US006169789B1

(12) **United States Patent** (10) Patent No.: **US 6,169,789 B1**

Rao et al. (45) **Date of Patent: Jan. 2, 2001**

(54) **INTELLIGENT KEYBOARD SYSTEM**

(76) Inventors: **Sanjay K. Rao; Sunil K. Rao; Raman K. Rao**, all of 3087 Alexis Dr., Palo Alto, CA (US) 94301

(*) Notice: Under 35 U.S.C. 154(b), the term of this patent shall be extended for 0 days.

(21) Appl. No.: **09/281,739**

(22) Filed: **Jun. 4, 1999**

Related U.S. Application Data

(63) Continuation-in-part of application No. 08/764,903, filed on Dec. 16, 1996, now abandoned.

(51) **Int. Cl.**[7] **H04M 11/00**
(52) **U.S. Cl.** **379/110.01**; 379/90.01
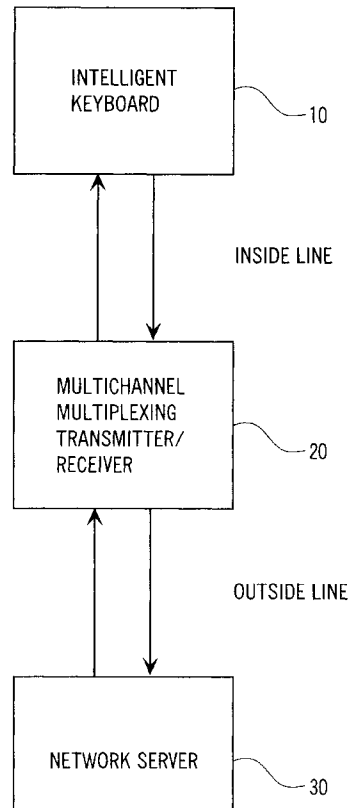(58) **Field of Search** .... 379/110.01, 90.01, 379/93.05, 93.37, 100.01, 102.02, 102.03, 419, 420, 428, 429, 441, FOR 132

(56) **References Cited**

U.S. PATENT DOCUMENTS

4,465,401	*	11/1995	Thompson	.... 379/420
4,675,653	*	6/1987	Priestley	.... 379/110.01
5,195,130	*	3/1993	Weiss et al.	.... 379/110.01
5,577,118	*	11/1996	Sasaki et al.	.... 379/428

FOREIGN PATENT DOCUMENTS

WO92/03884 * 3/1992 (WO) 379/FOR 132

* cited by examiner

Primary Examiner—Wing F. Chan
(74) *Attorney, Agent, or Firm*—Trial & Technology Law Group

(57) **ABSTRACT**

This invention generally relates to a system level scheme utilizing an intelligent keyboard, hereafter called an Intellikeyboard, which can operate as a universal compute, command, and control module that interfaces either through wired or wireless means with a number of intelligent appliances, personal computers, work-stations, servers, televisions, printers, smart devices, intelligent devices, telephones, or other devices. The Intellikeyboard has the ability to transmit and receive voice, text, graphics, and other data through either wired or wireless means. The Intellikeyboard may work in tandem with a local or network server to perform standard computing functions, serve as a command and control unit, perform standard telephony functions, transmit and receive electronic mail, voice mail, video, and audio. The invention also anticipates the need for multichannel and sequential/simultaneous tasking and interface with numerous intelligent appliances and devices.

1 Claim, 12 Drawing Sheets

TO PRINTER
(OPTIONAL)

TO PC
(OPTIONAL)

INTELLIKEYBOARD

AUDIO/VIDEO-
INPUT/OUTPUT

CRT/TV DISPLAY
OUTPUT

POWER
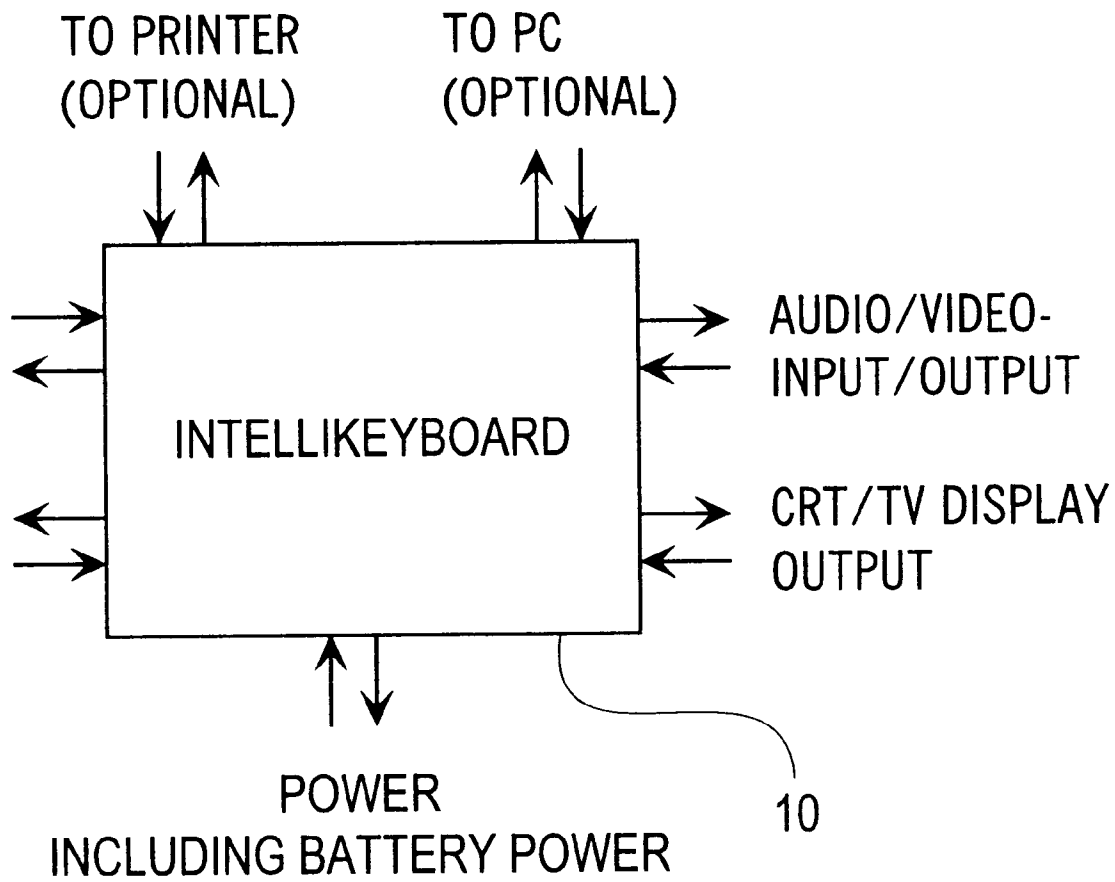INCLUDING BATTERY POWER

10

FIGURE 1

| DISPLAY | TELEPHONY MAY INCLUDE BUILT-IN MICROPHONE AND SPEAKERS | INPUT BLOCK RECEIVER BLOCK DECODER BLOCK INPUT BUFFER BLOCK INPUT CONTROLLER BLOCK PROCESSOR BLOCK DATA COMPRESSION BLOCK OUTPUT BUFFER BLOCK OUTPUT CONTROLLER BLOCK ENCODER BLOCK TRANSMISSION BLOCK MEMORY BLOCK DATA STORAGE BLOCK PROGRAMMABLE LOGIC BLOCK | TRANSMIT/RECEIVE FUNCTION OR MODEM WHICH MAY OPERATE THROUGH EITHER WIRED OR WIRELESS MEANS |

FIGURE 2

MULTIPLE INPUTS FROM
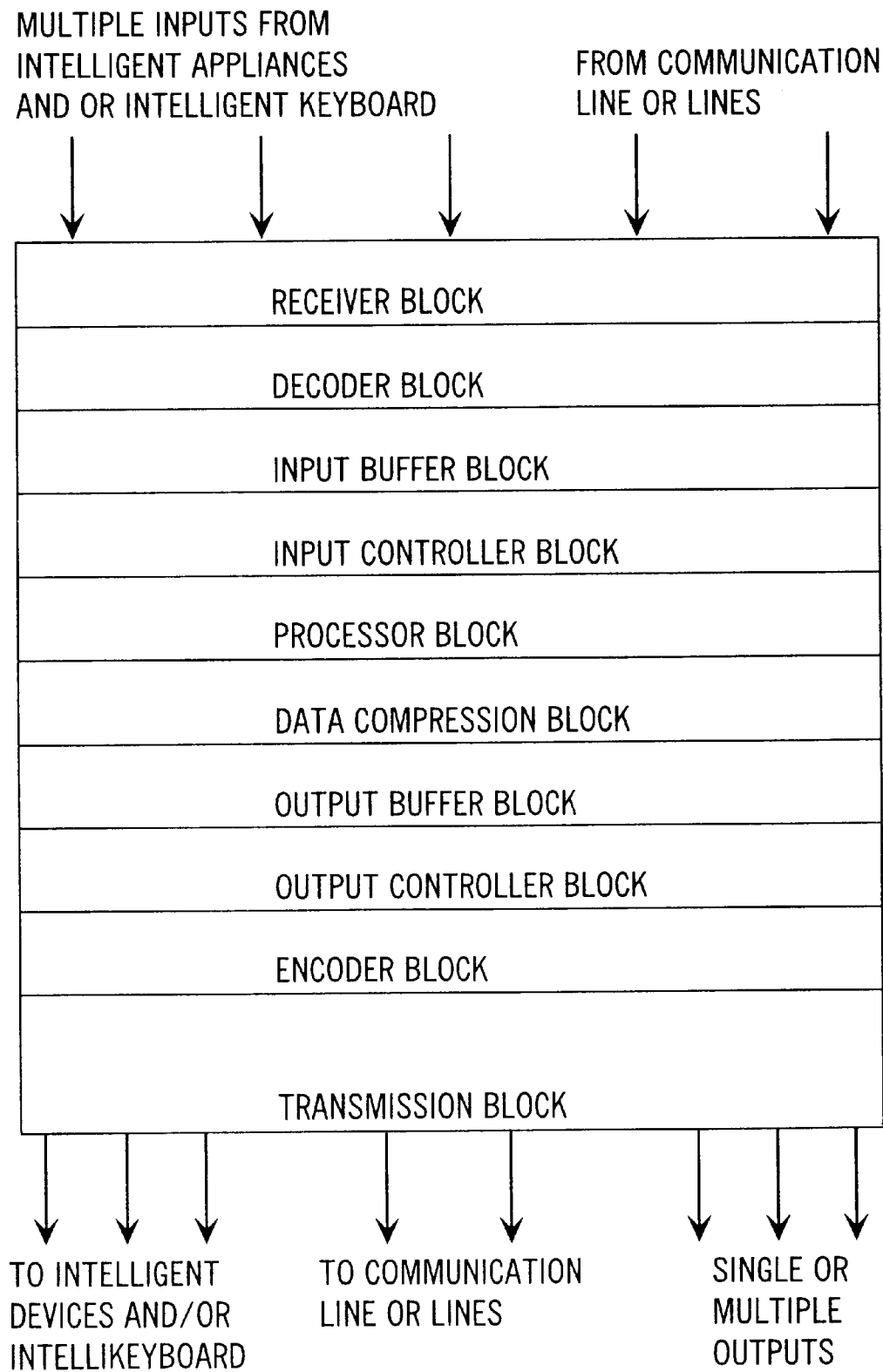INTELLIGENT APPLIANCES
AND OR INTELLIGENT KEYBOARD

FROM COMMUNICATION
LINE OR LINES

RECEIVER BLOCK

DECODER BLOCK

INPUT BUFFER BLOCK

INPUT CONTROLLER BLOCK

PROCESSOR BLOCK

DATA COMPRESSION BLOCK

OUTPUT BUFFER BLOCK

OUTPUT CONTROLLER BLOCK

ENCODER BLOCK

TRANSMISSION BLOCK

TO INTELLIGENT
DEVICES AND/OR
INTELLIKEYBOARD

TO COMMUNICATION
LINE OR LINES

SINGLE OR
MULTIPLE
OUTPUTS

FIGURE 3

SENDING DATA:

CODE	INFORMATION	CODE

RECEIVING DATA:

DECODE	INFORMATION	DECODE

FIGURE 4

DOCKET ALARM

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.

fastcase®
Smarter legal research.