NEKYIA

CIRCUITS

CEREMONY

Twin Peak Filter/Resonator

User Manual

OVERVIEW

Ceremony is an Dual Analog 18dB resonant Filter module inspired by Rob Hordijk's TwinPeak design. The filter has variable characteristics allowing it to morph from a Low pass filter to a twin peak Band pass filter. The two peaks can be tuned with the two frequency controls or through the CV inputs that are controlled by two attenuverters or through the Both CV input which tracks 1v/oct and controls both frequencies equally. Ceremony adds a voltage-controlled FM amount of Frequency B to Frequency A. Each filter also includes a feedback control, which routes the audio input to Frequency control resulting in rich harmonic content. The voltage controlled Resonance at higher settings will self-oscillate the filter, creating beautiful percussive, plucky or bell-like sounds by pinging the audio input(s). The two audio inputs feature a voltage controlled Crossfader and the audio Output can be controlled by a VCA. Ceremony is a unique sounding module both as a Filter or as a Resonator with endless sweet spots!

- *Dual 18db Resonant Filter*
- *Morphs from LP to twin peak BP*
- *Voltage controlled FM between the filters*
- *Feedback control per filter for extra harmonics*
- *Frequency CV inputs with Attenuverters plus Both CV input*
- *Voltage controlled Resonance*
- *2 Audio Inputs with Voltage controlled Crossfader mixer*
- *VCA on the main Output*

Tech Specs:

Depth: 25mm, Skiff Friendly!

Power: 45mA @+12V / 43mA @-12V

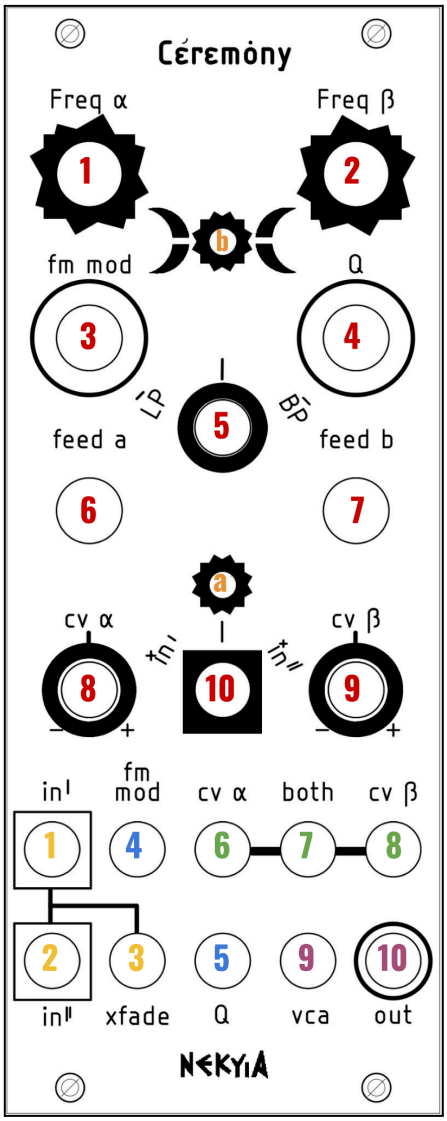
10hp

Installation

Before installing this module disconnect the power from your system! Double check the polarity of the ribbon cable! The red stripe should be aligned with the -12V rail, on both the module (white bold line) and on the bus board.

PANEL CONTROLS

1. CutOff Frequency A
2. CutOff Frequency B
3. FM amount of Freq B to Freq A
4. Resonance level of Freq A and Freq B



5. Morphs from Low Pass Filter to two peak (Freq A & B) Band Pass Filter
6. Feedback amount for Freq A. Routes the audio inputs to modulate Freq A
7. Feedback amount for Freq B

1. Signal Input 1
2. Signal Input 2
3. CV Input to modulate Crossfader. +/-5V
4. CV Input to modulate FM amount. +/-5V
5. CV Input to modulate Resonance. +/-5V
6. CV Input to modulate Freq A. +/-5V
7. CV Input to modulate both Freq. +/-5V
8. CV Input to modulate Freq B. +/-5V
9. VCA CV Input to modulate Output. 0-8V
10. Output

8. Attenuverter for Freq A CV input
9. Attenuverter for Freq B CV input
10. Crossfader between Input 1 and 2, with equal levels at the mid position
    a. Crossfader position Bipolar LED
    b. VCA on/off indication LED

Tips & Tricks

At lower Resonance settings Ceremony excels as a filter by feeding its inputs even basic oscillator waveforms. At higher Resonance settings Ceremony will self-oscillate and endless percussive and synth sounds can be achieved by pinging its inputs with triggers.

FILTER example:

Patch two audio signals in Ceremony inputs and set their balance through the voltage-controlled Crossfader. Or, use one audio input and modulate its level through the Crossfader *(Xfade input).*

Adjust the Resonance, preferably on lower settings to avoid self-oscillation. Mind that even on a zero Resonance setting there will always be a bit of resonance due to the nature of the filter.

LP/BP knob will shape the filter mode from a Low-pass to twin peak Band-pass. At minimum position (Low-pass) only Frequency A will control the filter (unless FM Mod is active) while at maximum position the two peaks created are controlled by Frequency A & B. The two frequencies can be modulated through *CV a & b* inputs that offer separate attenuverter controls (v/oct at maximum position) or through *Both* input (v/oct) that is modulating both frequencies equally.

FM Mod sets the FM amount of Frequency B to Frequency A. Ceremony features voltage-control over the FM amount (*FM mod cv input)* so as interesting dynamic FM overtones can be created.

Feed A & B feeds back the audio inputs (the mix result of the Crossfader) into Frequency A and B respectively to create rich harmonics and drastically affect the timbre. For example, try a Sine wave as an audio input to notice the rich harmonic overtones created by the combination of Feed controls and FM Mod!

Finally, you can modulate the Output level through the *VCA CV input.* A fixed signal is applied on this input if no patch cable is inserted, which explains why the top pink LED (VCA On/Off indication) is always On when VCA cv input is not in use.

RESONATOR example:

Set Resonance around mid position for self-oscillation and patch triggers, gates, or short envelopes to the crossfader inputs. Ideally, patch a short envelope in order to finely shape the sound or in case you need a longer attack time for creating a synth-like rather than a percussive sound. The characteristics of the sound will also be affected by the level of the inputs which can be controlled by the voltage-controlled Crossfader. For example, you can patch two different trigger patterns on the inputs and dynamically mix between them by modulating the Crossfader position *(Xfade input).*

Resonance will control the decay time of the pinging sound which is also longer at lower frequency settings. You can add extra variation by modulating the resonance level *(Q input).* Mind that very high resonance settings will also affect the level and slightly the pitch of the self-oscillating sound. If you find yourself loving the sound you made at very high Resonance settings, as you will end up with a drone sound, you can modulate its level through the *VCA CV* input!

Frequency A & B will essentially set the pitch A & B of the sound which can be modulated through *CV a & b* inputs. The *Both* input (v/oct) is used to modulate both frequencies at the same time which is very useful in case you want to sequence a sound that is made by setting the two frequencies on an interesting interval.

LP/BP knob will morph from one peak (Freq A) to two peaks (Freq A & B). Meaning that at minimum position you will only listen to the resonance of Frequency A while at maximum position both Frequency A & B resonance will be at equal levels.

FM Mod allows to further shape the timbre of the resonant sound as well as to create dynamic rich FM overtones by modulating the FM amount *(FM mod cv input)!*

Feed A & B in this case will essentially work as pitch envelope modulation for Frequency A & B as the audio input (short envelope in this case) is fed back into the two Frequencies through Feed A & B respectively.

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