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Subject: Re: Radial horns

Posted by [Wayne Parham](#) on Sun, 23 Feb 2003 07:58:38 GMT

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You can array these horns vertically, in fact, I believe they publish polar charts of a vertical array of 2370's. That would help to improve vertical pattern control at low frequencies. The reason it does this is off-axis interference nulls form because of interaction from adjacent horns. Don't rotate the horns because that would give tall vertical coverage and narrow horizontal coverage above through most of the passband, above about 2kHz. Below that, the pattern changes because of mouth diffraction. Essentially what is happening is that the horn's mouth forms a diffraction slot, so pattern widens at low frequencies. Since the vertical dimension is short, directivity control is lost along this axis first. Below about 1kHz, vertical dispersion of a single horn is actually wider than the horizontal pattern.