

Title (en)

Method of changing the down-tilt angle of an antenna, in particular of a base station antenna

Title (de)

Verfahren zur Veränderung eines Absenkwinkels einer Antenne, insbesondere einer zu einer Basisstation gehörenden Mobilfunkantenne

Title (fr)

Procédé pour changer l'inclinaison du faisceau d'une antenne, en particulier d'une antenne d'une station de base

Publication

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Application

**EP 04013187 A 20020131**

Priority

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- EP 02716706 A 20020131

Abstract (en)

[origin: WO02061877A2] The invention relates to an improved antenna control device and to a corresponding antenna and a corresponding improved method. The invention is characterized in that the control device (13) comprises a control electronics (41), and that said control device (13) further comprises an electric motor (51). An antenna control device can be retrofitted outside the protective cover for mobile radio antennae or preferably as a complete unit below said protective cover.

IPC 8 full level

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Cited by

DE102008059333A1; DE102014002169A1; CN103151598A; CN103872458A; DE102008053851A1; DE102008053850A1; WO2010049094A1;  
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AU 2002247672 B2 20040805; BR 0203845 A 20030325; BR PI0203845 B1 20150922; CA 2434369 A1 20020808; CA 2434369 C 20080930;  
CN 100372175 C 20080227; CN 1541430 A 20041027; DE 10104564 C1 20020919; DE 50207225 D1 20060727; DE 50207997 D1 20061012;  
EP 1356539 A2 20031029; EP 1356539 B1 20060830; EP 1455413 A1 20040908; EP 1455413 B1 20060614; ES 2266959 T3 20070301;  
ES 2269662 T3 20070401; JP 2004518377 A 20040617; JP 3913678 B2 20070509; KR 100609205 B1 20060802; KR 20020080497 A 20021023;  
NZ 526457 A 20050527; US 2003109231 A1 20030612; US 2005272470 A1 20051208; US 7031751 B2 20060418; US 7366545 B2 20080429;  
ZA 200207136 B 20021129

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CA 2434369 A 20020131; CN 02800238 A 20020131; DE 10104564 A 20010201; DE 50207225 T 20020131; DE 50207997 T 20020131;  
EP 02716706 A 20020131; EP 04013187 A 20020131; ES 02716706 T 20020131; ES 04013187 T 20020131; JP 2002561313 A 20020131;  
KR 20027012276 A 20020917; NZ 52645702 A 20020131; US 13550605 A 20050524; US 24031702 A 20021017; ZA 200207136 A 20020905