

Title (en)

Active acoustic attenuation system based on overall system test modeling

Title (de)

Aktive Schalldämmungsanordnung auf der Basis von Gesamtsystem-Prüfmodellierung

Title (fr)

Dispositif d'atténuation sonore actif sur la base d'une modélisation de test du système global

Publication

**EP 1107226 A3 20030502 (EN)**

Application

**EP 00310643 A 20001130**

Priority

US 45221399 A 19991201

Abstract (en)

[origin: EP1107226A2] An active acoustic attenuation system for attenuating tonal disturbances uses an overall system test model Q to determine adjustable control parameters in the control model A. The overall system test model Q is an adaptive model which receives a system reference signal as model input and receives a combination of its model output signal and the output of an error sensor as error input. In the preferred SISO embodiment, the system is operated in test mode to determine optimum values for the control model A. A first version of a test control model Atest(1) is selected which includes a first set of test values for adjustable control parameters in the control model A. The system is operated in test mode to adaptively determine a first solution of the overall test model Q(1). Then, a second version of a test control model Atest(2) which includes a second set of test values for adjustable control parameters in the control model A is selected. The system is again operated in test mode to adaptively determine a second solution of the overall test model Q(2). The values Atest(1), Atest(2), Q(1), and Q(2) are then used to solve a set of linear equations to determine the optimum value of the control model A ( $A = -PE/SE$ ), where PE represents an acoustic path between the input sensor and the error sensor and SE is the auxiliary path between the output of the control model A and the error sensor. Multiple input, multiple output (MIMO) embodiments of the invention are also disclosed. <IMAGE>

IPC 1-7

**G10K 11/178**

IPC 8 full level

**G10K 11/178** (2006.01)

CPC (source: EP US)

**G10K 11/17815** (2017.12 - EP US); **G10K 11/17817** (2017.12 - EP US); **G10K 11/17823** (2017.12 - EP US); **G10K 11/17825** (2017.12 - EP US); **G10K 11/17854** (2017.12 - EP US); **G10K 11/17881** (2017.12 - EP US); **G10K 11/17883** (2017.12 - EP US)

Citation (search report)

- [X] US 5844996 A 19981201 - ENZMANN DIETER [US], et al
- [A] US 5680337 A 19971021 - PEDERSEN DOUGLAS G [US], et al
- [A] US 5625684 A 19970429 - MATOUK ANTHONY F [US], et al
- [X] TANAKA M ET AL: "A BLOCK EXACT FAST AFFINE PROJECTION ALGORITHM", IEEE TRANSACTIONS ON SPEECH AND AUDIO PROCESSING, IEEE INC. NEW YORK, US, vol. 7, no. 1, January 1999 (1999-01-01), pages 79 - 86, XP000890827, ISSN: 1063-6676

Cited by

WO2006050699A1

Designated contracting state (EPC)

AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR

DOCDB simple family (publication)

**EP 1107226 A2 20010613**; **EP 1107226 A3 20030502**; AU 7149300 A 20010621

DOCDB simple family (application)

**EP 00310643 A 20001130**; AU 7149300 A 20001109