

(10) **Patent No.:** US 6,873,136 B2
(45) **Date of Patent:** Mar. 29, 2005

- 6,559,684 B2 5/2003 Goodfellow et al. 327/52

Zhou, Xunwei et al.; *Investigation of Candidate VRM Topologies for Future Microprocessors*, IEEE Transactions on Power Electronics, vol. 15, No. 6, Nov. 2000.

- * cited by examiner

- Primary Examiner*—Michael Sherry

Assistant Examiner—Lawrence Luk

- (74) *Attorney, Agent, or Firm*—Haynes and Boone, LLP

(21) Appl. No.: 10/462,982

- (22) Filed: **Jun. 17, 2003**

(65) **Prior Publication Data**

US 2004/0257048 A1 Dec. 23, 2004

- (51) **Int. Cl.**⁷ **H02J 7/04**

- (52) **U.S. Cl.** **320/141; 320/139**

- (58) **Field of Search** 320/141, 139,
320/137, 136, 134, 132, 129, 128, 145,
163; 323/282, 272; 324/426, 430

(56) **References Cited**

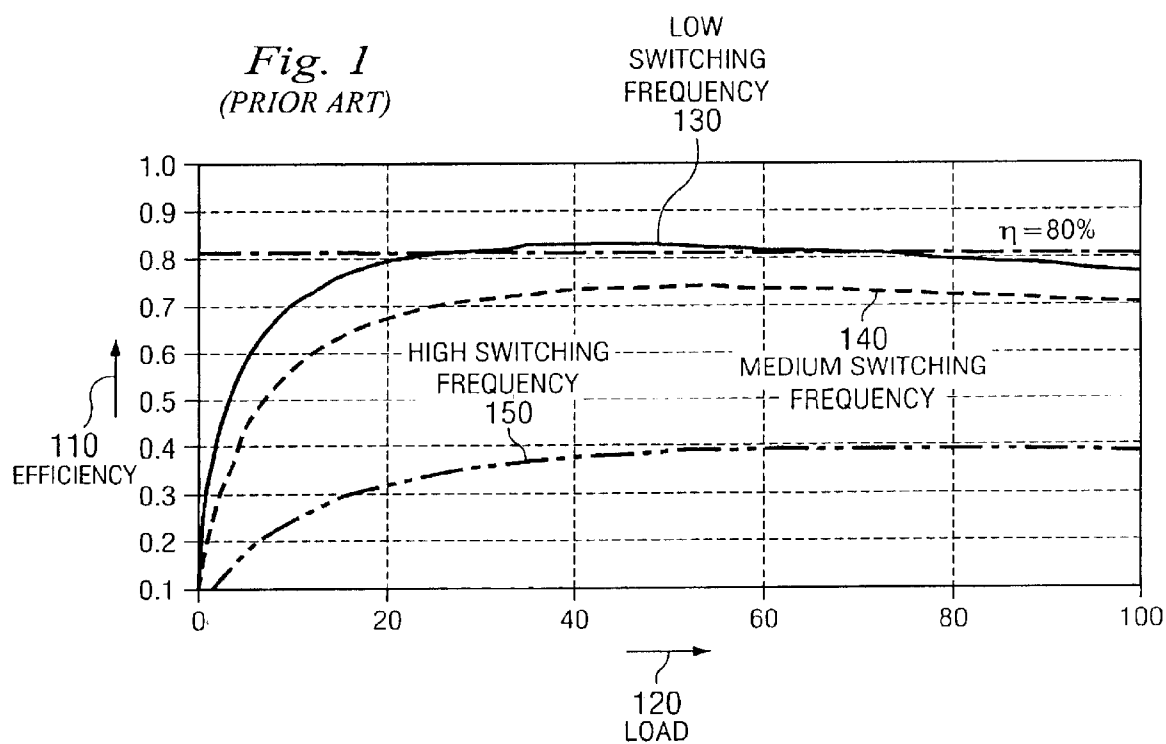
U.S. PATENT DOCUMENTS

6,118,676	A *	9/2000	Divan et al.	363/34
6,448,672	B1	9/2002	Voegeli et al.	307/52
6,545,450	B1	4/2003	Ledenev et al.	323/272

In a method and system for generating a regulated direct current (DC) voltage output of a voltage regulator module (VRM) to power a device of the information handling system, an activity input, which is indicative of levels of activity of a processor included in the device, is received by the controller module. The controller module selects a first switching frequency from a plurality of switching frequencies of the VRM. The first switching frequency corresponds to a first level of activity. A charge switch is operable to receive a DC voltage input and generate a switched IDC voltage output having the first switching frequency. A discharge switch is operable to provide a discharge path for the switched DC voltage signal while the charge switch is open. A filter module is operable to filter the first switching frequency from the switched DC voltage output and generate the regulated DC voltage output.

20 Claims, 5 Drawing Sheets





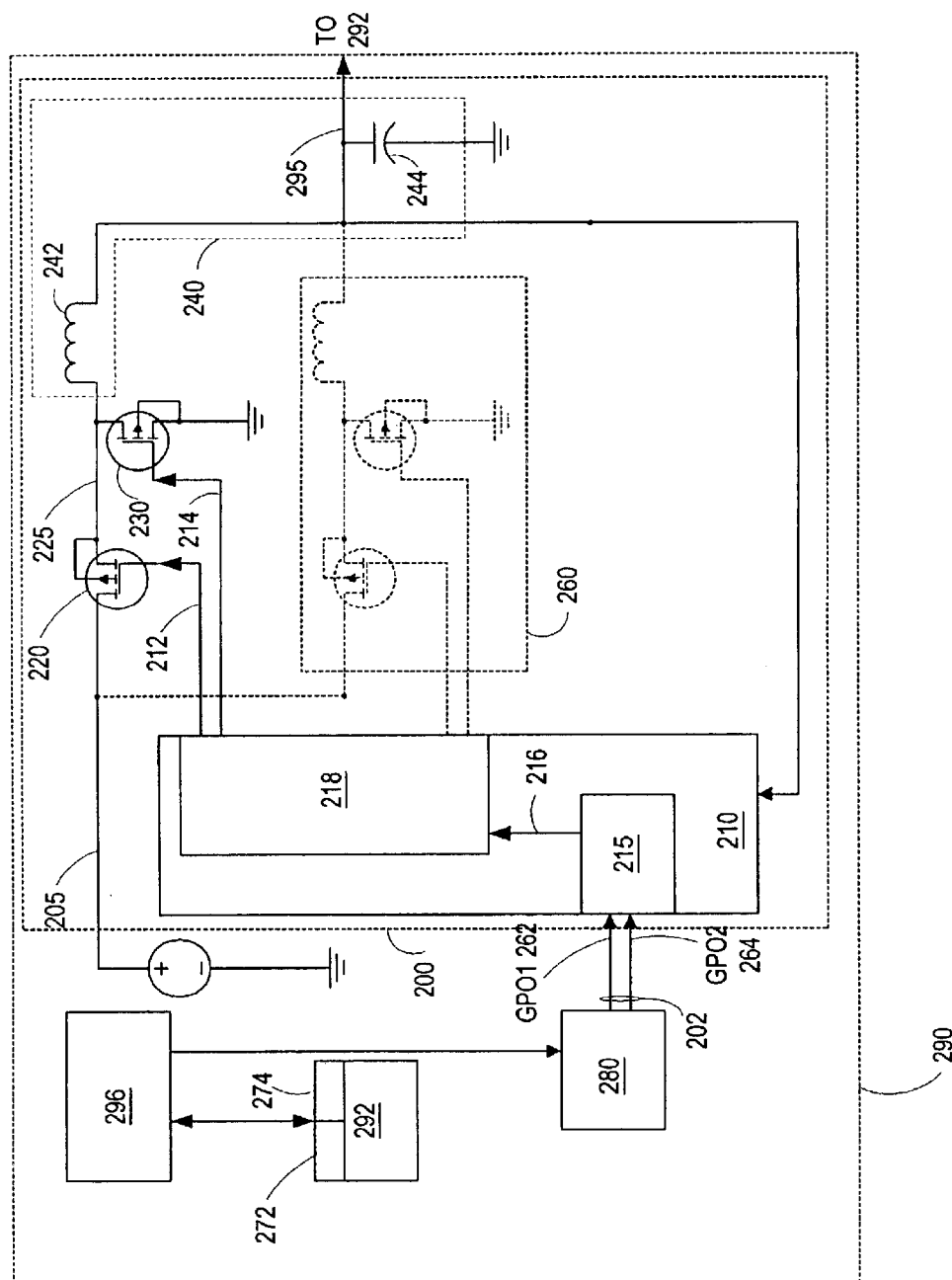
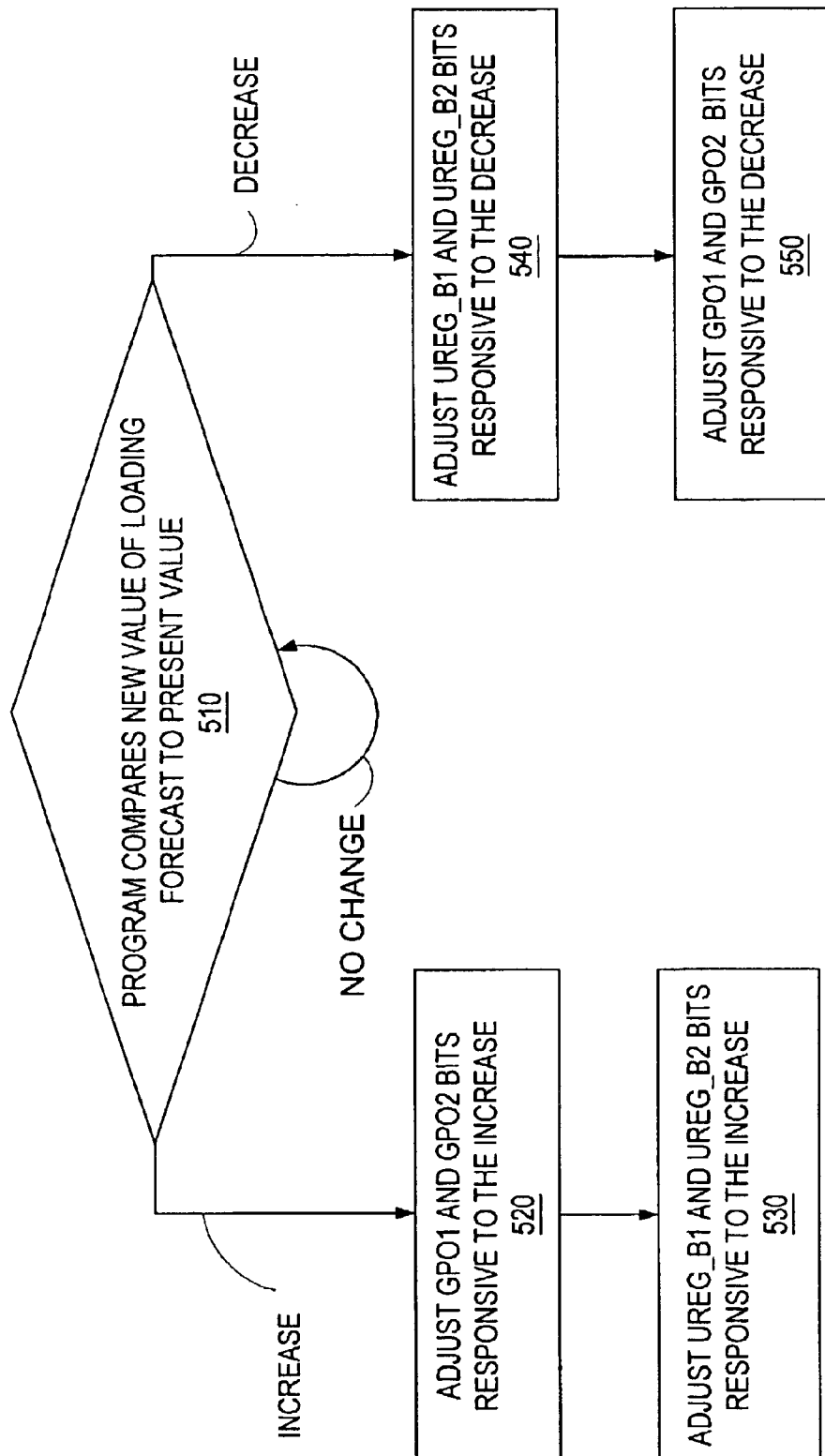


FIG. 2A

**FIG. 2B**

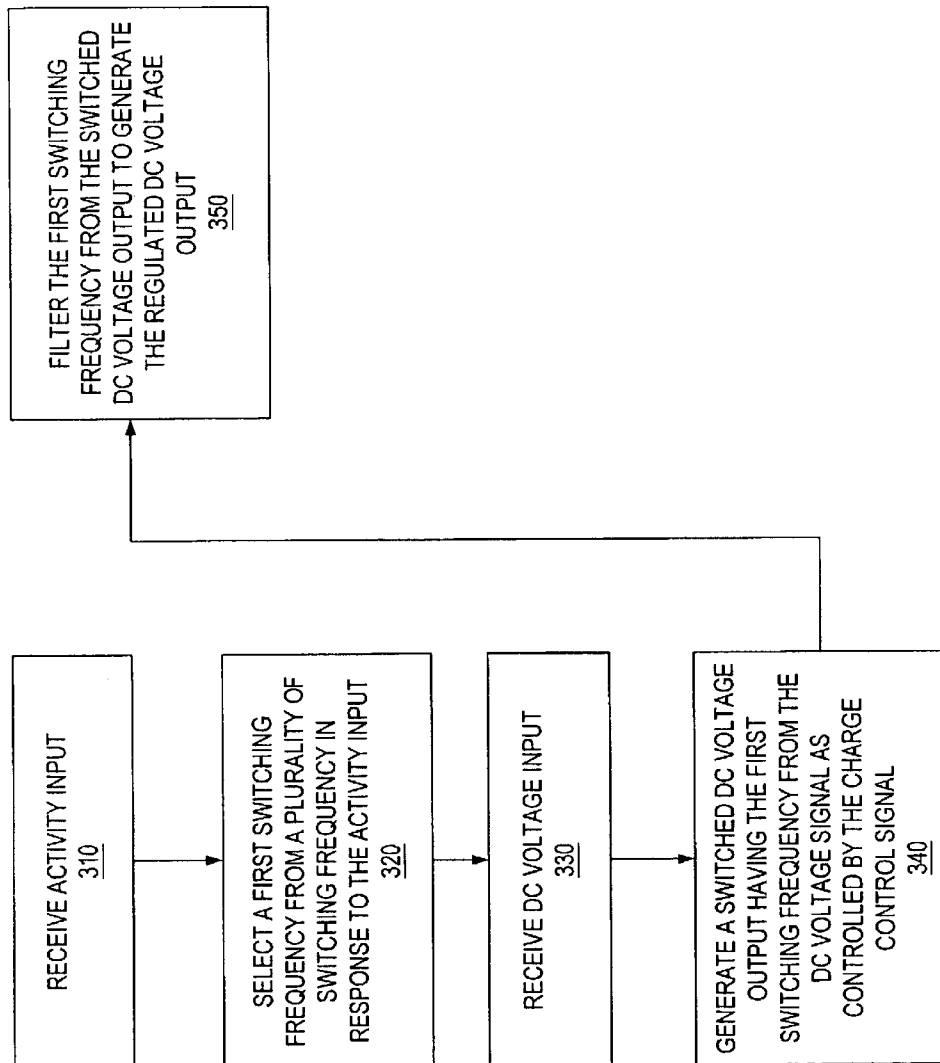


FIG. 3



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.