
Subject: The AudioKarma Econo-Waveguide Speaker
Posted by [AudioFred](#) on Tue, 12 Apr 2011 13:10:03 GMT
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I'm in the final completion steps of a speaker that shows great promise as a waveguide speaker for audiophiles and HT enthusiasts who are on a very limited budget. It's the AudioKarma Econo-Wavguide speaker, a design that includes a generic woofer crossover so the builder can choose his own woofer, ideally a 10" or 12". A design summary can be found here:
<http://www.audiokarma.org/forums/showthread.php?t=150939&highlight=econo+waveguide>

AudioKarma is orientd toward vintage audio, so many builders have chosen vintage woofers ranging from highly efficient JBL and Altec drivers to relatively inefficient woofers from vintage acoustic suspension designs. I believe this design makes great use of a modern high sensitivity pro woofer such as the Eminence Delta 12LFA, which I selected for this project.

My version is a specialized design because it had to be light enough to be lifted by two people onto a speaker pole for use in my house concerts. This limited the enclosure to plywood construction and a box no bigger than two cubic feet, less than ideal for the Delta 12. If one is building this design for home audio use only I would recommend a 3.5 cu ft box, which would result in greater bass extension. The 2 cu ft box is a good size for HT use since you'll be using a 70hz hi pass filter. Home audio use for my version doesn't absolutely require as subwoofer, but one is highly desirable. If you hear this speaker with a sub you probably will not want to use it without one after that. In keeping with the economy oriented design I'm using a diy sealed sub with a 12" Dayton DVC budget driver and a buyout 150W plate amp.

Total cost of the parts for a pair of speakers, all sourced from Parts Express, is \$430. This includes air core inductors, Dayton poly caps, audio quality non inductive resistors, ports, quick disconnects, woofers, compression drivers, waveguides, speaker binding posts, and driver mounting screws - everyting except the wire (which you probably already have) and the enclosures. And now for the good news: If you don't have the ability and equipment to build your own enclosures, this design will fit in the PE 1.6 cu ft flat pack trapezoidal enclosures (#245-324) which sell for \$69/ea. The woofer hole is pre cut, so all you need to do with a skilsaw is to cut the port openings and rectangular openings for the tweeter and speaker binding posts.

Here's a picture of an unfinished speaker. I'll be posting details later.

File Attachments

1) [002.JPG](#), downloaded 19906 times
