

(19) **United States**

(12) **Patent Application Publication** (10) **Pub. No.: US 2003/0036825 A1**

Kim

(43) **Pub. Date: Feb. 20, 2003**

(54) **MULTIWAY CONTROL SYSTEM FOR KEYSSET**

(52) **U.S. Cl. 701/1**

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(57) **ABSTRACT**

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(21) **Appl. No.: 10/254,944**

(22) **Filed: Sep. 23, 2002**

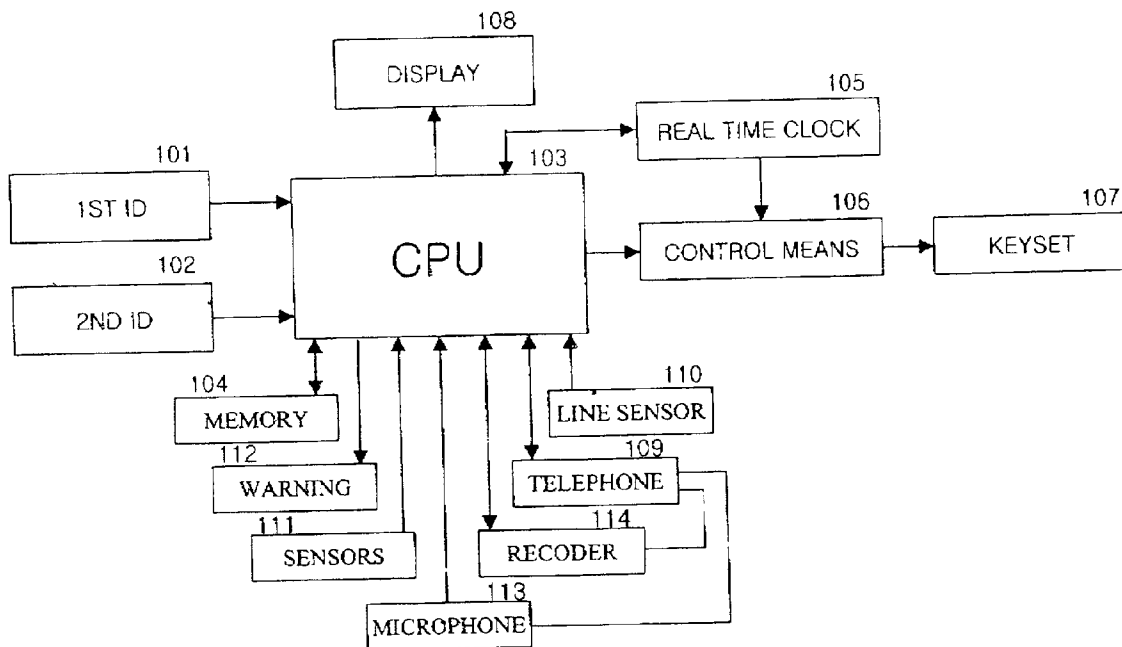
Related U.S. Application Data

(63) **Continuation of application No. PCT/KR01/00495, filed on Mar. 28, 2001.**

Publication Classification

(51) **Int. Cl.7 G06F 7/00**

This invention is related to a method and a system apparatus for replacing the conventional key with user's personal digital data which users are always carrying for the multi-way control of a vehicle for a normal driving, an abnormal driving, an anti-carjacking, a keyless ignition and a key-free valet parking, as well as the multi-way control of the keyset of a safe, a filing cabinet, a lockable door, and a military armaments according to the digital data of user's input without installing a costly PC network Accordingly, the present invention also provides a system apparatus of the hotel door lock system which hotel guests make their own digital unlocking system utilizing their own personal card or password for replacing the existing key so that it does not need any special cards nor keys to carry extra.



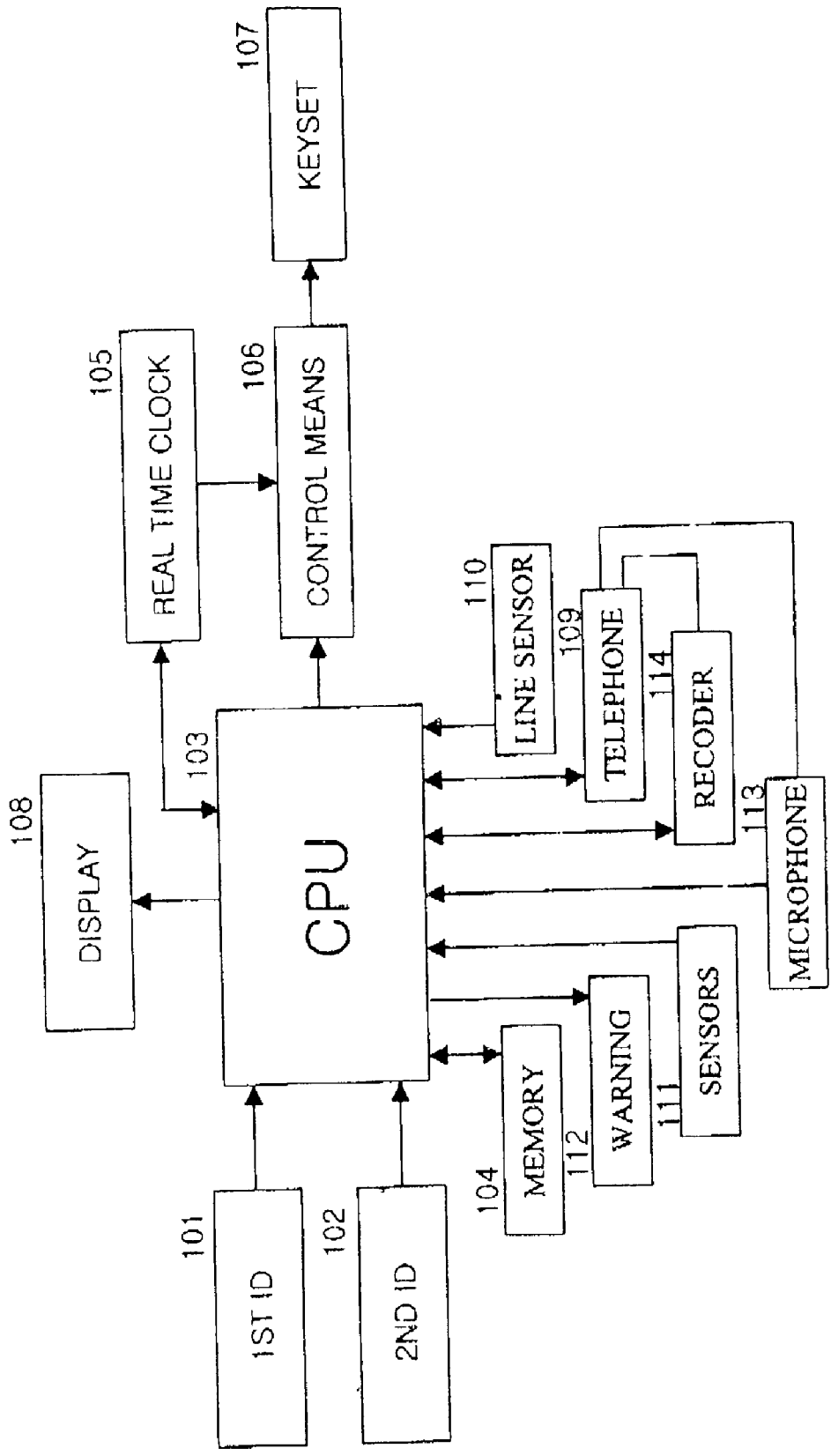


FIG. 1

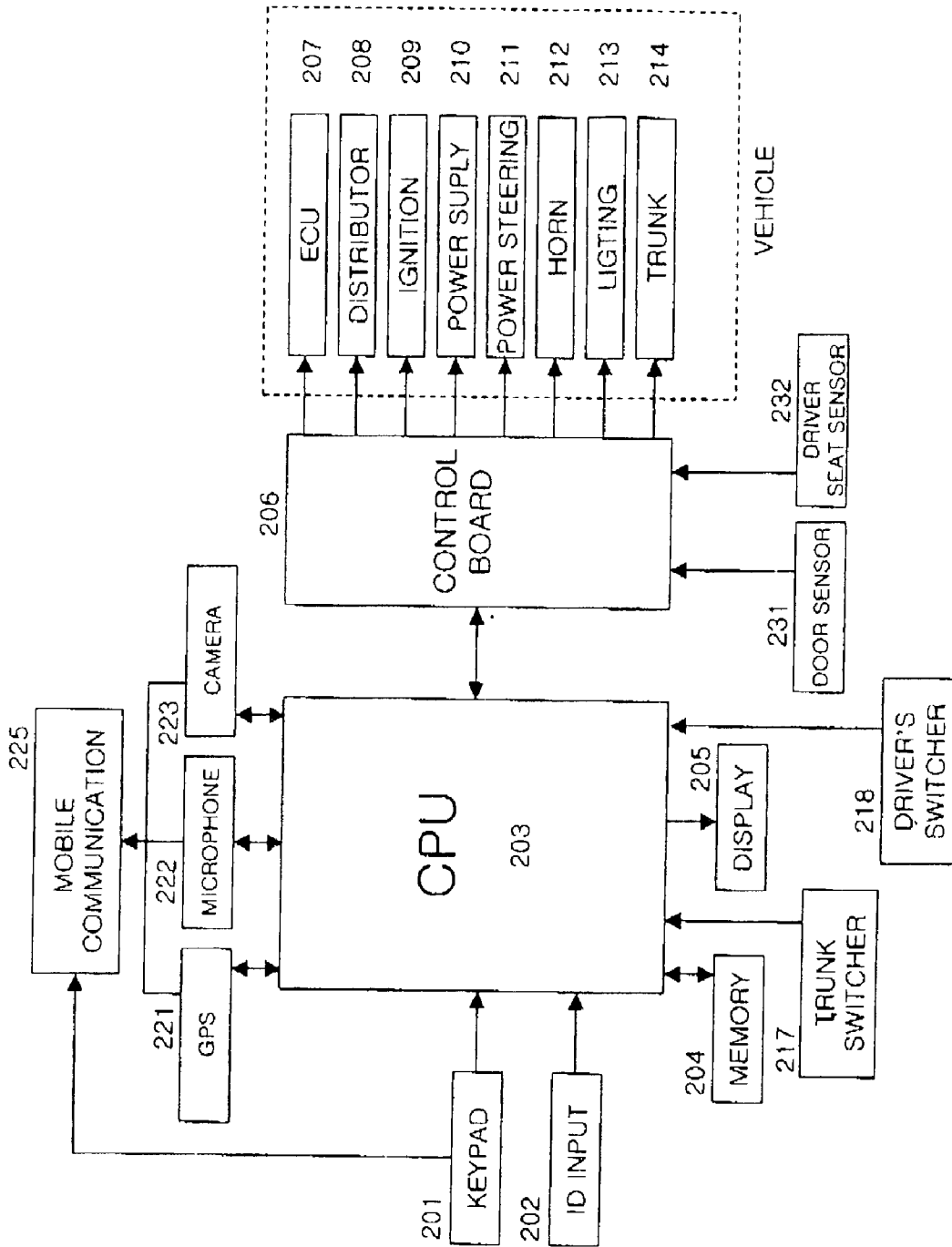


FIG. 2

MULTIWAY CONTROL SYSTEM FOR KEYSSET

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application is a continuation of co-pending International Application No. PCT/KR01/00495, filed Mar. 28, 2001, which designated the United States. Furthermore, the International Application No. PCT/KR01/00495 is a continuation in part of the International Application No. PCT/KR98/000151, filed Jun. 10, 1998, and the U.S. Pat. No. 5,885,142, filed Jul. 7, 1998.

BACKGROUND OF THE INVENTION

[0002] 1. Field of the Invention

[0003] The present invention relates to a method and a system apparatus for enabling authorized access to secure areas or systems.

[0004] 2. Description of the Related Art

[0005] The prior art mechanical keyset systems, used since the Roman times, are vulnerable and may be used by any unauthorized person. This may occur if the owner of the keyset system loses it, or if it is copied. In addition, a professional such as a locksmith for example, can easily open the mechanical keyset, rendering it insecure and useless.

[0006] Prior art access systems used with conventional vehicle, for example, have a critical inherent shortcoming in that the keysets do not recognize an authorized user nor can they generate warning for the unauthorized use of the vehicle. Accordingly, anyone who has a key for example, can drive the vehicle without any interruption, making it possible to car-jack the vehicle or kidnap a driver or owner of the vehicle after taking the key by force. More importantly, once a kidnapping occurs, and the victim is forced into a vehicle's enclosed compartment, such as for example, the trunk of a vehicle, the conventional access system cannot and does not recognize this unauthorized access nor can it initiate possible counter measures. Further more, anyone with some expertise can drive any conventional vehicle because they can control the conventional key very easily with an unauthorized key, special instruments, or by forced connection of ignition circuit.

[0007] Recently developed prior art immobilizing systems may solve some of the above problems, but the systems are only applicable to new pre-market vehicles from car manufacturers. Existing after market vehicles can not use these systems. Other electronic warning devices for vehicles utilizing IF or RF signals are very easily paralyzed by disconnection of the power supply circuit, and are useless when the remote controller or RF card is stolen or copied, or when the ignition circuit is jump started by force connection.

[0008] Conventional keyset systems for doors, safes, office filing cabinets, or military armaments are vulnerable to an unauthorized copy or usage. With conventional access systems a safe or a filing cabinet may be accessed without authorization, exposing the contents therein to an unauthorized person, without the keyset system recognizing its unauthorized usage, compromising security.

[0009] Therefore, conventional keyset systems such as a dial combination system, a keypad system or a mechanical

key system are not safe. Most prior art accessing systems require an expensive PC network to control various keyset access functions, and further need a special identification card, which is vulnerable to unauthorized copy or usage. This also places additional burden on the users to carry individual special ID cards for different secure systems or areas that require authorized access, increasing the probability of their loss.

[0010] In addition to carrying or using conventional access systems for authorized access to secure areas or systems, most individuals also carry several different personal digital data systems. These may for example be in the form of a bank credit card, a club membership cards, a driver license or an ID card

[0011] The prior art does not address the need for a simple and secure authorized access system that can be used to access various secure systems or areas. Therefore, there remains a long standing and continuing need for an advancement in the art that can simplify authorized access to different secure systems and areas without the burden of having to carry and account for the numerous authorized access system cards, personal digital data systems, or other mechanical access units such as for example keys, that an individual must carry to access secure systems or areas.

SUMMARY OF THE INVENTION

[0012] The present invention seeks to provide a method and an apparatus that enables authorized access to a multitude of different secure areas or systems in a variety of ways.

[0013] The present invention further seeks to provide a method and an apparatus that enables authorized access to a multitude of different secure areas or systems that does not require any specialty accessing mediums, such as for example special ID cards.

[0014] The present invention also seeks to provide a method and an apparatus that enables authorized access to a multitude of different secure areas or systems that can use any personal digital data system to authorized access to various secure areas or systems.

[0015] The present invention further seeks to provide a method and an apparatus that enables authorized access to a multitude of different secure areas or systems that does not use an expensive PC network.

[0016] These goals are accomplished by providing a system apparatus and a method that replaces conventional access systems with the user's personal digital data for authorized access to a multitude of secure systems or areas.

[0017] The present invention further seeks to provide a method and an apparatus that enables authorized access to a multitude of different secure areas or systems by replacing the conventional key with a user's personal digital data. The secure areas or systems controlled in a multiway, may include, but are not limited to, for example, a vehicle, a keyset for a safe, an office filing cabinet, and military armaments.

[0018] A significant advantage of the present invention is that users can control access to secure areas or systems, such as for example vehicles, with their own digital data systems that can be used for anti-carjacking, a keyless ignition

system, a valet parking unit (with valid time limited password) and an overall improved anti-theft of the vehicle.

[0019] Another advantage of the invention is that it enables digital keyset systems used with hotel doors to authorize access to users by the use of a guests' entered passwords or the guests' own personal digital data card.

[0020] Another aspect of the present invention is that users can input data into the keyset system with personal digital data sources such as for example, bank credit cards, a club membership card or a drive license, or with digital data generated by a keypad, without the need for any special cards or tools to be carried by an individual just for communication with CPU of the keyset system.

[0021] Another aspect of the present invention is that all usage of the keyset is automatically stored and logged in the system memory chip of the key set system.

[0022] Yet another aspect of the present invention is that all control functions are done by the system's own CPU in order to control any unauthorized access, without any expensive PC network.

[0023] In keeping with the principles of the present invention, a unique access authorization systems is provided that enables an authorized user to access secure systems or areas without the use of any special identification cards or mechanical systems. Users may control access to secure areas or systems by a personal digital data source, a password, or both.

[0024] These and other objects, features, aspects, and advantages of the invention will be apparent to those skilled in the art from the following detailed description of preferred non-limiting embodiments, taken together with the drawings and the claims that follow.

BRIEF DESCRIPTION OF THE DRAWINGS

[0025] It is to be understood that the drawings are to be used for the purposes of illustration only and not as a definition of the limits of the invention.

[0026] Referring to the drawings in which like reference number present corresponding parts throughout.

[0027] FIG. 1 is a block diagram of multiway control system for keyset according to the present invention.

[0028] FIG. 2 is a block diagram of multiway control system for keyset of vehicle according to the present invention.

DETAILED DESCRIPTION OF THE INVENTION

[0029] Overcoming the limitations faced from the previous technology, and based on the full comprehension and expectation of the current situations and to clarify the possible barriers faced in the future, the present invention provides technologies, method and system apparatus enabling to replace the conventional key with the user's own personal digital data that users carry by a form of a bank's credit card or a club membership card. A second ID data generator is also provided for increased security, convenience and 3-way control for controlling CPU of the keyset system such as a vehicle, a safe, an office filing cabinet, or

military armaments, according to the digital data that users input, eliminating the inconveniences of carrying extra special card or key.

[0030] In the following description of the exemplary embodiment, reference is made to the accompanying drawings shown by way of illustration of the specific embodiment by which the invention may be practiced. It is to be understood that other embodiments may be utilized as structural changes may be made without departing from the scope of the present invention.

[0031] FIG. 1 illustrates the block diagram of a multiway control system for replacing the conventional keyset with user's identification data according to the present invention. According to the illustration of FIG. 1, the invention comprises the first digital data input means (101) for controlling CPU of the system; the second digital data input means (102) for controlling CPU of the system in addition to the first digital data input means; a memory means (104) coupled to the CPU for memorizing the digital data that the first digital data input means and the second digital data input means inputted; a control means (106) coupled to CPU for controlling the operation of keyset according to the control data signal from CPU of the system; a real time clock (105) for designating the time of each operation for memory means according to the control signal from CPU of the system; a plurality of sensor means (111) for detecting unauthorized access to the keyset; a warning means (112) for warning according to the control signal from CPU of the system coupled to the sensor means; a CPU (103) of the system for controlling the above means and control means (106) to control the function of keyset system according to the preprogrammed instruction signal from the digital data input means (101, 102).

[0032] The first digital data input means (101) may comprise of at least one or more personal digital data input element including, but not limited to, for example, a magnetic card reader, an IC card reader, a RF card reader, or a living bionics instrument of user such as a biometrics instrument.

[0033] The second digital data input means (102) may comprise of at least one or more digital data inputs including, but not limited to, for example, a keypad system for input of any character including, but not limited to, for example, numbers, letters or symbols.

[0034] The data entry device (101,102) may comprise of any input element including, but not limited to, for example, a card reader, a finger print scanner, a video image scanner, a voice scanner, a keypad system of numbers or letters, or any and all combinations thereof.

[0035] Furthermore, this system may additionally include a real time clock (105) for designating and storing the time of each operation, a telephone system (109) for communication and remote control of the system from outside or a distance, a recording device (114) for recording a message to deliver to police and other designations, a line sensor (110) for detecting the disconnection of telephone line, a microphone device (113) for delivery of voice signal at the system to various designations through the telephone system, and a display means (108) for displaying the status of the system.

[0036] Alternatively, the telephone system (109) may be any communication device including, but not limited to, for

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