

Goodbye intuition – Kim Auto

APPENDIX KA 2.7 May 2020

*Here is a (slightly long) summary of what has been done and new features. **

Longer phrases * Added Compressor * Enhanced reverb (with the possibility of stereo spatialization of both sound and audio sources) * ReAmp function (set KA to and record itself. Rec and file path must be set as usual) * **3 "search engines" GA, Stoch and Recursive.** More about these below

* **Range (high-low)** greatly improved. tracker now better of what one experiences as low / dark - high / light in both tone and pitch.

* **Cluster / rake effect**, which tries to create a cluster of approaching sounds within a certain period of time

* **Automation of spatialization**, GA tuning and cluster effect

About "search engines" GA: Uses a Genetic Search algorithm to find lengths (of phrases) This is a stochastic process. As it is set up in KA, it tends to find longer lengths as well as it can create patterns, especially after a while. Since it has a bias towards longer lengths, the GA tuning slider can be used as a scaling factor based on what the "style (active nonactive)" slider in advanced loss stands for. In other words, look down the GA tune slider if it goes a little too slow according to. what you interpret as slow.

Stoch .: Is the original in KA. No changes.

Recursive: A personal favorite :) KA uses its own input as a basis when playing and making length variations based on itself. Can loop after a while (manifests itself in a rhythmic / pulse triggering) it manages to recover, especially if "style" or "range" parameters change. This mode definitely gives the most interesting results and thinks it can be very musical but surprising :). Combined with ReAmp, the whole KA is a meta machine

General description

The program for *Goodbye Intuition* (KA) is developed in Max. It combines audio archives and algorithmic audio processing to create a "listening machine". The audio archives can be recorded in advance or in real time. The software analyzes the audio files and examines, among other things, transients, sound and volume. A rhythm

generator produces durations and breaks based on probability-distributions. Various "musical personalities" are stored as presets . Subgroups of four presets are stored as a global preset that makes it possible to create gradual transitions between four "musical personalities". These "musical personalities " can also be controlled in real time from the input sound.

01 Playback - Quick Start

- 1 Download and install Max from www.cycling74.com
- 2 Minimum requirement is Max 8
- 3 If you have installed Max before, make sure you have the latest version.
- 4 Start Max
- 5 Install Mubu for Max : Go to -> File-> Show package manager. Go to the search field at the top right and select "Remote packages " and search for MUBU . Select Mubu and press Install . If you have installed it before, make sure you have the latest version.
- 6 Inside the folder containing the software , double-click the " KimAuto-KA2.7.maxproj " file .
- 7 When open, the colored cursor " **basic** " must be selected at the top of the window.
- 8 Press " **Soundcard setting**" to make sure the sound card is set correctly . «I / O Vector Size» and «Signal Vector Size »controls how large the bits of sound go in and out of Max. Start with the value 512 for both and adjust if you experience problems. Shorter values cause less delay in the audio signal through the computer, while longer values provide more computing power.
- 9 Press "**Sound on / off** " to turn on the sound
- 10 Press the "Open" button marked with "Global preset " , enter the " presets " folder and select, for example, " risk gitar.json "
- 11 Please wait for the archives to load.

- 12 Set " performance duration, for example, about 10 seconds by pulling the slider. This indicates the duration of your piece of music.
- 13 Press "Play", now the music will start. It stops by itself when the duration of your play is over. Press "Play" again to stop before time runs out.
- 14 Enter "Open" at "Global Preset " again and choose another preset .
- 15 Slider showing "Reverb - volume" may be straightforward to use to smooth out short or abrupt sounds.

02 Sound in - Quick start

- 1 For this first exercise it is okay to **restart the patch** , so you are sure that it has no weird settings from before.
- 2 Inside the basic , to the right of "REC" is the "Open ..." Press this. It opens folder selections for where to put the audio archive for live input. In the same way as the other archives, it must be inside the same folder as Max patch . We suggest that you enter the folder "**sound archive**" and create a new empty folder called "recording". On MacOS you can press "New Folder" and then "Open". At the bottom of the screen below where it says " archive 1:" there should now be the name of your new empty archive.
- 3 Make sure you have sound in, you see the meter marked "input".
- 4 Press "REC". You will now start filling your archive.
- 4 Press "PLAY". You will now start playing from your new archive. Press "PLAY" again to stop playback.
- 6 Press "REC" again to end recording to the new folder.
- 7 Enter " advanced ". You will now see that under "Global preset ", under "Archives 1-4" under "1" the name of the new folder you selected for recording is shown. This is

because your live input recordings are always filing in archive 1.

- 8 A small detail: sound input is mono on channel 1 on your sound card .

0 3 GATE

Sometimes a lot of background noise can prevent good triggering from input. The " Gate " function helps with this.

- 1 Start by turning on the gate " on / off ".
- 2 Screw down the threshold to the smallest value and drag it up until it stops triggering. (You can see if it is triggering the red light). Experiment with the setting to find the right level.

0 4 Basic - overview

Here is an overview of the functions inside the "Basic" window.

Basic	The screen you are now in. Basic features.
Advanced	The second part of the program where you set up more complicated functionality.
Sound on / off	Turn sound on / off
Rec	Record sound
Open ...	Open ... (to the right of REC) opens a folder for recording archives from live input.
Play	Play music
Soundcard setting	Set the sound card
Open ...	Open preset . These can be added anywhere, but it is recommended to have those in the folder " Presets ". The entry under Open ... displays the name of the selected preset .
Archive 1:	This shows where the folder for recording archives from live input ends up. It also shows

which archive is in "Archive 1" if you open a preset .

Input

This shows the volume at the input. Sound input is in Mono on channel 1. During input meter there is a red light that flashes each time the audio input triggers a new impulse to the analysis. This can be good to keep track of when to use audio in to control the audio processing.

output

Set the volume on the output.

archive loaded

This shows whether the program has finished loading the various archives. It shows it in the following way: "2/3", where "2" is how many sounds are loaded so far and "3" is how many sounds are to be loaded in total.

performance duration

Duration of your piece of music. From 0 seconds to 120 minutes. Slider must be used to adjust.

Reverb volume:

Adjust the volume of the reverb if you want to add it. (Can sometimes be of benefit to some short and fragmented sounds or slow sounds with long attack .)

Time

Reverberation time of reverb from short to long.

**Gate:
Threshold**

This sets the threshold for the gate. Follow the "input" to see what is a reasonable level.

o n / off

This turns the gate on and off.

0 5 **Advanced: Sub preset**

The window is divided into two parts, "**Sub preset** " and "**Global preset** ". In "Sub Preset " you set everything that affects the sound so you can create "musical personalities" and store it in a preset . In "Global Preset " you choose four "musical personalities" in the form of presets , and vary between them.

Before you start, make sure that "Play" is turned off in " basic ".

To create a new preset , start by loading a sound archive. Go to "Archives 1-4" press "Open ..." marked "1". You are now prompted to select a folder. ***Due to Max's file system The archive files with the audio material always lie in the same folder as your patch lies . We recommend that you leave the audio files inside the folder called "sound archive" to keep track of the files.***

As an exercise you can choose one of the finished archives. Go to audio archive -> test archive -> ivar -> fast tones and press "Open". You now see that "raske toner" plus the name of the subdirectories are selected.

Enter " basic ", turn on the sound with "Sound on / off ", choose a long " performance" duration ", for example 60 minutes, and press "Play "to start the sound.

Return to advanced . Press "1" under "Archives on / off ". Drag in "style (active - inactive) " . Note that it gradually becomes less active. To the far left it is very active (without breaks 20-10 times per second). To the right, it is very inactive (2 increments per minute with long breaks in between). If you pull it all the way to the right and leave it there for a little while, then drag it all the way to the left again, then it may seem like it has hung up. What really happens is that it waits until the long break is over before it continues. If you get

tired of waiting you can go into " basic " and turn "Play" on and off. The "style (active - inactive)" slider is divided into three areas; normal, slow and few . "Normal" starts quickly and becomes slower and more fragmented the further to the right you come. " Slow " creates slow long values without breaks . " Few " continues where "Normal" goes off and becomes more fragmented the further to the right you come.

To change the sound, press the button next to the slider "Register" and drag it. To the left, it selects sounds with a lot of bass, to the right sounds with much treble. To change the volume, press the button next to the slider " loudness " and pull it. To the left, the weak sounds, to the right strong sounds. The behavior of both of these slides depends on the content of the archive. If the archive has sounds with both bass and treble, both weak and strong, then it will work. The bigger and more diverse the archive, the better it will work. If it is a small archive with little variation, it will work worse. For some archives or musical selections, it is therefore good to have these features turned off.

0 6 Advanced: Global preset

To create a global preset , start by creating 4 sub presets . For this exercise, we continue with the archive "raske toner" .

Set "style (active - inactive)" to the left so that it plays fast . Go to "List of sub presets " and select one of the 32 slots , for example, slot # 1. Go down to the white field and type a name, for example "very fast". You have now created a sub preset with the name "very fast" which by means of the "style (active - inactive)" slider plays fast.

Put "style (active - inactive)" a little more to the right so that it plays a bit slower. Go to "List of sub presets " and select one of the 32 slots, such as slot # 2. Go down to the white field and type a name, for example "medium fast". You have now created a sub preset with

the name "medium fast" which, using the "style (active - inactive)" slider plays a bit slower.

Create two sub presets that play medium slowly and slowly. You should now have 4 sub presets that play very fast, medium fast, medium slow and slow.

Go to "Global preset " and the sub-section "Sub preset probability ". In the submenu marked "A", select sub preset 1 "very fast". Select the remaining three sub- presets you have made in the three sub-menus labeled B, C and D. In the section labeled " Interpolation ", you can now interpolate between the various sub- presets by dragging it between the corners labeled A, B, C and D Notice how "Style (active - inactive)" changes.

If you turn on "random walk on / off , this goes automatically.

Now you can go to "Global preset " and "Save as ..." to save what you have done. You can save this anywhere, but we suggest that you use the folder " presets " located in the same folder as max your patch so you keep track of your presets . Call the preset, for example, "different fast tones". If you now go back to " basic " you see that "different fast tones" are selected under "Global preset ". The next time you open the program, you can choose this as a test .

0 7 Advanced: Multiple archives

A global preset can consist of up to four archives. These are uploaded under "Archives 1-4". Start by stopping playback with the "Play" button under " basic ". Then, load four different files. We suggest these four archives as a straightforward start :

sound archive / test archive / andrea / perk
sound archive / test archive / ivar / raske toner
sound archive / test archive / morten / glitch

sound archive / test archive / sissel / Text

You can now turn these four files on and off under "Archives" and "on / off ". Start by just turning on the archive No. 1. Then you can start by choosing "play" under " basic ". Continue to turn the various archives on and off. You can have up to four selected at one time. You can balance the levels between the archives with " gain " and pan with " pan ". This can be stored as one part of the sub preset .

Also experiment with "Register" and " Loudness ". When you are satisfied you can go to "Global Preset " and "Save as ..." to save what you have done.

0 8 Advanced: live input

Start by creating a preset that uses a sound archive that responds easily to audio input. We suggest the archive "sound archive / test archive / Ivar / fast tones". Enter " basic " and make sure you have sound in "input" and that the red light under "input" trigger events when playing. You may need to set the sound level.

Start playback with "Play" in " basic " and with "style" in " advanced " set to the left for quick events.

Press the button to the left for loudness to turn it on. If you now press "live input" to the right of " loudness " the volume of the sound coming in will control the volume of the preset .

If you pull the slider " algorithm (mimicking - oposite)" to the right (opposite), it will react the opposite. Strong sound input will produce weak sound and low sound input will produce strong sound. If you pull it back to the left (mimicking) it will react normally. If you set it in the middle, the sound will not produce any effect. You can experiment with this setting. Press the button to the left for " loudness " and "live input" to the right, to turn it off again.

Press "live input" to the right of "style" Now the speed of the impacts on the sound coming in will control the speed of the preset . The slider " algorithm (mimicking - opposite)" works the same way here.

Press the button to the left of "register" to turn it on. If you now press "live input" to the right of the "register", the sound character of the sound coming in will control the sound character of the preset .

The gray markers above the "Style", "Register" and " Loudness " slides cannot be dragged in; they only show what happens in the analysis of the input signal.

0 9 Advanced: MIDI

The sound quality of the MIDI part is of course dependent on the MIDI source, but in this exercise we will use a simple built-in sound. Close the patch and restart it so that you have a completely empty patch without presets .

Press "play" in "Basic". Go to "Advanced" and choose "AU DLS Synth 1" under "midi output" if you use an Apple machine with macOS . Go to the "Archives" and press the top button under "MIDI". You should now hear a stream of miditones.

Drag the "loudness" slider to change the volume. Drag the "register" slider to change the pitch. Note that you do not need to turn the button to the left of " loudness " and "register". This way you can control MIDI loudness regardless of the audio files. Drag the "note spread" slider to select a range of random pitches. Pull in " velocity spread "slider to select a range of random projections forces. Set " midiscale min" to a value, eg. "60" to limit the bottom possible pitch. Set " midiscale max "to a value, e.g. "70" to limit the top possible pitch. This can be useful if you have a MIDI module with limited tone size. Drag the style (active - inactive) to change the rhythm.

Return to "Basic" and press "Play" to stop playback.

Go to "Archives 1-4" and open a sound archive with fast tones . We suggest the archive "sound archive / test archive / Ivar / fast tones". Return to "Basic" and press "Play" to start playback again. Return to "advanced " and turn on "Archives on / off - 1". Now both the audio file and the MIDI must play simultaneously. Screw up and down the gain to the sound archive to adjust the volume ratio between audio archive and MIDI.

Example of different distribution is between MIDI and audio files :

- If you check all 4 MIDI buttons for "Archives on / off " but only 1 for audio archive "Archives on / off " it will be most MIDI.
- If you tick all 4 audio archive buttons for "Archives on / off " but only 1 for MIDI "Archives on / off " it will be most audio archive.
- If you check audio archive button # 1 for "Archives on / off " and MIDI "Archives on / off " button # 2, they will alternate with playing.
- If you check audio archive button # 1 for "Archives on / off " and MIDI "Archives on / off " button # 1, they will play parallel t.

10 Advanced: slow sound

"Style (active-inactive)" selects how often events from very active (without pauses 20-10 times per second), via slow (long values without breaks) to very inactive (2 events per minute with long breaks in between) . The three presets " slow cage.json ", " slow soft prep piano.json " and " slow guitar.json " explore the slow events in "style (active-inactive)" and various variants of the " attack " parameter . To listen to these three presets , we recommend a high volume of reverbs (about -8 .0 dB) and a long reverberation time on the reverbs. (about 0.6 0) . This is because these audio files are not completely optimal and may need some help.

1 1 Advanced: overview

Here is an overview of the functions inside the window "Advanced".

The window is divided into " Sub preset " and " Global preset " as described earlier in the user manual.

style (active-inactive) This selects how often events occur very active (without breaks 20-10 times per second), via slow (long values without breaks) to very inactive (2 events per minute with long breaks in between).

Live input Live input to the right of "style (active-inactive)" turns on and off control of "style" from audio input. Gray marker over "Style (active - inactive)" slider. This one cannot be dragged on, it only shows what happens in the analysis of the input signal.

register (low - high) Here you can choose whether the program should emphasize deep or bright sounds . The button to the left of the " register" turns the "register" function on and off for the audio files. It affects the MIDI part regardless of whether this button is on or off.

Live input Live input to the right of "register (low - high)" turns on and off the control of "register " from audio input. Though it is very weak audio input will not change the value of the "register" but the value would rather be where it is. This is to prevent the sound from changing "register" when the musician does not really play . Gray cursor over "register (low - high)" slider: This one cannot be dragged on, it only shows what happens in the analysis of the input signal.

loudness (soft- loud) If the program should emphasize weak or strong sounds. The button to the left of " loudness " turns the loudness function on and off for the audio files. It affects the MIDI part regardless of whether this button is on or off.

Live input Live input to the right of " loudness (soft- loud)" turns on and off the control of " loudness " from audio input.
Gray marker over loudness (soft- loud) slider: This one cannot be dragged on, it only shows what happens in the analysis of the input signal.

attack This adds an attack envelope from 0-5 seconds to generate softer sounds . If you pull the slider to the left, the envelope is turned off.

algorithm (mimicking - oposite) This controls whether the preset should reflect live input or whether it should do the opposite.

midiscale , min / max This scales the output value for MIDI pitches . 0 is minimum and 127 is maximum. 60 is one stroke C.

midi output Here you can choose where the MIDI signal should go. "AU DLS Synth 1" is a synth in mac OS with piano sound as the first preset . This can be useful for testing MIDI.

Note spread This determines how much the note will spread around the area you choose.

Velocity This determines how much the impact strength will spread around the area you choose.

Archives on / off Turn archive 1-4 on and off.

Archives gain Volume for archives 1-4.

Archives gain trim Adjustment of volume for archives 1-
This is not stored in the presets .

Archives pan Pan for archives 1-4. Double click to put them back in the center.

Archives MIDI	MIDI triggering on / off for archives 1-4.
menu with 32 slots	Select a space to store sub preset .
Save	Enter a name in the white field and save the sub preset with "Save".
Recall	Select a sub preset from the menu and press " Recall " to activate this sub preset
Under " Global Preset ":	
Save As ..	Save Global Preset , this feature is also found in " basic "
Open ..	Open Global preset , this feature is also found in " basic "
Archives 1-4, Open ...	Open archives and place them in slot 1-4
Sub- preset probability AD	Select which sub presets to interpolate between
interpolation	Here you can fade between the various sub presets
random walk on / off	Automatic fading between the various sub- presets
Display	This cannot be changed, it just shows the weighting of the different presets .