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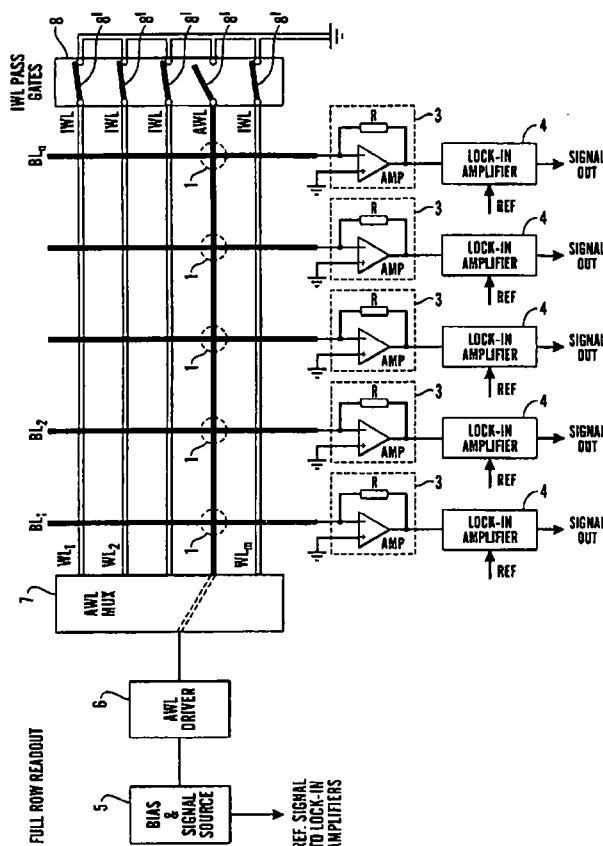
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(54) Title: NON-DESTRUCTIVE READOUT



(57) Abstract: In a method for determining the logic state of memory cells in a passive matrix-addressable data storage device with word and bit lines, components of current response are detected and correlated with a probing voltage, and a time-dependent potential is applied on selected word and bit lines or groups thereof, said potentials being mutually coordinated in magnitude and time such that the resulting voltages across all or some of the non-addressed cells at the crossing points between inactive word lines and active bit lines are brought to contain only negligible voltage components that are temporally correlated with the probing voltage. A first apparatus according to the invention for performing the method provides sequential readout of all memory cells on an active word line (AWL) by means of detection circuits (3; 4). An active word line (AWL) is selected by a multiplexer (7), while inactive word lines (IWL) are clamped to ground during readout. A second apparatus for performing the method is rather similar, but has only a single detection circuit (3, 4). An active word line (AWL) is selected by multiplexer (7) and a bit line (ABL) is selected by a multiplexer (9) provided between one end of the bit lines (BL) and the input of the detection circuit (3, 4), while inactive word and bit lines (IWL; IBL) are clamped to ground during readout.

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ACTION

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