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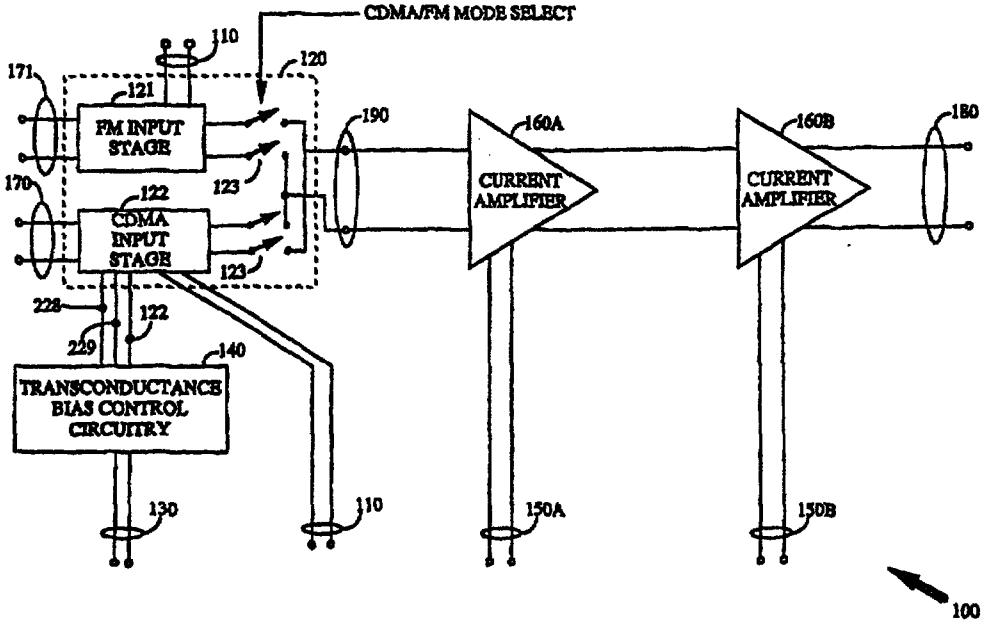
(54) Title: HIGH DYNAMIC RANGE VARIABLE GAIN AMPLIFIER



(57) Abstract

A multi-stage low power, high dynamic range variable gain amplifier (100) comprises an input stage (120) cascaded with one or more current amplifier stages (160A, 160B) whereby the gain of each stage (120) may be independently controlled. The input stage (120) may be comprised of a variable transconductance amplifier (227) using variable emitter degeneration. The current amplifier (160A, 160B) may be comprised of a differential Darlington amplifier (510) coupled to a differential cascode amplifier (520). The transconductance amplifier (227) converts an input voltage signal to a current signal. The variable gain amplifier (100) is designed for efficient low power operation.