

Title (en)
MODE COUPLER IN AN AUTOMATIC ANGLE TRACKING SYSTEM

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Application
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Priority
SE 7901055 A 19790207

Abstract (en)
[origin: EP0014692A2] the invention relates to a mode coupler which, for example is included in an angle tracking system of a satellite to establish a telecommunication between the transmitting and the receiving ground stations. The mode coupler is realized through a circular main wave guide (1) which also can include the feeding horn of the satellite antenna in which a basic mode, for example the TE₁₁-mode of the incoming circular polarized wave guide field appears and which procures two communication channels (f₁-f₂ and f₃-f₄ respectively), as well as a beacon frequency (fb). To the main wave guide four rectangular wave guide arms (2a-2d) are connected via the associated apertures (3a-3d). The main wave guide is dimensioned as a mode filter for filtering away the non-desired higher modes TE₂₁ and TM₀₁ and the wave guide arms are dimensioned as a frequency filter for filtering away the frequency bands of the communication channels. From the higher modes TE₂₁ and TM₀₁, the difference- and the sum signals are created in known way to provide a measure of the angle error of the satellite antenna.

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Cited by
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