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METHOD AND APPARATUS FOR INCREASING AMPLIFIER EFFICIENCY

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Abstract of the Invention

A transmitter (107) includes amplifying circuitry (203) and control circuitry (215, 217, 219) for biasing the amplifying circuitry (203) so that it operates closer to saturation with increased efficiency.

- 10 The gate voltage signal (213), which provides a gate bias, is coupled to the amplifying circuitry (203) and is dynamically varied by the processor circuitry (219) in response to the value of the amplifier control voltage (211) coupled to the amplifying circuitry (203). The amplifier control voltage (211), which has a value for maintaining
- 15 the output power of the amplifying circuitry (203) at a constant, is produced by the integrating circuitry (217) in response to a comparison of the detected power output signal (216) produced by the detecting circuitry (215) and the power output control signal (218) produced by the processor circuitry (219). Efficiency is realized
- 20 by dynamically varying the gate voltage signal (213) to its largest magnitude so that the amplifying circuitry (203) may operate as close to saturation as possible while still maintaining a constant output power.

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