

Title (en)
DEVICE FOR COMPENSATING CROSS-POLARIZED COMPONENTS IN AN ANTENNA WITH CURVED REFLECTOR AND OFF-SET PRIMARY FEED

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Application
EP 84111834 A 19841003

Priority
DE 3336418 A 19831006

Abstract (en)
[origin: EP0140199A2] 1. Device for compensating interfering cross-polarization components, caused by deflection at a curved reflector (9), in an antenna provided for linear polarization, the curved reflector of which receives offset radiation from a primary radiator (8), designed as a horn or waveguide radiator, in the waveguide feed (7) of which waves of a wave type higher in comparison with the fundamental wave are induced, which waves have the same amplitudes in phase opposition as the waves of that wave type which would induce the same interfering cross-polarization components as are actually caused by the curved reflector, characterized in that a mode coupler (6), constructed somewhat like a direction-finding wave coupler, is installed in the waveguide feed (7) of the primary radiator (8) and has an outer signal input (5), to which a corrector signal is applied which induces the respectively compensating wave of the higher wave type in the waveguide feed, in that the correction signal applied to the outer signal input (5) of the mode coupler (6) is taken from the output of an external correction signal path, along which there are arranged as a correcting network (4) passive phase and amplitude adjusters (10, 11) which have broadband effect, i.e. are frequency-adapted, and are dimensioned such that the necessary correction signal characteristic is adjusted over the desired frequency band, and in that the correction signal path is connected on its input side (2) via a coupler (3) to the part (1) of the waveguide feed only carrying the fundamental wave in such a way that a part of the fundamental wave signal is coupled into the correction signal path.

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