



US005469152A

# United States Patent [19]

[11] **Patent Number:** 5,469,152

**Yamamoto et al.**

[45] **Date of Patent:** Nov. 21, 1995

[54] **REMOTE CONTROL DEVICE THAT TRANSMITS SIGNALS INDICATING TERMINATION OF KEY PRESSING OPERATIONS**

4,514,732	4/1985	Hayes, Jr. ....	340/825.57
4,663,626	5/1987	Smith .....	340/825.57
4,712,105	12/1987	Köhler .....	340/825.69
4,818,920	4/1989	Jacob .....	318/16
5,055,937	10/1991	Yamada et al. ....	360/14.1

[75] Inventors: **Hiroataka Yamamoto; Tamiya Tanaka,**  
both of Kanagawa, Japan

### FOREIGN PATENT DOCUMENTS

2533380	9/1982	France .....	H03J 1/00
3404976	7/1985	Germany .....	G05G 1/02

[73] Assignee: **Sony Corporation,** Tokyo, Japan

### OTHER PUBLICATIONS

[21] Appl. No.: **271,277**

Patent Abstracts of Japan, Pub.#JP60001916, Pub. Jan. 8, 1985, Sony KK, European Patent Office, vol. 9, No. 110.

[22] Filed: **Jul. 6, 1994**

### Related U.S. Application Data

*Primary Examiner*—Donald J. Yusko  
*Assistant Examiner*—Edward Merz  
*Attorney, Agent, or Firm*—Pasquale Musacchio; Jerry A. Miller

[63] Continuation of Ser. No. 885,085, May 18, 1992, abandoned.

### Foreign Application Priority Data

### [57] ABSTRACT

May 20, 1991 [JP] Japan ..... 3-143870

A remote control device controls an electronic system that has a number of functions. The remote control device has a limited number of function keys, and certain keys correspond to different functions of the electronic system. In order to permit discrimination of the function keys, the length of time during which the function key is actuated is employed in the electronic system. To prevent erroneous control caused by artificial interruption of the control signal, the remote control device appends one of two different time code signals to the key code corresponding to the actuated function key, whereby discrimination of the actuation time at the electronic system is made possible.

[51] Int. Cl.<sup>6</sup> ..... **H04Q 9/14; H04Q 7/00**

[52] U.S. Cl. .... **340/825.63; 340/825.69; 340/825.24; 341/176; 359/148**

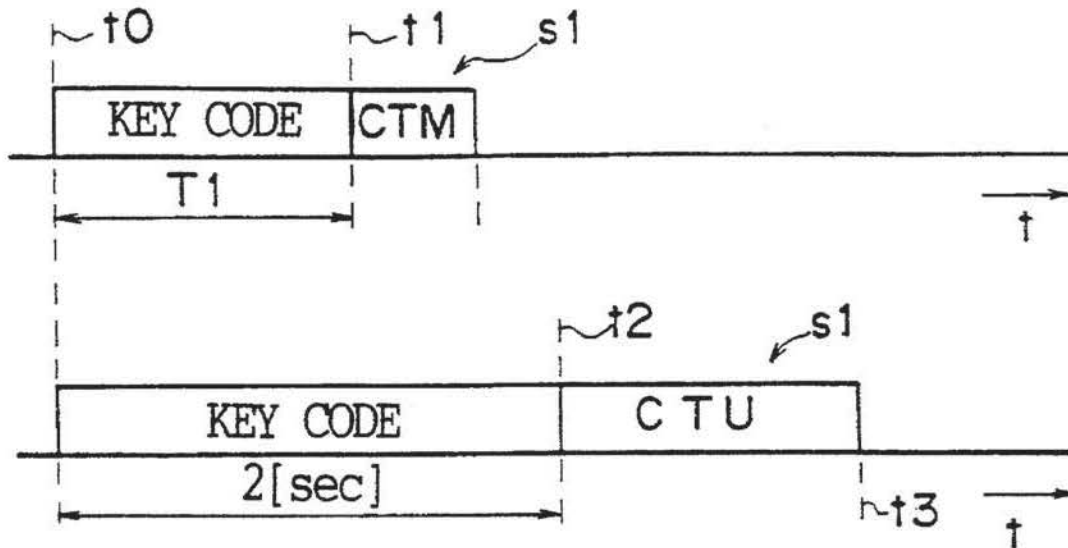
[58] **Field of Search** ..... 340/825.24, 825.25, 340/825.57, 825.69, 825.72, 825.63; 358/194.1, 86, 335; 360/14.1, 33.1; 369/24, 50; 359/148; 341/176

### [56] References Cited

#### U.S. PATENT DOCUMENTS

4,202,038	5/1980	Petersson .....	341/23
4,459,591	7/1984	Haubner et al. ....	340/825.57

**7 Claims, 7 Drawing Sheets**



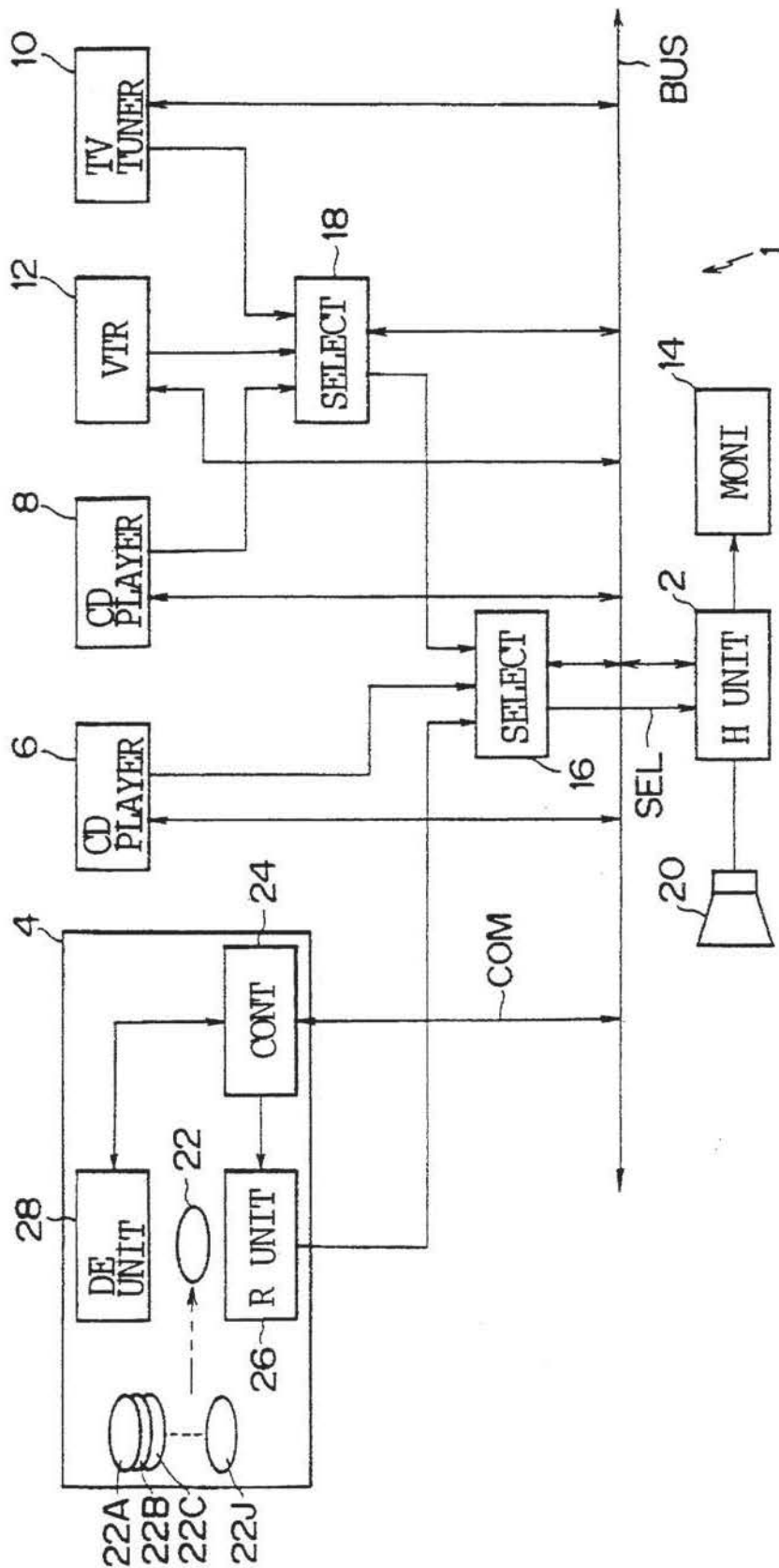


FIG. 1

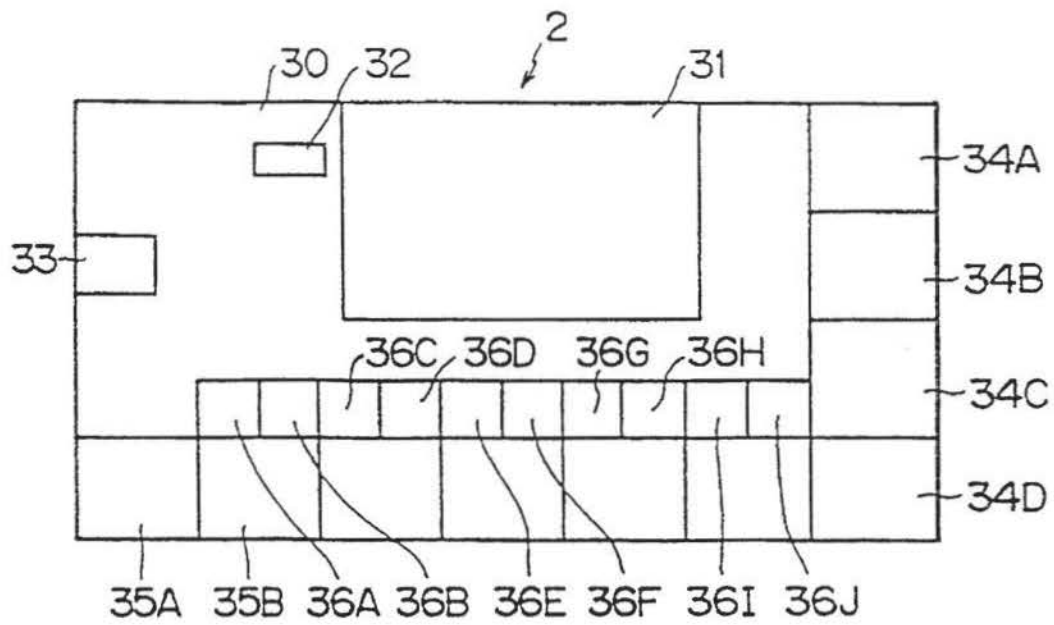


FIG. 2

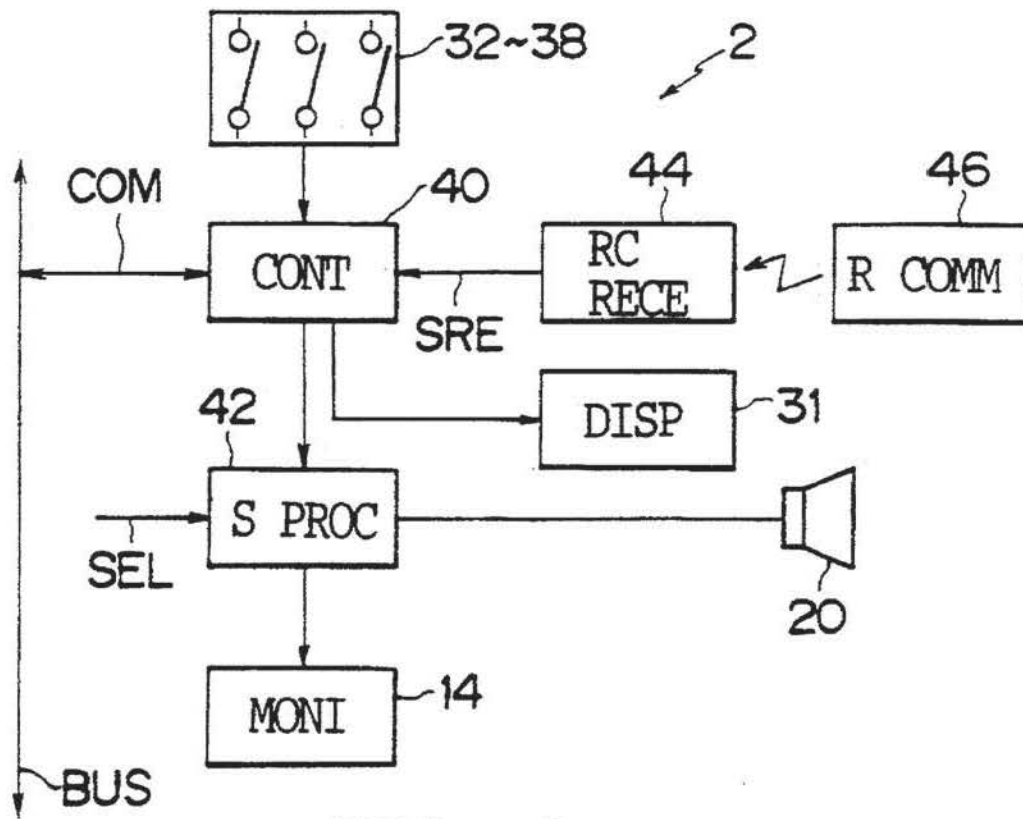


FIG. 3

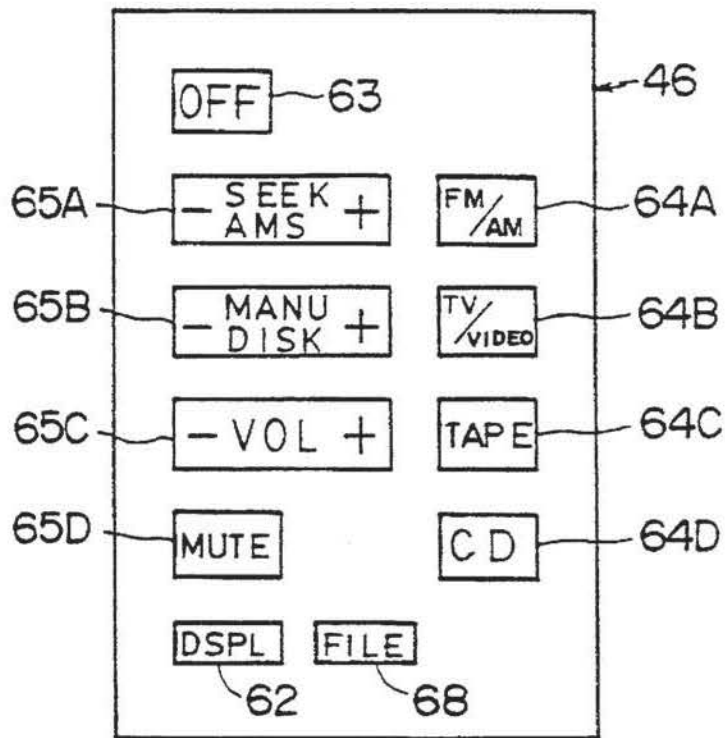


FIG. 4

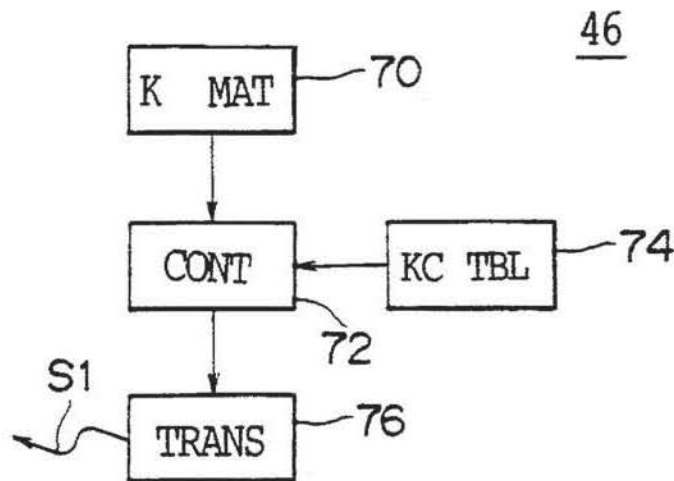


FIG. 5

# 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.