

Title (en)

Phased array antenna with optical beamforming device.

Title (de)

Gruppenantenne mit optischem Strahlformungs-Netzwerk.

Title (fr)

Réseau d'antennes à commande de phase à dispositif de commande de faisceau opto-électronique.

Publication

EP 0623969 A3 19951227 (DE)

Application

EP 94106631 A 19940428

Priority

DE 4314406 A 19930503

Abstract (en)

[origin: EP0623969A2] A two-dimensional active antenna array, in particular, is proposed having an optical beam-forming network for on-board radar and Synthetic Aperture Radar (SAR) using x-band. Special shapes of the antenna aperture, use and frequency band are possible. A transmitted signal or local oscillator signal in the microwave frequency band and an alternatively additional digital signal modulate a central electrooptic transducer, using the time-division multiplex method. The optical heterodyne signal of this electrooptical transducer is injected into an optical beam-forming network, is amplified via at least one optical amplifier and is transferred to the individual T/R modules in a corresponding manner via optical dividers. After conversion of the optical signals by means of an optoelectrical transducer, and after phase-weighting and amplitude-weighting of the microwave signals, amplification is carried out followed by emission of the electromagnetic signal by means of aerial elements. Based on this arrangement, a further active antenna array is described which uses the beam-forming network bidirectionally. <IMAGE>

IPC 1-7

H01Q 3/26

IPC 8 full level

H01Q 3/26 (2006.01)

CPC (source: EP)

H01Q 3/2676 (2013.01)

Citation (search report)

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