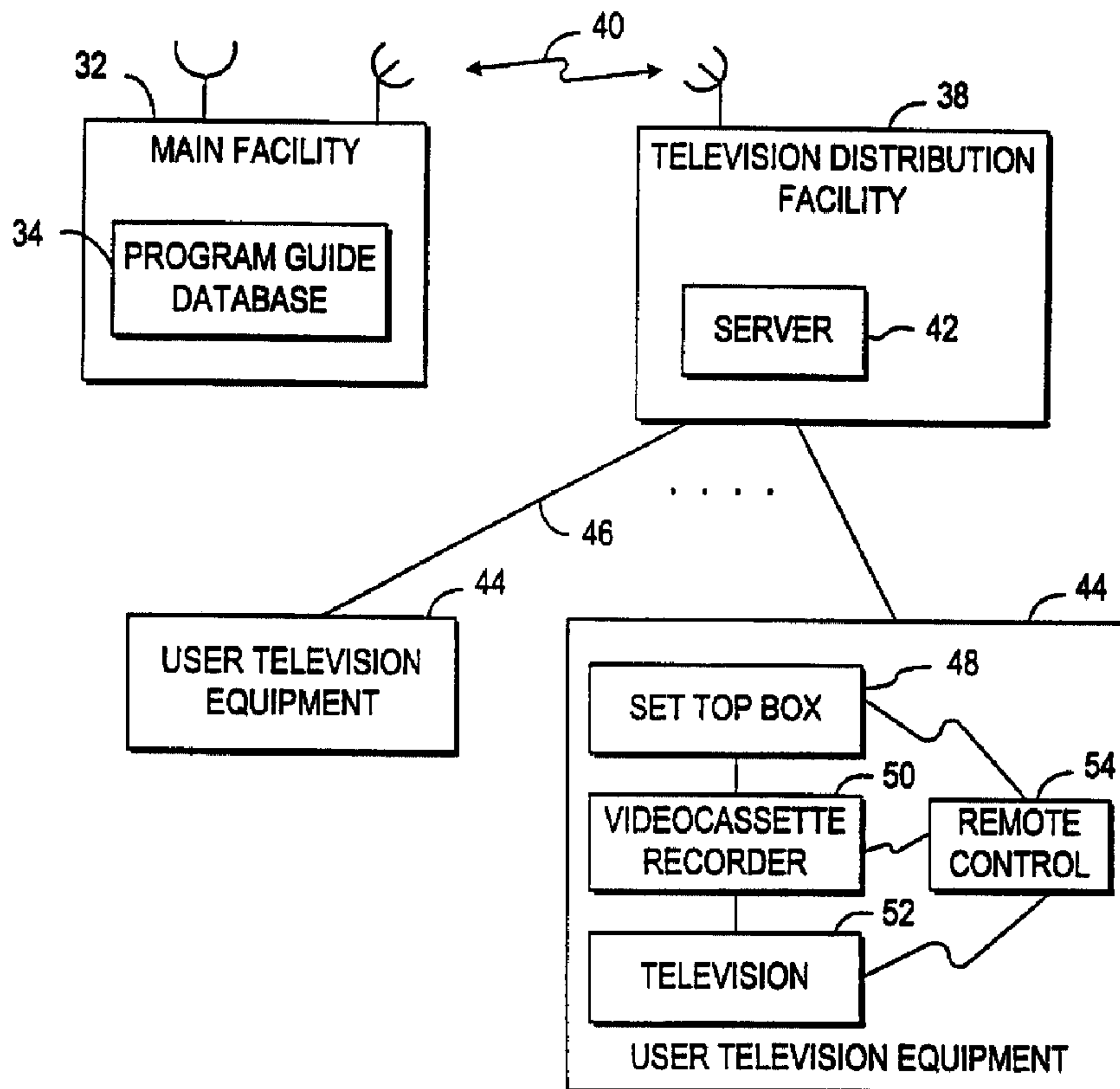




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 HOUSEHOLD



(57) Abrégé/Abstract:

An interactive television program guide system based on multiple user television equipment devices in a single household is provided. The system provides a user with an opportunity to adjust program guide settings with a given one of the interactive

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

television program guides. The system coordinates the operation of the interactive television program guides so that the program guide settings that were adjusted with the given interactive television program guide are used by the other interactive television program guides. Program guide settings include features related to setting program reminders, profiles, program recording features, messaging features, favorite features, parental control features, program guide set up features (e.g., audio and video and language settings), etc. The operation of applications such as web browser application's, home shopping applications, home banking applications, game applications, etc. may also be coordinated.



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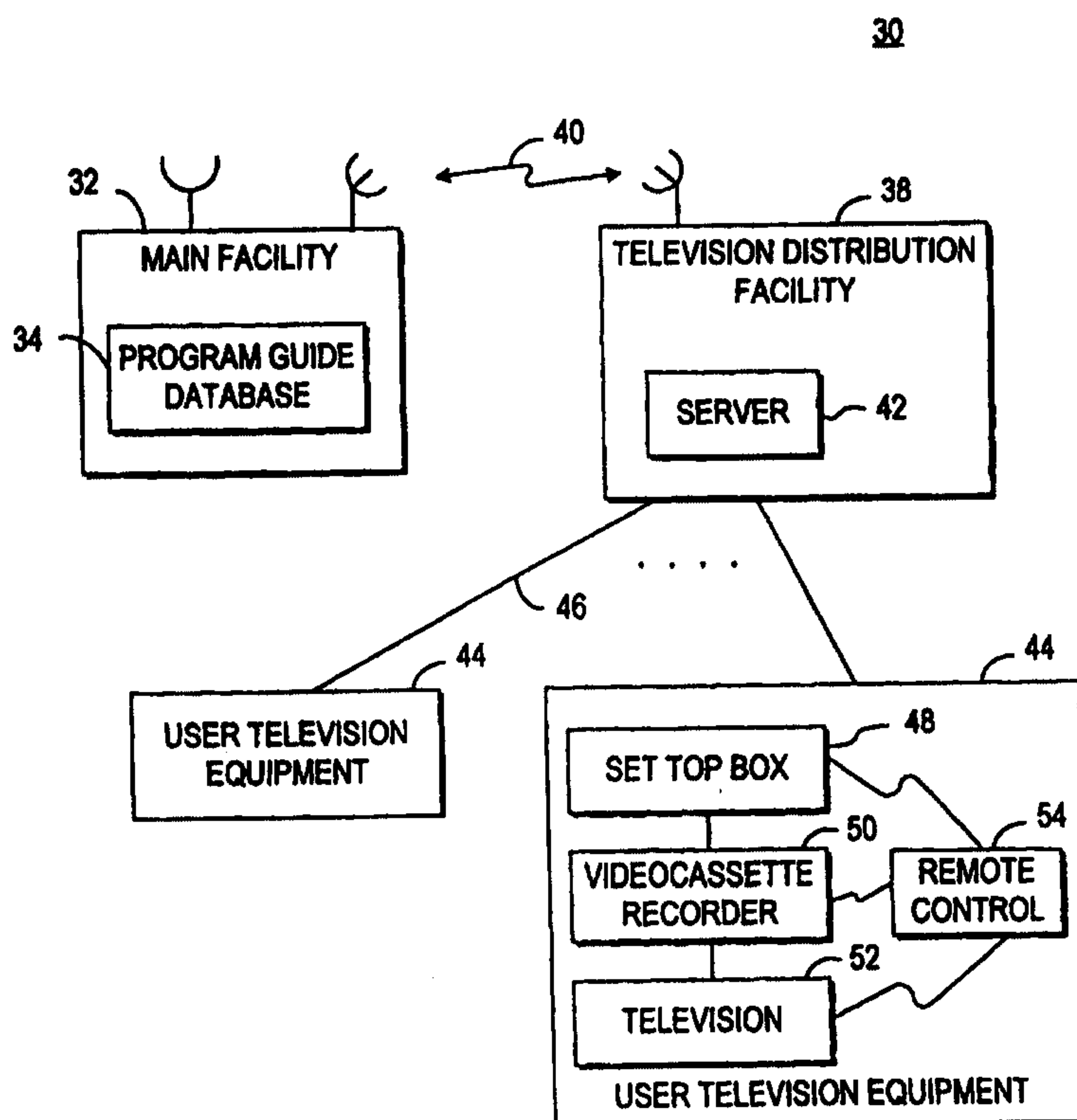
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(21) International Application Number: PCT/US99/16039 (22) International Filing Date: 16 July 1999 (16.07.99) (30) Priority Data: 60/093,292 17 July 1998 (17.07.98) US (71) Applicant: UNITED VIDEO PROPERTIES, INC. [US/US]; 7140 South Lewis Avenue, Tulsa, OK 74136 (US). (72) Inventors: ELLIS, Michael, D.; 1300 Kingwood Place, Boulder, CO 80304 (US). THOMAS, William, L.; 11611 South 70th East Avenue, Bixby, OK 74008 (US). LEMMONS, Thomas, R.; Route 2, P.O. Box 1178, Sand Springs, OK 74063 (US). (74) Agents: TREYZ, G., Victor et al.; Fish & Neave, 1251 Avenue of the Americas, New York, NY 10020 (US).		(81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). Published <i>With international search report.</i>

(54) Title: INTERACTIVE TELEVISION PROGRAM GUIDE SYSTEM HAVING MULTIPLE DEVICES WITHIN A HOUSEHOLD**(57) Abstract**

An interactive television program guide system based on multiple user television equipment devices in a single household is provided. The system provides a user with an opportunity to adjust program guide settings with a given one of the interactive television program guides. The system coordinates the operation of the interactive television program guides so that the program guide settings that were adjusted with the given interactive television program guide are used by the other interactive television program guides. Program guide settings include features related to setting program reminders, profiles, program recording features, messaging features, favorite features, parental control features, program guide set up features (e.g., audio and video and language settings), etc. The operation of applications such as web browser applications, home shopping applications, home banking applications, game applications, etc. may also be coordinated.



INTERACTIVE TELEVISION PROGRAM GUIDE
SYSTEM HAVING MULTIPLE DEVICES WITHIN A HOUSEHOLD

Background of the Invention

This invention relates to interactive
5 television program guides, and more particularly, to
techniques for providing interactive television program
guide functionality on multiple devices within a
household.

Cable, satellite, and broadcast television
10 systems provide viewers with a large number of
television channels. Viewers have traditionally
consulted printed television program schedules to
determine the programs being broadcast at a particular
time. More recently, interactive electronic television
15 program guides have been developed that allow
television program information to be displayed on a
viewer's television.

Interactive television program guides are
typically implemented on set-top boxes. Such programs
20 guides allow users to view television program listings
in different display formats. For example, a user may
instruct the program guide to display a grid of program

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listings organized in a channel-ordered or a time-ordered list. Users may also search or sort program listings by theme (e.g., movies, sports, etc.) or by title (i.e., alphabetically). A user may obtain
5 additional information for a program by placing a highlight region on a desired program listing and pressing an "info" button.

Households with children are concerned with protecting children from the potentially objectionable
10 adult content contained in the broad range of programs that are currently available. Some program guides allow users to block channels or programs using a parental control function. For example, a user may instruct the program guide to block access to channels
15 that provide adult programs. A user must enter a password to regain access to such adult channels.

Another feature available on some program guides is the ability for the cable operator to send messages such as billing information to the user. A
20 user may also have the ability to set reminders that will alert the user when a preselected program is about to begin or that will automatically tune the user's set-top box to the channel of the preselected program when the program is about to begin. A user may have
25 the ability to establish a list of favorite channels. All of these program guide settings and features are specific to the user's set-top box.

Families often have multiple televisions and set-top boxes placed throughout the household. A
30 family's household even may include multiple homes. Because there is no coordination between the program guides running on each of the various set-top boxes in the household, if a user adjusts the settings for a program guide on one set-top box, these settings are

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not communicated to the program guides on any of the other set-top boxes in the household. If a parent wants to restrict access to certain channels on all the televisions in the household, the parent must adjust the parental control settings on each set-top box individually. Reminders and favorite channel settings must similarly be set for each program guide separately if a user desires to have such settings be in effect throughout the household. Messages sent from the cable operator can only be sent to a particular set-top box. Some cable system subscriber management systems can allow a cable operator to manage all cable boxes within a home (i.e. manage billing for individual locations within a home). However, such systems do not allow user interaction with the cable operator.

Previously developed systems do not allow users at one location in a household to adjust the program guide settings of another device in the household over communications paths. Such systems include: Houser et. al. U.S. Patent 5,774,859 (disclosing a speech recognition interface), Prang German Patent DE 4440174 A1 (disclosing a TV controller unit placed partially internal to the television), Schicketanz et. al. EPO Patent 0795994A2 and Grandmougon U.S. Patent 5,249,043 (both patents combine multiple input signal into a single output signal), Giard et. al. U.S. Patent 5,751,282 (video on demand systems), Mann patent G-B 2256115 A (a system based on coded remote controls), LeBerre et. al. U.S. Patent 5,748,732 (a smart card system).

It is therefore an object of the present invention to provide a program guide system that allows a user to adjust to the user settings of a plurality of program guides at different locations within a household from a single location.

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Summary of the Invention

These and other objects of the present invention are accomplished in accordance with the principles of the present invention by providing an interactive television program guide system for a household in which multiple interactive television program guides within the household are coordinated. In a typical system, various users in the household use various pieces of user television equipment (also called user television equipment devices). An interactive television program guide is implemented on each piece of user television equipment. Typical user television equipment may be a set-top box on which a program guide application and non-program-guide applications run, a videocassette recorder connected to the set-top box for recording television programs, and a television on which the program guide application may display various program guide display screens and the non-program-guide applications may display various non-program-guide display screens. Other suitable types of user television equipment may be based on personal computer televisions (PC/TVs) or advanced television receivers such as high-definition television (HDTV) receivers.

Each piece of user television equipment may be located in a different part of the home. For example, one piece of equipment may be located in the parents' bedroom. Another piece of equipment may be located in a child's bedroom. Additional pieces of equipment may be located in a family room, kitchen, living room, etc.

Typical program guide features that may be provided by the program guides of this invention implemented on the user television equipment include features related to setting program reminders, profiles, program recording

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features, messaging features, favorites features, parental control features, program guide set up features (e.g., video display settings, language settings, etc.), and other suitable program guide features. The system coordinates
5 operation of the program guides so that, for example, a user may adjust his favorite channel settings on a program guide operating in the living room and those settings will be effective on the program guide operating in the master bedroom and may therefore be used by that program guide.

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A parent may adjust parental control settings using the program guide in the parents' room and the system may apply those settings to all program guides in the household. Parents may use the parental control
5 feature to control the viewing of their children even though the children may be viewing television using multiple user television equipment devices. For example, parents may establish parental controls to lock various programs and services from a master
10 location and the system will apply these parental controls to the various pieces of user television equipment throughout the household. The ability to establish favorite channels, to set reminders, and to control other program guide settings at one location
15 and to have those settings applied to multiple locations throughout the household may be used by both the parents and their children.

A user may adjust his favorite settings on a program guide in the family room and may direct the
20 system to apply those settings to the program guides in the family room and the living room. A child may set reminders for certain programs using the program guide in the family room and may direct the system to apply those settings only to the program guide running in
25 that child's bedroom. A user may select a program for recording using a program guide in the living room and may request that the videocassette recorder in the family room be used to record the selected program. A user may receive messages from a cable system operator
30 and may direct the system to make certain types of those messages available to the program guide located in all rooms but the children's room. A user may adjust language or audio settings using one program guide and have those settings apply globally.

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As these examples serve to illustrate, the settings for any suitable program guide features may be adjusted using the program guide at one location in a household and applied by the system to selected other
5 program guides in the household.

The program guides may be linked using any suitable topologies and communication protocols. For example, the various pieces of user television equipment may be interconnected using a tree, bus or
10 ring topology. One piece of user television equipment may be designated as a primary device and other pieces of user television equipment may be designated as secondary devices. The primary and secondary devices may be connected in a star arrangement. A remote
15 server may be used to implement certain program guide features and the pieces of user television equipment in the home may act as clients.

If desired, non-program-guide applications may be implemented on the user television equipment.
20 Such non-program-guide applications may include, for example, a web browser application, a home shopping application, a game application, an e-mail application, a chat application, a banking application, etc. These applications may be implemented on a set-top box within
25 the user television equipment. The user may adjust the settings of such a non-program-guide application at one set-top box. The system coordinates the operation of the various set-top boxes so that the adjusted settings may be used by similar applications running on other
30 set-top boxes in the household.

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According to one aspect of the present invention, there is provided an interactive television program guide system comprising: a plurality of user television equipment devices located in a household in a peer-to-peer arrangement and on at least two of which devices interactive television program guides are implemented; means associated with at least one of said interactive television program guides for adjusting interactive television program guide settings; and means for coordinating operation of said interactive television program guides so that the interactive television program guide settings that are adjusted using said means for adjusting are effective on at least one of the interactive television program guides other than the interactive television program guide implemented on the television equipment device with which the means for adjusting is associated.

According to another aspect of the present invention, there is provided a method for using an interactive television program guide system having a plurality of user television equipment devices located in a household in a peer-to-peer arrangement, wherein interactive television program guides are implemented on at least two of such devices, the method comprising: adjusting interactive television program guide settings on at least one of said interactive television program guides; and coordinating operation of said interactive television program guides so that the interactive television program guide settings that are adjusted are effective on at least one of the interactive television program guides other than the at least one interactive television program guide on which the program guide settings are adjusted.

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According to a further aspect of the present invention, there is provided a method for viewing a program, the method comprising: displaying a video associated with a program using a first television equipment device coupled to a plurality of television equipment devices; transmitting an identification of the program from the first television equipment device to a second television equipment device of the plurality of television equipment devices; after receiving the identification of the program at the second television equipment device, receiving with the second television equipment device a request to view the identified program using the second television equipment device; and displaying the video associated with the program on the second television equipment device in response to receiving with the second television equipment device the request to view the identified program.

According to a still further aspect of the present invention, there is provided a method for identifying a program displayed on another television equipment device, the method comprising: displaying a video associated with a program using a first television equipment device coupled to a plurality of television equipment devices; receiving with a second television equipment device of the plurality of television equipment devices a request to identify the program corresponding to the video displayed by the first television equipment device; in response to receiving the request at the second television equipment device, causing the first television equipment device to transmit identification information for the program corresponding to the video displayed by the first television equipment device to the second television equipment device; and displaying the identification information for the program corresponding to the video displayed by the first television equipment

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device on the second television equipment device in response to receiving the identification information at the second television equipment device.

According to yet another aspect of the present invention, there is provided a system for viewing a program, the system comprising: a first television equipment device configured to display a video associated with a program, wherein the first television equipment device is coupled to a plurality of television equipment devices; a processor configured to: transmit an identification of the program to a second television equipment device of the plurality of television equipment devices; and receive from the second television equipment device, a request to view the identified program on the second television equipment device; and the second television device configured to display the video associated with the program in response to the processor receiving the request to view the identified program.

According to another aspect of the present invention, there is provided a system for identifying a program displayed on another television equipment device, the system comprising: a first television equipment device configured to display a video associated with a program, wherein the first television equipment device is coupled to a plurality of television equipment devices; a processor configured to: receive a request to identify the program corresponding to the video displayed by the first television equipment device, wherein the request is received from a second television equipment device of the plurality of television equipment devices; and in response to receiving the request, transmit to the second television equipment device identification information for the program corresponding to the video displayed on the first television

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equipment device; and the second television equipment device configured to display the identification information for the program corresponding to the video displayed by the first television equipment device in response to receiving the
5 identification information.

According to yet another aspect of the present invention, there is provided a method for ordering a program, comprising: receiving, with a first interactive program guide on a first television equipment device, a user
10 selection of a program available for ordering; and receiving, with the first interactive program guide, a user selection of a second television equipment device, wherein the first television equipment device is coupled to the second television equipment device, and wherein: responsive to the
15 user selection of the second television equipment device, the selected program is made available on a second interactive program guide at the second television equipment device for consumption by the user.

According to a further aspect of the present
20 invention, there is provided a method for providing a program available for ordering to a selected device, comprising: receiving, with a first interactive program guide on a first television equipment device, an indication of a user selection of a program available for ordering from
25 a second interactive program guide on a second user equipment device; receiving, with the first interactive program guide, an indication of the first television equipment device from the second interactive program guide, wherein the first television equipment device is coupled to
30 the second television equipment device; and responsive to the user indication of the first television equipment device, making available the selected program on the first

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interactive program guide on the first television equipment device.

According to a still further aspect of the present invention, there is provided a method for using an interactive television program guide system based on first and second user television equipment devices located in a single household, wherein the first and second user television equipment devices are interconnected by communications paths and wherein the second user television equipment device comprises a recording device, the method comprising: receiving, with a first interactive television program guide implemented on the first user television equipment device, a user selection of a program for recording by a second interactive television program guide implemented on the second user television equipment device, wherein the first and second user television equipment devices are located at first and second locations within the household respectively; directing over the communications path, using the first interactive television program guide, the second interactive television program guide to schedule for recording the program selected with the first interactive television program guide; and providing instructions from the second interactive television program guide to the recording device in the second user television equipment device to record the program selected with the first interactive television program guide.

According to another aspect of the present invention, there is provided an interactive television program guide system based on first and second user television equipment devices located in a single household, wherein the first and second user television equipment devices are interconnected by communications paths and wherein the second user television equipment device comprises a recording device,

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the system comprising: a first interactive television program guide implemented on the first user television equipment device; and a second interactive television program guide implemented on the second user television equipment device; wherein the first program guide is configured to: receive a user selection of a program for recording by the second program guide; and direct, over the communications path, the second program guide to schedule for recording the program selected with the first guide; wherein the second program guide is configured to: provide instructions to the recording device in the second user television equipment device to record the program selected with the first program guide; wherein the first and second user television equipment devices are located at first and second locations within the household respectively.

According to still another aspect of the present invention, there is provided machine-readable media for using an interactive television program guide system based on first and second user television equipment devices located in a single household, wherein the first and second user television equipment devices are interconnected by communications paths and wherein the second user television equipment device comprises a recording device, the machine-readable media comprising machine-readable instructions encoded thereon for: receiving, with a first interactive television program guide implemented on the first user television equipment device, a user selection of a program for recording by a second interactive television program guide implemented on the second user television equipment device, wherein the first and second user television equipment devices are located at first and second locations within the household respectively; directing over the communications path, using the first interactive program guide, the second

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interactive television program guide to schedule for recording the program selected with the first interactive television program guide; and providing instructions from the second interactive television program guide to the recording device in the second user television equipment device to record the program selected with the first interactive television program guide.

According to a further aspect of the present invention, there is provided a method for using an interactive television program guide system based on first and second user television equipment devices located in a single household, wherein the first and second user television equipment devices are interconnected by communications paths and wherein the second user television equipment device comprises a recording device, the method comprising: receiving, with a first interactive television program guide implemented on the first user television equipment device, a user selection of a program for recording by a second interactive television program guide implemented on the second user television equipment device, wherein the first and second user television equipment devices are located at first and second locations within the household respectively; directing over the communications path, using the first interactive television program guide, the second interactive television program guide to schedule for recording the program selected with the first interactive television program guide; and causing the second interactive television program guide to record on the recording device the program selected with the first interactive television program guide.

According to a still further aspect of the present invention, there is provided a method for an interactive television program guide system based on first and second

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user television equipment devices located in a single household, wherein the first and second user television equipment devices are interconnected by communications paths and wherein the second user television equipment device
5 comprises a recording device, the method comprising:
receiving over the communications path, with a second interactive television program guide implemented on the second user television equipment device, direction from a first interactive television program guide implemented on the
10 first television equipment device to schedule for recording the program selected with the first interactive television program guide, wherein the first and second user television equipment devices are located at first and second locations within the household respectively; and responsive to
15 receiving the direction from the first interactive television program guide, providing instructions from the second interactive television program guide to the recording device in the second user television equipment device to record the program selected with the first interactive television
20 program guide.

According to another aspect of the present invention, there is provided an interactive television program guide system based on first and second user television equipment devices located in a single household,
25 wherein the first and second user television equipment devices are interconnected by communications paths and wherein the second user television equipment device comprises a recording device, the system comprising: a first interactive television program guide implemented on the first
30 user television equipment device is configured to: receive a user selection of a program for recording by a second interactive television program guide implemented on the second user television equipment device, wherein the first

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and second user television equipment devices are located at first and second locations within the household respectively; direct over the communications path, using the first interactive television program guide, the second interactive television program guide to schedule for recording the program selected with the first interactive television program guide; and cause the second interactive television program guide to record on the recording device the program selected with the first interactive television program guide.

10 According to a further aspect of the present invention, there is provided an interactive television program guide system based on first and second user television equipment devices located in a single household, wherein the first and second user television equipment devices are interconnected by communications paths and wherein the first user television equipment device comprises a recording device, the system comprising: a first interactive television program guide implemented on the first user equipment device configured to: a receive over the communications path direction from a second interactive television program guide implemented on the second television equipment device to schedule for recording the program selected with the second interactive television program guide, wherein the first and second user television equipment devices are located at first and second locations within the household respectively; and responsive to receiving the direction from the second interactive television program guide, provide instructions from the first interactive television program guide to the recording device in the first user television equipment device to record the program selected with the second interactive television program guide.

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According to a still further aspect of the present invention, there is provided a method for operating television equipment devices comprising: providing an opportunity to establish a user profile for at least one user by means of a first television equipment device, wherein the first television equipment device is coupled to a plurality of television equipment devices; transmitting the user profile established at the first television equipment device from the first television equipment device to a second television equipment device, wherein the second television equipment device is one of the plurality of television equipment devices; and applying the transmitted user profile on the second television equipment device.

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Brief Description of the Drawings

FIG. 1 is a diagram of an interactive television program guide system in accordance with the present invention.

5 FIG. 2 is a flow chart of steps involved in adjusting user settings and applying those adjustments to desired locations in accordance with the present invention.

FIG. 3 is a diagram of a system in which
10 multiple interactive television program guides are implemented in a star configuration in accordance with the present invention.

FIG. 4a is a diagram of a system in which
15 multiple interactive television program guides are implemented in a tree configuration in accordance with the present invention.

FIG. 4b is a diagram of a system in which
20 multiple interactive television program guides are implemented in a ring configuration in accordance with the present invention.

FIG. 4c is a diagram of a system in which
multiple interactive television program guides are implemented in a bus configuration in accordance with the present invention.

25 FIG. 5 is a diagram of another system in which multiple interactive television program guides are implemented in a client-server configuration in accordance with the present invention.

30 FIG. 6 is a diagram of a system in which multiple interactive television program guides are implemented in a client-server configuration and in which the set-top-box acts as the server in accordance with the present invention.

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FIG. 7a is a diagram of a system similar to the system of FIG. 1 in which multiple interactive television program guides are implemented in a neighborhood node configuration in accordance with the present invention.

FIG. 7b is a diagram of a system similar to the system of FIG. 1 showing how servers may be located at network nodes in accordance with the present invention.

FIG. 7c is a diagram of a system similar to the system of FIG. 1 showing how homes may be connected by modem links in accordance with the present invention.

FIG. 7d is a diagram of a system similar to the system of FIG. 1 showing how homes may be connected via a server in accordance with the present invention.

FIG. 8 is a diagram of a system in which multiple interactive television program guides are implemented and in which each such guide uses a real-time communications device connected to the Internet in accordance with the present invention.

FIG. 9 is a diagram of a system in which multiple interactive television program guides are implemented with an occasional return path communications device in accordance with the present invention.

FIG. 10 is a diagram of illustrative user television equipment with an optional data input device in accordance with the present invention.

FIG. 11 is a depiction of an illustrative location selection screen in accordance with the present invention.

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FIG. 12 is a depiction of an illustrative main menu screen in accordance with the present invention.

FIG. 13 is a depiction of another illustrative location selection screen in accordance with the present invention.

FIG. 14 is a flow chart showing steps involved in an illustrative approach for selecting a location for which to adjust settings in accordance with the present invention.

FIG. 15 is a depiction of an illustrative parental control password screen and an illustrative corresponding parental control access denied screen in accordance with the present invention.

FIG. 16 is a diagram of an illustrative parental control screen in accordance with the present invention.

FIG. 17 is a flow chart showing steps involved in an illustrative approach for applying parental controls in accordance with the present invention.

FIG. 18a is a depiction of an illustrative parental controls set channels screen in which selected channels are blocked in accordance with the present invention.

FIG. 18b is a depiction of an illustrative parental controls set channels screen in which selected channels are hidden in accordance with the present invention.

FIG. 19 is a depiction of an illustrative monitor viewing screen in accordance with the present invention.

FIG. 20 is a depiction of an illustrative browse screen in accordance with the present invention.

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FIG. 21 is a depiction of an illustrative set reminder screen in accordance with the present invention.

5 FIG. 22 is a depiction of an illustrative select reminder screen in accordance with the present invention.

10 FIG. 23 is a flow chart showing steps involved in an illustrative approach for setting and selecting a reminder in accordance with the present invention.

FIG. 24 is a depiction of an illustrative favorite channels screen in accordance with the present invention.

15 FIG. 25 is a depiction of an illustrative set recording screen in accordance with the present invention.

FIG. 26 is a depiction of an illustrative pay-per-view movies screen in accordance with the present invention.

20 FIG. 27 is a depiction of an illustrative pay-per-view select start time screen in accordance with the present invention.

25 FIG. 28 is a depiction of an illustrative messages receiving screen in accordance with the present invention.

FIG. 29 is a depiction of an illustrative messages sending (user entered) screen in accordance with the present invention.

30 FIG. 30 is a depiction of an illustrative messages sending (pre-set) screen in accordance with the present invention.

FIG. 31 is a depiction of an illustrative setup screen in accordance with the present invention.

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FIG. 32 is a depiction of an illustrative setup language screen in accordance with the present invention.

FIG. 33 is a depiction of an illustrative setup audio screen in accordance with the present invention.

FIG. 34 is a depiction of an illustrative Internet browser screen in accordance with the present invention.

FIG. 35 is a depiction of an illustrative shopping data entry screen in accordance with the present invention.

FIG. 36 is a depiction of an illustrative stock ticker data entry screen in accordance with the present invention.

Detailed Description of the Preferred Embodiments

An illustrative program guide system 30 in accordance with the present invention is shown in FIG. 1. Main facility 32 contains a program guide database 34 for storing program guide information such as television program guide program listings data, pay-per-view ordering information, television program promotional information, etc. Information from database 34 may be transmitted to multiple television distribution facilities such as television distribution facility 38 via communications links such as communications link 40. Only one such television distribution facility 38 and one communications link 40 are shown in FIG. 1 to avoid over-complicating the drawings. Link 40 may be a satellite link, a telephone network link, a cable or fiber optic link, a microwave link, a combination of such links, or any other suitable communications path. If it is desired to

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transmit video signals (e.g., for advertising and promotional videos) over link 40 in addition to data signals, a relatively high bandwidth link such as a satellite link is generally preferable to a relatively low bandwidth link such as a telephone line.

Television distribution facility 38 is a facility for distributing television signals to users, such as a cable system headend, a broadcast distribution facility, or a satellite television distribution facility or the like.

The program guide information transmitted by main facility 32 to television distribution facility 38 includes television program listings data such as program times, channels, titles, descriptions, etc. Transmitted program guide information may also include pay program data such as pricing information for individual programs and subscription channels, time windows for ordering programs and channels, telephone numbers for placing orders that cannot be impulse ordered, etc. If desired, some of the program guide and advertising information may be provided using data sources at facilities other than main facility 32. For example, data related to pay program order processing (e.g., billing data and the like) may be generated by an order processing and billing system that is separate from main facility 32 and separate from television distribution facility 38. Similarly, advertising information may be generated by an advertising facility that is separate from main facility 32 and television distribution facility 38.

A server 42 may be provided in television distribution facility 38 for handling data distribution tasks and for storing local information. If desired, server 42 may be used to implement a client-server

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based interactive television program guide system. In such a system, client functions may be performed at user television equipment 44. Server 42 may be capable of handling text, graphics, and video.

5 Television distribution facility 38 distributes program guide and advertising information to the user television equipment 44 of multiple users via communications paths 46. Program guide data and other information may be distributed over an
10 out-of-band channel on paths 46 or using any other suitable distribution technique.

Each user has a receiver, which is typically a set-top box such as set-top box 48, but which may be other suitable television equipment into which
15 circuitry similar to set-top-box circuitry has been integrated. If desired, user television equipment 44 may be an advanced television receiver or a personal computer television (PC/TV). For purposes of
20 illustration, the present invention will generally be described in connection with user television equipment based on a set-top box arrangement. Program guide data may be distributed to set-top boxes 48 periodically and stored or may be distributed continuously and handled "on the fly.", or by request. Television distribution
25 facility 38 may poll set-top boxes 48 periodically for certain information (e.g., pay program account information or information regarding programs that have been purchased and viewed using locally-generated authorization techniques). Main facility 32 preferably
30 contains a processor to handle information distribution tasks. Each set-top box 48 preferably contains a processor to handle tasks associated with implementing a program guide application on the set-top box 48. Television distribution facility 38 may contain a

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processor for tasks associated with implementing server 42 and for handling tasks associated with the distribution of program guide and other information.

Each set-top box 48 is may connected to an optional videocassette recorder 50 or other suitable recording device (e.g., digital storage device) so that selected television programs may be recorded. Each videocassette recorder 50 may be connected to a television 52. To record a program, set-top box 48
5
10
tunes to a particular channel and sends control signals to videocassette recorder 50 (e.g., using an infrared transmitter) that direct videocassette recorder 50 to start and stop recording at the appropriate times.

During use of the interactive television program guide implemented on set-top box 48, television program listings may be displayed on television 52. Each set-top box 48, videocassette recorder 50, and television 52 may be controlled by one or more remote controls 54 or any other suitable user input interface
15
20
such as a wireless keyboard, mouse, trackball, dedicated set of buttons, etc.

Communications paths 46 preferably have sufficient bandwidth to allow television distribution facility 38 to distribute scheduled television programming, pay programming, advertising and other promotional videos, and other video information to set-top boxes 44 in addition to non-video program guide data. Multiple television and audio channels (analog, digital, or both analog and digital) may be provided to set-top boxes 48 via communications paths 46. If
25
30
desired, program listings and other information may be distributed by one or more distribution facilities that are similar to but separate from television

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distribution facility 38 using communications paths that are separate from communications paths 46.

Certain functions such as pay program purchasing may require set-top boxes 48 to transmit data to television distribution facility 38 over communications paths 46. If desired, such data may be transmitted over telephone lines or other separate communications paths. If functions such as these are provided using facilities separate from television distribution facility 38, some of the communications involving set-top boxes 48 may be made directly with the separate facilities.

The present invention involves the distribution of user program guide settings to multiple program guide locations within a household. Such a household may contain multiple pieces of user television equipment. A program guide may be implemented on each piece of user television equipment. An illustrative process for distributing such settings is shown in FIG. 2. At step 500, a first program guide provides the user with an opportunity to adjust program guide settings (e.g., program guide settings for user profiles, favorites, parental controls, reminders, recording options, pay-per-view options, message options, or other setup functions). At step 510, the system coordinates the operation of the multiple interactive television program guides so that the program guide settings that were adjusted with the first interactive television program guide are effective on a second interactive television program guide and may be used by that second interactive television program guide.

The steps of FIG. 2 are preferably performed using program guides as the program guides implemented

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on set-top boxes 48 of FIG. 1. Certain program guide functions (particularly the display of graphics or videos) may involve the use of resources located at main facility 32 and television distribution facility 38 and other such facilities. If desired, some of the steps of FIG. 2 may be performed using an application running on set-top boxes 48 other than the interactive program guide. For clarity, the principles of the invention are described in the context of an arrangement in which the set-top-based steps of FIG. 2 are performed primarily using an interactive television program guide.

FIGS. 3, 4a, 4b, 4c, 5, and 6 show various illustrative topologies for configuring multiple program guides within a household.

FIG. 3 shows an illustrative arrangement for interconnecting various user television equipment devices in accordance with the present invention. Primary user television equipment 60 may be connected to secondary user television equipment 61, secondary user television equipment 62, and secondary user television equipment 63 via communication paths 64. Communications paths 64 may be any suitable communications path for in-home network, such as twisted pair lines, Ethernet links, fiber optics, power lines, radio-frequency (RF) links, infrared (IR) and links other wireless links, firewire (IEEE 1394) paths, dedicated cables, etc. As shown, one or more pieces of secondary user television equipment may be connected to primary user television equipment 60 in a star configuration if desired. User television equipment devices are typically located in different rooms within home 65. For example, primary user television equipment 60 may be placed in the parents' bedroom,

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secondary user television equipment 61 may be placed in the children's room, secondary user television equipment 62 may be placed in a living room, and secondary user television equipment 63 may be placed in a guest room. With such an arrangement, the parents' bedroom may be used as a master location to adjust user settings for the program guides on the user television equipment in the children's room and the other rooms.

FIG. 4a shows an illustrative tree configuration in which each piece of user television equipment is interconnected with another along a single path. User television equipment 66, 67, 68, and 69 of FIG. 4 are connected to each of the others via communications paths 70. Communications paths 70 may be any suitable communications path for in-home network, such as twisted pair lines, Ethernet links, fiber optics, power lines, radio-frequency (RF) links, infrared (IR) and links other wireless links, firewire (IEEE 1394) paths, dedicated cables, etc. Two or more pieces of user television equipment may be connected in this way. The equipment mentioned above may be placed in various rooms within home 65. For example, user television equipment 66 may be placed in a parents' bedroom, user television equipment 67 may be placed in a children's room, user television equipment 68 may be placed in a living room, user television equipment 69 may be placed in a guest room. With the arrangement of FIG. 4a, each piece of user television equipment in home 65 may communicate with each other piece of user television equipment in home 65 over communications paths 70. FIG. 4a shows the system connected in a tree topology. If desired, this level of interconnectivity may be achieved using communications paths that are arranged in a ring configuration (FIG. 4b), bus

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configuration (FIG. 4c) or other suitable topology. Any of these topologies may use the types of communications paths described in connection with the arrangement of FIG. 4a.

5 FIG. 5 shows an illustrative configuration based on a client-server architecture. Server 80 may be connected to user television equipment 81, 82, and 83 via communication paths 85. Equipment 81, 82, and 83 and server 80 may be placed in various rooms within
10 home 65. For example, server 80 may be placed in a den, user television equipment 81 may be placed in a children's room, user television equipment may be placed in a living room, user television equipment 83 may be placed in a parents' room. Communication paths
15 85 may be any in-home network suitable to transmit video, audio and data, such as dedicated cable fiber optics, firewire links, RF links, etc. As, in the examples of FIGS. 4a, 4b, and 4c, different communications path arrangements such as buses, rings
20 and the like, may be used to interconnect user television equipment based on a client-server architecture.

 FIG. 6 shows an illustrative configuration based on a single set-top box. Set-top box 90 is
25 connected to optional videocassette recorders 91 and televisions 94, 96, and 98 via communication paths 99. Optional videocassette recorder 91 is in turn connected to televisions 92. If desired, any combination of televisions with or without videocassette recorders and
30 televisions may be connected in a similar manner. The set-top box, videocassette recorders and televisions of FIG. 6 may be placed in rooms within home 65. For example, set top box 90, videocassette recorder 91 and television 92 may be placed in a parent's bedroom,

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television 94 may be placed in a children's room, and television 96 may be placed in a living room, and television 98 may be placed in a guest room.

Communication paths 99 may be any in-home network paths
5 suitable for transmitting video, audio and data, such as, dedicated cable, fiber optics or firewire links.

FIGS. 7a, 7b, 7c, 8, and 9 show illustrative configurations for the connection between the home and the television distribution facility. Only one user
10 television equipment device is shown in the households in FIGS 7a, 7b, 7c, 8, and 9 to avoid over-complicating the drawings. However, each household 65, 101, 102, 103, 104, 301, 302 in FIGS. 7a, 7b, 7c, 8, and 9 may contain multiple pieces of user television equipment
15 configured as shown in FIGS. 3, 4a, 4b, 4c, 5, or 6.

FIG. 7a shows an illustrative configuration in which multiple homes are handled by a common server. Server 105 may be located at central facility 100. Central facility 100 may be a private home, a
20 commercial building, a network node, or other suitable structure that may be connected to a plurality of homes. In the example of FIG. 7a, server 105 is connected to user television equipment 106, 107, 108, and 109 that is located in homes 101, 102, 103, and
25 104, respectively via communication paths 700. When multiple user television equipment devices exist within a home as shown by devices 109a and 109b, each user television equipment device may communicate with the server 105 independently via communication paths 700,
30 alternatively only one device may communicate while the other communicates via a home network. In other words, in alternative arrangements, there are either 1) multiple connections to an outside server and each user television equipment device communicates with the

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server independently with no need for an in-home network, or, 2) only one connection to an outside server and each user television device communicates with each other through an in-home network.

5 As shown in FIG. 7b, the capabilities of server 42 (FIG. 1) may be provided using servers 56 located at network nodes 58. Servers such as servers 56 may be used instead of server 42 or may be used in conjunction with a server 42 located at television
10 distribution facility 38.

 Graphics information for messages, advertisements and the like may be downloaded periodically (e.g., once per day) to set-top boxes 48 of FIG. 1 and stored locally. The graphics information
15 may be accessed locally when needed by the program guides implemented on set-top boxes 48. Graphics information may also be provided in a continuously-looped arrangement on one or more digital channels on paths 46. With such a continuously-looped
20 arrangement, a map indicating the location of the latest graphics information may be downloaded periodically to set-top boxes 48 (e.g., once per day) or continuously. This allows the content on the digital channels to be updated. The program guides on
25 set-top boxes 48 may use the map to locate desired graphics information on the digital channels. Another approach involves using a server such as server 42 or servers 56 (FIG. 7b) to provide the graphics information after a set-top box 48 and that server have
30 negotiated to set up a download operation. A bitmap or other suitable set of graphics information may then be downloaded from the server to the set-top box. If desired, the server may download instructions informing the set-top box where the desired graphics information

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can be located on a particular digital channel. The graphics information can be updated periodically if the server that is responsible for downloading the instructions for informing the set-top box of the location of the graphics information is also updated periodically.

Text information for messages, advertisements and the like may be provided to set-top boxes 48 using the same paths that are used for distributing program guide data. For example, advertising data from database 36 of FIG. 1 may be provided to set-top boxes 48 using link 40, television distribution facility 38, and paths 46. The text information may be stored locally in set-top boxes 48 and updated periodically (e.g., once per day).

Text information, graphics information, and videos for messages, advertisements and the like may also be distributed using a combination of these techniques or any other suitable technique.

As shown in FIG. 7c, when a household has more than one home, the user television equipment in each home may be connected by modem link or other suitable link for transferring data between homes. For example, user television equipment 403 may be connected to user television equipment 404 via link 405. Link 405 may use internal or external modems, cable modems or other communications devices suitable for transmitting audio, video, and text data. In this manner, home 401 and home 402 may share program guide settings.

As shown in FIG. 7d, when a household has more than one home, the user television equipment in each home may be connected via an outside server. For example, user television equipment 413 may be connected

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to user television equipment 414 via server 410. Communication paths 415 may use internal or external modems, cable modems or other communications devices suitable for transmitting audio, video, and text data.

5 In this manner, home 411 and home 412 may share program guide settings.

FIG. 8 shows an illustrative configuration in which a server is connected to the home via the Internet. Set top boxes 122 are connected to the
10 Internet 110 or other suitable data network in real time using real-time communications devices 121. Videocassette recorders 123 may be connected between set-top boxes 122 and televisions 124. Real-time
15 communications devices 121 may be any devices suitable for maintaining a constant open connection with network 110, such as internal or external modems, cable modem, or the like. The network used to connect homes to television distribution facility 38 may be any
20 network suitable for distributing video and audio data such as the Internet. Network 110 is connected to television distribution facility 38 by communications link 115 and is connected to real-time communications device 121 by communications links 120.

FIG. 9 shows an illustrative configuration in
25 which user television equipment is linked to a server outside the home via an occasional return path. Set top box 132 is connected to occasional return path communications device 130 and videocassette recorder 134. Videocassette recorder 134 may be connected to
30 television 136. Occasional return path communications device 130 may be any device suitable for connecting set-top box 132 to a server for the transfer of video and audio data, such as an internal or external modem, cable modem, or the like. Occasional return path

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communications device 130 server 42 which may or may not be connected to television distribution facility 38 using a communications path 131. Communications path 131 may be, for example, a telephone link or other non-
5 dedicated communications path suitable for providing an occasional return path to home 65 from server 42.

FIG. 10 shows illustrative components for user television equipment 44 (FIG. 1). In the arrangement of FIG. 10, set top box 48 is connected to
10 data input device 140. Data input device 140 may be a keyboard, keypad, or any device suitable for inputting text (wired or wireless), audio or video. Videocassette recorder 50 is connected to set-top box 48 and television 52. Remote control 54 is used to
15 control the operation of set-top box 48, videocassette recorder 50, and television 52.

Further aspects of the invention are described in detail below. For clarity, the principles of the invention described below are described in the
20 context of the device configuration shown in FIG. 3 and the steps illustrated of FIG. 2, except where noted. However, the principles of the present invention also apply to configurations such as those shown in FIGS. 4-9. Also, the foregoing description is merely
25 illustrative of the principles of this invention and various modifications can be made by those skilled in the art without departing from the scope and spirit of the invention.

In any of the above arrangements, an
30 interactive television program guide on each user television equipment device may provide various features for displaying television program listings information for the user and for providing various program guide functions such as parental control,

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favorites, pay-per-view purchasing, etc. For example, if the user presses the appropriate buttons on remote control 54, the user may be presented with a time-ordered or channel-ordered grid or table of television program listings or other such programming information.

With one suitable approach, the user may select one of the user television equipment devices to be a master or primary device. Adjusting the program guide settings of the master device controls these settings for all other devices in the household. For example, with the arrangement of FIG. 3, the user may set primary user television equipment 60 to be the master device. Primary user television equipment 60 may be located in the parents' bedroom. This allows the head of the household to control the program guide settings for all of the program guides in the household from a single location.

The system may provides the user with an opportunity to assign a master device, such as user television equipment 60, that will coordinate its program guide settings with other devices such as secondary user television equipment 61, 62, and 63. The system also provides the user with an opportunity to assign secondary devices.

One suitable way in which the system may allow the user to assign devices as primary (master) and secondaries is for at least one of the program guides (e.g., the program guide running on set-top box 60) to provide an assign locations screen such as assign locations screen 160 of FIG. 11. Screen 160 may be accessed, for example, by first accessing main screen 170 of FIG. 12 (by pressing, e.g., a suitable key on remote control 54). After accessing screen 170,

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the user can use remote control 54 to move highlight region 177 to the setup option 179 and select setup option 179 by pressing a select key, enter key, "OK" key, or other such key (sometimes referred to herein as
5 simply an enter key) on remote control 54.

Selecting setup option 179 directs the program guide to display a setup screen such as setup screen 310 of FIG. 31. The user can select assign location option 316 on setup screen 310 by moving
10 highlight region 312 and pressing the enter key. Selecting assign location option 316 directs the program guide to display assign locations screen 160 of FIG. 11. The user can then move highlight region 162 to set B option 165. Selecting option 165, directs the
15 program guide to provide the user with an opportunity to enter a name to assign to set B. For example, the user may use data input device 140 or remote control 54 to enter the letters associated with the selected name. The program guide may use such user-defined device
20 names when the relationship between devices is set up. For example, the user may designate the "parents room" location as a master location and may designate the "children's room" location as a slave location. The names of locations may be pre-set by a service
25 provider and simply assigned by the user. Alternately the user (or an installation technician), may have the ability to assign locations from the home. The location name may be chosen from a list as above or typed in by the user (or an installation technician.)

30 In the alternative arrangement shown in FIG. 4, each piece of user television equipment 66, 67, 68, and 69 is a peer. The user can assign names to each such user television equipment device in much the same

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way that names may be assigned to the secondary devices in the FIG. 3 arrangement.

As shown in FIG. 14, at step 1000, the program guide may provide the user with an opportunity to select the devices or locations for which the user desires to adjust settings. Step 1000 may, for example, involve providing a screen such as select location screen 400 of FIG. 13. At step 1001 of FIG. 14, after the user has made a selection by moving highlight region 155 (FIG. 14) to the desired device (e.g., parents' room option 154) and pressed the enter key, the program guide sets the selected locations. The guide may also default to a particular location based on the type of setting that is changed. (e.g., if a setting for the recording of a program is changed, the guide may default to location with a videocassette recorder.) The guide may default to any combination of locations based on the type of setting that is changed. There are also "other factors" that may be used by the guide to determine at which location the settings will be effective. These include: the current location of the user making the adjustment, whether a location to be adjusted is currently being used, the state of other settings, etc..

The program guide may allow a unique number to be assigned to a user so that he or she is able to access his or her program guide settings at a location outside the home. For example, a user may visit a neighbors home to housesit while the neighbor is out of town. This user has the ability to log on to the program guide at the neighbors home and access his or her personal program guide settings.

The program guide may allow the user to set parental controls to prevent children from viewing

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potentially inappropriate material. At step 1010 of FIG. 17, for example, the program guide may provide the user with an opportunity to access main screen 170 of FIG. 12. On Main screen 170, the user may use remote control 54 to move highlight region 177 to the parental control option 176 and select that option by pressing the enter key.

At step 1011 of FIG. 17, after the user has entered a preselected password 211 (FIG. 15) on enter password screen 210 of FIG. 15, the program guide checks the password. If the wrong password was provided then the user is shown invalid password screen 212 of FIG. 15 at step 1014 of FIG. 17, and may be returned to main menu screen 170 of FIG. 12. If the user has provided a valid password the program guide provides various options at step 1015. At step 1015, the user can access parental control screen 190 of FIG. 16 and may use remote control 54 to navigate between options such as set channels option 191, set maximum rating option 193, and monitor viewing option 195. The user may navigate to set channels screen 200 of FIG. 18a by selecting set channels option 191 at step 1016 of FIG. 17 by moving the highlight region 192 and pressing select.

If the user selects set channels option 191 at step 1016, at step 1020 the program guide provides the user with an opportunity to set which channels are to be blocked. The user may block specific channels using remote control 54 to scroll through and select from channel options 201, 202, 203, and 204 of FIG. 18a. For example, the user may move highlight region 207 to channel option 201 (which may be an adult channel). The user can then toggle between blocking

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and not blocking the channel by pressing the enter key on remote control 54.

In screen 200 of FIG 18a, a blocked channel is represented by an X. The user can choose to apply the parental controls selected in screen 200 of FIG. 5 18a to all locations by selecting apply to all option 205, choose to apply to the current location by selecting current location option 209, or can choose to apply the controls to a specific location or locations 10 by selecting the select locations option 206 from the option provided by the program guide, at step 1024 of FIG. 17. The guide may apply the settings to a default location or to a location determined by other factors as described above.

15 FIG. 18b shows an illustrative parental controls set channels screen 208 that may be used when it is desired to hide controlled channels rather than merely blocking them. When the user chooses to hide the channels, the blocked channels do not appear on any 20 of the program listings display screens provided by the program guide.

The user may also navigate to a set maximum ratings screen by choosing set maximum rating option 193 of FIG. 16, at step 1017 of FIG. 17, by moving a 25 highlight region and pressing select. The user may then set a maximum rating allowed for viewing in a manner similar to the set channels option. For example, the user may move a highlight region to a set maximum rating option (which may be TV-MA), then the 30 user can enter his selected maximum using remote control 54. Next, the user can choose to apply the adjustments to all locations by selecting an apply to all option or may opt to apply the adjustments to a specific location or locations by selecting a select

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locations option from the options provided by the program guide, at step 1024 of FIG 17. The guide may apply the settings to a default location or to a location determined by other factors as described
5 above.

The user may navigate to monitor viewing screen 230 of FIG. 19 by choosing the monitor viewing option 195 of FIG. 16 (step 1019 of FIG. 17) by moving highlight region 192 to the monitor viewing option 195
10 and pressing enter.

The program guide at the user's location may then, in one alternative, provide the user with monitor viewing screen 230, which shows the channel that each location is currently viewing or an overlay such as a
15 banner or small information box that shows the channels that the other locations are viewing, but that also allows the user to continue watching programming at the user's location. The program guide at the user's location may poll the program guides at other locations
20 within the household to determine whether anyone is currently viewing television and to which channels they are tuned. The monitor viewing screen may also allow the viewing of video, audio, or still images associated with the channel being viewed at another location. For
25 example, the video of the remote location may be shown in a small box on the screen while the current channel's video is in the background.

The guide may allow the user to change the channel of a remote location. For example, a user in
30 the parents' room may notice that the television in the children's room is tuned to a program the child should not be watching. The user may change the channel without physically going into the child's room.

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The guide may also allow a level of privacy to be set for a location so that location cannot be monitored. For example, if guests are visiting a household the monitor feature may be disallowed in the
5 parents' room.

Other parental control features that may be distributed to remote locations within a household include: blocking channels by title, blocking channels by time, blocking channels by content (language,
10 nudity, etc.), blocking the ability to use a feature (e.g., reminders), blocking the ability to set and clear pin numbers, ability to temporarily disable parental controls (e.g., disabling parental controls while the child is at school), and the ability to set
15 pin numbers for individual locations or for the entire household. Additionally, the guide may have the ability to use multiple sets of parental control settings profiles. For example, the user may create a late night profile of parental controls and day time
20 profile of parental controls. The guide then allows the user to designate which parental controls profile to use and when to use it.

Another feature that may be provided by the program guide is a reminders feature. The reminders
25 feature allows the user to set a reminder for a television program that the user wishes to watch at a later time. Just before the television program for which a reminder has been set is to be broadcast, a reminder message is displayed on the user's television
30 screen. Reminders may also be provided that direct the program guide to automatically tune the user's set-top box to the program specified in the reminder. Reminders may also provide the user with an on-screen

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reminder when a selected program begins and may allow the user to manually tune to the selected channel.

A family reminders option may be provided that operates similarly to the reminders functions
5 described above and which allows reminders to be set for a family. For example, in FIG. 7a server 105 at central facility 100 may store many family reminder settings (or other settings) for individual homes. The
10 program guides in a particular home or household may also provide the ability to adjust favorites settings, parental control settings, reminder settings and the like. These settings may be named and associated with a viewing location, an entire home, or a group of homes.

15 A series reminder option may be provided that allows users to set reminders for program series. Series reminders are described in Knudson et al. U.S. patent application publication no. 20050204388, filed June 11, 1999 (Attorney Docket No. UV-56).

20

An illustrative example of using the reminders feature is as follows. If a user at one of the program guide locations within the household presses an appropriate button (e.g., the enter button)
25 after having used a browse feature (i.e., a pop-up program listing display) to navigate to a program listing for "Holiday Entertaining" as shown in FIG. 20, the program guide at that location may present the user with set reminder screen 350 of FIG. 21. Set reminder
30 screen 350 allows the user to choose to set a reminder for the selected program 352 (Holiday Entertaining) by selecting yes option 354 with highlight region 356 shown at step 1030 of FIG. 23. If the user selects no option 358, set reminder screen 350 is canceled. If

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set reminder screen 350 is not canceled, the user select the program guide locations (i.e., the locations of the various user television equipment devices within the household) to which the adjustments are to be applied by selecting apply to all option 205, current location option 209, or by selecting the select locations option 206 (step 1031, FIG. 23) and interacting with various sub-menus listing the available locations from which to choose. Set reminder screen 350 and other such screens in the program guide may use either a full-screen or partial-screen display format. After the user selects the program guide locations to which the reminders are to be applied, the program guide at the user's location communicates with the program guides at the user-selected locations. During this communication process, the program guide at the user's location directs the other program guides to set reminders for display at their locations just before the scheduled broadcast time of the program. If desired, the program guide at the user's location can communicate with the program guides at the selected locations using other suitable techniques. For example, the program guide at the user's location may issue instructions to the program guides at the selected locations just before the scheduled broadcast time of the program for which the reminder was set that causes those program guides to display a reminder message at that time. These approaches are merely illustrative. Any other suitable approach for communicating the reminders settings or any other program guide settings from the program guide at the user's location to the other program guides may be used if desired.

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10 A short time before the scheduled broadcast
time of the program for which a reminder has been set,
the program guide at each selected location may display
a reminder display region 361 on the television
5 screen 360 at that location (Step 1032; FIG. 23), as
shown in FIG. 22. Reminder display region 361 may be
displayed as a partial screen overlay over the
currently displayed television channel (e.g., channel
9). In the example of FIG. 22, two reminders were set
15 for the 10:00 AM time slot. As a result, reminder
display region 361 contains program listings for both
selected programs. A user at any of the program guide
locations in which the reminder is displayed may
25 automatically tune to one of the selected programs by
moving highlight region 362 from hide reminders option
363 to program listing 364 or program listing 365.
When the user at that location presses the select
button, the set-top box 48 at that location tunes to
the channel of the selected program (step 1033, FIG.
20 23). If the user selects hide reminders option 363,
reminder display region 361 is hidden from view.
35 Additionally, reminders may be set to automatically
tune to a particular channel without accessing a
reminder display region. For example, a parent would
40 have the ability to insure that the children's
television automatically tunes to an educational
program by setting a reminder for that program.

45 In addition to the opportunity to set
reminders, the user may be provided the opportunity to
30 create profiles to customize the viewing experience.
For example, if desired, the program guides may allow
each user to establish a profile of settings and other
50 criteria as described, for example, in
commonly-assigned Ellis et al.

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PCT Publication No. WO 99/45701. With such an approach, users may establish profiles of preferences such as their favorite channels, preferred
5 genres of programming (sports, comedy, etc.), favorite actors, desired or required ratings, etc. In accordance with the present invention, one of the program guides may provide the user with an opportunity to apply this profile to all locations or to apply such
10 settings to a specific program guide location or locations. The guide may apply the profile to a default location or to a location determined by other factors as described above.

The user may also be provided the opportunity
15 to set favorite channels. The program guide at the user's location may display a menu such as the menu of main screen 170 of FIG. 12. The user may then use remote control 54 to navigate to the favorites option 175 using remote control 54 and pressing the
20 enter button.

Once the user chooses favorites option 175, the program guide at the user's location may present the user with a favorite channels screen such as favorite channels screen 250 of FIG. 24. The user may
25 move highlight region 207 to a channel such as channel option 251 of screen 250 (which may be a local news channel) and can then toggle between selecting and not selecting that channel by pressing the enter key on remote control 54. In the example of FIG. 24, a
30 favorite channel is represented by an X. Next, the user can choose to apply the selected favorites settings to various other program guide locations by selecting apply to all option 205, apply to select locations option 206, or apply to current location 209.

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If the user chooses the apply to select locations option 206, the program guide at the user's location provides the user with menu screens from which to select the desired locations to which the favorites settings are to be applied. The desired locations may be set by default or other factors as described above. A parent may want to prevent children from even seeing the titles of objectionable programming.

The user may be provided with an opportunity to select programs for recording at a later time. For example, if the user presses an appropriate button (e.g., a "record" button) after having used a browse feature to navigate to a program listing for "Holiday Entertaining" as shown in FIG. 20, the program guide at the user's location may present the user with a set recording screen such as set recording screen 270 of FIG. 25. Set recording screen 270 allows the user to set a selected program 274 (Holiday Entertaining) for recording by the program guide by selecting yes option 272 with highlight region 271. If the user selects no option 273, set recording screen 270 is canceled.

If a household has only one videocassette recorder 50, there will only be one location that will make all recordings, regardless of which location the recordings are set from. If there are multiple videocassette recorders, the user may be presented with select location screen 400 of FIG. 13 after selecting the yes option 272, that provides the user with an opportunity to select the location that will make the recording. If desired multiple locations may be selected. The guide may choose which VCR is used based on which VCR is busy or based on other factors.

At the scheduled broadcast time of the program to be recorded, the program guide at each

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selected location causes videocassette recorder 50 to begin recording. After the scheduled completion of the broadcast of the recorded program, each program guide causes its videocassette recorder 50 to stop recording.

5 The guides may cause videocassette recorders 50 to stop and start recording by sending an IR signal to the videocassette recorders IR input or by, any other suitable method for transmitting a signal to a videocassette recorder.

10 A series recording option may also be provided that allows users to record program series. Series recording is described in the above-mentioned Knudson et al. U.S. patent application publication no. 20050204388, filed June 11, 1999 (Attorney Docket

15 No. UV-56).

Another example of a program guide feature that benefits from coordination between multiple program guide devices in a household is pay-per-view ordering.

20 The user may be provided with an opportunity to order pay-per-view programming with a program guide display screen such as main screen 170 of FIG. 12. The user may use remote control 54 to select the pay-per-view by time option 181.

25 The user may select a program to order from a screen such as pay-per-view screen 290 of FIG. 26 using remote control 54 to navigate through program options. For example, the user may move highlight region 291 to program listing 292 (which may be for the movie

30 "Volcano" scheduled to be aired at 10:00 PM). The user may then select the program by pressing the enter button on remote control 54. Pay-per-view ordering screens such as pay-per-view ordering screen 370 of FIG. 27 may be used to allow the user to view

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information on the channel 371 on which the program is scheduled to be broadcast, the rating 377, the price 378 (shown illustratively as involving a surcharge for availability at additional locations within the household), and various available broadcast times 373, 374, and 376. A cancel option 372 allows the user to cancel pay-per-view ordering. The user may select cancel option 372 or a given broadcast time 373, 374, or 376 by placing highlight region 375 on top of the desired option and pressing enter. The user may choose to make the selected program available to various locations within the household by selecting the select locations option 206. Alternatively, the guide may make the program available to a default location or to a location determined by other factors as described above.

The program guide system may support a messages option. Messages may be sent from the service provider at television distribution facility 38 (FIG. 1) and may relate, e.g., to billing matters, general concerns, service issues, etc. Messages may be sent to the main facility or other locations by the Internet or electronic messages or other suitable means. Messages may appear on the television screen of television 52 when received. The appearance may, for example, be in a text box at the bottom of the screen. The user may be provided a list of messages that may be viewed and choose one to view. An indicator may also appear showing that unread messages exist. A messages receiving screen such as messages receiving screen 300 of FIG. 28 may be provided that allows, the user to navigate through a table relating various locations with various types of messaging. For example, the user may move highlight region 301 to the option relating to

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messages of the billing type for the children's room location. By hitting the enter key the user may toggle between turning such messages on and off. If, in this example, messages are turned on, the children's room
5 would receive billing messages. If messages are turned off, the children's room would not receive billing messages.

A user may have the ability to send text, audio, graphics or video messages between locations.
10 On Messages sending screen 340 of FIG. 29, the user may use data input device 140 (FIG. 10) to type a text message in the message entry section 343. Alternately the user may enter audio messages through, for example, using a microphone as a data input device or video with
15 a camera device. The user can select which location to send the message to by moving highlight region 341 to location option 342 (which may be the children's room). For example, a parent in the downstairs master bedroom may send a message telling the child in the upstairs
20 bedroom to come down for dinner or to do their homework. If desired, Messages sending screen 340 of FIG. 29 may provide the user with an opportunity to select from pre-existing text messages. These pre-existing messages may have been previously stored by a
25 user or pre-set by the manufacturer. Messages may be transmitted between program guides at different locations within the household using any suitable communications technique such as e-mail protocols or any method described in connection with the above
30 discussion of various topologies.

The program guide system may also provide the user with an opportunity to set device control options. For example, the user may access main screen 170 of FIG. 12, and use remote control 54 to choose the setup

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option 179 by using the remote control 54 to scroll to the setup option 179 and pressing the enter button. The user can then select audio option 312 on setup screen 310 of FIG. 31 by moving highlight region 313 and pressing the enter button. Next, on the setup audio screen 330 of FIG. 33, the user may move highlight region 332 to set volume option 332. The user may use remote control 54 to adjust the volume upwards or downwards. For example, parents may wish to turn down the volume on the kids television. The user may choose to apply the adjustments made on screen 330 to all locations by selecting apply to all option 205, to the current location by selecting apply to current location option 209, or may choose to apply adjustments to a specific location or locations by selecting the select locations option 206. Alternatively, the guide may apply the settings to a default location or to a location determined by other factors as described above.

Another program guide option that may be coordinated within the household is an option for selecting languages. From setup screen 310 of FIG. 31, the user may also select language option 311 by moving highlight region 313 and pressing the enter button. On setup language screen 320 of FIG. 32 or other such screen, the user may move highlight region 321 to set language option 322 (which may be German). The user may use remote control 54 to select the chosen language. The user may choose to apply the adjustments to all locations by selecting apply to all option 205, choose to apply adjustments to a specific location or locations by selecting the select locations option 206, or choose to apply to the current location by selecting current location option 209. Alternatively, the guide

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may apply the settings to a default location or to a location determined by other factors as described above. The selected language may be used by the program guide when displaying program guide screens that contain text or audio,
5 as described in Ellis et. al. U.S. patent No. 7,051,360.

Data files may be used to transmit program guide settings. When a particular program guide retrieves program guide settings adjustments for the user, this data may be transmitted to the central facility or to another program
10 guide via the return path in a two-way cable link, via modem link, or via any other suitable communications path. The settings may be stored at a server or on any one of the program guides in a household. For example, in the configuration of FIG. 3, program guide settings adjustments
15 collected at secondary user television equipment 61, may be stored at primary user television equipment 60. Similarly, set-top box 90 of FIG. 6 may store program guide settings for televisions 92, 94, 96, and 98. In the configuration of FIGS. 4a, 4b, and 4c, program guide settings adjustments
20 collected at user television equipment 66 may be stored at any one of user television equipment devices 66, 67, 68, or 69. In the configuration of FIGS. 7a and 7b, program guide settings that are shared such as family reminders may be stored on any one of servers 56, server 105, or server
25 42. Program guide settings may be transmitted periodically or when a data transfer is requested by a particular piece of user television equipment or the central facility. Certain communications protocols may be particularly suitable for certain topologies of user television equipment
30 devices. For example, if the user television equipment

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devices are arranged in a ring topology, a token ring communications protocol may be used to interconnect the program guides. A bus protocol may be used for a bus topology, etc. An advantage of using an in home network is sharing of data among devices within the home. For example, a listing may be stored on only one device, freeing space for other settings to be stored on other devices.

Messaging information may be transmitted to or from the central facility via the return path in a two-way cable link, via modem link, or via any other suitable communications path. The type of message may determine where the message is stored. Messages sent by the central facility may generally be stored at the central facility. Messages generated by a user may be stored at the user television equipment that stores the user's other program guide settings.

The discussion thus far has focused on implementing the invention with an interactive television program guide. The invention may also be applied to non-program-guide applications. These non-program-guide applications run on user television equipment such as a set-top box. For example, an Internet browser may be run on a set-top box connected to a television. Internet application settings can be coordinated among televisions and/or set-top boxes within a household in the same way that program guide settings are coordinated among program guides in the house.

One non-program-guide application that may be implemented in accordance with the present invention is an Internet browser. An Internet browser may have

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settings such as bookmarks, parental control settings, and general preferences that control how the browser functions. As shown in FIG. 34, a browser application screen 700, may have a bookmark option 705. After
5 adding a bookmark, the system allows the bookmark and other settings to be effective on other locations in the household. For example, a user may select bookmark option 705 and add a bookmark (i.e., a record of the address of the current web site that can be used to
10 access the site). Through a network, in accordance with the present invention, the application can make the bookmark effective on other locations in the household. Accordingly, the user can choose to apply settings adjustments to all locations by selecting an
15 apply to all option or may opt to apply the adjustments to a specific location or locations by selecting a select locations option from the options provided by the program guide. The guide may apply the settings to a default location or to a location determined by other
20 factors as described above.

Another application that may be implemented in accordance with the present invention is an shopping application. A shopping application may have settings such as a default shipping address, and credit card
25 number. As shown in FIG. 35, a shopping application screen 730, has settings such as a shipping address 720, and credit card number 725. After adding a shipping and credit card information, the system allows the shipping address, credit card number and other
30 settings to be effective on other locations in the household. For example, a user can add a shipping address. Through a network, in accordance with the present invention, the application can make the shipping address effective on other locations in the

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household. Accordingly, the user can choose to apply settings adjustments to all locations by selecting an apply to all option or may opt to apply the adjustments to a specific location or locations by selecting a
5 select locations option from the options provided by the program guide. The guide may apply the settings to a default location or to a location determined by other factors as described above.

Another non-program-guide application that
10 may be implemented on user television equipment and coordinated with other such applications in accordance with the present invention is a stock ticker. A stock ticker may have settings such as settings indicating the top 10 stocks in which the user is interested. As
15 shown in FIG. 36, a stock ticker settings screen 710 has a ticker symbol 712 and a top 10 stocks option 715. For example, a user may add a top stock. Then, through a network, in accordance with the present invention, the application can make the top 10 stock
20 settings effective on other locations in the household. Accordingly, the user can choose to apply the adjustments to all locations by selecting an apply to all option or may opt to apply the adjustments to a specific location or locations by selecting a select
25 locations option from the options provided by the program guide. The guide may apply the settings to a default location or to a location determined by other factors as described above.

A chat application may be implemented on user
30 television equipment such as a set top box. Chat applications are services that allow users to exchange chat messages with other users in real time. A chat application may be implemented as a stand-alone chat application or as part of another application such as a

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program guide application. A user may adjust settings associated with a chat application such as the size of a chat window or whether to filter potentially offensive messages. Chat applications that may be implemented on user television equipment are described in McKissick et. al. PCT Publication No. WO/13416. After the user adjusts chat settings, the user can choose to apply the chat settings adjustments to all locations by selecting an apply to all option or may opt to apply the adjustments to a specific location or locations by selecting a select locations option. Settings may be coordinated between the chat applications using options provided by the chat application. The chat application may apply the settings to a default location or to a location determined by other factors as described above.

If desired, the settings of an e-mail application running on different user television equipment devices in the household may be coordinated. When the user adjusts the e-mail settings associated with one user television equipment device, the system coordinates the operation of the other e-mail applications so that the adjusted e-mail settings may be used by the other e-mail applications.

The foregoing is merely illustrative of the principles of this invention and various modifications can be made by those skilled in the art without departing from the invention.

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CLAIMS:

1. An interactive television program guide system comprising:
 - a plurality of user television equipment devices located in a household in a peer-to-peer arrangement and on at least two of which devices interactive television program guides are implemented;
 - means associated with at least one of said interactive television program guides for adjusting interactive television program guide settings; and
 - means for coordinating operation of said interactive television program guides so that the interactive television program guide settings that are adjusted using said means for adjusting are effective on at least one of the interactive television program guides other than the interactive television program guide implemented on the television equipment device with which the means for adjusting is associated.
2. The interactive television program guide system defined in claim 1 further comprising means for selecting the interactive television program guides on

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which the adjusted program guide settings will be effective.

3. The interactive television program guide system defined in claim 2 wherein said means for selecting uses input from a user.

4. The interactive television program guide system defined in claim 2 wherein said means for selecting uses a default location.

5. The interactive television program guide system defined in claim 2 wherein said means for selecting uses factors other than by default to determine the location.

6. The interactive television program guide system defined in claim 1 wherein at least one of the user television equipment devices comprises a set-top box.

7. The interactive television program guide system defined in claim 1 wherein the means for adjusting permits adjusting parental control settings, favorites, profiles, recording settings, pay-per-view settings, messages settings, or set-up settings.

8. The interactive television program guide system defined in claim 1 wherein one of the user

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television equipment devices is a primary user television equipment device and the other user television equipment devices are secondary user television equipment devices.

9. The interactive television program guide system defined in claim 1 wherein communications paths are configured to connect the user television equipment devices in a tree, ring or bus topology.

10. The interactive television program guide system defined in claim 1 further comprising means for providing an assign location screen to the user.

11. The interactive television program guide system defined in claim 1 wherein the household comprises a home with multiple rooms at least two of which each contain one of the user television equipment devices on which one of the interactive television program guides is implemented, the system further comprising means for selecting the interactive television program guides on which the adjusted program guide settings are to be effective by selecting certain rooms.

12. The interactive television program guide system defined in claim 1 further comprising means for allowing the user to monitor television viewing of users at

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interactive television program guides other than the interactive television program guide on the user television equipment with which the means for adjusting is associated.

13. The interactive television program guide system defined in claim 12 further comprising means for disallowing monitoring of a selected location.

14. The interactive television program guide system defined in claim 1 wherein the means for adjusting permits adjusting maximum rating allowed settings.

15. The interactive television program guide system defined in claim 1 further comprising:

means for sending messages to viewers at interactive television program guides other than the interactive television program guide on the user television equipment with which the means for adjusting is associated.

16. The interactive television program guide system defined in claim 1 wherein the means for adjusting permits adjusting a channel setting at a remote location.

17. A method for using an interactive television program guide system having a plurality of user television equipment devices located in a household in a peer-to-peer arrangement, wherein interactive television program guides

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are implemented on at least two of such devices, the method comprising:

adjusting interactive television program guide settings on at least one of said interactive television program guides; and

coordinating operation of said interactive television program guides so that the interactive television program guide settings that are adjusted are effective on at least one of the interactive television program guides other than the at least one interactive television program guide on which the program guide settings are adjusted.

18. The method defined in claim 17 further comprising selecting the interactive television program guides on which the adjusted program guide settings will be effective.

19. The method defined in claim 18 wherein said selecting uses input from a user.

20. The method defined in claim 18 wherein said selecting uses a default location.

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21. The method defined in claim 18 wherein said selecting uses factors other than by default to determine the location.

22. The method defined in claim 17 wherein at least one of the user television equipment devices comprises a set-top box.

23. The method defined in claim 17 wherein the adjusting permits adjusting parental control settings, favorites, profiles, recording settings, pay-per-view settings, messages settings, or set-up settings.

24. The method defined in claim 17 wherein one of the user television equipment devices is a primary user television equipment device and the other user television equipment devices are secondary user television equipment devices.

25. The method defined in claim 17 wherein communications paths are configured to connect the user television equipment devices in a tree, ring, or bus topology.

26. The method defined in claim 17 further comprising providing an assign location screen to the user.

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27. The method defined in claim 17 wherein the household comprises a home with multiple rooms at least two of which each contain one of the user television equipment devices on which one of the interactive television program guides is implemented, the method further comprising selecting the interactive television program guides on which the adjusted program guide settings are to be effective by selecting certain rooms.

28. The method defined in claim 17 further comprising allowing the user to monitor television viewing of users at interactive television program guides other than the interactive television program guide on the user television equipment with which the adjusting is associated.

29. The method defined in claim 28 further comprising disallowing monitoring of a selected location.

30. The method defined in claim 17 wherein the adjusting permits adjusting maximum rating allowed settings.

31. The method defined in claim 17 further comprising:

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sending messages to viewers at interactive television program guides other than the interactive television program guide on the user television equipment with which the adjusting is associated.

5 32. The method defined in claim 17 wherein the adjusting permits adjusting a channel setting at a remote location.

33. A method for viewing a program, the method comprising:

10 displaying a video associated with a program using a first television equipment device coupled to a plurality of television equipment devices;

transmitting an identification of the program from the first television equipment device to a second television
15 equipment device of the plurality of television equipment devices;

after receiving the identification of the program at the second television equipment device, receiving with the second television equipment device a request to view the
20 identified program using the second television equipment device; and

displaying the video associated with the program on the second television equipment device in response to receiving with the second television equipment device the
25 request to view the identified program.

34. The method of claim 33, wherein identifying comprises providing an indication to the second television equipment device indicating that the first television equipment device is displaying the video associated with the
30 program.

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35. The method of claim 34, wherein the indication identifies the first television equipment device.

36. The method of claim 33, further comprising:

receiving an instruction from the second
5 television equipment device to change the video associated with the program displayed by the first television equipment device; and

changing the video associated with the program displayed by the first television equipment device in
10 response to receiving the instruction.

37. The method of claim 36, wherein changing further comprises tuning the first television equipment device away from the channel of the program.

38. The method of claim 36, wherein changing further
15 comprises turning off the first television equipment device.

39. The method of claim 33, further comprising:

determining whether the second television equipment device is authorized to monitor the first television equipment device; and

20 displaying the video associated with the program in response to determining that the second television equipment device is authorized to monitor the first television equipment device.

40. The method of claim 39, further comprising:

25 receiving authorization information from the second television equipment device;

verifying the authorization information; and

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displaying the video associated with the program in response to verifying the authorization information.

41. The method of claim 40, wherein the authorization information comprises a password.

5 42. A method for identifying a program displayed on another television equipment device, the method comprising:

displaying a video associated with a program using a first television equipment device coupled to a plurality of television equipment devices;

10 receiving with a second television equipment device of the plurality of television equipment devices a request to identify the program corresponding to the video displayed by the first television equipment device;

15 in response to receiving the request at the second television equipment device, causing the first television equipment device to transmit identification information for the program corresponding to the video displayed by the first television equipment device to the second television equipment device; and

20 displaying the identification information for the program corresponding to the video displayed by the first television equipment device on the second television equipment device in response to receiving the identification information at the second television equipment device.

25 43. The method of claim 42, wherein displaying identification information further comprises displaying at least one of: television channel, title, and rating of the displayed video associated with the program.

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44. The method of claim 42, further comprising:

receiving an instruction from the second television equipment device to change the video associated with the program displayed by the first television equipment device; and

changing the video associated with the program displayed by the first television equipment device in response to receiving the instruction.

45. The method of claim 44, wherein changing further comprises tuning the first television equipment device away from the program.

46. The method of claim 44, wherein changing further comprises turning off the first television equipment device.

47. The method of claim 42, further comprising:

determining whether the second television equipment device is authorized to monitor the first television equipment device; and

displaying the identification information in response to determining that the second television equipment device is authorized to monitor the first television equipment device.

48. The method of claim 47, further comprising:

receiving authorization information from the second television equipment device;

verifying the authorization information; and

displaying the identification information in response to verifying the authorization information.

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49. The method of claim 48, wherein the authorization information comprises a password.

50. A system for viewing a program, the system comprising:

5 a first television equipment device configured to display a video associated with a program, wherein the first television equipment device is coupled to a plurality of television equipment devices;

a processor configured to:

10 transmit an identification of the program to a second television equipment device of the plurality of television equipment devices; and

15 receive from the second television equipment device, a request to view the program on the second television equipment device; and

the second television device configured to display the video associated with the program in response to the processor receiving the request to view the identified program.

20 51. The system of claim 50, wherein the second television equipment device is further configured to provide an indication that the first television equipment device is displaying the video associated with the program.

25 52. The system of claim 51, wherein the indication identifies the first television equipment device.

53. The system of claim 50, wherein the processor is further configured to:

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receive an instruction from the second television equipment device to change the video associated with the program displayed by the first television equipment device; and

5 change the video associated with the program displayed by the first television equipment device in response to receiving the instruction.

54. The system of claim 53, wherein the processor is further configured to instruct a tuner to tune the first
10 television equipment device away from the program.

55. The system of claim 53, wherein the processor is further configured to turn off the first television equipment device.

56. The system of claim 50, wherein the processor is
15 further configured to:

determine whether the second television equipment device is authorized to monitor the first television equipment device; and

authorize the second television equipment device
20 to display the video associated with the program in response to determining that the second television equipment device is authorized to monitor the first television equipment device.

57. The system of claim 56, wherein the processor is
25 further configured to:

receive authorization information from the second television equipment device;

verify the authorization information; and

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authorize the second television equipment device to display the video associated with the program in response to verifying the authorization information.

58. The system of claim 57, wherein the authorization
5 information comprises a password.

59. A system for identifying a program displayed on another television equipment device, the system comprising:

a first television equipment device configured to display a video associated with a program, wherein the first
10 television equipment device is coupled to a plurality of television equipment devices;

a processor configured to:

receive a request to identify the program corresponding to the video displayed by the first television
15 equipment device, wherein the request is received from a second television equipment device of the plurality of television equipment devices; and

in response to receiving the request, transmit to the second television equipment device identification
20 information for the program corresponding to the video displayed on the first television equipment device; and

the second television equipment device configured to display the identification information for the program corresponding to the video displayed by the first television
25 equipment device in response to receiving the identification information.

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60. The system of claim 59, wherein the identification information further comprises at least one of: television channel, title, and rating of the displayed video associated with the program.

5 61. The system of claim 59, wherein the processor is further configured to:

receive an instruction from the second television equipment device to change the video associated with the program displayed by the first television equipment device;
10 and

change the video associated with the program displayed by the first television equipment device in response to receiving the instruction.

62. The system of claim 61, wherein the processor is
15 further configured to instruct a tuner to tune the first television equipment device away from the channel of the program.

63. The system of claim 61, wherein the processor is
20 further configured to turn off the first television equipment device.

64. The system of claim 59, wherein:

the processor is further configured to determine whether the second television equipment device is authorized to monitor the first television equipment device; and

25 the second television equipment device is further configured to display the identification information in response to the processor determining that the second television equipment device is authorized to monitor the first television equipment device.

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65. The system of claim 64, wherein:

the processor is further configured to:

receive authorization information from the second television equipment device; and

5 verify the authorization information; and

the second television equipment device is further configured to display the identification information in response to the processor verifying the authorization information.

10 66. The system of claim 65, wherein the authorization information comprises a password.

67. A method for ordering a program, comprising:

receiving, with a first interactive program guide on a first television equipment device, a user selection of
15 a program available for ordering from a user; and

receiving, with the first interactive program guide, a user selection of a second television equipment device, wherein the first television equipment device is coupled to the second television equipment device, and
20 wherein:

responsive to the user selection of the second television equipment device, the program is made available on a second interactive program guide at the second television equipment device for consumption by the user.

25 68. The method of claim 67, wherein the program is a pay-per-view program.

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69. The method of claim 67, wherein the program is available for purchase at a cost.

70. The method of claim 69, wherein the cost of the program is related to the second television equipment device.

5 71. The method of claim 67, wherein receiving a user selection further comprises:

receiving a user selection of the program; and

receiving authorization information permitting the ordering of the program.

10 72. The method of claim 67, further comprising providing the selected video from the first television equipment device to the second television equipment device.

73. The method of claim 67, wherein a distribution facility provides the program directly to the second
15 television equipment device.

74. The method of claim 67, wherein receiving further comprises:

displaying a listing of a plurality of television equipment devices operative to receive the ordered program,
20 wherein the plurality of television equipment devices comprises the second television equipment device; and

receiving a user selection of a listing associated with the second television equipment device.

75. The method of claim 67, further comprising
25 receiving an identification of a plurality of television equipment devices.

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76. The method of claim 67, wherein the first and second television equipment devices are coupled in an in-home network.

77. A method for providing a program available for
5 ordering to a selected device, comprising:

receiving, with a first interactive program guide on a first television equipment device, an indication of a user selection of a program available for ordering from a second interactive program guide on a second user equipment
10 device;

receiving, with the first interactive program guide, an indication of the first television equipment device from the second interactive program guide, wherein the first television equipment device is coupled to the
15 second television equipment device; and

responsive to the user indication of the first television equipment device, making available the program on the first interactive program guide on the first television equipment device.

20 78. The method of claim 77, wherein receiving an indication further comprises:

receiving an indication of a user selection of the program; and

receiving authorization information permitting an
25 ordering of the program.

79. The method of claim 77, wherein the program is a pay-per-view program.

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80. The method of claim 77, further comprising:

defining a default television equipment device coupled to the second television equipment device;

determining that no selection of a television
5 equipment device was received; and

making available the program on an interactive program guide on the defined default television equipment device in response to determining.

81. The method of claim 67, wherein receiving a user
10 selection of a second television equipment device comprises receiving input from the user.

82. A method for using an interactive television program guide system based on first and second user television equipment devices located in a single household,
15 wherein the first and second user television equipment devices are interconnected by communications paths and wherein the second user television equipment device comprises a recording device, the method comprising:

receiving, with a first interactive television
20 program guide implemented on the first user television equipment device, a user selection of a program from a user for recording by a second interactive television program guide implemented on the second user television equipment device, wherein the first and second user television equipment
25 devices are located at first and second locations within the household respectively;

directing over the communications path, using the first interactive television program guide, the second interactive television program guide to schedule for recording

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the program selected with the first interactive television program guide; and

providing instructions from the second interactive television program guide to the recording device in the second user television equipment device to record the program selected with the first interactive television program guide.

83. The method of claim 82, wherein the recording device is a videocassette recorder.

84. The method of claim 82, wherein the recording device is a personal video recorder.

85. The method of claim 82, further comprising:

allowing the user to select the second location from the first location.

86. The method of claim 82, wherein one of the first and second user television equipment devices comprises a set-top box and at least a television and the other one of the first and second user television equipment devices comprises a television but not a set-top box.

87. The method of claim 86, wherein the set-top box comprises an embedded hard disk and wherein recording the program comprises using the hard disk.

88. The method of claim 82, wherein the program is recorded at a future time.

89. The method of claim 82, wherein the program comprises a series of programs.

90. An interactive television program guide system based on first and second user television equipment devices located in a single household, wherein the first and second user

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television equipment devices are interconnected by communications paths and wherein the second user television equipment device comprises a recording device, the system comprising:

5 a first interactive television program guide implemented on the first user television equipment device; and

a second interactive television program guide implemented on the second user television equipment device;

10 wherein the first program guide is configured to:

receive, from a user, a user selection of a program for recording by the second program guide; and

15 direct, over the communications path, the second program guide to schedule for recording the program selected with the first guide;

wherein the second program guide is configured to:

provide instructions to the recording device in the second user television equipment device to record the program selected with the first program guide;

20 wherein the first and second user television equipment devices are located at first and second locations within the household respectively.

91. The system of claim 90, wherein the recording device is a videocassette recorder.

25 92. The system of claim 90, wherein the recording device is a personal video recorder.

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93. The system of claim 90, wherein:

the first interactive television program guide is configured to allow the user to select the second location from the first location.

5 94. The system of claim 90, wherein one of the first and second user television equipment devices comprises a set-top box and at least a television and the other one of the first and second user television equipment devices comprises a television but not a set-top box.

10 95. The system of claim 94, wherein the set-top box comprises an embedded hard disk and wherein the second user television device is configured to record the program using the hard disk.

15 96. The system of claim 90, wherein the program is recorded at a future time.

97. The system of claim 90, wherein the program comprises a series of programs.

20 98. Machine-readable media for using an interactive television program guide system based on first and second user television equipment devices located in a single household, wherein the first and second user television equipment devices are interconnected by communications paths and wherein the second user television equipment device comprises a recording device, the machine-readable media
25 comprising machine-readable instructions encoded thereon for:

receiving, with a first interactive television program guide implemented on the first user television equipment device, a user selection of a program for recording
30 by a second interactive television program guide implemented

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on the second user television equipment device, wherein the first and second user television equipment devices are located at first and second locations within the household respectively;

5 directing over the communications path, using the first interactive program guide, the second interactive television program guide to schedule for recording the program selected with the first interactive television program guide; and

10 providing instructions from the second interactive television program guide to the recording device in the second user television equipment device to record the program selected with the first interactive television program guide.

99. The machine-readable media of claim 98, wherein the
15 recording device is a videocassette recorder.

100. The machine-readable media of claim 98, wherein the recording device is a personal video recorder.

101. The machine-readable media of claim 98, further comprising machine-readable instructions recorded thereon for
20 allowing the user to select the second location from the first location.

102. The machine-readable media of claim 98, wherein one of the first and second user television equipment devices comprises a set-top box and at least a television and the
25 other one of the first and second user television equipment devices comprises a television but not a set-top box.

103. The machine-readable media of claim 98, wherein the set-top box comprises an embedded hard disk and wherein recording the program comprises using the hard disk.

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104. The machine-readable media of claim 98, wherein the program is recorded at a future time.

105. The machine-readable media of claim 98, wherein the program comprises a series of programs.

5 106. A method for using an interactive television program guide system based on first and second user television equipment devices located in a single household, wherein the first and second user television equipment devices are interconnected by communications paths and wherein the second
10 user television equipment device comprises a recording device, the method comprising:

receiving, with a first interactive television program guide implemented on the first user television equipment device, a user selection of a program for recording
15 by a second interactive television program guide implemented on the second user television equipment device, wherein the first and second user television equipment devices are located at first and second locations within the household respectively;

20 directing over the communications path, using the first interactive television program guide, the second interactive television program guide to schedule for recording the program selected with the first interactive television program guide; and

25 causing the second interactive television program guide to record on the recording device the program selected with the first interactive television program guide.

107. The method of claim 106, wherein the recording device is a videocassette recorder.

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108. The method of claim 106, wherein the recording device is a personal video recorder.

109. The method of claim 106, further comprising allowing the user to select the second location from the first
5 location.

110. The method of claim 106, wherein one of the first and second user television equipment devices comprises a set-top box and at least a television and the other one of the first and second user television equipment device comprises a
10 television but not a set-top box.

111. The method of claim 110, wherein the set-top box comprises an embedded hard disk and wherein recording the program comprises using the hard disk.

112. The method of claim 106, wherein the program is
15 recorded at a future time.

113. The method of claim 106, wherein the program comprises a series of programs.

114. The method of claim 106, wherein the first and second interactive television program guides are configured
20 to display a plurality of program listings.

115. The method of claim 114, wherein receiving a user selection comprises receiving a selection of one of the plurality of program listings corresponding to the program.

116. A method for an interactive television program
25 guide system based on first and second user television equipment devices located in a single household, wherein the first and second user television equipment devices are interconnected by communications paths and wherein the

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second user television equipment device comprises a recording device, the method comprising:

receiving over the communications path, with a second interactive television program guide implemented on the second user television equipment device, direction from a first interactive television program guide implemented on the first television equipment device to schedule for recording the program selected with the first interactive television program guide, wherein the first and second user television equipment devices are located at first and second locations within the household respectively; and

responsive to receiving the direction from the first interactive television program guide, providing instructions from the second interactive television program guide to the recording device in the second user television equipment device to record the program selected with the first interactive television program guide.

117. The method of claim 116, wherein the recording device is a videocassette recorder.

118. The method of claim 116, wherein the recording device is a personal video recorder.

119. The method of claim 116, further comprising allowing the user to select the second location from the first location.

120. The method of claim 116, wherein one of first and second the user television equipment devices comprises a set-top box and at least a television and the other one of the first and second user television equipment devices comprises a television but not a set-top box.

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121. The method of claim 120, wherein the set-top box comprises an embedded hard disk and wherein recording the program comprises using the hard disk.

122. The method of claim 116, wherein the program is
5 recorded at a future time.

123. The method of claim 116, wherein the program comprises a series of programs.

124. The method of claim 116, wherein the first and second interactive television program guides are configured
10 to display a plurality of program listings.

125. The method of claim 124, wherein receiving a user selection comprises receiving a selection of one of the plurality of program listings.

126. An interactive television program guide system based
15 on first and second user television equipment devices located in a single household, wherein the first and second user television equipment devices are interconnected by communications paths and wherein the second user television equipment device comprises a recording device, the system
20 comprising:

a first interactive television program guide implemented on the first user television equipment device is configured to:

receive a user selection of a program for recording
25 by a second interactive television program guide implemented on the second user television equipment device, wherein the first and second user television equipment devices are located at first and second locations within the household respectively;

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direct over the communications path, using the first interactive television program guide, the second interactive television program guide to schedule for recording the program selected with the first interactive
5 television program guide; and

cause the second interactive television program guide to record on the recording device the program selected with the first interactive television program guide.

127. The system of claim 126, wherein the recording
10 device is a videocassette recorder.

128. The system of claim 126, wherein the recording device is a personal video recorder.

129. The system of claim 126, further comprising allowing the user to select the second location from the first
15 location.

130. The system of claim 126, wherein one of the first and second user television equipment devices comprises a set-top box and at least a television and the other one of the first and second user television equipment device comprises a
20 television but not a set-top box.

131. The system of claim 130, wherein the set-top box comprises an embedded hard disk and wherein recording the program comprises using the hard disk.

132. The system of claim 126, wherein the program is
25 recorded at a future time.

133. The system of claim 126, wherein the program comprises a series of programs.

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134. The system of claim 126, wherein the first and second interactive television program guides are configured to display a plurality of program listings.

135. The system of claim 134, wherein receiving a user selection comprises receiving a selection of one of the plurality of program listings.

136. An interactive television program guide system based on first and second user television equipment devices located in a single household, wherein the first and second user television equipment devices are interconnected by communications paths and wherein the first user television equipment device comprises a recording device, the system comprising:

a first interactive television program guide implemented on the first user equipment device configured to:

receive over the communications path direction from a second interactive television program guide implemented on the second television equipment device to schedule for recording the program selected with the second interactive television program guide, wherein the first and second user television equipment devices are located at first and second locations within the household respectively; and

responsive to receiving the direction from the second interactive television program guide, provide instructions from the first interactive television program guide to the recording device in the first user television equipment device to record the program selected with the second interactive television program guide.

137. The system of claim 136, wherein the recording device is a videocassette recorder.

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138. The system of claim 136, wherein the recording device is a personal video recorder.

139. The system of claim 136, further comprising allowing the user to select the second location from the first
5 location.

140. The system of claim 136, wherein one of first and second the user television equipment devices comprises a set-top box and at least a television and the other one of the first and second user television equipment devices comprises
10 a television but not a set-top box.

141. The system of claim 140, wherein the set-top box comprises an embedded hard disk and wherein recording the program comprises using the hard disk.

142. The system of claim 136, wherein the program is
15 recorded at a future time.

143. The system of claim 136, wherein the program comprises a series of programs.

144. The system of claim 136, wherein the first and second interactive television program guides are configured
20 to display a plurality of program listings.

145. The system of claim 144, wherein receiving a user selection comprises receiving a selection of one of the plurality of program listings.

146. The method of claim 82, wherein the first and second
25 interactive television program guides are configured to display a plurality of program listings.

147. The method of claim 146, wherein receiving a user selection comprises receiving a selection of one of the plurality of program listings.

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148. The system of claim 90, wherein the first and second interactive television program guides are configured to display a plurality of program listings.

149. The system of claim 148, wherein receiving a user selection comprises receiving a selection of one of the plurality of program listings.

150. The machine-readable media of claim 98, wherein the first and second interactive television program guides are configured to display a plurality of program listings.

151. The machine-readable media of claim 150, wherein receiving a user selection comprises receiving a selection of one of the plurality of program listings.

152. A method for operating television equipment devices comprising:

15 providing an opportunity to establish a user profile for a user by means of a first television equipment device, wherein the first television equipment device is coupled to a plurality of television equipment devices;

20 transmitting the user profile established at the first television equipment device from the first television equipment device to a second television equipment device, wherein the second television equipment device is one of the plurality of television equipment devices; and

25 applying the transmitted user profile on the second television equipment device.

153. The method of claim 152, further comprising storing the user profile in a remote location coupled to the plurality of television equipment devices.

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154. The method of claim 152, further comprising storing the user profile in the first television equipment device.

155. The method of claim 154, further comprising:

5 determining that the provided user profile has been modified using the second television equipment device; and

10 modifying the user profile stored in the first television equipment device in response to determining that the provided user profile information has been modified.

156. The method of claim 155, further comprising:

determining that the user is using a third one of the plurality of television equipment devices; and

15 providing the modified user profile information to the third one of the plurality of television equipment devices.

157. The method of claim 155, wherein determining further comprises:

identifying the user; and

20 locating the one of the plurality of television equipment devices in the network of television equipment devices.

158. The method of claim 157, wherein identifying further comprises receiving unique user identification information from the user.

159. The method of claim 158, wherein the user identification information comprises a unique number.

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160. The method of claim 158, wherein providing further comprises:

identifying the user profile information associated with the user identification information; and

5 providing the identified user profile information to the located one of the plurality of television equipment devices.

161. The method of claim 152, wherein the user profile information comprises at least one of favorites, parental
10 control information, reminders, recording options, pay-per-view options, message options, and set-up options.

162. The method of claim 153, wherein the remote location is a server.

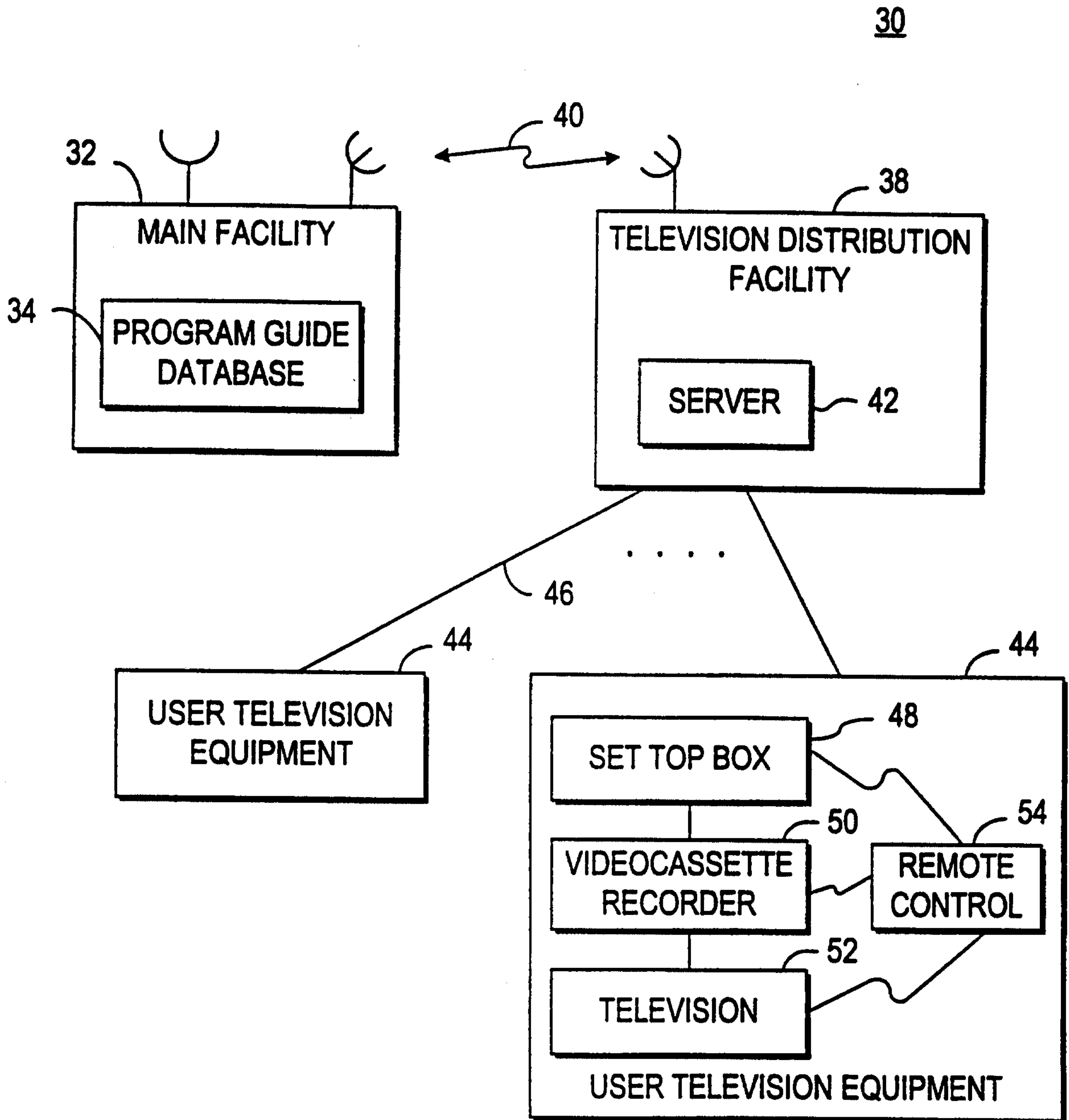
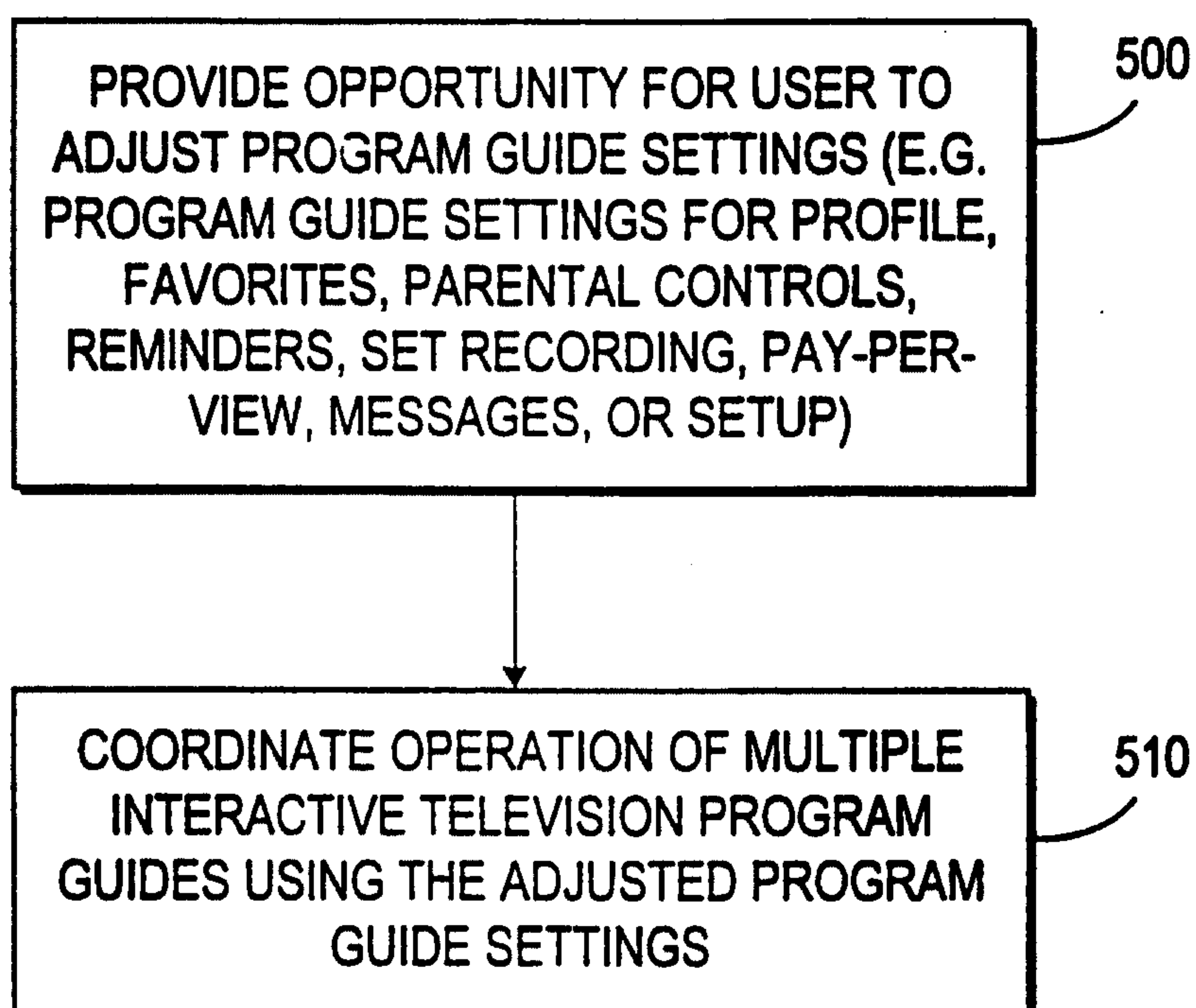


FIG. 1

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*FIG. 2*

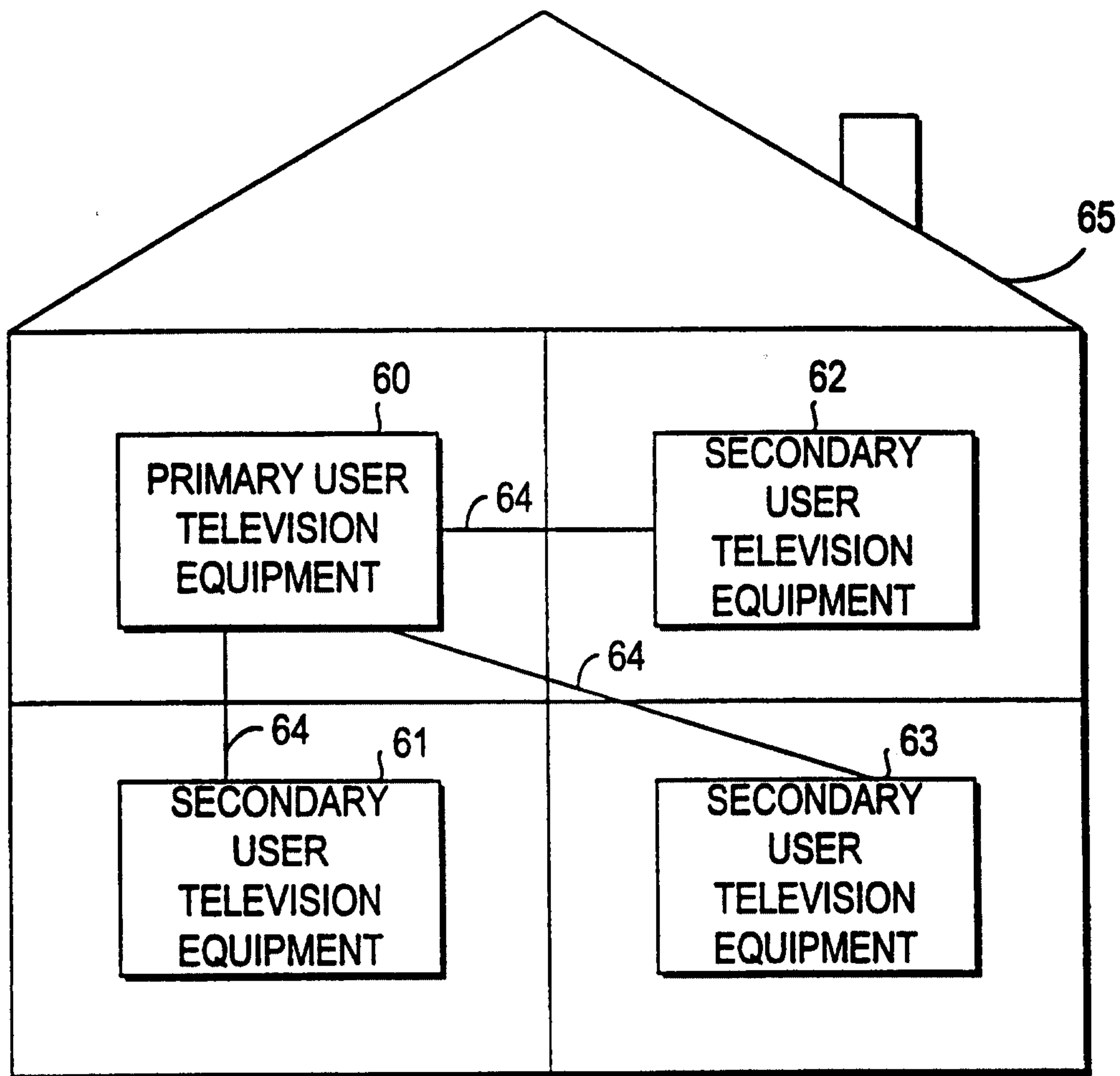


FIG. 3

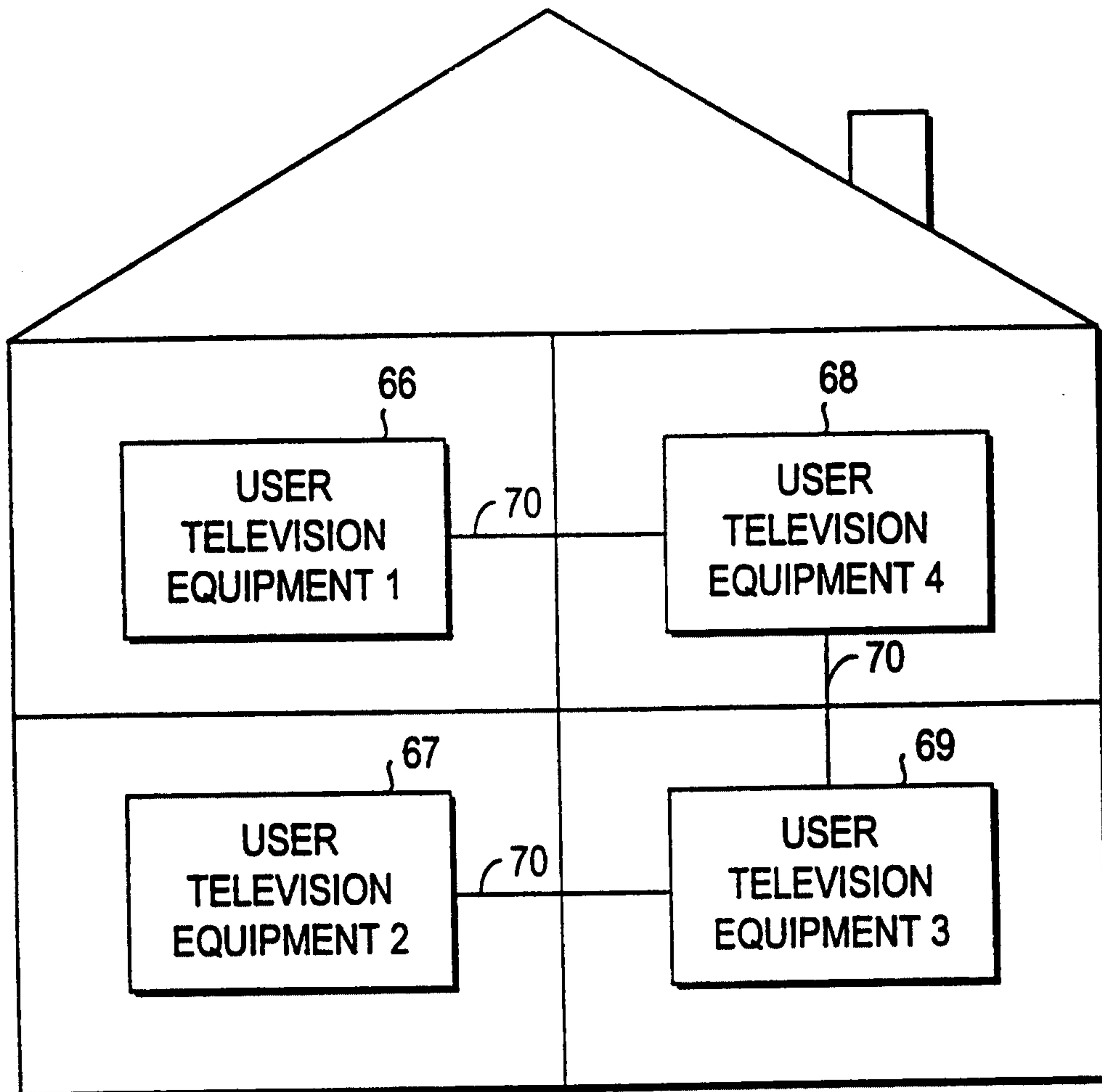


FIG. 4a

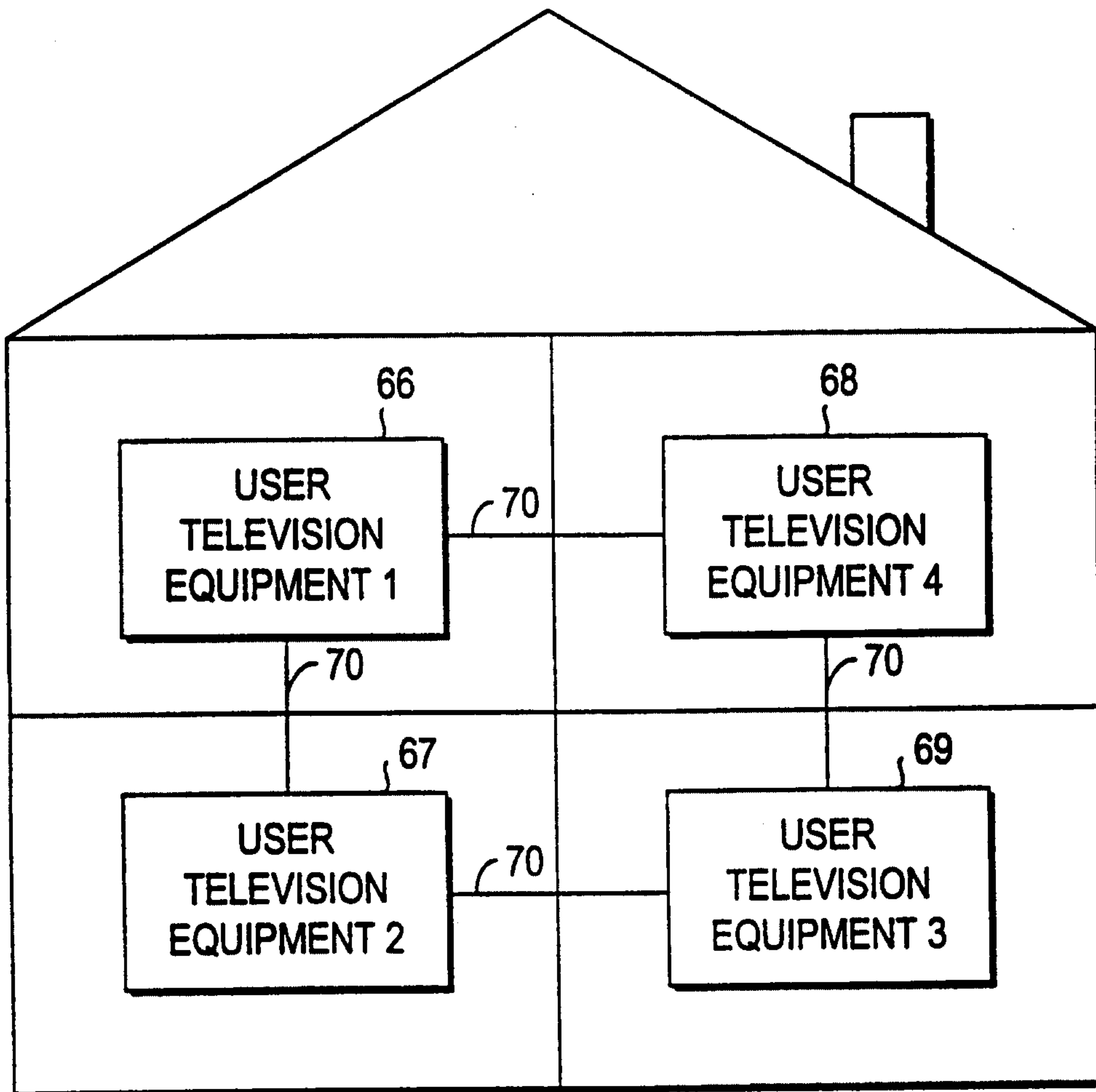


FIG. 4b

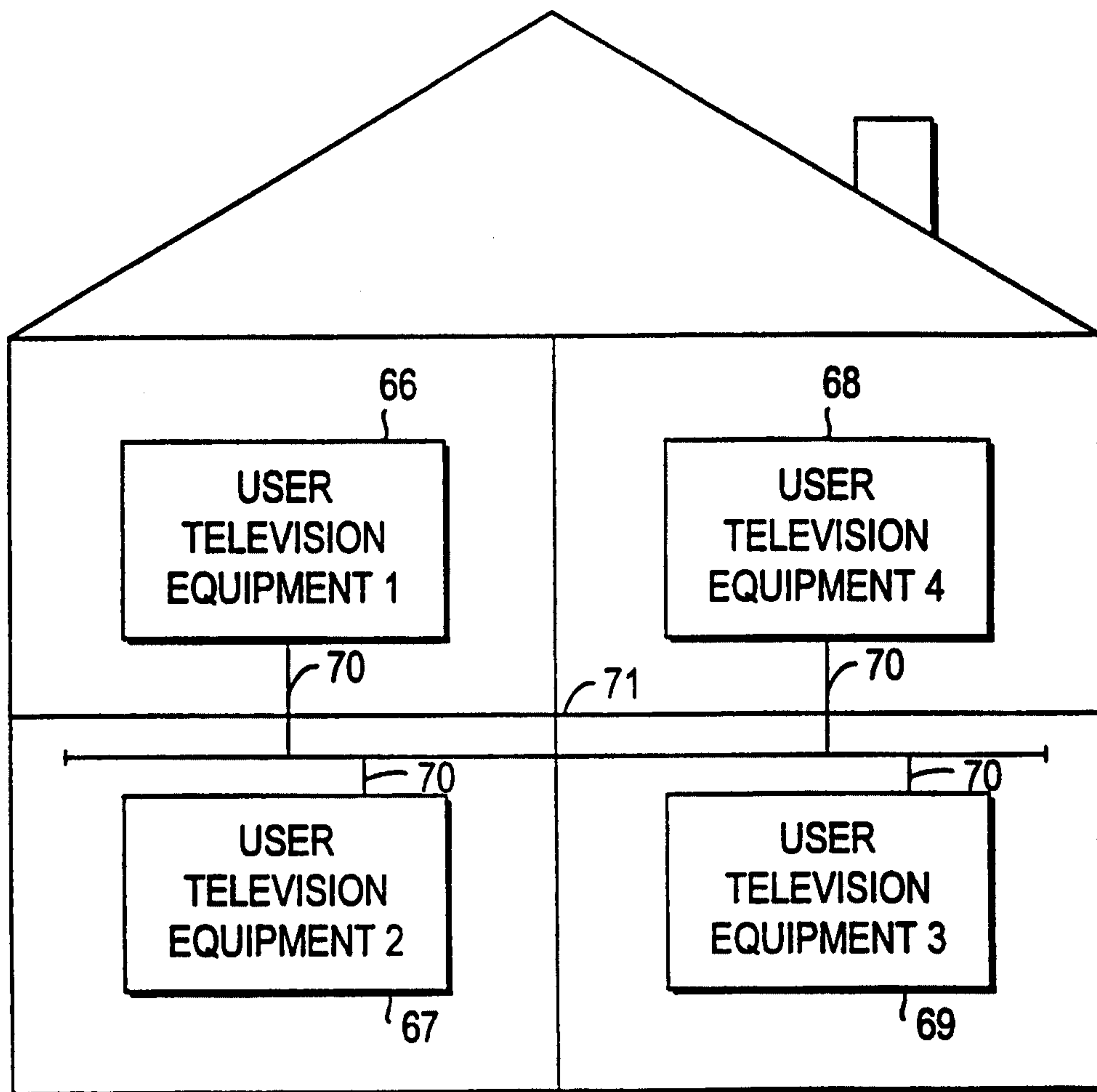


FIG. 4c

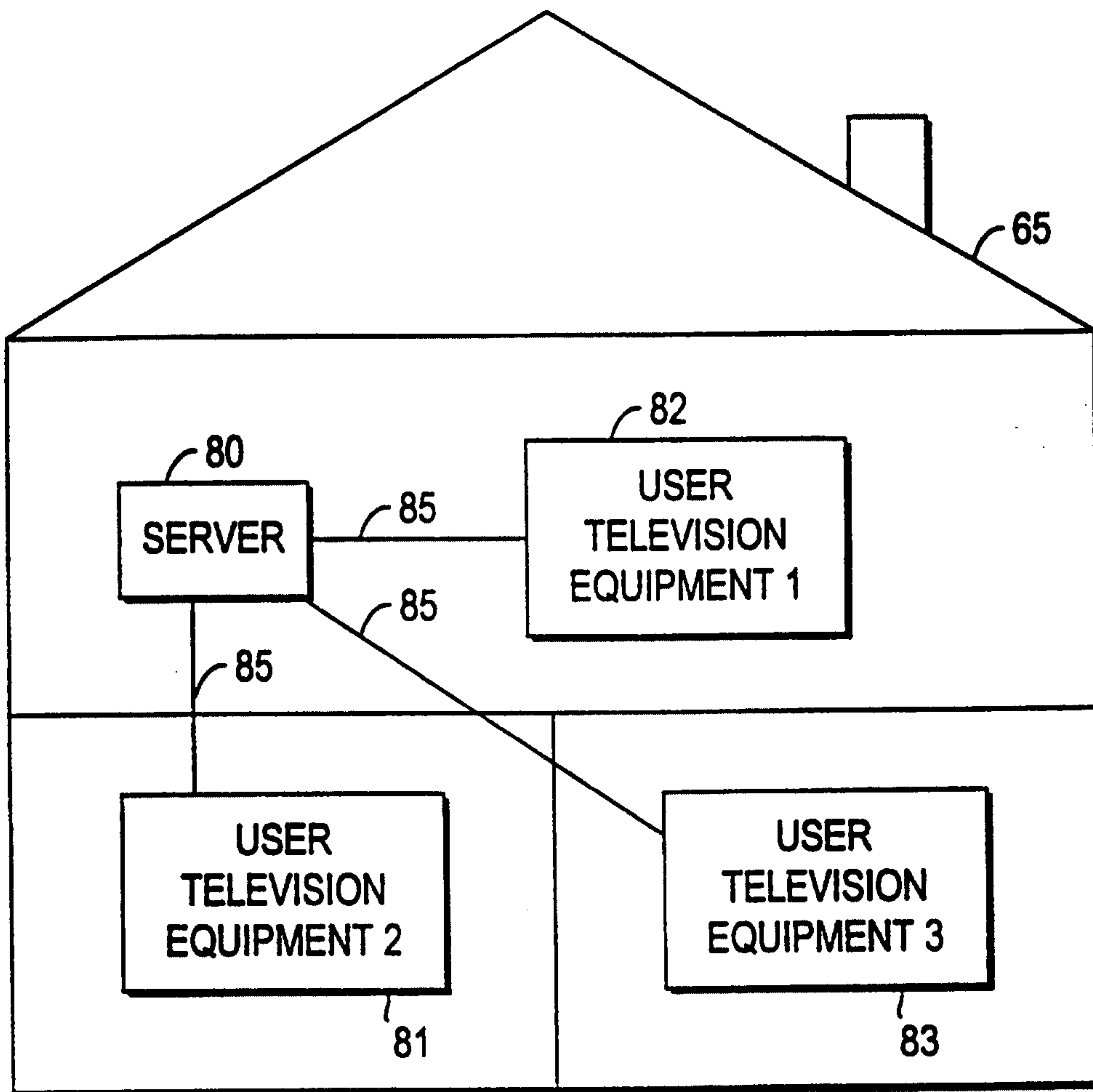


FIG. 5

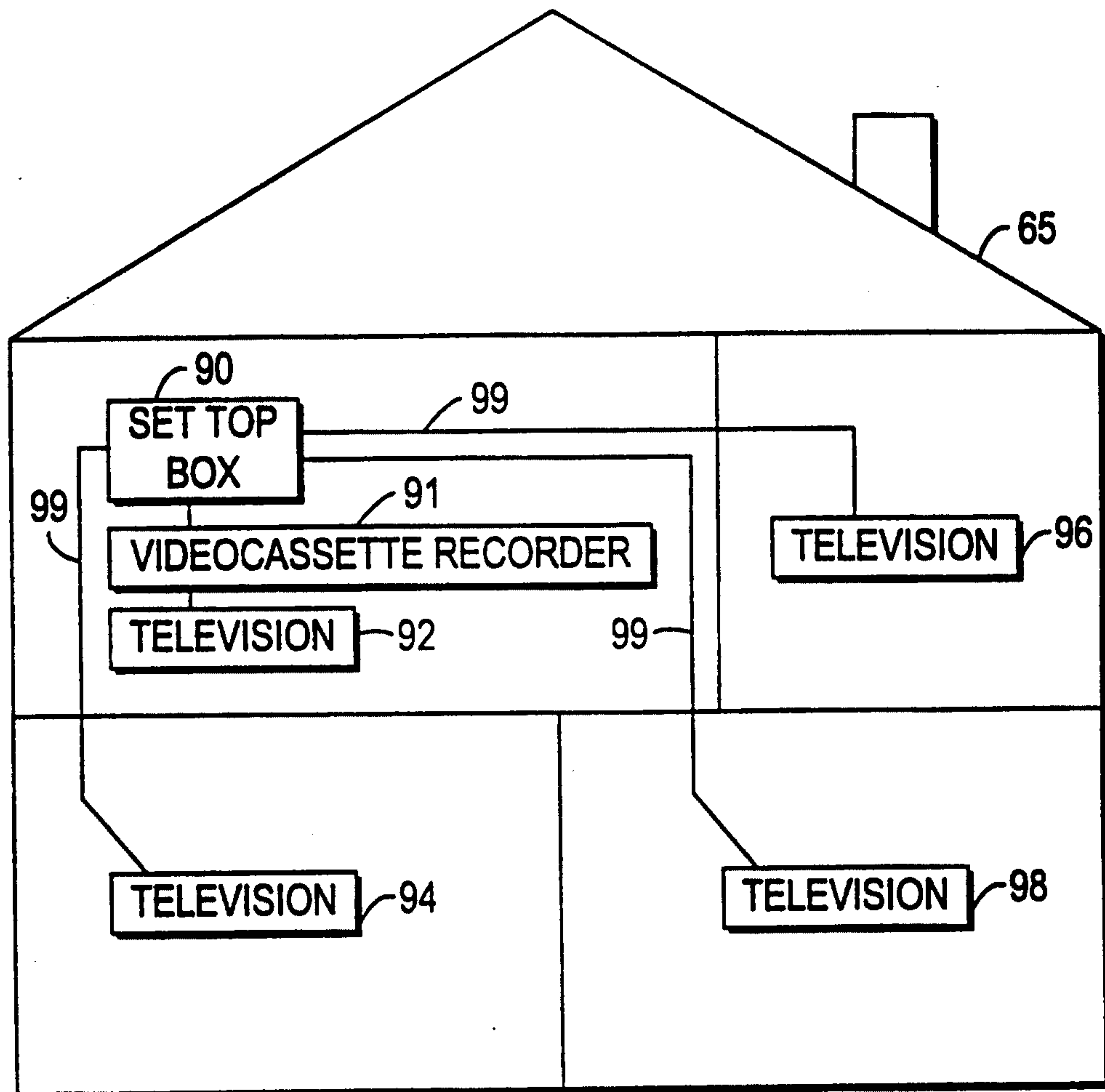


FIG. 6

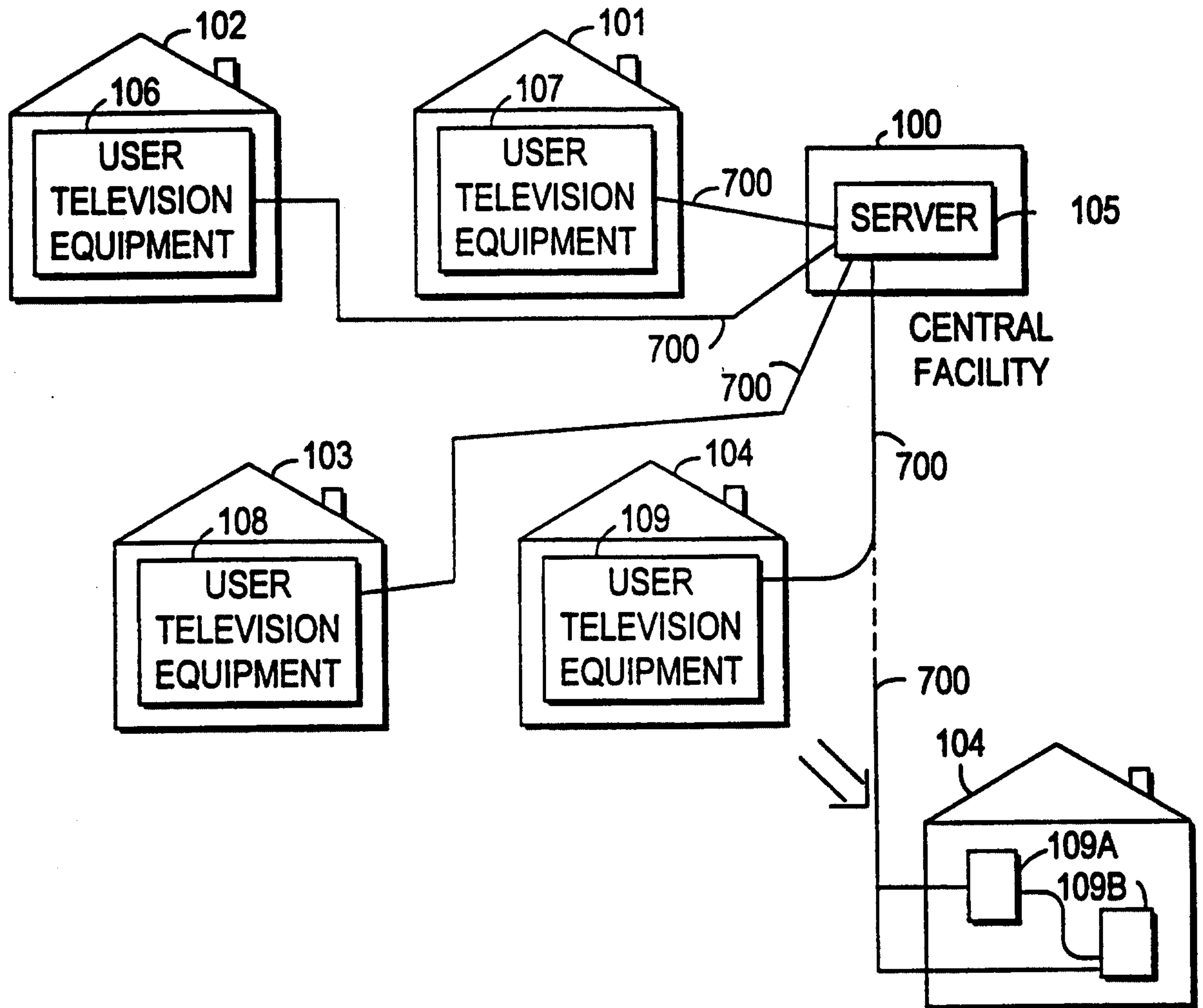


FIG. 7a

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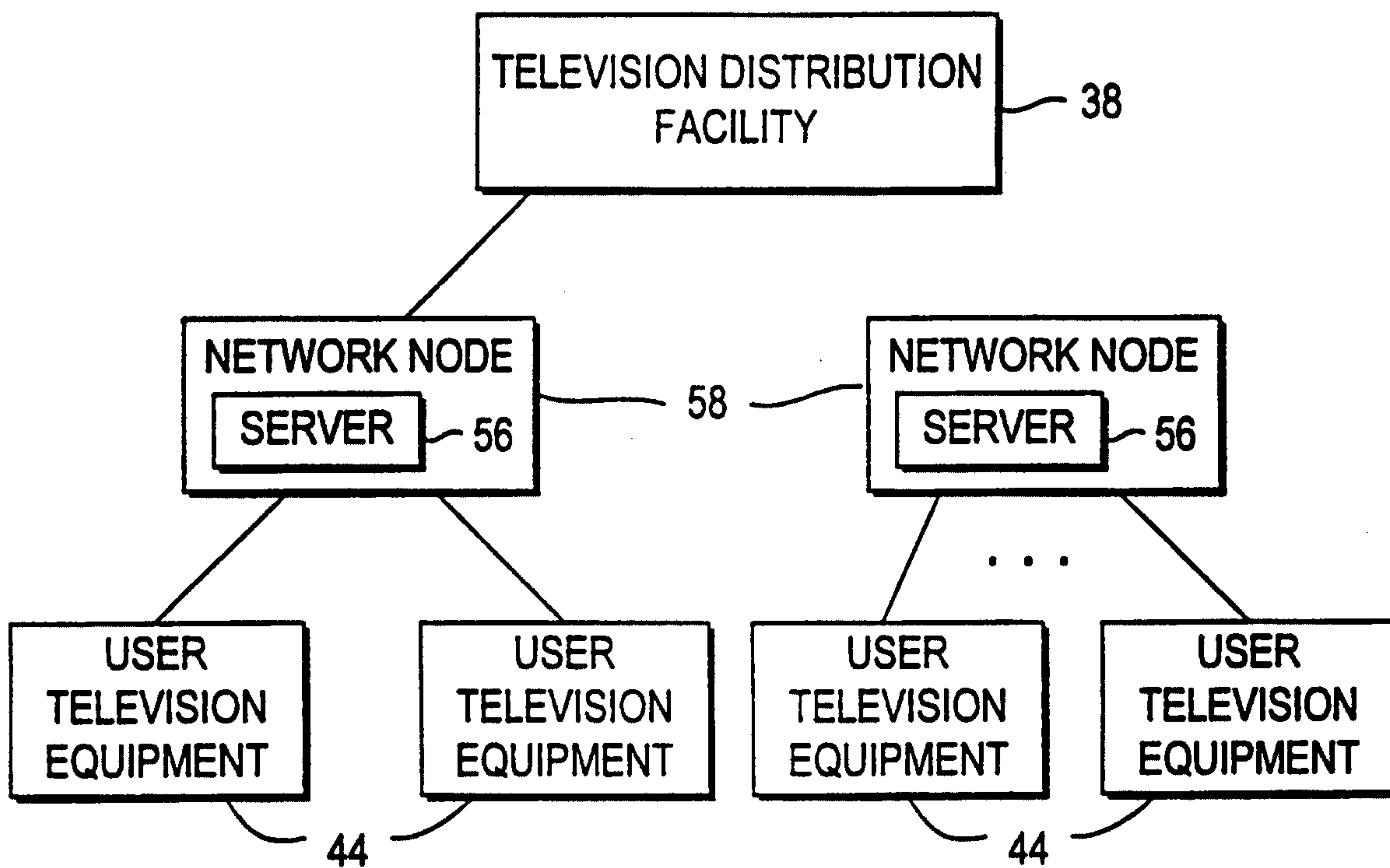


FIG. 7b

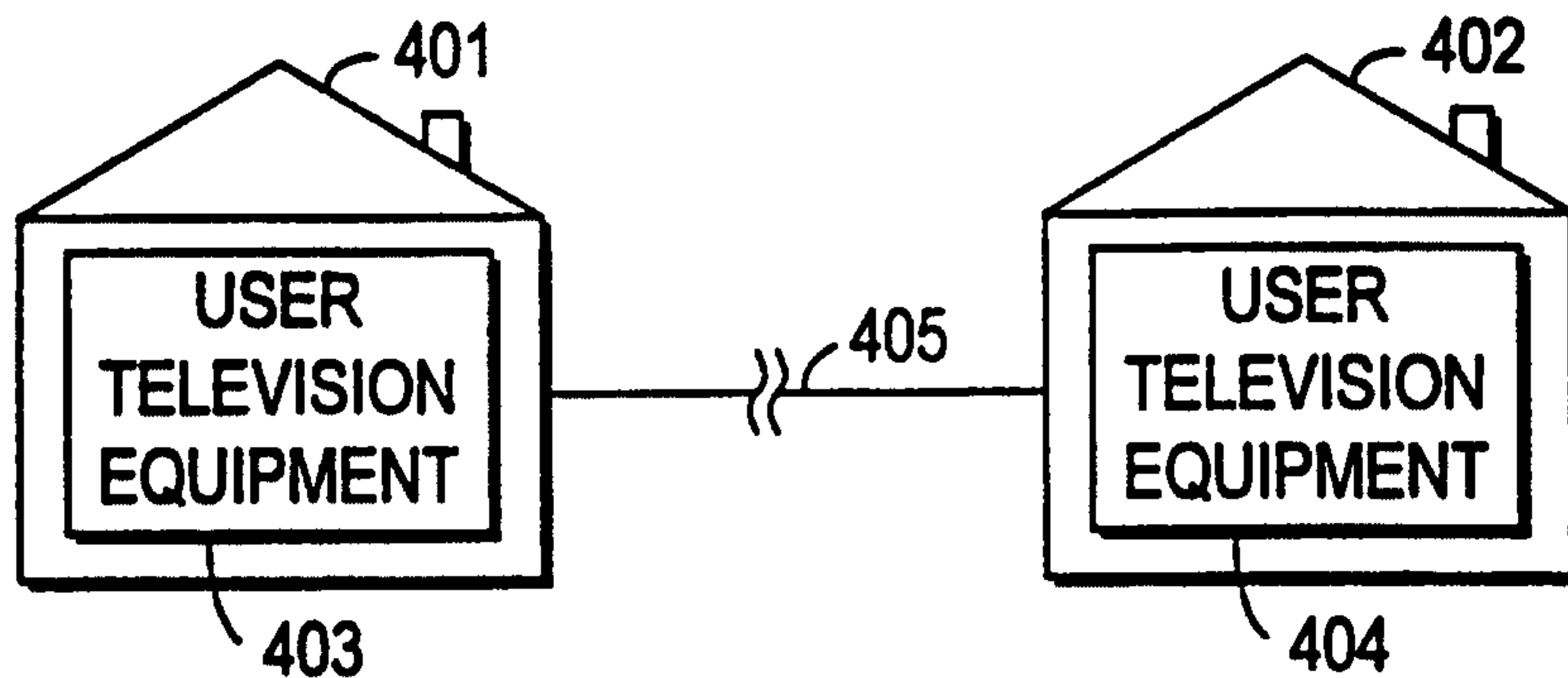


FIG. 7c

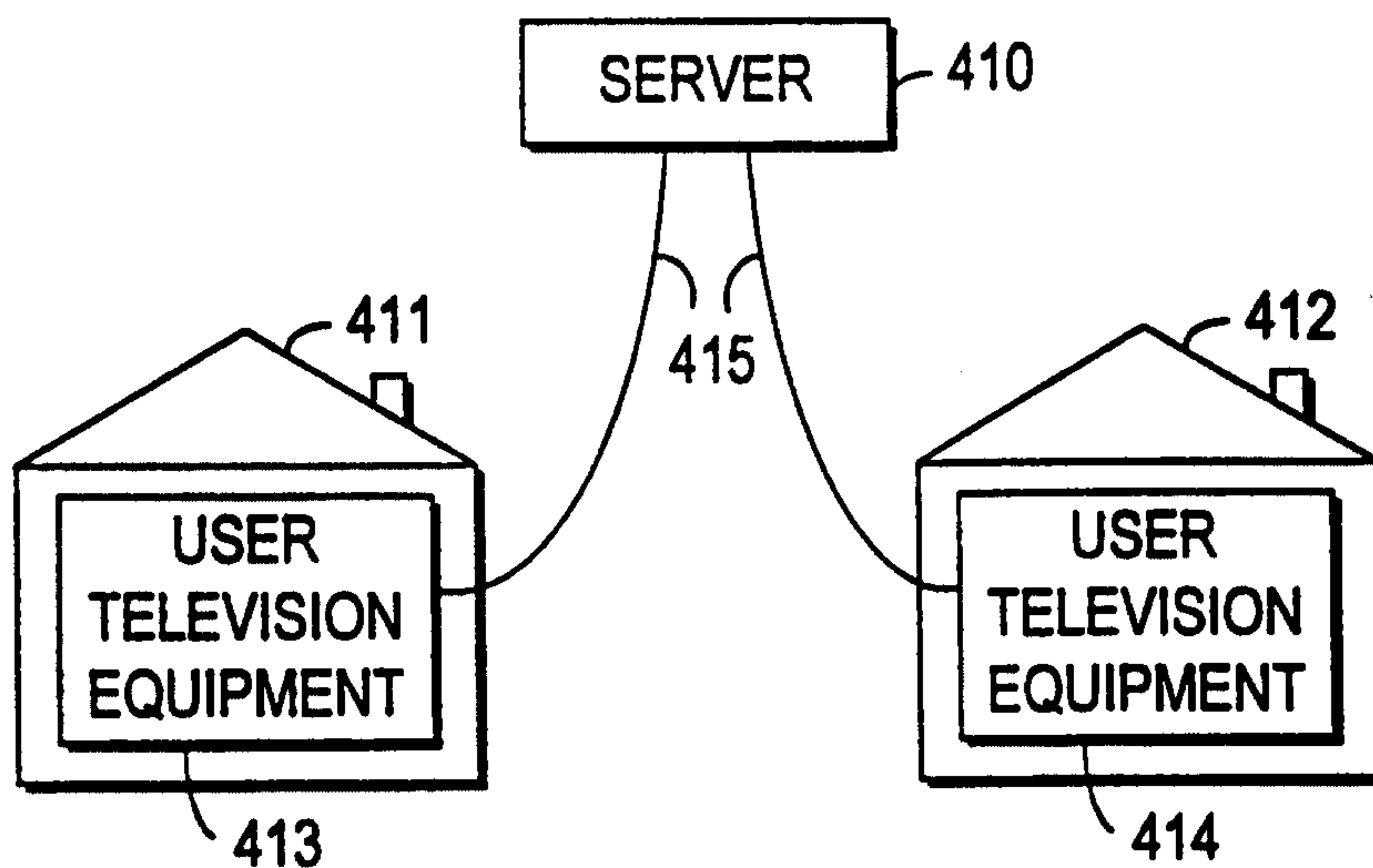


FIG. 7d

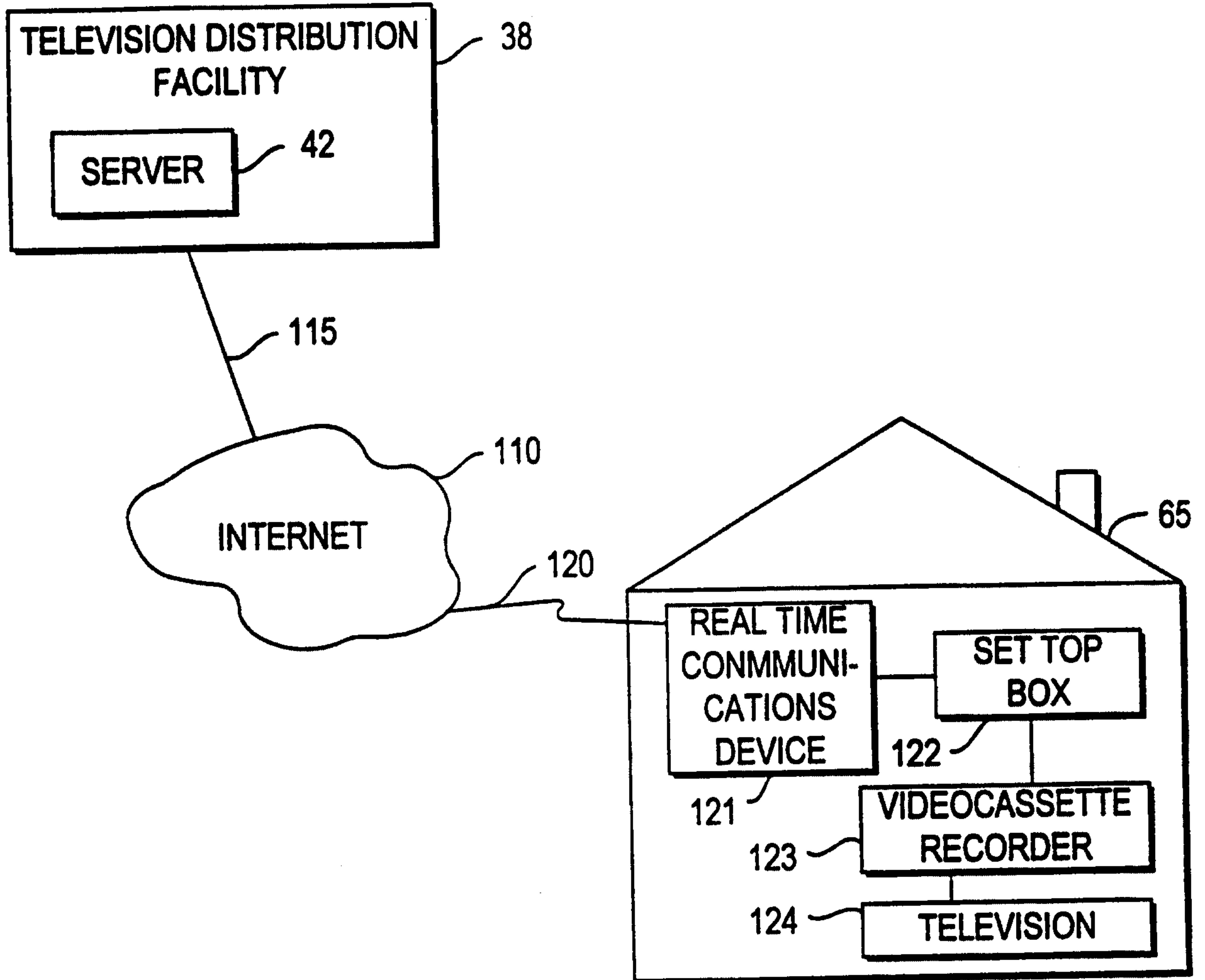


FIG. 8

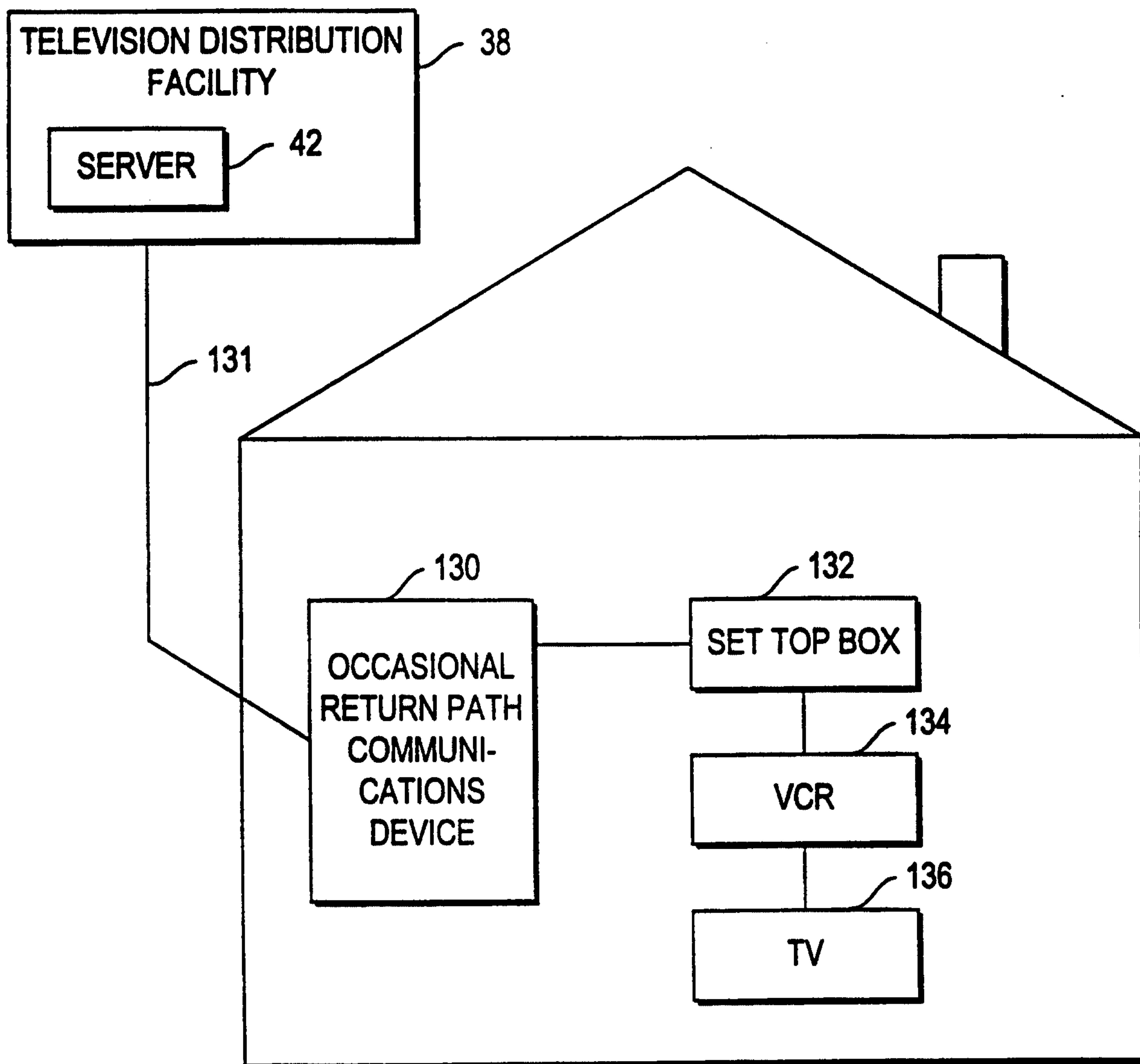


FIG. 9

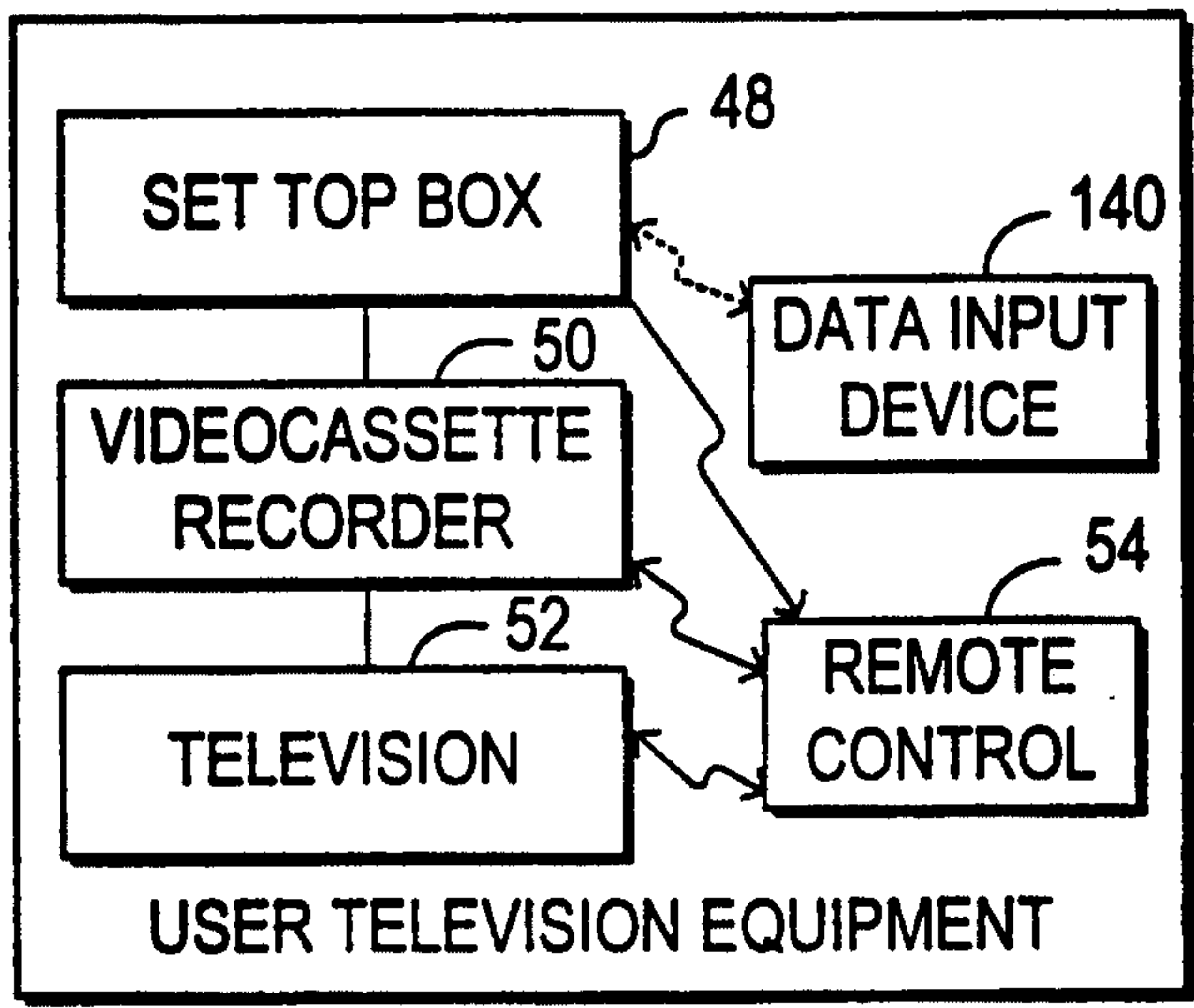


FIG. 10

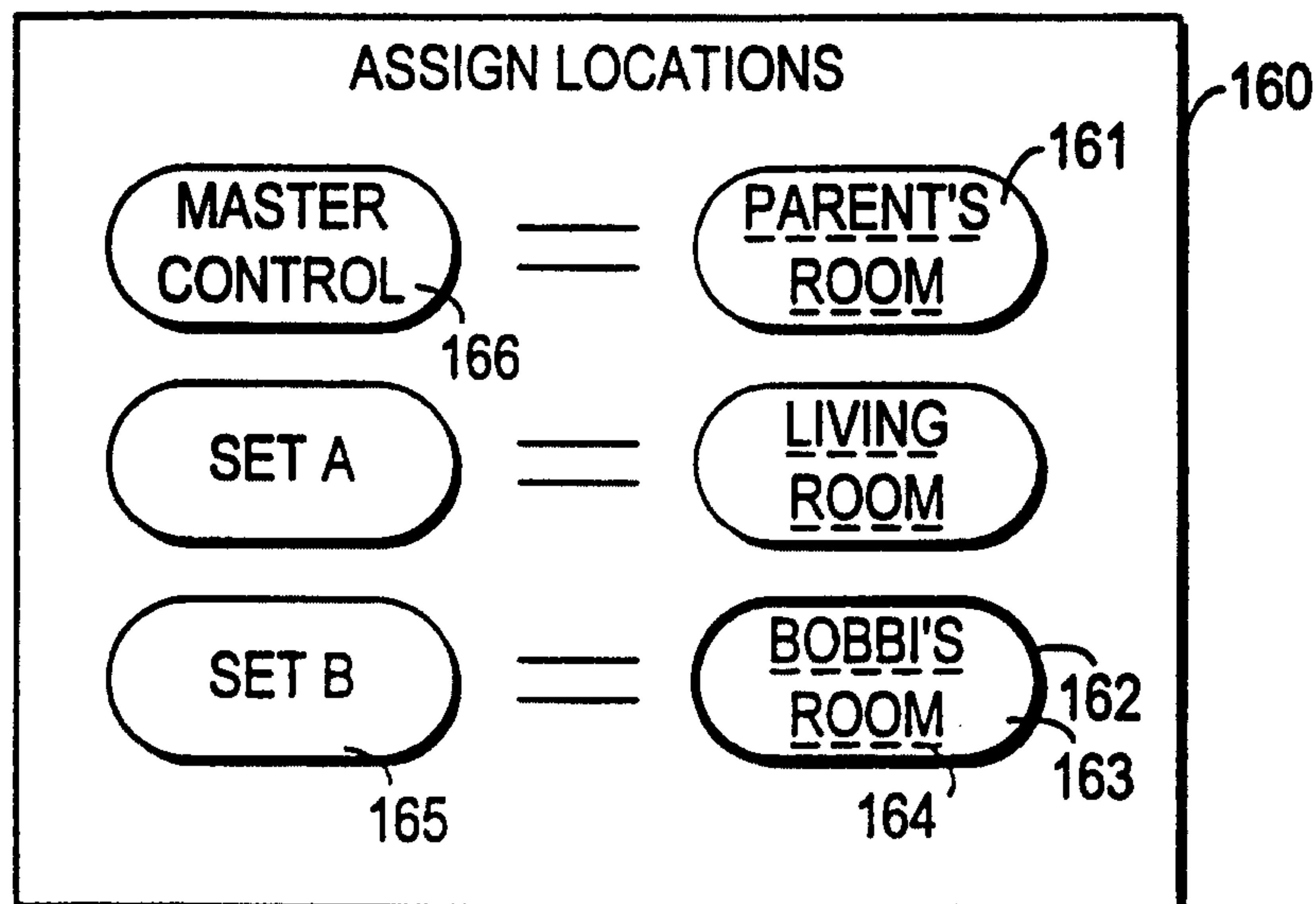


FIG. 11

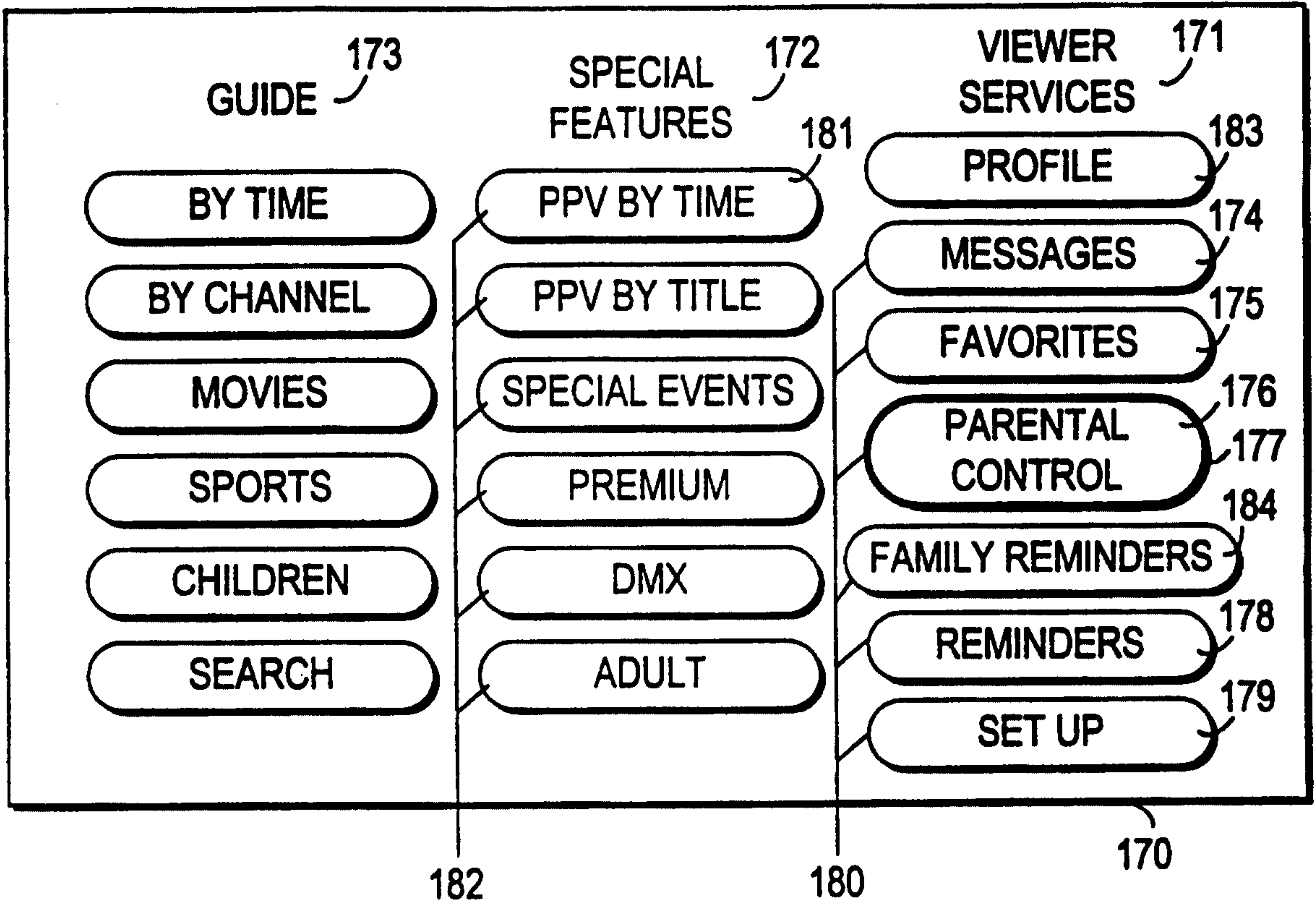


FIG. 12

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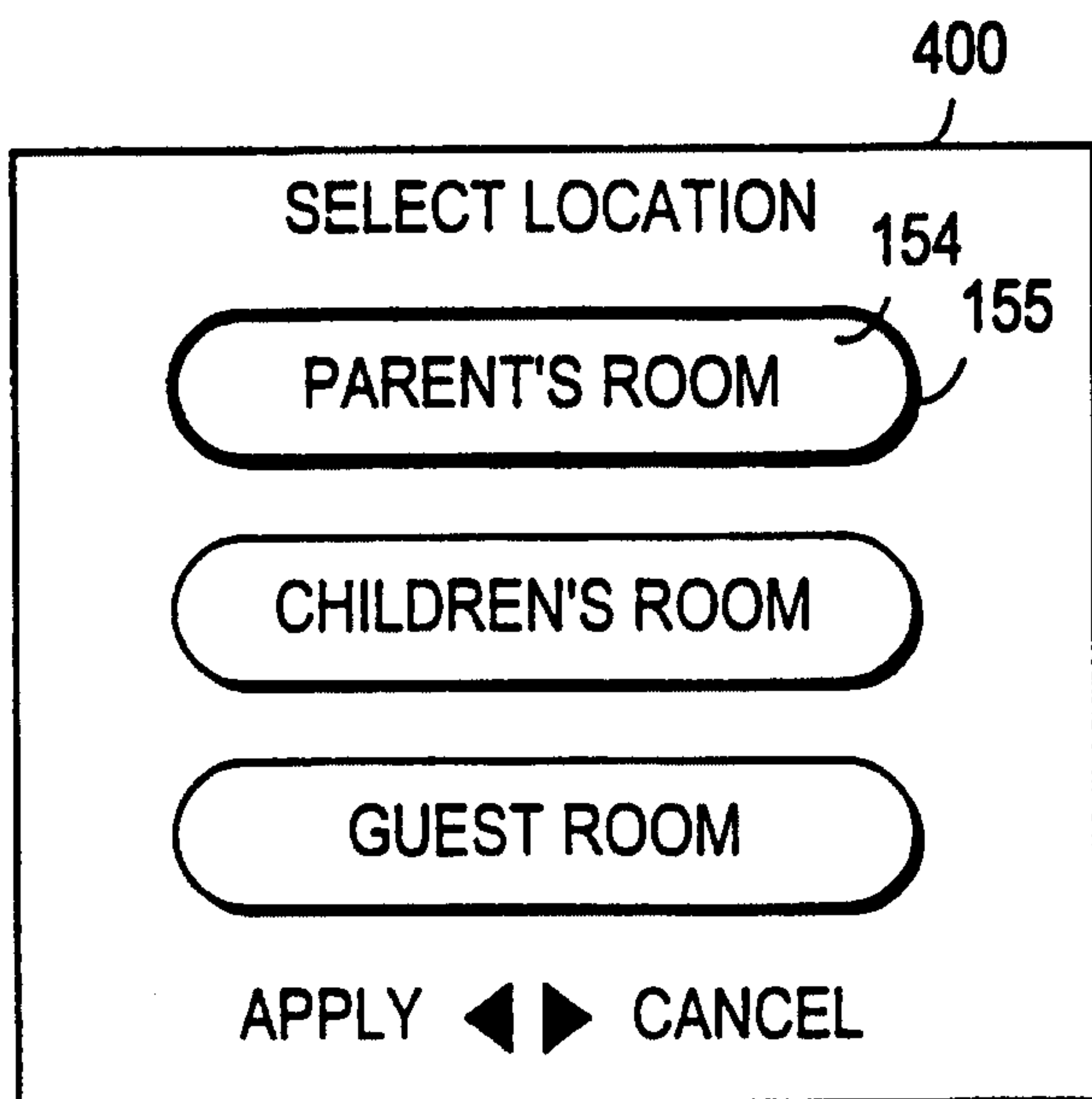


FIG. 13

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USER ADJUSTS
SETTINGS

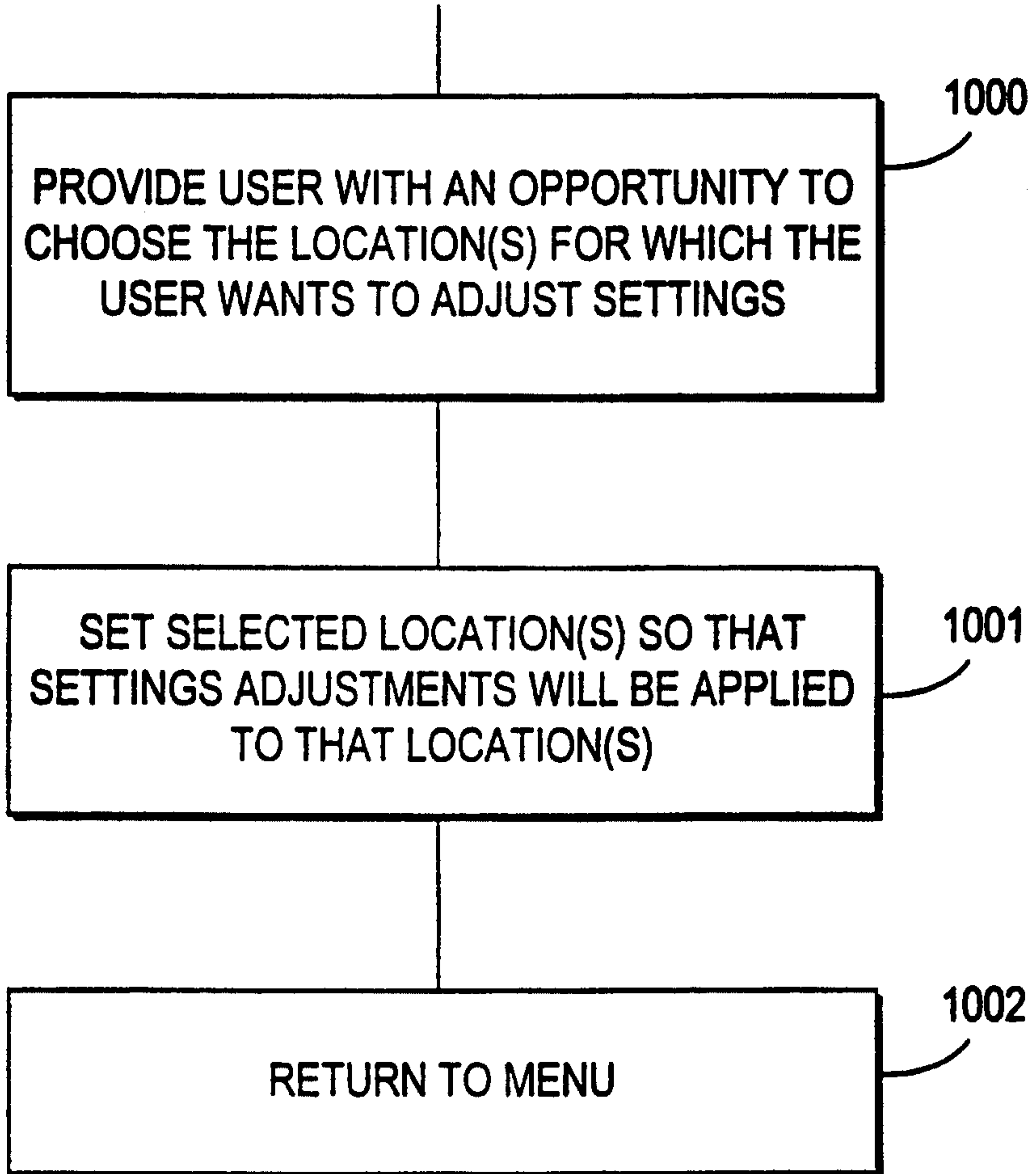


FIG. 14

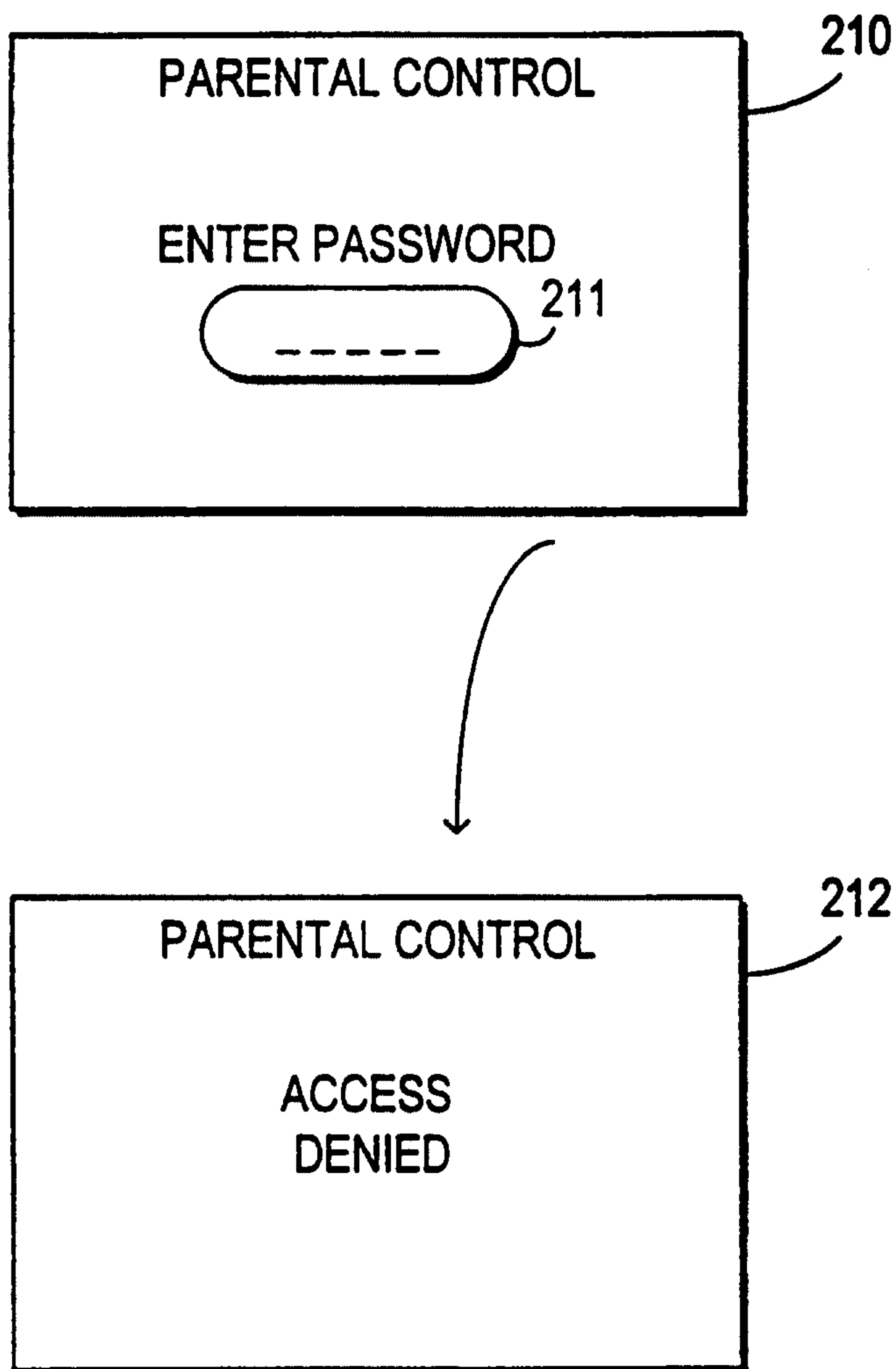


FIG. 15

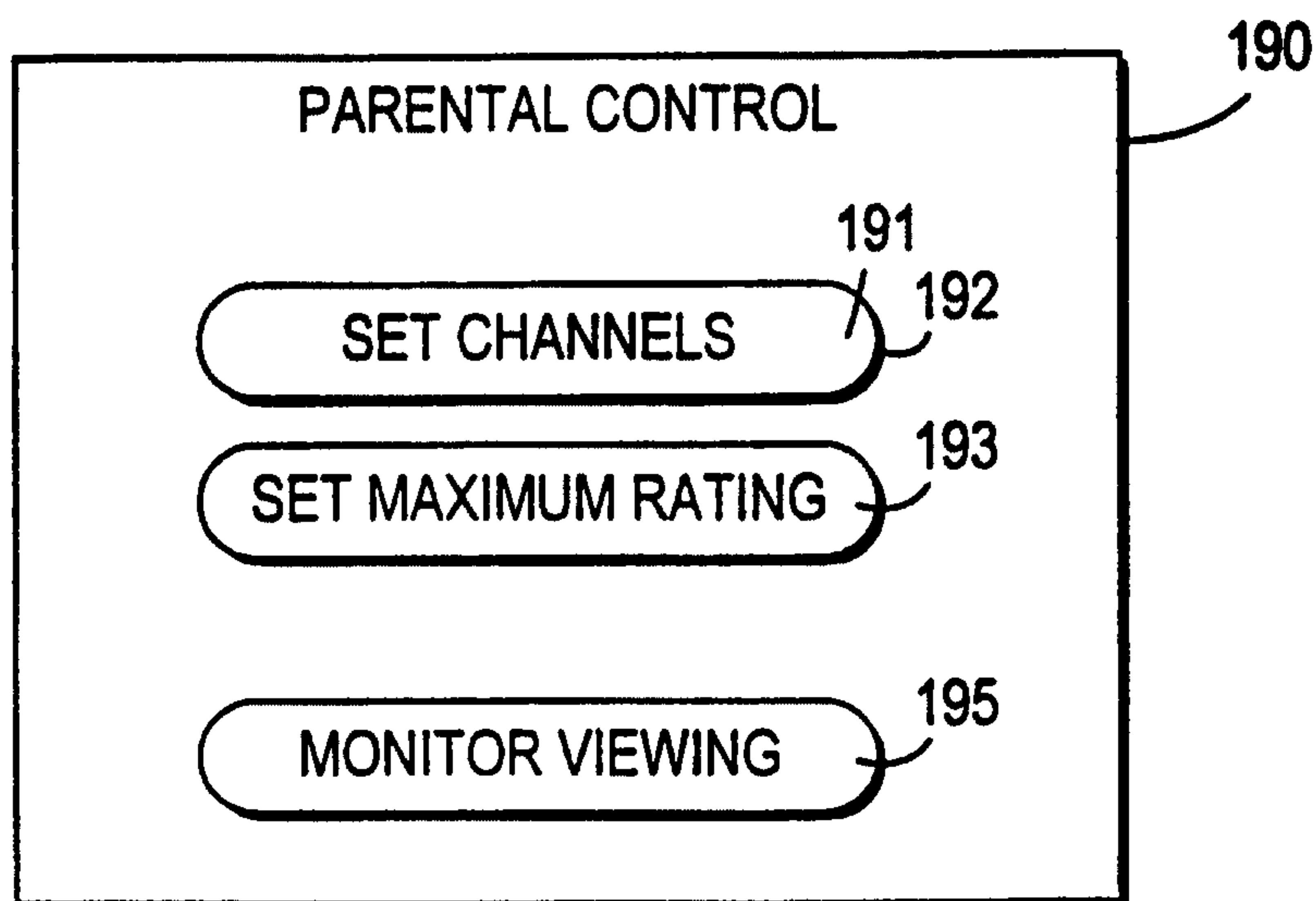


FIG. 16

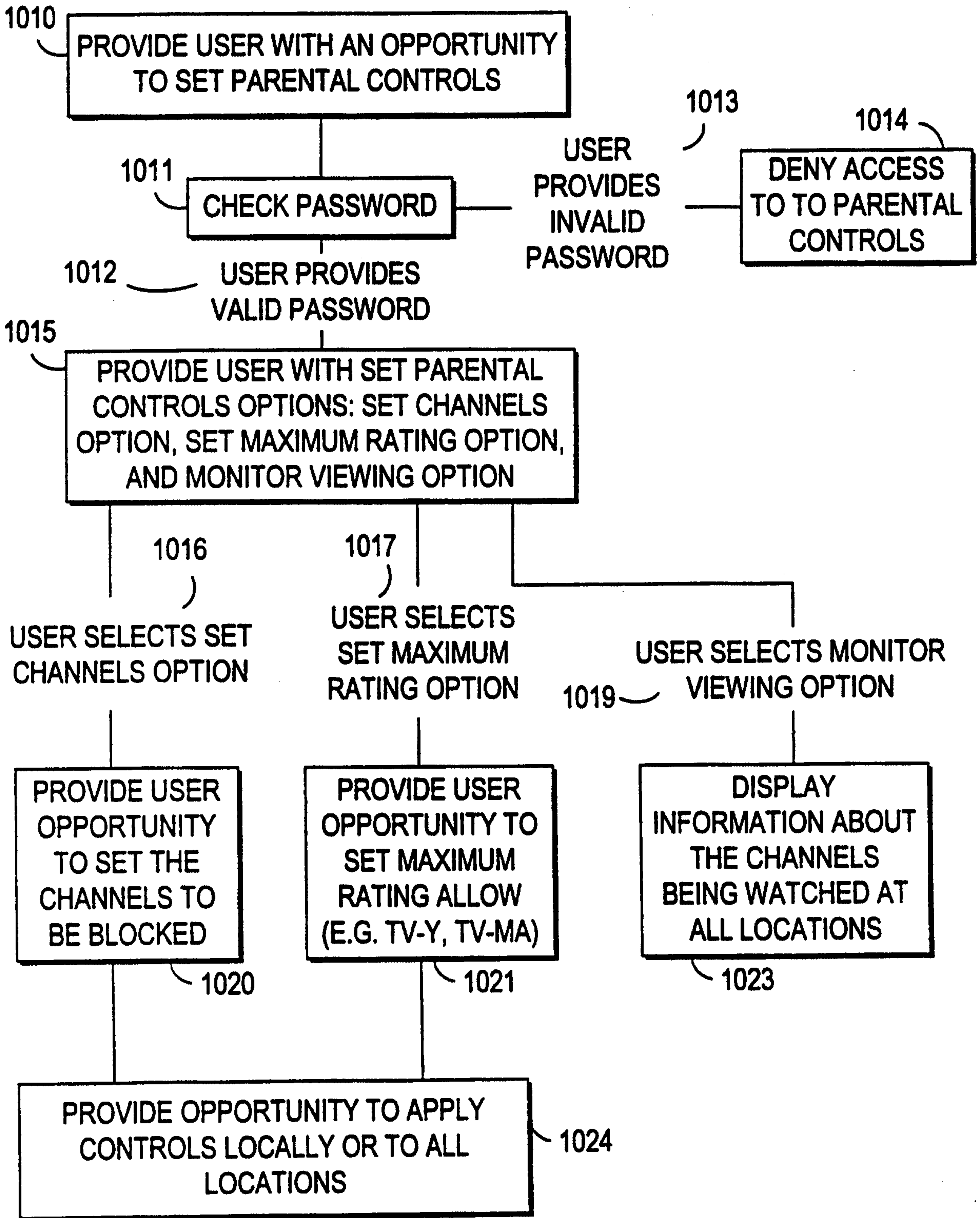


FIG. 17

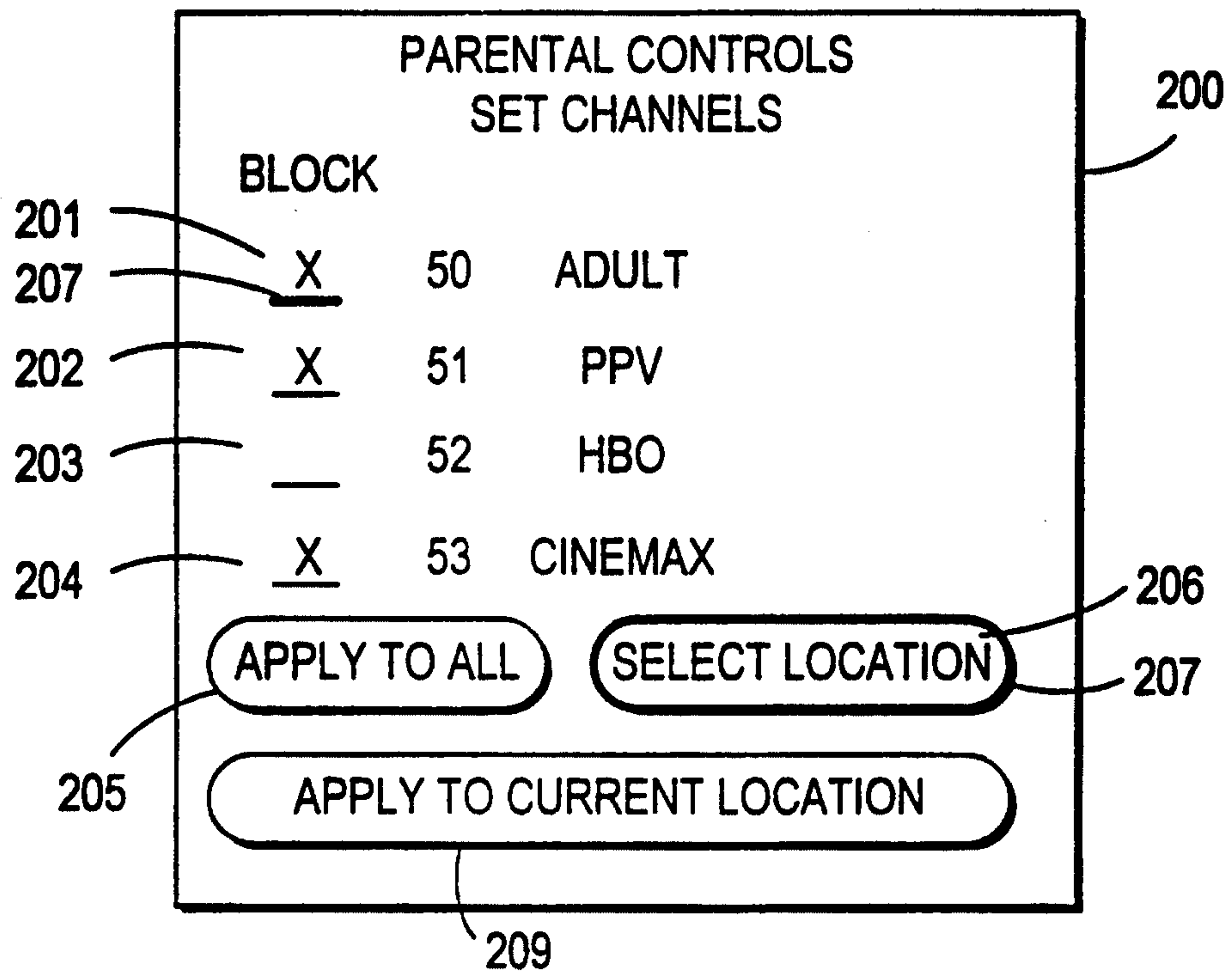


FIG. 18a

**PARENTAL CONTROLS
SET CHANNELS**

HIDE

<u>X</u>	50	ADULT
<u>X</u>	51	PPV
—	52	HBO
<u>X</u>	53	CINEMAX

APPLY TO ALL **SELECT LOCATIONS**

APPLY TO CURRENT LOCATION

BACK ◀▶ NEXT

208

FIG. 18b

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MONITOR VIEWING			
LOCATION	CH	PROGRAM	RATING
MASTER	2 TNT	MOVIE	TV-MA
CHILDREN'S ROOM	6 NICK	KEENEN + KEL	TV-Y14
GUEST ROOM	1 LOCAL	NEWS	TV-Y14

230

FIG. 19

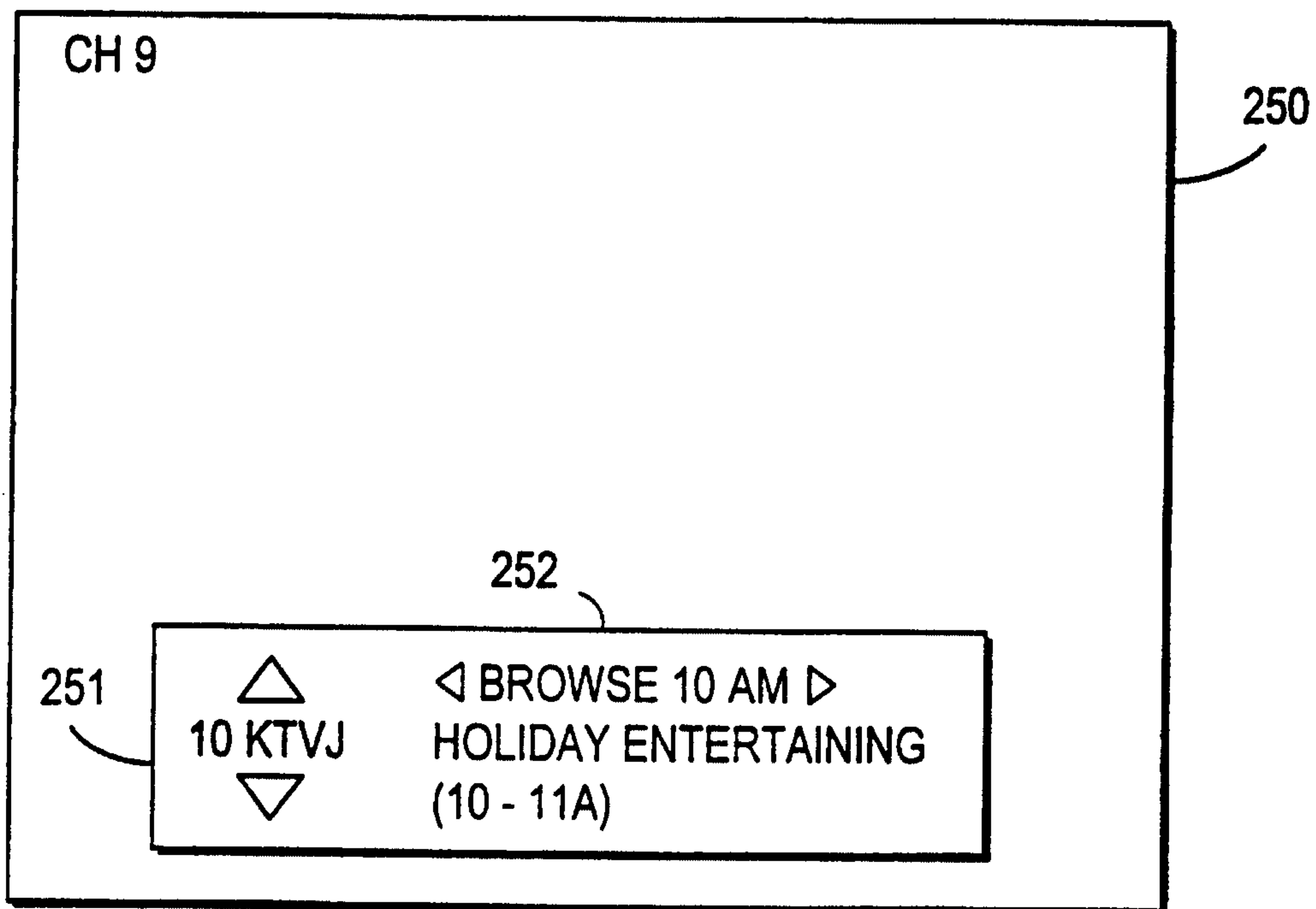


FIG. 20

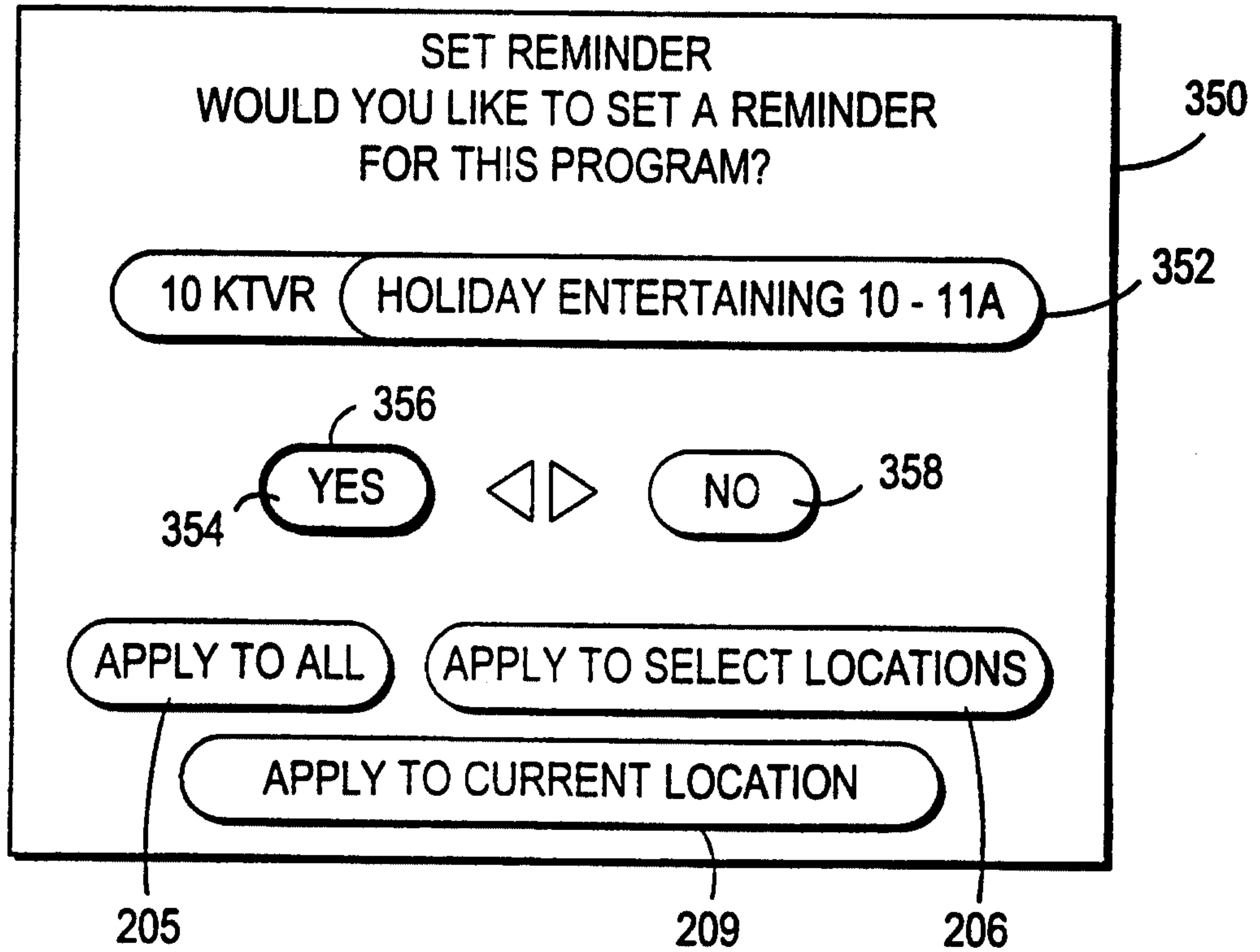


FIG. 21

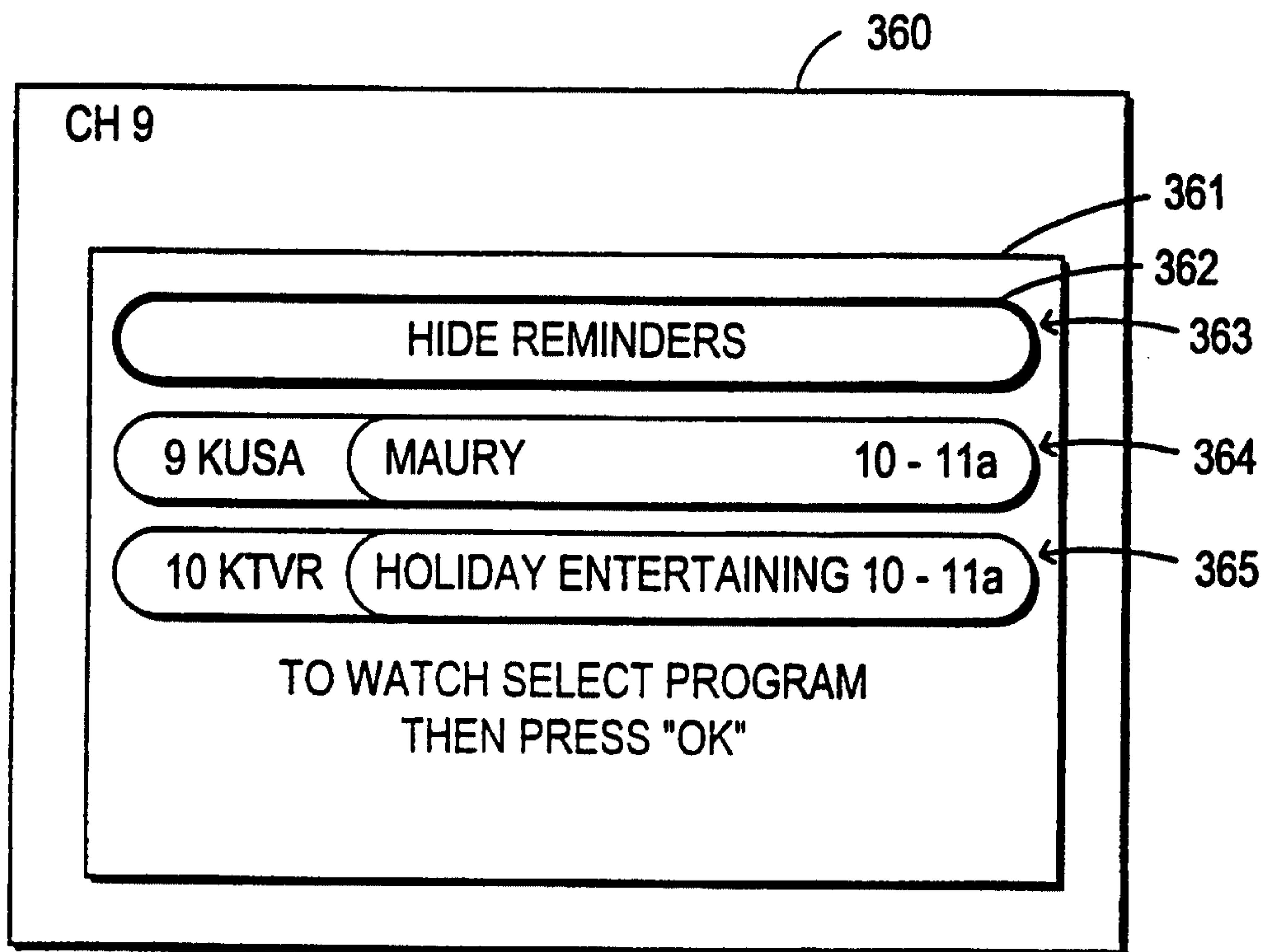


FIG. 22

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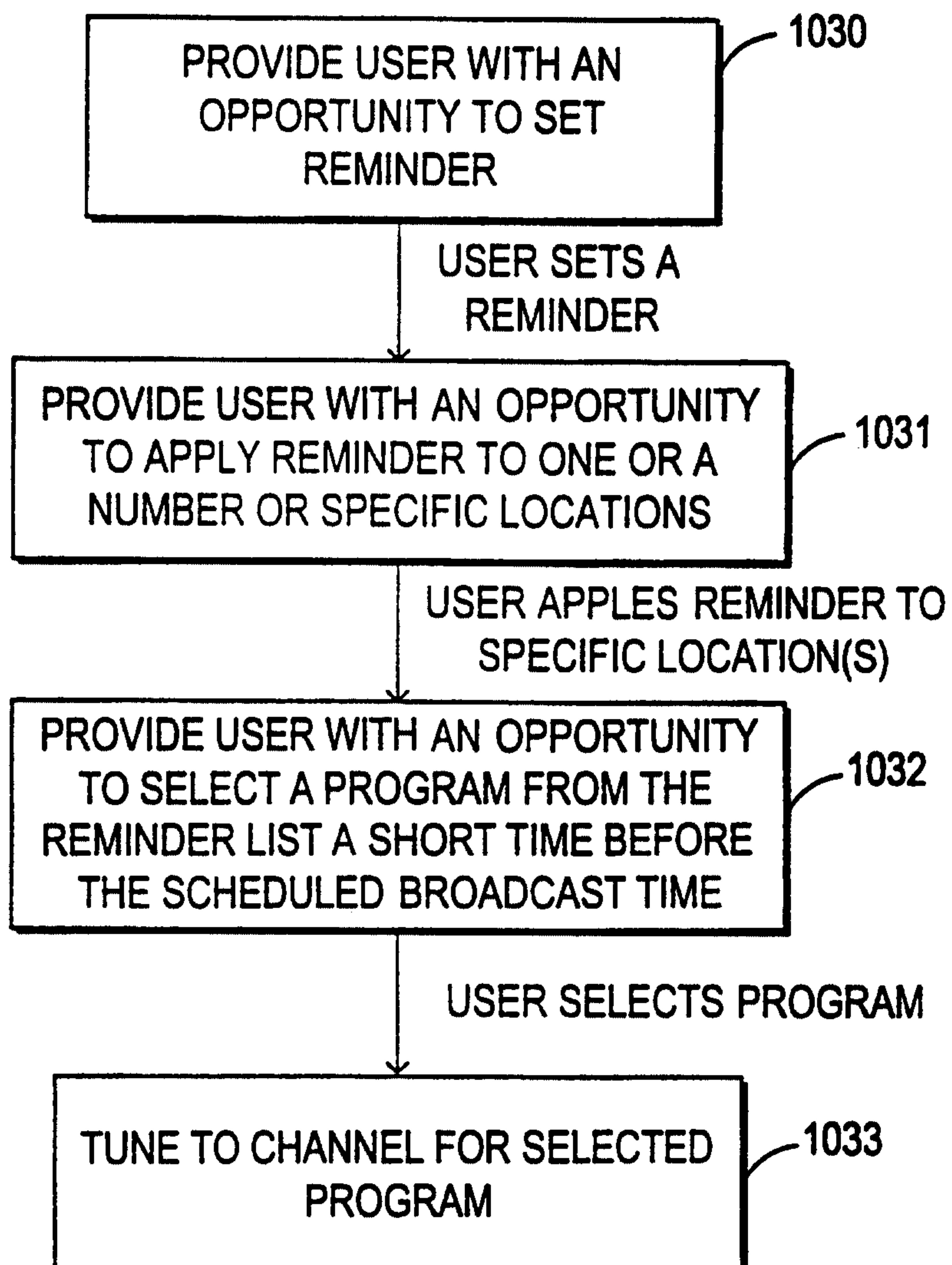


FIG. 23

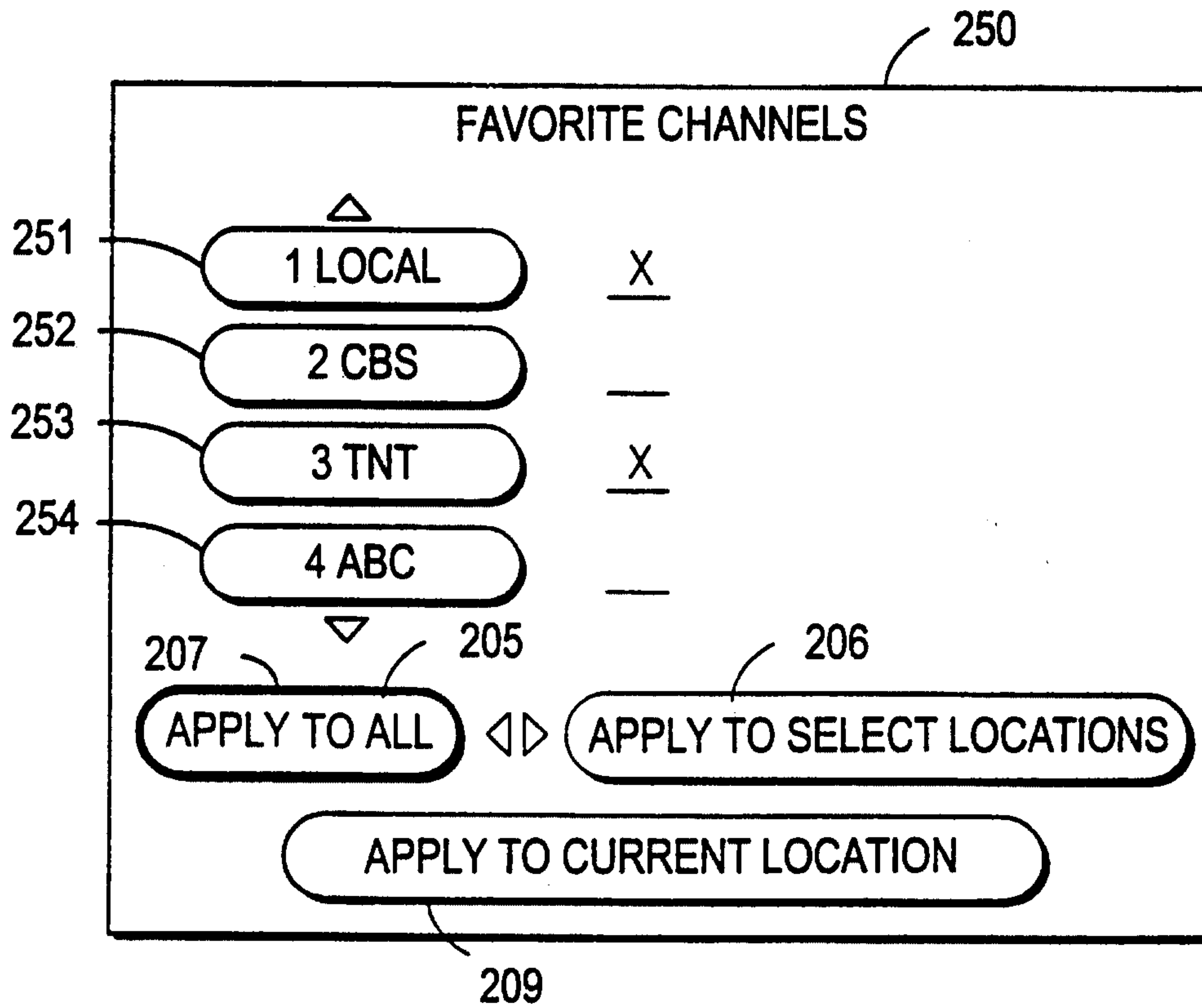


FIG. 24

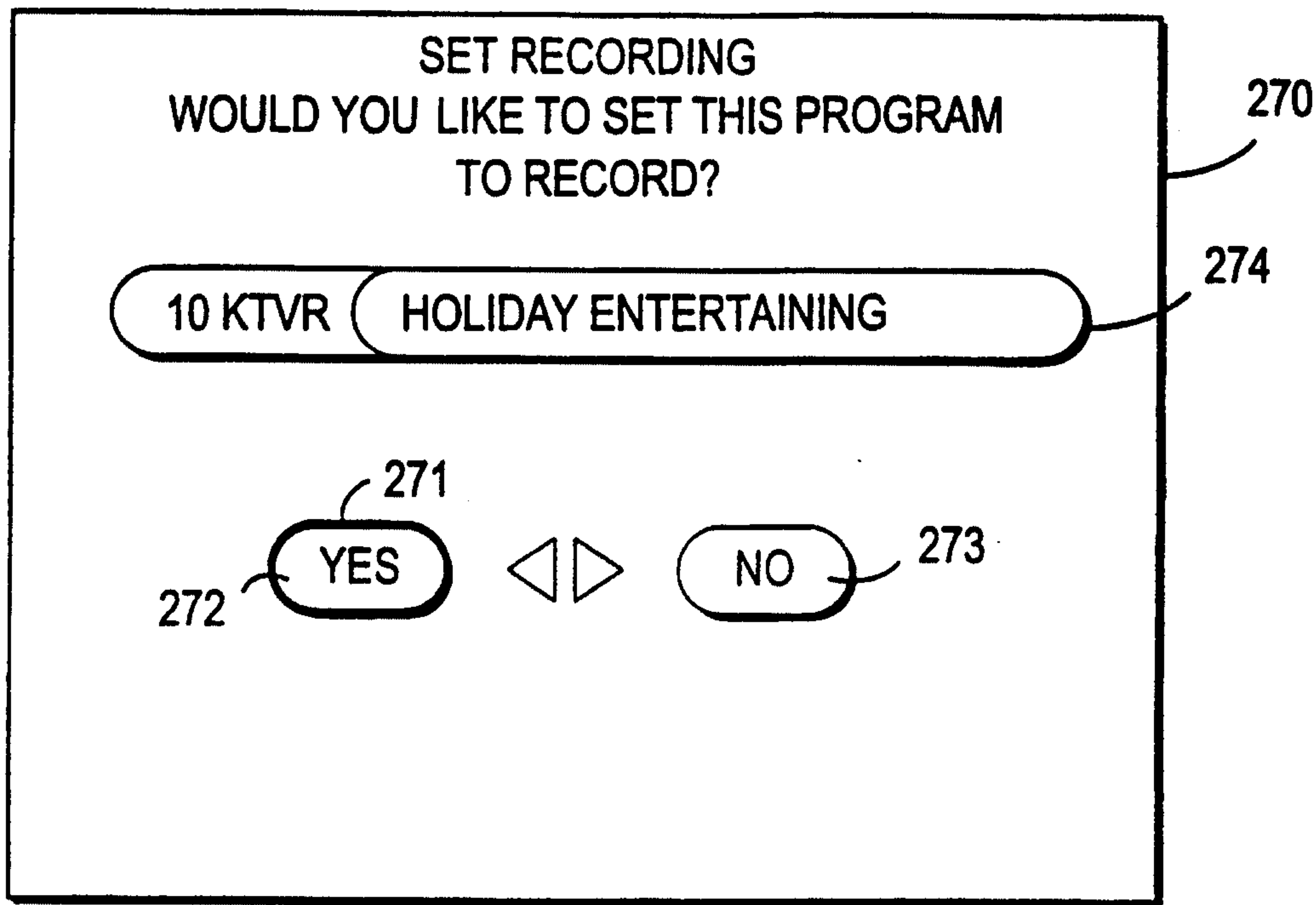


FIG. 25

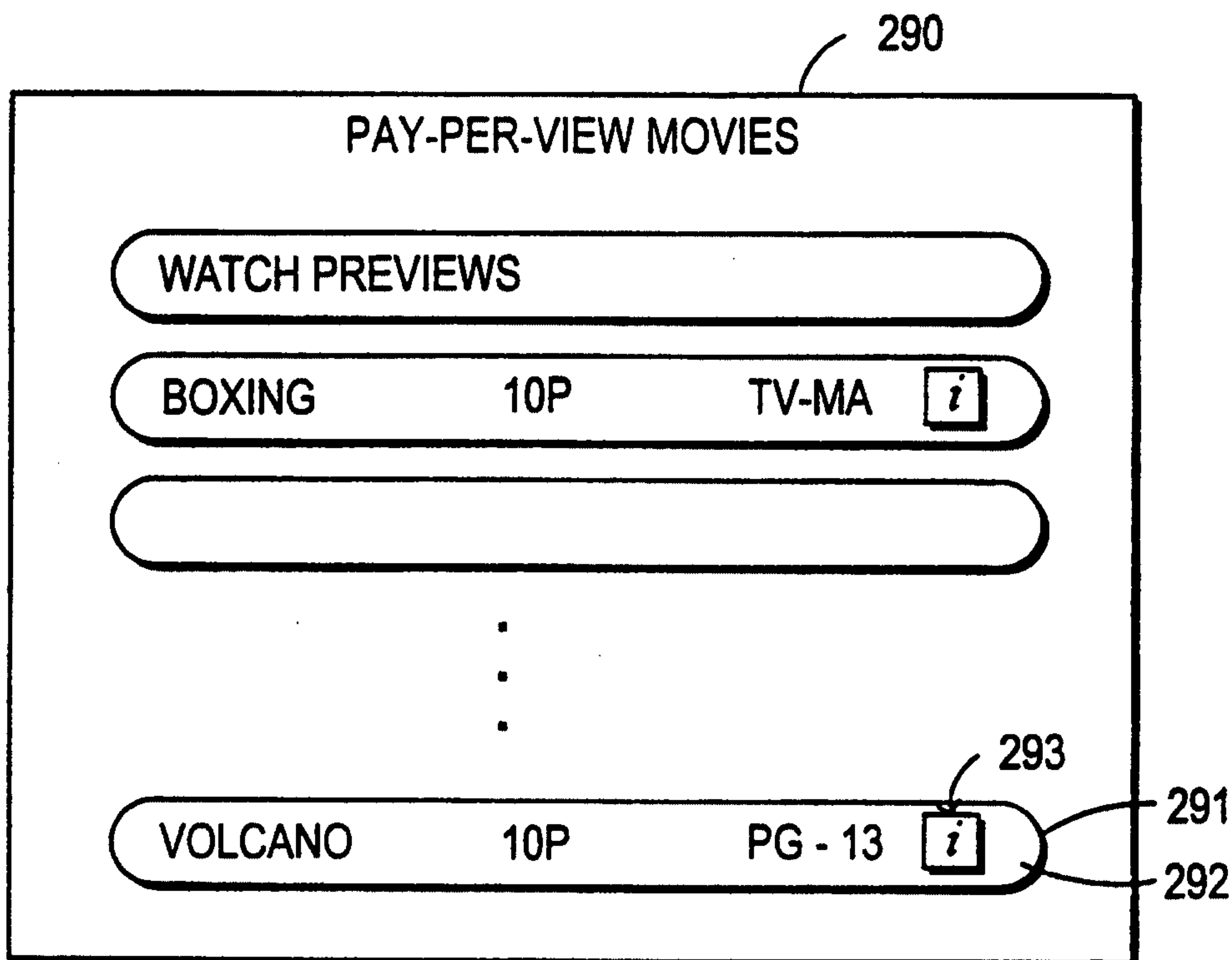


FIG. 26

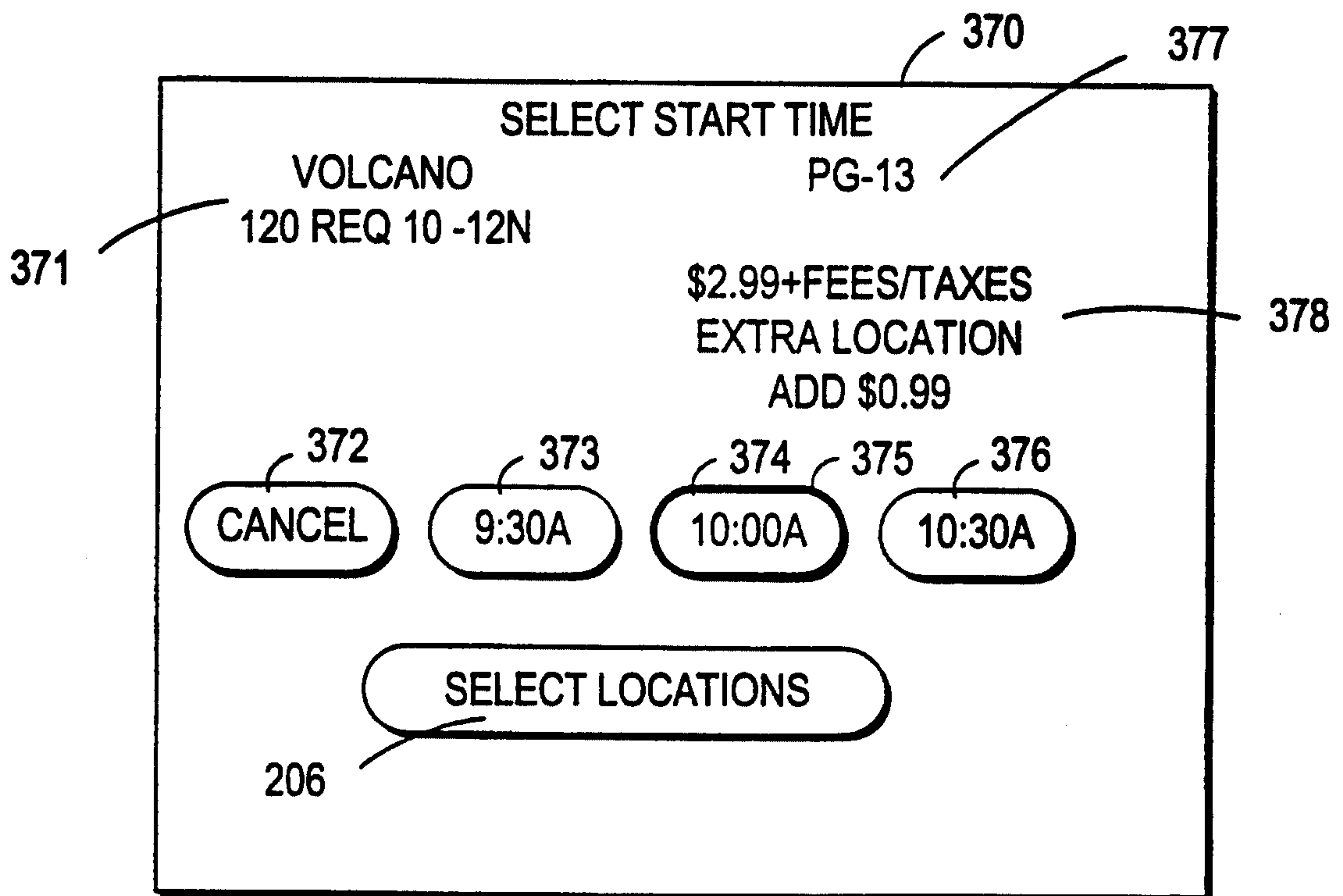


FIG. 27

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MESSAGES - RECEIVING			
<u>LOCATION</u>	<u>GENERAL</u>	<u>SERVICE</u>	<u>BILLING</u>
MASTER	ON	ON	ON
CHILDRENS	ON	OFF	OFF
GUEST	ON	OFF	OFF

ON ◀▶ OFF

300

301

FIG. 28

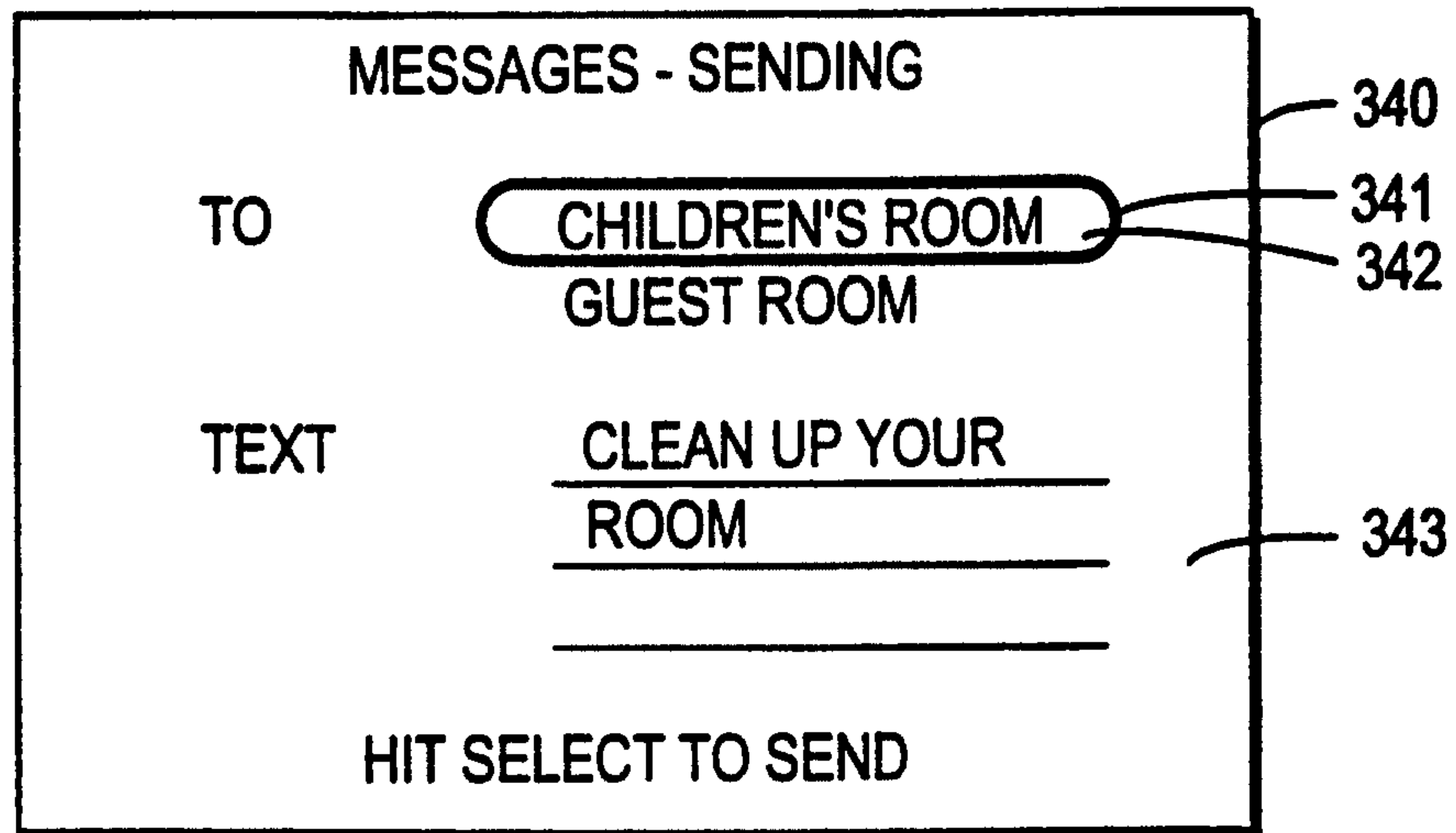


FIG. 29

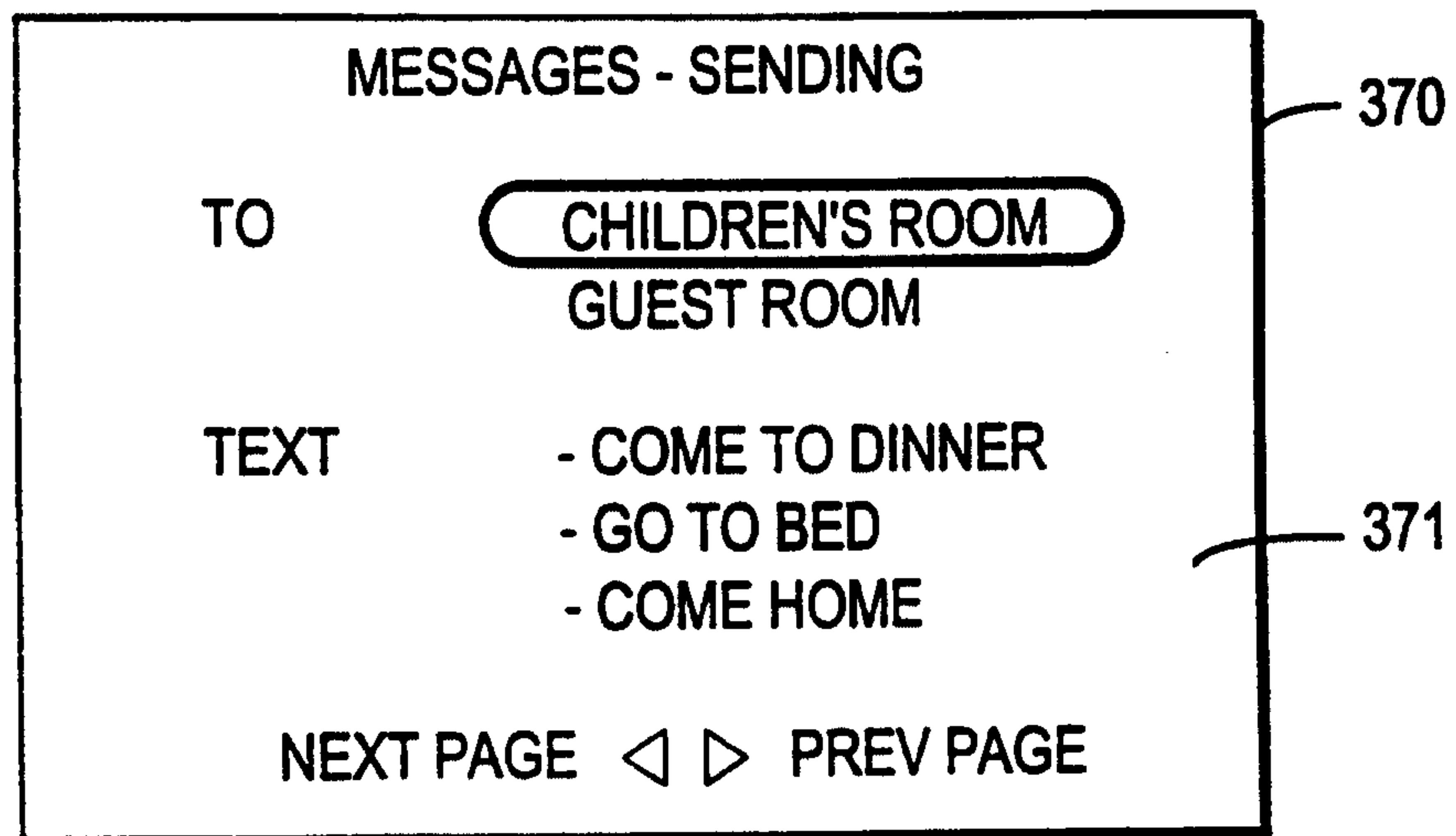


FIG. 30

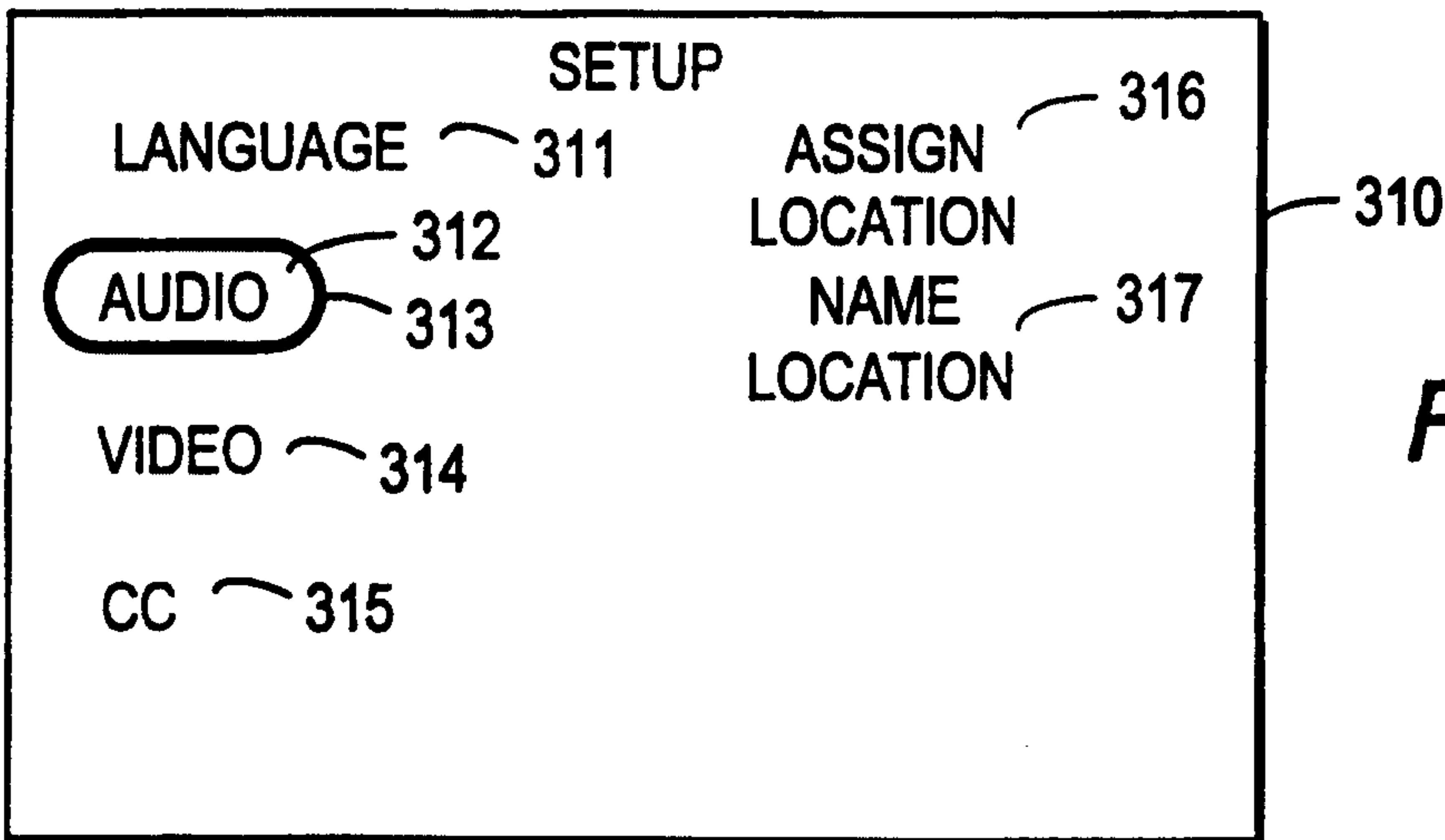


FIG. 31

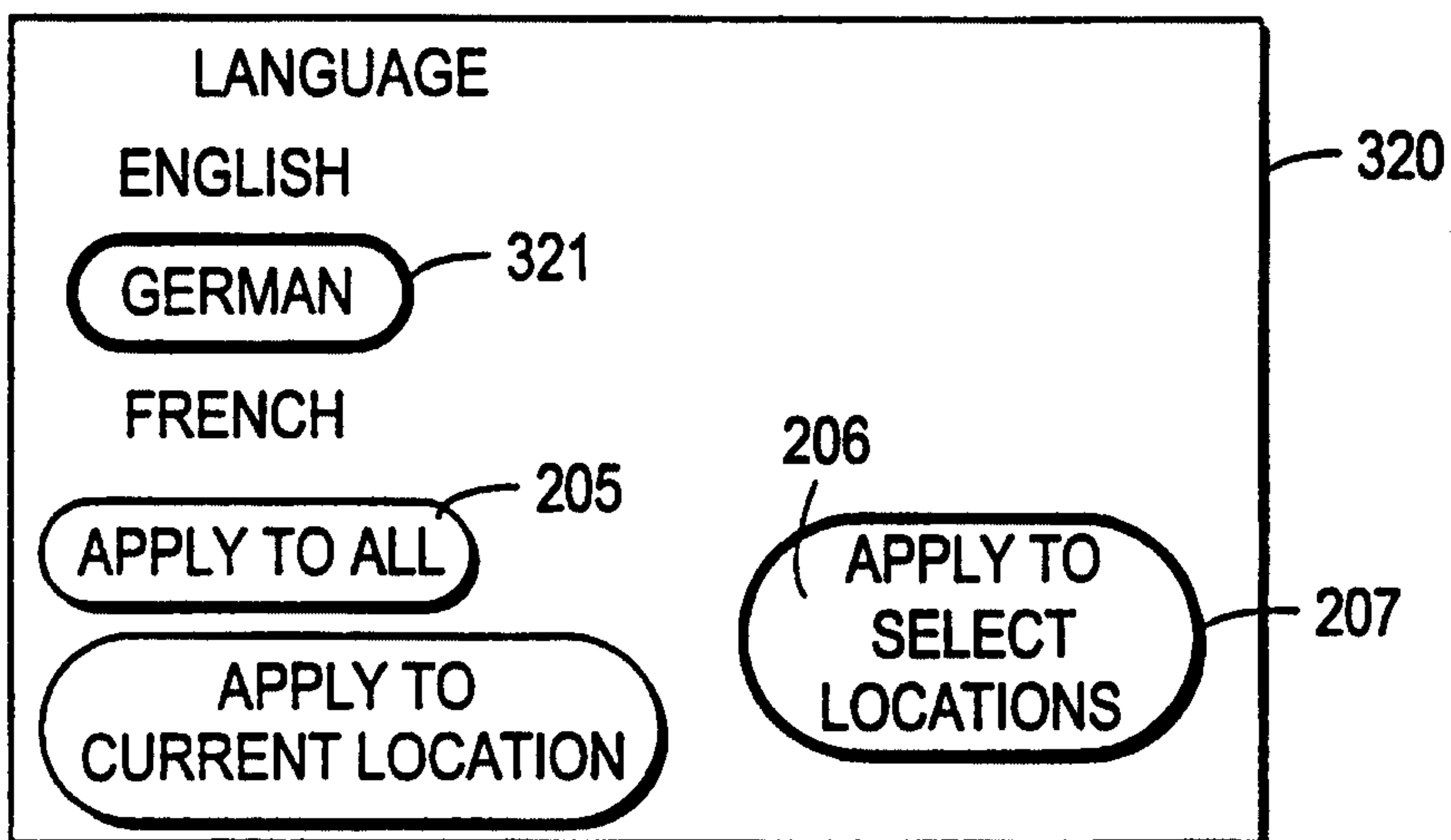


FIG. 32

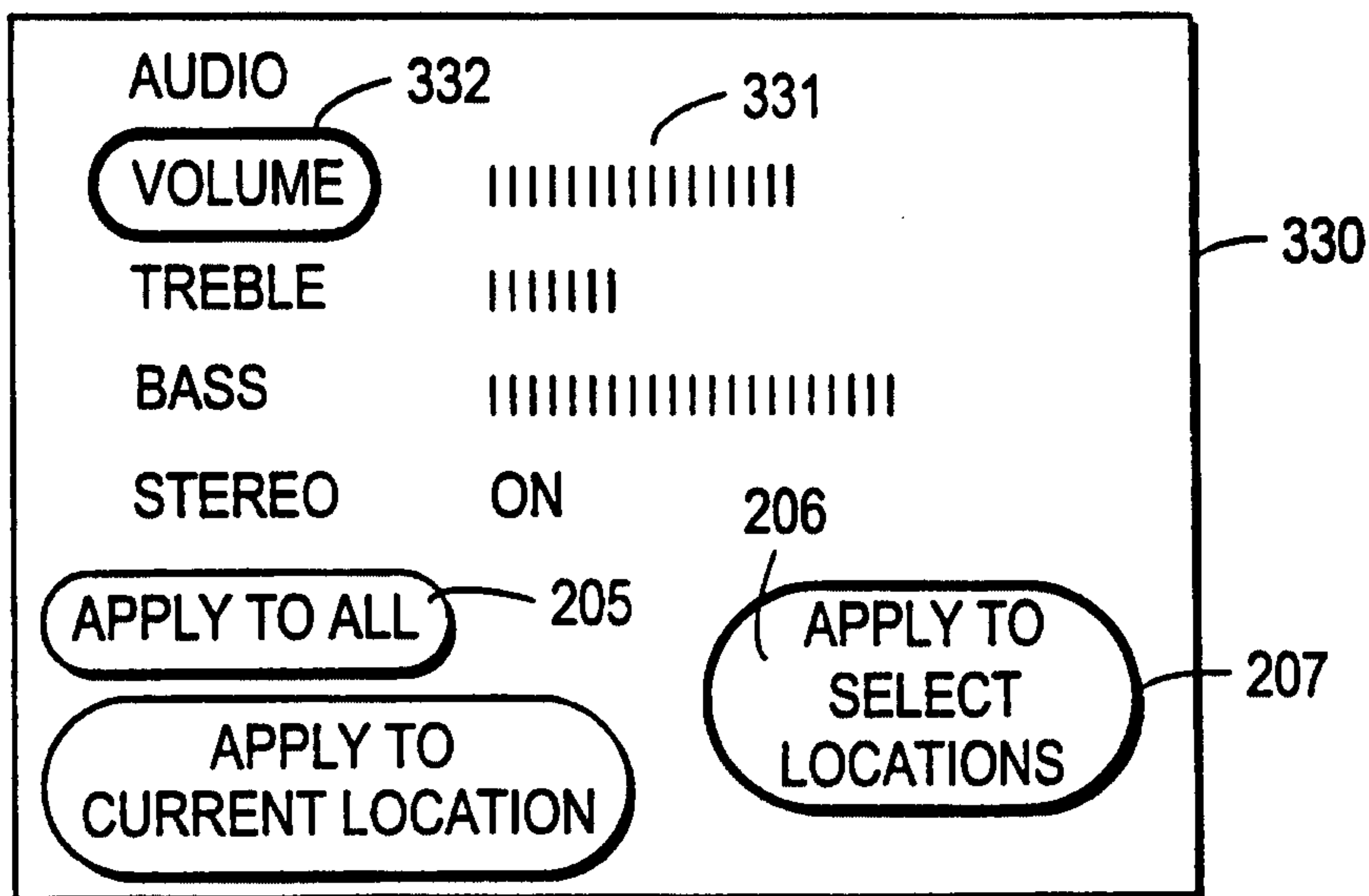


FIG. 33

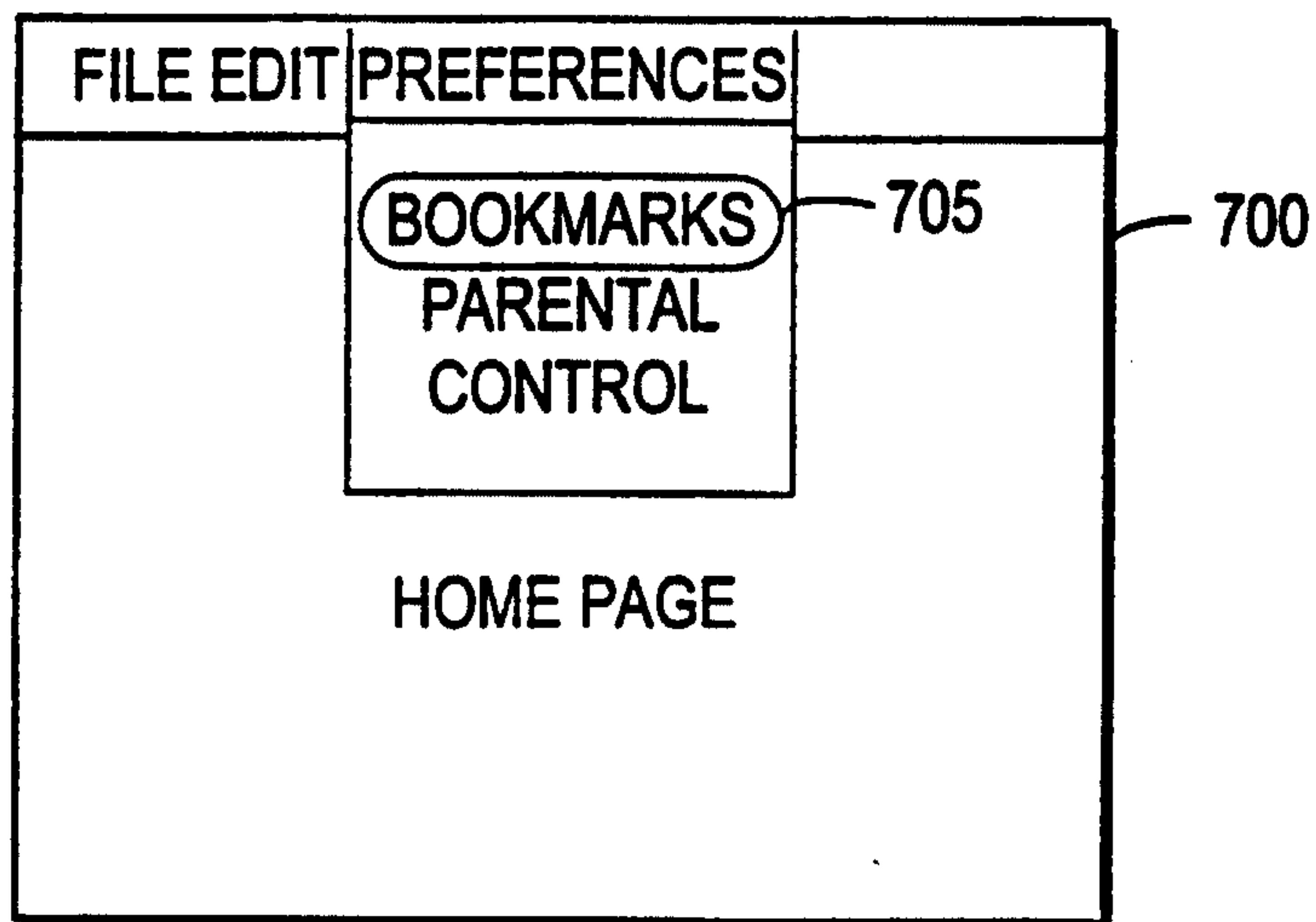


FIG. 34

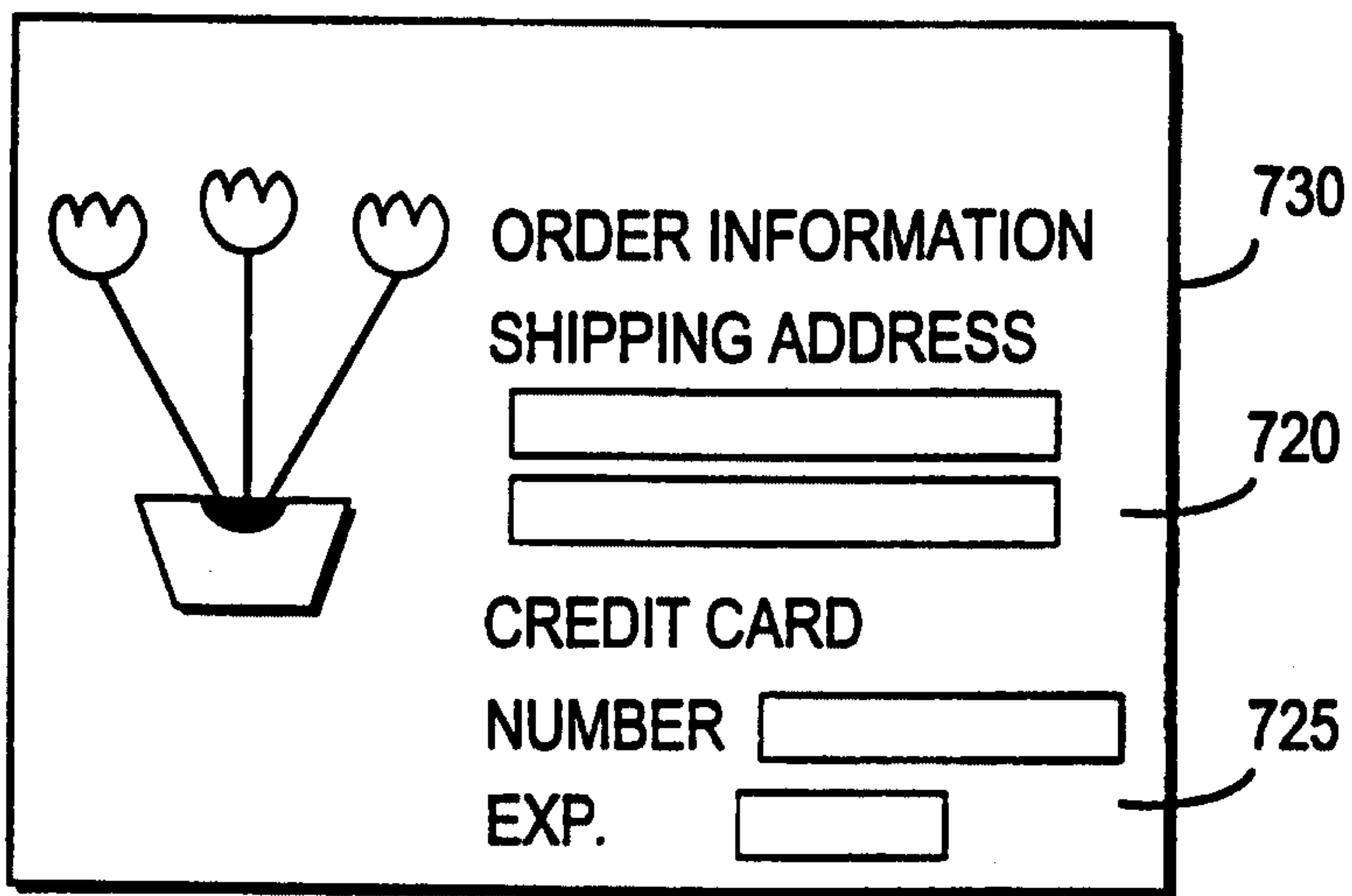


FIG. 35

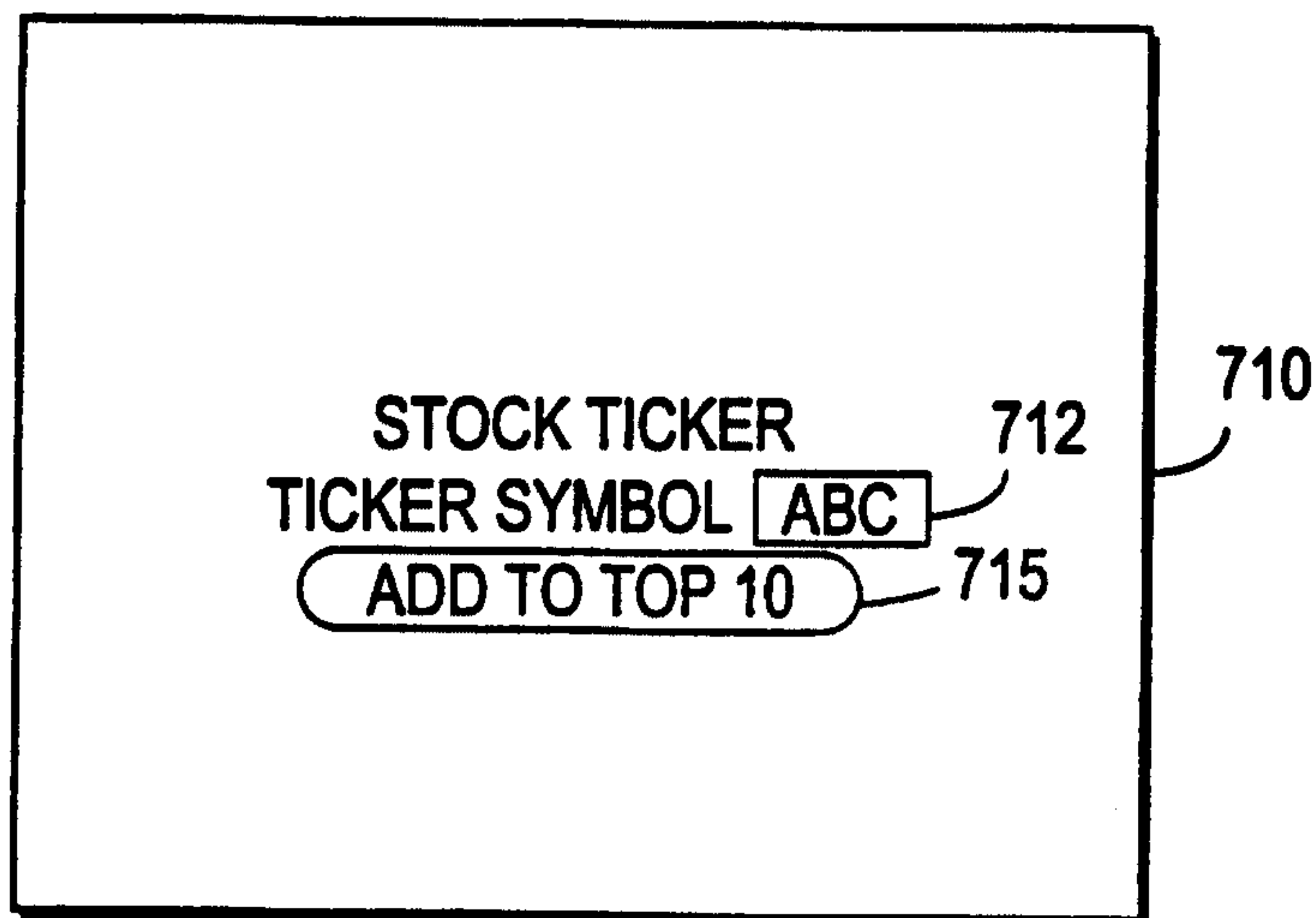


FIG. 36

