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United States Patent [19]

Fujishima et al.

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[54] **SHARED-SENSE AMPLIFIER CONTROL SIGNAL GENERATING CIRCUIT IN DYNAMIC TYPE SEMICONDUCTOR MEMORY DEVICE AND OPERATING METHOD THEREFOR**

[75] Inventors: **Kazuyasu Fujishima; Yoshio Matsuda; Kazutami Arimoto; Tsukasa Ooishi; Masaki Tsukude**, all of Hyogo, Japan

[73] Assignee: **Mitsubishi Denki Kabushiki Kaisha,** Tokyo, Japan

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[22] Filed: **Nov. 20, 1990**

[30] **Foreign Application Priority Data**

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[51] Int. Cl.^{5} **G11C 11/34**

[52] U.S. Cl. **365/230.03;** 365/230.06; 365/149; 365/208

[58] Field of Search 365/230.03, 207, 208, 365/230.06, 149, 189.11

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Primary Examiner—Eugene R. LaRoche
Assistant Examiner—Vu Le
Attorney, Agent, or Firm—Lowe, Price, LeBlanc & Becker

[57] **ABSTRACT**

A dynamic random access memory amplifier arrangement includes a sense amplifier band shared between two different memory blocks. In this memory, only sense amplifiers related to a selected memory block are activated. The memory comprises a circuit for boosting a control signal voltage to a switching unit for connecting the selected memory block to the sense amplifiers up to a level higher than a power supply voltage Vcc during the activation of the sense amplifiers, and a circuit for separating a memory block paired with the selected memory block from the activated sense amplifiers during the sensing operation. The memory further comprises a circuit for generating a control signal of the power supply voltage Vcc and connecting all the memory blocks to the corresponding sense amplifiers in a stand-by state wherein a row address strobe signal is inactive. With this arrangement, a highly reliable memory consuming less power can be achieved which ensures data writing and/or rewriting at a full Vcc level.
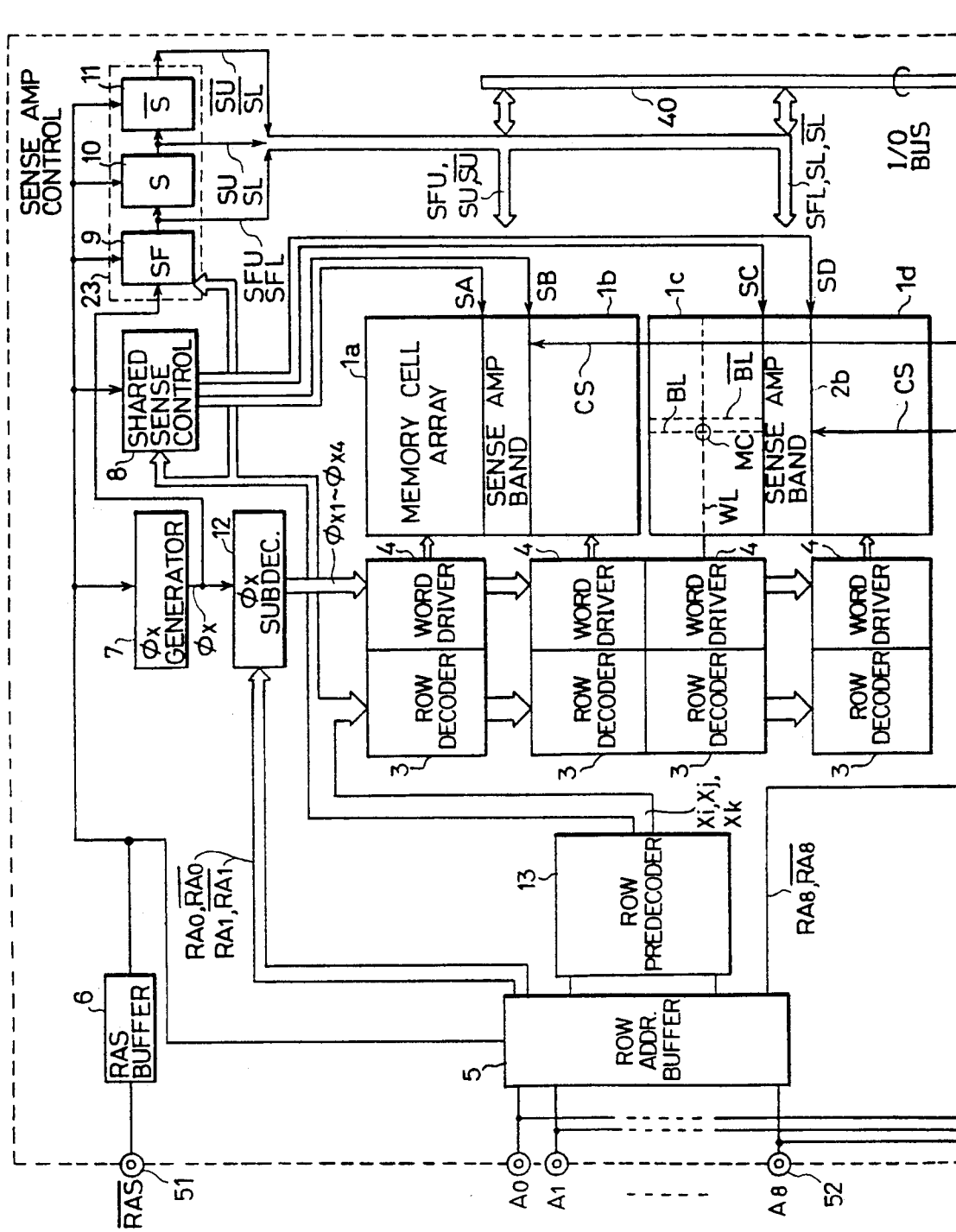
9 Claims, 15 Drawing Sheets
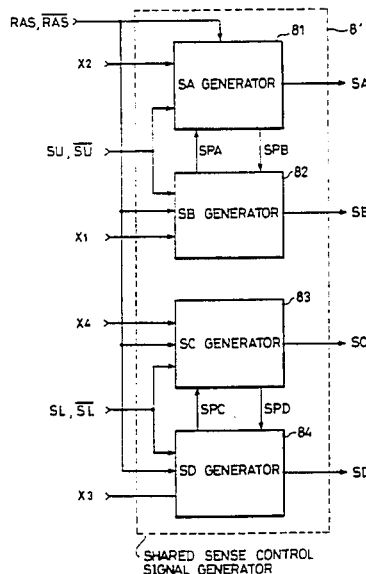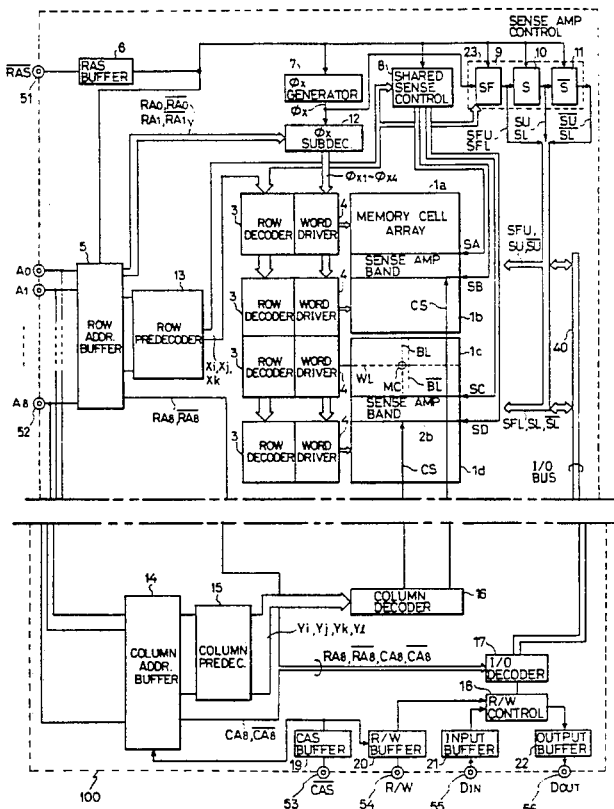
FIG. 1A
PRIOR ART

FIG. 1A
FIG. 1B

FIG. 1
PRIOR ART

FIG. 1B
PRIOR ART

FIG.2 PRIOR ART

FIG.3 PRIOR ART

FIG.4 PRIOR ART

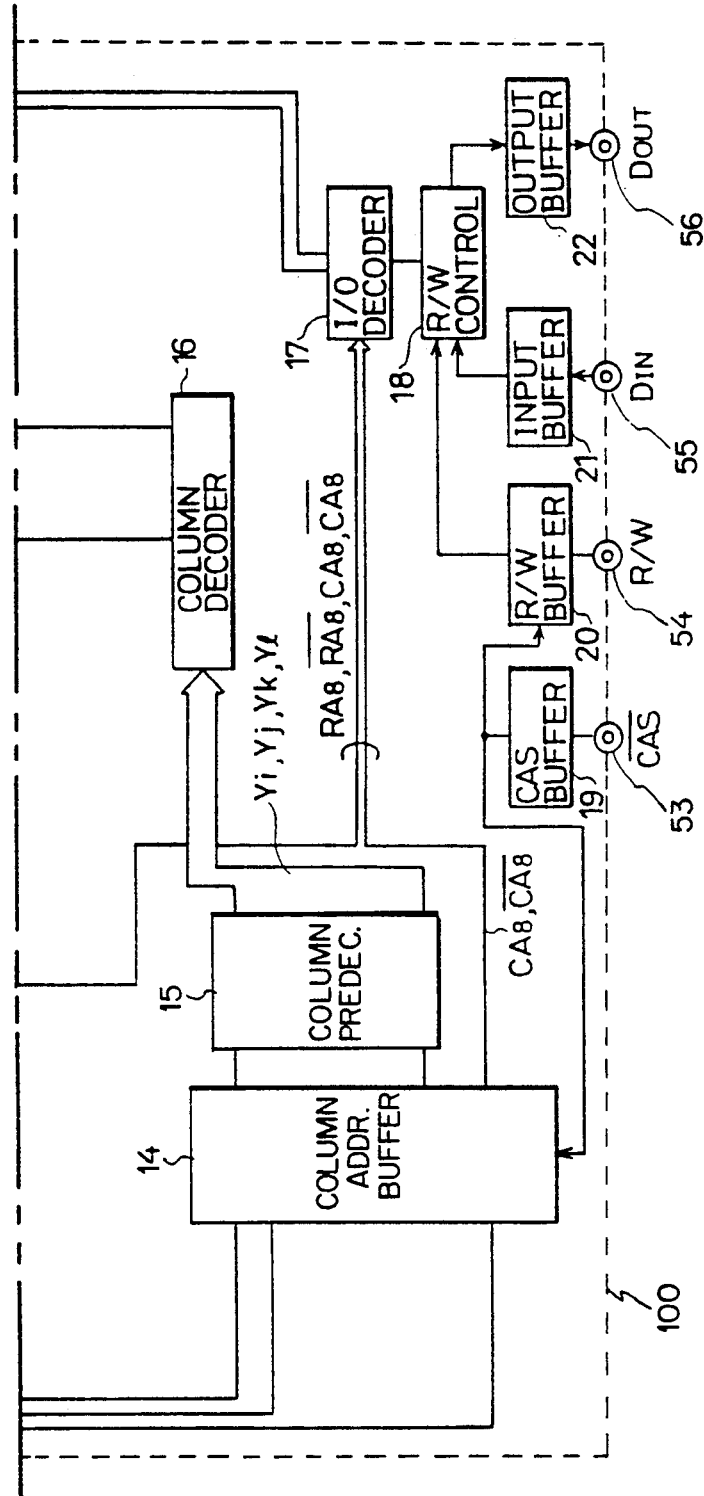
FIG.5 PRIOR ART

DOCKET ALARM
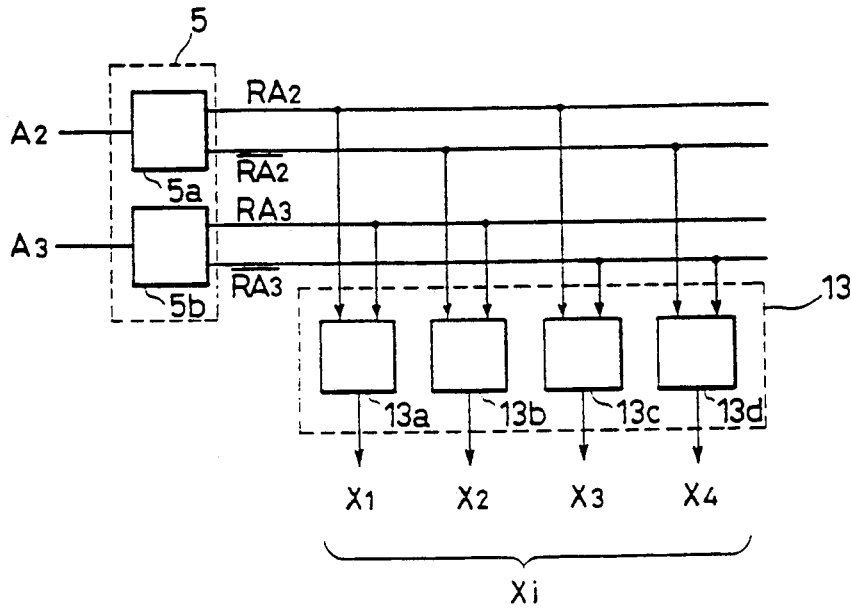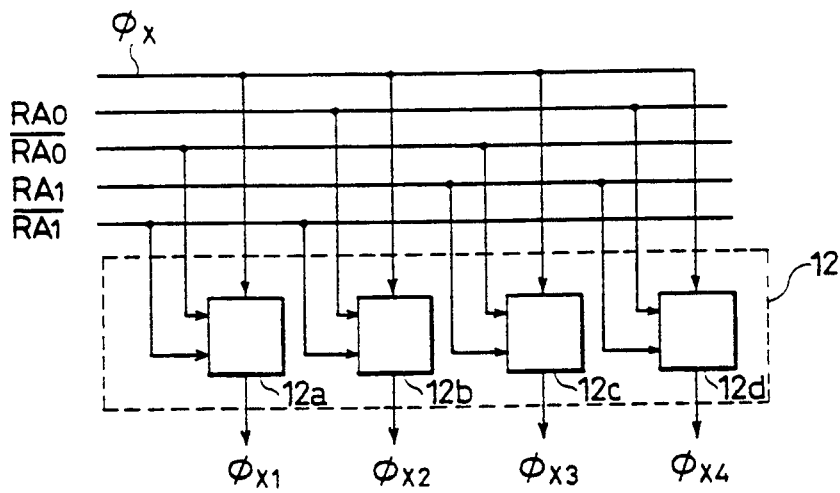
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