

## Title (en)

Reflector antenna with struts in the radiating area.

## Title (de)

Reflektorantenne mit Stützen im Strahlengang.

## Title (fr)

Antenne à réflecteur comportant des tirants dans le champ de rayonnement.

## Publication

**EP 0192048 A1 19860827 (DE)**

## Application

**EP 86100586 A 19860117**

## Priority

DE 3501825 A 19850121

## Abstract (en)

1. Parabolic reflector antenna having a reflector (8) of parabolic or approximately parabolic design, with struts (1), which are located in the radiating area, serve to mount a primary radiator or an auxiliary reflector (9), and are bent in the form of an arch in each case on a plane (strut plane) determined by its two end points and the reflector axis, characterized in that the reflective areas (4) of the struts (1) are provided in each case with a scatter structure (2), whose height dimension is constant over the entire longitudinal course of the struts while, vertical to the strut plane, it has a regular corrugated or meander-shaped course, in that the scatter structures are in each case attached to a supporting part (3) of the struts, in that the supporting part of the struts has in each case an approximately rectangular cross-section, in that the scatter structures are in each case attached to and cover the inner areas (4) of the supporting parts forming the reflective areas of the struts, in that the scatter structures are in each case made either of two oblong sheet-metal parts (5, 6) or of prefabricated moulding material, in the event of sheet-metal parts being used, the latter enclosing, towards the supporting part of the strut, a space of approximately triangular cross-section and being connected to one another at the edge facing away from the supporting part of the strut, so that a sharp and corrugated edge (7), with the two metal sheets tapering off jointly, is produced there with a constant vertical distance from the supporting part of the strut, and in the event of the use of moulding material, the latter having an approximately triangular cross-section and being provided on the side, facing away from the supporting part (3) of the strut (1), with a sharp and corrugated edge having a constant vertical distance from the supporting part of the strut.

## Abstract (de)

Die bogenförmig gekrümmten Stützen (1) sind auf ihrer Reflexionsfläche jeweils mit einer Streustruktur (2) versehen, deren Abmessung in der Stützebene konstant ist, während sie senkrecht zur Stützebene einen regelmäßigen wellen- oder mäanderförmigen Verlauf aufweist. Nach der Erfindung ausgebildete Stützen sind insbesondere zur Halterung des Subreflektors einer Cassegrain-Antenne mit tiefem Hauptreflektor geeignet, z.B. bei einer Satellitenfunk-Bodenstationsantenne.

## IPC 1-7

**H01Q 19/02**; **H01Q 19/12**

## IPC 8 full level

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## CPC (source: EP)

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- [A] DE 3307548 A1 19840906 - DEUTSCHE BUNDESPOST [DE]
- [AD] GB 2081023 A 19820210 - MITSUBISHI ELECTRIC CORP, et al
- [AD] DE 3100855 A1 19820805 - DEUTSCHE BUNDESPOST [DE]
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- [A] PATENT ABSTRACTS OF JAPAN, Band 9, Nr. 75 (E-306) [1798], 4. April 1985, Seite 14 E 306; & JP-A-59 208 903 (NIPPON DENKI K.K.) 27.11.1984
- [A] IEEE TRANSACTIONS ON ANTENNAS AND PROPAGATION, Band AP-32, Nr. 7, Juli 1984, Seiten 698-705, IEEE, New York, US; T. SATOH et al.: "Sidelobe level reduction by improvement of strut shape"

## Cited by

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