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United States Patent [19]

Harari et al.

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[54] **REMOVABLE MOTHER/DAUGHTER PERIPHERAL CARD**

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[73] Assignee: **SanDisk Corporation**, Sunnyvale, Calif.

[21] Appl. No.: **781,539**

[22] Filed: **Jan. 9, 1997**

Related U.S. Application Data

[63] Continuation of Ser. No. 462,642, Jun. 5, 1995, abandoned, which is a continuation of Ser. No. 398,856, Mar. 6, 1995, abandoned, which is a continuation of Ser. No. 151,292, Nov. 12, 1993, abandoned, which is a continuation-in-part of Ser. No. 115,428, Sep. 1, 1993, abandoned.

[51] **Int. Cl.**[6] **G06F 12/00**

[52] **U.S. Cl.** **395/282**; 395/833; 395/882; 711/103; 711/115

[58] **Field of Search** 395/800, 282, 395/283, 309, 800.01, 800.37, 500, 833, 821, 882; 711/2, 103, 115; 365/52, 99

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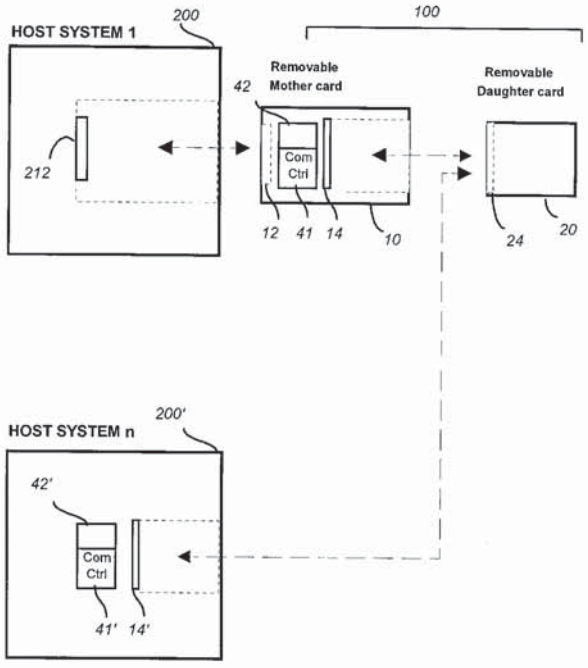
Attorney, Agent, or Firm—Majestic, Parsons, Siebert & Hsue

[57] **ABSTRACT**

A peripheral card having a Personal Computer ("PC") card form factor and removably coupled externally to a host system is further partitioned into a mother card portion and a daughter card portion. The daughter card is removably coupled to the mother card. In the preferred embodiment, a low cost flash "floppy" is accomplished with the daughter card containing only flash EEPROM chips and being controlled by a memory controller residing on the mother card. Other aspects of the invention includes a comprehensive controller on the mother card able to control a predefined set of peripherals on daughter cards connectable to the mother card; relocation of some host resident hardware to the mother card to allow for a minimal host system; a mother card that can accommodate multiple daughter cards; daughter cards that also operates directly with hosts having embedded controllers; daughter cards carrying encoded data and information for decoding it; and daughter cards with security features.

22 Claims, 9 Drawing Sheets



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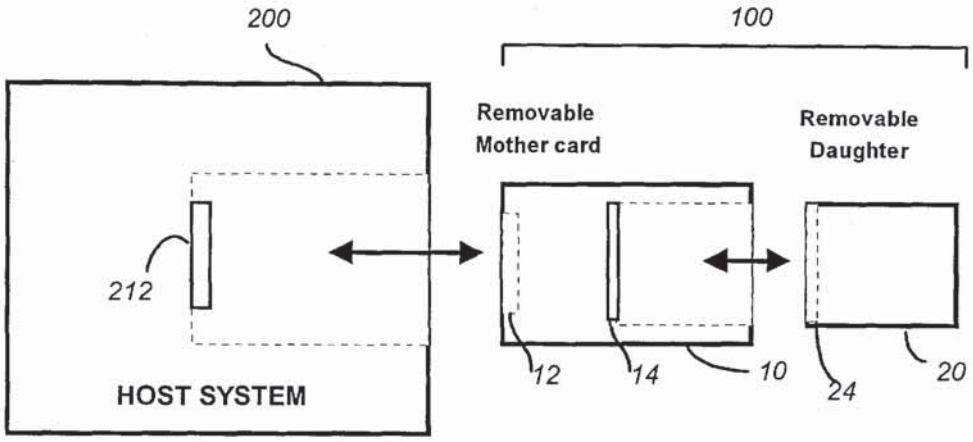

FIG. 1

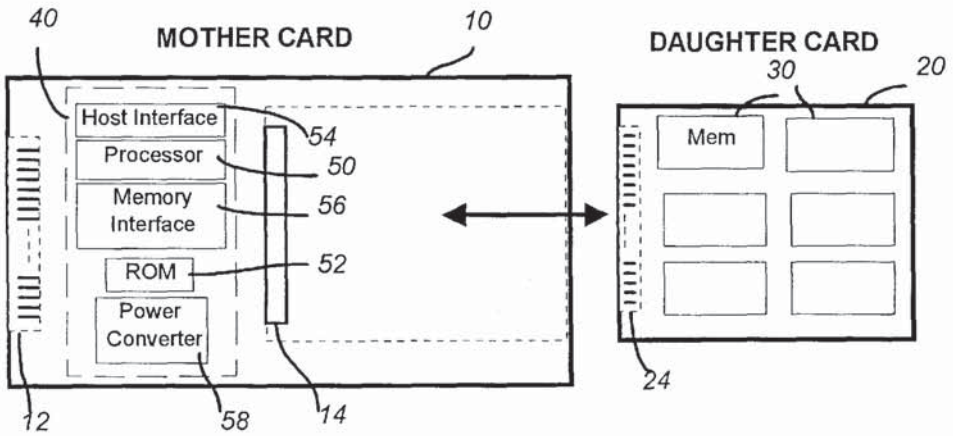

FIG. 3

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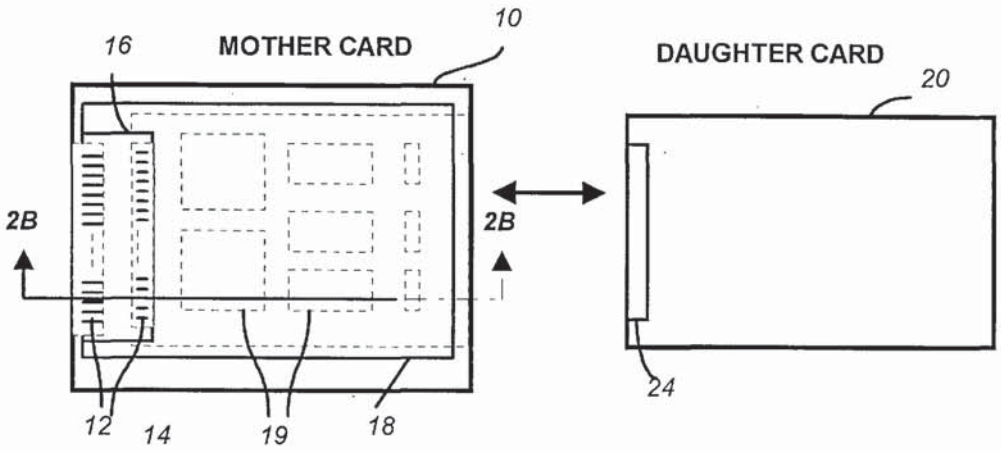

FIG. 2A

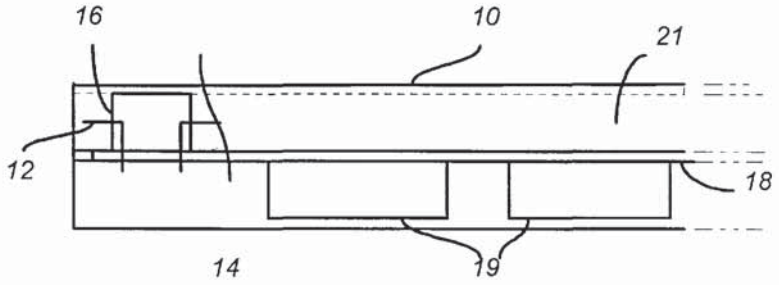

FIG. 2B

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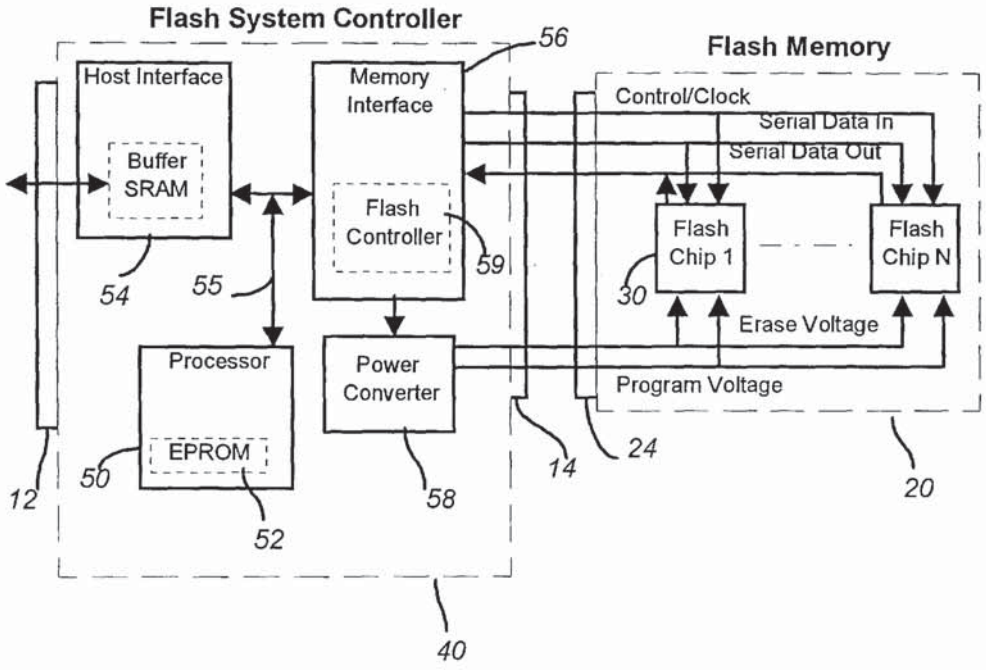

FIG. 4

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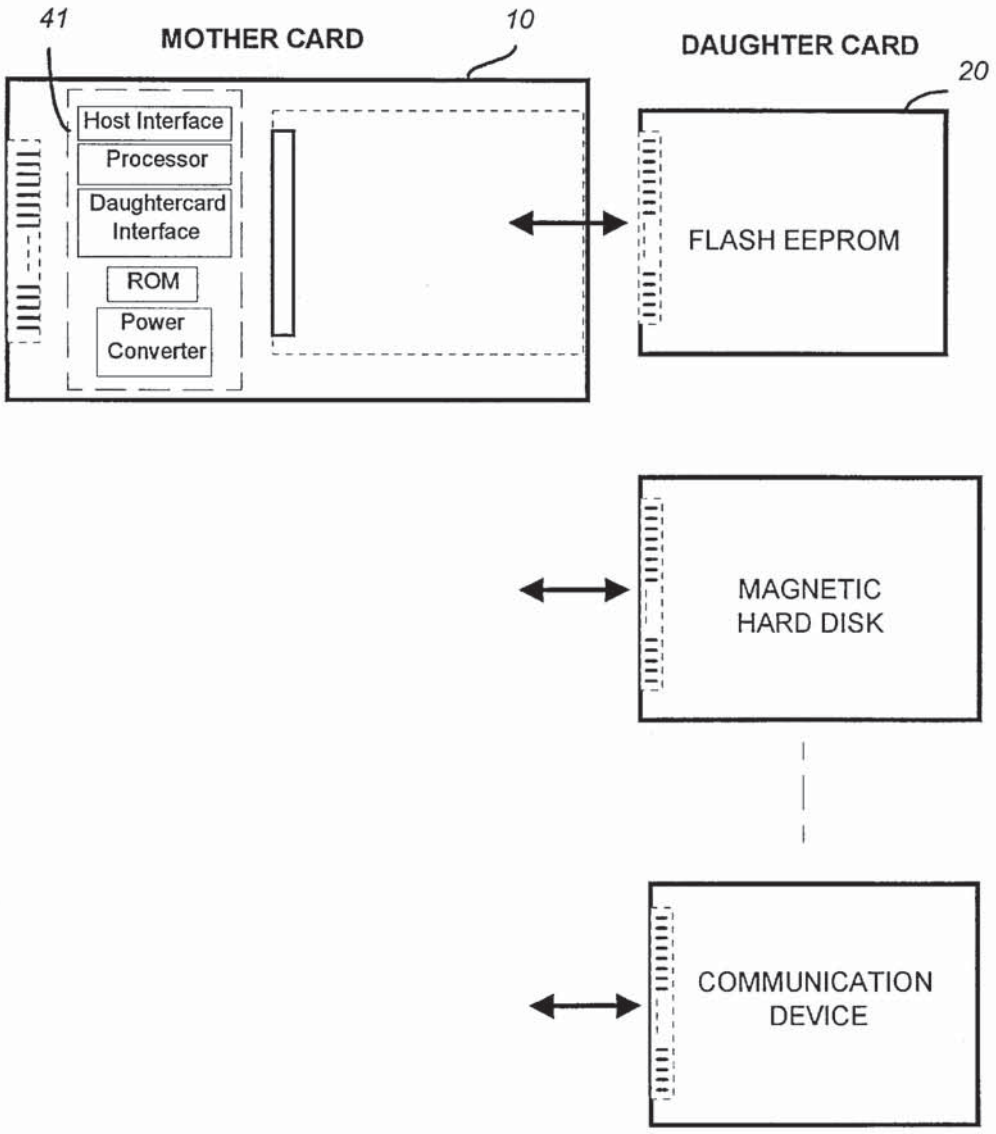

FIG. 5A

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