

Title (en)

DEVICE FOR FORMING BEAMS UPON RECEPTION FOR AN ANTENNA HAVING RADIATING ELEMENTS

Title (de)

EINRICHTUNG ZUR BILDUNG VON STRAHLEN BEIM EMPFANG FÜR EINE ANTENNE MIT STRAHLUNGSELEMENTEN

Title (fr)

DISPOSITIF DE FORMATION DE FAISCEAUX A LA RECEPTION POUR UNE ANTENNE A ELEMENTS RAYONNANTS

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Application

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Abstract (en)

[origin: WO2005119842A1] The invention relates to a device for forming beams upon reception for an antenna having radiating elements. The device comprises at least: N optical sources (2) of respective wavelengths ($\lambda_1, \dots, \lambda_N$), one optical source being assigned to a radiating element (11) in such a manner that a carrier of the optical wave is frequency modulated by the microwave received by the radiating element, and; an optical multiplexer (3) of which the transmission windows (32) correspond to the wavelengths ($\lambda_1, \dots, \lambda_N$) and receive, at the entry, N optical waves, the output of the multiplexer being coupled to m optical media (6) each having a given chromatic dispersion, each optical medium being connected to an opto-microwave converter (7), the microwave at the output of a converter (7) entering a receiving path ($V_1, \dots, V_j, \dots, V_m$), the direction of the emission beam of a path V_j being a function of the path in the optical medium and of the chromatic dispersion of the optical medium. The invention is particularly used for an electronic scanning antenna for simultaneously creating a number of beams in the receiving pattern.

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