Subject: Re: the wave front
Posted by lcholke on Wed, 29 Jun 2005 23:29:52 GMT
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Eric,Here are a few things that may help.The first concept is that if 2 waves are 180 deg out of phase they combine to 0 spl. That is how the bose silence headphones work.The second concept is that each wave travels to the ear in a straight line from the source. The next thing to consider is the variance of the paths each wave makes as it travels to the ear. The far sources have to travel farther than the near ones. So now when they combine they may be 180 deg out of phase and you will hear nothing.So the horn will cause the wave front to have different path lengths from the start.Now if the sources are 1/4- 1/2 a wave length apart they have a tendency to combine as a plane wave. I have seen arguments for and against this description.Some times math and sometimes geometry are the best tools for these things. A few lines in a chat forum can be difficult and frustrating. Let me know if you want some book sources. There are good sources on acoustics on the web also if one digs.-Linc