
Subject: tell me about design & tones

Posted by [vintagefan](#) on Sun, 19 Jun 2016 21:03:23 GMT

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Has anyone ever talked with or heard of Bud Ross talk about the science and engineering that was used to achieve the Kustom tones & sound, and to make them work right? I wonder how many months and materials it took to get the amp just right. I find my K100C-8's are very temperamental with it's tones.

I experimented with leaving the back off the cabinet, and I put the head into the cabinet without putting in the bolts that holds it in. I got noticeably more treble, which I like. Then I put the back on, but left off the screws out that holds it on. There was still more treble than usual. Then I bolted the head into the cabinet and put the screws back into the back panel, and the noticeably "more treble" sound went back to the normal sound the amp has always had which was a little more bassy. Both of the different tones were good, not drastic, but very noticeable.

Is it possible the bolts holding the amp into the cabinet add a little resistance to take away a little hi end eq? And what is it about having the back on the amp that adds a little more bass? I wonder how many of the components and materials Bud Ross and his engineers experimented with to make these amps sound right and work right....

On a side note, when my reverb tank started feeding back, I ran a long cord and laid it on the bottom of the cabinet. This cured the feedback problem, but added more bass. I guess the extended cord added more resistance. Which makes me think this is why the reverb tank was placed inside the head. Could this be why the engineers put the tank inside the amp head?

Thoughts or any reasons?

Subject: Re: tell me about design & tones

Posted by [steven](#) on Wed, 22 Jun 2016 10:32:13 GMT

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Mainly you are playing with and experiencing the effects of frequency phase cancelation when you listen to the amp with its back closed off to different degrees / amounts.

The sound waves coming off the rear of the speaker are out of phase with those coming out of the front and as such they cancel each other out to the degree of how strong they are when they meet each other.

This effect will vary dependant on the room and it's surfaces the amp is in, as in if wall behind the amp is largely a hard reflective surface, if the floor is carpeted or not, does the Ceiling have beams traversing the area, or even if the amp is set up caddy corner in a room which will act as a tuned low frequency Bass port.

If you want the least amount of this effect to happen to your amps sound then you should fully close its back off and then you will just be dealing with how your ears perceive the acoustics of the room you're in!

If you really want to take this to a extream you can make triangle shaped 3/4" plywood reinforcements and glue them in between the sides, top and bottom of the cabinet to the baffle to make the cabinet very ridged.

Speaker wise you will also notice this effect if you focus real close on where certain tones are coming from off of a amps face.

As a speaker gets bigger in diameter the highs it outputs will tend to beam more due to them being produced mainly around the location of the voice coil in the speaker.

This effect is very well heard if you compare the highs of a 10" driver and those of 15" driver made for 6 string guitar use.

Basically the bigger the speaker the further you need to be away from it for the mid frequency's to blend in with the highs!

Also the more speakers you have on any givien sq ft of baffle the sooner the blending effect will take place.

Subject: Re: tell me about design & tones

Posted by [vintagefan](#) on Wed, 22 Jun 2016 11:43:20 GMT

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Thanks Stevem.....The science of these amps is intriguing.
