

US008151105B2

(12) United States Patent Park et al.

(54) CONVERTIBLE COMPUTER WITH SELECTIVE ACTIVATION OF INPUT DEVICES AND POWER CONSUMPTION LEVEL BASED ON A TABLET OR NOTEBOOK MODE

(75) Inventors: Jun Hyung Park, Anyang-si (KR); Jong Won Kim, Suwon-si (KR); Jeong Hun

Kim, Suwon-si (KR), seong Hui Kim, Suwon-si (KR)

(73) Assignee: LG Electronics Inc., Seoul (KR)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35

U.S.C. 154(b) by 443 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: 12/276,813

(22) Filed: **Nov. 24, 2008**

(65) Prior Publication Data

US 2009/0083562 A1 Mar. 26, 2009

Related U.S. Application Data

(62) Division of application No. 11/598,777, filed on Nov. 14, 2006, now Pat. No. 7,472,267, which is a division of application No. 10/812,905, filed on Mar. 31, 2004, now Pat. No. 7,506,152.

(30) Foreign Application Priority Data

Aug. 11, 2003	(KR)	03-55520
Sep. 3, 2003	(KR)	03-61548
Sep. 3, 2003	(KR)	03-61549
Sep. 9, 2003	(KR)	03-63107

(2006.01)

(51) Int. Cl.

G06F 9/00 (2006.01)

G06F 9/24 (2006.01)

G06F 15/177 (2006.01)

G06F 1/00 (2006.01)

G06F 3/00

(10) Patent No.: US 8,151,105 B2 (45) Date of Patent: *Apr. 3, 2012

(52) **U.S. Cl.** **713/100**; 713/1; 713/2; 713/300; 710/1; 710/8

(56) References Cited

U.S. PATENT DOCUMENTS

5,200,913 A 4/1993 Hawkins et al. (Continued)

FOREIGN PATENT DOCUMENTS

KR 2000-0050394 8/2000

(Continued)

OTHER PUBLICATIONS

Korean Office Action dated Sep. 25, 2009.

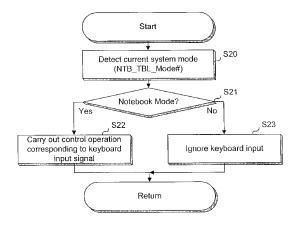
(Continued)

Primary Examiner — Ji H Bae (74) Attorney, Agent, or Firm — KED & Associates, LLP

(57) ABSTRACT

A convertible computer is equipped with a notebook computer function and a tablet computer function. When a system power supply is turned on, a functionality or physical configuration such as rotation state of a display module can be detected, and an environment can be controlled such as an operating system (OS) for a tablet computer or notebook computer is selectively booted. Input signals of input units can also be controlled in an activation or inactivation state according to a system mode. An operation of switch sensing an open/closed state of a liquid crystal display (LCD) can be controlled by a signal generated by the rotation operation of the display module. In a state in which at least one control value necessary for setting a system environment is stored in a memory, the system mode switching operation is monitored and the system environment is set according to the switched system mode.

10 Claims, 11 Drawing Sheets





US 8,151,105 B2

Page 2

5,375,076 A 12/1994 6,327,653 B1 12/2001 6,366,935 B2 4/2002 6,415,388 B1* 7/2002 6,654,826 B1 11/2003 6,684,338 B1* 1/2004 6,711,004 B2 3/2004 6,735,663 B2 5/2004 6,771,494 B2 8/2004 6,788,527 B2 9/2004	Lee Hawkins et al. Browning et al	2004/0140967 A1 7/2004 Kojc 2005/0039081 A1* 2/2005 Char 2005/0144432 A1* 6/2005 Wu 2005/0219217 A1 10/2005 Long FOREIGN PATENT D	dey et al. nt et al. o ang et al
6,903,927 B2 6/2005 7,148,877 B2 12/2006 7,472,267 B2 12/2008 2001/0020940 A1 * 9/2001 2002/0162444 A1 11/2002 2002/0181722 A1 12/2002 2002/0198006 A1 12/2002 2003/0993659 A1 5/2003	Anlauff Chang et al. 713/100 Nakazato et al. 345/418 Yu et al. Hibino et al. Hirayama et al. Wen et al. To There PUBLICATIONS European Search Report dated Jun. 6, 2007. J. Wittgen: "Riesencabrio Tablet PC Toshiba Portege 3500;" Magazin Fuer Computer Technik, Heise Zeitschriften Verlag, Heise Publication (No. 2007). To Wittgen: "Riesencabrio Tablet PC Toshiba Portege 3500;" Magazin Fuer Computer Technik, Heise Zeitschriften Verlag, Heise Publication (No. 2007). To Wittgen: "Riesencabrio Tablet PC Toshiba Portege 3500;" Magazin Fuer Computer Technik, Heise Zeitschriften Verlag, Heisencabrio Tablet PC Toshiba Portege 3500;" Magazin Fuer Computer Technik, Heise Zeitschriften Verlag, Heisencabrio Tablet PC Toshiba Portege 3500;" Magazin Fuer Computer Technik, Heise Zeitschriften Verlag, Heisencabrio Tablet PC Toshiba Portege 3500;" Magazin Fuer Computer Technik, Heise Zeitschriften Verlag, Heisencabrio Tablet PC Toshiba Portege 3500;" Magazin Fuer Computer Technik, Heise Zeitschriften Verlag, Heisencabrio Tablet PC Toshiba Portege 3500;" Magazin Fuer Computer Technik, Heise Zeitschriften Verlag, Heisencabrio Tablet PC Toshiba Portege 3500;" Magazin Fuer Computer Technik, Heise Zeitschriften Verlag, Heisencabrio Tablet PC Toshiba Portege 3500;" Magazin Fuer Computer Technik, Heise Zeitschriften Verlag, Heisencabrio Tablet PC Toshiba Portege 3500;" Magazin Fuer Computer Technik, Heise Zeitschriften Verlag, Heisencabrio Tablet PC Toshiba Portege 3500;" Magazin Fuer Computer Technik, Heise Zeitschriften Verlag, Heisencabrio Tablet PC Toshiba Portege 3500;" Magazin Fuer Computer Technik, Heise Zeitschriften Verlag, Heisencabrio Tablet PC Toshiba Portege 3500;" Magazin Fuer Computer Technik, Heise Zeitschriften Verlag, Heisencabrio Tablet PC Toshiba Portege 3500;" Magazin Fuer Computer Technik, Heisencabrio Tablet PC Toshiba Portege 3500;" Magazin Fuer Computer Technik, Heisencabrio Tablet PC Toshiba Portege 3500;" Magazin Fuer Computer Technik, Heisencabrio Tablet PC Toshiba P		, 2007. C Toshiba Portege 3500;" CT pise Zeitschriften Verlag, Han-
2003/0188144 A1 10/2003		* cited by examiner	



FIG. 1 (Prior Art)

Notebook Computer Mode

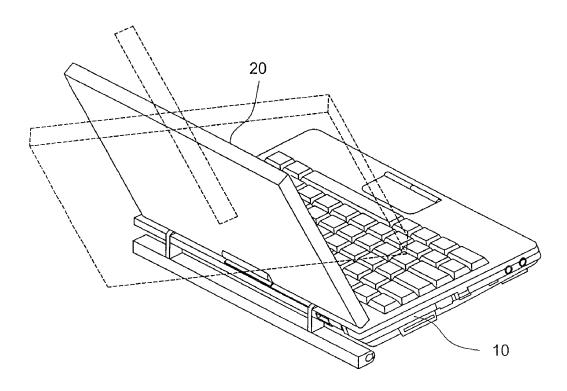
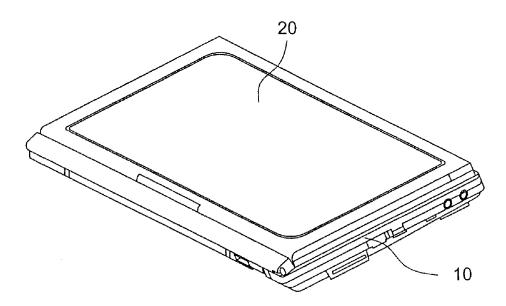
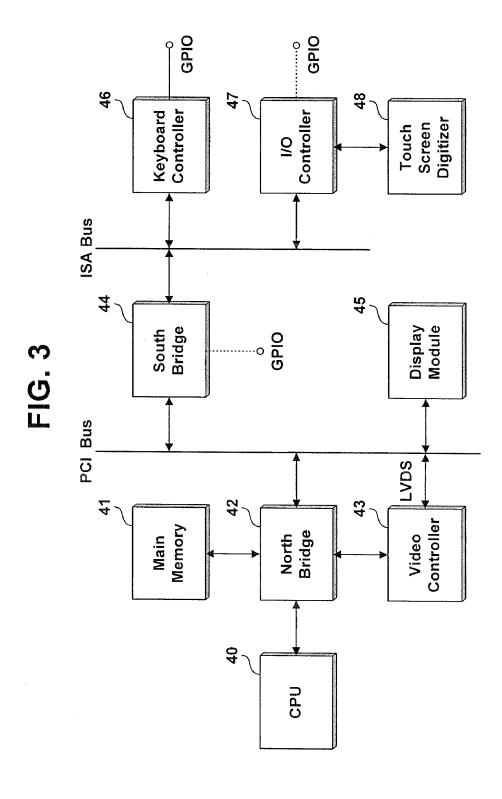


FIG. 2 (Prior Art)

Tablet Computer Mode



Apr. 3, 2012



DOCKET A L A R M

Explore Litigation Insights



Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

Real-Time Litigation Alerts



Keep your litigation team up-to-date with **real-time** alerts and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

Advanced Docket Research



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

Analytics At Your Fingertips



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.

