ELECTRONIC AUDIO EXPERIMENTS

Beholder

Technical Manual (Rev 0)

Introduction

Thank you for your purchase of the Electronic Audio Experiments **Beholder**!
This manual is an in-depth guide for properly using and enjoying your pedal.

The Beholder is an homage to doing things the wrong way. Peruse any number of "what order should I put my pedals in" threads on a gear forum and you'll see the same answer: reverb before drive is *verboten*. Years ago, as a new-ish guitarist with something to prove, I got tired of seeing the same rules over and over again and felt inspired—or perhaps compelled—to try the opposite order. And it was revelatory. The added harmonics and sustain of a fuzz take on new life when fed with the reflections of even a subtle reverb. However, incorporating this sound into a rig was a complex undertaking that necessitated 2-3 pedals in a convoluted order that took them away from their standard roles. So when I got into building my own pedals I decided to bottle up that sound in a compact package. After a couple years of tweaking the gain staging, filtering, reverberations, and feedback, I finally got it right.

In a nutshell the Beholder consists of the following: 1) an emulated spring/hall reverb using a series of digital delay chips (themselves ensconced in a "brick" module) that feeds back onto itself, and 2) a high-gain fuzz. When you first turn on the Beholder you will find yourself in an utterly destroyed soundscape, but one with endless possibilities. Enjoy the chaos!

-John Snyder, EAE

Operation

Only use a standard reliable **9-volt center-negative DC power supply** with this pedal! *(e.g. OneSpot, Voodoo Labs, Pedaltrain, etc.)* Also, the Beholder does not operate on batteries. Current draw is approximately 120mA.

Dialing in the Beholder for the first time is fairly straightforward - you should set all of the knobs at noon except for the **Volume** control, which you should turn to its lowest setting and then increase to the desired level. At this point you will hear a dirty reverb with a moderate decay length, to which you may continue making adjustments.

The controls are as follows:
- **Fuzz:** amount of gain level in the fuzz circuit, from soft clipping to a harsh, near square-wave sustaining fuzz
- **Dwell:** amount of reverb drive, makes the "dry" reverb sound and amount of feedback more prominent at lower **Fuzz** levels
- **Feedback:** turn clockwise to increase the sustain and induce self-oscillation
- **Filter:** tilt-style tone control, clockwise boosts treble and cuts bass, while counterclockwise boosts bass and cuts treble
- **Volume:** output level, from mute to extremely loud
- **Drone (momentary footswitch):** Boosts the feedback amount to instantly produce self-oscillations or sustained note holds

The controls are highly interactive. **Dwell** primarily determines how strongly the input signal hits the reverb brick, but it also increases gain going into the fuzz circuit. If both **Fuzz** and **Dwell** are set near maximum, the Beholder may oscillate in the form of a deep rumble (*NB: we sacrificed some stability for even more gain. Choices, choices.*) The **Dwell** control will also change the point at which the **Feedback** control induces self-oscillation. To prevent undesired oscillations at higher **Dwell** settings, you may need to decrease **Feedback**.

In addition, the **Drone** footswitch will have a dramatically different effect depending on the other controls. At lower gain you may add infinite feedback to a note or chord (please note it is by no means a traditional sustain/freeze function). At high gain the drone footswitch can generate not just sustained pitches, but unusual oscillations, rumbles, white noise, feedback and more.

Note: There is no correct place to put the Beholder in your pedal chain. I like to think of it as a fuzz circuit which can be altered by other effects (e.g. modulation, reverb, delay) downstream. At the end of your pedal chain it will mangle whatever is fed into it. You can also use it to completely alter the character of other sound sources, especially synthesizers and drum machines.

Internal Trimpots

The Beholder also has two trimpots for additional fine-tuning. Open the back with a phillips head screwdriver to reveal the circuit board. The trimpots are the two small, blue squares on the bottom-right corner of the board. These may be adjusted with a small screwdriver. The functions are as follows:

- **DRYMIX**: adjusts the amount of signal going "around" the reverb circuit and directly to the fuzz circuit. This is helpful for preserving note attack, which can be delayed by the inherent pre-delay of the reverb module.
- **DRONETRIM**: adjusts the intensity of feedback and how fast it comes on when the **Drone** footswitch is held down

In conclusion…

By taking a reverb circuit well outside its traditional parameters, the Beholder stands out as a unique tool for soundscaping and sonic manipulation. Enjoy and thanks again!

Changelog

Version 1 (April 2018)
- Original release