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[11]

United States Patent [19]

Davis

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[54] SYSTEM FOR MANAGING POWER OF A COMPUTER WITH REMOVABLE DEVICES

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- [73] Assignee: LXE, Inc., Norcross, Ga.
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- [51] Int. Cl.⁶ G06F 1/32; G06F 1/26
- 395/750.05; 395/750.06; 395/282 [58] Field of Search 395/750.01 750.02

[56] References Cited

U.S. PATENT DOCUMENTS

4,835,737	5/1989	Herrig et al
5,167,024	11/1992	Smith et al
5,204,964	4/1993	Bowden, III et al
5,230,074	7/1993	Canova Jr., et al
5,237,692	8/1993	Raasch et al
5,239,652	8/1993	Seibert et al
5,304,987	4/1994	Brunson et al 340/654
5,319,751	6/1994	Garney 395/200
5,367,697	11/1994	Barlow et al
5,379,437	1/1995	Celi Jr., et al
5,408,668	4/1995	Tornai.
5,410,712	4/1995	Okuno .
5,410,714	4/1995	Yorimoto et al
5,412,798	5/1995	Garney 395/500
5,440,748	8/1995	Sekine et al
5,467,469	11/1995	Saito et al
5,475,271	12/1995	Shibasaki et al
5,477,476	12/1995	Schanin et al
5,486,726	1/1996	Kim et al 307/120
5,491,804	2/1996	Heth et al 395/275
5,501,534	3/1996	Mizoguchi .
5,504,909	4/1996	Webster et al 395/750
5,511,013	4/1996	Tokieda et al
5,546,590	8/1996	Pierce 395/750
5,560,022	9/1996	Dunstan et al 395/750
5,560,024	9/1996	Harper et al 395/750
5,589,719	12/1996	Fiset 307/131

Patent Number: 5,862,393

[45] Date of Patent: Jan. 19, 1999

5,606,704	2/1997	Pierce et al 395/750
5,655,148		Richman et al 395/828
5,671,368	9/1997	Chan et al 395/282
5,727,221	3/1998	Walsh et al 395/750
5,754,869	5/1998	Holzhammer et al 395/750.01
5,754,870	5/1998	Pollard et al 395/750.05
5,758,171	5/1998	Ramamurthy et al 395/750.01
5,784,628	7/1998	Reneris

OTHER PUBLICATIONS

"Miniature Card Specification" Intel Corporation, Jul. 29, 1996, Release 1.1.

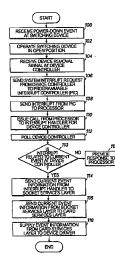
"Advanced Power Management" (APM), BIOS Interface Specification, Intel Corporation and Microsoft Corporation, Sep. 1993, Revision 1.1.

Primary Examiner—Meng-Ai T. An Assistant Examiner—Valerie Darbe Attorney, Agent, or Firm—Jones & Askew LLP

[57] ABSTRACT

A system for managing power consumption of a computer by communicating power management events to a removable device of the computer. A device removal signal is transmitted to a device controller for the removable device in response to a power management event and while the device is installed within a socket of the computer. This device removal signal can provide notice of a power state change for the device, such as the interruption of electrical power to that device. This power state change is communicated by the device controller to a device driver in response to the device removal signal. Electrical power to the device is terminated in response to the power management event. A device insertion signal is transmitted to the device controller in response to another power management event and while the device remains installed within the socket. This device insertion signal provides notice of another state change for the device. Electrical power is reapplied to the device in response to this power management event. In addition, the device is configured by supplying device information from the device driver to the device in response to the device insertion signal and after electrical power is applied to the device.

13 Claims, 4 Drawing Sheets



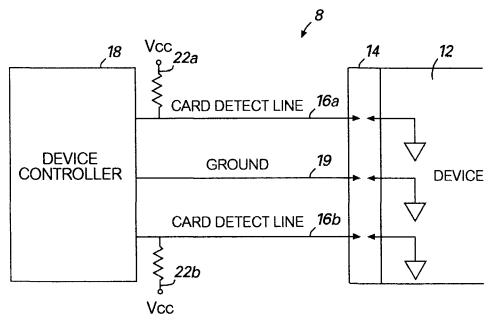


FIG.1

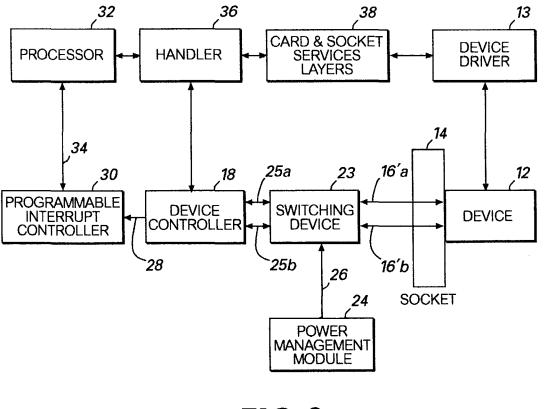


FIG.2

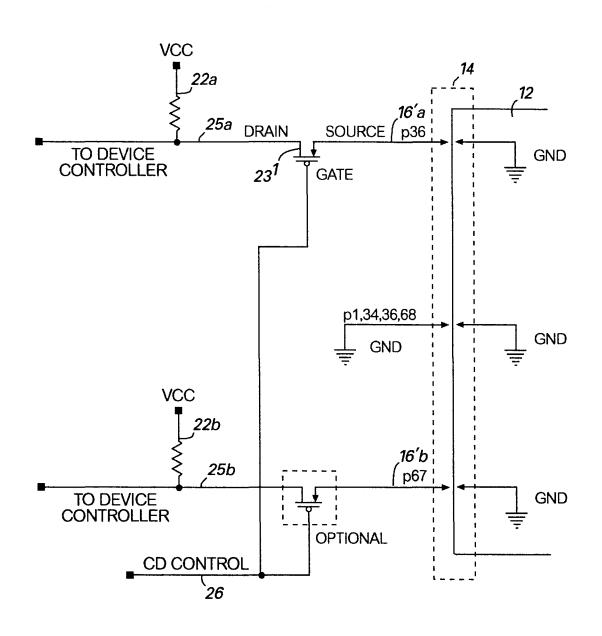
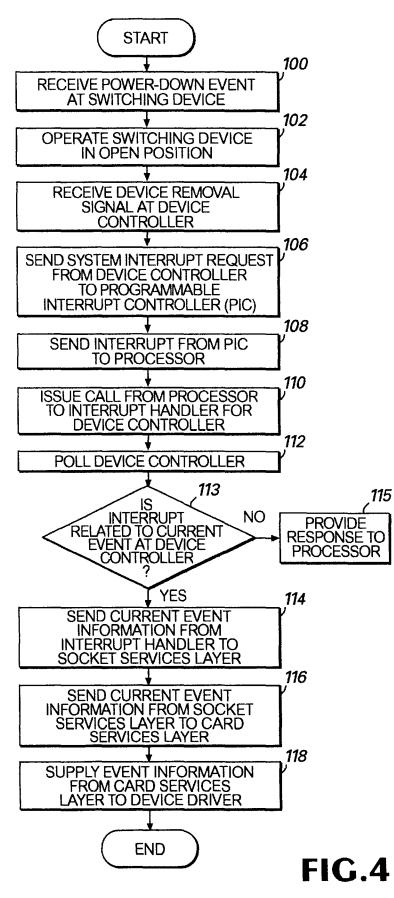
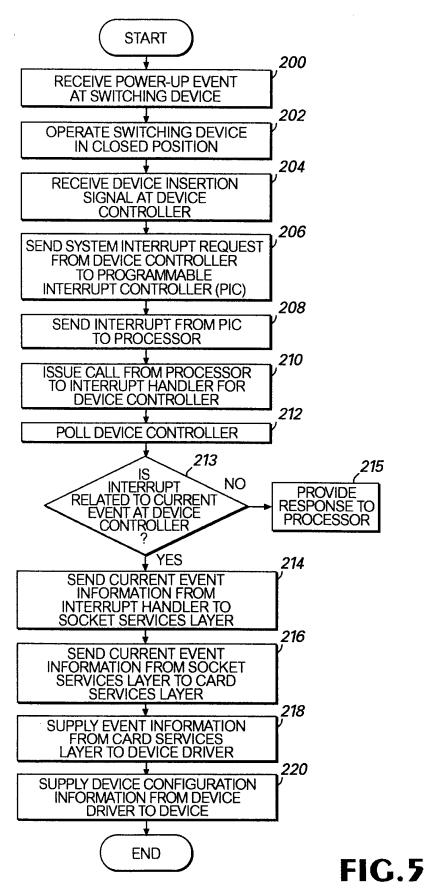


FIG.3

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