

AUTOMATIC GAIN CONTROL CIRCUIT AND METHOD

ABSTRACT OF THE DISCLOSURE

An automatic gain control circuit (44) is provided for generating an output gain signal. The automatic gain control circuit (44) includes a full-wave rectifier (70), an adder circuit (74), a multiplier circuit (82), and a low pass filter (86). The full-wave rectifier (70) receives a continuous-time read signal and generates a rectified read signal that is provided to the adder circuit (74). The adder circuit (74) generates an offset signal by taking the difference between the rectified read signal and a threshold signal. The offset signal is provided to the multiplier circuit (82) which multiplies the offset signal by a gain signal, such as a first gain signal or a second gain signal, to generate an error signal. A selection circuit, such as a multiplexer (76), may be provided to determine whether to provide the first gain signal or the second gain signal to the multiplier circuit (82). The multiplexer (76) may be controlled by a comparator (72) that generates a signal indicating whether the rectified read signal is above or below a threshold signal or value. The low pass filter (86) receives the error signal and generates the output gain signal of the automatic gain control circuit (44).

Figure 1