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(71) Applicant *(for all designated States except US)*: **RAMBUS INC.** [US/US]; 4440 El Camino Real, Los Altos, CA 94022 (US).

(72) Inventors; and

(75) Inventors/Applicants *(for US only)*: **PALMER, Robert, E.** [US/US]; 236 Sweet Bay Place, Carrboro, NC 27510 (US). **POULTON, John, W.** [US/US]; 8720 Union Grove Church Road, Chapel Hill, NC 27516 (US).

(74) Agent: **BEHIEL, Arthur, J.**; Silicon Edge Law Group LLP, 6601 Koll Center Parkway, Suite 245, Pleasanton, CA 94566 (US).

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(54) Title: DIFFERENTIAL RECEIVER WITH COMMON-GATE INPUT STAGE

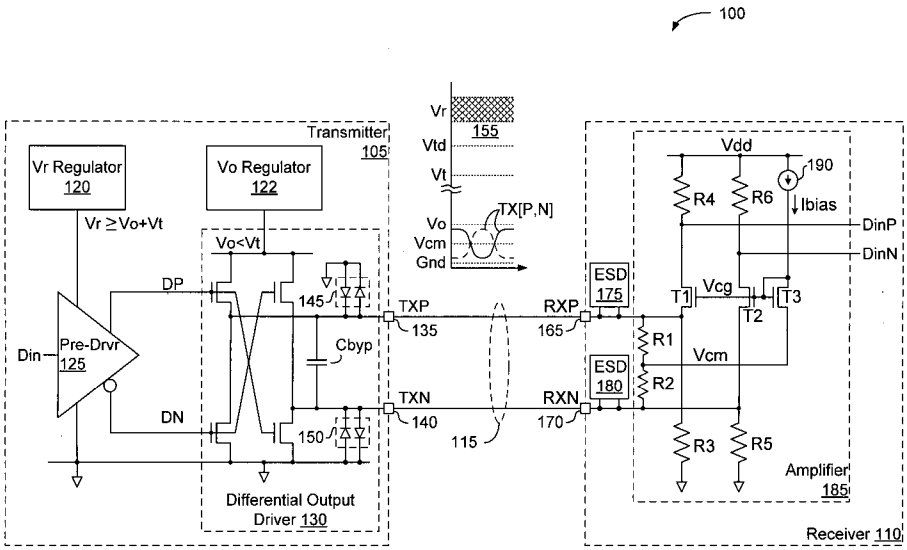

Fig. 1

(57) Abstract: A low-voltage differential communication system includes a low- and programmable-swing voltage-mode transmitter that delivers a low- voltage differential signal to a receiver via differential channel. The receiver employs two input transistors, each in a common-gate configuration, to recover the low- voltage differential signal. A current source in the receiver biases the input transistors such that their source voltages are nominally biased at the common- mode voltage of the differential signal, and their gate-source voltages remain essentially constant with common-mode-voltage fluctuations.

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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)
H04L 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.
X	RAZAVI ET AL.: "Low voltage techniques for high speed digital bipolar circuits" 19930519; 19930519 - 19930521, 19 May 1993 (1993-05-19), pages 31-32, XP010540498 figure 6 -----	1-23
X,P	US 2007/222484 A1 (ELDREDGE) 27 September 2007 (2007-09-27) figure 2 -----	1-23
A	WEI LAN ET AL.: "A new structure of low-noise CMOS differential amplifier" INTERNATIONAL CONFERENCE ON ASIC, vol. 1, 24 October 2005 (2005-10-24), pages 410-413, XP010904442 Piscataway, US figure 1 -----	1-23

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Name and mailing address of the ISA/	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Scriven, Paul

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International application No
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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages.	Relevant to claim No.
A	CHERRY: "Common-base-input operational amplifiers" IEE PROCEEDINGS: CIRCUITS DEVICES AND SYSTEMS, vol. 152, no. 6, 9 December 2005 (2005-12-09), pages 757-760, XP006025486 Stevenages, UK abstract	1-23

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 2007222484 A1	27-09-2007	NONE	