



Overview

General Information

Big Bang Orchestra

Synchron Collections

Strings Pro

Elite Strings

Duality Strings Essentials

Duality Strings (regular & sordino)

Duality Strings (colors)

Duality Strings (virtuoso)

Duality Strings (fx)

Solo Strings

FX Strings

Percussion I

Percussion II

Percussion III

Power Drums

World Percussion

Brass

Special Brass

Woodwinds

Special Woodwinds

World Winds

Vienna Boys Choir

Basso Profondo

Synchron Pianos

Synchron Starter Editions

Studio Collections



Epic Orchestra

Legacy

Changelogs

Synchron Duality Strings (regular & sordino)

Introduction

Welcome to the Vienna Symphonic Library's series of Synchron Instruments! The instruments were recorded at Stage A, the main hall of Vienna's revitalized Vienna Synchron Stage, and Stage B, our smaller and more intimate studio. The recordings were executed using an expansive, phase-controlled multi-microphone set-up, capturing string effects played in a scoring stage with exceptional acoustics, now ready to be used in your studio. This document will provide you with the information you need to use the Library with our Vienna Synchron Player.

Of these two Duality Strings collections, one features regular articulations, the other is played con sordino. Apart from that, the only difference is that the con sordino articulations do not include snap pizzicato.



Concept

You would rightly assume that the library's name has something to do with how it works. Indeed, it offers two ensembles of every string group, a larger orchestral one and a smaller chamber one, playing and recorded simultaneously, but in different ambiances. The larger ensembles played at our renowned Synchron Stage A with its lush cinematic reverb, the same as you may be familiar with from our other Synchron collections. The smaller ensembles, however, were set up at Stage B, which provides a much drier and crisper reverb environment.

This unique recording technique allows you to use the dual ensembles to fine-tune the sound of your compositions without having to layer different libraries, where the authenticity you can achieve is often less than you'd wish for.

Stage B also features two different microphone setups, so that you have "Bright" and "Dark" versions of the dry stage recordings at your command.

Of course, you can use the large and small ensembles in combination or separately!

Section Sizes



14 1st Violins	8 1st Violins	22
12 2nd Violins	6 2nd Violins	18
10 Violas	5 Violas	15
10 Cellos	5 Cellos	15
6 Basses	3 Basses	9

Standard and Extended Library

The microphone setup was subdivided into 10 recording positions. The Standard Library includes 5 of these positions (as well as a RAM-friendly Room Mix composed of merged samples from the individual positions), allowing you to integrate instruments recorded with a stereo Decca tree into your projects with our Synchron Player software that was designed exactly for that purpose. Adding the Extended Library and thus getting the Full Library expands your possibilities to 5.1 surround and Auro 3D 9.1, with the additional option of a microphone in the rear of the hall to expand your sound possibilities.

Microphone positions

Standard Library

- A - Room Mix – Stereo
- A - Solo – Mono
- A - Mid– Stereo (L/R)
- A - Main/Room Mic – Decca Tree Stereo (L/R)
- A – Main C/Room Mic – Decca Tree Mono (Center)
- B - “Dark” microphones – Stereo (L/R)

Extended Library



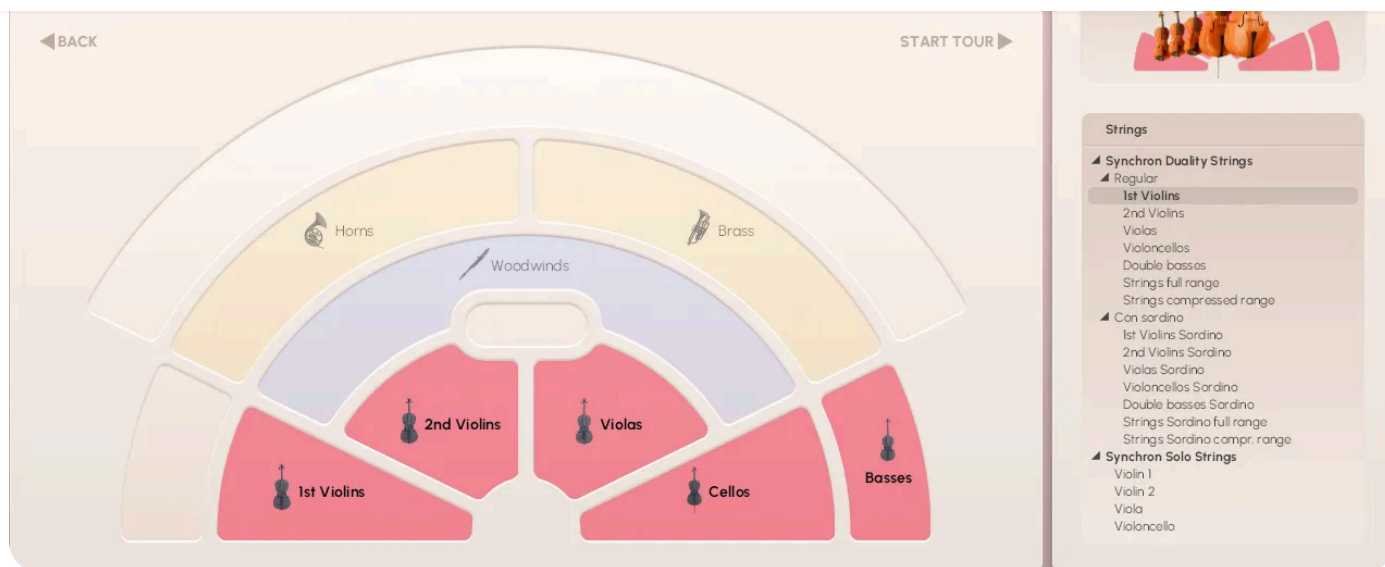
- A - High Stereo (3D) – Stereo (L/R)
- A - High Surround (3D) – Stereo (L/R)
- B - “Bright” microphones – Stereo (L/R)

Immersive Sound and Auro 3D

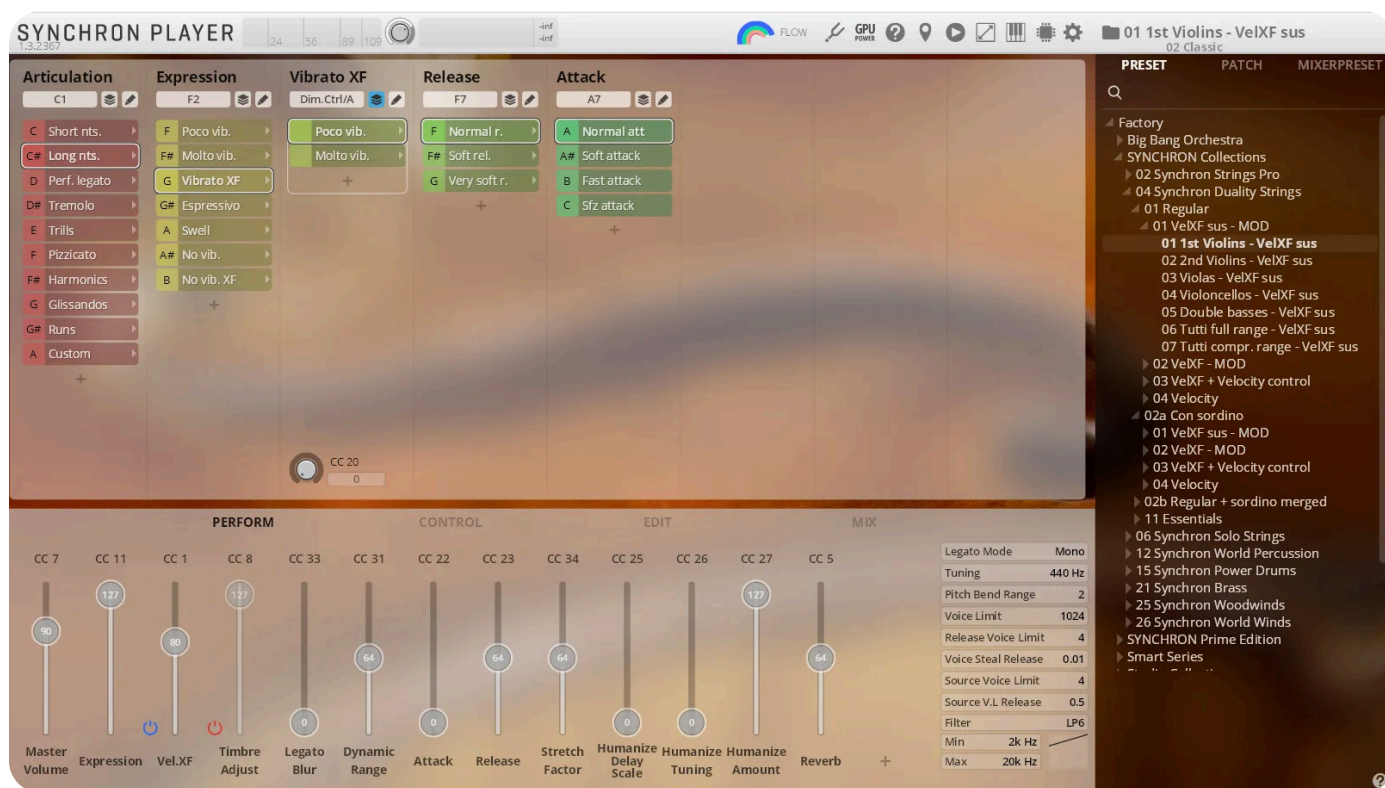
Auro 3D is an immersive audio technology that allows for three-dimensional sound perception. The Belgian company Auro Technologies developed this technology based on a special speaker configuration, adding four additional speakers to a 5.1 surround configuration. These speakers (so-called “Heights”) are situated above the front and surround speakers and generate acoustic reflections that are perceived naturally due to the fact that sounds originate from around as well as from above the listener. Thanks to the comprehensive selection of discrete audio channels with the Full Library, you may mix your instruments in Auro 3D as well as in Dolby Atmos.

Flow and Precision Presets

The collection's instruments provide two different kinds of Presets, accessible by clicking on the icons “Flow” resp. “Precision” in the Synchron Player's top bar. **Flow Presets** offer an intuitive, graphic approach to the library's contents, with instrument, articulation, and sound parameters displayed in a single window.



Precision Presets are what you already know if you own other VSL libraries. They allow you to explore the depths of the library, adjusting and tweaking parameters as you see fit.



Mixer Presets

For each ensemble, there are a number of Mixer Presets that depict different recording situations. The basic Mixer Presets are Close, Classic, Wide, Distant, Ambience, Lush, and Lush



By default the classic room mixes are loaded which include the Standard Library microphone positions “Room-Mix” and “Mid” from Stage A, and “Dark” from Stage B. These are balanced in the stereo field to represent the respective instrument’s position in the Synchron Stage set-up.

Flow Presets

Flow Presets give you instant access to the most important parameters of an instrument, its articulations, and general sound settings in the Synchron Player’s Flow view. The display is subdivided accordingly, with the graphic keyboard underneath. On the Flow Browser page, you can click on START TOUR to step through explanations of the different Flow elements and parameters as shown below.

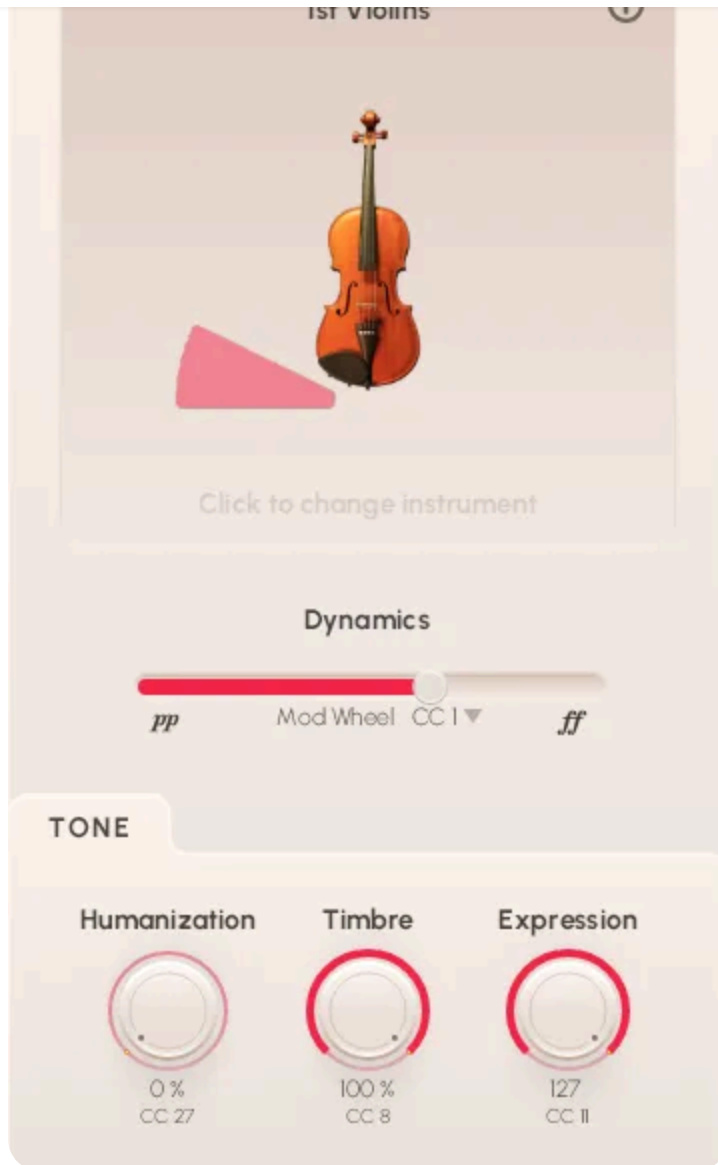
The screenshot displays the Synchron Player Flow view interface, which is divided into three main sections: INSTRUMENT, ARTICULATION, and SOUND. The INSTRUMENT section features a red-bordered box around the '1st Violins' instrument icon, with a tooltip explaining that clicking the image area allows selecting another instrument. Below this is a 'Dynamics' slider ranging from 'pp' to 'ff'. The ARTICULATION section shows a grid of articulation icons (Staccato, Detache, Pizz./legno, Shorts KS, etc.) and a 'PERFORMANCE' section with controls for Legato, Transition, First note, Vibrato, and Release. The SOUND section includes a 'Categories' list, 'Mic Balance' and 'Stage Balance' knobs, 'FX/Reverb' and 'Output Volume' knobs, and an 'Output Routing' section with buttons for Standard, Category, Multi, and Reverb+. At the bottom, a graphic keyboard is visible with a red 'Articulation' indicator above it.

Instrument / Tone



instrumentology site.

The **Dynamics** fader under the instrument is set to the modwheel (MIDI CC1) or keystroke velocity by default – with the long notes used in the example below, it is the modwheel, meaning that you can influence the volume of a note being played by changing the controller value. You could also set it to a breath controller (MIDI CC2), leaving your hands free for other stuff. The staccatos, e.g., are set to keystroke velocity, as changing the volume of short notes while they are sounding hardly makes sense.



In the **Tone** field, you get access to three other items which may be an important factor in making your piece sound truly alive:

- **Humanization** (MIDI CC27) lets you determine the percentage of not being exactly on time – a kind of counter-quantization that introduces an element of necessary imperfection.
- **Timbre** (MIDI CC8) affects the tone of the instrument, making it sound brighter or darker.
- **Expression** (MIDI CC11) is an additional volume control defining a percentage of CC7 (volume), and can be used for automation.



possible choices with their keyswitches, which are also marked on the Synchron Player's virtual keyboard. Of course, you can also click on a button to switch to that articulation. The articulation buttons are color-coded: orange for short notes, green for long ones, and blue for the Universal articulation that allows you to perform without keyswitching.

All articulation buttons except the active one have an on/off switch, so you can deactivate articulations you don't need and thus save RAM space.

ARTICULATION

C1 Staccato ☐	C#1 Detache ☐	D1 pizz. Pizz. / legno ☐	D#1 Shorts KS ☐
E1 Long ☒	F1 Swell ☐	F#1 Tremolo ☐	G1 Trills ☐
G#1 Harmonics ☐	A1 Glissandos ☐	A#1 Runs ☐	B1 Universal ☐

PERFORMANCE

Legato
☒ On
☐ Off
CC 3

Transition
☐ Portamento
☐ Slurred
☒ Legato
CC 64 (Pedal)

First note
☐ Sfz
☐ Fast
☒ Normal
☐ Soft
Velocity

Vibrato
☐ 0%
☒ CC 20

Release
☐ Very soft
☐ Soft
☒ Normal
CC 4

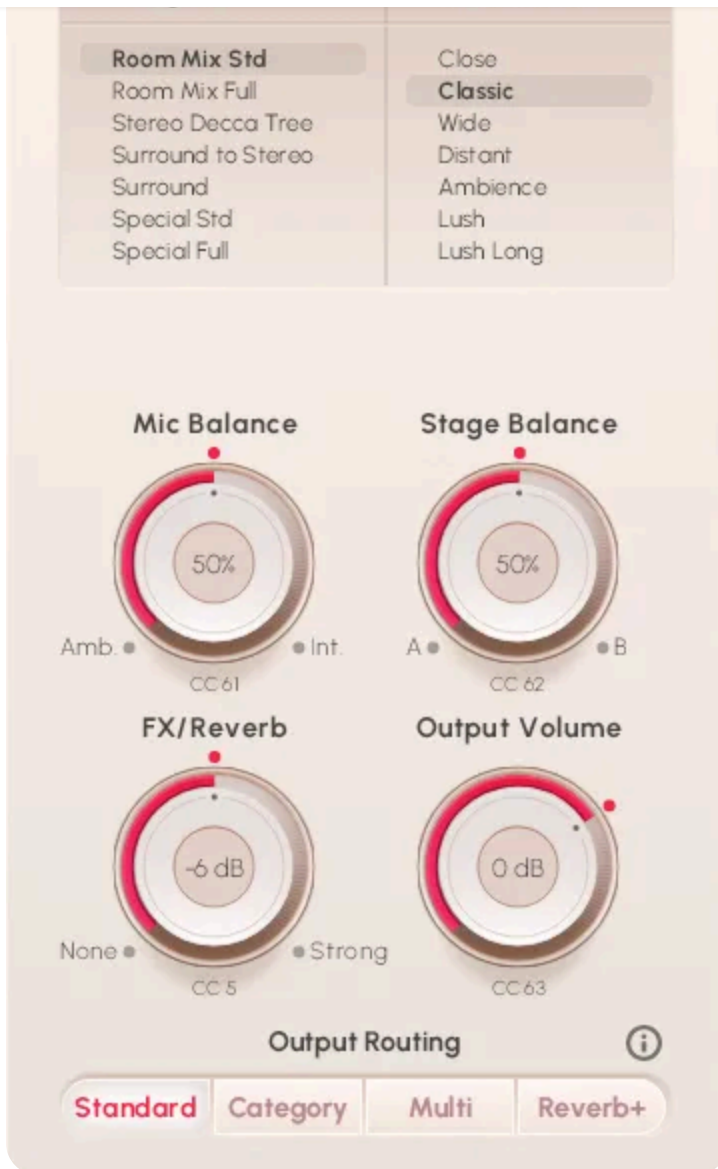


- The **Legato** option of long notes, trills, and others can be switched on and off with MIDI CC3.
- **Transition** (MIDI CC64) defines the type of legato – e.g., regular, slurred, portamento –, and switches between regular and espressivo long notes when legato is off.
- **Type** control for articulations is mostly set to keystroke velocity. For instance, it switches between different short note articulations, or first note variants for legato phrases.
- Some articulations feature a **Vibrato** fader knob assigned to MIDI CC20, allowing you to “soft-switch” with a narrow crossfade area between samples without and with vibrato.
- **Release** offers different release options, mostly switching between normal, soft, and very soft with the help of MIDI CC4.

Sound

In the **Sound** pane, you can select a basic **Category** on the top left, and one of the **Mixer Presets** from that category on the right.

- **Mic Balance** (MIDI CC61) adjusts the relation between intimate and ambient microphoning.
- **Stage Balance** (MIDI CC62) is a special feature of Dimension Strings, and determines the relative amounts of the two recording stages, stage A and stage B.
- **FX/Reverb** (MIDI CC5) sets the amount of reverb, which is different in intensity according to the selected preset.
- **Output Volume** (MIDI CC63) takes care of how much of what you do comes out of the Synchron Player.



Finally, there is the choice of **Output Routing** represented by the four buttons *Standard*, *Category*, *Multi*, and *Reverb+*:

- *Standard* is the standard Stereo configuration where all microphones are routed to the master output.
- *Category*: here, only the ambient microphones are routed to the master output, while close microphones go to output 2.
- *Multi* routes all microphones to different outputs.
Master out – Main, Room-Mix, Reverb
Output 2 – Main-Center
Output 3 – Surround



- *Reverb+* is routed like the *Multi* configuration, but has the Reverb channel directed to its own output 11.

If you're not sure about the routing options, click on the information button next to the heading, which also provides graphic information on routing paths.

Precision Presets

The libraries' Precision Presets comprise all the instruments' recorded Patches in Articulation groups, which again contain Types of the respective Articulation, with further options if available. If you happen to be short of RAM, you can deactivate Articulations you do not need, and if necessary activate them again.

By default the keyswitches for Articulations are mapped from C1 to A1 (for Middle C = C4) for violins, violas, and cellos, and C5 to A5 for the double basses. The Type keyswitches start from C2/F2 (depending on articulation) for violins and violas, and from C6/F6 for cellos and basses. The keyswitches for further options such as release and attack variants are mapped to the keyboard's 7th octave.

Dimension Controllers offer additional options within some Articulations or Types, most notably that of crossfading between different attack and release variations. The controller function is indicated by the respective caption, as of course it may take on different tasks as needed.

- **Articulations:**
violins, violas, cellos C1–A1;
basses C5–A5.
- **Type:**
violins and violas from C2/F2;
cellos and basses from C6/F6.
- **Attack, release, other variants:** starting at C7



adding hard staccatos and long notes without vibrato. Text and screenshots follow the expanded content.

Preset types

The collection offers four basic Preset types for every section in separate folders named “VelXF sus - MOD”, “VelXF - MOD”, “VelXF + Velocity control”, and “Velocity”. In **VelXF sus** Presets, velocity crossfading by modwheel is only activated for long notes, while the dynamics of short notes are controlled by keystroke velocity, thus facilitating phrasing. In **VelXF** Presets, all articulations have velocity crossfading activated so that you can control dynamics with MIDI controller CC1, the modwheel. **VelXF + Velocity** control also use the modwheel, but in addition keystroke velocity is used to determine the attack behaviour of long notes, legato, etc. Moreover, there are special patch combinations, e.g., where velocity triggers spiccato or staccato samples.

Velocity crossfading can be enabled or disabled by clicking its on/off symbol in the Synchron Player’s Perform tab, or you can use the **Velocity** Preset where the dynamics are generally controlled by keystroke velocity.

Apart from the individual string ensembles, there are also Presets containing all ensembles as shown in the screenshot below. These 'Tutti' are available in full range and compressed range versions. You will find them especially useful for quick layouts and for live play. The tutti Presets feature two types of stacking:

Tutti full range

- Mapping range: B0–D7
- Basses B0–B2
- Cellos C2–B3
- Violas C3–F#4
- 2nd violins C4–D7



- Type keyswitches: starting at C0/F0 depending on articulation

Tutti compressed range

- Mapping range: C2–D6
- Basses C2–B2
- Cellos C2–B3
- Violas C3–B3
- 1st and 2nd violins C4–B5
- Articulation keyswitches: C1–G#1
- Type keyswitches: starting at C6/F6 depending on articulation.

Please note that in the compressed range Presets, the basses sound one octave lower than played, the 1st violins one octave higher.

Articulation	Type	Attack	Stack
C~	C0	A7	None
C Short nts.	C Spiccato	A Bold	1st Violins
C# Long nts.	C# Spicc. tight	A# Agile	2nd Violins
D Perf. legato	D Staccato		Violas
D# Tremolo	D# Detache		Cellos
E Trills	E Det. marc.		Double ba.
F Pizzicato	F Det. soft		
F# Harmonics	F# Spi/st vel.c.		
G Glissandos	G Det. vel.ctrl		
G# Runs			
A Custom			

Articulation categories



- Short Notes
- Long Notes
- Performance legato
- Tremolo
- Trills
- Pizzicato
- Harmonics
- Glissandos
- Runs

Within these Articulation categories, you can select a Type, e.g., spiccato or staccato, and for some of the types there are additional options available, such as the short notes' bold or agile playing.

Regular + sordino merged

If you have both the regular and sordino collections of Duality Strings installed, your Preset browser will list another category of Presets including both of them. They have the same structure as the single collection Presets, but add another Dimension for switching between regular and con sordino articulations.

- Regular / con sordino: A0 / B0.



Short notes

Spiccato normal and tight, staccato normal and hard, and détaché normal / marcato / soft. All with "bold" and "agile" attack variants.

- Type:
C2-F#2 (violins, violas)
C6-F#6 (cellos, basses)
- Bold / Agile: A7 / A#7





velocity control to switch between articulations:

- Spiccato/staccato velocity control
- Détaché velocity control

Dim.Ctrl/C (keystroke velocity) is used to trigger different patches (spiccato/staccato/staccato hard resp. soft/normal/marcato détache).



Long notes

Long notes with light, strong, and without vibrato, espressivo, and swelling tones.

Poco / molto vibrato

Long notes with light and strong vibrato, normal/soft/fast/sfz attack, with normal, soft, and very soft release.

- Expression:



Release: F7-C7

- Attack: A7-C8

In VelXF + Velocity Presets, attack is controlled by keystroke velocity instead of keyswitches.



Vibrato XF

Crossfading combination of poco and molto vibrato. Use Dim.Ctrl/A (CC20) to adjust crossfading.

- Vibrato XFade: Dim.Ctrl/A (CC20)



Espressivo, swell

Espressivo and swelling notes with normal, soft, and very soft release.

- Release: F7-G7



No vibrato

Long notes without vibrato, with normal and fast attack.



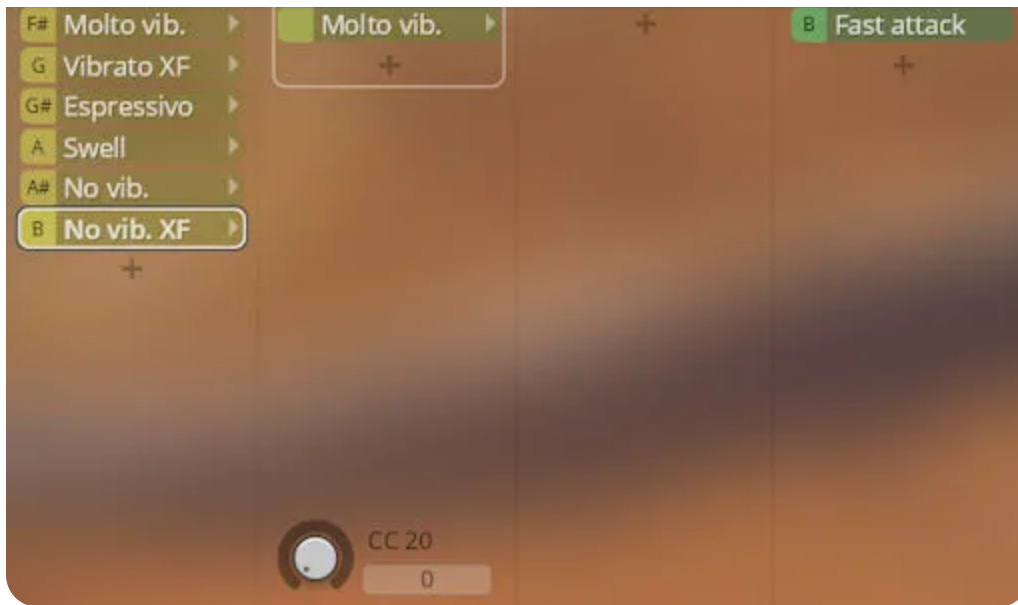
Keyswitches.



No vib. XF

Crossfading combination of no vibrato and molto vibrato. Use Dim.Ctrl/A (CC20) to adjust crossfading.

- Vibrato XFade: Dim.Ctrl/A (CC20).



Performance Legato

Regular and largo legato: normal and agile, slurred legato, and portamento with light and strong vibrato, and espressivo (except agile), all with release and attack variants; including an auto-speed option between normal and agile legato.

- Regular / largo:
A#1/B1 (violins, violas)
A#5/B5 (cellos, basses)
- Type:
C2-E2 (violins, violas)
C6-E6 (cellos, basses)
- Release: F7-G7
- Attack: A7-C8.

In VelXF + Velocity Presets, attack is controlled by keystroke velocity instead of keyswitches.



C# Long nts.	B Largo	C# Agile leg.	F# Molto vib.	F# Soft rel.	A# Soft attack
D Perf. legato		D Auto-spd.	G Vibrato XF	G Very soft r.	B Fast attack
D# Tremolo		D# Slurred leg	G# Espressivo		C Sfz attack
E Trills		E Portamen.			
F Pizzicato					
F# Harmonics					
G Glissandos					
G# Runs					
A Custom					

Vibrato XF

Crossfading combination between poco and molto vibrato. Use Dim.Ctrl/A (CC20) to adjust crossfading.

- Vibrato XFade: Dim.Ctrl/A (CC20)

Type	Expression	Vibrato XF	Release	Attack
C2	F2	Dim.Ctrl/A	F7	A7
C Normal	F Poco vib.	Poco vib.	F Normal r.	A Normal att
C# Agile leg.	F# Molto vib.	Molto vib.	F# Soft rel.	A# Soft attack
D Auto-spd.	G Vibrato XF		G Very soft r.	B Fast attack
D# Slurred leg	G# Espressivo			C Sfz attack
E Portamen.				

CC 20 0

Auto-speed



- Speed controller: Dim.Ctrl/B (playing speed).



Tremolo

Tremolo with normal, legato, and slurred transitions; fast and slow with attack variants, and measured.

- Type:
C2-E2 (violins, violas)
C6-E6 (cellos, basses)
- Transition: F7-G7
- Attack: A7/B7/C8

In VelXF + Velocity Presets, attack is controlled by keystroke velocity instead of keyswitches.



Slow X fast

Use Dim.Ctrl/A (CC20) to crossfade between slow and fast tremolo.

- Slow/fast XFade: Dim.Ctrl/A (CC20)



Long X tremolo

Use Dim.Ctrl/A (CC20) to crossfade between sustained notes and tremolo.

- Sustained/tremolo XFade: Dim.Ctrl/A (CC20)



Measured tremolo

Tremolo played at 120/130/140/160/180 BPM; normal, legato, and slurred transitions, as well as cut release.

- Tempo:
F2–A2 (violins, violas)
F6–A6 (cellos, basses)
- Release: F7–G#7



Trills

Trills, minor 2nd to major 3rd, with normal, legato, and slurred transitions.

- Interval:
F2–G#2 (violins, violas)
F6–G#6 (cellos, basses)
- Transition: F7–G7



VelXF + Velocity control



- Second/third:
F2/F#2 (violins, violas)
F6/F#6 (cellos, basses)
- Minor/major: Dim.Ctrl/C (keystroke velocity)



Pizzicato

Pizzicato, bold and agile; snap pizzicato (regular only); col legno, bold and agile.

- Type:
C2-D2 (violins, violas)
C6-D6 (cellos, basses)
- Bold/agile: A7/A#7



VelXF + Velocity control specials

Regular/snap pizzicato

Dim.Ctrl/C (keystroke velocity) is used to trigger regular pizzicato at lower velocities, and snap pizzicato at higher ones.



Harmonics

Harmonics sustained, tremolo with normal and fast attack; staccato bold and agile. With several crossfading combinations.

- Type:
C2-F2 (violins, violas)
C6-F6 (cellos, basses)
- Normal/fast attack: A7/B7
- Staccato bold/agile: A7/A#7

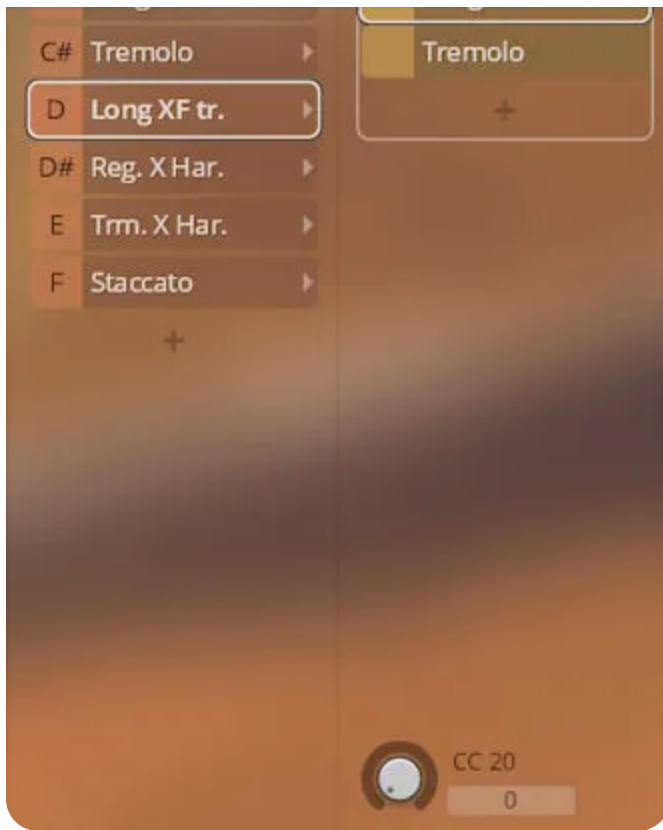
In VelXF + Velocity Presets, attack is controlled by keystroke velocity instead of keyswitches.



Long X tremolo / Regular X harmonics

Crossfading combinations between sustained and tremolo harmonics, and normal and harmonics sustains. Use Dim.Ctrl/A (CC20) to crossfade between articulations.

- Articulation XFade: Dim.Ctrl/A (CC20)



Tremolo X harmonics

Use Dim.Ctrl/A (CC20) to crossfade between normal and harmonics tremolo.

Tremolo normal/harmonics XFade: Dim.Ctrl/A (CC20).

- Normal/fast attack: A7/B7



Staccato

Staccato harmonics, bold and agile.

- Bold/agile: A7/A#7





a normal/tremolo crossfading combination.

- Glissando type:
C2-D2 (violins, violas)
C6-D6 (cellos, basses)
- Fast/slow: D#2/E2; D#6/E6
- Interval: F2-G2; G6-G6
- Up/down: A2/A#2; A6/A#6

In VelIXF + Velocity Presets, up/down glissandos are controlled by keystroke velocity instead of keyswitches.



Normal X tremolo

Use Dim.Ctrl/A (CC20) to crossfade normal and tremolo glissandos.

- Normal/tremolo XFade: Dim.Ctrl/A (CC20)



Runs

Legato and détaché runs, octave, fifth, and third (key and modal), up and down.

- Legato/détaché:
C2/C#2 (violins, violas)
C6/C#6 (cellos, basses)
- Interval: F2-G#2, F6-G#6
- Key: C7-B7
- Up/down: A2/A#2; A6/A#6

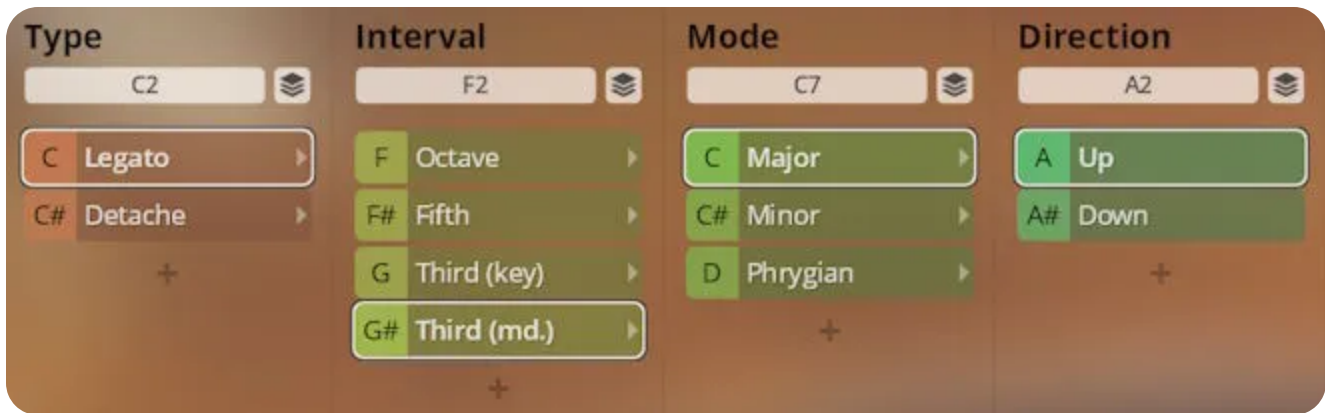
In VelXF + Velocity Presets, up/down runs are controlled by keystroke velocity instead of keyswitches.



Third modal

Runs in thirds; major, minor, and phrygian scale.

- Mode: C7-D7



Custom

This “articulation” does not yet contain any patches. It provides 6 slots ready for you to configure presets of your own.



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