



US006895519B2

(12) **United States Patent**
Endo

(10) **Patent No.:** **US 6,895,519 B2**
(45) **Date of Patent:** **May 17, 2005**

- (54) **SYSTEM LSI** JP 09-062397 3/1997
- JP 10-149237 6/1998
- (75) **Inventor:** **Hitoshi Endo, Tokyo (JP)** JP 11-073237 3/1999
- JP 11-194849 7/1999
- (73) **Assignee:** **Oki Electric Industry Co., Ltd., Tokyo (JP)** JP 2000-091976 3/2000
- JP 2000-116887 4/2000
- JP 2001-202155 7/2001
- (*) **Notice:** Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days. JP 2001-238190 8/2001
- JP 2002-182776 6/2002

* cited by examiner

(21) **Appl. No.:** **10/251,755**

Primary Examiner—Jeffrey Gaffin
Assistant Examiner—Harold Kim

(22) **Filed:** **Sep. 23, 2002**

(74) *Attorney, Agent, or Firm*—Volentine Francos & Whitt, PLLC

(65) **Prior Publication Data**

US 2003/0163743 A1 Aug. 28, 2003

(57) **ABSTRACT**

(30) **Foreign Application Priority Data**

Feb. 25, 2002 (JP) 2002-047696

A system LSI dynamically and speedily controls clocks of various frequencies as used in a wide range of operation modes from high-speed to low-speed operation modes, enabling user selection of a system of power consumption type most suitable. The system LSI includes a ROM that stores a clock control library for carrying out clock state transitions between ordinary operation modes; and a system control circuit having a register for carrying out clock state transitions between ordinary operation modes and special modes responsive to changes in value of the register, and also carrying out clock state transitions among ordinary operation modes responsive to the clock control library. Calling of the clock control library and changing of the register value are controlled by an application program. The main library of the clock control library is described and called using C language.

(51) **Int. Cl.⁷** **G06F 1/26**

(52) **U.S. Cl.** **713/322; 713/320**

(58) **Field of Search** **713/322, 300, 713/320, 600**

(56) **References Cited**

U.S. PATENT DOCUMENTS

- 5,630,148 A * 5/1997 Norris 713/322
- 5,811,987 A * 9/1998 Ashmore et al. 326/39
- 6,574,739 B1 * 6/2003 Kung et al. 713/322

FOREIGN PATENT DOCUMENTS

- JP 06-119079 4/1994
- JP 06-217049 8/1994

11 Claims, 10 Drawing Sheets

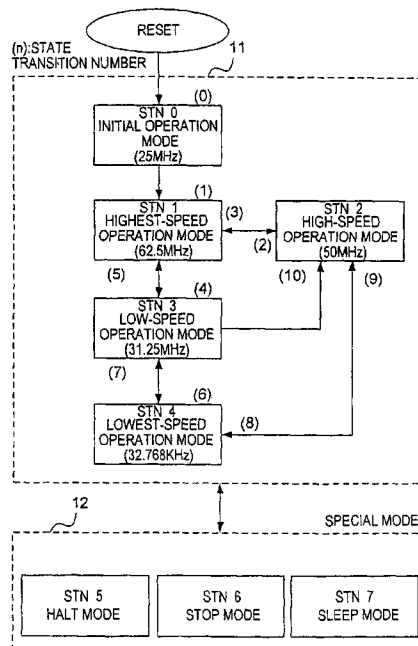


FIG.1

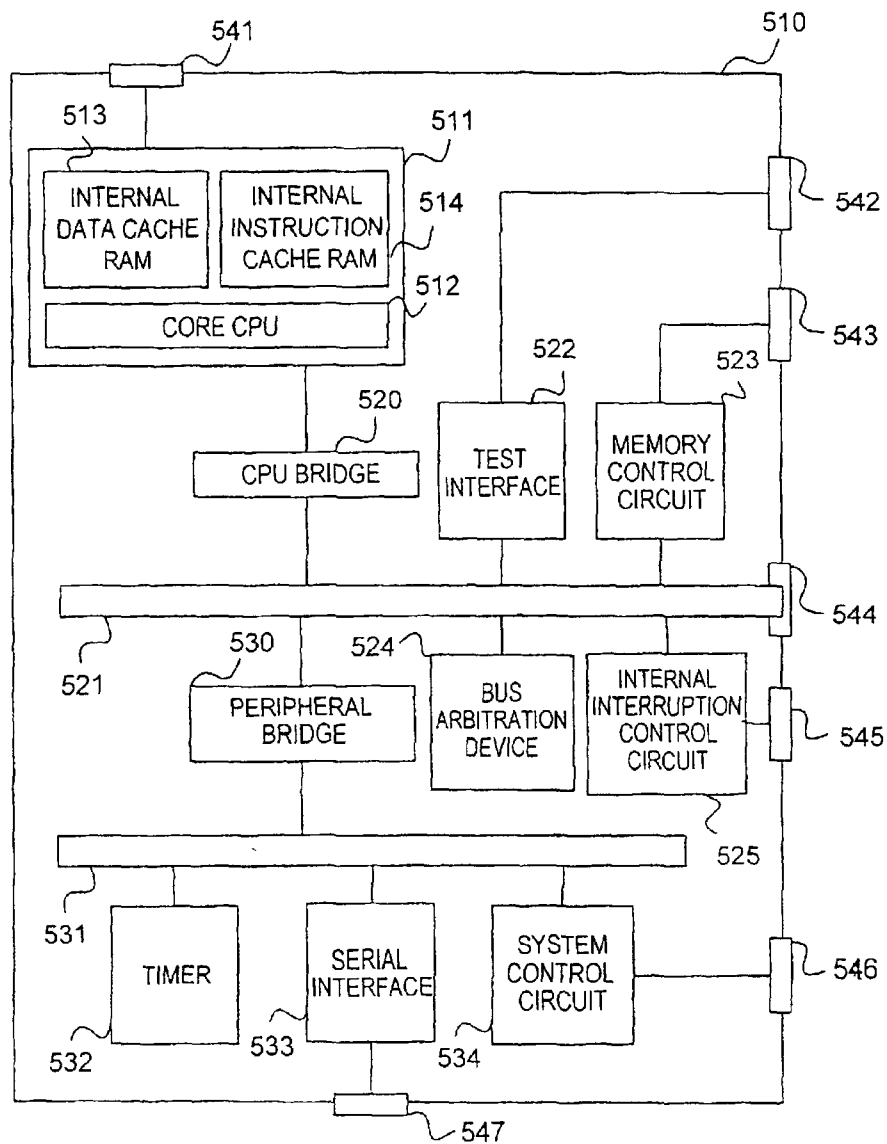


FIG. 2

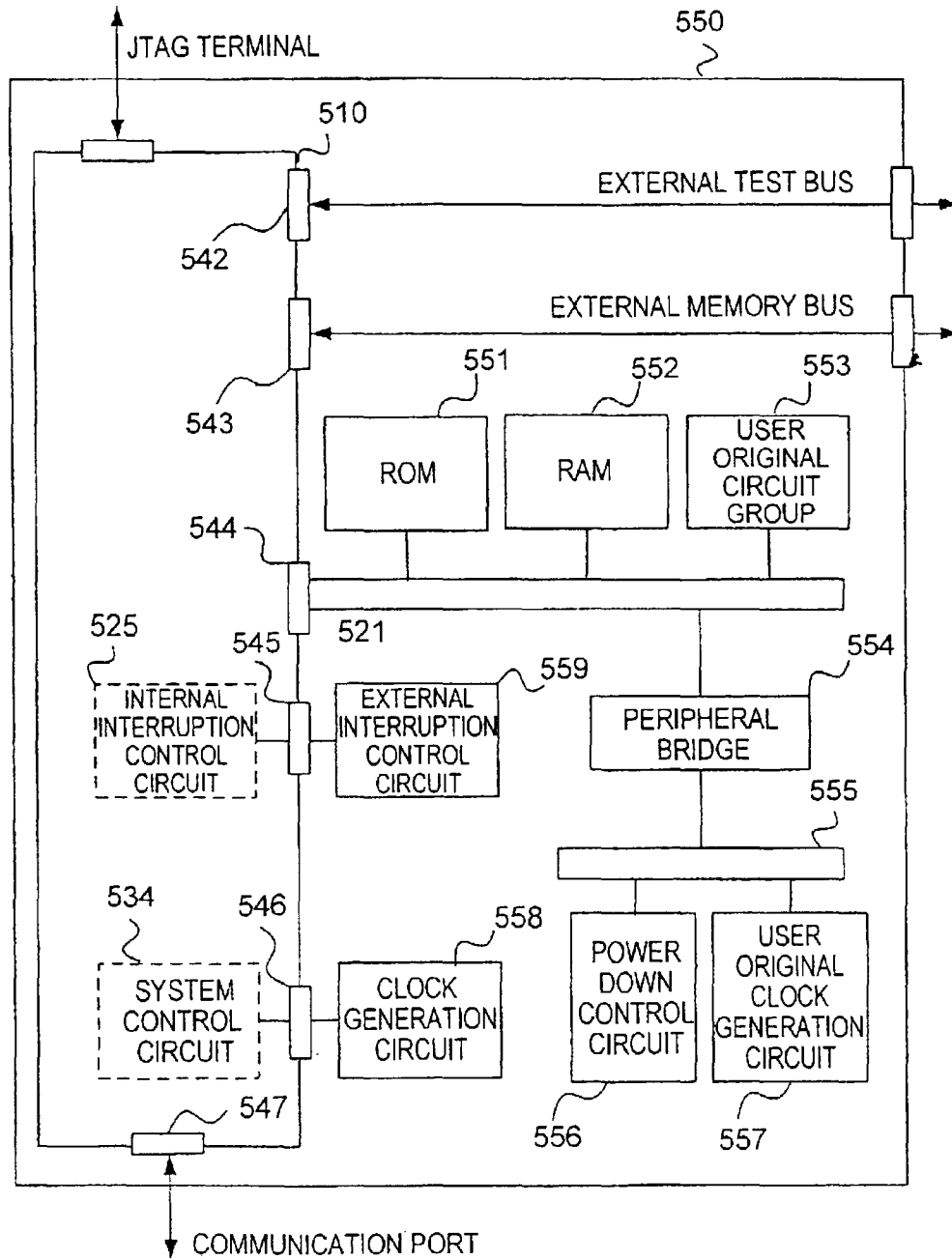


FIG.3

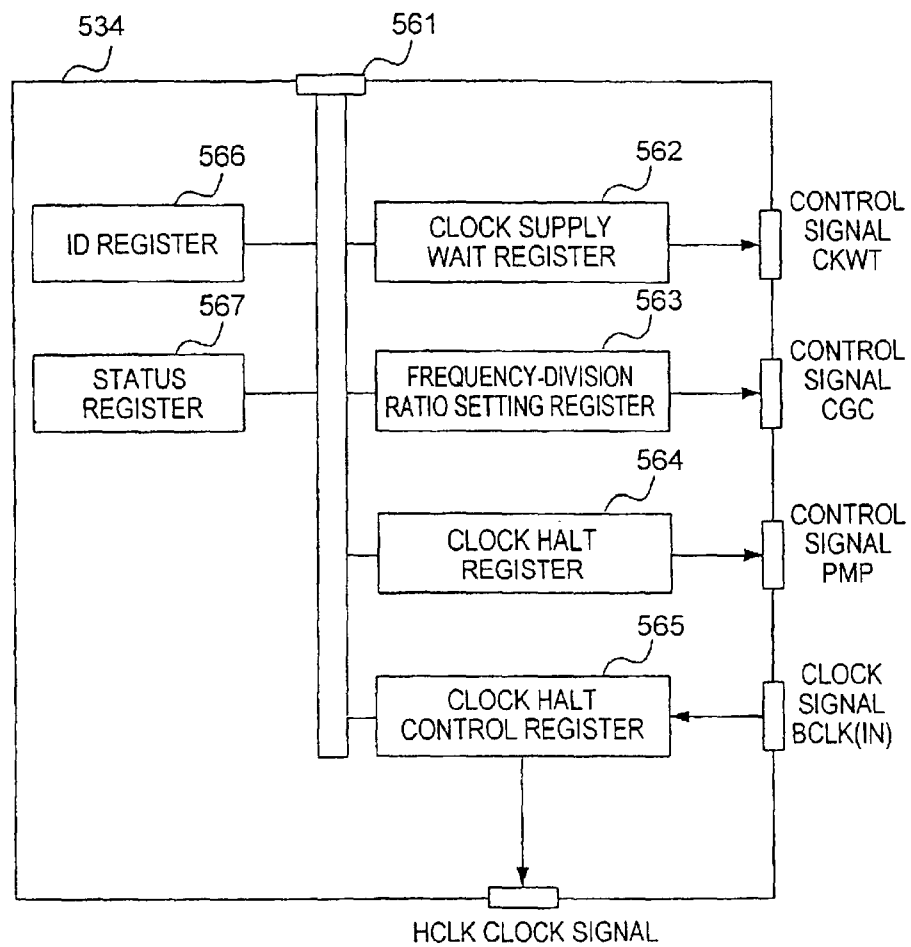
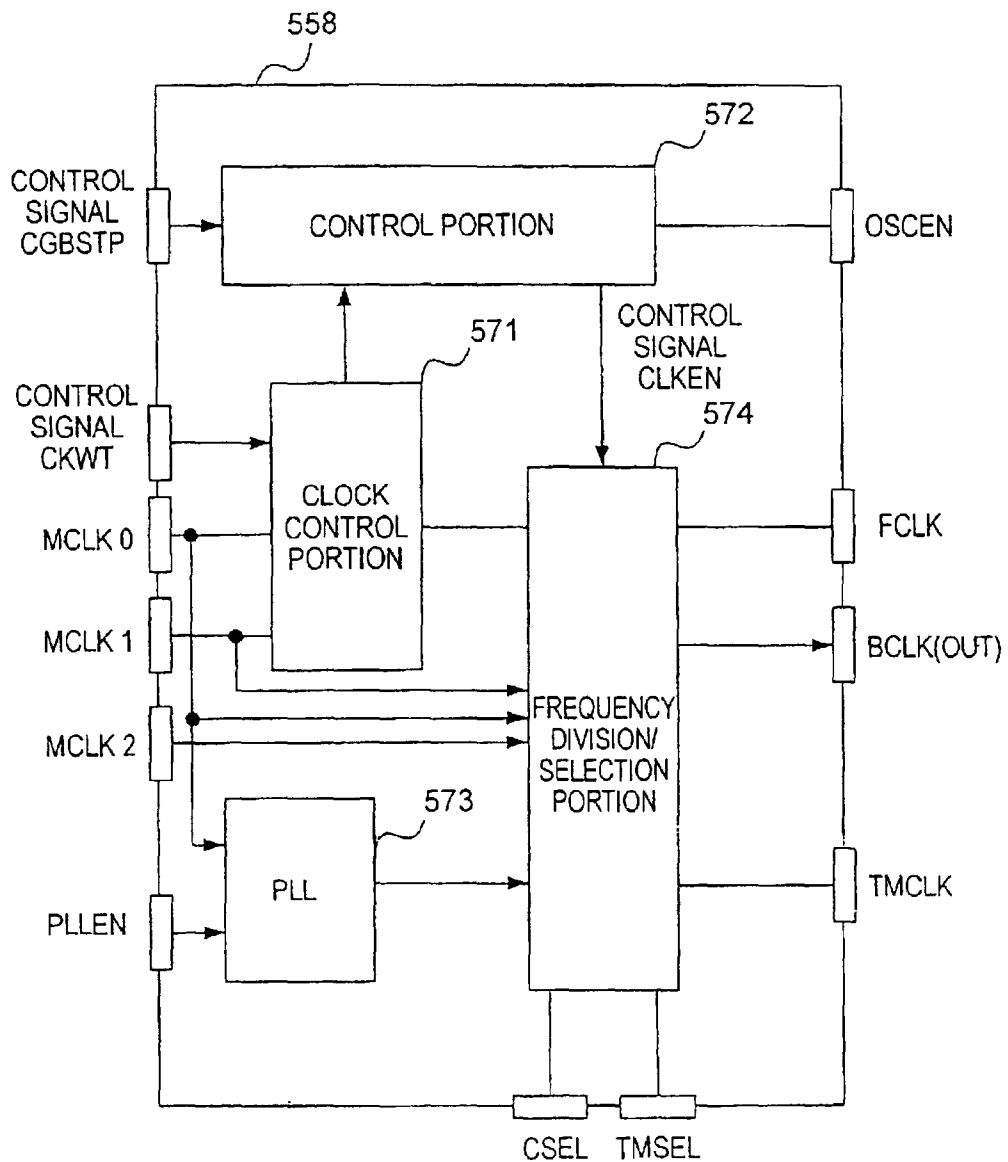


FIG.4



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.