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# Virtual Trumpet

for electronic wind instruments, keyboards and MIDI

Created by *Gino Chimenti*

# Manual

Virtual Instrument for  **KONTAKT**

# INTRODUCTION

The **trumpet** is a brass instrument commonly used in **classical** and **jazz** ensembles, as well as in **popular** music.

The earliest trumpets **date back to 1500 BC** and earlier. The bronze and silver Tutankhamun's trumpets from his grave in Egypt date back to this period. Trumpet-like instruments have **historically been used as signaling devices** in battle or hunting. They began to be **used as musical instruments only in the late 14th century**.

Early trumpets did not provide means to change the length of tubing, whereas modern instruments generally have **three (or sometimes four) valves** in order to change their pitch.

The **Suonopuro Super Trumpet** is a **highly innovative virtual instrument** based on the new Suonopuro Flügelhorn engine. It combines the **realism** of instruments entirely based on **sampled sounds**, with the **versatility** and **playability** of virtual instruments based mainly on **algorithms**.

In Suonopuro Super Trumpet everything starts from **a myriad of sampled materials**, which make its timbre highly convincing, but managed through **complex algorithms**, which allow you to play in a fluid, expressive and intuitive way. It allows you to start a note with a wide range of nuances, **from portato to accented**, or with different types of **bending**, also controlling its duration. You can perform both **legato** phrases and **glissato** passages, up to twelfth intervals (19 semitones of distance), with great realism. It also has **a wide dynamic and tonal range**, adjustable and controllable in many ways, and **and a range of over 4 octaves**. The **crescendo** and **diminuendo** are very natural, without earing overlapping notes.

The Super Trumpet also has a **wide range of effects**, which transform the trumpet sound into something more modern: **wha-wha filter, chorus, distortion**, adjustable **breath noise**, automatic **vibrato, flutter**, stereophonic effect, **5 fantastic mute effects** and much more.

The Super Trumpet is **designed to get the best**, in terms of expression and control, from **any kind of MIDI instrument**:

- **Electronic Wind Instruments** (Akai EWI, Roland Aerophone, Yamaha YDS, Berglund NuEVI, etc.);
- **MIDI strings** (Cantini MIDI violin, Zeta MIDI violin, etc.);
- **MIDI converters**, like the Sonuus i2M;
- **MIDI keyboards** (NI Komplete control, M-Audio Oxygen, etc.);
- **MIDI controllers** (TEC breath controller, MIDI expression pedal, Yamaha BC3, etc.).



# FEATURES

- 5 fantastic mute effects: **Cup, Harmon, Wha-Wha, Bucket and Straight.**
- More than **3000 samples** at 24bit/48kHz all working together as one.
- **Perfect Crossfade:** transition from piano to forte and vice versa on **four levels** without hear overlapping notes.
- **Editable Dynamic Controller and Range.**
- **Two monophonic modes with real time automatic recognizing of legato and staccato:** by dynamic controller and by keys.
- **Play on release mode:** when you release a note, the software plays the previous note still pressed.
- **Configurable legato mode and real time controlled glissando.**
- Playing **staccato, each new note is slightly different** from the previous one, with multiple and gradual gradients from soft to marcato.
- **Two parallel voices** that automatically adapt to the selected key.
- **Polyphonic mode** for polyphonic instruments and **sustain or hold 1<sup>st</sup> note** modes for monophonic instruments.
- **Bending technique,** which consists in starting a note with an ascending glissando, based on 2 levels and live controllable in duration.
- Release of notes with a descending (**Fall**) or ascending (**Squeeze**) glissando that can be controlled in duration.
- **Automatic vibrato and flutter-tonguing** both configurable and controllable live.
- Easy to use **Chorus, Stereo, Compressor, Three-band equalizer, Convolution reverb, Distortion and Delay** effects.
- Adjustable and live controllable **breath noise** for a “fluffy” sound.
- **Low Pass Filter** for **wha-wha** effect, with adjustable **resonance.**
- **Keyswitches** that can be also disabled and a **live options activator** to instantly switch from one configuration to another.
- **More than 4 octaves of range.**
- **Resonance effect,** which simulates what happens when a trumpet is played near a grand piano.
- **Splitter and Switcher by Suonopuro,** to split and layer many sounds across your MIDI instrument and change instrument on the fly.

# SYSTEM REQUIREMENTS

- **A COMPUTER:** Windows or Mac or Maschine+ by Native Instruments.
- **NI KONTAKT 5.8.1 or higher FULL retail version. It is NOT compatible with Kontakt Player.** You can open and run any patch of Super Trumpet in Kontakt player just for 15 minutes. After that, the demo period of the player times out and you have to re-start and reload the library.
- **A MIDI CONTROLLER:** an Electronic Wind Instrument or a Keyboard or any kind of MIDI instrument.

# LICENSE AGREEMENTS

Thank you for purchasing the Super Trumpet by Suonopuro. By using this product, **you must accept this license agreement:**

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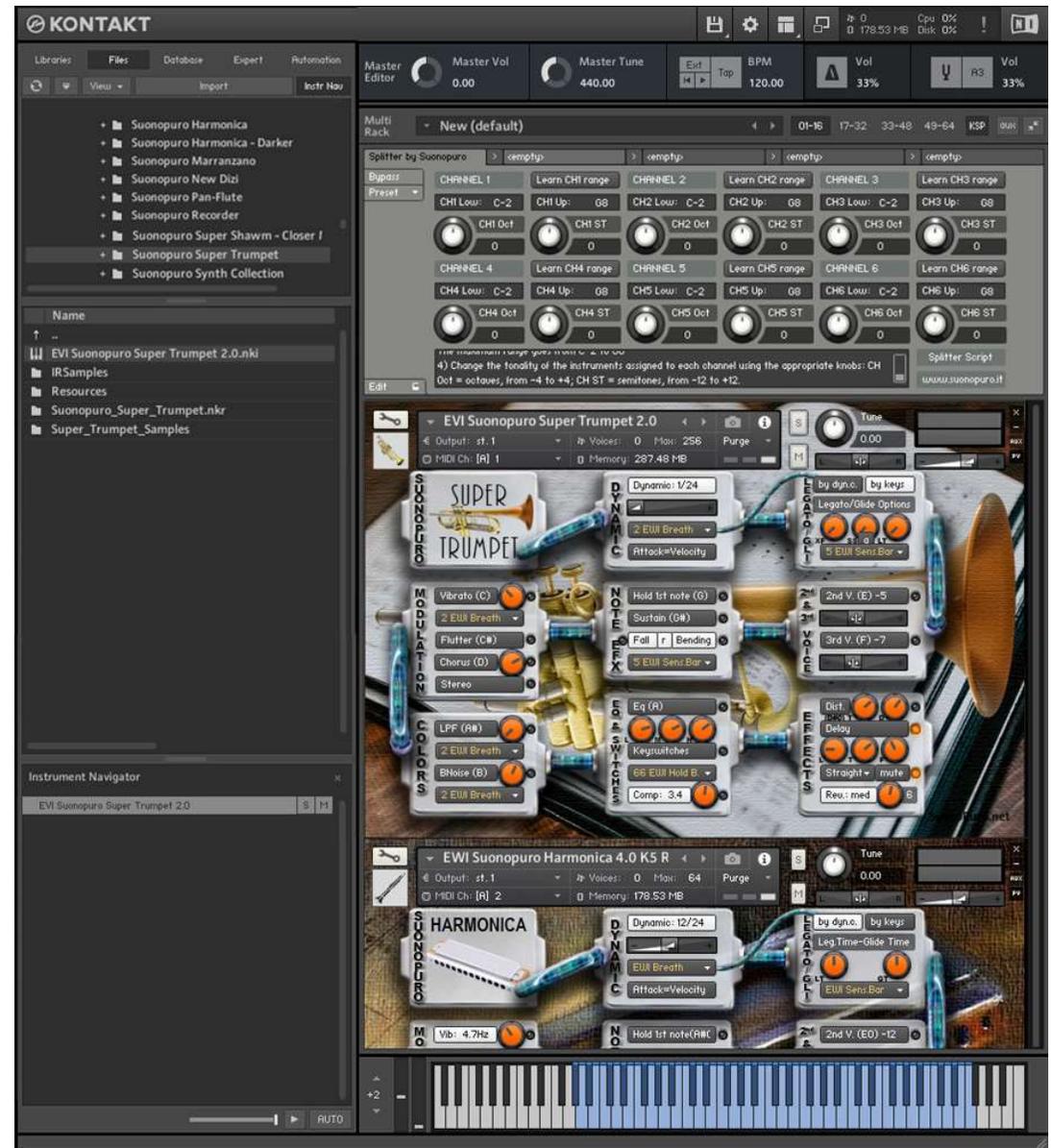
# INSTALLATION

- **Download and unzip** (unrar) the S\_Trumpet.rar file into a folder of your hard-drive, using the password that was notified.
- **Keep all data within said folder.** Do not move the audio files to another folder, otherwise Kontakt will search for files.
- **Launch Kontakt 5.8.1** or a higher version.
- From the files tab of the Kontakt browser, find the folder where you unzipped the Suonopuro Super Trumpet and **double click on the file you want to load.**
- **Select the desired channel and options, and play.**
- If you are experiencing latency issues or unexpected glitches, please adjust the buffer size from the driver configuration menu of your sound card.

## The Suonopuro Super Trumpet folder contains:

- **2 preconfigured files (.nki)** for **Electronic Wind Instruments** that work with the MIDI-CC2 whose name starts with **EWI** or **EVI** (Electronic Valve Instrument);
- **A preconfigured file for the Yamaha Digital Sax (YDS)** or other instruments that work with the MIDI-CC11.
- **2 preconfigured files for keyboard:** the first, whose name starts with **KEY**, whose dynamics are controlled by the force with which the keys are pressed, and the second, named **KEY+WHEEL**, whose dynamics are controlled by the modulation wheel;
- **An empty multi file (.nkm)** containing the **Suonopuro Splitter**, to split and layer many sounds across your MIDI instrument.

**All instrument files are equal, share the same code and can be easily adapted to work with any MIDI instrument.**



# SUONOPURO - SUPER TRUMPET - QUICK GUIDE

The **Dynamic Range Slider** defines the difference in volume between pp and ff, from 0 = minimal, to 24 = very wide. The **Dynamic Controller Menu** allows you to select how to control the dynamic, from pp to ff. You can choose any kind of MIDI controller, like the Breath Controller CC2, the Velocity or a fixed value. It also controls the legato in "by dyn. c." mode. The **Lev. ff button** activates an additional level of ff samples.

The **Shine button** activates dynamic control of the flugelhorn's high-mid frequencies. The louder you play, the brighter the sound. The **Shine knob** adjusts the mid gain on the high frequencies. Lower values make the sound darker.

**Attack=Velocity** button allows you to control how to start a note, from soft to marcato: or totally by the speed of the key-press (velocity) or partially by the MIDicc selected in the dynamics controller menu.

The **Vibrato Button** puts on a pitch and volume modulation controlled via the sensor selected on the **Modulation Controller Menu** below. The **Flutter Button** enables a flutter-tonguing style mode, also regulated via the sensor selected on the **Modulation Controller Menu** above. The **Vibrato Frequency Knob** on the right, adjusts the base frequency of the modulation.

The **Chorus Button** generates a detuned and modulated copy of the audio signal. The **Chorus Depth Knob**, to the right of the button, adjusts the range of modulated detuning.

The **Stereo Button** activates a stereophonic effect. The **Knob** changes the **Stereo Spread**.

This button activates a **Low Pass Filter (wha wha)**. It attenuates signals with frequencies higher than the cutoff frequency modulated via a **Controller** selected on the **Menu** below. The 1st knob next to LFP changes the cutoff frequency, the 2nd adjusts its **Resonance** percentage. The > button reverses the controller.

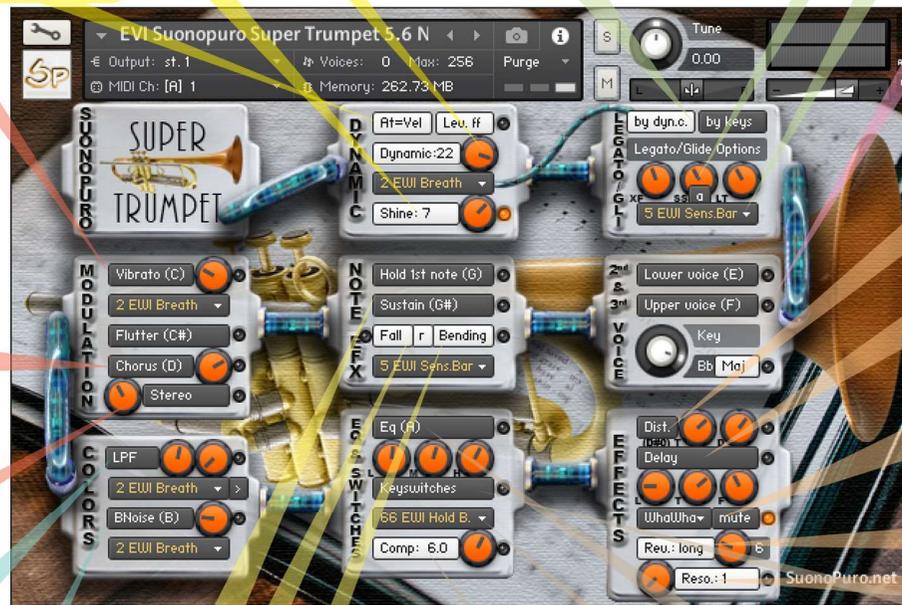
The **BNoise knob** adjusts the average volume of the breath noise, which is activated by the **BNoise Button** and controlled by the sensor selected in the **BNoise menu** below.

The **Fall Button** allows you to release a note with a glissando, by playing a note out of the Flugelhorn range. On the EWI just detach your left thumb from the octave rollers, continuing to blow. The velocity determines the type of glissando: *p* = soft down, *f* = hard down and *ff* = up. The *r* button moves the yellow notes from low to high register, for EVI (Valve Instr.) or for the EWI Er fingering (EVI reverse). The *Fall+r* function reduces the range but it can be replaced by the yellow notes when **Keyswitches** are on.

Each of these two buttons activates a **Monophonic Mode**, which allows you to play in a more expressive way. The monophonic modes differ in the way of **controlling the legato and the staccato**:

- 1) by dynamic controller:** while the selected dynamic controller sends values greater than 0, then notes will be legato, otherwise the note will break off and the next one will be staccato. This mode is **most suitable for wind or string MIDI instruments**.
- 2) by keys:** to play legato, you must press the key of the next note before releasing the key of the previous note. This mode is **typical of keyboard instruments** but also works with an EWI. When you release the key of the last note played, if there are other keys pressed, the software will play the penultimate note among those whose key is still pressed (**Play on release mode**).

Turn off both buttons to enter **Polyphonic Mode**.



**Hold 1st Note** sustains the first note you play with a single breath. The **Sustain Button** "sustains" all the notes you play with a single breath. **Warning:** these two functions work only in Legato by dyn. c. mode with any controller other than the velocity.

The **Bending Button** enables an effect that starts the notes with an initial glissando. It is activated via the controller selected in the **Menu** below. Starting a note *pp* the bend is one octave, otherwise it is one tone.

**Legato XFade Time (XF)** is the duration in ms of the crossfade between a note and a legato sample. Higher values result in a smoother transition.

**Sample Start (SS)** determines the playback position of a legato sample. Higher values make the legato faster but less realistic. The **a Button** randomly changes this value, making the legato more varied.

**Legato Tolerance (LT)** is the time in ms within which the system still considers two consecutive notes as legato. After recording a MIDI track, it may be necessary to increase this value for a proper playback.

With the **Glide Controller Menu** you can choose how to activate a glissando effect (a pitch sliding from a note to the next) and control its duration.

**Lower and Upper Voice Buttons** activate, respectively, a second and third parallel voice, which proceed below (Lower v.) or above (Upper v.) the note played. The **Key Knob** selects the key of the parallel voices, which can be major or minor, depending on the **Maj/min** button at the bottom right.

**Distortion Button** causes a distortion by clipping high sample values.

**Tone Knob** controls the brightness of the dist. sound. **Drive Knob** adjusts the amount of distortion.

The **Delay Button** enables a delay effect with 3 adjustable parameters: **Level** in dB, **Time** in ms and **Feedback** in %.

The **mute button** activates one of the 5 mutes that can be selected via the adjacent menu or via MIDicc: cc21>0 → Cup; cc22>0 → Harmon; cc23>0 → WhaWha; cc24=0 → Bucket; cc25=0 → Straight.

With the **Reverb Button** you can activate a convolution reverb choosing between **short, dark, medium** or **long**. The **Reverb Knob** adjusts the reverb level.

**Reso** simulates the resonance of the trumpet inside a piano.

This button enables a **three-band Equalizer**, which divides the frequency bands into L (low), M (middle), and

The **Activator Controller Menu** allows you to select a controller to activate each function marked with this yellow led: ● When this controller sends a value of 0, the marked functions are activated or deactivated. In this example, double clicking on the EWI HOLD button ↓ you will activate the Mute and the Breath Noise will be disabled.



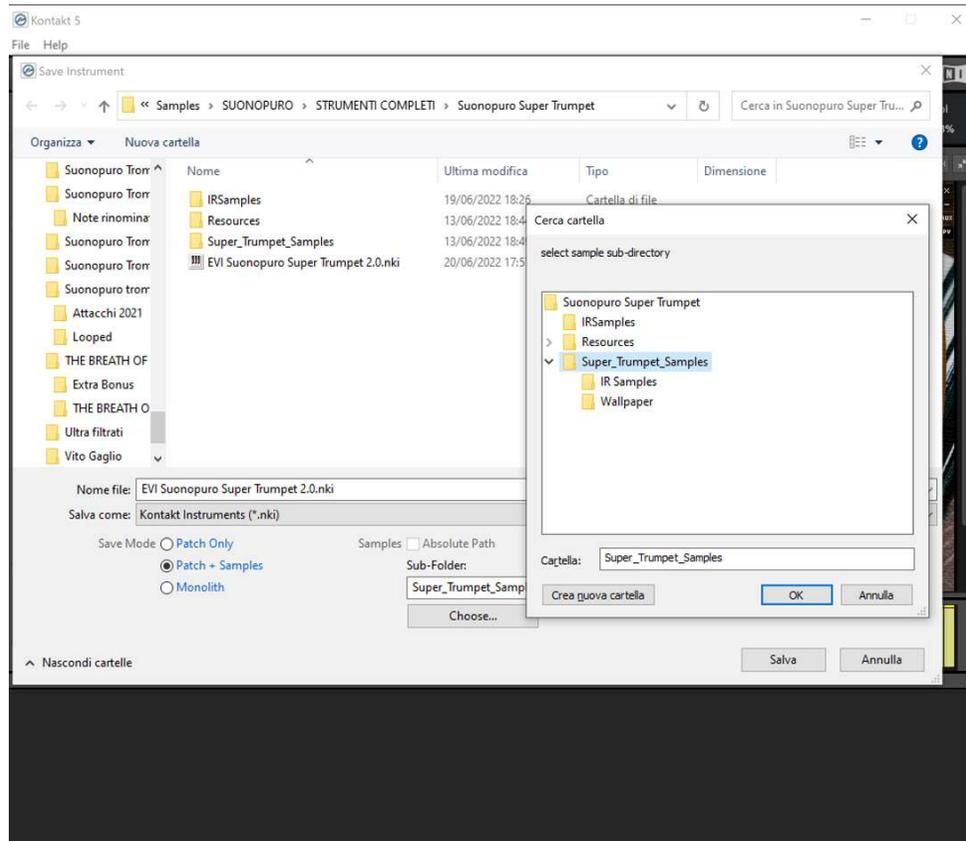
This **button** activates a **compressor** efx and the **knob** to its right adjusts the **compression ratio**.

Octave n.0	Function
	Fall & Rise D to C#
	Straight m. C#
	Bucket mute C
	Wha-Wha mute B
	Harmon m. A#
	Cup mute
	Sustain G#
	Hold 1st note G
	H. Mute F#
	3rd voice F
	2nd voice E
	Distortion D#
	Chorus D
	Flutter C#
	Vibrato C
	Breath Noise B
	LP Filter A#
	Equalizer A
	Glissando G#
	Bending G

# HOW TO SAVE A CONFIGURATION

To save a customized file, please follow the instructions below:

1. Open the “Files” menu;
2. From “Save as...” select the file you want to save;
3. From the “Save in:” menu, select the “Suonopuro Super Trumpet” folder. Do not change this folder, to avoid problems with convolution reverb files;
4. In the “Save Mode” box, select “patch + samples”;
5. Select the “sample sub directory” by clicking the button “...” and selecting the folder “Super\_Trumpet\_Samples”, then click OK.
6. In “File Name”, insert a name of your liking and save.



# HOW TO SETTING-UP ADDITIONAL CONTROLLERS

To assign any of Super Trumpet's sliders or knobs to a certain MIDI controller:

1. Click the knob or slider you want to assign a MIDI controller to.
2. Select **Learn MIDI CC# Automation**.
3. Turn the knob or move the slider on your **MIDI hardware controller**. The control should pick up the movement instantly.

Alternatively:

1. In Kontakt's left browser, select **"Automation"** and then **"MIDI Automation"**.
2. Select a source from the list and drag it onto a knob whose parameter you want to automate.
3. With **"From %"** and **"To %"**, at the bottom of the pane, you can alter the scaling of the assignment so that the automation values are mapped to a limited range of the assigned parameter. For reverse operation, enter a value greater than To% on From%.

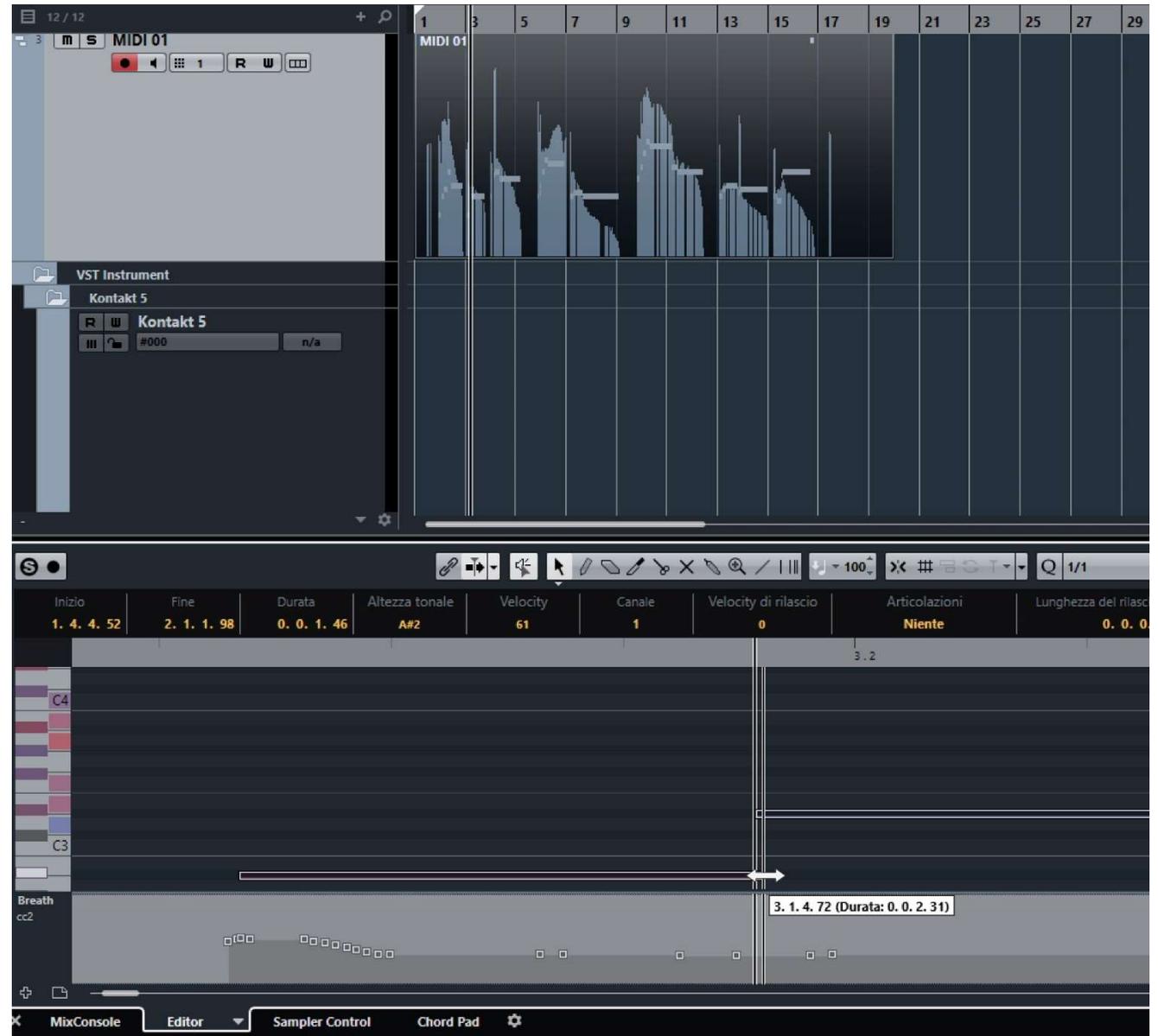


You can add additional MIDI controllers (CC#s) to the same KONTAKT knob. You can also assign multiple knobs or sliders to the same MIDI controller.

# HOW TO PLAY A MIDI TRACK CORRECTLY

If, after recording a part in MIDI, the ties are not reproduced correctly, proceed as follows:

1. Select the part and open it in the MIDI editor.
2. Select all (Ctrl A) and zoom in on the point where two tied notes meet.
3. Extend all the notes by dragging the end of the first tied note so that it slightly overlaps the second tied note.



# SUONOPURO SPLITTER

The Splitter by Suonopuro is a **multiscript** for Kontakt that allows you to **split and layer many sounds** across your keyboard or your MIDI instrument.

For instance, you could put a Super Duduk in the bottom half of the keyboard, and a Super Trumpet in the right.



Instruction:

1. Load the first sound you want to use, and set it to channel 1;
2. Now choose the lowest and the highest notes of the range you want to use to play the instruments assigned to channel 1. You can do this in 2 ways:
  - a. By typing the lower and the upper note (from C-2 to G8) in the "CH1 Low:" and "CH1 Up:" text fields.
  - b. By clicking on the "Learn CH1 range" button and playing on your instrument first the lowest note and then the highest one of the desired range.
3. Transpose the instruments assigned to channel 1 with the appropriate knobs:
  - a. **CH1 OCT** changes the octaves, from -4 to +4
  - b. **CH1 ST** transposes by semitones, from -12 to +12
4. Do the same with the other sounds, up to channel 6; (leave or set your keyboard, or the MIDI instrument you use, to MIDI channel 1).

# SUONOPURO SWITCHER FOR MIDI INSTRUMENTS

The **Suonopuro Switcher** is a multiscript for Kontakt that allows you to recall, split and overlap multiple virtual instruments with any MIDI musical instrument. For example, you can load 9 different instruments on Kontakt, transpose them in pitch and octave, overlap or distribute them on the different octaves of your MIDI instrument and recall them on the fly, without waiting for loading.

## INITIAL SETTINGS

- Set or leave your MIDI instrument on MIDI channel 1 (default).
- First upload the Suonopuro\_Switcher\_for\_Kontakt.nkm file to Kontakt and then the virtual instruments you intend to use, each set on a different MIDI channel, from 1 to 9, as in image 1.
- Choose the lowest and highest notes of the range you want to use for each channel/instrument. To do this, fill in the CH\* up and CH\* low fields for the nine MIDI channels of the Switcher. Alternatively, you can click on the Learn CH\* range button and then play on your instrument, first the lowest note and then the highest note of the range you wish to use.
- Change the pitch and octave for each channel with the Oct (octave) and ST (semitone) knobs.

## MODE SETTINGS

- If the "**C. Controllers ON**" button is lit, then you can turn channels/instruments on and off by pressing buttons on your MIDI instrument or turning knobs that send MIDI CC data to Kontakt ( Continuous Controllers), respectively from CC20 to CC28 (see image 1). For each MIDI CC, values greater than 0 activate the channel, while values equal to 0 deactivate it.
- Furthermore, with MIDI CCs from 29 to 31, it will be possible to activate and deactivate, respectively, the triplet channels 1+2+3, 4+5+6 and 7+8+9.
- If the "**SINGLE MODE**" button is active, selecting a channel or a set of channels will deactivate all the others.
- If the "**Program C. ON**" button is active, then it will be possible to activate and

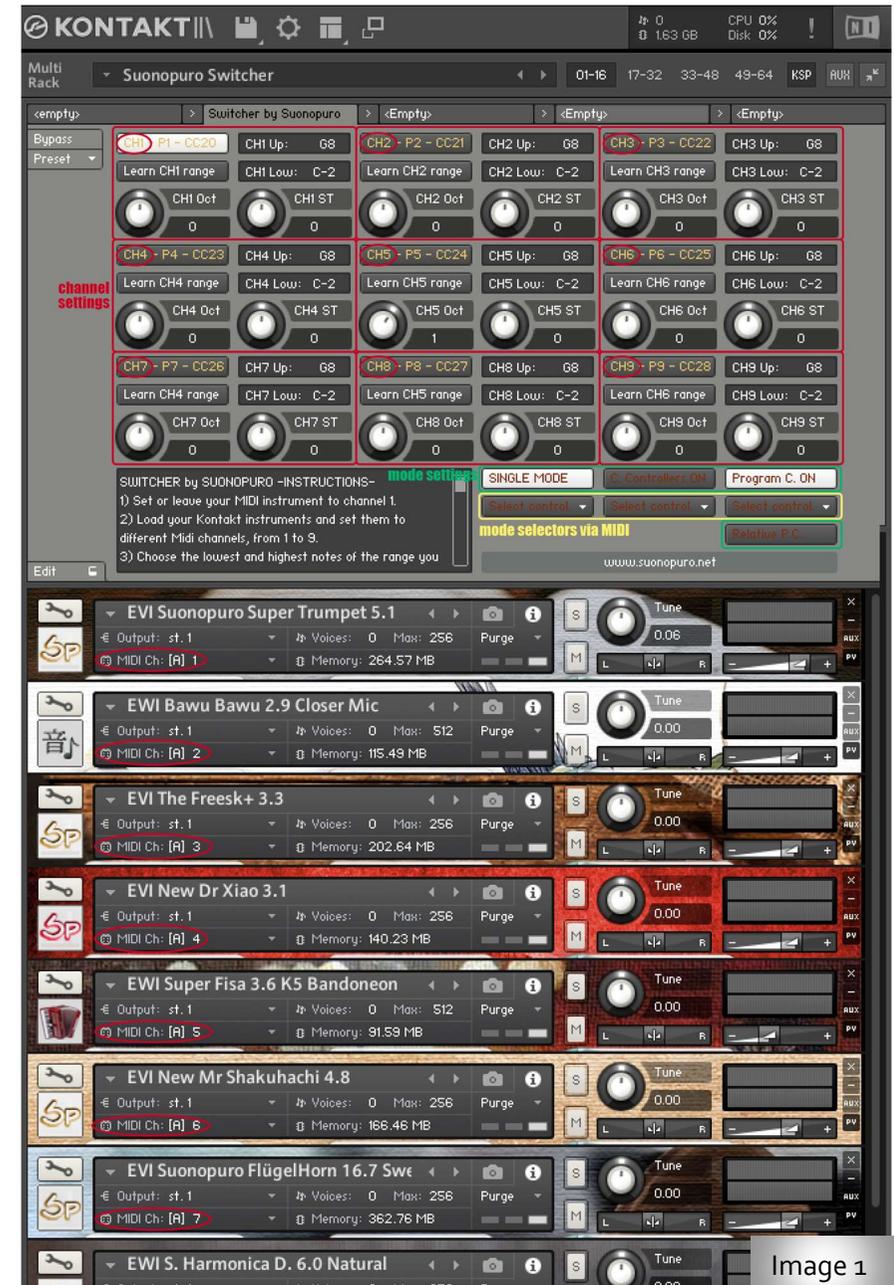


Image 1

deactivate each channel/instrument using the MIDI Program Changes from 1 to 9. If the SINGLE MODE button is also active, then with Program Changes from 10 to 12 you will be able to recall, respectively, the channel trios 1+2+3, 4+5+6 and 7+8+9.

If the "**Program C. ON**" button is deactivated, then Program Changes will be sent only to the selected channel. In this way, by loading .nkb files on the channels, which contain banks of sounds, with MIDI CC (Continuous Controllers), you will be able to move from one bank to another, while with Program Changes you will be able to select a single sound from the active bank.

- If the "**Relative P.C.**" button is active, the first Program Change received will be considered n.1 and subsequent ones, in proportion.
- The 3 menus which in image 1 are circled in yellow are used to choose a possible controller to use to activate and deactivate, directly from your MIDI instrument, respectively the "SINGLE MODE", "C. Controllers ON" and "Program C. ON".

# SUONOPURO SWITCHER FOR KOMLETE KEYBOARDS

The **Switcher for Komplete** by Suonopuro is a multiscrypt for Kontakt that allows you to select, split and layer many sounds across your Komplete Kontrol Keyboard.

For example, you can load 8 different instruments for Kontakt, transport them, overlap or divide them into different parts of the keyboard and recall them on the fly, without waiting for loading.

## INITIAL SETTINGS

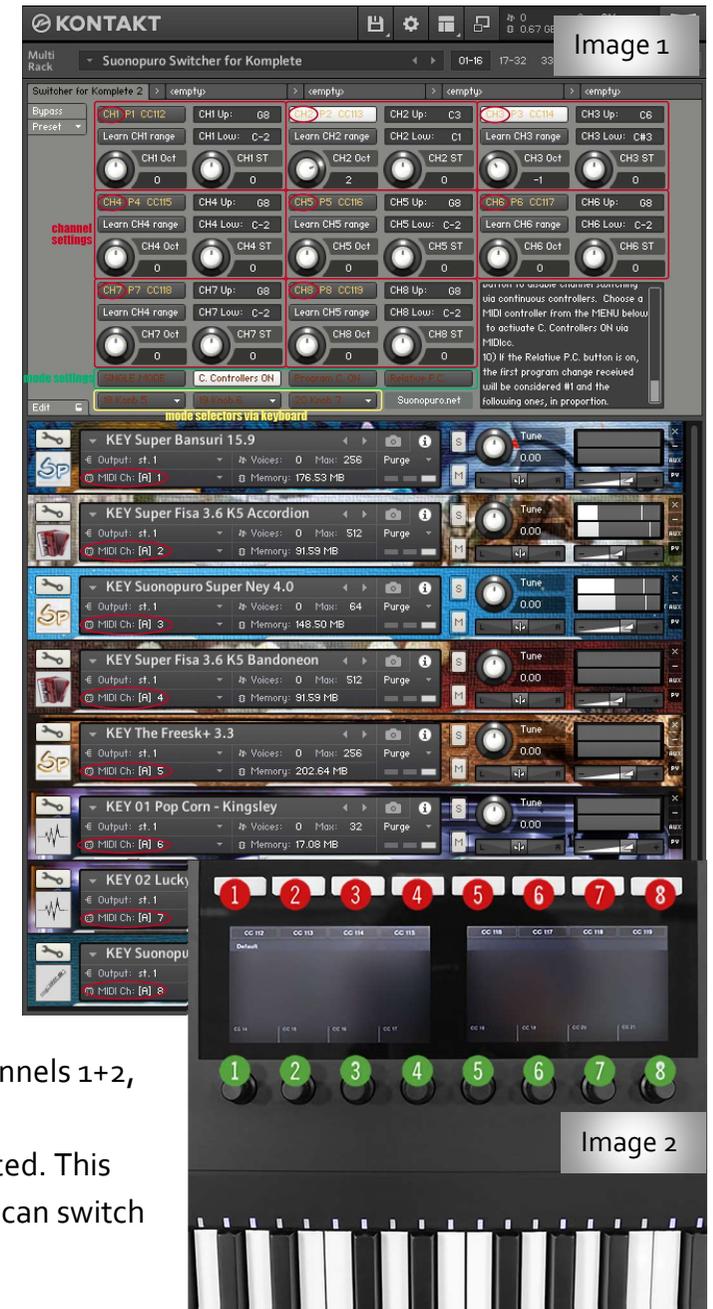
- Set or leave your Komplete Kontrol Keyboard to MIDI channel 1 (default).
- Load the Suonopuro\_Switcher\_for\_Komplete.nkm file and then the virtual instruments you intend to use, each one set on a different MIDI channel from 1 to 8, as in image 1.
- Choose the lowest and highest notes of the range you want to use for each channel. To do this, fill in the CH\* up and CH\* low fields for the eight MIDI channels of the Switcher. Alternatively, you can click on the Learn CH\* range button and then play on your keyboard first the lowest note and then the highest note of the range you want to use.
- Change the key and octave for each channel with the Oct (octaves) and ST (semitones) knobs.

## MODE SETTINGS

- If the "C. Controllers ON" button is active, you can turn channels on and off by pressing the unlabeled buttons on your Komplete Kontrol keyboard (see the buttons marked in red, 1 to 8, in image 2, midiCC 112 to 119).

Furthermore, with the first 4 unlabeled knobs, you can activate and deactivate the pairs of channels 1+2, 3+4, 5+6 and 7+8 respectively. (see the green labels from 1 to 4 in image 2).

- If the "SINGLE MODE" button is active, by selecting a channel, all the others will be deactivated. This way you can switch from one instrument to another by pressing a single button. Likewise, you can switch between pairs with the unlabeled knobs, 1 through 4.



- If the "**Program C. ON**" button is active, you can change channels using MIDI program changes from 1 to 8. In SINGLE MODE, with Program Changes from 9 to 12 you can recall, respectively, the channel pairs 1+2, 3+4, 5+6 and 7+8.
- If the "**Program C. ON**" button is deactivated, then program changes will be sent only to the selected channel. In this way, if you load .nkb files on the channels, which contain banks of sounds, with the unlabeled buttons on the keyboard you can move from one bank to another, while with the MIDI program changes you can select a single sound of the bank active.
- If the "**Relative P.C. button**" is on, the first program change received will be considered #1 and the following ones, in proportion.
- The 3 menus at the bottom are used, respectively, to choose a controller to use to activate and deactivate the "SINGLE MODE", "C. Controllers ON" and "Program C. ON" buttons, directly from the keyboard.