
Subject: Question and opinion
Posted by [BC](#) on Tue, 23 Jun 2009 04:03:17 GMT
[View Forum Message](#) <> [Reply to Message](#)

I was talking to a knowledgeable amp tech yesterday about Kustom amps and their noise issues. During the discussion the question of gain control came up. Understand, most of my experience with Kustom has been the K200B series which is hands down my favorite. He said there was a way to reduce the output of the power amp section by making an adjustment. This would in turn reduce the "quick gain" of the volume control and give it more useable range without cutting the final output. This idea interests me. Of course my technical knowledge goes about as far as off, on and volume. How about it? BC

Subject: Re: Question and opinion
Posted by [Jc](#) on Tue, 23 Jun 2009 06:24:44 GMT
[View Forum Message](#) <> [Reply to Message](#)

BC - Any chance Bud might have an opinion on that Mod?

3 mores days Buddy!

jc

Subject: Re: Question and opinion
Posted by [BC](#) on Tue, 23 Jun 2009 07:06:50 GMT
[View Forum Message](#) <> [Reply to Message](#)

You know it.....and you know it. BC

Subject: Re: Question and opinion
Posted by [steven](#) on Tue, 23 Jun 2009 10:20:54 GMT
[View Forum Message](#) <> [Reply to Message](#)

I am not sure what heck you are asking here, as its the preamp section in a Kustom the makes the most noise so I do not understand why you would want to limit the output section for less gain/power!

If you want a slower change in output as you open up the volume control you could change out the the 15k volume control for one of around 20k ohms, or change it out for a audio taper pot if its a linear taper one now.

Come to think of it I have never changed out a volume pot in a Kustom, as even when they have been very intermitant I have always been able to take them apart and get them working 100% again, so I do not know if the stock pots are audio or linear taper?

Subject: Re: Question and opinion
Posted by [BC](#) on Wed, 24 Jun 2009 03:34:36 GMT
[View Forum Message](#) <> [Reply to Message](#)

Steve....I was told that everything behind the first stage is pretty well wide open in power. Since the noise is usually in the front of the amp and stepped up all along the way it keeps increasing as well. I am a player and not a technical guy so I was seeking second and third opinions. Thanks for the reply! BC

Subject: Re: Question and opinion
Posted by [stevem](#) on Wed, 24 Jun 2009 09:45:59 GMT
[View Forum Message](#) <> [Reply to Message](#)

The first two gain stages are the most criticle in any amp as any noise that comes in from your instrument of is added to that signal by the frist or second gain stage will get amplifide hundreds of times by the time you hear it being reproduced at the amps output/speaker.
I can not tell you how many guys I have helped who where bitchin about how much noise their amp was making untill I asked them to turn up their amp flat out and turn the guitars volume all the off to prove to them that 95% of the noise was from their crummy cable and their non-humbucking pickups being modulated by the poor to no ground in the club and the floresent lighting.

Subject: Re: Question and opinion
Posted by [C4ster](#) on Wed, 24 Jun 2009 13:26:23 GMT
[View Forum Message](#) <> [Reply to Message](#)

The Kustom preamp stages are running wide open and the volume is controlled through negative feedback. That is, some of the voltage is sent back from the output of the preamp back to the input of the preamp. This is what set Kustom apart from more conventional audio stages. The only trouble is that without a feedback signal, the output is wide open and at maximum. This is why the amp will produce volume at 0, fully counterclockwise. I suspect what the mod is, a resistor is added to the blue lead or the mixer resistors on the power amp board are increased to allow a higher voltage from the preamp for a given power output to the speakers. This would extend the useful range of the preamp. We all typically see full wttage at the 10:00 position. There might be some usefullness in that. Last night, I had my K100 just cracked above 0 and I had more than enough sound, but the sound was very thin. This might be something to consider.
Conrad

Subject: Re: Question and opinion
Posted by [chicagobill](#) on Wed, 24 Jun 2009 15:37:02 GMT
[View Forum Message](#) <> [Reply to Message](#)

Conrad:
What version amp are you referring to? My recollection is that the B-series pre-amp's volume control while being part of a "feedback" loop, did two things: 1-grounded out the signal (CCW) and

2-increased the signal gain of the first transistor stage(CW).

The Frank heads have their volume control at the input to the pre-amp, so they always make a certain amount of noise.

I've found that replacing some of the carbon comp resistors in the power amp with carbon film or metal film resistors, will make a huge difference in background noise and hiss.

BC:

To me reducing the power of the output stage and increasing the volume of the pre-amp will lessen some of the power amp noise, but it will increase the apparent pre-amp noise. It's treating the symptom, not curing the disease.

Subject: Re: Question and opinion

Posted by [C4ster](#) on Thu, 25 Jun 2009 12:54:01 GMT

[View Forum Message](#) <> [Reply to Message](#)

I was kind of working off of memory. I had schematics for K100 and K200B. I can't find them now. I thought the volume was controlled by negative feedback in the first stage of the preamp rather than the typical voltage divider pots that every other amp uses. By feeding part of the output signal back to the input of the preamp, the 2 signals subtract from each other leaving the difference to be passed on. Ideally, the volume can never be totally 0. Some signal must pass through. That seems like Kustom. I know none of my amps go to 0. Even at full CCW, the amp can have quite a bit of output but then drop as you raise the volume. Then it increases rapidly up until about 10:00. After that you are just driven out of the room. It would seem that reducing the voltage to the power stage would allow more control of the preamp. Kind of like those Marshalls on Spinal Tap. These things go to 11.

Conrad
