
Subject: I let the smoke out!

Posted by daveobergoenner@gmail.com on Wed, 21 Dec 2022 04:18:01 GMT

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Things have been going SO well on my K200 A5 (used for bass) since ChicagoBill came up with a solution to the amp going into protection early on one rail. That was August of 2014, and it's been reliably cranking out 110 watts into 4 ohms ever since. This K200 has been greatly refurbished with new low noise transistors, and much beefing up of the power supply. Most parts on the output board have been replaced with hand-matched replacements. Outputs are now MJ15015s (industrial-strength 2N3055s).

So, a few days ago, I'm merrily enjoying the K200 playing into my 2x15 JBL T&R cab. Suddenly, the bass almost goes away. A few seconds later, lots of distortion, a few seconds later, loud pop, lots of hum, and smoke starts coming out. I've never had smoke from a Kustom, and I've been playing them since 1971 (K400 then the present K200).

I pull the chassis, and clearly the negative side transistors are turning on full-bore as soon as power is applied. The neg supply pulling down to about 15 volts. A few seconds after turn-on, the 1 ohm 5 watt resistor above the transistors closest to the power transformer starts smoking. The other neg side 5 watt is open. I also have about 8 volts DC on the output jack into an 8 ohm load. Not a good day!

Sounds (and smells) like a bias issue to me. I know there are 3 diodes in series that set-up the bias to the last two stages. One on the chassis. Should I shot-gun those, and the 5 watt resistors, and see what happens? Does something like this ever take-out the driver transistors too? I guess I'll need to improvise on the chassis mounted one...or is there a new suggestion?

Just looking for input from those more experienced with these amps here.

Thanks!
Dave O.