FluffyAudio

Legato Engine Manual

Dear customer, thank you for buying our instrument.

This manual will explain how to use our legato engine. Since many different instruments share the same script, here you have a complete overview about how to use and control our instruments.

Not all the features will be available in all the libraries, depending by the available articulations in the instrument, but overall the manual explains all the features and functions included in your instrument.

We will use Stefania Maratti - Solo Flute interface for screenshot purposes.

manual revision 1.1

INSTALLATION

Extract the files Instrument_Samples.part01.rar and Instrument_Patch.rar
in a new folder.
If you don't know how to open .rar files, we suggest you todownload 7zip from www.7-zip.org (windows users) or www.unrarx.com (mac users).

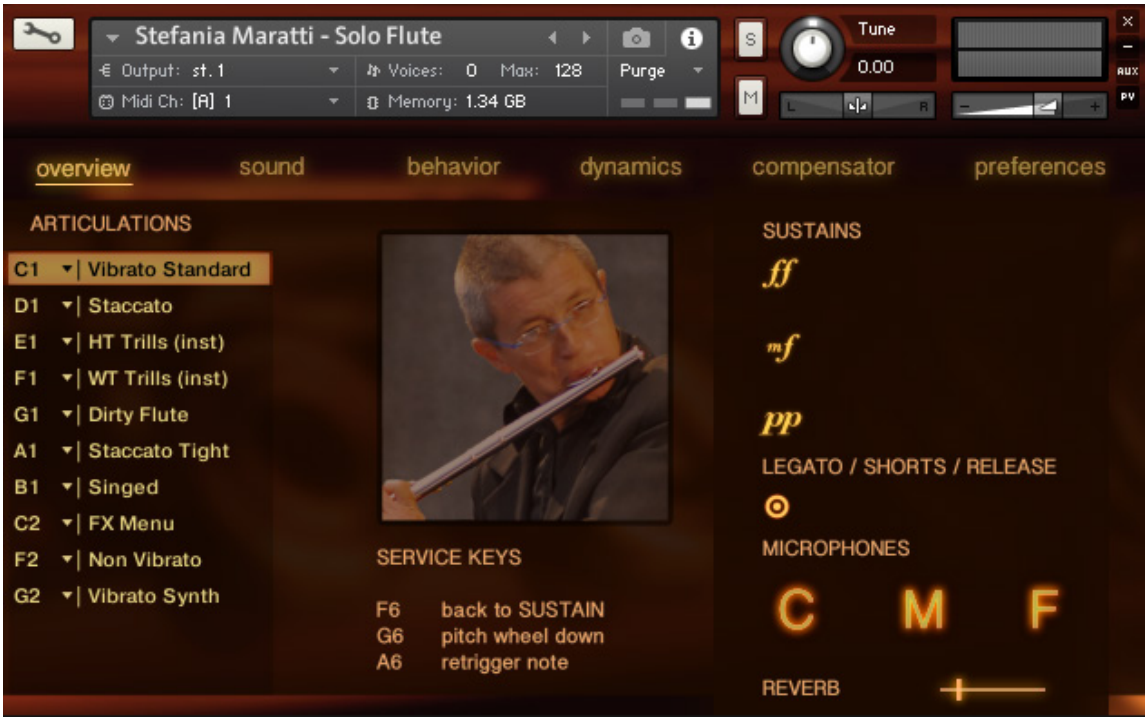
Then you can load the main relative .nki patch. by importing the patch into Kontakt.

Getting Started

Welcome! In the next few pages we'll have a detailed look at all the features of the library.
This library has been designed to be very simple to play. It's all contained in a single .nki patch, and most of the features are ready to play.
The pitch wheel control is one of the special features of this library. Increase it to produce a strong attack at the beginning of a phrase, or lower it to produce a smooth crescendo. Similarly, at the end of a phrase you can lower it to create a natural decrescendo. All these behaviors are completely customizable in the articulation editor.
When playing legato the Pitch wheel allows you to produce different types of legato. Paired with the control offered by the mod wheel, you have the tools to create beautiful and realistic legato lines.
Refer to the following pages to see how to control it all!

THE INTERFACE

There are 6 pages for customizing the instrument.
Let's look at them one by one.



The *Overview* page presents the basic controls. You can also check what the instrument is doing by looking at the VU meters on the right side. If something sounds strange, just check the VU meters. Usually you will be able to fix every issue immediately, using the meters to find out what's happening.

PRESETS

On the left side there is the preset system. To load a preset, just click in the box and select one from the menu. If you want to save your own preset, select *"Save to:"*, then select the preset in which you want to save your settings. The presets will be stored when you next save the patch.
Presets save all the settings of the instrument, except the ones in the preferences panel and the current keyswitch.
Presets are handy if you wish to save your favourite starting points for the instrument.

ARTICULATIONS

The lower panel on the left shows the articulations and their relative keyswitches. These are completely configurable in the Behavior page. You can also set your own keyswitches by clicking on the small key name. You can switch articulations by clicking on the labels or by using your own keyswitches.

OTHER CONTROLS

On the right there are buttons to switch on/off the mics, as well as the reverb amount slider. They are explained in more detail below.

MICROPHONES
On the left there are three available mic positions: Close, Mid and Far.
When a mic position is active, the relative slider for its volume is displayed below. You also have the ability to independently filter each position with *High and Low Pass* filters.
On the right side of the page there are four important tools to sculpt the sound of the instrument. By adjusting the amount below the control (the little knob labeled "mw") you can easily automate the *Silkener*, *Saturation* and *Limiter* tools.
Let's look at these effects in detail.

SILKENER
The *Silkener* is basically an *EQ* which mimics the harmonic spectrum of the flute when playing at low dynamics.
It can be used to sweeten the sound of the instrument, to emulate soft dynamics and to increase the dynamic range. It's very effective when the mod wheel curve is inverted, so that when playing in lower dynamics it makes the sound more silky and smooth.

SATURATION
Saturation is the opposite of the *Silkener* and it gives more character to the sound.

LIMITER

The *Limiter* compresses the sound. It can be very effective if it is modulated by the Modwheel. In this way you have great control over dynamics by reducing the dynamic variations inside the samples.
(More about the dynamics later)

REVERB
Here you can adjust the amount of reverb, and select one of the impulses from the drop-down menu.
There are 17 convolution IRs included.

The *behavior* page allows you to create and customize any articulation.

In the top bar you can set the names for all the articulations in the instrument, as well as their keyswitches and the kind of articulation.

There are currently three kinds of articulations: **Legato, Short and Instant**.
From the *Articulations Menu* you can choose which articulation you want to customize, add a new articulation or delete the current one.
All the unused groups in the instrument will be automatically purged.

Legato articulations
Legato articulations consist of a sustained note, a legato transition which fades back into the sustain after a while, and a short release sample.
All the groups involved can be changed. You can disable the Back to Sustain behavior (and just use the legato transition) by setting its group to none. You can also remove or customize the release samples.
This page allows you to control the timing of the transitions between the different phases.

The first value, **max time**, controls the responsiveness of the instrument when playing legato. Lower values are more responsive, at the cost of lower quality transition sounds. Higher values can create a consistent delay, but they are more realistic. You can modify thecrossfade curve by dragging it.

max duration controls the duration of the single layer legato passage. You can choose between two basic options: a long duration time, which only has one dynamic layer, but no phasing artifacts, or a short duration time (with the back to sustain group set) which gives you full control over the dynamics, but some phasing artifacts may occur.

BACK to SUSTAIN time
This is the crossfade time the Sustain will take to come back after the legato duration time. A longer time helps to achieve a smoother transition.

SECOND PAGE
There's a second page for the legato articulations.
In this page you can set conditions like "if velocity is higher than 64 sustain, use accented". These conditions override the settings of the currently selected articulations. You can set conditions based on velocity, playing speed and Mod wheel settings.

These settings will override any pitch wheel triggered articulations. The second of two statements will override the first one.
Here you also see also the optional controls for Synthesized Vibrato, which works better with non-vibrato groups. In the preferences panel, you can set your own midi CCs for controlling the rate and the amount of synthesized vibrato.

Short articulations
The short articulations can be customized as well, by selecting up to 4 variations per round robin (round robin is the alternation between different samples, to reduce the "machine gun" effect.)

If you don't want to use RRs you can select the same group for all the four RR states. On the right you can assign control of dynamics to velocity (the default setting) or to the mod wheel.
"Stop DCE Analysis after ...", prevents the short articulation from being affected by the DCE engine. This allows the short note sample to decay correctly.

Instant Articulations
These articulations can't be played normally. Instead, they fade in over the currently played note. When you release the keyswitch or play another note, the momentary articulation will fade out as well. These are great to perform trills or to morph a sound into a flutter tonguing articulation. You can select the group from the available ones and set the crossfade time and curve as well.

On this page we explain the core aspects of the DCE engine. *DCE* stands for *Dynamic Control Engine*. By using an external tool, we've extracted the volume information for each sample in the instrument. This allows us to create volume adjustments to ensure that the dynamics and the transitions flow seamlessly into one another.

The Dynamics page features a large slider labelled **NATURAL/AUTO-GAIN**.

NATURAL mode leaves the samples as is, and the DCE simply tweaks the limit volume for the transitions, while the mod wheel reduces the volume by the amount specified in the *mod wheel dynamic range* box.

AUTO-GAIN mode forces all samples to a specific dB setting, specified by the mod wheel dynamic range box.
The two modes are quite different, and you will hear a significant change in the dynamic range and in the control of the instrument.
The first mode is not as easily playable, but it has a great breathing sound, especially during *crescendo/decrescendo* and on short notes.
The second mode is much more playable, but it has a compressed sound, which forces the user to move the mod wheel further. However, shorter notes and *crescendo/decrescendo* will sound a little less realistic.
Obviously, a compromise between the two systems is the best solution, and that's the point of the slider!

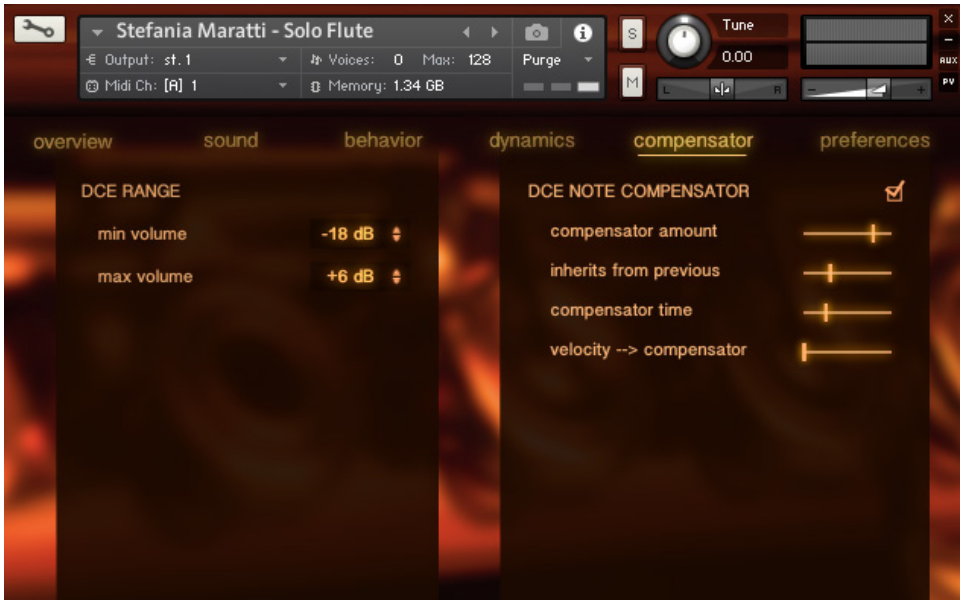
Usually the middle position results in the best of both worlds.

Use also CC11 for volume allows lets you set an additional volume control, which can be also remapped as desired in the preferences page.

On the right, the numbers between the dynamic layers indicate the crossover point at which the *sustain* dynamic layer changes. When the modwheel is in that range the instrument will switch to its own dynamic layer.

The duration of the crossfade between dynamic layers in *sustain* mode is defined with the smooth time indicator. Here you can also edit the crossfading curve.

By decoupling the layers' crossfade and the relative volume control of the layers, we've been able to create seamless changes between the different dynamic layers.



The *compensator* controls and matches the samples' volumes. If you look on the first page, you'll see that when playing legato a little meter appears under each layer. This is the compensator adjustment, that changes the volume of the new notes to match the volume of the previous ones.

In this panel you can configure the main settings for the *compensator*.

DCE RANGE sets the total dynamic action of the DCE. In the image above, for example, the DCE can't increase the samples to more than +6db and can't lower their volume to less than -18 db. Setting the range is important: it limits the action of the *compensator*, preventing the samples from playing at unnatural volume levels.

Compensator amount controls the total amount of the compensator's action.

Inherits from previous aallows you to conserve some of the residual compensator from the previous samples. Lower values create less consistency when playing fast. In contrast, higher values can cause a decaying sound, due to excessive amounts of inherited compensation.

Compensator time controls how fast the compensator takes to go to 0.

Velocity --> compensator allows you to control a bit of the compensator's action with velocity, allowing the user to add a mild accent to the notes when playing legato passages. Sometimes it can also be useful to manually tweak the volumes of the legato transitions.

REMAPPINGS
Here you can remap the various controls of the instrument: the mod wheel, the pitch wheel, expression (CC11) and the optional Synth Vibrato.

ENGINE ACCURACY
Sets the resolution of the engine. Higher settings consume more CPU but give a better sound with less lag.

GUI REFRESH
If you want to save some CPU set this value to a higher amount. It will save you some computer resources, but the screen animations will be less fluid.

TUNING
You can choose between 440 and 442 tuning.

HUMANIZE TUNING
The humanizer allows you to create a more human feel by slightly detuning the instrument.
The humanizer tries to imitate a human style of playing, though just intonation and by modulating the tuning according to the currently played dynamic.

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Have fun,
FluffyAudio Team