Subject: Ports and displacement volume offsets
Posted by Wayne_Parham on Sat, 23 Jun 2001 18:50:32 GMT
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When building speakers with large ports, I recommend using the rectangular port that's shown on PiAlign. It's easy to build and it works just fine. You simply cut a small box with inside dimensions equal to the recommended rectangular port. Be sure that you remember to take into account the thickness of the baffle. For example, if you use wood stock that's 3/4" thick, then the port will need to be cut so that it's 3/4" shorter. As an example, the port you want is 9 1/8" long. But since the baffle is 3/4" thick - the port glued to the back should be 8 3/8" long. 8.375 + 0.75 = 9.125.Also, don't forget to include the port when calculating internal displacement offsets. Include the entire volume of the cylinder or box displaced by the port, not just the material that forms the walls of the duct. If PiAlign recommends that a 4 cubic foot box be made, then the volumes of all things inside the box should be added because they displace the volume. Total volume will probably be a few hundred cubic inches larger. Then the inside dimensions of the cabinet can be calculated, and the wood thickness then added to come up with a final outside dimension of the cabinet.