

EXHIBIT 3



US006973334B2

(12) **United States Patent**
Katagishi et al.

(10) **Patent No.:** **US 6,973,334 B2**
(45) **Date of Patent:** **Dec. 6, 2005**

(54) **CELLULAR TELEPHONE**

(75) Inventors: **Makoto Katagishi**, Chigasaki (JP);
Shirou Machida, Yokohama (JP)

(73) Assignee: **Hitachi, Ltd.**, Tokyo (JP)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 367 days.

(21) Appl. No.: **10/142,051**

(22) Filed: **May 10, 2002**

(65) **Prior Publication Data**
US 2002/0132587 A1 Sep. 19, 2002

Related U.S. Application Data

(63) Continuation of application No. 09/436,502, filed on Nov. 9, 1999, now Pat. No. 6,408,193.

(30) **Foreign Application Priority Data**
Nov. 10, 1998 (JP) P10-318689

(51) **Int. Cl.**⁷ **H04Q 7/20; H04Q 7/32**

(52) **U.S. Cl.** **455/571; 455/522; 455/69; 455/550.1; 455/126; 455/127.1; 455/115; 370/311; 375/345**

(58) **Field of Search** **455/571, 574, 455/126, 127.1, 115, 116, 118, 121, 125, 455/73, 232.1, 132.4, 239.1, 240.1, 550.1, 455/250.1, 251.1, 245.1, 422.1, 403, 412.1, 455/412.2, 522, 69, 500, 517, 426.1, 426.2, 455/432.1, 445, 507, 67.1, 423, 424; 370/342, 370/311; 375/345**

(56) **References Cited**

U.S. PATENT DOCUMENTS

4,335,468 A *	6/1982	Foster et al.	455/501
5,056,109 A	10/1991	Gilhousen et al.	
5,452,473 A	9/1995	Weiland et al.	
5,710,981 A *	1/1998	Kim et al.	455/69
6,434,130 B1 *	8/2002	Soininen et al.	370/331
6,434,373 B2 *	8/2002	Ichihara	455/127.5

FOREIGN PATENT DOCUMENTS

JP	4-277909	10/1992
JP	6-252797	9/1994
JP	9-46152	2/1997

* cited by examiner

Primary Examiner—Keith T. Ferguson

(74) *Attorney, Agent, or Firm*—Mattingly, Stanger, Malur & Brundidge PC

(57) **ABSTRACT**

A cellular telephone includes a receiver connected to an antenna through a duplexer. The receiver converts a first communication signal into a voice signal code, and outputs a signal indicating an intensity of the first communication signal. The cellular telephone also includes a transmitter connected to an encoder/decoder apparatus and to the antenna through the duplexer. The receiver converts the input voice code signal from the encoder/decoder apparatus into a second communication signal. A controller controls the amplitude of the transmitter corresponding to the intensity of the first communication signal. The transmitter includes a variable amplitude amplifier and a power amplifier, and the controller includes a central processing unit and a memory. The controller controls a gain of the variable amplitude amplifier and a bias condition of the power amplifier according to a function stored in the memory.

6 Claims, 8 Drawing Sheets

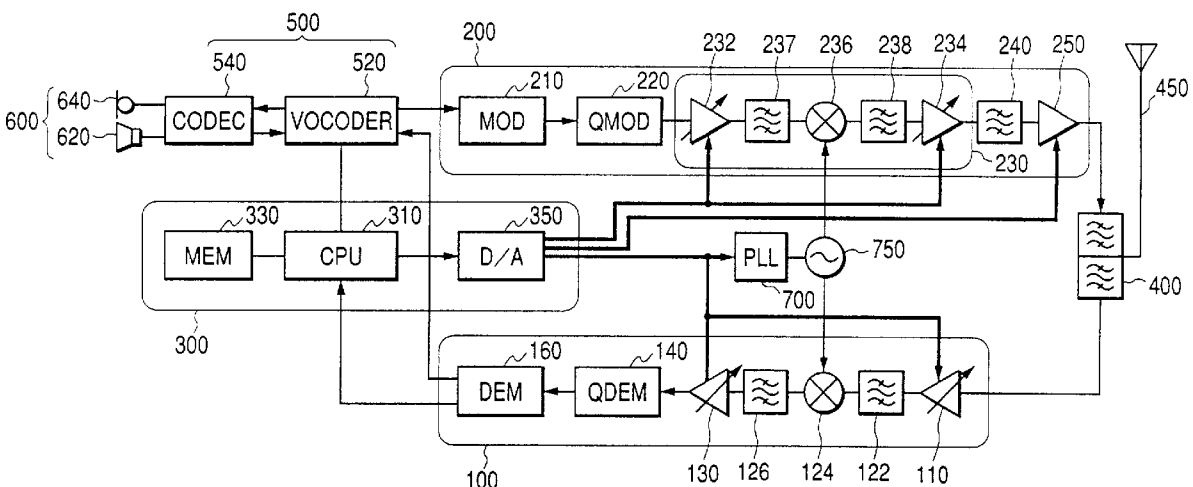


FIG. 1

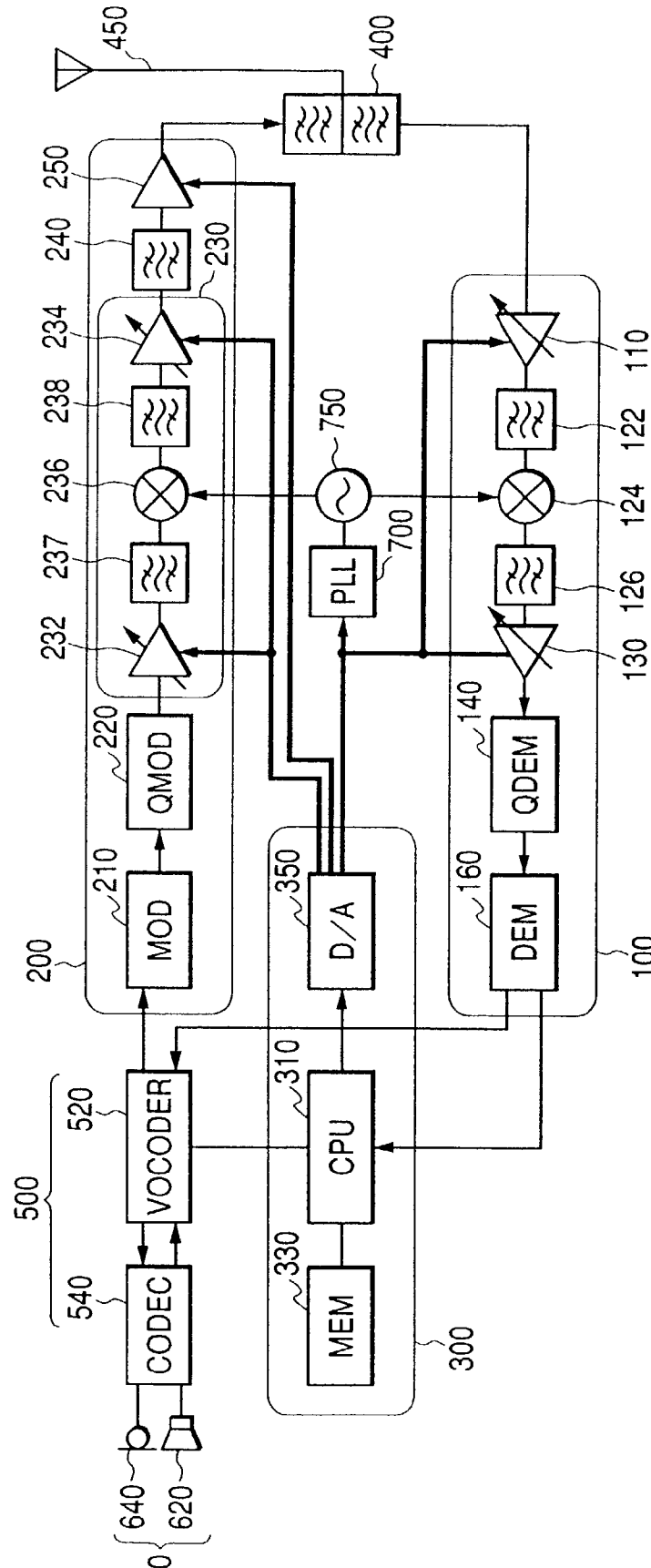


FIG. 2

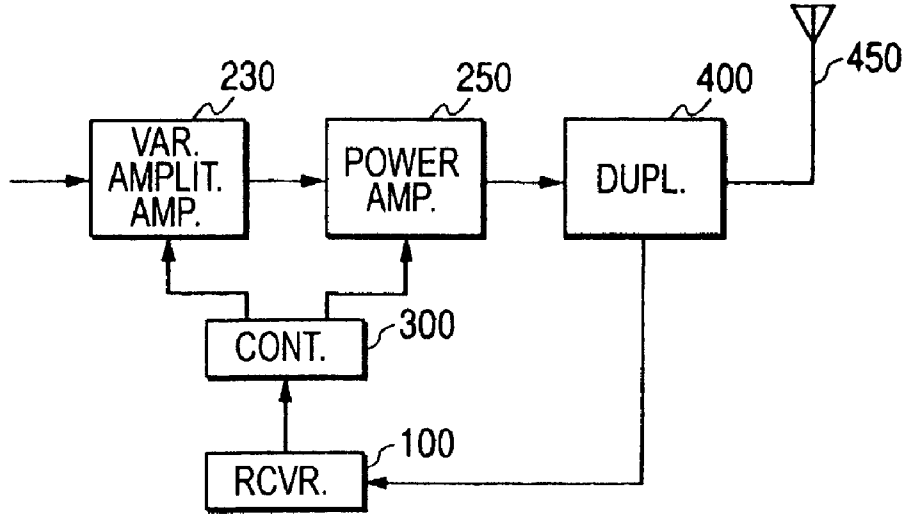


FIG. 3

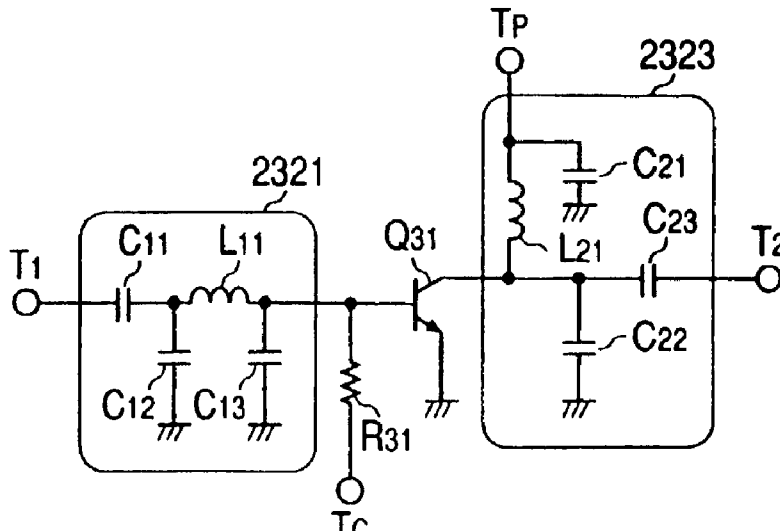


FIG. 4

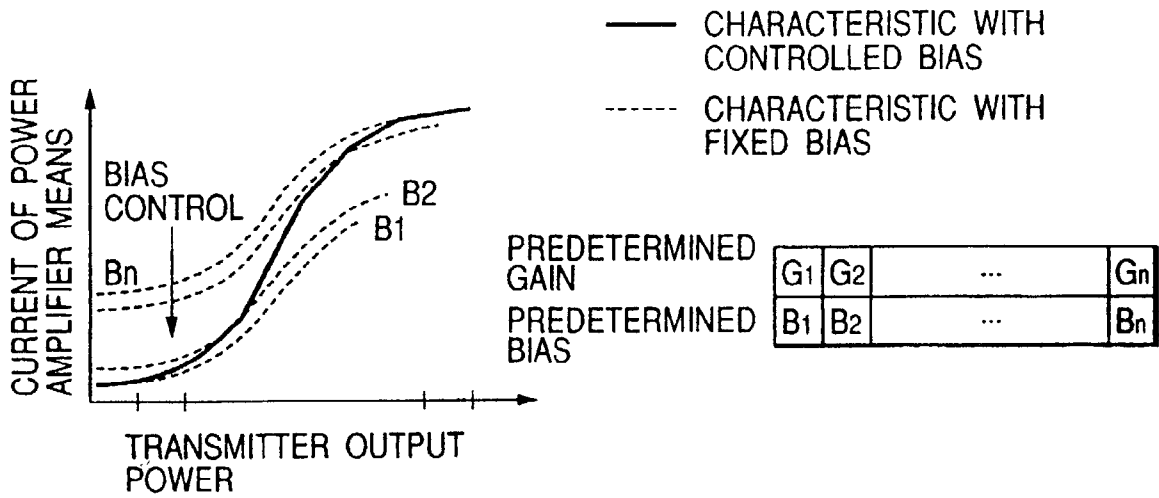
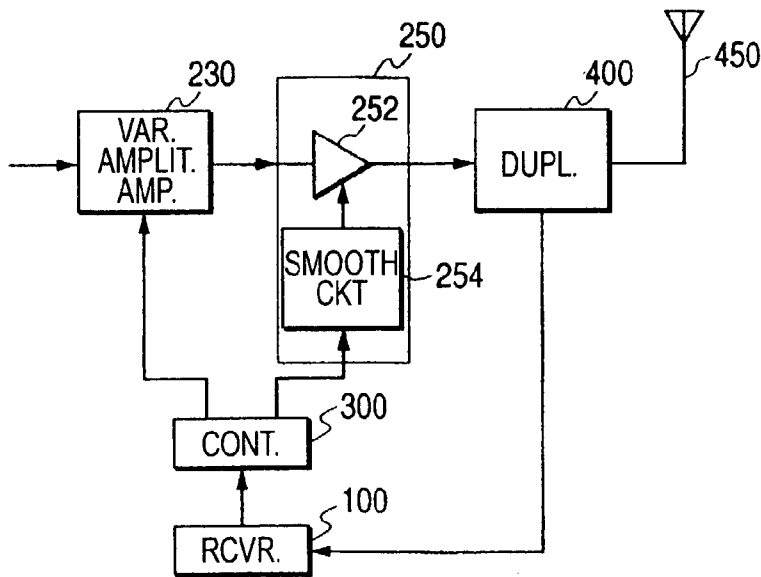


FIG. 5



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.