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(54) Acoustical feedback suppression for audio amplification systems

(57) A method of acoustic feedback suppression, comprising the steps of:-
i). obtaining digitized time-domain samples of acoustic signals,
ii). performing discrete time-frequency transformation on the digitized time-domain samples to generate a plurality

of frequency bins of a frequency resolution,
iii). identifying a howling frequency bin, said howling frequency having the maximum magnitude among the plurality of frequency bins,
iv). detecting a peak frequency within said howling frequency bin for suppression, and
v). suppressing said peak frequency.

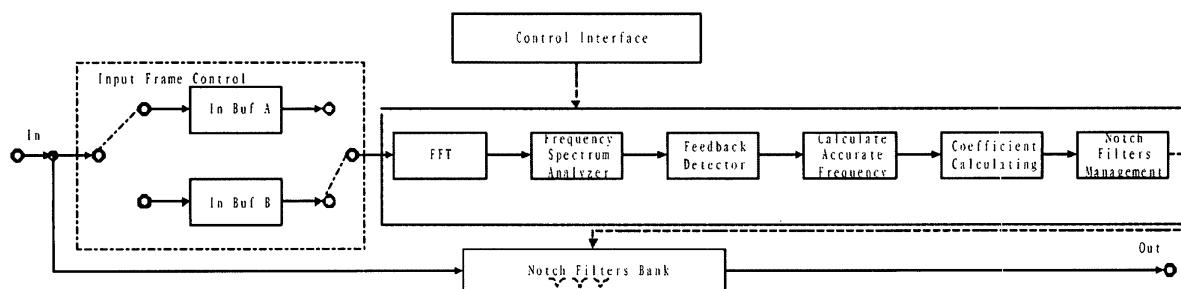


Fig. 2



DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (IPC)
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
X	US 2003/210797 A1 (KREIFELDT RICHARD A [US] ET AL) 13 November 2003 (2003-11-13) * paragraph [0010] - paragraph [0044]; figures 2,5,7,8,10 *	1-6,9-25	INV. H04R3/02
Y	-----	7,8	
D, Y	WO 98/05135 A (SHURE BROS [US]) 5 February 1998 (1998-02-05) * figure 3 *	7,8	
A	DOUGLAS F. ELLIOTT: "Handbook of Digital Signal Processing Engineering Applications" 1987, ACADEMIC PRESS INC , SAN DIEGO 1 , XP002485878 ISBN: 0-12-237075-9 * page 14 * * pages 722-723 *	2-4,12,18	
A	US 6 125 187 A (HANAJIMA MITSURU [JP] ET AL) 26 September 2000 (2000-09-26) * the whole document *	1,24	

The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (IPC)
2	Place of search	Date of completion of the search	Examiner
	The Hague	26 June 2008	Will, Robert
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			

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

26-06-2008

Patent document cited in search report		Publication date		Patent family member(s)		Publication date
US 2003210797	A1	13-11-2003	US	2006056644 A1		16-03-2006
WO 9805135	A	05-02-1998	EP	0976208 A1		02-02-2000
			US	5999631 A		07-12-1999
US 6125187	A	26-09-2000		NONE		