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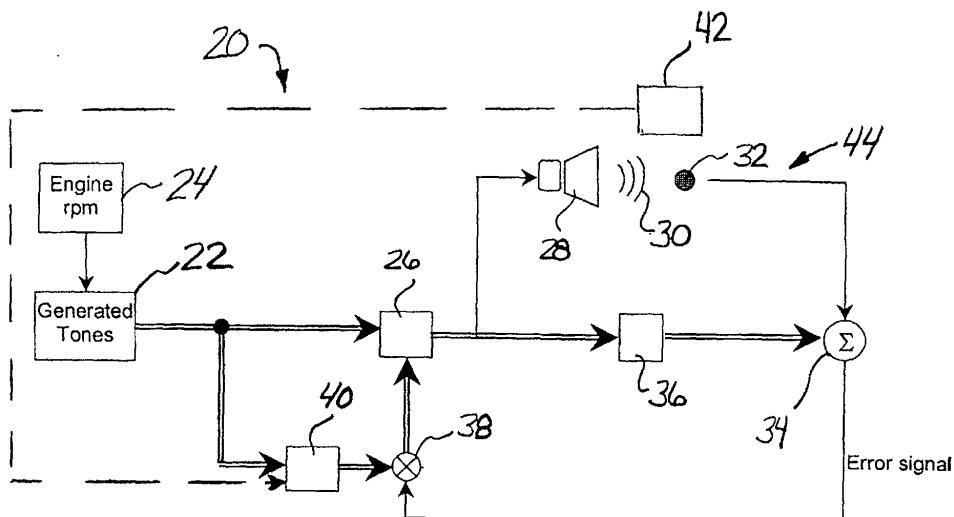
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### (54) Active noise cancellation using frequency response control

(57) An active noise cancellation system (20) includes using a frequency domain response of a secondary path (44) of the system. The frequency domain response information provides an indication of a desired magnitude and phase of a reference signal that is used for generating a cancellation signal that drives a speaker (28) to achieve the desired amount of noise cancellation. Using a frequency domain response greatly reduc-

es the number of computations required and the amount of memory used within the system controller. In one example, a reference signal adjustment module (40) applies the desired magnitude and phase adjustments to a reference signal having a known frequency. In another example, the referenced signal tone generator (22, 40) incorporates the desired amplitude and phase in the reference signal.





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## EUROPEAN SEARCH REPORT

Application Number  
EP 02 07 9479

DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (Int.Cl.7)						
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim							
X	US 5 768 124 A (BOWLES C L ET AL) 16 June 1998 (1998-06-16)  * column 5, line 58 - column 6, line 58 * * column 7, line 49 - column 8, line 47 * * column 10, line 8 - column 11, line 9 * * figures 3,6,7 *  ---	1-5,7,8, 10-12, 14,16	G10K11/178						
A	US 5 692 052 A (KATO MASANORI ET AL) 25 November 1997 (1997-11-25) * column 10, line 17 - line 21; figure 17 *  ---	6,13							
A	US 6 208 949 B1 (EATWELL GRAHAM P) 27 March 2001 (2001-03-27) * column 15, line 57 - column 17, line 5 *  ----	9,15,17							
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)						
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<p>The present search report has been drawn up for all claims</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%;">Place of search</td> <td style="width: 33%;">Date of completion of the search</td> <td style="width: 34%;">Examiner</td> </tr> <tr> <td>THE HAGUE</td> <td>28 November 2003</td> <td>Häusser, T</td> </tr> </table>				Place of search	Date of completion of the search	Examiner	THE HAGUE	28 November 2003	Häusser, T
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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							
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ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.

EP 02 07 9479

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