



catalinbread
MECHANISMS OF MUSIC

INTRODUCTION

Hello and welcome to the Catalinbread Valcoder! The Valcoder was inspired by those incredible sounding vintage Valco-made tube amplifiers with tremolo from the 1950s and '60s. Valco was a musical instrument manufacturing company based in Chicago that built amps for the Supro, National, Airline, Gretsch, Kay, Harmony, and Oahu brands back in the day. They've since become highly sought after and collectible because when cranked up, they produce a unique harmonically rich overdrive which is very responsive to your picking attack and the guitar's volume control. The tremolo in these amps have a three-dimensional staccato, bubbly, almost percolating quality that is positively mesmerizing.



1965 SUPRO S6416T TROJAN TREMOLO IN TRINIDAD BLUE

Your Catalinbread Valcoder was designed with these attributes in mind. The all-discrete circuitry responds to your pick in the same way as those classic amps do - the Valco-flavored preamp blending with the transistor-based LFO circuit reacts just like a bias modulating tube tremolo circuit, resulting in a playing experience that sounds and feels as though you're actually plugged into one of those vintage beauties.

The JFET based amplifier stage is capable of adding tube like grit either on it's own with the **DEPTH** control turned off and the **INPUT** cranked up or in concert with the tremolo as you increase the **DEPTH**. There's a healthy amount of boost available via the **OUTPUT** control should you want to drive your amp even harder or need to cut through a band mix.



QUICK START

First, plug your instrument directly into the Valcoder and then directly out to your amplifier set to a clean, neutrally EQ'd setting. We'll talk about integrating the Valcoder into your existing set-up later on.

Let's begin with the **DEPTH** control fully counterclockwise so that you can hear what the Valcoder's preamp sounds like all on it's own. Start off with the **INPUT** control all the way CCW and turn the **OUTPUT** control all the way up. The signal should roughly match your bypassed volume. Turning up the **INPUT** control will drive the circuit harder, resulting in more volume and gain - this is when you begin to hear that signature Valco midrange and grit coming through. Backing off the **OUTPUT** control will allow you to match your bypassed volume.

Now let's get to the tremolo! After you've set your desired level of grit, set the **SPEED** control to minimum. Turn the **DEPTH** control up to 9:00 - it is normal for the tremolo to not be on between 7:00 and 9:00 - this gives you a tiny range on the knob to ensure the trem is off when using it as a booster. As you are increasing the **DEPTH** control, notice how the quality of the wave pattern morphs from a soft, bubbling sound to a harder, more staccato chop - cool, right? Yeah, we know! Okay once you've settled on a **DEPTH** setting, bring up the **SPEED** control to get a feel for the range of speed available and pay attention to how speed affects the behavior of the waveform. The pulse shape of the tremolo is affected by both controls! Some really compelling sounds can be found by experimenting with the balance of the two - you can dial in a mild background shake that only comes through as your signal decays, to more prominent percussive rhythmic pulses, to in your face hard chop 'helicopter' tremolo - all of which can further be enhanced by driving the input gain of the circuit. There is a particular attack characteristic to the Valco-style tremolo sound - yes it's choppy, but it's not hard-edged and clinical - the edges of the waveform are burnished and this produces a sound that has a distinctive 'percolating' quality that is really compelling...

CONTROLS IN DETAIL

INPUT

Essentially an input gain control. Increasing this control will boost your signal and add harmonic complexity. You can drive the tremolo into a gritty breakup when cranked, or use it as a gritty harmonic booster with the **DEPTH** control turned off.

OUTPUT

This controls the overall output level of the Valcoder. Setting the **INPUT** control to minimum and turning up the **OUTPUT** knob will give you a cleaner tremolo sound that will match your bypassed signal in volume. Turning up the **INPUT** control will add some harmonics and grit as well as volume. The **OUTPUT** control can be used to attenuate the volume boost available from the **INPUT** knob should you want to get that gritty harmonic breakup at unity gain. The **INPUT** and **OUTPUT** controls can also help with the perceived volume drop of turning on a more typical tremolo effect.

DEPTH

Controls the intensity of the tremolo. Many of the old Valco amps with tremolo only featured a **SPEED** control. There was no way to get less chop if you wanted. With the addition of this control, it not only makes the Valcoder's tremolo sounds more versatile but is also allows you to remove the tremolo portion of the circuit completely for use a boost.

SPEED

Controls the rate of the tremolo. The speed range was tuned with the classic Valco amp style tremolo in mind. Goes from a moderately slow speed to a fast chop. Faster **SPEED** settings benefit from turning down the **DEPTH** control as this will soften the chop, or go crazy and crank both for full-on machine gun chatter!



Power Requirements

The Valcoder accepts any good quality filtered and regulated 9-18v DC power supply with a center-negative plug. It can also be run off a 9V battery - the current draw is very low (only 15mA) so a battery can last over 40 hours as long as the input is unplugged when not in use. If you have the means, experiment with the different powering methods and pay attention to how they affect the sound and feel - there are certainly differences between them and it's cool to be able to tailor the pedal's dynamic response for your given set-up in this way!

Integrating The Valcoder To Your Rig

Convention usually dictates that a tremolo effect goes near the end of your chain of effects, but the Valcoder is not a conventional tremolo! Because of it's preamp's boosting capabilities, it can actually be used in front of your overdrives to boost them into further saturation - so it pays to experiment with placement and see how the preamp interacts with the drive section of your pedalboard.

The Backstory

If this pedal seems oddly familiar to you, it should. The original Valcoder came out way back in 2008 as part of our old 'Bantam Box' line - I had been with Catalinbread for about a year at that point and I was bugging Nicholas to make a Valco-flavored tremolo as there were none out there and it was such a cool sound! So he set about making one and man if he didn't nail the sound of my old blue '65 Supro S6416T Trojan Tremolo! I don't know exactly how many of those little guys we made before jettisoning the Bantam form factor, but they've become collectible now so I guess we were on to something!



ORIGINAL CATALINBREAD VALCODER 2008



That sound was still really compelling to us (and by now you can understand why), so Bryan Lundstrom of our design team dove back into it. This time he had the idea to marry the preamp sound and dynamic qualities of his old '50s Supro Supreme with a new, more refined approach to the tremolo circuit - brilliant! Creating the all-discrete preamp section so that it sounds, behaves, and feels like the real thing was no easy task, much less finding a way to mimic the unique characteristics of the Valco tremolo sound but as you can hear he did it. We hope you find it as compelling as we do!

- Mike 'erksin' Erickson