

(54) **MULTIMEDIA PC KEYBOARD EXTENDED WITH MUSIC CONTROL KEYS**

(75) Inventor: **Enrique I. Moreno**, 103 Kellogg Ave., Palo Alto, CA (US) 94301

(73) Assignee: **Enrique I. Moreno**, Palo Alto, 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.: **09/369,228**

(22) Filed: **Aug. 5, 1999**

(51) Int. Cl.<sup>7</sup> ..... **H03K 17/94**

(52) U.S. Cl. .... **341/22; 84/744; 84/745**

(58) **Field of Search** ..... **341/22; 84/744, 84/745, 600; 345/168**

(56) **References Cited**

**U.S. PATENT DOCUMENTS**

5,565,641 A	*	10/1996	Gruenbaum	84/615
5,646,648 A	*	7/1997	Bertram	341/22
6,063,994 A	*	5/2000	Kew et al.	84/600

\* cited by examiner

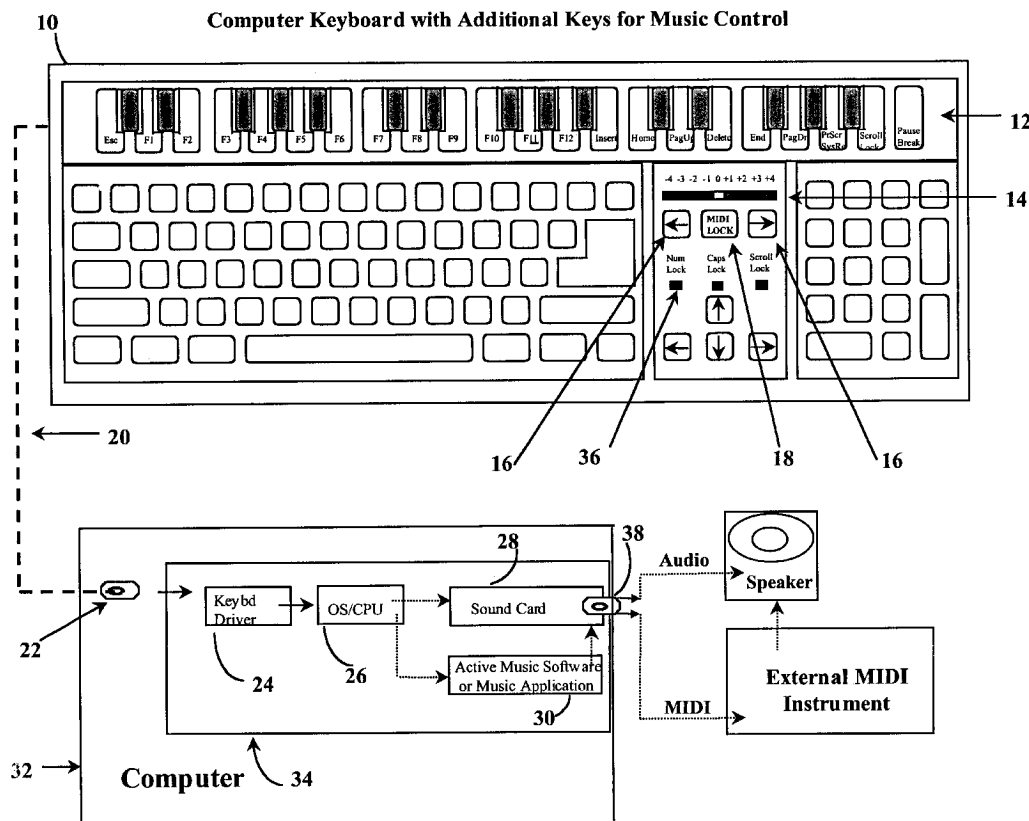
Primary Examiner—Timothy Edwards

(74) *Attorney, Agent, or Firm*—Lumen Intellectual Property Services, Inc.

(57) **ABSTRACT**

A dual mode keyboard system with a modified keyboard arrangement allows PC users to have real-time control of MIDI data. By toggling the keyboard system between a MIDI data input mode and an alphanumeric data input mode. The key board used in the current invention may either be a separate unit connected to a PC through a keyboard port or may be integrated as a single unit with PC hardware. The keyboard preferably has keys that are capable of operating in MIDI input mode and that are positioned at the top portion of the keyboard. The MIDI input keys are arranged to represent a keyboard instrument, such as a piano. The keyboard also has a MIDI control section for toggling between the MIDI input mode and the alphanumeric input mode, wherein the control section also has keys for choosing operating transposition octave levels of MIDI input keys. The keyboard is typically interfaced with the keyboard driver program and operating system or CPU of the PC. MIDI data inputted from the keyboard can directed through a sound card or music application software, before being played by an audio system or being sent to an external MIDI instrument. The dual mode keyboard system of the current invention provides for a simple and low cost alternative to current MIDI data manipulation systems.

**13 Claims, 4 Drawing Sheets**



### Computer Keyboard with Additional Keys for Music Control

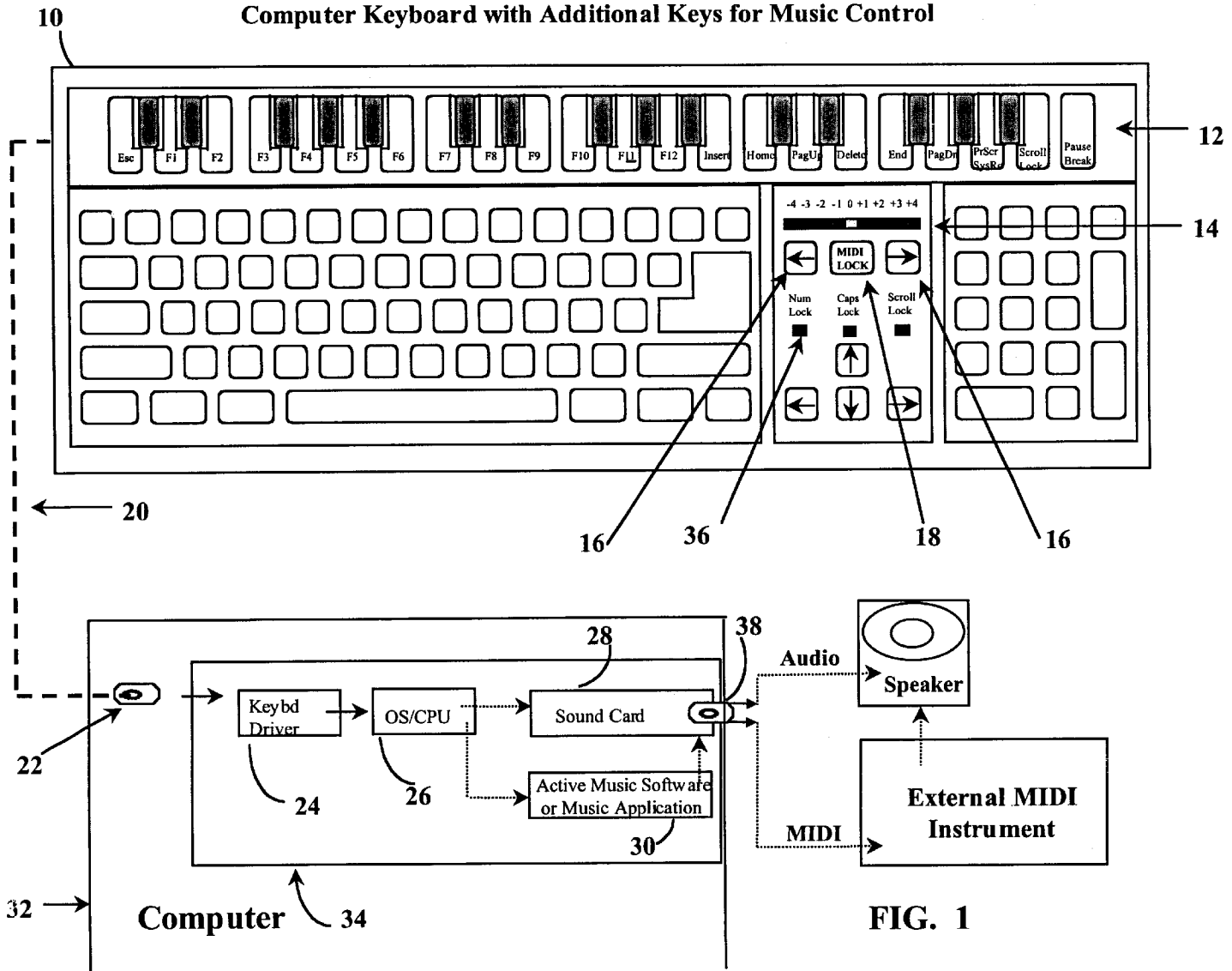


FIG. 1

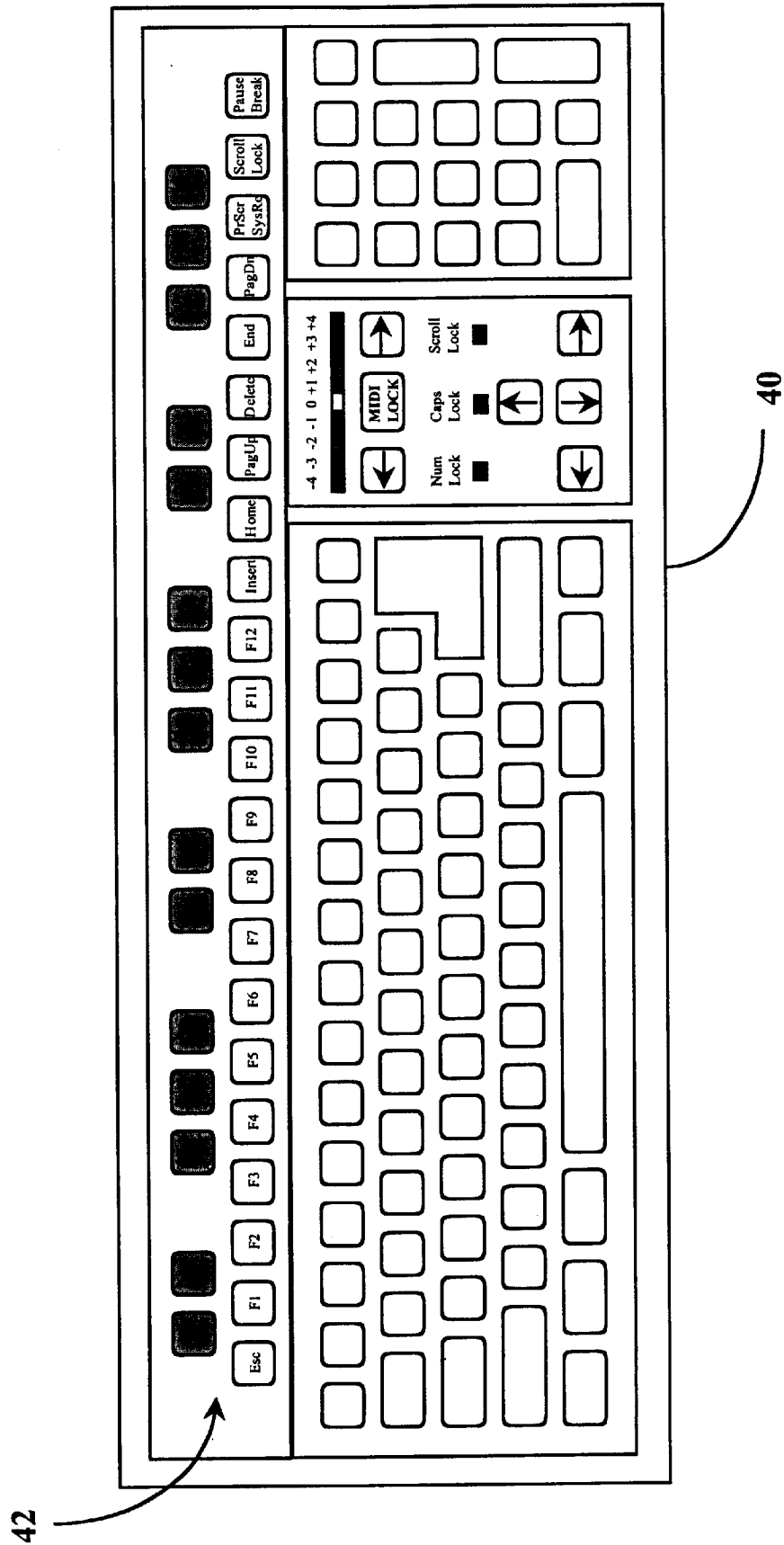


FIG. 2

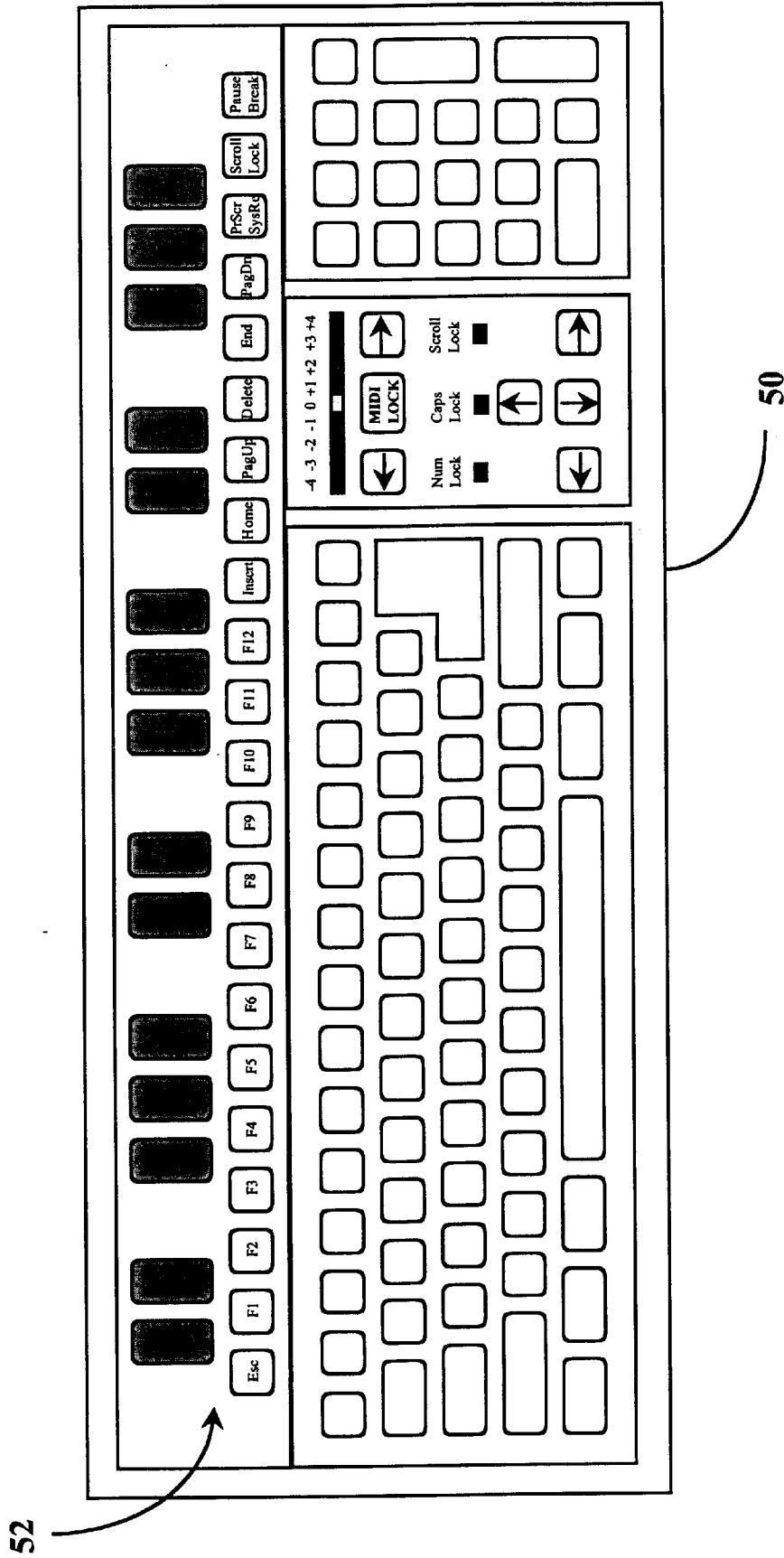


FIG. 3

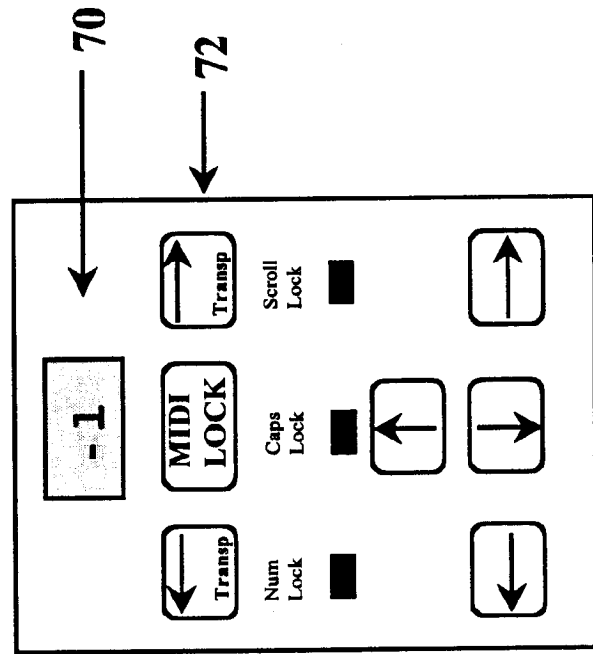


FIG. 4

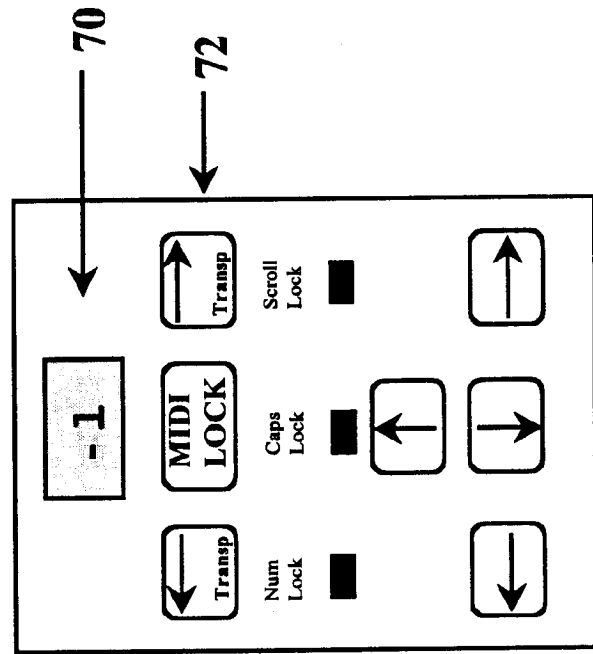


FIG. 5

# 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.