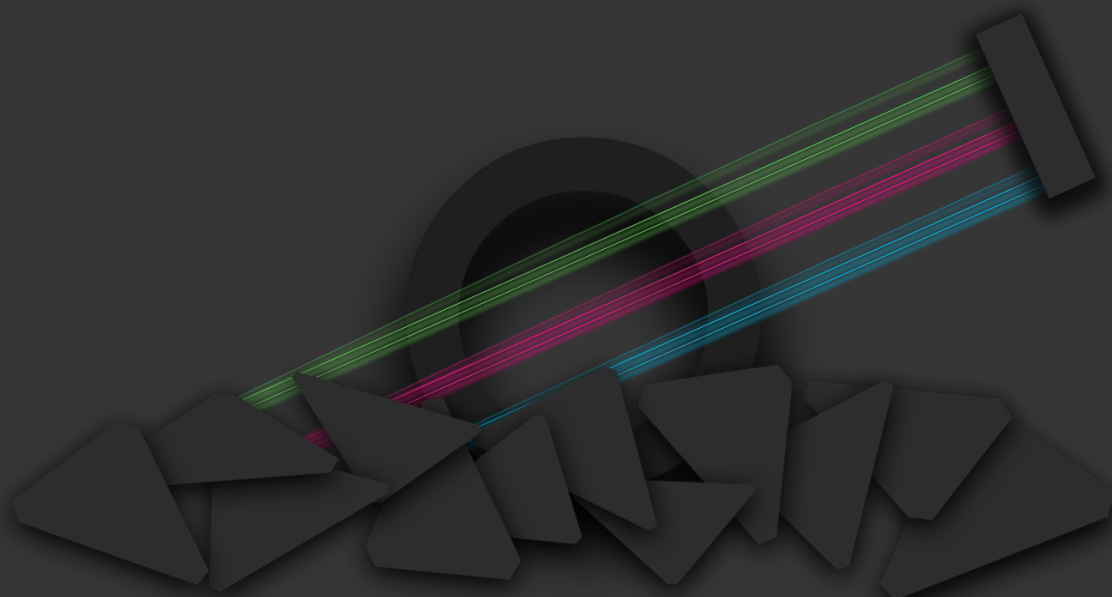




BLINKSONIC°

User guide written by Sylvain Stoppani.
Related to FR3TZ° V1.0 release September 2018



STRING HARMONICS MEET EUCLIDEAN BEATS

POWERED BY



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INTRO TO FR3TZ°

FR3TZ is a self sequenced instrument which offers to play chromatically a full set of guitar harmonics samples, with the power of granular synthesis and a suite of 6 effects.

The 3 track-mono-step sequencer can be programmed in a similar way as an Euclidean rhythm generator.

FR3TZ is an unconventional piece of instrument for creating generative patterns both melodic and rhythmical, the whole being encapsulated inside a modern user interface, inspired by « Material Design », which reinforces the user experience.

This instrument can produce amazing mechanical or non linear melodic patterns but also percussive beats and generative soundscapes. 177 snapshots have been crafted to illustrate the kind of unstable loops and unusual phrases that can be created with it.

FR3TZ also explores the random concept again, in order to provide some humanized effects on your note patterns. The sequencer is coupled with a note selector (a 1 octave virtual keyboard). This selector allows to choose which sound of the map will be aleatory launched on any incoming gate events.

Travel over the waveform with the mouse to obtain glitchy effects.. Combine the 6 effects (Pitchshifter, Filter, Distortion, Delay, Chorus, Reverb) in order to sculpt the shapes of your tones.. Inject some crazy movement on the master mix with Binaural/Doppler effect... This extensive set of features combined between each other, provides a unique recipe for designing sounds.

FR3TZ, even more than a sound bank or a virtual instrument, is a real physical sonic palette.

You will discover how surprising it can be to use string harmonics as an oscillation source, transform them as an atonal percussive element. Thanks to granular synthesis, experiment how to sound big with the infinitely small.



THE CONCEPT

String harmonics have a particular sound rendering and easily provide one of the most mysterious and subtle sonic mental images when they are punctually used in a guitarist performance. Obtained with a slight pressure on the strings with the tip of the finger raised above the frets, the harmonics deliver one of the most fascinating sounds that can be extracted from a guitar.

The tonal result of this technique gives a sound with a high pitch value, some really interesting natural distortion and artefacts, to be used as a substantial waveform source inside a granular sampler.

Basically, there are only 3 octaves of « nodes » available on a guitar, but here, FR3TZ lets you play this little « squeals » and « squelch pickings » in a granular synthesis process with MIDI. On the 4 sampled instruments, up to 5 octaves have been constructed, after a process of resampling and retuning all the original signals.

Due to the tonal differences and characteristics of each node, the result is a playable set of prepared strings based on multi sample instruments. Background noise, buzzes and unwanted frequencies are part of the original recording takes, and have been preserved on purpose in order to keep a similar acoustic feeling of a prepared piano.

Then, various granular synthesis options and the complete effect chain allows to take advantage of this minimalistic waveforms to create organic pieces of reverse guitar, sweet string notes and even e-pianos tones.

THE SOURCES

FR3TZ contains an assortment of 4 sound banks that have been recorded with the most minimalistic way to preserve the basic waveform of the original instruments and without any additional sound processing. The waveforms aim to be processed directly inside FR3TZ with the various effects available. Here is the detail of each bank :

ACOUSTIC GUITAR :

A basic acoustic guitar pinched with fingers, recorded from a high output dynamic microphone.

Number of harmonic octaves : 4/5

Additional sounds : 12 (on the first available octave of the map)

STRATOCASTER :

A double mic Fender Stratocaster, used strings, pinched with a pick, directly recorded to soundcard.

Number of harmonics octaves : 5/5

STRAT/COMP :

The same double mic Fender Stratocaster, used strings, pinched with a pick, directly recorded to soundcard, but with a dynamic compressor processing.

Number of harmonics octaves : 5/5

TELECASTER :

A Squire Telecaster pinched with fingers, directly recorded to soundcard.

Number of harmonics octaves : 4/5

Additional sounds : 8 (on the first available octave of the map)

BASS GUITAR :

An Ibanez GIO bass guitar pinched and slapped with hand, directly recorded to soundcard.

Number of harmonics octaves : 4/5 + last octave of the map is slapped.

RUIDOZ° SELECTED :

This bank is a selection of micro clicks, kicks, and electronic percussions taken from on one of the previous Blinksonic instrument called RUIDOZ°.

This set aims to explore a different use of FR3TZ with a more rhythmic-orientated sound source.

You can also use this slot as a user bank if you want to load your own samples and take advantage of the granular sampler combined with the sequencer and the effect suite.



ACOUSTIC



STRATOCASTER



TELECASTER



BASS GUITAR

HOW TO INSTALL FR3TZ° :

Unzip the package and drop the resulted folder wherever you want.

Blinksonic° FR3TZ° ensemble can be open directly by double clicking on the file in your browser.

If you use a DAW (Ableton, Logic, etc..) you need to open the ensemble from Reaktor VST or AudioUnit plugin.

There are different methods to do so.

Refer to the "Application reference" in the Help section of Reaktor.

This explains how to manage directories/folders.

But the most direct way would be this one :

- in the browser on the left, click the « FILES » tab

- then you can explore on your disk, following the folder which contains your ensembles.

Note : In any case, when Reaktor is open, you can drag and drop the ensemble from your folder inside Reaktor.

For NI MASCHINE and KOMplete install, follow the two links below. Both pages explain how to integrate your Reaktor ensembles and where to copy your files :

[KOMplete KONTROL series](#)

[MASCHINE integration](#)

IMPORTANT NOTES :

FR3TZ can be open with Reaktor Player but you will be authorized to play with it for only 30 minutes. For an unlimited experience with the instrument you need a full version of REAKTOR 6.

REQUIREMENTS :

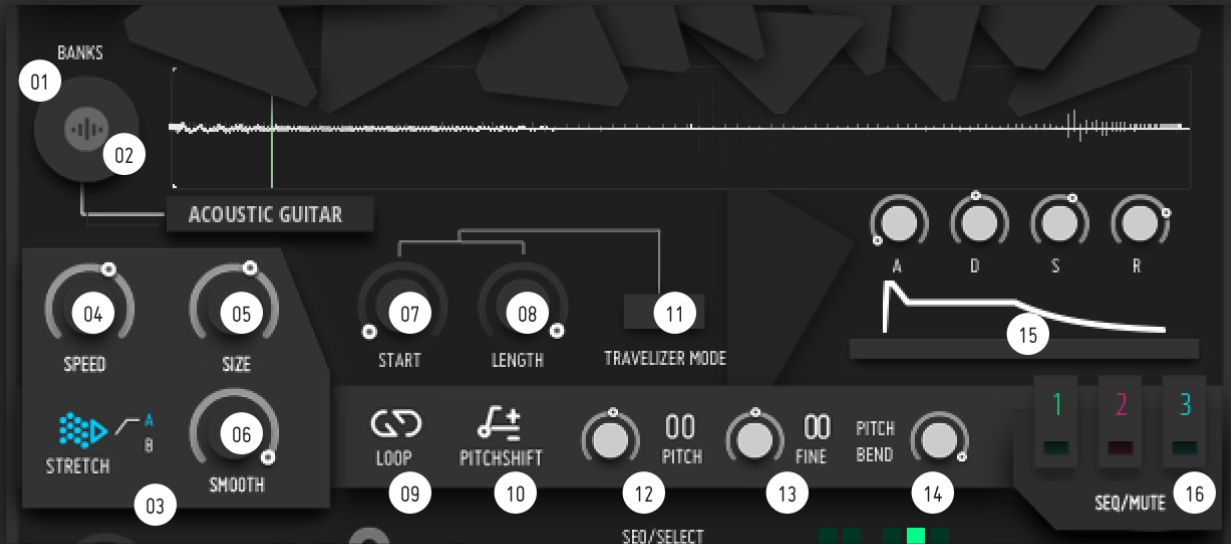
- a MAC or a PC with a **FULL version of Reaktor 6.2.2** (CAUTION : the .ens is not encrypted for Reaktor Player)
- A screen resolution with a minimum of 1920 x 1200 megapixel for a full display on screen. FR3TZ° is 630×900 megapixel.
- Intel Core 2 Duo equivalent must be enough with 4 GB of Ram. To give an idea this ensemble has been created on a 2,7 Ghz Intel Core i7.
- CPU usage : Around 23% and 35% with a 2,7 GHz Intel Core i7, 16G Ram and Reaktor 6. A maximum of 36% have been measured with all the effects enabled.
- An internet connection to download the files and potential updates.
- Size : 148

01 // GRANULAR SAMPLER SECTION //////////////////////////////////////

This section is the core of the instrument. Based on the « grain resynth » Reaktor primary module which allows control over the grain settings and loop points, with this granular synthesis method, a microsound time scale is operated.

The sample is not played conventionally but by short-split bits of around 1 or 50 ms. This determines the size and the smoothness of these bits called « grains » in order to obtain very interesting formant structures.

The original tones can be stretched. This is a synthesis process that produces drastic sound design on the guitar harmonics waveforms embedded inside the engine. They are encapsulated within 6 sample maps that you can browse via the BANK SELECTOR. You can also import your own samples on each one. For this, open the Reaktor sample map manager (see R6 documentation).



01 - BANK SELECTOR

6 banks are encapsulated inside FR3TZ engine.

02 - BANK DISPLAY

Mouse over this icon displays the current bank selected.
Move the cursor on the border of the knob to change bank.

03 - STRETCH A/B :

This switch aims to manually alternate between two different granular settings (A or B).
You can both use this command to compare two different settings during sound design research or play with it as an instant granular effect in real time.

04 - SPEED :

Expressed in %, this knob determined how fast the loop is. From a middle position, if the knob is turned clockwise, it increases the playback speed. Turned to the left, the playback direction is reversed. In each sense. Closed to the middle value, you can get interesting granular synthesis results and create original timbre loop.

05 - SIZE

Grain size (ms)

06 - SMOOTH

Resynthesis smoothing (%)

Sculpt the granular texture with SIZE and SMOOTH.

07 - START POSITION (%)

Let you define the beginning point of the oscillation.

08 - Loop LENGTH

(% when sync is disabled, 16th ticks when sync is enabled)

Note that loop must be enabled on sample map editor

09 - LOOP

Quantise loop length to an integer number of 16 ticks. (Good for long sample or for syncing with main BPM)

Note : When TRAVELIZE MODE is enable, switch this option off.

10 - PITCHSHIFTER

On / Bypass and display the Pitchschifter effect.

11 - TRAVELIZER MODE

Switch that enables the TRAVELIZER MODE. Refer chapter 4.

12 - PITCH

Select the root note (semitone)

This parameter can have 2 different behaviours following the way samples are mapped in the resynth macro :

- by default, all the samples loaded inside the engine have their own unique tuning and root note on the keyboard, so it will only rearrange/shift the samples on the keyboard.

- if only one sample is mapped in the full range of the keyboard (if you want to use only one waveform as a source of oscillation inside the engine), it will act as a simple pitch semitone tuner.

TIP : If you want to retune the main snap without impacting the mapping position and the pre-defined granular parameters , use the PITCHSHIFTER effect.

13 - FINE

Tune (cents)

14 - PITCHBEND

Set the pitchbend range (in semitones) off your midi keyboard.

15 - ADSR ENVELOPE :

A classic envelope which determines the behaviour of the amplitude when the notes are pressed and released.

Note : ADSR envelop settings are the same for every sample launched during the playback.

02 //SEQUENCER SECTION //////////////////////////////////////

Based on a 3 mono 16 steps sequencer, you can create similar rotation as an Euclidean sequence generator by playing with the number of steps and offset knobs. You can drastically modulate the patterns produced using the various time signatures and direction modes available (reversed, bounced, random...). A virtual piano keyboard on every channel allows to select the exact notes that will be randomly played on every toggled step of the sequencer. A random dose can be set and it is also possible to apply an octave shift like an arpeggiator.



01 - MUTE SEQ 01-02-03

Mute midi playback from Sequencer 1 (Green), 2 (Pink) and 3 (Blue).

02 - DISPLAY SEQ 01 -02 -03

Push this button to display Sequencer 1 (Green), Sequencer 2 (Pink) or Sequencer 3 (Blue)

03 - STEPS

Toggle these buttons to define the midi gate events of the 16 step sequencer. Push them "on" to trigger a hit when the led is running in the background.

Note: All these steps are not generated by a typical Euclidean algorithm. All of them must be set manually.

04 - OFFSET

Determine the step offset, from which step the sequence begins. Aimed to bring some "time lag" in realtime.
Perfect for making some manual rotation effects on the pattern.

05 - SHUFFLE

Add some swing effect to the sequence.

06 - VELOCITY

Set the main velocity of each gate event of the step sequencer.

With "0" value, the midi signal is muted.

This parameter can be used as a level command.

07 - RANDOM

Enabled, this function will generate a 50% probability that gates will be different from the ones defined on the 16 step sequencer.

08 - SYNC

Open the SYNC lightbox and select between 11 time resolutions related to the song clock :

1/1, 1/2, 1/3, 1/4, 1/6, 1/8, 1/12, 1/16, 1/24, 1/32, 1/48.

09 - DIRECTION

Open the DIRECTION lightbox and choose between 7 playback direction modes :

Normal mode, Reverse mode, Ping Pong mode , Bouncing mode (faster), Bounced/Scratched mode, Bounce + Aleatory mode & Total Random mode

10 - Number of STEPS

Define the length of the pattern.

Number of steps, from 01 to 16.

11 - NOTE LENGTH

Set the duration of the gate incoming message. With a high value the note will have a longer sustain.

12 - VIRTUAL KEYBOARD

This keyboard aims to include the notes you want to be launched by the sequencer.

It works like a manual note scale selector.

All the selected notes will alternate between each other on every incoming hits received from the sequencer.

13 - ALT NOTE DOSE

Add random value to the alternate note signal.

With a "0" value the hit will only launch the last note.

From "1" to "12", the highest the value is, the faster the note will change in an aleatory way.

14 - OCTAVE BASE

Select the octave you want to use on the keyboard, from the 5 available on the sample map.

15 - OCTAVE SHIFT

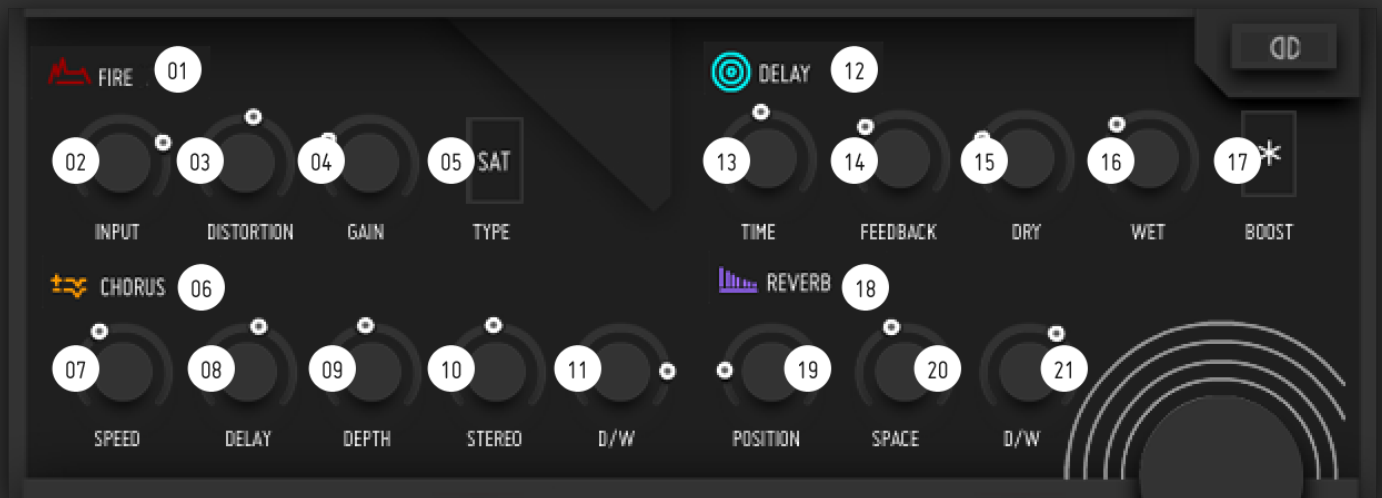
Same as some arpeggiators, this shifts between up to 4 octaves .

To every selected note, a random shift of octave will be generated on the pattern.

Note : It is possible to play the instrument without or over the sequencer, via a Midi Keyboard. Polyphony is set to 4 notes by default but it can be increased inside the ensemble properties.

03 // EFFECT SECTION //////////////////////////////////////

FR3TZ° comes with 6 complementary effects that aim to sculpt the shape of your tones. These 6 effects are the ones you can typically find on a guitar pedalboard and have been chosen to enhance the original signal.



01 - FIRE

Distortion On / Bypass

02 - INPUT LEVEL

The level of the incoming signal should be set to 0 dB (amplitude = 1). But if the signal is too low or too high, the GAIN correction of the distortion unit won't reconstitute the best effect. To do so please turn up the INPUT LEVEL knob with a consistent value.

03 - DISTORTION

Manual control of the distortion.

04 - GAIN Correction :

The gain correction will only work properly if the incoming signal has a level of 0 dB. The level can be adjusted with "INPUT level".

05 - TYPE of distortion :

Open light box for selecting between the 6 distortion types available :

- Clip : Hard clipping
- Sat : Type like saturation
- Q : Signal is distorted (quantised) into a step signal
- Saw : Signal scans thru a saw waveform
- Tri : Signal scans thru a triangle waveform
- Sine : Signal scans thru a sine waveform

06 - CHORUS

Chorus On / Bypass

07 - SPEED

Chorus LFO speed (Hz)

08 - DELAY

Offset (static) delay (ms)

09 - DEPTH

Chorus LFO depth

10 - STEREO

LFO L/R channel offset (affects the stereo width of the effect).

11 - CHORUS DRY/WET

Crossfade between dry signal and full mix

12 - DELAY

Delay On / Bypass

13 - TIME

Delay time in ms

14 - FEEDBACK

Delay feedback

15 - DRY

Amount of the dry signal

16 - WET

Amount of the wet signal

17 - BOOST

Temporary feedback boost (>100%) so that the feedback loop gets louder.

18 - REVERB

Space Reverb On / Bypass

19 - POSITION

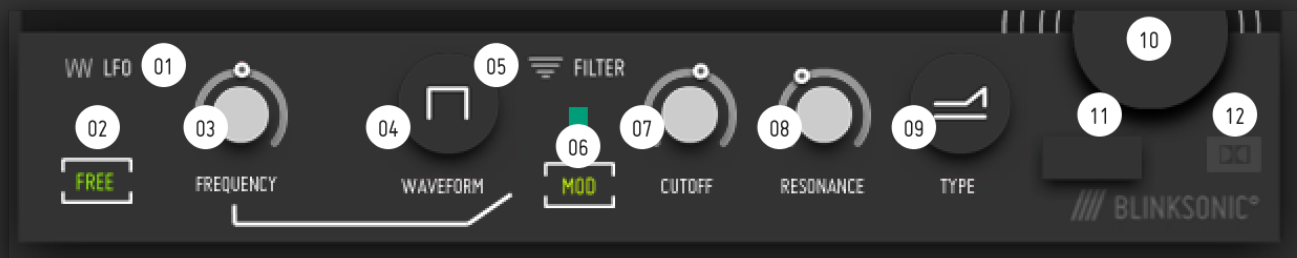
Choosing a position between 0 = close to the sound source (much direct sound) and 1 = far from the sound source (much indirect sound).

20 - SPACE

Room size and reverberation time.

21 - REVERB DRY/WET

Crossfade between dry signal and full mix



01 - LFO
LFO On / Bypass

02 - LFO type
FREE : free running LFO, free speed in Hz
SYNC : free running LFO, speed is part of Reaktor/host tempo

03 - FREQUENCY
LFO Rate (based on Reaktor/host Bpm in SYNC mode)

RATE TWEAK
Trpl: triplet (Rate/3)
Reg: regular (Rate)
Dot: dotted (Rate*1.5)

04 - WAVEFORM
Choose the waveform of the modulation :
Sin, Saw, Triangle & Pulse

05 - FILTER
Filter On / Bypass

06 - MOD
Enable/bypass the LFO modulation routed to the CUTOFF

07 - CUTOFF
Filter Cutoff (5..20,000Hz)

08 - RESONANCE
Filter Resonance

09 - FILTER TYPE
Select the filter type :
Lowpass, Bandpass, Highpass & Notch

10 - MAIN LEVEL
This level also defines the main Reaktor output level (on the top right of the R6 interface)

11 - MID'IC
Disable any sustained/locked notes.
Like a midi panic.

12 - TRUE STEREO
Enable it when using stereo samples loaded in the sample map.

04 // TRAVELIZER MODE //////////////////////////////////////

This optional feature aims to travel with the mouse over the waveform when notes are launched by the sequencer or a midi keyboard. It acts as a granular scanner controlled by a XY pad which replaces the START and LENGTH knobs :

- X controls LENGTH
- Y controls START

Important note : For the best results and to get a concrete grainy effect over the waveform, LOOP button must be disabled and a consistent grain SIZE value must be set.



05 // BINAURAL & DOPPLER MODULE //////////////////////////////////////

FR3TZ° have a particular sonic palette and can also produce evolutive soundscape patterns. We found it interesting to add a special feature that would bring dynamic movement to the mix.

On the first line of the effect chain, a Binaural/ Stereo and doppler effect module have been implemented.

This feature makes possible to record automations of the 2D position (Left/Right/Front/Rear). It can also simulate the distance and a natural head filtering.

Finally, an ultra fast movement over the center creates a simulated pitch and distortion delivered by the doppler effect.

01 - BINAURAL/STEREO & DOPPLER

Open/close the Binaural/stereo Doppler effect lightbox module.

When icon is pink, it indicates that the module is enabled and running.

When icon is white, it indicates that the module is off/bypassed

02 - BINAURAL/STEREO/DOPPLER

On/off

Enable/Disable this module.

03 - MODE

Switch between stereo and binaural mode.

Note in stereo mode, EAR SEP and HEAD FILTER are not active in the process. Only in Binaural Mode.

04 - POSITION CONTROL PAD

This XY pad controls the selected effect in 2 axes, in 2D space (altitude is not simulated here).

X controls the Left/Right position

Y controls the Front/Rear position.

When the cross is placed above the center (illustrated by a round), the maximum level can be reached. Pay attention to adjust the main level to avoid accidental gain peaks.

05 - EAR SEPARATOR

Distance between each ear (in cm).

An average human head is around 18cm. Larger values increase the stereo separation.

06 - HEAD FILTER

Intensity of the filtering by the head.

A value of 0 means no filtering.

A value of 1 is approximately the same as a real human head.

Higher values filtering gives a more distant impression.

07 - DOPPLER

Doppler factor multiplier.

A value of 1 is the equivalent of « sea level » which represents a speed of sound of 344 m/s (1238 km/h)

Values above 1 will exaggerate the doppler effect.

With a 0 value removes doppler.



08 - PLAY

Control pad movements can be recorded as a loop and played in real time.

Enable the loop modulation.

09 - REC

Record control pad movements.

10 - INTERPOLATE

Playback loop modulation smoother.

11 - SPEED

Defines the speed of the modulation loop.

12 - LENGTH

Defines the length of the modulation loop.



FRETZ°