Title (en)

ANTENNA SYSTEM FOR ENHANCING THE COVERAGE AREA, RANGE AND RELIABILITY OF WIRELESS BASE STATIONS

Title (de)

ANTENNENSYSTEM ZUR VERBESSERUNG DES ERFASSUNGSBEREICHS, DER REICHWEITE UND DER ZUVERLÄSSIGKEIT DRAHTLOSER BASISSTATIONEN

Title (fr)

SYSTEME D'ANTENNE AMELIORANT LA ZONE DE COUVERTURE, LA PORTEE ET LA FIABILITE DE STATIONS DE BASE SANS FIL

Publication

EP 0943164 A1 19990922 (EN)

Application

EP 97909849 A 19970915

Priority

- US 9716338 W 19970915
- US 2619196 P 19960916

Abstract (en)

[origin: WO9811626A1] An active antenna system which has a plurality of antenna elements arranged in a column with each element or subarray of elements integrated with an amplifier and other beam forming components. A separate amplifier and filter are disposed immediately adjacent and connected to each of the antenna elements or a subarray of antenna elements and a separate combiner/divider is connected to each of the amplifiers. The antenna elements, amplifier and filter are disposed on a common support. A base station is connected by the feed cables and is remote from each amplifier. A first group of the antenna elements with low power amplifiers forms a transmitting antenna system and/or a second group of the active antenna elements with low noise amplifiers forms a receiving antenna system. A variable attenuator and a variable phase shift circuit can be integrated with each amplifier and can be used for beam shaping and electronic beam pointing. For diversity combining, spatially separated or polarization diverse active antennas are used. For polarization diverse active antennas, implementation involves a shared column or two colocated orthogonally polarized columns.

IPC 1-7

H01Q 23/00; H01Q 21/08; H01Q 21/28; H01Q 21/29; H01Q 21/00

IPC 8 full level

H01Q 21/30 (2006.01); **H01Q 3/24** (2006.01); **H01Q 21/00** (2006.01); **H01Q 21/08** (2006.01); **H01Q 21/24** (2006.01); **H01Q 21/28** (2006.01); **H01Q 21/29** (2006.01); **H01Q 23/00** (2006.01); **H04B 7/00** (2006.01); **H04B 7/08** (2006.01); **H04B 7/10** (2006.01)

CPC (source: EP KR)

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