

Title (en)

Microwave antenna.

Title (de)

Mikrowellenantenne.

Title (fr)

Antenne hyperfréquence.

Publication

**EP 0527569 A1 19930217 (EN)**

Application

**EP 92306789 A 19920724**

Priority

- GB 9116330 A 19910729
- GB 9200042 A 19920103

Abstract (en)

A circular horn antenna having a wide beam and an extended bandwidth of 6-18 GHz, for use with signals having orthogonal polarization planes. The horn (5) is required to adapt to a standard square polarizer (1) having differential delay ridges (9) and is itself provided with corresponding metal ridges (13) which are continuous with the polarizer ridges (9). These horn ridges (13) are tapered at the mouth end of the horn to cooperate with the reverse taper of a dielectric cone (19) of cruciform cross section. This dielectric cone (19) has an axial hole (22) throughout the cone (19) and a larger axial cylindrical recess (24) in the base of the cone (19). A dielectric lens (27) is fitted to the mouth of the horn (5) for beam widening and matching purposes. The lens (27) has a large bore in the rear end to receive the circular horn mouth and a small bore (23) in the front end. The two bores are separated by a thin wall of dielectric material (29) contributing significantly to the matching. A circular horn antenna is thus provided having a very wide bandwidth (6-18 GHz), good matching and return loss over the band, while at the same time achieving good power handling capacity and weight reduction. <IMAGE>

IPC 1-7

**H01Q 13/02**; **H01Q 19/08**

IPC 8 full level

**H01Q 13/02** (2006.01); **H01Q 19/08** (2006.01)

CPC (source: EP)

**H01Q 13/0275** (2013.01); **H01Q 19/08** (2013.01)

Citation (search report)

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