ABSTRACT

POWER AMPLIFIER AND A TRANSMITTER INCLUDING THE POWER AMPLIFIER

A power amplifier suitable for use in a communication transmitter/transceiver which transmits bursts of signals in accordance with a TDD or TDMA protocol.

Shaping the leading and trailing edges of the transmitted bursts is done using a feedback control loop around a substantially linear power amplifier (22). A modulated signal to be amplified is multiplied by an output of the control loop using a multiplier (28) and the product is applied to the power amplifier (22). A portion of the amplified signal is applied to a detector (38), the output of which is applied to one input of a difference amplifier (42), a second input of which receives a step-like reference signal of a predetermined amplitude. The difference signal produced is integrated (46) and low pass filtered (48) or vice versa, which slows down the difference signal to provide an output signal of the control loop which has the desired leading edge shape. No special waveform shaping circuitry is required to be connected to the second input of the difference amplifier (42).

(Figure 1)

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