

Title (en)

Magnified phased array with a digital beamforming network.

Title (de)

Vergrößerte phasengesteuerte Gruppenantenne mit digitalem Strahlformungsnetzwerk.

Title (fr)

Antenne à balayage électronique à grossissement avec un réseau numérique de formation de faisceaux.

Publication

EP 0446610 A1 19910918 (EN)

Application

EP 91101693 A 19910207

Priority

US 49002890 A 19900307

Abstract (en)

A magnified phased array antenna system (10) incorporating a digital beamforming network (22) therein. The magnified phased array antenna system (10) comprises a reflector system (12) employing a transfer lens (14) disposed at the focal plane of the reflector system (12) and an antenna array (20) which illuminates or receives energy from the transfer lens (14). In satellite to/from ground links where the field of view is limited, the present invention achieves adequate gain using a minimum number of antenna elements. The digital beamforming network (22) provides multibeam capability in an effective manner. The digital beamforming network (22) provides for fast scanning spot beams and reconfigurable area coverage beams. The present invention has a reduced number of elements, and its reliability is improved because of redundancy in the array. The use of digital beamforming provides for multiple, simultaneous, reconfigurable beams. <IMAGE>

IPC 1-7

H01Q 3/26

IPC 8 full level

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CPC (source: EP)

H01Q 3/2658 (2013.01); **H01Q 25/008** (2013.01)

Citation (search report)

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