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Subject: Re: CD horns

Posted by [Wayne Parham](#) on Sat, 10 Feb 2007 04:05:10 GMT

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If the bend is made halfway down, it is possible it was done not so much for pattern control but more to approximate a curved flare. At low frequencies, expansion doesn't require a smooth curve. It can be stair-stepped, so to speak. This, again, is related to wavelength and to resolution. The expansion doesn't have to be particularly smooth, even abrupt transitions of several inches are "smooth" if the wavelengths of interest are tens of feet long. So a curve can be approximated with straight sections that change angles, gradually growing wider. It might even be approximated with only two conical sections, if the granularity needed isn't high.

One way to test the performance of a proposed design is to use Hornresp. It will let you model a horn using sections of flare shapes, either conical or curved. You can model a horn with Hornresp and it will provide simulated response, excursion and impedance charts for you.