Dear customer, thank you for buying AURORA.

AURORA is a cinematic and hybrid library for Kontakt 4.2.4 (or above) which features dozens of soundsets, loadable through an internal browsing system. AURORA enables you to layer up to 5 different soundsets to make complex sounds on the fly. AURORA features a new engine that enables the user to experiment modulation on different parameters: you can, for example, automate the cutoff of a filter with a step modulator to simulate a vibrato.

Every soundset in AURORA provides some of the versatility of a classical synthesizer combined with the quality of sampled wave sets. We carefully sampled lots of different acoustic material like timpanis, toy pianos, bells, self-made instruments, hand made percussions and, for long soundsets, we used a custom chain of sound design tools to realize soundscapes, drones and pads from acoustic and synthesized sources.

Initially thought as a perfect tool to make soundscapes and long sounds, we soon realized the real potential of AURORA when working on the advanced Rhythm section, which enables the user to assign different arpeggiator or polystep patterns to the layers. Working with AURORA is very, very fast. You'll find that it is really easy to obtain the sound that you were looking for, with the minimum amount of effort and, possibly, with lots of fun.

INSTALLATION

Extract the files AURORA_Samples.part1.rar and AURORA_Patches.rar in a new folder.
If you don't know how to open .rar files, we suggest to download 7zip from www.7-zip.org (windows users) or www.unrarx.com (mac users).

Then you can load the main AURORA - Init.nki patch or browse into the instruments folder and choose a preset from the different categories.

THE INTERFACE

The GUI of AURORA is very powerful and simple at the same time. It is designed to show only the info needed from time to time.

Layers Page

When you first load AURORA - Init.nki patch, you'll find this empty screen:

On the left there are 5 *Layer Panels*. These panels allow you to browse between the two main categories (SHORT and LONG) and to select the type of sound to work with. Once you've selected a sound, you'll notice that the Kontakt keyboard changes. Although the patch is playable over the entire keyboard, the best range is shown in red in the interface. Once you've selected your sound, the main panel will show you a lot of different tweakable controls.

The black *VOICE PANEL* display allows you to control the performance of the instrument.

- *Voice Limit* menu shows how aggressive is the fading when voices are triggered by the arpeggiator or the polystep. Normally, you would leave it to "Normal" setting, but you can change it if you notice strange fading artifacts (like a very short release tail) or voices raising too much (with inherently CPU spikes).

- *Rhythm Pattern* allows you to set the patch in rhythm mode and to make it be triggered by one of the three arpeggiators. We'll explore this in detail in the Rhythm Page Chapter.

- *Pitch Mode* allows you to switch between Multi and Single Pitch. When a Patch is on Multi mode, the

sound will change in pitch according to the MIDI key you press. The knob on the right will show you a transpose setting, which enables you to transpose your sound up to +-36 semitones.

When a patch is on single mode, you will trigger the same key disregarding the actual key you've pressed. The knob on the right will let you choose what key is to be played.

- The **To FX Chain** -> knob allows you to decide what amount of this sound will be sent to the FX chain. If you set it to zero, only the Atmospherizer Sends will output this layer's sound.

The lower panel shows all the layer parameters and their active modulations. When you move a knob, you can fine tune it based on its value displayed on the upper white bar.

Amp controls the layer volume. You can also change it with the little slider under the layer name on the left.

Pitch controls the tuning of the instrument by semitones.

Pan controls the balance between the left and the right channel.

The *Filter* part lets you choose between a lowpass and an hipass filter for the current selected layer and to

tweak its **Cutoff** and **Resonance**.

The **Voice ADSR** (Attack, Decay, Sustain and Release) panel provides a quick switch among several ADSR settings for the current layer. You can fine tweak them on your own adjusting the relative knobs.

The **Atmopherizer Sends** part lets you decide which amount of your sound will be sent to the Atmospherizer. To know more about the Atmospherizer, please refer to the relative chapter.

Modulation

Modulators automate a particular parameter allowing to create complex sounds that can change at specific time intervals or on user's input.

If you look at the parameters in the previous section, you'll notice a little "-" sign with a small knob below it. If you click on that, a menu, showing the possible modulations for that parameter, will open. Once you've selected the desidered modulation, the black display will show an edit window for the selected modulator (if editable).

Modulators are common to all the layers in the instrument. If you change LFO1 frequency when editing the first layer, LFO1 will be changed for all the selected layers. Under the little - sign, there's a small knob which controls the amount of modulation for that parameter.

Tip: Amp and Atmospherizer Sends modulations work only by substracting the modulation amount to the current parameter, while the other parameters work by either substracting or adding the modulation value to the current parameter position.

Modulators

There are up to 13 modulators avaiable in AURORA.
We will explain them briefly below.
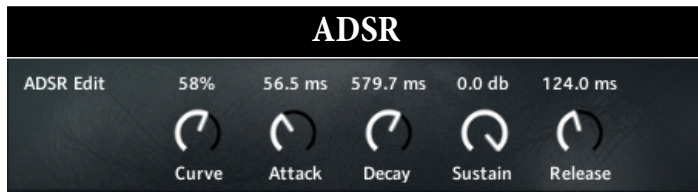
ADSR stands for *Attack Decay Sustain* and *Release*.
This type of curve is thought to simulate the behaviour of acoustic instruments. This modulator is independent from the Voice Adsr in the main display.
Once you press a key, this modulator will raise its output from zero to the maximum level, in the time specified by the *Attack* parameter. The *Curve* parameter sets how the shape of the attack phase is. Positive *Curve* values sets this shape more convex, while negative values sets it to be more concave. The *Decay* sets how long the envelope will take to fall until the *Sustain* level. The *Sustain* parameter sets the level at which the envelope will stay after the *Attack* and the *Decay* phase. *Release* sets how long the sound will take, after the key is released, to fade away completely.

ADSR modulation is a common way to control the amplitude of the sound (that's the reason why there's a dedicated ADSR for it) and the shaping of the filter cutoff frequency. Moreover, it's very useful to design risers as explained in the "Tips and Tricks with AURORA" section.
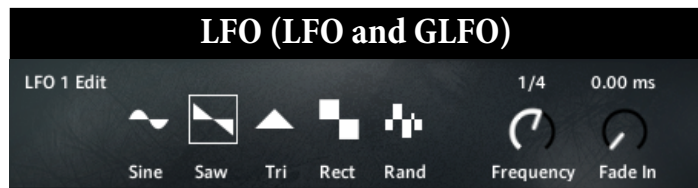

LFO stands for *Low Frequency Oscillator* and enables to modulate a parameter with a simple shape using a constant frequency period.
You can choose between 5 different shapes (*Sine, Sawtooth, Triangle, Rectangle* and *Random*), the *Frequency* period, synced to a musical time, and the *Fade in* time.

LFO is widely used to simulate a vibrato or to create rhythmic pulsing patches by assigning it to the Amp parameter. It can be used to add a slight liveness to your sounds.

In AURORA you have 2 standard LFOs and one Global LFO. The standard LFOs will be retriggered after you press a key, therefore every voice has it's own LFO. The standard LFOs are also retriggered for every arpeggiator step, so they are not suitable for long modulations in rhythmic patches. The Global LFO is a LFO that starts after you press the first note and then goes on until you release the key. Global LFO is very handy when working with tremolo effects and with the arpeggiator or the polystep on.
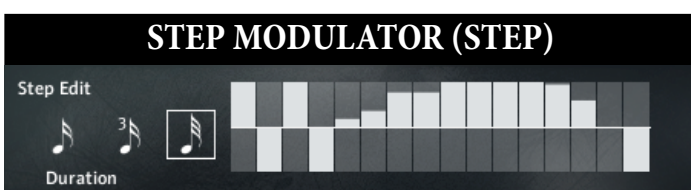
The *Step Modulator* is a kind of LFO which has its period divided in a certain number of steps. On the left you can select the duration of a single step in musical time. For every step you can decide a precise amount of modulation.

SHORT ENVELOPES (SENV)

Short Envelopes are fixed shapes, used to achieve some effects that aren't avaiable using the other shapes. You can see the figure in the display when you select the corresponding shape.

LONG ENVELOPES (LENV)

Long Envelopes are very long sine-like shapes, which last 30 seconds or more, to make very long morphic pads by setting one of them to the Amp parameter of a layer and assigning the same one, inverted, to the Amp parameter of another layer.
There are three kinds of these, each one with a different starting phase. This allows you to create very complex long instruments with periodic modulations on different parameters.

VELOCITY (VELO)

Velocity its a value between 0 and 127 which represents how hard you hit a key. It's commonly assigned to the Amp parameter, but you can try to assign it to the cutoff of a lowpass filter to release more harmonics when you hit hard a key.

MOD WHEEL (MW)

The *Mod Wheel* is the rotary control present on the majority of MIDI controllers. Modwheel is often assigned to CC 1, so you can control this parameter directly from your DAW.
Modwheel is widely used to morph between two kinds of sounds, by assigning it to the Amp parameter, or to simulate a crescendo in string-like instruments.

KEY FOLLOW (KEY)

Key Follow is a simple way to control parameters according to the current key position. On the central C4 this modulator outputs zero. You will get negative or positive values for keys which are pressed respectevely below and above the central C. This modulator can be used to control the cutoff of a filter in relation to the key.

Rhythm Page

AURORA features one of the most advanced arpeggiators in current Kontakt libraries.
To begin working with the rhythm section select a layer in the layers' page and in the Rhythm Pattern drop-down menu select one of the three patterns (A, B or C). This links the layer to the selected arpeggiator.

The *Rhythm Page* let's you define how the three arpeggiators will trigger the linked layers.
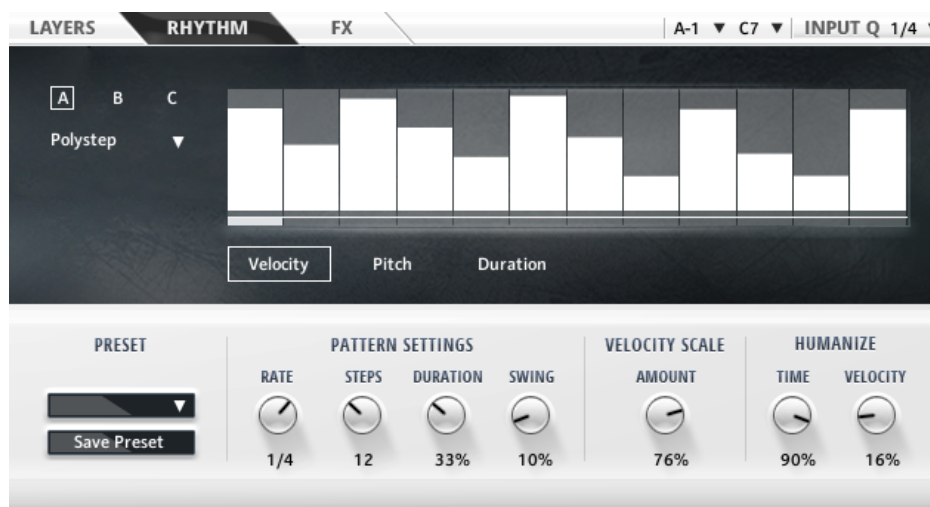
The bottom of the page features common controls for the three arpeggiators.

Preset menu allows you to choose from several different arpeggiator presets.
Once you've selected a preset you can customize it as you prefer.
Save Preset button allows you to save the current arpeggiator settings to a custom external file. When you open another instance of AURORA you can then recall that custom preset.
This works as a Cut and Paste trick for sharing the same arpeggiator settings on different projects or AURORA patches.

Rate knob defines the duration of a single arpeggiator step. You can choose among different musical figures and the arpeggiator will be synced to the tempo of your DAW.

Steps knob determines how many steps each of the three arpeggiators has.

Duration knob controls the overall duration of the steps. The final duration will be determined by this control and the duration of any single step in the tables.

Swing knob allows you to add a kind of triplet feel by altering the ratio between arpeggiator steps.

Velocity Scale Amount controls the scaling down of the step velocities according to the input velocity. At 0% the steps are played normally. At 100% every step is scaled down in relation to the velocity of the key that triggered the arpeggiator.

Humanizer is an effective tool to make the arpeggiator a bit more lively and less predictable, applying randomization to time and velocity.
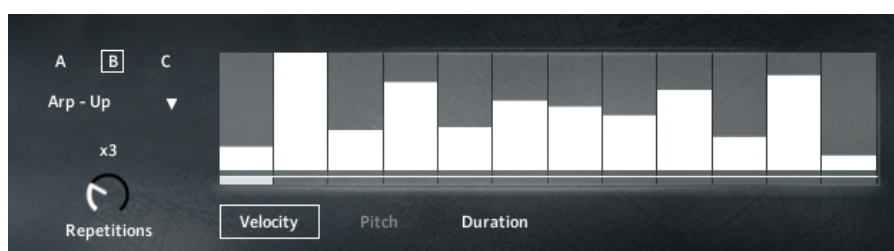
At the top of the page, the black display shows custom settings for each one of the three arpeggiators.

First choose the arpeggiator to work with on the A B C selector.

Now you can choose its behaviour. There are 6 different modes.

Polystep Mode simply plays a defined melody, following the Velocity, Pitch and Duration tables. This spe-

cial kind of arpeggiator is very useful to make rhythmic parts (by ignoring the pitch section) or even to sequence a very short piece of music to be played by AURORA layers. Dreaming Sun arpeggiator preset shows this kind of approach.

When in *Arpeggiator Mode*, a rhythmic pattern will play the pitches of the currently held down keys. There are several rules to "pickup" those notes, so here's a brief explanation of the different arpeggiator modes:
Imagine that there are 4 held down notes. 1 is the lowest and 4 is the highest one.

Up - Arpeggiator will play pitches sequentially in a 1234 pattern.
Down – Arpeggiator will play pitches sequentially in a 4321 pattern.
Up Down – Arpeggiator will play pitches sequentially 123432 pattern.
Zig Zag – Arpeggiator will play every other pitch in a 1324 pattern.

FX Page

The FX section in AURORA is very powerful to finalize and refine your designed patches. Before going on, we need to explain how the signal flows from the layers to the FX chain and the Atmospherizer.

Each layer in AURORA has his dedicated *Atmospherizer Sends* controls. These controls allow you to send the layer's output to the Atmospherizer effects (Delay, Algorithmic Reverb and Convolution Reverb). These sends are modulable, so you can achieve interesting results, for example, combining an LFO and the Delay send.

By default all the layers are mixed and sent into the FX chain. You can prevent a single layer from being mixed and sent to the FX Chain by setting the "to FX

Chain->" knob to zero.

The very last step of the FX Chain is the Atmospherizer Send, which enables you to send a chosen quantity of the final output to the Atmospherizer. This particular signal flow gives great flexibility to the sound.

FX Chain

The FX chain in Aurora is designed to quickly customize the overall sound of the patch. We'll cover each of the effects used, to understand better how the effects work, please refer to the Kontakt manual.
Every FX has a switch to bypass its module. Active effects are shown in blue on the interface.

LOW PASS FILTER

The *lowpass filter* cuts some high frequencies off the resulting sound. This filter is lighter than the one in the layers page and it lacks resonance.

EQUALIZER

The *equalizer* cuts or boosts some frequencies in the bass, middle or upper range. It can be used to slightly refine the sound to your liking before sending it to the other effects.

SATURATOR

Saturation is a kind of compression that produces an overall boost of volume and provides some pleasant distortion effects.

DISTORTION

The *distortion* FX is very effective on percussive material and to add some spice to soundscapes.
The *Tone* knob controls the brightness of the sound.
The *Drive* knob controls the amount of distortion.
The *Bass* knob controls the low frequencies.
The *Clean* knob controls how much of the original sound is mixed with the distorted one.

CHORUS

Chorus effect "thickens" the audio signal adding a detuned copy of the original audio signal. The detuning of this signal is controlled by an LFO whose amount is controlled by the *Depth* parameter. The frequency of the LFO is controlled by the *Speed* parameter while the *Phase* parameter controls the starting phase of this LFO.

FLANGER

Flanger effect creates a sort of slow whooshing sound by adding a delayed copy of the original audio signal. The delay time is modulated by an LFO whose amount is controlled by the *Depth* parameter. The frequency of the LFO is controlled by the *Speed* parameter while the *Phase* parameter controls the starting phase of this LFO.

LIMITER

The *limiter* enables to pump up the sound to achieve larger-than-life percussion beds or to boost the very low detail of a sound without distorting it.
Input Gain controls how much gain you want to apply, while the *Release* knob controls how long it takes for the limiting action to stop after the input signal has fallen below the Output level.

ATMOSPHERIZER

This simple effect controls how much of the sound will be sent to the three *Atmospherizer* FX.

Atmospherizer Effects

DELAY

The **Delay** reproduces a copy of the original signal, shifted by a precise amount of time. The **Delay Time** is expressed in sixteenths so it will vary according to the host tempo. **Damping** controls how much the higher frequencies will be reduced in the delayed signal. If feedback is set, each successive echo has a progressively lower high-frequency response.

Setting **Pan** over zero will produce a kind of bouncing between the right and left channel. At 100% the signal output alternates between the two channels.

Feedback sends a portion of the output back into the input delay line and creates multiple decaying echoes.

REVERB

The algorithmic **Reverb** can be a greater and cheaper solution than the convolution engine.

The **Predelay Time** simulates the lap time between the actual sound and the reverb start. **Size** sets the room size and therefore the length of the release trail. **Colour** determines the material used to construct the room: low values simulate wood and drapes, high values simulate concrete or stone.

Damping controls how much the room filters the high frequency content.

CONVOLUTION

Convolution technique works by taking a "sample" of an acoustic space, also called impulse response, using that as the basis to model the room. Convolution can be used to create some resonance effects and AURORA provides high quality impulses for sound design experimentation. AURORA features 17 custom impulses, that you can select with the related drop-down menu. The **Size** parameter shapes the overall size of the room, but at extreme levels it can lead to some audio artifacts. **HF Rolloff** reduces the high frequencies.

Tips and tricks with Aurora

Working on AURORA, we've found some tricks and tips that can produce very interesting results when designing a sound. Here are some suggestions.

• A Sawtooth LFO on the Amp parameter can be used on most long patches to make pulsing basses and rhythmic leads. In combination with the arpeggiator (set on longer musical figures), or the Delay, it can provide a whole array of interesting results.

• ADSR Modulation offers a number of creative opportunities. You can gradually open the cutoff on lowpass filters and you can design risers. To design a riser sound (a sound which pitch and amplitude rises in a set amount of time), just put an ADSR on the pitch parameter, then set the attack and sustain to 0, release to the max value and then set the time you prefer on the decay parameter. Invert the modulation and set the voice ADSR attack time.

If you apply this to three different layers and play with the transpose parameter, you can design risers that end to chord structures.

• Some short instruments can be used as an unpitched percussion by assigning them to an arpeggiator and setting their pitch mode to Single.

• Long Envelopes are designed to achieve great results with very long sounds. They provide a little amount of variation that helps bring life to pads and soundscapes.

• Long Envelopes and, in some cases, standard LFOs are very, very less useful on short sounds and in conjuntion with the arpeggiator. Since the arpeggiator retriggers a voice continuosly there's no time to hear the envelope in action. Use the GLFO instead.

• When working with the arpeggiator, remember to put a Velocity modulator on the Amp parameter! Some short sounds will react in any case, but all the long sounds are made with a single velocity layer, so it's up to you to design how they will change according to the input velocity.

• Arpeggiator velocity can be used as a kind of

modulator that starts at the very beginning of a triggered voice. So don't be fooled by the common mean of velocity and try to apply it to the different parameters.

• The delay, the arpeggiator, the step modulator and LFOs are the key points to design interesting patches with AURORA.

• Input Quantize is really useful when working live with the polystep or LFO rhythms. It auto-corrects timing mistakes and helps to mantain a solid performance timing.

• If you use the swing parameter, it can create conflicts with the straight LFO timing and Input Quantize. Double the Input Quantize resolution to quantize only on strong beats.

• Have fun just exploring the library. There are some gems in the short section, that can be considered as complete mini-instruments by themselves.

FAQ

CPU LOAD IS TOO HIGH
If you experience CPU issues when running many AURORA instance, you have several ways to reduce the CPU consumption. First disable the Convolution effect in the Atmospherizer and use an external reverb in your DAW (or place a Convolution in one of the Kontakt output busses). Then if some layers are triggered by a Pattern in the Rhythm section, you can set the Voice Limit to AGGRESSIVE.
In the end if the patch uses some very long sounds, you can reduce the release in the ADSR of the layers, to keep the voice number low.

ARPEGGIATOR AND POLYSTEP PATCHES DELAY
On some DAWs the input quantize can introduce a little delay. Please set it to OFF and quantize them in your DAW to be sure that they will be in sync.

I MADE A COOL PATCH! CAN I SEND IT TO YOU?
Sure! We will review your patch(es) and if we'll like it we'll include in the next update of AURORA with your name in the "Featured" folder.

CREDITS

AURORA was created by programmer, composer and sound designer Paolo Ingraito at FluffyAudio in collaboration with Luca Thomas d'Agiout from DreamAudioTools. Samples were recorded in different ways using custom chain of plugins and software. We thank Leo from Freesound.org for providing us some beautiful violin sounds. A big thank you to our long-time friend and collaborator Olmo Chittò for the percussion instruments and mallets samples. AURORA GUI design was done by Magnus Hornqvist (www.guinious.com) in months of thinking (thank you Magnus for your patience!).
Thanks to Anna Lambrini for manual text revision and Valeria Armeni, for Fluffy the Raccoon drawings.

We thank all our collaborators and supporters, in particular Marius Masalar, Generdyn, David Garcia Diaz, Blake Ewing, Hanjo Gabler, Ian Dorsch and everyone who has given us precious suggestions and composed great music with our instruments.

Have fun with AURORA,
FluffyAudio.