

Title (en)

IMPROVED CROSSTALK IDENTIFICATION FOR SPECTRUM MANAGEMENT IN BROADBAND TELECOMMUNICATIONS SYSTEMS

Title (de)

VERBESSERTE ÜBERSPRECHIDENTIFIKATION ZUR SPEKTRUMVERWALTUNG IN BREITBANDIGEN TELEKOMMUNIKATIONSSYSTEMEN

Title (fr)

IDENTIFICATION AMELIOREE DE LA DIAPHONIE POUR LA GESTION DU SPECTRE DANS DES SYSTEMES DE TELECOMMUNICATIONS  
LARGE BANDE

Publication

**EP 1413121 A4 20060111 (EN)**

Application

**EP 02756814 A 20020731**

Priority

- US 0224187 W 20020731
- US 30907501 P 20010731

Abstract (en)

[origin: WO03013109A1] Crosstalk between subscriber loops used to transmit different broadband services through the same bundled telephone cable is a significant limitation to providing digital subscriber line services. A method for estimating the crosstalk, identifying the sources of the crosstalk and predicting additional sources of crosstalk are disclosed. The crosstalk sources are identified in the frequency domain by maximizing the correlation (530) with a "basis set" of received crosstalk PSDs which consist of the cascade of a finite set of known transmit PSDs types times a representative set of crosstalk couplings. Multiple crosstalk types are identified with a technique of successive spectral subtraction. Once a type is identified the crosstalk disturber is compared against all other members of the complete set for that type. Additionally, Multiple Regression (MR) techniques and a Matching Pursuit (MP) algorithm (535) are used to increase the ability of the system and method to identify various crosstalk disturbers.

IPC 1-7

**H04M 1/00**; **H04M 9/00**; **H04M 1/24**; **H04M 3/08**; **H04M 3/22**; **H04M 11/00**; **H04B 15/00**; **H04J 1/12**; **H04J 15/00**; **H04J 3/10**; **H04L 1/24**

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CPC (source: EP)

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Citation (search report)

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- [Y] US 5987055 A 19991116 - DUQUE-ANTON JESUS-MANUEL [DE], et al
- [A] WO 9806186 A1 19980212 - NORTHERN TELECOM LTD [CA]
- [X] US 5243299 A 19930907 - MARCHETTO ROBERT F [CA], et al
- See references of WO 03013109A1

Designated contracting state (EPC)

DE FR GB IT SE

DOCDB simple family (publication)

**WO 03013109 A1 20030213**; CA 2454239 A1 20030213; EP 1413121 A1 20040428; EP 1413121 A4 20060111; JP 2004537926 A 20041216; JP 4498737 B2 20100707

DOCDB simple family (application)

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