

# Harmonic Triangles



Produced by Nelson MALLÉUS

*Harmonic Triangles* is not just about 4 extremely detailed triangles with many playing techniques: it gives you the choice between natural sounds with indefinite pitch, the same triangles with definite pitch sounds and even minor triangles !

As a result of acoustic experiments, *inouï samples* founded a way to transform indefinite pitch instruments into definite pitch instruments while maintaining the sound integrity for *Harmonic Triangles*.

From recording to sound design, *inouï samples* offers you with *Harmonic Triangles* a product made with the same sense of detail and precision that it has shown since its first release *Very Close Piano*.

Triangle is out of tune? A lack of homogeneity in your high-pitched instruments? You can finally make disappear all the problems which used to come with the triangle through the innovations brought by *Harmonic Triangles*.

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## Technical information

- 1250+ samples
- 48kHz / 24 bits (scaled from 96kHz)
- 4 triangles in three modes :
  - *Nat* (natural)
  - *Hrm* (harmonic)
  - *min* (minor)
- 5 techniques
  - *Hit* (control the beater weight and the impact location)
  - *Mute*
  - *Rub*
  - *Trill 1* (trill on 2 sides, using mod wheel crossfade)
  - *Trill 2* (circular trill on 3 sides, using mod wheel crossfade)
- 3 to 5 velocity layers depending on techniques
- an XY pad to control the beater weight and the impact location for *Hit* technique
- 3 microphone positions :
  - *Dynamic* (mono)
  - *Static* (mono)
  - *Room* (stereo)
- A mixing console with the following setting for each microphone position :
  - Volume
  - Panoramic
  - Solo / Mute
  - Load / unload samples
  - Output selection
- An ADSR envelope
- A « Humanize » option including :
  - round-robins for *Mute* and *Rub* techniques
  - aleatoric options for *Hit* technique
- Requires the full version of *Kontakt 5.7.3* or higher

## Credits

Producer : Nelson MALLÉUS

Triangles : Florie FAZIO

Sound advisor : Antoine PRADALET

Math advisor : Lucas MALLÉUS

Designer : Dania MALLÉUS

Sound engineer, sample editor, sound-design, programmer : Nelson MALLÉUS

Recorded on 01/05/2018 at Studio La Majeur - 18 rue Saint-Bernard - 75011 PARIS (France)

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## Triangles, microphones, techniques and sound-design

If the unique characteristic of *Harmonic Triangles* lies of course in its exclusive sound-design on samples, it first of all based on extremely detailed natural recording of 4 different triangles:

- 2 orchestral silver triangles (14 cm and 30 cm)
  - *Hrm\_Tri\_Small\_Silver.nki*
  - *Hrm\_Tri\_Large\_Silver.nki*
- 2 hand hammered bronze triangles (15 cm and 23 cm)
  - *Hrm\_Tri\_Small\_Bronze.nki*
  - *Hrm\_Tri\_Medium\_Bronze.nki*

Each one of these 4 triangles has been recorded in three ways:

- *Dynamic*: close position using a high precision supercardioid dynamic microphone (mono)
- *Static*: close position using a large-diaphragm cardioid condenser microphone (mono)
- *Room*: intermediate position using a pair of small-diaphragm omnidirectional condenser microphones (stereo)

The *Dynamic* and *Static* microphones capsules almost match and look in the same direction to avoid delay and phase rotation problems.

Each triangle has been recorded in 5 playing techniques:

- *Hit* (5 velocities)
  - on the side with a light beater
  - on the center with a light beater
  - on the side with a heavy beater
  - on the center with a heavy beater
- *Mute*: hit with a beater while gripped with the hand (3 velocities, 2 round-robins)
- *Rub*: rubbed with a beater (3 velocities, 2 round-robins)
- *Trill 1*: trill on the 2 higher sides of the triangle (3 layers, continuous control using CC01 *Modwheel*)
- *Trill 2*: circular trill on 3 sides, using mod wheel crossfade (3 layers, continuous control using CC01 *Modwheel*)

All the upper described samples naturally inherited the triangles attributes : one of the most famous is being an indefinite pitch instrument. Through a sound-design work on the samples, *Harmonic Triangles* suggest rediscovering the triangle as a definite pitch instrument. Three versions are available for each triangle:

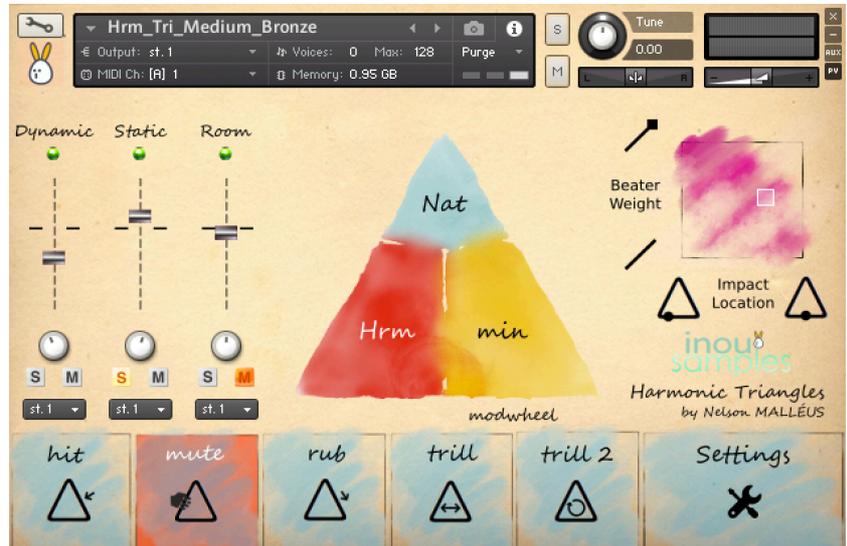
- *Nat*: natural (untreated)
- *Hrm* : harmonic (the natural samples were modified to make the triangles harmonic, as the definite pitch instruments are)
- *min* : minor (once the triangles are harmonic, the 5th and 10th harmonics are one half-tone lowered: the natural major feeling of a definite pitch sound become a minor feeling)

## Interface and controls

The interface is made up of 2 panels and a keyboard :

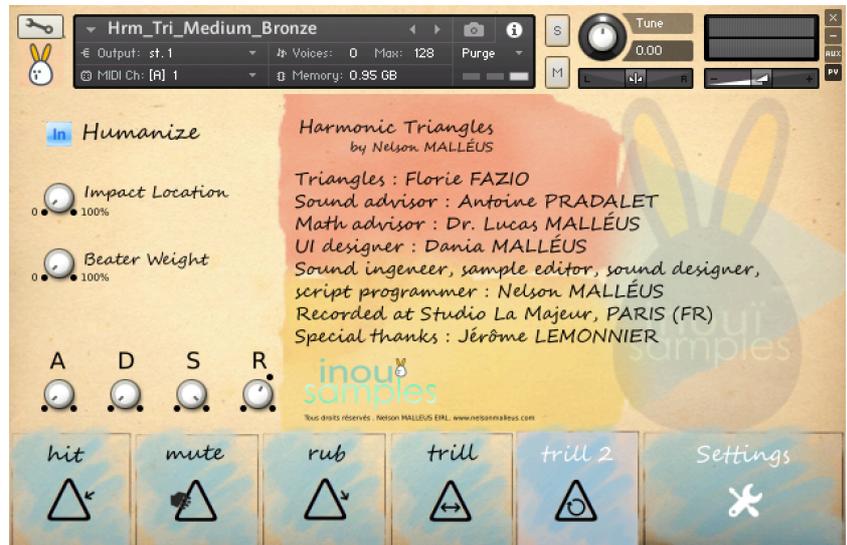
The main panel composed of:

- the mixing console
- the choice of the triangle mode
- an XP pad to define the beater weight and the impact location
- the playing technique buttons
- an access to the setting panel



The setting panel composed of:

- the humanization settings
- an ADSR envelope
- the playing technique buttons
- an access to the main panel



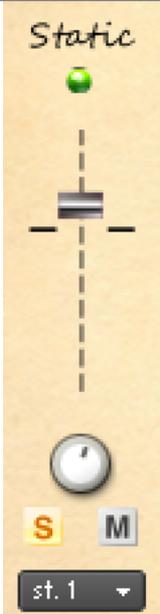
The keyboard composed of:

- a keyswitches zone
- a play on techniques zone
- a play on pitch zone



### The mixing console

The mixing console is made up of 3 channels, one for each microphone position (*Dynamic*, *Static* et *Room*). Each channel includes the usual controls :

<p>A LED to upload or reload the channel's samples to free RAM.</p> <p>A gain fader</p> <p>A panoramic knob</p> <p>Solo and Mute switches</p> <p>A menu offering the choice of the output for the channel if you use <i>Kontakt</i> in multichannel mode</p>	
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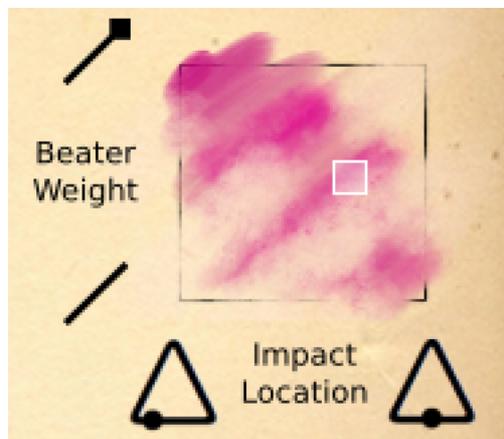
### The triangle mode

This controller will enable you to choose between *Nat* (the natural mode), *Hrm* (the harmonic mode) and *min* (the minor mode). Notice that for the *Small Silver* triangle, lower than the other triangles in partials, there is no difference between *Hrm* mode and *min* mode.



### The XY pad

The XY pad allows you to adjust the beater weight and the impact location. This control only affect the *Hit* technique.



- Each time you play a note, four samples are played:
- one with the heavy beater on the side of the triangle
  - one with the heavy beater on the center of the triangle
  - one with the light beater on the side of the triangle
  - one with the light beater on the center of the triangle

On a corner, only one sample will be audible. Moving on a side, you can hear a mix between two samples. Finally, inside the XY pad, you will hear a mix between the 4 samples as function of the position of the cursor.

### The playing techniques

You can choose your playing technique through these buttons or through the keyswitches described below. The *Settings* buttons is your access to the second control panel.

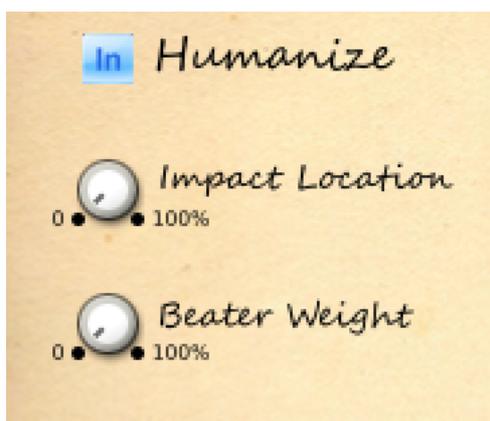


Do not forget to use CC01 *Modwheel* on trill techniques.

## The humanization settings

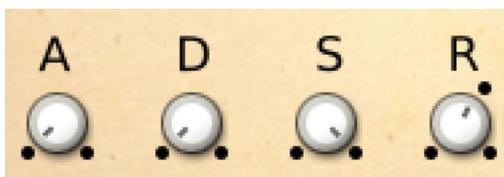
You can turn on the *Humanize* mode through the *In* switch (it will become blue). At this time, you already set on round-robins for the *Mute* and the *Rub* techniques.

The *Impact Location* and *Beater Weight* knobs allow you to set an aleatoric latitude on the XY pad to bring more life to the *Hit* technique.



## The ADSR envelope

It is a classical ADSR envelope (Attack, Decay, Sustain, Release) which covers all the playing techniques.



## The keyboard

... with its 3 zones :

- In red, the keyswitches directly interact with the playing technique buttons.
- In blue, the play on techniques mode allows you to play different techniques in the original pitch without using the keyswitches or the playing technique buttons.
- In white, the play on pitch mode allows you to play the chosen technique at the pitch you want. You can see the root pitch in green, the note where the sound quality will be optimum (the F# on the picture bellow).



## Some tips for use

- (1) To get some width with the proximity microphones (*Dynamic* and *Static*), you can place them on opposite panoramic and and mute the *Room* position.
- (2) To get an even more powerful attack with the ADSR envelope, you can set attack time to the minimum, slightly lower the sustain level and adjust the decay time to set the length of your attack.
- (3) If you are not in search for a specific sound with the *Hit* technique, put the cursor on a corner, the sound will be a little more pure.
- (4) The blue zone has priority on keyswitches, do not hesitate to use it for a single note, the red zone will take back control automatically on the next note.
- (5) The *Hrm* note is closer to a define pitch sound than the *min* mode. Except for some particular cases, it is suggested to use the *min* mode only for minor sections.
- (6) If you choose to play the third of a major chord (example : the E in a C chord), the *min* mode will be great because the G is already present in the partials.

*inouï samples* was created to offer composers, producers and sound-designers unheard sounds with strong musical potential. Whether the object of novelty is about the instrument, the sound pickup, how sound is processed or several of these parameters, each of the virtual instruments produced by *inouï samples* is designed to fit naturally into your compositions.

All the experiments of acoustics, physical and digital lutherie are made with the objective to best serve the artistic creations and to allow them to go always further.

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In case of any dispute the French text shall prevail over the other language texts.

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