
Subject: Speakerlab K Horn

Posted by [Paul C.](#) on Sat, 16 Dec 2006 17:38:16 GMT

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I was digging around in my "archives" (junk on my bookshelves) looking for some Speakerlab K Horn info for another fellow and dug this up. I have often heard it stated that the Speakerlab K was misdesigned, the throat was wrong. Apparently that was on purpose:(From Speakerlab's Technical Compendium TC-10 1979, by Pat Snyder)"A Shortcut (pun intended)"You will find that bass horns designed strictly to the formula are quite long. Olson demonstrated (Reference 1, p. 114) that the horn can be shortened considerably, with little adverse effect on the bass response, by using a faster taper rate in the throat end. In addition this extends the high frequency range of the horn."The Speakerlab K uses a 100 hz taper rate for the first 8 inches of horn path from the throat, then a 48 hz taper rate thereafter. A line for the SK is plotted on figure 5."References"1. H. F. Olson, Elements of Acoustical Engineering, 2nd Ed., Van Nostrand, New York, 1947. Out of print."

Subject: Re: Speakerlab K Horn

Posted by [Wayne Parham](#) on Sun, 17 Dec 2006 15:57:37 GMT

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This was described as a "rubber throat" in a paper written by Paul Klipsch in 1941 called "A low frequency horn of small dimensions". He proposes that his Klipschorn corner horn have an initial wide taper for the first eight inches corresponding to a 100Hz flare rate. The rest of the passages have a slower flare, corresponding to a 47Hz flare rate.

"A low frequency horn of small dimensions"

Subject: Re: Speakerlab K Horn

Posted by [DMoore](#) on Fri, 29 Dec 2006 00:13:35 GMT

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I have the original 1979 Speakerlab "K" plans, and that is definitely NOT a 100Hz flare rate at the throat. I also haven't ever seen this article that you reference. The plans show the same 50Hz flare rate used by the original Klipschorn. Also the remaining "K" flares are 32 and 38Hz respectively with the same overall horn pathway length (approx. 64 linear inches). Both horns employ a 78 sq. in. throat area cross-section. A virtual Khorn knowckoff with a couple of improvements, funny since they were originally included in the 1946 Klipsch plans (a 12" driver size) but were subsequently dropped by Klipsch production some time later. These include back chamber "stuffing" and back chamber/channel axially aligned bracing to reduce vibration. Most likely, the THROAT CAVITY OPENING of the Speakerlab "K" is the so-called "wrong" part, evidently copied directly from a post-1962 Klipschorn, being that it is 3" wide versus the 6" wide typically used for a

non-K33 driver, such as the W1508S 8 Ohm driver used by Speakerlab. This is where the SL "K" MAY have been improved BUT I heard a pair of "K"s at the time, and in no way do I think that they suffered in the least from using the smaller slot size. I've NEVER heard a Klipschorn that beat them on the bass-end to this day.DM

Subject: Re: Speakerlab K Horn
Posted by [Paul C.](#) on Fri, 29 Dec 2006 06:36:16 GMT
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"I have the original 1979 Speakerlab "K" plans, and that is definitely NOT a 100Hz flare rate at the throat. I also haven't ever seen this article that you reference."As I said, this is from a Tech paper from Speakerlab. From Speakerlab's Technical Compendium TC-10 1979, by Pat SnyderThis paper, as well as about a half inch thickness of other technical papers, were what Speakerlab sent out as their "Speaker Design Book". Most were written by Pat Snyder, one of their engineers, and were papers presented at AES meetings. If you wish, email me. I'll try to scan it, but it is printed on green paper. I'll see if I can lighten it up enough to read. I quoted Mr. Snyder accurately.

Subject: Re: Speakerlab K Horn
Posted by [DMoore](#) on Fri, 05 Jan 2007 23:35:15 GMT
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Well, Speakerlab was wrong. Not you. Just don't believe everything that they publish!Clearly the 100Hz reference is a direct and mistaken ripoff from the original 1945 Klipschorn patent document, which was concerned with a smaller version featuring a single 12" field coil driver which DID indeed use a 100Hz flare rate at the throat. So much for copying the at-the-time-and-still-current-flavor of the larger 15" driver version of the Klipschorn and not knowing why it's the way it is...However, the 1970's Speakerlab "K" used the familiar 15" driver and the normal 50Hz throat expansion rate, as indicated in the Speakerlab "K" plans. Anyone with a ruler can figure it out. $\text{Wavelength}/18.1 = \text{exponential area doubling length}$, and that isn't going to amount to 100Hz (that would double its area every 8 inches (approx) of linear travel)!The throat area cross-section doubles, according to the plans, at approx. 16 inches, measured center of channel, which would be 50 Hz, thereabouts.DM

Subject: Re: Speakerlab K Horn
Posted by [DMoore](#) on Sat, 06 Jan 2007 00:37:41 GMT
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This again refers to the early 12" field coil version as in the 1945 patent which is quite a bit

different than the larger 15" version which the Speakerlab "K" was cloned from. Gives me the willies that Speakerlab was so blatantly uninformed about what they were doing! Blindly copying. But at least its not a bad copy, anyway. Couple of improvements, to boot!DM

Subject: Klipsch KPT-MCM-4-T Grand

Posted by [Wayne Parham](#) on Thu, 01 Feb 2007 00:21:29 GMT

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I get the feeling you're a Klipsch fan. How do you think the Klipsch cornerhorn sounds compared to their more modern top-of-the-line horns, like the KPT-MCM-4-T Grand with its dual-15" basshorn, it's 12" tractrix mid and its 2" tractrix tweeter horn?

Klipsch KPT-MCM-4-T Grand

Subject: Re: Klipsch KPT-MCM-4-T Grand

Posted by [DMoore](#) on Fri, 02 Feb 2007 00:20:14 GMT

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Well, I guess I'm a fan of Paul Klipsch the horn designer and business man rather than just a fan of his products alone. My personal taste is more "corner-centric" as far as horns go...I imagine the scale and power of the MCM stack would be impressive (and I don't just mean the footprint), to say the least, but I haven't heard them. But I have studied the available documentation about them, though. Stacked in a pair, the throat size is correct for the "official" 30Hz in 1/2 space according to the Gillum patent document if I remember correctly. I would expect to be impressed, at any rate. I have played around with a 2" tractrix midrange horn (DIY), and they have a distinctive "flavor", quite addicting actually. It has to do with the way that the sound propagates, rather than having a particular "sound" in its response. It's rather like when a nice speaker system broadcasts into a large, quiet, non-reflecting space. Except it's in your room. A positive effect, to say the least.DM

Subject: Re: Klipsch KPT-MCM-4-T Grand

Posted by [Wayne Parham](#) on Fri, 02 Feb 2007 00:33:31 GMT

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Paul Klipsch has always been one of my favorite speaker designers too. I'd like to see that MGM, as I don't know anything about it except what I see in the picture. The midhorn and tweeter are pretty easy to see, but you can't know what configuration the basshorn uses from the picture. It looks like a W-bin, but I can't know for sure.

Subject: Re: Klipsch KPT-MCM-4-T Grand
Posted by [DMoore](#) on Fri, 02 Feb 2007 01:07:32 GMT
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Do you want the patent document? I can email it to you. Or if you have a place to put it to make it available here, we can set a link, etc. Tell me where - and it's there!DM

Subject: Re: Klipsch KPT-MCM-4-T Grand
Posted by [DMoore](#) on Fri, 02 Feb 2007 01:20:44 GMT
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Dang! I said throat when I meant MOUTH! Sorry.DM

Subject: Re: Klipsch KPT-MCM-4-T Grand
Posted by [Wayne Parham](#) on Fri, 02 Feb 2007 01:45:57 GMT
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You could put the file on one of the free hosting services, like imageshack or smugmug, but then if the account ever went stale, the link might get lost. If there are no legal restrictions like copyright, we could put it in the "misc" directory on ART and you could link to it. Send it to me if you'd like. Seems like it would be very useful for everyone, and Klipsch probably wouldn't mind the reference.

Subject: Re: Klipsch KPT-MCM-4-T Grand
Posted by [DMoore](#) on Fri, 02 Feb 2007 18:48:27 GMT
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Wayne, copyright isn't a problem - all patent documents are public domain. I emailed it to you, perhaps you can "host" it on your website and set a link to it from here? The actual USPTO website uses some sort of a special viewer that has to be downloaded in order to look at the images, so I sent it in TIF format for general viewability.DM

Subject: Re: Klipsch KPT-MCM-4-T Grand
Posted by [Wayne Parham](#) on Sat, 03 Feb 2007 03:48:29 GMT

Very good, thanks!The patent has been uploaded, available here:Klipsch MCM Patent, Page 1Klipsch MCM Patent, Page 2Klipsch MCM Patent, Page 3Klipsch MCM Patent, Page 4Klipsch MCM Patent, Page 5Klipsch MCM Patent, Page 6Klipsch MCM Patent, Page 7Klipsch MCM Patent, Page 8Klipsch MCM Patent, Page 9Klipsch MCM Patent, Page 10

Subject: Re: Speakerlab K Horn
Posted by [Thomas](#) on Sat, 01 Dec 2007 00:35:59 GMT
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If available , could a copy of the plans be had?

Subject: Re: Speakerlab K Horn
Posted by [Paul C.](#) on Sat, 01 Dec 2007 01:18:44 GMT
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I don't have plans to the K, sorry.

Subject: Re: Speakerlab K Horn
Posted by [Wm. David Thomas](#) on Thu, 06 Dec 2007 18:59:19 GMT
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Dear Paul,I note that in your article about the Speakerlab Skhorns that you have the original 1979 Speakerlab "K" plans.I used to have the set of plans but, for some reason have lost them.Would you be so kind as to scan the SKHORN Assembly Plans and email them to me as an attachment?!!!!(PLEASE PLEASE PLEASE!!!!!!)I have successfully built the SKHorns some years ago and I wish to build another set for my self!!Your help here will be greatly appreciated since I have had no luck in securing a set of the plans from Speakerlab of late.Respectfully yours,Rev. Wm. David Thomaswd_thomas2006@yahoo.com407-721-1278

Subject: Re: Speakerlab K Horn
Posted by [Paul C.](#) on Fri, 07 Dec 2007 02:22:42 GMT
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Sir, I was quoting DMoore. HE is the one who has the plans. Here is DMoore's post: <http://www.audioundtable.com/HighEfficiencySpeakers/messages/3330.html> To which I replied thusly: <http://www.audioundtable.com/HighEfficiencySpeakers/messages/3331.html> To which DMoore replied to me... <http://www.audioundtable.com/HighEfficiencySpeakers/messages/3334.html> Note the quotes around the first sentence in my post. I quoted DMoore, who is the one who has the plans. Sorry for the confusion. Paul C.

Subject: Re: Speakerlab K Horn Assembly Plans
Posted by [Wm. David Thomas](#) on Fri, 07 Dec 2007 20:29:09 GMT
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This message is for D. Moore or anyother person who may have the assembly manual for the Speakerlab SKHORNS. I have lost my copy of the plans and would appreciate anyone who will scan a copy of each page of the SKHORNS Manual and email them to me at: wd_thomas2006@yahoo.com as an attachment. I will truly appreciate any help in regard to this request!!! Thank you, Wm. David Thomas wd_thomas2006@yahoo.com

Subject: Re: Speakerlab K Horn
Posted by [H. L. Kincaid](#) on Sat, 19 Jan 2008 08:35:54 GMT
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Is it possible to obtain a copy of the speaklab K folded horn enclosure? HK

Subject: Re: Klipsch KPT-MCM-4-T Grand
Posted by [Thomas](#) on Mon, 18 Feb 2008 03:23:28 GMT
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I am new to this forum but would like to have the patent information as discussed. Than you!
