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(54) Title: RADIO FREQUENCY POWER AMPLIFIER AND METHOD USING AN AMPLITUDE CONTROL SYSTEM

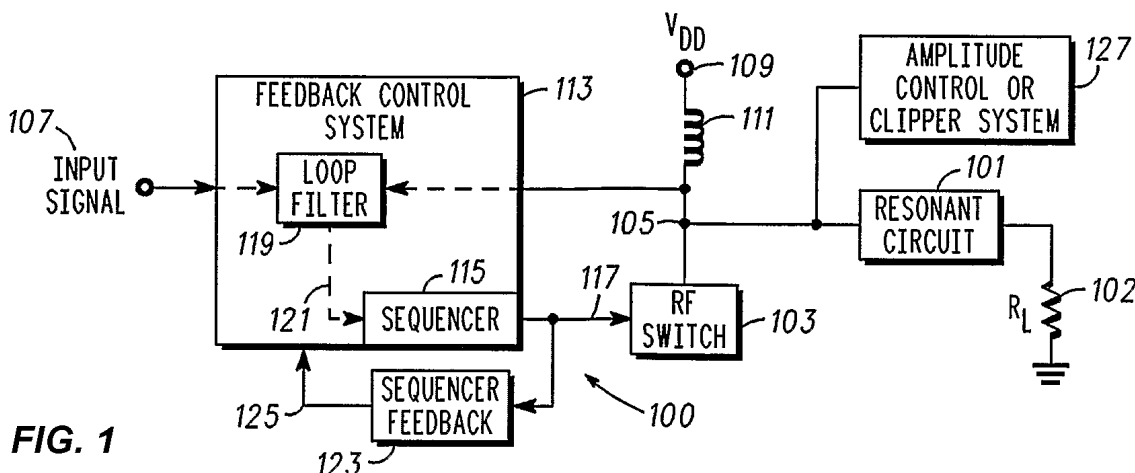


FIG. 1

(57) Abstract: A radio frequency power amplifier and corresponding method is arranged and configured to drive a resonant load. The radio frequency power amplifier includes a radio frequency switching stage with an output that is coupled to a resonant circuit. The switching stage is configured to provide an output signal with amplitude modulation corresponding to amplitude modulation of an input signal when powered from a fixed voltage power supply. The amplifier further includes a feedback control system coupled to the input signal and the output signal, where the feedback control system includes a sequencer configured to provide a sequencer output that is used to drive the radio frequency switching stage. The amplifier also includes an amplitude control system coupled to the output of the radio frequency switching stage and configured to limit an amplitude of the output signal and in some embodiments a power recovery system.

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## A. CLASSIFICATION OF SUBJECT MATTER

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US Cl. 375/297 330/251

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)

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 practicable, search terms used)

DWPI, USPTO + keywords (RF, radio frequency, power amplifier, feedback, sequence, switching, clipping, diode, reference voltage, recover and similar terms)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 2002/089322 A1 (TELEFONAKTIEBOLAGET LM ERICSSON) 7 November 2002 Whole document especially pages 3, 4, 7, 9-15, and figures 2 and 3.	1, 13, 25, 26
Y	Whole document especially pages 3, 4, 7, 9-15, and figures 2 and 3.	2, 3, 14, 15, 27
Y	US 3968384 A (TRACEY et al.) 6 July 1976 Figure 1 and columns 1 and 2.	2, 3, 14, 15, 27
A	US 6630899 B2 (JAYARAMAN) 7 October 2003	
A	US 6373334 B1 (MELANSON) 16 April 2002	

Further documents are listed in the continuation of Box C

See patent family annex

* Special categories of cited documents:		
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"P" document published prior to the international filing date but later than the priority date claimed		

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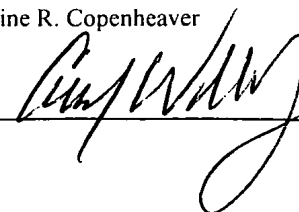
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This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. These particulars are merely given for the purpose of information.

Patent Document Cited in Search Report	Patent Family Member		
WO 2002/089322	EP 1393438	SE 0101475	US 2004/0109512
US 3968384	CA 1069595		
US 6630899	AU 80695/01 WO 2002/009273	US 2002/0050856	US 2002/0102971
US 6373334	AU 64865/01	EP 1374411	WO 2001/097384
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