QuikQuak
Audio plug-ins

Crowd Chamber

User guide v. 4.1

Crowd Chamber is an audio manipulation plug-in that layers multiple variations of a signal for crowd simulations and wild sweeping distortions.

From simple chorusing effects, small crowds and stadiums, and on to impossible situations. When each voice is mixed, it is altered in delay and spectral scale, making unique versions of itself to create the illusion of different sources. A voice stretch feature enables the voices to blur through time, giving the illusion of many more voices from one source.

What started out as a basic voice multiplier has now turned into a special effect processor. Which is great for film, in making ever changing background textures, and unique flowing distortions. Or you could just turn a small happy cheer, into a huge appreciative stadium!

Installation

Download and run the install package from the Quikquak web site.
https://www.quikquak.com/download_Crowd_Chamber.html
It's installed in the typical places for plug-ins, when are mentioned while installing.
Note: Some hosts do not recognise new plug-ins, and a rescan is needed to pick up on their existence. Please refer to your host software for information on plug-in management.

Getting started

The best place to start when using Crowd Chamber is going through the presets. They are often named appropriately for their specific use, and give a good over view of the range of effects Crowd Chamber can do.
When editing, start off with one 'character', by selecting the population count of one on the left, and move the character about the main panel with the mouse. The default axis is for the main display has pan horizontally and spectra vertically. Moving in the Y axis you will see the spectra dial also moving as they are directly connected.
If you click 'execute' in the randomise panel, you can see that all the dials change - they are set randomly to a value between the lower and upper dial setting.
The best way to understand is just to play, and see what happens.
Now for the main controls.

Controls

Population panel
This shows the current number of individuals involved in the simulation. Clicking on the number brings a quick select menu of numbers, or your can press the minus and plus buttons to increase or decrease the population.

Preset menu
load Preset:
Allows you to load a previously saved preset. This uses the VST standard '.fxp' file format.
save Preset:
Allows you to save a preset. This uses the VST standard '.fxp' file format.
reset Current:
Resets the selected program back to its 'factory preset,' or basically its preset setting when the plug-in was first loaded into a project.
presets:
Simply contains all the presets available.
left and right buttons:
This scrolls you through the presets.
If you've edited a preset, you will be asked if you're sure, and you can answer to not be asked again.
current preset name:
Clicking on the name panel enables you to change its name.

Output panel

Active:

Select the active status of the plug-in, for pass-through comparisons.

boom cut:

This rolls off bass frequencies to simulate wall dampening effects.

dry:

This is the amount of the original input that is mixed with the 'wet' sound and sent to the output.

wet:

This is the amount of output volume from the plug-in process. Set to half way (top) will give a single voice an equal output from input. There are many factors that effect volume, although automatic set to balance for population count, there be a need to increase the volume high because of all the mixed phases and bluring of the sound.

circular clip LED:

This lights up whenever the return signal goes over the standard plug-in limits. Clipping will cause distortion to the output, and should usually be avoided.

Randomise panel

This frequently used panel is used to create your own Crowds. Getting the crowds properly distributed can be a lengthy process, so some kind of randomising is very useful. Each parameter of the individual can be randomised between to values, called here lower and upper.
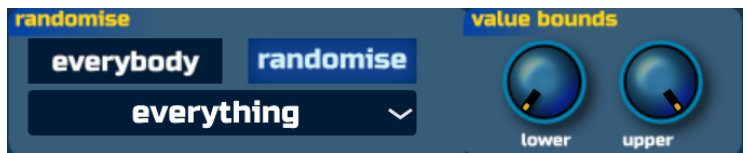
randomise:

This sets off the randomising, you can just keep pressing this until you find a crowd suitable. This is extremely useful of sifting through many possible combinations of effects.

lower:

This dial sets the actual lower limit of the random value.

upper:

This dial sets the actual upper limit of the random value.

These values are DIAL POSITIONS and not associated with internal settings. This makes it easier to see the results and set common ranges for all the parameters.

The lower value must always be below the upper, so if they cross then one simply pushes the other back automatically.

everybody / individual button:

This allows you to randomise the whole population or just the selected individual.

everything drop down menu:

The drop-down menu at the bottom of the panel sets which parameters of the individual to randomize. This defaults to 'all - not gain.'

Try using close values for some very unusual chorus or watery 'broken' type effects. More on what this panel actually changes in 'Inidividual panel group.'

Reverb panel

This puts the crowd into the environment. It adds a finishing touch to the effect and spreads the sound out even further. It gives the impression that the whole crowd is standing in a large hall or somewhere suitable.

effect gain:

Sets the amount of reverb added to the sound. There is no dry setting as it was simply not being used in tests, and this simple gain control was enough.

effect size:

This sets the size or length of the reverb, from bathrooms to massive canyons.

filters:

You can alter how the sound is filtered by adjusting the low and high cut values, these give impressions of highly damped rooms or shiny reflective atmospheres.

Main Display panel
Characters:
This large panel shows the main population situated at user selectable co-ordinates. This DOES NOT show the actual 2D positions of the individuals, but is a useful visual separation tool.

It helps to show the distinguishing differences in pan position, time delay, and spectral shift.

Each person can be selected and moved around their selected co-ordinates. The selected individual is shown with an orange circle (yes, I know - waving at you!), and its parameters are shown on the right of the plug-in.

Display Axis: The X and Y axis types can be changed using the simple menu panel shown here.
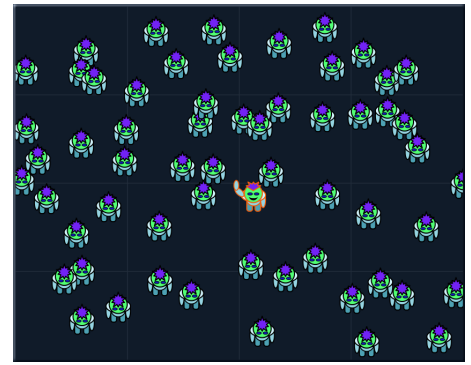
Everybody effects panel
This section alters all of the population with unique effects, creating the general tone and size of the system.

spread:
This spreads or stretches out each voice in time. The effect is as though the sound is repeated and overlaid very rapidly in short succession. Large values cause a long blurring spread which is used to simulate huge crowds, giving the impression that each value is mixed and spread with the others over a large time period.

It's perhaps a good exercise to alter this parameter with a soloed instrument or speech to better understand the effect to begin with.

frequency:
This sets an overall spectral shift of the output. Useful as it mimics the feedback shift from the previous version of Crowd Chamber, but has a range larger enough to create really twisted effects/

Individual panel group

Selected panel
This allows you to manually select a person, in the same way as the population parameters. Alternatively, you could select them by click on the main panel. The selected individual has an orange circle around them.

solo:
This allows you to hear the individual on their own.

Shift and modulation panel
shift:
This pushes the spectral content of the individual up or down. For no adjustment set to vertical. Note this is not the same as a pitch scale algorithm, as the spectral content is shifted, not multiplied. This function provides enough character change for convincing multi-voices.

shift modulation gain:
This gain control, changes the amount the spectral scaling alters over time. It's a sinusoidal LFO, that is added to the spectral scale value.

shift modulation speed:
This sets the rate of the spectra modulation. High values can cause strange effects, which are often welcome!

Time and modulation panel

delay:

This the delay of the sound, zero being the extreme left of the dial. Putting performers together will never produce perfect synchronisation, so different signals arrive at different times. Setting them all to a low value will create strange feedback and cancellation effects with high multi-layers.

time delay modulation gain:

This gain control changes the amount the delay alters over time. It's a sinusoidal LFO, that is added to the delay value. Exteme values produce playback pitch changes, which are different from the sprectal shift of the previous panel.

time delay modulation speed:

This sets the rate of the time delay modulation.

Pan and Gain panels

pan:

This simply sets the pan position of the individual, using the circular panning law. You can of course also click on a character in the main panel and pan by moving left and right (depending on axis selection)

gain:

Sets the gain of the individual. Setting to zero would be pointless so a suitable and useful gain range is selected internally.

Hints and tips

* As with all QuikQuak's plug-ins, experimentation is the key!
* Use the 'boom cut' to reduce bass boominess.
* Try many different inputs, you'll be surprised how they turn out, and what you can simulate.
* Use high spread values to create the effect of a massive chanting stadium full of people!
* As default, the random 'execute' command will change every individual's parameters to their extreme value (leaving gain alone). You can go though millions of effects with this, but it always best to alter single parameter groups to get a real feel of the plug-in's abilities.
* Layers with close values can cancel each other out at times, this turned out to be handy for other sound design purposes like monster effects - dinosaurs, screeching birds, and ghost effects for example.
* CPU usage is mostly linked with population count.
* Sometimes a population of one will be enough for your purposes, by using the global effects panel to create something completely different with the advantage of less CPU usage.

Above all, have fun!

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QuikQuak audio plug-ins.