



Dear customer, welcome to TimeDrops: granular time-stretching tool for Kontakt 5.

What is Granular Synthesis?

Granular synthesis generates sounds by using very small pieces of an existing audio waveform. Often this is the basis of many time-stretching tools, since it can alter the length of a sound without affecting the pitch.

TimeDrops can produce lots of new sounds and organic soundscapes and the flowing nature of this kind of synthesis reminds us the flowing of a river. Many little drops form water and here's the name of our tool.

You can play with it by exploring the presets in the "Instruments" folder, by designing your own sounds with the available soundsources or by importing your own ways.

INSTALLATION

Extract the files TimeDrops_Samples.rar and TimeDrops_Patch.rar in a new folder.

If you don't know how to open .rar files, we suggest that you download 7zip from www.7-zip.org (windows users) or www.unrarx.com (mac users).

You can then open one of the included NKI patches.



Getting Started

The interface is quite simple and accessible, but many controls are quite unusual. Let's see them in detail.

In the upper part, above the **Waveform Display**, there's a little control, called **A Slider**. This allows to set the origin of the generated grains (called *drops* in TimeDrops). This control is assignable to a custom CC and it can be modulated with a LFO (more about this later).

DROP CONTROLS

In the middle there are the controls that affect the characteristics of the generated drops. The big **Time** knob allows to control the time at which the waveform is played. Set it to the maximum value and the waveform is played normally. At 0 the waveform is *frozen*. When the Time is below 0 the waveform is *reversed*.

When designing this instrument we payed great care about the quality of the sound when playing with the Time knob. Frozen sounds are great to isolate interesting points of music and use that sonic instant in your music. You can steal an interesting chord from a classical recording, create drones out of noise, etc.

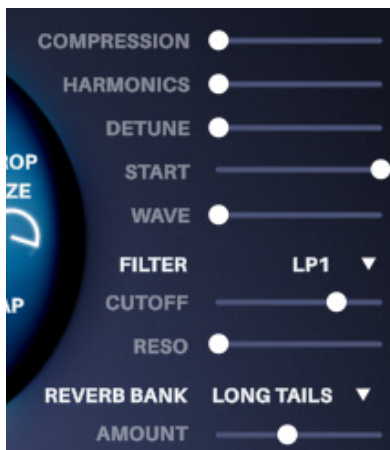
The **Drop Density** determines the amount of drops played per voice (4...48). This greatly affects the quality of the sound. The idea is to set this value to the minimum amount until the sound starts to feel too much "watery".

The **Drop Size** determines the life of a single drop. A

short drop size can give a better transient quality at the cost of a more synthy sound. A higher Drop Size can give a more pleasant sound (but some times too much smeary), at the cost of a less defined transient response. Important: Very short drops sizes can really tax your CPU since the instrument generates a new drop everytime another one dies.

Tune knob simply affects the tune of any generated drop.

Overlap can set the separation between all the drops. Short values can give an almost stuttering sound, while higher values can produce a more pleasant sounds (similar to raising the Drops Size).



SOUND CONTROLS

On the right there are some controls that affects the sound produced by the instrument.

Compression is a compressor + distortion controller that can give a warmer sound and it is particularly effective when it is assigned to a LFO.

Harmonics generates higher pitched harmonics and it can be useful to imitate overtones on woodwind sounds and resonances on metal objects.

Start randomizes the sample start, but only when the time goes toward zero. This is very useful to maintain a very natural sound on frozen sound. The idea is to keep it at max all the time and it will help to provide the most natural results when playing with the Time knob. If you want some strange metallic resonance effects, you can lower it to zero. On *pitchscan* mode, set it to zero to avoid hearing a kind of rumbling due to the randomization of the sample start.

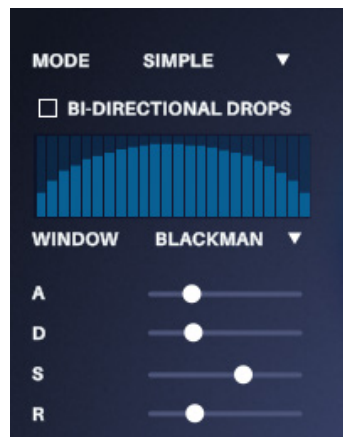
Wave randomizes the generation rate of the drops. It can create a more lively and natural sound in some cases and add a touch of humanity in the resulting sound. When playing with the sample at original speed, keep it to 0 to avoid phasingness.

Filter allows you to set a custom filter to the instru-

ment. You can select 1 Pole LowPass and Highpass filters or 2 pole Lowpass, Highpass and Bandpass filters.

Cutoff affects the frequency of the filter, while resonance affects the amount of boost around the cutoff frequency on 2 pole filters.

The **Reverb** section contains some presets. Every preset has a LOW, MEDIUM and HIGH cpu mode. This affects the number of convolution engines used (low = 1, medium = 2, high = 4). A single drop is sent with random volumes at the convolution engines and this can dramatically affect the resulting sound quality. This stage is applied BEFORE the filtering and compression stages, due to performance optimization in Kontakt. If you just want to save CPU or use the reverb just after all the processing chain, please select a low CPU preset.



LEFT PANEL

MODES

This is a unique feature of this instrument. Instead of creating a super complex instrument with lots of assignable parameters and different behaviors, *Modes* allow you to control the instrument in many different ways. *Modes* affect the origin of the generated drops and even the pitch of the drops.

SIMPLE mode works by simply defining the A position. All drops start at this point. *Bidirectional drops* alternate between drops generated in straight and reverse direction.

INTERVAL Generates drops randomly between the A and B point.

SPACED: The drops' starting point depends by the density and it is between the A and B starting points.

MORPH AB: you can morph seamlessly with a slider from the A and B starting points

SLIDE AB: you can slide between the A and B points by moving the slider.

KEY SPAN: the pitch is fixed to the selected root key and every key in the range is assigned to a different starting point. It is useful to create menus of different sounds from a single sample.

VELO SPAN: The velocity sets the starting point

between A and B. We used this in the **teaser video** to make a kind of “menu” of chords from an orchestral adagio. On percussive decaying material it is useful to create velocity responsive instruments.

KEY SLIDE: similar to *KEY SPAN*, but the starting point will slide when playing “legato” with the keys (hold one key and then play another key)

PITCHSCAN: The pitch is matched to the speed, so moving the sliders or varying the speed will give some interesting results for atonal sounddesign.



WINDOWS

Windows determine the volume shaping of a single drop. Every kind of window has its own properties. For example, the *Rect* window has a great resolution on higher frequencies, but it can sound harsh on some sounds, while the *Blackman* window is the smoothest one, but on some sounds it can sound a bit too much lowpassed.

ADSR controls allow to customize the attack, the decay, the sustain and the release of the current patch.

LOWER BAR

The lower bar features important controls.

On the left there's the **Sound Browser**. Sounds are grouped into *categories*, to load a sound just select the category you wish and then the name of the sound.

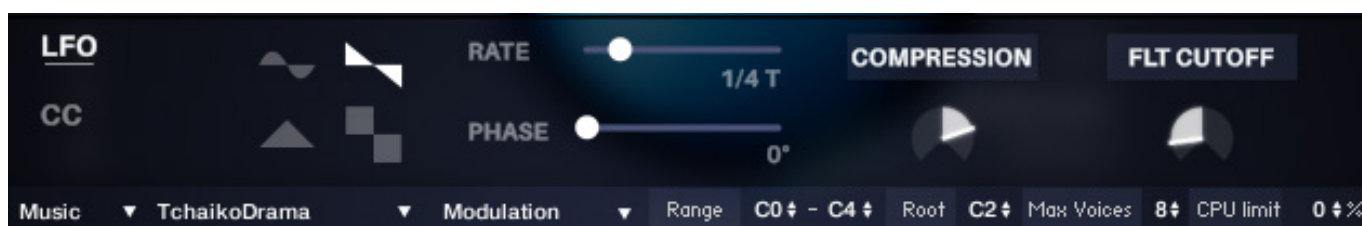
Modulation: TimeDrops allows you to control almost all the parameters in the instrument through *LFO* and *MIDI CC*. This is explained better below.

Range defines the range of the instrument. Very useful on *KEYSPAN* and *KEYSLIDE* modes, but in general useful to limit the range of the instrument to the keys that sounds the best

Root defines the basic root key for the current patch. This is very useful if you, for example, import a file on a different key than C and you want to make a playable and tuned instrument. You can also use this control to move by an octave (up or down) the current patch.

Max Voices defines the maximum number of voices in the instrument. When more than the allowed limit of voices are playing, the instrument kills the oldest active voice.

CPU Limit auto-reduces the *Drop Density* and increase the *Drop Size* to save CPU



LFO (Low Frequency Oscillator)

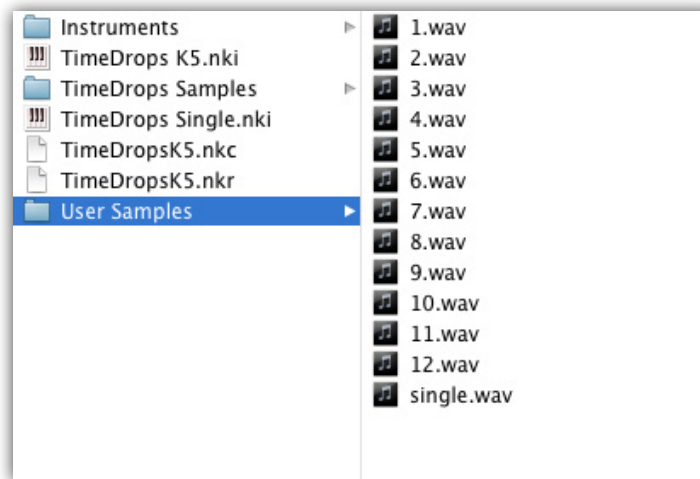
The **LFO** allows to automate some parameters. You can select the shape of the modulation (*sine*, *sawtooth*, *triangle* and *rect*), the *rate* (which is matched to the BPM speed of the DAW) and the *phase* (the starting point of the LFO).

Then you can assign it to two parameters in the instrument. Click on the + button, select a parameter and set the amount of modulation with the lower knob.

LFO is *global*, this means that the first note you play starts the LFO and it stops when all the keys are released.

Midi CC

Here you can assign two parameters of the instrument to a custom midi CC. Please select the CC number and then the parameter you'd like to affect by clicking on the + button. Then set the *max* and *min* value for that CC.



SAMPLE IMPORTING

TimeDrops allows you to import your own samples and make your custom unique library of Time-Dropped instruments.

Remember to close ALL the instances of Kontakt before importing your own samples. Using the ! Sign to reboot the instrument or purging and reload the samples won't work.

Sample Import Method 1

PROs: apply the preset's saved settings to your custom sample material; no need to save the patch elsewhere. Very easy to work with.

CONs: you can't save the preset as a standalone instrument. When you have finished the 12 wav slots you have to replace the files you've already used.

Put your wav file in the User Samples folder. Choose one of the files (1.wav, 2.wav,3.wav...12.wav) and delete it. Rename your wav to 1.wav, 2.wav,3.wav...12.wav.

Open any of the patches in TimeDrops (apart Time-Drops Single.nki). Locate the sound in the sound browser under the User Samples' tab.

Enjoy!

Sample Import Method 2

PROs: You can create your own instruments library with this method. Very portable.

CONs: A bit trickier to work with. You can't swap files in the browser, so you can't try how your sound

behave with the settings of another NKI patch.

Put your wav file in the User Samples folder. Delete the file single.wav. Rename your wav to single.wav.

Open the file TimeDrops Single.nki; this is located in the main instrument folder.

Enjoy, but if you want to save this patch forever there's one step more.

Save this instrument in Kontakt, choosing save instrument as... Then specify a name for your file, create a custom subfolder where you will put your custom library of sounds, and, very important, select **"patch + samples"** in the below panel. Save it. In this way when you will open this saved patch you'll be able to recall your own saved instrument.

You can now replace the original single.wav (in the user samples folder) with another wav and create a new patch again!

FAQ

Hey FluffyAudio, your instrument is cool, but is frigging my CPU! What can I do?

TimeDrops, like other granular instruments, can be very heavy for the CPU, due to the enormous amount of voices generated to compose a single note. You can reduce the CPU by doing one or more of the following things:

- reduce the *Drop Density*
- increase the *Drop Size*
- change the reverb setting to a low cpu profile
- reduce the max number of voices
- Increase the CPU limit (which automatically adjusts *Drop Density* and *Drop Size* to keep the CPU low)

We've heavily optimized TimeDrops to be CPU efficient; fortunately Kontakt's engine is quite good at handling lots of voices at the same time. In anycase if you are using many instances of TimeDrops, consider rendering to wav some tracks.

CREDITS

Programming, design, idea: Paolo Ingraito

Sounds: Paolo Ingraito and Olmo Chittò
some sounds are taken from the public domain archive at Musopen, some on Freesound (creative commons 0 license) and a couple of sounds are kindly given by DizzyDuckSound (www.dizzyducksound.com)

Thanks to Olmo Chittò, Luca Capozzi, all the great demo makers and supporters.

Thanks to Gabriela and her patience.

Have fun,
FluffyAudio Team

