

Title (en)

Mode coupler in an automatic angle tracking system.

Title (de)

Wellentypkoppler für ein automatisches Winkelverfolgungssystem.

Title (fr)

Coupleur de mode dans un système de poursuite automatique en angle.

Publication

EP 0014692 A2 19800820 (EN)

Application

EP 80850014 A 19800206

Priority

SE 7901055 A 19790207

Abstract (en)

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 (f_b). 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.

IPC 1-7

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IPC 8 full level

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CPC (source: EP)

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Cited by

CN116581550A; FR2498336A1; EP1672739A1; GB2163909A; CN103094718A; EP1369955A3; US2013207859A1; US9843099B2; WO2012172565A1; US9735470B2; WO2013121221A3

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