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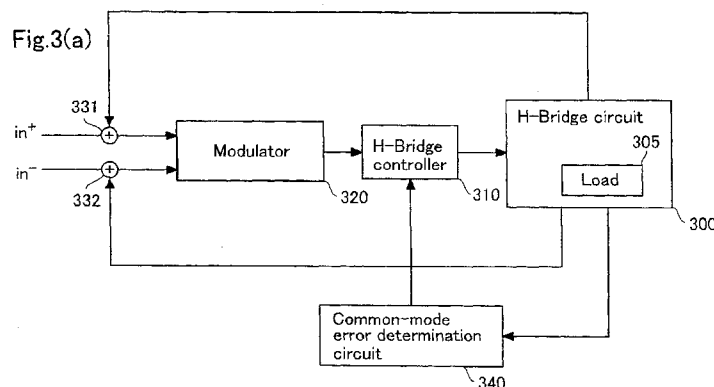
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(54) Title: APPARATUS AND METHOD FOR CONTROLLING A COMMON-MODE VOLTAGE OF SWITCHING AMPLIFIERS



(57) Abstract: The present invention relates to an H-bridge controller and method for controlling a common-mode voltage and/or current of an H-bridge circuit. The H-bridge controller comprises a section for receiving a signal indicating at least one of a common-mode voltage and common-mode current of the H-bridge circuit, and a section for generating control signals which determine switching of the H-bridge circuit so as to control at least one of the common-mode voltage and common-mode current of the H-bridge circuit. The present invention also relates to a system and method for controlling a common-mode voltage and/or current of an H-bridge circuit, the system comprising a modulator for receiving an input signal, modulating the received input signal, and generating a digital signal, an H-bridge controller for receiving the digital signal and generating control signals for controlling operation of the H-bridge circuit, an H-bridge circuit for receiving the control signals and operating based on the received control signals so as to output an analog signal to a load, and a common-mode error determination circuit for generating an error signal indicating at least one of an error of a common-mode voltage and an error of a common-mode current of the H-bridge circuit, wherein the H-bridge controller receives the error signal and generates the control signals based on the received digital signal and the received error signal so as to reduce variations in at least one of an average of the common-mode voltage and an average of the common-mode current of the H-bridge circuit.

WO 2008/060556 A3

# INTERNATIONAL SEARCH REPORT

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PCT/US2007/023893

**A. CLASSIFICATION OF SUBJECT MATTER**  
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According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)  
H03F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2004/227567 A1 (LLEWELLYN WILLIAM D [US]) 18 November 2004 (2004-11-18) paragraphs [0007], [0021]; figure 1 -----	1-38
A	US 6 735 302 B1 (CAINE STEVEN L [US] ET AL) 11 May 2004 (2004-05-11) column 8, line 1 - line 55; figure 6 -----	1-38
A	US 6 778 009 B1 (LEE BUMHA [US]) 17 August 2004 (2004-08-17) the whole document -----	1-38

Further documents are listed in the continuation of Box C.

See patent family annex.

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# INTERNATIONAL SEARCH REPORT

Information on patent family members

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2004227567	A1	18-11-2004	NONE
US 6735302	B1	11-05-2004	NONE
US 6778009	B1	17-08-2004	NONE