



PLAY

**EastWest/Quantum Leap
Hollywood Strings
Virtual Instrument**

Diamond Edition

Users' Manual

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Welcome

About EastWest

EastWest (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 (software) Instruments.

Founder and producer Doug Rogers has over 30 years experience in the audio industry and is the recipient of over 60 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 more than 22 years.

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.

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.

Producer: Doug Rogers

With over 30 years experience in the audio industry, founder and producer Doug Rogers is the recipient of over 60 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 more than 22 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 reinvented 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 recent productions are Symphonic Orchestra (awarded a Keyboard Magazine “Key Buy Award,” EQ Magazine “Exceptional Quality Award,” Computer Music Magazine “Performance Award,” and G.A.N.G. [Game Audio Network Guild] “Best Sound Library Award”); and Symphonic Choirs (awarded Electronic Musician “2006 Editor’s Choice Award,” G.A.N.G. “Best Sound Library Award,” and Keyboard Magazine “Key Buy Award”). Most recently, his productions include Quantum Leap Pianos, the most detailed virtual piano collection ever produced; and Fab Four, inspired by the sounds of the Beatles, a M.I.P.A Winner and judged the most innovative instrument by 100 music magazines.

Over the last decade 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.

Producer: Nick Phoenix

Nick began scoring film trailers in 1994. To date, he has scored or licensed music for the ad campaigns of over 1000 major motion pictures. “Star Trek,” “Tron,” “Percy Jackson,” “Twilight,” “2012,” “WALL-E,” “Indiana Jones 4,” “Harry Potter 6,” “Inkheart,” “Tales Of Despereaux,” “300,” “A Christmas Carol,” “Watchmen,” “Angels and Demons,” “Night at the Museum,” and “Young Victoria” are a few recent examples. Nick founded “Two Steps From Hell” with Thomas Bergersen in 2006. www.twostepsfromhell.com

The journey as a composer has inspired Nick to record and program his own sounds and samples. Nick founded Quantum Leap Productions in 1997 and Quantum leap has since grown to be the world’s top producer of high-end virtual instruments. A 13-year partnership with Doug Rogers and EastWest has yielded award winning software titles such as Stormdrum 1 and 2, Symphonic Orchestra, Symphonic Choirs, Silk, RA, Voices Of Passion, Ministry Of Rock, Gypsy, Quantum Leap Pianos, Goliath, Hollywood Strings, and many others.



“Hollywood Strings is the culmination of years of experience and the input of a really strong and diverse team. It is, by far, the best virtual instrument I have been involved with.”

Producer: 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 (www.twostepsfromhell.com) 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. www.thomasbergersen.com

Sound Engineer: 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."

Hollywood Strings is the first virtual strings collection he has engineered.



Credits

Producers

Doug Rogers, Nick Phoenix, Thomas Bergersen

Sound Engineer

Shawn Murphy

Production Coordinator

Rhys Moody

Programming

Justin Harris, Nick Phoenix, Thomas Bergersen

Scripting

Patrick Stinson, Thomas Bergersen, Klaus Voltmer

Editing

Arne Schulze, Pierre Martin, Justin Harris, Michael DiMattia

Art Direction

Steven Gilmore, Thomas Merkle, Doug Rogers, Nick Phoenix, Thomas Bergersen

Software

Doug Rogers, Nick Phoenix, Rhys Moody, Klaus Voltmer, Klaus Lebkucher,
Julian Ringel, Patrick Stinson, Adam Higerd, Ezra Buchla,
David Kendall, Nick Cardinal, Jonathan Kranz

Manual

John Philpit

How to Use This and the Other Manuals

All documentation for the EastWest PLAY Advanced Sample System and its libraries is provided as a collection of Adobe Acrobat files, also called PDFs. They can be viewed on the computer screen or printed to paper.

Each time you install one of the PLAY System libraries, two manuals are copied to the file system on your computer:

- The manual that describes the whole PLAY System. This, the largest of the manuals, addresses how to install and use all aspects of the software that are common to all libraries.
- The library-specific manual, such as the one you are currently reading. This smaller document describes aspects that differ from one library to the next, such as the list of included instruments and articulations.

Using the Adobe Acrobat Features

By opening the Bookmarks pane along the left edge of the Adobe Acrobat Reader, the user can jump directly to a topic from the section names. Note that some older versions of Acrobat Reader might not support all these features. The latest Acrobat Reader can be downloaded and installed at no cost from the Adobe web site. (As an example of a hyperlink, you can click on the last words of the previous sentence (“Adobe web site”) to be taken directly to the Adobe site.)

When reading this and other manuals on the computer screen, you can zoom in to see more detail in the images or zoom out to see more of the page at once. If an included picture of the user interface, or a diagram, seems fuzzy or illegible, then zoom in using one of several means provided in the Acrobat Reader software. Note that images are clearest and screen shots most legible at 200% and next best at 100%.

The Master Navigation Document

Because the EastWest PLAY System is a collection of components, each with its own User’s Manual, a Master Navigation Document (MND) is provided to allow users to jump quickly between these PDFs when being read on the computer screen. This MND is a one-page file with hyperlinks to the PLAY System documentation and to all the library manuals. Hyperlinks to this Master Navigation Document are found on the title page of each chapter in each document. From there, you can open any other document in the collection.

For example, if you’re reading something in this documentation for the EastWest/Quantum Leap Hollywood Strings library, and need to open the manual for the PLAY System as well, go to any chapter title page and click on the link that says, “Click on this text to open the Master Navigation Document.” It will open in a new window on the screen. In that document, click on the icon for the PLAY System and its manual will open in the same window, hiding the MND. You now have both the Hollywood Strings library manual and the PLAY System manual open in separate windows so you can refer to them both.

Separate Gold and Diamond Manuals

The EastWest/Quantum Leap Hollywood Strings virtual instrument is available in two versions: Gold and Diamond. And each has a manual slightly different from the other, so it is important that you use the correct version of the manual. This is the manual for the Diamond Edition. If you have the incorrect version of the manual, contact Technical Support at EastWest.

Online Documentation and Other Resources

For the most up to date information, visit the support pages at EastWest's web site. There you can find:

- information made available after these manuals were written
- FAQ pages that may already list answers to questions you have
- suggestions from EastWest and other users of the EastWest PLAY System
- news about upcoming releases

The address is:

<http://support.soundsonline.com>

You can also visit the EastWest online forums. There you can read comments and questions from others who use EastWest products and post your own. The many forum participants are a good source of helpful information about both the technical and musical aspects of this software.

The address of the forums is:

<http://www.soundsonline-forums.com>

If you visit the forums to receive support from EastWest (instead of going directly to the support site listed above), make sure you post your support request in the Support forum and not in the General Discussion forum.



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Hollywood Strings, An Overview

The Design Point For the Hollywood Strings Library

Hollywood Strings was designed to be the most detailed collection of string orchestra instruments ever assembled. And with their long history of creating virtual instruments, writing and scoring the music for hundreds of actual Hollywood trailers and films, co-producers Doug Rogers, Nick Phoenix and Thomas Bergensen already understood what was needed to create the authentic Hollywood sound.

Another factor in defining the sound of this library is that it was recorded in EastWest Studio 1, formerly Western Recorders and then Cello Studios. The recordings created in this building have, for decades, received more engineering awards than any other studio.



Producers Doug Rogers, Nick Phoenix, and Thomas Bergensen,
with (2nd from left) Sound Engineer Shawn Murphy

The combination of the right producers, an actual Hollywood recording studio, the best mics and other recording hardware available, and string players familiar with the Hollywood sound all came together to capture the authentic sound you can hear in this virtual instrument.

When designing this library, the producers decided to take advantage of the recent advances in computer technology that make possible instruments of greater complexity to achieve more realistic results than libraries of even two years ago. For example, for over

EASTWEST/QUANTUM LEAP HOLLYWOOD STRINGS

20 years libraries have been recording multiple dynamics for each articulation and layering them to capture the different timbres heard at different dynamic levels. These libraries usually used the MIDI Velocity parameter to select which layer to play back. While this approach achieved excellent results, it meant that typically 2 to 5 distinct layers were available, and timbre could not change mid-note.

Those libraries would use cross-fades for a small number of patches where mid-note changes were beneficial. But they kept the number of those cross-fades small to prevent their greater use of the computer's memory from becoming overwhelming. In Hollywood Strings, the producers greatly expanded the use of cross-fades, both in their numbers and in how many concurrent voices participate in the cross-fades within a given patch. This approach results in instruments that capture the way string instruments can vary the sound during a crescendo or swell, or as the depth of vibrato changes, like a live musician playing an acoustic instrument.



Studio 1 at EastWest Studios, during setup for the Hollywood Strings recording sessions

The EastWest sample player software, known as PLAY, had to undergo a few improvements in version 2.0 to make these larger instruments possible, especially to improve the efficiency of the software when loading and playing back large numbers of samples in a single instrument.

When all these factors come together, they create a virtual instrument of unparalleled detail and power. With almost 2,900 instruments and over 800,000 sample files, the library captures the great variety of sounds possible in a lush string orchestra. The PLAY Sample engine lets you create performances that will excite your creativity.

Comparison of the Diamond and Gold Editions

The Gold Edition is mostly a subset of the Diamond Edition. It is intended for those with smaller or less capable computer systems, and for those looking for most of the features and power of the Diamond Edition but at a smaller price. Here are the differences:

- **Bit Depth:** the samples in the Diamond Edition are 24-bit; those in the Gold Edition are 16-bit.
- **Delivery:** the Diamond Edition is provided on a hard drive; the Gold Edition is provided on a set of DVDs.
- **Mic Positions:** The Diamond Edition includes samples from 5 independent mic positions that can be mixed together to achieve control over both acoustic vantage and spaciousness of the sound; the Gold Edition provides a single mic position.
- **Legato:** The Diamond Edition includes several types of legato transitions, including what's called "Bow Change Legato"; the Gold Edition does not include "Bow Change Legato."
- **Divisi:** The Diamond Edition includes separate samples to accommodate Divisi passages; the Gold Edition does not.

The list of articulations for the two libraries are the same, except as described above.

What's Included

This EastWest/Quantum Leap Hollywood Strings library (Diamond Edition) you purchased includes all the following:

- a complete set of sample-based instruments, enumerated later in this manual
- approximately 312 Gigabytes of 24-bit, 44.1 kHz samples
- the EastWest PLAY Advanced Sample Engine
- the unique authorization code that identifies the license you bought
- manuals in Adobe Acrobat (.PDF) format for both the EastWest PLAY System and the EastWest/Quantum Leap Hollywood Strings Virtual Instrument
- an installation program to set up the library, software, and documentation on your computer
- an Authorization Wizard for registering your license in an online database

One required item *not* usually included is an iLok security key. If you already have one from an earlier purchase of software, you can use it. Otherwise, you need to acquire one. They are available from many retailers that sell EastWest and Quantum Leap products, or you can buy one online at www.soundsonline.com.

Hardware Requirements

See the Play System manual for a complete list of the Hardware and Software Requirements for installing and running any PLAY System library.

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Because both the size and complexity of many of the Hollywood Strings instruments are greater than in other PLAY libraries, you will likely need an even more capable system than is recommended for those other libraries:

- Intel or AMD quad-core processor, or higher, running at a minimum of 2.66 GHz
- 8 GB of RAM or more
- a 64-bit operating system; and a 64-bit host when running PLAY as a plug-in

Note that this is a recommended system, and is more powerful than the minimum of what is required.

Important Note: Hollywood Strings includes two folders of instruments that are designed for computers that meet or exceed the specifications for the recommended systems listed above. Some of these instruments can load up to 1 GB of samples per mic position into the computer's memory. In addition, because of their size, these patches may need to be used with fewer other instruments open. Smaller versions of the instruments are available for systems with more limited resources. See pages 45 and 55 for details.

Solid State Drives

There is no doubt solid state drives (SSDs) are a revolution for storing and streaming samples. While currently more expensive than traditional hard drives, the seek and retrieval times are almost instantaneous, which means you may be able to create even larger projects and/or to use lower latencies without needing workarounds to avoid disruption of the audio output. For the largest instruments in Hollywood Strings, SSDs may be your only option (light programs are provided for other users), and the number of mic positions that can be accessed simultaneously may also be dependent on solid state drives. Installing 2 or more smaller SSDs with a true hardware RAID 0 solution offers the best performance. For professional users, we recommend consulting computer system specialists to achieve the best performance.

EastWest has done extensive testing in which PLAY running with solid state drives for the samples and instruments was able to reproduce over 700 concurrent voices without any pops, clicks, or other artifacts that can occur when the same sequence streams from a traditional hard drive.

This difference indicates that it is not the PLAY software that provides the bottleneck in the data flow, but rather the “seek time” required to locate the many hundreds of samples on a traditional hard drive when they need to be streamed to the CPU all at once. For those composers and orchestrators looking to build large projects using the kinds of instruments that add realism through the use of complex cross-fades, solid state drives (along with more than 8 GB of RAM) can help make that happen.

Requirements for Sample Storage

The available space on the hard drive required for an installation of EastWest/Quantum Leap Hollywood Strings (Diamond Edition) is approximately 312 GB (Gigabytes).



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The Hollywood Strings User Interface

Each PLAY library presents its own interface when one of its instruments is the current one, as specified in the Instruments drop-down in the upper right corner. The image at the bottom of the page provides an overview of the entire window in Player View when the current instrument is from the Hollywood Strings library.

Much of this interface is shared by all PLAY System libraries, and the common features are described in the PLAY System manual. The Hollywood Strings-specific controls described later in this section are those listed on the next page. If you don't see a control described in this chapter, look at the PLAY System manual; that's the other manual installed on your hard drive during program setup.



EASTWEST/QUANTUM LEAP HOLLYWOOD STRINGS

Here are the controls described in this manual (and not in the PLAY System manual):

- Performance
- Round Robin Reset
- Stereo Double
- the graphical representation of the Envelope

Performance

There are six buttons grouped together in the Performance section, together with the Finger Position knob. They include three buttons for turning on and off scripts specific to Hollywood Strings that control performance parameters:



They include three buttons for turning on and off scripts specific to Hollywood Strings that control performance parameters:

- Portamento
- Repetition
- Legato

A fourth button turns on the sound of:

- Con Sordino

A fifth button lights up to show that one or more of the “hidden scripts” are in effect for this instrument (and the button should not be turned off):

- Other

The sixth button in the group, Round Robin Reset is described in its own section below.

See the section on Performance Scripts, starting on page 25, for information on how to use the three scripts that have user-modifiable parameters: Portamento, Legato, and Repetition. When you first open an articulation, there are default settings (On or Off) for each of these three scripts, as chosen by the EastWest sound designers. If you want a different set of defaults, you will need to save the .ewi file that way and load your new version when you need it.

Legato Button

Legato is the style of playing notes in a phrase with no significant silence between them in order to produce a smooth and flowing melodic line. Use this button to turn on a legato effect for the articulation. This script-based effect is separate from the actual Legato instruments included in Hollywood Strings. For information on how the Legato script compares with the Legato instruments, see the discussion starting on page 74.

Portamento Button

Portamento, also sometimes called glissando, is the technique of a continuous slide in pitch from one note to the next note in the phrase. Portamento, as available with this script, is usually a short, anticipatory movement between the pitches of two adjacent notes. This script-based effect is separate from the actual Portamento instruments included in Hollywood Strings.

Turning on the Portamento script in a phrase is a subtle way to increase a sense of realistic playing.

Repetition Button

Repetition, in this context, refers to the playing of a single pitch more than once with no different notes played between them in the same phrase. Turning on this button causes repeating notes to sound slightly different, avoiding the sense of mechanical repetition. See a more complete description of the repetition script, starting on page 26, for more on how to use this feature.

Other Button

This button controls whether a hidden script is turned on or off. This script, if present, manages some important features of a wide variety of articulations: from scripting that selects the correct staccato sample based on the speed with which notes are played to scripting that manages release trails for legato patches. Do not turn off this button when it's lit (unless you know how that action will affect the audio output). Turning it on when an instrument contains no script has no effect.

Con Sordino Button

The term “con sordino” means “with mute.” On string instruments, a mute attaches to the strings near the bridge and dampens the vibration, creating a sound with its higher overtones reduced. Turn on this button to hear the “con sordino” sound.

Finger Position Knob

The Finger Position knob controls—as much as possible—the string on which the note will be played. 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.



These 4 values available with this knob correspond to the hand positions that a string player uses during a real performance. You can use this knob to approximate the same position-related change in sound that can be achieved on a real instrument.

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. The Hollywood Strings virtual instrument gives you much of that control, providing the two most common options.

Of course, because not all notes can be played on all 4 strings, the Finger Position value you enter is only a guideline of the sound you're looking for. In general, notes played on shorter string segments—that is, with the finger position closer to the bridge—have a warmer and more emotional sound. So this knob can affect that quality in the sound you're generating.

Note that finger position settings do not apply to all articulations, only those in which the bow moves across the string in a long movement. Those articulations that respond to finger position controls include “KSFP” in the name. And those that include “4th pos” in

the name do not contain such a capability but, instead, always play notes in the 4th position (nearest to the bridge), where possible, for the warmer and more emotional sound.

Using Keyswitches for Finger Position

The instruments that include “KSFP” in the name allow you to change the finger position not only with the knob but also with keyswitch notes. The lowest of the 4 keyswitches (C0) sets the finger position to 1, causing the note to be played as far away from the bridge as possible. And the highest keyswitch (D#0) sets the finger position to 4 for the warmer sound.

If you decide to use both the keyswitch notes and the knob, then PLAY will use whichever finger position was set last (by either means). In fact, when you change either the Finger Position knob or the keyswitch note, you’ll see the other change as well.

Details

The following tables, starting on the next page, and spread over 3 pages, specify how the 4 positions on the Finger Position knob 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. (Remember that Middle C is named C3 in EastWest software.) 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 (or use keyswitch note C0).
- Or, 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 (or use keyswitch note C#0, D0, or D#0).

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.

Note that 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 provided, the same information is provided in traditional music notation, for those who prefer to read the note values from staves.

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FINGER POSITION: VIOLINS

	FP 1	FP 2	FP 3	FP 4
A#4 and above are all played on String 4				
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	0	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	0	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	0	String 1		
C#3	String 1			
C3 and below are all played on String 1				

The musical score shows four staves for Violins, labeled FP 1, FP 2, FP 3, and FP 4. Above the staves, the strings are labeled: String 1, String 2, String 3, and String 4. The notes are: FP 1 (C#3, D3, E3, F#3, G#3, A#3), FP 2 (C#3, D3, E3, F#3, G#3, A#3), FP 3 (C#3, D3, E3, F#3, G#3, A#3), and FP 4 (C#3, D3, E3, F#3, G#3, A#3). Dynamic markings '8va' are present above the notes for FP 2, FP 3, and FP 4.

EASTWEST/QUANTUM LEAP HOLLYWOOD STRINGS

FINGER POSITION: VIOLAS				
	FP 1	FP 2	FP 3	FP 4
D#4 and above are all 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	0	String 3		
G#3	String 3			
G3	String 3			
F#3	String 3			String 2
F3	String 3		String 2	
E3	String 3		String 2	
D#3	String 3		String 2	
D3	0	String 2		
C#3	String 2			
C3	String 2			
B2	String 2			String 1
A#2	String 2		String 1	
A2	String 2		String 1	
G#2	String 2			String 1
G2	0	String 1		
F#2	String 1			
F2 and below are all played on String 1				

The musical notation shows four staves for violas, labeled FP 1, FP 2, FP 3, and FP 4. Above the staves, the notes D#4, C#4, C4, B3, A#3, A3, G#3, G3, F#3, F3, E3, D#3, D3, C#3, C3, B2, A#2, A2, G#2, G2, and F#2 are listed. Arrows point from these notes to the corresponding string on each staff. The strings are labeled String 1, String 2, String 3, and String 4. A 'Violas' label is at the top left, and 'String 4' is at the top right. The notation includes clefs, notes, and string labels with arrows indicating which string is used for each note.

For those not as fluent when reading a viola's alto clef, note that the breaks between strings on the cello 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 cello and mentally transpose up an octave for the violas.

EASTWEST/QUANTUM LEAP HOLLYWOOD STRINGS

FINGER POSITION: CELLI

	FP 1	FP 2	FP 3	FP 4
D#3 and above are all played on String 4				
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	0	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	0	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	0	String 1		
F#1	String 1			
F1 and below are all played on String 1				

The musical notation shows four staves labeled FP 1, FP 2, FP 3, and FP 4. Above the staves are labels for 'Cello', 'String 1', 'String 2', 'String 3', and 'String 4'. The notes are: FP 1 (C2, C#2, D2, D#2, E2), FP 2 (D2, D#2, E2, F2, F#2), FP 3 (E2, F2, F#2, G2, G#2), and FP 4 (F2, F#2, G2, G#2, A2). Octave markings '8va' and '8va-1' are present above the notes for FP 1, FP 2, and FP 3.

Round Robin Reset Button

A round robin articulation is one in which several different samples are recorded with all parameters, such as volume, speed of attack, and so on, being essentially constant. The PLAY Engine then knows to alternate between the two or more samples during playback. The goal is to avoid what's often called the “machine gun effect,” in which playing the same sampled note repeatedly causes the unnatural sound of consecutive notes being mechanically identical.

Any articulation with “RR” in its name uses round robin technology. Those with an “x3,” “x4,” or the like in the name, use 3, 4, or more different samples for each note

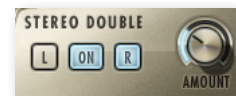
PERFORMANCE RND ROBIN RESET

There's one potential problem with round robin technology, and one way to solve it is the Round Robin Reset button. The PLAY Engine remembers which sample should be played the next time the note sounds. If, for example, a round-robin patch contains two samples, A and B, and a piece uses that note 7 times, the PLAY Engine plays A B A B A B A. If the piece is played again from the beginning, the engine will play starting with B, because that's next in order. The second rendition will be subtly different. Being able to reset all round-robin articulations to the beginning of the cycle allows for consistent playback.

You can use this button to reset all round robin articulations on demand. Or use your choice of a MIDI note or MIDI control code to reset them one instrument at a time from a MIDI keyboard or the data stored in a sequencer project. See the description of the Settings dialog (in the main PLAY System manual) for more information about this articulation-specific approach.

Stereo Double Controls

This knob, with its three buttons, gives the user the option of using exclusively the left stereo signal or right when “Stereo” is selected from the Channel Source drop-down. For any other setting, this control has no effect.



The knob lets the user determine the spread of the signals, how far apart the ear perceives the stereo channels to be. A value of 0% brings the two channels together at the center (unless the Pan knob positions the output differently), and is the equivalent of turning off the controls with the button below the knob. A value of 100% calls for the maximum spread available. Select between the left and right signal with the L and R buttons, respectively.

The Master Button and Pre-Delay Knob in the Reverb Controls

The common features of the Reverb Controls are explained in the main PLAY System manual, but the Hollywood Strings user interface includes two features not in all PLAY libraries:

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The Master Button

When this button is pressed and the On light is illuminated, the Reverb for this instrument applies to all the other instruments in this instance of PLAY, including instruments from libraries that do not include a Master button.

If the Master button is already engaged in another instrument in the current instance of PLAY, and the Master button is pressed in a new instrument, then the settings in the UI of the new instrument become the settings for all instruments in this PLAY instance.



The processing of high-quality reverb can be very CPU-intensive and it is often the case that you want to use the same reverb on all the instruments in an audio track. Engaging the Master Reverb button allows you to run a single instance of the reverb processor and have the effect apply to multiple instruments.

Reverb Master On will make all other instruments share this reverb and its settings. This is designed to conserve DSP resources by using one reverb for all instruments.

OK

When you engage the Master button, PLAY puts up a warning message, as shown above, to remind you that the reverb settings in this instrument will now apply to all instruments in this instance.

The Pre-Delay Knob

Increasing this level delays the onset of the reverb so that the initial section of the sample is unaffected. This feature allows the sound of each attack to maintain its true color while the rest of the note still gains the benefit of the reverb effect.

The Graphical Representation of the Envelope



The Envelope Controls are described in the main PLAY System manual because they are common to all PLAY System libraries. Only some libraries include the graph, as shown here, so it is included in the manuals for those libraries only.

Note that the total width of the graph represents the total length of all phases of the envelope. Therefore, when you change something in one part of the graph, for example, the length of the decay, you may see the slopes of other components, the attack and the release, change as well because those phases become a larger or smaller percent of the whole; this is as expected.

The Browser View

The Browser behaves identically among all PLAY System libraries. Read the main PLAY System manual for information about how to use that view.

Performance Scripts

The Hollywood Strings Virtual Instrument includes three user-modifiable, built-in scripts that can provide extra realism to phrases that take advantage of their benefits:

- The Portamento script provides a sliding pitch between consecutive notes in a phrase. This can be used to emulate the subtle portamento that occurs, for example, when a string player’s finger moves along the string at the beginning or end of a sounding note.
- The Repetition script changes the quality of the notes when a single pitch is played multiple times in quick succession. Although similar to what can be achieved with Round Robin patches, the effect can be used on any articulation, not only those with “RR” in the name.
- The Legato script creates a more flowing and connected sound for notes in a continuous phrase.

The scripts themselves are not modifiable by the user, but important parameters can be adjusted using MIDI control codes. See details of how to use the control codes in the descriptions that follow.



In order for a script to actively affect the notes in an articulation file, the script must be activated in the PLAY user interface. The image above shows the Legato script turned off and the other two scripts turned on. In addition, the appropriate MIDI Control Code must not be turned Off; that means if MIDI values are being generated for the On/Off code on this channel, as in the table below, they must currently be in the range 64 to 127; if MIDI CC values are not being generated, the Control Code is considered On (as long as the light in the user interface is On).

The effect of engaging the Portamento or Legato effect is subtle. The goal is the sound of smooth, connected playing and not anything so pronounced that it will draw attention to the effect itself. These two scripts share many features in the ways they affect the sound; that is, the Legato script includes a small portamento component and vice versa.

MIDI Control Codes

These MIDI values can be controlled in standalone mode by adjusting the controls (knobs or sliders) on a “control surface” or MIDI keyboard. When run as a plug-in inside a sequencer or other host, you can create a controller envelope to automatically adjust values during playback. See the documentation from your hardware or software for information about how to change the values of control codes.

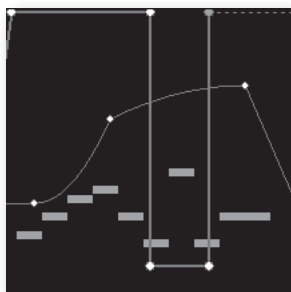
The following table lists the codes that affect these scripts. Note that the MIDI Control Codes have no effect unless the corresponding script is turned on in the PLAY interface.

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Code	Portamento	Repetition	Legato
5	Time		Time
65	On/Off		
68			On/Off
69		On/Off	

The three On/Off control codes all work the same way: a value 64 or higher turns the script on and any other value (0–63) turns the script off.

CC 5 affects the duration of the portamento or legato. The possible values are 0–127. The higher the value the longer the effect takes to complete; that is, you should set higher values to make the sound more pronounced. Use your ear to find the right values for each note in the phrase.



The image at the left shows two envelopes affecting the Portamento script in a host. The nine white horizontal bars are the notes. The light-gray line that jumps from the top to near the bottom and back to the top is CC 65 that turns the script on and off so that only some notes use portamento. The curving line near the middle is CC 5, setting the effect's "Portamento time" parameter for each note individually. (Note that the middle section, when the CC 65 line is near the bottom, CC 5 actually has no effect because the script is turned off at that point.)

Monophonic Behavior

Both the Portamento and Legato scripts change the instrument so that it can play only one note at a time whenever the script is turned on. If a note is still playing when a new note starts, the first note will end at that moment. This behavior allows for no ambiguity in how the notes form a phrase.

One consequence of this behavior is that if you want two concurrent legato lines—or one legato and one non-legato line—played with the same articulation, you need to open the same articulation file more than once and turn on the Legato script where appropriate. Of course, the same rule holds for the Portamento script.

Repetition Script

When playing consecutive notes of the same pitch, the use of a single sample over and over in quick succession can sound mechanically identical, which is called the "machine gun effect." The Round Robin patches are one way to fix this problem. The Repetition script solves the same problem in another way. For any articulation, this script uses one or more of three randomly selected options to keep the sound a little different on each repetition:

- Use the sample for a nearby note (for example, a half step higher or lower) and retune it to the needed pitch.
- Start the note a tiny amount before or after the specified start time.
- Detune the sample a few cents (hundredths of a semitone) higher or lower.

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This variability gives the sound a more human, less robotic, feel. After all, what human instrumentalist plays every note exactly on pitch and at exactly the notated time?

The producers have selected which of these three approaches will be used for each articulation file—and how much variability to allow—to achieve the most realistic behavior. That is, some patches randomly use all three approaches, while others may use only one or two of them.

Note that Repetition scripts do not have the equivalent of the Round Robin Reset button to ensure an identical sound every time the same track is bounced to audio. The randomness of the results is a feature. You need to decide how important exact repeatability is when selecting either a round robin patch or the Repetition script.

The Articulations Control and Keyswitches

In the center of the Player view is a control that lists the articulations available in the current window. Often this list is short, containing only the one articulation given in the instrument name, and perhaps its release trails on a separate line. The image at the right shows the control for the 2nd Violins Flautando instrument.



When the current instrument file includes a keyswitch, the list of articulations is much longer. The image at the left shows the control that contains 7 articulations and their 7 release trails (an “RT” in the name indicates it’s a release trail).

Each of the main articulations (but not their release trails) includes the name of the keyswitch note at the beginning (for example, the third line indicates that the Sustain Up Bow is turned on with the C#0 keyswitch).

The checkboxes at the left of the control allow you to deactivate any articulation (turn it off while leaving its samples in memory) or, separately, to unload the samples from memory. The small knobs in the third column allow you to adjust the loudness of each articulation without affecting the loudness of the others. In the image at the left, all of the D tach  articulations have been unloaded; the Half Tone Trill articulation has been deactivated.

Remapping Keyswitch Notes

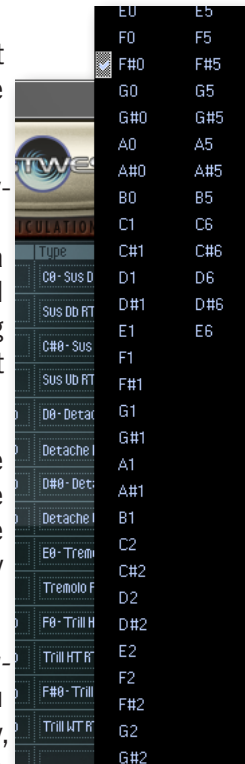
If you want to change which note is assigned to any articulation in the keyswitch, you can do so in this control. Right-click (on a Windows PC) or Ctrl+Click (on a Mac) to open a context menu of all possible keyswitch notes. In the image at the right, the context menu for F#0 Trill WT is shown. The check next to F#0 indicates the current keyswitch note. Click on any other note name in the list to remap the articulation to a different keyswitch note.

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In the image at the right, only the center section of the very tall list is shown; it continues to the top and bottom of the screen on the computer monitor.

Here are a few details you need to be aware of when reassigning key-switch notes:

- If you assign an articulation to a note that is already assigned a keyswitch (and don't move the other keyswitch) then that note will trigger both the old and the new articulation, effectively playing two articulations at once. That might sometimes be useful and at other times a problem.
- If you assign an articulation to a playable note (in white on the onscreen keyboard) then playing that note will also change the articulation. (The articulation will be changed after the start of the note, so the note itself will not be in the new articulation; it only starts with the next note.)
- If you change the keyswitch note *for the currently selected articulation*, then all the notes temporarily stop being playable until you select a new articulation by selecting a keyswitch note. Visually, this means all the white keys on the onscreen keyboard turn the darker tan color. (Remember that the lowest keyswitch note—usually C0—is the default keyswitch, so it is considered “currently selected” until another keyswitch note is selected.)
- If you open the context menu on a slot that contains a release trail, you will see it is assigned the same keyswitch note as its main articulation (even though there's no keyswitch note listed). It is important that the main articulation and its release trails be assigned the same keyswitch note. So, when you change one, be sure to change both to the same value.
- Changing the keyswitch note for any given slot in the list does not change the name in the list. For example, if you change the D#0 keyswitch to F1, a “D#0-” will still appear in the name. The only way to know the currently assigned keyswitch note is to open the context menu and see which note is checked.



E0	E5
F0	F5
F#0	F#5
G0	G5
G#0	G#5
A0	A5
A#0	A#5
B0	B5
C1	C6
C#1	C#6
D1	D6
D#1	D#6
E1	E6
F1	
F#1	
G1	
G#1	
A1	
A#1	
B1	
C2	
C#2	
D2	
D#2	
E2	
F2	
F#2	
G2	
G#2	



PLAY

4. Instruments, Articulations, and Keyswitches

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- 40 01 Long**
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- 53 06 Keyswitch**
- 55 Legato Slur and Portamento: 07 (basic) and 09 (Powerful System)**
- 58 Legato Bow Change: 08 (basic) and 10 (Powerful System)**
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[Click on this text to open the Master Navigation Document](#)



Instruments, Articulations, and Keyswitches

The EastWest/Quantum Leap Hollywood Strings virtual instrument is a library designed to create string orchestrations of the kind heard in movie soundtracks—but, of course, it can be used for many other types of string music, as well. And it mixes well with other virtual instruments from EastWest/Quantum Leap, so feel free to add in brass, guitars, percussion, voices, whatever you can imagine.

Most of the library contains 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 folder where you can load up the entire string orchestra and play it at the keyboard in real time. All of this is described in detail later in this chapter.

The following pages include a table that lists each instrument in the Hollywood Strings library. You might want to print out the pages containing this table as a reference.

A Glossary of Articulation Names

- **Bartók pizzicato** is a style of playing in which the string is pulled away from the fingerboard, allowing it to snap back forcefully.
- **Col legno** refers to the sound of hitting the strings with the wooden stick of the bow, instead of the hair.
- **Détaché**, which means “separated” in English, refers to notes that do not have a legato connection to the next note in the phrase; that is, they come to a well defined stop before the start of the next note.
- **Flautando** technique is the creation of ethereal, flute-like notes when playing with no vibrato near the fingerboard with the point of the bow.
- **Harmonics** are created when a finger touches a harmonic node on the string and the bow plays close to the bridge. The image at the right shows the notation for a natural harmonic (sounding two octaves above the violin’s open D string) and for an artificial harmonic (sounding two octaves above the written F#).
 
 The image shows a musical staff in G major (one sharp). The first measure contains a natural harmonic on the D string, indicated by a circle above the note. The second measure contains an artificial harmonic, indicated by a circle above the note and a sharp sign below it.
- **Marcato** refers to notes that are played with a strong accent at the beginning.
- **Measured tremolo** is the rapid repetition of a note, and at a specific number of strokes per minute, or at a spe-
 
 The image shows a musical staff in G major. It features a series of rapid, repeated eighth notes on the G4 note, followed by a quarter rest.

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cific note length. Everyone in the section plays the notes in synch and on the beats. The PLAY software determines the tempo by asking the host or, when in standalone mode, from the Engine Tempo Sync control in the Advanced Properties dialog for the current instrument.

- **On-the-bow staccato** notes are, like the other staccato defined here, short and not connected to the following note, but the end of the note is caused by the stopping of the bow's motion while still on the string (instead of lifting the bow off the string at the end). This articulation has a distinctive but subtle noise at the end of each note.

- **Pizzicato** is a style where the finger plucks the string and the bow does not touch the string. The opposite of “pizzicato” is “arco.”



- **Repetitions** are notes where the same note was played immediately before it and the string is still vibrating at the time of the new attack. Because this vibration can affect the attack of the new note, this articulation is included in the library to achieve a more realistic sound than just repeating MIDI notes.

- **Ricochet**, also called jeté, is achieved by throwing the upper third of the bow onto the string so that it bounces several times and creates multiple notes in quick succession.

- **Spiccato** is a semi-off-the-string playing style that achieves a light and bouncy sound.

- **Staccatissimo** means “very staccato.” See “staccato” below.

- **Staccato** notes are those that are of short duration and not connected to the following note in the phrase. In contrast to on-the-bow staccato (above), the end of the note may be achieved by lifting the bow from the string.



- **Sul ponticello** is a style of playing with the bow very near the bridge; it achieves a more intense sound that features the note's higher harmonics.

- **Tremolo** is the rapid repetition of a note but, in contrast to measured tremolo (above), without a specific rhythmic frequency. Section members may be out of synch with each other, resulting in a more continuous sound.



- **Trills** are the rapid alternation between two notes a minor or major second apart (also called half step and whole step trills).



- Separate **Up** and **Down** patches are provided for many of the instruments. The direction the bow is traveling during the note has a significant effect on the sound the instrument generates. Because string players often alternate the direction of the bow with each note for certain kinds of playing, the library includes several patches that automatically alternate between up and down strokes; these patches include “Up Dn” or “RR” in the name.

The Table of the Instruments

The sounds of each instrument are provided in the form of one or more instrument files (with extension .ewi in the Browser view), often representing separate articulations. Within some instrument files may be several articulations that can be selected in one of several ways:

- through the UI
- with keyswitch notes
- by moving the Mod Wheel

Most of the rest of this chapter documents the instruments and articulations for this library.

The Orchestral Sections

The Hollywood String orchestra, like most large string ensembles, comprises 5 sections:

- 1st Violins
- 2nd Violins
- Violas
- Celli
- Basses

In the Browser view, you can see 2 folders for each of these sections: for example, both “Violas” and “Violas Divisi.” The first of these folders contains the many Violas instruments that are listed on the table later in this chapter. Each instrument provides access to the 5 microphone positions described in a section starting on page 76. The second of these folders contains both a Divisi A and a Divisi B version of the same instruments. These “divisi” instruments 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 mics. For more about Divisi instruments, see page 75.



The Quick Start Instruments

At the bottom of the list of instruments (Violins to Basses) is a folder named “_Quick Start HS.” It contains several instruments from each section that are designed to load quickly and use less of the computer resources than many of the other patches. This folder is described in more detail—and the instruments are listed—starting on page XX.

This folder was added in Diamond’s version 1.0.6 and Gold’s version 1.0.1, both available in March 2011. If you do not see this folder in the Browser, update to the latest version.

The Categories of Instruments

For all five sections (from 1st Violins to Basses, but not the Full Strings) the list of instruments is divided into 11 categories. In the Browser, they appear as 11 separate folders:

- 01 Long
- 02 Long Powerful System
- 03 Short Tight
- 04 Short Loose
- 05 Effects
- 06 Keyswitches
- 07 Legato Slur + Portamento
- 08 Legato Bow Change
- 09 Legato Slur + Portamento Powerful System
- 10 Legato Bow Change Powerful System
- 11 Legacy

(The number at the start of each category name is there to make sure this list always appears in this order within the Browser.) These categories appear as section headers with in the following table to help you find instrument files in the tables and in the Browser.

For many of these 11 folders, the name clearly describes the kinds of articulations it includes. The terms “Powerful System,” “Tight,” and “Loose” may not be immediately obvious:

- **Powerful System** refers to instruments that put a heavy load on the computer’s resources, such as the amount of RAM memory, access to the hard drive, and use of the central processor(s). These instruments work best on computers with quad processors, at least 8 GB of RAM, and either a solid state drive or a fast hard drive (at least 7200 rpm). They need this extra power because they stream more samples into RAM and play more concurrent voices.
- **Tight** and **Loose** refer to the immediacy of the attack (the start of each note). Those instruments in the 03 Short Tight folder eliminate a few milliseconds from the very start of the recorded note, giving the playback a punchier sound that works well in faster music. Those in the 04 Short Loose folder include the whole recorded attack and, therefore, sound more natural in slower music.

The 11 Legacy folder is described in more detail below, starting on page 34.

A Note on Dynamics in Hollywood Strings Instruments

As discussed in multiple places within EastWest manuals, there are several ways you can affect how loudly an instrument is playing:

- MIDI Velocity
- Volume, CC 7
- Expression, CC 11
- the Mod Wheel, CC 1

Hollywood Strings includes a lot of instruments that rely on cross fading between samples instead of selecting which sample to play based on the MIDI Velocity parameter of each note. And these cross-fades can be controlled by the Mod Wheel, or CC 11, or both at once. Such an approach gives the composer much more in the way of continuous control over both the loudness and the timbre. But this control comes with a price: greater use of the computer's resources, especially the RAM and the processors. As is mentioned in some of the instrument descriptions below, PLAY might be playing up to 14 concurrent samples for each note (not including release trails).

The descriptions below sometimes specify that, for example, the instrument does not respond to MIDI velocity, or that you should use a specific approach when controlling dynamics and timbre. In general, if you find that an instrument is not responding to one of the ways of specifying loudness, even in instruments where it's not mentioned, investigate using other means to get the dynamics you're looking for.

“Niente” Instruments

These instruments have the abbreviation “Ni” near the end of the file name. They exist in all folders except 03 Short Tight and 04 Short Loose. For the Full Strings folders, look for “Niente” instruments in the Long folder, but not the Short folder.

All these instruments allow you to take the loudness down to zero, or, to use the Italian musical term, “*al niente*.” The exact behavior of the dynamics in these instruments depends on the size of the instruments.

For those in the Powerful System folders (02, 09 and 10): As is described elsewhere, these patches use CC 11 (Expression) to cross-fade dynamics and CC 1 (the Mod Wheel) to cross-fade the depth of the vibrato. What is different about the “Niente” instruments is that CC 11 not only cross-fades the dynamic layers, but it can also bring the volume all the way to zero when the value of CC 11 approaches zero.

For instruments in other folders (01 and 05–08): Because these instruments are smaller, CC 1 (the Mod Wheel) controls the cross-fade of both vibrato and dynamics at the same time. CC 11 (Expression) performs global volume control. What is different about the “Niente” versions is that CC 1 can bring the volume all the way to zero in addition to cross-fading dynamics and vibrato.

Instead of trying to remember the differences described in the previous 2 paragraphs, remember that in all “Niente” patches the MIDI Control Code that cross-fades between dynamic layers can reduce the volume so that you can play notes at minimal audibility.

Note that patches are not listed as “Ni” in the following tables, because that applies to all instruments in all folders except 03, 04, and Full/Short.

The Legacy Folder

This folder includes earlier versions of some instruments that were the base form before the introduction of the Niente instruments. They are included in the Legacy folder so

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that those working on older projects still have access to them. But EastWest now recommends using the Niente versions in any new project for their greater dynamic range.

The 11 Legacy folder is not listed in the following tables because it contains only the instruments that correspond to the Niente instruments from other folders, but without the Niente functionality.

Overview of the Instruments in Hollywood Strings

The following table, which extends over several pages, lists the instrument files available in each of the 5 orchestral sections. A check mark indicates that the section includes a .ewi file as named at the left of the row.

This table does not explore the articulations available within each instrument file; that level of detail is provided later in this chapter.

When one section does not include an instrument or articulation you're looking for, you may be able to try one of the following approaches to get an approximation of the sound you want:

- Use that same patch from a different section. You may be able to mask differences in timbre with the use of EQ, and/or by doubling with a different patch from the correct section.
- Use a similar patch from the correct instrument. Then experiment with changing the AHDSR envelope and/or other parameters to bring the sound more into line with the sound you want.

You may find that the sound is close enough to what you wanted in the first place that no one will notice, especially in the middle of multi-part writing.

The table below does not include instruments in the Full Strings group. Those patches are describes in a separate section following this table. The page numbers in the last column are hyperlinks; click on any number (when viewed on a screen) to jump to that page.

INSTRUMENT OVERVIEW: INDIVIDUAL SECTIONS						Page
01 Long	1st Vns	2nd Vns	Violas	Celli	Basses	40
(Sus) 1 NV NV NV VB RR	✓	✓	✓	✓		40
(Sus) 2 NV NV VB VB RR	✓	✓	✓	✓		
(Sus) 3 NV NV VB MV RR	✓	✓	✓	✓		
(Sus) NV VB RR					✓	
<i>continued</i>						

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INSTRUMENT OVERVIEW: INDIVIDUAL SECTIONS						Page
Détaché RR KSFP	✓	✓	✓	✓		40
Détaché RR					✓	
Marcato Sus 9 RR 4th Position	✓	✓	✓	✓		44
Marcato Sus 8 RR					✓	
Sus 6 Down Bow KSFP	✓	✓	✓	✓		40
Sus 6 Down Bow 4th Position	✓	✓	✓	✓		
Sus 9 Down Bow KSFP	✓	✓	✓	✓		
Sus 9 Down Bow 4th Position	✓	✓	✓	✓		
Sus 8 Down Bow					✓	
Sus 6 Up Bow KSFP	✓	✓	✓	✓		
Sus 6 Up Bow 4th Position	✓	✓	✓	✓		
Sus 9 Up Bow KSFP	✓	✓	✓	✓		
Sus 9 Up Bow 4th Position	✓	✓	✓	✓		
Sus 8 Up Bow					✓	
Sus 6 RR KSFP	✓	✓	✓	✓		
Sus 6 RR 4th Position	✓	✓	✓	✓		
Sus 9 RR KSFP	✓	✓	✓	✓		
Sus 9 RR 4th Position	✓	✓	✓	✓		
Sus 8 RR					✓	
Flautando		✓				44
Harmonics		✓				45
02 Long Powerful System	1st Vns	2nd Vns	Violas	Celli	Basses	45
Sus 13 Down Bow KSFP	✓	✓	✓	✓		
Sus 13 Down Bow 4th Position	✓	✓	✓	✓		
Sus 13 Up Bow KSFP	✓	✓	✓	✓		
Sus 13 Up Bow 4th Position	✓	✓	✓	✓		
Sus 13 RR KSFP	✓	✓	✓	✓		
Sus 13 RR 4th Position	✓	✓	✓	✓		
Sus 8 Down Bow					✓	
Sus 8 Up Bow					✓	
Sus 8 RR					✓	
<i>continued</i>						

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INSTRUMENT OVERVIEW: INDIVIDUAL SECTIONS						Page
03 Short Tight <i>and</i>	1st Vns	2nd Vns	Violas	Celli	Basses	45
04 Short Loose	1st Vns	2nd Vns	Violas	Celli	Basses	48
numbers in cells for the short instruments are the number of samples in the round robins						
Bartók Pizzicato RR	✓ 2		✓ 2	✓ 2	✓ 2	46
Col Legno RR	✓ 4	✓ 2	✓ 4	✓ 4	✓ 4	47
Marcato Long RR		✓ 4			✓ 4	47
Marcato Short RR	✓ 4	✓ 4	✓ 4	✓ 4	✓ 4	47
Pizzicato RR	✓ 4	✓ 4	✓ 4	✓ 4	✓ 4	46
Repetitions	✓	✓	✓	✓	✓	48
Ricochet RR	✓ 2	✓ 2	✓ 2	✓ 2	✓ 2	46
Spiccato RR	✓ 9	✓ 9	✓ 9	✓ 9	✓ 9	47
Staccato RR	✓ 14	✓ 9	✓ 9	✓ 9	✓ 9	47
Staccato Slur (RR for 2nd Violins)	✓	✓ 6				47
Staccato On Bow RR	✓ 9	✓ 9	✓ 9	✓ 9	✓ 9	47
Staccatissimo RR	✓ 9		✓ 16	✓ 16	✓ 9	47
Slur Runs		✓				
Spiccato Runs		✓				
in subfolder MOD COMBOS						
> Shorts MOD SPEED	✓ 8	✓ 8	✓ 8	✓ 8	✓ 8	48
> Spiccato Marcato MOD	✓ 8	✓ 8	✓ 8	✓ 8	✓ 8	
> Staccato Marcato MOD	✓ 8	✓ 8	✓ 8	✓ 8	✓ 8	
> Staccato Slur Marcato MOD	✓	✓				
5 Effects	1st Vns	2nd Vns	Violas	Celli	Basses	49
Measured Tremolo Time Stretched	✓	✓	✓	✓	✓	52
Tremolo	✓	✓	✓	✓	✓	52
Repetitions			✓		✓	53
Trill HT WT	✓	✓	✓	✓		52
Trill HT					✓	
Sul Ponticello			✓			53
in subfolder Pre Recorded Runs						49
> 8va Run Down	✓		✓	✓		
> 8va Run Up	✓		✓	✓		
> 8va Run Up Down KS	✓		✓	✓		
<i>continued</i>						

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INSTRUMENT OVERVIEW: INDIVIDUAL SECTIONS						Page
> 8va Run Up Down MOD	✓		✓	✓		
> 8va Run Up Down SPLIT	✓		✓	✓		
> Major Run Down	✓		✓	✓		
> Major Run Up	✓		✓	✓		
> Major Run Up Down KS	✓		✓	✓		
> Major Run Up Down MOD	✓		✓	✓		
> Major Run Up Down SPLIT	✓		✓	✓		
> Minor Run Down	✓		✓	✓		
> Minor Run Up	✓		✓	✓		
> Minor Run Up Down KS	✓		✓	✓		
> Minor Run Up Down MOD	✓		✓	✓		
> Minor Run Up Down SPLIT	✓		✓	✓		
> Whole Tone Run Down	✓		✓			
> Whole Tone Run Up	✓		✓			
> Whole Tone Run Up Down KS	✓		✓			
> Whole Tone Run Up Down MOD	✓		✓			
> Whole Tone Run Up Down SPLIT	✓		✓			
in subfolder Playable Runs						50
> Staccato Slur Runs	✓	✓				51
> Staccato Rep Runs Script	✓	✓	✓	✓		50
> Spiccato Runs		✓				52
> Spiccato Runs Smooth		✓				
06 Keyswitch	1st Vns	2nd Vns	Violas	Celli	Basses	53
Sustained KS	✓	✓	✓	✓	✓	53
07 Legato Slur + Portamento *	1st Vns	2nd Vns	Violas	Celli	Basses	55
Legato Port LT 12	✓	✓	✓	✓		
Legato Port LT 6	✓ ^{1,2}	✓ ^{1,2}	✓ ^{1,2}	✓ ^{1,2}		
Legato Slur + Port LT 12	✓	✓	✓	✓		
Legato Slur + Port LT 6	✓ ^{1,2}	✓ ^{1,2}	✓ ^{1,2}	✓ ^{1,2}		
Legato Slur LT 12	✓	✓	✓	✓		
Legato Slur LT 6	✓ ^{1,2}	✓ ^{1,2}	✓ ^{1,2}	✓ ^{1,2}		
Legato Slur LT 3	✓	✓	✓	✓		
Legato Slur LT 7					✓ ¹	
<i>continued</i>						

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INSTRUMENT OVERVIEW: INDIVIDUAL SECTIONS										Page
Legato Slur Slower LT 7										✓ ¹
Legato Slur LT 3										✓
08 Legato Bow Change *		1st Vns	2nd Vns	Violas	Celli	Basses ‡				
Legato BC + Slur + Port LT 12										✓
Legato BC + Slur + Port LT 6										✓ ^{1,2}
Legato BC + Slur LT 12										✓
Legato BC + Slur LT 6										✓ ^{1,2}
Legato BC LT 12										✓
Legato BC LT 6										✓ ^{1,2}
09 Legato Slur + Port Power. Sys.*		1st Vns	2nd Vns	Violas	Celli	Basses †			55	
Legato Port										✓ ^{1,2} ✓
Legato Port Fast										✓ ✓
Legato Slur + Port										✓ ^{1,2} ✓ ✓ ^{1,2} ✓ ✓ ^{1,2} ✓
Legato Slur + Port Fast										✓ ✓ ✓ ✓
Legato Slur										✓ ^{1,2} ✓ ✓ ^{1,2} ✓ ✓ ^{1,2} ✓ ✓ ^{1,2} ✓ ¹ ✓ 56
Legato Slur Slower										✓ ✓ ¹ ✓ 56
10 Legato Bow Change Power. Sys.*		1st Vns	2nd Vns	Violas	Celli	Basses ‡				
Legato BC + Slur + Port										✓ ^{1,2} ✓ ✓ ^{1,2} ✓ ✓ ^{1,2} ✓ ✓ ^{1,2} ✓ 56
Legato BC + Slur										✓ ^{1,2} ✓ ✓ ^{1,2} ✓ ✓ ^{1,2} ✓ ✓ ^{1,2} ✓ 56
Legato BC										✓ ^{1,2} ✓ ✓ ^{1,2} ✓ ✓ ^{1,2} ✓ ✓ ^{1,2} ✓ 56
Legato BC Slower										✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓

* Abbreviations from the various Legato folders (above):

BC = Bow Change

Port = Portamento

✓ ✓ = both regular and “Smooth” versions are available (see page 58)

✓¹ = Marcato attacks are available (see page 58)

✓^{1,2} = Marcato and Staccato Slur attacks are available (see page 58)

LT = Light (meaning it uses fewer computer resources)

‡ = This folder does not exist for the Basses

† = This folder is called “08 Legato Slur Powerful System” for the Basses instead of “09”

Instrument Types

The following paragraphs explain some of the various types of instruments (.ewi files) available in Hollywood Strings. The principles described here apply across all sections from 1st Violins to Basses.

01 Long

The instrument types in this folder include:

- Sustain
- Détaché
- Flautando
- 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.

Détaché

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 give you a lot of control over several performance parameters:

- bow direction
- depth of vibrato (see page 42)
- choice of string, which affects finger position (see page 43)
- the number of simultaneous voices to play (see page 44)

Each of these parameters is discussed in detail before proceeding to information about the individual instruments.

Bow Direction

There are three bowings in Hollywood Strings for playing Sustain samples:

- Down Bow (abbreviated DB)
- Up Bow (UB)
- Round Robin (RR)

The Round Robin instruments include both the up and down bow samples and alternates between them to achieve the effect of a string player reversing the direction of the bow with each note.

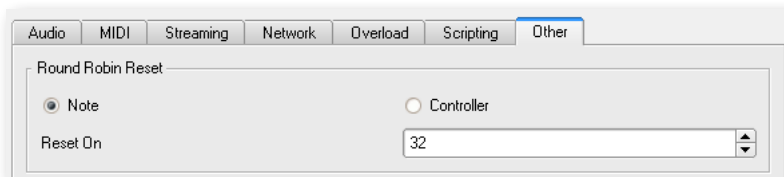
If you know that you’ll often be playing notes in some other pattern than alternating between up and down bows, you may want to open the Down Bow and Up Bow instruments as well and use whichever one best serves your purpose in that part of the score. Any

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Sustain Round Robin instrument uses the same samples as the other two bow directions combined, so you are not loading any extra samples with this approach.

As with any round robin instrument that switches between identifiable alternatives, you may want to have perfect control over which sample plays when. Here are some points to consider:

- The first sample played in a session—or after a round robin reset—is an up bow. If you want to start with a down bow, consider playing a silent note first (with whatever is controlling loudness for that patch all the way down). The first note anyone hears will be a down bow.
- Likewise, if you want two or more notes of the same bow direction, consider adding a silent note to play the alternative you do not want to hear. If you have many instances where you want to bypass the normal alternation, or if you want to hear a legato connection between the two audible notes, then it is probably better to play those notes using an Up Bow patch or a Down Bow patch instead of the Round Robin patch.



- The round robin technology does not know whether you've restarted the same piece. If a piece ends with an up bow, and you restart the piece without reopening PLAY, the next time the playback will start with a down bow, because that's next in the alternation. You can fix this problem—making each playback the same as the last—by doing a round robin reset. You can do that with the button in the Hollywood Strings UI; or, even better, you can assign a round robin reset event to a MIDI note (one out of range for this instrument) and the sequencer will do a reset each time you start playback. The image above shows the interface for setting this value in the Other tab of the Settings Dialog. Note numbers are consecutive with Middle C being number 60. The 32 shown in the image is what EastWest calls A0, a little more than two octaves below Middle C. Note that round robin resets apply only to the instrument(s) assigned to the MIDI channel that contains this MIDI event.
- If you frequently play a sequence from any arbitrary spot in the middle, you may want to place round robin reset events at important positions throughout the sequence to force a reset of which of the alternatives to play next.

If you follow the rules above, you can increase the likelihood of consistent and realistic playback.

Vibrato Depth

The depth of the vibrato in Hollywood Strings is provided in 3 levels:

- non-vibrato (abbreviated NV)
- vibrato (VB)
- molto vibrato (MV)

(The Basses were recorded with only the first 2 levels of vibrato, no molto vibrato.)

There are two different approaches used for controlling the depth of the vibrato during playback:

- The first approach links together loudness and vibrato depth: as the loudness increases, so does the amount of vibrato. And it is the Mod Wheel—not the MIDI velocity—that determines how loud the notes are played and how much vibrato is played. This linking of dynamics and vibrato is common in some styles of playing. The 3 instruments in each section that use this approach have a list of 4 vibrato depths in the name, for example “NV NV VB MV.” (In case of the basses, it’s 1 instrument with 2 depths, “NV VB.”)
- The other approach allows you to control the dynamics and the vibrato independently. The MIDI velocity and CC 11 control the loudness; the Mod Wheel controls the depth of the vibrato. To give you the extra control, PLAY loads more samples into the computer’s memory and plays back more samples at once, as is explained when these instruments are described in more detail later in this chapter. The instruments with “Sus 6,” “Sus 9,” and “Sus 13” in their names use this approach.

In both approaches, the Mod Wheel allows you to cross-fade among these samples to achieve a continuous spectrum of vibrato depth, from none to a lot. Leaving the Mod Wheel pulled down plays notes with no vibrato. As you push it up you get more and more vibrato. Or, in a sequencer, you can use MIDI Control Code 1 to make the same changes to the sound: a value near zero plays the note with no vibrato, and near 127 you hear the maximum vibrato.

Because vibrato is implemented with a control code (which is what the Mod Wheel sends), and not as separate instrument files, it is possible to change the depth of the vibrato in the middle of a note. If, for example, you want a sustained note to start with no vibrato and then have the vibrato increase at some point—which is a common technique with string players—that’s possible with all these instruments (though in the first approach, that will also increase the loudness).

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String Choice and 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). The image on the right shows an example of the Articulation listing in the Player view.



Note that each of the 4 strings is listed separately (along with the release trails from those samples, named with “RT” at the end). Each string also lists its keyswitch note: C0 to D#0. Because this instrument is a keyswitch file, it’s possible to select the string on which the note will be played with the keyswitch.

For example, if you want to play C4 (the C that’s one octave above Middle C) on a violin, it’s possible to play that on any of the first 3 strings (but it’s too low to play on the E string). Playing a keyswitch note in advance of the C4 lets you specify whether to play the note on:

- the G string, with the finger position far up the neck (closer to the bridge)
- the D string, with the finger position in the mid range
- the A string, with the finger position near the tuning pegs

The sound becomes warmer and more emotional as the finger position moves up the neck. You can feature this color by encouraging PLAY to sound the notes on string 1 (the G string), or achieve a less emotional sound by encouraging the use of a higher string. When it’s not possible to play the note on the requested string, the PLAY engine automatically moves to the next closest string on which the note can be played.

The string can also be selected with the Finger Position knob, but you have more immediate control in real time—whether playing live or through a sequencer—with the use of the keyswitch notes.

See more information about how to use keyswitches on page 67 and in the PLAY System manual. The Finger Position knob is described on page 18.

ADVANCED: In theory, the checkboxes in the Articulations control allow you to de-activate and unload the samples for any string. You are advised not to do that in these instruments unless you have an understanding of how it will affect the audio output.

The instruments that allow you to select the string (via either a keyswitch note or the Finger Position knob) include “KSFP” in the name. Those names that include “4th pos” use the fourth hand position (playing far up the neck) when possible, with no option for selecting the string during playback. This “4th pos” type of playing results in a warmer and more romantic sound than when playing closer to the tuning pegs. (Be aware that the greater number of options with the “KSFP” patches means that you’re loading more samples into the computer’s memory, which may cause problems for systems with smaller amounts of RAM.)

Simultaneous Voices

Many of the instrument names in this folder include a number: “6” or “9” for most sections or “8” for the Basses section. This digit represents the number of voices to be played concurrently, allowing CC 11 (Expression) to modify the loudness and CC 1 (the Mod Wheel) to modify the depth of the vibrato, both in real time, by cross fading between samples. See the descriptions of these instruments later in this chapter for more details.

Even though 6 or more voices are being played at once, not all of them are audible. The MIDI control codes are cross-fading between voices. For example, you may be hearing a mix of the *pp* and *mf* samples based on CC 11, and only the vibrato samples based on CC 1. If the instrument is playing 6 voices, only 2 (*pp* vibrato and *mf* vibrato) are currently audible and 4 are playing silently. If you have a powerful computer, this inaudible playback of samples should not be a problem. With lesser hardware, you may encounter problems, suggesting you need to use less taxing instruments (or buy more capable hardware).

As a rule, more concurrent voices provide more realistic real-time control over timbre at all dynamic levels and all depths of vibrato. Such real-time control—meaning the ability to change loudness, timbre, and vibrato continuously and mid-note allows you to shape the performance the way a live musician with an acoustic instrument does, breathing life into the musical lines. This capability is most noticeable in slow passages and long-held notes.

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.

For all the sections except the Basses, the name of the instrument is “Marc Sus 9 RR 4th pos.” The digit 9 indicates that 9 sustain samples start playing at the beginning:

- 3 dynamic levels for non-vibrato
- 3 dynamic levels for vibrato
- 3 dynamic levels for molto vibrato

In addition, the marcato sample plays for a short while, so, when playing one note, you will see the voices indicator in the UI show 10 voices and quickly drop to 9 where it will stay until the note is released.

For the Basses section, the name is “Marc Sus 8 RR.” It behaves the same as what is described above except there are 4 dynamic levels for each of the non-vibrato and vibrato samples—and no molto vibrato. In this case, the UI will show 9 voices, quickly dropping to 8.

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.

02 Long Powerful System

Important Note: Instruments in this folder are designed for computers that meet or exceed the specifications for recommended systems. Some of these instruments can load up to 1 GB of samples per mic position into the computer's memory. In addition, because of their size, these patches may need to be used with fewer other instruments open. If your computer has trouble rendering audio from these instruments, use instruments in the 01 Long folder instead.

The “Sus 13” instruments in this folder use the same mechanism as the “Sus 6” and “Sus 9” instruments in the 01 Long folder except that they play 13 voices simultaneously, which provides more dynamic levels available as CC 11 changes, as follows:

- 5 levels of loudness for non-vibrato
- 5 levels of loudness for vibrato
- 3 levels of loudness for molto vibrato

Of course, you can play at any loudness you like; as the number of sampled levels goes up (in this case, up to as many as 5), the timbre of the string sound changes more often as the dynamics change continuously from *pp* to *ff*, giving you a more realistic sound.

The instruments for the Basses in this folder use an approach similar to that described in the previous paragraph, but they play at most 8 samples at once:

- 4 levels of loudness for non-vibrato
- 4 levels of loudness for vibrato
- (no molto vibrato samples)

03 Short Tight

The 03 Short Tight folder and the 04 Short Loose folder contain exactly the same collections of instruments (though the names in the 04 Short Loose folder include “LS”).

The Tight instruments are more appropriate for faster passages because they include a little less of the attack, providing a cleaner start to each note. The Loose instruments include the entire recorded attack, giving them a more natural sound for slower passages in which short notes are needed.

Each of these 2 folders 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**

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

Note that, in general, short articulations do not include release trails.

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 orchestrations.

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 table above or the instrument names (for example “RRx4”) to see how many distinct samples are in each round robin.

Bartók 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 articulation, 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 horse-hair) 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), PLAY 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 Control Code 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 Control Code 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 patch 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.

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.

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

04 Short Loose

This folder contains the exact same list of instruments as 03 Short Tight, but with an “LS” in the name. See the first paragraph under the heading 03 Short Tight, starting on page 45, for a description of how the two sets of instruments differ.

05 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** – up, down, or both
- **scale** – chromatic, major, minor, or whole tone
- **control** – keyswitch, Mod Wheel, keyboard split, or none

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.

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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.

If you need a run with a range shorter than an octave, limit the length of the MIDI note so that it stops where you want it to.

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.

Repetition Runs Script

This type of instrument uses a script to determine:

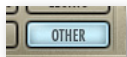
- whether the run is moving upward or downward and, therefore, direction of the slur
- the time interval between notes (to determine whether the notes should play legato)

The instrument then plays the appropriate sample to create the correct effect for each note.

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 behavior described in the last paragraph simulates the natural sound of a run on an acoustic instrument, and is the result of running a script in PLAY. 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.



EASTWEST/QUANTUM LEAP HOLLYWOOD STRINGS

- Invoke MIDI Control Code 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.

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” control code (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.

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 (CC 1 as a MIDI code) 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” control code (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 knob in the Player view or the instrument’s keyswitch. For more information on Finger Position within PLAY, see the description starting on page 18.

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 (Normal and Smooth)

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, PLAY uses 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

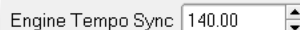
The differences among these 5 samples are subtle but provide a real sense of a run and not just individual spiccato samples played in rapid succession. This instrument cannot play a run in which any consecutive notes are more than a whole tone apart.

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 a feature of the PLAY engine known as “Tempo Sync” to align the speed of the internal beats within the measured tremolo to the overall tempo of the piece. When PLAY 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



Engine Tempo Sync 140.00

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.

06 Keyswitch

If you are not familiar with how to use a keyswitch instrument in PLAY, see more information starting on page 67 in this manual, and also the Keyswitches section in the main PLAY System manual.

Sustain Keyswitches

The lists below specify the articulations available in each section's Sustain Keyswitch files.

1st Violins

- C0 Sustain Down Bow
- C#0 Sustain Up Bow
- D0 Détaché Down Bow
- D#0 Détaché Up Bow
- E0 Tremolo
- F0 Trill Half Tone
- F#0 Trill Whole Tone

2nd Violins

- C0 Sustain Down Bow
- C#0 Sustain Up Bow
- D0 Détaché Down Bow
- D#0 Détaché Up Bow
- E0 Tremolo
- F0 Trill Half Tone
- F#0 Trill Whole Tone
- G0 Flautando
- G#0 Harmonics

Violas

- C0 Sustain Down Bow
- C#0 Sustain Up Bow
- D0 Détaché Down Bow
- D#0 Détaché Up Bow
- E0 Tremolo
- F0 Trill Half Tone
- F#0 Trill Whole Tone
- G0 Sul Ponticello

Celli

- C0 Sustain Down Bow
- C#0 Sustain Up Bow
- D0 Détaché Down Bow
- D#0 Détaché Up Bow
- E0 Tremolo
- F0 Trill Half Tone
- F#0 Trill Whole Tone

Basses

- C4 Sustain Down Bow
- C#4 Sustain Up Bow
- D4 Détaché Down Bow
- D#4 Détaché Up Bow
- E4 Tremolo
- F4 Trill Half Tone

Just as with the Sustain patches in the O1 Long folder, the two Sustain articulations in the keyswitches (C0 and C#0) respond to the Mod Wheel for specifying the depth of the vibrato: the more you push up the Mod Wheel, the more vibrato you will hear. The other articulations within the keyswitch file do not have this variable vibrato.

Note that the Down Bow and Up Bow articulations are on separate keyswitch notes; to effect an alternation between up and down bow notes, you need to use a keyswitch note every time you want the bow direction to change. There is no automatic alternation as there is in the Sus RR and the Détaché RR instruments in the 01 Long folder. If you want that automatic alternation, then you might consider using an individual Round Robin articulation file instead of this keyswitch file. (If you load two instruments that load the same sample files—as do the 1st Violins Sus RR and the 1st Violins KS CO-F#0 files, for example—PLAY is smart enough to load the samples only once, as long as the two instruments are opened in the same instance of PLAY.)

Legato Slur and Portamento: 07 (basic) and 09 (Powerful System)

These two folders of instruments include 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.

Important Note 1: Instruments in the folder 09 Legato Slur and Portamento Powerful System are designed for computers that meet or exceed the specifications for recommended systems. Some of these instruments can load up to 1 GB of samples per mic position into the computer's memory. In addition, because of their size, these patches may need to be used with fewer other instruments open. If your computer has trouble rendering audio from these instruments, use instruments in the 07 Legato Slur and Portamento folder instead.

Important Note 2: Hollywood Strings divides its legato instruments into two folders based on whether or not bow change legato is included. If you want to include bow change legato, look in folder 08 Legato Bow Change or 10 Legato Bow Change Powerful System. One reason for separating the patches this way is that bow change legato is not included in the Gold Edition.

Note that the Basses include only 2 kinds of legato instruments:

- Legato Slur
- Legato Slur Slower

Therefore, the descriptions of other legato styles below apply to 1st and 2nd Violins, Violas, and Celli only.

The basic types of legato provided in Hollywood Strings are played with:

- Bow Change
- Portamento
- Slur

And some of the instruments include more than one of these techniques, for example:

- Legato Slur + Portamento
- Legato Bow Change + Slur + Portamento

Where faster and slower alternatives are available, consider using the faster version at higher tempos and slower versions at lower tempos. These options let you create lines

that mimic what happens naturally with acoustic instruments. Longer legato transitions let slow music breathe more.

Before discussing the various among the types of legato playing, note that many of these instruments include many, many samples. For example, the portamento legato samples for just the one note C4 in the 1st Violins are actually 24 different portamento samples: 12 rising to C4 from all notes within an octave below, and another 12 descending. Therefore, it can often take significantly longer on some computers to open one of these instruments from the Browser than other, smaller instruments.

Round Robin Legato Instruments

For every instrument in the folder 07 Legato Slur and Portamento, there is a corresponding version with “RR” in the name. These are Round Robin versions that alternate between an Up Bow sample and a Down Bow sample. (The non-RR versions use only Down Bow samples.)

When using these Round Robin patches, consider using the Round Robin Reset MIDI event to force a Down Bow start to the alternation in each new section of your piece where you use one of these patches. This precaution ensures consistency of playback.

Note that these RR instruments are not listed separately in the table above; just know that every instrument in this folder (as well as the 08 Legato Bow Change folder) also has a Round Robin version.

Monophonic Behavior in Legato Instruments

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 glides between notes in different polyphonic voices. If so, one remedy is to move those two voices to separate MIDI tracks.

Portamento and Slur Legatos

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.

Note that Portamento is sometimes available in two speeds: normal and fast. You may decide to use one or the other based on the tempo of the piece or the effect you want to achieve.

Those legato patches with Portamento or Slur in the name include a sampled slide from one note to the next. This slide in pitch between the two notes only occurs to a maximum of one octave. For example, if two consecutive notes in a phrase are A4 and A5, the portamento is played, but from A4 to A#5 it is not.

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.

Simple (Non-combination) Legato Instruments

For all Legato instruments that do not combine multiple techniques, the MIDI Velocity parameter controls the speed with which PLAY transitions from one note to the next. The softer you play, the longer and more expressive each legato transition is (good for slower passages). And playing the notes with more force speeds up the transitions (good for fast passages). For expressive and slow legato performances, a velocity of around 50–60 works well. For fast passages, play the string parts with a velocity of 110–127.

In these instruments, velocity does not affect loudness.

Combination Legato Instruments (Slur + Portamento)

This section describes the parameters that PLAY uses to change from one kind of legato to another within a single instrument.

Slur + Portamento: In this patch, the MIDI velocity controls the speed of the interval; the smaller the Velocity (in its range from 1 to 127), the more slowly the pitch moves from one note to the next; faster transitions use more of a slur while slower transitions are a full portamento with a very audible slide in the pitch from one note to the next. Because of that use for Velocity, you cannot use Velocity to affect dynamics; use CC 11 instead. Because CC 11 cross-fades between dynamic layers, you can change loudness and timbre in the middle of a note. In addition, the Mod Wheel (CC 1) controls the vibrato for the sustained portion of the note.

The behaviors described above are the default behaviors in which PLAY is using scripts to decide which samples to use. If you want more control of which notes use Bow Change and which use the Slur or Portamento, then click on the Other button in the Player view to turn it off; then use MIDI Control Code 14 instead. If CC14 is in the range 64–127 you will hear bow change samples; in the range 0–63, the slur or portamento samples. You can create a CC14 envelope in a sequencer or assign that MIDI Control Code to a slider or knob you plan to operate manually.

“Smooth” Instruments

For those instruments with “SM” in the filename, the legato transitions sound more smoothed out, but at the expense of some expressiveness. This sound is achieved with changes to both the start time and the envelope to reduce some of each note’s attack. This sound is most useful in slow legato passages.

Legato with Marcato, or with Slur Staccato

These instruments add a Marcato or 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.

The difference between the Marcato accent and the Slur Staccato attack is subtle, so audition them both to see which works better in the style you want.



Note that you can change the strength of the accent by adjusting the dynamic level of the various components in the Articulations control in the Player view. The image at the left shows the loudness of the Marcato accent increased by the maximum amount, 12 dB, relative to the other components of the note. Or you can turn it off

temporarily with the Active checkbox in order to see whether you like the accent at all.

In the 7 Legato folder for all sections except the Basses, these versions with the start-of-phrase accents are available on the various Legato 6 LT instruments, not on the Legato 12 LT instruments. The Basses have a Marcato accent (but no Slur Staccato accent) on both the Legato Slur LT 7 patch and the Legato Slur Slower LT 7 patch.

In the 8 Legato Powerful System folder for all sections except the basses, these versions with the start-of-phrase accents are available on some of the various Legato instruments, but never the “Smooth” instruments. The Basses have a Marcato accent (but no Slur Staccato accent) on both the Legato Slur patch and the Legato Slur Slower patch.

Legato Bow Change: 08 (basic) and 10 (Powerful System)

These two folders, which are available only in the Diamond Edition, contain the legato patches that include bow change, either on its own or in combination with slur legato and/or portamento legato. In earlier versions of Hollywood Strings, these patches were in the same folder with the other legato patches but were moved into their own fold when the Gold Edition became available.

Bow Change 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, PLAY decides which of the components to play based on the MIDI data, as described in detail in the Combinations section below.

Combination Legato Instruments (with Bow Change)

This section describes the parameters that PLAY uses to change from one kind of legato to another within a single instrument. For combination instruments that do not include bow change legato, see the description above, starting on page 57.

Bow Change + Slur: For this instrument, slower tempos use the bow change samples while faster tempos use the slur samples. And legato transitions are also shorter or longer depending on the speed of the passage. The tempo is detected with a script that calculates the time between consecutive notes. When notes are played with a MIDI Velocity at the high end of its range, close to 127, tempo detection is temporarily turned off and those notes play with the fastest slur possible.

As a general rule, if you're playing eighth notes (quavers) at a tempo of about 70 bpm or higher, you'll hear the slur samples; below that you'll hear the bow change samples.

Bow Change + Slur + Portamento: This instrument is the same as **Bow Change + Slur** above, except that any note with a MIDI velocity 1–50 (within the 1–127 range) is played with the portamento samples instead of the slur samples.

Round Robin Legato Instruments

For every instrument in the folder 08 Legato Bow Change, there is a corresponding version with “RR” in the name. These are Round Robin versions that alternate between an Up Bow sample and a Down Bow sample. (The non-RR versions use only Down Bow samples.)

When using these Round Robin patches, consider using the Round Robin Reset MIDI event to force a Down Bow start to the alternation in each new section of your piece where you use one of these patches. This precaution ensures consistency of playback.

Note that these RR instruments are not listed in the table above; just know that every instrument in this folder (as well as the 07 Legato Slur Portamento folder) also has a Round Robin version.

11 Legacy

When EastWest and Quantum Leap introduced update 1.0.2 to the Hollywood Strings library, a large portion of the instruments were created in a second form, with a feature known as “Niente” that permits access to very soft dynamics. This feature is described in detail starting on page 34. In the next release after 1.0.2, the versions of these instruments without Niente were moved to the 11 Legacy folder. They are retained to provide backward compatibility for projects that already include these older instruments, but EastWest recommends using the newer instruments (ending in “Ni”) in all new projects.

Full Strings

Each instrument in this folder covers the full range of the string orchestra in what is, in effect, a single patch. PLAY does this by loading four or more instrument types at once—together called a “multi-instrument,” or just “multi”—and assigning the MIDI channel to Omni (which means that they all respond to MIDI data on all channels). This approach allows you to play the full string orchestra from a single MIDI keyboard. If you want to change all the channels to a specific number, for example, all to channel 3, you can do so.

The table below lists the Full String instruments, which are divided into 2 folders: Long and Short. A checkmark in a cell means that an instrument from the specified section is opened when you choose this multi-instrument. And also:

- “CL” in the cell means that, in addition, the Col Legno patch is opened for this section.
- “Slur” means that a slur is included only for this section.

INSTRUMENT OVERVIEW: FULL STRINGS					
Long	1st Vns	2nd Vns	Violas	Celli	Basses
(Sus) + 1st Violins Legato	✓		✓	✓	✓
(Sus) + 2nd Violins Legato		✓	✓	✓	✓
(Sus) + Violoncelli Legato		✓		✓	
(Sus) 1 NV NV NV VB RR		✓	✓	✓	✓
(Sus) 2 NV NV VB VB RR		✓	✓	✓	✓
(Sus) 3 NV NV VB MV RR		✓	✓	✓	✓
Tremolo		✓	✓	✓	✓
Trills KS A#-1 B-1		✓	✓	✓	✓
Short	1st Vns	2nd Vns	Violas	Celli	Basses
Pizzicato		✓	✓	✓	✓
Spiccato Marcato MOD		✓	✓	✓	✓
Spiccato Marcato MOD Col Legno		✓	✓	✓ CL	✓ CL
Staccato Marcato MOD		✓	✓	✓	✓
Staccato Slur Marcato MOD		✓ Slur	✓	✓	✓

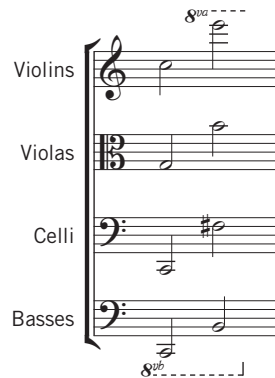
EASTWEST/QUANTUM LEAP HOLLYWOOD STRINGS

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:

- C4–E6 Violins
- G2–B3 Violas
- C1–F#2 Celli
- C0–B0 Basses

You can see the exact position of the break by looking at the on-screen keyboard for the component instruments.

Using any of these patches, it's possible to “play” the full ensemble in real time at a keyboard. None of these patches gives you as much control over articulations as the individual instruments from the other folders, but when you want to have the whole string ensemble at your fingertips (literally) these patches provided unparalleled usability.



Notes on the Full Strings Patches

All the component instruments are selected from the individual instruments described elsewhere in this chapter and grouped into these multis. If you want more detail about the instruments and how to use them, look for that information where the individual patches are described.

Be aware that the Full String Trill instruments list a keyswitch with 2 keyswitch notes:

- A#-1 for a half-tone trill
- B-1 for a whole-tone trill

But the Basses include only a half-tone trill, so they do not respond to any keyswitch notes.

The multi called “Full String Spiccato Marcato MOD plus Col Legno” opens not only the Spiccato Marcato MOD patches for all 4 sections but also the Col Legno patches, though only for the Celli and the Basses. And the Celli Col Legno plays for notes up to G4. This layering of the Col Legno sound adds punch to the attacks of these notes.

Special Legato Full String Patches

The first three patches in the Full Strings table above provide a single section with a legato instrument while the rest of the string orchestra plays with the same kind of Sustained patches heard elsewhere in the Long folder for the Full Strings.

The Sustain instruments opened with these Special Full String patches behave in the same way with regard to vibrato depth as those named “NV NV NV VB”; that is, the Mod Wheel controls both loudness and vibrato, but without the use of Molto Vibrato. For information about the “Legato Slur” instruments, see page 56.

The intent of these patches is to provide a range of notes that can play a legato melody with the rest of the string orchestra providing a sustained accompaniment.

(Sus) + 1st Violins Legato

Selecting this patch in the Browser opens a Sustained instrument for the Violas, Celli, and Basses. The 4th instrument is:

- 1st Violins Legato Slur LT 6

(Sus) + 2nd Violins Legato

Selecting this patch opens the same instruments as listed above, except that instead of a legato 1st Violins section, the 4th instrument is:

- 2nd Violins Legato Slur LT 6

(Sus) + Violoncelli Legato

This patch takes a different approach from the other two in this section. In order to give the Celli more of a range, there is no Violas section; the Celli play notes up to B3. And the 2nd Violins start on the next note up: C4. Also, note that there is no Basses instrument in this option; the bottom playable note is the C1 at the bottom of the cello range. The legato instrument is:

- Celli Legato Slur LT 6

The Quick Start Instruments

The Quick Start instruments are a folder of patches from all sections (1st Violins down to Basses) that are designed to load quickly and use less of the Computer resources than the similar patches in the other folders. You might use these instruments:

- If you're using a computer with the minimum of required RAM and you have problems loading the larger instruments.
- If you're doing a quick sketch and are not worried about getting the most perfect orchestral sound, such as when playing with ideas during the composing phase. Your project will load faster and get you into your work right away.

These are mostly patches with only 2 dynamic layers. They all have the Mid microphone loaded by default. There are some instruments that only appear in the “_HS Quick Start” folder, while others are doubles from the library, that differ only in having the Mid mic on by default.

Those instrument names with an asterisk (*) are newly created for this folder. But the principles are the same as in other similarly named patches, so read about how to use them in the appropriate sections. Those with no asterisk are identical to patches in other folders except that the Mid microphone is loaded by default.

The following table lists the instruments in this folder. A check mark means that the instrument is included for the section name at the top of the column.

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INSTRUMENT OVERVIEW: QUICK START INSTRUMENTS

	1st Vns	2nd Vns	Violas	Celli	Basses
Legato Slur LT 3 Ni	✓	✓	✓	✓	✓
Pizzicato 3 RRx4 *	✓	✓	✓	✓	✓
Slur Runs LT	✓				
Spiccato Marcato MOD	✓	✓	✓	✓	✓
Staccato Slur	✓				
Sustain 2 NV VB *	✓	✓	✓	✓	✓
Sustain 2 VB VB *	✓	✓	✓	✓	✓
Tremolo 2 *	✓	✓	✓	✓	✓
Trill 2 HT WT *	✓	✓	✓	✓	
Flautando		✓			
Harmonics		✓			
Col Legno RRx4					✓
Trill 2 HT *					✓



PLAY

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- 67 Prepping the MIDI Controllers**
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- 70 Volume, Velocity, and Expression**
- 72 MIDI Envelopes and Control Data**
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- 74 Achieving a Legato Sound**
- 74 Controlling Vibrato**
- 75 Divisi Instruments**
- 76 Directing the Audio Output**
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Orchestral Technique in Hollywood Strings

This chapter discusses ways to use EastWest/Quantum Leap Hollywood Strings to achieve the traditional sound of a studio string orchestra. The first section is advice from the producers about setting up templates.

Setting Up Templates

An ideal way to work with a string orchestra of this size is to set up templates once you have gotten to know the sounds and how all the features of PLAY work. You might, for instance, have a comedy template that has a lot of staccato articulations, pizzicato, and percussive string playing (such as col legno); and/or an epic template that has a lot of legato ensemble programs. Obviously, the more computers you have and/or the more capable the computers, the bigger your templates can be.

One thing to keep in mind when setting up a template is that you should always try to keep articulations that might use the same samples in the same instance of PLAY. For example, the MOD Combo called

- 1st Violins Spic Marc MOD.ewi

uses the same list of samples as these two:

- 1st Violins Marc Shrt RRx4.ewi
- 1st Violins Spic RRx9.ewi

Therefore, if you open the first instrument and either of the two (or even both), you're not loading any extra samples beside what is in the first one, as long as they're in the same instance of PLAY.

Likewise, keyswitches load the same patches as the referenced individual patches. Therefore, if you open both, it's best to open them in the same instance.

Once you have decided on what patches will go inside your template and have made sure they will all fit into your available RAM, you should load everything and save the setup for each instance of PLAY to its own .ewi file or, if you have multiple instances of PLAY loaded inside a sequencing program or VST host, it is as simple as saving the sequence or VST host file. This will remember everything inside. If you are using multiple computers, make sure you have created a track in your sequence for every program on every computer.

One last thing to consider when deciding which computer will load which sounds is the amount of work each computer will have to do. Make sure to spread the sounds that you use most onto different computers so one computer doesn't end up carrying a majority of the load.

Remember that if you're running Hollywood Strings on more than one computer concurrently, you will need an iLok security key and a license for each computer.

The next stage is crucial and highly subjective. EWQLSO responds to two different volume controllers: CC7 (volume) and CC11 (expression). It is highly recommended you record a CC7 message at the beginning of every track. Spend some time to set the initial volume of every track at a level in natural balance with the rest of the orchestra. This is tricky and will never be perfect, but the more time you spend the less hair you'll lose later. If you will be using Hollywood Strings exclusively, the balance of section is easier than if you're bringing in other, non-string instruments. If, for example, you're using the winds and percussion of EWQLSO, then start by playing the timpani, horns, and big string ensemble really loud and at the same time; that will give you a reference of what the loudest passages will be like. Together, they should be at least 3 db below 0. Then adjust the other instruments to blend with these loudest instruments.

It's recommended you not use MIDI volume (CC7) for any other purpose than this initial volume setting. Use CC11 to change volume and breathe life into your compositions. This way, CC7 acts as a limiter and keeps everything from getting out of whack. Also, you can easily change the prominence of an entire track in the mix by adjusting this single CC7 level at the start of the track.

At this point, you should save the sequence before moving on. Then go to your matrix editor (or whatever it's called in your sequencer) to set up windows that display CC7, CC11, and CC1 (Mod Wheel) information. You will be editing these last two a lot, so it's a good idea to make these windows easy to access. Save your templates and you're ready to go.

Opening Multiple Instances of PLAY

With the PLAY 2 software, it's possible to open more than one instrument in each instance you run—and this is true whether running PLAY in standalone mode or within a host. But there are often compelling reasons for spreading instruments across multiple instances. (An "instance" is each open window running PLAY. So, if, for example, you see exactly 3 PLAY windows inside your sequencer—or on your desktop when running standalone—then you have opened 3 instances.)

The main reason for opening the PLAY software more than once—especially when using PLAY as a plug-in within a sequencer or other host—is to be able to take full advantage of the multiple cores available in today's high-end computers. If, for example, your computer's CPU has 4 cores, then each of the 4 cores can be independently running separate parts of the software, each part called a "thread."

Sequencers typically assign all the processing in any given instance of a plug-in to a single core. So, in one case, if you load all your instruments into a single instance of PLAY, the work of running all those instruments will be restricted to a single core, which is less efficient than spreading the work across all the cores. But, in another case, if you create at least as many instances of PLAY as there are cores in the CPU, the sequencer

can assign the instances across all the cores, which most likely means you can open more instruments and play them back without problems.

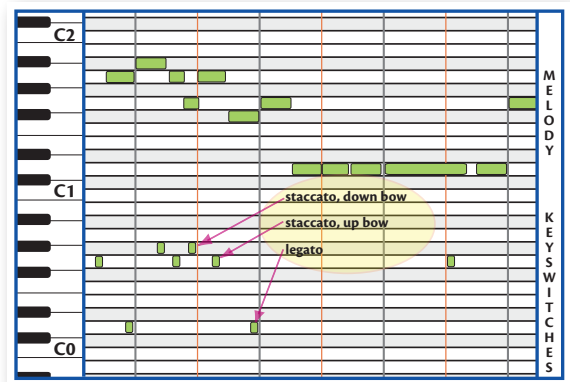
As a general rule, if you're using more PLAY instruments than you have cores in your computer, then it's best to open at least as many instances as you have cores. Let's say you have a 4-core computer and are planning to open 10 PLAY instruments. You could open 4 instances of PLAY and spread out the patches 3, 3, 2, and 2 per instance. Or you could open 10 instances with one instrument each. Or some arrangement in between. The exact arrangement that's best for you depends on which instruments, how consistently each is heard through the piece, the complexity of the instruments (cross-fades are often using more CPU resources at once than other patches), and other factors. If you come up with an arrangement in which each instance is using about the same number of voices as the other instances, then you're likely using your instances efficiently.

Prepping the MIDI Controllers

It is recommended that you tell PLAY what MIDI Control Codes to look for by sending some Control Code messages after loading the patches and before the first notes are played. When playing live, that can mean tweaking each of the knobs, sliders, and wheels enough to send some data to PLAY. In a sequencer, you can draw a short sloped envelope for each controller before the first notes. This advice applies to the Mod Wheel (CC 1), CC 7, CC 11, CC 22, and any other Control Codes in your project.

Keyswitch Instruments

Sometimes one instrument needs to play different articulations within a single phrase. For example, some of the notes might best be played legato, and others staccato. While it's possible to put all the staccato notes in one MIDI track, all the legato notes in another track, and then assign a staccato instrument to the first track and a legato instrument to the second track, there are many reasons that's awkward. Keyswitch instruments can often—though not always—simplify the work.



Assume a hypothetical keyswitch file that includes these notes among the switches:

- D0 assigned to legato
- G0 assigned to staccato, up bow
- G#0 assigned to staccato, down bow

Then you can set up your tracks to look like the diagram on the previous page. This drawing above is of a Piano Roll, a view available in most sequencers.

The short notes at the bottom are the keyswitches. They are below the range of the instrument, so they do not make any sound. Notice that these notes are slightly before the note they are intended to affect. The first note in the melody (an A) is preceded by the note that means “staccato, up bow,” the very short G0 near the beginning. Then, before the B-flat plays, there’s a D near the bottom that means “play the next note(s) legato.” That’s followed by several notes that alternate between “staccato, up bow” and “staccato, down bow.”

The second D near the bottom causes not only the G above it to play legato, but also the first 4 D’s in a row. A keyswitch remains in effect until another keyswitch is set; in this case, the final G0 stops the legato, and causes the last D and G to play “staccato, up bow.”

The exact position in time and the duration of the keyswitches are not important. And their note-off events are ignored. Just make sure the start of the keyswitch is before the first note it is supposed to affect, but after the start of the last note of the previous articulation (if any).

Try to work with these collections when you can, but sometimes you have to break a musical line across two separate MIDI channels, and assign a different articulation to each track.

Creating a Soundscape

Whether listening to an orchestra live on a stage or from a stereo recording, we’re all used to hearing the sounds of the various instruments coming at us from different directions. In a traditional symphonic layout for the strings, we expect the violins to be on our left, and the cellos and basses on our right. There are two reasons we might want to continue this practice. The first is to trick the listener’s ear into perceiving a recording of a live performance. Even when everyone understands that the piece was created inside a computer, emulating a traditional sound can have its benefits. The second reason is that it’s easier for the human ear to hear two similar sounds as separate when it perceives them as arriving from different locations. If the second violins and the violas are doubled, or even playing an octave apart, they will stand out from each other better when they seem to be in separate locations in the soundscape that surrounds us.

Panning

As was done with EastWest’s ground-breaking Symphonic Orchestra, Hollywood Strings is different from most other collections of orchestral samples in that the panning of the various instruments to the traditional locations on the sound stage is built in to the stereo samples. The double basses, for example, are already louder in the right channel. Therefore, one can leave the panning level at “center” for all instruments and they will be correctly placed on the stage in the final mix. Of course, if you want to adjust the panning to achieve your own sound and/or a non-traditional placement of instruments, that can be accomplished either in the PLAY interface or in the host sequencer.

ADVANCED: The previous paragraph has one exception: the Close microphones. These samples were recorded with the stereo mics directly in front of each instrumental section. The Close mic articulation uses the Pan control to move the playback of those samples to the same perceived space as the Main, Mid, and Surround samples. The diagram at the right shows the 4 microphone-specific Pan controls for one of the Double Bass articulations. The bass players sits on stage way to the audience’s right. This image shows the way the file opens with no user changes. Note that the Main, Mid, and Surround Pan controls are in the center because those samples were recorded with the stereo mics centered at the center of the studio; no panning adjustment is necessary. The Pan control for the Close mics (at the far left) is turned to the right so that when all four sets of samples are played together the sound cues position the basses in a consistent location.



The “spread” of the sections in Hollywood Strings is smaller than in Symphonic Orchestra. If you want a wider feel, you can pan the instruments a little to achieve that effect.

Note that the natural panning within the Hollywood Strings samples has one subtle feature that reverb plug-ins do not offer: correctly timed reflections from all surfaces. To understand this concept, consider a double bass player who is 5 meters from the wall to our right and 45 meters from the wall to our left. We are seated half way between the walls. The reflection from the right wall, which will be louder in our right ear, travels 30 meters (5 plus 25); the reflection from the left wall, louder in our left ear, travels 70 meters (45 plus 25). That 40-meter difference means that the reflection arrives in our right ear approximately one-ninth of a second sooner than in our left ear, a significant difference. And the other instruments all have their characteristic left/right delay based on where they sit on the stage. It is impossible for a single digital reverb to achieve that level of realism.

Proximity Clues

Panning left or right is not the only way to separate instruments. It is also possible to move them forward and backward. This can be achieved in three ways:

1. Dynamics relative to timbre
2. Delay
3. Presence

1. When most musical instruments change from being played louder to softer the timbre of the sound changes. Even if you let someone else adjust the volume control on your stereo, you can still tell whether the cello you’re hearing was played loud or soft based on the instrument’s tone; most instruments have a harsher sound when played louder. So, in an orchestral mix, if the cellos seem to be played loud, but the volume level of that instrument compared to others is softer, then the ear assumes the cellos are farther away. Adjusting independently the timbre—with velocity parameters and/or a cross fade using the Mod Wheel or CC 11—and the volume of the sound, you can move individual instruments forward or backward.

2. Because sound travels at a fixed speed of approximately 340 meters per second (1100 feet per second), the ear uses very small time delays to judge relative distance. If two violins play pizzicato notes simultaneously, and one is 15 meters (50 feet) further away, the note from the more distant violin arrives 0.044 seconds later. That's about one twenty-third of a second, a short time but noticeable to the ear. It's very easy in a sequencer to delay a track by a specific time—either with a Delay plug-in or by shifting the notes in the sequencer's Piano Roll view—and thereby achieve this effect.

3. As discussed in the section covering the 5 mic positions, the farther you are from an instrument in a concert hall the more the natural reverberation of the hall contributes to what you notice. (You still hear the echoes from the walls when you're close by; you only notice them less because of how loud the instrument is. It's harder to hear the crinkle of a cough drop wrapper standing near a roaring jet engine than in a hushed concert hall, even though the wrapper makes the same sound.) This “presence” of the sound is another distance clue. Mixing in more of the Close samples for an instrument makes it seem closer to the listener.

By combining all three principles, you can achieve quite convincing front/back positioning in your string orchestra mix. Giving the ear contradictory signals can confuse it, achieving either a good or bad effect, depending on your intentions.

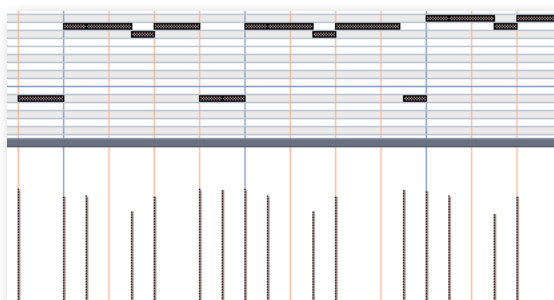
And then, of course, there's multi-channel surround sound, but that discussion is out of scope in this section.

Volume, Velocity, and Expression

There are at least three ways to make a sampled instrument sound louder, or at least make the real instrument seem to have been played louder. The skilled MIDI orchestrator uses all three.

Volume is just the loudness of the generated sound. Changing volume is basically the same as turning the volume knob on your audio system. The 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. Even un-natural sounds can be created, such as a crescendo for a single pizzicato note.



And, as with a live orchestra, the various instruments are changing their loudness independently, something you cannot do with the stereo's loudness knob.

Velocity, a term based on how strongly a keyboard player hits the keys, controls how forcefully the note is played. Adding force changes not only the loudness of the notes, but usually also changes the

notes' timbre. With a piano's action, the velocity cannot affect what happens to the

sound after the hammers hit and leave the strings, and velocity works the same way here. In the current implementation of MIDI, velocity is usually designated by a number between 0 and 127. Many software sequencers display velocity as vertical bars, something like those at the bottom of the image above.

Most modern sample players, PLAY included, can play different samples for different ranges of velocity. For example, the team creating the samples record Middle C with the violin section for *pp*, *p*, *mp*, *mf*, etc. The team then assigns the *pp* samples to, say, velocities 0–25, the *p* samples to velocities 26–45, and so on. Because each dynamic level of a violin has its own timbre, a note’s velocity can affect not only its loudness but also its timbre.

Velocity changes are, therefore, a much better way than volume changes to achieve natural-sounding dynamics. The disadvantage of velocity is that it cannot be changed mid-note. Using loudness and velocity together gives the orchestrator more control over all aspects of dynamics.

In MIDI, velocity is an attribute of the Note-On message; it can only be transmitted at the onset of a note. Volume, in contrast, is a control code (CC7); it can be transmitted at any time.

Expression is represented by another MIDI control code: CC11. The usual way to use CC11 is for continuous control of the loudness. That is, while Velocity cannot change mid-note, and it is recommended that CC7 be set only once at the beginning of the piece—or at least only at the start of major sections—CC11 can provide the kind of dynamic shaping of notes that give music its expressive life (hence the name “Expression” for this Control Code). Use it to create swells in the middle of a note or of a phrase. With CC11, you create the crescendos and fluid dynamics of expressive music.

In Hollywood Strings, CC11 is often used to control cross-fades—especially when the Mod Wheel is already being used to control some other aspect of the notes, such as the depth of the vibrato. In these cross-fades, CC11 still provides the same continuous control of loudness that was described above, and it also controls timbre. In such a cross-fade, Velocity is usually turned off; that is, the selection of which dynamic layer should provide the samples is taken away from Velocity.

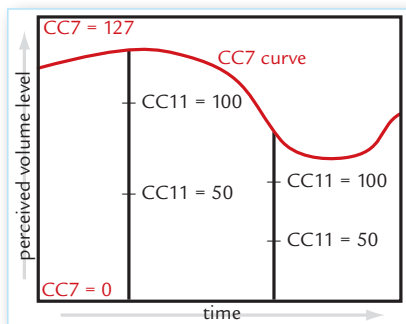
In a CC11 cross-fade, all the dynamic layers (for example, *pp*, *mp*, *mf*, and *ff*) play at once and CC11 controls how much of each to mix into the output. In this approach both the loudness and the timbre change continuously and together, giving a much more realistic sound. You will generally find CC11 cross-fades on those Hollywood Strings instruments that can benefit from mid-note changes in dynamics because they are often held for long times.

It is possible to shape the dynamics of a line either by “playing” a CC11 controller in real time, or by drawing an envelope in a sequencer. Most MIDI keyboards and control surfaces have programmable knobs and/or sliders that can be set to send CC11 messages to a specific MIDI channel. (Sliders are generally more sensitive for real-time control.) If your sequencer supports automation, it can record the movements of the knob or slider

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and save them as part of the project. Such manual and real-time control over the shape of an instrumental line is usually more efficient than drawing in an envelope, and often achieves more convincing results.

EastWest's choice to use CC11 allows CC7 (volume) to be used in other ways. The usual convention is to use the volume slider in your sequencer to adjust the overall volume level of each track in the mix.

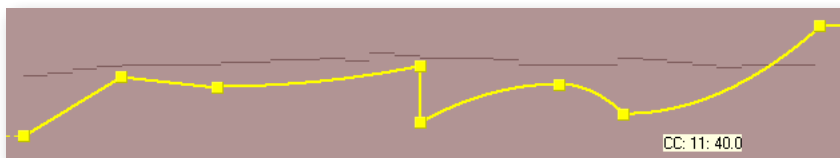


Although the volume and expression controls can be adjusted separately, the volume setting does change how expression affects perceived volume. Think of CC7 as setting an upper limit on the dynamics at any moment. Expression, like most continuously changeable values in MIDI, takes values between 0 and 127. CC7 specifies how loud a sound to generate for the maximum expression, 127. The diagram seen here shows that when volume decreases the fixed changes in expression represent smaller changes in perceived loudness. Changing from an expression level of 50 up to 100 represents a smaller change

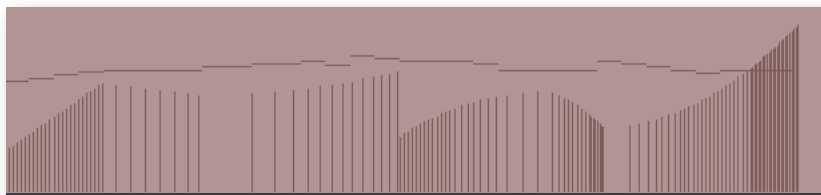
in loudness when the volume control (CC7) is reduced.

MIDI Envelopes and Control Data

Most modern sequencers let you draw an envelope for MIDI control codes. The diagram below with the yellow curve is an example of an envelope for CC11. Notice how the values are constantly changing, the same way a cello player adds musicality and interest to a phrase by changing the bow's pressure on the strings moment to moment. (The dark horizontal lines near the top are the notes.)



When saved as MIDI data, this same envelope appears as a finite set of commands, as in the next image. In a sequencer track, these often appear as vertical lines, each line being a command to change the value—in this case to change CC11.



The other way—and many say it's the better way—to send CC11 events to the sample player is with a MIDI controller, either a keyboard or a control surface. As long as you or your group has an extra hand—or foot, if you use a pedal—you can enter these control codes while playing the notes into the sequencer. This allows you to hear the interchange

among the notes, their velocities (how hard you're hitting the keys), and the expression being added with CC11.

This process can also be done in two passes—notes first, then control data—if your setup allows you to record automation data to a track that already contains other MIDI data.

Everything written about CC11 in this section also applies to CC1 (Mod Wheel) and all other MIDI control codes. Learning to shape musical lines the same way an instrumentalist does will give your work a more natural musicality. By combining velocity control, expression, Mod Wheel, and volume, you change digital samples into real, living music.

Using Cross-Fades

Hollywood Strings makes extensive use of cross-fading, more than any EastWest library that was created before it.

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 some MIDI control code. Traditionally, that has been Control Code 1 (the Mod Wheel). Hollywood Strings uses these Mod Wheel cross-fades even more often and now with a second option: Control Code 11 (Expression).

Part of the reason for using more cross-fades is that they provide a more continuous and gradual change from one sound to another. Also, they modify timbre along with loudness, even mid-note, just like an acoustic instrument. And a third reason for using more cross-fades in this library is that recent improvements in hardware and software make this much more realistic approach possible.

In Hollywood Strings, look for cross fades in articulations that can be sustained, such as

- the basic sustain programs
- tremolos
- legato instruments
- the sustained notes in playable runs

and also instruments where you can move between 2 or more short articulations, as in the MOD COMBOS folders.

The only real reason not to use cross-fade instruments as often as they'd be useful in your projects is that they use significantly more of your computer's resources. For example, the instruments in the "02 Long Powerful System" folder are there because each one uses cross-fades with 13 simultaneous voices for each note (8 voices for the Bases). The instrument responds to both the Mod Wheel to affect the depth of the vibrato and, independently, CC 11 to affect the loudness. And at any one time many of those voices are playing silently but still using computer resources.

By contrast, one of the smaller instruments, in the “01 Long” folder,

- 1st Violins NV NV VB MV RR.ewi,

still uses a cross-fade, but plays only 4 simultaneous voices. This patch gets away with fewer voices because it links loudness and depth of vibrato; the louder you play (by moving up the Mod Wheel) the more prominent the vibrato. The point is that in Hollywood Strings even the smaller instruments might be using cross-fades, just with fewer concurrent voices.

Achieving a Legato Sound

There are two different technologies available in Symphonic Orchestra for achieving a legato sound:

- the instruments in any of the Legato folders
- the Legato and Portamento scripts

The Legato instruments in Hollywood Strings include recordings of live musicians playing legato transitions of up to an octave, both upward and downward. The PLAY engine combines these seamlessly with other notes to create very convincing legato passages. These legato transitions are heard not only in instruments you might use for flowing legato phrases, but also in the playable runs that are intended for very fast passage work.

And you have control over what kinds of legato you want to hear when using instruments from the Legato folders:

- **Bow Change** legato samples the bow reversing direction without leaving the string.
- **Slur** legato provide a bit of the pitch slide between notes in a phrase, without you hearing the slide up or down the whole interval.
- **Portamento** legato lets you hear most or all of the continuous pitch slide between the two notes.

Use the legato instruments when you want a convincing legato sound in your phrases and you don't need some other articulation to predominate. The individual legato instruments are described starting on page 55.

The Legato and Portamento scripts can simulate legato transitions with scripts. Therefore, they are useful when you want a touch of legato sound between notes for some other articulation, such as between consecutive trills or marcato notes.

See more about these scripts where Performance scripts are described, such as page 67.

Controlling Vibrato

Vibrato is the rapid fluctuation in the pitch of a note—usually less than a semitone—caused by the instrumentalist moving or rocking the finger that presses the string to the fingerboard. Vibrato playing gives the note a warmer and less flat sound than the same note played non-vibrato.

In Hollywood Strings, control of the vibrato is available for instruments that can be held indefinitely. The shorter notes in the other folders generally are not held long enough for

vibrato to be heard. But note that vibrato control is available for sustained notes in the playable runs. When vibrato control is available, it is the Mod Wheel (also called CC 1) that controls the depth of the vibrato. With the Mod Wheel all the way down (at or near a value of 0) the note is played non-vibrato. As you push the Mod Wheel up (increase CC 1), the depth of the vibrato increases.

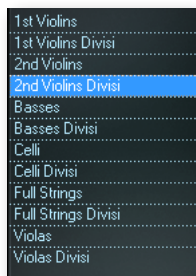
String players sometimes change the amount of vibrato they apply over the course of a long-held note. Using the Mod Wheel to vary the vibrato—for example, waiting a second or two into the sounding of a single note to start the vibrato—can add the kind of realism not available by other means.

The typical vibrato-capable articulation in Hollywood Strings can play at three levels of vibrato, roughly corresponding to the bottom, middle, and top of the Mod Wheel's range. The instruments that respond with variable vibrato all employ cross-fades, meaning that the change from one level to the next is a smooth transition. For example, pushing the Mod Wheel one-fourth of the way up gives you some vibrato, but less than at the midpoint.

Divisi Instruments

It 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.



All the instruments in Hollywood Strings also have corresponding divisi instruments that end in “Div A” and “Div B.” They appear in separate folders in the Browser, as shown in the image at the left.

The Divisi instruments include only Close mics because anything further away would capture both halves of the section. For the other mic positions in your projects, include the same articulations (in their non-divisi versions) and adjust the loudness. You can mix the divisi Close mics and the other non-divisi mics without problem because all the samples were recorded simultaneously in the studio and are phase-locked.

Directing the Audio Output

The output from PLAY is one or more stereo audio signals. The image at the right shows 9 stereo pairs of outputs in the drop-down list from the Master Output control. Each instance of PLAY has its own outputs separate from those of every other instance.

- First Synth Audio Output
- All Synth Audio Outputs: Stereo
- All Synth Audio Outputs: Mono

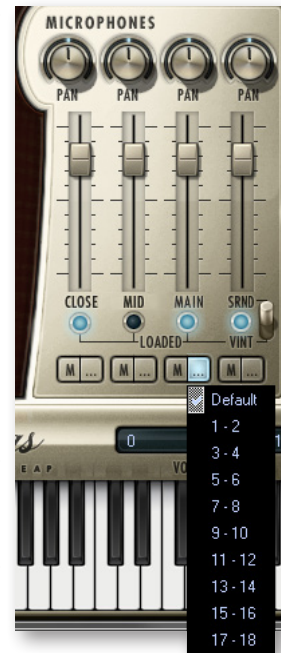
If you are using PLAY as a plug-in in a host, you can usually specify whether you want the output audio to be captured in a single track or maintained as separate tracks. The image at the

left shows how one sequencer (Sonar) gives you a choice. The first checkbox creates a single track to hold all the audio output (with the assumption it will be the first stereo pair: “1-2”). The second checkbox creates 9 audio tracks, one for each of the stereo pairs in the drop-down list shown at the right. The third creates 18 mono tracks, in case you want to keep the left and right tracks separate. See the documentation for your sequencer to learn how that selection is made in the host software you use.

If you’ve selected to set up a single track to hold all the audio output from one instance of PLAY, and you open multiple instruments in this instance, then all the instruments will be mixed in the PLAY audio engine and written to the track as a single stereo signal.

If, instead, you’ve selected to set up multiple tracks, then you can select the track for each individual instrument and possibly each individual microphone position. Outputs that share the same channel are mixed in the PLAY audio engine and written out as a single track. Outputs on different channels are written independently to different sequencer tracks, and available to be mixed within the sequencer at a later time.

ADVANCED: Note that the sequencer may be able to generate a monophonic track from the stereo output, but that will happen in the sequencer; PLAY always outputs a stereo signal. See the sequencer’s documentation if you want to generate a monophonic track.



The 5 Microphone Positions in Hollywood Strings

Hollywood Strings contains 5 mic positions that can be controlled from the Player view, as shown in the image at the right. In addition, it contains 2 other “mic positions” that are not controlled with the Microphone controls in the PLAY window. These are the Divisi mics, which captured the first chair and second chair instrumentalists separately. See the section on Divisi Instruments on page 75 for more detail.

All the instruments in EastWest/Quantum Leap Hollywood Strings were recorded simultaneously from multiple locations in the studio. The photograph on the next page gives you an idea of the number of different positions the sound of the orchestra was captured from, including:

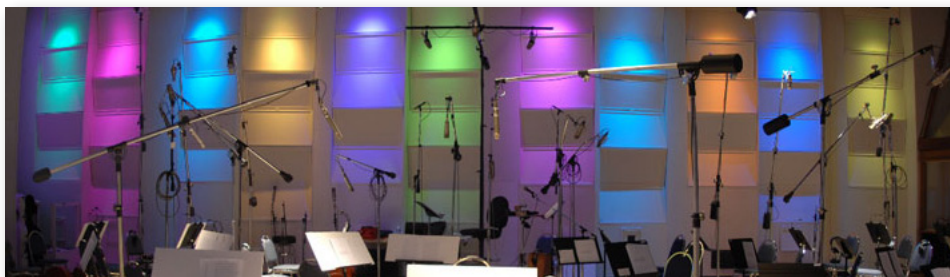
EASTWEST/QUANTUM LEAP HOLLYWOOD STRINGS

- at the front of the room and high above (using a Decca tree)
- other locations at the front of the ensemble
- directly in front of each section
- on either side of a section (to capture the divisi sound)
- away from the instrumentalists (to capture the room's natural ambience)

All the recorded samples are “phase-locked,” meaning that when two or more of them are mixed into a stereo recording they are necessarily in-phase and there will be no destructive interference.

The ability to combine the multiple auditory perspectives gives you the same kind of control that a recording engineer enjoys when recording a live concert performance from multiple microphone feeds.

The image on the previous page shows the PLAY System interface that allow you to mix the various samples. With the available knobs, sliders, and buttons, you pan each mic separately, change their dynamics to suit your needs, load/unload the samples from RAM, mute and solo each mic to achieve the sound you want—both while composing and when mixing the final output. And, as shown in the drop-down menu at the bottom of the image, you can assign the audio output from each set of microphones to its own output channel. These controls are described in more detail starting on page 76. For another photo of the mics in the studio, see page 12.



The photo above, taken during the setup at EastWest Studios in Hollywood, California, gives you some idea of how many microphones were capturing the sound simultaneously. The controls in the Player view allow you to turn on or off the various mics, adjust their relative volume, and pan them however you want.

You do need to be aware that the samples for each microphone occupy their own space in RAM memory. If your computer doesn't have enough RAM to load all the samples you need at once, you may want to use only one set of mics—most likely the Main mics—when composing. You can then add in any other mics when you're ready to work on the sound of the performance.

Understanding the Five Microphone Positions

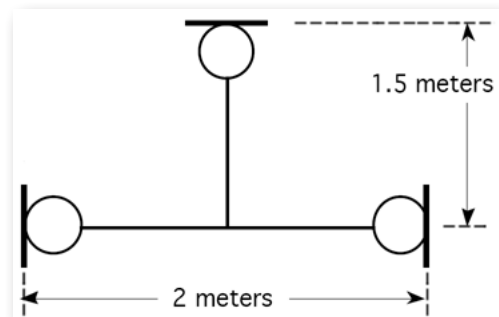
To understand how the five mic positions can help you, let's perform a quick *thought experiment*. Imagine yourself in a concert hall with a large string orchestra on the stage. (We'll use a hall instead of a recording studio to make the various locations relative to the instruments easier to write about.)

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First, you're invited to sit directly in front of the viola section who play a melody. What you hear approximates the sound recorded in the **Close** mic position. The sound coming directly from the instruments is so much louder than the reflections off the walls and other surfaces that these reverberations make up a very small part of what you hear.

Next, you're placed in a seat in the fifth row of the house and you listen to the same viola melody. Now you hear more of the natural reverberation of the hall because your ears are not so overpowered by the sound coming directly from the violas. This sound is captured by the **Main** mics, a cluster of microphones called a Decca Tree above the front of the whole string orchestra. Note that the Decca tree, together with its outriggers, is in an ideal position to balance the sound from all the sections for a big and unified sound.

ADVANCED: A “Decca tree”—for those interested—is an arrangement of three microphones originally designed at the English Decca Records, and still used for orchestra recordings, especially when recording movie scores. The mics are arranged as in the diagram at the right. Because of the 2-meter spacing between the left and right mics, the audio provides the intensity cues necessary for detailed stereo imaging while including sufficient phase information to produce an open and spacious sound. In addition, the middle microphone generates a solid central image.



For the next position, you are seated right at the edge of the stage, approximately at the midpoint between the first two seats. What you hear is similar to what's captured by the **Mid** mics. You get a little more individual definition than in the Main mics but without the proximity effect achieved with the Close mics.

Finally, you're asked to sit anywhere closer to the back of the house and high up. The same viola melody is played again. From this perspective, the full acoustics of the hall are most evident because you hear clearly the sound bouncing off the ceiling, the walls, all the reflective surfaces, in front of you and even behind. It can be a very lush sound, though perhaps lacking in the immediacy of a closer position; however, adding in a little of this sound (either in a stereo mix or in the rear speakers of a surround-sound recording) can add dimension to the recording. This mic position was used to create the **Surround** samples.

Leaving the thought experiment, there are still 2 other sets of microphones to discuss. While on the subject of the Surround mics, the **Vintage** mics are an alternative to the Surround mics. They capture basically the same perspective, but use RCA44 “ribbon” mics similar to what was used when making soundtracks for classic Hollywood movies. The switch to the right of the Surround button in the PLAY interface lets you select whether to use the more modern mics (pushed up) or the vintage mics (pushed down).



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Unlike the other 5 mics mentioned here, the **Divisi** mics are not available as a “mic position” in the UI. Instead, these mics capture the sound of just half a section playing; they appear as articulations. The divisi mics are positioned to capture all the players on the left in one mic and all those on the right in a different mic. See the section on Divisi Instruments starting on page 75.

Microphone Placement

The schematic at the right gives you an idea of where the various mics capture their sound, but in a diagram of a typical concert hall. The semicircular area at the top is where the orchestra sits. The rest of the diagram is where the audience would sit (but is not there in the actual EastWest Studio where Hollywood Strings was recorded). Note that this is not an accurate map of where the mics actually stood; the diagram’s goal is to help you understand what each mic is intended to capture. A photo of the actual studio and its mics is on page 12.

All the C’s in the diagram represent the various positions of the Close mics next to each string section. The mics were near enough to capture the presence of the instrument, but far enough away to allow the sound of the instrument to breathe.

The center T represents the approximate position of the Decca Tree, a cluster of mics at the front of the ensemble. These “Main” mics are positioned high enough and far enough forward to capture a well balanced sound. Note that these Main mics also include a pair of outriggers, which are the left and right T’s in the diagram.

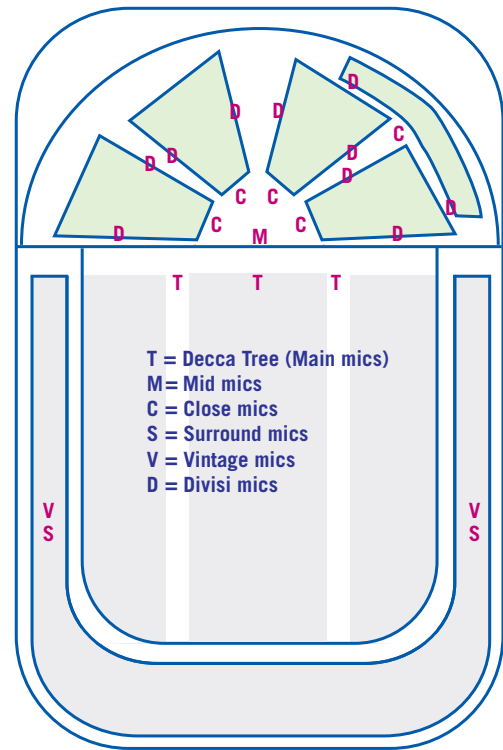
The M is the location of the Mid mics, which are a smaller version of a Decca tree, positioned a little closer to the instruments so that more definition is captured without creating a “close” sound.

The V’s and S’s have been placed in the auditorium in this diagram to convey that they capture the full ambient sound of the room. In the recording studio (which has no auditorium), they are placed around the studio at a distance from the instruments.

The D’s (the Divisi mics) sit at the left and right of the sections to pick up only half the players from that section.

Microphone Hardware

The microphones used to create the Main tracks were:



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- Decca tree of Neumann M50s
- Brauner VM1 KHE (Klaus Heyne Edition) outriggers

The microphones used to create the Close tracks were:

- AKG C12
- Neumann U47
- Neumann U67
- Nordic Audio Labs NU-47

The microphones used to create the Mid tracks were:

- Neumann KM1
- Neumann KM 254
- Sony C37A
- Neumann U-47

Two separate sets of Surround mic samples were created for the Quantum Leap Hollywood Strings library. You can switch between them with the use of the Vintage button in the lower right of the Microphones controls:

- The **Standard** set was created with modern equipment: the Neumann KM 83 microphones. These mics are designed to create tracks with a contemporary sound.
- Press down the **Vintage** switch to invoke samples captured with the RCA44 Ribbon mics. With this choice for the Surround mics, you can recreate the older Hollywood sound of classic movies. The producers recommend using the Vintage mics with just a bit of the close mics to achieve this traditional Hollywood ambience.

Adjusting the Delays

Because all three sets of samples were recorded simultaneously for each note in the library, there are predictable and natural delays in the time it takes the music to reach each set of more distant mics. This latency is part of the natural reverb of the hall and it produces a pleasing fullness to the sound when the samples are mixed correctly. If you want to tighten up the reverb from the Surround (or Vintage) samples, it is possible with modern sequencers and mixers to adjust the audio track from the Surround samples a little forward in time. Either perform a calculation using the speed of sound at sea level (approximately 340 meters/second; 1100 feet/second, if you prefer) or let your ears decide what works best.

If you do plan to micro-adjust the audio as in the previous paragraph, be aware that you will need to record the output from the individual mics to separate audio tracks. You cannot have the PLAY engine mix the audio tracks in a single plug-in instance or standalone instance. That is, you need to record one track with, for example, only Main mics and a different track with only Surround mics.

The Close mics, of course, have virtually no latency: only a small amount necessary to retain the sonic perspective of the string orchestra in the concert hall. If you don't use the Close mics, and you play something that requires very quick and punchy attacks, you

may notice some small delay, which can be cured by adding in some of the Close mics. In most cases you would want to use the Close mics to add definition to an instrument or section. The idea is to experiment until you find a combination that works.

Microphone Positions, Release Trails, and Digital Reverb

All three of these technologies can be used to control the apparent ambience of your audio output. It is important to understand the effect of each and to use them wisely.

Microphone Positions

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 (and that includes the release trail samples), but cannot extend past the end of the samples.

Release Trails

These are samples that begin at the moment the instrumentalist stopped playing each note and capture the sound that continues to “ring” in the natural reverberation of the recording studio.

It is possible to turn off release trails for any instrument, but doing so only removes the room’s ambience after the note ends, not while it is being played. Turning them off can result in unnaturally abrupt endings to the notes. but that can be effectively hidden by turning on the Reverb effect.

Note that staccato and other short articulations do not, as a rule, include release trails.

Digital Reverb

Convolution Reverb is a digital effect that simulates the sound of a room’s ambience through a set of mathematical algorithms that use known reflection times of a set of test tones and apply that data to generate artificial reflections in real time. PLAY includes such a reverb and the data (called impulse responses, or IRs) with which to recreate many different sizes of rooms. The IRs built into Hollywood Strings include the exact “EW Studio 1” in which the Hollywood Strings recording sessions took place (as well as the hall in which the Symphonic Orchestra library was recorded, for those who want to use the two libraries together).

You will have to decide in what way to use each of these technologies for each project. As long as you understand how each of these three components contributes to the sound you are hearing—and the limitations of each technology—you can use your ear to determine how to get exactly the sound you want.

Mixing Microphones From Separately Bounced Tracks versus Mixing in PLAY

Because mixing 2 or 3 of the mic positions in the right proportions can add dimension to a stereo or surround sound recording, you need to understand the various approaches to combining them into the final mix.

The following three cases describe some 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.

1. Creating separate audio tracks for each microphone, one at a time

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 PLAY 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 will adjust that in the final mix-down.

If you're 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 principal advantages to this approach. First, it requires a smaller computer system (or network) 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 remix—or to create a surround-sound version—at a later time. And you can do so with the confidence that you will have no phasing issues to contend with.

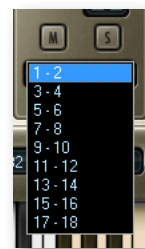
2. Creating ready-mixed audio tracks, all at once

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 concurrent processing. 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.

3. Creating parallel audio tracks from a single instrument file

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 the PLAY audio engine).



The image above shows the output control open to reveal the drop-down list of possible audio outputs. Using these controls, you can direct the audio to separate tracks in the sequencer (or separate tracks in the sound card when running in standalone mode). Selecting “Default” sends the audio to whichever track is selected in the Master controls; selecting anything different sends the audio to that stereo pair of outputs. In the sequencer (or sound card) you can specify which outputs should be captured in each audio track. See the documentation for your sequencer or sound card to learn how to do that.

Note that it is possible to send multiple instruments (and even mic positions) to the same track and the PLAY engine will mix them. 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 bounced down to the same audio track.

This approach gives you a ability to spread out your audio outputs any way you want (up to the maximum number of outputs your system can handle).

Note that when run as a plug-in, each instance of PLAY has its own set of outputs. That means that if the staccato celli and the pizzicato violins are running in separate instances of PLAY and they are both assigned to outputs “3-4” they will end up in separate audio tracks in the sequencer.

If Using Only One Microphone Position

It is certainly possible to create a piece with only a single microphone position. Usually, the Main mics are a good choice, though in some cases the Close or Mid mics might be the right choice. It’s unlikely—but not impossible—you will want to use exclusively the Surround or Vintage mics because they give such weight to the hall’s ambience.

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Hard Drive Use

The hard drive on which Hollywood Strings ships is a bare (internal) drive. If you don't want to install it to copy the data, we suggest purchasing a hard drive dock. The hard drive is supplied for installation purposes and as product media only. It is not intended for daily use (such as for storing the samples for streaming). EastWest assumes no responsibility or risk if the drive is used for other purposes.

Hard Drive Warranty

The hard drive containing Hollywood Strings is covered by EastWest's “Limited Replacement Only 30 Day Return Policy.” If the hard drive develops a defect, it may be returned to EastWest within 30 days of shipment. Hollywood Strings may only be returned for a replacement of the hard drive. No refunds are available. “Return” constitutes receipt of the product by EastWest, and not the mere issuance of an RMA. Beyond 30 days, the manufacturer's warranty will apply and returns and service must be arranged with the drive manufacturer. EastWest will replace the data should a drive replacement become necessary.