



## Introduction

Katzenkönig. The Cat King. It sings like a fuzz, yet is tight like a distortion. It loves single coils and humbuckers. It sounds great into a clean amp or into an overdriven amp (or pedal). So, is it a fuzztortion? Or is it a distorfuzz? We'll leave the semantics up to you but what we can tell you is that Katzenkönig combines the best elements of a Tone Bender MkII fuzz with a Rat distortion. That's right! The circuit is all discrete, using a trio of silicon transistors in a modified Tone Bender MkII arrangement with the output section of a Rat, including its clipping section, filter, and output buffer. Katzenkönig was tuned to offer a huge range of response from a really beautiful singing tone, to tight, harmonically rich crunch, all the way to fuzz mayhem.



A simple, four knob control scheme allows you to dial in your sound quickly and without much fuss:

**INPUT** Controls the input sensitivity. Turn it down when using higher output pickups and humbuckers or to dial in your wah sound (more on that later). Turn it up for lower output pickups or for when you want to go over-the-top!

**GAIN** Controls the gain of the second gain stage. It is not a conventional gain control, rather, it controls the amount of negative feedback in that stage. What does that mean for you? It means you get a wide ranging gain control that sounds great throughout it's entire rotation!

**FILTER** Allows you to dial in your final tone from smooth and creamy all the way to bright and cutting. You can quickly find the sweet spot for your rig with this control. If you are familiar with the Filter control on a Rat then what you'll find is that this is an even better version of that idea!

**VOLUME** Standard volume control. You'll find that Katzenkönig sounds great turned down quiet or cranked up and loud!

## Quick Start

To get familiar with your new Katzenkönig, let's begin by plugging it straight into your amp set to a clean sound with no other pedals in the chain. Set the controls as follows: Volume noon, Filter noon, Gain minimum, Input minimum.

Now play a bit to get a feel for how it responds. Go ahead and mess with the Filter knob to see how it works. You'll notice that unlike most fuzz and distortion pedals, Katzenkönig sounds great at minimum gain settings. Now go ahead and start experimenting with the Gain and Input controls. You'll notice that they both increase gain but in different ways. Leave one at minimum and start turning the other up. Then leave the other at minimum and turn the other one up. And yes, cranking them both up leads to extreme fuzz, sustain, and saturation!

At lower Gain and Input settings, Katzenkönig's response is tight, like a great distortion pedal. You can play chugging, palm-muted riffs that you wouldn't be able to get away with on a standard fuzz pedal. But turn up the Gain and Input, and you can get those epic harmonic blooms that you normally associate with a great fuzz pedal!

## A Closer Look at the Controls

The **Input** sensitivity control is much like a volume control at the front of the circuit. It attenuates your guitar signal going into the fuzz section. It also has an effect on the input impedance of the circuit, allowing you to better match Katzenkönig with pedals plugged in front of it. In particular, you can use Input to tune Katzenkönig's response to a wah pedal plugged in front. A lot of fuzz pedals have a really low input impedance which decreases the range of sweep on a wah pedal.

Plug in a wah pedal and then adjust the Input control to hear how it works. When Input is set to maximum, most wah pedals will barely "wah". Start dialing Input back and you can hear the wah's sweep range increase! Basically, you can tune your wah's response with it!

The **Gain** control is really straight forward to use. Crank it up or down to find the response you're after. Don't be afraid to use lower Gain settings. This control was designed to give you great sounds anywhere on its rotation! In general, Gain settings below noon will give you more of a distortion character. Above noon to brings on the fuzz.

The **Filter** control is at the end of the circuit, after the fuzz section. It allows you to dial in the final tone of Katzenkönig. Turning it clockwise results in a darker, creamier sound. Turn it counter clockwise for more brightness. The sweet spot is usually somewhere around noon on the dial!

Not much to say about the **Volume** control other than the fact that it uses companderless circuitry. Turn it down for great late night practice tone. Crank it up when it's time to be loud and proud!



## Where To Put Katzenkönig In Your Signal Chain

Katzenkönig sounds great all by itself. But we're pretty sure you probably have a few more pedals laying around that you're going to want to run with it. As usual, experimentation is the best bet but here are a few guidelines to help you find the ideal spot for it on your pedalboard.

Being in the fuzz family of pedals, Katzenkönig, generally likes being towards the front of your signal chain. But you can put wahs, filters, and boost type pedals in front of it with great results. If you are using a foundation overdrive, such as a Dirty Little Secret, place Katzenkönig before it. Time based pedals such as reverbs and delays usually will work best after Katzenkönig. Modulation and phaser pedals? Try it both ways to see what works for you.

## Powering up Katzenkönig

Katzenkönig runs anywhere from 9 to 18-volts DC, using a standard center negative power supply or using a 9-volt battery. Running a battery gives you a softer response with a slightly different picking feel. Running it on a DC power supply above 9 volts will give you a louder sound with a slightly different feel. Best bet is to try all the powering options to hone in on your ultimate Katzenkönig tone!

## Guitars

Fuzz pedals often don't get along well with high output, humbucker equipped guitars. All that output from the pickups swamps out the fuzz circuit and you end up with a woofy, farty mess. Katzenkönig makes great friends with humbuckers though! Thanks to careful circuit tuning and the Input sensitivity control, you now have a fuzz that loves humbuckers. In fact, some of Katzenkönig's best sounds are playing a humbucker guitar into it with the Gain and Input controls turned down a bit. You'll start channeling the 70's rock god in you with it's tight, chunky response! Single coils will of course work great with Katzenkönig. You can find really nice subtle overdrive textures with the Gain and Input turned down. And crank up the Gain for classic, singing fuzz tones!

## Amps

Generally speaking, you'll get the best results plugging in to a non-master volume tube amp. But amps with overdrive channels can work well with Katzenkönig too. Super high gain amps... maybe not so much.

## Designer's Notes

So, one day I was messing with a Tone Bender MkII on the breadboard, biasing it up for silicon transistors. I said to someone, "Hey, wanna hear my tone bender?". The person replied, "I don't give a rat's ass about your tone bender!" What?! How rude! You don't give a rat's ass? .... Wait a minute! Rat's ass... the output circuit of a Rat distortion pedal... would it? could it? ... so, I put the clipping section, filter, and output buffer of a Rat at the end of the Tone Bender circuit. Wow! Sounds amazing! I spent the next several days tuning up this circuit and the Katzenkönig was born.

That's my story and I'm sticking to it.

Enjoy! Drop me a note and let me know what you think!

... Howard, [kittycaster@catalinbread.com](mailto:kittycaster@catalinbread.com)

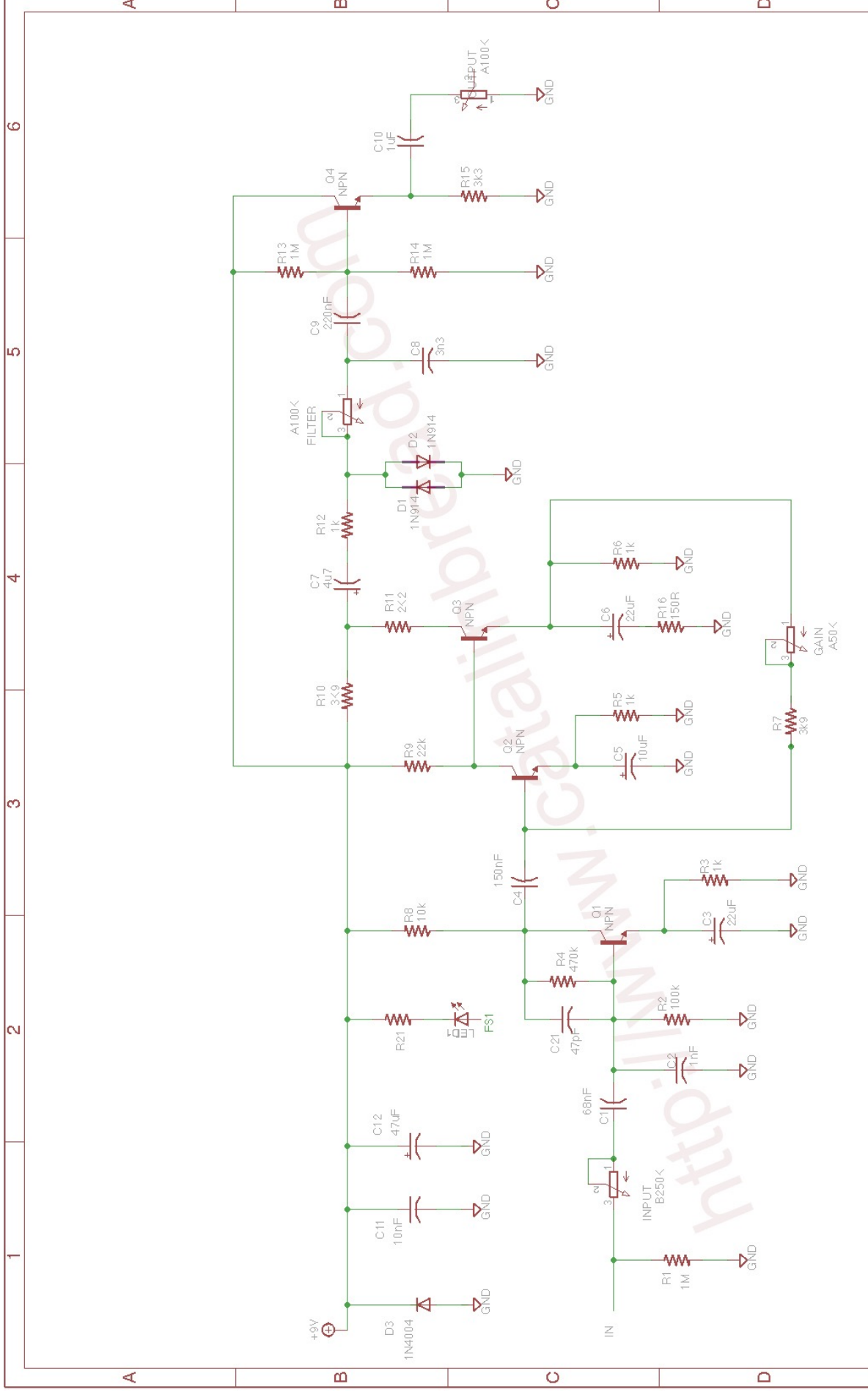
## One More Thing!

Hey! Since we're talking about Tone Benders and Rats, maybe this will help you visualize what I was talking about a little more. As you can see, if you are schematic-literate that is, the Katzenkönig is a hyper-modified Tone Bender MKII with the tail of a Rat circuit as we've said. Where did I get the Tone Bender MarkII and Rat schematics?? That's right, the internet. Did we know these two things would sound so awesome together? Not really, but after some work we were pleasantly surprised by the direction these circuits took us, so much so we had to release this to the world!

In the spirit of community and sharing lore, we would like to give back to the pool of knowledge. Thanks to the generous folks who have put their time and energy into sharing these classic schematics.

Here it is! :)





# Catalinbread

MECHANISMS OF MUSIC

TITLE:	KATZENKONIG
CIRCUIT:	HOWARD GEE
ARTWORK:	BRYAN LUNDSTROM
REV:	A
Date:	9/19/15 11:58 AM
Sheet:	1/1



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