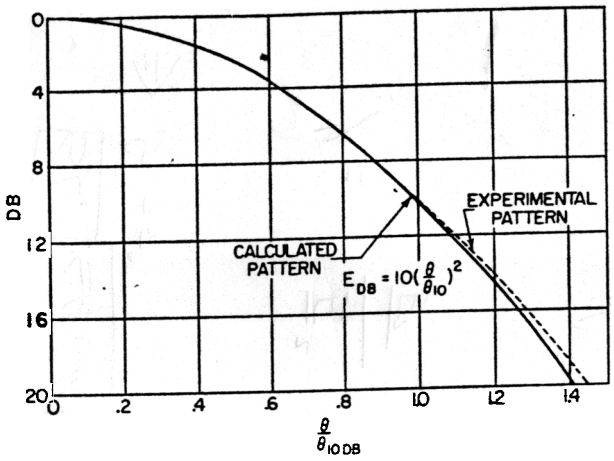

FIG. 17-17 Universal feed-horn pattern.

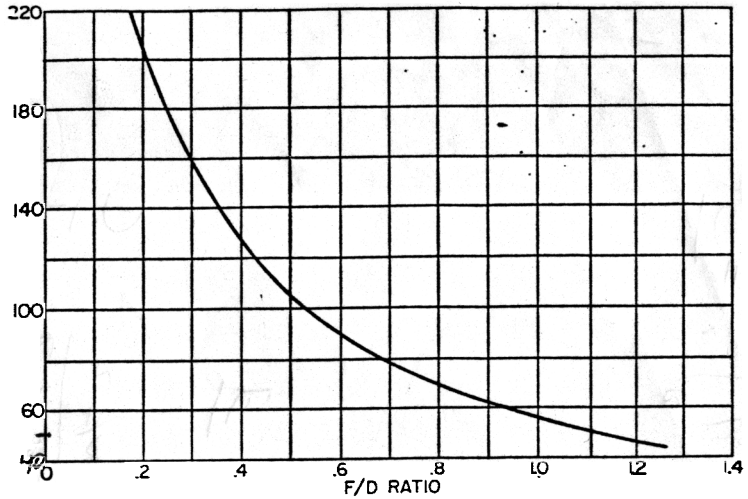

FIG. 17-18 Ratio of focal length to aperture diameter versus subtended angle at focal point.

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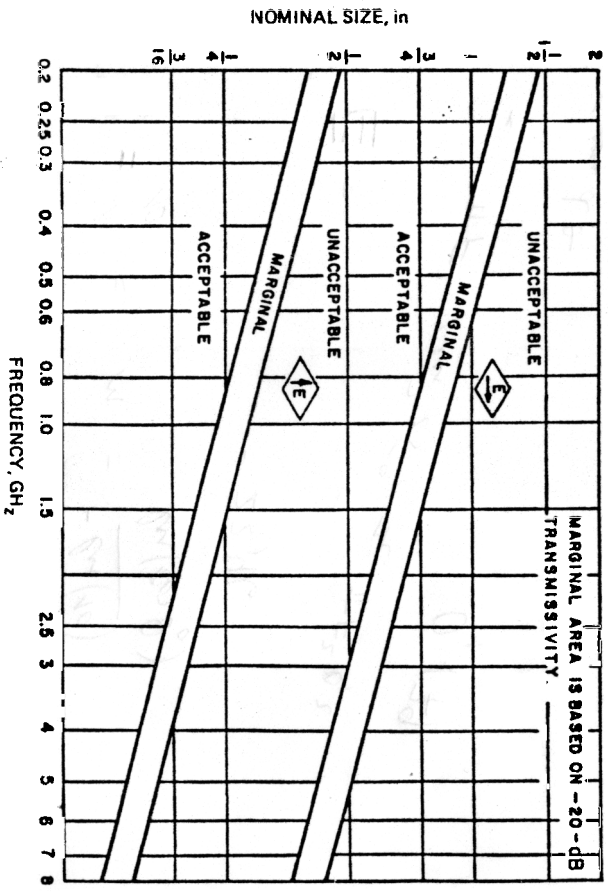

FIG. 46-4 Radio-frequency properties of expanded-metal-mesh screens. (*After Ref. 9.*)

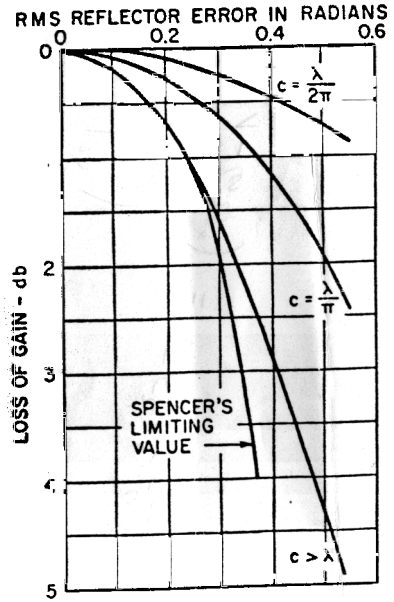

FIG. 2-20 Loss of gain for paraboloid a function of reflector error and correlatio interval.

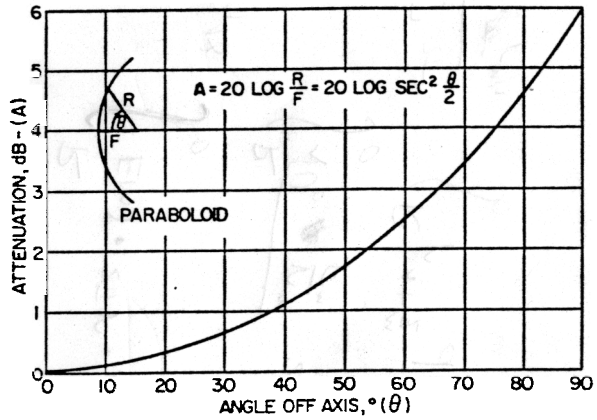

FIG. 17-19 Space attenuation versus feed angle.

Some slight improvement in accuracy might be obtained if the quadratic nature of the beamwidth were ignored and the standard pattern of Fig. 17-17 used. From this figure, it is found that the ratio in beamwidth between 10 and 18.1 dB is equal to 0.73, which corresponds to a feed whose 10-dB width is 77.5°. Because of the negligible difference between these two answers, it can be seen that for most practical applications the quadratic approximation to the standard pattern can be employed.

Interaction between Reflector and Feed From the considerations of the previous section, it is evident that the design of the reflector cannot be entirely divorced from that of the feed. An even more significant relationship arises when one considers interaction between these two elements. Because of this interaction, the feed disturbs