(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) EP 2 450 863 A1

(12) EUROPEAN PATENT APPLICATION

(43) Date of publication:
09.05.2012 Bulletin 2012/19

(51) Int Cl.:
G08C 19/28 *(2006.01)*

(21) Application number: **11185822.1**

(22) Date of filing: **19.10.2011**

(84) Designated Contracting States:
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
Designated Extension States:
BA ME

(30) Priority: **03.11.2010 IT BO20100661**

(71) Applicant: **Meliconi S.p.A.**
40057 Cadriano di Granarolo Emilia (Bologna) (IT)

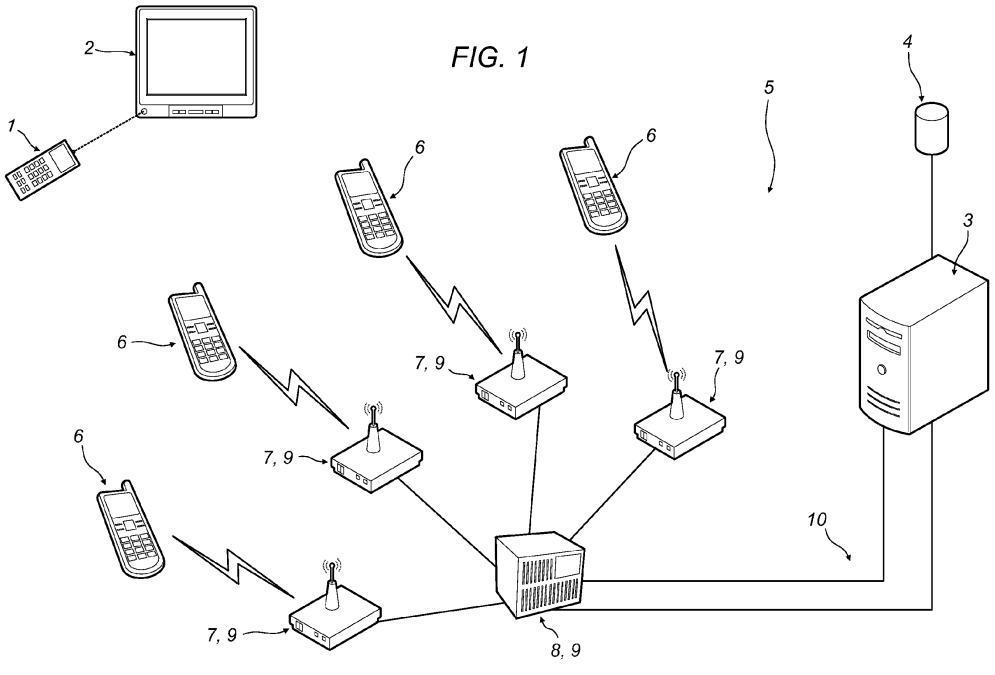
(72) Inventors:
- **Meliconi, Loris**
  40057 Cadriano di Granarolo Emilia (Bologna) (IT)
- **Marelli, Alessandro**
  40057 Cadriano di Granarolo Emilia (Bologna) (IT)

(74) Representative: **Conti, Marco**
Bugnion S.p.A.
Via di Corticella, 87
40128 Bologna (IT)

(54) Method and system for setting up a universal remote control

(57) A method for setting up a universal remote control (1) designed to control a plurality of electronic appliances (2) comprises the following steps: preparing a remote server (3), configured for receiving sms text messages sent using a telephone (6), the server having access to a database (4) containing information relating to setup codes (ci) for the remote control (1) and relating to the appliances (2); reception by the remote server (3) of an sms text message sent from the mobile telephone (6), the text of the sms message containing information about at least the brand of an electronic appliance (2); querying the database (4) to retrieve, according to the information about at least the brand, at least one setup code (ci) which is uniquely correlated with at least one appliance (2) corresponding to the information contained in the text of the message; and sending to the mobile telephone (6), an sms text message containing the at least one setup code (ci) found, for setting the setup code (ci) in the universal remote control (1), in such a way as to enable the remote control to control the corresponding appliance (2).

FIG. 1



EP 2 450 863 A1

Description

[0001] This invention relates to a method for setting up, or configuring, a universal remote control and to a system for setting up the remote control.

[0002] The term universal remote control refers to a device for controlling an electronic appliance from a distance, by sending suitable signals from the remote control to the appliance.

[0003] As is known, universal remote controls can control a large number of electronic appliances of different brands and models present in the home.

[0004] In light of this, for any specific appliance, the remote control must be suitably set up to generate the control signals which are effective on that appliance.

[0005] In effect, it should be noted that every electronic appliance responds to certain signals (that is to say, it only recognizes certain signals).

[0006] Setting up consists in selecting the correct set-up code from a list of setup codes available in the universal remote control, that is to say, selecting the setup code which allows the remote control to generate the signals which can control the specific appliance.

[0007] In other words, when the user has set the correct code for the electronic appliance (through a guided procedure specific to the remote control model), pressing a button on the remote control generates a control signal which is correctly interpreted by the electronic appliance, that is to say, which corresponds to the specific function associated with that button (for example, pressing the "power off' button switches off the appliance).

[0008] Thus, every time the remote control has to be set up for a new electronic appliance, it is necessary to set the correct code.

[0009] At present, remote control manufacturers substantially offer two different methods for performing the above mentioned setting-up/programming procedure.

[0010] According to a first method, the user must connect up to a remote server through a PC and an Internet connection.

[0011] The remote server comprises an interactive web interface (for example, on http platform).

[0012] The user enters in the remote server information relating to the brand and model of the electronic appliance whose setup code is required (using drop down menus, text entry fields, etc forming part of the interface) and queries a database stored in the remote server itself. The query returns an item of information containing the setup code to be entered in the remote control to allow the latter to control the selected appliance.

[0013] One drawback of this setting-up method is that it requires a computer and an Internet connection.

[0014] The method is not therefore practicable in places where no Internet connection is available.

[0015] Moreover, the method is rather difficult for users with little knowledge of a PC and is impracticable when a computer is not available.

[0016] In a second setting-up method, the user makes a series of attempts at setting up (in some cases innumerable).

[0017] In practice, the user tries entering different codes present in the universal remote control following a "trial & error" approach until the code best suited to control the desired appliance is found (in a random manner).

[0018] This approach to programming is very time consuming.

[0019] To facilitate identification of the correct code from among all of those present in the remote control, some remote control manufacturers provide in the instruction manual long lists of codes divided into groups according to the brands of the original devices. This lists are not always effective because they do not include the codes for the models put onto the market after the instruction manual has gone to print.

[0020] In a third method, described in document W02006/006800, an electronic device is made which constitutes both a universal control and a cell phone (or mobile telephone) for downloading the codes from a remote server through an Internet connection established by an electronic device (using the functions of the cell phone).

[0021] The solution described in W02006/006800 is, however, disadvantageous because it is particularly complicated (both to make and use) and expensive because of the need to build into a single device, connection functions, communication via internet telephone network (typical of cell phones) and the functions typical of a universal remote control.

[0022] A further limit of this solution is that it requires an Internet connection to download the programming codes from the remote server.

[0023] Document W02009/077878 describes a device similar to that described above, where the control device has a built-in communication unit configured to connect up to a remote server. The communication established with the remote server allows the communication unit to update the software of the control device for the specific appliance to be controlled.

[0024] The device therefore has the same limitations and drawbacks as those described above.

[0025] Moreover, it should be noted that the above mentioned solutions imply that the apparatus concerned (mobile telephone or remote control) be technologically complex and expensive.

[0026] In effect, to set up or update the remote control according to the methods proposed by these prior art solutions, one of the following configurations or conditions must be true:

- a universal remote control with self-contained internet connection capability;
- a mobile telephone equipped with specific circuitry for generating infrared signals suitable for direct control of the desired appliances. This invention has for an object to provide a method and a system for set-

ting up a universal remote control which overcome the above mentioned disadvantages of the prior art and, more specifically, which make it possible to set up a universal remote control quickly and easily so it can drive a specific appliance.

[0027] These objects are fully achieved by the method according to this invention, as characterized in the appended claims.

[0028] More specifically, the method for setting up a universal remote control designed to control a plurality of electronic appliances comprises the following steps: preparing a remote server configured for receiving sms text messages sent using a telephone (preferably a mobile telephone), the server having access to a database containing information relating to setup codes for the remote control and relating to the appliances; reception by the remote server of an sms text message sent from the mobile telephone, the text of the sms message containing information about at least the brand of an electronic appliance; querying the database to retrieve, according to the information about at least the brand, at least one setup code which is uniquely correlated with one appliance (and, if necessary, other codes to work around situations where the type of appliance cannot be precisely identified and situations where the user enters imprecise or incomplete information about the appliance to be controlled) pertaining to the information contained in the text of the message; sending to the mobile telephone, an sms text message containing the at least one setup code found, for setting up the universal remote control, in such a way as to enable the remote control to control the corresponding appliance.

[0029] These objects are also fully achieved by the system according to this invention, as characterized in the appended claims.

[0030] More specifically, the system for setting up a universal remote control designed to control a plurality of electronic appliances comprises a remote server having access to a database containing information relating to setup codes for the remote control and relating to the appliances, the server comprising: means for sending and receiving text messages of sms type, the means being connected to the remote server to allow reception of an sms text message sent from a mobile telephone, the text of the sms message containing information about at least the brand of an electronic appliance, the remote server further comprising a processor programmed to perform the following operations: querying the database to retrieve, according to the information about at least the brand, at least one setup code which is uniquely correlated with at least one appliance pertaining to the information contained in the text of the sms message; controlling the sending and receiving means in such a way as to send an sms text message to the mobile telephone, the message containing at least one setup code retrieved, for setting the setup code in the universal remote control, in such a way as to enable the remote control to control the corresponding appliance.

[0031] This and other features are described in more detail below with reference to a preferred, non-limiting example embodiment, with reference to the accompanying drawings, in which:

- Figure 1 schematically illustrates a preferred embodiment of the universal remote control setting up system according to this invention;
- Figure 2 schematically illustrates in flow diagram form a first preferred embodiment of the universal remote control setting up method according to this invention;
- Figure 3 schematically illustrates in flow diagram form a second preferred embodiment of the universal remote control setting up method according to this invention.

[0032] In Figure 1 the numeral 1 denotes a universal remote control designed to control one or more electronic appliances 2 (preferably by transmitting infrared signals).

[0033] Preferably, the electronic appliances 2 are audio / video appliances, for example household appliances (television sets, stereos, decoders and the like).

[0034] Preferably, the remote control 1 is a remote control of the infrared type. It should be noted that the appliances 2 are preferably electronic devices (for example, a television set, e stereo, or the like) and still more preferably household appliances.

[0035] The purpose of setting up the remote control 1 is to put the remote control 1 itself in a condition to drive a specific electronic appliance 2.

[0036] It should be noted that in order to put the remote control 1 in a condition to be able to drive a specific electronic appliance 2, it is necessary to select from a list of codes made available by the selfsame remote control 1, the correct code for the specific appliance 2.

[0037] The expression "correct code" for the specific appliance 2 means the code which, once selected, allows the remote control 1 to generate signals which the appliance 2 is responsive to.

[0038] The remote control 1 is configured to send certain signals (i.e. control signals), depending on the code selected, when the buttons on it are pressed.

[0039] In light of this, it should be noted that, as is known, every appliance 2 is configured to respond only to certain signals. Thus, generally speaking, the code of the remote control 1 must be selected correctly so that the signal emitted by the remote control 1 when a certain button is pressed (and corresponding to a specific function associated with that button, such as, for example, power on/off) can be correctly interpreted by the appliance 2.

[0040] Hereinafter, the code of the remote control 1 will also be referred to as "setup code" (ci).

[0041] In this context, attention is drawn to the fact that the suitable, or correct, setup code for a specific appliance 2 is not known and is not given to a user (for exam-

ple, if the user has purchased an electronic appliance 2). Thus, the method and system according to the invention allow a user to obtain the correct code for the specific appliance 2 quickly and easily. Below is a description, with reference to figure 1, of the system 5 for setting up the remote control 1 in such a way that the remote control 1 can drive a specific appliance 2.

[0042] The setting up system 5 comprises a remote server 3.

[0043] The term "remote server" 3 means one or more computers and/or processing devices located at some distance from the place where the remote control 1 is located, that is to say, at a remote location.

[0044] It should be noted that the remote server 3 comprises a processor containing instructions for performing certain operations (described below).

[0045] The system 5 also comprises one or, preferably, more gsm modems 7 connected to an sms gateway 8.

[0046] Preferably, the gsm modems 7 and the gateway 8 are located at the remote location.

[0047] According to the invention, the gsm modems 7 and the gateway 8 constitute means 9 for sending and receiving sms type text messages and forming part of the remote server 3.

[0048] Hereinafter, the sms type text messages will also be referred to as sms messages or sms text messages.

[0049] It should be noted that the sending and receiving means 9 allow the remote server 3 to both transmit and receive sms type text messages. The sms gateway 8 is connected to the remote server 3 preferably by an intranet type connection 10.

[0050] The intranet connection 10 constitutes connection means between the remote server 3 and the means 9 for sending / receiving an sms message.

[0051] In a variant embodiment not illustrated, the means 9 for sending / receiving an sms message are connected directly to the remote server 3.

[0052] It should be noted that the sms gateway 8 allows the incoming messages from the modems 7 to be addressed to the remote server 3 and, vice versa, outgoing messages from the remote server 3 to be addressed to one of the modems 7.

[0053] The remote server 3 is connected, that is, has access, to a database 4 containing setup codes for the remote control 1 and identification information relating to electronic appliances 2.

[0054] It should be noted that the database 4 may form part of the system 5 itself (more specifically, it may be built into the remote server 3).

[0055] In light of this, it should be noted that the database 4 comprises information relating to the setup codes (ci) and relating to the electronic appliances 2.

[0056] More specifically, the data base 4 comprises a list of appliances 2 associated with respective setup codes.

[0057] In other words, each electronic appliance 2 listed in the database 4 has, associated with it in the database 4 itself, a remote control 1 setup code (which once entered in the remote control 1 enables the remote control to drive the specific appliance 2).

[0058] It should be noted that the relations between the appliances 2 and the setup codes ci in the database 4 are not necessarily biunique. In effect, one setup code may correspond to two or more appliances 2. Preferably, however, the appliances 2 are uniquely correlated with the setup codes ci (that is, each appliance 2 has only one setup code ci associated with it).

[0059] Preferably, within the database 4, each appliance 2 can be identified by information defining its type tp (for example "TV", "stereo", etc.), brand mc (for example, "Sony®", "Philips®", etc.) and model (for example "AV100", etc.).

[0060] The remote server is programmed to identify in the text of a received sms message information (tp, mc, md) identifying the appliance 2 whose setup code the user wishes to obtain.

[0061] This aspect will be described in more detail below.

[0062] According to the invention, the remote server 3 is programmed to query the database 4 to retrieve one or more setup codes (ci) according to the identification information (tp, mc, md) identified in the text message, that is to say, derived from the text of the sms message.

[0063] Described below, with reference to the flow diagram of Figure 2, is the procedure for setting the code in an appliance 2.

[0064] In light of this, it should be noted that Figure 2 shows a flow diagram for a first preferred embodiment of the universal remote control 1 setting up method according to this invention.

[0065] The first preferred embodiment must be considered purely as an example since the system 5 is very versatile and can operate in different ways depending not only on the configuration of the system itself but also on the information present in the text of the sms message received from the remote server 3.

[0066] The first embodiment is preferable in the case where the text message contains only one item of information, namely the brand name of the appliance 2.

[0067] A user sends to the remote server 3 (that is, to a telephone number corresponding to the modem 7) an sms message comprising the brand name (mc) of the appliance 2 which he/she wishes to control. Preferably and advantageously, the user uses a telephone 6, preferably a mobile telephone, hereinafter also referred to as cell phone 6, to send the sms text messages to the remote server 3 and to receive the sms text messages.

[0068] In light of this, the telephone 6 constitutes a device available to the user for sending/receiving the sms message.

[0069] It should be noted, more generally speaking, that the telephone 6 might also be a landline telephone configured to send and receive sms type text messages. Thus, the expression "mobile telephone" or "cell phone" used in this description should not be understood in a

limited sense.

[0070] It should be noted that the telephone 6 (that is, the mobile telephone or cell phone) is preferably a plain mobile telephone without any means of remotely controlling a plurality of household appliances. That means the mobile telephone does not have any built-in universal remote control functions.

[0071] It should also be noted that the remote control 1 is preferably a universal remote control without any means of connection to the Internet or to any mobile network, that is to say, it is not configured to receive and/or send SMS text messages. In other words, the remote control 1 preferably does not feature any function allowing it to communicate through a mobile network or the Internet.

[0072] Moreover, it should be noted that neither of the devices (mobile telephone and universal remote control) has any interconnection system (for example BLUETOOTH or IRDA / USB) for connecting the two devices to each other and for mutual data exchange.

[0073] In effect, operatively, the information received by SMS text on the mobile telephone is read by the user and entered manually in the universal remote control by the user.

[0074] This advantageously guarantees simplicity of construction of both the universal remote control and the mobile telephone.

[0075] In the method for setting up the universal remote control 1 according to the invention, the universal remote control 1 used is preferably of standard type, that is to say, without connectivity to the Internet or to a mobile network. Also, preferably, the telephone 6 used (mobile or cell phone or possibly even landline telephone) is of a standard type, that is to say, a telephone which is not necessarily provided with (or even totally without) functions for remotely controlling electronic or electrical household appliances.

[0076] This advantageously allows any type of universal remote control to be updated very quickly and easily, allowing the user to make use of devices (such as the telephone 6) which he or she certainly has around the house and which are commonly used for other purposes (for example, to make phone calls or receive messages).

[0077] It should be noted that the text of the sms text message comprises information relating to the brand of the appliance 2 (for example, the text of the sms message might be "SONY").

[0078] The GSM modem 7 receives the sms message and the sms gateway 8 routes it to the remote server 3.

[0079] It should be noted that there is preferably a step of identifying the cell phone 6.

[0080] In this step, the number of the device which has sent the sms message to the remote server 3 is identified in order to compare it against a list of senders excluded from the service.

[0081] In light of this, it should be noted that if the number of the cell phone 6 is among those of excluded senders, the remote server 3 terminates the procedure, that is to say, no further operations are carried out. Preferably, the list of excluded senders comprises "non toll-free" numbers.

[0082] Moreover, identification of the sender's number allows that item of information to be stored in the remote server 3, that is, in the database 4, for statistical purposes.

[0083] The remote server verifies the brand information contained in the text message against corresponding information stored in the database 4.

[0084] It should be noted that if verification gives a negative result (that is to say, if there is no brand in the database 4 matching the brand in the sms text message) the remote server 3 estimates the brand using similarity/comparison algorithms (for example Oliver / Levenshtein).

[0085] In light of this, the remote server 3 compares the string extracted from the sms message, corresponding to the brand name, with the information relating to the brands stored in the database 4, and based on similarity/comparison rules, identifies among the brands stored in the database 4 the one that is most similar to the string extracted from the text message.

[0086] It should be noted in light of this that the step of estimating the brand is advantageously intended to make the system 5 insensitive to common mistakes in the spelling of the brand name (for example, "SONI" instead of "SONY") in the text of the sms message.

[0087] Thus, the remote server 3 can identify the brand of the appliance 2 even if the brand name has been spelt incorrectly in the sms message. If the remote server 3 is unable to identify the information relating to the brand of the appliance 2 in the text of the message (even by estimation), the remote server sends to the cell phone 6 an error message in the form of an sms text message.

[0088] On the other hand, if verification gives a positive result (or if the system is able to make an estimate of the brand), the remote server 3 queries the database 4 to retrieve a plurality of setup codes ci corresponding to the brand identified (that is, to the appliance 2).

[0089] In light of this, it should be noted that the query returns to the remote server a plurality of setup codes. Preferably, the codes are sorted by appliance type and/or according to a criterion of commercial diffusion of the appliances 2 (that is, based on sales statistics of the appliance models).

[0090] The remote server 3 sends to the cell phone 6 of the service user an sms response message containing the setup codes (ci) for the appliance 2.

[0091] In light of this, the service user receives on the cell phone 6 an sms text message containing the setup codes selectable for the remote control 1.

[0092] The fact that the setup codes are sorted by the type and/or commercial diffusion of the appliances 2 the codes are associated with makes it easier for the user to quickly identify the correct code. In effect, advantageously, with a list of codes sorted according to the aforesaid criteria, the user's attempts are based on statistical cri-

teria designed to minimize the time required to identify the correct code.

[0093] In light of this, it should be noted that if the text of the sms message sent by the remote server 3 contains a plurality of setup codes, the user must identify the correct code for the appliance 2 from among the codes sent. This is done by trial and error.

[0094] Figure 2 represents the steps described above, relating to the first embodiment of the method.

[0095] Each step is denoted by a letter, and more specifically:

- the letter a denotes the step of reception of the sms message by the remote server 3;
- the letter b denotes the step of verifying the brand information against the information stored in the database 4;
- the letter c denotes the step of assessing the result of the verifying step b;
- the letter d denotes the step of estimating the brand through similarity algorithms (subject to the result of the assessing step c);
- the letter e denotes the step of querying the database 4 to retrieve the setup codes;
- the letter f denotes the step of sorting the setup codes by type and/or commercial diffusion;
- the letter g denotes the step of sending a text message containing the setup codes to the mobile telephone 6;
- the letter z denotes the step of identifying and verifying the mobile telephone 6 which has sent the text message.

[0096] Described below is a second embodiment of the method, where the text message sent to the remote server 3 also contains an item of information relating to the model of the appliance 2 whose setup code the user wishes to obtain.

[0097] In the second embodiment, the steps a, b, c and d are performed in the manner described above.

[0098] In addition, the second embodiment comprises a step of the remote server 3 also identifying in the text of the message received an item of information relating to the model of the appliance 2 (in addition to the brand information).

[0099] Again by way of an example with reference to the text of an sms message such as "TV SONY AC2568", the remote server 3 identifies in the text the string "AC2568" as information regarding the model.

[0100] The remote server 3 verifies the match between the model information identified (string identified in the text of the sms message) and the information relating to the appliance models present in the database 4. It should be noted that if the step of verifying the match between the model information identified (string identified in the text of the sms message) and the information relating to the appliance models present in the database 4 gives a negative result, this embodiment of the method contemplates, in the same way as described above for the brand information (step d), a step of estimating the model information by comparing it against the information present in the database 4 through similarity algorithms.

[0101] In light of this, it should also be noted that preferably, even if the step of verifying the match between the model information identified (string identified in the text of the sms message) and the information relating to the appliance models present in the database 4 gives a positive result, this embodiment of the method contemplates, in the same way as described above for the brand information (step d), a step of estimating the model information by comparing it against the information present in the database 4 through similarity algorithms.

[0102] Advantageously, this means that even in situations where the text of the sms text message contains information which is incomplete (for example, "AT100" instead of "AT1001") or incorrect (for example "AT100" instead of "AT101") regarding the model of the appliance 2 which is to be controlled by the remote control 1 (and such information does match existing information in the database 4), the setup codes sent by the remote server 3 to the telephone 6 nevertheless include the one which allows the specific appliance 2 to be controlled. It should be noted that the procedure described above allows the specific appliance 2 to be identified within the database 4.

[0103] In effect, in light of this, it should be noted that the brand and the model identify a specific appliance 2 in a practically unique manner.

[0104] Thus, it should be noted, advantageously, that with the brand and model information the remote server 3 can identify the specific appliance 2 exactly.

[0105] The remote server 3 queries the database 4 to retrieve a setup code corresponding to the brand and model identified (that is, to the appliance 2).

[0106] As described above with reference to the first embodiment, the remote server 3 sends to the cell phone 6 of the service user an sms response message containing the code (preferably a plurality of codes) for setting up the remote control so it can drive the appliance 2.

[0107] Figure 3 represents the steps described above, relating to the second embodiment of the method.

[0108] Each step is denoted by a letter, and more specifically:

- the letter h denotes the step of verifying the brand information by comparing it against the information in the database 4;
- the letter i denotes the step of assessing the result of the verifying step h;
- the letter l denotes the step of estimating the model through similarity algorithms (performed subject to the result of the assessing step i).

[0109] The steps a, b, c, d, e, f, g and z of Figure 3 correspond to the steps shown in, and described with reference to, Figure 2.

[0110] It should be noted that in a variant embodiment

not illustrated, the group of steps b, c, d might be performed after the group of steps h, i, l.

[0111] In a variant, not illustrated in the drawings, of the first or of the second embodiment, the text of the sms message sent to the remote server 3 might also contain (in addition to the brand information) an item of information relating to the type of the appliance 2 whose setup code the user wishes to obtain.

[0112] In this variant embodiment, the remote server 3 is programmed to query the database 4 according to the brand and type information identified in the sms message received.

[0113] It should be noted that if applied to the first embodiment, this variant advantageously filters the setup codes retrieved by the database query. In effect, this aspect makes it possible to reduce the number of setup codes obtained as a result of the remote server's querying the database 4, a number which would probably be quite large according to the first embodiment.

[0114] According to yet another aspect of the system 5, the remote server 3 is programmed to query the database 4 and retrieve from the database 4 the setup codes of appliances 2 having a certain similarity relation with, that is to say, being similar to, the brand and model information contained in the text of the sms message.

[0115] It should be noted that the similarity relation is calculated on the basis of defined rules.

[0116] Preferably, one indicator which the similarity relation can be based on is the Levenshtein distance, defined as the minimum number of characters to be substituted, inserted or deleted to convert one string corresponding to the information relating to the model of one of the appliances into the string corresponding to the information relating to the model of another appliance 2.

[0117] The Levenshtein distance might therefore constitute one rule for measuring the similarity relation between two appliances 2 to derive a similarity value. Alternatively, other rules might be applied.

[0118] Again by way of an example, the model identifying string "AT100R" might be considered similar to the model identifying string "AT100" because the first string differs from the second in that it contains only one additional character (the Levenshtein distance in this case would be 1 character only).

[0119] According to this aspect, the remote server 3 is configured to retrieve from the database 4 the setup codes for the appliance 2 identified (by the brand and model information) and for the appliances 2 which are assessed, by a measure of the similarity relation applied by the selfsame remote server 3, as being similar to the appliance 2 itself. Preferably, according to this aspect, the remote server 3 is configured to sort the setup codes according to a hierarchical criterion based on the measure of the derived similarity value (that is, according to a list having at the top of it the setup code for the appliance identified by the brand and model information and at the bottom of it the setup codes of the appliance models that are least similar to the appliance identified).

[0120] It should be noted that, advantageously, according to this aspect, the user is in any case provided with a limited set of setup codes. This advantageously allows the user to set the remote control 1 extremely rapidly to drive the appliance 2 even if he or she has not identified the model of the appliance 2 exactly in the text of the sms message (in effect, the message sent by the remote server 3 to the user also contains the setup codes of appliances having a certain similarity with the one required).

[0121] One advantage of this invention is that it provides a method and a system for setting up a universal remote control 1 very quickly and easily in such a way that it can be used to control a specific electronic appliance.

[0122] Another advantage of the invention is that it provides a universal remote control setting up method which can be implemented even without a personal computer.

[0123] In light of this, it should be noted that according to the invention the user preferably sends an sms message to the remote server using a mobile telephone which almost all users are very likely to already possess.

[0124] It should also be noted that the aspects described above can be combined in any way.

[0125] For example, the system 5 may be configured to process an sms message whose text may contain any of the following, alternatively:

- information relating to the brand (mc) of the appliance 2;
- information relating to the brand (mc) and model (md) of the appliance 2;
- information relating to the brand (mc), model (md) and type (tp) of the appliance 2;
- information relating to the brand (mc) and type (tp) of the appliance 2.

[0126] Thus, the setting up method according to the invention contemplates a plurality of variants according to the content of the text message.

Claims

1. A method for setting up a universal remote control (1) designed to control a plurality of electronic appliances (2), **characterised in that** it comprises the following steps:

   - preparing a remote server (3), configured for receiving sms text messages sent using a telephone (6), the server having access to a database (4) containing information relating to setup codes (ci) for the remote control (1) and relating to the appliances (2);
   - reception by the remote server (3) of an sms text message sent from the telephone (6), the text of the sms message containing information

about at least the brand (mc) of an electronic appliance (2);
- querying the database (4) to retrieve, according to the information about at least the brand, at least one setup code (ci) which is uniquely correlated with at least one appliance (2) corresponding to the information contained in the text of the message;
- sending to the telephone (6), an sms text message containing the at least one setup code (ci) found, for setting the setup code (ci) in the universal remote control (1), in such a way as to enable the remote control to control the corresponding appliance (2).

2. The method according to claim 1, comprising, before the querying step, a comparison step between the brand (mc) information and corresponding brand information present in the database (4) and comprising, if the brand indicated in the sms message is not present in the database (4), a step of selecting, amongst the brand information which is present in the database (4), at least one example of brand information, according to a predetermined criterion of similarity between the brand information contained in the text message and the brand information present in the database (4), said at least one setup code being retrieved according also to the selected brand information.

3. The method according to claim 1 or claim 2, wherein the text of the sms message contains information about a model (md) of the electronic appliance (2) and the at least one setup code (ci) is retrieved according also to the information about the model (md).

4. The method according to any of the foregoing claims, wherein the step of querying the database (4) comprises retrieving a plurality of setup codes (ci) for corresponding appliances (2).

5. The method according to claim 4, wherein the setup codes of said plurality of setup codes retrieved are arranged according to a criterion of commercial diffusion of the corresponding appliances.

6. The method according to claim 3 or 4, wherein the text of the sms message also contains information about a model (md) of the electronic appliance (2), the method comprising, before the querying step, a comparison step between the model (md) information and corresponding model information present in the database (4), the method further comprising, if the model indicated in the sms message is not present in the database, a step of selecting, amongst the model information which is present in the database, at least one example of model information, according to a predetermined criterion of similarity between the model information contained in the text message and the model information present in the database (4), said at least one setup code being found according also to the selected model information.

7. The method according to any of the foregoing claims, wherein the text of the sms message contains information about the type (tp) of electronic appliance (2) and the at least one setup code (ci) is retrieved according also to the information about the type (tp).

8. A system for setting up a universal remote control (1) designed to control a plurality of electronic appliances (2), comprising:

- a remote server (3), having access to a database (4) containing setup codes (ci) which can be set in the remote control (1) to allow it to control corresponding electronic appliances (2),

characterised in that it comprises:

means (9) for sending and receiving sms text messages, the means being connected to the remote server (3) to allow reception of an sms text message sent from a telephone (6), the text of the sms message containing information about at least the brand of an electronic appliance (2), and
a processor programmed to perform the following operations:

- querying the database (4) to retrieve, according to the information about at least the brand, at least one setup code (ci) which is uniquely correlated with at least one appliance (2) corresponding to the information contained in the text of the message;
- controlling the sending and receiving means (9) in such a way as to send an sms text message to the telephone (6), the message containing at least one setup code (ci) retrieved, for setting the setup code (ci) in the universal remote control (1), in such a way as to enable the remote control to control the corresponding appliance (2).

9. The system according to claim 8, wherein the sending and receiving means (9) comprise a plurality of gsm modems (7) and a gateway device (8) which is connected to the modems (7) and to the remote server (3) to allow the sms text messages to be routed from the gsm modems (7) to the remote server (3) and vice versa.

10. The system according to claim 8 or 9, wherein the text of the sms message contains information about

the model (md) of the electronic appliance (2) and the processor is programmed to retrieve at least one setup code (ci) according also to the information about the model (md).

11. The system according to any of the claims from 8 to 10, wherein the text of the sms message contains information about the type (tp) of the electronic appliance (2) and the processor is programmed to retrieve the setup code (ci) according also to the information about the type.

12. The system according to any of the claims from 8 to 11, wherein the text of the sms message contains information about a model (md) of the electronic appliance (2), the processor being programmed to:

- compare, before the query, the model (md) information with corresponding model information present in the database (4) and, if the model indicated in the sms message is not present in the database (4), to select, amongst the model information which is present in the database (4), at least one example of model information, according to a predetermined criterion of similarity between the model information contained in the text message and the model information present in the database (4), the processor also being programmed to retrieve, during the query, the at least one setup code according also to the information about the selected model.

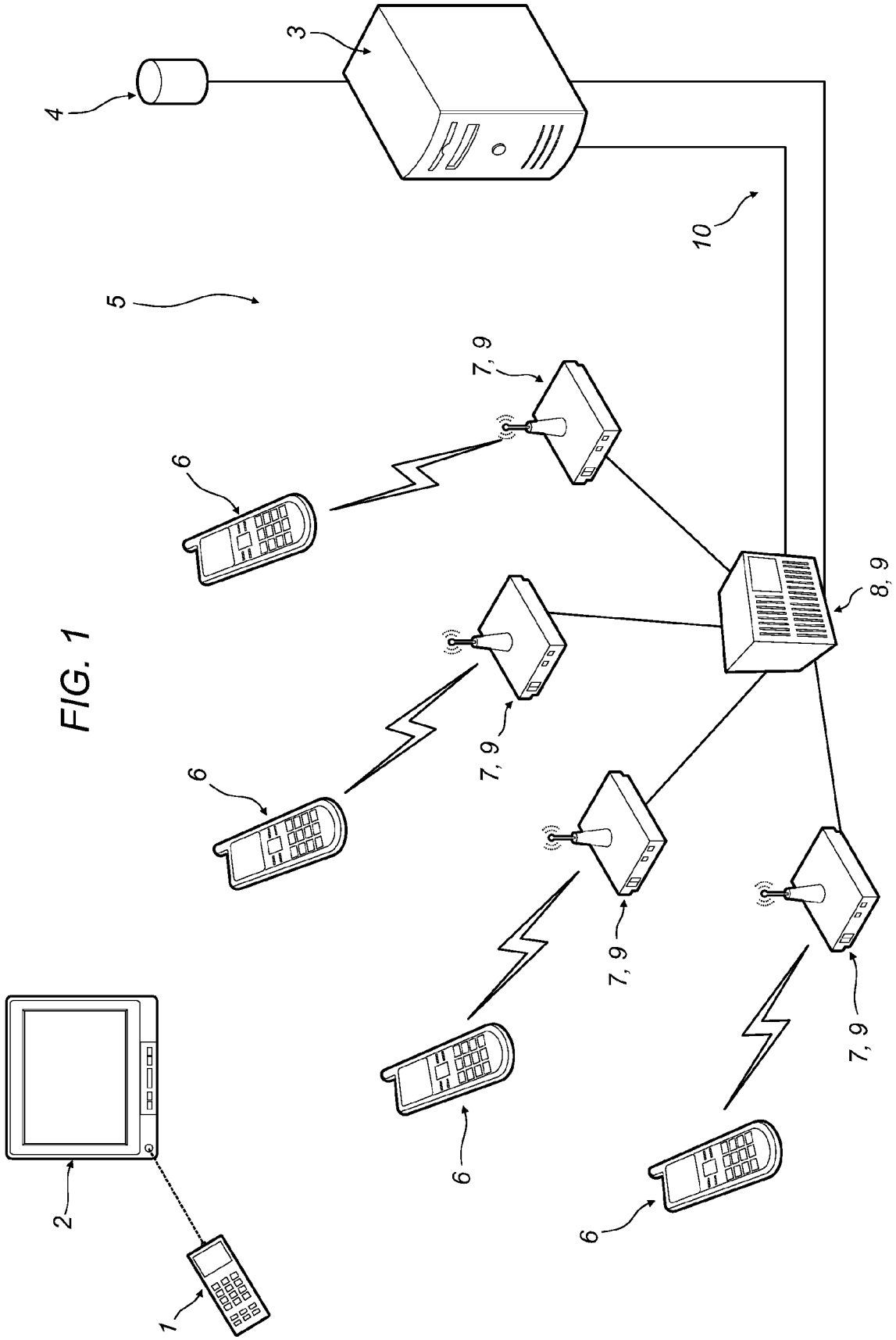


FIG. 1

FIG. 2

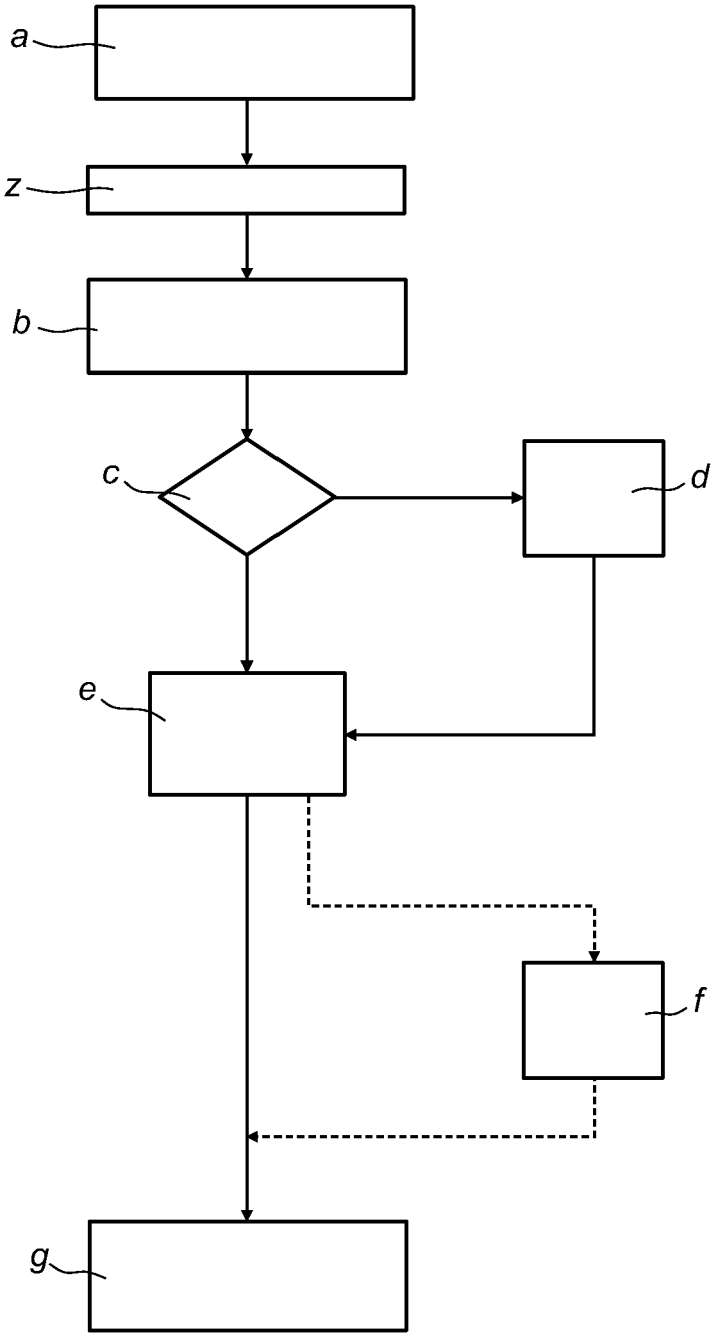
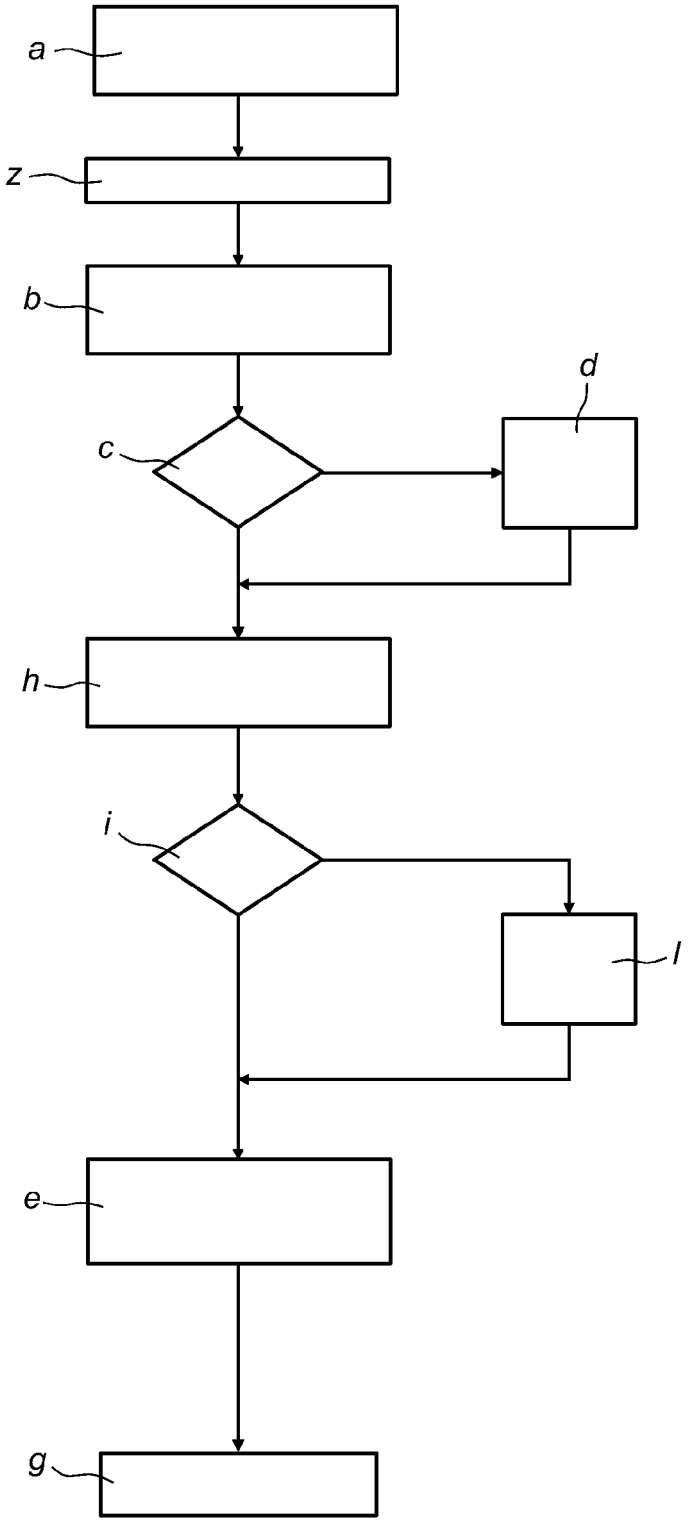


FIG. 3



Europäisches Patentamt
European Patent Office
Office européen des brevets

EUROPEAN SEARCH REPORT

Application Number
EP 11 18 5822

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	WO 2006/006800 A1 (CHOI HYUNG-RACK [KR]) 19 January 2006 (2006-01-19) * page 8, line 1 - page 14, line 10 * * page 16, line 3 - page 18, line 25 * -----	1-12	INV. G08C19/28
X	WO 2009/077878 A2 (FRANCE TELECOM [FR]; GAO PENG [CN]; CHEN ZILI [CN]; SONG YUNING [CN]) 25 June 2009 (2009-06-25) * page 5, line 15 - page 10, line 26 * * page 13, line 9 - page 19, line 2 * -----	1-12	
			TECHNICAL FIELDS SEARCHED (IPC) G08C

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	21 December 2011	Pham, Phong

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
Y : particularly relevant if combined with another document of the same category
A : technological background
O : non-written disclosure
P : intermediate document

T : theory or principle underlying the invention
E : earlier patent document, but published on, or after the filing date
D : document cited in the application
L : document cited for other reasons

& : member of the same patent family, corresponding document

EPO FORM 1503 03.82 (P04C01)

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 11 18 5822

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

21-12-2011

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 2006006800 A1	19-01-2006	KR 20060004411 A	12-01-2006
		WO 2006006800 A1	19-01-2006
WO 2009077878 A2	25-06-2009	NONE	

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

REFERENCES CITED IN THE DESCRIPTION

This list of references cited by the applicant is for the reader's convenience only. It does not form part of the European patent document. Even though great care has been taken in compiling the references, errors or omissions cannot be excluded and the EPO disclaims all liability in this regard.

Patent documents cited in the description

- WO 2006006800 A **[0020] [0021]**
- WO 2009077878 A **[0023]**