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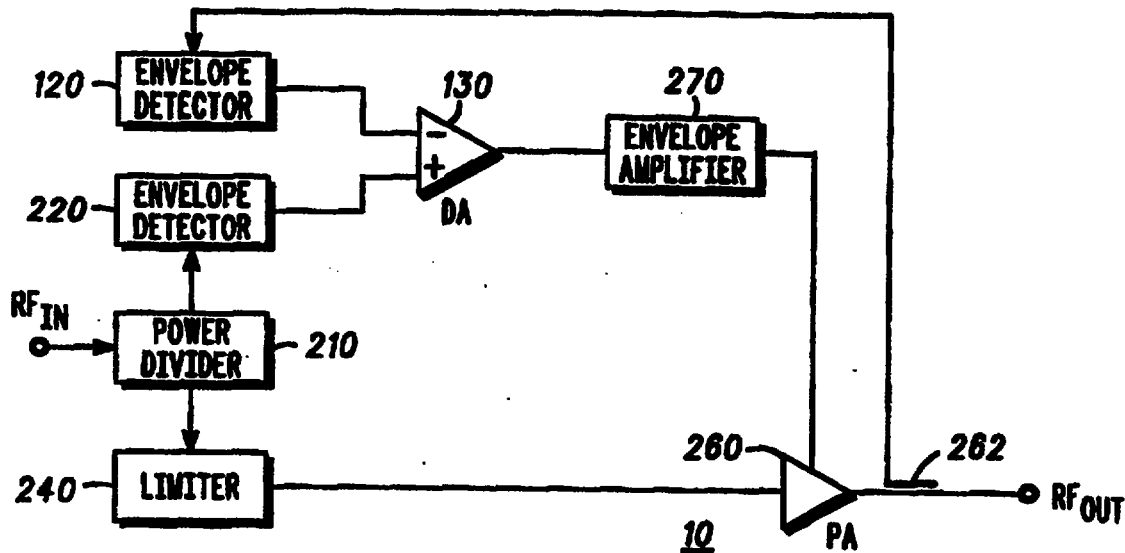
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(21) International Application Number: PCT/US98/08556 (22) International Filing Date: 28 April 1998 (28.04.98) (30) Priority Data: 08/900,584 25 July 1997 (25.07.97) US (71) Applicant: MOTOROLA, INC. [US/US]; 1303 East Algonquin Road, Schaumburg, IL 60196 (US). (72) Inventors: MYERS, Ronald, Gene; 7595 E. Larkspur Drive, Scottsdale, AZ 85206 (US). SIGMON, Eugene, Bernard; 335 W. Brisa Drive, Gilbert, AZ 85233 (US). JACKSON, Robert, Michael; 1902 E. Marquette Drive, Gilbert, AZ 85234 (US). (74) Agents: INGRASSIA, Vincent, B. et al.; Motorola Inc., Intellectual Property Dept., P.O. Box 10219 M, Scottsdale, AZ 85271-0219 (US).			(81) Designated States: CA, CN, DE, FI, GB, JP, SE, SG. Published With international search report.

(54) Title: LOW DISTORTION POWER AMPLIFIER



(57) Abstract

A method and apparatus for efficient power amplification with low distortion includes an envelope detector (220), a difference amplifier (130), an envelope amplifier (270), and a power amplifier (260). A feedback path is provided from the output through a second envelope detector (120) to the difference amplifier (130). The feedback circuit operates on the bandwidth of the envelope of the RF signal rather than at the RF bandwidth. An envelope amplifier (270) includes a difference amplifier (272), a pulsewidth modulator (275), a driver (280), switching transistors (285), a low pass filter (290), and a voltage scaler (292). A feedback path within the envelope amplifier reduces the time delay introduced by low pass filter (290). The combined feedback loops work together to reduce distortion and lower intermodulation products.