
Subject: 12pi bass horn plans
Posted by [vega](#) on Sat, 07 Aug 2010 12:39:39 GMT
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hello has any one got any plans for the 12pi bass horn could some one please help me out thank you

Subject: Re: 12pi bass horn plans
Posted by [Wayne Parham](#) on Sat, 07 Aug 2010 14:17:56 GMT
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Subject: Re: 12pi bass horn plans
Posted by [albrecht89](#) on Wed, 15 Sep 2010 15:45:04 GMT
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I need the plan too
Can anyone send me a mail?
thanks

Subject: Re: 12pi bass horn plans
Posted by [Wayne Parham](#) on Wed, 15 Sep 2010 21:47:17 GMT
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Subject: Re: 12pi bass horn plans
Posted by [fbotone](#) on Thu, 16 Sep 2010 21:33:00 GMT
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Might I also be able to request a copy of these plans as well? Thanks in advance.

- f

Subject: Re: 12pi bass horn plans
Posted by [Wayne Parham](#) on Thu, 16 Sep 2010 23:46:26 GMT
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Subject: Re: 12pi bass horn plans
Posted by [fbottone](#) on Fri, 17 Sep 2010 16:42:33 GMT
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Thanks for the quick reply!

Subject: Re: 12pi bass horn plans
Posted by [buggers](#) on Fri, 17 Sep 2010 19:32:06 GMT
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I would like to get in on that action! Thanks.

Subject: Re: 12pi bass horn plans
Posted by [Wayne Parham](#) on Fri, 17 Sep 2010 23:26:14 GMT
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Subject: Re: 12pi bass horn plans
Posted by [albrecht89](#) on Wed, 29 Sep 2010 12:11:14 GMT
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Has anyone the plan as Dwg dxf file?

Subject: Re: 12pi bass horn plans
Posted by [Wayne Parham](#) on Wed, 29 Sep 2010 12:28:32 GMT
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We do not make our plans available in DXF format. However, we do make flat pack kits that have precision CNC cut baltic birch parts with dado joints. The PDF plans distributed are really intended for hobbyists that want to build a single unit or small number for their own personal use. They are for the person that would cut to fit, using hand tools, like I did the prototype:

did a lot of streamlining of things like cut angles and part sizes. The goal was to make as many things as possible the same, so cuts could be done without needing to change tools or setup. This, of course, required reverification and testing, both of the physical fit and of acoustic performance. So the point is there were many iterations before arriving at the current model.

drawing files and even our CNC files. One a few occasions, we allowed this. In those cases, the builders were planning to build a large number and buy the drivers, plugs and plates from us. They just wanted to cut their own parts instead of buying flat packs from us.

These outside shops that attempted their own CNC builds proved to be problematic in almost every case. My CNC programmer warned me that even if we give them our files, they would have to still do their own tool pathing and things like that. He was concerned that the operators can't just plug and go, it is still largely a procedural thing. This proved to be true. In each case, the builders had problems and probably should have just gone with our flat pack kits. To make matters worse, they tried to do all of them at once (repeating their mistakes each time) instead of doing one first and working out the kinks. In the end, it would have been less trouble and lower cost because they wouldn't have to rework things.

So now we will not give out DXF files. Instead, I encourage builders to use our flat pack kits if building more than a couple horns.

Subject: Re: 12pi bass horn plans
Posted by [realaudioent](#) on Wed, 06 Oct 2010 19:05:23 GMT
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This is an interesting design. Please send me plans.

Subject: Re: 12pi bass horn plans
Posted by [Wayne Parham](#) on Wed, 06 Oct 2010 23:21:06 GMT
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I was recently awarded a patent on the cooling system used in this basshorn. I'm really proud of it - it brings three powerful technologies together to make what I think is the worlds best prosound subwoofer. 1. Horn loading reduces excursion and increases efficiency, so distortion is low and

SPL is high. 2. Push-pull drive further reduces distortion, particularly at low frequencies where the horn begins to unload and can no longer damp the diaphragm(s). 3. Cooling plugs reduce motor temperatures, wicking away heat in the core.

Direct heating from induction and indirect heating from voice coil radiation and convection heat the motor core to temperatures high enough to cook on. Diaphragm motion is limited because of horn loading, which is a good thing, but it reduces the ability of the woofer to generate sufficient forced air convective cooling through the vent. The cooling plug approach helps remove heat from the motor core, augmenting the woofer's ability to cool itself. This is particularly important on horn loaded subwoofers, because the cooling vents are partially stalled due to horn loading.

12pi push/pull benefits

Subject: Re: 12pi bass horn plans
Posted by [teck2100](#) on Fri, 18 Feb 2011 02:06:10 GMT

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can I get one as well???

Subject: Re: 12pi bass horn plans
Posted by [Wayne Parham](#) on Fri, 18 Feb 2011 13:48:26 GMT

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Subject: Re: 12pi bass horn plans
Posted by [Hermit](#) on Sat, 05 Mar 2011 11:32:58 GMT

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May I request a copy of this plan please

Subject: Re: 12pi bass horn plans
Posted by [Wayne Parham](#) on Sat, 05 Mar 2011 14:36:25 GMT

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Subject: Re: 12pi bass horn plans
Posted by [Jthomas](#) on Sun, 06 Mar 2011 19:54:27 GMT
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I would like to request a copy of the plans Thanks

Subject: Re: 12pi bass horn plans
Posted by [Wayne Parham](#) on Mon, 07 Mar 2011 04:08:46 GMT
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Subject: Re: 12pi bass horn plans
Posted by [Selector](#) on Sun, 03 Apr 2011 04:02:54 GMT
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I would also like a copy of the bass horn plans please.

Subject: Re: 12pi bass horn plans
Posted by [Wayne Parham](#) on Sun, 03 Apr 2011 14:32:35 GMT
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Subject: Re: 12pi bass horn plans
Posted by [Selector](#) on Sun, 03 Apr 2011 19:29:59 GMT
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Thank you for sending me the PDF files. I agree to abide by the rules. I also would like to say that I think you are a pretty rad guy for sharing your design with us. Many of us love big sound but would never be able to afford to buy finished speakers of this performance level.

Subject: Re: 12pi bass horn plans
Posted by [Wayne Parham](#) on Mon, 04 Apr 2011 02:26:08 GMT

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My pleasure. Thanks for your kind words.

Subject: Re: 12pi bass horn plans
Posted by [Norris Wilson](#) on Wed, 06 Apr 2011 02:04:27 GMT
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Selector,

I second your sentiment about Wayne. He is one of the good guys in audio, a real gem and asset to the DIY community.

Wayne will be the guy in the Pi Speakers room at LSAF in May wearing a white hat.

Just kidding!

Thanks Wayne

Norris

Subject: Re: 12pi bass horn plans
Posted by [scameron](#) on Mon, 18 Apr 2011 13:58:48 GMT
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i wouldn't mind having a look at the plans. i read about the cooling plug a few years back and was interested.

thanks
Scott

Subject: Re: 12pi bass horn plans
Posted by [Wayne Parham](#) on Mon, 18 Apr 2011 14:24:55 GMT
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Subject: Re: 12pi bass horn plans
Posted by [n.goulden](#) on Sat, 07 May 2011 14:01:22 GMT
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Hi guys,

Been reading up on the LABsub and was very interested in building two of those. That was until I stumbled upon the 12pi. Which has caught my eye even more so. Here in Aus there arent many horn loaded subs going round, some ol Turbosound TSW124's, but they are a bit... Old.

Was hoping to get a copy of the plans? If you have them in metric that would be handy, that imperial stuff doesnt come around much anymore!

How do these go in pairs? Or say stereo about 5m apart? out of doors of course

Cheers,

Nick

Subject: Re: 12pi bass horn plans
Posted by [Wayne Parham](#) on Sat, 07 May 2011 14:39:57 GMT
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Subject: Re: 12pi bass horn plans
Posted by [Fixvid](#) on Tue, 24 May 2011 08:31:34 GMT
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Hello

Could you send me the plans for 12pi, in metric if possible.

Thanx

Subject: Re: 12pi bass horn plans
Posted by [Wayne Parham](#) on Tue, 24 May 2011 13:16:43 GMT
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Subject: Re: 12pi bass horn plans
Posted by [Fixvid](#) on Thu, 26 May 2011 07:39:48 GMT
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Thx for the plans Wayne.

Are there other woofers cheaper than the lab12 which could work in the pi12? IE: with lower power handling and spl, but eventually the same extension and low distortion? The goal of this project would be lower cost domestic applications.

What is your thought about using Selenium wpu1208 in 12pi?

WPU1208

Power handling	450W
Fs	46Hz
Vas	62l
Qts	0.35
Qes	0.36
Bl	19.4
SPLdB1W/1m	95

Subject: Re: 12pi bass horn plans
Posted by [Wayne Parham](#) on Thu, 26 May 2011 14:11:50 GMT
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machine other parts to fit, but it is a non-trivial matter because you'll probably need to recone. I used to try and machine complete woofers, using the magnet to help capture the debris. But ultimately, there were too many failures going this route. It is best to machine the parts before assembly.

As for the electro-mechanical specs and suitability in that regard, I suggest using Hornresp to model the horn with your proposed woofer. I'm confident that it will give you an accurate picture. Then, of course, the real proof of the pudding is in the finished physical model. Measure it to see

if it does what you want it to do.

Subject: Re: 12pi bass horn plans
Posted by [Fixvid](#) on Fri, 27 May 2011 09:47:27 GMT
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I'm thinking about trying the pi12 in hi-fi applications, a woofer will be hit with no more than 400w, so i assume that the side radiators are not mandatory. Anyway, i live far far away from you and i can't buy any parts for this project.

Can you give me the horn parameters for hornresp ? it's not easy to calculate them from the drawings.

Subject: Re: 12pi bass horn plans
Posted by [Wayne Parham](#) on Fri, 27 May 2011 13:45:23 GMT
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Look through the links on the page referenced below. It shows the development history, and some links have Hornresp screen shots.

Subject: Re: 12pi bass horn plans
Posted by [TruManagement66](#) on Wed, 08 Jun 2011 18:14:27 GMT
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Hi Wayne,

I'm very interested in trying out your 12pi speaker design. Could you please send me the plans?

Thanks
Dave

Subject: Re: 12pi bass horn plans
Posted by [Wayne Parham](#) on Wed, 08 Jun 2011 23:37:45 GMT
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Subject: Re: 12pi bass horn plans
Posted by [Robert.L](#) on Tue, 21 Jun 2011 00:38:29 GMT
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Greetings, where do I purchase plans for the PI 12 sub? Thank you for your time in this matter.

Regards, Robert L.

Subject: Re: 12pi bass horn plans
Posted by [Wayne Parham](#) on Tue, 21 Jun 2011 02:30:21 GMT
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Subject: Re: 12pi bass horn plans
Posted by [TruManagement66](#) on Mon, 01 Aug 2011 20:27:41 GMT
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Hi Wayne,

I was wondering if the interior speaker connectors are needed or can I wire speaker direct to speakon and seal hole with silicone? Also, how do I know which version of plans that I have? I can't seem to find a version on the plans anywhere.

Thanks

Subject: Re: 12pi bass horn plans
Posted by [Wayne Parham](#) on Mon, 01 Aug 2011 21:51:04 GMT
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I would use an airtight connector on the inside to ensure a good seal. Motor chamber pressure is very high and it doesn't make sense to skimp on a build like this. As for version - The only plans we distribute are for the current version. There isn't a huge difference between v1 and v2 versions, by the way. I was being a perfectionist - this is a no-holds-barred design.

Subject: Re: 12pi bass horn plans
Posted by [klmax](#) on Sun, 07 Aug 2011 09:42:08 GMT
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new member, but Ive been watching and reading for years. It's time to build something. Can anyone tell me if the "current" plans are ver. II ?, and if the woofers sold are the new 500wt version, if not, will the 500wt version work with the cooling plug? Anyways, wondering if I can get the plans as well. Thanks, Klmax

Subject: Re: 12pi bass horn plans
Posted by [Wayne Parham](#) on Sun, 07 Aug 2011 13:17:53 GMT
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The only plans we provide are for the v2. Our woofer is an OEM device made specifically for us, and with the cooling plug, it handles over 850 watts RMS continuous sine. It safely handles 1000 watts RMS using the more common EIA RS-426A rating method. This is over twice the power handling capability of the stock LAB12 woofer.

Subject: Re: 12pi bass horn plans
Posted by [TruManagement66](#) on Sun, 07 Aug 2011 18:35:11 GMT
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Anyone know if polyfill has any benefit in a Horn enclosure?

Subject: Re: 12pi bass horn plans
Posted by [Wayne Parham](#) on Sun, 07 Aug 2011 20:31:46 GMT
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No, it does not. Not a true horn, anyway. Truncated horns, tapered pipes and transmission lines pipes will benefit from stuffing material because it damps the standing waves. But full-size horns do not have sharp standing wave peaks that need damping.

Subject: Re: 12pi bass horn plans
Posted by [Syskiyou](#) on Sun, 14 Aug 2011 20:21:08 GMT
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I would like to build a pair a 12pi's. Could someone please email me the plans? Thank you!

Subject: Re: 12pi bass horn plans
Posted by [Wayne Parham](#) on Mon, 15 Aug 2011 04:26:11 GMT
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Subject: Re: 12pi bass horn plans
Posted by [Syskiyou](#) on Tue, 16 Aug 2011 06:00:11 GMT
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Hello Wayne, I hate it when I show my ignorance, but I'll be darned if I can find a file attached to your message. . . . Or did you send it to my personal email address? It is: Syskiyou@volcano.net

Thank you, I appreciate your patience.

Pat

Subject: Re: 12pi bass horn plans
Posted by [Wayne Parham](#) on Tue, 16 Aug 2011 13:06:05 GMT
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The email has two PDF file attachments. If you did not get them, then something stripped them off. I can resend to an alternate address if you want.

Subject: Re: 12pi bass horn plans
Posted by [Syskiyou](#) on Thu, 18 Aug 2011 01:59:11 GMT
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Could you please send them to: Syskiyou98@yahoo.com

Thank you,

Pat

Subject: Re: 12pi bass horn plans
Posted by [Wayne Parham](#) on Thu, 18 Aug 2011 02:12:47 GMT
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Subject: Re: 12pi bass horn plans
Posted by [Syskiyou](#) on Thu, 18 Aug 2011 04:58:49 GMT
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SUCCESS!!!!

Thank you very much,
Pat

Subject: Re: 12pi bass horn plans
Posted by [TruManagement66](#) on Sun, 30 Oct 2011 20:26:16 GMT
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Hi Wayne,

I'm currently finishing off a 12pi build. Inside the fill chamber drawing has seven pieces listed. Do we cut a small 8th piece to fill up to the opening or just leave that spot alone? It would be on MC-8 and be about 2 inches wide.

Thanks
Dave

Subject: Re: 12pi bass horn plans
Posted by [Wayne Parham](#) on Mon, 31 Oct 2011 13:08:35 GMT
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That span is to leave room for the throat opening, to prevent it from being obstructed by the fill.

Subject: Re: 12pi bass horn plans
Posted by [speakeraddict](#) on Fri, 04 Nov 2011 05:16:32 GMT
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Wayne,

Hi! I'm itching for long time now to build the 12pi basshorns of yours. Is it possible to have a copy of your plans. Thank you.

Also, is it possible to use this cheap subwoofer (JBL GT5-S12 made in china) for this sub. all I can find are these parameters:

JBL GT5 BIG high end features:

- * Rubber coated tinsel leads
 - * Heavy duty 2inch tougher high temp voice coil
 - * Double large slugs magnets w/ rubber boot
 - * High excursion bigger rubber surrounds
 - * Ultra large 7" 1/2 long excursion conex spiders
 - * Visible voice coil from see through vent windows
 - * Thicker stronger metal basket
 - * Stiff, none flex, light weight polypropylene cone material
- * immune to bottom out. aka voice coil slapping or plak plak sound.
Impedance: Single 4 Ohm QUAD layer coils!
Frequency response: 23-450 Hz
Sensitivity: 93 dB

Speaker Thiele Parameters Specs:

- *Frequency Response
23Hz - 450Hz
- *Sensitivity
93dB
- *Impedance
4 Ohms
- *Power Handling, Peak
1100W
- *Power Handling, RMS
275W
- *VMAx
14,2mm
- *Mounting Depth
164mm
- * RMS: 275 watts
- * Peak: 1100 watts

Again, thanks.

Larry

Subject: Re: 12pi bass horn plans
Posted by [Wayne Parham](#) on Fri, 04 Nov 2011 13:08:14 GMT
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Use the woofer it is designed for. Don't substitute. There has been way too much work optimizing this design to throw all that away by modifying it using different parts.

Subject: Re: 12pi bass horn plans
Posted by [stereo_dave](#) on Wed, 30 Oct 2013 03:51:38 GMT
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The time has come to make some sawdust - May I have the plans please ?

Curious if a person could slice it in half for a single driver ?

Subject: Re: 12pi bass horn plans
Posted by [Wayne Parham](#) on Wed, 30 Oct 2013 06:27:18 GMT
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As for cutting it in half, you could do that but do remember that basshorns have small mouths alone. But it is still best when used in groups or four or more.

If you cut one in half, not only do you lose the benefit of push-pull drive, but you also lose mouth area, increasing response ripple. You would need to use a group of them to smooth response back, and you still would lose the benefit of push-pull drive.

Subject: Re: 12pi bass horn plans
Posted by [Planet](#) on Mon, 27 May 2019 13:45:56 GMT
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Thank you for sharing this project. i would like to try my hand at this horn, could you post me a copy of the plans. :roll:
oh ps that is the 12 pi horn

Subject: Re: 12pi bass horn plans
Posted by [Wayne Parham](#) on Mon, 27 May 2019 15:53:29 GMT
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Subject: Re: 12pi bass horn plans
Posted by [Pinni](#) on Thu, 06 Jun 2019 18:24:20 GMT
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Hello,

Does anyone have the 12 pi plans in metric?

Thanks
