Subject: 2Pi Towers
Posted by wasteh202 on Sat, 22 Jan 2005 20:57:18 GMT
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Are the 2Pi Towers equal or simular to what is known as a TL or MLTL ? Thanks

Subject: Re: 2Pi Towers
Posted by Wayne Parham on Sun, 23 Jan 2005 00:18:27 GMT
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Transmission lines use standing waves as their primary tuning method. They usually have a pipe that is 1/4 wavelength of the desired tuning frequency and open at one end. If the pipe isn't opened at the end, then acts differently than pipes that are open at the end. But the designer can take advantage of that as an alternate tuning method, or use a different acoustic device.Bass-reflex speakers use Helmholtz resonance. However, it is important to realize that both standing waves and Helmholtz resonance are possible at the same time. Standing waves develop inside any chamber, depending on its dimensions and whether it is open on one or both ends or somewhere in between. Helmholtz resonance also sets up in any chamber that has an opening. So the two features aren't mutually exclusive.

Subject: Re: 2Pi Towers
Posted by wasteh202 on Sun, 23 Jan 2005 03:12:24 GMT
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WayneThanks for the reply, and the info about Transmition lines. One thing more. You did not answer my question as to the 2Pi Towers. Are they or are they not TL's. Thanks

Subject: Re: 2Pi Towers
Posted by wasteh202 on Sun, 23 Jan 2005 03:16:22 GMT
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Woops... Sorry, I read the link about TL's after I already responded to your post. I see now where you are telling me that the 2Pi Towers are NOT TL'sThanks Wayne.Take care!

Subject: Re: 2Pi Towers

Posted by Wayne Parham on Sun, 23 Jan 2005 05:40:41 GMT
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Check out the link in the post. There's a website there that describes the behavior of sound in pipes.

Subject: Re: 2Pi Towers
Posted by Wayne Parham on Sun, 23 Jan 2005 05:51:26 GMT
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As with most things in acoustics, labels are useful but there's sometimes more than a simple tag line. For example, horns usually act like quarter-wave resonators near their lowest frequency extremes. The line between pipes and horns becomes blurred in the bass. Similarly, quarter-wave pipes aren't immune to acting as Helmholtz resonators if the conditions are right. Bass-reflex speakers may use Helmholtz resonance, but that doesn't prevent standing waves from forming. The laws of physics don't prevent standing waves from existing in a cabinet simply because it is a horn or a bass-reflex speaker, nor do they prevent Helmholtz resonation in a ported quarter-wave pipe. So my point is that sometimes there are more than one of these

Helmholtz resonance tuned to 40Hz. But they are not immune to standing waves along their long axis. Quarter-wave resonance is controlled by stuffing and by the placement of the port and speaker. I would imagine that other similar looking speakers designed to be used as quarter-wave pipes control Helmholtz resonance by using port dimensions that shift the Helmholtz frequency out of the passband or using it to advantage as a secondary acoustic device. But the

cabinet.