



(10) International Publication Number
WO 00/77924 A1

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

The diagram illustrates an automatic gain control system (13). The input signal **AGC_{in}** (21) is split into two paths. One path goes directly to the **AMP/ATTN MODIFY** block (41). The other path goes to the **TRANSITION REGION DETECTOR** (25). The output of the detector (34) is sent to the **TRANSITION REGION SELECT** input and also to the **TIMER OVERRIDE CONTROL** (50). The **TIMER OVERRIDE CONTROL** (50) has a bidirectional connection with the **CONTROL SIGNAL GENERATOR** (31) via line 52. The **CONTROL SIGNAL GENERATOR** (31) also receives input from the **AMP/ATTN MODIFY** block (41) via line 43. The output of the **CONTROL SIGNAL GENERATOR** (31) is sent to the **GAIN CORRECTION (AMPLIFIER & ATTENUATOR)** block (23) via line 38. The output of the **GAIN CORRECTION** block (23) is the **AGC_{out}** signal. Additionally, the **AGC_{out}** signal is fed back to the **EVALUATION UNIT** (27) via line 36. The **EVALUATION UNIT** (27) outputs to the **THRESHOLD SELECT** input. The **EVALUATION UNIT** (27) also provides control signals to the **DELAY GEN** (28) and the **TIMER OVERRIDE CONTROL** (50). The **DELAY GEN** (28) outputs to the **AMPLIFY DELAY** and **ATTENUATE DELAY** inputs. The **TRANSITION REGION SELECT** input is also connected to the **AMPLIFY DELAY** and **ATTENUATE DELAY** inputs.

(57) **Abstract:** An automatic gain control, AGC, circuit (13) comprises a preferred transition region (63). A gain correction unit (23) is responsive to an attenuate command and amplify command coming from a feedback system monitoring the AGC's output. The feedback system can individually adjust the delays of both attenuate and amplify commands sent to the gain correction unit (23). Additionally, the present AGC also includes a transition region detector (25) that monitors the input signal applied to the AGC (13) to form a feedforward system. The transition region detector (25) producing a control output to selectively permit the gain correction unit (23) to respond to an attenuate or amplify command. If the magnitude of the input signal is greater than a predetermined value, then it will place a disable signal on its control output to prevent the gain correction unit from altering its gain. However, if the magnitude of the input signal remains greater than the predetermined value for a long time, then a timer (50) will override the transition region detector (25) and enable the gain correction unit (23) to adjust its gain.