

SONICCULTURE

# SCRIPTORIUM

USER GUIDE

## Introduction : What is Scriptorium?

The Scriptorium is a set of KSP Scripts for Native Instruments' Kontakt 2 or Kontakt 3. Soniccouture have built many such scripts while developing content for Kontakt, and the Scriptorium is a collection of our 35 best and most useful.

The Kontakt Script Processor (KSP) is a scripting language that can be used to add various kinds of functionality to Instruments in Kontakt. It can be used to build compositional tools, like arpeggiators or sequencers, effects or tuning modules, performance enhancers, and various other features that are not already available Kontakt itself. Whenever you see a "front panel" to a Kontakt instrument, this is in fact a KSP script.

The Script Editor is turned on at the top right of the edit window, and all presets are available on the left of the Script editor, as shown here:



After installing the Scriptorium, you will see a Scriptorium folder in your Presets list as well, giving you instant access to the 35 scripts in any of your Instruments.

Sometimes it's hard to get an idea of exactly what a script does, so we've provided a set of Kontakt instruments which each demonstrate at least one of our scripts. These are the included "Scriptorium Example Instruments", and should help you get an overview of what's possible with this library.

It's also worth reading through the manual, since a script may have many uses beyond the example instruments we demonstrate it with. A script is not simply a patch that you hear once and get the idea, but can sometimes be a tool with an infinite number of applications to other instruments and can open up uncharted territory.

Here be dragons.

Soniccouture 2008

## **Installing The Scriptorium**

To install the scripts, copy the "Scriptorium" folder (the one full of script .nkp files) to your Kontakt presets/scripts area. Depending on what platform and version you're using this may be in one of several places :

On Windows:

C:/Program Files/Native Instruments/Kontakt/presets/scripts/

On Mac, using Kontakt 2:

Beside your Kontakt2 application, you'll see the "presets" folder. Put the Scriptorium folder inside presets/scripts

On Mac, using Kontakt 3:

In your Documents folder, there will be a Native Instruments folder. Inside that you'll find: Kontakt 3/ presets/scripts/

Note that if you're using both Kontakt 2 and 3, you'll need to copy the folder to both locations.

After copying the Scriptorium folder to those locations, the scripts will be available when Kontakt is re-launched.

## **Installing The Scriptorium Example Instruments**

These can be put anywhere on your hard drive that you like. Just keep the whole folder of Instruments and Samples together so that the Instruments can find their samples.

## **Support**

For any issues or questions about this product, contact Soniccouture by email at :

[customerservices@soniccouture.com](mailto:customerservices@soniccouture.com)

and we will happily reply as soon as we can! Bear in mind that we are in London and operate on GMT.

## Analogue Oscillators



This script will cause each note to drift in pitch slightly, and independently of each other, like old analogue oscillators sometimes do.

“Drift” controls the depth of this pitch drift. “Age” is a multiplier, which will make the pitch drift much more extreme.

“Drift CC” allows you to control the depth of the drift with a MIDI controller of your choice.

## Backdrop



Backdrop allows you to easily create an ambience sound from a group.

The script allows you to designate a Group and a Note for the ambience sound, which will just sustain behind whatever else you play without retriggering or changing pitch or playing more than one note on that Group.

When you play the Instrument, the Backdrop group will play a single note and sustain it until you release all keys. It will only start again after all keys have been released and you play again.

Ideally, your Backdrop sample should be looped.

## Bounce



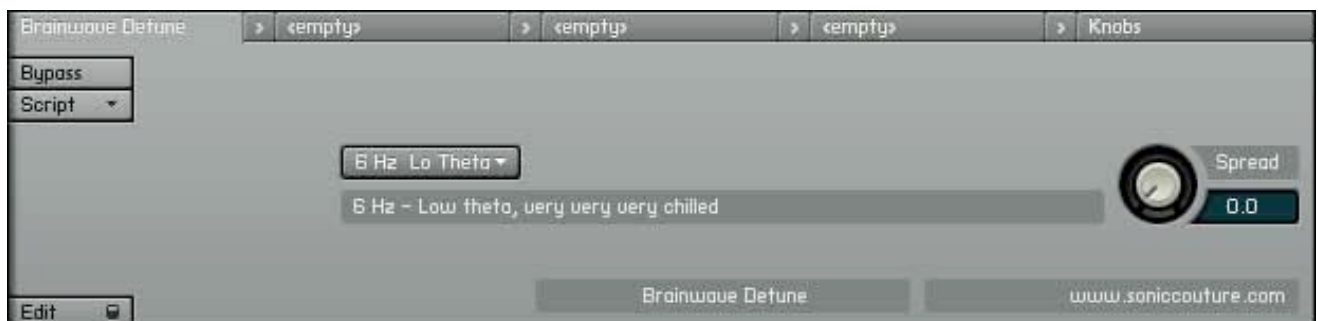
Bounce retriggers a note in such a way that speeds up, like a bouncing ball.

You have control over the initial Height and Gravity amount.

Velocity lets you assign the speed of bouncing to velocity, so that your instrument can respond in various ways to the behaviour. Typically, you'd expect the bounces to get quieter as they get quicker, but you can program this how you like in your Instruments.

"Mirror Bounce" is a special option, in which the bouncing action turns back on itself at a certain point and starts slowing down. This is not a natural phenomenon, but sounds quite interesting, especially with the Gravity set quite high.

## Brainwave Detune



This script splits the source note to two notes, panned by "Spread", which are detuned by a constant Hertz value.

This results in a beating of the selected frequency difference. For correct results your instrument should be equal tempered at A3 (MIDI note 69) = 440 Hz.

The preset beat frequencies are chosen for their particular relationship to brainwave frequencies. Some people believe that hearing these frequencies can induce the state of mind that usually creates these frequencies in our brains.

Whether or not that's true, it's kind of cool to have a constant detune beat frequency across the keyrange.

## Cellular Automata



This script imitates cellular automata. It functions when "Automata On" is activated. The "cells" are output as notes.

A played note (or chord) provides a seed upon which two very simple rules are imposed. These two rules "1st Rule" and "2nd Rule" are applied in order, they are simple addition or subtraction of the input note. After a time duration, the result is played, and the calculation is repeated on the result. This continues so long as a note is held down.

There are two rules for each pitch class (C, C#, D, etc.), allowing for some quite complicated results. The "Choose" button allows you to quickly choose the note and see what Rules are set for it. Remember that Rule 2 operates AFTER Rule 1. If the two rules create the same note, it will be turned off.

Notes played during a running sequence are added without restarting the process.

The input can be a chord, and you have a parameter "Chord ms" to allow you a certain number of milliseconds for the seed to be considered a chord.

You have a "Range Min" and "Range Max", this limits the activity of the automata to a certain range of notes.

"Interfere" is an option to make the notes you play "barriers" of a sort. The held notes become a "third rule" and can sometimes make the result more complex and can often kill a process more quickly. It's very hard to predict.

There are many Rule sets where the Automata can die after only a few generations. There are also cases where it seems to go on forever, and there are of course many cases where it gets stuck in a loop.

Cellular Automata are of course deterministic, so the same rules with the same input seed will always result in the same thing.

You can save and recall presets. There are also menu commands to Initialize and Randomize the Rules.

The "Panic" button stops everything if it all goes wrong.

To read more about this kind of process, Google "cellular automata", "Conway's Life", or "L-Systems".

## Chord Memory



Chord Memory is a simple way to store a chord for each pitch on the keyboard. Whenever you edit, you are editing the last note played.

The knobs control the distance from the played note that will sound if that Note is "On".

There are only 12 chords, ie. C1 will be the same chord as C3.

You can "Shift" the output in semitones to quickly change the key of whatever chords you have stored.

You can choose from some Saved sets in the top left menu. Or initialize a set to build something from scratch.

You can also "Save Chords" over the existing presets. These are full of something now, but you can do what you like with them.

## Controller Delay



Controller Delay allows you to copy an input controller (ie. the Mod Wheel) and duplicate it on another controller a certain amount of time later... thus echoing the input controller.

There are four "taps"... the first tap will be sent out to CC Out 1 at the rhythmic value set by the Delay Time menu, and the second tap will be sent out after twice that time. The third and fourth taps will be output at 3 and 4 times the delay time respectively.

If you set CC Out 2 or 3 to be zero, they will not output anything, but time will still elapse before the Third or Fourth taps.

## Controller Wobbler II



Controller Wobbler generates random controller streams while a note is held down. It allows you to generate up to 5 controller different streams.

Each stream can be either Brownian or Gaussian type, and you have control over which MIDI CC is sent, and the Range and Centre of each of those streams.

If the MIDI CC is set to "0", then nothing is generated by that stream, for numbers 1 to 127, a random controller value will be sent on that CC number. (Setting to 0 will save CPU if you don't need all five streams.)

The speed of the Wobbler can be set to a rhythmic value using the drop-down menu on the left, or if you select Absolute you may set the Time in milliseconds.

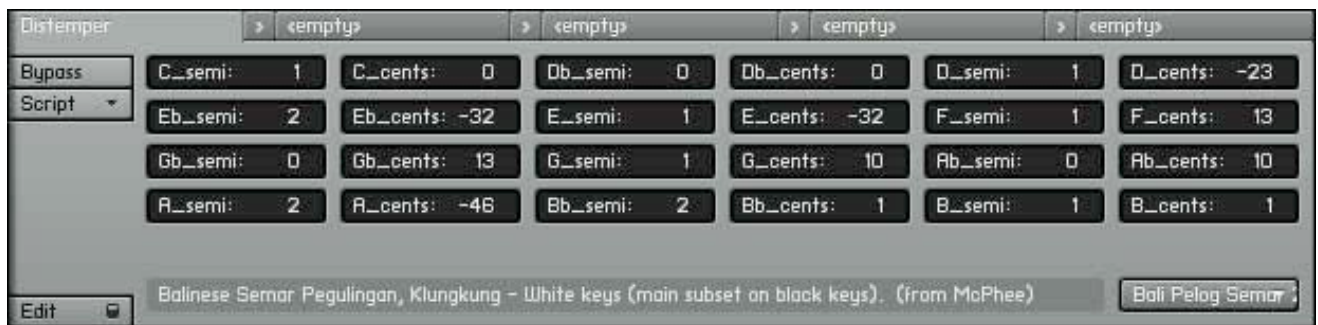
A note about the two types of randomness:

Brownian randomness moves in small steps (a single value up or down each time) and tends to gradually "walk" all over the given range. Over time it has an equal chance of being anywhere within the range. This tends to be useful for parameters that you'd like to slowly drift around. Gaussian randomness, on the other hand, can jump large steps and make sudden changes, but displays a tendency towards the centre of the range over time. If the range is wide, this is very similar to a "sample and hold" generator. If the range is narrow, it can sound like a jittering or shakiness around a centre value.

A Gaussian controller sometimes benefits from using Kontakt's controller "Lag" parameter, to the right of the destination depth, since sudden changes in value can occasionally cause clicks with some parameters. The lag value stops Kontakt from changing a parameter too quickly.



## Distemper



A microtuning script, with 50 funky presets.

Unlike NI's Microtuning script, Distemper allows you to offset each input note by semitone as well as cents, which helps a lot if you want to lay out your keyboard nicely.

The preset scales are:

Equal Temperament - ie, the same as not having the script, an "intialize" purpose.

Pentatonics:

- Just Superparticular Pentatonic 1 - Black notes only (from David Canright)
- Just Superparticular Pentatonic 2 - similar to Pelog - Black notes only (from Canright)
- Just Olympos - Olympos Wind Chime tuning - Black notes only (from Canright)
- Korean Delightful - Black notes only (from Lou Harrison)
- Pentatonic Pygmy Scale - Black notes only
- Prime number Pentatonic - Black notes only (from Harrison)

Gamelan:

- Javanese Slendro - Surakarta - Black notes only
- Javanese Pelog - Surakarta - White notes only
- Balinese Pelog 1- Begbeg - Black notes only (from Toth)
- Balinese Pelog 2- Sedeng - Black notes only (from Toth)
- Balinese Pelog 3- Tirus - Black notes only (from Toth)
- Balinese Semar Pegulingan, Tampak Gangsai - White keys (main black keys) (McPhee)
- Balinese Semar Pegulingan, Klungkung- White keys (main black keys) (McPhee)

Tibet:

- Tibetan 12 Note Scale - All keys
- Tibetan 7 Note Scale - White keys only
- Tibetan Gyaling -7 Note Scale - White keys only

Mesopotamia:

- Mesopotamian Ishartum scale - White keys only
- Mesopotamian Kitmum scale - White keys only
- Mesopotamian Mitum scale - White keys only
- Mesopotamian Nid Murub scale - White keys only
- Mesopotamian Nis Gabri scale - White keys only
- Mesopotamian Quablutum scale - White keys only

#### Arabic:

Arabic/Persian Buzurg scale - White keys plus F-sharp.  
Zalzal scale - White keys only  
Al Farabi 1 scale - White keys only  
Al Farabi 2 scale - White keys only  
Al Farabi 3 scale - White keys only  
Hidjazi - white keys only. for Hosaini - use A# instead of A  
Zenkouleh scale - White keys only

#### Indian:

Asavari That - White keys only  
Bilawal That - White keys only  
Bhairav That - White keys only  
Bhairavi That - White keys only  
Kafi That - White keys only  
Kalyan That - White keys only  
Khamaj That - White keys only  
Marva That - White keys only  
Purvi That - White keys only  
Todi That - White keys only

#### African:

Mandinka Balafon (Gambia) - White keys only  
Kora - Traditional Silaba (Gambia) - F Root - White keys only  
Kora - Traditional Hardino (Mali) - F Root - White keys only  
Bapere Horns- Reed Aerophone (Congo) 6 notes = use C plus black keys.  
Mboko Zither- Plucked (Cameroon) 8 notes = use white keys plus Bb

#### China:

Chinese 4th Century Scale 12 notes. All keys  
Chinese Bronze Instrument. 3rd Century BC. White keys only  
Chinese Sheng Instrument. (kind of mouth organ) White keys only  
Chinese Yunlo Instrument. Gong chimes. White keys only  
Chinese Pipa - Balloon Guitar. Black keys only

#### Thailand:

Thai Diatonic. White keys only

If you want to discover and try out 1000s of other tunings, visit:  
<http://www.xs4all.nl/~huygensf/scala/>

## Gatorade

A script to make rhythmic gating of Instruments easy and flexible.



The table in the script shows the gate "steps"... there can be up to 32 of these, but the gate will loop at wherever you set the "Seq Length".

The "Speed" setting will always be a rhythmic value. And the "Gate %" will be the proportion of this rhythmic value that the gate is open.

Gatorade generates a gate pattern for two MIDI controllers at the same time, so Instruments it's used with need to be programmed to respond to these controllers!

"Amp Mod" and "Filter" control the depth of the gate on two controllers. For the sake of normal purposes, we've named the controllers "Amp CC" and "Filter CC", since these are the two most common gating parameters. You can of course route these to any modulation destination you like.

A typical program might be like this, assigning CC 12 to filter and CC 11 to amplitude:



You can change the two MIDI CCs to anything you like.

## Gauss Generator



This script generates an approximation of Gaussian noise, which it will output to a MIDI controller, or to notes, or to both.

Gaussian noise is a kind of randomness that displays a tendency toward the centre of a given range. Values near the "Centre" are much more likely to occur than values away from the "Centre". If you collect and graph the output, you can see that values near the "Centre" are most common (see the display above).

In this script, you can adjust the "Range" and the "Centre" of the random output. The display is useful for seeing what happens when these are adjusted.

If the "Notes" button is selected, the note you play on the keyboard will always replace the "Centre" value, and notes will be output in relation to that input note.

The speed of numbers can be controlled by tempo or by absolute milliseconds, or you can use "Manual".

If "Manual" is selected, the Gaussian value will only be generated once for each note you play. So you control the rhythm of the generator by your playing.

You can route the output to "Notes" (in which case the played note becomes the Centre) and also to a MIDI controller, which will be active if set to other than 0.

You can show or hide the display, it has no real function. If you click the display, it resets it.

There is a MIDI CC "Slower CC", which you can assign to slow the generator down, up to a maximum set by "CC Adds".

## Glissandos



For all your Penderecki ("The Shining") or other horror-film-type string patches.

The pitch will keep sliding if "Amount" is anything but zero... however the speed at which the pitch moves depends both on the "Amount" and the "Time". A shorter time moves the pitch quicker.

There is no maximum or minimum pitch or destination pitch, the "Amount" refers to a pitch change (in half-cents) that is moved every so many milliseconds ("Time"). You can go below the threshold of sound and way up into aliasing, if you want. Kontakt doesn't complain for a long long way beyond normal pitch ranges. In this respect, Glissando is a very different result than using a "glide" patch.

You can assign a MIDI controller to control either parameter, and this is really when it gets interesting since you don't have to re-start a note to change it's direction or glide speed.

## Glitch Machine



Glitch Machine generates repeated notes (drills) on a given range of keys, if a special trigger key is held down. The character of the drill can be modulated by a MIDI controller.

It's primarily designed for use with drum kits, but who knows what you guys might get up to.

You first choose a basic drill speed with the "Time" menu, a "Drill Key" which will turn the drill on, a range of notes to be affected, and a MIDI controller to modulate the drill.

You can "Latch" the Drill Key if you prefer, which will cause the Drill Key to turn the effect on or off on successive presses.

On the right, you have a Menu to choose between Modulation or Randomicity controls/depths. And a third page to let you assign a MIDI controller to the Depth paramaters.

Parameters:

Time : The value of rhythm for the drill, before modulation

Depth CC : The controller to modulate the drill

Drill Key : the note that triggers the drill

Range Low : the lowest note to be affected by the script

Range High : the highest note to be affected by the script

Velocity : the amount of velocity added OR SUBTRACTED by the CC modulation

Pitch : the amount of pitch increase or DECREASE by modulation

Speed : the amount of speed increase OR DECREASE with modulation

Offset : sample start time offset added by modulation (ms)

Randomicity Page:

V Rand : the amount of random velocity on the drill

P Rand : The amount of random tuning on the drill

S Rand : the amount of speed randomicity in the drill

O Rand : sample start time offset, random to max time (ms)

N.B. Sample Start Offset doesn't work if the Instrument is in DFD mode.

## Group Delay



Group Delay allows you to delay the reponse of your groups in units of rhythm.

A layer is turned on and off with the top row of buttons. You can choose which Group is in which layer with the menus on the second row.

The delay times are in the third row, and finally you have a level offset and a transposition offset for each layer.

You can trigger the same layer more than once. For example, you could have a one group voice, and make it into five layers with this script.

*NB. Group Delay (as with all group manipulation scripts) only checks the number and names of groups when it's first loaded, so if you remove or add groups to an Instrument, this won't be reflected in the script until the next time it's loaded. Either save and reload the instrument, or turn off and reload the script.*

## Group Phase Offset



Group Phase Offset allows you to delay the reponse of your groups in units as small as 1/10th of a millisecond ... this allows very precise layering of waveforms. There is also a level adjustment with each layer, measured in decibels.

The result of this is usually quite subtle, but can be effective for certain doubling (or tripling, etc) of waveforms to introduce a slight phase offset, which creates cancellations and makes a static wave more interesting... less washy than a detune, but somehow more full than a single wave.

A layer set to 0.0 ms delay is OFF and won't use polyphony.

You can trigger the same layer more than once. For example, you could have a one group voice, and make it into five layers with this script.

## Group Random



This script turns on groups in random sequence.

The interesting aspect to this (and what makes it different from Random in the Group Start Options) is that the chance of each group can be "Weighted".

The sliders represent the "Weight" or chance of each group occurring. For example, if only one slider is up, then that group will occur over and over again. If two sliders are up, but one is at half the height of the other, then the higher slider's group will occur twice as often as the lower slider's group. Note that if two group sliders are at 50% the result is the same as two group sliders being at 100%, since the chance is relative.

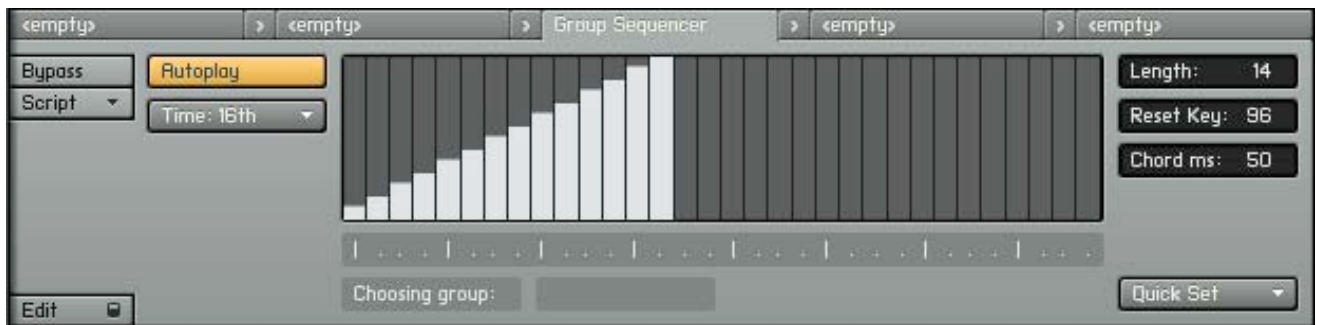
If you turn Autoplay ON, then the script will generate repeated notes retriggering automatically, otherwise the group is chosen each time you play a note.

You can set a "Chord ms" duration in milliseconds, any notes that occur within that time frame will play the same group. Set it to 0 if you always want different groups to play at the same time.

The "Reset" menu allows you to quickly turn all groups on or all groups off.

*NB. Group Random (as with all group manipulation scripts) only checks the number and names of groups when it's first loaded, so if you remove or add groups to an Instrument, this won't be reflected in the script until the next time it's loaded. Either save and reload the instrument, or turn off and reload the script.*

## Group Sequencer



This script turns on groups in a sequence of up to 32 steps that you can define. It's a bit like "Round Robin" on steroids.

If you want to make an automatic sequencer, turn Autoplay ON. If Autoplay is OFF, then the groups are played in order, but as you trigger them from your keyboard or sequencer.

The purpose of this script is to construct the order or pattern of groups. You can choose a group for each step of the sequence freely.

You can set the Length of the sequence, and edit which group plays on which step in the table. (The group being chosen will be displayed).

"Reset Key" is a MIDI note that will put you back to the beginning of the sequence. This is handy, since you often might want to start the sequence from the beginning at a certain point in your track.

"Chord MS" is the amount of time to be allowed as a chord (simultaneous notes) that can play the same group.

Using the Quick Set Menu you can quickly set all steps to be OFF, or Randomize the sequence.

*NB. Group Sequencer (as with all group manipulation scripts) only checks the number and names of groups when it's first loaded, so if you remove or add groups to an Instrument, this won't be reflected in the script until the next time it's loaded. Either save and reload the instrument, or turn off and reload the script.*

## Jammer



Jammer is a performance tool for generating random-ish notes. It's similar to an arpeggiator in that notes you hold down will be played automatically, but the note triggered is randomly selected from those you hold down, and there are a bunch of extra randomizers too.

"Jam On" enables or disables the Jammer effect. When the Jammer is ON, all throughput of MIDI is disabled, you only hear the output of the Jammer.

"Time" is a drop down menu that allows you to choose the repeat speed. This will always sync to the tempo of Kontakt or your host sequencer.

"Double Hits" will trigger two notes on each repetition, as if you are playing with both hands simultaneously.

"MW Vel" is a depth setting that allows you to add or subtract velocity using the Modulation Wheel. This will affect notes already held down so you can make swells or fades while the Jammer is already rolling.

The "Randomize" section allows you to introduce randomness to the notes as they are being generated. "Velocity" will add or subtract a random amount of velocity for each note, up to a maximum that you set. This is always in relation to the last played velocity you triggered with your keyboard or sequencer.

"Note" will add or subtract a random value for the MIDI note.

"Octave" will randomly add an octave or more (maximum 3) to the generated notes. Note that Octave only introduces added octaves, not subtractions.

"Timing" is best used very subtly if you want to introduce a bit of "human error" into the timing. At higher settings it gets a bit avant-garde.

On the MIDI Control page you can assign MIDI CCs to control some of Jammer's parameters.

If you want to record the output of the Jammer into a MIDI track, you need to turn on "Send MIDI to outside world" in Kontakt's Options page, under the Audio Engine tab. In the "choose options" drop down, you can turn on "script generated notes", and Kontakt will then send Jammer's notes out. You then need to assign a MIDI track to record these notes as you play the Jammer. Be careful you don't route the generated MIDI thru your sequencer back into Kontakt again, or you'll get complete confusion and the universe might turn inside out.

## Just Intonation



A Tuning script.

There isn't space here to go into a full explanation of just intonation in general, except to say that the focus is on tunings that use only ratios of whole numbers... like  $2/1$ , or  $3/2$ , or  $928/735$ , etc. In typical western equal temperament the only whole number ratio is the octave ( $2/1$ ), all the other intervals are "corrupt". There are loads of websites and serious fanatics of just intonation online, if you want to read more or even become one of them, just do some searches.

So this script allows you to experiment with just intonations. You can store up to twelve notes (one per key class), and you can "Transpose" the entire output.

You need to choose a "root key" note, the reference all the ratios will refer to.

The ratios are described as X over Y. You can "Store" this ratio to any note.

Set your root key to be  $1/1$ . (Otherwise things get really hard to figure out).

You can use "MIDI Choose" to quickly choose which note you edit. Then set the ratios for all other notes you want to use.

You can store and recall five presets.

The presets, if unchanged by the user, are:

- 1- Basic "7 limit" 12 note
- 2 - Ben Johnston's scale from Suite for Microtonal Piano
- 3 - La Monte Young's Well Tempered Piano
- 4 - Wendy Carlos Harmonic
- 5- Terry Riley "Harp of New Albion" 5 limit

## Kotekan



This script generates a response note after your played note (at note-off time of the input note), of the same duration as the played note, but usually a different pitch.

The intent is to generate a "second player" that plays notes in between your notes... similar to the "kotekan" technique employed in certain Balinese gamelan music.

You can restrict the kotekan's output to certain notes, those selected at the bottom of the display. You can "Learn" these notes quickly from MIDI input using the "Learn" button.

"Direction" adjusts the chance of the kotekan note being above or below the input note. If it's at 0, then there is an equal chance of the kotekan note being above or below the input note.

"Unison" adjusts the percentage chance of a unison, ie. the kotekan note being the same as the input note. At 0 the kotekan note will never be the input note, and at 100 the kotekan note will always be the input note.

"Interval" allows you to force a minimum distance for the kotekan's response note.

## Left Hand Free



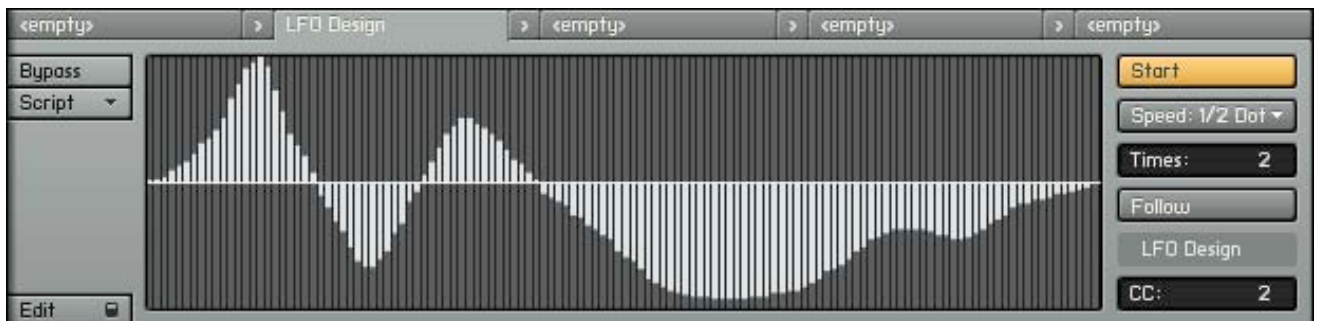
A performance based script to split the keyboard in such a way that the sustain pedal only works in the lower register, and the pitch bend only works in the upper register. This can be very useful for live performance.

You can hit a low drone or chord, sustain it with the pedal, and meanwhile solo like Jan Hammer with your right hand and the pitch bend wheel without affecting the sustained drone.

You can set the Split Key and the "Pitch Bend width" for the upper half of the keyboard.

Please note that NEITHER the real sustain (CC #64) nor real pitch bend are passed to the Instrument with this script, so if they're assigned to anything else, that else won't happen.

## LFO Design



LFO Design lets you draw a waveform, which is then sent to a controller defined by "CC" in the lower right corner.

You can choose the speed of the LFO using the speed menu, and then multiply this value by the "Times" amount below it.

If you Press the Start button, you will see the display change to "Ready"... this means that the LFO will begin on the next note you play... useful for synchronizing the LFO to your track.

The Follow button gives you a display, so you can see where in the waveform you are. Follow will be disabled while you're drawing your waveform.

## Mobile



Mobile is a group manipulation script, in which sound objects are able to drift in time, a bit like objects on a hanging mobile drift in space.

Each object is assigned to a group. That group will be played once in each cycle of the GRID, which represents the number of possible positions an object can occupy. If the GRID is set to 16, and the Speed is set to 16th notes, then an object can drift anywhere within a bar of sixteenth notes.

When you hold down a note, the script starts counting and plays each object at its current position in the GRID, using your played note as a pitch reference. After the GRID has been read through once, each object is allowed to drift ie. move one step forward or backwards in the GRID space. Then the GRID is read sequentially again from the beginning.

Generally, a smaller GRID results in rhythmic behaviour, and a larger GRID makes more ambient textures.

The "Weight" parameter controls the chance of an object moving. 100, maximum weight, will stop the object from moving at all. 0 weight means the object will always move on each re-iteration of the GRID. If you turn all the Weights up to 100, the rhythmic pattern will stop changing.

"Align" will reset all objects to position 0 on the GRID. This is sometimes necessary if you've reduced the GRID size after running the script, and is always a good idea after changing the GRID size. (It's possible for an object to be left outside the GRID if you've changed its size.)

"Random" will randomize the position of all objects on the grid. If you're using a large grid and want to quickly spread the objects out, this is handy.

Each Group has some controls which can affect the behaviour of the resulting note. All objects respond to the input note, but you can introduce offsets.

On Page 1 "Velocity" introduces a random offset to the input velocity... a random value up to its setting will be added or subtracted to the incoming velocity. "Fine Tune" adds a random detune to each note, up to a maximum random depth of +/- 50 cents.

"Length" precisely changes the duration of the note, with 100 being 100% of the GRID size (time).



On Page 2 you can adjust a "Note" offset, which will randomize the note itself (adding or subtracting a random value up to the setting). You can also add a random "Pan" to each object.



On Page 3 you can set a MIDI controller to globally change some of the parameters on Pages 1 and 2. Beware that this will change them all together, so all sound objects will have the same value if a MIDI CC is used.

*NB. Mobile (as with all group manipulation scripts) only checks the number and names of groups when it's first loaded, so if you remove or add groups to an Instrument, this won't be reflected in the script until the next time it's loaded. Either save and reload the instrument, or turn off and reload the script.*

## Mobile Drums



Mobile Drums is similar to the previous Mobile script, in that the position of hits are able to drift freely, but this script is optimized for use with drum kits.

Much like other drum machine modules, you can define up to six drums, which you select on the left. On the display you will see the current location of hits for that drum, with height corresponding to velocity. You can draw a pattern here as you like.

Each Drum has a Root key, which is the MIDI note you want it to trigger. Below that, you can have a Range, which when greater than 0 will allow the script to randomly choose from notes above the Root key as well. For example, if you choose Root 36, and a Range of 1, then that drum will play either note 36 or note 37, randomly.

There is a Velocity parameter, which will introduce a random velocity offset to the velocity you have programmed above. This is sometimes nice for a bit of subtle variation to the programmed beat.

The Weight parameter represents the chance of the pattern you write shifting. If it's set to 100, maximum Weight, the programmed pattern for that drum will remain constant. If it's set to 0, it will shift notes on every bar.

The Direction influences which way the shift will happen if the Weight is less than 100. If the Direction is at 50, there is an equal chance of notes shifting a step to the left or a step to the right. If Direction is at 100, notes will always shift right, if at 0, they will always shift left.

The Step size is how far to shift. If set to 1, then a shift will move each drum only one step to the left or right. If set to 2, then the notes shift two steps each time. This can be useful for keeping patterns on the offbeat, for example.

Drills is another chance amount, like weight. If Drills is set to 0, no drills on that drum will occur. If it's set to 100, every note on that pattern will be a drill.

There are three buttons on the end called Freeze, Revert, and Save, each with an assignable MIDI key. If you hit Freeze, the pattern will stop shifting... this is useful if the Mobile stumbles across a beat you really like, you can Freeze it, or even Save it using the Save key. Revert will return your beat to the last Saved state.

A Saved beat will be saved with your instrument.

## Mod Wheel Glissando



This script will let you “strum” a glissando, like a harp, using the Mod Wheel or any other controller. Note that nothing happens until you MOVE the Mod Wheel (or the controller you assign instead of the Mod Wheel).

Whatever notes you are holding on the keyboard will be included in the glissando. The Knob in the display is just to show you where the controller is, moving it with the mouse has no function.

You can assign whatever “CC” you like to be the Glissando controller, although this defaults to “1” (the Mod Wheel).

“Low” and “High” are the minimum and maximum pitches to include in the glissando.

“Length” is the duration of each note of the glissando that will be output.

“Mute Input” stops your played notes from being passed to the instrument.

## Morse Code



Choose your letters, and listen to the rhythm of those letters in Morse code. You could use this to hide secret messages in your music, like "Paul is dead" or say, the code of your local airport.

All the durations are based upon the "Dot Length", which you define as a rhythmic value with the drop down menu.

Then the "Dash Length", "Internal Space", "Letter Space" and "Written Space" are all multiples of the "Dot Length".

In "proper" International Morse, a dash is 3 dots, an internal space (between dot or dash) is 1 dot, between letters is 3 dots, and between words is 5 dots. However, this doesn't always make for the best rhythmic patterns, so you can adjust these as you like.

A "Written Space" is created by choosing "space" from the drop down menus.

Choosing "end" from the menus will cause the sequence to stop there.

Choosing "---" will skip that letter position.

You can quickly erase your words with "Reset Letters".

## Organ Stops



A simple script for building organ Instruments. Eight groups are treated as stops, and you can adjust the level of (or mute) each one.

Essentially this is just a mixer of sorts, so you can do what you like with it.

The menus allow you to store and recall 6 complete settings.

## Pentagonal Pyramid



A chord generator that only works on the black keys.. specifically for use with pentatonic scales. There are several Presets to demonstrate the types of harmonies you can make with this script, and an "Initialize" menu command to reset all notes to zero.

A Knob set to "0" doesn't generate a note or use polyphony.

Note that the "steps" defined by the Note knobs are NOT semitones, but steps within the black keys, so a step of 1 might be a tone or a minor third, depending on the input note. Similarly a step of 2 can be a major third or a fourth, etc. and so on. The script behaves as though the white keys don't exist.

Since white keys are not affected by this script, you can use them for something else.

## Phraser



Phraser is a simple way to record and then manipulate a monophonic phrase to a polyphonic output.

When you hit "Record Phrase", each note you play will be recorded sequentially into a buffer. (Chords will be treated as separate notes during record.)

There is a maximum of 64 notes in the buffer, although the "Length" will be set to the last note you play before you hit "Record Phrase" again to stop it.

You can then step through this buffer by repeating a key. C3 (60) will step through it at its original pitch, other notes will transpose it accordingly.

The "Reset" button sets the buffer to the beginning of the phrase.

You can assign a MIDI Key for both "Record Phrase" and "Reset" to make live use of Phraser easier.

"Autoplay" will step through the buffer at a given time interval related to tempo, which is set with the "Time" menu. Note that if you set very fast speeds you may need to lower the "Chord ms" parameter.

The "Chord ms" parameter allows you a certain sloppiness in playing a chord... notes occurring within that time interval will be considered a chord.

"Record Mute" stops what you play into Phraser from going out while in Record mode.

"Rand Vel" introduces some random velocity to the playback of the Phrase.

"Velo CC", "Time CC", "Trans CC", "Start CC", and "End CC" are all assignable MIDI controllers that let you adjust, respectively: The velocity of playback, the speed of playback, the transposition, and the start and end points of the Phrase.

Using the Menus on the right, you can choose to allow Phraser to affect just one group of the Instrument you're in, or all groups. You can also Save and Recall several phrases if you want. (These five phrases will be saved if you save your Instrument).

## Pitch Filter



This script will only allow pitches through that are selected in the interface.

This differs slightly from NI's "Constrain to Scale" in that you can choose ANY set of pitches you like, and also in the choice of "Filter Type".

If the Filter Type is turned OFF, we are in "Only Highlighted Notes Will Play" mode. In this mode, a note that is not included will be silent, not passed to the instrument.

If the Filter type is turned ON, we are in "Nearest Highlighted Note Will Play" mode. In this mode, any note will be shifted to the nearest allowed note and played by the instrument.

There is a list of Presets including some common scales, as well as a few limited transposition modes from Messiaen.

## Ring Harmonizer



This script creates a harmony in a similar way to a Ring Modulator, except that it does not work on the audio itself, but on the last two notes of input.

If a single note is played, nothing will happen. But if two or more notes are played, the script outputs a sum and difference frequency for the last two notes played.

(The ring mod frequencies are the sum and difference of the actual hertz frequency of the input notes).

It relies on the assumption that the instrument it's being used within is tuned to equal temperament at A440... otherwise the output will not be "correct" (although may be just as interesting). Also, unlike a real Ring Modulator, none of the overtones of the source are considered, obviously, since this is working on the pitch only. Therefore the output frequencies are calculated as you Rang Mod (??) two sine waves.

## Shredder



Shredder keeps playing notes at the speed you set, but randomly jumps around in the sample to different places.

Shredder works by retriggering a note, but changing the start offset by random amounts. The maximum sample start offset is set with Max Offset (in milliseconds). The speed is set as a note value and has a speed multiplier.

You can also introduce some "Random Pan" or "Random Velocity" to the triggered notes.

NB. This script will not work if source is DFD

## Tape Wow



Simulates a bad old tape machine, or the pitch drift found in old National Film Board of Canada documentaries. This is different from Analogue Oscillators in that the pitch drift is constant for the entire Instrument.

You have control of "Speed" and "Depth" of the wobbly tape machine, plus you can control the Depth with a MIDI controller defined by "Depth CC".

## Tremolo Control



This script generates a tremolo if a certain key is depressed.

On the left you can choose a basic tremolo speed, a Tremolo ON key, and a MIDI controller to modulate the tremolo. Also, if you turn on "Latch", the tremolo ON key will function as a switch, freeing you from having to hold it down.

You can choose from two tremolo "styles" in a drop down menu. "Mallet Style" will alternate held down notes, whereas "Picked Style" will repeat all held down notes.

On the right you can adjust the amount of Randomicity in Velocity, Tuning and Speed.

You can also you can set how the MIDI controller will affect the tremolo, it can increase or decrease the Velocity, Tuning, and Speed by the amount you set.

## Unison Z



This is based on Franks Elting's Unison X script, but offers a couple more features (and removes the randomize stuff).

"Unison Z" firstly offers you control over the level of the effect and the "dry" signal, so you can layer the effect into a standard wave more precisely. You can also Mute the dry signal completely to save polyphony.

"Unison Z" offers a third variable for altering simultaneous voices, by sample start offset ("S Start"). This will ONLY work if the Instrument is in Sample mode, not if in DFD mode.

There is also a "Fade In" parameter, which allows you to fade in the effect voices. This can be nice for creating a kind of swell effect if layered with the dry signal. It is set in milliseconds, and works independently of the envelope settings in the instrument.

"S Start" is the maximum sample start offset from the beginning of the sample played, this is defined in milliseconds. A random value is chosen between 0 and S Start. NB: If you set this value larger than the length of your sample, you may occasionally get silent notes.

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