

Title (en)
HORN-REFLECTOR MICROWAVE ANTENNAS WITH ABSORBER LINED CONICAL FEED

Publication
EP 0140598 B1 19890301 (EN)

Application
EP 84306759 A 19841004

Priority
US 54239683 A 19831017

Abstract (en)
[origin: EP0140598A1] A horn-reflector antenna comprising the combination of a paraboloidal reflector (11) forming a paraboloidal reflecting surface for transmitting and receiving microwave energy; a conical feed horn (10) for guiding microwave energy from the focus of the paraboloidal reflecting surface to the reflector (11); and a lower end portion (10a) of the inside surface of the conical horn (10) being formed by a smooth metal wall, the balance of the inside surface of the conical horn being formed by a layer of absorber material (30) on at least the opposed side walls of said conical horn (10) that effect the E-plane radiation pattern envelope (RPE) of a horizontally polarized signal, the surfaces of the metal wall (10a) and the absorber material (30) defining a single continuous conical surface, and the absorber material (30) increasing the Eigen value E and the spherical hybridicity factor (Rs) sufficiently to cause the E-plane and H-plane RPE's to approach each other. The exposed surface or the absorber material (30) inside said conical feed horn is preferably substantially flat.

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IPC 8 full level
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