

Articulate Variations for Articulate Presets

Full integration of the VSL into Studio One

The image shows a violin in the background with a musical score overlaid in the foreground. The score is for a string ensemble and includes parts for Violin I, Violin II, Viola, Violoncello, and Contrabass. The music is in 4/4 time and includes dynamic markings such as *sfz*, *poco rall*, and *ff*, as well as tempo markings like *a tempo* and *L'istesso*. The score is divided into measures, with some measures containing rests for the lower strings.

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User manual

1st Edition

Introduction

What are Studio One Sound Variations?

The new *Articulate Variations* integrate Articulate Presets right into *Studio One* and allow you to select all playing techniques included in the Vienna Symphonic Library (VSL) Vienna Instruments series via Studio One's convenient *Sound Variations* feature.

A *Sound Variation* is additional data in the Automation Lane of Studio One that is associated to notes and determines with which playing technique they are played back. It automatically sends an *Activation Sequence* of MIDI messages required to access a (particular version of a) playing technique to a Virtual Instrument. These Midi events are sent before the corresponding notes. In Studio One all the Sound Variations for a particular instrument are stored in a *Preset*. A preset can be assigned to a track and stores all settings, which messages have to be sent to select the various playing techniques the instrument offers, so that everything works automatically.

With over 250 Sound Variations, the *Articulate Variations* preset is one of the most comprehensive Sound Variations presets created so far and even allows you to individually access different sampled versions of a playing technique, sending the corresponding program change message and up to four Continuous Controllers (CC) to Vienna Instruments pro. Just as there is a single Articulate Preset per orchestral instrument, there is a single Articulate Variations preset that works with *all* Articulate Presets for the chromatic VSL instruments. This guarantees that everything still works when you move a sequence from one instrument track to another one in Studio One, and is possible due to the consistency of the VSL and of Articulate Presets across the entire orchestra.

Setup

What you need to do to get started

The universal *Articulate Variations* Studio One Sound Variations preset works with all chromatic Articulate Presets. To install it, simply copy it to the *Key Switches* subfolder of the *Studio One* folder (in which also your projects are stored). For instance on Mac OS this folder is at

Documents/Studio One/Presets/User Presets/Key Switches/

Within Studio One you then have to assign Articulate Variations for each instrument track. To do so click the wrench symbol next to the Sound Variations entry in the Event Inspector and select the Articulate Variations preset from the menu on the top left of the Sound Variations Editor.

As discussed below in detail, the Articulate Variations preset also defines Key Switches on the lowest octave of a piano keyboard and you can choose if you want to use them by selecting either *Enable Key Switches* or *Disable Key Switches* in the menu on top of the the Sound Variations Editor.

Features of Articulate Variations

How to integrate the VSL into Studio One

Accessing Sound Variations

Standardly Articulate Presets allow you to conveniently access all articulations included in the VSL via 128 program change or controller messages, and all the different versions of an articulation by additional continuous controller events. The Studio One Articulate Variations simplify the handling via over 250 Sound Variations:

The first 128 Sound Variations give you direct access to all matrices included in Articulate Presets (as also listed in Table III of the Articulate Presets Manual) and automatically send the corresponding program change and controller message to access them. In Studio One the individual Sound Variations are arranged into folders corresponding to the thematic banks (basic, interval, repetition, ...). For many articulations the additional controllers select distinct sampled versions of the corresponding articulation. In this case you standardly need additional continuous controllers to access them, e.g. for runs CC2 to select the type (major, minor, whole tone or chromatic), CC3 to select the scale and CC4 to select up- or downward runs (see the Articulate Presets Manual).

The Sound Variations included in the *Direct Access* folder even allow you to conveniently select the individual versions of the most often used playing techniques (see Table II in the appendix for details) without the need for any additional Midi messages. The VSL is still unmatched when it comes to recorded dynamic transitions, phrases, They can strongly increase the realism, but for most users they likely sit unused on their disk since up to now they required a significant effort to use them in Studio One. With Articulate Presets and the Studio One Articulate Variations, using them couldn't be simpler: for the most important ones (dynamics, trills, grace notes, fast repetitions, ...) you can simply select a note in Studio One and directly assign the specific version via its name, e.g. *mu. medium dim. 2s*, from the corresponding menu—everything else is done automatically and no additional control events are required at all! Studio One sends both the program change and up to four continuous controllers to access the corresponding sampled sound. And due to the consistency of the VSL and of Articulate Presets all this still works even when you move the sequence from one instrument to another one!

Many of the matrices in Articulate Presets offer continuous 3D-control of certain parameters allowing you to gradually shape the sound via continuous controller messages. To do this you can still add the respective continuous controllers, e.g. to control the vibrato intensity of a particular dynamic transition. In the rare cases that you want to access one of the other versions (e.g. larger grace note intervals) or playing techniques that are not cover this way (e.g. runs, ...) you have to use the generic Sound Variations (the first 128) and add the corresponding continuous controllers.

Control Sound Variations

In addition to the Sound Variations that select a particular playing technique the final *Control* folder contains Sound Variations that do not send any program change messages, but instead send

particular values of the Continuous Controllers (CC) used by Articulate Presets: Section CC20, Vertical CC2, Horizontal CC3 and A/B switch CC4. This way you can access different versions of various playing techniques (where available), like vibrato versions, section sizes, ..., to control key aspects of the playback completely via Sound Variations. These can be placed before (and do not have to overlap with) a set of notes, which can have their own dedicated Sound Variations to control their particular playing techniques. Sound Variations in the Direct Access folder fix some of these controllers (CC2, 3 & 4, but never CC20) and might overwrite the Control Sound Variations. Similarly, if you switch from a Direct Access to one of the first 128 Sound Variations, the controllers might still be set to non-zero values and you might have to reset them to get the standard version of the playing technique. This can be conveniently done with the last *initialize* Sound Variation (sending zero values of CC2, 3 & 4).

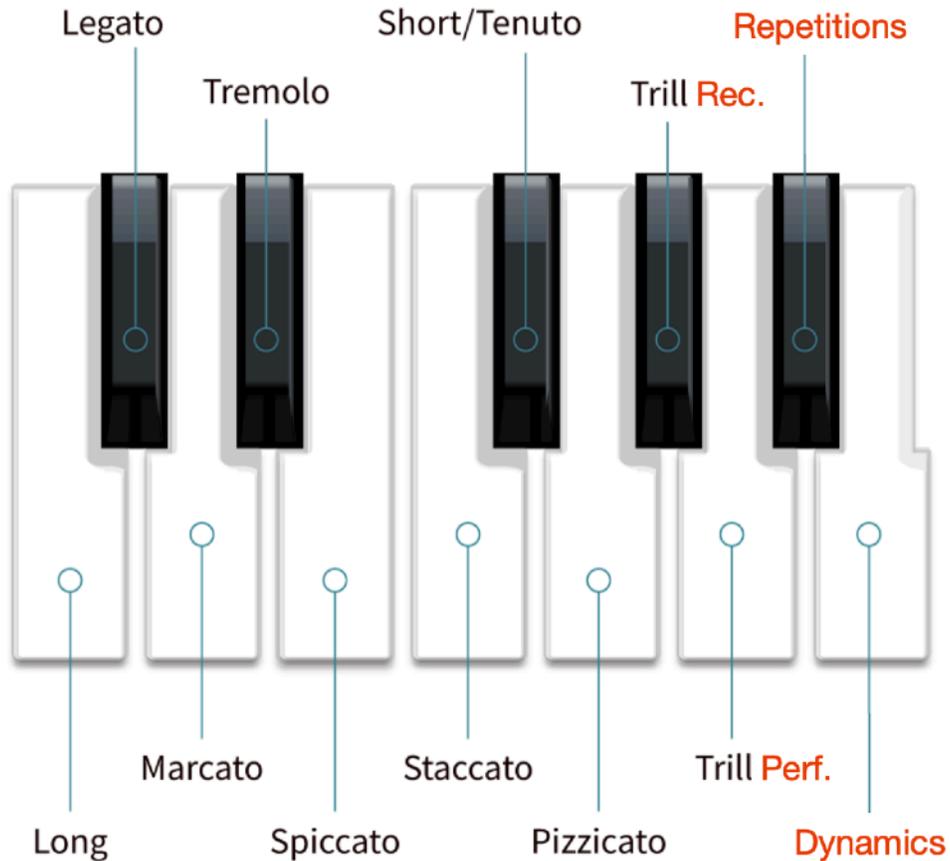
The Section Control Sound Variations are particularly useful for the flexible Dimension libraries and allow you to dial the exact number of players as well as to access each individual group, desk or player. These can be conveniently dialed once at the beginning of an entire score or sequence to set how many players are used, or throughout to realize divisi, Dimension Articulate Presets further offer the unique Auto-Divisi feature to control everything conveniently on a single track!

External MIDI Control

If enabled (see the Setup section), the *Articulate Variations* preset also allows you to select playing techniques via Midi note messages from an external Midi controller. To this end it implements *Key Switches* for the most important playing techniques. These Key Switches are on the lowest octave of a 88-key piano keyboard and follow the universal layout introduced by *Art Conductor* developed by *Babylon Waves*, as shown in table I. If you use *Art Conductor* Sound Variations you can thereby conveniently access all main VSL articulations with the same key switches as in all your other libraries. The universal key switches in *Art Conductor* range from C to A and this octave has been completed in the *Articulate Variations* preset, by adding further important articulations, namely Repetitions and Special Dynamics. In the *Articulate Variations* preset the A also gives you access to the Performance Trill instead of the major trill, which is easily accessible via G#.

As shown in table I in the appendix, due to the additional Continuous Controllers used by Articulate Presets (Vertical CC2 and Horizontal CC3) the 1-octave *Art Conductor* layout gives you access to *all* main playing techniques—and due to the 3D-control even control over the nuances of the performance! For instance, the *Long* playing technique allows you for wind instruments to blend from sustained to long portato and eventually to marcato by changing the Vertical Controller, whereas the Horizontal Controller dials the vibrato intensity from strong via light to no vibrato. Similarly, *Short* and *Staccato* give you access to all sampled short note versions. For the strings, the Legato playing technique allows to blend from normal legato via slurred legato to a full-fledged portamento via the Vertical Controller. I.e. you actually have direct access to much more than is explicitly labeled in the Playing Technique column (as shown in the Horizontal/Vertical columns). The first column of table I also shows the number of the corresponding Articulate Presets matrix.

The key switches standardly start with C0 (using Studio One conventions, i.e. the lowest octave on a piano keyboard) but you can easily change this via the *Action* menu in the Sound Variations editor by selecting *Shift Key Switches* and then the amount by which you want to shift the octave of key switches—e.g. to a higher octave, when using a small keyboard or low orchestral instruments.



Moreover, if you want to add further key switches or change them according to your preferences, you can conveniently do this owing to the fact that the Articulate Variations preset applies to all chromatic orchestral instruments. Simply save the preset under a new name and use it instead.

Important: Please keep a backup of the original files and create copies whenever you make changes.

Musical Symbols

Studio One also includes a basic set of musical symbols, e.g. a dot for staccato, a slur for legato ... and can in principle automatically play them back by appropriate sounds. However, when it comes to the playback the implementation is still very limited, because Studio One can only interpret a single symbol at a time, but no combinations of them. I.e. when there is e.g. the symbol *con sordino* in the score, Studio One could only play a single sound when a playback for it is assigned, but cannot distinguish between different *con sordino* playing techniques, like *con sordino staccato*, *con sordino legato*, What's worse, Musical Symbols have priority compared to Sound Variations when a playback for them is assigned. Correspondingly, when a playback for Musical Symbols would be assigned it would not be possible to have the corresponding symbols in the score and then simply assign the appropriate Sound Variations in addition (if needed) to specify which version is to be used for the playback. This even holds for basic playing techniques like staccato, where one likewise might want to pick repetition samples instead of normal staccato for the playback.

Therefore, we had to deactivate the playback of Musical Symbols at this point: **the playback is completely controlled by Sound Variations and you can have any Musical Symbols in the score, but they won't affect the playback at all.**

Using the Articulate Variations

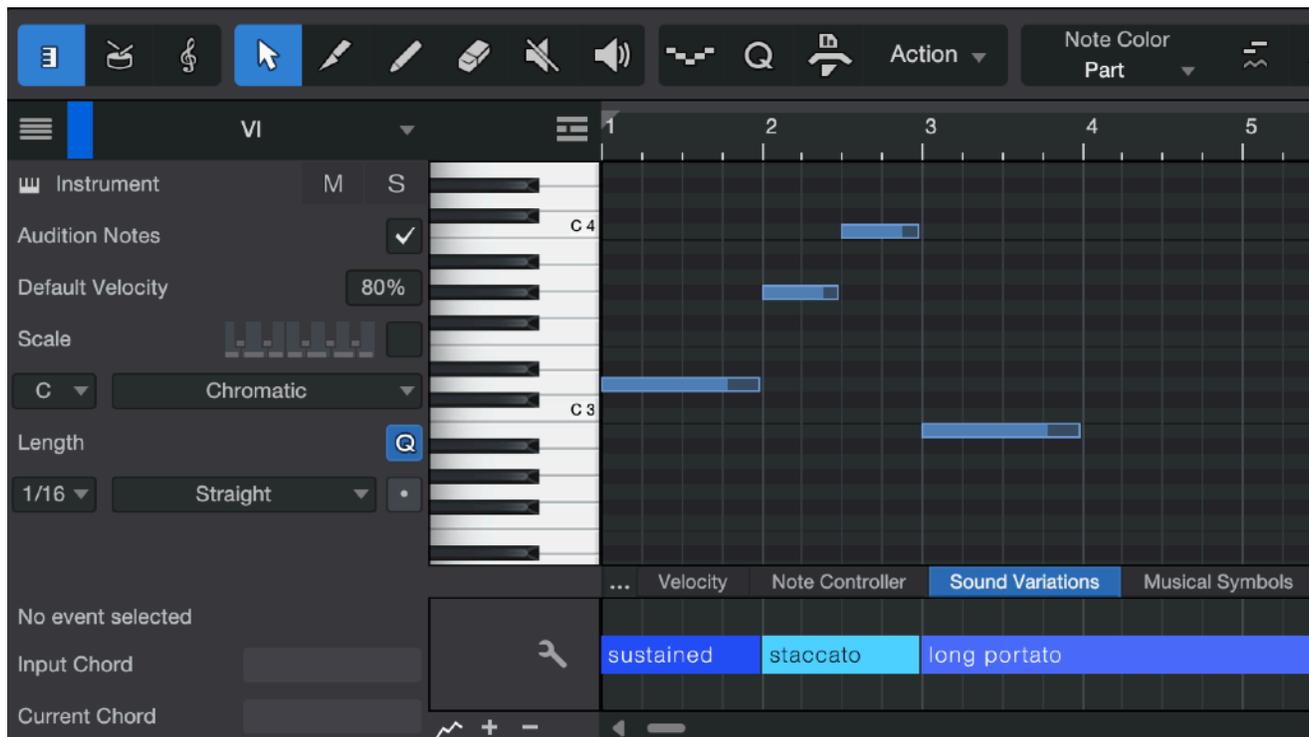
All articulations right at your fingertips ...

You can insert, view and change Sound Variations directly in the Automation Lane by selecting “Sound Variations” on top of the Automation Lane in Studio One’s Editors.

The Articulate Variations include full descriptions of the playing techniques, so that you can easily see which are used in Studio One's editors, as shown in the figure below. In case a name would have been too long clear abbreviations are used (e.g. int. for interval, rep. for repetitions, mu. for muted, ...). Different sound variations are color-coded (e.g. basic articulations in blue, interval legato articulations in red, ...) to give you an instant overview.

You can control-click (Mac) or right-click (PC) on a note to select the Sound Variation from the context menu. Similarly you can click on an existing Sound Variation to change it accordingly.

Using Key Switches (see above) you can even change key playing techniques directly while recording to immediately get the appropriate playback. Later you can then still fine-tune the playback by assigning more special techniques, e.g. those included in the Direct Access folder.



Appendix

List of Key Switches and Sound Variations

Table I: Key Switches of the Articulate Variations preset, following Art Conductor conventions

#	Key	Playing Tech.	Availability	Vertical	Horizontal
1	C	Long	strings / winds	sustain normal ◊ fast attack / sustain ◊ long portato ◊ marcato	vibrato intensity: strong ◊ light ◊ none
13	C#	Legato	strings / woodwinds ex BCL / HOs, TB, CTB / other winds	normal ◊ slurred ◊ portamento / normal ◊ grace / normal ◊ glissando / –	– (interval speed)
15	D	Marcato	all ex TU	attack behavior	– (interval speed)
12	D#	Tremolo	strings / harp / winds	tremolo normal ◊ fast attack / bisbigliando / flutter tongue	tremolo intensity: tremolo ◊ normal
17	E	Spiccato	strings S & VI-L / M, L ex VI	◊ harsh / –	– (interval speed)
8	F	Staccato	violins L / all others	long ◊ short	A/B: tight loose / –
5	F#	Short Tenuto	strings / winds	detache long ◊ short / portato medium ◊ short)	vibrato intensity
10	G	Pizzicato	strings M&L ex VC-M / VC-M / VI-S, VC-S / VA-S, DB-S	◊ col legno ◊ snap	◊ slow / ◊ vib. ◊ slow / ◊ secco / –
37	G#	Trill minor	strings S&M / L; woodwinds ex CBA; HOs, TU, CTU / TRs	–	–
37	A	Perform. Trill	strings S&M / L; woodwinds ex CBA; HOs, TU, CTU / TRs	–	–
36	A#	Repetitions	all	legato ◊ portato ◊ staccato	– (repetition speed)
49	B	Dynamics	all	fortepiano ◊ sforzato ◊ sforzatissimo	vibrato intensity

Table II: Sound Variations in the Direct Access and Control folders

#	Articulation Version	#	Articulation Version
1 - 128	Articulate Presets matrices - see main manual		
129	interval legato standard	247 - 249	muted repetitions portato: std., cre., dim.
130	interval legato slurred	250 - 252	muted repetitions staccato: std., cre., dim.
131	interval portamento	253 - 255	muted repetitions spiccato: std., cre., dim.
132 - 134	repetitions legato: standard, crescendo, diminuendo	256	sul ponticello sustained
135 - 137	repetitions portato: normal., cre., dim.	257	sul ponticello detache
138 - 140	repetitions staccato: std., cre., dim.	258	sul ponticello staccato
141 - 143	repetitions spiccato: std., cre., dim.	259	sul ponticello sforzato
144 - 147	trills: half, whole tone, minor, major third	260	sul ponticello tremolo
148 - 151	grace notes: half tone up - whole tone down	261	sul ponticello tremolo slow
152 - 160	fast repetitions @ 140bpm - 220bpm	262	sul tasto sustained
161 - 169	crescendo-diminuendo 1s - 10s	263	sul tasto detache
170 - 183	strong crescendo 1s - diminuendo 6s	264	sul tasto staccato
184 - 195	medium crescendo 1s - diminuendo 6s	265	sul tasto sforzato
196 - 207	light crescendo 1s - diminuendo 6s	266	sul tasto tremolo
208 - 212	muted crescendo-diminuendo 2s - 8s	267	sul tasto tremolo slow
213 - 222	muted strong crescendo 1.5s - diminuendo 6s	268	sul tasto legato
223 - 232	muted medium crescendo 1.5s - diminuendo 6s	269	sul tasto portamento
233	muted interval legato standard	270	artificial harmonics sustained
234	muted interval legato slurred	271	artificial harmonics staccato
235	muted interval portamento	272	artificial harmonics tremolo
236 - 237	muted trills: half tone, whole tone	273	muted artificial harmonics sustained
238 - 240	muted repetitions legato: std., cre., dim.	274	muted artificial harmonics staccato
241 - 246	muted fast repetitions @ 140bpm - 190bpm		
275 - 277	vibrato control (CC3): strong, light, no vibrato	290 - 292	vertical controller (CC2): values 0, 63, 127
278	half muting (CC3)	293 - 295	horizontal controller (CC3): values 0, 63, 127
279 - 283	section control (CC20); dimension: full, 3/4, 1/2, 1/4, player/desk; section: large, 3/4, 1/2, 1/4, small/solo; solo: solo, 1/4, 1/2, 3/4, section	296 - 297	A/B switch (CC4): value 0 (i.e. A), 127 (i.e. B)
284 - 285	section control (dimension): group 1, 2	298	initialize (CC2, 3 & 4 set to zero)
286 - 289	section control (dimension): player / desk 1 - 4		