Zero-G FORMATION

Manual

Introduction

Thank you for purchasing Formation from Channel Robot and Zero-G. In this manual we will cover installing and using Formation. We built it to be like no other product out there, to give you compelling powerful sounds that you could change easily and an Arpeggiator that delivers a stunning new approach to music making. We hope you enjoy using it.

Installation and Set up

Formation comes with over 250 instruments. Please refer to the accompanying Formation_Kontakt_ReadMe pdf on how to install the Formation files.

Summary

Formation is a unique approach to a ROMpler product. Formation is a hybrid SynthROMpler, allowing you to play either the original sampled instruments, or to use them as the source for whole new synthesised and modulated sounds. Most ROMplers will provide an extensive range of multi-sampled instruments recorded at several different velocities across a realistic voice range, and Formation does this, and it's possible to treat Formation as a "normal" ROMpler, simply selecting and playing back the instruments in its collection.

But Formation does much more than this. Formation adds a second processed voice to each instrument allowing you to manipulate the formant data in the voice to generate additional audio, like you would create new sounds using oscillators in a synth, except Formant uses the sampled data from the instrument instead of an oscillator.

Added to this you can apply 4 different effects to the combined sound, and these four slots can contain any of a huge range of effects. Next is the ability to send different amounts of each individual sound to 4 different Send effects, and again you select from a range of different effects in each case. This adds yet more creative options to your final sound. Further there is a huge amount of modulation options and the ability to add gating effects too.

Finally there is the ARP. Like no other implementation the Formation ARP is powerful, original and quickly creates unique and compelling patterns like no other product.

Main Tab

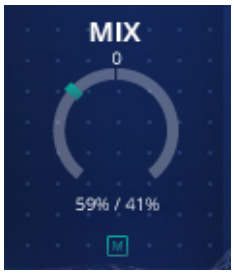
Voices

Overview

Formation uses two voices within each instrument, a "Normal" voice and "Formant" voice. The first is the sampled instrument, the second is (usually) the same wav data passed through the Kontakt formant-processing engine. This second voice allows you to modify and manipulate the sound in interesting and musical ways.

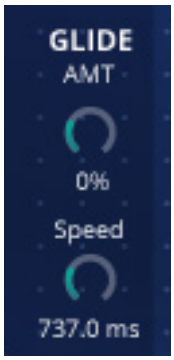
Voice Controls

Mix Control

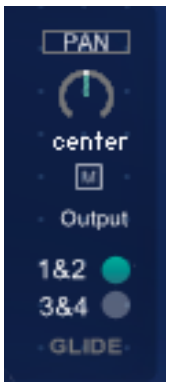


The mix control allows you to mix between the two sound sources, turn the control all the way to the left and you have the original sound, all the way to the right and you have the current formant version of the sound, in between is a mix of these two sources. You can use a modulation source to change this mix in real time as you play.

Glide and Pan Controls



Each voice has a set of Glide controls and a set of Pan Controls. Click on each name to see that set of controls
The glide controls are classic portamento controls covering time to move between notes and depth of the effect.

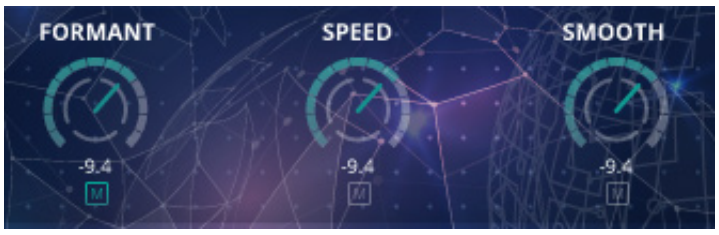


The Pan controls let you set pan position for the voice, and assign a modulator. You can also route the voice out of an alternative output for post-plug-in processing.

Send Controls

Each voice has 4 independent send effect controls. Each of these controls the amount of the voice sent to one of the Send Effect slots. You can also assign a modulator to each of these send controls.

Formant Controls



The formant voice has a set of formant controls. Change these to get different formant-based sounds from the voice. Again each of these controls can have a modulator applied.

Unison Controls

The unison effect is applied to the final output sound, not to each voice independently. In the unison controls you can set the different types of unison mode, these add additional slightly detuned voices. You can also set the spread of these additional voices. Beware, as with all unison modes this increases CPU load.

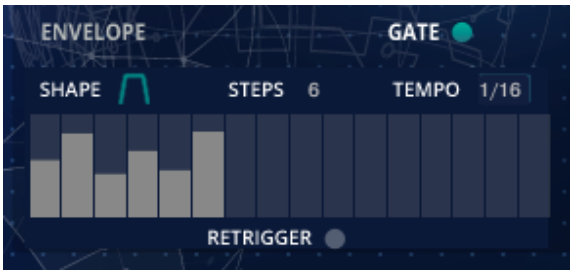
Amp and Pitch Controls

The Amp and Pitch LFO effects are also applied to both voices at the same time, and allow you to set time and depth as well as allowing you to define modulators for each control.

Envelope and Gate Controls

The Envelope and Gate controls are selected by clicking on the words Envelope or the word Gate.

The AHDSR envelope is applied to both voices too. These controls allow you to set the amount and the shape of the envelope.

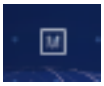


The gate is applied to the final sound from Formation and has the following controls:
Shape - sets the shape of the envelope used in each gate step. Drag the control up and down with the mouse to change the gate shape.
Note: The effect the gate shape has is influenced by your overall tempo, the faster the tempo the less audible effect the gate shape has.

Steps - The number of steps used before the gate repeats
Tempo - The time each gate step takes
Step Table - The volume target used in each step
Retrigger - When switched on, this restarts the gate from step 1 each time a note is pressed, when switched to off the gate is “free-running”.

Modulation

Activation



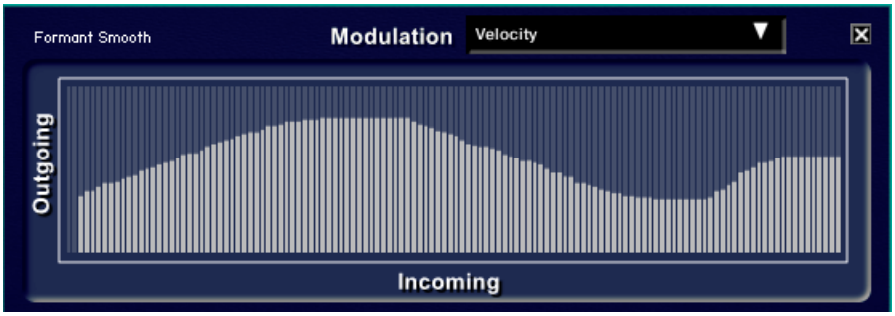
Next to a number of the other controls is a small modulation button. Selecting this turns the modulation on for that control and displays its control set. Turn this off and the modulation will no longer be applied to this control.

Controls

You can select the type of modulation you want applied to each control:
Velocity - will use the velocity of the last played note.
Step - will use one of the values in the step table
Random - will calculate a random value to use
Legato - uses the elapsed time between notes

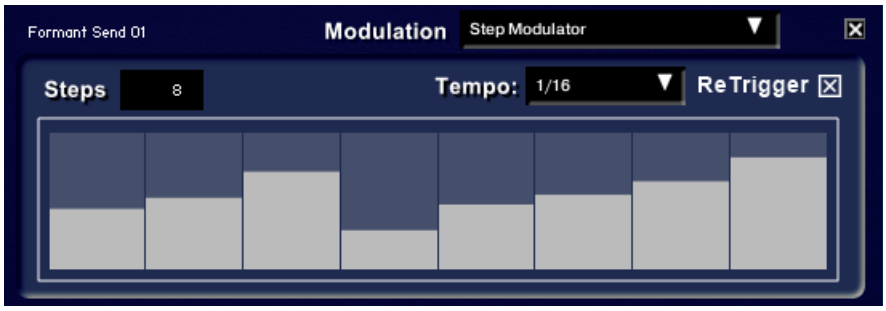
Velocity

You can set the value to be used by any incoming velocity in the table.



Step

You can set the frequency of modulation change in musical values, for the step modulator this moves the modulator to the next step in the table each time.

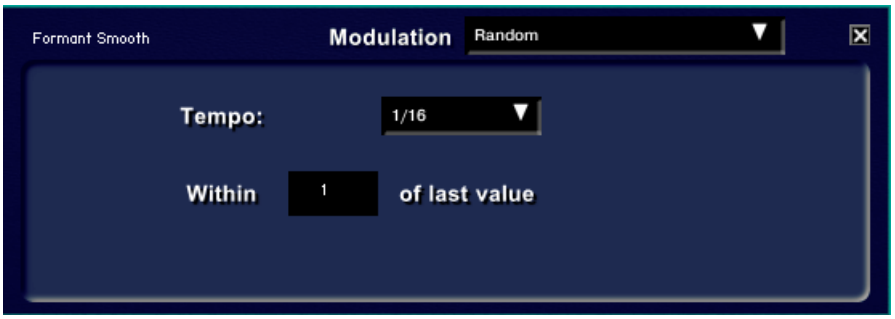


If you set the ReTrigger button to ON the modulator will restart from the first step every time a new note is pressed. Set to OFF the step modulator will keep running over all the modulator steps.
You can define the number of steps to use in the step modulator, between 4 and 128 and you can set the value you want to use in each step of the modulator.

Random

You can set the frequency of modulation change in musical values, for the random modulator. This sets how often a new value is calculated.

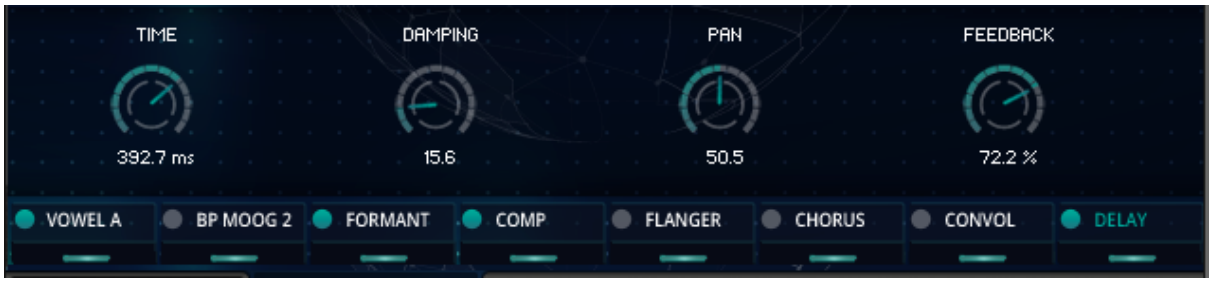
You can also set the amount of random movement this modulator uses.



Effects

Effect Selection

You can apply 8 different effects across both voices. The Voice Effects use the first four effects slots to define and view these. You can select 4 different Send Effects in the final four effect slots.



To select a new effect, click on the menu bar below each effect tab. This is the small blue bar along the bottom of the effect name, then select from the menu.

You can turn effects on and off individually, with the Power button on the left of the effect. Select the effect name itself and you will see the parameters for this specific effect.

Voice Effects

The first 4 effects slots are applied to both voices as direct effects and are used mostly for filters etc.

Send Effects

The last 4 effects slots are independent FX sends for Delay, Phaser. Flanger, Chorus, Reverb and Convolution. The amount of each effect is controlled by the 4 independent send effect controls for both the normal and the formant voice.

Arp Tab

Overview

The ARP is unique, but simple to understand and use. The ARP will respond to a maximum of 8 pressed notes. Each note you press will be assigned to one of the tracks, labelled Note 1 to 8 in the interface.

When you press one or more notes the ARP will begin running through the 16 different steps in each track. Where a track has a velocity set the ARP will play its assigned note at that velocity.

So one way to see the ARP is that instead of playing each note in turn, like a ”classic” arpeggiator, it plays a little 16 step sequencer for each note you press. In this way it is possible to set the ARP to play just like a classical arpeggiator, or to play multiple notes at the same time (chords) or to play the same note multiple times (syncopation) and anything in between.

Master Controls

The ARP will only run if you have the power button set to on.

It's possible to randomise a range of different values in the ARP, first you need to select an area that you want randomising, and its name will change to the turquoise colour used here. When you press the RANDOMISE button all selected areas will be randomised.

You can set the ARP to ignore different parts of the keyboard, so you can run arpeggiations and play along "free-hand" too. You can define a note above which that ARP will ignore, so you can play along in a higher register, or similarly you can define a note below which the ARP will ignore.

You can set the tempo as a multiple of the song tempo.

You can define the number of steps the ARP will use in each track, the ARP will then only use this fixed number of steps.

Further, you can have this dynamically set, if you select the 

button the ARP will play (and replay) only as many steps as notes you press, so if you press 3 keys the ARP will play only 3 steps, over and over. Press 6 keys and it will playback through 6 steps.

Select the 

button and the ARP will play back double the number of notes pressed, so you press 4 notes and it will play back 8 steps etc.

The Groove Slider sets the amount of groove or swing used in the arpeggiator.

The ARP is not limited to playing through the steps forwards (from 1 to 16). Formation comes with a range of alternate sequences for steps: Forwards, backwards, forwards then backwards, middle out, edge in, a range of randomising patterns and a whole bunch more that will allow different melodies each time through the sequence. Select the load button and navigate the <ARP Patterns> folder to load one of the different sequencing patterns. The name of the loaded pattern will appear here.

An entire set-up for the ARP can be saved and loaded between different instruments.

Track Controls

Select the Track name (i.e. Note 1) and it will turn turquoise, meaning the track velocities will be randomised when you press the RANDOMISE button.

Select a set of step numbers (1 to 16) and then if you change one of the selected step's velocity (the turquoise bars in the table below the numbers) then all selected steps will move to the same value, this is a quick way to set a number of steps to the same velocity. So, for example if you select numbers 1,3,5,7,9,11,13,15 and change the velocity of step 3 all these selected steps will be reset to the same value.

Select  and you can cycle through a set of preset values for all the velocities in the track.

Select  and the velocity values for the track will be copied, select  and any copied values will be pasted into the track. This is a quick way to copy values between tracks.

ARP Controls

Select the attribute menu by clicking on the grey triangle and you can display and edit different aspects of the overall ARP playback:

Step Length - sets the length of time used in a step
Repeats - sets the number and likelihood of a repeat (drill) in the step
Glide – sets the length of the glide for each note step
Transpose - sets how much the selected note is transposed on playback in a step
Note length - sets the length of the note played back
Pan - sets the pan position for the current step
Fade In - sets a fade-in amount for each step

If you click the text, it turns turquoise and this set of attributes will be added to the randomisation process.

Just like in each track, if you select a set of step numbers, change one to

change them all to the same value.

Select this and then change any value and all step values will be changed to the same value. This does not work with Glide, Pan and Fade In settings.
