Kitty Eyes

Snazzy FX loves chaos, and we want you to have a piece of it too! Not necessarily chaos in the sense of everything going crazy, but chaos as found in natural systems: dripping faucets, kinetic interactions or fractals. The *Kitty eyes* has most of the features of our bigger chaos modules but with a lower price and footprint.

Features

- Two chaotic outputs with different characteristics
- Trigger output
- Threshold control for setting chaotic trigger density
- CV attenuator for CV input
- Speed control for setting the coarse pitch set of the chaotic system
- Bi-color LED to indicate the state of the chaotic oscillator

Uses

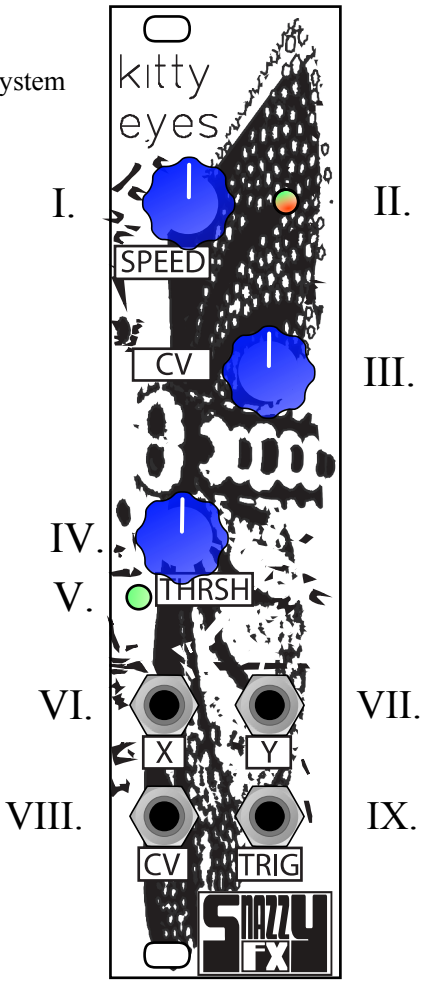
- Works great as a modulation source for any module requiring 2 CV inputs (i.e. the Snazzy FX Ardcore)
- Use it with a VCA to create unique percussion sounds
- Chaotic triggers add an organic element to sequences or to drum patterns
- Works well for modulating VCOs and filters
- Works well as a unique “noise” source
- Feed audio signals into the CV input for interesting effects
- Use the chaotic trigger output as a strange audio out
- CV input resets the chaotic oscillator when fed with a trigger, sawtooths and pulses – can be used to disturb the chaos
- Perfect for experimenting

Width 6HP
Current draw 10mA

Front panel

I. speed control of the chaotic system
II. bi-color LED chaos indicator
III. CV attenuator
IV. threshold control
V. trigger LED

VI. X chaos output
VII. Y chaos output
VIII. CV/trigger/audio input
IX. trigger output



II. Shows the movement of the chaotic oscillator.
V. Shows the operation of the threshold control. Use it to set your TRIG output.
VI. Can be used an audio source, as a substitute for noise when building percussion sounds, or as a CV style output to drive sample & holds, the *Telephone Game*, wogglebugs, or any module which is looking for changes in a signal. (Ardcore and Telephone Game both work extremely well with these outs)
VII. Similar to VI, but with a different phase, and a different tonality. Check the sound of both outs when creating drum sounds. This is the output which drives the chaotic triggers. The X/Y outputs are what you connect to the oscilloscope in X/Y mode to see the attractor.

Controls and operation

SPEED

Moving clockwise, this knob increases the frequency of the chaotic oscillator. It is labeled speed as opposed to pitch, since the "pitch" of the chaos is not a single frequency or tone as in a VCO. Rather, you can control the speed of the whole system: as you turn the knob clockwise, frequency increases until the system dies out at max rotation. This control is very interactive with all the other controls.

Tip When using *Kitty eyes* in the chaotic trigger mode, chaotic triggers are easiest to dial in toward the near-end of the dial, as the signal is most chaotic in this area (75% to 95%).

CV

This knob has an effect on the module's behavior with or without CV plugged in, as the pot connects to a fixed voltage when nothing is connected. You can use it as a fine tune knob for the chaotic oscillator when no CV is plugged in. However, as soon as you start plugging stuff into the CV jack, it behaves as an attenuator.

The CV input is interesting, as you can really stick just about anything into it, with varying results. Triggers work very well for locking the *Kitty eyes* to beats or rhythmic material, especially when creating chaotic gates which are loosely related to a grid. When putting triggers into the *Kitty eyes*, simply choose a pattern (say four to the floor triggers), then adjust the CV knob so that the attractor is "pushed" every time it gets a trigger. The trick is to set it so that it generates a usable result. Then set the threshold control to taste. Once again, best results are generated near the end of the speed pot.

Other uses of the CV depth knob and input can include inputting sharp waves like PWM squares, sawtooths, and clipped sines or triangles. Results will vary with regular smooth waves like sines or triangles.

One other area that is interesting to explore is inputting audio into the CV jack. Depending on the level of the signal and its content, you can get some interesting sounds! At times the *Kitty eyes* can sound like a synced VCO on its last legs, and you might even be able to get it locked to your favorite pop song if you smash it through the HI_GAIN first!

As with other Snazzy FX chaos modules, experimentation is key. And the controls are all highly interactive. Inputting audio signals can have interesting results in chaotic triggers. You can also try inputting chaos from another module or white noise!

THRSH

This knob controls the output of the TRIG output jack. Depending on the setting of SPEED and CV, the knob can either be used to create chaotic triggers or a sharp, needle pulse audio wave. To use the TRIG output as an audio output, simply set the Threshold so that the trigger LED stays constant, and take your audio from the TRIG output. You can also play around with feeding the TRIG output back into the CV input. Sometimes this creates usable results.

If you are going for chaotic triggers, set the *Kitty eyes* to max chaos with or without an incoming CV, then adjust the CV knob for fine tuning. Then set the Threshold knob to taste. It may take some getting used to how to best set up chaotic triggers, but it is worth the effort as they really do have a life of their own.

One interesting way to approach it is to simply run your trigger sequences straight into the *Kitty eyes'* CV input. If you then set the SPEED and THRSH properly, you should be able to use the module to "process" trigger patterns. Ultimately, you will be using a mixture of chaos and triggers to create a signal that has useful rhythmic properties. The *Kitty eyes* will lean towards very fast streams of pulses, so you can use your triggers to "force" it to stop or slow down. Then use the threshold control to pull it back so the triggers are not happening as often.

Chaotic Triggers

- Are one of the most musical uses of chaos.
- Use them to reset your sequencer.
- Use them to pulse shift registers.
- Use them to control the rotation of clock dividers or to clock other modules.
- If you set up complex patches utilizing feedback, you can have the *Kitty eyes* both responding to a sequence and determining the reset of that same sequence.

Another interesting use of chaotic triggers is controlling the accent of drum modules. For example, take a simple trigger pattern from a trigger sequencer. Plug this into a hi-hat module. Now take another trigger sequence from the same trigger module, and patch it into the CV input. Set threshold to taste. Now take the TRIG out signal and plug it into the accent input on the hi-hat module. Adjust the depth. You should now have a hi-hat pattern that changes in volume in a chaotic way. This could also be applied to other inputs on drum modules.

One more useful thing to do with chaotic triggers is feed them to a clock or octave divider. If you slow them down, you end up with interesting patterns which can be used to clock modules or open VCAs.

Of course, many Snazzy FX modules are custom made to work with chaos! The *Telephone Game* works extremely well with the X/Y outs from the *Kitty eyes* as does the *Ardcore* (which has many patches which look for two CVs to determine the operation of the program). The *HI_GAIN* works well when using the *Kitty eyes* as a module in the feedback loop. And the *Telephone Game's* "loop" trigger is operated extremely well by the chaotic triggers.