
Subject: K 400b-4

Posted by [Iowa Boy](#) on Fri, 27 Jun 2014 06:40:09 GMT

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Just picked up another amp today. I know its listed as a 400 series Energizer with harmonic clipper selective boost and a stereo/mono switch. Another amp saved from the jaws of death. It was so dirty I thought it was teal instead of charcoal. Cabinets are (2) D-130's, missing all the 15 inch speakers of course. What can you tell me about this amp since once again, I am clueless as to how its suppose to operate. Would be great if you guys could come up with owners manuals and post them on this site or if other Kustomites would download what they have. Just a thought.

The guy I bought it from claimed he bought it new in 68 and that you could use a Y adapter and play through both amps at same time. Other than that, think he partied too much back then and couldn't remember how anything else worked or if it did anymore.

So what's the story on this amp? He says it guitar and all the controls seem to agree with that. However, I thought "b" indicated bass.

Again, no footswitch with this unit and looks like it took a couple.

Final question, on the speaker cabinets I noticed that the ports were made of plastic and not chrome like I thought they were suppose to be. Is there anything out there that I can replace these cracked ones with?

Pleat, you'd better load up your truck with the stuff you want to sell and head for Iowa before I run out of money.

As always, appreciate all the help you guys give us rookies.

Subject: Re: K 400b-4

Posted by [stevem](#) on Fri, 27 Jun 2014 10:53:26 GMT

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The stereo / mono switch runs the signal of either channel into both of the amps two output stages when in the mono setting, in stereo the right hand channel gets fed to the amps right side power amp, and the left channel goes the other way.

In those days, yes a Y cord was used to run one instrument into both channels, to day you could do the same, or use a A/B type box that is common today.

If it came with JBL D130 drivers than it was not sold as a bass set up, but if you if you still had four of those drivers you could certainly play bass through It at less than loud volumes with no ill. Effects.

Amp circuit wise It makes no difference to the electronics!

I have never seen owners Manuel's on ebay, or anywhere, but I do have them for the K100-1 and -2 non. Combo heads.

Weber speakers makes a driver to replace those 130s, and if you even find blown up D or K model JBL.s on ebay or what not, you can get them reconed into the D130 models, but you will still be spending when all is said and done some 180 per driver!

The Eminence commonwealth driver with its 4" aluminum voice coil cover and 172 buck price tag is the 130s off the shelf replacement, another way you could go would be to get the Jensen Alinco magnet 15 incher and then from weber get a 4 inch aluminum voice coil cover. With these you can cut off the stock cover and than super glue on the 4 inch cover and get the D130s look and close to the tone for way less of the green from your wallet,

Subject: Re: K 400b-4
Posted by [pleat](#) on Fri, 27 Jun 2014 11:07:57 GMT
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Another great find. The model number would be K400B-4 and has all the effects, reverb, vibrato, selective boost and harmonic clipper. Footswitch jack on the each end of the control panel. All effects will work without the footswitches.

The head has two power amps, each amp has two output jacks (100 watts RMS into a 4 ohm load) on each side on the back panel. The stereo/ mono switch, in the mono position the signal from either channel is sent to both power amps. In the stereo mode, signal from each channel is sent to it's own amp and speaker cabinet.

In the stereo mode, you run a bass guitar using one channel feeding its power amp and speaker cabinet, and a guitar or keyboard using the other channel that is feeding the other power amp and speaker cabinet.

Turn the switch to mono and both bass guitar and keyboard will be heard through both speaker cabinets.

The two speaker cabinets, are they the 2x15 or 3x15 cabinets? The chrome plastic ports will be hard to replace unless you find some for sale on Ebay.

As far as heading to Iowa, I'm saving my cash to head to VA. this summer, a collector friend of mine has the mother load of kustoms that he is starting to sell off.

pleat

Subject: Re: K 400b-4
Posted by [Iowa Boy](#) on Fri, 27 Jun 2014 15:32:54 GMT
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Speaker cabinets were (3) 15"....guy sold the speakers because he said they were worth more than the cabinets. Thinking of using these cabinets more as PA than bass speakers. JBL cabinets with (2) 15's and horn just went up in price but was thinking they would work in these cabinets.....just would change top speaker hole to accommodate the horn. Or would a guitar speaker on top serve the same effect?

Hoping this amp still works since the outside (after cleaning all the crud off) looks to be in mint condition.....handles are still intact, all knobs are there, did remove the legs since they were rusty

and put rubber ones on. Pulled the guts out to make sure no visitors road home with me and unbelievable...only rust was on transformer. Am going to replace power cord with a new grounded one. Saw on earlier thread about removing that resistor, surprised Kustom didn't use grounded plug or at least a reversing switch for polarity. My old Sears amp back in 68 had that which was a nice feature when touching a mic stand.

One thing I was wondering about. Years ago I took a physic's class and we talk about speaker configurations and sound waves and all.....one of the days I actually was listening. Seems that we were told that stacking speakers inside a cabinet more than 2 tall was a mistake unless they were sectioned off from any other speakers. Guessing that is why so many cabinets today using 4 speakers are not stacked....2 speakers side by side in the cabinets. Would isolating the top speaker, if I go back to the original setup, make any difference?

Thanks guys.....sure I will have more questions as I get further involved in rebuilding all this equipment. Starting to feel like a shelter for abused Kustom equipment.....absolutely CRIMINAL what I have been seeing.

Subject: Re: K 400b-4
Posted by [stevem](#) on Fri, 27 Jun 2014 15:44:37 GMT
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If all the speakers are the same it does not much matter if they are sealed off from one another, the problem with the 3-15 cab is in regards to Bass use is that the early taper cabinets are barely big enough in internal volume for 2-15s no less 3-15s.
The amp does have a ground reverse switch as part of it on off on switch!
Guitar speakers at best go up to 7k and for good sounding vocals a system needs to go to 12k, so a horn is needed.
Eminence makes a coax 15 incher that loads a horn thru the center, that model may help you out?

Subject: Re: K 400b-4
Posted by [pleat](#) on Sat, 28 Jun 2014 01:45:25 GMT
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You may want to do a post on wanted to buy on this site. I have an extra siren 15" horn from a kustom 3x15 siren PA cab and I'm sure there are others that may have one that isn't being used. My band uses the Jensen loaded 3x15 siren cabs for PA and we tuck a single 18" sub under the siren cab. We drive the main stacks with modern mixer and power amps but they sound killer with the looks to match.

pleat

Subject: Re: K 400b-4
Posted by [Iowa Boy](#) on Sat, 28 Jun 2014 04:53:56 GMT

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That's a good idea about the 3 X 15. I have spent all evening looking at speakers online. Its becoming a blur. I want to use these cabinet to run my bass thru as well as PA if need be...especially now that I have that stereo amp. Now if I am playing bass, won't I have to shut down the horns? Also, this is what I have found so far as speakers that might work. Thinking about Eminence Delta 15LF to use as bottom woofer; Eminence Beta Series 15 as midrange; and if I can find a couple, the 3 X 15's you suggested. Should I seal off the top opening for now until I find something to put in it?

One final question before I go to bed. Can I operate my amps using only one speaker cabinet? The K-200 does look awesome sitting on the one cabinet, or do I have to wait until I find the bass head that I want? I await the wisdom of the all knowing.

Subject: Re: K 400b-4
Posted by [Iowa Boy](#) on Sat, 28 Jun 2014 05:24:00 GMT
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Wasn't in bed long when I started thinking. When using those horns like you suggested, do you have to have a crossover circuit like used in tweeters? Never had a system with horns other than the ex, so am in the dark as to how they are connected.

Subject: Re: K 400b-4
Posted by [stevem](#) on Sat, 28 Jun 2014 10:37:32 GMT
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Yes, Kustom used a simple one cap crossover, but for better sound even a 20 buck real crossover is doable.
The eminence 15 that posted about that loads a horn thru it center may not do it for ya as I do not think it comes in the needed 16 ohm version, but I could be wrong?

Subject: Re: K 400b-4
Posted by [pleat](#) on Sat, 28 Jun 2014 13:07:23 GMT
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You mentioned you have two empty 3x15 speaker cabinets, one K400B-4 amp and I think you mentioned you have a K200B-5 PA head. I'm not sure exactly what is to be accomplished. We need to backtrack and understand how your amps and speaker cabinets were intended to be used for when sold new.

The K200 PA head was offered with three speaker cabinet options. A pair of 4x10 columns, a pair of 4x12" columns, both size columns are 8 ohms each to present a 4 ohm load to the K200 amp. The third option are the siren horn 3x15 speaker cabinets. With the siren horn cabs, each cabinet is 5.3 ohms which would be just under 3 ohms to the amp. (Long story but horns with simple

passive crossover present a different mix of impedance so going under the 4 ohms isn't an issue)

Look through all the catalogs on this site in the literature section and you will see a pattern of how many cabinet speaker configurations were offered with either the K200 or K400 heads.

All K200B series and K400B series amps share a one common power amp section. 100 watts RMS into a 4 ohm total load.

Starting with the K200B series, one thing will become evident, The K200 GUITAR and BASS amps were sold with either one or two of the 2x15 speaker cabinet (each cabinet uses 16 ohm speakers for a cabinet impedance of 8 ohms). The 3x15 cabinet regardless of brand of speaker sold with just one cabinet. The exception would be the PA system with two 3x15 siren horn cabs.

The K400 series keeping in mind the amp has two of the common power amps that is used in the K200 series amps. The GUITAR and BASS amps were sold with four 2x15 speaker cabinets or two 3x15 speaker cabinets. In the four 2x15 speaker cabinets, each amp would drive two cabinets.

The K400 series the amp was offered with just two 3x15" speaker cabinets regardless of brand of speaker.

The exception again is the K400-5 PA amp, the catalog shows four of the 3x15" siren horn cabinets.

Having a game plan as to what you want to do with your cabinets and amp heads would allow us to help you.

Loading the empty 3x15 cabinet for PA use, siren horn in the top and I wouldn't mix woofers as to have a bottom woofer and another 15" to act as midrange. Pick a speaker that you think will give the best results in your price range and load both cabinet with matching woofers.

The woofers will want to be 16 ohms each so with a siren horn, each cabinet is 5.3 ohms. This will allow you to use both speaker cabinets with either the K200 amp or the K400 amp.

A couple of tricks you can do with the cabinets, you can make a bracket to mount a simple on/off switch that can be reached through one of the port tubes, or mount a level control on the bracket to control the horn level.

Using the cabinets for bass guitar, you could simply turn off the horn.

My band uses two of siren 3x15 cabinets for PA (simple two way system, and we add a single 18" sub cabinet with electronic crossover to make it a three way system.

Hope this helps,
pleat

Subject: Re: K 400b-4
Posted by [pleat](#) on Sat, 28 Jun 2014 13:24:52 GMT
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You mentioned about sectioning off the horn area. I've often thought of removing the speaker board from a 3x15 cabinet, re install it upside down so the port tubes are on the lower half of the cabinet that would allow you to section off the upper area where the horn is. Basically turning the cab into a 2x15" for internal volume to match the 2x15" speaker cabinets.

On my cabinets, if the grill cloth is dirty, I remove the speakers and speaker board and head to the local car wash. Power soap and rinse, use the car vacuum to remove excess water and let it sit in the sun for a hour or so to dry it out, makes the grill cloth look brand new.

pleat

Subject: Re: K 400b-4
Posted by [rodak](#) on Sat, 28 Jun 2014 23:34:53 GMT
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Why would you want to section off the top part of the cabinet? As stevem said, the internal volume is good for 2 15s, but not for 3. The horn is completely sealed on the back, isn't it? If so then the horn and speakers wouldn't interfere with each other, and the 2 15s would have a happy cabinet volume, the amp would see an 8 ohm load below the crossover frequency, so everyone is happy, and no need to relocate the ports. And as a bass player, I'd rather invest the suggested 20 bucks in a decent crossover, with an adjustable pad, and USE the horn for my bass - otherwise, how would anyone know I was playing a Rick And with a K400, you could run FOUR such cabinets - wow, what a bass rig!

Subject: Re: K 400b-4
Posted by [Iowa Boy](#) on Sun, 29 Jun 2014 06:32:31 GMT
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Think you misunderstood what was being said. Until I "get" horns, he said to close off the empty speaker hole so I can use cabinet with only 2 speakers in it. At least that is what I thought he was saying. I don't want to blow the horns when I do get them when playing my bass thru this set up and that is why he had suggested putting a switch on them so they could be used in the PA mode

only. Never have heard of running a bass thru horns.....is that really possible without blowing them?

Subject: Re: K 400b-4
Posted by [Iowa Boy](#) on Sun, 29 Jun 2014 06:36:37 GMT
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Well now I am confused.....reread earlier thread, and it does sound like he said to close off that section where the horn would go so the two 15's would be in their own cabinet separate. So guess I need clarification as to which way is the best way to go now. My concern was the open speaker hole.....lol

Subject: Re: K 400b-4
Posted by [pleat](#) on Sun, 29 Jun 2014 11:33:04 GMT
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My suggestion of flipping the speaker board and sectioning off the hole where the siren horn would go was to use the cabinets as a basic 2x15 cabinet. Without getting into the mechanics of internal cabinet space, I just prefer the tone and punch of a 2x15 cab over the 3x15 cabinets. I think the end result with these 3x15 cabs is to add siren horns to be used as PA. A simple fix would be to make up a plywood disk that would be bolted to the speaker board until the he finds the horns.

I'd use caution playing bass through the siren cabs. Not sure where you'd want the crossover point to be and would it be to high to have a good vocal cabinet.

pleat

Subject: Re: K 400b-4
Posted by [rodak](#) on Sun, 29 Jun 2014 18:57:43 GMT
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Oh, I see. I guess you could try it both ways and decide which sounds better (sectioning the cabinet for 2x15s only or leaving it as-is). As for playing bass, if you have a decent crossover set to the proper frequency for that horn (or higher, but NOT lower), it shouldn't be a problem. I sometimes just like the extra sparkle I get from a midrange or hi-freq horn with my bass, especially the Rick.

Subject: Re: K 400b-4
Posted by [Iowa Boy](#) on Sun, 29 Jun 2014 20:08:49 GMT
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Would be nice to use the horns.....what would you suggest for a cross-over?

Subject: Re: K 400b-4

Posted by [rodak](#) on Sun, 29 Jun 2014 20:49:21 GMT

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I don't know what the original crossover point was for those horns. I'm guessing it's in the neighborhood of 1,000hz. Here's a nice looking 1,600hz crossover:

<http://www.parts-express.com/eminence-pxb-1k6-high-pass-crossover-board-1600-hz--290-600>

18db/octave, so it's sufficiently steep that you shouldn't have to worry about any bass frequencies getting through.

Here's another:

<http://www.parts-express.com/800-hz-high-pass-8-ohm-crossover--266-470>

800hz, 12db/octave. Not as steep, but still better than the original single capacitor (which, I believe, is only 6db/octave). But the more gradual rolloff may actually sound better, I'm not sure.

Of course, these are both designed for 8 ohm drivers. If the Kustom horns are 16ohms, that would change the crossover point, although I'm not sure in which direction or how much. (as you can see, I know *some* of this stuff, but I'm hardly an expert)

You may also want to add an L-pad (level control):

<http://www.parts-express.com/speaker-l-pad-attenuator-100w-monopole-1-shaft-8-ohm--260-265>

Subject: Re: K 400b-4

Posted by [Iowa Boy](#) on Sun, 29 Jun 2014 22:13:19 GMT

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Thanks for the info.....now I am having a hell of a time finding 15 inch, 16 ohm speakers. Thought I found a new Kustom Pro Audio cabinet with (2) 15's and horn for under \$200. But cabinet is rated at 4 ohms. Sales guy from Guitar Center says that all passive cabinets are rated that. So do they even make speakers new that will work? I'm not seeing any 16 ohm 15's

Subject: Re: K 400b-4

Posted by [Iowa Boy](#) on Sun, 29 Jun 2014 22:21:22 GMT

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Sorry...jumped the gun. Did find some speakers at 16 ohm. Ouch, are they pricy!

Subject: Re: K 400b-4

Posted by [rodak](#) on Sun, 29 Jun 2014 23:32:32 GMT

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Amazon has Eminence Delta 15s in a 16ohm model for \$89.78 with free shipping.

<http://www.amazon.com/EMINENCE-DELTA15B-American-Standard-Speakers/dp/B000A1JOT2>

Deltas are great speakers, you'd be hard-pressed to do better for anywhere near the price.

Subject: Re: K 400b-4

Posted by [pleat](#) on Sun, 29 Jun 2014 23:43:30 GMT

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Those look like a good speaker to use. And the good thing is your starting with fresh speakers, not some that are 40+ years old and may be on it's last legs.

Kustom used 16 drivers with a simple 4 MFD 50VDC non polarized cap. It figures to cross at 2500 HZ. Using a simple cap, it does still allows the woofers to reach beyond the 2500HZ where the horn starts working.

Using a better 2 way passive crossover, that type of crossover will actually divide the signal into two seperate outs, lows and highs.

The next generation of of Kustoms that used the rectangular horns, Kustom used 8 ohm drivers and a 10 MFD simple capacitor and crosses at 2K.

pleat

Subject: Re: K 400b-4

Posted by [rodak](#) on Sun, 29 Jun 2014 23:58:12 GMT

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Yeow! 2,500hz? Ok, so you'll need a higher cutoff crossover than the ones I'd suggested. The 2-way option might be worth considering, too - that's where the signal from the amp hits the crossover first, which splits it into separate low and high frequency outputs. That can make for a more even transition, I guess, although I think it would be more important in hi-fi stereo applications. It would be really hard to say which one would work/sound better. And remember, you're dealing with 16ohm drivers, and most crossovers are designed for 4ohm/8ohm drivers. Again, I'm not sure how the higher impedance affects the crossover frequency.

Shoot, just get a 4mfd 50v non-polar cap and be done with it!

Well, this has been fun thought exercise, anyway. I would love to someday have two 3x15 cabs with 2 15s and a horn to run my bass through (driven by a K200, of course). Hey, I can dream, can't I?

Subject: Re: K 400b-4
Posted by [pleat](#) on Mon, 30 Jun 2014 00:07:02 GMT
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I just did a check with a 6MF with the 16 ohm driver and it shows about 1650HZ. I know some of the newer Peavey SP2 PA cabs cross at 1500HZ. I've always thought that a bit shrill, but the old SP-1 cabs, they crossed the horn at 500HZ. That horn was about half the size of the folded horn 15 woofer.

<http://www.carstereo.com/help/Articles.cfm?id=1> is a good site to plug in different values and impedences to determine the cross over points. The calculator is almost at the bottom of the page.

pleat

Subject: Re: K 400b-4
Posted by [Iowa Boy](#) on Mon, 30 Jun 2014 02:33:33 GMT
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So what do you think about Kustom 543 horns. I can't find any specs on them. Did find a pair on ebay Also a couple of Altec horns 511b without the drivers. What would be appropriate drivers to use with these.

Subject: Re: K 400b-4
Posted by [pleat](#) on Mon, 30 Jun 2014 02:57:20 GMT
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The 511B horns are too deep to fit in a kustom cabinet and that horn uses a bolt on driver. The Kustom543 horn with driver I spotted on ebay are for the newer 215+H T&R cabs and the later hard tolex big K series.

You could use those but it would require making new speaker boards and make a rectangular opening for the horn to bolt to.

Here is a cheap 10" horn that you could make a reducer ring and adapt down the 15" opening with a piece of plywood, and cut the hole for the 10 horn. They also have drivers and cross overs.

<http://www.parts-express.com/dayton-audio-h10rw-10-round-wav-eguide-1-threaded--270-310>

pleat

Subject: Re: K 400b-4

Posted by [Iowa Boy](#) on Mon, 30 Jun 2014 04:44:34 GMT

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That is cheap alright.....not exactly the look that I was going for. What were the horns on the original Kustoms? Now those were impressive. I thought the 511b's looked like them. I probably will go with the 543's or maybe the other ones that are more rounded on the outside and are attached outside of the faceboard instead of the inside, if those will actually work with these Delta 15B's that are coming. Re-working the faceboard isn't that big a deal compared to finding all the guts for this darned thing. Original it won't be that's for sure.....impressive.....damned straight! Thinking about changing the logo to "Kustom by Kim,Pleat & gang".

Subject: Re: K 400b-4

Posted by [pleat](#) on Mon, 30 Jun 2014 10:27:38 GMT

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The 10" horn bells that I mentioned would be something to use until the siren horns surface. You could spray paint them silver. Parts Express has some 16 ohm drivers that could be used if there were any problems with the driver on the siren horn. Crossover from Parts Express would be used for either horn.

Just a thought.

pleat

Subject: Re: K 400b-4

Posted by [rodak](#) on Mon, 30 Jun 2014 14:54:13 GMT

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The 511b horns are like the ones in the later Kustoms, when they went to the metal, slant front amps with the lighted blue power switches. They're nothing like the original horns for the cabs you have. It may take a year or more of searching, but some original horns are bound to turn up. Meanwhile, those Pleat recommended are about as close as you'll get to the original look, and you won't have to butcher the baffle board and grillcloth to install them.

Subject: Re: K 400b-4

Posted by [Iowa Boy](#) on Mon, 30 Jun 2014 15:57:45 GMT

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Did some checking as to the 10 inch you guys recommended. Driver is 16 ohms, 80-160 watts. Doesn't the cross-over also have to be 16 ohms? Couldn't find any listed at that site.

Any idea what the number was on the original kustom horns in the event I do run across some. Found speaker L-pad but only went to 100 watts. Don't I need one a little bigger?

Subject: Re: K 400b-4

Posted by [pleat](#) on Mon, 30 Jun 2014 20:47:57 GMT

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Depending on if the horns are in the slant metal face era, they would have the vertical fins in the horn opening. The latter version that was used in the tolex series Horn cabs don't have the fins.
pleat
