



(12) EUROPEAN PATENT APPLICATION

(88) Date of publication A3:
29.12.1997 Bulletin 1997/52

(51) Int. Cl.⁶: G10K 11/178

(43) Date of publication A2:
24.01.1996 Bulletin 1996/04

(21) Application number: 95304332.0

(22) Date of filing: 21.06.1995

(84) Designated Contracting States:
DE ES FR GB IT NL SE

(72) Inventor:
Swinbanks, Malcolm Alexander
Cambridge CB4 1JN (GB)

(30) Priority: 18.07.1994 GB 9414484
04.08.1994 GB 9415763

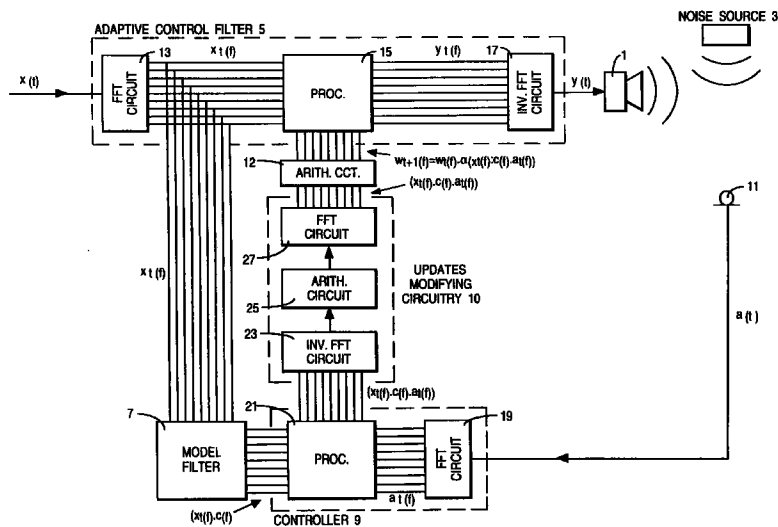
(74) Representative:
McGowan, Nigel George
The General Electric Company plc
GEC Patent Department
Waterhouse Lane
Chelmsford, Essex CM1 2QX (GB)

(71) Applicant: GEC-MARCONI LIMITED
Stanmore, Middlesex HA7 4LY (GB)

(54) An apparatus for cancelling vibrations

(57) An apparatus for cancelling vibrations comprising: means for providing a reference signal representative of the vibrations to be cancelled; filter means (5) comprising means (13) for resolving the reference signal into its frequency components, means (15) for applying weights to these frequency components, and means (17) for combining the weighted frequency components to provide an output signal of said filter means (5); and actuator means (1) responsive to said output signal to produce vibrations which destructively interfere

with the vibrations to be cancelled, said means (13) for resolving utilising N updates of said reference signal to resolve it into its frequency components, said means (13) for resolving being updated by n times between successive resolutions of the reference signal into its frequency components where $1 < n < N$, there being a correlation between the weights applied by said means (15) for applying so as to reduce discontinuity in the operation of said filter means (5).





European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 95 30 4332

| DOCUMENTS CONSIDERED TO BE RELEVANT | | | |
|---|--|---|--|
| Category | Citation of document with indication, where appropriate, of relevant passages | Relevant to claim | CLASSIFICATION OF THE APPLICATION (Int.Cl.6) |
| D,Y | GB 2 107 960 A (CHAPLIN GEORGE BRIAN BARRIE) * page 3, line 45 - page 6, line 3; figures 1-6 * | 1-4 | G10K11/178 |
| A | --- | 6 | |
| Y | WO 88 03341 A (FUJITSU LTD) * page 1, line 5 - page 12, line 2; figures 9-14 * | 1-4 | |
| A | --- | 5 | |
| A | WO 89 06877 A (BRITISH TELECOMM) * page 4, line 30 - page 15, line 23; figures 1-6 * | 1,2 | |
| A | WO 94 09480 A (LOTUS CAR ;STOTHERS IAN (GB); MCDONALD ANTHONY MALCOLM (GB); HUTCH) | | |
| A | US 5 309 378 A (BEIERLE ROBERT T) | | |
| A | US 5 233 540 A (ANDERSSON ANDERS O ET AL) | | TECHNICAL FIELDS SEARCHED (Int.Cl.6) |
| | | | G10K |
| The present search report has been drawn up for all claims | | | |
| Place of search | | Date of completion of the search | Examiner |
| THE HAGUE | | 4 November 1997 | Albertsson, E |
| CATEGORY OF CITED DOCUMENTS | | T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document | |
| X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document | | | |

EPO FORM 1503 03 82 (P04C01)