

(19)



Europäisches Patentamt  
European Patent Office  
Office européen des brevets



(11) Publication number:

**0 410 157 A3**

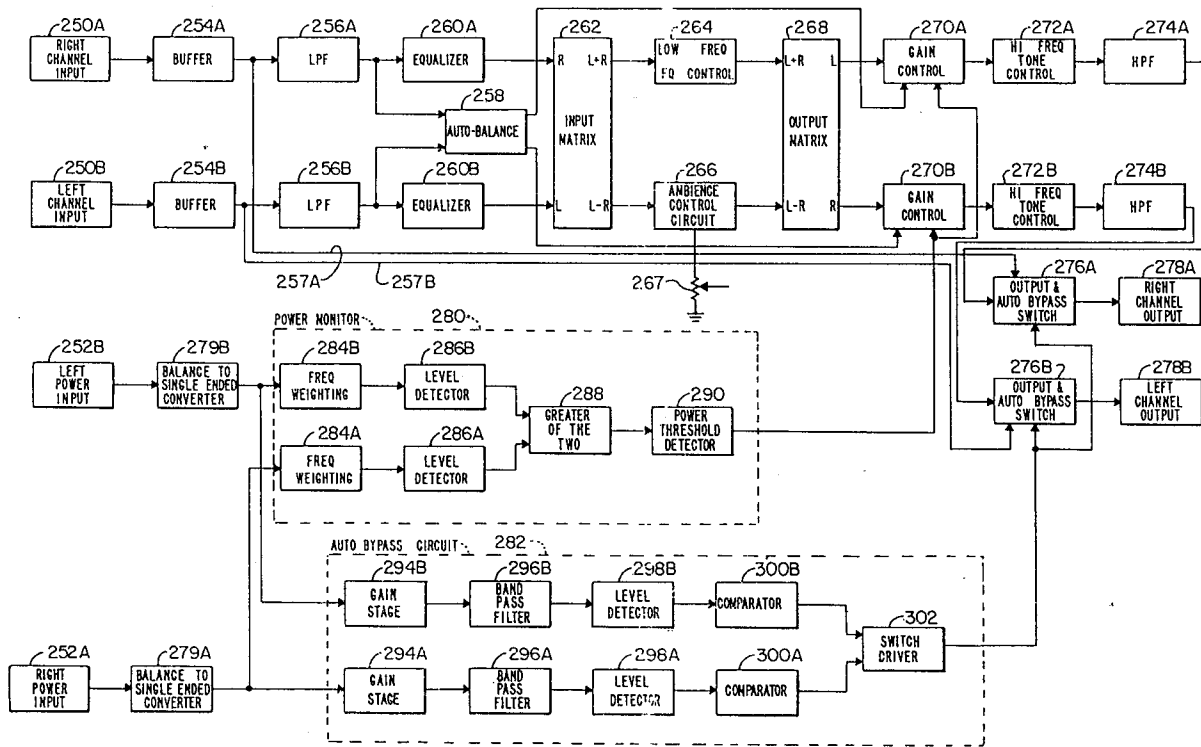
(12)

**EUROPEAN PATENT APPLICATION**(21) Application number: **90112338.0**(51) Int. Cl.<sup>5</sup>: **H04R 3/00, H04S 7/00,  
H03G 3/20**(22) Date of filing: **30.05.84**(30) Priority: **03.06.83 US 500972**(43) Date of publication of application:  
**30.01.91 Bulletin 91/05**(60) Publication number of the earlier application in  
accordance with Art.76 EPC: **0 127 886**(84) Designated Contracting States:  
**BE DE FR GB IT LU NL**(88) Date of deferred publication of the search report:  
**08.07.92 Bulletin 92/28**(71) Applicant: **Mills-Ralston, Inc.**  
**433 California Street Third Floor**  
**San Francisco, CA 94014(US)**(72) Inventor: **Davis, Mark F.**  
**97 Ashcroft Road**  
**Medford Massachusetts 02155(US)**(74) Representative: **Feldkamp, Rainer, Dipl.-Ing.**  
**Patentanwälte Wallach, Koch, Dr. Haibach,**  
**Feldkamp et al**  
**P.O. Box 121120**  
**W-8000 München 12(DE)**(54) **Signal processing system for use with an audio reproduction system.**

(57) A signal processing system for use with an audio reproduction system comprises a pair of input terminals for respectively receiving a pair of stereophonic audio input signals, a pair of output terminals for respectively providing a pair of stereophonic audio output signals and a pair of signals paths for respectively transmitting said two input signals between said input and output terminals. Means (408A, 408B) are coupled to each of said input terminals (250A, 250B) for detecting the signal energy levels of each of the corresponding input signals. The detected signal energy levels of said audio input

signals are compared in means (428) for generating a difference signal in response to and as a function of said comparison. Means (270A, 270B) responsive to said difference signal are coupled between the system input and output terminals (250A, 250B, 278A, 278B) of at least one of said signal paths for varying the signal gain impressed on the input signal transmitted over said at least one path as a function of said difference signal so that said signal energy levels of said output signals are substantially balanced over relatively long periods of time.

**EP 0 410 157 A3**





European Patent  
Office

## EUROPEAN SEARCH REPORT

Application Number

EP 90 11 2338

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.4)
X	US-A-3 772 479 (HILBERT)	1	H04R3/00
A	* column 1, line 31 - line 61 *	2	H04S7/00
	* column 2, line 52 - column 3, line 25 *		H03G3/20
	* column 3, line 60 - column 4, line 2 *		
	* column 4, line 29 - line 58 *		
	* column 5, line 3 - line 15 *		
	* column 6, line 56 - line 58 *		
	* column 9, line 10 - line 19 *		
	---		
A	US-A-4 113 984 (GILBERT ET AL.)	1,2	
	* column 1, line 9 - line 12 *		
	* column 2, line 46 - column 3, line 29 *		
	-----		
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 08 MAY 1992	Examiner ZANTI P. V. L.
<b>CATEGORY OF CITED DOCUMENTS</b>			
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			
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			