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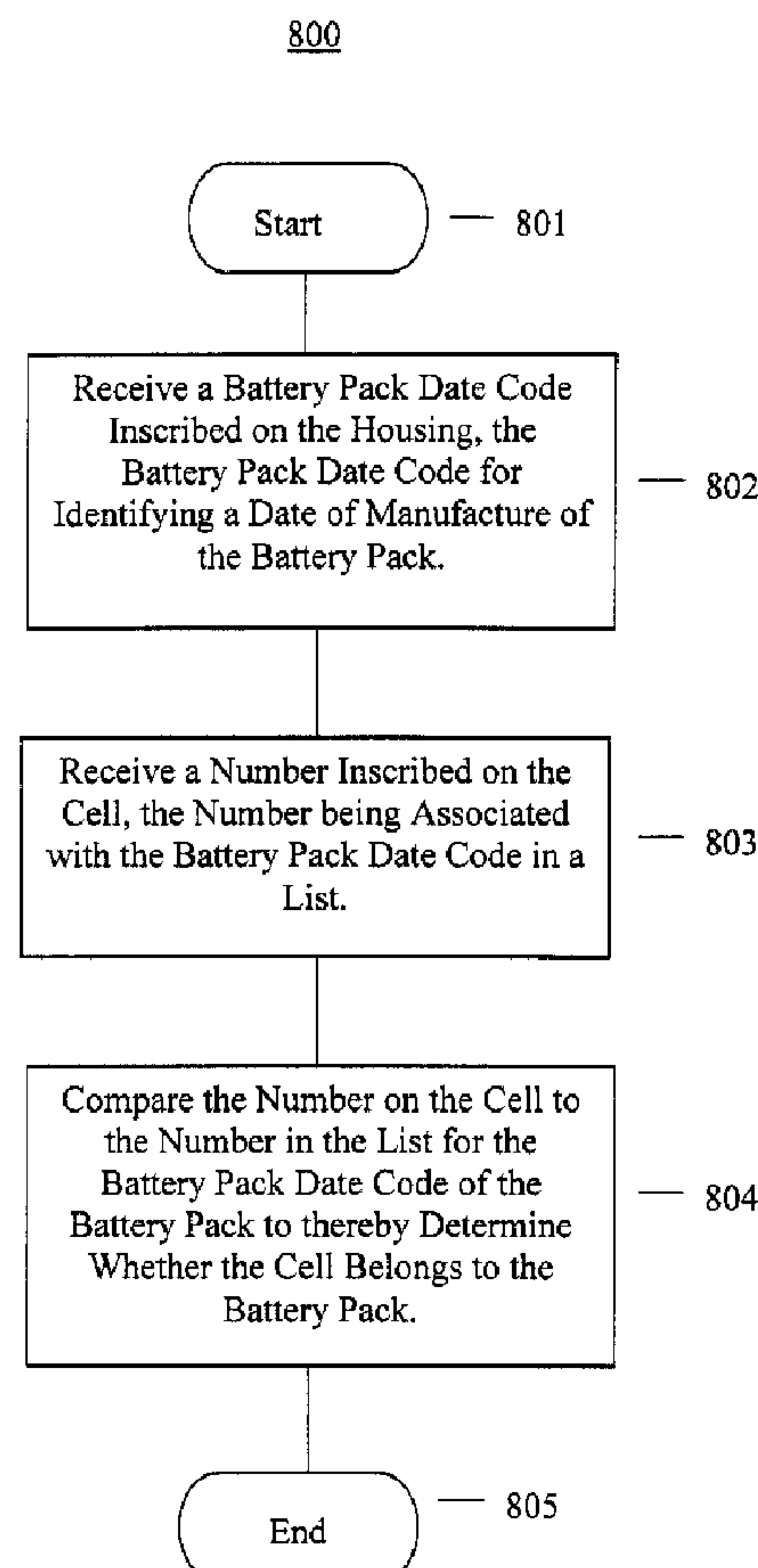
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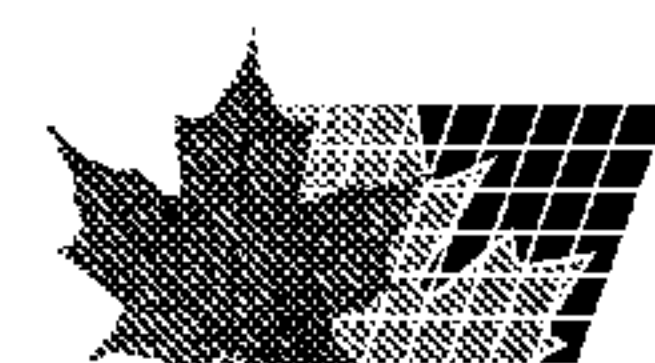
(54) Titre : METHODE ET SYSTEME POUR L'AUTHENTIFICATION DES PILES DE DISPOSITIFS SANS FIL ET
AUTRES

(54) Title: A METHOD AND SYSTEM FOR BATTERY AUTHENTICATION FOR WIRELESS AND OTHER DEVICES



(57) Abrégé/Abstract:

A battery pack comprising: a housing; at least one cell within the housing; wherein the housing has inscribed thereon a battery pack date code for identifying a date of manufacture of the battery pack; and, wherein the cell has inscribed thereon a number (e.



(57) **Abrégé(suite)/Abstract(continued):**

g., a periodically changing, predetermined random number) that is associated with the battery pack date code in an external list; whereby comparing the number on the cell to the number recorded in the list for the battery pack date code of the battery pack determines whether the cell belongs to the battery pack.

ABSTRACT

A battery pack comprising: a housing; at least one cell within the housing; wherein the housing has inscribed thereon a battery pack date code for identifying a date of manufacture of the battery pack; and, wherein the cell has inscribed thereon a number (e.g., a periodically changing, predetermined random number) that is associated with the battery pack date code in an external list; whereby comparing the number on the cell to the number recorded in the list for the battery pack date code of the battery pack determines whether the cell belongs to the battery pack.

**A METHOD AND SYSTEM FOR BATTERY AUTHENTICATION FOR
WIRELESS AND OTHER DEVICES**

FIELD OF THE APPLICATION

5 **[0001]** This application relates to the field of battery authentication, and more specifically, to a method and system for identifying batteries and cells used in wireless or other devices as originating from an original supplier of the wireless or other devices.

10 **BACKGROUND**

[0002] Current wireless mobile communication devices include microprocessors, memory, batteries, soundcards, and run one or more software applications. Examples of software applications used in these wireless devices include micro-
15 browsers, address books, email clients, and wavetable instruments. Additionally, wireless devices have access to a plurality of services via the Internet. A wireless device may, for example, be used to browse web sites on the Internet, to transmit and receive graphics, and to execute
20 streaming audio and/or video applications.

[0003] Wireless devices are typically supplied with a battery pack, which includes one or more cells, for providing power to the wireless device. The supplier of the wireless device is typically also the supplier of the battery pack. In the
25 case of a battery pack fault in the field, it may be necessary for warranty and other reasons to identify the battery as a genuine battery provided by the supplier of the wireless device or as a counterfeit or non-genuine battery provided by another supplier.

[0004] For example, when a battery fault occurs, the battery pack markings may become burnt or damaged so as to render them illegible. In such a situation, identification of the original supplier of the battery becomes difficult. In addition, manufacturers of cells used in genuine battery packs may also provide cells to manufactures of counterfeit battery packs.

[0005] Existing methods that are used to identify genuine battery packs include the following: label holograms, "invisible ink" markings, and small markings formed in the plastic or metal components of a battery pack. However, these existing methods have drawbacks. For example, most of these marking methods can be easily copied, including trademark and hologram markings.

[0006] A need therefore exists for improved means to authenticate batteries and cells used in wireless or other devices as originating from an original supplier of the wireless or other devices. Accordingly, a solution that addresses, at least in part, the above and other shortcomings is desired.

SUMMARY OF THE APPLICATION

[0007] According to one aspect of the application, there is described a battery pack comprising: a housing; at least one cell within the housing; wherein the housing has inscribed thereon a battery pack date code for identifying a date of manufacture of the battery pack; and, wherein the cell has inscribed thereon a number that is associated with the battery pack date code in an external list; whereby

comparing the number on the cell to the number recorded in the list for the battery pack date code of the battery pack determines whether the cell belongs to the battery pack.

[0008] Preferably, the number includes a cell date code for
5 identifying a date of manufacture of the cell. Preferably,
at least one of the battery pack date code and the cell
date code includes an identifier for identifying a
manufacturer of the battery pack. Preferably, the number is
a three-digit number. Preferably, the number is a random
10 number that is selected at a predetermined interval.
Preferably, the predetermined interval is a week.
Preferably, the battery pack has means for coupling the
battery pack to a wireless device to provide power to the
wireless device.

15

[0009] According to another aspect of the application, there
is described a method in a computer system for identifying
at least one cell with a battery pack, the cell being
originally located within a housing of the battery pack,
20 the method comprising: receiving a battery pack date code
inscribed on the housing, the battery pack date code for
identifying a date of manufacture of the battery pack;
receiving a number inscribed on the cell, the number being
associated with the battery pack date code in a list; and,
25 comparing the number on the cell to the number recorded in
the list for the battery pack date code of the battery pack
to thereby determine whether the cell belongs to the
battery pack.

[0010] According to another aspect of the application, there is described a system for identifying at least one cell with a battery pack, the cell being originally located within a housing of the battery pack, the system comprising: a processor coupled to memory and an input device and adapted to: receive a battery pack date code inscribed on the housing, the battery pack date code for identifying a date of manufacture of the battery pack; receive a number inscribed on the cell, the number being associated with the battery pack date code in a list; and, compare the number on the cell to the number recorded in the list for the battery pack date code of the battery pack to thereby determine whether the cell belongs to the battery pack.

15 **BRIEF DESCRIPTION OF THE DRAWINGS**

[0011] Features and advantages of the embodiments of the present application will become apparent from the following detailed description, taken in combination with the appended drawings, in which:

20

[0012] FIG. 1 is a block diagram illustrating a wireless device adapted in accordance with an embodiment of the application;

25 [0013] FIG. 2 is a block diagram illustrating a memory of the wireless device of FIG. 1;

[0014] FIG. 3 is a front view illustrating the wireless device of FIG. 1;

[0015] FIG. 4 is a rear view illustrating the wireless device of FIG. 1;

5 [0016] FIG. 5 is a front view illustrating a battery pack for use with the wireless device of FIG. 1 in accordance with an embodiment of the application;

10 [0017] FIG. 6 is a front sectional view illustrating cells within the housing of the battery pack of FIG. 5 in accordance with an embodiment of the application;

15 [0018] FIG. 7 is a list illustrating the association between battery pack date codes and cell numbers in accordance with an embodiment of the application; and,

[0019] FIG. 8 is a flowchart illustrating operations of modules within the memory of a computer system for identifying at least one cell with a battery pack, the cell
20 being originally located within a housing of the battery pack, in accordance with an embodiment of the application.

[0020] It will be noted that throughout the appended drawings, like features are identified by like reference
25 numerals.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0021] FIG. 1 is a block diagram illustrating a wireless device **102** adapted in accordance with an embodiment of the
30 application. Typically, the wireless device **102** is a

handheld device **102**. The wireless device **102** is a two-way communication device having at least voice and advanced data communication capabilities, including the capability to communicate with other computer systems. Depending on
5 the functionality provided by the device **102**, it may be referred to as a data messaging device, a two-way pager, a cellular telephone with data messaging capabilities, a wireless Internet appliance, or a data communication device (with or without telephony capabilities). The device **102**
10 may communicate with any one of a plurality of fixed transceiver stations **100** within its geographic coverage area.

[0022] The wireless device **102** will normally incorporate a
15 communication subsystem **111**, which includes a RF receiver, a RF transmitter, and associated components, such as one or more (preferably embedded or internal) antenna elements and, local oscillators ("LOs"), and a processing module such as a digital signal processor ("DSP") (all not shown).
20 As will be apparent to those skilled in field of communications, particular design of the communication subsystem **111** depends on the communication network **100** in which the device **102** is intended to operate.

[0023] Network access is associated with a subscriber or user
25 of the device **102** and therefore the device **102** requires a Subscriber Identity Module (or "SIM" card) **162** to be inserted in a SIM interface ("IF") **164** in order to operate in the network. The device **102** is a battery-powered device so it also includes a battery IF **154** for receiving one or

more rechargeable batteries **156**. Such a battery **156** provides electrical power to most if not all electrical circuitry in the device **102**, and the battery IF **154** provides for a mechanical and electrical connection for it.

5 The battery IF **154** is coupled to a regulator (not shown) which provides power to the circuitry of the device **102**.

[0024] The wireless device **102** includes a microprocessor (or central processing system ("CPU")) **138** which controls overall operation of the device **102**. Communication
10 functions, including at least data and voice communications, are performed through the communication subsystem **111**. The microprocessor **138** also interacts with additional device subsystems such as a display **122**, a flash memory **124** or other persistent store, a random access
15 memory ("RAM") **126**, auxiliary input/output ("I/O") subsystems **128**, a serial port **130**, a keyboard **132**, a speaker **134**, a microphone **136**, a short-range communications subsystem **140**, and any other device subsystems generally designated at **142**. Some of the subsystems shown in FIG. 2
20 perform communication-related functions, whereas other subsystems may provide "resident" or on-device functions. Notably, some subsystems, such as the keyboard **132** and display **122**, for example, may be used for both communication-related functions, such as entering a text
25 message for transmission over a communication network, and device-resident functions such as a calculator or task list. Operating system software used by the microprocessor **138** is preferably stored in a persistent store such as the flash memory **124**, which may alternatively be a read-only

memory ("ROM") or similar storage element (not shown). Those skilled in the art will appreciate that the operating system, specific device applications, or parts thereof, may be temporarily loaded into a volatile store such as RAM
5 **126.**

[0025] The microprocessor **138**, in addition to its operating system functions, preferably enables execution of software applications on the device **102**. A predetermined set of applications which control basic device operations,
10 including at least data and voice communication applications, will normally be installed on the device **102** during its manufacture. A preferred application that may be loaded onto the device **102** may be a personal information manager ("PIM") application having the ability to organize
15 and manage data items relating to the user such as, but not limited to, instant messaging ("IM"), email, calendar events, voice mails, appointments, and task items. Naturally, one or more memory stores are available on the device **102** and SIM **162** to facilitate storage of PIM data
20 items and other information.

[0026] The PIM application preferably has the ability to send and receive data items via the wireless network **100**. In a preferred embodiment, PIM data items are seamlessly integrated, synchronized, and updated via the wireless
25 network **100**, with the user's corresponding data items stored and/or associated with a host computer system (not shown) thereby creating a mirrored host computer on the device **102** with respect to such items. This is especially advantageous where the host computer system is the user's

office computer system (not shown). Additional applications may also be loaded onto the device **102** through the network **100**, an auxiliary I/O subsystem **128**, serial port **130**, short-range communications subsystem **140**, or any other
5 suitable subsystem **142**, and installed by a user in RAM **126** or preferably in a non-volatile store (e.g., flash memory **124**) for execution by the microprocessor **138**. Such flexibility in application installation increases the functionality of the device **102** and may provide enhanced
10 on-device functions, communication-related functions, or both. For example, secure communication applications may enable electronic commerce functions and other such financial transactions to be performed using the wireless device **102**.

15 **[0027]** In a data communication mode, a received signal such as a text message, an email message, or web page download will be processed by the communication subsystem **111** and input to the microprocessor **138**. The microprocessor **138** will preferably further process the signal for output to
20 the display **122** and/or to the auxiliary I/O device **128**. A user of the wireless device **102** may also compose data items, such as email messages, for example, using the keyboard **132** in conjunction with the display **122** and possibly the auxiliary I/O device **128**. These composed items
25 may be transmitted over a communication network **100** through the communication subsystem **111** or the short range communication subsystem **140**. The keyboard **132** is preferably a complete alphanumeric keyboard and/or telephone-type keypad.

[0028] For voice communications, the overall operation of the wireless device **102** is substantially similar, except that the received signals would be output to the speaker **134** and signals for transmission would be generated by the microphone **136**. Alternative voice or audio I/O subsystems, such as a voice message recording subsystem, may also be implemented on the device **102**. Although voice or audio signal output is preferably accomplished primarily through the speaker **134**, the display **122** may also be used to provide, for example, an indication of the identity of a calling party, duration of a voice call, or other voice call related information.

[0029] The serial port **130** shown in FIG. 1 is normally implemented in a personal digital assistant ("PDA")-type communication device for which synchronization with a user's desktop computer is a desirable, albeit optional, component. The serial port **130** enables a user to set preferences through an external device or software application and extends the capabilities of the device **102** by providing for information or software downloads to the device **102** other than through a wireless communication network **100**. The alternate download path may, for example, be used to load an encryption key onto the device **102** through a direct and thus reliable and trusted connection to thereby provide secure device communication.

[0030] The short-range communications subsystem **140** shown in FIG. 1 is an additional optional component which provides for communication between the device **102** and different systems or devices (not shown), which need not necessarily

be similar devices. For example, the subsystem **140** may include an infrared device and associated circuits and components, or a Bluetooth™ communication module to provide for communication with similarly-enabled systems and devices. (Bluetooth™ is a registered trademark of Bluetooth SIG, Inc.)

[0031] FIG. 2 is a block diagram illustrating a memory **200** of the wireless device **102** of FIG. 1. The memory **200** has various software components for controlling the device **102** and may include flash memory **124**, RAM **126**, or ROM (not shown), for example. In accordance with an embodiment of the invention, the wireless device **102** is intended to be a multi-tasking wireless communications device configured for sending and receiving data items and for making and receiving voice calls. To provide a user-friendly environment to control the operation of the device **102**, an operating system ("O/S") **202** resident on the device **102** provides a basic set of operations for supporting various applications typically operable through a graphical user interface ("GUI") **204**. For example, the O/S **202** provides basic input/output system features to obtain input from the auxiliary I/O **128**, keyboard **132**, and the like, and for facilitating output to the user. One or more software modules **206** for managing communications or for providing personal digital assistant like functions may also be included.

[0032] Thus, the wireless device **102** includes computer executable programmed instructions for directing the device **102** to implement various applications. The programmed

instructions may be embodied in one or more software modules **206** resident in the memory **200** of the wireless device **102**. Alternatively, the programmed instructions may be embodied on a computer readable medium (such as a CD disk or floppy disk) which may be used for transporting the programmed instructions to the memory **200** of the wireless device **102**. Alternatively, the programmed instructions may be embedded in a computer-readable, signal-bearing medium that is uploaded to a network by a vendor or supplier of the programmed instructions, and this signal-bearing medium may be downloaded through an interface **111**, **130**, **140** to the wireless device **102** from the network by end users or potential buyers.

[0033] FIG. 3 is a front view illustrating the wireless device **102** of FIG. 1. As mentioned above, the wireless device **102** can be a data and voice-enabled handheld device. The wireless device **102** includes a casing **150**, a display screen **122**, a graphical user interface ("GUI") **180**, a keyboard (or keypad) **132**, a thumbwheel (or trackwheel) **110**, various select buttons **120**, and various signal inputs/outputs **160** (e.g., power connector input, microphone, speaker, data interface input, etc.). Internally, the wireless device **102** includes one or more circuit boards, a CPU **138**, memory **200**, a battery **156**, an antenna, etc. (not shown), which are coupled to the signal inputs/outputs **160**, keyboard **132**, display screen **122**, etc.

[0034] The microprocessor **138** of the wireless device **102** is typically coupled to one or more devices **110**, **120**, **132** for

receiving user commands or queries and for displaying the results of these commands or queries to the user on the display **122**. For example, user queries may be transformed into a combination of commands for producing one or more
5 tables of output data which may be incorporated in one or more display pages for presentation to the user. The microprocessor **138** is coupled to memory **200** for containing software modules **206** and data such as database tables and test parameters. As mentioned, the memory **200** may include a
10 variety of storage devices typically arranged in a hierarchy of storage as understood to those skilled in the art.

[0035] A user may interact with the wireless device **102** and its software modules **206** using the graphical user interface
15 ("GUI") **180**. GUIs are supported by common operating systems and provide a display format which enables a user to choose commands, execute application programs, manage computer files, and perform other functions by selecting pictorial representations known as icons, or items from a menu
20 through use of an input or pointing device such as a thumbwheel **110** and keyboard **132**. In general, a GUI is used to convey information to and receive commands from users and generally includes a variety of GUI objects or controls, including icons, toolbars, drop-down menus, pop-
25 up menus, text, dialog boxes, buttons, and the like. A user typically interacts with a GUI **180** presented on a display **122** by using an input or pointing device (e.g., a thumbwheel **110**, a keyboard **132**, etc.) to position a pointer or cursor **190** over an object **191** (i.e., "pointing" at the

object) and by "clicking" on the object **191**. (e.g., by depressing the thumbwheel **110**, by depressing a button on the keyboard **132**, etc.). This is often referred to as a point-and-click operation or a selection operation.
5 Typically, the object **191** may be hi-lighted (e.g., shaded) when it is pointed at.

[0036] Typically, a GUI based system presents application, system status, and other information to the user in
10 "windows" appearing on the display **122**. A window **192** is a more or less rectangular area within the display **122** in which a user may view an application or a document. Such a window **192** may be open, closed, displayed full screen, reduced to an icon, increased or reduced in size, or moved
15 to different areas of the display **122**. Multiple windows may be displayed simultaneously, such as: windows included within other windows, windows overlapping other windows, or windows tiled within the display area.

[0037] FIG. 4 is a rear view illustrating the wireless device
20 **102** of FIG. 1. The wireless device **102** has a removable rear casing, or portion of casing, for concealing a battery cavity **410** and battery contacts (i.e., interface) **154** for the battery **156**. The battery **156** may be a battery pack **500** (see FIG. 5) having a housing **510**. A portion of the housing
25 **510** may form the removable rear portion of the casing **150** of the wireless device **102**. Alternatively, the battery pack **500** may be enclosed within the battery cavity **410**.

[0038] FIG. 5 is a front view illustrating a battery pack **500** for use with the wireless device **102** of FIG. 1 in

accordance with an embodiment of the application. FIG. 6 is a front sectional view illustrating cells **600** within the housing **510** of the battery pack **500** of FIG. 5 in accordance with an embodiment of the application. And, FIG. 7 is a
5 list **700** illustrating the association between battery pack date codes **530** and cell numbers **610** in accordance with an embodiment of the application.

[0039] Referring to FIGS. 5-7, the battery pack **500** has a
10 housing **510** and at least one cell **600** within the housing **510**. The battery pack **500** has means (e.g., contacts, etc.) **520** for coupling the battery pack **500** to the wireless device **102** (e.g., via interface **154**) to provide power to the wireless device **102**. The housing **510** has inscribed
15 thereon a battery pack date code **530** for identifying a date of manufacture of the battery pack **500**. The cell **600** has inscribed thereon a number **610** that is associated with the battery pack date code in an external list **700**. By comparing the number **610** on the cell **600** to the number
20 recorded in the list **700** for the battery pack date code **530** of the battery pack **500**, a user or computer system can determine whether the cell **600** belongs to the battery pack **500**.

25 **[0040]** According to an alternate embodiment, each cell **600** also has inscribed thereon a cell date code **710** for identifying a date of manufacture of the cell **600**. Thus, the number **610** may include the cell date code **710**. According to this embodiment, the group of cell date code
30 **710**, battery pack date code **530**, and 3-digit number **610**

must all match in the list **700** in order to determine if the battery pack **500** is genuine.

[0041] The battery pack date code **530** provides lot traceability for components of the battery pack **500** (e.g.,
5 a protection circuit, a thermal fuse, cells **600**, and plastics components). According to one embodiment, the battery pack date code **530** (e.g., "S04104") includes a 5-digit number (i.e., "04104") preceded by a single uppercase letter **531** (i.e., "S"). This letter **531** represents the name
10 of the manufacturer. For example, the letter "S" **531** could represent the manufacturer Sanyo™. The first two numeric digits (i.e., "04") in the date code **530** represent the year of manufacture. The second two digits (i.e., "10") represent the week. And, the final digit (i.e., "4")
15 represents the day of week. Sunday is considered the first day of the week. The year code (i.e., "04") is updated at the start of the first week in the year. For example, if Sanyo™ manufactured a battery pack **500** on March 10, 2004, the date code **530** would be "S04104", where "04" = the year
20 2004, "10" = the 10th week in the year, "4" = 4th day of the week. Of course, the battery pack date code **530** may have an alternate format (e.g., day/month/year, etc.).

[0042] The number **610** inscribed on each cell **600** may be a 3-digit random code, which is changed weekly. The number **610**
25 will not be repeated within at least a 2-year time period. According to one embodiment, the random code **610** is updated every time the start of a week falls in a new month. In this way, the update of the random code **610** for a cell **600** may happen at the same time that there is an update in the

battery pack date code **530** for that week. Of course, the number **610** may have more or less than three digits, it may be changed at a rate of more or less than weekly, and its repetition frequency may be more or less than two years.

- 5 **[0043]** The optional cell date code **710** may be structured in a manner similar to that of the battery pack date code **530**.

[0044] Thus, according to one embodiment, the manufacturer or supplier of the battery pack **500** inscribes a number **610** (e.g., a three digit number) onto each cell **600**. This
10 inscription may be performed with a laser. The number **610** is changed with the date code **530** of the battery pack **500**. The manufacturer or supplier of the battery pack **500** maintains a list **700** of pack date codes **530** and 3-digit numbers **610**. This list may be a physical list or an
15 electronic list stored in the memory of a computer system. And, by checking the list **700** for the proper battery pack date code **530** and number **610** combination (and optionally with the cell date code **710**), a battery pack **700** can be authenticated.

- 20 **[0045]** Advantageously, while most marking methods can be copied, and counterfeit battery pack suppliers can copy trademarks and holograms markings, by using the revolving key (i.e., number **610**) of the present application the copying of markings is made more difficult.

- 25 **[0046]** FIG. 8 is a flowchart illustrating operations of modules **800** within the memory of a computer system for identifying at least one cell **600** with a battery pack **500**,

the cell **600** being originally located within a housing **510** of the battery pack **500**, in accordance with an embodiment of the application. The computer system (not shown) may be a personal computer system, a server system, or even a wireless device **102**. Accordingly, the computer system has a processor coupled to memory, an input device (e.g., a mouse, etc.), and a display screen or output device (e.g., a printer, etc.).

[0047] At step **801**, the operations **800** start.

10 **[0048]** At step **802**, a battery pack date code **530** inscribed on the housing **510** is received, the battery pack date code **530** for identifying a date of manufacture of the battery pack **500**.

15 **[0049]** At step **803**, a number **610** inscribed on the cell **600** is received, the number **610** being associated with the battery pack date code **530** in a list **700**.

20 **[0050]** At step **804**, the number **610** on the cell **600** is compared to the number recorded in the list **700** for the battery pack date code **530** of the battery pack **500** to thereby determine whether the cell **600** belongs to the battery pack **500**.

[0051] At step **805**, the operations **800** end.

[0052] Preferably, the number **610** includes a cell date code **710** for identifying a date of manufacture of the cell **600**.
25 Preferably, at least one of the battery pack date code **530** and the cell date code **710** includes an identifier **531** for

identifying a manufacturer of the battery pack **500**. Preferably, the number **610** is a three-digit number. Preferably, the number **610** is a random number that is selected at a predetermined interval. Preferably, the
5 predetermined interval is a week. Preferably, the battery pack **500** has means (e.g., contacts, etc.) **520** for coupling the battery pack **500** to a wireless device **102** (e.g., via interface **154**) to provide power to the wireless device **102**.

10 **[0053]** The above detailed description of the embodiments of the present application does not limit their implementation to any particular computer programming language. The embodiments of the present application may be implemented in any computer programming language provided that the
15 operating system ("OS") provides the facilities that may support the requirements of these embodiments. A preferred embodiment is implemented in the JAVA™ computer programming language (or other computer programming languages such as C or C++). (JAVA and all JAVA-based trademarks are the
20 trademarks of Sun Microsystems Corporation.) Any limitations presented would be a result of a particular type of operating system or computer programming language and would not be a limitation of the embodiments of the present application. In accordance with further aspects of
25 the present application there is provided an apparatus such as a computer system, methods for adapting this system, as well as articles of manufacture such as a computer readable medium having program instructions recorded thereon for practising the method of the application.

[0054] The embodiments of the invention described above are intended to be exemplary only. The scope of the invention is therefore intended to be limited solely by the scope of the appended claims.

WHAT IS CLAIMED IS:

1. A battery pack comprising:

a housing;

at least one cell within the housing;

5 wherein the housing has inscribed thereon a battery pack date code for identifying a date of manufacture of the battery pack; and,

10 wherein the cell has inscribed thereon a number that is associated with the battery pack date code in an external list;

whereby comparing the number on the cell to the number recorded in the list for the battery pack date code of the battery pack determines whether the cell belongs to the battery pack.

15 2. The battery pack of claim 1 wherein the number includes a cell date code for identifying a date of manufacture of the cell.

20 3. The battery pack of claim 2 wherein at least one of the battery pack date code and cell date code includes an identifier for identifying a manufacturer of the battery pack.

4. The battery pack of claim 1 wherein the number is a

three-digit number.

5. The battery pack of claim 1 wherein the number is a random number that is selected at a predetermined interval.

6. The battery pack of claim 5 wherein the predetermined
5 interval is a week.

7. The battery pack of claim 1 and further comprising means for coupling the battery pack to a wireless device to provide power to the wireless device.

8. A method in a computer system for identifying at least
10 one cell with a battery pack, the cell being originally located within a housing of the battery pack, the method comprising:

receiving a battery pack date code inscribed on the
housing, the battery pack date code for identifying a
15 date of manufacture of the battery pack;

receiving a number inscribed on the cell, the number
being associated with the battery pack date code in a
list; and,

comparing the number on the cell to the number
20 recorded in the list for the battery pack date code of the battery pack to thereby determine whether the cell belongs to the battery pack.

9. The method of claim 8 wherein the number includes a

cell date code for identifying a date of manufacture of the cell.

10. The method of claim 9 wherein at least one of the battery pack date code and cell date code includes an
5 identifier for identifying a manufacturer of the battery pack.

11. The method of claim 8 wherein the number is a three-digit number.

12. The method of claim 8 wherein the number is a random
10 number that is selected at a predetermined interval.

13. The method of claim 12 wherein the predetermined interval is a week.

14. The method of claim 8 wherein the battery pack has means for coupling the battery pack to a wireless device to
15 provide power to the wireless device.

15. A system for identifying at least one cell with a battery pack, the cell being originally located within a housing of the battery pack, the system comprising:

20 a processor coupled to memory and an input device and adapted to:

receive a battery pack date code inscribed on the housing, the battery pack date code for identifying a date of manufacture of the battery pack;

receive a number inscribed on the cell, the number being associated with the battery pack date code in a list; and,

5 compare the number on the cell to the number recorded in the list for the battery pack date code of the battery pack to thereby determine whether the cell belongs to the battery pack.

10 16. The system of claim 15 wherein the number includes a cell date code for identifying a date of manufacture of the cell.

17. The system of claim 16 wherein at least one of the battery pack date code and cell date code includes an identifier for identifying a manufacturer of the battery pack.

15 18. The system of claim 15 wherein the number is a three-digit number.

19. The system of claim 15 wherein the number is a random number that is selected at a predetermined interval.

20 20. The system of claim 19 wherein the predetermined interval is a week.

21. The system of claim 15 wherein the battery pack has means for coupling the battery pack to a wireless device to provide power to the wireless device.

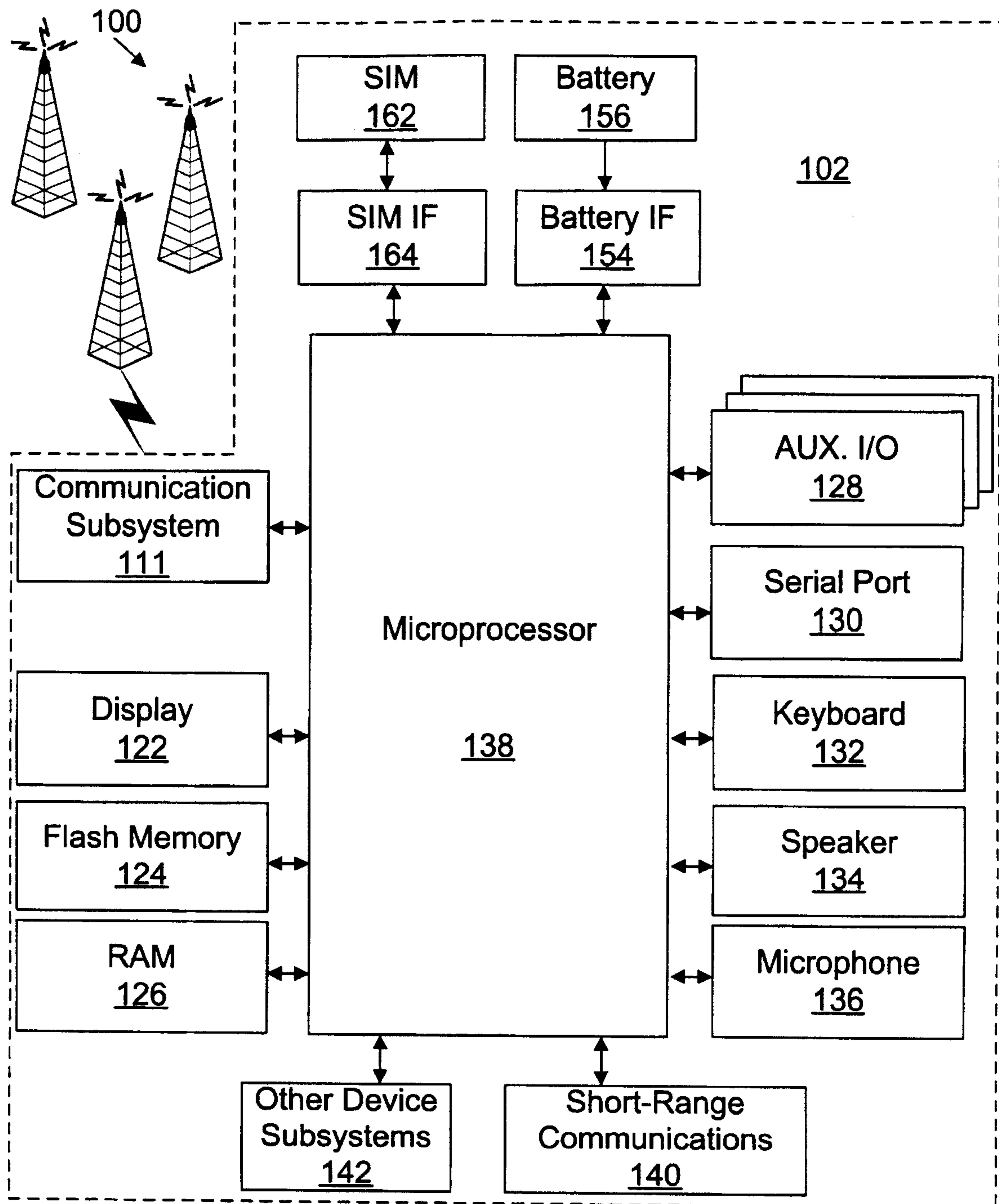


FIG. 1

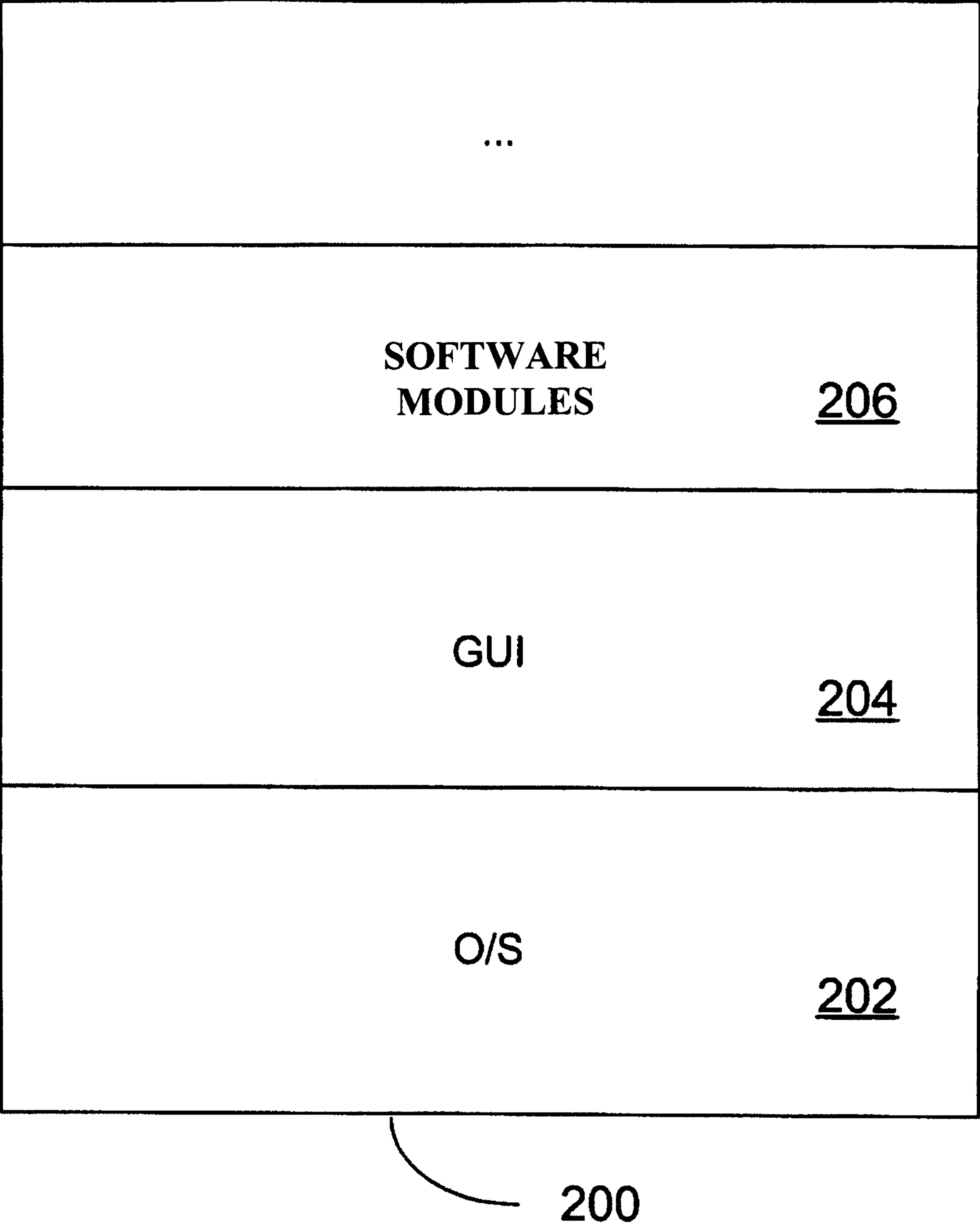


FIG. 2

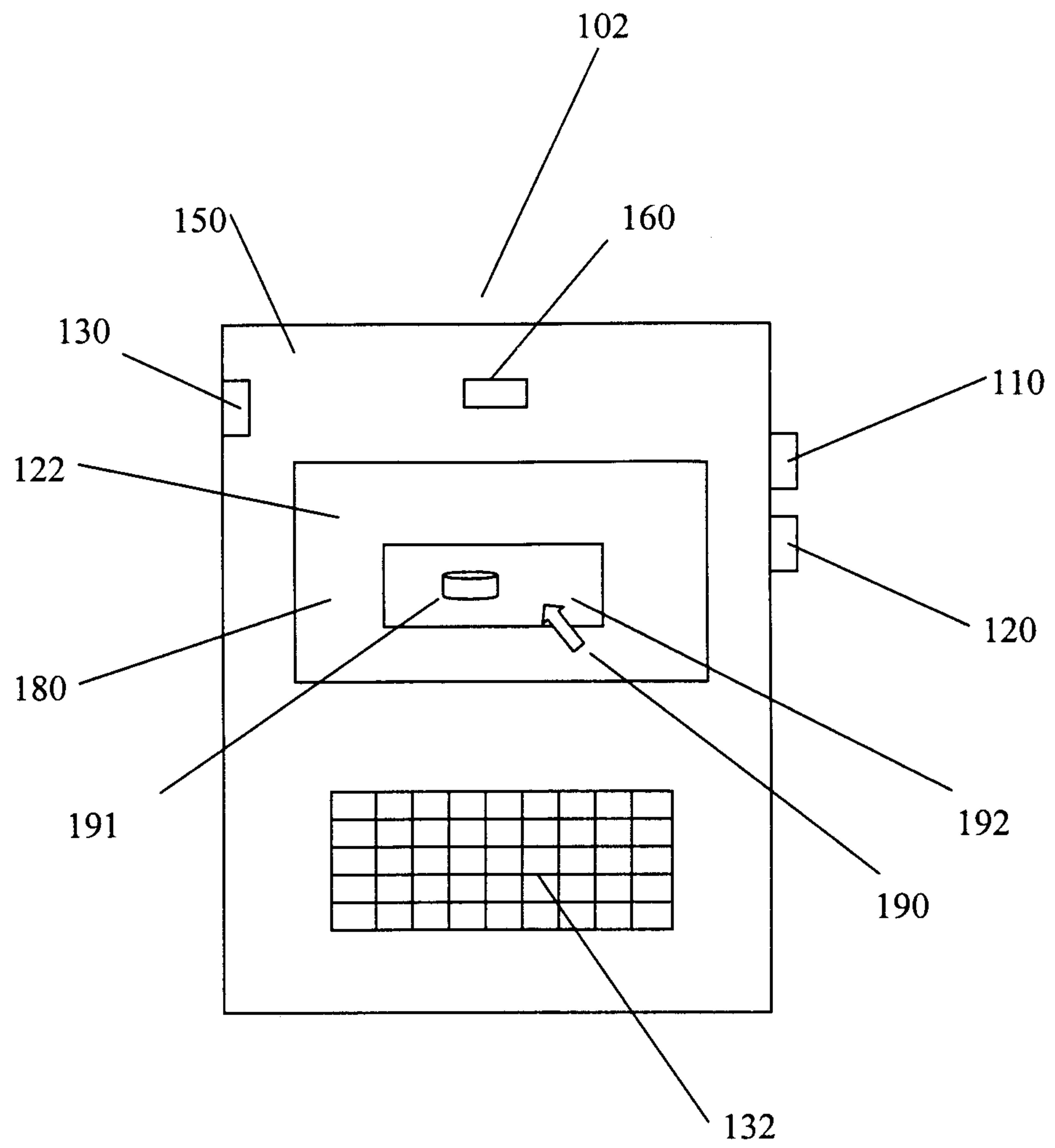


FIG. 3

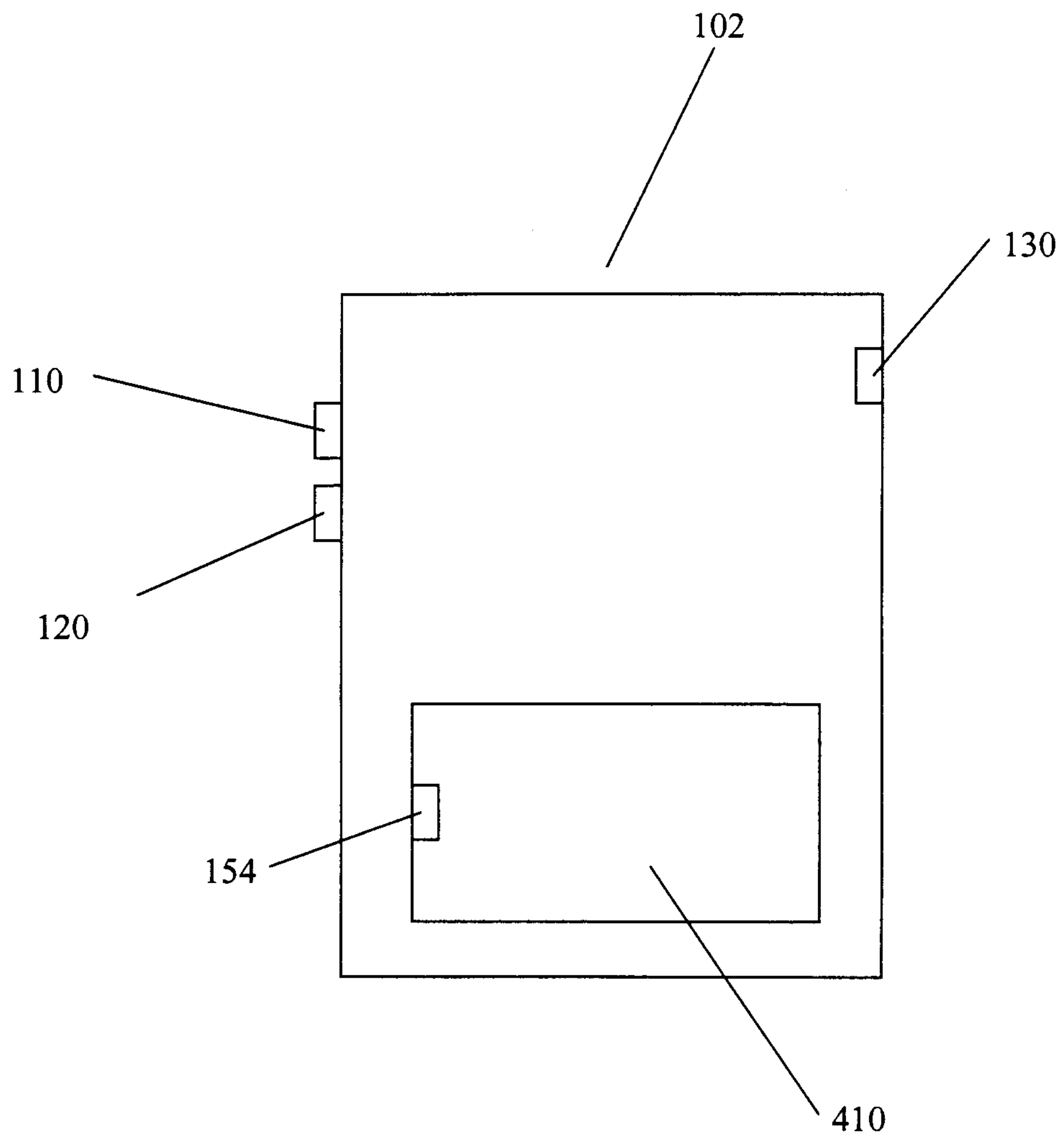


FIG. 4

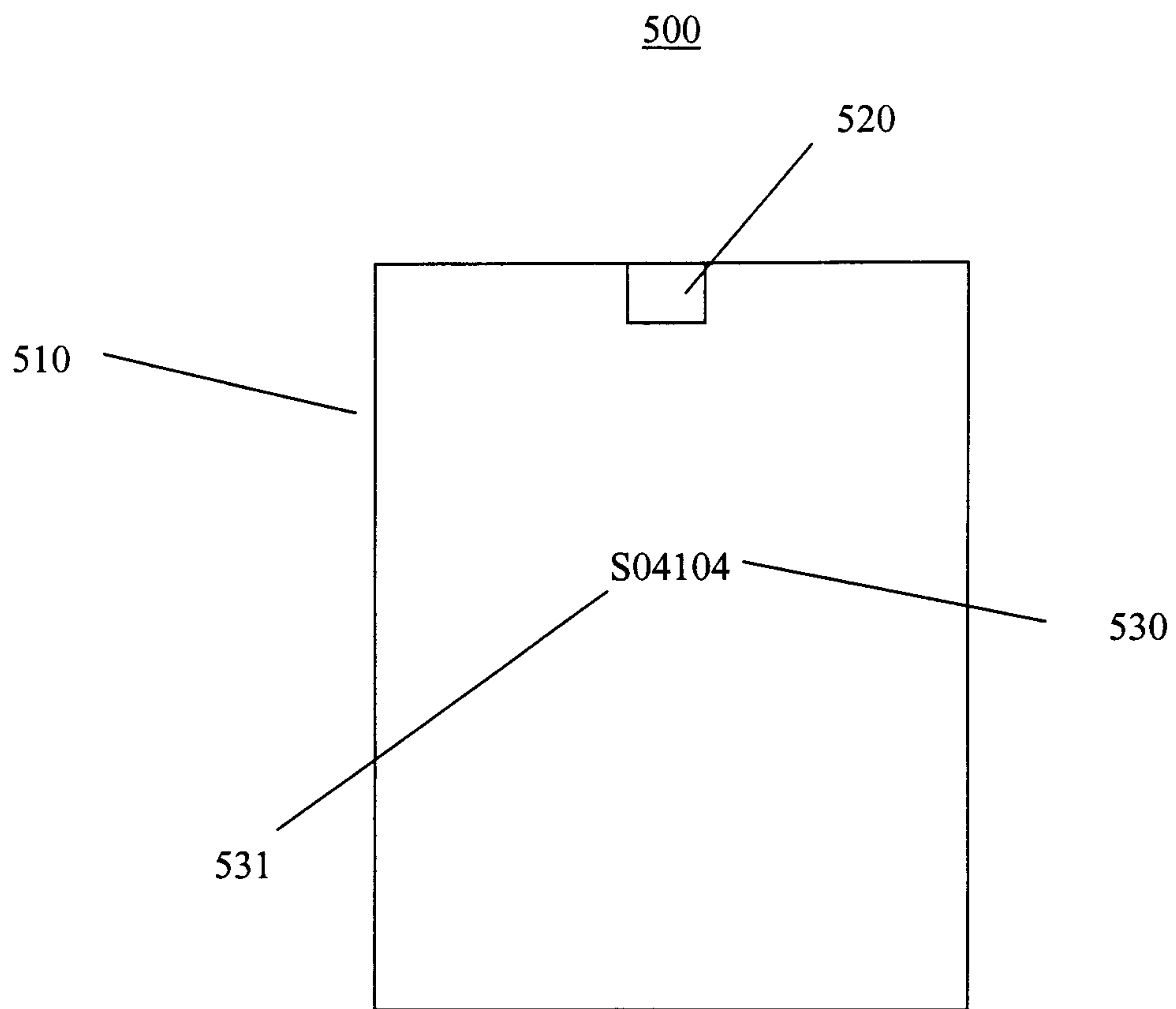


FIG. 5

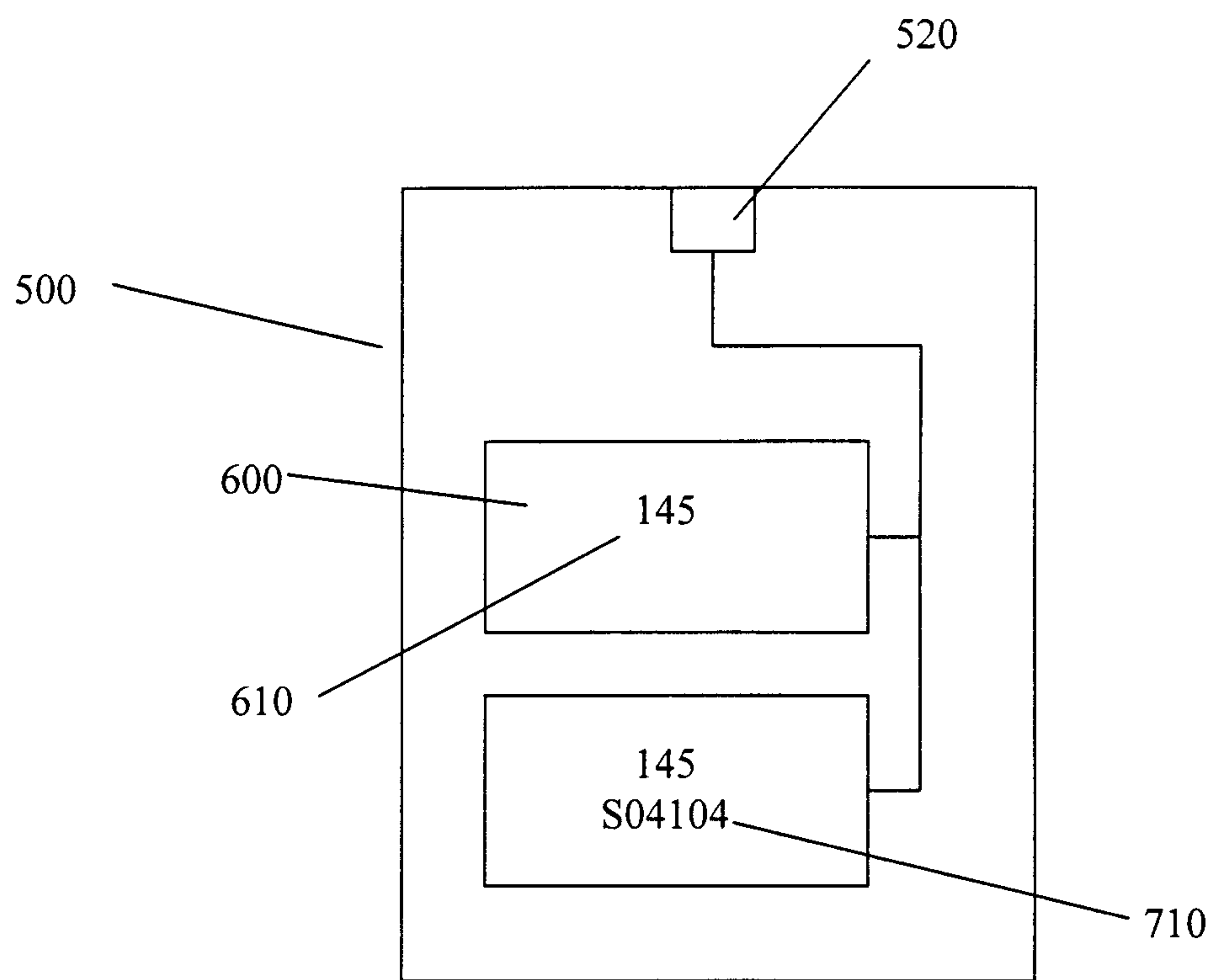


FIG. 6

700

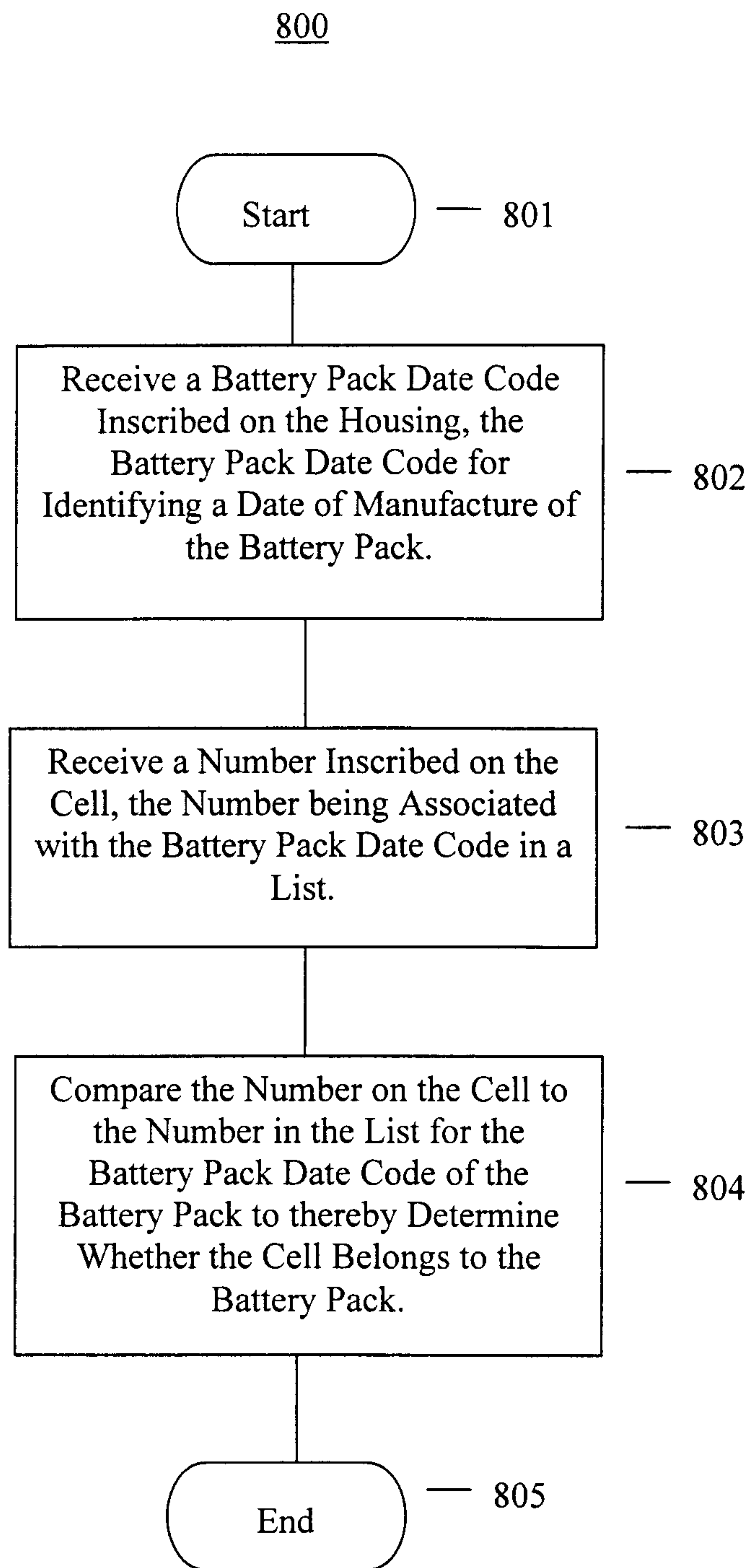
<u>Battery Pack/Cell Association List</u>		
<u>Battery Pack Date Code</u>	<u>Cell Number</u>	<u>Cell Date Code</u>
...	...	...
S04104	145	S04104
...	...	...

530

610

710

FIG. 7



Start

— 801

Receive a Battery Pack Date Code
Inscribed on the Housing, the
Battery Pack Date Code for
Identifying a Date of Manufacture of
the Battery Pack.

— 802

Receive a Number Inscribed on the
Cell, the Number being Associated
with the Battery Pack Date Code in a
List.

— 803

Compare the Number on the Cell to
the Number in the List for the
Battery Pack Date Code of the
Battery Pack to thereby Determine
Whether the Cell Belongs to the
Battery Pack.

— 804

End

— 805