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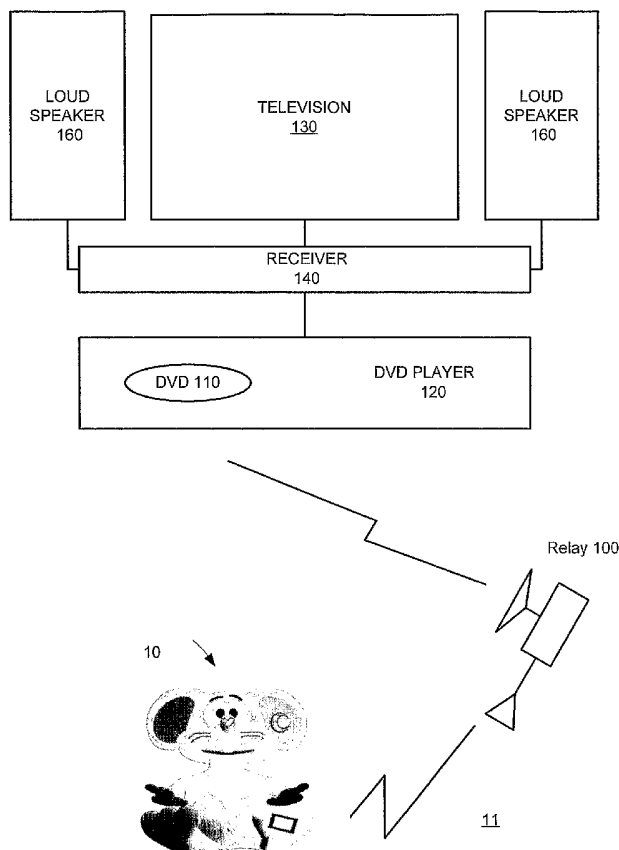
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[Continued on next page]

(54) Title: INTERACTIVE SYSTEM FOR GENERATING LOCAL AND REMOTE RESPONSES



(57) Abstract: An interactive system that includes an object, such as a toy, capable of transmitting output signals over a wireless communication link, in response to events; whereas the object is further operable to produce a local response in response to said events; and a remote response generator, operable to detect the transmitted output signal and to generate a remote response, said remote response comprises a presentation of at least one image on a display.

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INTERACTIVE SYSTEM FOR GENERATING LOCAL AND REMOTE RESPONSES

FIELD OF THE INVENTION

[001] The present invention relates to an interactive system and especially to interactive systems that includes an object, such as an interactive toy, that is wirelessly connected to a remote response generator. More specifically, the present invention relates to an interactive toy that is able to remotely produce a response in a digital video disk player.

BACKGROUND OF THE INVENTION

Interactive toys

[002] Interactive toys are known in the art. Some interactive toys operate in a stand-alone mode of operation while others are able to communicate with remote computers. U.S. patent 6159101 of Simpson entitled "Interactive toy products" describes an interactive toy that is shaped as a figure and has (i) one or more limbs, (ii) sensors for detecting movement of one of the limbs, and (iii) a processor for initiating a game playing activity when a limb is translated. The toy may further include a screen.

[003] A disadvantage of stand-alone interactive toys is their relatively limited ability to produce audio-visual effects.

[004] Interactive toys that are controlled by a personal computer are known in the art. PCT application WO 01/69799A2 of Gabai et al., entitled "Methods and apparatus for integration of interactive toys with interactive television and cellular communication systems" is believed to provide an adequate description of the state of the art. This PCT patent application as well as the patents referred to in said application are incorporated herein by reference.

[005] One of said reference is U.S patent 5,752,880 of Gabai et al that describes an interactive system that includes a personal computer and a toy with one or many sensors and actuators including a microphone and a speaker that are connected, via a wireless communication link, to the personal computer. The

computer runs programs to control the toy.

[006] PCT application WO 01/69799A2 describes a system that enables remote computers to control the toy. Accordingly, the toy may be connected to a first computer, which in turn is connected via a network to other computers, and/or servers that are able to control the toy, via the first computer.

[007] The mentioned above devices are costly and require to access computers, which are less user friendly than other devices such as home cinema systems and are usually not accessible to small children and babies. Furthermore, computers are usually not located within the saloon or other rooms in which the family gathers together on in which little children or babies play.

[008] Some prior art interactive toys claim to have voice recognition capabilities. Prior art voice recognition systems and methods are not effective and are usually quite costly. Furthermore, voice recognition has little use in toys that are operated by small children and babies.

Digital Video Disk Players

[009] DVD player are known in the art. Some DVD players have video encoding capabilities, while other DVD players have additional processing capabilities. A typical DVD player includes (i) a controller that controls the DVD player components, (ii) data retrieval unit that retrieves information stored on DVDs, (iii) a media processor (such as video encoder, and especially MPEG encoder), and (iv) output interfaces for providing amplified audio and video signals. These amplified signals may be provided to displays and loudspeakers, accordingly. The data retrieval unit usually includes (i) a drive motor that spins a DVD, (ii) optical assembly that illuminates the DVD with a laser beam and reads the information stored on the DVD, (iii) a tracking mechanism for controlling the movement of the laser beam so that the laser beam can scan the spiral data tracks of the DVD, and (iv) a signal reproducing device for providing amplified digital signals to the media processor.

[0010] Remote control units, usually emitting infrared signals, can control DVD players. DVD players are able to receive data retrieval commands as well as DVD menu browsing and selection commands. U.S. patent 6141004 of Jeong is

believed to provide an adequate description of a DVD player as well as of a method for playing menu in DVD player.

[0011] There is a need to provide a cost effective interactive toy that may be effectively be used by babies and small children.

[0012] There is a further need to provide an interactive toy that can be operated either with or without additional devices and communication links.

[0013] There is a further need to provide interactive objects such as an interactive toy, an interactive key-chain books, calculators, mouse pad, and the like.

SUMMARY OF THE INVENTION

[0014] The invention provides a method for producing a local response and a remote response, the method includes: (i) producing, using an object, a local response and producing at least one output signal in response to a detection of an event; (ii) receiving, by a remote response generator, said at least one output signal; and (iii) producing a remote response, by the remote response generator, in response to the received at least one output signal.

[0015] The invention provides an interactive system the includes: (i) an object capable of transmitting output signals over a wireless communication link, in response to events; whereas the object is further operable to produce a local response in response to said events; and (ii) a remote response generator, operable to detect the transmitted output signals and to generate a remote response, said remote response comprises a presentation of at least one image on a display.

[0016] The invention provides an interactive system that includes: (i) an object capable of transmitting output signals over a wireless communication link to be received by a remote response generator, in response to events; whereas the object is further operable to produce a local response in response to said events, and (ii) a storage media, storing executable code and information to be accessed by the remote response generator and for causing the remote response generator to respond to the output signals by providing a remote response, said remote response comprises a presentation of at least one image on a display.

[0017] The object may be a toy, book, a calculator or a key chain.

[0018] Conveniently, the remote response generator is not a personal computer and preferably is a DVD player. The DVD player may have processing capabilities in addition to video decoding capabilities. In such a case the complexity of the output signals can be reduced, and the variety of commands can be relatively broad.

[0019] Conveniently, the storage medium is a Digital Video Disk.

[0020] Conveniently, the remote response generator is a set top box that is capable of receiving audio-visual content from a remote content provider (such as a Hub, Head-end and the like) via a communication network (including cable network, satellite network) and the like.

[0021] The DVD player may be adapted to receive a limited amount of control signals, such as data retrieval commands (such as but not limited to "play", "fast forward", "frame advance", "skip chapter", "skip title", "select title", "select chapter", "fast reverse", "stop" and "pause" and the like).

[0022] Some DVDs include menu structures called DVD menus. The DVD menus may include DVD sub-menus. The object may then transmit output signals representative of browsing and selection commands, for DVD menu browsing and selection of items. According to an aspect of the invention the DVD player is able to execute dedicated software that contains instructions to display images in response to the received output signals. The software, as well as information that is required for generating a remote response may be recorded on a DVD. Said DVD shall be inserted into the DVD player in order to allow interaction with the object.

[0023] According to another aspect of the invention the system includes a relay, for converting output signals transmitted by the object such as to allow their reception (and processing) by the remote response generator. The relay may convert the signals frequency and/or amplify the output signals signals. The relay may also perform modulation and de-modulation operations.

[0024] The invention provides an object that includes at least one sensor for detecting events. The events may involve movement of the object, relative

movement introduced between a part of the object to other parts of the object, acceleration or de-acceleration of the object, contacting the object or one of the object parts, contacting a shape associated part of the object, contacting a color associated part of the object, heating or cooling the object or its vicinity, approaching the object and the like. Accordingly, the events may include a part related event, a shape related event, a color related event and a combination thereof, as well as other events. It is noted that the term "contacting" includes pressing a part of the object, touching a part or the object and the like. Conveniently, each event triggers a different local and/or remote response. [0025] Conveniently, the object does not have voice recognition capabilities.

BRIEF DESCRIPTION OF THE DRAWINGS

[0026] The present invention is herein described, by way of example only, with reference to the accompanying drawings, wherein:

[0027] Figure 1 is a schematic description of an interactive system, in accordance with an embodiment of the invention;

[0028] Figure 2 is a schematic description of the electrical circuitry of a toy, in accordance with an embodiment of the invention;

[0029] Figure 3 is a schematic description of an interactive system, in accordance with another embodiment of the invention;

[0030] Figure 4 is schematic illustration of an exemplary displayed menu, in accordance with a further embodiment of the invention;

[0031] Figure 5 is a flow chart illustrating a method for providing remote and local response, in accordance with embodiments of the invention;

[0032] Figure 6 is a schematic illustration of an interactive system, in accordance with an embodiment of the invention;

[0033] Figure 7 is a schematic illustration of an interactive system, in accordance with a further embodiment of the invention;

[0034] Figure 8 provides a more detailed view of an object, in accordance with an embodiment of the invention.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

[0035] The detailed description that follows is intended only to illustrate certain preferred embodiments of the present invention. It is in no way meant to limit the scope of the invention, as set out in the claims.

[0036] System 11 of Figure 1 includes: (i) an object, such as toy 10, (ii) a relay 100 and (iii) a remote response generator, such as Digital Video Disk (DVD) Player 120. Toy 10 is able to sense events, such as a relative movement of a part of the toy (for example a movement of the toy's arm in relation to the toy's torso), a contact with the toys parts, and the like, and in response to generate output signals and provide a local response.

[0037] Referring to Figure 2, illustrating the internal components of toy 10. For convenience of explanation the shaped symbols were omitted, in order to show contact sensors, such as buttons 14, located within toy 10. Buttons 14 are positioned such as that when a user presses a shaped symbol he actually presses a button. Sensors 14 are electrically connected to processor 16 that in turn is also connected to wireless transmitter 18, speaker 20 and digital to analog converter 22. Processor 16 controls the operation of the toy 10.

[0038] Toy 10 may be capable of providing a visual local response, either instead of the audio response and/or in addition to said local response). Accordingly, toy 10 may include light emitting diodes or other light emitting devices for providing visual local response.

[0039] Processor 16 is operable to receive signals from sensors 14 indicating that an event occurs and in response control a generation of a local response. Said local response may be provided by sending digital signals from processor 16 to DAC 22 to be converted to analog signals that are then provided to speaker 20. Processor 16 also is capable of sending signals to wireless transmitter 18 to be transmitted over a wireless link to DVD player 120.

[0040] According to another embodiment of the invention toy 10 further include a receiver (not shown) for receiving signals (either directly or via a relay) from remote response generator. The remote response generator can control toy 10 by those signals but can also send said signals to indicate its status, for example

whether it is able to interact with toy 10.

[0041] For simplicity of explanation various components of toy 10 are not shown, said components may include a power supply, such as a battery and a battery housing, said battery being rechargeable or not.

[0042] It is noted that the shape of toy 10 as well as the exact configuration of its components and/or the type of sensors within toy 10 may vary without exceeding the scope of the invention. For example, the toy may include movement sensors and/or part movement sensors, as well as acceleration sensors, touch sensors, proximity sensors, radiation sensors and/or heat sensors. Each sensor or combination of sensors may trigger a certain remote and local response. The acceleration and de-acceleration sensors can provide an indication that the toy was dropped, and the heat sensor can indicate that the toy is overheated, but this not necessarily so.

[0043] The toy may resemble real or imaginary figures, animals, humans, tools, vehicles and the like.

[0044] Methods of sensing an object movement or a relative movement of an object part in relation to other parts are known in the art. For example, a relative movement can be detected by tracking the movement of a joint that connects two parts of the object to each other. The movement can be also detected by movement sensors, such as a sensor that includes a movable part that may change its position in response to a movement or even acceleration of the object. An exemplary sensor that detects a movement of a toy limb is described at U.S. patent 6159101 of Simpson. Each of the prior art methods may be implemented.

[0045] Wireless transmitter 18 can be operable to transmit radiation of various types, such as infrared radiation, radio frequency radiation, acoustic waves and the like.. It is noted that the wireless transmitter may be adapted to generate output signals that are received by the remote response generator reception capabilities, but this is not necessarily so. Accordingly, a signal converter, such as relay 100 may be positioned such as to receive the signals outputted from toy 10 and provide the converted signals (or a representation of said signals) to the remote response generator. Said conversion may include amplification and/or

frequency conversion. Typically, remote response generators, such as DVD player 120 are capable of receiving signals in the infrared (IR) frequency range, while toy 10 may be able to transmit Radio Frequency (RF) signals. In such a case relay 100 converts the RF signals to IR signals. RF signals may be utilized in order to allow an activation of DVD player 120 at the absence of a clear line of view between DVD player 120 and toy 10. A typical relay 100 may include a first antenna for receiving the output signals from toy 10, a second antenna for transmitting converted output signals to the remote response generator and a conversion unit that may include amplifiers, frequency conversion units, demodulation and modulation units and the like. Methods for establishing and maintaining wireless links are known in the art and the invention may utilize said prior art methods.

[0046] DVD player 120 may be connected to a display such as television 130 and loudspeakers 160 via receiver 140, but this is not necessarily so.

[0047] Toy 10 of Figure 1 is shaped like a mouse and includes multiple touch sensors, such as buttons 14, that are located on different locations of the doll, and may be embedded within various parts of the toy – such as the toy's legs, arms, ears, nose and tail. Once a user contacts a part of the toy the relevant button changes its state (it is usually pushed) and a signal indicative of said change is sent to processor 16. Said push constitutes an event and both toy 10 and DVD player 120 provide a local and remote response, respectively in response to said event.

[0048] If toy 10 is turned on but DVD player is not capable of generating a remote response (for example, it may be closed, the specific software or other information related to the interactive session are not accessible, or it is already utilized for other purposes) the toy 10 may provide a local response.

[0049] Toy 10 may also include a receiver for receiving feedbacks from DVD player 120 and determine whether a transmission of output signals is necessary. It is noted that by not sending output signals that will not result in the provision of a remote response, the energy consumption of toy may be reduced.

[0050] According to an aspect of the invention the remote response may include

displaying audio-visual content, such as pictures and even video streams. The remote response can include presenting a sequence of pictures, a video stream in which a relevant part is moved, presenting information relating to said part and/or playing a song that is associated with said part.

[0051] According to an aspect of the invention toy 10 is able to control DVD player 120 when a dedicated DVD 110 is inserted into DVD player 120. DVD 110 may include educational as well as entertainment content and/or a combination of both. Toy 10 may be used to open DVD menus, browse the DVD menus and to select a selected item of said DVD menus and sub-menus. Said selection is responsive to the events detected by toy 10.

[0052] The selected items may include audio-visual content, such as songs, stories, information and the like. The audio-visual content may also induce the user to initiate an event. For example, DVD player 120 may display messages and/or play audio messages that prompt the child to press a certain button, or to select between several buttons. The selection of events is simplified and made user friendly by utilizing colors and shapes. This is especially important when the user is a small child or a baby.

[0053] For example, once toy 10 is turned on and DVD 110 is inserted into DVD 120, a first menu is displayed. The first menu may enable the user to select between at least one song, at least one story, at least one game, at least one information presentation and/or a combination thereof. The first menu may be animated and/or may be accompanied by a certain theme. Each of the items of said first menu may be associated with (by delineation or other means) a certain color, symbol, number, text and/or a combination thereof. A user-triggered event selects between said items. (For example, by initiating a color related event the item, which is associated with said certain color is selected).

[0054] In some cases this selection will end the selection process and a relevant audio-visual content will be provided. In other cases a further selection is required, in such a case an additional sub-menu will be displayed. The selection between sub-menus items as well as the presentation of the sub-menu may resemble those of the first menus.

[0055] According to an aspect of the invention toy 10 may include several portion that are associated with different colors. Said association may be implemented by providing portions of different colors. Once a portion is pressed a color associated sensor provides a signal to processor 16 indicating that a color related event occurred.

[0056] According to another aspect of the invention toy 10 may include several portion that are associated with different shapes. Said association may be implemented by printing, sawing said shaped on the toys parts. Once a shape associated part is pressed a shape associated sensor provides a signal to processor 16 indicating that a shape related event occurred.

[0057] According to further aspects of the invention an event can be related to a combination of a certain color, a certain shape and even a certain part.

[0058] Figure 1 illustrates a toy 10 in which each part is associated with a certain color and shape, but this is not necessarily so. The outer surface of toy 10 includes colored fabric bits. Some of the fabric bits are characterized by a unique texture/ color and/or shape.

[0059] More specifically, the right ear of toy 10 includes a bright light fabric bit and a star symbol. The left ear of toy 10 includes an orange fabric bit and a moon-shaped symbol. The right hand has a red fabric bit and a circular symbol. The left hand includes a blue fabric and a square symbol. The right foot includes a green fabric bit and triangle symbol. The left leg includes a yellow fabric bit and a rectangular symbol. The toy's tale (not shown) includes a brown fabric bit and a flower shaped symbol.

[0060] Figure 6 illustrates a system in which toy 20 is capable of direct transmission to a remote response generator.

[0061] Figure 7 illustrates a system that includes a remote response generator such as set top box 222. Set top box 222 is capable of receiving audio-visual content from a remote content provider (such as a Hub, Head-end and the like) via a communication network (including cable network, satellite network) and the like. The reception may be responsive to upstream transmissions from the set-top box to the content provider.

[0062] Figure 8 provides a more detailed view of toy 10.

[0063] Figure 5 illustrates method 200 for producing a local response and a remote response. Method 200 includes step 220 –240.

[0064] Step 220 includes producing, using an object (such as toy 10), a local response and producing at least one output signal in response to a detection of an event. The event is sensed by at least one sensor and may be related to a certain shape and/or color and/or parts of the object. The event may involve movement of the object, an acceleration of the object, heating or cooling the object or its vicinity, and the like. Referring to Figures 1 and 2, a sensor, such as sensor 14 detects an event, such as pressing the right ear of toy 10. In response the sensor that is embedded within the right ear sends a signal to processor 16, thus in turn detects a star related event, as the right ear includes a star shaped symbol. It is noted that the event can also be regarded as pink related event, as the right ear includes pink fabric, and can even be regarded as a right ear related event. Processor 16 may trigger a local event, such as providing an audio response that includes a unique sequence of tones. Processor 16 further sends output signals indicative of a star related event. The amount of information embedded within the output signals may depend on the ability of the remote response generator to process the command. For example, in some cases a single command, such as a data retrieval command or a menu selection command may be sent. In other cases a sequence of commands may be sent. The output signal can initiate an execution of a dedicated executable code.

[0065] Step 220 is followed by step 240 of receiving, by a remote response generator, said at least one output signal. Referring to figure 1, DVD player 120 monitors its receiver in order to detect said output signals.

[0066] Step 240 is followed by step 260 of producing a remote response, by the remote response generator, in response to the received at least one output signal. The remote response may include selecting an item out of a menu, or accessing a certain track or title and retrieving the information within said accessed track or title to provide an audio-visual response. For example, a certain track may include a video stream that shows movements of the toy's right

ear, a video that is associated with stars and/or a video that is dominated by the pink color.

[0067] Other embodiments of the present invention, not illustrated in the drawings, will now be described. It is appreciated that these embodiments are not meant to be limiting.

[0068] In another embodiment, the object is a book that includes various sensors, positioned at various locations, that are able to detect events, to send a signal representative of an event to a processor, that in response provides a local response and may also send output signals to a remote response generator for triggering a remote response. The sensors may be located on the books binding, but this is not necessarily so.

[0069] In a further embodiment the remote response generator is further linked, via wireless channels, to remote loudspeakers and/or displays, such that the remote response can be viewed or seen at locations other than the location of the remote response generator. Referring to Figure 3, DVD player 120 is wirelessly linked to loud speakers 160 (and optionally to displays) that are located in various locations of the house, such that the remote response can be observed.

[0070] The remote response generator may be located in various surroundings. For example, it may be located within a building, but it may also be located within a vehicles and airplanes, such as a vehicle equipped with remote response generator and at least one viewing screen.

[0071] According to an aspect of the invention each object has a unique ID, and a remote response generator may be configured to respond to output signals from a certain object, being identified by a certain ID. This allows to simultaneously activate multiple objects and multiple remote response generators.

[0072] According to yet a further aspect of the invention the remote response generator is a personal computer that includes dedicated software, as well as a receiver for receiving the output signals, a processor for executing the dedicated software and for controlling the computer components, a display for displaying visual content and loudspeakers for producing sound effects. Those skilled in the

art will readily appreciate that various modifications and changes may be applied to the preferred embodiments of the invention as hereinbefore exemplified without departing from its scope as defined in and by the appended claims.

CLAIMS

1. An interactive system comprising:
an object capable of transmitting output signals over a wireless communication link, in response to events; whereas the object is further operable to produce a local response in response to said events; and
a remote response generator, operable to detect the transmitted output signal and to generate a remote response, said remote response comprises a presentation of at least one image on a display.
2. A system according to claim 1, wherein the object is selected from a group consisting of a book, a calculator and a keychain.
3. A system according to claim 1 wherein the object is a toy.
4. A system according to claim 1 wherein the remote response generator is not a personal computer.
5. A system according to claim 3 wherein the remote response generator is a Digital Video Disk (DVD) player.
6. A system according to claim 5 wherein the DVD player comprises media processing capabilities in addition to MPEG decoding capabilities.
7. A system according to claim 6 wherein the DVD player is operable to execute dedicated software that contains instructions to display images in response to the received output signals.
8. A system according to claim 7 wherein the DVD player is further adapted to generate sound signals in response to the received output signals.
9. A system according to claim 5 wherein the object is operable to transmit a sequence of DVD player data retrieval commands.
10. A system of claim 9 wherein the DVD player data retrieval commands are selected from a group consisting of: play, fast forward, skip to a certain segment, reverse, fast reverse, stop and pause
11. A system according to claim 9 wherein the DVD player accesses data segments in response to the received output signals.
12. A system according to claim 1 further comprising a relay for relaying output signals transmitted by the object to the remote response generator.

13. A system according to claim 1 wherein the output signals have a first frequency, the remote response generator is capable of receiving signals within a frequency range that does not include the first frequency, and wherein the relay is capable of converting the frequency of the output signals to a second frequency that is included within the frequency range.
14. A system according to claim 13 wherein the first frequency is a radio frequency and the second frequency is an infrared frequency. Acoustic signals?
15. A system according to claim 1 wherein the object includes multiple sensors for detecting events.
16. A system according to claim 15 wherein at least one event involves a movement of the object, and wherein at least one sensor is adapted to detect said movement.
17. A system according to claim 15 wherein at least one event involves a movement of part of the object in relation to other parts of the object, and wherein at least one sensor is adapted to detect said movement.
18. A system according to claim 15 wherein at least one event involves contact with a part of the object, and wherein at least one sensor is adapted to detect said contact.
19. A system according to claim 1 wherein the object comprises multiple parts and multiple sensors for sensing events that are related to said parts.
20. A system according to claim 1 wherein each part related event triggers a unique remote response.
21. A system according to claim 1 wherein each part related event triggers a unique remote response and a unique local response.
22. A system of claim 1 wherein the events comprise color related events, and wherein each color related event triggers a unique color related response.
23. A system of claim 1 wherein the events comprise shape related events, and wherein each shape related event triggers a unique shape related response.
- 24.
25. A method for producing a local response and a remote response, the method comprising: producing, using an object, a local response and producing

at least one output signal in response to a detection of an event;

receiving, by a remote response generator, said at least one output signal;

and

producing a remote response, by the remote response generator, in response to the received at least one output signal.

26. A method according to claim 24, wherein the object is selected from a group consisting of a book, a calculator and a keychain.

27. A method according to claim 24 wherein the object is a toy.

28. A method according to claim 26 wherein the remote response generator is not a personal computer.

29. A method according to claim 26 wherein the remote response generator is a Digital Video Disk (DVD) player.

30. A method according to claim 28 wherein the DVD player comprises media processing capabilities in addition to video decoding capabilities.

31. A method according to claim 28 wherein the step of producing a remote response comprises executing dedicated software that contains instructions to display images in response to the received output signals.

32. A method according to claim 30 wherein the step of producing the remote response further comprises generating sound signals.

33. A method according to claim 28 wherein the at least one output signal comprises a sequence of DVD player data retrieval commands.

34. A method according to claim 32 wherein the DVD player data retrieval commands are selected from a group consisting of: play, fast forward, skip to a certain segment, reverse, fast reverse, stop and pause

35. A method according to claim 32 wherein the DVD player accesses data segments in response to the received output signals.

36. A method according to claim 24 further comprising a step of relaying output signals transmitted by the object to the remote response generator.

37. A method according to claim 24 wherein the output signals have a first frequency, the remote response generator is capable of receiving signals within a frequency range that does not include the first frequency, and wherein the

method further comprising a step of converting the frequency of the output signals to a second frequency that is included within the frequency range.

38. A method according to claim 36 wherein the first frequency is a radio frequency and the second frequency is an infrared frequency. Acoustic ..same as above

39. A method according to claim 24 wherein the object includes multiple sensors for detecting events.

40. A method according to claim 24 wherein the step of detecting an event comprises detecting a movement of the object.

41. A method according to claim 24 wherein the step of detecting an event comprises detecting a movement of a part of the object.

42. A method according to claim 24 wherein the step of detecting an event comprises detecting a contact with a part of the object.

43. A method according to claim 24 wherein the step of detecting comprises detecting part related events.

44. A method according to claim 42 wherein the step of providing a remote response comprises providing a unique remote response to each part related event.

45. A method according to claim 42 wherein the step of providing a remote response comprises providing a unique remote response to each part related event and wherein the step of providing a local response comprises providing a unique local response to each part related event.

46. A method according to claim 24 wherein the step of detecting comprises detecting color related events.

47. A method according to claim 45 wherein the step of providing a remote response comprises providing a unique remote response to each color related event.

48. A method according to claim 45 wherein the step of providing a remote response comprises providing a unique remote response to each color related event and wherein the step of providing a local response comprises providing a unique local response to each color related event.

49. A method according to claim 24 wherein the step of detecting comprises detecting shape related events.
50. A method according to claim 48 wherein the step of providing a remote response comprises providing a unique remote response to each shape related event.
51. A method according to claim 48 wherein the step of providing a remote response comprises providing a unique remote response to each shape related event and wherein the step of providing a local response comprises providing a unique local response to each shape related event.
52. An interactive system comprising: Again here the following claims seem to me exactly the same, could you please explain to me why it is so?
an object capable of transmitting output signals over a wireless communication link to be received by a remote response generator, in response to events; whereas the object is further operable to produce a local response in response to said events; and
a storage media, storing executable code and information to be accessed by the remote response generator and for causing the remote response generator to provide a remote response, said remote response comprises a presentation of at least one image on a display.
53. A system according to claim 51, wherein the object is selected from a group consisting of a book, a calculator and a keychain.
54. A system according to claim 51 wherein the object is a toy.
55. A system according to claim 53 wherein the remote response generator is not a personal computer.
56. A system according to claim 53 wherein the remote response generator is a Digital Video Disk (DVD) player.
57. A system according to claim 55 wherein the DVD player comprises media processing capabilities in addition to video decoding capabilities.
58. A system according to claim 56 wherein the DVD player is operable to execute the executable code that contains instructions to display images in response to the received output signals.

59. A system according to claim 57 wherein the executable code causes the DVD player to generate sound signals in response to the received output signals.
60. A system according to claim 55 wherein the object is operable to transmit a sequence of DVD player data retrieval commands.
61. A system according to claim 51 further comprising a relay for relaying output signals transmitted by the object to the remote response generator.
62. A system according to claim 51 wherein the object includes multiple sensors for detecting events.
63. A system according to claim 61 wherein at least one event involves a movement of the object, and wherein at least one sensor is adapted to detect said movement.
64. A system according to claim 61 wherein at least one event involves a movement of part of the object in relation to other parts of the object, and wherein at least one sensor is adapted to detect said movement.
65. A system according to claim 61 wherein at least one event involves contact with a part of the object, and wherein at least one sensor is adapted to detect said contact.
66. A system according to claim 51 wherein the object comprises multiple parts and multiple sensors for sensing events that are related to said parts.
67. A system according to claim 51 wherein each part related event triggers a unique remote response.
68. A system according to claim 51 wherein each part related event triggers a unique remote response and a unique local response.
69. A system of claim 51 wherein the events comprise color related events, and wherein each color related event triggers a unique color related response.
70. A system of claim 51 wherein the events comprise shape related events, and wherein each shape related event triggers a unique shape related response.
71. A system according to claim 1 wherein the remote response generator is a personal computer.
72. A system according to claim 51 wherein the remote response generator is a personal computer.

73. A system according to claim 1 wherein the remote response generator is a set top box.

74. A system according to claim 51 wherein the remote response generator is a set top box.

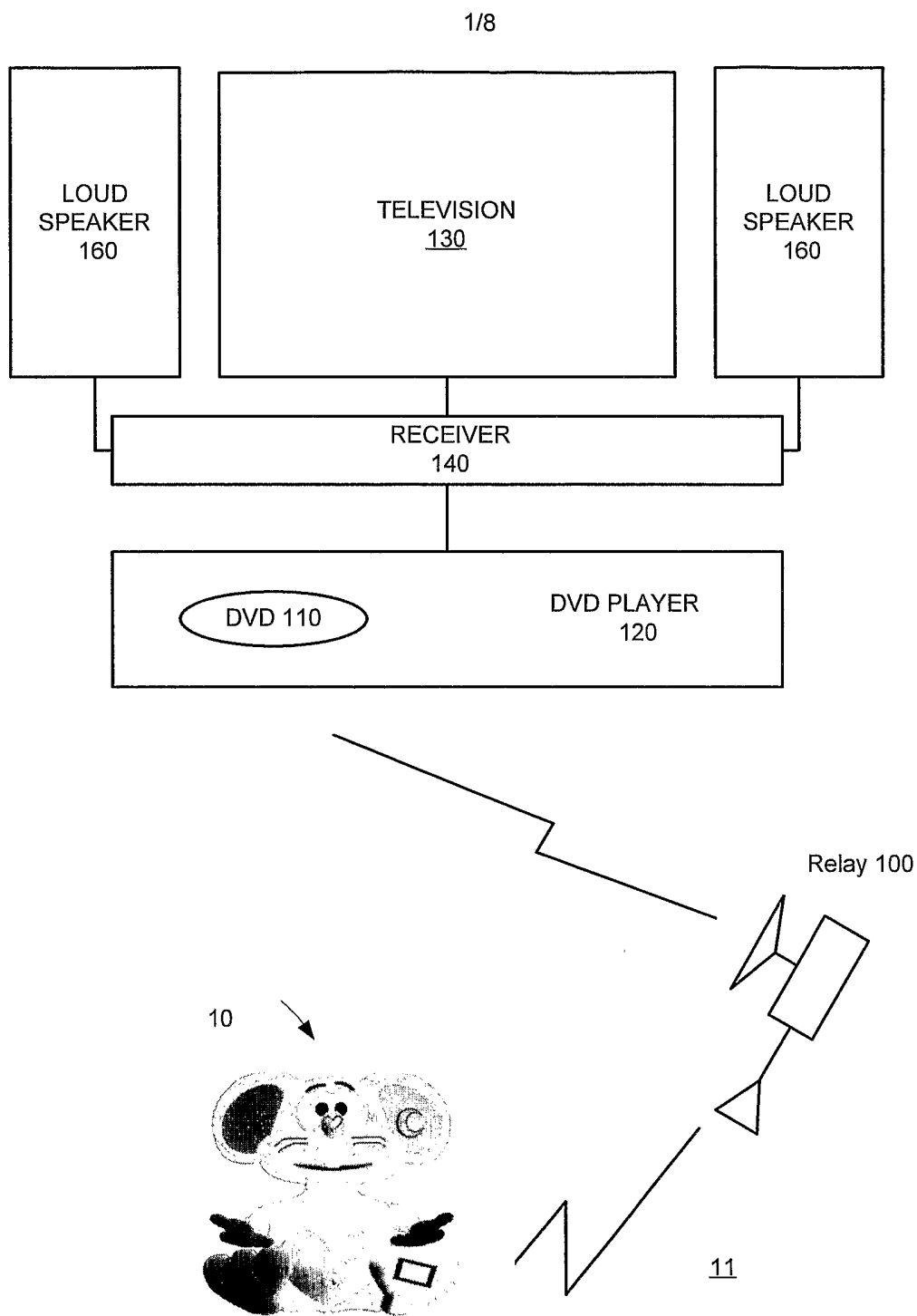


FIGURE 1

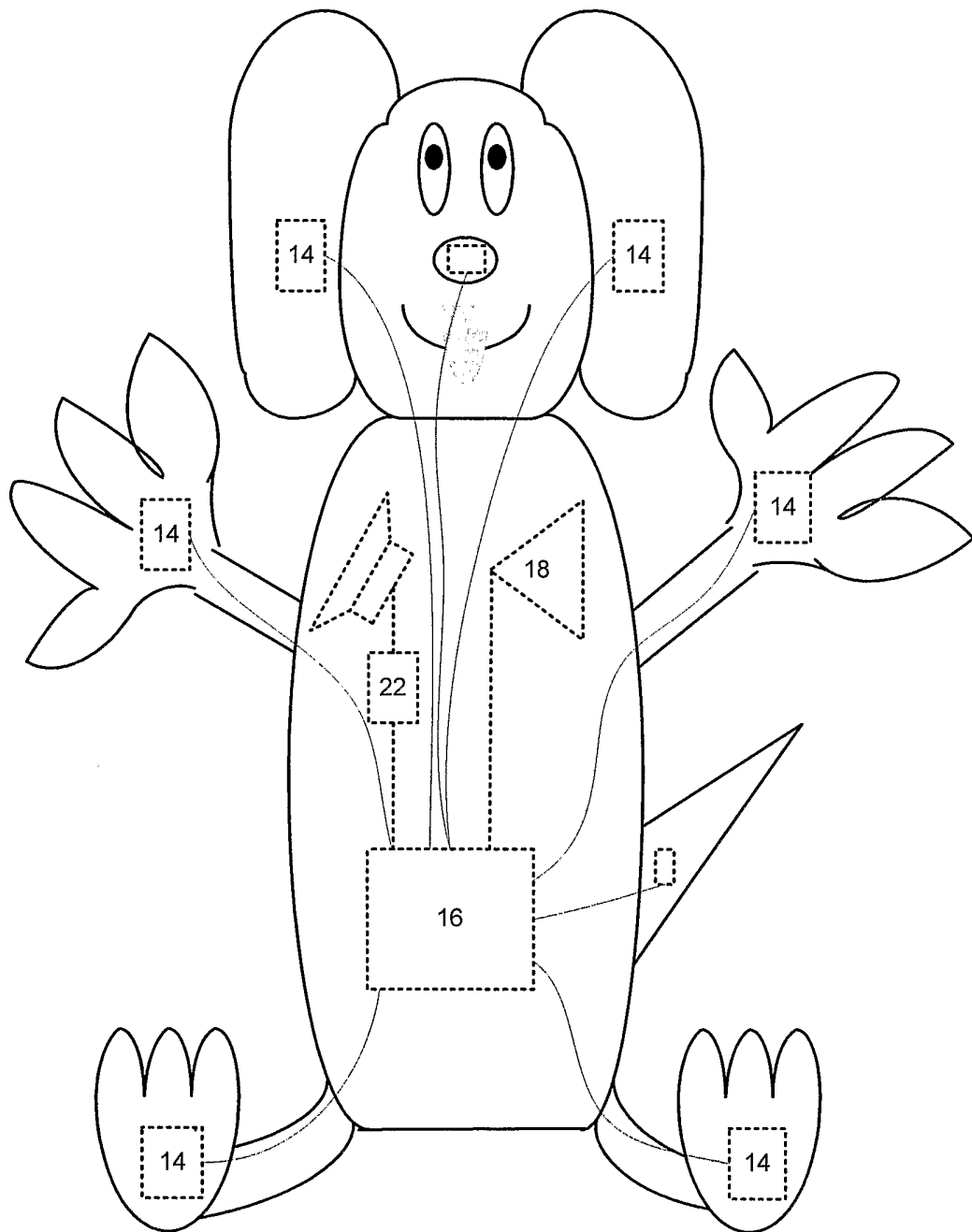


FIGURE 2

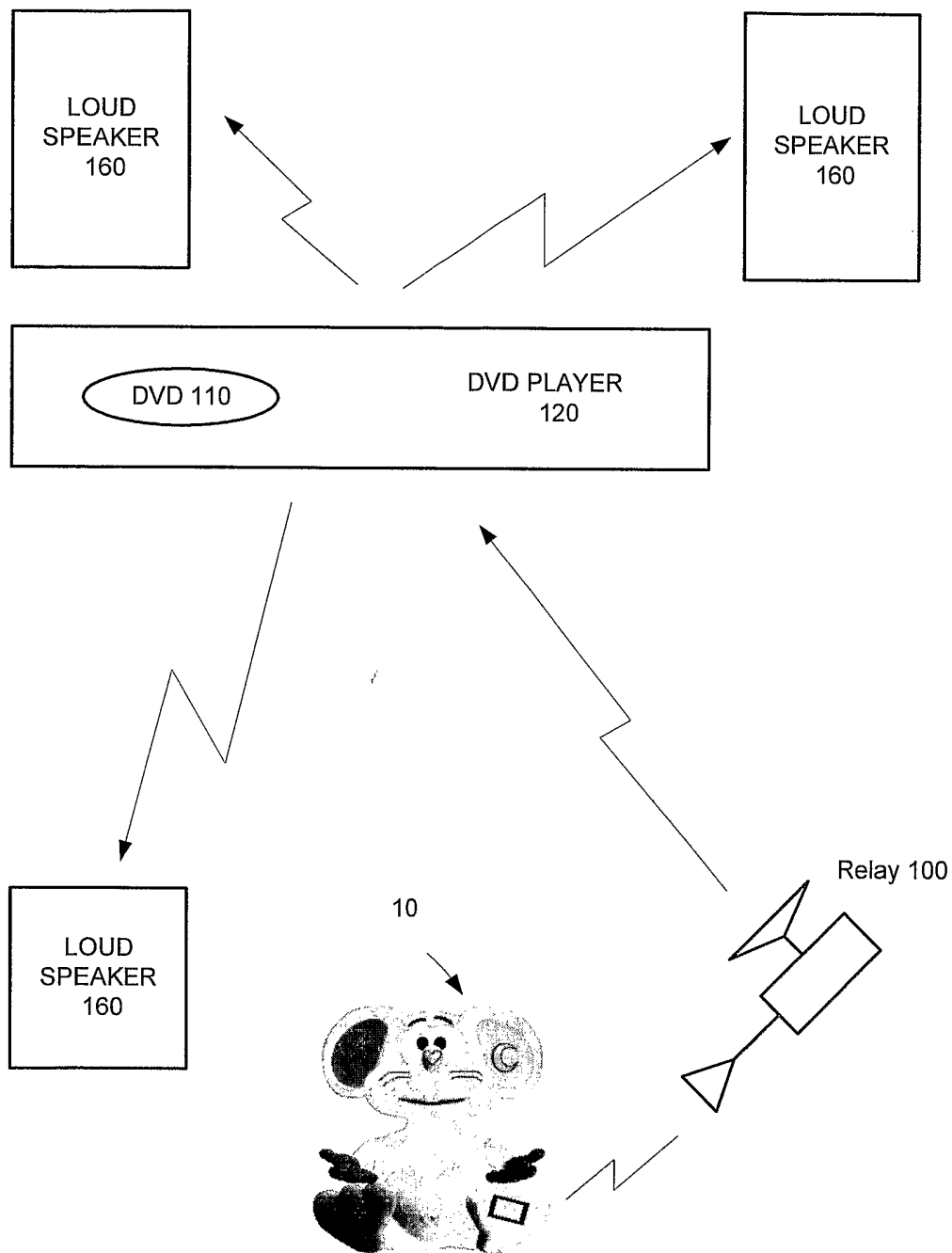


FIGURE 3

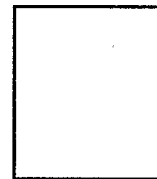
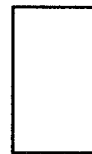
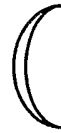
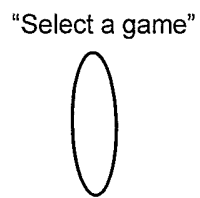
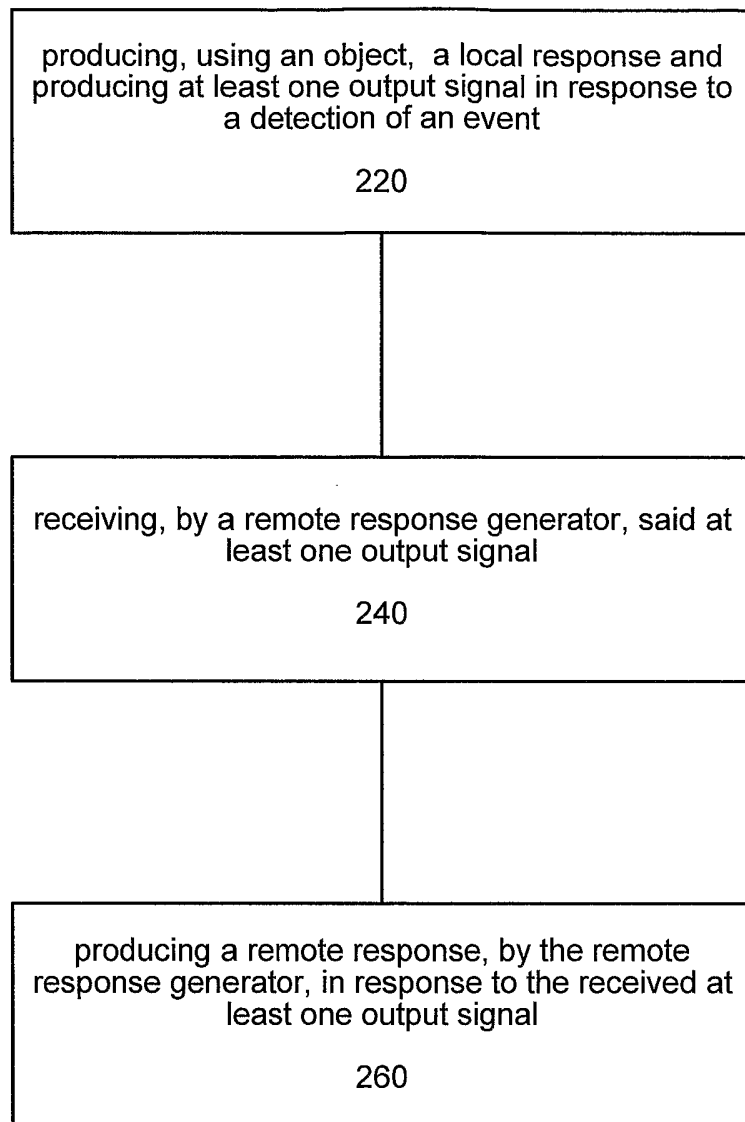


FIGURE 4

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Figure 5

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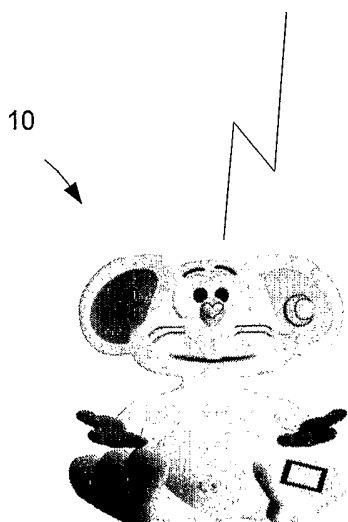
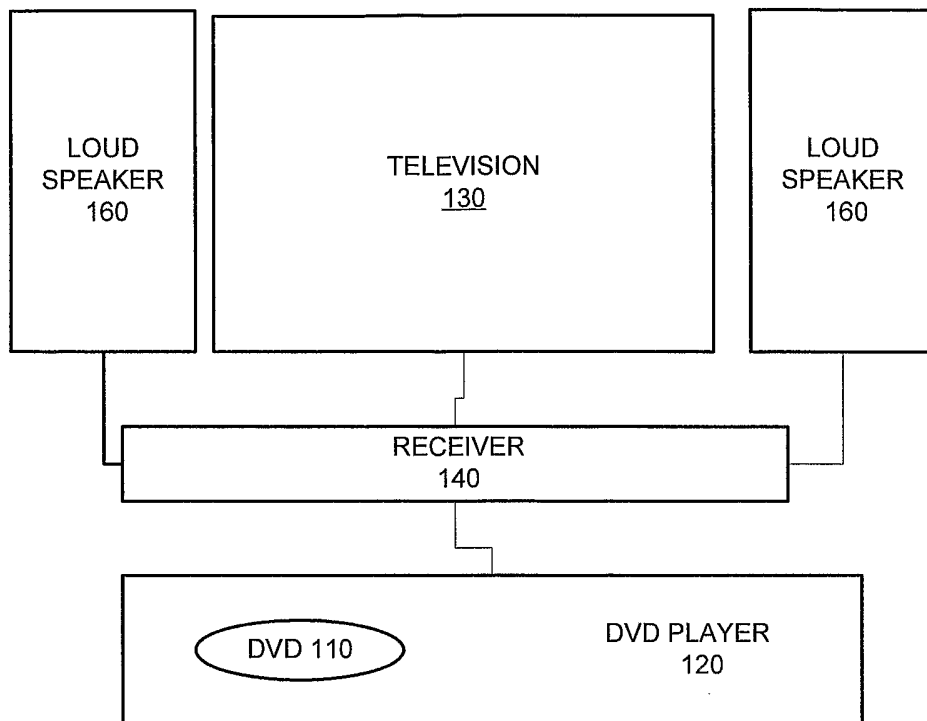


FIGURE 6

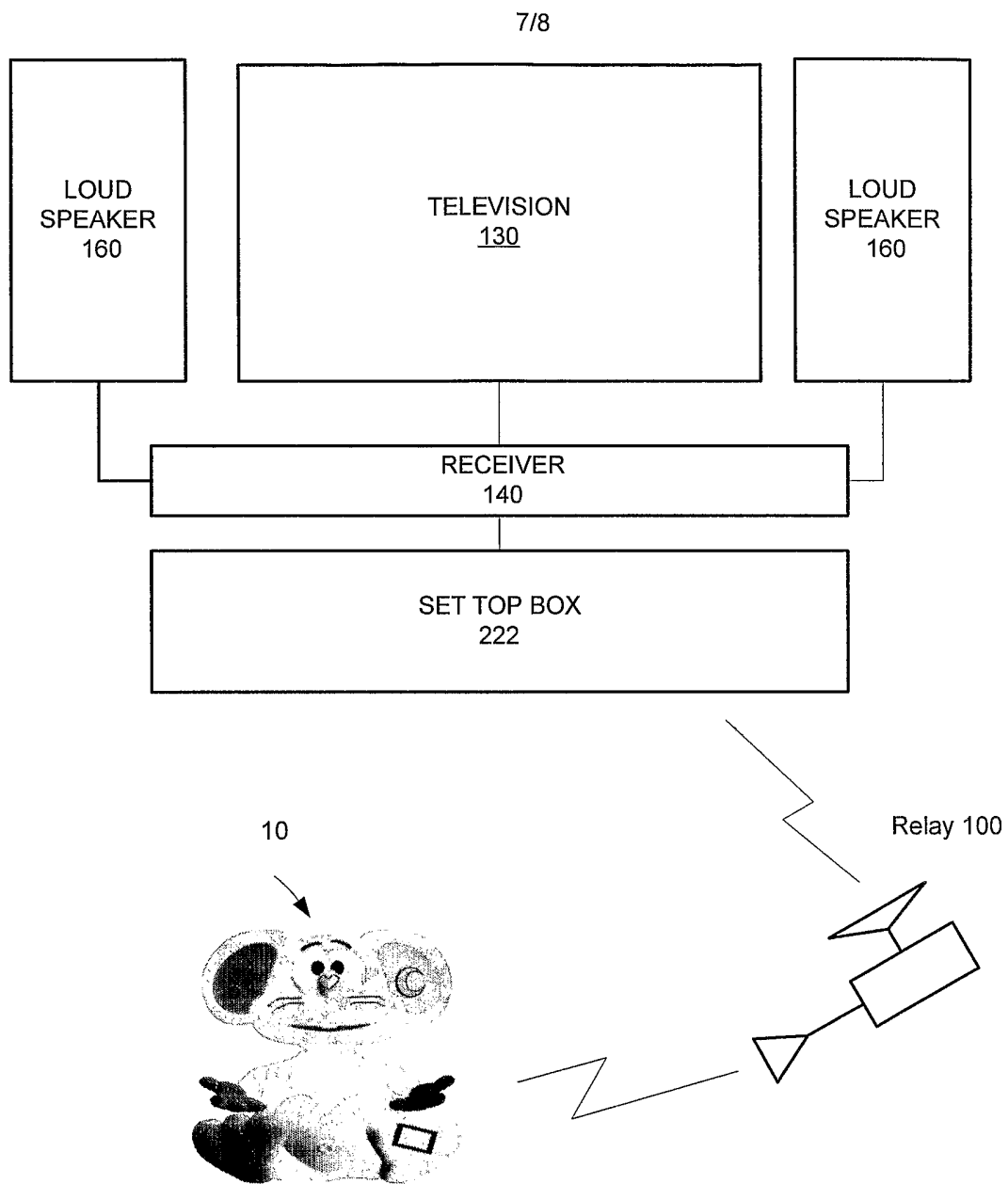


FIGURE 7

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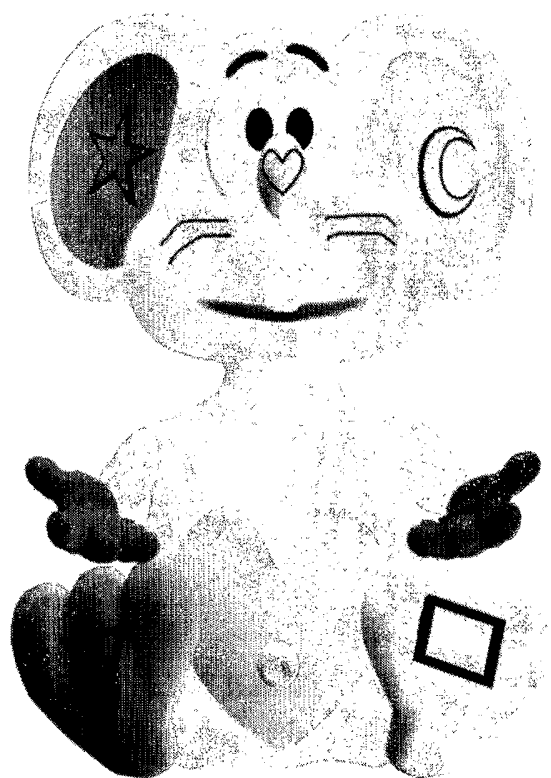


Figure 8