

# EXHIBIT A

(10) **Patent No.:**      **US 6,853,259 B2**  
(45) **Date of Patent:**      **Feb. 8, 2005**

(54) RING OSCILLATOR DYNAMIC  
ADJUSTMENTS FOR AUTO CALIBRATION

(75) Inventors: **Robert D Norman**, Blaine, WA (US);  
**Dominik J. Schmidt**, Palo Alto, CA  
(US)

(73) Assignee: **Gallitzin Allegheny LLC**, Los Altos,  
CA (US)

(\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: 09/930,822

(22) Filed: **Aug. 15, 2001**

(65) **Prior Publication Data**

US 2003/0034848 A1 Feb. 20, 2003

(51) **Int. Cl.**<sup>7</sup> ..... **G01J 5/00**

(52) **U.S. Cl.** ..... **331/66; 331/176; 374/152;**  
**374/163; 374/170; 374/171; 374/185; 374/208**

(58) **Field of Search** ..... 331/66, 176; 374/152,  
374/163, 170-171, 185, 208

(56) **References Cited**

## U.S. PATENT DOCUMENTS

3,531,739	A	*	9/1970	Groves	331/116	R
3,719,838	A	*	3/1973	Peduto et al.	310/315	
4,308,492	A	*	12/1981	Mori et al.	322/28	
4,528,505	A	*	7/1985	Peterson	324/765	
4,611,181	A	*	9/1986	Fukumura et al.	331/66	
4,746,879	A	*	5/1988	Ma et al.	331/44	
4,922,212	A	*	5/1990	Roberts et al.	331/176	

5,379,230	A	*	1/1995	Morikawa et al. ....	702/57
5,440,520	A	*	8/1995	Schutz et al. ....	365/226
5,619,430	A	*	4/1997	Nolan et al. ....	702/63
5,739,728	A		4/1998	Kim	
5,801,594	A	*	9/1998	Muto et al. ....	331/158
5,805,403	A	*	9/1998	Chemla ....	361/103
5,890,100	A	*	3/1999	Crayford ....	702/130
5,912,595	A	*	6/1999	Ma et al. ....	331/117 D
5,956,289	A	*	9/1999	Norman et al. ....	365/233
6,002,627	A	*	12/1999	Chevallier ....	365/212
6,131,073	A	*	10/2000	Honda et al. ....	702/107
6,154,099	A		11/2000	Suzuki et al.	
6,160,755	A		12/2000	Norman et al.	
6,211,744	B1		4/2001	Shin	
6,442,500	B1	*	8/2002	Kim ....	702/132
6,476,682	B1	*	11/2002	Cole et al. ....	331/176
6,566,900	B2	*	5/2003	Amick et al. ....	324/760
2003/0034851	A1	*	2/2003	Norman et al. ....	331/66

\* cited by examiner

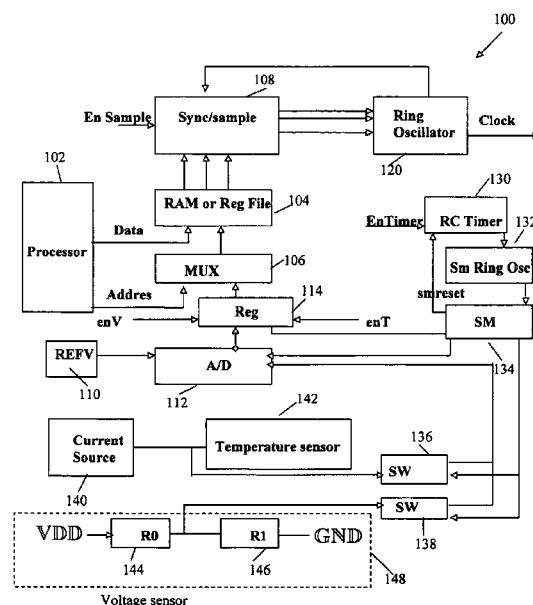
*Primary Examiner*—Michael Tokar

*Assistant Examiner*—Khai Nguyen

(57) **ABSTRACT**

An apparatus compensates for voltage and temperature variations on an integrated circuit with: a voltage sensor having a digital voltage output; a temperature sensor having a digital temperature output; a register coupled to the voltage sensor and the temperature sensor, the register adapted to concatenate the digital voltage output and the temperature output into an address output; and a memory device having an address input coupled to the address output of the register, the memory device being adapted to store one or more corrective vectors.

**20 Claims, 6 Drawing Sheets**



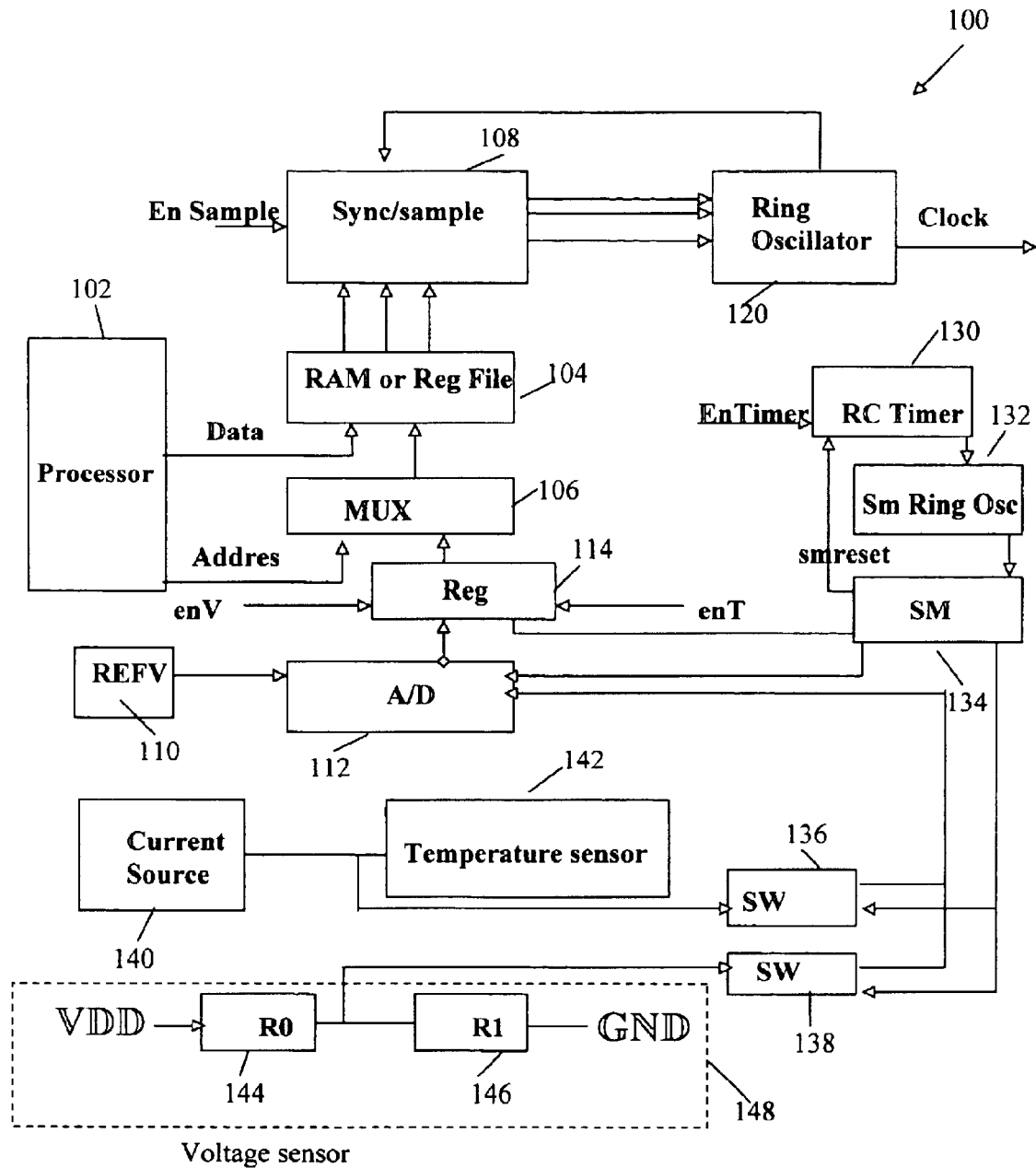


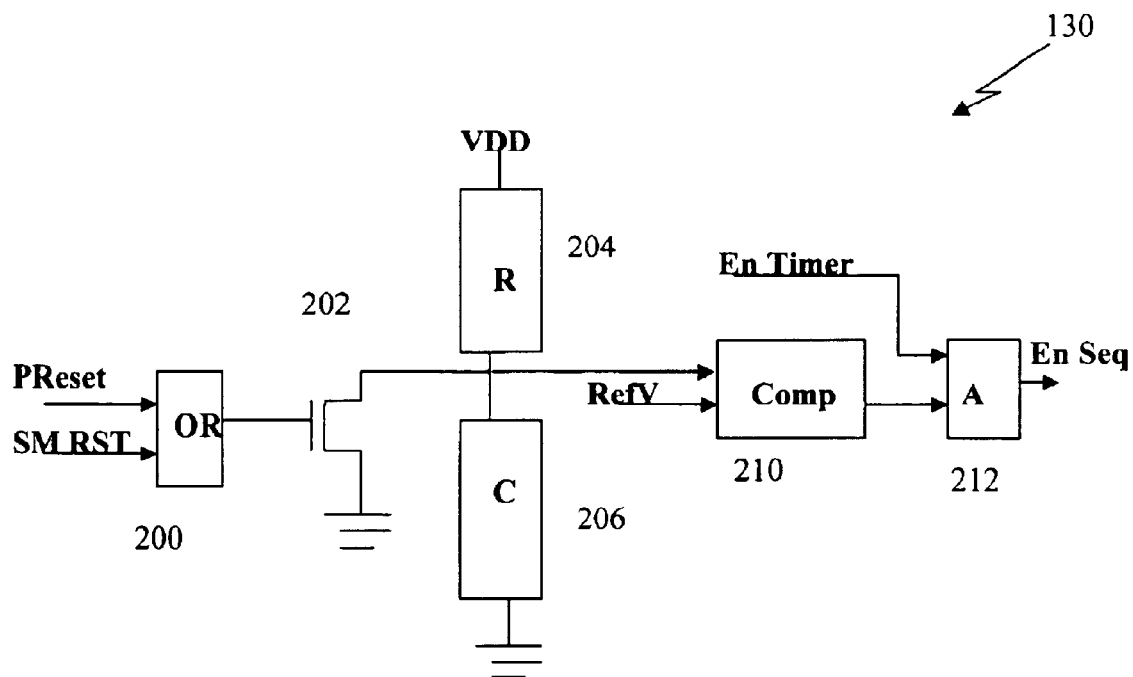
Fig. 1 - Combined V/T with 1 A/D

**U.S. Patent**

**Feb. 8, 2005**

**Sheet 2 of 6**

**US 6,853,259 B2**



**Fig 2 - RC Timer**

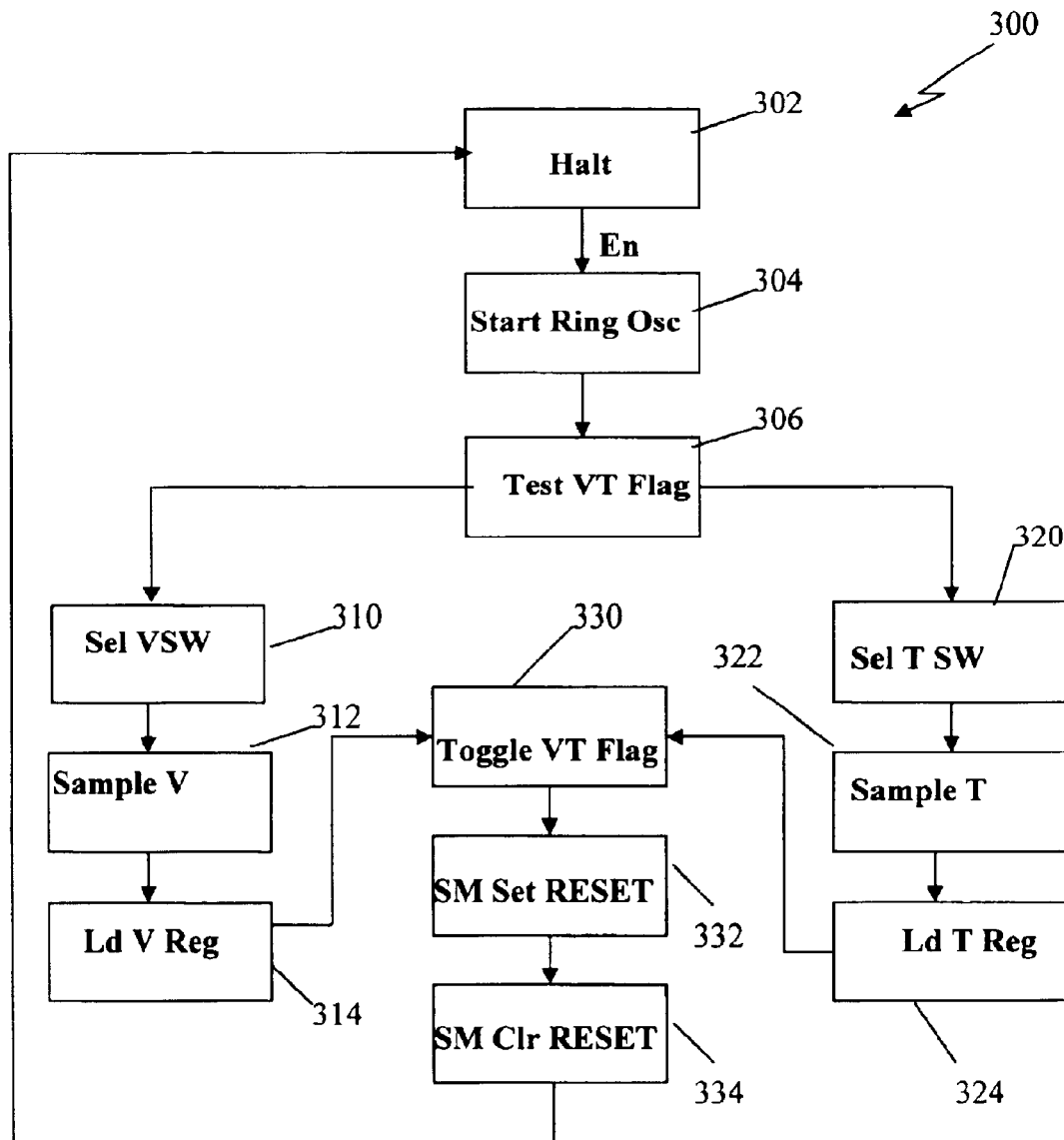


Fig 3 - SM Sequence

# 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.