United States Patent [19]

Heath et al.

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[45] **Date of Patent:** **Aug. 6, 1991**

[54] **COMPUTER SYSTEM WITH AUTOMATIC INITIALIZATION OF PLUGGABLE OPTION CARDS**

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[22] Filed: **Jan. 6, 1989**

Related U.S. Application Data

[63] Continuation of Ser. No. 21,391, Mar. 13, 1987, abandoned.

[51] **Int. Cl.⁵** G06F 13/00; G06F 7/04
[52] **U.S. Cl.** 364/900; 364/948.5; 364/944.61; 364/975.2; 364/976.4; 364/945; 364/929.5; 364/929.2; 371/11.1
[58] **Field of Search** ... 364/200 MS File, 900 MS File; 340/825.07, 825.06, 825.52, 825.06; 371/11.1, 11.2, 11.3, 66, 7

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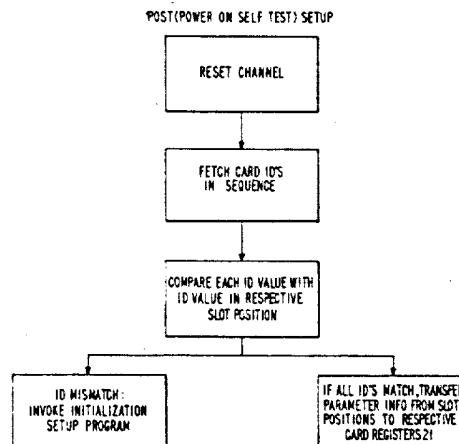
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[57] **ABSTRACT**

A data processing system includes a planar board having a central processing unit (CPU), a main memory unit, and input/output (I/O) sockets or slots, each adapted to receive a selected one of a plurality of different and/or similar option cards. each card contains (or is connected to) and controls a respective peripheral device; and each card is pre-wired with an ID value corresponding to its card type. Software programmable option registers on each card store parameters such as designated default (or alternate) address information, priority levels, and other system resource parameters. A setup routine, during initial power-on, retrieves and stores the appropriate parameters in the I/O cards and also in slot positions in main memory, one position being assigned to each slot on the board. Each slot position is adapted to hold the parameters associated with the card inserted in its respective slot and the card ID value. That portion of main memory containing the slot positions is adapted to maintain the parameter and ID information by means of battery power when system power fails or is disconnected, i.e., a nonvolatile memory portion. Subsequent power-on routines are simplified by merely transferring parameters from the table to the card option registers if the status of all the slots has not changed since the last power-down, system reset, or channel reset.

18 Claims, 7 Drawing Sheets

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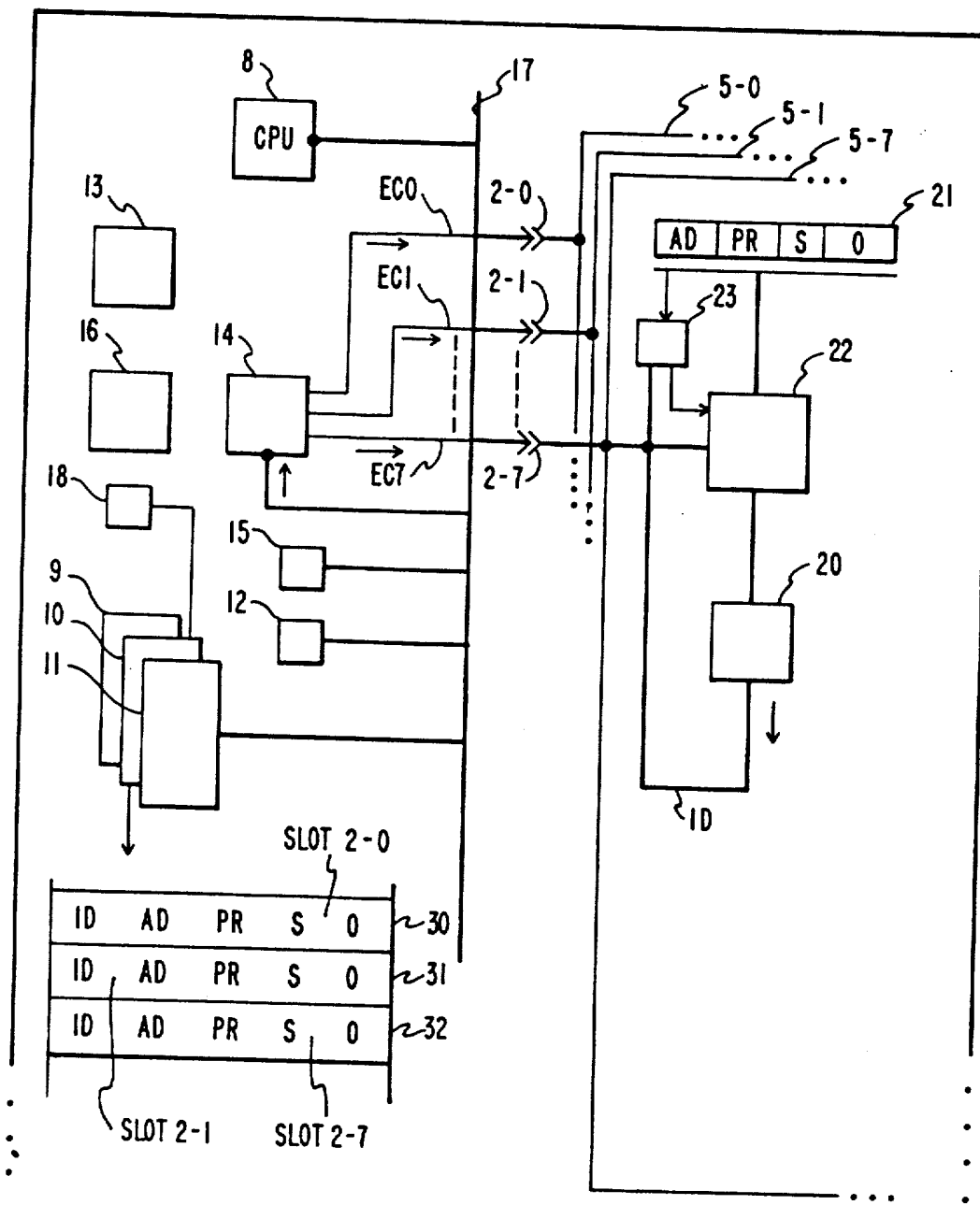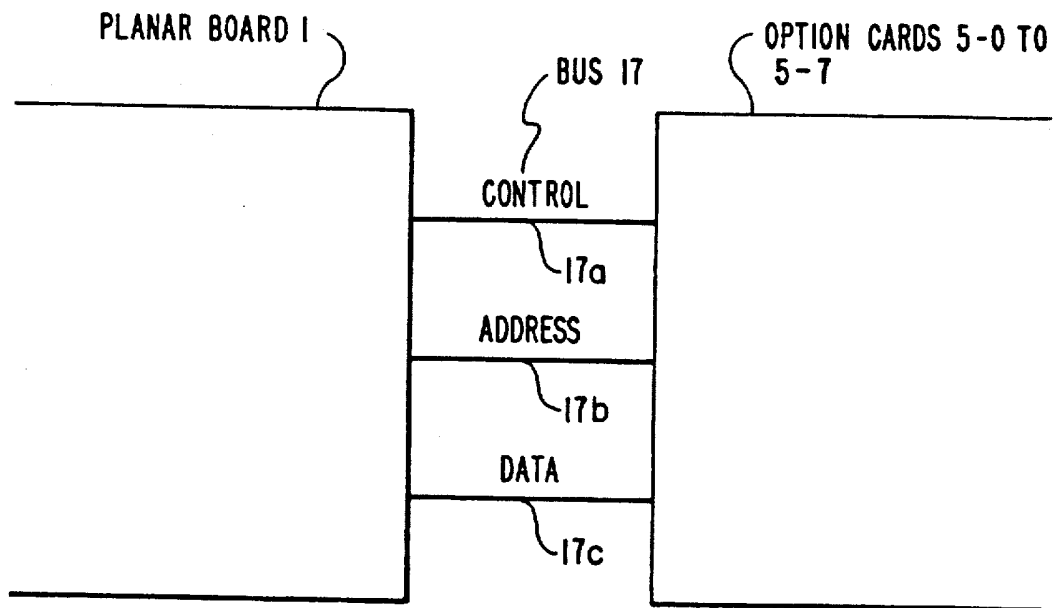
FIG. 1

SLOT 2-0

ID	AD	PR	S	0	~30
ID	AD	PR	S	0	~31
ID	AD	PR	S	0	~32

SLOT 2-1   SLOT 2-7

FIG. 2

PLANAR BOARD 1

OPTION CARDS 5-0 TO 5-7

BUS 17

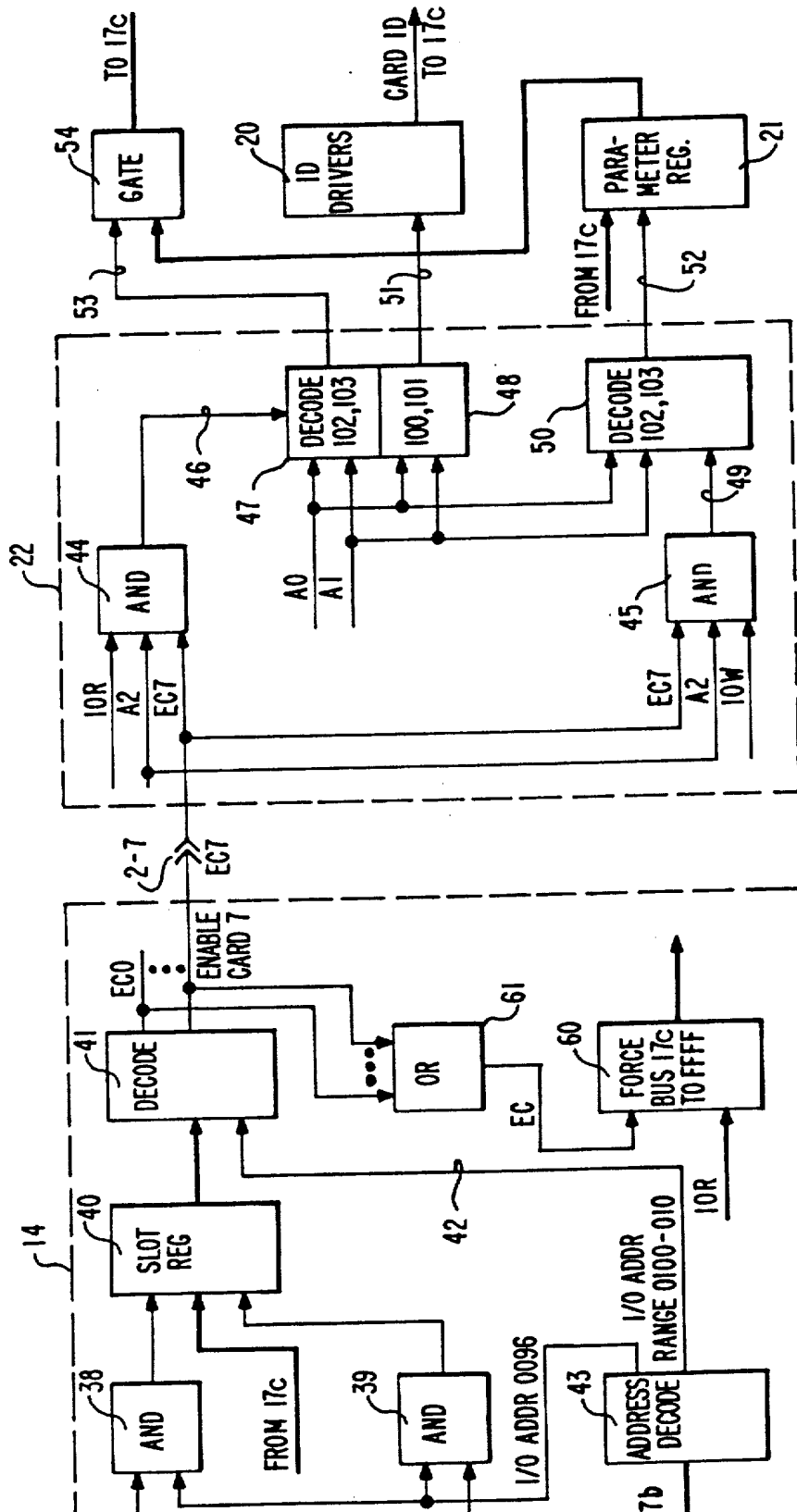CONTROL

17a

ADDRESS

17b

DATA

17c

FIG. 3

DOCKET ALARM

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