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Subject: Re: Your Experiences With Constant Directivity Horns  
Posted by [Wayne Parham](#) on Thu, 09 Nov 2006 23:28:05 GMT

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A diffraction slot is useful for widening dispersion, but it is not useful for controlling the pattern other than that. A diffraction slot can only widen the pattern; It cannot constrain the pattern. It also is very frequency dependent, not constant at all. See the diffraction applet for an example. What a diffraction slot is useful for is widening the pattern at higher frequencies where the pattern would become narrow otherwise. Constraining the radiation angle is what the horn flare is for. The wall angle of a horn sets its pattern and constant directivity horns have straight walls. Some widen near the mouth because the pattern tends to narrow slightly near the lower cutoff but the wall angle of a CD horn is straight (or nearly straight) along most of the flare.

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