articulations. If you want to lay down a bed of sustain strings or quickly play staccato chords with the woodwind section, these presets are your way to go. They are subcategorized by instrumentation and articulation. Within a subcategory you will find several presets, that use the same instruments and articulations, but are arranged differently. Ensemble presets only use the note selection, not the step sequencing.

- **Ostinatos** are an extended version of the Ensembles. You will find lots of different Ensembles playing basic bread and butter rhythms. They are subcategorized by the feel of the rhythm (i.e. Quarter Notes or Triplets).
- **Scores** bring the magic of Hollywood to your doorstep. They contain complex orchestrations with both rhythmic and melodic variation at a length of up to four bars, that sound like that blockbuster you have always wanted to score. These presets are subcategorized by different moods and styles, like Hollywood Action, Elves World, Family Adventure, Symphonic and many more.
- **User** presets allow you to categorize and save your own presets. Go to the User category within the preset browser, where you can create your own subcategories and save your own presets into them.

How to Save a User Preset

1. Click on the “User” button in the Preset Browser area of the Hollywood Orchestrator.
2. In the “Preset Name” field, type a name for the preset you wish to save.
3. Next, click in the Category drop-down menu and choose a category. If you wish to create your own category, see the instructions below.
4. Last, click the save icon to the right of the Category selector to save the presets.



How to Save a User Category

1. If you wish to create your own category, simply click inside the “Category Name” field and type a name for the category you wish to save.
2. Then click the “Add” button to add the new category to the list. To delete a category, highlight an entry in the Category column, then click the “Del” (Delete) button.

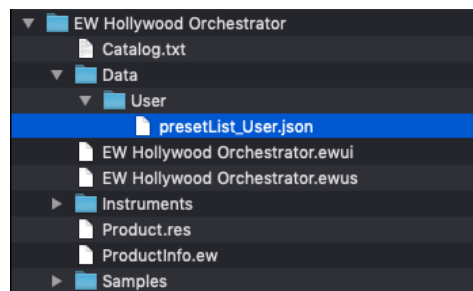


How to Rescan the User Presets

To encourage users to share their own user presets with the community, follow the instructions below to add new presets, and rescan them in Hollywood Orchestrator.

1. Go to the installation directory of the Hollywood Orchestrator.
2. Go to the 'Data/User' folder.
3. Paste new presets into the 'User' folder.
4. Delete the file 'presetList_User.json' in the 'User' directory.
5. (Re)open Hollywood Orchestrator or the DAW project file containing it.

The presets will populate the User preset area, including the categories they were original saved in.



PLEASE NOTE: The deletion of the 'presetList_User.json' file forces the Hollywood Orchestrator to rescan the User presets when it opens back up. Any presets added to the list, including their categories they were original saved with, will be included in the scan.

5.2.4 Orchestral Sections

There are four **ORCHESTRAL SECTION SELECTORS** that run along the top of the Hollywood Orchestrator interface.

The section that is currently selected will light up with its associated color (shown below), and populate the Instrument Slots on the left with their respective instruments.

- **WOODWINDS SELECTOR**
- **BRASS SELECTOR**
- **PERCUSSION SELECTOR**
- **STRINGS SELECTOR**



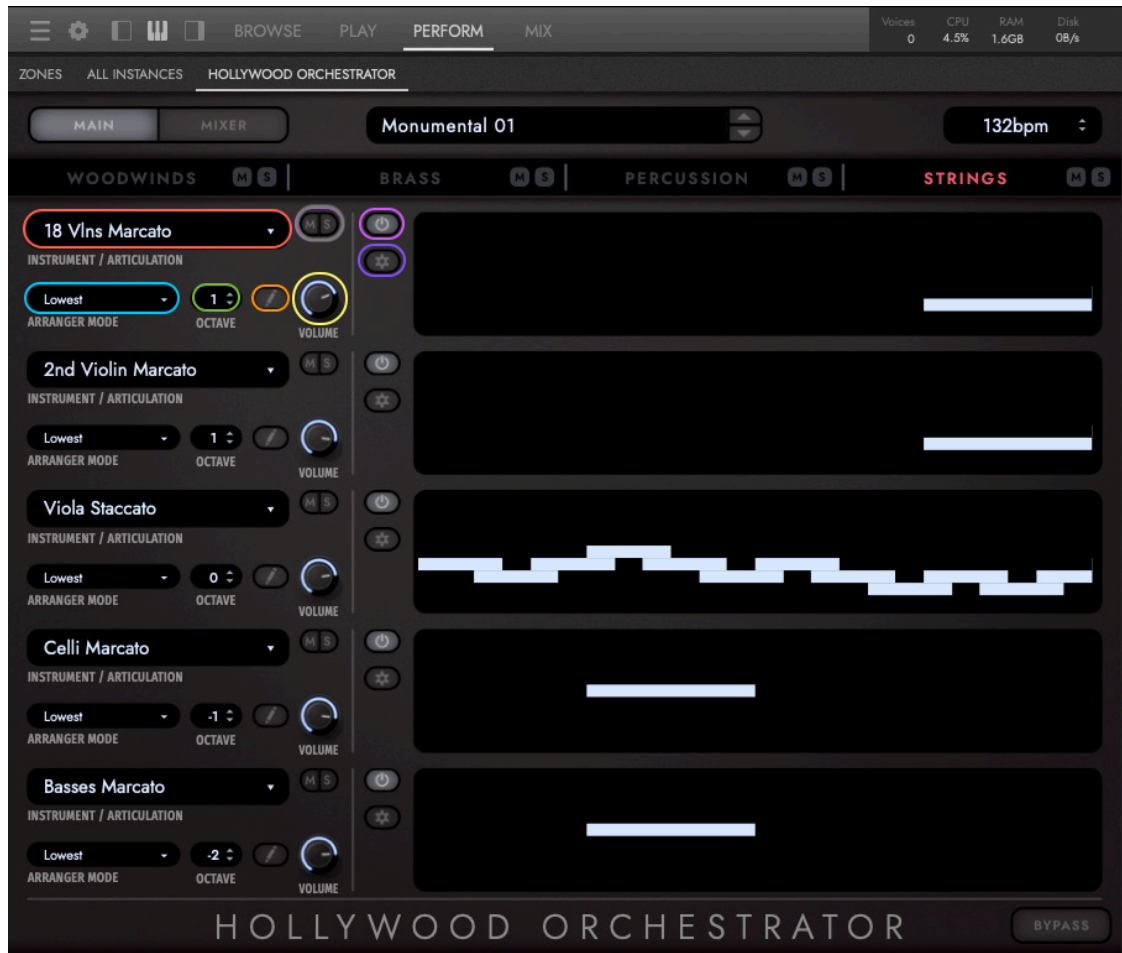
Each section has an associated **ORCHESTRAL SECTION-MUTE KEYSWITCH** that appears on the **VIRTUAL KEYBOARD**, colored to match its associated Orchestral Section.

Use these colored keyswitches to mute and un-mute the orchestral sections, making it easy to audition an ensemble or sequence on a per-section basis.

5.2.5 The Main View

The home base for Hollywood Orchestrator is in the Main view, where everything from a basic string arrangement, to a fully orchestrated score can be produced. At the heart of the scoring engine are 2 principle features: Arranger Modes modify the MIDI input using varying note selection processes, and the Step Sequencer, turn those generated notes into programmed rhythms.

- **INSTRUMENT SLOT BROWSER**
- **ARRANGER MODE SELECTOR**
- **OCTAVE SHIFT CONTROL**
- **OPEN SEQUENCE EDITOR BUTTON**
- **VOLUME CONTROL**
- **MUTE (M) / SOLO (S) BUTTONS**
- **SEQUENCE ON / OFF BUTTON**
- **INSTRUMENT SETTINGS BUTTON**



Instrument Slots

The Hollywood Orchestrator comes with 16 slots spread across four orchestral instrument sections: Woodwinds, Brass, Percussion and Strings.

Each **INSTRUMENT SLOT MENU** is bound to a specific group of instruments and can load one instrument patch from that group. A variety of basic and advanced articulations are available for each instrument, ranging from Sustain and Staccato, to Trills and Legato.



The playback behavior can be influenced by limiting their dynamic range, or using the octave shift to change their position on the keyboard. These options can be controlled for each slot individually.

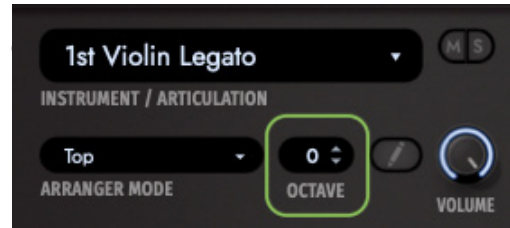
INSTRUMENT SLOTS		
WOODWINDS		
SLOT 1	FLUTES	Piccolo flute, Flute, 3 Flutes
SLOT 2	HIGH DBL REEDS	Oboe, English Horn
SLOT 3	CLARINETS	Clarinet, 3 Clarinets, Bass Clarinet
SLOT 4	LOW DBL REEDS	Bassoon, 3 Bassoons, Contrabassoon
BRASS		
SLOT 5	HORNS	2 French Horns, 6 French Horns
SLOT 6	TRUMPETS	Solo Trumpet, 2 Trumpets, 3 Trumpets
SLOT 7	TROMBONES	2 Trombones, 3 Trombones
SLOT 8	LOW BRASS	Solo Tuba, Low Brass
PERCUSSION		
SLOT 9	TIMPANI, COMBOS	Timpani, Combo Kits, Harp
SLOT 10	ASSORTED	Cymbals, Drums, Metal, Wood, Harp
SLOT 11	ASSORTED	Cymbals, Drums, Metal, Wood, Harp
STRINGS		
SLOT 12	VIOLINS	1st Violins, 18 Violins, Solo Violin

SLOT 13	VIOLINS 2	2nd Violins
SLOT 14	VIOLAS	Violas
SLOT 15	CELLI	Celli, Solo Cello
SLOT 16	BASSES	Basses

Octave Shift

Once you have chosen which notes you want an instrument to play, you can also decide, if you want the instrument to play them in the same octave as you do. If you do not want that, you can use the **OCTAVE SHIFT CONTROL** to shift them up or down by up to 4 octaves.

Whether you need a close harmony woodwind arranged sustain string ensemble or a huge orchestra, this mechanic allows you to arrange any chord you play across any selection of instruments and articulations.

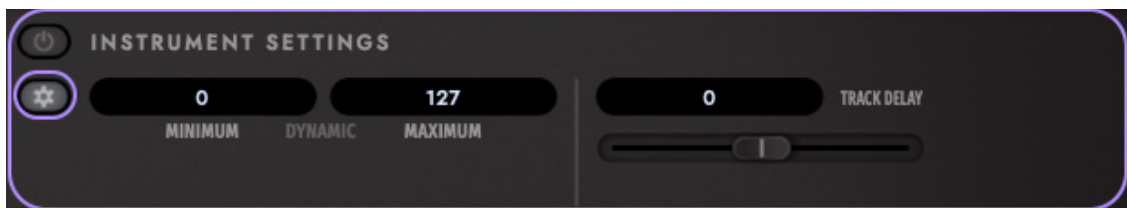


Instrument Settings

Click on the **INSTRUMENT SETTINGS BUTTON**, then use the **DYNAMIC CONTROL** to set the minimum and maximum value range for whatever is controlling dynamics on a per instrument basis, whether that is Mod Wheel (CC 1), Expression (CC 11), or Note Velocity. Leave the settings at 0 (min), and 127 (max) for full dynamic range, or try a setting of 0 (min) and 63 (max) to limit the top dynamic range for a softer expression.

The **TRACK DELAY CONTROL** enables a + / - 100 ms (millisecond) delay on the sequencer timing, on a per instrument basis. Shifting the track forward (positive values) results in a delayed onset, and shifting the track backward (negative values) results in an advanced onset.

PLEASE NOTE: If the sequence is turned off, this control has no effect.



Volume, Mute/Solo, On/Off

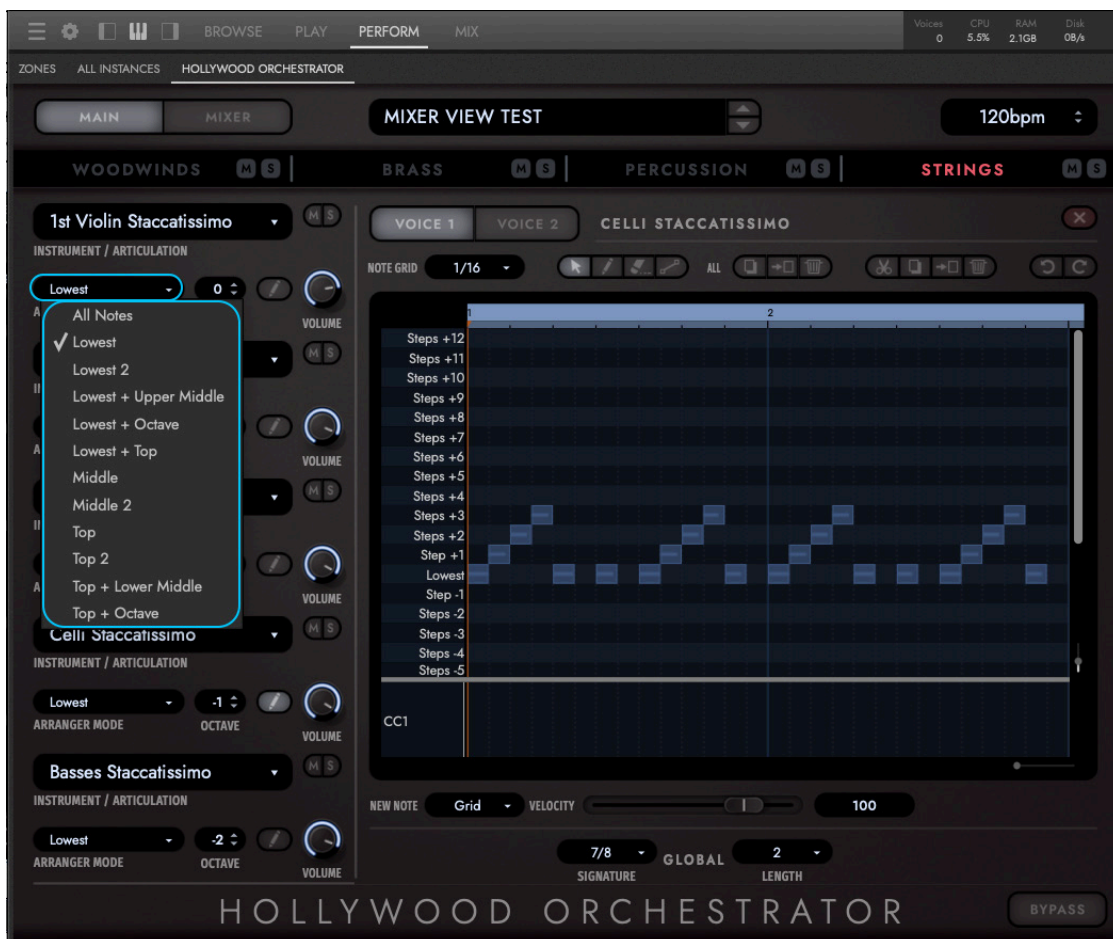
Basic controls for each Instrument Slot include volume, mute/solo, and sequence on/off. These controls (except the sequence on/off switch) are linked to the same controls in the Mixer View of Hollywood Orchestrator, and to the same controls in the instrument themselves running in Opus.



Arranger Mode (Note Selection)

In the **ARRANGER MODE SELECTOR**, select a mode for each slot, giving you the ability to assign certain notes of your MIDI input to it. These are the note selections you can choose from.

All options select up to two notes from your MIDI input and distribute them to the respective instruments. “Lowest” for example distributes your lowest played note to the instrument, while “Lowest + Top” distributes the lowest and the highest note of your midi input to it. In case that you don’t want any selection, you can use the option “All Notes” to distribute any notes you play to the respective instrument.



ARRANGER MODE SETTINGS	
ALL NOTES	This mode selects all notes (and will play the same rhythm, note velocity, and MIDI CC data, ignoring any step values).
LOWEST	Selects the lowest note
LOWEST 2	Selects the lowest 2 notes
LOWEST + UPPER MIDDLE	Selects the lowest note and the upper middle note.
LOWEST + OCTAVE	Selects the lowest note and adds a note at the octave above.
LOWEST + TOP	Selects the lowest note and the top note.

MIDDLE	Selects the middle note.
MIDDLE 2	Selects the middle 2 notes.
TOP	Selects the top note.
TOP 2	Selects the top 2 notes.
TOP + LOWER MIDDLE	Selects the top note and the lower middle note.
TOP + OCTAVE	Selects the top note and adds a note at the octave above.

Arranger Modes for Non-Tonal Percussion

The **ARRANGER MODE SELECTOR** for instruments in Hollywood Orchestra Opus Edition that contain non-tonal percussion and special effect articulations are handled differently. In these cases, the played note does not reflect the pitch of the instrument.

The note selection menu will show a list of the available articulations mapped within the instrument. The one you choose will be played every time you press a key, provided that no keys were pressed before.

Once the step sequencer is activated, the note selection will be ignored completely. The step sequencer will show a static map of articulations instead of the usual step values. If you add a rhythm element with the respective values, the mentioned articulations will be played.

This enables you to create, for example, really complex percussion patterns if used in combination with the combo percussion patches.



Sequence Editor

If you want to take things a step further, click on the **OPEN SEQUENCE EDITOR BUTTON** to open the Sequence Editor for a given **INSTRUMENT SLOT**. The basic functionality and user interface of the sequencer has a lot in common with MIDI editors, except that they don't play absolute notes. Instead, it takes whatever the note selection process outputs based on the **ARRANGER MODE SELECTION**, and manipulates that.

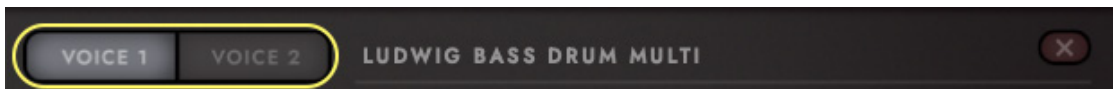
For instance, if you program a rhythmic pattern into the sequencers and play a C-Major chord, the sequencers will take the note selections and play the chord with that rhythm. If you change the values of one element from that rhythm one step up or down, the sequencer will search for the next higher or lower note within your chord and play that. If there is no such higher or lower note, the engine will look for what note would be next, if your chord was an octave higher or lower.



Two Voices Per Instrument

The sequencer supports two voices, meaning the note selection can distribute up to two different notes, that can have different rhythms, step values and velocity data, while still sharing the same MIDI CC automation curve.

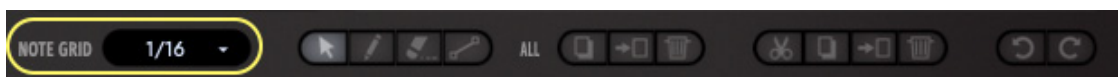
PLEASE NOTE: Legato instruments, and any Arranger Modes that only forward a single note (like the “All Notes” Arranger Mode), only utilize Voice 1.



Sequence Note Grid

Set the Sequencer Grid to a note sub-division.

- **NOTE GRID MENU:** sets the note sub-division of the Sequencer Grid. Available sub-divisions include: 1/4, 1/8, 1/16, 1/32, 1/64. Available triplet sub-divisions include: 1/4T, 1/8T, 1/16T.



Sequence Editing Tools

The main editing tools for changing note regions in the Sequencer Grid.

- **ARROW TOOL:** click to select a single note regions, click and drag to highlight multiple note regions, and grab the edges of a note region to extend its length by the sub-division selected in the Note Grid menu.
- **PENCIL TOOL:** draw in new note regions with a length determined by the sub-division selected in the Note Grid, or New Note duration menus. The pencil tool is also used to draw free-hand automation in the CC 1 Controller Lane.
- **ERASER TOOL:** select this tool to erase note regions by clicking on them, or click and drag to remove multiple note regions.
- **AUTOMATION TOOL:** select this tool to draw a straight line of automation in the CC 1 Controller Lane (as opposed to the free-hand method using the pencil tool).



Copy, Paste, and Trash (All)

The copy, paste, and trash (all) commands apply to all the sequence data from an Instrument Slot (including both Voices 1 and 2).

- **COPY BUTTON:** copy all the sequence data of an Instrument Slot.
- **PASTE BUTTON:** remove existing sequence data in an Instrument Slot, and paste new sequence data from the clipboard.
- **TRASH BUTTON:** remove all the sequence data of an Instrument Slot.



Cut, Copy, Paste and Trash

Use the **ARROW TOOL** to select note regions, then use 1 of these 4 buttons to edit it.

- **SCISSOR BUTTON:** cut the current note region selection.
- **COPY BUTTON:** copy the current note region selection to the clipboard.
- **PASTE BUTTON:** paste the current note regions from the clipboard.
- **TRASH BUTTON:** remove the current note region selection.



Undo History

Settings changed in the Sequencer Grid can be undone and restored.

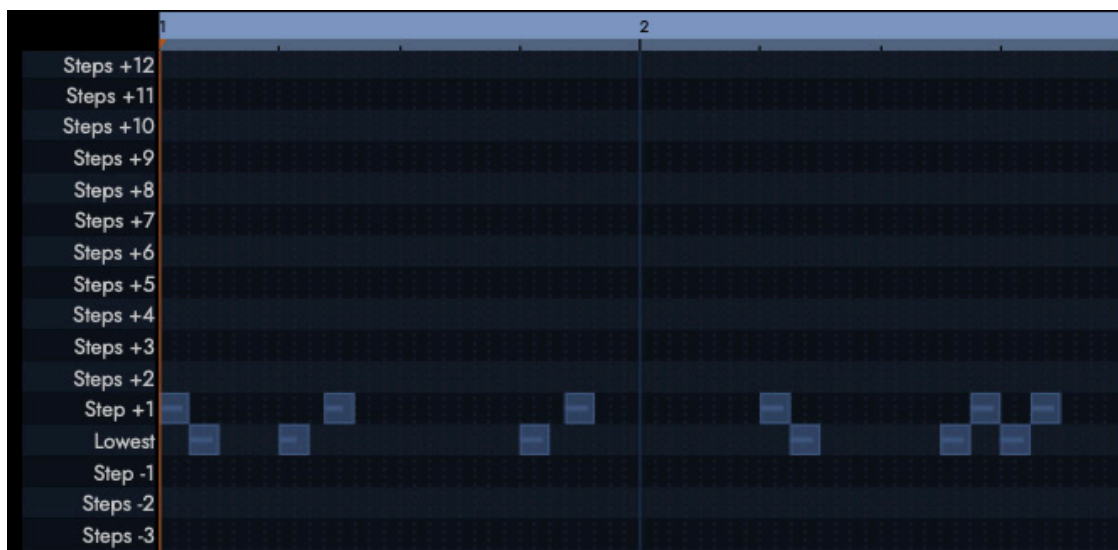
- **UNDO BUTTON:** undo changes to the Sequence Grid.
- **REDO BUTTON:** restore changes to the Sequencer Grid.



Sequencer Grid

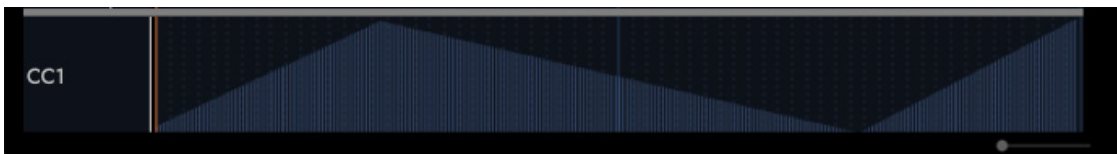
This area is where the notes of the sequence are displayed.

- **ARRANGER MODE:** defines the note selection process for each instrument. In the example below, the 'Middle' Arranger Mode is selected.
- **STEPS:** manipulates notes selected by the Arranger Mode setting. Change the step values by (+/-) 12 steps. Moving one step up or down, the sequencer will play the next higher or lower note within your chord.



MIDI CC 1 Controller Lane

Use the **PENCIL TOOL** to draw automation free-hand, and the **AUTOMATION TOOL** to draw automation lines for the CC 1 Controller Lane.



Creating New Notes

These settings determine the length and velocity of newly added notes.

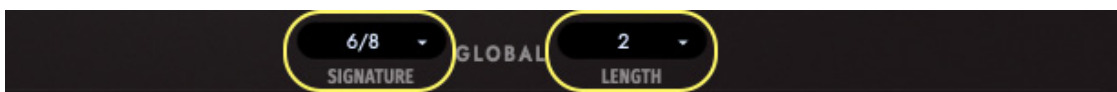
- **NEW NOTE DURATION:** the default setting ('Grid') creates a new note with its length determined by the sub-division selected in the **NOTE GRID MENU**. A new note can be created with a different sub-division than that of the Note Grid, however. Sub-divisions include: 1/2, 1/4, 1/8, 1/16, 1/32, 1/4T, 1/8T, 1/16T, 1/32T.
- **VELOCITY BUTTON:** sets the Note Velocity of a newly added MIDI note region, or the currently selected MIDI note region.



Global Sequencer Settings

Time Signature and Length (Number of Bars) are global controls that apply to all instruments in the Hollywood Orchestrator preset.

- **SIGNATURE (GLOBAL):** select from a variety of time signatures, including: 4/4, 3/4, 5/4, 6/8, 5/8, and 7/8.
- **LENGTH (GLOBAL):** select the number of bars (measures) from 1 to 4.



5.2.6 The Mixer View

The final output is crafted in the Mixer view, where each instrument includes controls for volume, pan, mute/solo, reverb send, and audio output. Global effects including EQ and Reverb are available to help form a cohesive sound.

- **VOLUME FADER**
- **PAN KNOB**
- **MUTE / SOLO BUTTONS**
- **REVERB SEND AMOUNT**
- **OUTPUT SELECTOR**
- **GLOBAL EFFECT UNITS**



Channel Strip

Basic controls in the Hollywood Orchestrator, like volume, pan, etc., are linked to their respective controls in the Mix and Play pages of Opus. For instance, if the volume fader is moved, the corresponding volume control in the Mix page (and Play page) will move accordingly.

- The **VOLUME** fader adjusts the volume of the instrument's master output, without affecting the relative mix of the microphone sub-mixer channels. The audio meter displays the signal of the stereo output in real-time.
- The **PAN** knob adjusts the volume of the left and right audio signal to change the perceived position of the sound source, while preserving the relative panning of the individual microphones. Use the Pan knob to define the position in the stereo image, or for special effect.
- When enabled, the **MUTE (M)** button silences the audio output for the selected instrument, and the **SOLO (S)** button silences the audio outputs for all instruments that are not currently soloed.
- Each instrument's **REVERB SEND** controls the amount of signal sent to the Convolution Reverb, which is global effect that applies to all instrument within a single instance of Opus.
- The **OUTPUT** defaults to 'Opus 1 & 2' in the Output channel field. To assign an instrument to a stereo output other than the default, click in the field and select another stereo output. This option allows you to send the stereo outputs of each loaded instrument to separate audio tracks in your system's sound card. In stand alone mode, up to 8 stereo output pairs are available, and in plugin mode, up to 16 stereo output pairs are available. Go to the Preferences / Audio Engine / Output Configuration to change the standalone and plugin output configuration.

Global Effects

The global effects controls in the Hollywood Orchestrator are linked to their respective controls in the Mix page of Opus, and all instruments within a single instance of Opus are routed through them.

PLEASE NOTE: Changes made in the Mixer page of Opus are not carried over to the Hollywood Orchestrator, and will not be saved within the preset data. Only changes made within the Mixer view of Hollywood Orchestrator are saved with the preset.

- **3-BAND EQUALIZER** uses the Equalizer effect described in the Mix chapter.
- **CONVOLUTION REVERB** uses the Convolution Reverb effect described in the Mix chapter. By default, the reverb is routed to output on 'Opus 1 & 2'.

FOR MORE INFORMATION: CHAPTER 6: MIX

5.2.7 Exporting MIDI Output

Each Instrument Slot in Hollywood Orchestrator modifies the MIDI input based on the selected Arranger Mode, and then passes the modified MIDI input to the Sequencer, where rhythms and melodic lines are generated from simple chords.

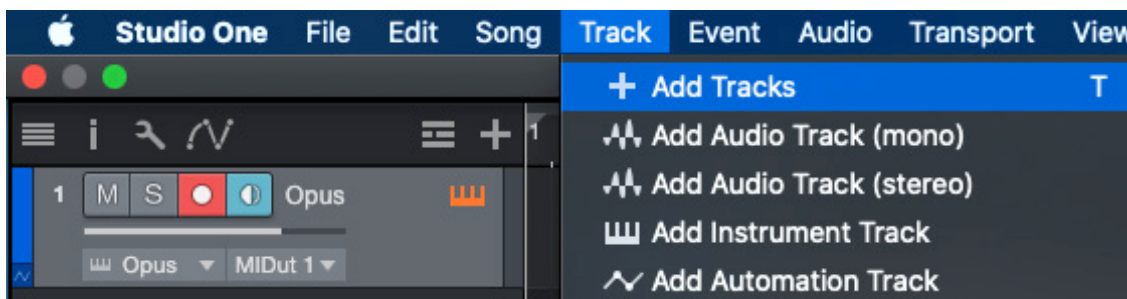
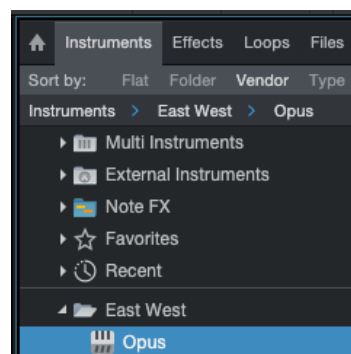
The MIDI output from Hollywood Orchestrator contains this modified MIDI data, which can then be recorded internally in your DAW. This recorded MIDI can then be transferred to other instruments in your project, to playback alongside Hollywood Orchestrator.

PLEASE NOTE: This functionality largely depends on how a DAW handles the internal MIDI routing of a plugin. The DAWs included in this section are able to record the MIDI output from Hollywood Orchestrator on individual channels. Other DAWs are unable to record the MIDI output without the help from 3rd party plugins, while others are only able to record MIDI output that is merged into a single channel. Please refer to the documentation of the DAW you're working with for details on how to record the MIDI output from a plugin.

Studio One 5

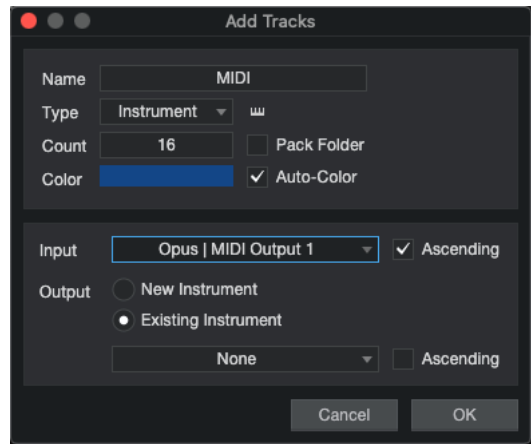
Follow the instructions below to recording the MIDI output from Hollywood Orchestrator onto separate MIDI channels in Studio One 5.

1. To begin, drag the Opus plugin from the Instruments area into the main sequence area to insert it onto a new instrument track.
2. In Opus, load the Hollywood Orchestrator performance file from the Browse page, then load an Ostinato or Score preset from the Preset Browser of Hollywood Orchestrator (both of these steps are detailed at the beginning of this chapter).
3. Next, click the 'Add Tracks' button, or go to the App Menu that populates along top of the Studio One 5 application, and click on the 'Tracks' menu, then select 'Add Tracks'.



4. In the 'Add Tracks' window, enter a name for the tracks in the 'Name' field, select 'Instrument' under the 'Type' menu, and enter 16 in the 'Count' field.

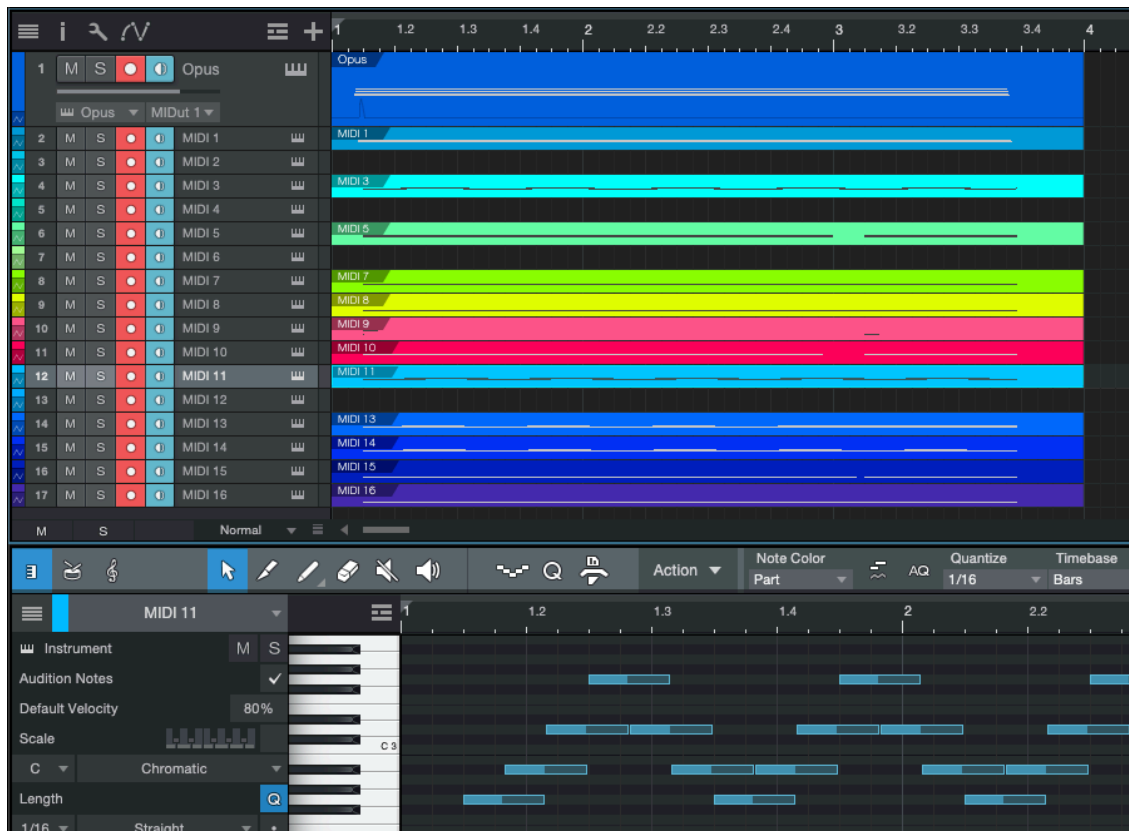
5. In the same 'Add Tracks window, choose Opus > MIDI Output 1 from the 'Input' menu, and check the 'Ascending' option box. Leave the 'Existing Instrument' option selected in the 'Output' area, and leave 'None' selected in the MIDI Output area.



6. Click 'OK' to create 16 MIDI tracks that are set to receive the MIDI output from the Opus instrument track, each on separate tracks.

7. Select the Opus instrument track and the 16 MIDI track by clicking on the last track (MIDI channel 16), and while holding shift, click on the first track (the main Opus instrument track). Now, click the 'Record' button on any of the selected tracks to record-enable all selected tracks.

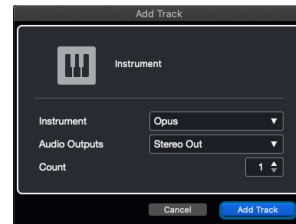
8. Next, click on the 'Record' button in the Transport Controls of Studio One 5 to begin recording on all record-enabled tracks. Notice that the Opus instrument track will record your MIDI input as played by you, while the MIDI tracks record the modified MIDI output from the Hollywood Orchestrator.



Cubase 11

Follow the instructions below to recording the MIDI output from Hollywood Orchestrator onto separate MIDI channels in Cubase 11.

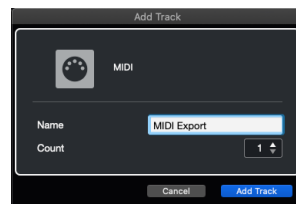
1. Go to Project > Add Track > Instrument, and in the Add Track window, select Opus from the instrument menu and click 'Add Track'.



2. In Opus, follow the instructions in previous sections of this chapter to load Hollywood Orchestrator, and in the Preset Browser, load an Ostinato or Score preset.

3. Record a simple chord progression on the instrument track (the MIDI will be recorded as you played it into Cubase).

4. Go to Project > Add Track > MIDI, and enter a name for the MIDI track (we'll use the name 'MIDI Export'), then click the 'Add Track' button.

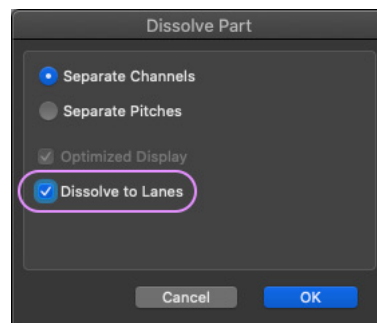


5. Set the **MIDI INPUT SELECTION** on the track created in Step 4 to receive MIDI from the Opus instrument track ('01 Opus - MIDI Out').



6. Record enable the MIDI Export track created in Step 4, and playback the sequence to record the MIDI (export) from the Opus instrument track that has a Hollywood Orchestrator preset loaded.

7. The final step is to split the MIDI, which contains all MIDI channels merged into a single MIDI clip, into separate clips. Simply select the MIDI clip, then go to MIDI > Dissolve Part. In the options, check the **DISSOLVE TO LANES OPTION**, then click 'OK'.



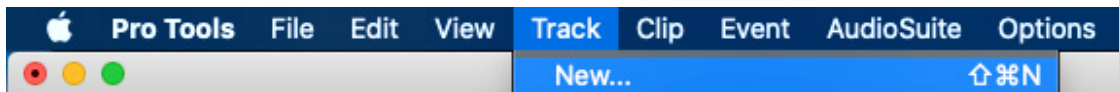
8. Now that the merged MIDI clip has been separated into separate lanes based on it's MIDI channel, these clips can be transferred to other instruments in your project to play alongside Hollywood Orchestrator.

PLEASE NOTE: The MIDI clips are named after the original MIDI track name (in this example, 'MIDI Export'), followed by the MIDI channel number. This corresponds to the MIDI channels of the instruments loaded in Opus.

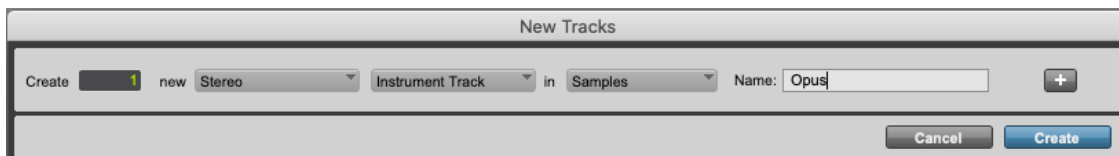
Pro Tools

Follow the instructions below to recording the MIDI output from Hollywood Orchestrator onto separate MIDI channels in Pro Tools.

1. To begin, go to the App Menu that populates along top of the Pro Tools application, and click on the 'Track' menu, then select 'New'.



2. In the 'New Tracks' window, designate a stereo instrument track, then click 'Create'.

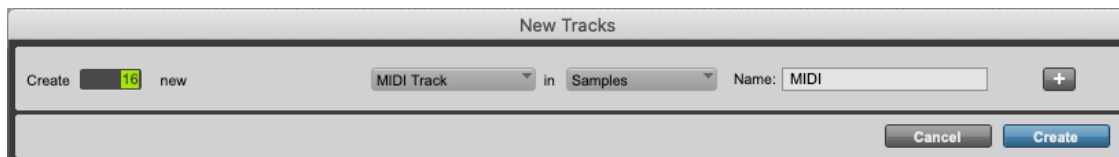


3. Click in the 'Inserts' menu, then go to 'multichannel plug-in' > 'instruments', and select Opus (stereo) from the list.



4. Go back to the App Menu that populates along top of the Pro Tools application, and click on the 'Track' menu, then select 'New'.

5. In the 'New Tracks' window, enter 16 in the 'Create New' field, select MIDI track, and then click 'Create'.

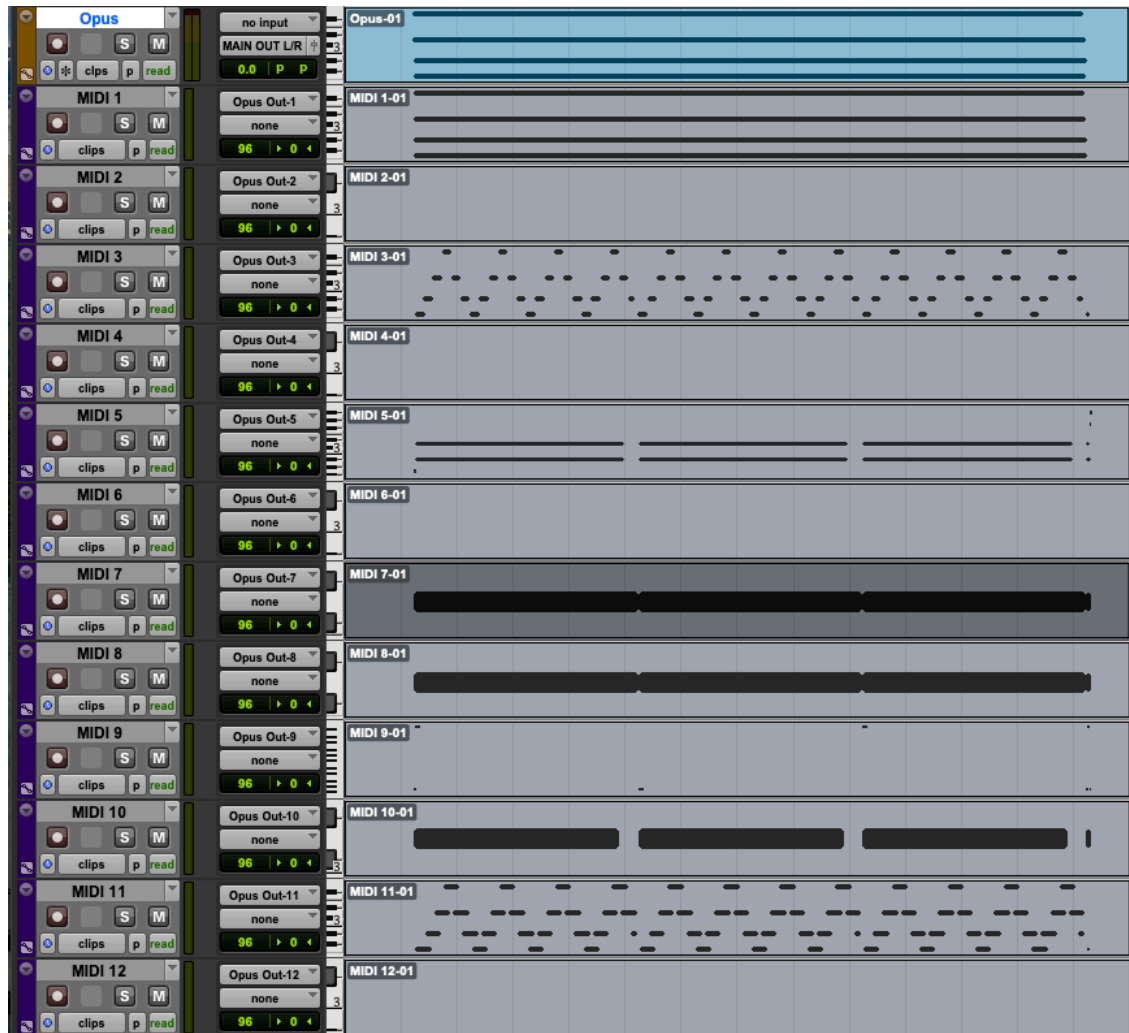


6. In the Input menu of each of the 16 MIDI tracks just created, select 'Opus - Opus Out', then assign each of them to their respective MIDI inputs from channels 1-16.



7. Now, record-enable the Opus instrument track and each of the 16 MIDI tracks by holding shift while clicking their record-enable buttons.

8. In the Transport Controls, click the Record button to arm recording, then click the Play button to begin recording. Notice that the Opus instrument track will record your MIDI input as played by you, while the MIDI tracks record the modified MIDI output from the Hollywood Orchestrator.



5.2.8 Global Controls

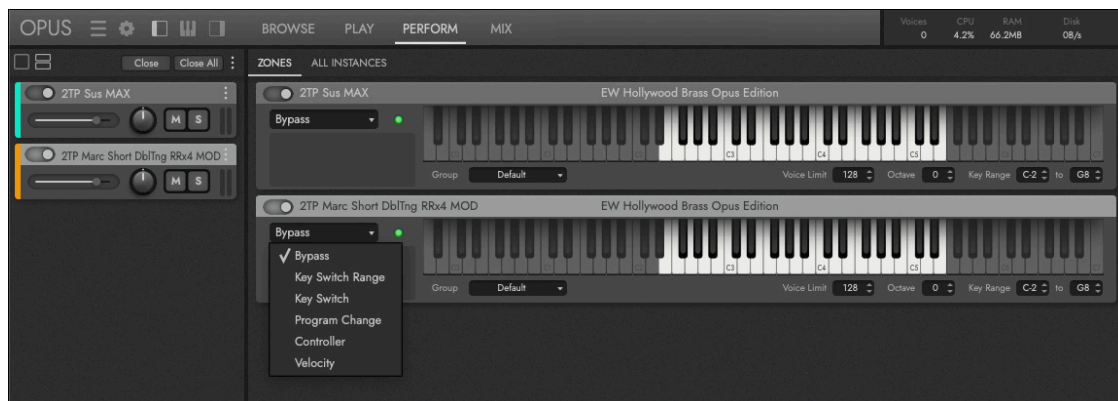
The Global Tempo and Sequencer Bypass are global controls that apply to all instruments in the Hollywood Orchestrator preset.

- **TEMPO CONTROL** in standalone mode this can be set manually, however, we recommend not straying too far from the original tempo. In plugin mode, Tempo is synced to the DAW tempo automatically.
- **BYPASS CONTROL** this control will bypass the sequencer in each Instrument Slot, while still controlling the note selection based on the Arranger Mode selection.



5.3 ZONES WINDOW

Create both multi-timbral and multi-articulation instruments by modifying instrument properties, including key range and octave, and using Trigger Options to select (“trigger”) instruments with keyswitches, controllers (like the Mod Wheel), and more.



5.3.1 Zone Options

Modify instrument properties, including key range and octave, to combine instruments in different ways, quickly building complex instruments with multiple layers.

Group

This control enables you to have multiple groups of instruments that can be switched in tandem between each other. Within each group, only the instrument that is selected for (“triggered”) will play.

Voice Limit

This control sets a limit on the number of simultaneous voices and instrument is playing back before voice stealing occurs. Please note that a single note can have multiple microphone positions and/or articulations that can quickly add up to many voices, which in turn is resource intensive. Voice Limits are set per instrument, so if you are experiencing dropped voices (from reaching the voice limit), raise the Voice Limit. If your computer resources are being pushed, lower it.

Octave

This control changes the octave transposition of an instrument up or down an octave. This is useful to create an instrument stack with instruments at different octave ranges playing together simultaneously, or when used in conjunction with Key Range to create keyboard splits.

Key Range

These controls specify the range of notes to which the instrument will respond, effectively muting notes you don't want to hear, or giving you the ability to split the keyboard between multiple instruments on a single MIDI channel.

Input a MIDI note number in the value box on the left to set the lower key range, and likewise in the value box on the right to set the upper range. You can also use the small up and down arrows to incrementally define the range.

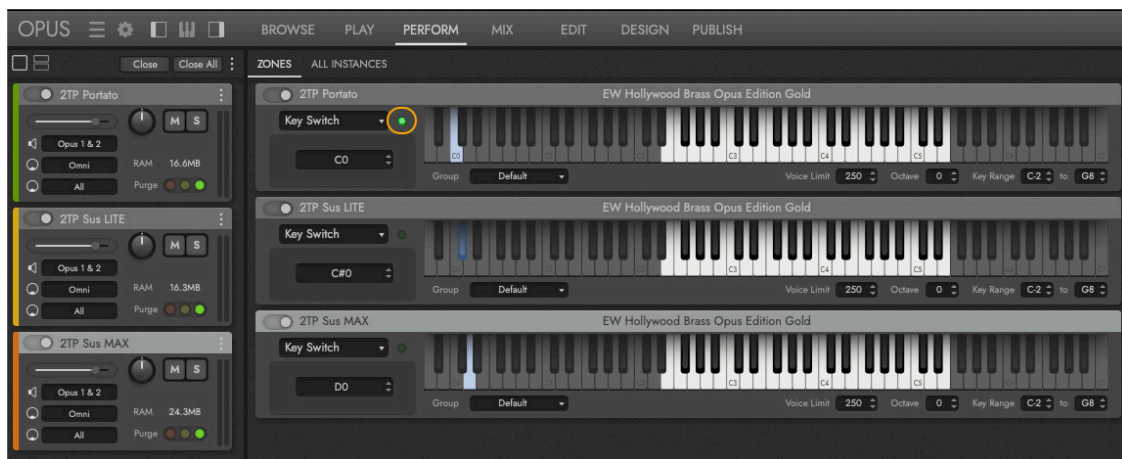
An example of this control in practice is a keyboard split where 2 instruments that have overlapping note ranges are restricted by Key Range, so each plays only within their defined range. In combination with the Octave control, you can have two instruments playing in different ranges of the keyboard on the same MIDI Channel.

5.3.2 Trigger Options

Create multi-articulation instruments by using Trigger Options, including keyswitches, and controllers (like the Mod Wheel) to select (“trigger”) instruments. For example, creating an accent when playing at higher velocities by loading Violin Sustain and Staccato instruments, then limiting the Velocity Range of the Staccato instrument between velocities 110-127.

Keyswitch

This Trigger Option uses designated MIDI note numbers outside the playable range of notes to select (“trigger”) articulations. Assigned Keyswitches are colored Blue, and when they’re active, the **ACTIVE ARTICULATION INDICATOR** will light up green. For example, if you load multiple articulations of a Violin, like Staccato on the Bow, Staccato, Spiccato (shown below), and assign each of them to a keyswitch on a unique MIDI note number, they will only playback when their respective keyswitch is active.



Keyswitch Range

This Trigger Option enables the use of keyswitch instruments in addition to non-keyswitch instruments. If a key is hit within the keyswitch range that instrument becomes activated. The pass thru option makes sure that the keyswitch in the underlying instrument is activated. The offset parameter allows you to use a different key range than what the underlying instrument uses.

Program Change

Use MIDI Program Change messages to select (“trigger”) instruments for use. Assign each instrument to a MIDI Program Change number, then send the program change messages from your DAW or other MIDI device.

PLEASE NOTE: DAWs handle the sending of Program Change messages differently. Please refer to their respective documentation.

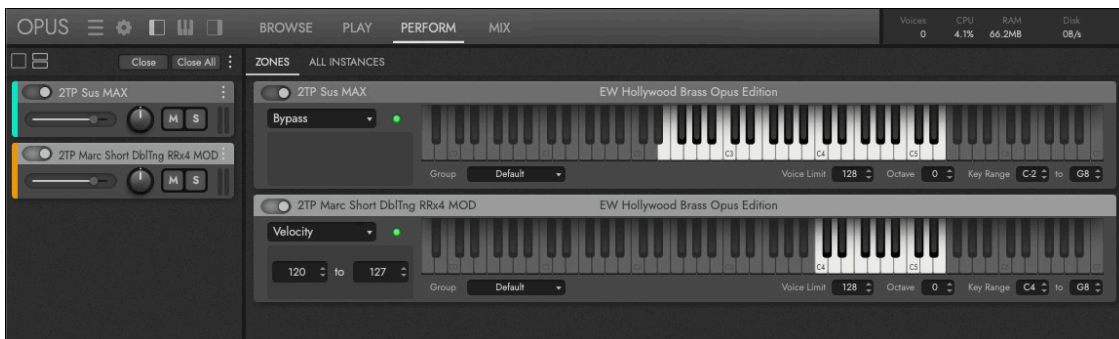
Controller

With values between 0 and 127, Controller uses MIDI CC (Control Change) messages to control instrument playback. For example, load 3 instruments, select ‘Controller’ within each of the Trigger Options, set them all to respond to MIDI CC 1 (the Mod Wheel), and define unique Mod Wheel value range for each instrument (0-42, 43-87, 88-127). Now each instrument will only playback when the Mod Wheel is within the value range.



Velocity Range

With values between 1 and 127, and measured by how hard you play your MIDI keyboard, pads, etc., produce lower velocity values by playing softly, and playing harder will produce higher velocity values. Being able to restrict the Velocity Range of an instrument means you could have different instruments of articulations playing based on how hard or soft you’re playing. For instance, create a sustained instrument with an accent that only plays at higher velocities by loading Violin Sustain and Staccato instruments, then restricting the Velocity Range of the Staccato instrument between 110-127.



5.4 ALL INSTANCES WINDOW

This window provides an overview of all the instruments loaded across all instances of Opus in your DAW (sequencer), including instruments with multiple articulations (like KS Master instruments).

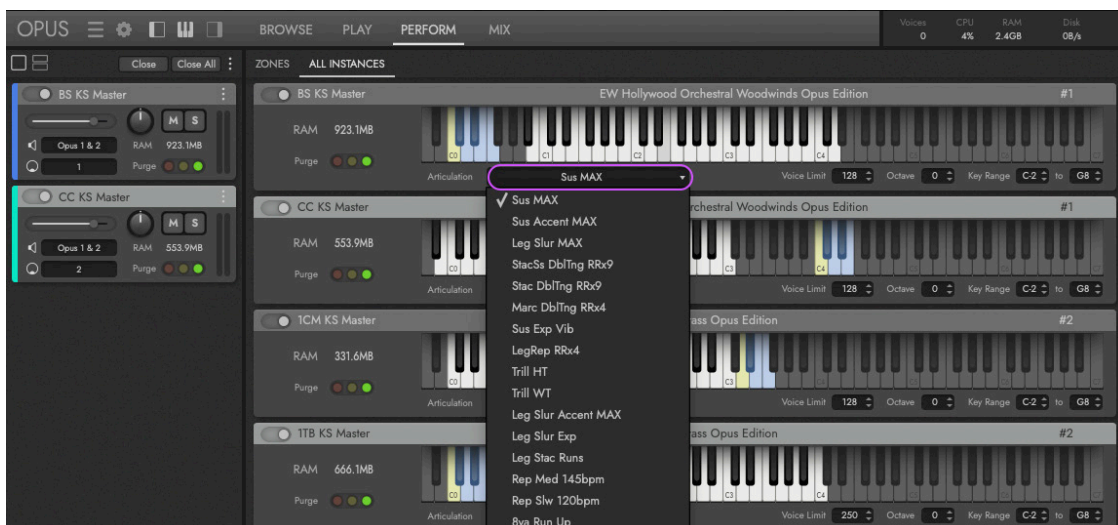


Purge

Purge an instrument from memory by clicking in the left portion of the cell, turning it red. As notes are played, they are buffered into RAM, showing as yellow in the middle portion of the cell. To load an instrument’s pre-load buffer into RAM, click the right portion of the cell.

Articulations

For instruments with multiple articulation layers, like ‘KS Master’ (Keyswitch Master) instruments, click in the **ARTICULATIONS SELECTOR** and choose the instrument or articulation.



Voice Limit

This control sets a limit on the number of simultaneous voices and instrument is playing back before voice stealing occurs. Please note that a single note can have multiple microphone positions and/or articulations that can quickly add up to many voices, which in turn is resource intensive. Voice Limits are set per instrument, so if you are experiencing dropped voices (from reaching the voice limit), raise the Voice Limit. If your computer resources are being pushed, lower it.

Octave

This control changes the octave transposition of an instrument up or down an octave. This is useful to create an instrument stack with instruments at different octave ranges playing together simultaneously, or when used in conjunction with Key Range to create keyboard splits.

Key Range

These controls specify the range of notes to which the instrument will respond, effectively muting notes you don't want to hear, or giving you the ability to split the keyboard between multiple instruments on a single MIDI channel.

Input a MIDI note number in the value box on the left to set the lower key range, and likewise in the value box on the right to set the upper range. You can also use the small up and down arrows to incrementally define the range.

An example of this control in practice is a keyboard split where 2 instruments that have overlapping note ranges are restricted by Key Range, so each plays only within their defined range. In combination with the Octave control, you can have two instruments playing in different ranges of the keyboard on the same MIDI Channel.

CHAPTER 6	MIX
6.1	OVERVIEW OF THE MIX PAGE
6.1.1	Mix Console
6.1.2	Effects Rack
6.2	OVERVIEW OF EFFECTS
6.2.1	EQ
6.2.2	Dynamics
6.2.3	Distortion
6.2.4	Modulation
6.2.5	Harmonics
6.2.6	Delay
6.2.7	Reverb
6.3	MIXING THE HOLLYWOOD ORCHESTRA
6.3.1	Multiple Microphone Mixes

6.1 OVERVIEW OF THE MIX PAGE

The Mix page contains a channel strip for each loaded instrument and their respective sub-channels (microphone mixes), with controls for volume, panning, mute, solo, on/off load state, output channel, and insert effects.

Click the **MIX PAGE SELECTOR** in the **NAVIGATION BAR** to reach the **MIX PAGE**, which is divided into the **EFFECTS RACK AREA** in the top half, and the **MIXER AREA** in the bottom half.

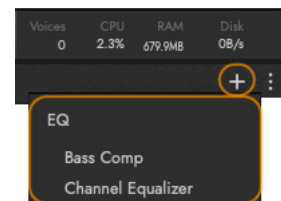


Add Insert Effect

Click the **ADD INSERT EFFECT BUTTON** that appears in the top-right corner of the Mix page, then select an insert effect from the list.

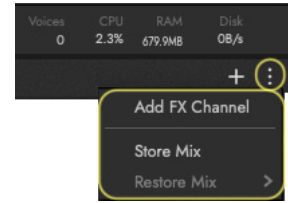
This will add it to the currently selected channel, which by default that is the Master channel.

FOR MORE INFORMATION: 6.1.2 Effects Rack



Mixer Ellipsis Menu

Click the **MIXER ELLIPSIS MENU (:)** that appears in the top-right corner of the Mix page to reveal a list of options. The 'Add FX Channel' option will add an FX Bus channel to the selected master channel. The 'Store Mix' option saves current settings for all channels (Master, Sub Mixer, and FX Bus). Click 'Store Mix' to call up a dialog where you can enter a name, and 'Save' it into the Restore Mix list for later recall. The 'Restore Mix' option will restore the saved Mix settings.



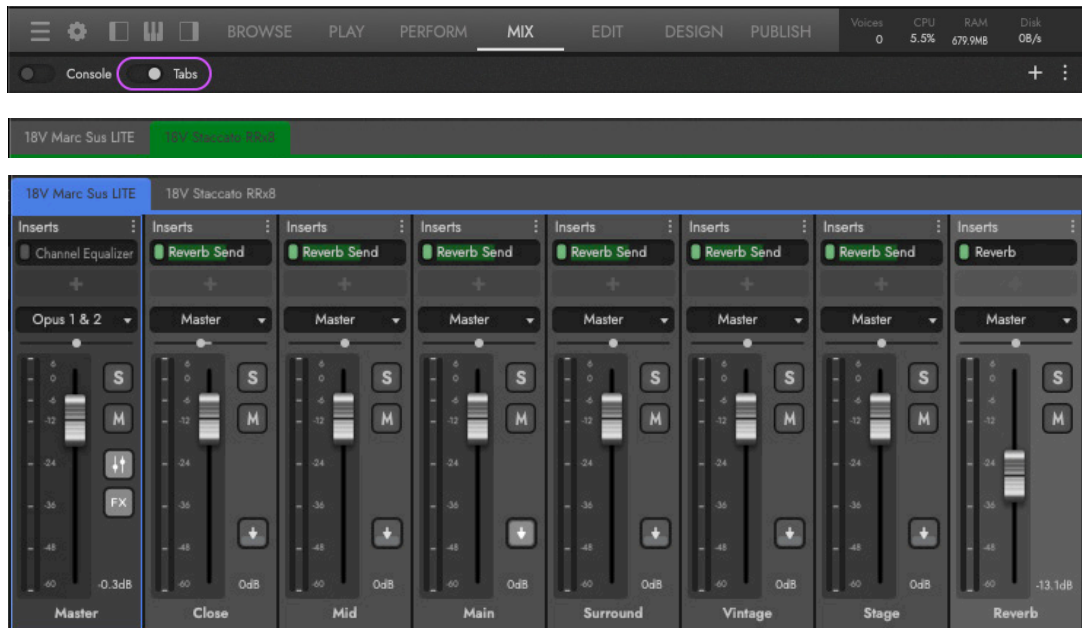
Different Mixer Views

In the secondary **PALETTE MENU**, use the Console and Tabs switches to arrange the layout of the mixer channels in different ways.

- **CONSOLE SWITCH** will orientate the mixer channels of instruments in a horizontal fashion, from left to right, with a scroll bar to navigate through them.



- **TABS SWITCH** will collapse the instrument mixer channels into separate folder tabs that can be viewed on a per-instrument basis.



6.1.1 Mix Console

The **MIXER AREA** appears in the bottom half of the Mix page. All channels contain common controls for volume, pan, mute, solo, audio output, and insert effects.

Master Channel

The **MASTER CHANNEL** appears for each loaded instrument. In addition to the common controls mentioned above, it also has buttons for the Sub Mixer and FX Bus channels.



Sub Mixer Channels

Click on the **SUB MIXER BUTTON** to show and hide Sub Mixer channels. In addition to the common controls mentioned above, it also has a button to load and unload microphone positions. The Sub Mixer channels correspond to the Microphone channels in the Player view of the Play page.

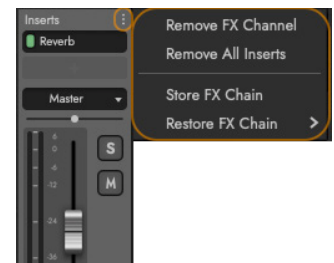
Click on the **LOAD BUTTON** on each sub mixer channel to load and unload them. Notice the Main microphone position above is loaded, indicated by the icon being filled up.

FX Bus Channels

Click on the **FX BUS BUTTON** to show and hide FX Bus channel(s), which in the example above has Reverb loaded as an **INSERT EFFECT**. The Sub Mixer channels are using Reverb Send Insert Effects to send signal to the FX Bus.

Channel Ellipsis Menu

Click the **CHANNEL ELLIPSIS MENU (:)** that appears in the top-right corner of each channel to reveal a list of options. The 'Remove FX Channel' option removes the selected FX Bus channel. The 'Remove All Inserts' option will remove all insert effects on the selected channel. The 'Store FX Chain' option saves current settings for only the selected channel. Click 'Store FX Chain' to call up a dialog where you can enter a name, and 'Save' it into the 'Restore FX Chain' list for later recall. The 'Restore FX Chain' will restore the selected FX Chain to the currently selected channel.



6.1.2 Effects Rack

The FX Rack contains a suite of insert effects across a variety of categories. Loaded insert effects appear in the top-half of the Mix page.

To load an insert effect on the selected track, click the **ADD INSERT EFFECT BUTTON** in the top-right corner of the **PALETTE MENU**, then choose an effect from the list.

Effects can also be loaded by clicking on the **ADD INSERT EFFECT BUTTON** in an empty slot in the channel itself.



Insert Effect Ellipsis Menu

Click the **INSERT EFFECT ELLIPSIS MENU (:)** that appears in top-right corner of each insert effect to reveal a list of options. Use the 'Remove Insert' option to remove the selected insert effect. Use the 'Store Settings' options to store the current settings of the effects as a preset for later recall. Use the 'Restore Settings' option to load any of the previously saved settings.



FX (Effects) Bus Send

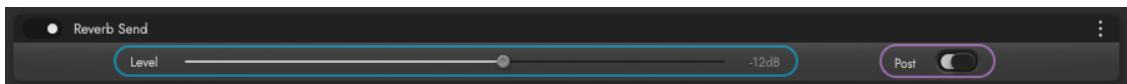
When an Insert Effect, like Reverb, has been added to the FX Bus channel, an Effects Send will become available at the bottom of the Sub Mixer channels Insert Effects list.

Add the Effects Send to the selected channel by clicking on the **ADD INSERT EFFECT BUTTON** and select a Send from the Effects Send category.

To change settings on an Effects Send, select the Sub Mixer channel for the Effects Send to appear in the Effects Rack area.

Use the **LEVEL SLIDER** to set the amount of signal being sent to the FX Bus channel.

Use the **POST SWITCH** to determine whether the signal is sent to the FX Bus before (pre) the mix fader, or after (post) mix fader. For reverb, post fader is typically used to have the same level of signal present in the main mix as being sent to the FX Bus.



6.2 OVERVIEW OF EFFECTS

The section takes a detailed look at each of the effects categories and processors.

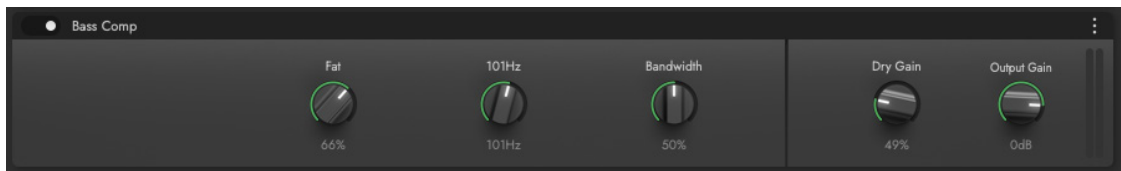
6.2.1 EQ

Equalizers use filters that allow you to boost or attenuate frequencies to change the tonal balance of the source for corrective purposes like reducing problematic frequencies, or enhancements like adding presence. They can also be used for more creative uses. There are 4 effects that fall into this category:

- Bass Comp
- Channel Equalizer
- Equalizer
- Tone Enhancer

Bass Comp

Enhance the low end by using the Sub Frequency control to define the center frequency between 32 hz and 256 hz, and the Fat control to boost it. Use the Bandwidth control to define the slope around the center frequency to be either narrow or broad.



CONTROLS	
Fat	Boost sub frequencies with a control ranging from 0 - 100%.
Sub Frequency	Select a center frequency between 32 hz and 256 hz, with the Fat control to boost it.
Bandwidth	Define a narrow (0%) or broad (100%) slope around the specified frequency.
Dry Gain	Set the gain of the dry signal from none at all (0%) to full (100%)
Output Gain	Boost (+24 dB) or attenuate (-60 dB) the audio output gain.

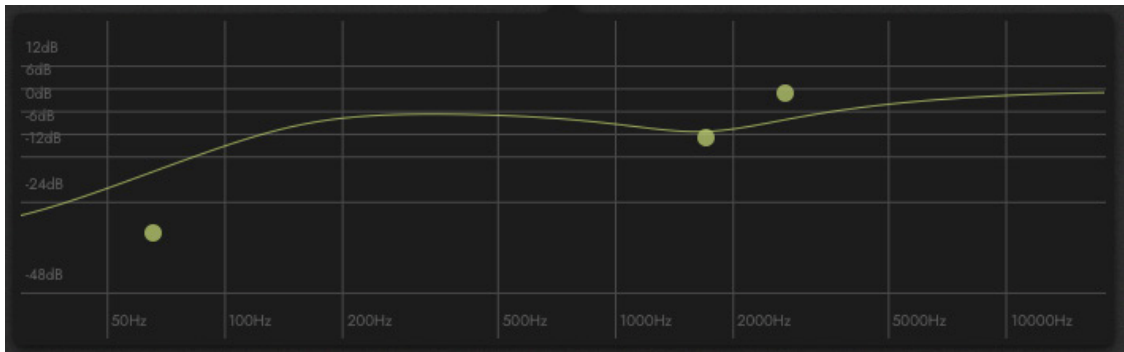
Channel Equalizer

A 3-band equalizer comprised of a high and low shelf filters on either end, that boosts or attenuates frequencies above or below the specified frequency, with a peaking filter that boosts or attenuates frequencies around the center frequency.



CONTROLS	
On / Off	Each band (Low Shelf, Peaking, and High Shelf) can be turned on and off by clicking on their respective 'power' buttons.
Frequency	Sets the frequency between 30 hz to 18 khz.
Gain	Boost (+24 dB) or attenuate (-60 dB) the specified frequency.
Slope	Define a broad (0.1) or narrow (1) slope around the specified frequency.
Graphic EQ Display	Click anywhere on the Graphic EQ Display to bring up the the Graphic EQ Window.
Output Gain	Boost (+24 dB) or attenuate (-60 dB) the audio output gain.

Click in the **GRAPHIC EQ DISPLAY** to edit EQ parameters in the **GRAPHIC EQ WINDOW**. Each node represents 1 of the 3 frequency bands. Click on the nodes to turn them on and off, move them horizontally to change the frequency, and move them vertically to adjust the gain.



Equalizer

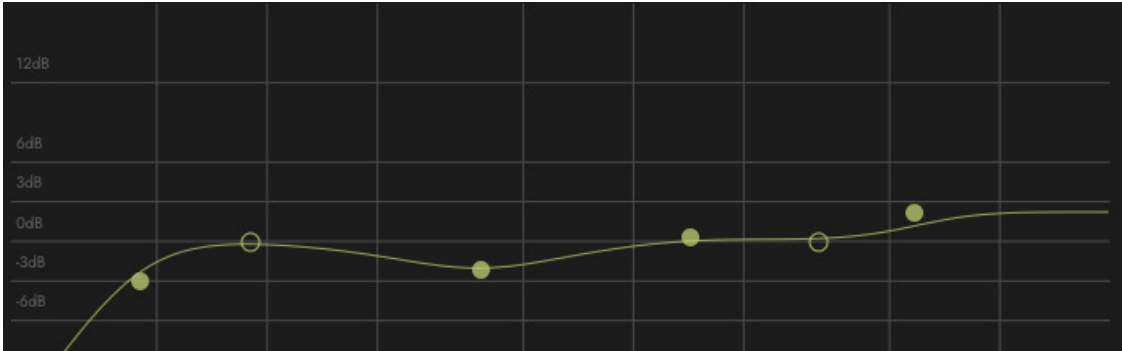
A 6-band equalizer with selectable filter types for each band: high pass, low pass, peaking, high shelf, and low shelf. The first and last bands contain Frequency and Q controls, with bands 2-5 containing Frequency, Q and Gain controls.



CONTROLS	
On / Off	Each of the 6 bands can be turned on / off by clicking on their respective 'power' buttons.
Filter Type	Select from low pass, high pass, peaking, low shelf, and high shelf filter types.
Frequency	Sets the frequency between 30 hz to 18 khz.
Gain (Bands 2-5)	Boost (+24 dB) or attenuate (-60 dB) the specified frequency.

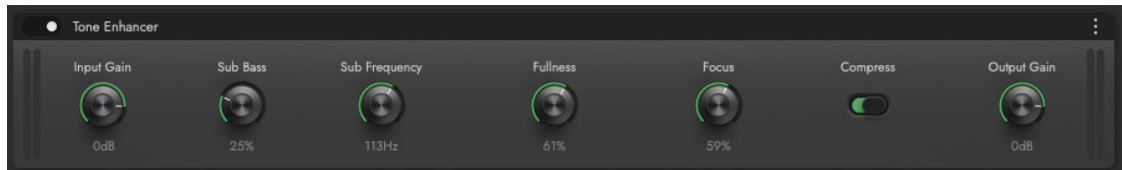
Q	Define a broad (0%) or narrow (100%) slope around the specified frequency.
Graphic EQ Display	Click anywhere on the Graphic EQ Display to bring up the the Graphic EQ Window.
Output Gain	Boost (+24 dB) or attenuate (-60 dB) the audio output gain.

Click in the **GRAPHIC EQ DISPLAY** to edit EQ parameters in the **GRAPHIC EQ WINDOW**. Each node represents 1 of the 6 frequency bands. Click on the nodes to turn them on and off, move them horizontally to change the frequency, and move them vertically to adjust the gain.



Tone Enhancer

Enhance the low, middle and top end of the frequency spectrum. Use the Focus control to boost frequencies above 1 khz, and the Fullness control boost lower mids below 1 khz. Use the Sub Frequency control to define the center frequency between 32 hz and 256 hz, and the Sub Bass control to enhance it.



CONTROLS	
Input Gain	Boost (+24 dB) or attenuate (-60 dB) the audio input gain.
Sub Bass	Boost sub frequencies with a control ranging from 0 - 100%.
Sub Frequency	Select a center frequency between 32 hz and 256 hz, that the Sub Bass control will boost.
Fullness	Boost lower mid frequencies below 1 khz with a control ranging from 0 - 100%.
Focus	Boost frequencies above 1 khz with a control ranging from 0 - 100%.
Compress	Apply compression before the final output gain stage.
Output Gain	Boost (+24 dB) or attenuate (-60 dB) the audio output gain.

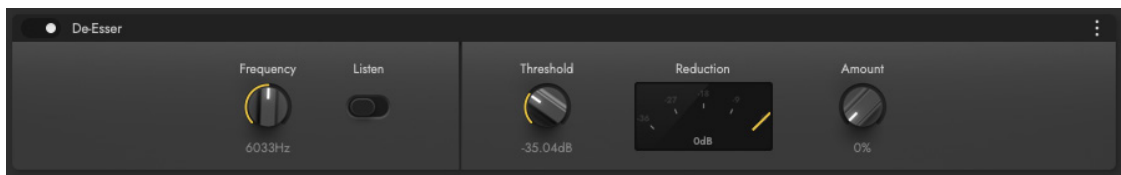
6.2.2 Dynamics

Dynamics processors include a variety of types, including compressors, limiters, leveling amplifiers, transient designers, and de-essers. Each one differs in unique ways, but each affects the dynamic range of the source over its duration. There are 8 insert effects that fall into this category:

- De-Esser
- Level Amp
- Limiter
- Limiting Amp
- SSL Bus Compressor
- SSL Channelstrip
- SSL Transient Shaper
- Tape Saturation

De-Esser

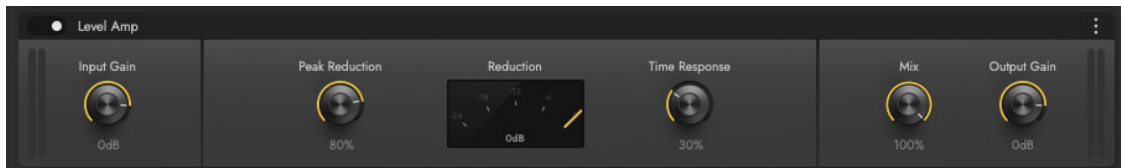
Control sibilants, which are hissing sounds produced by non pitched consonant sounds at high amplitudes and frequencies, by setting the Threshold at which those frequencies (between 3 khz and 12 khz) will be attenuated (reduced).



CONTROLS	
Frequency	Specify the frequency to attenuate between 3000 hz and 12 khz.
Listen	Enable this switch to hear only what is being attenuated (reduced).
Threshold	Specify the gain threshold (between -50 dB and 0 dB) at which signal will be attenuated.
Reduction	A VU-meter that displays the amount of gain reduction in decibels (dB).
Amount	Set the amount of attenuation (reduction) between 0% and 100%.

Level Amp

Reduce dynamic range similar to a compressor, only with fixed threshold and ratio controls, and automatic gain makeup lost in the compression process.

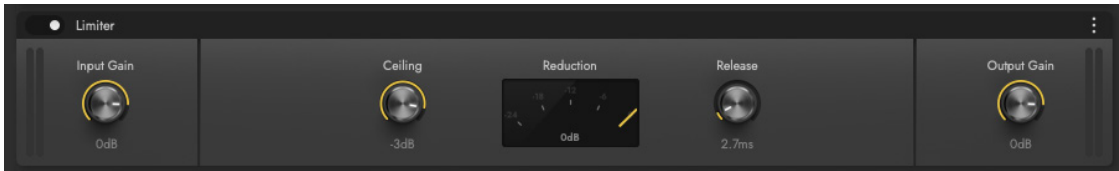


CONTROLS	
Input Gain	Boost (+24 dB) or attenuate (-60 dB) the audio input gain.
Peak Reduction	Set the minimum (0%) and maximum (100%) peak reduction.

Reduction	A VU-meter that displays the amount of gain reduction in decibels (dB).
Time Response	Set the onset of attenuation to respond slower (0%) or faster (100%).
Mix	The signal is completely dry at 0%, and wet at 100%.
Output Gain	Boost (+24 dB) or attenuate (-60 dB) the audio output gain.

Limiter

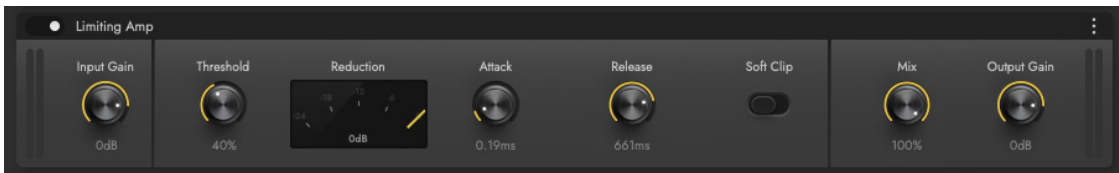
Control dynamic range by using the Ceiling control to set a hard limit that a signal cannot pass through, and see the amount of signal reduction in the Reduction meter.



CONTROLS	
Input Gain	Boost (+24 dB) or attenuate (-60 dB) the audio input gain.
Ceiling	Set the upper limit through which a signal cannot pass between -24 dB and 0 dB.
Reduction	A VU-meter that displays the amount of gain reduction in decibels (dB).
Reduction	See the amount of gain reduction in this VU-meter.
Release	Specify the release time of attenuation (between 1 ms and 400 ms) after the threshold is crossed.
Output Gain	Boost (+24 dB) or attenuate (-60 dB) the audio output gain.

Limiting Amp

Control the upper limit of the dynamic range, with automatic gain makeup lost in the limiting process.

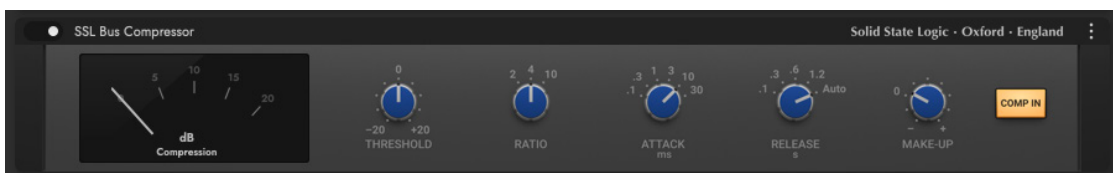


CONTROLS	
Input Gain	Boost (+24 dB) or attenuate (-60 dB) the audio input gain.
Threshold	Specify the gain threshold (between -50 dB and 0 dB) at which a signal will be attenuated.
Reduction	A VU-meter that displays the amount of gain reduction in decibels (dB).
Attack	Specify the response time of attenuation (between 0.1 and 10 milliseconds) after the threshold is crossed.
Release	Specify the release time of attenuation (between 100 milliseconds and 1 second) after the threshold is crossed.
Soft Clip	Enable soft clipping to occur.
Mix	The signal is completely dry at 0%, and wet at 100%.
Output Gain	Boost (+24 dB) or attenuate (-60 dB) the audio output gain.

SSL Bus Compressor

This SSL compressor has become legendary in the music industry for its unique sound, so you may want to see how it can improve the sound of your mix.

This is a stereo version of the center section stereo bus compressor found on the XL 9000 K Series console. It provides high quality stereo compression, giving you critical control over the dynamic range of audio signals.



CONTROLS	
Compression	A VU-meter that displays the amount of gain reduction in decibels (dB).
Threshold	Specify the gain threshold (between -20 dB and 20 dB) at which signal will be attenuated.
Ratio	Control the degree of compression by choose a ratio: 2:1 (soft), 4:1 (medium), 20:1 (hard).
Attack	Specify the response time of attenuation (0.1, 0.3, 1, 3, 10, 30 milliseconds) after the threshold is crossed.
Release	Specify the release time of attenuation (0.1, 0.3, 0.6, and 1.2 seconds, or Auto) after the threshold is crossed. The release time of Auto is dependent on the duration of the peak signal.
Make Up	Boost (+15 dB) or attenuate (-5 dB) the output gain.
Comp In	Quickly A/B (compare) the compressed and un-compressed signals by turning this control on and off.

SSL Channel Strip

This plug-in can be used on both the Instrument (Main) and Microphone (Sub) channel strips. The signal is passed through 5 separate sections, as described below.



Input Section and Output Section: Turn the Gain knob in the Input Section to control the level of the incoming audio signal. The post-gain signal level is shown in lights to its left. As a rough guide, the ‘-6’ yellow indicator should only occasionally turn on, but the red ‘0’ indicator should remain off.

Press the Ø button to invert the phase of the input signal.

The Output Section is the last step in the processing. The Gain knob controls the audio level of the output signal. Adjust this level last to achieve the loudness of the signal that you want. The same rules for the yellow and red indicator lights apply here as in the Input Section. The S/C (side chain) Listen button directs the Dynamics Side Chain to the channel output.

Filter Section: The Filter controls provide access to two separate kinds of filters. The black knob controls an 18 dB/Octave high-pass filter (20Hz to 500Hz). Use it to remove lower frequencies from the audio. The purple knob controls a 12 dB/Octave low-pass filter (3kHz to 22kHz). Use it to remove higher frequencies.



Turn either knob fully left (marked OUT) to turn that filter off. Turn either one (or both) clockwise to move the filter frequency in from its extremity.

You have a choice where to insert the Filters in the audio stream. To place the Filters immediately following the Input control, press the Input button. To switch the Filters into the Dynamics Side Chain, press the Dyn SC button. Note that when the Syn SC button is engaged the Input button has no effect.

Equalizer Section: To use the EQ, switch it into circuit by pressing the EQ In button, which is near the top in the center of the interface for this section.

The EQ section has four bands, each with its own knob color. All bands have gain and frequency control. The low (LF) and high (HF) bands are shelved by default but can be switched to a bell shape (parametric) by pressing the Bell button; the Bell option gives you more control over the exact shape of the EQ curve. The low-mid (LMF) and high-mid (HMF) bands have Q controls (to adjust the sharpness of the modified curve) in addition to what the others have.



Listed in the table below are the ranges for the knobs in each section.

BAND	LF (low frequency)	LMF (low-mid freq)	HMF (high-mid freq)	HF (high frequency)
Frequency range	40Hz – 600Hz	200Hz – 2kHz	600Hz – 7kHz	1.5kHz – 22kHz
Gain range	±16.5 dB	±20 dB	±20 dB	±20 dB
Q range	—	0.5 – 2.5	0.5 – 2.5	—

The E button in the center toggles the EQ emulation between the G Series and E Series consoles. The difference between them is described in the following table.

G SERIES	E SERIES
The bell curve has a more rounded shape at low gains, and the shelf curve overshoots zero slightly at the base of the curve.	The bell curve is slightly more pointed, and there is no overshoot on the shelf curve.

G SERIES	E SERIES
G Series EQ is more subtle and is generally more suited to instruments and vocals.	E Series EQ is more aggressive and is therefore better for removing problem frequencies. It is generally more suited to drums.
Note: At full boost or full cut, the E and G Series curves are identical.	

To switch the EQ into the Dynamics Side Chain, press Dyn SC.

Dynamics Section: This section consists of both Compressor controls and Noise Gate/Expander controls. Both sections work independently but can be operational at the same time, providing sophisticated control of signal levels. The example image of the interface is shown below, after the description of the Compressor.

There are two buttons at the top. The Dyn In button turns on the whole section. The Pre EQ button moves this section before the Equalizer; otherwise, this processing is performed after the Equalizer.

The **Compressor** is controlled by 3 blue knobs: Threshold, Release, and Ratio. To activate the Compressor/Limiter, turn the Ratio knob so that its ratio is no longer set at 1:1.

To turn the compressor into a ∞ :1 limiter, turn the knob fully to the right.

There is no gain makeup control because the T/HOLD (threshold) knob controls both the level at which gain reduction is introduced and the gain make-up, thus keeping the output level steady regardless of the compression.

The Release knob controls how quickly the level returns to normal after the input level has dropped below the threshold (measured in seconds). The attack time is adjusted automatically to match the audio. To choose a consistently fast attack time, press the Fast Att button.

Turn on the PK button to switch from RMS to Peak signal detection. In normal RMS mode, the compressor reacts to the average signal level and has a soft knee characteristic. When switched to Peak mode, it responds to peak signal level and introduces a hard knee characteristic, resulting in more dramatic compression.



The level of compression being introduced is shown in the left-hand of the two meters in the centre of the Dynamics section.

To activate the **Noise Gate/Expander**, turn the Range knob so that its range is no longer zero. The green indicators in the right-hand of the two meters in the centre of the Dynamics section show the amount of gain reduction being introduced.

By default, the Noise Gate/Expander section functions as a Gate. To switch to the Expander, press the Exp switch.

The Threshold function uses different levels to open the gate to audio and to close it again: the level at which the expander opens is higher than the level at which it closes again. In other words, when the expander is opened, it stays open until the signal level crosses the quieter Close threshold. This is known as hysteresis and is very useful as it allows instruments to decay more naturally. The word “Threshold” normally refers to the Open threshold.

The Hold knob controls the delay before the signal level starts reducing again. The Release knob controls how quickly the level then reduces. Note that the Release knob interacts with the Range knob, which determines the depth of gain reduction.



The Attack Time (the time taken for the Expander/Gate to ‘recover’ once the signal level is above the ‘deactivate’ threshold) is normally set to 1.5ms per 40 dB. Press the Fast Att button to introduce a faster attack time of 100µs per 40 dB. This is useful when gating signals with a steep rising edge, such as drums.

Processing Order

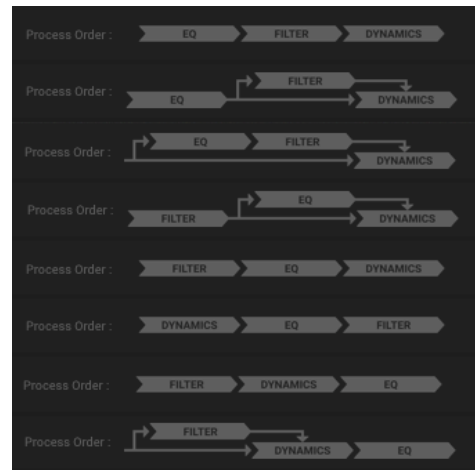
The graphic below shows the 8 possible orders for the 3 processing stages, with and without a Side Chain. The original audio signal starts at the left and the processed signal exits at the right of each diagram. The lower (straight) line is the standard audio path. When the EQ and/or Filter is in the upper path, it is in the Side Chain (as described below). These 8 diagrams currently in effect appear in the top row of the drawer.

The default order is Filter > EQ > Dynamics, with nothing in the Side Chain, as shown in the 5th diagram in the image.

To place the Filter section after the EQ section, deactivate the Input button in the Filter section so that its light is off.

To place the Dynamics before the EQ, press the Pre EQ button in the Dynamics section, so that its light is on.

When the Input and Pre EQ switch are active simultaneously, the processing order becomes Filter > Dynamics > EQ.



The Side Chain

The Side Chain is a path for the audio signal that is used to control the Dynamics section when it acts on the main audio signal. The Side Chain is not normally audible, but can highlight aspects of the audible signal that need processing.

The EQ and Filter sections can be assigned to the Dynamics Side Chain, allowing for advanced processes like de-essing, as described below. This is done using the Dyn S/C switches in the respective sections.

Both EQ and Filter sections can be assigned to the Side Chain together, in which case the EQ precedes the Filter.

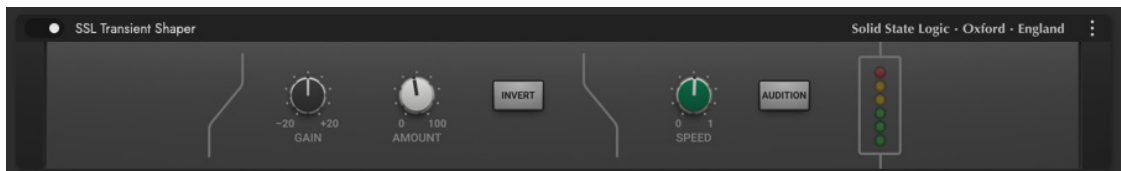
Here’s an example of using the Side Chain to remove the hissing sound of the letter S when it’s too prominent. First, the audio is split into 2 signals. EQ is applied to the signal in the Side Chain to make the hisses louder, so that the compressor can use the louder S sounds as a clue that the main signal needs to be compressed (made softer) at those moments more than at other moments. In the main signal, the S sounds are made softer.

To listen to the signal feeding the Side Chain, press the S/C Listen button in the Output section to route the Side Chain signal to the channel output. It is important to remember to cancel the S/C Listen button once you have finished auditioning the Side Chain!

SSL Transient Shaper

The Transient Shaper plug-in can be used on both the Instrument (Main) and Microphone (Sub) channel strips. It allows you to augment the attack at the start of a note (e.g. a drum hit) by increasing the amplitude of the attack portion of the signal while leaving the decay and held note unchanged.

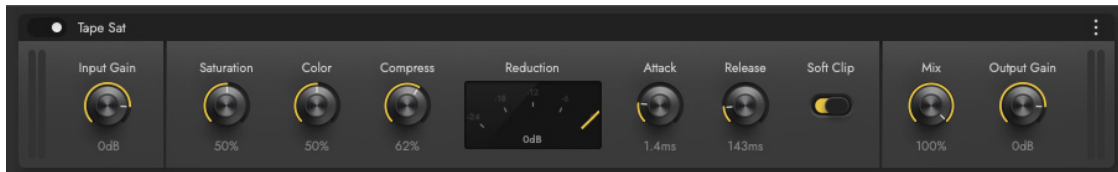
The lights at the right give visual feedback on how much attack is being added using the Gain and Amount controls. If the top red light illuminates, reduce the effect.



CONTROLS	
Gain	Specify the level at which transients are detected (between -20 dB and 20 dB). A setting of 0 db is a good starting place (if set too low, nothing will happen, and if set too high transients will be exaggerated, with attacks sounding too long).
Amount	Control the amount of processed signal added to the unprocessed signal. Be careful and watch the output meter, as it can increase the peak level of a signal significantly.
Invert	Soften the attack by inverting the signal so its subtracted from the unprocessed signal. Good for getting body (sustain) from a drum sound.
Speed	Control the length of time the added attack takes to all back down to the normal signal level once it has reached the top of the attack phase. Turn the knob clockwise for a slower speed, with longer transients, and counter-clockwise for faster speed, with shorter transients.
Audition	Enable this option to listen to the processed signal. Please note, when the Invert and Audition buttons are both enabled, the signal is not inverted.

Tape Saturator

Add presence and warmth by emulating the sound of passing signal through tape machine, which produces musical harmonic distortion, especially the signal is over driven to create pleasing ‘soft-clipping’.



CONTROLS	
Input Gain	Boost (+24 dB) or attenuate (-60 dB) the audio input gain.
Saturation	Drive the amount of saturation, producing pleasant harmonic distortion.
Color	Change the tone color from dull (0%) to bright (100%).
Compress	Specify the amount of compression (between 0% and 100%) to attenuate the signal.
Reduction	A VU-meter that displays the amount of gain reduction in decibels (dB).
Attack	Specify the response time of attenuation (between 0.1 and 10 milliseconds) after the threshold is crossed.
Release	Specify the release time of attenuation (between 100 milliseconds and 1 second) after the threshold is crossed.
Soft-Clip	Enable soft clipping to occur.
Mix	The signal is completely dry at 0%, and wet at 100%.
Output Gain	Boost (+24 dB) or attenuate (-60 dB) the audio output gain.

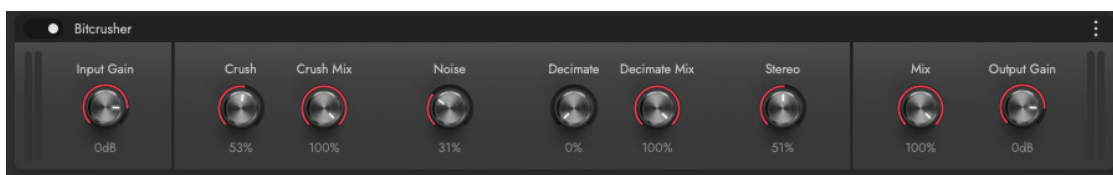
6.2.3 Distortion

Distortion is a broad category encompassing a range of types, but is generally achieved by clipping the signal to produce both harmonic and inharmonic overtones to produce everything from added warmth and texture, to extremely aggressive noise. There are 4 insert effects in this category:

- Bit Crusher
- Distortion
- Fuzz
- Legend Amp

Bit Crusher

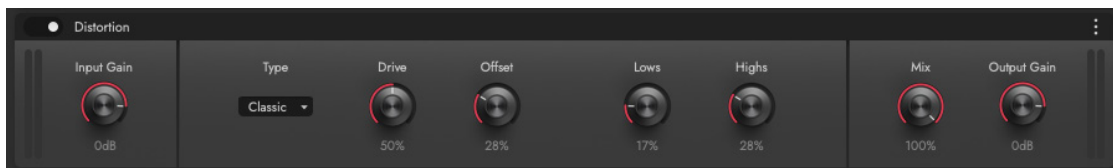
Produce everything from mild warmth, to harsh, aggressive distortion by reducing the resolution of audio.



CONTROLS	
Input Gain	Boost (+24 db) or attenuate (-60 db) the audio input gain.
Crush	Reduce the sample rate of the audio signal between 0% (none) to 100% (full).
Crush Mix	The signal is unaffected at 0%, and fully processed with Crush at 100%.
Noise	Add broad band noise between 0% (none) and 100% (full).
Decimate	Reduce the resolution of bits of the audio signal between 0% (none) to 100% (full).
Decimate Mix	The signal is unaffected at 0%, and fully processed with Decimate at 100%.
Stereo	Increase the stereo width between 0% (narrow) and 100% (wide).
Mix	The signal is completely dry at 0%, and wet at 100%.
Output Gain	Boost (+24 db) or attenuate (-60 db) the audio output gain.

Distortion

Drive your signal through 1 of 3 classic distortion types (Classic, Tube 1, Tube 2) with additional low and high boost.

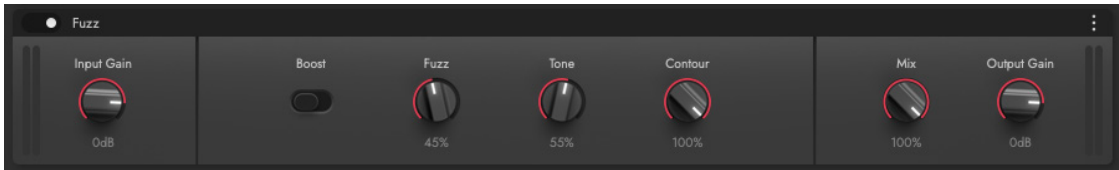


CONTROLS	
Input Gain	Boost (+24 db) or attenuate (-60 db) the audio input gain.
Type	Change color of distortion by selecting between 3 distortion types: Classic, Tube 1, and Tube 2.

Drive	Set the amount of drive applied to the signal from 0% (none) and 100% (full).
Lows	Boost low frequency between 0% (none) and 100% (full).
Highs	Boost high frequency between 0% (none) and 100% (full).
Mix	The signal is completely dry at 0%, and wet at 100%.
Output Gain	Boost (+24 db) or attenuate (-60 db) the audio output gain.

Fuzz

Add an aggressive style of distortion to your signal, by pushing it into clipping territory.



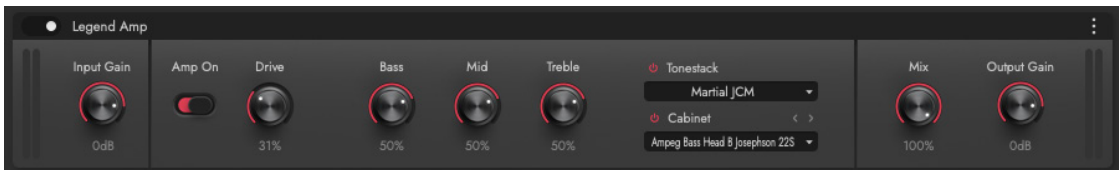
CONTROLS	
Input Gain	Boost (+24 db) or attenuate (-60 db) the audio input gain.
Boost	Boost the signal level to increase the effect.
Fuzz	Overdrive your signal to clipping between 0% (none) and 100% (full).
Tone	Change the tone color from dull (0%) to bright (100%).
Mix	The signal is completely dry at 0%, and wet at 100%.
Output Gain	Boost (+24 db) or attenuate (-60 db) the audio output gain.

Legend Amp

This effects processor provides distortion and re-amping characteristics, allowing you to customize Tonestack and Cabinet combinations..

Select between 6 **TONESTACK PRESETS** by clicking in the drop-down menu. These presets alter the frequency response of the tone controls (bass, mid, treble) based on the model they emulate. Select between 79 **CABINET PRESETS** by clicking in the drop-down menu. To select an item, click on its name in the list, which display the name of an amp followed by the name of a microphone it's paired with. For example, selecting "Marshall EV RE-20" gives you a simulation of an Electrovoice RE20 microphone run through a Marshall amp. A check-mark in the list indicates which item is the current selection.

Once you've selected a Tonestack and Cabinet combination, you can use the other controls, described below, to customize the audio output.



CONTROLS	
Input Gain	Boost (+24 db) or attenuate (-60 db) the audio input gain.
Amp On	Turn the Legend Amp on and off.
Drive	Control how much signal is sent to the circuit, to create more or less intensity of effect.
Bass	Boost (100%) or attenuate (-100%) the lower frequency range of the signal.
Middle	Boost (100%) or attenuate (-100%) the middle frequency range of the signal.
Treble	Boost (100%) or attenuate (-100%) the high frequency range of the signal.
Tonestack	Turn Tonestack on and off, and use the preset menu to select between 6 stacks.
Cabinet	Turn Cabinet on and off, and use the preset menu to select between 79 cabinet presets.
Mix	The signal is completely dry at 0%, and wet at 100%.
Output Gain	Boost (+24 db) or attenuate (-60 db) the audio output gain.

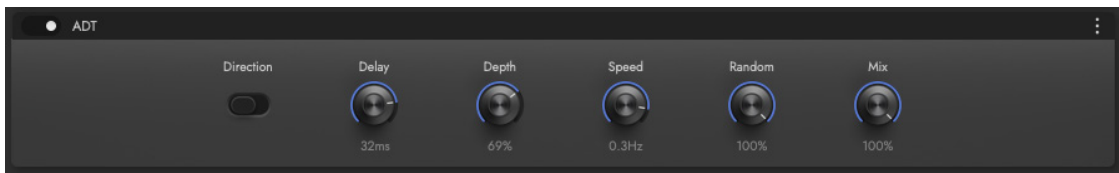
6.2.4 Modulation

Modulation effects include those that copy the original signal, modulate it in some way, and mix back in with the original source, or directly modulates a signal in terms of amplitude, and/or pan position. There are 7 insert effects in this category:

- Automatic Double Tracking (ADT)
- Chorus
- Flanger
- Gater
- Pan Tool
- Phaser
- Tremolo

Artificial Double Tracking (ADT)

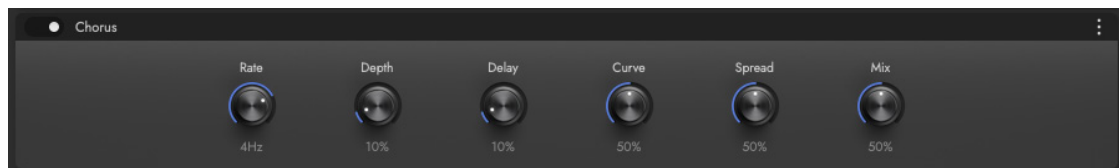
This effect emulates the technique made famous by the Beatles when recording at Abbey Road Studios, which was achieved by combining an audio signal on one tape machine, with an identical, delayed copy of that same audio signal on another tape machine.



CONTROLS	
Direction	Enable this switch to change the direction of the stereo image.
Delay	Controls the delay time between the original and secondary audio signal, between a range of 0.1 milliseconds and 50 milliseconds.
Depth	Controls the amount of modulation that is affecting the delay time.
Speed	Controls the rate at which the modulation is affecting the delay time between 0 hz and 1 hz.
Mix	Controls the loudness of the affected signal relative to the original (dry) signal.

Chorus

This effect duplicates the input signal, and delays it to create a difference in phase, modulates the delay time, and mixes it back in with the original signal, creating an output that varies in both pitch and time.



CONTROLS	
Rate	Control the rate (speed) of modulation between .05 hz and 20 hz.
Depth	Set the depth (amount) of modulation between 0% (none) and 100% (full).

Delay	Change the time of the delayed signal to create different phase relationship.
Spread	Widen the stereo image from 0% (minimum) to 100% (maximum).
Mix	Controls the loudness of the affected signal relative to the original (dry) signal.

Flanger

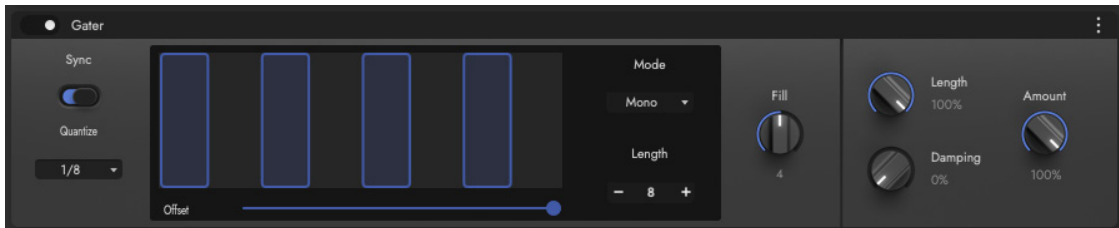
This effect duplicates the input signal, and delays it slightly to create a difference in phase (delay times are shorter than Chorus), modulates the delay time, and mixes it back in with the original signal. Shorter delay times produce a comb filtering effect in higher frequencies, which when modulated will sweep through the frequencies to create the characteristic flanger sound.



CONTROLS	
Speed	Control the speed (rate) of modulation between 0 hz and 10 hz.
Width	Control the width (spread) of modulation between 0% and 100%.
Mix	Controls the loudness of the affected signal relative to the original (dry) signal.

Gater

This effect uses amplitude modulation to create a gated effect, with the rate of modulation that can be synced to tempo, or free.

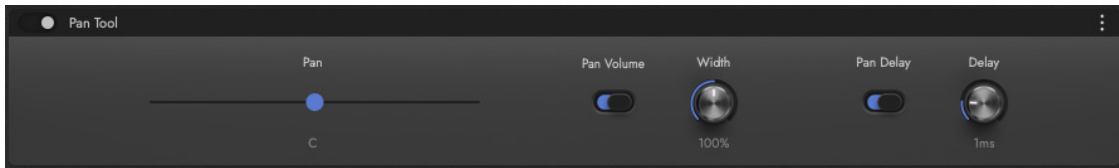


CONTROLS	
Sync	When Sync is enabled, the Quantize menu is made available. When Sync is disabled, the Rate (free) knob is made available.
Quantize (sync)	When Sync is enabled, the Quantize menu can be used to select a sub-division to which the gate will be synced to.
Rate (free)	When Sync is disabled, the Rate knob can be used to set the rate of change between values of .01 hz and 32 hz.
Mode	Select between 3 Modes. Mono applies the same modulation to the signal, Pan alternates the modulation between left and right stereo image, and Dual allows each side of the stereo image to be offset independently.
Length	Define the length (number of steps) from 2 to 32.
Offset	Change the timing of the modulation using the slider.
Fill	Adjust the number of steps in the modulation, from none to completely filled.

Length (knob)	Change the length of each modulation step.
Damping	Smooth out the edges of the square wave, for a softer modulation.
Amount	Controls the loudness of the affected signal relative to the original (dry) signal.

Pan Tool

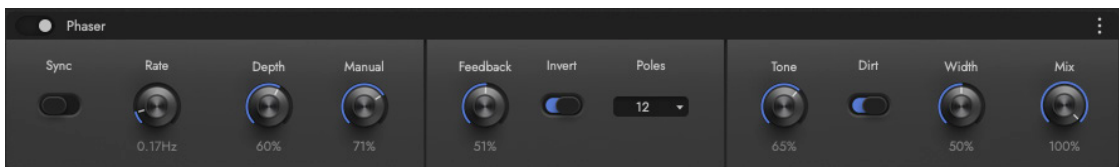
This effect changes the pan position of the incoming audio signal, with the ability to collapse it to mono, or increase the stereo imaging.



CONTROLS	
Pan	Set the pan position between 100% left and 100% right.
Pan Volume	Enable this switch to control Width of the stereo image.
Width	Defaults to 100%, raise to 200% to increase the stereo image, and decrease to 0% to collapse the stereo image to mono.
Pan Delay	Enable this switch to control Delay offset.
Delay	Offset the left and right stereo image between values of 0 ms and 30 ms.

Phaser

This effect duplicates the input signal, and instead of delaying it like Chorus and Flangers, it uses a series of filters to create notch filters that are created by a phase shift around a specific frequency. These series of notch filters can be modulated to sweep through the frequency spectrum.

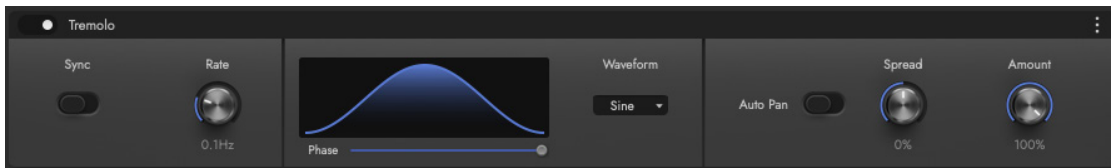


CONTROLS	
Sync	When Sync is enabled, the Quantize menu is made available. When Sync is disabled, the Rate (free) knob is made available.
Quantize (sync)	When Sync is enabled, the Quantize menu can be used to select a sub-division to which the phaser will be synced to.
Rate (free)	When Sync is disabled, the Rate knob can be used to set the rate of change between values of .01 hz and 15 hz.
Depth	Set the depth (amount) of modulation between 0% (none) and 100% (full).
Feedback	Sends the signal back through the effect chain to create feedback.
Invert	Reverse the phase relationship.
Poles	Change the slope of poles (db / octave): 4, 6, 8, 12.
Tone	Change the tone color from dull (0%) to bright (100%).
Dirt	Enable this switch to add harmonic distortion.

Width	Defaults to 50%, raise to 100% to increase the stereo image, and decrease to 0% to reduce it.
Mix	Controls the loudness of the affected signal relative to the original (dry) signal.

Tremolo

This effect uses a variety of waveshapes to modulate the amplitude, creating a trembling effect. The rate of modulation that can be synced to tempo, or free.



CONTROLS	
Sync	When Sync is enabled, the Quantize menu is made available. When Sync is disabled, the Rate (free) knob is made available.
Quantized (sync)	When Sync is enabled, the Quantize menu can be used to select a sub-division to which the tremolo will be synced to.
Rate (free)	When Sync is disabled, the Rate knob can be used to set the rate of change between values of .01 hz and 32 hz.
Phase	Change the offset of the phase
Waveform	Select from a variety of waveshapes in which to modulate the signal: sine, triangle, saw up, saw down, pulse, and custom. With custom selected, click on the waveform display to edit your own shape. Click in edit waveform display to create new nodes, and control + click to delete them.
Auto Pan	Enable this switch to pan the signal to alternate left and right according to the selected Rate (free) or Quantize (sync) setting.
Spread	Available when the Auto-Pan switch is turned off. Defaults to 0%, raise to 100% to increase the stereo image, and decrease to 0% to reduce it.
Amount	Controls the amount of the affected signal relative to the original (dry) signal.

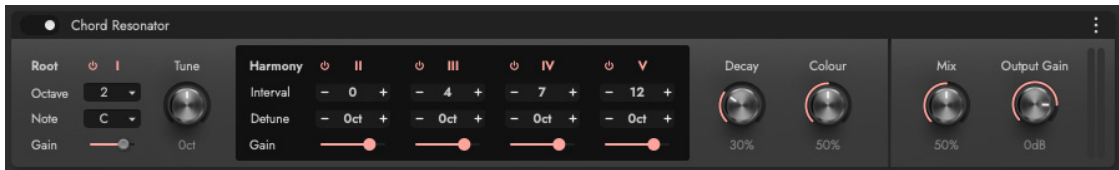
6.2.5 Harmonics

Harmonics effects add new frequency content to the original signal, whether that's by creating resonant frequencies at specific bands, or by exciting harmonics. There are 2 insert effects in this category:

- Chord Resonator
- Exciter

Chord Resonator

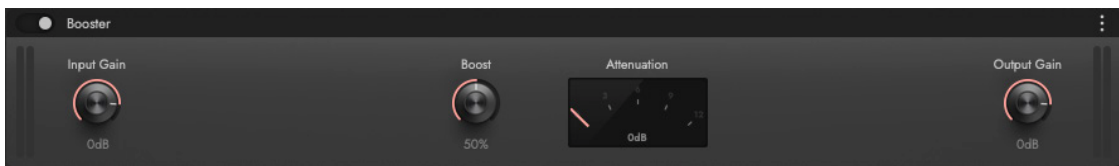
This effect produces independently controllable resonant frequencies created by feeding delay lines back into themselves until the being to self-oscillate. Running in parallel, they can create harmonically rich sounds, with a metallic flavor.



CONTROLS	
Root (I)	Turn on and off the root pitch, and define the Octave (0-5), and Root Note (C, C#, D, D#, E, F, F#, G, G#, A, A#, B), and Gain (negative infinity - 0 db).
Tune	Adjust the fine tuning of the Root between -100 cents and 100 cents.
Harmony (II-V)	Turn each of the 4 additional resonators on and off, define their pitch interval relative to the root (between -24 and +24), set individual de-tune values (between -50 cents and +50 cents), and adjust their gain (between negative infinity - 0 db).
Decay	Adjust the length of decay between 0% (shorter) and 100% (longer).
Color	Change the tone color by adjusting the resonator feedback between 0% (min) and 100% (max).
Mix	Controls the loudness of the affected signal relative to the original (dry) signal.
Output Gain	Boost (+24 db) or attenuate (-60 db) the audio output gain.

Booster

This effect is both a loudness maximizer and a saturator, producing rich upper harmonics that add presence, and warmth.



CONTROLS	
Input Gain	Boost (+24 db) or attenuate (-60 db) the audio input gain.
Boost	Increase (100%) or decrease (0%) the upper harmonics.
Output Gain	Boost (+24 db) or attenuate (-60 db) the audio output gain.

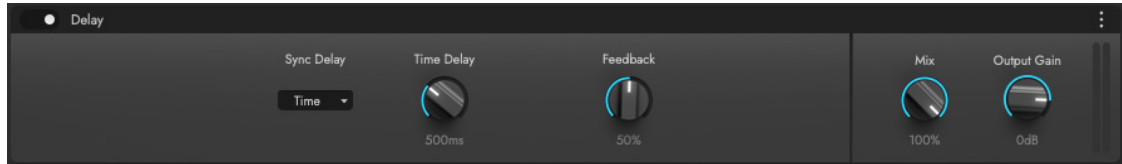
6.2.6 Delay

Delay effects repeat the input signal at distinctly separate intervals that typically fade out, or decay, over time. There are 2 insert effects in this category:

- Delay
- EP-1 Delay

Delay

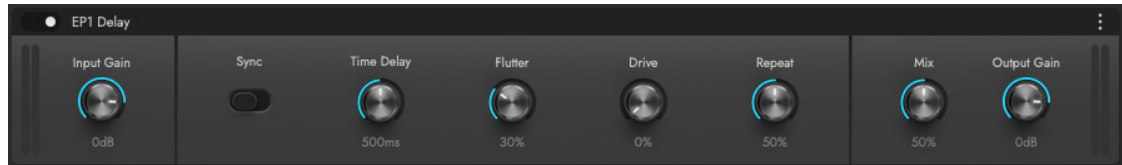
A simple delay unit that can be synced to tempo, or operate in free time.



CONTROLS	
Sync Delay / Time Delay	Select between Time (free time) or Sub-Division (sync to tempo). When a sub-division is selected, the Time Delay disappears and the tempo is synced to the selected sub-division. When Time is selected in this menu, the Time Delay knob becomes available with values ranging between 1 millisecond and 5 seconds.
Feedback	Control the decay time (amount of delay repeats) from minimum (0%) to maximum (100%).
Mix	Controls the amount of the affected signal relative to the original (dry) signal.
Output Gain	Boost (+24 db) or attenuate (-60 db) the audio output gain.

EP-1 Delay

This effect models the Echoplex Delay designed in 1959, which uses magnetic tape to create it's highly prized vacuum tube delay sound.



CONTROLS	
Input Gain	Boost (+24 db) or attenuate (-60 db) the audio input gain.
Sync	When Sync is enabled, the Quantize menu is made available. When Sync is disabled, the Rate (free) knob is made available.
Delay (sync)	When Sync is enabled, the Quantize menu can be used to select a sub-division to which the delay will be synced to.
Delay (free)	When Sync is disabled, the Rate knob can be used to set the rate of change between values of 20 milliseconds to 2 seconds.
Flutter	Control the intensity of flutter, which is the pitch wobble created between tape speed variations on the original Echoplex unit, between 0% and 100%
Drive	Control the intensity of harmonic distortion added to the delay line between 0% and 100%.
Repeat	Set the decay time of the delay line between 0% (fast decay) and 100% (longer decay).
Mix	Controls the amount of the affected signal relative to the original (dry) signal.

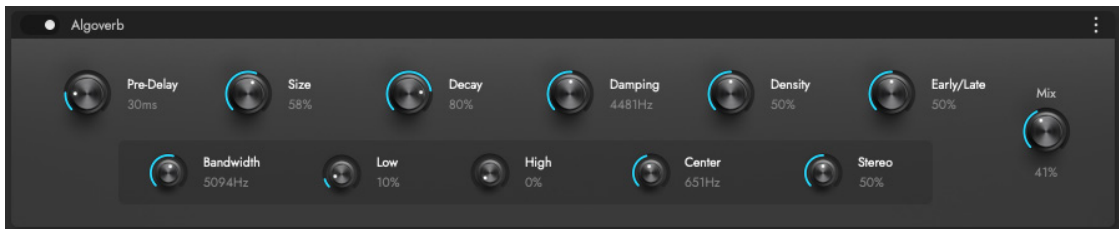
6.2.7 Reverb

Reverb simulates the effect of a sound reflecting off surfaces, and blending back in with itself to form a continuous sound that takes on the characteristics of the space. There are 2 insert effects in this category:

- Algoverb
- Reverb

Algoverb

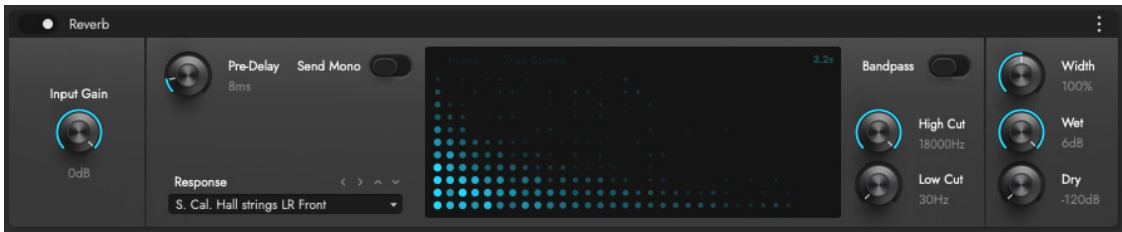
Algoverb is a stereo reverb that offers flexible controls, without an overly complicated structure. It also contains a series of “psychoacoustic” tone-shaping controls. Technically speaking, it’s composed of all pass filters in a network with tapped delays, and a secondary row of controls that provide a stereo mid/side dynamics filter processor configured in series.



CONTROLS	
Pre-Delay	Control the amount of time (if any) that the reverb effect is delayed after the initial signal reaches the unit, allowing the attack of a sound to be heard without processing.
Size	Increase (100%) or decrease (0%) the size of the space being emulated.
Decay	Increase (100%) or decrease (0%) the decay time of the reverb.
Density	Increase (100%) or decrease (0%) the density, also called diffusion. At higher densities, the reflections are broken up and dispersed more readily.
Early / Late	Control the ratio of early and late reflections between 0% and 100%.
Bandwidth	Set the frequency bandwidth between 1 kHz and 18 kHz.
Low	Boost the low frequencies between values of 0% (min) and 100% (max).
High	Boost the high frequencies between values of 0% (min) and 100% (max).
Center	Set the center frequency.
Stereo	Defaults to 50%, raise to 100% to increase the stereo image, and decrease to 0% to reduce it.
Mix	Controls the amount of the affected signal relative to the original (dry) signal.

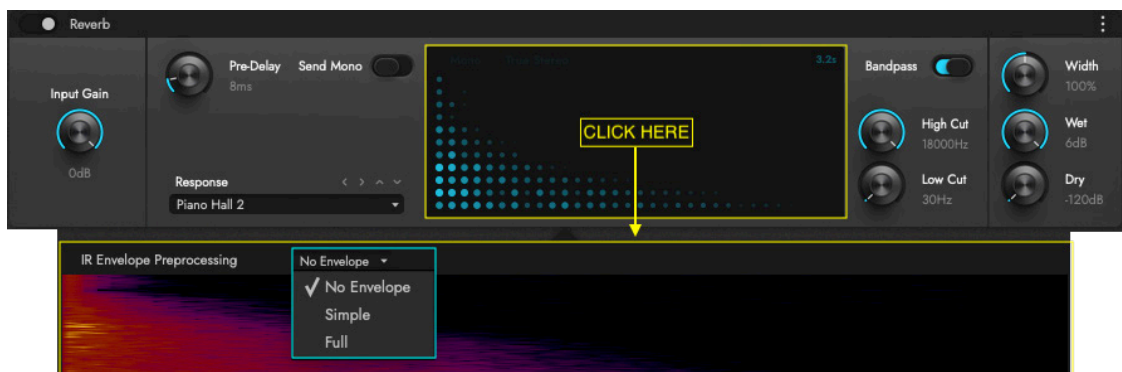
Reverb

Reverb processes the input signal with an impulse response (IR), which is an audio file that captures the characteristics of a space by exciting the room with a short, broadband frequency sound, and captures the resulting reflections. This is an extension of the reverb available in the Player window, but adds the ability to load true stereo reverbs, shape IR Envelope Preprocessing, and more.



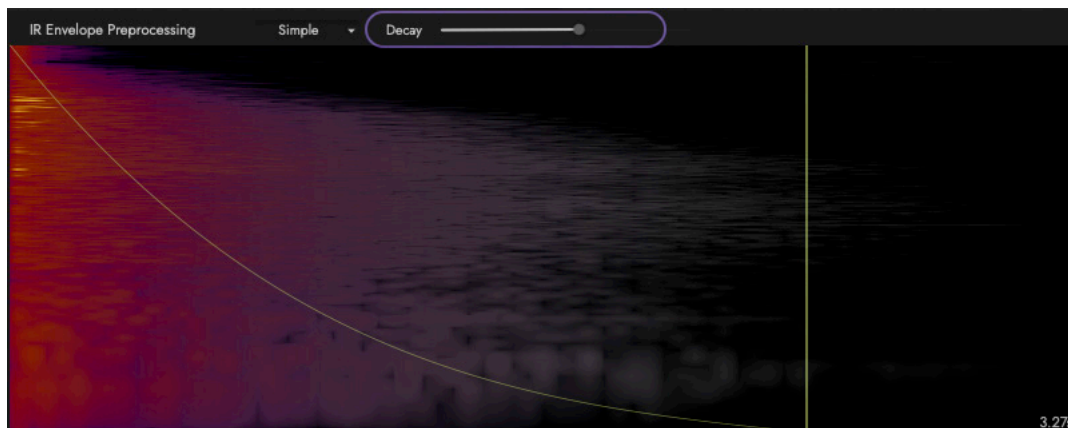
CONTROLS	
Input Gain	Boost (+24 db) or attenuate (-60 db) the audio input gain.
Pre-Delay	Control the amount of time (if any) that the reverb effect is delayed after the initial signal reaches the unit, allowing the attack of a sound to be heard without processing.
Send Mono	Collapse the separate left and right channels of the impulse response.
Response	Click in this menu to select an impulse response preset or category (containing multiple presets) from the list. Small arrows populate just above the menu selector. Use the small left/right arrows to cycle through presets, and the up/down arrows to cycle through categories.
IR Envelope Preprocessing	Click anywhere on the center Impulse Response display to edit the envelope shape with simple or full envelope controls (described below).
Bandpass	Switch the Bandpass control on and off, enabling the use of the High Cut and Low Cut filters. Please note: Bandpass is automatically turned on when the High and Low Cut filters are engaged.
High Cut	Set the cutoff frequency for the high cut filter between 30 Hz and 18 kHz.
Low Cut	Set the cutoff frequency for the low cut filter between 30 Hz and 18 kHz.
Width	Defaults to 100%, raise to 200% to increase the stereo image, and decrease to 0% to reduce it.
Wet	Set the level of the processed (wet) signal between -120 db and 6 db.
Dry	Set the level of the unprocessed (dry) signal between -120 db and 0 db.

Click in the **IMPULSE RESPONSE DISPLAY** to access the **IR ENVELOPE PREPROCESSING WINDOW**, where an envelope can be used to shape the loaded impulse response.

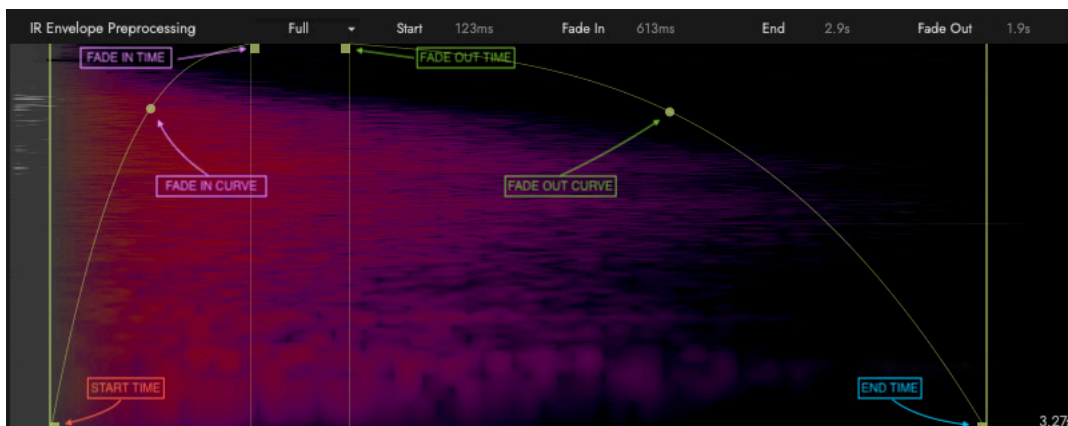


Click in the **IR ENVELOPE SELECTOR** to choose between the following options: No Envelope, Simple, and Full.

- **SIMPLE ENVELOPE CONTROL** provides a single **DECAY SLIDER** that simultaneously controls the End value (length) and Fade Out value (curve) controls as a percentage between 0% and 100%. It seamlessly transitions the Fade Out value between convex, linear, and concave curves as the length is shortened.



- **FULL ENVELOPE CONTROL** provides independent control over 6 parameters. Hovering your mouse over these controls will change the **ARROW TOOL** to a **PLUS (EDIT) TOOL**, from which you can click and drag to set a new value. For all except the curve controls, the Plus (Edit) tool appears at the node itself and all along the vertical line axis.



Use the **START TIME CONTROL** and **END TIME CONTROL** to define the time at which the impulse response begins and ends. Please note, these controls also affect the Fade In Time and Fade Out Time.

Use the **FADE IN TIME CONTROL** and **FADE IN CURVE CONTROL** to shape how the envelope behaves at the onset portion of the impulse, and the **FADE OUT TIME CONTROL** and **FADE OUT CURVE CONTROL** to shape the decay of the impulse.

PLEASE NOTE: The exact values of each of these controls (except curve controls) are located along the top of the IR Envelope Preprocessing display.

6.3 MIXING THE HOLLYWOOD ORCHESTRA

The way you choose to mix the microphones in your project can result in a sound that varies from small and “dry” to large and “wet.” What you are adding in or leaving out (to some degree) is the natural ambience of the room exactly as it occurred during the recording sessions. This ambience is heard as long as the samples are playing (including the release trail samples).

6.3.1 Multiple Microphone Mixes

Because mixing 2 or 3 of the mic positions in the right proportions can add dimension to a stereo or surround sound recording, it’s helpful to understand the various approaches when combining them into a final mix.

That said, it is possible to create a piece with only a single microphone position. The Main mics are a common choice for this, because of its versatility, but in some cases the Close or Mid mics may be the right choice. While unlikely, the Surround or Vintage mics might also be a good choice if you need a large ambient space.

The following examples describe basic setups to show how you can use the Output controls, with emphasis on the individual microphone positions. When considering the possibilities of multiple instruments, each with its own microphone positions, the ways of setting up the outputs are too numerous to list here. Use the principles described here to define your own approach.

Recording Each Microphone Individually

In this approach, you can set up one or more instruments with a single mic position and the output going to one or more audio tracks in the sequencer. Usually, you will work with the Main mics during the composition phase, especially if this is the mic position that will dominate in the final mix. Once you’re ready to commit the composition to the audio track(s), bounce down the track(s) to create a single-mic recording.

Then go into every instrument in Opus that contributed to those audio tracks so you can unload the Main mics and replace them with a different set, for example, the Close mics. Bounce down new audio track(s), making sure you name your tracks to indicate which mic position was used. Don’t worry about the loudness of this track relative to the first audio track; you can adjust that in the final mix. When using more than 2 mic positions, repeat the process to create the rest of the tracks.

Once you have all the tracks, you can mix them into a single track, adjusting the relative volumes to achieve the sound you want.

There are two advantages to this approach. First, it requires a smaller computer system than trying to load multiple sets of samples into RAM at once. Second, you have separate audio tracks for the three mic positions which you can use to create a wetter or drier mix.

Recording Multiple Microphones Simultaneously

It is also possible to work with more than one mic position at a time, though this requires a more capable computer setup to handle the extra samples in RAM and the extra pro-

cessing. In this approach, before bouncing down to audio tracks, you can load multiple mic positions in all instruments. You will need to adjust the individual volume sliders for the three microphone positions at this time to achieve the balance you want. This approach works best when you want to get a final mix quickly without working through multiple mix-downs.

Recording Multiple Microphones to Separate Channels

If you want to create the separate audio files described in the first approach, and have a very capable computer system that will allow you to process multiple mic positions simultaneously, then you can use this approach. Set up your instruments as in case 2 (above), but use the individual output controls for the mic positions you're using to send the audio to separate tracks (instead of mixing them within Opus).

Direct the audio to separate tracks in the sequencer, where you can specify which outputs should be captured in each track (refer to the documentation for your sequencer).

Note that it is possible to send multiple instruments (and mic positions) to the same track. For example, you can send the Close mics from the staccato celli, the pizzicato violins, and as many more as you want, to the "3-4" outputs, and they will all get mixed together on the same audio track. This approach gives you a ability to spread out your audio outputs any way you want.

FOR MORE INFORMATION: 2.5.5 Using Multi-Outputs

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